TOTAL DOSE RADIATION TEST REPORT

Part Type : A3PE3000L

Package : PQFP-208

Description : ProASIC3L Low-Power Flash FPGA

Manufacturer: Actel

Date Code: 0922

ESA ESTEC Purchase Order N° 22327/09/NL/SFe - Call-Off Order NO. 1 dated 04/20/2011

ESA ESTEC Technical Responsible: Christian Poivey

Hirex reference :	HRX/TID/0918	Issue : 03	Date :	September 8nd, 2011
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Authorized by:	J.F. PASCAL	Technical Director		

CHANGE RECORD

ISSUE	DATE	PAGE	DESCRIPTION OF CHANGES
01	August 31th, 2011	All	Original Issue
02	September 2nd, 2011	15 to 294 13, 296	Correction of data results at 36KRad and 69.3KRad steps Correction of functional2 test results at 58KRad step.
03	September 8nd, 2011	11, 12, 13	Add functionality description.

TOTAL DOSE RADIATION TEST REPORT
on A3PE3000L
Actel
ProASIC3L Low-Power Flash FPGA

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1 Introduction

A total ionizing dose test of the Actel A3PE3000L, ProASIC3L Low-Power Flash FPGA has been performed with an accumulated dose of about 70 kRad(Si) at a dose rate of 229 Rad(Si)/hour, in response to ESA ESTEC purchase order reference 22327/09/NL/SFe - Call-Off Order NO. 1.

The purpose of this test was to evaluate total dose withstanding of this component, to investigate its suitability for being used in space applications. This test was conducted on samples provided by ESA ESTEC.
Test has been performed in accordance with Hirex proposal HRX/PRO/2427 issue 01 dated 09/15/2008.

A complete set of electrical measurements together with graphical representation of measured parameters with respect to total dose received, are provided for all samples.

2 Applicable and Reference Documents

2.1 Applicable Documents

- Hirex Engineering proposal: HRX/PRO/2427 issue 01 dated 09/15/2008
- ESA/SCC basic procedure N°22900
- Reference email: << A3PE3000L TID Test >> dated july 4th 2011

2.2 Reference Documents

- Datasheet ACTEL ProASIC3L Handbook V 1.2 PN 51700094-001-2 dated december 2008
- Hirex Engineering design report : HRX/SEE/0286 issue 01 dated august 29th, 2011.

3 Test Samples

13 samples of the A3PE3000L device were tested (10 ON + 2 OFF + 1 control sample).
Samples were allocated into the bias conditions during exposures and annealing as provided in Table 1.
Samples were configured with the TV1 design described in the design report HRX/SEE/0286 (shift register, SRAM, UFROM…). 3 lines of 1000 inverters chained together (inverters daisy chains) were added to the design to allow an easy measure of the degradation of the propagation delay of the logic gates inside the core tiles.

Table 1: Samples allocation

Serial Number	Allocation	With reconfiguration (*)
51	Control	-
41	Biased ON	Yes
42	Biased ON	No
43	Biased ON	Yes
44	Biased ON	No
45	Biased ON	Yes
46	Biased ON	No
47	Biased ON	Yes
49	Biased ON	No
50	Biased ON	Yes
52	Biased ON	No
53	Biased OFF	No
54	Biased OFF	No

(*): The 10 on biased samples were divided into 2 subgroups of 5 samples: One subgroup of parts without re-configuration at each intermediate measurement step and one subgroup with re-configuration at each intermediate measurement step.

Identification of the A3PE3000L is given below:

Component Part Number :	A3PE3000L	**Date Code:**	0922
Part Type	A3PE3000L	**Manufacturer Lot Number:**	QHR8G
Top Marking:	ACTEL ProASIC3E A3PE3000L PQ208 0922 QHR8G		

4 Experimental Conditions

4.1 Radiation Source Dose Rate and Annealing

The dose exposures were performed at UCL in Louvain (Belgium). In this irradiation facility, a Cobalt 60 source is used with the possibility to vary the dose rate by simply adjusting the distance to the source.
The irradiation conditions used for this test are provided in the Table 2:
During the dose exposures, devices under test have been irradiated in an ambient temperature of 24°C ±6°C.

The dose received by the devices has been determined by the measurement of Alanine pellets dosimeter placed onto the bias board.

Resulting test conditions are provided in Table 2.

Table 2: Exposure and annealing steps description

Irradiation Steps requested	Pellet dosimetry data	Dose rate	Annealing steps requested	Real Annealing steps	Temperature
kRads	kRads	Rads/h	Hours	°C	°C
0	0				
10	9.9	229		Room	Room
20	19.8	229		Room	Room
30	36	229		Room	Room
50	58.5	229		Room	Room
70(*)	69.3	229		Room	Room
			24	24	Room
			48	46	Room
			96	92	Room
			168	180	Room
			240	250	Room
			336	343	Room

(*): see email << A3PE3000L TID Test >> dated July 4th 2011

4.2 Bias during Dose Exposures and Measurements conditions

4.2.1 Bias conditions

During exposures test board allowed to bias in dynamic mode 10 samples in accordance with the electrical circuit described in Table 3.
2 other samples were biased OFF with all pins connected to ground.
During annealing steps the same stress conditions were applied at room temperature.

During exposure and annealing power supply currents of each sample have been monitored.

Table 3: Bias Conditions TV1 during Irradiation Exposures and Annealing

PIN	NAME	FUNCTION 1	BANK	VCC = 1.5V/ VMV(0-1-4-5-6-7)=3.3V / VMV (2-3)=2.5V		
1	GND	GND	ALL	GND	-	GND
2	GNDQ	GND	ALL	GND	-	GND
3	VMV7	VMV7	7	VMV7	-	VMV
4	GAB2/IO308PSB7V4	GAB2/IO308P	7	SR_1_DOUT_0	Pull_Down	LVCMOS 3.3 V
5	GAA2/IO309PDB7V4	GAA2/IO309P	7	SR_1_DOUT_1	Pull_Down	LVCMOS 3.3 V
6	IO309NDB7V4	IO309N	7	SR_1_DOUT_2	Pull_Down	LVCMOS 3.3 V
7	GAC2/IO307PDB7V4	GAC2/IO307P	7	SR_1_DOUT_3	Pull_Down	LVCMOS 3.3 V
8	IO307NDB7V4	IO307N	7	SR_2_DOUT_0	Pull_Down	LVCMOS 3.3 V
9	IO303PDB7V3	IO303P	7	SR_2_DOUT_1	Pull_Down	LVCMOS 3.3 V
10	IO303NDB7V3	IO303N	7	SR_2_DOUT_2	Pull_Down	LVCMOS 3.3 V
11	IO299PDB7V3	IO299P	7	SR_2_DOUT_3	Pull_Down	LVCMOS 3.3 V
12	IO299NDB7V3	IO299N	7	SR_3_DOUT_0	Pull_Down	LVCMOS 3.3 V
13	IO295PDB7V2	IO295P	7	SR_3_DOUT_1	Pull_Down	LVCMOS 3.3 V
14	IO295NDB7V2	IO295N	7	SR_3_DOUT_2	Pull_Down	LVCMOS 3.3 V
15	IO291PSB7V2	IO291P	7	SR_3_DOUT_3	Pull_Down	LVCMOS 3.3 V
16	VCC	VCC	ALL	VCC	-	VCC
17	GND	GND	ALL	GND	-	GND
18	VCCIB7	VCCIB7	7	VCCIB7	-	VMV
19	IO285PDB7V1	IO285P	7	SR_4_DOUT_0	Pull_Down	LVCMOS 3.3 V
20	IO285NDB7V1	IO285N	7	SR_4_DOUT_1	Pull_Down	LVCMOS 3.3 V
21	IO279PSB7V0	IO279P	7	SR_4_DOUT_2	Pull_Down	LVCMOS 3.3 V
22	GFC1/IO275PSB7V0	GFC1/IO275P	7	SR_4_DOUT_3	Pull_Down	LVCMOS 3.3 V
23	GFB1/IO274PDB7V0	GFB1/IO274P	7	SR_DIN	Pull_Up	LVCMOS 3.3 V
24	GFB0/IO274NDB7V0	GFB0/IO274N	7	SR_3_DOUT1_3	Pull_Down	LVCMOS 3.3 V
25	VCOMPLF	GND	F	GND	-	GND
26	GFA0/IO273NPB6V4	GFA0/IO273N	6	ENABLE	Pull_Up	LVCMOS 3.3 V
27	VCCPLF	VCCPLF	F	VCCPLF	-	VCC
28	GFA1/IO273PPB6V4	GFA1/IO273P	6	RESET	Pull_Down	LVCMOS 3.3 V
29	GND	GND	ALL	GND	-	GND
30	GFA2/IO272PDB6V4	GFA2/IO272P	6	PLL_POWERDOWN	Pull_Up	LVCMOS 3.3 V
31	IO272NDB6V4	IO272N	6	PLL_LOCK	Pull_Down	LVCMOS 3.3 V
32	GFB2/IO271PPB6V4	GFB2/IO271P	6	SR_11_DIN	Pull_Up	LVCMOS 3.3 V
33	GFC2/IO270PPB6V4	GFC2/IO270P	6	SR_12_DIN	Pull_Up	LVCMOS 3.3 V
34	IO271NPB6V4	IO271N	6	SR_13_DIN	Pull_Up	LVCMOS 3.3 V
35	IO270NPB6V4	IO270N	6	SR_11_DOUT_0	Pull_Down	LVCMOS 3.3 V
36	VCC	VCC	ALL	VCC	-	VCC
37	IO252PDB6V2	IO252P	6	SR_11_DOUT_1	Pull_Down	LVCMOS 3.3 V
38	IO252NDB6V2	IO252N	6	SR_11_DOUT_2	Pull_Down	LVCMOS 3.3 V
39	IO248PSB6V1	IO248P	6	SR_11_DOUT_3	Pull_Down	LVCMOS 3.3 V

PIN	NAME	FUNCTION 1	BANK	VCC = 1.5V/ VMV(0-1-4-5-6-7)=3.3V / VMV (2-3)=2.5V		
40	VCCIB6	VCCIB6	6	VCCIB6	-	VMV
41	GND	GND	ALL	GND	-	GND
42	IO244PDB6V1	IO244P	6	SR_12_DOUT_0	Pull_Down	LVCMOS 3.3 V
43	IO244NDB6V1	IO244N	6	SR_12_DOUT_1	Pull_Down	LVCMOS 3.3 V
44	GEC1/IO236PDB6V0	GEC1/IO236P	6	SR_12_DOUT_2	Pull_Down	LVCMOS 3.3 V
45	GEC0/IO236NDB6V0	GEC0/IO236N	6	SR_12_DOUT_3	Pull_Down	LVCMOS 3.3 V
46	GEB1/IO235PPB6V0	GEB1/IO235P	6	SR_13_DOUT_0	Pull_Down	LVCMOS 3.3 V
47	GEA1/IO234PPB6V0	GEA1/IO234P	6	SR_13_DOUT_1	Pull_Down	LVCMOS 3.3 V
48	GEB0/IO235NPB6V0	GEB0/IO235N	6	SR_13_DOUT_2	Pull_Down	LVCMOS 3.3 V
49	GEA0/IO234NPB6V0	GEA0/IO234N	6	SR_13_DOUT_3	Pull_Down	LVCMOS 3.3 V
50	VMV6	VMV6	6	VMV6	-	VMV
51	GNDQ	GND	ALL	GND	-	GND
52	GND	GND	ALL	GND	-	GND
53	VMV5	VCCIB5	5	VCCIB5	-	VMV
54	GNDQ	GND	ALL	GND	-	GND
55	IO233NDB5V4	IO233N	5	UFROM_CLK	CLK	LVCMOS 3.3 V
56	GEA2/IO233PDB5V4	IO233P	5	UFROM_ADDR_0	Pull_Up	LVCMOS 3.3 V
57	IO232NDB5V4	IO232N	5	UFROM_ADDR_1	Pull_Up	LVCMOS 3.3 V
58	FF/GEB2/IO232PDB5V4	FF	5	FF	Pull_Up	LVCMOS 3.3 V
59	IO231NDB5V4	IO231N	5	UFROM_ADDR_2	Pull_Up	LVCMOS 3.3 V
60	GEC2/IO231PDB5V4	IO231P	5	UFROM_ADDR_3	Pull_Up	LVCMOS 3.3 V
61	IO230PSB5V4	IO230P	5	UFROM_ADDR_4	Pull_Up	LVCMOS 3.3 V
62	VCCIB5	VCCIB5	5	VCCIB5	-	VMV
63	IO218NDB5V3	IO218N	5	UFROM_ADDR_5	Pull_Up	LVCMOS 3.3 V
64	IO218PDB5V3	IO218P	5	UFROM_ADDR_6	Pull_Up	LVCMOS 3.3 V
65	GND	GND	ALL	GND	-	GND
66	IO214PSB5V2	IO214P	5	UFROM_DATA_0	Pull_Down	LVCMOS 3.3 V
67	IO212NDB5V2	IO212N	5	UFROM_DATA_1	Pull_Down	LVCMOS 3.3 V
68	IO212PDB5V2	IO212P	5	UFROM_DATA_2	Pull_Down	LVCMOS 3.3 V
69	IO208NDB5V1	IO208N	5	UFROM_DATA_3	Pull_Down	LVCMOS 3.3 V
70	IO208PDB5V1	IO208P	5	UFROM_DATA_4	Pull_Down	LVCMOS 3.3 V
71	VCC	VCC	ALL	VCC	-	VCC
72	VCCIB5	VCCIB5	5	VCCIB5	-	VMV
73	IO202NDB5V1	IO202N	5	UFROM_DATA_5	Pull_Down	LVCMOS 3.3 V
74	IO202PDB5V1	IO202P	5	UFROM_DATA_6	Pull_Down	LVCMOS 3.3 V
75	IO198NDB5V0	IO198N	5	UFROM_DATA_7	Pull_Down	LVCMOS 3.3 V
76	IO198PDB5V0	IO198P	5	SRAM_R/W	Pull_Up	LVCMOS 3.3 V
77	IO197NDB5V0	IO197N	5	SRAM_CS	Pull_Up	LVCMOS 3.3 V
78	IO197PDB5V0	IO197P	5	SRAM_DIN_0	Pull_Up	LVCMOS 3.3 V
79	IO194NDB5V0	IO194N	5	SRAM_DIN_1	Pull_Up	LVCMOS 3.3 V
80	IO194PDB5V0	IO194P	5	SRAM_DIN_2	Pull_Up	LVCMOS 3.3 V
81	GND	GND	ALL	GND	-	GND
82	IO184NDB4V3	IO184N	4	SRAM_DIN_3	Pull_Up	LVCMOS 3.3 V
83	IO184PDB4V3	IO184P	4	SRAM_DIN_4	Pull_Up	LVCMOS 3.3 V
84	IO180NDB4V3	IO180N	4	SRAM_DIN_5	Pull_Up	LVCMOS 3.3 V
85	IO180PDB4V3	IO180P	4	SRAM_DIN_6	Pull_Up	LVCMOS 3.3 V
86	IO176NDB4V2	IO176N	4	SRAM_DIN_7	Pull_Up	LVCMOS 3.3 V
87	IO176PDB4V2	IO176P	4	SRAM_DIN_8	Pull_Up	LVCMOS 3.3 V
88	VCC	VCC	ALL	VCC	-	VCC
89	VCCIB4	VCCIB4	4	VCCIB4	-	VMV
90	IO170NDB4V2	IO170N	4	SSRAM_DOUT_0	Pull_Down	LVCMOS 3.3 V

PIN	NAME	FUNCTION 1	BANK	VCC = 1.5V/ VMV(0-1-4-5-6-7)=3.3V / VMV (2-3)=2.5V		
91	IO170PDB4V2	IO170P	4	SSRAM_DOUT_1	Pull_Down	LVCMOS 3.3 V
92	IO166NDB4V1	IO166N	4	SSRAM_DOUT_2	Pull_Down	LVCMOS 3.3 V
93	IO166PDB4V1	IO166P	4	SSRAM_DOUT_3	Pull_Down	LVCMOS 3.3 V
94	IO156NDB4V0	IO156N	4	SSRAM_DOUT_4	Pull_Down	LVCMOS 3.3 V
95	GDC2/IO156PDB4V0	GDC2/IO156P	4	SSRAM_DOUT_5	Pull_Down	LVCMOS 3.3 V
96	IO154NPB4V0	IO154N	4	SSRAM_DOUT_6	Pull_Down	LVCMOS 3.3 V
97	GND	GND	ALL	GND	-	GND
98	GDB2/IO155PSB4V0	GDB2/IO155P	4	SSRAM_DOUT_7	Pull_Down	LVCMOS 3.3 V
99	GDA2/IO154PPB4V0	GDA2/IO154P	4	SSRAM_DOUT_8	Pull_Down	LVCMOS 3.3 V
100	GNDQ	GND	ALL	GND	-	GND
101	TCK	TCK	JTAG	TCK	-	TCK
102	TDI	TDI	JTAG	TDI	-	TDI
103	TMS	TMS	JTAG	TMS	-	TMS
104	VMV4	VMV4	4	VMV4	-	VMV
105	GND	GND	ALL	GND	-	GND
106	VPUMP	VPUMP	PUMP	VPUMP	-	GND
107	GNDQ	GND	ALL	GND	-	GND
108	TDO	TDO	JTAG	TDO	-	TDO
109	TRST	TRST	JTAG	TRST	-	TRST
110	VJTAG	VJTAG	JTAG	VJTAG	-	GND
111	VMV3	VMV3	3	VMV3	-	VMV
112	GDA0/IO153NPB3V4	GDA0/IO153N	3	LVDS_P6_N	Pull_Down	LVDS 2.5 V
113	GDB0/IO152NPB3V4	GDB0/IO152N	3	LVDS_P7_N	Pull_Down	LVDS 2.5 V
114	GDA1/IO153PPB3V4	GDA1/IO153P	3	LVDS_P6_P	Pull_Down	LVDS 2.5 V
115	GDB1/IO152PPB3V4	GDB1/IO152P	3	LVDS_P7_P	Pull_Down	LVDS 2.5 V
116	GDC0/IO151NDB3V4	GDC0/IO151N	3	SRAM_CLK_N	Pull_Up	LVDS 2.5 V
117	GDC1/IO151PDB3V4	GDC1/IO151P	3	SRAM_CLK_P	Pull_Up	LVDS 2.5 V
118	IO134NDB3V2	IO134N	3	LVDS_P8_N	Pull_Down	LVDS 2.5 V
119	IO134PDB3V2	IO134P	3	LVDS_P8_P	Pull_Down	LVDS 2.5 V
120	IO132NDB3V2	IO132N	3	LVDS_P9_N	Pull_Down	LVDS 2.5 V
121	IO132PDB3V2	IO132P	3	LVDS_P9_P	Pull_Down	LVDS 2.5 V
122	GND	GND	ALL	GND	-	GND
123	VCCIB3	VCCIB3	3	VCCIB3	-	VMV
124	GCC2/IO117PSB3V0	GCC2/IO117P	3	-	-	-
125	GCB2/IO116PSB3V0	GCB2/IO116P	3	-	-	-
126	NC	NC	ANY	-	-	-
127	IO115NDB3V0	IO115N	3	LVDS_P10_N	Pull_Up	LVDS 2.5 V
128	GCA2/IO115PDB3V0	GCA2/IO115P	3	LVDS_P10_P	Pull_Up	LVDS 2.5 V
129	GCA1/IO114PPB3V0	GCA1/IO114P	3	CLK_P	Pull_Up	LVDS 2.5 V
130	GND	GND	ALL	GND	-	GND
131	VCCPLC	VCCPLC	C	VCCPLC	-	VCC
132	GCA0/IO114NPB3V0	GCA0/IO114N	3	CLK_N	Pull_Up	LVDS 2.5 V
133	VCOMPLC	GND	C	GND	-	GND
134	GCB0/IO113NDB2V3	GCB0/IO113N	2	PLL_CLK_N	Pull_Up	LVDS 2.5 V
135	GCB1/IO113PDB2V3	GCB1/IO113P	2	PLL_CLK_P	Pull_Up	LVDS 2.5 V
136	GCC1/IO112PSB2V3	GCC1/IO112P	2	DDR_CLK	Pull_Up	LVCMOS 2.5 V
137	IO110NDB2V3	IO110N	2	LVDS_P1_N	Pull_Up	LVDS 2.5 V
138	IO110PDB2V3	IO110P	2	LVDS_P1_P	Pull_Up	LVDS 2.5 V
139	IO106PSB2V3	IO106P	2	EN_SRC_PLL	Pull_Up	LVCMOS 2.5 V
140	VCCIB2	VCCIB2	2	VCCIB2	-	VMV
141	GND	GND	ALL	GND	-	GND

PIN	NAME	FUNCTION 1	BANK	VCC = 1.5V/ VMV(0-1-4-5-6-7)=3.3V / VMV (2-3)=2.5V		
142	VCC	VCC	ALL	VCC	-	VCC
143	IO99NDB2V2	IO99N	2	LVDS_P2_N	Pull_Down	LVDS 2.5 V
144	IO99PDB2V2	IO99P	2	LVDS_P2_P	Pull_Down	LVDS 2.5 V
145	IO96NDB2V1	IO96N	2	LVDS_P3_N	Pull_Down	LVDS 2.5 V
146	IO96PDB2V1	IO96P	2	LVDS_P3_P	Pull_Down	LVDS 2.5 V
147	IO91NDB2V1	IO91N	2	LVDS_P4_N	Pull_Down	LVDS 2.5 V
148	IO91PDB2V1	IO91P	2	LVDS_P4_P	Pull_Down	LVDS 2.5 V
149	IO88NDB2V0	IO88N	2	LVDS_P5_N	Pull_Down	LVDS 2.5 V
150	IO88PDB2V0	IO88P	2	LVDS_P5_P	Pull_Down	LVDS 2.5 V
151	GBC2/IO84PSB2V0	GBC2/IO84P	2	-	-	-
152	GBA2/IO82PSB2V0	GBA2/IO82P	2	-	-	-
153	GBB2/IO83PSB2V0	GBB2/IO83P	2	-	-	-
154	VMV2	VMV2	2	VMV2	-	VMV
155	GNDQ	GND	ALL	GND	-	GND
156	GND	GND	ALL	GND	-	GND
157	VMV1	VMV1	1	VMV1	-	VMV
158	GNDQ	GND	ALL	GND	-	GND
159	GBA1/IO81PDB1V4	GBA1/IO81P	1	SR_14_DOUT_0	Pull_Down	LVCMOS 3.3 V
160	GBA0/IO81NDB1V4	GBA0/IO81N	1	SR_14_DOUT_1	Pull_Down	LVCMOS 3.3 V
161	GBB1/IO80PDB1V4	GBB1/IO80P	1	SR_14_DOUT_2	Pull_Down	LVCMOS 3.3 V
162	GND	GND	ALL	GND	-	GND
163	GBB0/IO80NDB1V4	GBB0/IO80N	1	SR_14_DOUT_3	Pull_Down	LVCMOS 3.3 V
164	GBC1/IO79PDB1V4	GBC1/IO79P	1	SR_14_DIN	Pull_Up	LVCMOS 3.3 V
165	GBC0/IO79NDB1V4	GBC0/IO79N	1	DDR1_IN	Pull_Up	LVCMOS 3.3 V
166	IO74PDB1V4	IO74P	1	DDR1_OUT_0	Pull_Down	LVCMOS 3.3 V
167	IO74NDB1V4	IO74N	1	DDR1_OUT_1	Pull_Down	LVCMOS 3.3 V
168	IO70PDB1V3	IO70P	1	DDR1_OUT_2	Pull_Down	LVCMOS 3.3 V
169	IO70NDB1V3	IO70N	1	DDR1_OUT_3	Pull_Down	LVCMOS 3.3 V
170	VCCIB1	VCCIB1	1	VCCIB1	-	VMV
171	VCC	VCC	ALL	VCC	-	VCC
172	IO56PSB1V1	IO56P	1	DDR2_IN	Pull_Up	LVCMOS 3.3 V
173	IO55PDB1V1	IO55P	1	DDR2_OUT_0	Pull_Down	LVCMOS 3.3 V
174	IO55NDB1V1	IO55N	1	DDR2_OUT_1	Pull_Down	LVCMOS 3.3 V
175	IO54PDB1V1	IO54P	1	DDR2_OUT_2	Pull_Down	LVCMOS 3.3 V
176	IO54NDB1V1	IO54N	1	DDR2_OUT_3	Pull_Down	LVCMOS 3.3 V
177	IO40PDB0V4	IO40P	0	NSRAM_DOUT_0	Pull_Down	LVCMOS 3.3 V
178	GND	GND	ALL	GND	-	GND
179	IO40NDB0V4	IO40N	0	NSRAM_DOUT_1	Pull_Down	LVCMOS 3.3 V
180	IO37PDB0V4	IO37P	0	NSRAM_DOUT_2	Pull_Down	LVCMOS 3.3 V
181	IO37NDB0V4	IO37N	0	NSRAM_DOUT_3	Pull_Down	LVCMOS 3.3 V
182	IO35PDB0V4	IO35P	0	NSRAM_DOUT_4	Pull_Down	LVCMOS 3.3 V
183	IO35NDB0V4	IO35N	0	NSRAM_DOUT_5	Pull_Down	LVCMOS 3.3 V
184	IO32PDB0V3	IO32P	0	NSRAM_DOUT_6	Pull_Down	LVCMOS 3.3 V
185	IO32NDB0V3	IO32N	0	NSRAM_DOUT_7	Pull_Down	LVCMOS 3.3 V
186	VCCIB0	VCCIB0	0	VCCIB0	-	VMV
187	VCC	VCC	ALL	VCC	-	VCC
188	IO28PDB0V3	IO28P	0	NSRAM_DOUT_8	Pull_Down	LVCMOS 3.3 V
189	IO28NDB0V3	IO28N	0	SRAM_ADDR_0	Pull_Up	LVCMOS 3.3 V
190	IO24PDB0V2	IO24P	0	SRAM_ADDR_1	Pull_Up	LVCMOS 3.3 V
191	IO24NDB0V2	IO24N	0	SRAM_ADDR_2	Pull_Up	LVCMOS 3.3 V
192	IO21PSB0V2	IO21P	0	SRAM_ADDR_3	Pull_Up	LVCMOS 3.3 V

PIN	NAME	FUNCTION 1	BANK	VCC = 1.5V/ VMV(0-1-4-5-6-7)=3.3V / VMV (2-3)=2.5V		
193	IO16PDB0V1	IO16P	0	SRAM_ADDR_4	Pull_Up	LVCMOS 3.3 V
194	IO16NDB0V1	IO16N	0	SRAM_ADDR_5	Pull_Up	LVCMOS 3.3 V
195	GND	GND	ALL	GND	-	GND
196	IO11PDB0V1	IO11P	0	SRAM_ADDR_6	Pull_Up	LVCMOS 3.3 V
197	IO11NDB0V1	IO11N	0	SRAM_ADDR_7	Pull_Up	LVCMOS 3.3 V
198	IO08PDB0V0	IO08P	0	SRAM_ADDR_8	Pull_Up	LVCMOS 3.3 V
199	IO08NDB0V0	IO08N	0	SRAM_ADDR_9	Pull_Up	LVCMOS 3.3 V
200	VCCIB0	VCCIB0	0	VCCIB0	-	VMV
201	GAC1/IO02PDB0V0	GAC1/IO02P	0	SRAM_ADDR_10	Pull_Up	LVCMOS 3.3 V
202	GAC0/IO02NDB0V0	GAC0/IO02N	0	SRAM_ADDR_11	Pull_Up	LVCMOS 3.3 V
203	GAB1/IO01PDB0V0	GAB1/IO01P	0	SRAM_ADDR_12	Pull_Up	LVCMOS 3.3 V
204	GAB0/IO01NDB0V0	GAB0/IO01N	0	SRAM_ADDR_13	Pull_Up	LVCMOS 3.3 V
205	GAA1/IO00PDB0V0	GAA1/IO00P	0	SRAM_ADDR_14	Pull_Up	LVCMOS 3.3 V
206	GAA0/IO00NDB0V0	GAA0/IO00N	0	SRAM_RST	Pull_Up	LVCMOS 3.3 V
207	GNDQ	GND	ALL	GND	-	GND
208	VMV0	VMV0	0	VMV0	-	VMV

Notes:

- Programming voltages (JTAG and charge pump) are kept at 0 V during exposure and annealing
- See Design report HRX/SEE/0286 issue 01 for dynamic bias description during exposure and annealing.

4.2.2 Electrical Measurements

Electrical parameters test program principle for A3PE3000L is provided in Figure 1.

One IMS tester, a HP4142B tester and a Scope Infinium 54831B were used to perform required measurements.

A dedicated test fixture was designed to ensure proper measurement conditions.

Test results were automatically loaded in an Excel worksheet and compared in real time to specification limits.

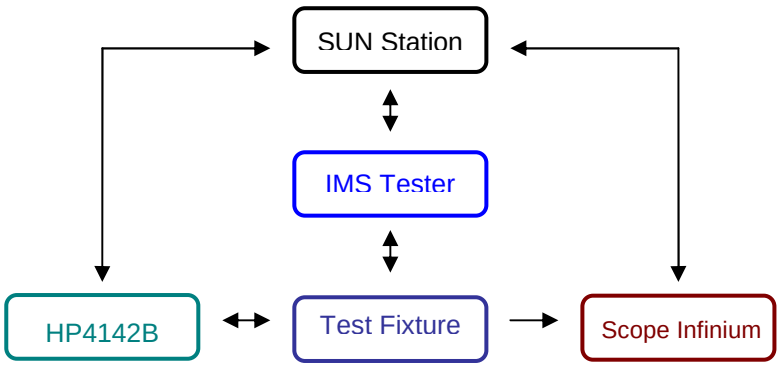


Figure 1 : A3PE3000L AC/DC test program principle

Functional tests have been performed using Hirex test system based on FPGA Virtex5. System architecture is given in Figure 2.

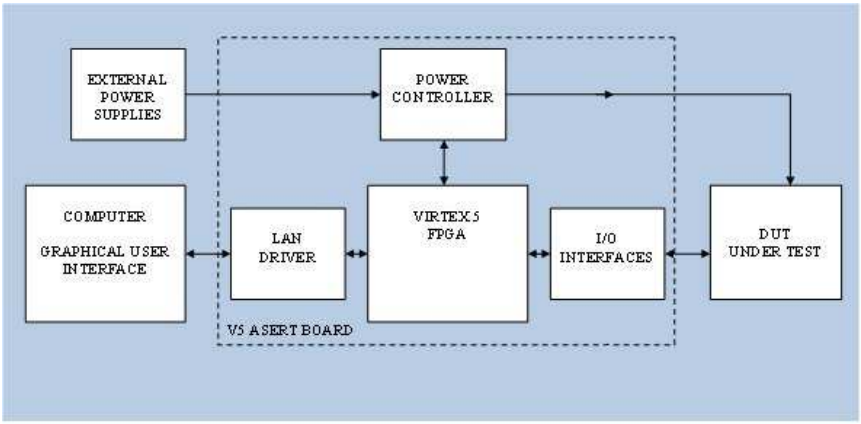
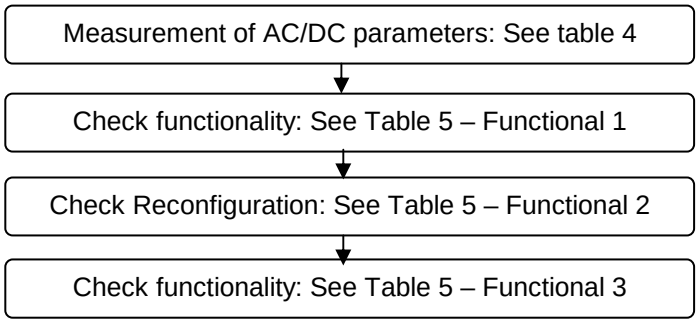


Figure 2 : A3PE3000L Functional test program principle

During each electrical measurement steps, following test sequence was applied:



Electrical parameters test conditions and limits used for performing this test are given in the following table.

Table 4: Parametric test conditions

A3PE3000L						
PARAMETERS	**SYMBOLS**	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
VCC core = 1.5V/ VCCI (0-1-4-5-6-7)=3.3V / VCCI (2-3)=2.5V						
Input Leakage Current	IIH	(LVCMOS33) Vin= 3.3V	-10.0E-6		10.0E-6	A
Input Leakage Current	IIH	(LVDS) Vin=2.35V	-10.0E-6		10.0E-6	A
Input Leakage Current	IIH	(LVCMOS 25) Vin=2.5V	-10.0E-6		10.0E-6	A
Input Leakage Current	IIL	(LVCMOS33) Vin=0V	-10.0E-6		10.0E-6	A
Input Leakage Current	IIL	(LVDS) Vin=50mV	-10.0E-6		10.0E-6	A
Input Leakage Current	IIL	(LVCMOS 25) Vin=0V	-10.0E-6		10.0E-6	A
High level Output Voltage	Voh	LVCMOS Outputs Io= -12mA	2.4			V
High level Output Voltage	Voh	LVDS Outputs Rload : 100 Ω				
Low level Output Voltage	Vol	LVCMOS Outputs Io= +12mA			0.2	V
Low level Output Voltage	Vol	LVDS Outputs Rload : 100 Ω				V
Output Common Mode Voltage	Vocm	LVDS Outputs Rload : 100 Ω	1.125	1.25	1.375	V
Power down current	Icc_Core_powerdown	FF input =Vil				A
Power down current	IccI_3V3_powerdown	FF input =Vil				A
Power down current	IccI_2V5_powerdown	FF input =Vil				A
Operating current	Icc_core_1MHz					A
Operating current	IccI_3V3_1MHz					A
Operating current	IccI_2V5_1MHz					A
Ring oscillator SKEW	RING_0_Skew	Propagation time between Ring in and Ring out 0 pin.				s
Ring oscillator SKEW	RING_1_Skew	Propagation time between Ring in and Ring out1 pin.				s
Ring oscillator SKEW	RING_2_Skew	Propagation time between Ring in and Ring out 2 pin.				s

Table 5: Functional test conditions

Functionality		
VCC core = 1.5V/ VCCI (0-1-4-5-6-7)=3.3V / VCCI (2-3)=2.5V		
Functional 1	Functionality before reconfiguration	See note 1
Functional 2	Functionality reconfiguration	See note 2
Functional 3	Functionality after reconfiguration	See note 1

Notes:
1 – Functionnality consists to measure:
- 10 shift registers tested at 2 MHz with checkerboard pattern
- SRAM tested at 20 MHz with checkerboard and blank checkerboard pattern
- UFROM (User Flash ROM) tested at 10 MHz with checkerboard and blank checkerboard pattern

2 – Reconfiguration consists to configure devices with the TV1 design and 3 lines of 1000 inverters chained together (see §3 : Test samples description).

5 Conclusion

A Total Ionizing Dose test was carried out by Hirex Engineering under ESA ESTEC contract on the Actel A3PE3000L ProASIC3L Low-Power Flash FPGA in a PQFP-208 package.
12 samples plus one control sample were used during testing. They were exposed to radiation using a dose rate of 229 Rad(Si)/hour at room temperature.

Excepted reconfigurable function, all parameters are within specification limits all along testing.
2 samples were not reconfigurable after 58.5KRad(Si) step and during annealing steps.
3 other samples were not reconfigurable after 69.3KRad(Si) step and during annealing steps.

These samples were not reconfigurable but they did not have lost their configuration (parameters Functional 1 and Functional 3 are OK all along exposure and annealing steps)

Parametric and Functional test results are provided respectively in Appendix 1 and Appendix 2

Power supply currents of each sample were monitored during bias exposure and annealing.
No significant drift was observed all along testing.

Examples of currents monitoring are presented in Appendix 3.

Appendix 1: Parametric test results

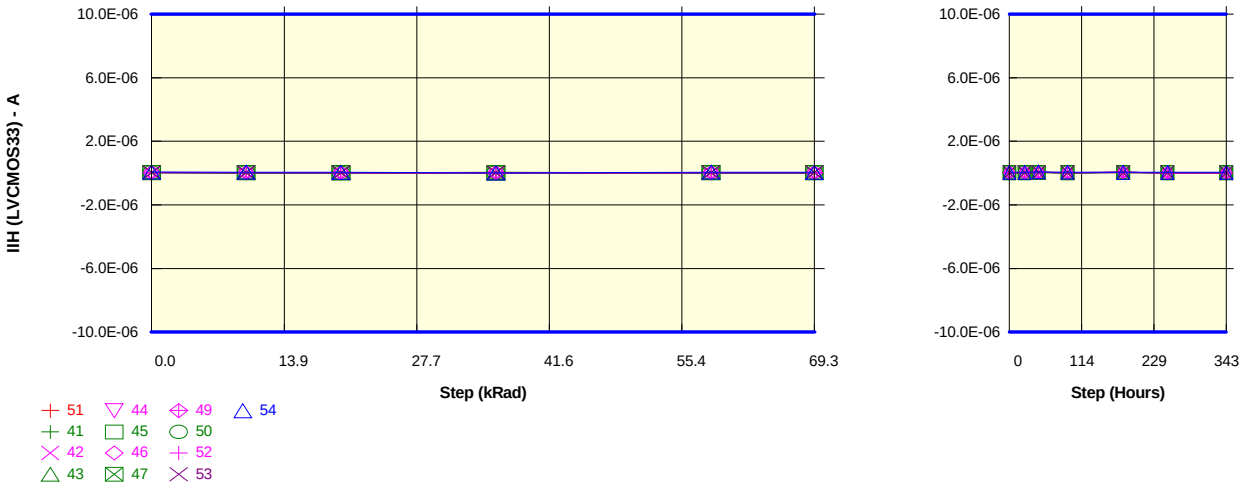
Test results including tables and graphics are provided in this section for each measured parameter.

Statistics are provided separately for bias ON and bias OFF samples.

Failed values (if any) with respect to specified limits are highlighted in bold red font in the tables.

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)pllpd

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

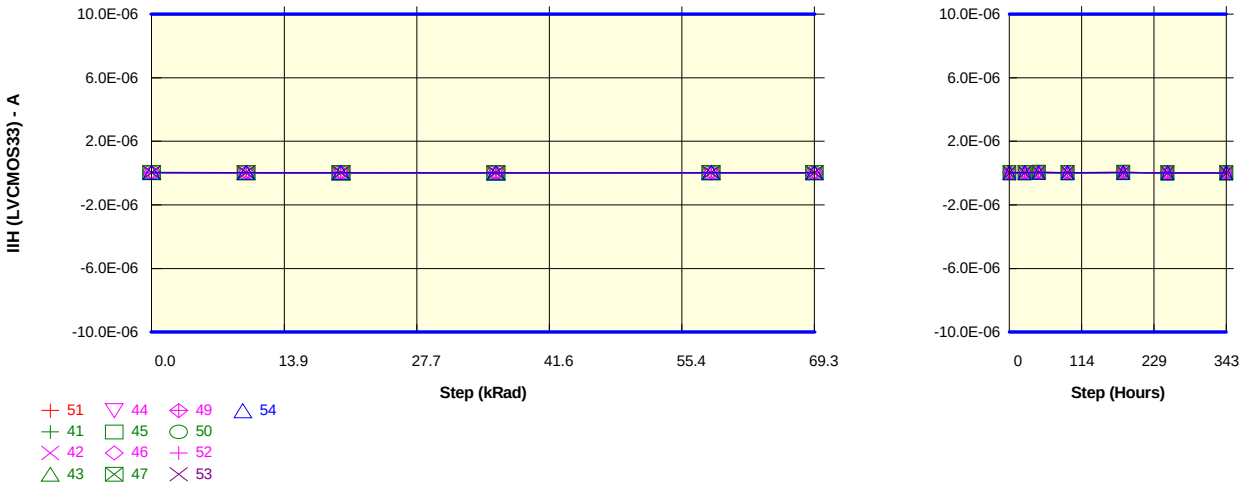
IIH (LVCMOS33) pllpd	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	39.4E-09	31.5E-09	28.6E-09	25.8E-09	33.5E-09	33.9E-09	33.9E-09	51.9E-09	35.6E-09	49.7E-09	27.8E-09	30.2E-09
ON samples												
41	39.6E-09	28.8E-09	23.6E-09	56.5E-09	27.3E-09	26.8E-09	26.8E-09	43.5E-09	25.2E-09	41.3E-09	22.6E-09	24.0E-09
42	43.4E-09	33.4E-09	28.0E-09	23.6E-09	32.2E-09	33.6E-09	33.6E-09	53.0E-09	30.5E-09	52.2E-09	27.2E-09	29.5E-09
43	42.8E-09	35.1E-09	28.3E-09	23.1E-09	33.0E-09	34.0E-09	34.0E-09	54.0E-09	32.1E-09	53.3E-09	27.7E-09	30.8E-09
44	39.6E-09	33.2E-09	26.7E-09	23.8E-09	31.7E-09	31.8E-09	31.8E-09	53.1E-09	31.5E-09	52.1E-09	26.7E-09	29.0E-09
45	44.7E-09	39.1E-09	31.5E-09	26.5E-09	35.8E-09	36.1E-09	36.1E-09	61.0E-09	36.7E-09	60.4E-09	30.5E-09	32.6E-09
46	45.1E-09	40.7E-09	30.2E-09	19.0E-09	39.0E-09	39.4E-09	39.4E-09	63.2E-09	40.1E-09	65.0E-09	32.7E-09	34.7E-09
47	35.9E-09	32.4E-09	24.6E-09	23.8E-09	30.7E-09	31.5E-09	31.5E-09	53.7E-09	32.2E-09	54.3E-09	26.6E-09	27.8E-09
49	41.0E-09	36.7E-09	27.9E-09	25.3E-09	32.7E-09	32.7E-09	32.7E-09	55.9E-09	33.8E-09	57.6E-09	28.0E-09	28.0E-09
50	36.5E-09	30.2E-09	23.6E-09	29.8E-09	27.3E-09	28.2E-09	28.2E-09	47.8E-09	28.7E-09	49.1E-09	23.4E-09	23.6E-09
52	50.8E-09	37.6E-09	34.6E-09	21.3E-09	36.1E-09	35.9E-09	35.9E-09	60.2E-09	37.6E-09	62.7E-09	29.9E-09	29.3E-09
Statistics												
Min	35.9E-09	28.8E-09	23.6E-09	19.0E-09	27.3E-09	26.8E-09	26.8E-09	43.5E-09	25.2E-09	41.3E-09	22.6E-09	23.6E-09
Max	50.8E-09	40.7E-09	34.6E-09	56.5E-09	39.0E-09	39.4E-09	39.4E-09	63.2E-09	40.1E-09	65.0E-09	32.7E-09	34.7E-09
Average	41.9E-09	34.7E-09	27.9E-09	27.2E-09	32.6E-09	33.0E-09	33.0E-09	54.5E-09	32.8E-09	54.8E-09	27.5E-09	28.9E-09
Sigma	4.2E-09	3.6E-09	3.4E-09	10.1E-09	3.5E-09	3.5E-09	3.5E-09	5.7E-09	4.2E-09	6.6E-09	2.9E-09	3.3E-09

Measurements

IIH (LVCMOS33)pllpd	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	39.4E-09	31.5E-09	28.6E-09	25.8E-09	33.5E-09	33.9E-09	33.9E-09	51.9E-09	35.6E-09	49.7E-09	27.8E-09	30.2E-09
OFF samples												
53	45.9E-09	33.7E-09	30.8E-09	26.1E-09	31.3E-09	30.2E-09	30.2E-09	53.5E-09	31.9E-09	55.6E-09	25.8E-09	25.1E-09
54	74.9E-09	62.7E-09	59.5E-09	24.7E-09	62.6E-09	60.5E-09	60.5E-09	80.2E-09	62.5E-09	60.1E-09	53.1E-09	54.4E-09
Statistics												
Min	45.9E-09	33.7E-09	30.8E-09	24.7E-09	31.3E-09	30.2E-09	30.2E-09	53.5E-09	31.9E-09	55.6E-09	25.8E-09	25.1E-09
Max	74.9E-09	62.7E-09	59.5E-09	26.1E-09	62.6E-09	60.5E-09	60.5E-09	80.2E-09	62.5E-09	60.1E-09	53.1E-09	54.4E-09
Average	60.4E-09	48.2E-09	45.1E-09	25.4E-09	46.9E-09	45.3E-09	45.3E-09	66.8E-09	47.2E-09	57.8E-09	39.5E-09	39.8E-09
Sigma	14.5E-09	14.5E-09	14.4E-09	700.0E-12	15.7E-09	15.2E-09	15.2E-09	13.3E-09	15.3E-09	2.3E-09	13.7E-09	14.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)srrst

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

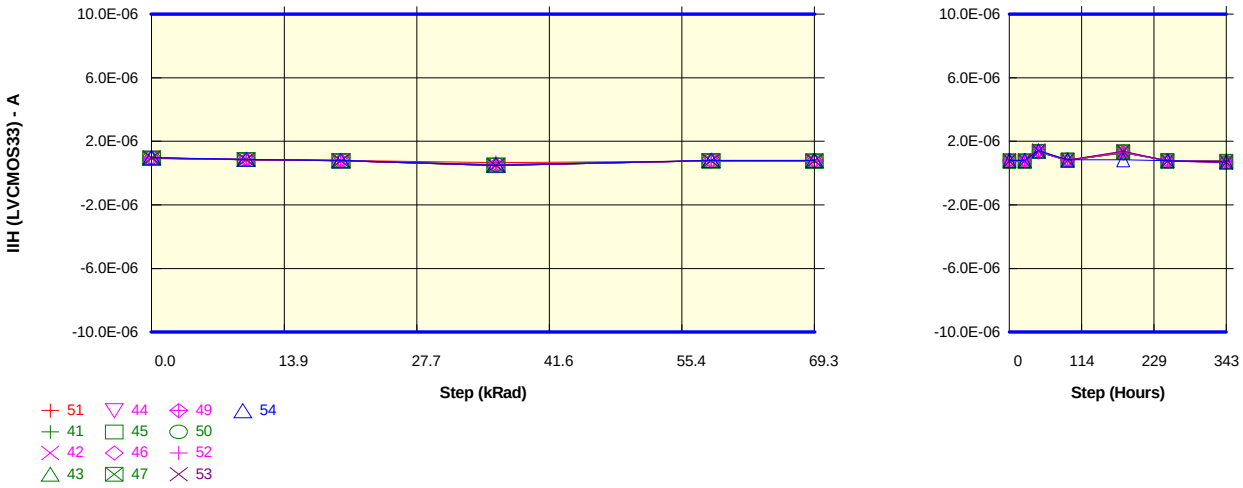
IIH (LVCMOS33) srrst	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	34.5E-09	26.6E-09	24.6E-09	22.2E-09	28.0E-09	28.7E-09	28.7E-09	44.8E-09	29.8E-09	42.6E-09	22.9E-09	25.0E-09
ON samples												
41	38.8E-09	28.2E-09	24.2E-09	28.1E-09	25.5E-09	26.2E-09	26.2E-09	40.5E-09	25.4E-09	39.0E-09	23.0E-09	24.3E-09
42	51.9E-09	40.1E-09	33.1E-09	20.0E-09	35.4E-09	37.0E-09	37.0E-09	61.9E-09	35.2E-09	59.5E-09	31.4E-09	34.4E-09
43	37.2E-09	30.1E-09	24.1E-09	20.4E-09	27.0E-09	28.1E-09	28.1E-09	44.8E-09	27.3E-09	44.7E-09	23.3E-09	25.8E-09
44	36.5E-09	29.3E-09	23.2E-09	20.9E-09	26.3E-09	27.3E-09	27.3E-09	46.4E-09	27.9E-09	46.0E-09	23.1E-09	26.1E-09
45	50.7E-09	42.1E-09	34.2E-09	24.7E-09	38.1E-09	38.3E-09	38.3E-09	67.0E-09	41.0E-09	66.8E-09	33.7E-09	35.8E-09
46	40.6E-09	34.9E-09	26.5E-09	20.6E-09	32.7E-09	33.1E-09	33.1E-09	54.9E-09	35.5E-09	55.0E-09	28.3E-09	30.0E-09
47	31.9E-09	28.4E-09	21.7E-09	27.5E-09	25.6E-09	27.1E-09	27.1E-09	45.5E-09	28.1E-09	45.8E-09	22.4E-09	23.5E-09
49	33.2E-09	28.8E-09	21.9E-09	21.0E-09	25.6E-09	25.4E-09	25.4E-09	43.5E-09	27.4E-09	45.6E-09	22.3E-09	22.8E-09
50	34.5E-09	27.7E-09	22.1E-09	26.0E-09	24.4E-09	25.6E-09	25.6E-09	42.5E-09	26.9E-09	44.2E-09	22.0E-09	22.0E-09
52	46.9E-09	34.2E-09	31.4E-09	20.2E-09	31.8E-09	31.7E-09	31.7E-09	52.7E-09	33.8E-09	56.0E-09	27.1E-09	27.3E-09
Statistics												
Min	31.9E-09	27.7E-09	21.7E-09	20.0E-09	24.4E-09	25.4E-09	25.4E-09	40.5E-09	25.4E-09	39.0E-09	22.0E-09	22.0E-09
Max	51.9E-09	42.1E-09	34.2E-09	28.1E-09	38.1E-09	38.3E-09	38.3E-09	67.0E-09	41.0E-09	66.8E-09	33.7E-09	35.8E-09
Average	40.2E-09	32.4E-09	26.2E-09	22.9E-09	29.2E-09	30.0E-09	30.0E-09	50.0E-09	30.8E-09	50.2E-09	25.6E-09	27.2E-09
Sigma	6.8E-09	5.0E-09	4.6E-09	3.1E-09	4.6E-09	4.5E-09	4.5E-09	8.4E-09	4.9E-09	8.2E-09	4.0E-09	4.5E-09

Measurements

IIH (LVCMOS33) srrst	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	34.5E-09	26.6E-09	24.6E-09	22.2E-09	28.0E-09	28.7E-09	28.7E-09	44.8E-09	29.8E-09	42.6E-09	22.9E-09	25.0E-09
OFF samples												
53	39.7E-09	28.5E-09	26.1E-09	28.5E-09	26.0E-09	24.9E-09	24.9E-09	44.3E-09	27.0E-09	46.5E-09	21.2E-09	21.2E-09
54	53.3E-09	41.3E-09	36.2E-09	19.9E-09	37.0E-09	35.8E-09	35.8E-09	60.2E-09	37.9E-09	36.0E-09	30.2E-09	30.7E-09
Statistics												
Min	39.7E-09	28.5E-09	26.1E-09	19.9E-09	26.0E-09	24.9E-09	24.9E-09	44.3E-09	27.0E-09	36.0E-09	21.2E-09	21.2E-09
Max	53.3E-09	41.3E-09	36.2E-09	28.5E-09	37.0E-09	35.8E-09	35.8E-09	60.2E-09	37.9E-09	46.5E-09	30.2E-09	30.7E-09
Average	46.5E-09	34.9E-09	31.1E-09	24.2E-09	31.5E-09	30.4E-09	30.4E-09	52.3E-09	32.4E-09	41.3E-09	25.7E-09	25.9E-09
Sigma	6.8E-09	6.4E-09	5.1E-09	4.3E-09	5.5E-09	5.5E-09	5.5E-09	8.0E-09	5.4E-09	5.2E-09	4.5E-09	4.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sm_rw

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

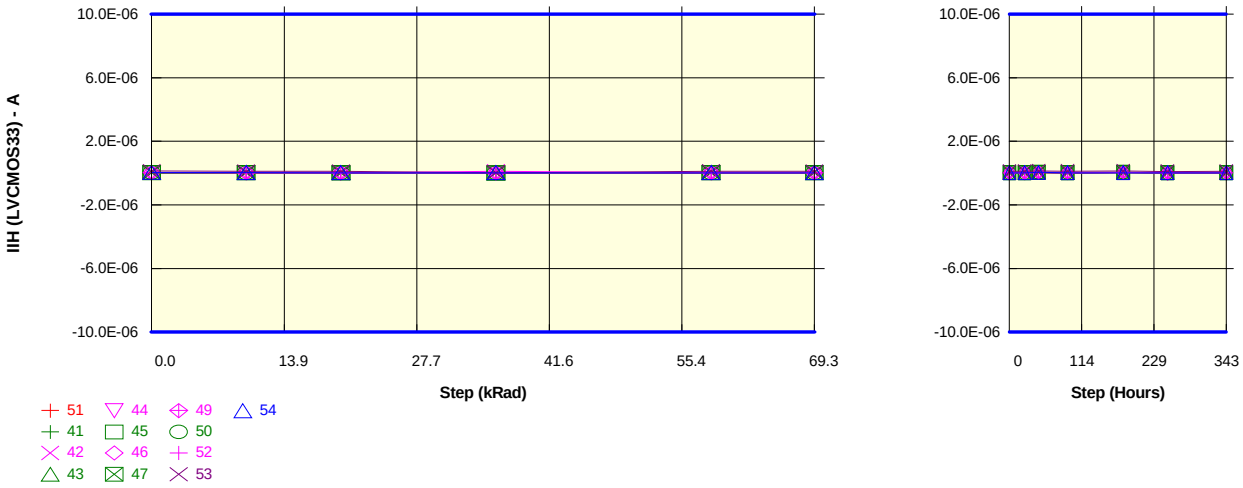
IIH (LVCMOS33)sm_rw	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	933.5E-09	859.5E-09	788.5E-09	666.0E-09	763.0E-09	781.5E-09	781.5E-09	1.3E-06	805.5E-09	1.3E-06	806.5E-09	766.5E-09
ON samples												
41	945.0E-09	846.5E-09	772.5E-09	513.0E-09	773.5E-09	760.0E-09	760.0E-09	1.3E-06	787.0E-09	1.3E-06	783.0E-09	741.5E-09
42	950.0E-09	864.0E-09	789.5E-09	517.5E-09	771.0E-09	771.5E-09	771.5E-09	1.4E-06	786.5E-09	1.3E-06	791.5E-09	749.0E-09
43	950.0E-09	863.5E-09	780.0E-09	491.0E-09	779.0E-09	767.0E-09	767.0E-09	1.4E-06	797.0E-09	1.3E-06	789.0E-09	747.0E-09
44	943.5E-09	863.0E-09	781.5E-09	527.0E-09	775.0E-09	762.5E-09	762.5E-09	1.4E-06	798.0E-09	1.3E-06	776.5E-09	746.5E-09
45	944.5E-09	863.5E-09	789.5E-09	476.0E-09	782.0E-09	758.0E-09	758.0E-09	1.4E-06	812.5E-09	1.3E-06	784.5E-09	737.5E-09
46	935.5E-09	855.0E-09	771.0E-09	473.0E-09	774.5E-09	766.5E-09	766.5E-09	1.4E-06	810.0E-09	1.3E-06	767.0E-09	720.5E-09
47	919.0E-09	850.5E-09	773.5E-09	483.0E-09	770.5E-09	766.5E-09	766.5E-09	1.4E-06	799.5E-09	1.3E-06	762.5E-09	707.5E-09
49	924.5E-09	856.5E-09	786.0E-09	511.5E-09	774.0E-09	769.0E-09	769.0E-09	1.4E-06	820.5E-09	1.3E-06	768.5E-09	707.0E-09
50	928.0E-09	848.0E-09	781.5E-09	537.5E-09	771.0E-09	768.5E-09	768.5E-09	1.4E-06	814.0E-09	1.3E-06	759.0E-09	683.0E-09
52	960.0E-09	840.5E-09	774.0E-09	502.0E-09	770.5E-09	766.0E-09	766.0E-09	1.4E-06	815.5E-09	1.3E-06	750.0E-09	674.0E-09
Statistics												
Min	919.0E-09	840.5E-09	771.0E-09	473.0E-09	770.5E-09	758.0E-09	758.0E-09	1.3E-06	786.5E-09	1.3E-06	750.0E-09	674.0E-09
Max	960.0E-09	864.0E-09	789.5E-09	537.5E-09	782.0E-09	771.5E-09	771.5E-09	1.4E-06	820.5E-09	1.3E-06	791.5E-09	749.0E-09
Average	940.0E-09	855.1E-09	779.9E-09	503.2E-09	774.1E-09	765.6E-09	765.6E-09	1.4E-06	804.1E-09	1.3E-06	773.2E-09	721.4E-09
Sigma	12.3E-09	8.0E-09	6.6E-09	20.8E-09	3.6E-09	4.0E-09	4.0E-09	14.3E-09	11.5E-09	17.4E-09	13.2E-09	26.1E-09

Measurements

IIH (LVCMOS33)sm_rw	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	933.5E-09	859.5E-09	788.5E-09	666.0E-09	763.0E-09	781.5E-09	781.5E-09	1.3E-06	805.5E-09	1.3E-06	806.5E-09	766.5E-09
OFF samples												
53	975.0E-09	854.5E-09	777.5E-09	484.0E-09	785.0E-09	790.0E-09	790.0E-09	1.4E-06	829.5E-09	1.4E-06	765.5E-09	683.0E-09
54	990.0E-09	873.5E-09	787.0E-09	515.5E-09	801.5E-09	802.5E-09	802.5E-09	1.4E-06	843.0E-09	839.0E-09	781.0E-09	701.5E-09
Statistics												
Min	975.0E-09	854.5E-09	777.5E-09	484.0E-09	785.0E-09	790.0E-09	790.0E-09	1.4E-06	829.5E-09	839.0E-09	765.5E-09	683.0E-09
Max	990.0E-09	873.5E-09	787.0E-09	515.5E-09	801.5E-09	802.5E-09	802.5E-09	1.4E-06	843.0E-09	1.4E-06	781.0E-09	701.5E-09
Average	982.5E-09	864.0E-09	782.3E-09	499.8E-09	793.3E-09	796.3E-09	796.3E-09	1.4E-06	836.3E-09	1.1E-06	773.3E-09	692.3E-09
Sigma	7.5E-09	9.5E-09	4.7E-09	15.8E-09	8.3E-09	6.3E-09	6.3E-09	2.5E-09	6.7E-09	270.5E-09	7.8E-09	9.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram8

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

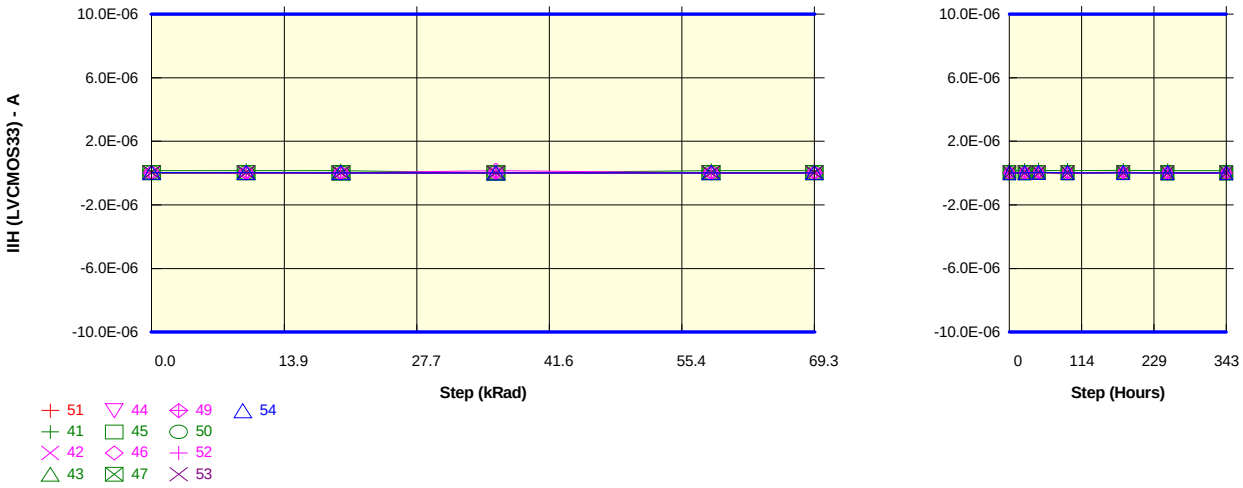
IIH (LVCMOS33)sram8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.9E-09	26.0E-09	23.5E-09	21.6E-09	27.5E-09	28.2E-09	28.2E-09	43.6E-09	29.4E-09	41.9E-09	22.9E-09	25.0E-09
ON samples												
41	45.1E-09	32.7E-09	27.2E-09	24.9E-09	31.5E-09	32.8E-09	32.8E-09	52.3E-09	30.5E-09	49.9E-09	27.3E-09	30.1E-09
42	38.4E-09	30.3E-09	25.3E-09	116.0E-09	29.3E-09	31.2E-09	31.2E-09	50.3E-09	28.8E-09	48.8E-09	25.7E-09	28.5E-09
43	37.9E-09	31.4E-09	25.7E-09	21.1E-09	30.8E-09	32.3E-09	32.3E-09	50.9E-09	30.4E-09	50.2E-09	26.6E-09	29.7E-09
44	34.8E-09	29.6E-09	23.5E-09	22.8E-09	28.5E-09	29.5E-09	29.5E-09	49.1E-09	29.0E-09	48.9E-09	25.0E-09	28.1E-09
45	45.0E-09	38.6E-09	31.1E-09	20.3E-09	37.7E-09	38.6E-09	38.6E-09	65.1E-09	39.1E-09	65.0E-09	33.1E-09	35.9E-09
46	31.6E-09	28.2E-09	20.5E-09	23.1E-09	27.4E-09	28.5E-09	28.5E-09	46.6E-09	28.9E-09	47.5E-09	23.9E-09	25.6E-09
47	32.3E-09	30.2E-09	22.2E-09	22.3E-09	29.0E-09	30.4E-09	30.4E-09	50.3E-09	30.4E-09	51.5E-09	25.5E-09	26.9E-09
49	42.2E-09	39.0E-09	29.9E-09	23.4E-09	38.1E-09	39.2E-09	39.2E-09	60.0E-09	39.9E-09	62.6E-09	33.5E-09	34.7E-09
50	30.2E-09	25.2E-09	19.6E-09	21.3E-09	23.6E-09	24.7E-09	24.7E-09	41.8E-09	25.4E-09	43.3E-09	21.3E-09	21.3E-09
52	36.7E-09	27.4E-09	25.3E-09	18.4E-09	27.2E-09	27.6E-09	27.6E-09	45.3E-09	28.1E-09	47.5E-09	23.2E-09	23.2E-09
Statistics												
Min	30.2E-09	25.2E-09	19.6E-09	18.4E-09	23.6E-09	24.7E-09	24.7E-09	41.8E-09	25.4E-09	43.3E-09	21.3E-09	21.3E-09
Max	45.1E-09	39.0E-09	31.1E-09	116.0E-09	38.1E-09	39.2E-09	39.2E-09	65.1E-09	39.9E-09	65.0E-09	33.5E-09	35.9E-09
Average	37.4E-09	31.2E-09	25.0E-09	31.3E-09	30.3E-09	31.5E-09	31.5E-09	51.2E-09	31.0E-09	51.5E-09	26.5E-09	28.4E-09
Sigma	5.1E-09	4.2E-09	3.5E-09	28.3E-09	4.3E-09	4.3E-09	4.3E-09	6.5E-09	4.5E-09	6.5E-09	3.8E-09	4.3E-09

Measurements

IIH (LVCMOS33)sram8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.9E-09	26.0E-09	23.5E-09	21.6E-09	27.5E-09	28.2E-09	28.2E-09	43.6E-09	29.4E-09	41.9E-09	22.9E-09	25.0E-09
OFF samples												
53	124.5E-09	111.5E-09	111.0E-09	27.2E-09	116.0E-09	112.5E-09	112.5E-09	125.5E-09	115.0E-09	130.0E-09	104.0E-09	109.0E-09
54	47.0E-09	36.7E-09	32.1E-09	30.3E-09	33.5E-09	32.0E-09	32.0E-09	55.2E-09	33.8E-09	32.5E-09	27.4E-09	27.4E-09
Statistics												
Min	47.0E-09	36.7E-09	32.1E-09	27.2E-09	33.5E-09	32.0E-09	32.0E-09	55.2E-09	33.8E-09	32.5E-09	27.4E-09	27.4E-09
Max	124.5E-09	111.5E-09	111.0E-09	30.3E-09	116.0E-09	112.5E-09	112.5E-09	125.5E-09	115.0E-09	130.0E-09	104.0E-09	109.0E-09
Average	85.7E-09	74.1E-09	71.5E-09	28.7E-09	74.7E-09	72.3E-09	72.3E-09	90.4E-09	74.4E-09	81.2E-09	65.7E-09	68.2E-09
Sigma	38.8E-09	37.4E-09	39.5E-09	1.5E-09	41.3E-09	40.3E-09	40.3E-09	35.2E-09	40.6E-09	48.8E-09	38.3E-09	40.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram7

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

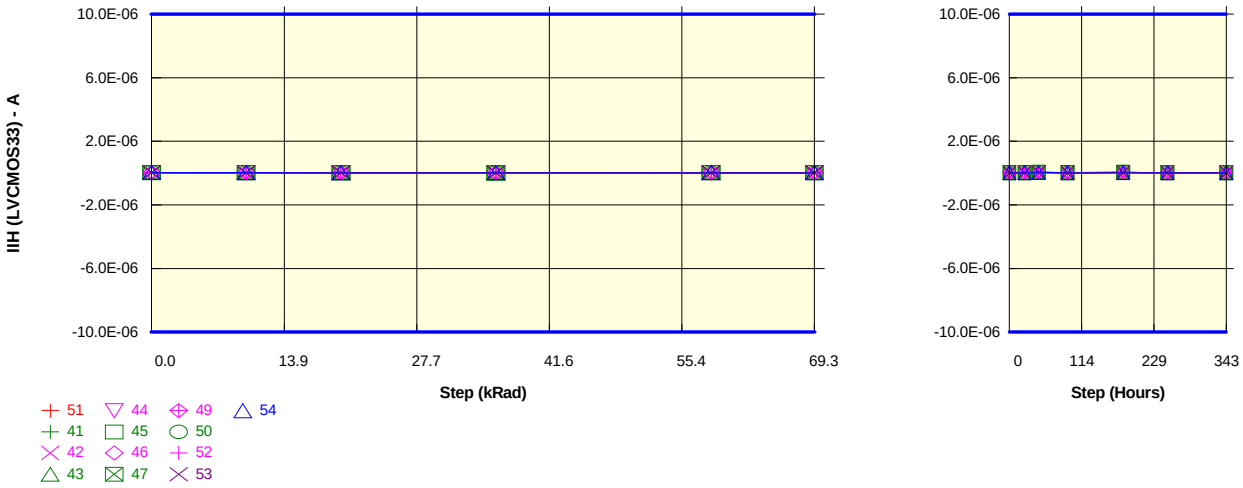
IIH (LVCMOS33)sram7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.5E-09	25.6E-09	23.3E-09	21.9E-09	27.0E-09	27.7E-09	27.7E-09	42.9E-09	28.9E-09	41.4E-09	22.9E-09	24.3E-09
ON samples												
41	167.5E-09	169.0E-09	156.5E-09	25.8E-09	173.0E-09	176.5E-09	176.5E-09	187.5E-09	172.0E-09	186.0E-09	157.0E-09	169.5E-09
42	39.0E-09	30.5E-09	25.4E-09	19.9E-09	28.5E-09	30.5E-09	30.5E-09	49.5E-09	28.1E-09	47.9E-09	25.4E-09	27.7E-09
43	37.9E-09	30.8E-09	25.3E-09	21.1E-09	29.8E-09	31.3E-09	31.3E-09	49.4E-09	29.5E-09	48.7E-09	25.9E-09	28.7E-09
44	34.9E-09	29.7E-09	23.5E-09	20.9E-09	27.8E-09	29.1E-09	29.1E-09	48.1E-09	28.6E-09	47.8E-09	24.3E-09	27.3E-09
45	41.6E-09	35.6E-09	28.6E-09	20.1E-09	34.1E-09	35.3E-09	35.3E-09	58.5E-09	35.6E-09	58.3E-09	29.8E-09	32.2E-09
46	33.1E-09	29.2E-09	21.2E-09	173.5E-09	27.6E-09	28.6E-09	28.6E-09	47.6E-09	29.2E-09	48.1E-09	23.8E-09	25.3E-09
47	29.7E-09	28.0E-09	20.5E-09	21.8E-09	26.4E-09	27.7E-09	27.7E-09	45.0E-09	27.7E-09	45.9E-09	22.9E-09	24.1E-09
49	38.4E-09	34.1E-09	25.6E-09	22.9E-09	31.8E-09	32.5E-09	32.5E-09	54.2E-09	33.3E-09	56.2E-09	27.7E-09	28.3E-09
50	28.1E-09	23.4E-09	17.9E-09	21.2E-09	21.6E-09	22.6E-09	22.6E-09	37.6E-09	23.2E-09	39.0E-09	19.0E-09	19.3E-09
52	36.5E-09	27.3E-09	24.9E-09	17.4E-09	26.4E-09	27.0E-09	27.0E-09	43.8E-09	27.5E-09	45.9E-09	22.3E-09	22.6E-09
Statistics												
Min	28.1E-09	23.4E-09	17.9E-09	17.4E-09	21.6E-09	22.6E-09	22.6E-09	37.6E-09	23.2E-09	39.0E-09	19.0E-09	19.3E-09
Max	167.5E-09	169.0E-09	156.5E-09	173.5E-09	173.0E-09	176.5E-09	176.5E-09	187.5E-09	172.0E-09	186.0E-09	157.0E-09	169.5E-09
Average	48.7E-09	43.7E-09	36.9E-09	36.4E-09	42.7E-09	44.1E-09	44.1E-09	62.1E-09	43.4E-09	62.4E-09	37.8E-09	40.5E-09
Sigma	39.8E-09	41.9E-09	40.0E-09	45.7E-09	43.6E-09	44.3E-09	44.3E-09	42.1E-09	43.0E-09	41.5E-09	39.8E-09	43.1E-09

Measurements

IIH (LVCMOS33)sram7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.5E-09	25.6E-09	23.3E-09	21.9E-09	27.0E-09	27.7E-09	27.7E-09	42.9E-09	28.9E-09	41.4E-09	22.9E-09	24.3E-09
OFF samples												
53	37.2E-09	27.4E-09	24.7E-09	25.6E-09	25.0E-09	23.8E-09	23.8E-09	41.5E-09	25.4E-09	43.2E-09	20.4E-09	20.4E-09
54	46.8E-09	36.5E-09	32.5E-09	24.1E-09	33.7E-09	32.3E-09	32.3E-09	53.8E-09	34.2E-09	32.6E-09	27.4E-09	27.6E-09
Statistics												
Min	37.2E-09	27.4E-09	24.7E-09	24.1E-09	25.0E-09	23.8E-09	23.8E-09	41.5E-09	25.4E-09	32.6E-09	20.4E-09	20.4E-09
Max	46.8E-09	36.5E-09	32.5E-09	25.6E-09	33.7E-09	32.3E-09	32.3E-09	53.8E-09	34.2E-09	43.2E-09	27.4E-09	27.6E-09
Average	42.0E-09	31.9E-09	28.6E-09	24.8E-09	29.3E-09	28.1E-09	28.1E-09	47.6E-09	29.8E-09	37.9E-09	23.9E-09	24.0E-09
Sigma	4.8E-09	4.6E-09	3.9E-09	725.0E-12	4.3E-09	4.3E-09	4.3E-09	6.1E-09	4.4E-09	5.3E-09	3.5E-09	3.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram6

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

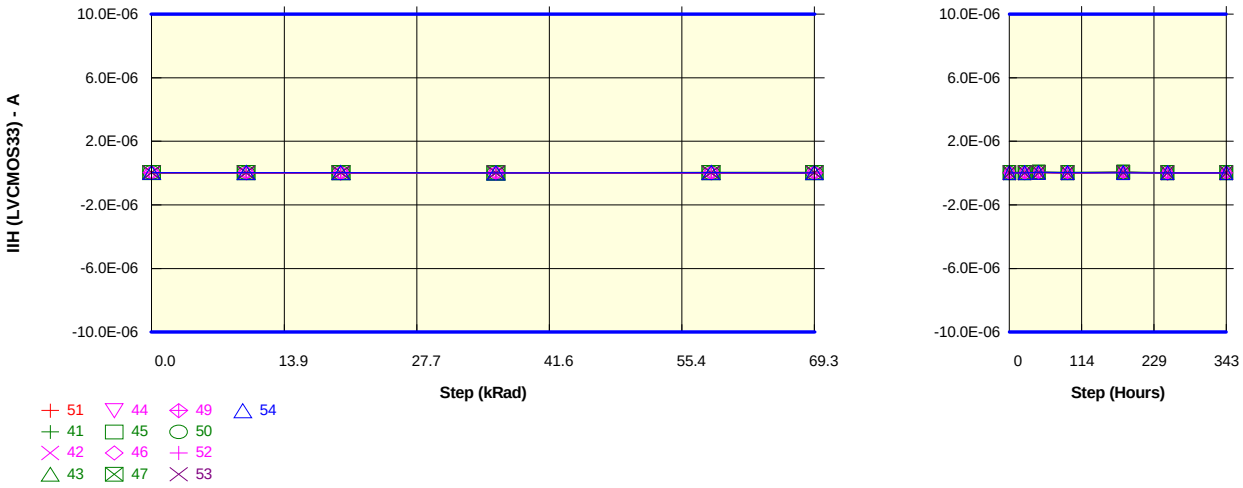
IIH (LVCMOS33) sram6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.8E-09	25.4E-09	23.2E-09	21.3E-09	27.1E-09	27.8E-09	27.8E-09	43.0E-09	29.1E-09	41.2E-09	22.2E-09	24.5E-09
ON samples												
41	48.7E-09	34.7E-09	29.7E-09	25.1E-09	34.1E-09	35.5E-09	35.5E-09	56.3E-09	32.9E-09	53.8E-09	29.1E-09	32.2E-09
42	40.0E-09	30.8E-09	26.1E-09	18.1E-09	30.1E-09	31.9E-09	31.9E-09	51.8E-09	29.5E-09	50.2E-09	26.0E-09	29.0E-09
43	38.1E-09	30.5E-09	25.1E-09	19.6E-09	30.1E-09	31.8E-09	31.8E-09	50.1E-09	29.9E-09	49.2E-09	25.7E-09	29.1E-09
44	33.2E-09	27.7E-09	22.2E-09	29.2E-09	26.8E-09	27.8E-09	27.8E-09	46.7E-09	27.5E-09	46.1E-09	23.0E-09	26.3E-09
45	43.8E-09	37.4E-09	30.4E-09	23.9E-09	36.4E-09	37.1E-09	37.1E-09	63.7E-09	38.0E-09	63.3E-09	31.5E-09	34.3E-09
46	33.4E-09	29.2E-09	21.5E-09	24.9E-09	28.4E-09	29.5E-09	29.5E-09	48.6E-09	30.1E-09	49.6E-09	24.2E-09	26.3E-09
47	36.9E-09	34.4E-09	26.5E-09	22.4E-09	34.9E-09	36.4E-09	36.4E-09	54.0E-09	36.2E-09	55.1E-09	29.8E-09	32.3E-09
49	41.5E-09	36.6E-09	27.9E-09	22.5E-09	35.0E-09	35.8E-09	35.8E-09	60.5E-09	36.8E-09	62.7E-09	30.3E-09	31.2E-09
50	26.1E-09	21.4E-09	16.7E-09	21.5E-09	20.2E-09	21.3E-09	21.3E-09	35.2E-09	21.8E-09	36.5E-09	17.7E-09	18.2E-09
52	40.2E-09	30.1E-09	28.4E-09	16.0E-09	30.6E-09	31.3E-09	31.3E-09	48.7E-09	31.7E-09	50.9E-09	25.7E-09	26.5E-09
Statistics												
Min	26.1E-09	21.4E-09	16.7E-09	16.0E-09	20.2E-09	21.3E-09	21.3E-09	35.2E-09	21.8E-09	36.5E-09	17.7E-09	18.2E-09
Max	48.7E-09	37.4E-09	30.4E-09	29.2E-09	36.4E-09	37.1E-09	37.1E-09	63.7E-09	38.0E-09	63.3E-09	31.5E-09	34.3E-09
Average	38.2E-09	31.3E-09	25.4E-09	22.3E-09	30.6E-09	31.8E-09	31.8E-09	51.5E-09	31.4E-09	51.7E-09	26.3E-09	28.5E-09
Sigma	6.0E-09	4.5E-09	4.0E-09	3.6E-09	4.6E-09	4.6E-09	4.6E-09	7.5E-09	4.6E-09	7.4E-09	3.9E-09	4.4E-09

Measurements

IIH (LVCMOS33) sram6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.8E-09	25.4E-09	23.2E-09	21.3E-09	27.1E-09	27.8E-09	27.8E-09	43.0E-09	29.1E-09	41.2E-09	22.2E-09	24.5E-09
OFF samples												
53	34.8E-09	25.2E-09	22.9E-09	25.6E-09	23.4E-09	22.1E-09	22.1E-09	38.9E-09	23.8E-09	40.6E-09	18.8E-09	19.1E-09
54	47.0E-09	36.0E-09	31.9E-09	25.6E-09	33.1E-09	32.0E-09	32.0E-09	53.5E-09	33.8E-09	32.2E-09	26.7E-09	27.2E-09
Statistics												
Min	34.8E-09	25.2E-09	22.9E-09	25.6E-09	23.4E-09	22.1E-09	22.1E-09	38.9E-09	23.8E-09	32.2E-09	18.8E-09	19.1E-09
Max	47.0E-09	36.0E-09	31.9E-09	25.6E-09	33.1E-09	32.0E-09	32.0E-09	53.5E-09	33.8E-09	40.6E-09	26.7E-09	27.2E-09
Average	40.9E-09	30.6E-09	27.4E-09	25.6E-09	28.3E-09	27.0E-09	27.0E-09	46.2E-09	28.8E-09	36.4E-09	22.8E-09	23.2E-09
Sigma	6.1E-09	5.4E-09	4.5E-09	25.0E-12	4.9E-09	5.0E-09	5.0E-09	7.3E-09	5.0E-09	4.2E-09	3.9E-09	4.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

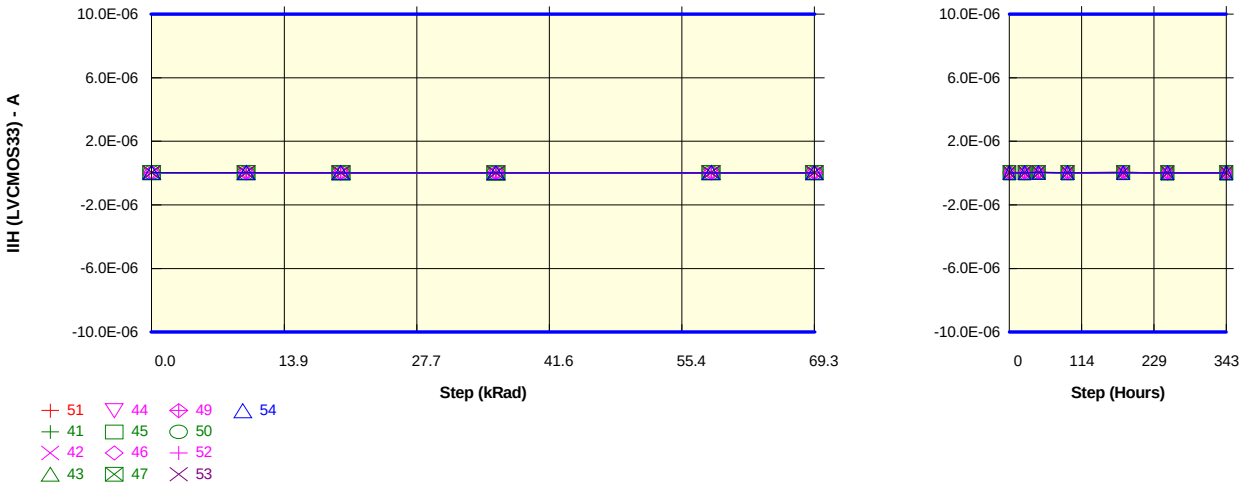
IIH (LVCMOS33) sram5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.9E-09	24.2E-09	22.8E-09	20.1E-09	25.8E-09	26.7E-09	26.7E-09	41.0E-09	27.9E-09	39.6E-09	21.5E-09	23.5E-09
ON samples												
41	47.6E-09	34.4E-09	29.7E-09	25.9E-09	33.1E-09	34.6E-09	34.6E-09	55.5E-09	32.2E-09	53.4E-09	29.4E-09	31.7E-09
42	41.4E-09	32.3E-09	27.8E-09	17.6E-09	31.3E-09	33.4E-09	33.4E-09	54.6E-09	30.9E-09	53.0E-09	28.0E-09	30.6E-09
43	38.0E-09	31.3E-09	26.1E-09	19.8E-09	30.7E-09	32.5E-09	32.5E-09	50.1E-09	30.6E-09	49.6E-09	27.0E-09	30.0E-09
44	33.1E-09	27.7E-09	23.0E-09	48.0E-09	27.1E-09	28.2E-09	28.2E-09	46.3E-09	27.6E-09	46.2E-09	23.9E-09	26.8E-09
45	44.1E-09	37.8E-09	31.6E-09	22.5E-09	36.7E-09	37.7E-09	37.7E-09	64.1E-09	38.1E-09	63.8E-09	32.5E-09	34.7E-09
46	33.7E-09	29.7E-09	22.5E-09	23.4E-09	28.8E-09	30.0E-09	30.0E-09	49.9E-09	30.5E-09	51.0E-09	25.3E-09	26.8E-09
47	51.5E-09	51.6E-09	42.4E-09	22.9E-09	53.9E-09	56.6E-09	56.6E-09	73.5E-09	56.5E-09	75.4E-09	49.7E-09	52.1E-09
49	39.9E-09	35.6E-09	27.6E-09	23.0E-09	33.3E-09	34.3E-09	34.3E-09	57.7E-09	35.4E-09	59.8E-09	29.6E-09	30.1E-09
50	30.8E-09	25.6E-09	20.6E-09	21.2E-09	23.7E-09	25.2E-09	25.2E-09	42.5E-09	26.0E-09	43.8E-09	21.5E-09	21.6E-09
52	39.2E-09	29.4E-09	28.4E-09	18.0E-09	29.9E-09	30.4E-09	30.4E-09	48.5E-09	31.0E-09	50.6E-09	25.7E-09	25.7E-09
Statistics												
Min	30.8E-09	25.6E-09	20.6E-09	17.6E-09	23.7E-09	25.2E-09	25.2E-09	42.5E-09	26.0E-09	43.8E-09	21.5E-09	21.6E-09
Max	51.5E-09	51.6E-09	42.4E-09	48.0E-09	53.9E-09	56.6E-09	56.6E-09	73.5E-09	56.5E-09	75.4E-09	49.7E-09	52.1E-09
Average	39.9E-09	33.5E-09	27.9E-09	24.2E-09	32.8E-09	34.3E-09	34.3E-09	54.3E-09	33.9E-09	54.6E-09	29.2E-09	31.0E-09
Sigma	6.2E-09	7.0E-09	5.8E-09	8.3E-09	7.8E-09	8.2E-09	8.2E-09	8.7E-09	8.2E-09	8.9E-09	7.4E-09	7.8E-09

Measurements

IIH (LVCMOS33)sram5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.9E-09	24.2E-09	22.8E-09	20.1E-09	25.8E-09	26.7E-09	26.7E-09	41.0E-09	27.9E-09	39.6E-09	21.5E-09	23.5E-09
OFF samples												
53	34.0E-09	24.8E-09	23.2E-09	25.9E-09	23.4E-09	22.1E-09	22.1E-09	38.6E-09	23.7E-09	40.4E-09	19.1E-09	19.1E-09
54	49.9E-09	38.6E-09	34.9E-09	24.2E-09	35.2E-09	33.8E-09	33.8E-09	57.9E-09	36.0E-09	34.3E-09	29.1E-09	28.9E-09
Statistics												
Min	34.0E-09	24.8E-09	23.2E-09	24.2E-09	23.4E-09	22.1E-09	22.1E-09	38.6E-09	23.7E-09	34.3E-09	19.1E-09	19.1E-09
Max	49.9E-09	38.6E-09	34.9E-09	25.9E-09	35.2E-09	33.8E-09	33.8E-09	57.9E-09	36.0E-09	40.4E-09	29.1E-09	28.9E-09
Average	42.0E-09	31.7E-09	29.0E-09	25.0E-09	29.3E-09	27.9E-09	27.9E-09	48.2E-09	29.8E-09	37.3E-09	24.1E-09	24.0E-09
Sigma	7.9E-09	6.9E-09	5.9E-09	825.0E-12	5.9E-09	5.8E-09	5.8E-09	9.7E-09	6.1E-09	3.0E-09	5.0E-09	4.9E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram4

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

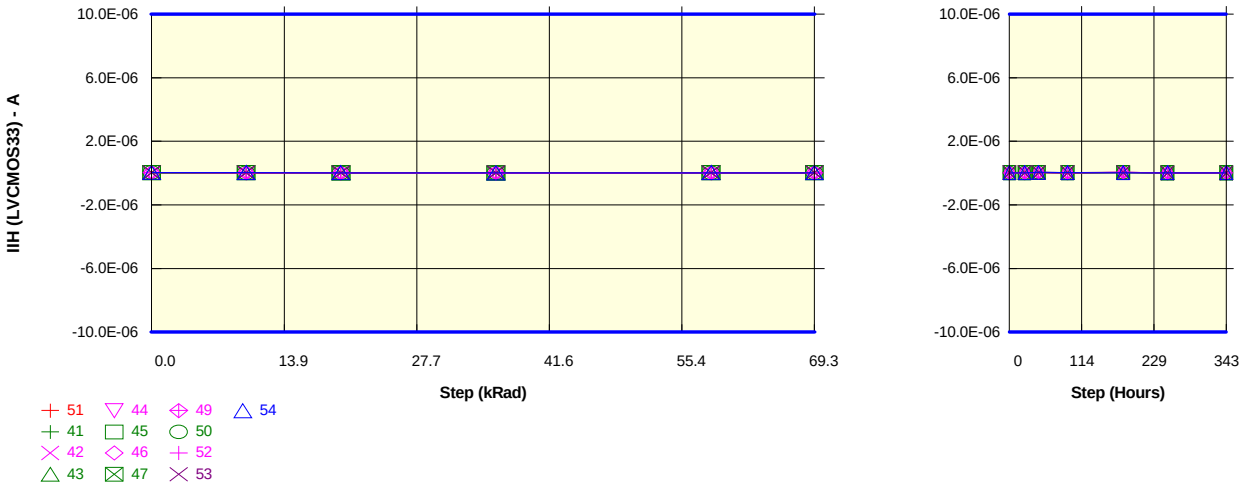
IIH (LVCMOS33) sram4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.5E-09	26.1E-09	24.0E-09	22.3E-09	28.2E-09	28.9E-09	28.9E-09	43.0E-09	30.0E-09	41.4E-09	22.8E-09	25.3E-09
ON samples												
41	46.0E-09	32.7E-09	27.6E-09	24.5E-09	31.6E-09	32.7E-09	32.7E-09	53.3E-09	30.7E-09	50.8E-09	27.1E-09	29.7E-09
42	36.1E-09	27.7E-09	23.3E-09	29.7E-09	27.0E-09	28.8E-09	28.8E-09	46.6E-09	26.5E-09	45.1E-09	23.2E-09	26.0E-09
43	42.0E-09	35.1E-09	29.5E-09	23.5E-09	35.5E-09	37.6E-09	37.6E-09	53.6E-09	35.1E-09	53.0E-09	30.2E-09	34.5E-09
44	34.7E-09	29.5E-09	24.1E-09	21.1E-09	29.5E-09	30.6E-09	30.6E-09	47.0E-09	30.0E-09	46.8E-09	25.0E-09	28.9E-09
45	39.8E-09	33.9E-09	27.5E-09	21.7E-09	33.0E-09	33.6E-09	33.6E-09	57.3E-09	34.1E-09	57.1E-09	28.3E-09	31.0E-09
46	32.7E-09	28.7E-09	21.2E-09	22.4E-09	28.3E-09	29.2E-09	29.2E-09	48.2E-09	29.8E-09	49.0E-09	24.0E-09	26.1E-09
47	30.2E-09	27.6E-09	20.6E-09	20.2E-09	27.1E-09	28.6E-09	28.6E-09	47.0E-09	28.6E-09	47.7E-09	23.4E-09	24.9E-09
49	40.7E-09	36.2E-09	27.5E-09	29.2E-09	34.7E-09	35.5E-09	35.5E-09	58.5E-09	36.2E-09	60.6E-09	29.8E-09	30.8E-09
50	27.3E-09	22.7E-09	17.6E-09	21.3E-09	21.5E-09	22.7E-09	22.7E-09	37.0E-09	23.2E-09	38.3E-09	18.7E-09	19.4E-09
52	39.4E-09	29.2E-09	27.2E-09	17.1E-09	29.3E-09	29.9E-09	29.9E-09	48.7E-09	30.4E-09	50.9E-09	24.5E-09	25.0E-09
Statistics												
Min	27.3E-09	22.7E-09	17.6E-09	17.1E-09	21.5E-09	22.7E-09	22.7E-09	37.0E-09	23.2E-09	38.3E-09	18.7E-09	19.4E-09
Max	46.0E-09	36.2E-09	29.5E-09	29.7E-09	35.5E-09	37.6E-09	37.6E-09	58.5E-09	36.2E-09	60.6E-09	30.2E-09	34.5E-09
Average	36.9E-09	30.3E-09	24.6E-09	23.0E-09	29.7E-09	30.9E-09	30.9E-09	49.7E-09	30.4E-09	49.9E-09	25.4E-09	27.6E-09
Sigma	5.5E-09	3.9E-09	3.7E-09	3.7E-09	3.9E-09	4.0E-09	4.0E-09	5.9E-09	3.7E-09	5.9E-09	3.3E-09	4.0E-09

Measurements

IIH (LVCMOS 33)sram4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.5E-09	26.1E-09	24.0E-09	22.3E-09	28.2E-09	28.9E-09	28.9E-09	43.0E-09	30.0E-09	41.4E-09	22.8E-09	25.3E-09
OFF samples												
53	45.0E-09	34.4E-09	32.9E-09	23.6E-09	34.3E-09	32.7E-09	32.7E-09	48.9E-09	34.5E-09	51.1E-09	27.9E-09	29.3E-09
54	46.9E-09	35.8E-09	31.7E-09	25.6E-09	32.9E-09	31.7E-09	31.7E-09	54.0E-09	33.5E-09	31.9E-09	26.6E-09	27.0E-09
Statistics												
Min	45.0E-09	34.4E-09	31.7E-09	23.6E-09	32.9E-09	31.7E-09	31.7E-09	48.9E-09	33.5E-09	31.9E-09	26.6E-09	27.0E-09
Max	46.9E-09	35.8E-09	32.9E-09	25.6E-09	34.3E-09	32.7E-09	32.7E-09	54.0E-09	34.5E-09	51.1E-09	27.9E-09	29.3E-09
Average	46.0E-09	35.1E-09	32.3E-09	24.6E-09	33.6E-09	32.2E-09	32.2E-09	51.4E-09	34.0E-09	41.5E-09	27.2E-09	28.2E-09
Sigma	950.0E-12	675.0E-12	575.0E-12	975.0E-12	675.0E-12	500.0E-12	500.0E-12	2.5E-09	525.0E-12	9.6E-09	650.0E-12	1.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram3

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

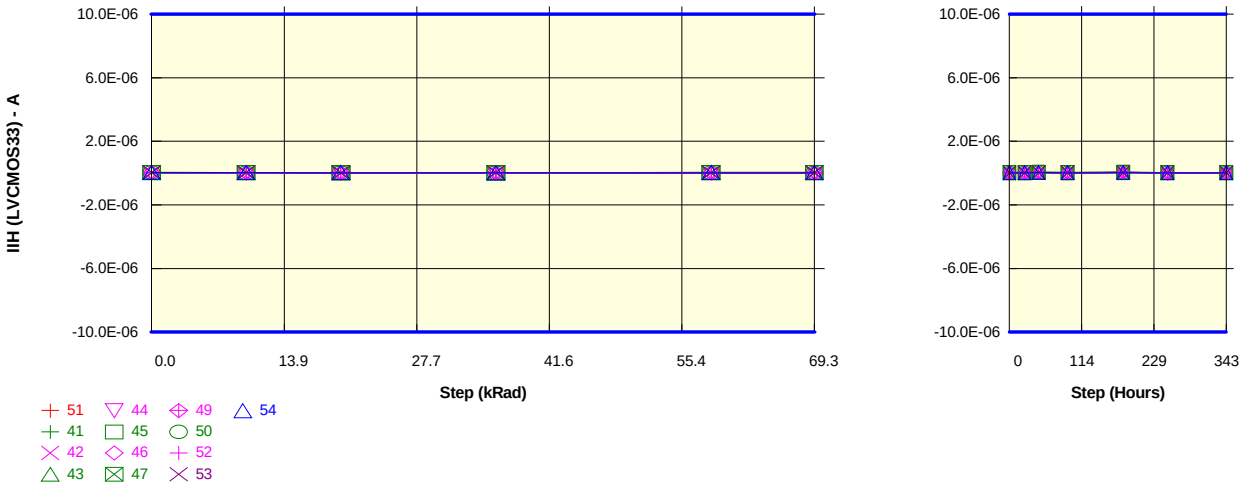
IIH (LVCMOS33) sram3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	38.8E-09	30.8E-09	28.9E-09	26.0E-09	32.6E-09	33.6E-09	33.6E-09	50.3E-09	34.9E-09	48.5E-09	27.6E-09	29.8E-09
ON samples												
41	45.1E-09	32.3E-09	27.8E-09	25.4E-09	31.7E-09	33.2E-09	33.2E-09	52.7E-09	30.9E-09	50.4E-09	27.5E-09	30.0E-09
42	38.3E-09	29.8E-09	25.8E-09	23.9E-09	29.3E-09	31.2E-09	31.2E-09	49.6E-09	28.7E-09	48.2E-09	25.7E-09	28.5E-09
43	37.1E-09	30.1E-09	25.2E-09	19.4E-09	29.7E-09	31.4E-09	31.4E-09	49.6E-09	29.7E-09	49.1E-09	25.8E-09	28.8E-09
44	32.2E-09	26.8E-09	22.2E-09	20.9E-09	26.3E-09	27.3E-09	27.3E-09	45.1E-09	26.9E-09	44.7E-09	22.8E-09	25.9E-09
45	41.5E-09	36.0E-09	29.8E-09	22.5E-09	35.2E-09	36.4E-09	36.4E-09	60.7E-09	36.6E-09	60.2E-09	30.6E-09	33.4E-09
46	34.8E-09	30.9E-09	23.3E-09	22.9E-09	29.9E-09	31.0E-09	31.0E-09	51.7E-09	31.7E-09	52.5E-09	25.8E-09	27.7E-09
47	29.7E-09	27.2E-09	20.8E-09	22.3E-09	26.8E-09	28.2E-09	28.2E-09	45.4E-09	28.1E-09	46.4E-09	23.3E-09	24.7E-09
49	38.5E-09	34.4E-09	26.7E-09	22.1E-09	32.5E-09	33.5E-09	33.5E-09	56.1E-09	34.5E-09	58.3E-09	28.6E-09	29.4E-09
50	27.1E-09	22.3E-09	18.0E-09	22.5E-09	21.3E-09	22.4E-09	22.4E-09	37.3E-09	23.0E-09	38.5E-09	18.8E-09	19.1E-09
52	41.4E-09	30.7E-09	29.2E-09	16.4E-09	30.6E-09	31.2E-09	31.2E-09	51.2E-09	32.0E-09	53.5E-09	26.2E-09	26.2E-09
Statistics												
Min	27.1E-09	22.3E-09	18.0E-09	16.4E-09	21.3E-09	22.4E-09	22.4E-09	37.3E-09	23.0E-09	38.5E-09	18.8E-09	19.1E-09
Max	45.1E-09	36.0E-09	29.8E-09	25.4E-09	35.2E-09	36.4E-09	36.4E-09	60.7E-09	36.6E-09	60.2E-09	30.6E-09	33.4E-09
Average	36.5E-09	30.0E-09	24.9E-09	21.8E-09	29.3E-09	30.6E-09	30.6E-09	49.9E-09	30.2E-09	50.2E-09	25.5E-09	27.4E-09
Sigma	5.4E-09	3.7E-09	3.6E-09	2.4E-09	3.6E-09	3.7E-09	3.7E-09	6.1E-09	3.7E-09	6.1E-09	3.1E-09	3.6E-09

Measurements

IIH (LVCMOS33) sram3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	38.8E-09	30.8E-09	28.9E-09	26.0E-09	32.6E-09	33.6E-09	33.6E-09	50.3E-09	34.9E-09	48.5E-09	27.6E-09	29.8E-09
OFF samples												
53	41.7E-09	30.9E-09	29.4E-09	25.7E-09	29.6E-09	28.1E-09	28.1E-09	46.3E-09	30.0E-09	48.3E-09	24.1E-09	24.7E-09
54	48.0E-09	36.8E-09	33.4E-09	23.7E-09	33.8E-09	32.5E-09	32.5E-09	54.9E-09	34.5E-09	32.9E-09	27.5E-09	27.8E-09
Statistics												
Min	41.7E-09	30.9E-09	29.4E-09	23.7E-09	29.6E-09	28.1E-09	28.1E-09	46.3E-09	30.0E-09	32.9E-09	24.1E-09	24.7E-09
Max	48.0E-09	36.8E-09	33.4E-09	25.7E-09	33.8E-09	32.5E-09	32.5E-09	54.9E-09	34.5E-09	48.3E-09	27.5E-09	27.8E-09
Average	44.9E-09	33.9E-09	31.4E-09	24.7E-09	31.7E-09	30.3E-09	30.3E-09	50.6E-09	32.2E-09	40.6E-09	25.8E-09	26.3E-09
Sigma	3.2E-09	2.9E-09	2.0E-09	1.0E-09	2.1E-09	2.2E-09	2.2E-09	4.3E-09	2.2E-09	7.7E-09	1.7E-09	1.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram2

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

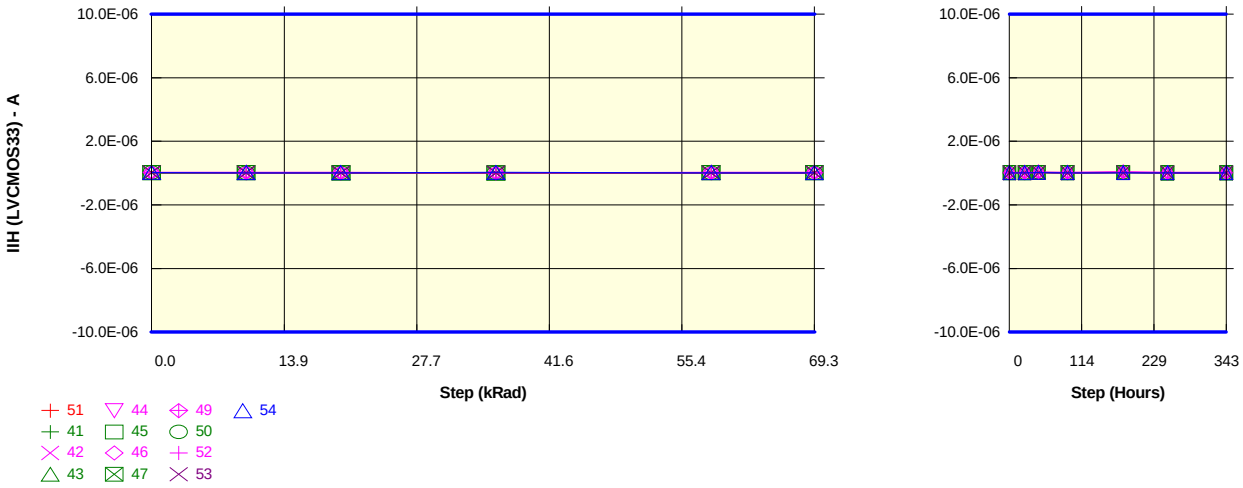
IIH (LVCMOS33) sram2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.7E-09	25.5E-09	23.2E-09	21.4E-09	27.2E-09	28.0E-09	28.0E-09	42.9E-09	29.1E-09	41.3E-09	22.3E-09	24.7E-09
ON samples												
41	44.5E-09	31.7E-09	26.7E-09	23.8E-09	30.5E-09	31.7E-09	31.7E-09	51.5E-09	29.5E-09	49.3E-09	26.5E-09	29.0E-09
42	45.2E-09	36.6E-09	31.7E-09	19.7E-09	36.8E-09	39.1E-09	39.1E-09	56.0E-09	35.8E-09	54.6E-09	31.8E-09	35.6E-09
43	38.5E-09	31.6E-09	25.8E-09	21.2E-09	31.1E-09	32.6E-09	32.6E-09	50.0E-09	30.6E-09	49.4E-09	26.5E-09	30.0E-09
44	33.9E-09	28.5E-09	23.1E-09	23.8E-09	27.8E-09	29.0E-09	29.0E-09	46.7E-09	28.4E-09	46.5E-09	24.2E-09	27.5E-09
45	53.9E-09	50.5E-09	43.1E-09	23.0E-09	52.5E-09	54.5E-09	54.5E-09	73.6E-09	53.9E-09	73.3E-09	45.6E-09	50.5E-09
46	31.5E-09	27.7E-09	20.4E-09	21.9E-09	27.2E-09	28.0E-09	28.0E-09	46.0E-09	28.6E-09	46.9E-09	23.3E-09	25.1E-09
47	33.7E-09	31.0E-09	23.5E-09	31.4E-09	30.3E-09	31.7E-09	31.7E-09	52.0E-09	31.9E-09	53.2E-09	26.5E-09	28.2E-09
49	35.9E-09	32.1E-09	24.0E-09	24.1E-09	30.0E-09	30.8E-09	30.8E-09	51.4E-09	31.7E-09	53.4E-09	26.1E-09	27.0E-09
50	28.3E-09	23.5E-09	18.1E-09	20.9E-09	21.9E-09	23.0E-09	23.0E-09	38.3E-09	23.6E-09	39.6E-09	19.4E-09	19.7E-09
52	42.1E-09	31.4E-09	29.0E-09	17.3E-09	31.3E-09	31.9E-09	31.9E-09	52.4E-09	32.4E-09	54.6E-09	26.6E-09	26.8E-09
Statistics												
Min	28.3E-09	23.5E-09	18.1E-09	17.3E-09	21.9E-09	23.0E-09	23.0E-09	38.3E-09	23.6E-09	39.6E-09	19.4E-09	19.7E-09
Max	53.9E-09	50.5E-09	43.1E-09	31.4E-09	52.5E-09	54.5E-09	54.5E-09	73.6E-09	53.9E-09	73.3E-09	45.6E-09	50.5E-09
Average	38.7E-09	32.4E-09	26.5E-09	22.7E-09	31.9E-09	33.2E-09	33.2E-09	51.8E-09	32.6E-09	52.1E-09	27.6E-09	29.9E-09
Sigma	7.3E-09	6.8E-09	6.7E-09	3.5E-09	7.7E-09	8.0E-09	8.0E-09	8.6E-09	7.7E-09	8.3E-09	6.7E-09	7.8E-09

Measurements

IIH (LVCMOS33) sram2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.7E-09	25.5E-09	23.2E-09	21.4E-09	27.2E-09	28.0E-09	28.0E-09	42.9E-09	29.1E-09	41.3E-09	22.3E-09	24.7E-09
OFF samples												
53	38.0E-09	27.7E-09	24.9E-09	46.2E-09	25.4E-09	24.1E-09	24.1E-09	42.4E-09	26.0E-09	44.2E-09	20.8E-09	21.0E-09
54	45.2E-09	34.8E-09	30.6E-09	22.3E-09	31.8E-09	30.6E-09	30.6E-09	52.2E-09	32.5E-09	31.0E-09	25.7E-09	26.0E-09
Statistics												
Min	38.0E-09	27.7E-09	24.9E-09	22.3E-09	25.4E-09	24.1E-09	24.1E-09	42.4E-09	26.0E-09	31.0E-09	20.8E-09	21.0E-09
Max	45.2E-09	34.8E-09	30.6E-09	46.2E-09	31.8E-09	30.6E-09	30.6E-09	52.2E-09	32.5E-09	44.2E-09	25.7E-09	26.0E-09
Average	41.6E-09	31.2E-09	27.8E-09	34.2E-09	28.6E-09	27.3E-09	27.3E-09	47.3E-09	29.2E-09	37.6E-09	23.2E-09	23.5E-09
Sigma	3.6E-09	3.5E-09	2.9E-09	12.0E-09	3.2E-09	3.2E-09	3.2E-09	4.9E-09	3.2E-09	6.6E-09	2.5E-09	2.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

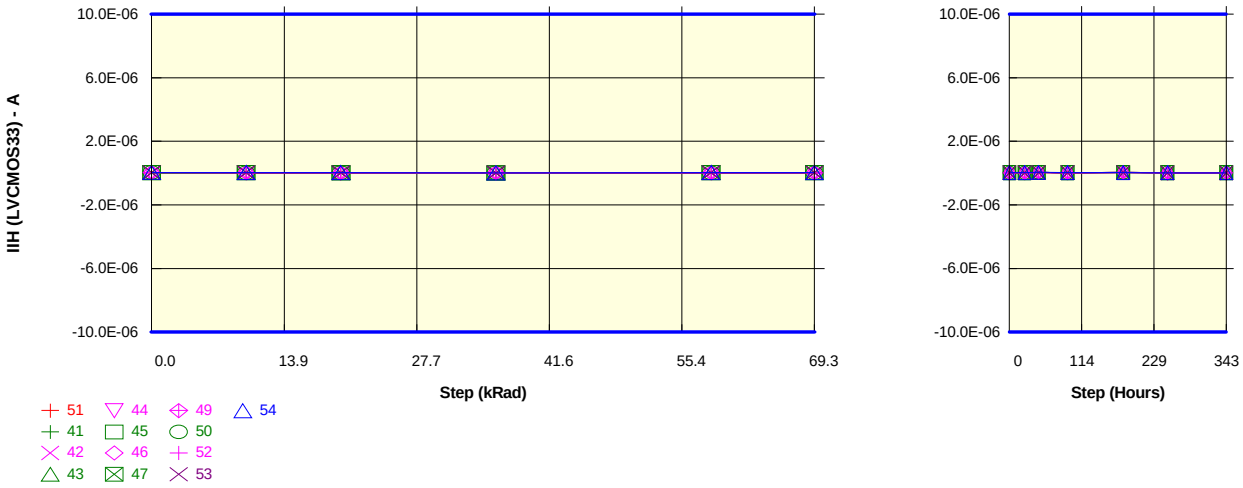
IIH (LVCMOS33) sram1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.2E-09	25.1E-09	23.3E-09	20.8E-09	26.7E-09	27.4E-09	27.4E-09	42.3E-09	28.7E-09	40.7E-09	22.1E-09	24.1E-09
ON samples												
41	45.5E-09	32.3E-09	27.7E-09	24.2E-09	31.2E-09	32.3E-09	32.3E-09	52.3E-09	30.0E-09	50.0E-09	26.8E-09	29.4E-09
42	41.8E-09	32.5E-09	27.8E-09	18.0E-09	31.2E-09	33.4E-09	33.4E-09	54.1E-09	30.8E-09	52.5E-09	27.5E-09	30.4E-09
43	36.7E-09	29.4E-09	24.7E-09	19.5E-09	28.8E-09	30.5E-09	30.5E-09	47.6E-09	28.7E-09	46.8E-09	24.7E-09	27.9E-09
44	32.6E-09	27.1E-09	22.1E-09	20.8E-09	26.1E-09	27.1E-09	27.1E-09	44.7E-09	26.8E-09	44.3E-09	22.7E-09	25.6E-09
45	40.6E-09	34.9E-09	28.4E-09	19.8E-09	33.8E-09	34.6E-09	34.6E-09	58.2E-09	35.1E-09	58.1E-09	29.5E-09	31.8E-09
46	32.0E-09	27.9E-09	21.1E-09	22.0E-09	27.4E-09	28.3E-09	28.3E-09	46.9E-09	29.0E-09	47.8E-09	23.5E-09	25.3E-09
47	30.4E-09	27.8E-09	21.0E-09	23.5E-09	27.0E-09	28.3E-09	28.3E-09	46.6E-09	28.4E-09	47.5E-09	23.3E-09	24.7E-09
49	69.6E-09	64.5E-09	53.6E-09	21.9E-09	66.3E-09	69.2E-09	69.2E-09	87.8E-09	69.6E-09	89.0E-09	60.4E-09	62.6E-09
50	29.2E-09	24.3E-09	19.3E-09	20.6E-09	22.6E-09	23.7E-09	23.7E-09	39.4E-09	24.3E-09	40.9E-09	19.8E-09	20.4E-09
52	37.0E-09	27.4E-09	25.7E-09	17.6E-09	26.9E-09	27.5E-09	27.5E-09	45.4E-09	28.0E-09	47.4E-09	22.9E-09	23.0E-09
Statistics												
Min	29.2E-09	24.3E-09	19.3E-09	17.6E-09	22.6E-09	23.7E-09	23.7E-09	39.4E-09	24.3E-09	40.9E-09	19.8E-09	20.4E-09
Max	69.6E-09	64.5E-09	53.6E-09	24.2E-09	66.3E-09	69.2E-09	69.2E-09	87.8E-09	69.6E-09	89.0E-09	60.4E-09	62.6E-09
Average	39.5E-09	32.8E-09	27.1E-09	20.8E-09	32.1E-09	33.5E-09	33.5E-09	52.3E-09	33.0E-09	52.4E-09	28.1E-09	30.1E-09
Sigma	11.2E-09	11.0E-09	9.3E-09	2.1E-09	11.8E-09	12.3E-09	12.3E-09	12.8E-09	12.5E-09	12.9E-09	11.1E-09	11.3E-09

Measurements

IIH (LVCMOS33) sram1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.2E-09	25.1E-09	23.3E-09	20.8E-09	26.7E-09	27.4E-09	27.4E-09	42.3E-09	28.7E-09	40.7E-09	22.1E-09	24.1E-09
OFF samples												
53	34.5E-09	24.9E-09	23.3E-09	24.4E-09	23.5E-09	22.2E-09	22.2E-09	38.7E-09	23.8E-09	40.6E-09	18.9E-09	19.2E-09
54	44.9E-09	34.2E-09	31.0E-09	59.3E-09	31.7E-09	30.6E-09	30.6E-09	51.2E-09	32.4E-09	30.8E-09	25.8E-09	26.2E-09
Statistics												
Min	34.5E-09	24.9E-09	23.3E-09	24.4E-09	23.5E-09	22.2E-09	22.2E-09	38.7E-09	23.8E-09	30.8E-09	18.9E-09	19.2E-09
Max	44.9E-09	34.2E-09	31.0E-09	59.3E-09	31.7E-09	30.6E-09	30.6E-09	51.2E-09	32.4E-09	40.6E-09	25.8E-09	26.2E-09
Average	39.7E-09	29.5E-09	27.1E-09	41.8E-09	27.6E-09	26.4E-09	26.4E-09	44.9E-09	28.1E-09	35.7E-09	22.3E-09	22.7E-09
Sigma	5.2E-09	4.6E-09	3.8E-09	17.4E-09	4.1E-09	4.2E-09	4.2E-09	6.2E-09	4.3E-09	4.9E-09	3.4E-09	3.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sram0

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

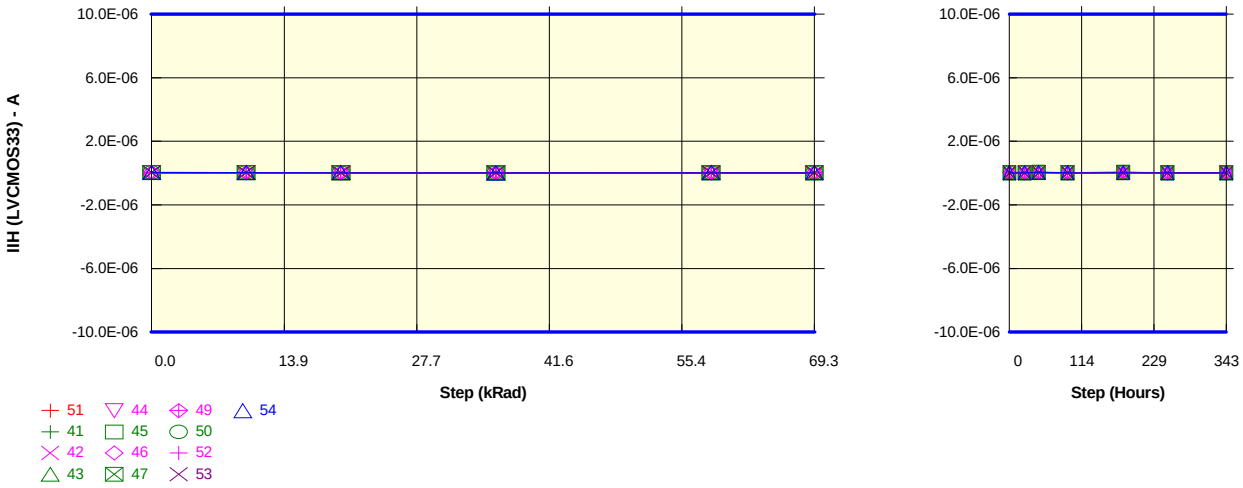
IIH (LVCMOS33) sram0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.6E-09	25.9E-09	23.3E-09	22.0E-09	27.2E-09	28.1E-09	28.1E-09	43.1E-09	29.0E-09	41.5E-09	22.8E-09	24.8E-09
ON samples												
41	47.5E-09	36.0E-09	30.4E-09	29.5E-09	34.5E-09	35.8E-09	35.8E-09	54.3E-09	33.6E-09	52.2E-09	30.7E-09	33.2E-09
42	38.3E-09	30.6E-09	25.3E-09	22.2E-09	29.0E-09	30.8E-09	30.8E-09	49.9E-09	28.5E-09	48.5E-09	25.9E-09	28.4E-09
43	39.3E-09	32.9E-09	26.4E-09	20.2E-09	31.5E-09	33.0E-09	33.0E-09	52.4E-09	31.2E-09	51.8E-09	27.4E-09	30.9E-09
44	31.8E-09	27.5E-09	21.5E-09	23.9E-09	26.1E-09	26.9E-09	26.9E-09	44.1E-09	26.5E-09	43.9E-09	22.9E-09	26.0E-09
45	39.5E-09	34.5E-09	27.5E-09	21.7E-09	33.2E-09	34.0E-09	34.0E-09	57.0E-09	34.3E-09	56.9E-09	29.3E-09	31.5E-09
46	35.9E-09	32.4E-09	23.5E-09	27.0E-09	31.1E-09	32.2E-09	32.2E-09	52.8E-09	32.9E-09	54.0E-09	27.3E-09	29.1E-09
47	34.0E-09	31.7E-09	23.4E-09	22.3E-09	30.2E-09	31.6E-09	31.6E-09	52.8E-09	31.6E-09	54.0E-09	26.9E-09	28.0E-09
49	38.1E-09	34.7E-09	25.7E-09	24.5E-09	31.9E-09	32.7E-09	32.7E-09	55.3E-09	33.6E-09	57.6E-09	28.6E-09	28.8E-09
50	29.1E-09	24.8E-09	18.9E-09	24.6E-09	23.0E-09	24.1E-09	24.1E-09	39.7E-09	24.7E-09	41.1E-09	20.7E-09	21.1E-09
52	38.4E-09	29.7E-09	26.8E-09	18.6E-09	28.9E-09	29.2E-09	29.2E-09	48.2E-09	29.7E-09	50.4E-09	25.0E-09	24.7E-09
Statistics												
Min	29.1E-09	24.8E-09	18.9E-09	18.6E-09	23.0E-09	24.1E-09	24.1E-09	39.7E-09	24.7E-09	41.1E-09	20.7E-09	21.1E-09
Max	47.5E-09	36.0E-09	30.4E-09	29.5E-09	34.5E-09	35.8E-09	35.8E-09	57.0E-09	34.3E-09	57.6E-09	30.7E-09	33.2E-09
Average	37.2E-09	31.5E-09	24.9E-09	23.4E-09	29.9E-09	31.0E-09	31.0E-09	50.6E-09	30.6E-09	51.0E-09	26.4E-09	28.2E-09
Sigma	4.8E-09	3.3E-09	3.1E-09	3.0E-09	3.2E-09	3.3E-09	3.3E-09	5.1E-09	3.1E-09	5.0E-09	2.8E-09	3.4E-09

Measurements

IIH (LVCMOS33)sram0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.6E-09	25.9E-09	23.3E-09	22.0E-09	27.2E-09	28.1E-09	28.1E-09	43.1E-09	29.0E-09	41.5E-09	22.8E-09	24.8E-09
OFF samples												
53	38.4E-09	28.8E-09	26.2E-09	24.9E-09	27.1E-09	25.7E-09	25.7E-09	43.2E-09	27.4E-09	45.2E-09	22.5E-09	22.6E-09
54	49.9E-09	39.8E-09	35.0E-09	23.6E-09	36.7E-09	35.1E-09	35.1E-09	56.4E-09	37.0E-09	35.3E-09	30.2E-09	30.6E-09
Statistics												
Min	38.4E-09	28.8E-09	26.2E-09	23.6E-09	27.1E-09	25.7E-09	25.7E-09	43.2E-09	27.4E-09	35.3E-09	22.5E-09	22.6E-09
Max	49.9E-09	39.8E-09	35.0E-09	24.9E-09	36.7E-09	35.1E-09	35.1E-09	56.4E-09	37.0E-09	45.2E-09	30.2E-09	30.6E-09
Average	44.1E-09	34.3E-09	30.6E-09	24.2E-09	31.9E-09	30.4E-09	30.4E-09	49.8E-09	32.2E-09	40.2E-09	26.4E-09	26.6E-09
Sigma	5.8E-09	5.5E-09	4.4E-09	625.0E-12	4.8E-09	4.7E-09	4.7E-09	6.6E-09	4.8E-09	5.0E-09	3.8E-09	4.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra14

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

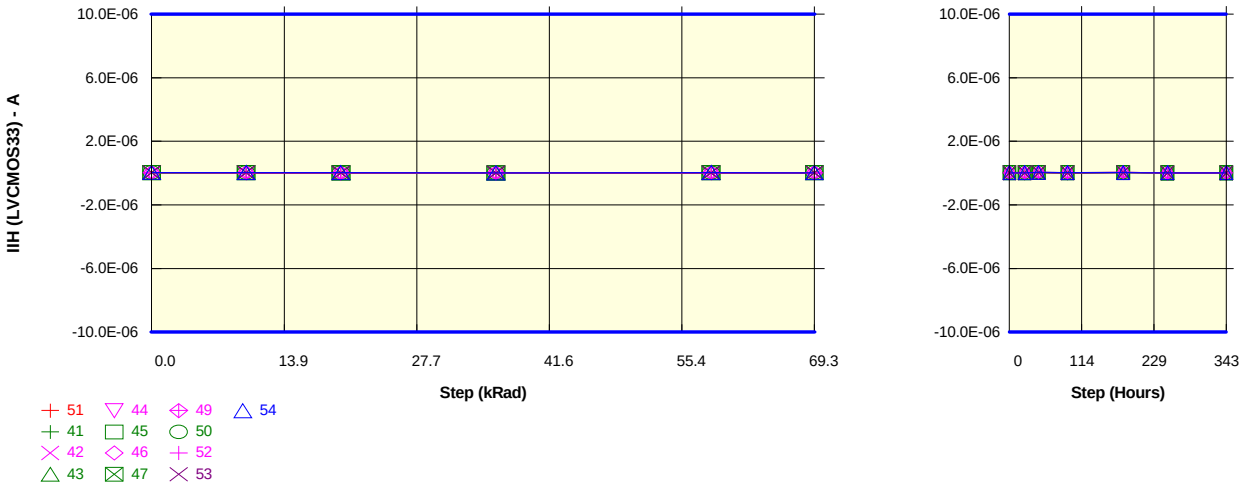
IIH (LVCMOS33) sra14	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	39.3E-09	31.5E-09	28.6E-09	28.2E-09	33.6E-09	34.6E-09	34.6E-09	49.6E-09	35.7E-09	48.0E-09	27.9E-09	30.4E-09
ON samples												
41	32.0E-09	22.7E-09	18.5E-09	25.9E-09	20.9E-09	21.3E-09	21.3E-09	33.9E-09	19.7E-09	32.5E-09	17.6E-09	19.2E-09
42	43.9E-09	34.1E-09	28.3E-09	20.1E-09	31.9E-09	33.3E-09	33.3E-09	53.2E-09	30.7E-09	51.6E-09	27.4E-09	30.3E-09
43	53.4E-09	46.8E-09	40.9E-09	20.7E-09	45.3E-09	46.4E-09	46.4E-09	63.1E-09	44.7E-09	62.2E-09	40.5E-09	43.9E-09
44	32.7E-09	27.5E-09	21.8E-09	19.7E-09	25.5E-09	26.2E-09	26.2E-09	41.8E-09	25.9E-09	41.5E-09	22.0E-09	24.7E-09
45	46.3E-09	39.6E-09	31.6E-09	24.1E-09	37.3E-09	37.8E-09	37.8E-09	61.8E-09	38.2E-09	61.9E-09	31.8E-09	34.7E-09
46	36.2E-09	31.7E-09	22.8E-09	16.2E-09	29.4E-09	30.0E-09	30.0E-09	50.0E-09	30.8E-09	50.7E-09	24.8E-09	26.9E-09
47	28.1E-09	25.8E-09	19.1E-09	25.0E-09	24.1E-09	25.1E-09	25.1E-09	41.4E-09	25.3E-09	42.5E-09	20.9E-09	21.9E-09
49	29.4E-09	26.0E-09	19.0E-09	39.6E-09	23.6E-09	23.9E-09	23.9E-09	39.5E-09	24.3E-09	41.1E-09	19.9E-09	20.7E-09
50	33.9E-09	27.6E-09	21.3E-09	23.6E-09	25.2E-09	26.1E-09	26.1E-09	42.7E-09	26.7E-09	44.2E-09	21.8E-09	22.3E-09
52	44.6E-09	32.9E-09	30.0E-09	20.8E-09	31.3E-09	31.3E-09	31.3E-09	51.8E-09	32.2E-09	54.1E-09	26.1E-09	26.2E-09
Statistics												
Min	28.1E-09	22.7E-09	18.5E-09	16.2E-09	20.9E-09	21.3E-09	21.3E-09	33.9E-09	19.7E-09	32.5E-09	17.6E-09	19.2E-09
Max	53.4E-09	46.8E-09	40.9E-09	39.6E-09	45.3E-09	46.4E-09	46.4E-09	63.1E-09	44.7E-09	62.2E-09	40.5E-09	43.9E-09
Average	38.0E-09	31.4E-09	25.3E-09	23.5E-09	29.4E-09	30.1E-09	30.1E-09	47.9E-09	29.8E-09	48.2E-09	25.3E-09	27.1E-09
Sigma	8.0E-09	6.9E-09	6.9E-09	6.0E-09	7.0E-09	7.1E-09	7.1E-09	9.2E-09	6.9E-09	9.1E-09	6.4E-09	7.1E-09

Measurements

IIH (LVCMOS33) sra14	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	39.3E-09	31.5E-09	28.6E-09	28.2E-09	33.6E-09	34.6E-09	34.6E-09	49.6E-09	35.7E-09	48.0E-09	27.9E-09	30.4E-09
OFF samples												
53	38.2E-09	27.9E-09	25.1E-09	28.7E-09	25.5E-09	24.3E-09	24.3E-09	43.0E-09	26.1E-09	44.7E-09	20.6E-09	20.7E-09
54	47.4E-09	36.7E-09	32.4E-09	18.5E-09	33.4E-09	32.0E-09	32.0E-09	54.2E-09	34.2E-09	32.5E-09	27.3E-09	27.4E-09
Statistics												
Min	38.2E-09	27.9E-09	25.1E-09	18.5E-09	25.5E-09	24.3E-09	24.3E-09	43.0E-09	26.1E-09	32.5E-09	20.6E-09	20.7E-09
Max	47.4E-09	36.7E-09	32.4E-09	28.7E-09	33.4E-09	32.0E-09	32.0E-09	54.2E-09	34.2E-09	44.7E-09	27.3E-09	27.4E-09
Average	42.8E-09	32.3E-09	28.7E-09	23.6E-09	29.4E-09	28.1E-09	28.1E-09	48.6E-09	30.1E-09	38.6E-09	24.0E-09	24.1E-09
Sigma	4.6E-09	4.4E-09	3.6E-09	5.1E-09	4.0E-09	3.9E-09	3.9E-09	5.6E-09	4.1E-09	6.1E-09	3.4E-09	3.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra13

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

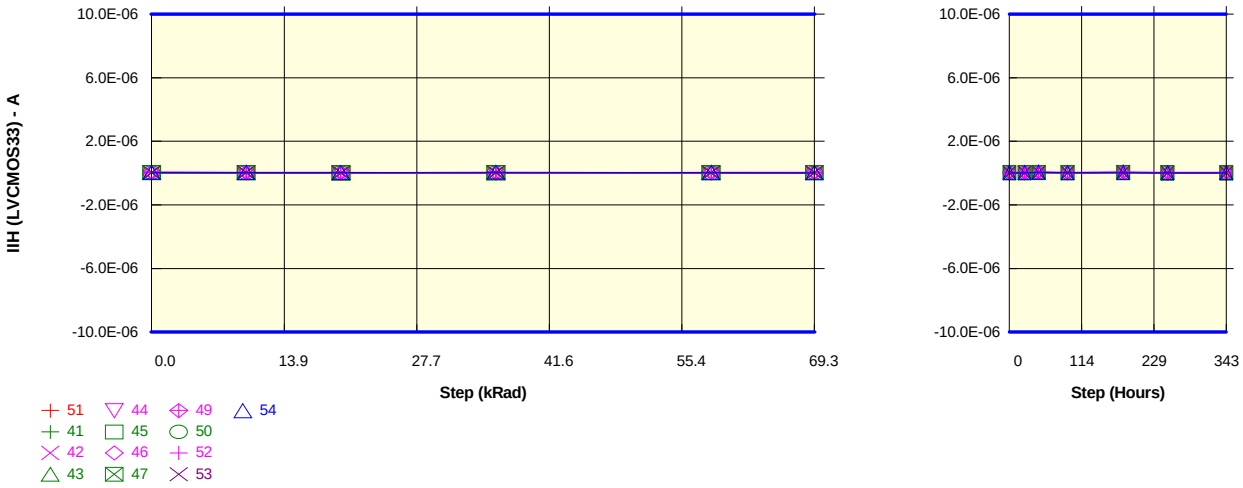
IIH (LVCMOS33) sra13	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.9E-09	26.0E-09	23.5E-09	21.0E-09	27.3E-09	27.9E-09	27.9E-09	43.2E-09	29.0E-09	41.6E-09	22.3E-09	24.2E-09
ON samples												
41	36.2E-09	25.1E-09	20.8E-09	27.4E-09	22.9E-09	23.6E-09	23.6E-09	36.9E-09	22.1E-09	35.4E-09	19.6E-09	21.0E-09
42	44.4E-09	34.2E-09	28.5E-09	18.8E-09	31.5E-09	33.5E-09	33.5E-09	52.9E-09	30.6E-09	51.2E-09	27.0E-09	30.0E-09
43	36.2E-09	29.3E-09	23.8E-09	19.7E-09	27.5E-09	28.7E-09	28.7E-09	45.0E-09	27.7E-09	44.3E-09	23.3E-09	26.0E-09
44	33.8E-09	27.4E-09	22.4E-09	19.9E-09	25.7E-09	26.4E-09	26.4E-09	43.6E-09	26.3E-09	43.0E-09	21.9E-09	24.7E-09
45	43.0E-09	36.3E-09	29.3E-09	25.0E-09	33.6E-09	34.6E-09	34.6E-09	57.4E-09	35.4E-09	58.3E-09	28.8E-09	31.4E-09
46	38.3E-09	33.0E-09	24.5E-09	17.1E-09	30.7E-09	31.5E-09	31.5E-09	52.3E-09	32.4E-09	53.3E-09	26.1E-09	27.9E-09
47	29.5E-09	26.6E-09	20.2E-09	24.7E-09	25.6E-09	26.7E-09	26.7E-09	43.3E-09	26.9E-09	43.8E-09	21.7E-09	23.0E-09
49	33.6E-09	29.0E-09	22.1E-09	21.5E-09	26.5E-09	26.9E-09	26.9E-09	44.6E-09	27.3E-09	46.5E-09	22.4E-09	23.0E-09
50	34.4E-09	28.0E-09	22.0E-09	24.0E-09	25.5E-09	26.2E-09	26.2E-09	43.9E-09	27.1E-09	45.6E-09	21.8E-09	22.3E-09
52	46.8E-09	34.2E-09	31.6E-09	19.8E-09	33.2E-09	33.3E-09	33.3E-09	54.5E-09	34.5E-09	56.8E-09	27.4E-09	27.7E-09
Statistics												
Min	29.5E-09	25.1E-09	20.2E-09	17.1E-09	22.9E-09	23.6E-09	23.6E-09	36.9E-09	22.1E-09	35.4E-09	19.6E-09	21.0E-09
Max	46.8E-09	36.3E-09	31.6E-09	27.4E-09	33.6E-09	34.6E-09	34.6E-09	57.4E-09	35.4E-09	58.3E-09	28.8E-09	31.4E-09
Average	37.6E-09	30.3E-09	24.5E-09	21.8E-09	28.3E-09	29.1E-09	29.1E-09	47.4E-09	29.0E-09	47.8E-09	24.0E-09	25.7E-09
Sigma	5.2E-09	3.6E-09	3.7E-09	3.1E-09	3.5E-09	3.6E-09	3.6E-09	6.1E-09	3.9E-09	6.7E-09	2.9E-09	3.3E-09

Measurements

IIH (LVCMOS33) sra13	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.9E-09	26.0E-09	23.5E-09	21.0E-09	27.3E-09	27.9E-09	27.9E-09	43.2E-09	29.0E-09	41.6E-09	22.3E-09	24.2E-09
OFF samples												
53	36.2E-09	26.3E-09	24.1E-09	25.2E-09	24.4E-09	23.1E-09	23.1E-09	40.4E-09	24.9E-09	42.3E-09	19.8E-09	19.6E-09
54	50.1E-09	39.1E-09	34.6E-09	20.1E-09	35.1E-09	34.1E-09	34.1E-09	56.5E-09	36.3E-09	34.5E-09	28.9E-09	29.1E-09
Statistics												
Min	36.2E-09	26.3E-09	24.1E-09	20.1E-09	24.4E-09	23.1E-09	23.1E-09	40.4E-09	24.9E-09	34.5E-09	19.8E-09	19.6E-09
Max	50.1E-09	39.1E-09	34.6E-09	25.2E-09	35.1E-09	34.1E-09	34.1E-09	56.5E-09	36.3E-09	42.3E-09	28.9E-09	29.1E-09
Average	43.1E-09	32.7E-09	29.3E-09	22.7E-09	29.7E-09	28.6E-09	28.6E-09	48.5E-09	30.6E-09	38.4E-09	24.4E-09	24.3E-09
Sigma	6.9E-09	6.4E-09	5.2E-09	2.6E-09	5.4E-09	5.5E-09	5.5E-09	8.0E-09	5.7E-09	3.9E-09	4.6E-09	4.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra12

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

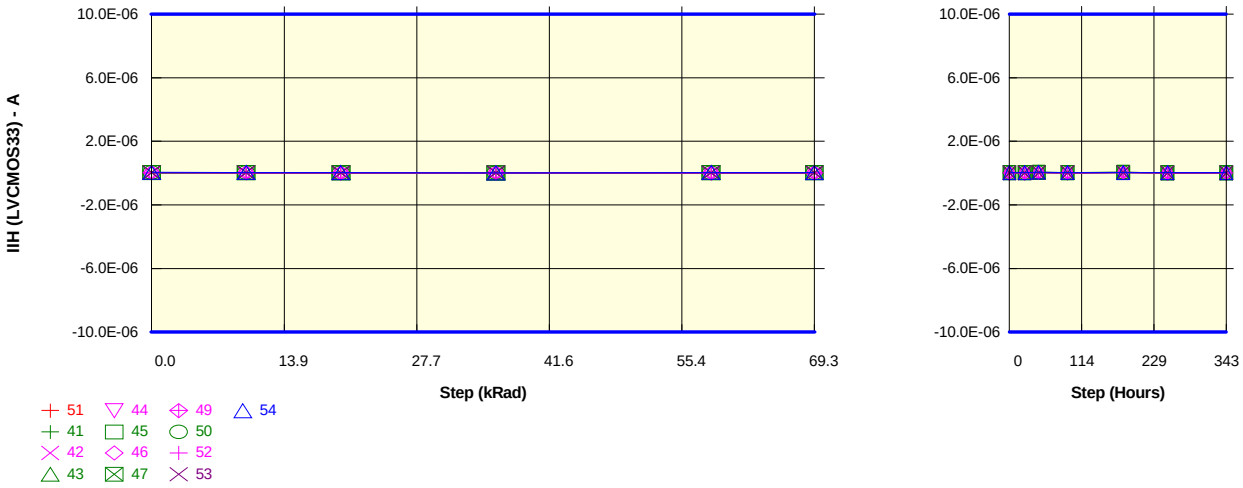
IIH (LVCMOS33) sra12	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.3E-09	25.1E-09	22.5E-09	21.5E-09	26.0E-09	26.9E-09	26.9E-09	41.3E-09	27.7E-09	39.4E-09	21.3E-09	23.2E-09
ON samples												
41	35.2E-09	26.0E-09	21.7E-09	27.0E-09	23.8E-09	24.3E-09	24.3E-09	37.1E-09	22.8E-09	35.7E-09	20.2E-09	22.3E-09
42	57.8E-09	46.5E-09	39.8E-09	18.9E-09	45.4E-09	47.5E-09	47.5E-09	67.1E-09	43.6E-09	65.6E-09	38.6E-09	43.5E-09
43	35.6E-09	29.0E-09	23.2E-09	18.3E-09	26.9E-09	27.8E-09	27.8E-09	44.1E-09	26.4E-09	43.4E-09	22.4E-09	25.5E-09
44	30.0E-09	25.1E-09	19.7E-09	21.0E-09	23.1E-09	23.7E-09	23.7E-09	38.8E-09	23.3E-09	38.5E-09	19.3E-09	22.1E-09
45	45.1E-09	38.8E-09	30.6E-09	25.8E-09	35.2E-09	35.8E-09	35.8E-09	60.1E-09	36.3E-09	59.9E-09	30.0E-09	32.7E-09
46	35.6E-09	31.4E-09	22.9E-09	18.8E-09	29.1E-09	29.7E-09	29.7E-09	48.9E-09	30.6E-09	49.6E-09	24.3E-09	26.3E-09
47	29.3E-09	27.1E-09	20.1E-09	39.9E-09	25.4E-09	26.1E-09	26.1E-09	42.3E-09	26.2E-09	43.1E-09	21.5E-09	22.8E-09
49	70.2E-09	67.6E-09	56.7E-09	21.4E-09	68.8E-09	69.0E-09	69.0E-09	82.7E-09	69.3E-09	85.9E-09	60.7E-09	64.2E-09
50	32.6E-09	27.2E-09	20.9E-09	23.7E-09	24.6E-09	25.6E-09	25.6E-09	40.9E-09	26.2E-09	42.3E-09	21.0E-09	21.7E-09
52	46.8E-09	34.9E-09	31.9E-09	21.0E-09	33.2E-09	33.7E-09	33.7E-09	53.9E-09	34.3E-09	56.3E-09	27.6E-09	28.1E-09
Statistics												
Min	29.3E-09	25.1E-09	19.7E-09	18.3E-09	23.1E-09	23.7E-09	23.7E-09	37.1E-09	22.8E-09	35.7E-09	19.3E-09	21.7E-09
Max	70.2E-09	67.6E-09	56.7E-09	39.9E-09	68.8E-09	69.0E-09	69.0E-09	82.7E-09	69.3E-09	85.9E-09	60.7E-09	64.2E-09
Average	41.8E-09	35.3E-09	28.7E-09	23.6E-09	33.5E-09	34.3E-09	34.3E-09	51.6E-09	33.9E-09	52.0E-09	28.5E-09	30.9E-09
Sigma	12.6E-09	12.5E-09	11.2E-09	6.1E-09	13.4E-09	13.4E-09	13.4E-09	13.9E-09	13.3E-09	14.5E-09	12.1E-09	12.8E-09

Measurements

IIH (LVCMOS33) sra12	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.3E-09	25.1E-09	22.5E-09	21.5E-09	26.0E-09	26.9E-09	26.9E-09	41.3E-09	27.7E-09	39.4E-09	21.3E-09	23.2E-09
OFF samples												
53	35.5E-09	26.0E-09	23.5E-09	26.6E-09	23.7E-09	22.4E-09	22.4E-09	39.7E-09	24.1E-09	41.2E-09	18.8E-09	19.0E-09
54	51.2E-09	39.7E-09	35.0E-09	64.5E-09	35.4E-09	34.0E-09	34.0E-09	58.1E-09	36.0E-09	34.2E-09	28.5E-09	28.8E-09
Statistics												
Min	35.5E-09	26.0E-09	23.5E-09	26.6E-09	23.7E-09	22.4E-09	22.4E-09	39.7E-09	24.1E-09	34.2E-09	18.8E-09	19.0E-09
Max	51.2E-09	39.7E-09	35.0E-09	64.5E-09	35.4E-09	34.0E-09	34.0E-09	58.1E-09	36.0E-09	41.2E-09	28.5E-09	28.8E-09
Average	43.3E-09	32.9E-09	29.2E-09	45.6E-09	29.5E-09	28.2E-09	28.2E-09	48.9E-09	30.1E-09	37.7E-09	23.7E-09	23.9E-09
Sigma	7.9E-09	6.8E-09	5.8E-09	19.0E-09	5.9E-09	5.8E-09	5.8E-09	9.2E-09	5.9E-09	3.5E-09	4.9E-09	4.9E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra11

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

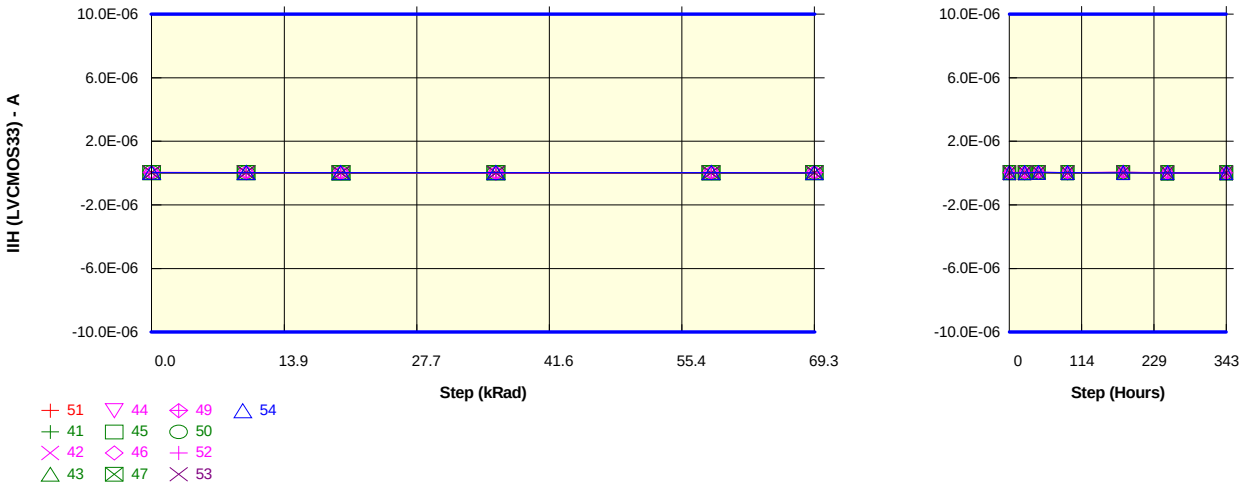
IIH (LVCMOS33) sra11	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.1E-09	25.7E-09	23.0E-09	22.0E-09	26.4E-09	27.2E-09	27.2E-09	42.1E-09	28.3E-09	40.2E-09	21.8E-09	23.5E-09
ON samples												
41	37.0E-09	26.9E-09	22.4E-09	34.8E-09	24.6E-09	25.1E-09	25.1E-09	38.8E-09	23.4E-09	37.3E-09	21.0E-09	22.8E-09
42	45.0E-09	35.2E-09	29.3E-09	20.1E-09	32.2E-09	33.7E-09	33.7E-09	53.9E-09	31.0E-09	52.4E-09	27.4E-09	30.6E-09
43	44.3E-09	36.8E-09	30.8E-09	18.6E-09	36.3E-09	37.7E-09	37.7E-09	53.1E-09	35.5E-09	52.5E-09	30.4E-09	34.7E-09
44	30.6E-09	25.8E-09	20.3E-09	22.1E-09	23.6E-09	24.3E-09	24.3E-09	39.7E-09	23.9E-09	39.6E-09	19.9E-09	22.6E-09
45	47.8E-09	41.3E-09	33.5E-09	22.4E-09	38.6E-09	39.3E-09	39.3E-09	63.3E-09	39.8E-09	63.1E-09	33.2E-09	36.1E-09
46	37.8E-09	33.4E-09	24.5E-09	19.3E-09	30.9E-09	31.6E-09	31.6E-09	51.5E-09	32.4E-09	52.2E-09	26.1E-09	28.2E-09
47	32.1E-09	29.2E-09	21.9E-09	25.3E-09	27.0E-09	28.1E-09	28.1E-09	46.9E-09	28.2E-09	47.7E-09	23.3E-09	24.5E-09
49	31.7E-09	27.9E-09	20.5E-09	31.2E-09	24.6E-09	25.0E-09	25.0E-09	41.9E-09	25.6E-09	43.6E-09	20.8E-09	21.4E-09
50	31.2E-09	25.8E-09	19.7E-09	25.6E-09	22.9E-09	23.7E-09	23.7E-09	39.1E-09	24.3E-09	40.5E-09	19.5E-09	20.1E-09
52	42.8E-09	31.7E-09	28.7E-09	19.2E-09	29.6E-09	29.7E-09	29.7E-09	49.5E-09	30.5E-09	51.6E-09	24.5E-09	24.7E-09
Statistics												
Min	30.6E-09	25.8E-09	19.7E-09	18.6E-09	22.9E-09	23.7E-09	23.7E-09	38.8E-09	23.4E-09	37.3E-09	19.5E-09	20.1E-09
Max	47.8E-09	41.3E-09	33.5E-09	34.8E-09	38.6E-09	39.3E-09	39.3E-09	63.3E-09	39.8E-09	63.1E-09	33.2E-09	36.1E-09
Average	38.0E-09	31.4E-09	25.1E-09	23.8E-09	29.0E-09	29.8E-09	29.8E-09	47.7E-09	29.4E-09	48.0E-09	24.6E-09	26.6E-09
Sigma	6.2E-09	5.0E-09	4.8E-09	5.2E-09	5.2E-09	5.4E-09	5.4E-09	7.6E-09	5.1E-09	7.5E-09	4.4E-09	5.3E-09

Measurements

IIH (LVCMOS33) sra11	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.1E-09	25.7E-09	23.0E-09	22.0E-09	26.4E-09	27.2E-09	27.2E-09	42.1E-09	28.3E-09	40.2E-09	21.8E-09	23.5E-09
OFF samples												
53	38.4E-09	28.2E-09	25.3E-09	30.4E-09	25.3E-09	24.1E-09	24.1E-09	43.0E-09	26.0E-09	44.9E-09	20.5E-09	20.5E-09
54	59.8E-09	47.4E-09	42.3E-09	19.3E-09	43.3E-09	41.5E-09	41.5E-09	67.4E-09	43.9E-09	42.0E-09	35.4E-09	35.8E-09
Statistics												
Min	38.4E-09	28.2E-09	25.3E-09	19.3E-09	25.3E-09	24.1E-09	24.1E-09	43.0E-09	26.0E-09	42.0E-09	20.5E-09	20.5E-09
Max	59.8E-09	47.4E-09	42.3E-09	30.4E-09	43.3E-09	41.5E-09	41.5E-09	67.4E-09	43.9E-09	44.9E-09	35.4E-09	35.8E-09
Average	49.1E-09	37.8E-09	33.8E-09	24.8E-09	34.3E-09	32.8E-09	32.8E-09	55.2E-09	34.9E-09	43.4E-09	27.9E-09	28.2E-09
Sigma	10.7E-09	9.6E-09	8.5E-09	5.6E-09	9.0E-09	8.7E-09	8.7E-09	12.2E-09	9.0E-09	1.4E-09	7.5E-09	7.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra10

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

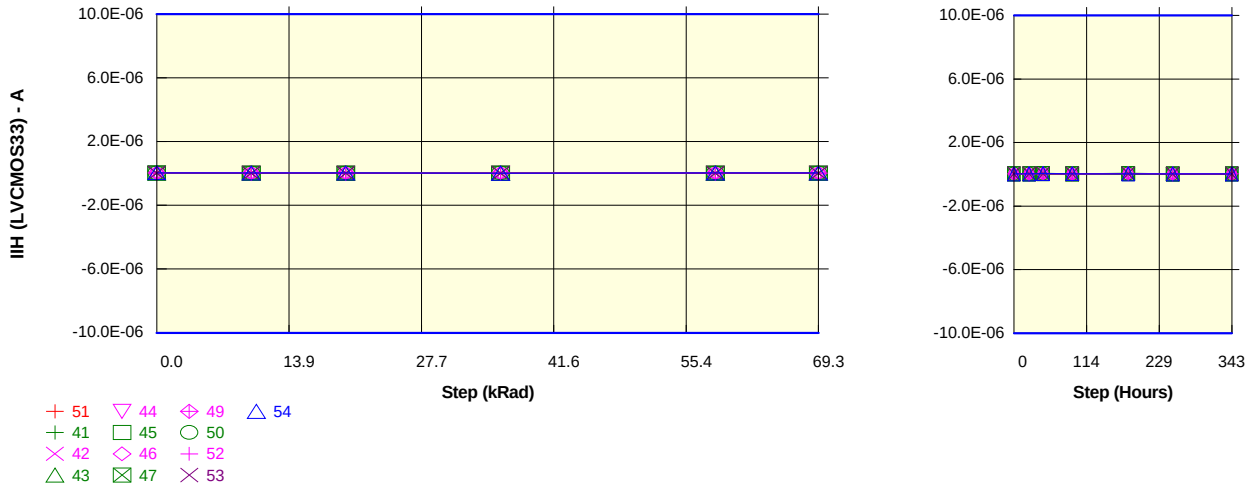
IIH (LVCMOS33) sra10	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.8E-09	25.2E-09	22.7E-09	21.9E-09	26.4E-09	27.1E-09	27.1E-09	41.4E-09	28.1E-09	39.7E-09	21.6E-09	23.5E-09
ON samples												
41	32.7E-09	23.5E-09	19.3E-09	26.6E-09	21.4E-09	22.0E-09	22.0E-09	34.3E-09	20.5E-09	33.0E-09	18.4E-09	20.1E-09
42	42.8E-09	33.1E-09	27.5E-09	19.5E-09	30.4E-09	32.1E-09	32.1E-09	52.0E-09	29.7E-09	50.5E-09	26.2E-09	29.2E-09
43	36.7E-09	30.0E-09	24.2E-09	31.7E-09	28.1E-09	29.3E-09	29.3E-09	46.1E-09	27.8E-09	45.4E-09	23.7E-09	26.9E-09
44	40.9E-09	36.0E-09	29.7E-09	20.2E-09	35.5E-09	36.7E-09	36.7E-09	50.6E-09	35.9E-09	50.5E-09	30.0E-09	34.6E-09
45	39.9E-09	34.0E-09	27.3E-09	31.7E-09	31.6E-09	32.2E-09	32.2E-09	54.1E-09	32.7E-09	53.9E-09	27.0E-09	29.6E-09
46	33.7E-09	29.5E-09	21.4E-09	16.6E-09	27.9E-09	28.5E-09	28.5E-09	46.8E-09	29.2E-09	47.7E-09	23.1E-09	25.2E-09
47	29.8E-09	27.1E-09	20.0E-09	23.8E-09	25.1E-09	26.2E-09	26.2E-09	43.9E-09	26.5E-09	45.0E-09	21.8E-09	22.9E-09
49	46.8E-09	43.7E-09	34.8E-09	22.2E-09	44.1E-09	44.8E-09	44.8E-09	60.2E-09	45.3E-09	62.4E-09	37.1E-09	39.7E-09
50	35.4E-09	30.1E-09	23.7E-09	22.4E-09	27.6E-09	28.9E-09	28.9E-09	44.4E-09	29.3E-09	45.9E-09	24.0E-09	24.9E-09
52	52.7E-09	40.0E-09	37.5E-09	23.8E-09	39.1E-09	39.5E-09	39.5E-09	61.2E-09	40.5E-09	64.0E-09	33.1E-09	33.8E-09
Statistics												
Min	29.8E-09	23.5E-09	19.3E-09	16.6E-09	21.4E-09	22.0E-09	22.0E-09	34.3E-09	20.5E-09	33.0E-09	18.4E-09	20.1E-09
Max	52.7E-09	43.7E-09	37.5E-09	31.7E-09	44.1E-09	44.8E-09	44.8E-09	61.2E-09	45.3E-09	64.0E-09	37.1E-09	39.7E-09
Average	39.1E-09	32.7E-09	26.5E-09	23.8E-09	31.0E-09	32.0E-09	32.0E-09	49.3E-09	31.7E-09	49.8E-09	26.4E-09	28.7E-09
Sigma	6.6E-09	5.7E-09	5.8E-09	4.7E-09	6.4E-09	6.4E-09	6.4E-09	7.7E-09	6.8E-09	8.5E-09	5.3E-09	5.7E-09

Measurements

IIH (LVCMOS33) sra10	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.8E-09	25.2E-09	22.7E-09	21.9E-09	26.4E-09	27.1E-09	27.1E-09	41.4E-09	28.1E-09	39.7E-09	21.6E-09	23.5E-09
OFF samples												
53	37.6E-09	27.5E-09	24.9E-09	23.8E-09	25.1E-09	23.6E-09	23.6E-09	42.1E-09	25.6E-09	43.8E-09	19.9E-09	20.2E-09
54	51.8E-09	39.6E-09	34.7E-09	38.3E-09	35.0E-09	33.7E-09	33.7E-09	57.5E-09	35.9E-09	34.1E-09	28.5E-09	28.6E-09
Statistics												
Min	37.6E-09	27.5E-09	24.9E-09	23.8E-09	25.1E-09	23.6E-09	23.6E-09	42.1E-09	25.6E-09	34.1E-09	19.9E-09	20.2E-09
Max	51.8E-09	39.6E-09	34.7E-09	38.3E-09	35.0E-09	33.7E-09	33.7E-09	57.5E-09	35.9E-09	43.8E-09	28.5E-09	28.6E-09
Average	44.7E-09	33.5E-09	29.8E-09	31.0E-09	30.1E-09	28.6E-09	28.6E-09	49.8E-09	30.8E-09	39.0E-09	24.2E-09	24.4E-09
Sigma	7.1E-09	6.0E-09	4.9E-09	7.2E-09	5.0E-09	5.0E-09	5.0E-09	7.7E-09	5.1E-09	4.9E-09	4.3E-09	4.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra9

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

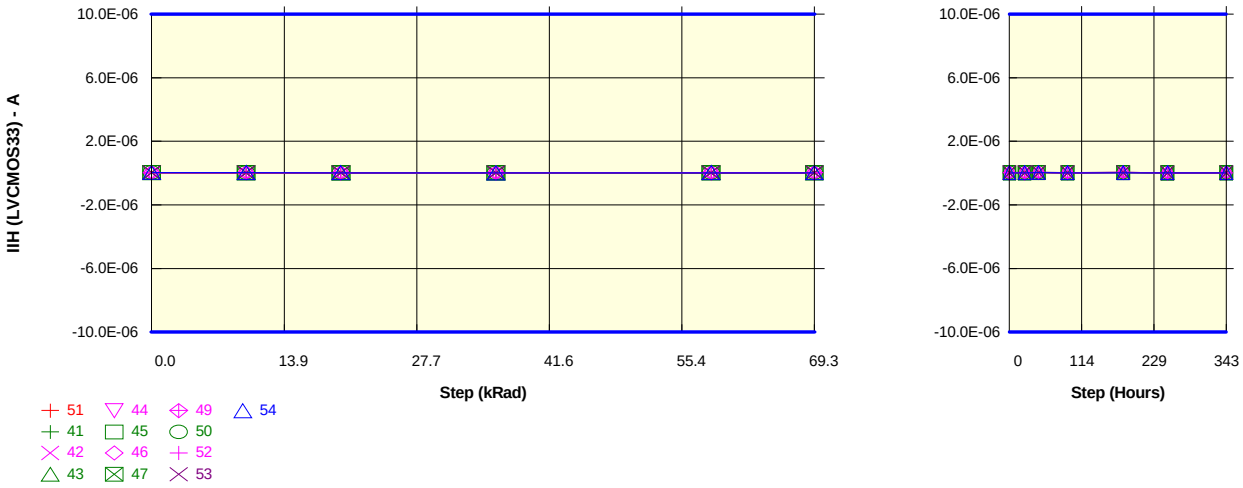
IIH (LVCMOS33) sra9	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	29.6E-09	23.4E-09	21.1E-09	20.5E-09	24.6E-09	25.3E-09	25.3E-09	38.8E-09	26.2E-09	37.4E-09	20.2E-09	22.0E-09
ON samples												
41	34.6E-09	24.9E-09	20.1E-09	25.2E-09	22.5E-09	23.1E-09	23.1E-09	36.5E-09	21.3E-09	35.1E-09	19.0E-09	20.9E-09
42	44.2E-09	34.5E-09	28.7E-09	18.6E-09	31.9E-09	33.6E-09	33.6E-09	54.2E-09	30.9E-09	52.5E-09	27.4E-09	30.5E-09
43	38.8E-09	31.4E-09	25.6E-09	19.4E-09	29.7E-09	30.8E-09	30.8E-09	48.3E-09	29.2E-09	47.5E-09	25.1E-09	28.2E-09
44	31.7E-09	26.5E-09	21.0E-09	19.0E-09	24.5E-09	25.3E-09	25.3E-09	41.2E-09	24.9E-09	40.8E-09	20.9E-09	23.9E-09
45	47.4E-09	40.1E-09	32.0E-09	22.2E-09	37.0E-09	37.6E-09	37.6E-09	64.2E-09	38.3E-09	64.0E-09	31.8E-09	34.5E-09
46	39.1E-09	34.3E-09	25.0E-09	17.3E-09	31.8E-09	32.5E-09	32.5E-09	54.5E-09	33.6E-09	55.2E-09	26.9E-09	29.1E-09
47	27.3E-09	25.0E-09	18.5E-09	25.0E-09	23.1E-09	24.0E-09	24.0E-09	40.1E-09	24.3E-09	40.7E-09	19.9E-09	20.9E-09
49	31.9E-09	28.5E-09	21.1E-09	23.3E-09	25.5E-09	25.9E-09	25.9E-09	43.1E-09	26.5E-09	44.6E-09	21.8E-09	22.3E-09
50	32.6E-09	27.0E-09	20.8E-09	25.3E-09	24.3E-09	25.2E-09	25.2E-09	42.0E-09	26.0E-09	43.2E-09	21.0E-09	21.4E-09
52	41.4E-09	30.5E-09	27.9E-09	19.9E-09	29.1E-09	29.5E-09	29.5E-09	48.5E-09	30.0E-09	50.7E-09	24.3E-09	24.5E-09
Statistics												
Min	27.3E-09	24.9E-09	18.5E-09	17.3E-09	22.5E-09	23.1E-09	23.1E-09	36.5E-09	21.3E-09	35.1E-09	19.0E-09	20.9E-09
Max	47.4E-09	40.1E-09	32.0E-09	25.3E-09	37.0E-09	37.6E-09	37.6E-09	64.2E-09	38.3E-09	64.0E-09	31.8E-09	34.5E-09
Average	36.9E-09	30.2E-09	24.1E-09	21.5E-09	27.9E-09	28.7E-09	28.7E-09	47.2E-09	28.5E-09	47.4E-09	23.8E-09	25.6E-09
Sigma	6.0E-09	4.7E-09	4.2E-09	2.9E-09	4.5E-09	4.6E-09	4.6E-09	8.0E-09	4.7E-09	8.0E-09	3.8E-09	4.5E-09

Measurements

IIH (LVCMOS33) sra9	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	29.6E-09	23.4E-09	21.1E-09	20.5E-09	24.6E-09	25.3E-09	25.3E-09	38.8E-09	26.2E-09	37.4E-09	20.2E-09	22.0E-09
OFF samples												
53	34.9E-09	25.7E-09	23.3E-09	27.3E-09	23.4E-09	22.0E-09	22.0E-09	39.2E-09	23.8E-09	40.8E-09	18.9E-09	18.9E-09
54	48.0E-09	36.9E-09	32.5E-09	20.1E-09	32.9E-09	31.8E-09	31.8E-09	54.5E-09	33.8E-09	32.3E-09	27.1E-09	27.1E-09
Statistics												
Min	34.9E-09	25.7E-09	23.3E-09	20.1E-09	23.4E-09	22.0E-09	22.0E-09	39.2E-09	23.8E-09	32.3E-09	18.9E-09	18.9E-09
Max	48.0E-09	36.9E-09	32.5E-09	27.3E-09	32.9E-09	31.8E-09	31.8E-09	54.5E-09	33.8E-09	40.8E-09	27.1E-09	27.1E-09
Average	41.4E-09	31.3E-09	27.9E-09	23.7E-09	28.2E-09	26.9E-09	26.9E-09	46.8E-09	28.8E-09	36.5E-09	23.0E-09	23.0E-09
Sigma	6.6E-09	5.6E-09	4.6E-09	3.6E-09	4.8E-09	4.9E-09	4.9E-09	7.7E-09	5.0E-09	4.2E-09	4.1E-09	4.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra8

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

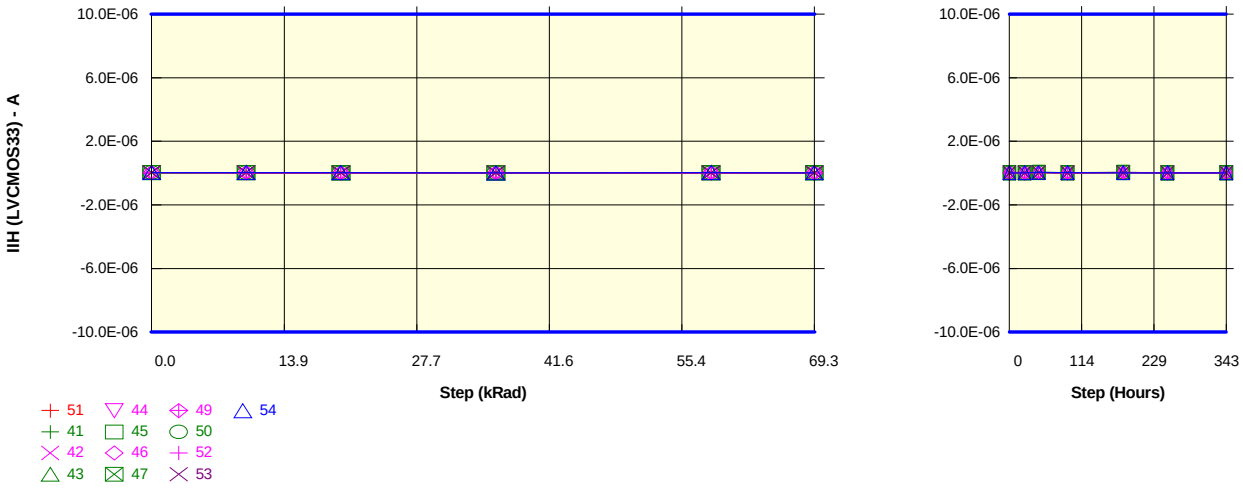
IIH (LVCMOS33) sra8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.0E-09	23.9E-09	21.7E-09	20.0E-09	25.5E-09	26.0E-09	26.0E-09	40.5E-09	27.3E-09	38.5E-09	20.8E-09	22.7E-09
ON samples												
41	38.3E-09	28.1E-09	24.3E-09	24.9E-09	26.4E-09	27.1E-09	27.1E-09	40.5E-09	25.6E-09	38.6E-09	23.1E-09	24.9E-09
42	45.6E-09	34.4E-09	29.1E-09	27.0E-09	32.4E-09	34.3E-09	34.3E-09	55.4E-09	32.1E-09	53.9E-09	28.1E-09	31.3E-09
43	38.5E-09	30.8E-09	25.1E-09	18.7E-09	29.1E-09	30.1E-09	30.1E-09	48.1E-09	29.0E-09	47.3E-09	24.9E-09	27.9E-09
44	32.0E-09	26.1E-09	21.0E-09	18.5E-09	24.5E-09	25.2E-09	25.2E-09	41.3E-09	25.1E-09	40.9E-09	20.7E-09	23.6E-09
45	43.9E-09	37.0E-09	29.9E-09	28.2E-09	34.8E-09	35.4E-09	35.4E-09	59.6E-09	36.3E-09	59.7E-09	30.1E-09	32.9E-09
46	35.9E-09	31.4E-09	23.3E-09	21.1E-09	30.1E-09	30.9E-09	30.9E-09	49.2E-09	31.5E-09	50.0E-09	25.5E-09	27.5E-09
47	27.9E-09	25.0E-09	18.6E-09	25.3E-09	23.2E-09	24.2E-09	24.2E-09	40.1E-09	24.6E-09	41.4E-09	20.0E-09	21.0E-09
49	31.2E-09	27.2E-09	20.2E-09	22.4E-09	24.5E-09	25.0E-09	25.0E-09	41.7E-09	26.0E-09	43.1E-09	21.0E-09	21.4E-09
50	41.5E-09	35.1E-09	28.6E-09	24.0E-09	33.7E-09	34.9E-09	34.9E-09	49.9E-09	35.6E-09	51.5E-09	29.5E-09	30.7E-09
52	47.5E-09	35.4E-09	33.6E-09	30.1E-09	34.9E-09	35.2E-09	35.2E-09	53.8E-09	35.9E-09	56.0E-09	29.1E-09	29.7E-09
Statistics												
Min	27.9E-09	25.0E-09	18.6E-09	18.5E-09	23.2E-09	24.2E-09	24.2E-09	40.1E-09	24.6E-09	38.6E-09	20.0E-09	21.0E-09
Max	47.5E-09	37.0E-09	33.6E-09	30.1E-09	34.9E-09	35.4E-09	35.4E-09	59.6E-09	36.3E-09	59.7E-09	30.1E-09	32.9E-09
Average	38.2E-09	31.0E-09	25.3E-09	24.0E-09	29.3E-09	30.2E-09	30.2E-09	47.9E-09	30.2E-09	48.2E-09	25.2E-09	27.1E-09
Sigma	6.2E-09	4.1E-09	4.6E-09	3.7E-09	4.3E-09	4.4E-09	4.4E-09	6.6E-09	4.5E-09	6.8E-09	3.7E-09	4.0E-09

Measurements

IIH (LVCMOS33)sra8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.0E-09	23.9E-09	21.7E-09	20.0E-09	25.5E-09	26.0E-09	26.0E-09	40.5E-09	27.3E-09	38.5E-09	20.8E-09	22.7E-09
OFF samples												
53	42.5E-09	32.1E-09	30.4E-09	25.9E-09	31.5E-09	29.9E-09	29.9E-09	45.9E-09	32.1E-09	48.2E-09	25.3E-09	26.3E-09
54	46.5E-09	35.5E-09	31.6E-09	18.9E-09	32.3E-09	31.0E-09	31.0E-09	52.1E-09	33.4E-09	31.5E-09	26.2E-09	26.4E-09
Statistics												
Min	42.5E-09	32.1E-09	30.4E-09	18.9E-09	31.5E-09	29.9E-09	29.9E-09	45.9E-09	32.1E-09	31.5E-09	25.3E-09	26.3E-09
Max	46.5E-09	35.5E-09	31.6E-09	25.9E-09	32.3E-09	31.0E-09	31.0E-09	52.1E-09	33.4E-09	48.2E-09	26.2E-09	26.4E-09
Average	44.5E-09	33.8E-09	31.0E-09	22.4E-09	31.9E-09	30.4E-09	30.4E-09	49.0E-09	32.7E-09	39.8E-09	25.7E-09	26.3E-09
Sigma	2.0E-09	1.7E-09	600.0E-12	3.5E-09	400.0E-12	575.0E-12	575.0E-12	3.1E-09	625.0E-12	8.3E-09	475.0E-12	75.0E-12

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra7

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

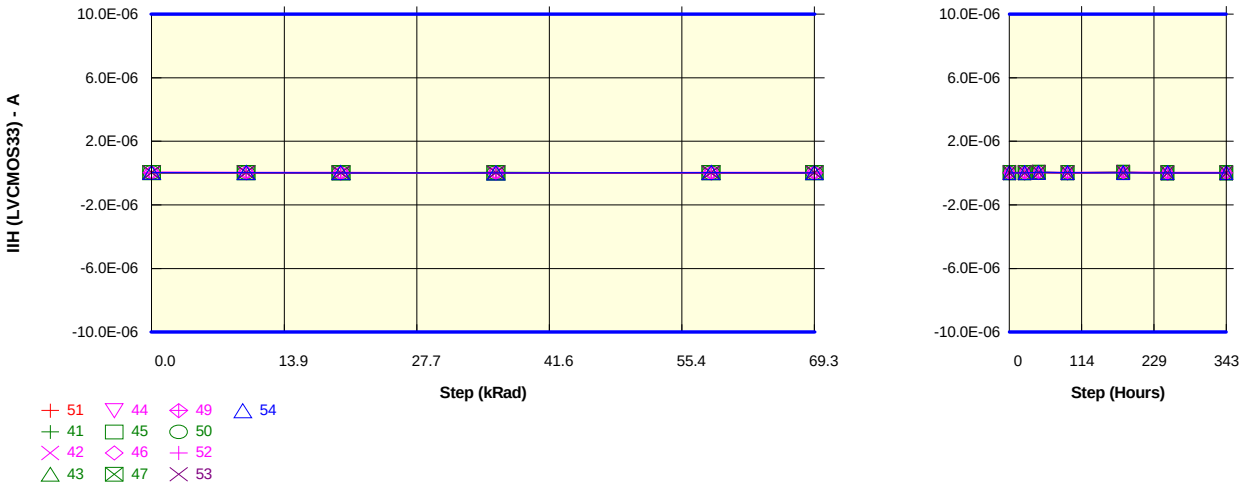
IIH (LVCMOS33) sra7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.6E-09	25.5E-09	23.0E-09	22.4E-09	26.5E-09	27.3E-09	27.3E-09	40.6E-09	28.3E-09	39.2E-09	21.9E-09	23.9E-09
ON samples												
41	33.1E-09	23.8E-09	19.1E-09	28.5E-09	21.1E-09	21.6E-09	21.6E-09	34.6E-09	19.8E-09	33.2E-09	17.9E-09	19.6E-09
42	44.4E-09	35.0E-09	29.0E-09	18.9E-09	31.9E-09	33.7E-09	33.7E-09	54.1E-09	31.0E-09	52.6E-09	27.7E-09	30.5E-09
43	36.5E-09	29.7E-09	24.3E-09	19.4E-09	27.7E-09	28.7E-09	28.7E-09	45.6E-09	27.2E-09	44.9E-09	23.5E-09	26.6E-09
44	31.5E-09	26.4E-09	21.0E-09	20.1E-09	24.2E-09	25.0E-09	25.0E-09	41.2E-09	24.7E-09	40.9E-09	20.8E-09	23.4E-09
45	45.9E-09	39.7E-09	31.7E-09	20.4E-09	36.9E-09	37.5E-09	37.5E-09	61.7E-09	37.9E-09	61.6E-09	31.5E-09	34.5E-09
46	37.0E-09	32.5E-09	23.7E-09	16.1E-09	30.3E-09	30.9E-09	30.9E-09	51.3E-09	31.9E-09	52.1E-09	25.7E-09	27.5E-09
47	28.6E-09	26.4E-09	19.5E-09	25.2E-09	24.2E-09	25.0E-09	25.0E-09	41.9E-09	25.3E-09	42.7E-09	21.0E-09	21.9E-09
49	29.9E-09	26.7E-09	19.8E-09	22.2E-09	23.7E-09	24.0E-09	24.0E-09	40.5E-09	24.5E-09	42.0E-09	20.2E-09	20.7E-09
50	31.3E-09	26.0E-09	19.9E-09	24.5E-09	23.3E-09	24.2E-09	24.2E-09	40.0E-09	24.7E-09	41.2E-09	20.2E-09	20.5E-09
52	38.1E-09	28.3E-09	25.7E-09	19.5E-09	26.4E-09	26.7E-09	26.7E-09	44.2E-09	27.2E-09	46.3E-09	22.1E-09	22.2E-09
Statistics												
Min	28.6E-09	23.8E-09	19.1E-09	16.1E-09	21.1E-09	21.6E-09	21.6E-09	34.6E-09	19.8E-09	33.2E-09	17.9E-09	19.6E-09
Max	45.9E-09	39.7E-09	31.7E-09	28.5E-09	36.9E-09	37.5E-09	37.5E-09	61.7E-09	37.9E-09	61.6E-09	31.5E-09	34.5E-09
Average	35.6E-09	29.4E-09	23.3E-09	21.5E-09	26.9E-09	27.7E-09	27.7E-09	45.5E-09	27.4E-09	45.7E-09	23.0E-09	24.7E-09
Sigma	5.6E-09	4.7E-09	4.1E-09	3.5E-09	4.6E-09	4.7E-09	4.7E-09	7.6E-09	4.8E-09	7.5E-09	3.9E-09	4.7E-09

Measurements

IIH (LVCMOS33) sra7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.6E-09	25.5E-09	23.0E-09	22.4E-09	26.5E-09	27.3E-09	27.3E-09	40.6E-09	28.3E-09	39.2E-09	21.9E-09	23.9E-09
OFF samples												
53	35.2E-09	26.3E-09	23.6E-09	28.5E-09	23.6E-09	22.3E-09	22.3E-09	39.6E-09	24.2E-09	41.3E-09	19.1E-09	19.1E-09
54	50.0E-09	39.3E-09	34.9E-09	18.6E-09	35.4E-09	34.0E-09	34.0E-09	56.3E-09	36.1E-09	34.4E-09	29.0E-09	29.2E-09
Statistics												
Min	35.2E-09	26.3E-09	23.6E-09	18.6E-09	23.6E-09	22.3E-09	22.3E-09	39.6E-09	24.2E-09	34.4E-09	19.1E-09	19.1E-09
Max	50.0E-09	39.3E-09	34.9E-09	28.5E-09	35.4E-09	34.0E-09	34.0E-09	56.3E-09	36.1E-09	41.3E-09	29.0E-09	29.2E-09
Average	42.6E-09	32.8E-09	29.2E-09	23.5E-09	29.5E-09	28.2E-09	28.2E-09	47.9E-09	30.1E-09	37.9E-09	24.0E-09	24.1E-09
Sigma	7.4E-09	6.5E-09	5.6E-09	5.0E-09	5.9E-09	5.9E-09	5.9E-09	8.4E-09	6.0E-09	3.5E-09	5.0E-09	5.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra6

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

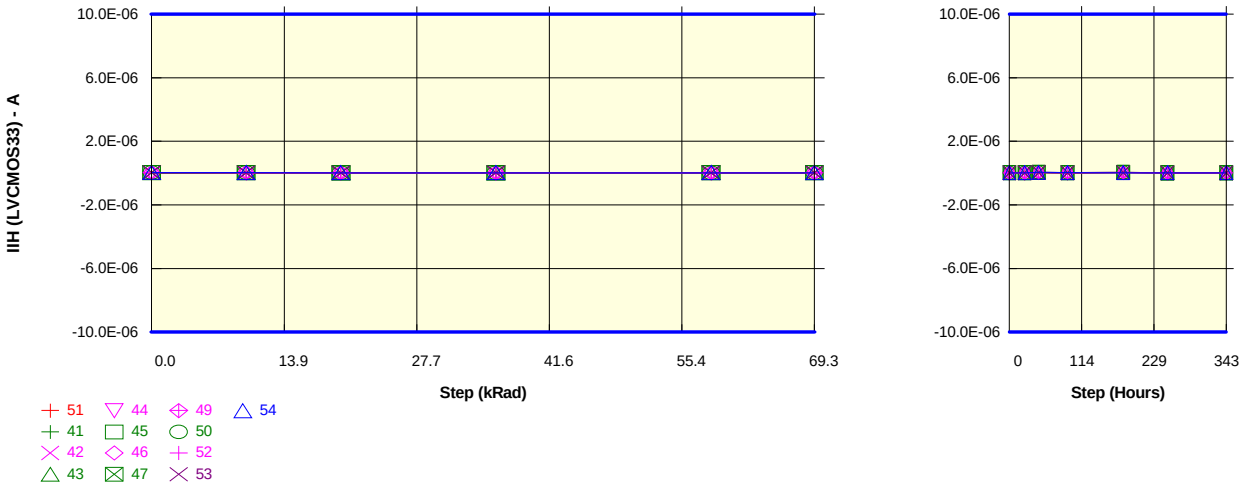
IIH (LVCMOS33) sra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.4E-09	23.8E-09	21.7E-09	19.7E-09	25.2E-09	25.6E-09	25.6E-09	39.5E-09	26.9E-09	38.2E-09	20.7E-09	22.3E-09
ON samples												
41	34.2E-09	23.9E-09	20.1E-09	26.1E-09	21.7E-09	22.7E-09	22.7E-09	36.3E-09	21.1E-09	35.1E-09	18.7E-09	20.5E-09
42	72.9E-09	61.8E-09	55.3E-09	18.3E-09	62.7E-09	65.4E-09	65.4E-09	81.8E-09	60.8E-09	80.1E-09	54.1E-09	60.2E-09
43	38.7E-09	32.1E-09	27.7E-09	18.5E-09	37.5E-09	39.5E-09	39.5E-09	54.0E-09	37.6E-09	53.5E-09	32.3E-09	36.0E-09
44	30.8E-09	25.5E-09	20.5E-09	20.0E-09	24.1E-09	25.0E-09	25.0E-09	40.0E-09	24.3E-09	39.7E-09	20.1E-09	23.0E-09
45	47.4E-09	40.2E-09	32.4E-09	21.2E-09	37.3E-09	38.1E-09	38.1E-09	64.1E-09	39.5E-09	64.0E-09	32.1E-09	35.1E-09
46	34.9E-09	30.5E-09	22.5E-09	16.4E-09	28.5E-09	29.1E-09	29.1E-09	48.5E-09	30.3E-09	49.4E-09	24.0E-09	25.8E-09
47	30.4E-09	27.6E-09	20.9E-09	59.8E-09	25.8E-09	26.5E-09	26.5E-09	44.8E-09	27.2E-09	45.5E-09	21.9E-09	23.3E-09
49	32.7E-09	28.9E-09	21.8E-09	29.3E-09	26.7E-09	26.9E-09	26.9E-09	43.0E-09	27.5E-09	44.8E-09	22.8E-09	23.7E-09
50	32.2E-09	25.9E-09	20.4E-09	21.9E-09	23.4E-09	24.8E-09	24.8E-09	40.5E-09	25.6E-09	42.1E-09	20.4E-09	20.8E-09
52	41.0E-09	29.8E-09	27.2E-09	19.1E-09	28.6E-09	28.6E-09	28.6E-09	47.6E-09	29.5E-09	49.6E-09	23.8E-09	23.6E-09
Statistics												
Min	30.4E-09	23.9E-09	20.1E-09	16.4E-09	21.7E-09	22.7E-09	22.7E-09	36.3E-09	21.1E-09	35.1E-09	18.7E-09	20.5E-09
Max	72.9E-09	61.8E-09	55.3E-09	59.8E-09	62.7E-09	65.4E-09	65.4E-09	81.8E-09	60.8E-09	80.1E-09	54.1E-09	60.2E-09
Average	39.5E-09	32.6E-09	26.9E-09	25.1E-09	31.6E-09	32.7E-09	32.7E-09	50.0E-09	32.3E-09	50.4E-09	27.0E-09	29.2E-09
Sigma	12.2E-09	10.6E-09	10.2E-09	12.2E-09	11.5E-09	12.1E-09	12.1E-09	13.0E-09	10.9E-09	12.5E-09	10.1E-09	11.6E-09

Measurements

IIH (LVCMOS33) sra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.4E-09	23.8E-09	21.7E-09	19.7E-09	25.2E-09	25.6E-09	25.6E-09	39.5E-09	26.9E-09	38.2E-09	20.7E-09	22.3E-09
OFF samples												
53	35.5E-09	25.8E-09	23.4E-09	28.1E-09	23.8E-09	22.5E-09	22.5E-09	39.6E-09	24.9E-09	41.3E-09	19.0E-09	19.3E-09
54	50.6E-09	38.2E-09	34.1E-09	21.3E-09	34.5E-09	33.5E-09	33.5E-09	56.8E-09	35.4E-09	33.8E-09	27.9E-09	28.1E-09
Statistics												
Min	35.5E-09	25.8E-09	23.4E-09	21.3E-09	23.8E-09	22.5E-09	22.5E-09	39.6E-09	24.9E-09	33.8E-09	19.0E-09	19.3E-09
Max	50.6E-09	38.2E-09	34.1E-09	28.1E-09	34.5E-09	33.5E-09	33.5E-09	56.8E-09	35.4E-09	41.3E-09	27.9E-09	28.1E-09
Average	43.1E-09	32.0E-09	28.7E-09	24.7E-09	29.1E-09	28.0E-09	28.0E-09	48.2E-09	30.1E-09	37.5E-09	23.4E-09	23.7E-09
Sigma	7.5E-09	6.2E-09	5.3E-09	3.4E-09	5.3E-09	5.5E-09	5.5E-09	8.6E-09	5.3E-09	3.8E-09	4.5E-09	4.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

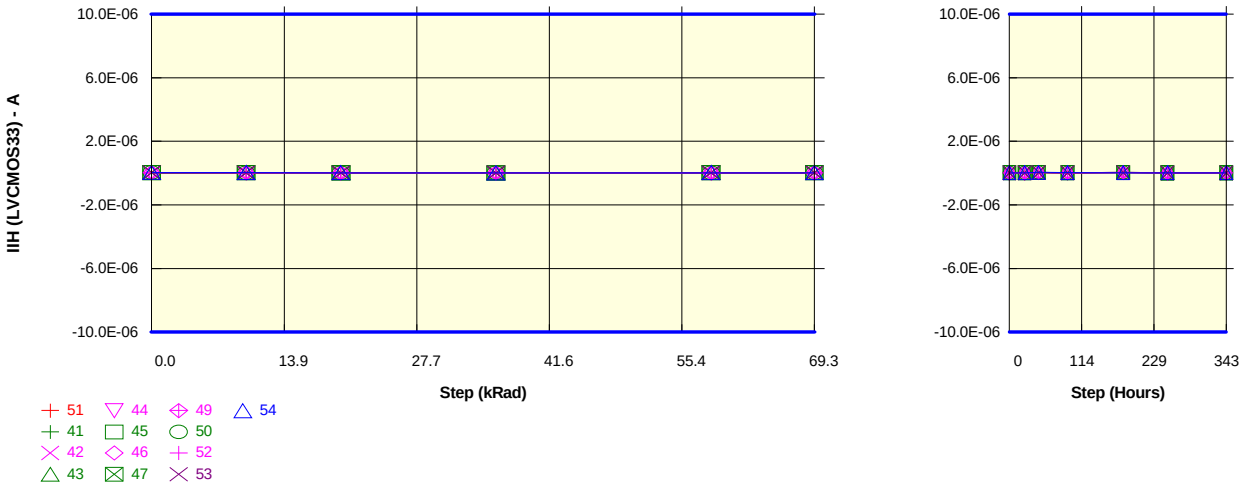
IIH (LVCMOS33) sra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.1E-09	24.6E-09	22.2E-09	20.6E-09	25.7E-09	26.7E-09	26.7E-09	40.6E-09	27.8E-09	39.0E-09	21.5E-09	23.5E-09
ON samples												
41	34.1E-09	23.9E-09	19.6E-09	26.0E-09	22.2E-09	23.0E-09	23.0E-09	36.8E-09	21.2E-09	35.2E-09	18.8E-09	20.9E-09
42	49.6E-09	38.3E-09	32.3E-09	17.5E-09	35.6E-09	37.7E-09	37.7E-09	62.0E-09	34.9E-09	59.8E-09	31.3E-09	34.4E-09
43	37.0E-09	30.0E-09	24.7E-09	18.1E-09	29.1E-09	30.6E-09	30.6E-09	46.1E-09	28.7E-09	45.2E-09	24.6E-09	28.1E-09
44	30.4E-09	25.0E-09	19.8E-09	20.7E-09	23.4E-09	24.1E-09	24.1E-09	39.9E-09	24.1E-09	39.7E-09	20.0E-09	22.9E-09
45	45.9E-09	39.3E-09	31.4E-09	19.0E-09	37.0E-09	38.1E-09	38.1E-09	63.8E-09	38.9E-09	63.4E-09	32.2E-09	35.0E-09
46	34.2E-09	29.6E-09	21.7E-09	16.6E-09	27.9E-09	28.8E-09	28.8E-09	48.3E-09	29.8E-09	48.8E-09	23.8E-09	25.7E-09
47	30.0E-09	27.2E-09	20.3E-09	27.1E-09	26.1E-09	27.1E-09	27.1E-09	44.5E-09	27.4E-09	45.2E-09	22.6E-09	23.8E-09
49	39.1E-09	36.3E-09	28.4E-09	23.3E-09	35.2E-09	36.1E-09	36.1E-09	50.3E-09	36.5E-09	52.2E-09	30.7E-09	32.2E-09
50	31.7E-09	26.2E-09	20.6E-09	21.5E-09	24.2E-09	25.3E-09	25.3E-09	40.5E-09	26.0E-09	41.8E-09	21.4E-09	21.8E-09
52	35.6E-09	26.0E-09	23.9E-09	19.9E-09	25.2E-09	25.3E-09	25.3E-09	41.8E-09	26.0E-09	43.3E-09	20.9E-09	21.1E-09
Statistics												
Min	30.0E-09	23.9E-09	19.6E-09	16.6E-09	22.2E-09	23.0E-09	23.0E-09	36.8E-09	21.2E-09	35.2E-09	18.8E-09	20.9E-09
Max	49.6E-09	39.3E-09	32.3E-09	27.1E-09	37.0E-09	38.1E-09	38.1E-09	63.8E-09	38.9E-09	63.4E-09	32.2E-09	35.0E-09
Average	36.7E-09	30.2E-09	24.2E-09	20.9E-09	28.6E-09	29.6E-09	29.6E-09	47.4E-09	29.3E-09	47.4E-09	24.6E-09	26.6E-09
Sigma	6.2E-09	5.4E-09	4.6E-09	3.4E-09	5.2E-09	5.5E-09	5.5E-09	8.7E-09	5.4E-09	8.4E-09	4.7E-09	5.2E-09

Measurements

IIH (LVCMOS33) sra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.1E-09	24.6E-09	22.2E-09	20.6E-09	25.7E-09	26.7E-09	26.7E-09	40.6E-09	27.8E-09	39.0E-09	21.5E-09	23.5E-09
OFF samples												
53	33.7E-09	24.4E-09	22.1E-09	27.7E-09	22.4E-09	21.3E-09	21.3E-09	37.7E-09	23.1E-09	39.2E-09	18.1E-09	18.2E-09
54	47.9E-09	36.9E-09	32.8E-09	30.3E-09	33.9E-09	32.7E-09	32.7E-09	54.6E-09	34.7E-09	32.9E-09	27.5E-09	27.7E-09
Statistics												
Min	33.7E-09	24.4E-09	22.1E-09	27.7E-09	22.4E-09	21.3E-09	21.3E-09	37.7E-09	23.1E-09	32.9E-09	18.1E-09	18.2E-09
Max	47.9E-09	36.9E-09	32.8E-09	30.3E-09	33.9E-09	32.7E-09	32.7E-09	54.6E-09	34.7E-09	39.2E-09	27.5E-09	27.7E-09
Average	40.8E-09	30.6E-09	27.4E-09	29.0E-09	28.1E-09	27.0E-09	27.0E-09	46.2E-09	28.9E-09	36.0E-09	22.8E-09	23.0E-09
Sigma	7.1E-09	6.3E-09	5.3E-09	1.3E-09	5.7E-09	5.7E-09	5.7E-09	8.5E-09	5.8E-09	3.1E-09	4.7E-09	4.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra4

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

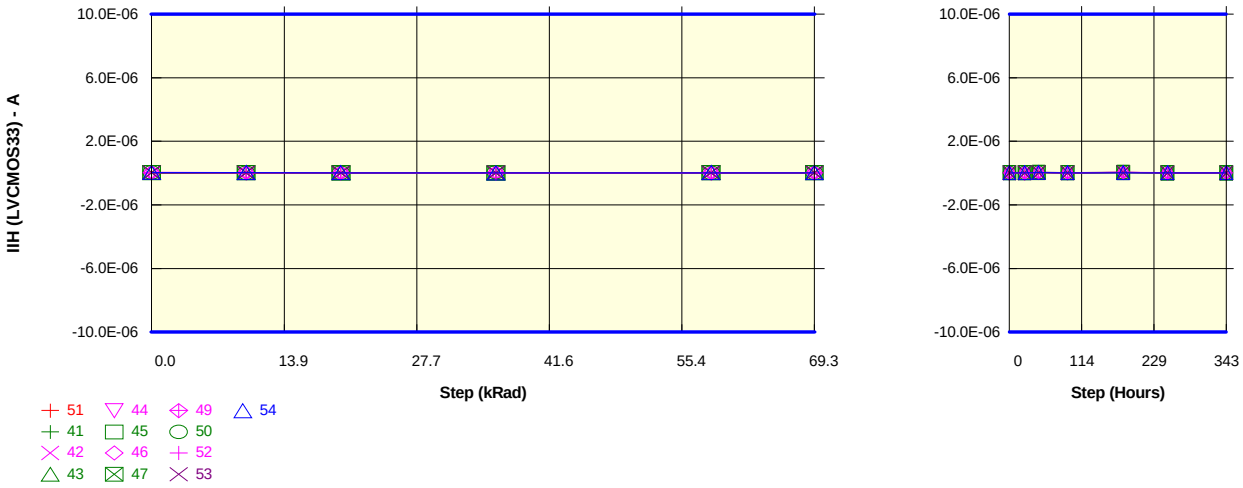
IIH (LVCMOS33) sra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	28.9E-09	22.6E-09	20.5E-09	19.1E-09	24.0E-09	24.7E-09	24.7E-09	38.1E-09	25.8E-09	36.4E-09	19.9E-09	21.9E-09
ON samples												
41	34.6E-09	24.5E-09	20.2E-09	25.5E-09	23.0E-09	23.8E-09	23.8E-09	38.2E-09	22.2E-09	36.7E-09	20.1E-09	22.1E-09
42	43.4E-09	33.8E-09	28.6E-09	17.6E-09	32.0E-09	34.3E-09	34.3E-09	55.1E-09	31.6E-09	53.4E-09	28.1E-09	31.3E-09
43	35.5E-09	28.7E-09	23.4E-09	17.7E-09	27.7E-09	29.2E-09	29.2E-09	45.8E-09	27.4E-09	45.1E-09	23.7E-09	26.9E-09
44	29.3E-09	24.3E-09	19.2E-09	21.2E-09	23.2E-09	24.2E-09	24.2E-09	39.7E-09	23.8E-09	39.4E-09	19.9E-09	22.8E-09
45	39.3E-09	33.6E-09	27.1E-09	21.1E-09	32.3E-09	33.2E-09	33.2E-09	55.4E-09	33.6E-09	55.1E-09	28.2E-09	30.7E-09
46	35.0E-09	30.8E-09	22.7E-09	17.1E-09	29.4E-09	30.3E-09	30.3E-09	50.9E-09	31.4E-09	51.3E-09	25.2E-09	27.2E-09
47	30.8E-09	28.4E-09	21.3E-09	24.7E-09	27.0E-09	28.4E-09	28.4E-09	47.3E-09	28.7E-09	48.3E-09	23.8E-09	25.0E-09
49	29.7E-09	26.4E-09	19.8E-09	21.1E-09	24.6E-09	25.3E-09	25.3E-09	42.3E-09	25.9E-09	44.0E-09	21.5E-09	22.0E-09
50	29.7E-09	24.6E-09	19.1E-09	22.3E-09	22.5E-09	23.7E-09	23.7E-09	39.6E-09	24.4E-09	41.1E-09	19.9E-09	20.3E-09
52	40.3E-09	29.9E-09	27.2E-09	18.0E-09	28.5E-09	29.2E-09	29.2E-09	49.1E-09	30.0E-09	51.1E-09	24.6E-09	24.6E-09
Statistics												
Min	29.3E-09	24.3E-09	19.1E-09	17.1E-09	22.5E-09	23.7E-09	23.7E-09	38.2E-09	22.2E-09	36.7E-09	19.9E-09	20.3E-09
Max	43.4E-09	33.8E-09	28.6E-09	25.5E-09	32.3E-09	34.3E-09	34.3E-09	55.4E-09	33.6E-09	55.1E-09	28.2E-09	31.3E-09
Average	34.7E-09	28.5E-09	22.8E-09	20.6E-09	27.0E-09	28.1E-09	28.1E-09	46.3E-09	27.9E-09	46.5E-09	23.5E-09	25.3E-09
Sigma	4.7E-09	3.4E-09	3.4E-09	2.8E-09	3.4E-09	3.6E-09	3.6E-09	6.0E-09	3.6E-09	5.9E-09	3.0E-09	3.5E-09

Measurements

IIH (LVCMOS33) sra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	28.9E-09	22.6E-09	20.5E-09	19.1E-09	24.0E-09	24.7E-09	24.7E-09	38.1E-09	25.8E-09	36.4E-09	19.9E-09	21.9E-09
OFF samples												
53	33.9E-09	24.7E-09	22.3E-09	23.9E-09	22.7E-09	21.5E-09	21.5E-09	38.2E-09	23.2E-09	39.7E-09	18.3E-09	18.5E-09
54	49.2E-09	37.9E-09	33.5E-09	18.5E-09	34.1E-09	32.9E-09	32.9E-09	56.4E-09	34.9E-09	33.3E-09	27.9E-09	27.9E-09
Statistics												
Min	33.9E-09	24.7E-09	22.3E-09	18.5E-09	22.7E-09	21.5E-09	21.5E-09	38.2E-09	23.2E-09	33.3E-09	18.3E-09	18.5E-09
Max	49.2E-09	37.9E-09	33.5E-09	23.9E-09	34.1E-09	32.9E-09	32.9E-09	56.4E-09	34.9E-09	39.7E-09	27.9E-09	27.9E-09
Average	41.5E-09	31.3E-09	27.9E-09	21.2E-09	28.4E-09	27.2E-09	27.2E-09	47.3E-09	29.1E-09	36.5E-09	23.1E-09	23.2E-09
Sigma	7.6E-09	6.6E-09	5.6E-09	2.7E-09	5.7E-09	5.7E-09	5.7E-09	9.1E-09	5.9E-09	3.2E-09	4.8E-09	4.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra3

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

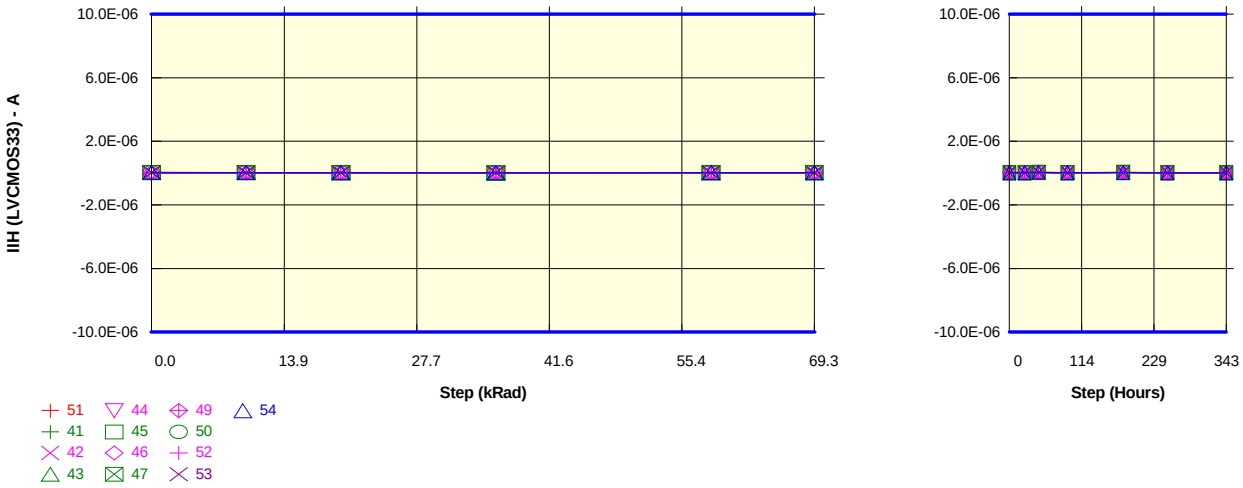
IIH (LVCMOS33) sra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.6E-09	23.8E-09	21.6E-09	19.9E-09	25.2E-09	25.9E-09	25.9E-09	40.5E-09	27.0E-09	38.6E-09	21.0E-09	23.0E-09
ON samples												
41	41.4E-09	30.7E-09	26.2E-09	24.9E-09	28.9E-09	29.8E-09	29.8E-09	44.7E-09	28.3E-09	43.0E-09	25.7E-09	27.6E-09
42	45.0E-09	34.8E-09	29.0E-09	17.6E-09	32.4E-09	34.8E-09	34.8E-09	56.2E-09	32.0E-09	54.4E-09	28.7E-09	31.8E-09
43	33.3E-09	26.8E-09	21.8E-09	19.0E-09	25.8E-09	27.1E-09	27.1E-09	42.0E-09	25.5E-09	41.6E-09	22.0E-09	25.0E-09
44	30.4E-09	25.3E-09	20.2E-09	21.3E-09	24.2E-09	25.1E-09	25.1E-09	40.4E-09	25.0E-09	40.0E-09	21.0E-09	23.8E-09
45	44.8E-09	37.9E-09	30.2E-09	23.0E-09	35.5E-09	36.3E-09	36.3E-09	62.0E-09	37.2E-09	61.5E-09	31.0E-09	33.6E-09
46	52.9E-09	48.5E-09	37.9E-09	22.9E-09	49.0E-09	51.4E-09	51.4E-09	68.1E-09	51.1E-09	69.2E-09	42.5E-09	46.4E-09
47	32.3E-09	29.0E-09	21.6E-09	24.9E-09	27.2E-09	28.8E-09	28.8E-09	48.3E-09	29.0E-09	49.3E-09	24.2E-09	25.2E-09
49	30.2E-09	26.3E-09	19.5E-09	20.2E-09	24.0E-09	24.9E-09	24.9E-09	41.8E-09	25.5E-09	43.3E-09	21.0E-09	21.6E-09
50	29.1E-09	23.8E-09	18.3E-09	43.2E-09	21.8E-09	23.1E-09	23.1E-09	37.7E-09	23.7E-09	39.0E-09	19.2E-09	19.8E-09
52	42.7E-09	31.7E-09	29.1E-09	18.0E-09	30.4E-09	31.0E-09	31.0E-09	50.9E-09	31.7E-09	52.8E-09	26.1E-09	26.2E-09
Statistics												
Min	29.1E-09	23.8E-09	18.3E-09	17.6E-09	21.8E-09	23.1E-09	23.1E-09	37.7E-09	23.7E-09	39.0E-09	19.2E-09	19.8E-09
Max	52.9E-09	48.5E-09	37.9E-09	43.2E-09	49.0E-09	51.4E-09	51.4E-09	68.1E-09	51.1E-09	69.2E-09	42.5E-09	46.4E-09
Average	38.2E-09	31.5E-09	25.4E-09	23.5E-09	29.9E-09	31.2E-09	31.2E-09	49.2E-09	30.9E-09	49.4E-09	26.1E-09	28.1E-09
Sigma	7.8E-09	7.0E-09	5.9E-09	7.0E-09	7.5E-09	7.8E-09	7.8E-09	9.5E-09	7.8E-09	9.6E-09	6.5E-09	7.3E-09

Measurements

IIH (LVCMOS33) sra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.6E-09	23.8E-09	21.6E-09	19.9E-09	25.2E-09	25.9E-09	25.9E-09	40.5E-09	27.0E-09	38.6E-09	21.0E-09	23.0E-09
OFF samples												
53	33.7E-09	24.6E-09	22.1E-09	26.2E-09	22.4E-09	21.4E-09	21.4E-09	37.9E-09	23.1E-09	39.4E-09	18.3E-09	18.4E-09
54	46.3E-09	35.5E-09	31.4E-09	18.2E-09	32.3E-09	31.1E-09	31.1E-09	52.0E-09	33.0E-09	31.3E-09	26.4E-09	26.6E-09
Statistics												
Min	33.7E-09	24.6E-09	22.1E-09	18.2E-09	22.4E-09	21.4E-09	21.4E-09	37.9E-09	23.1E-09	31.3E-09	18.3E-09	18.4E-09
Max	46.3E-09	35.5E-09	31.4E-09	26.2E-09	32.3E-09	31.1E-09	31.1E-09	52.0E-09	33.0E-09	39.4E-09	26.4E-09	26.6E-09
Average	40.0E-09	30.0E-09	26.8E-09	22.2E-09	27.3E-09	26.2E-09	26.2E-09	45.0E-09	28.1E-09	35.3E-09	22.4E-09	22.5E-09
Sigma	6.3E-09	5.5E-09	4.7E-09	4.0E-09	5.0E-09	4.8E-09	4.8E-09	7.1E-09	5.0E-09	4.1E-09	4.1E-09	4.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra2

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

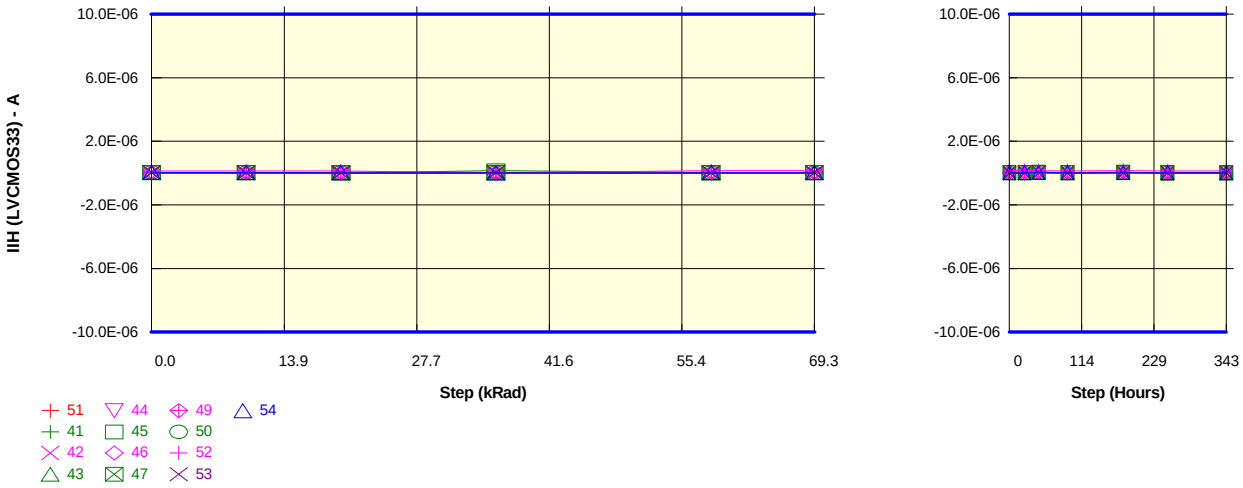
IIH (LVCMOS33) sra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.0E-09	25.0E-09	22.5E-09	21.8E-09	25.8E-09	26.6E-09	26.6E-09	40.4E-09	27.5E-09	38.7E-09	21.1E-09	23.3E-09
ON samples												
41	37.0E-09	27.0E-09	22.0E-09	32.4E-09	24.6E-09	25.8E-09	25.8E-09	41.6E-09	23.9E-09	39.9E-09	21.5E-09	23.5E-09
42	43.6E-09	34.7E-09	28.9E-09	18.2E-09	32.3E-09	34.3E-09	34.3E-09	55.6E-09	31.7E-09	54.0E-09	28.2E-09	31.2E-09
43	38.3E-09	31.3E-09	26.0E-09	19.7E-09	30.5E-09	32.1E-09	32.1E-09	49.4E-09	30.3E-09	48.5E-09	26.1E-09	29.5E-09
44	32.4E-09	27.5E-09	21.8E-09	19.4E-09	25.7E-09	26.6E-09	26.6E-09	44.5E-09	26.4E-09	44.1E-09	22.2E-09	25.2E-09
45	47.2E-09	41.2E-09	33.7E-09	21.1E-09	39.3E-09	40.5E-09	40.5E-09	67.3E-09	40.9E-09	67.2E-09	34.6E-09	37.5E-09
46	31.5E-09	28.1E-09	20.6E-09	18.1E-09	26.7E-09	27.4E-09	27.4E-09	45.7E-09	28.3E-09	46.4E-09	22.5E-09	24.5E-09
47	27.5E-09	25.5E-09	18.8E-09	24.9E-09	24.0E-09	25.2E-09	25.2E-09	42.0E-09	25.3E-09	42.9E-09	20.9E-09	21.9E-09
49	29.2E-09	26.4E-09	19.6E-09	24.4E-09	24.2E-09	24.8E-09	24.8E-09	41.5E-09	25.3E-09	43.1E-09	20.9E-09	21.5E-09
50	33.5E-09	28.3E-09	22.1E-09	21.4E-09	25.8E-09	27.1E-09	27.1E-09	45.1E-09	27.9E-09	46.5E-09	22.7E-09	23.2E-09
52	37.5E-09	28.6E-09	26.3E-09	21.0E-09	27.3E-09	27.9E-09	27.9E-09	45.3E-09	28.5E-09	47.4E-09	23.0E-09	23.3E-09
Statistics												
Min	27.5E-09	25.5E-09	18.8E-09	18.1E-09	24.0E-09	24.8E-09	24.8E-09	41.5E-09	23.9E-09	39.9E-09	20.9E-09	21.5E-09
Max	47.2E-09	41.2E-09	33.7E-09	32.4E-09	39.3E-09	40.5E-09	40.5E-09	67.3E-09	40.9E-09	67.2E-09	34.6E-09	37.5E-09
Average	35.7E-09	29.9E-09	24.0E-09	22.0E-09	28.0E-09	29.2E-09	29.2E-09	47.8E-09	28.8E-09	48.0E-09	24.2E-09	26.1E-09
Sigma	5.9E-09	4.5E-09	4.4E-09	4.1E-09	4.6E-09	4.7E-09	4.7E-09	7.6E-09	4.6E-09	7.3E-09	4.1E-09	4.8E-09

Measurements

IIH (LVCMOS33) sra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.0E-09	25.0E-09	22.5E-09	21.8E-09	25.8E-09	26.6E-09	26.6E-09	40.4E-09	27.5E-09	38.7E-09	21.1E-09	23.3E-09
OFF samples												
53	32.9E-09	24.7E-09	22.4E-09	29.3E-09	22.5E-09	21.4E-09	21.4E-09	37.3E-09	22.9E-09	38.9E-09	18.1E-09	18.4E-09
54	55.1E-09	43.6E-09	39.3E-09	18.4E-09	40.0E-09	38.5E-09	38.5E-09	61.9E-09	40.7E-09	38.8E-09	32.8E-09	33.3E-09
Statistics												
Min	32.9E-09	24.7E-09	22.4E-09	18.4E-09	22.5E-09	21.4E-09	21.4E-09	37.3E-09	22.9E-09	38.8E-09	18.1E-09	18.4E-09
Max	55.1E-09	43.6E-09	39.3E-09	29.3E-09	40.0E-09	38.5E-09	38.5E-09	61.9E-09	40.7E-09	38.9E-09	32.8E-09	33.3E-09
Average	44.0E-09	34.2E-09	30.8E-09	23.9E-09	31.2E-09	29.9E-09	29.9E-09	49.6E-09	31.8E-09	38.8E-09	25.5E-09	25.8E-09
Sigma	11.1E-09	9.5E-09	8.5E-09	5.5E-09	8.8E-09	8.6E-09	8.6E-09	12.3E-09	8.9E-09	25.0E-12	7.4E-09	7.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

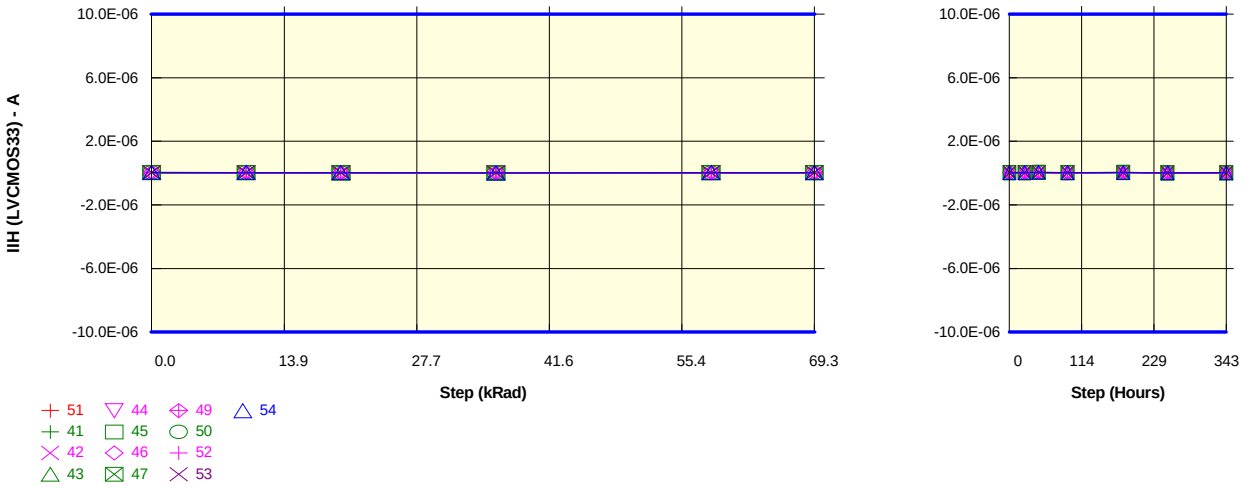
IIH (LVCMOS33)sra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	29.8E-09	24.1E-09	21.5E-09	20.9E-09	24.6E-09	25.3E-09	25.3E-09	39.1E-09	26.4E-09	37.7E-09	20.8E-09	22.2E-09
ON samples												
41	36.2E-09	26.3E-09	21.4E-09	26.5E-09	24.1E-09	24.9E-09	24.9E-09	40.1E-09	23.0E-09	38.4E-09	20.8E-09	22.6E-09
42	48.3E-09	38.6E-09	32.9E-09	18.2E-09	37.0E-09	39.4E-09	39.4E-09	60.0E-09	36.4E-09	58.5E-09	32.4E-09	36.0E-09
43	36.5E-09	29.7E-09	24.2E-09	20.5E-09	28.1E-09	29.4E-09	29.4E-09	46.8E-09	27.9E-09	46.2E-09	24.4E-09	27.1E-09
44	32.8E-09	27.9E-09	22.1E-09	20.7E-09	25.8E-09	26.8E-09	26.8E-09	43.6E-09	26.5E-09	43.4E-09	22.4E-09	25.4E-09
45	44.3E-09	38.5E-09	31.1E-09	145.5E-09	36.1E-09	36.9E-09	36.9E-09	62.7E-09	37.7E-09	62.7E-09	31.5E-09	34.1E-09
46	30.4E-09	27.4E-09	19.9E-09	17.9E-09	25.5E-09	26.5E-09	26.5E-09	43.9E-09	27.2E-09	44.6E-09	22.0E-09	23.6E-09
47	29.3E-09	27.5E-09	20.3E-09	30.3E-09	25.1E-09	26.3E-09	26.3E-09	44.3E-09	26.6E-09	45.2E-09	22.2E-09	23.1E-09
49	31.1E-09	27.9E-09	20.8E-09	22.4E-09	25.3E-09	26.1E-09	26.1E-09	43.6E-09	26.6E-09	45.4E-09	22.1E-09	22.6E-09
50	30.4E-09	25.5E-09	19.8E-09	21.0E-09	22.9E-09	24.0E-09	24.0E-09	40.0E-09	24.7E-09	41.5E-09	20.2E-09	20.5E-09
52	137.5E-09	139.0E-09	137.0E-09	18.9E-09	145.0E-09	146.5E-09	146.5E-09	148.0E-09	140.5E-09	156.0E-09	126.0E-09	135.0E-09
Statistics												
Min	29.3E-09	25.5E-09	19.8E-09	17.9E-09	22.9E-09	24.0E-09	24.0E-09	40.0E-09	23.0E-09	38.4E-09	20.2E-09	20.5E-09
Max	137.5E-09	139.0E-09	137.0E-09	145.5E-09	145.0E-09	146.5E-09	146.5E-09	148.0E-09	140.5E-09	156.0E-09	126.0E-09	135.0E-09
Average	45.7E-09	40.8E-09	34.9E-09	34.2E-09	39.5E-09	40.7E-09	40.7E-09	57.3E-09	39.7E-09	58.2E-09	34.4E-09	37.0E-09
Sigma	31.2E-09	33.0E-09	34.3E-09	37.3E-09	35.5E-09	35.6E-09	35.6E-09	31.1E-09	33.9E-09	33.4E-09	30.8E-09	33.0E-09

Measurements

IIH (LVCMOS33) sra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	29.8E-09	24.1E-09	21.5E-09	20.9E-09	24.6E-09	25.3E-09	25.3E-09	39.1E-09	26.4E-09	37.7E-09	20.8E-09	22.2E-09
OFF samples												
53	33.1E-09	24.8E-09	22.2E-09	27.1E-09	22.2E-09	21.1E-09	21.1E-09	37.3E-09	22.7E-09	38.9E-09	18.1E-09	18.0E-09
54	47.8E-09	37.2E-09	32.8E-09	20.1E-09	33.7E-09	32.4E-09	32.4E-09	54.1E-09	34.4E-09	32.6E-09	27.4E-09	27.6E-09
Statistics												
Min	33.1E-09	24.8E-09	22.2E-09	20.1E-09	22.2E-09	21.1E-09	21.1E-09	37.3E-09	22.7E-09	32.6E-09	18.1E-09	18.0E-09
Max	47.8E-09	37.2E-09	32.8E-09	27.1E-09	33.7E-09	32.4E-09	32.4E-09	54.1E-09	34.4E-09	38.9E-09	27.4E-09	27.6E-09
Average	40.4E-09	31.0E-09	27.5E-09	23.6E-09	27.9E-09	26.7E-09	26.7E-09	45.7E-09	28.5E-09	35.8E-09	22.8E-09	22.8E-09
Sigma	7.3E-09	6.2E-09	5.3E-09	3.5E-09	5.7E-09	5.7E-09	5.7E-09	8.4E-09	5.8E-09	3.2E-09	4.6E-09	4.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sra0

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

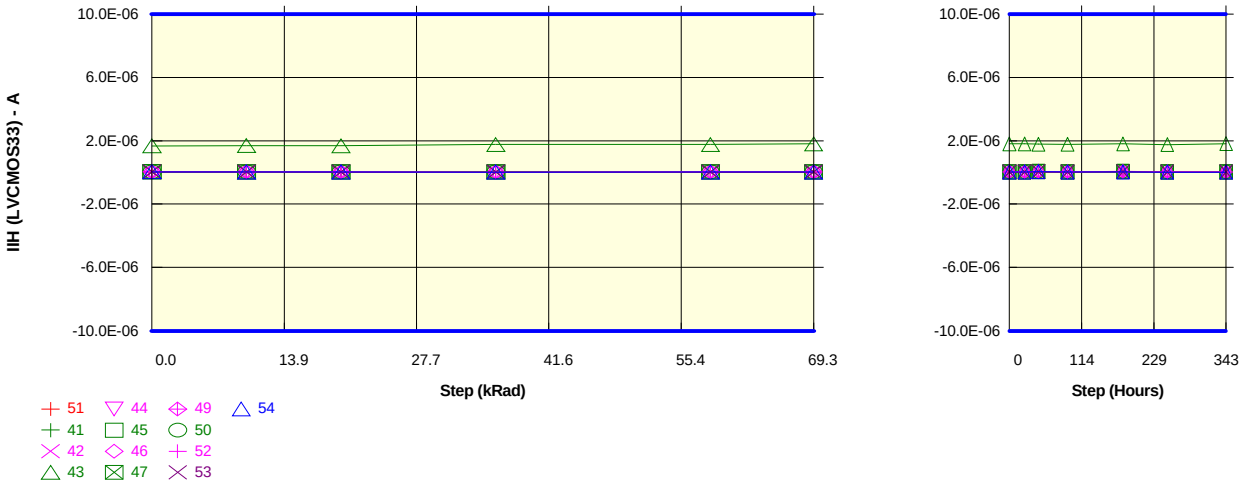
IIH (LVCMOS33) sra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	28.8E-09	22.7E-09	20.4E-09	19.2E-09	23.9E-09	24.8E-09	24.8E-09	38.2E-09	25.8E-09	36.7E-09	20.5E-09	22.1E-09
ON samples												
41	36.2E-09	26.0E-09	21.4E-09	33.1E-09	24.4E-09	25.5E-09	25.5E-09	40.8E-09	23.9E-09	39.4E-09	21.7E-09	23.5E-09
42	42.7E-09	33.4E-09	28.1E-09	23.4E-09	31.8E-09	34.1E-09	34.1E-09	55.5E-09	31.5E-09	53.5E-09	28.5E-09	31.3E-09
43	35.0E-09	28.8E-09	23.3E-09	20.5E-09	27.7E-09	29.2E-09	29.2E-09	46.3E-09	27.7E-09	45.9E-09	24.3E-09	27.0E-09
44	32.6E-09	27.7E-09	22.4E-09	20.9E-09	26.4E-09	27.5E-09	27.5E-09	44.2E-09	27.3E-09	44.1E-09	23.7E-09	26.3E-09
45	45.2E-09	38.8E-09	31.7E-09	21.3E-09	37.5E-09	38.9E-09	38.9E-09	65.6E-09	39.4E-09	65.6E-09	33.7E-09	35.9E-09
46	33.4E-09	29.3E-09	21.5E-09	18.1E-09	28.4E-09	29.4E-09	29.4E-09	49.3E-09	30.0E-09	50.0E-09	24.9E-09	26.6E-09
47	29.4E-09	27.3E-09	20.4E-09	24.4E-09	26.3E-09	27.8E-09	27.8E-09	45.3E-09	27.8E-09	46.3E-09	23.6E-09	24.5E-09
49	34.5E-09	31.7E-09	23.8E-09	21.0E-09	29.7E-09	30.5E-09	30.5E-09	49.0E-09	30.9E-09	50.6E-09	26.4E-09	26.9E-09
50	31.4E-09	26.2E-09	20.2E-09	21.7E-09	24.0E-09	25.5E-09	25.5E-09	42.7E-09	26.3E-09	44.1E-09	21.8E-09	22.0E-09
52	39.5E-09	29.7E-09	27.2E-09	19.3E-09	28.6E-09	29.4E-09	29.4E-09	48.6E-09	30.1E-09	50.9E-09	24.7E-09	24.6E-09
Statistics												
Min	29.4E-09	26.0E-09	20.2E-09	18.1E-09	24.0E-09	25.5E-09	25.5E-09	40.8E-09	23.9E-09	39.4E-09	21.7E-09	22.0E-09
Max	45.2E-09	38.8E-09	31.7E-09	33.1E-09	37.5E-09	38.9E-09	38.9E-09	65.6E-09	39.4E-09	65.6E-09	33.7E-09	35.9E-09
Average	36.0E-09	29.9E-09	24.0E-09	22.4E-09	28.5E-09	29.8E-09	29.8E-09	48.7E-09	29.5E-09	49.0E-09	25.3E-09	26.8E-09
Sigma	4.8E-09	3.7E-09	3.6E-09	4.0E-09	3.7E-09	3.9E-09	3.9E-09	6.8E-09	4.0E-09	6.8E-09	3.4E-09	3.8E-09

Measurements

IIH (LVCMOS33) sra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	28.8E-09	22.7E-09	20.4E-09	19.2E-09	23.9E-09	24.8E-09	24.8E-09	38.2E-09	25.8E-09	36.7E-09	20.5E-09	22.1E-09
OFF samples												
53	38.7E-09	29.2E-09	27.2E-09	27.2E-09	28.2E-09	26.8E-09	26.8E-09	43.8E-09	28.7E-09	45.4E-09	23.5E-09	23.8E-09
54	55.8E-09	44.0E-09	39.4E-09	23.3E-09	41.1E-09	39.8E-09	39.8E-09	62.8E-09	41.7E-09	39.9E-09	34.1E-09	34.7E-09
Statistics												
Min	38.7E-09	29.2E-09	27.2E-09	23.3E-09	28.2E-09	26.8E-09	26.8E-09	43.8E-09	28.7E-09	39.9E-09	23.5E-09	23.8E-09
Max	55.8E-09	44.0E-09	39.4E-09	27.2E-09	41.1E-09	39.8E-09	39.8E-09	62.8E-09	41.7E-09	45.4E-09	34.1E-09	34.7E-09
Average	47.2E-09	36.6E-09	33.3E-09	25.3E-09	34.7E-09	33.3E-09	33.3E-09	53.3E-09	35.2E-09	42.7E-09	28.8E-09	29.2E-09
Sigma	8.5E-09	7.4E-09	6.1E-09	2.0E-09	6.5E-09	6.5E-09	6.5E-09	9.5E-09	6.5E-09	2.8E-09	5.3E-09	5.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)en_sr

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

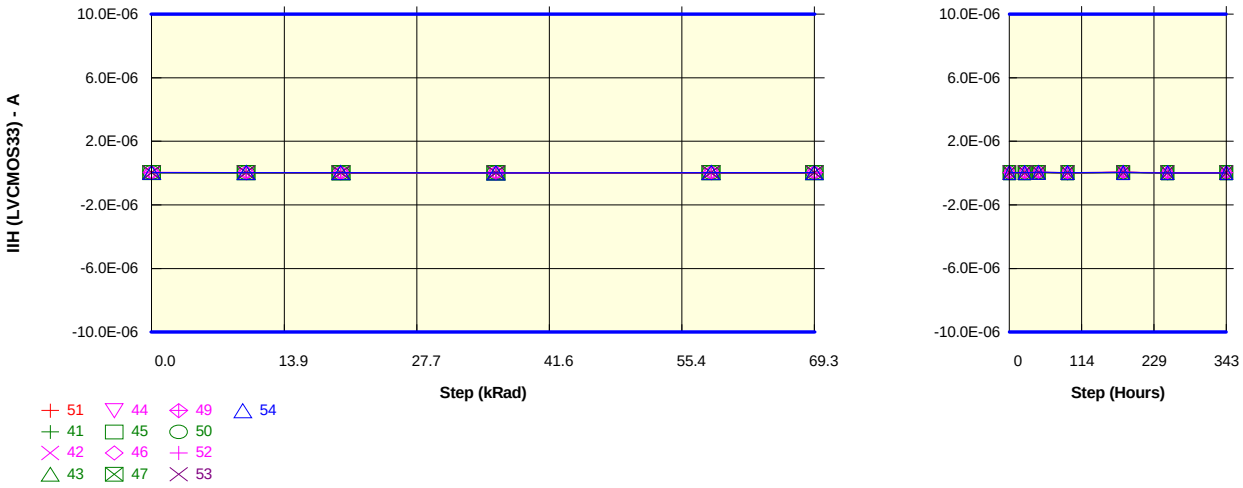
IIH (LVCMOS33)en_sr	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	38.7E-09	30.7E-09	28.0E-09	25.6E-09	32.5E-09	33.3E-09	33.3E-09	51.9E-09	34.4E-09	49.5E-09	27.2E-09	29.2E-09
ON samples												
41	42.8E-09	31.1E-09	25.7E-09	24.2E-09	28.9E-09	29.4E-09	29.4E-09	48.4E-09	27.6E-09	46.3E-09	24.9E-09	26.8E-09
42	40.7E-09	32.2E-09	26.9E-09	22.3E-09	30.4E-09	32.0E-09	32.0E-09	50.8E-09	29.5E-09	49.4E-09	26.3E-09	29.0E-09
43	1.7E-06	1.7E-06	1.7E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06
44	40.3E-09	33.5E-09	27.2E-09	24.9E-09	31.4E-09	32.4E-09	32.4E-09	54.2E-09	32.5E-09	53.4E-09	26.9E-09	30.3E-09
45	46.8E-09	39.8E-09	32.3E-09	27.9E-09	37.6E-09	38.3E-09	38.3E-09	64.7E-09	38.9E-09	64.2E-09	32.5E-09	34.9E-09
46	51.9E-09	45.4E-09	33.8E-09	20.4E-09	42.9E-09	43.7E-09	43.7E-09	74.9E-09	45.4E-09	75.4E-09	37.1E-09	39.0E-09
47	35.7E-09	32.6E-09	24.7E-09	23.5E-09	31.4E-09	32.9E-09	32.9E-09	53.8E-09	33.2E-09	55.0E-09	27.3E-09	28.7E-09
49	41.8E-09	37.1E-09	28.2E-09	23.4E-09	34.3E-09	34.5E-09	34.5E-09	58.4E-09	35.7E-09	60.1E-09	30.1E-09	30.1E-09
50	36.5E-09	30.3E-09	23.7E-09	31.9E-09	27.8E-09	28.9E-09	28.9E-09	48.9E-09	30.0E-09	50.4E-09	24.3E-09	24.5E-09
52	52.1E-09	39.0E-09	35.7E-09	21.9E-09	37.8E-09	38.1E-09	38.1E-09	62.9E-09	39.3E-09	65.5E-09	31.9E-09	31.8E-09
Statistics												
Min	35.7E-09	30.3E-09	23.7E-09	20.4E-09	27.8E-09	28.9E-09	28.9E-09	48.4E-09	27.6E-09	46.3E-09	24.3E-09	24.5E-09
Max	1.7E-06	1.7E-06	1.7E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06
Average	206.3E-09	201.1E-09	193.8E-09	198.0E-09	206.7E-09	211.0E-09	211.0E-09	229.7E-09	208.2E-09	232.0E-09	201.1E-09	208.5E-09
Sigma	489.6E-09	496.3E-09	495.4E-09	520.7E-09	519.4E-09	529.7E-09	529.7E-09	516.8E-09	520.6E-09	522.8E-09	516.3E-09	533.9E-09

Measurements

IIH (LVCMOS33)en_sr	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	38.7E-09	30.7E-09	28.0E-09	25.6E-09	32.5E-09	33.3E-09	33.3E-09	51.9E-09	34.4E-09	49.5E-09	27.2E-09	29.2E-09
OFF samples												
53	42.9E-09	31.6E-09	28.9E-09	27.7E-09	29.3E-09	28.2E-09	28.2E-09	50.2E-09	30.3E-09	51.7E-09	23.8E-09	23.8E-09
54	44.6E-09	34.6E-09	30.9E-09	25.7E-09	32.1E-09	31.0E-09	31.0E-09	51.7E-09	32.6E-09	31.0E-09	26.1E-09	26.1E-09
Statistics												
Min	42.9E-09	31.6E-09	28.9E-09	25.7E-09	29.3E-09	28.2E-09	28.2E-09	50.2E-09	30.3E-09	31.0E-09	23.8E-09	23.8E-09
Max	44.6E-09	34.6E-09	30.9E-09	27.7E-09	32.1E-09	31.0E-09	31.0E-09	51.7E-09	32.6E-09	51.7E-09	26.1E-09	26.1E-09
Average	43.7E-09	33.1E-09	29.9E-09	26.7E-09	30.7E-09	29.6E-09	29.6E-09	50.9E-09	31.4E-09	41.4E-09	25.0E-09	24.9E-09
Sigma	850.0E-12	1.5E-09	1.0E-09	1000.0E-12	1.4E-09	1.4E-09	1.4E-09	775.0E-12	1.1E-09	10.4E-09	1.1E-09	1.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)rst_s

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

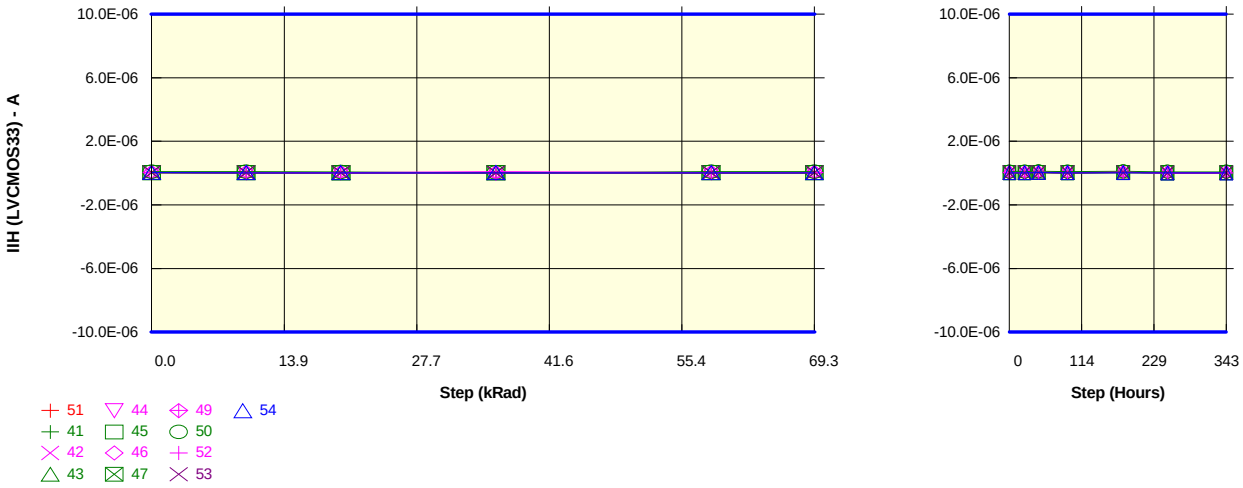
IIH (LVCMOS33) rst_s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	37.5E-09	30.5E-09	27.6E-09	24.7E-09	31.9E-09	32.1E-09	32.1E-09	50.7E-09	33.3E-09	48.2E-09	27.6E-09	28.9E-09
ON samples												
41	39.8E-09	29.4E-09	23.8E-09	31.8E-09	26.2E-09	26.8E-09	26.8E-09	43.1E-09	24.9E-09	41.8E-09	23.3E-09	24.5E-09
42	41.1E-09	33.1E-09	26.9E-09	25.2E-09	29.9E-09	31.4E-09	31.4E-09	50.6E-09	28.5E-09	48.5E-09	26.5E-09	29.3E-09
43	45.1E-09	37.4E-09	30.3E-09	24.0E-09	34.7E-09	35.5E-09	35.5E-09	56.5E-09	33.8E-09	56.4E-09	30.5E-09	33.6E-09
44	40.4E-09	35.8E-09	27.2E-09	23.0E-09	31.5E-09	32.2E-09	32.2E-09	53.6E-09	31.7E-09	52.8E-09	27.5E-09	30.9E-09
45	43.2E-09	38.1E-09	29.2E-09	32.5E-09	34.5E-09	34.5E-09	34.5E-09	58.8E-09	35.1E-09	58.7E-09	29.8E-09	32.8E-09
46	43.6E-09	38.6E-09	28.3E-09	19.3E-09	35.7E-09	36.3E-09	36.3E-09	61.5E-09	37.4E-09	62.3E-09	31.7E-09	33.6E-09
47	34.0E-09	31.2E-09	23.1E-09	23.9E-09	28.8E-09	29.8E-09	29.8E-09	50.1E-09	30.0E-09	51.2E-09	26.4E-09	26.9E-09
49	38.6E-09	35.3E-09	25.7E-09	27.3E-09	30.9E-09	31.8E-09	31.8E-09	53.5E-09	32.2E-09	55.6E-09	27.5E-09	28.1E-09
50	38.0E-09	32.5E-09	24.7E-09	28.1E-09	28.5E-09	30.0E-09	30.0E-09	49.6E-09	30.7E-09	51.3E-09	25.9E-09	26.5E-09
52	55.4E-09	42.0E-09	38.4E-09	23.5E-09	40.3E-09	40.5E-09	40.5E-09	64.0E-09	41.5E-09	67.3E-09	34.6E-09	35.2E-09
Statistics												
Min	34.0E-09	29.4E-09	23.1E-09	19.3E-09	26.2E-09	26.8E-09	26.8E-09	43.1E-09	24.9E-09	41.8E-09	23.3E-09	24.5E-09
Max	55.4E-09	42.0E-09	38.4E-09	32.5E-09	40.3E-09	40.5E-09	40.5E-09	64.0E-09	41.5E-09	67.3E-09	34.6E-09	35.2E-09
Average	41.9E-09	35.3E-09	27.7E-09	25.8E-09	32.1E-09	32.9E-09	32.9E-09	54.1E-09	32.6E-09	54.5E-09	28.4E-09	30.1E-09
Sigma	5.4E-09	3.7E-09	4.2E-09	3.9E-09	4.0E-09	3.7E-09	3.7E-09	5.9E-09	4.4E-09	6.8E-09	3.1E-09	3.4E-09

Measurements

IIH (LVCMOS33) rst_s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	37.5E-09	30.5E-09	27.6E-09	24.7E-09	31.9E-09	32.1E-09	32.1E-09	50.7E-09	33.3E-09	48.2E-09	27.6E-09	28.9E-09
OFF samples												
53	47.0E-09	36.7E-09	32.4E-09	26.1E-09	32.9E-09	31.3E-09	31.3E-09	54.8E-09	33.3E-09	56.9E-09	27.8E-09	27.6E-09
54	52.3E-09	42.3E-09	37.3E-09	23.6E-09	38.8E-09	37.5E-09	37.5E-09	59.3E-09	39.3E-09	37.7E-09	32.9E-09	33.2E-09
Statistics												
Min	47.0E-09	36.7E-09	32.4E-09	23.6E-09	32.9E-09	31.3E-09	31.3E-09	54.8E-09	33.3E-09	37.7E-09	27.8E-09	27.6E-09
Max	52.3E-09	42.3E-09	37.3E-09	26.1E-09	38.8E-09	37.5E-09	37.5E-09	59.3E-09	39.3E-09	56.9E-09	32.9E-09	33.2E-09
Average	49.6E-09	39.5E-09	34.9E-09	24.8E-09	35.8E-09	34.4E-09	34.4E-09	57.0E-09	36.3E-09	47.3E-09	30.3E-09	30.4E-09
Sigma	2.6E-09	2.8E-09	2.5E-09	1.3E-09	3.0E-09	3.1E-09	3.1E-09	2.3E-09	3.0E-09	9.6E-09	2.6E-09	2.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sdi1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

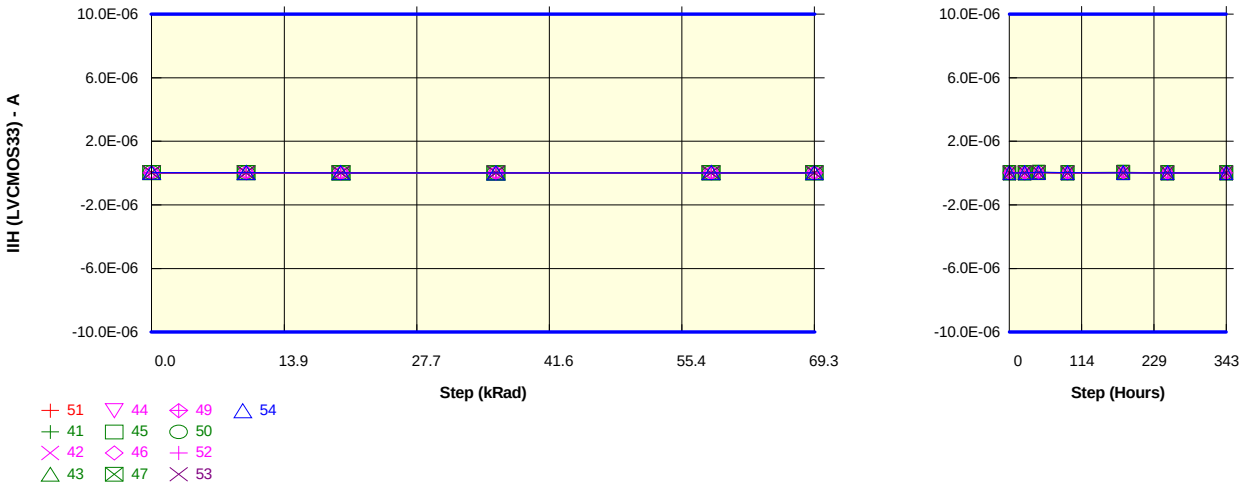
IIH (LVCMOS33)sdi1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	38.5E-09	30.7E-09	28.7E-09	25.2E-09	31.9E-09	32.8E-09	32.8E-09	51.6E-09	34.2E-09	49.6E-09	27.0E-09	29.2E-09
ON samples												
41	42.6E-09	31.3E-09	26.6E-09	23.1E-09	28.0E-09	29.1E-09	29.1E-09	48.3E-09	27.3E-09	46.3E-09	25.4E-09	26.8E-09
42	44.9E-09	35.3E-09	30.8E-09	22.6E-09	33.0E-09	35.2E-09	35.2E-09	56.1E-09	32.5E-09	54.3E-09	29.8E-09	32.3E-09
43	40.2E-09	32.4E-09	27.5E-09	22.2E-09	30.6E-09	32.0E-09	32.0E-09	51.4E-09	30.4E-09	51.1E-09	27.0E-09	29.8E-09
44	37.8E-09	32.0E-09	26.2E-09	21.5E-09	29.5E-09	30.2E-09	30.2E-09	50.7E-09	30.2E-09	50.6E-09	25.8E-09	28.8E-09
45	43.0E-09	36.9E-09	30.7E-09	26.4E-09	34.8E-09	35.6E-09	35.6E-09	60.8E-09	36.3E-09	60.7E-09	30.7E-09	32.9E-09
46	42.6E-09	37.9E-09	28.9E-09	19.9E-09	35.1E-09	36.5E-09	36.5E-09	60.9E-09	37.6E-09	62.0E-09	31.3E-09	32.8E-09
47	32.2E-09	29.5E-09	22.6E-09	25.9E-09	28.0E-09	29.0E-09	29.0E-09	48.8E-09	29.2E-09	49.7E-09	25.2E-09	25.6E-09
49	43.0E-09	38.9E-09	30.3E-09	23.3E-09	36.1E-09	37.2E-09	37.2E-09	59.2E-09	37.7E-09	61.5E-09	31.7E-09	32.4E-09
50	95.5E-09	88.1E-09	78.5E-09	27.2E-09	91.2E-09	95.0E-09	95.0E-09	109.0E-09	93.7E-09	113.5E-09	82.9E-09	87.3E-09
52	50.1E-09	37.5E-09	35.4E-09	90.2E-09	36.2E-09	36.5E-09	36.5E-09	61.4E-09	37.7E-09	64.0E-09	31.0E-09	30.7E-09
Statistics												
Min	32.2E-09	29.5E-09	22.6E-09	19.9E-09	28.0E-09	29.0E-09	29.0E-09	48.3E-09	27.3E-09	46.3E-09	25.2E-09	25.6E-09
Max	95.5E-09	88.1E-09	78.5E-09	90.2E-09	91.2E-09	95.0E-09	95.0E-09	109.0E-09	93.7E-09	113.5E-09	82.9E-09	87.3E-09
Average	47.2E-09	39.9E-09	33.7E-09	30.2E-09	38.2E-09	39.6E-09	39.6E-09	60.6E-09	39.2E-09	61.3E-09	34.1E-09	35.9E-09
Sigma	16.7E-09	16.3E-09	15.3E-09	20.1E-09	17.9E-09	18.7E-09	18.7E-09	16.9E-09	18.5E-09	18.3E-09	16.4E-09	17.3E-09

Measurements

IIH (LVCMOS33)sdi1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	38.5E-09	30.7E-09	28.7E-09	25.2E-09	31.9E-09	32.8E-09	32.8E-09	51.6E-09	34.2E-09	49.6E-09	27.0E-09	29.2E-09
OFF samples												
53	44.6E-09	33.0E-09	30.7E-09	25.0E-09	29.9E-09	28.5E-09	28.5E-09	51.2E-09	30.6E-09	53.3E-09	25.3E-09	24.6E-09
54	43.8E-09	34.1E-09	30.7E-09	27.9E-09	30.4E-09	29.2E-09	29.2E-09	49.2E-09	30.8E-09	29.4E-09	25.1E-09	24.9E-09
Statistics												
Min	43.8E-09	33.0E-09	30.7E-09	25.0E-09	29.9E-09	28.5E-09	28.5E-09	49.2E-09	30.6E-09	29.4E-09	25.1E-09	24.6E-09
Max	44.6E-09	34.1E-09	30.7E-09	27.9E-09	30.4E-09	29.2E-09	29.2E-09	51.2E-09	30.8E-09	53.3E-09	25.3E-09	24.9E-09
Average	44.2E-09	33.5E-09	30.7E-09	26.4E-09	30.2E-09	28.9E-09	28.9E-09	50.2E-09	30.7E-09	41.3E-09	25.2E-09	24.7E-09
Sigma	400.0E-12	550.0E-12	25.0E-12	1.5E-09	250.0E-12	350.0E-12	350.0E-12	975.0E-12	100.0E-12	12.0E-09	125.0E-12	175.0E-12

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sdi5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

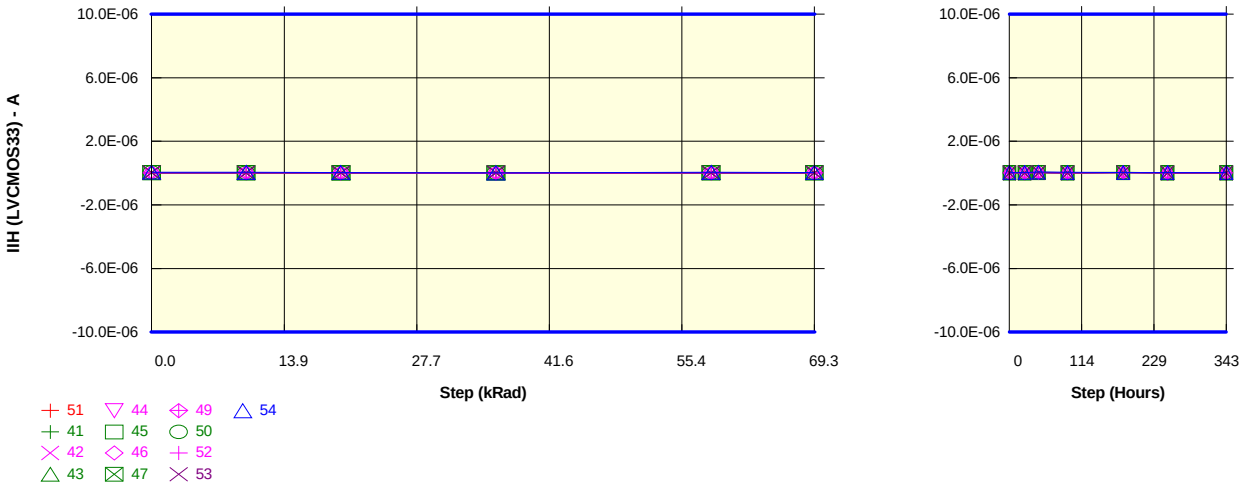
IIH (LVCMOS33) sdi5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.0E-09	25.1E-09	22.0E-09	21.0E-09	25.8E-09	26.5E-09	26.5E-09	40.5E-09	27.4E-09	38.9E-09	21.8E-09	23.5E-09
ON samples												
41	47.3E-09	33.6E-09	28.4E-09	27.2E-09	32.4E-09	33.4E-09	33.4E-09	53.3E-09	31.3E-09	51.1E-09	29.0E-09	31.1E-09
42	42.0E-09	33.5E-09	27.1E-09	18.1E-09	30.7E-09	32.6E-09	32.6E-09	52.9E-09	30.3E-09	51.0E-09	27.8E-09	30.1E-09
43	37.3E-09	31.0E-09	24.5E-09	18.7E-09	29.1E-09	30.4E-09	30.4E-09	48.6E-09	28.9E-09	48.0E-09	25.8E-09	28.4E-09
44	30.2E-09	25.6E-09	19.7E-09	19.3E-09	23.7E-09	24.4E-09	24.4E-09	40.8E-09	24.4E-09	40.6E-09	21.2E-09	23.4E-09
45	47.4E-09	40.7E-09	32.3E-09	17.8E-09	38.3E-09	39.3E-09	39.3E-09	65.5E-09	40.1E-09	65.6E-09	34.2E-09	36.6E-09
46	35.0E-09	30.9E-09	22.3E-09	24.6E-09	29.3E-09	30.2E-09	30.2E-09	51.0E-09	31.1E-09	51.7E-09	26.0E-09	27.5E-09
47	27.9E-09	26.3E-09	18.7E-09	24.4E-09	24.0E-09	25.2E-09	25.2E-09	41.7E-09	25.2E-09	42.6E-09	21.8E-09	22.3E-09
49	33.7E-09	30.2E-09	22.0E-09	22.8E-09	27.6E-09	28.3E-09	28.3E-09	47.2E-09	28.9E-09	49.1E-09	24.7E-09	24.8E-09
50	30.5E-09	26.1E-09	19.6E-09	22.2E-09	23.2E-09	24.5E-09	24.5E-09	40.8E-09	25.3E-09	42.0E-09	21.4E-09	21.5E-09
52	31.5E-09	23.7E-09	21.2E-09	19.5E-09	22.4E-09	22.8E-09	22.8E-09	37.9E-09	23.3E-09	39.5E-09	19.7E-09	19.4E-09
Statistics												
Min	27.9E-09	23.7E-09	18.7E-09	17.8E-09	22.4E-09	22.8E-09	22.8E-09	37.9E-09	23.3E-09	39.5E-09	19.7E-09	19.4E-09
Max	47.4E-09	40.7E-09	32.3E-09	27.2E-09	38.3E-09	39.3E-09	39.3E-09	65.5E-09	40.1E-09	65.6E-09	34.2E-09	36.6E-09
Average	36.2E-09	30.1E-09	23.6E-09	21.4E-09	28.0E-09	29.1E-09	29.1E-09	48.0E-09	28.9E-09	48.1E-09	25.1E-09	26.5E-09
Sigma	6.7E-09	4.8E-09	4.2E-09	3.1E-09	4.7E-09	4.9E-09	4.9E-09	7.8E-09	4.7E-09	7.3E-09	4.2E-09	5.0E-09

Measurements

IIH (LVCMOS33) sdi5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.0E-09	25.1E-09	22.0E-09	21.0E-09	25.8E-09	26.5E-09	26.5E-09	40.5E-09	27.4E-09	38.9E-09	21.8E-09	23.5E-09
OFF samples												
53	32.6E-09	24.4E-09	21.4E-09	29.6E-09	22.0E-09	20.8E-09	20.8E-09	36.6E-09	22.3E-09	38.3E-09	18.2E-09	18.1E-09
54	49.5E-09	38.3E-09	33.5E-09	21.7E-09	34.4E-09	33.1E-09	33.1E-09	56.4E-09	34.9E-09	33.4E-09	28.6E-09	28.7E-09
Statistics												
Min	32.6E-09	24.4E-09	21.4E-09	21.7E-09	22.0E-09	20.8E-09	20.8E-09	36.6E-09	22.3E-09	33.4E-09	18.2E-09	18.1E-09
Max	49.5E-09	38.3E-09	33.5E-09	29.6E-09	34.4E-09	33.1E-09	33.1E-09	56.4E-09	34.9E-09	38.3E-09	28.6E-09	28.7E-09
Average	41.1E-09	31.3E-09	27.4E-09	25.6E-09	28.2E-09	26.9E-09	26.9E-09	46.5E-09	28.6E-09	35.8E-09	23.4E-09	23.4E-09
Sigma	8.5E-09	7.0E-09	6.1E-09	3.9E-09	6.2E-09	6.1E-09	6.1E-09	9.9E-09	6.3E-09	2.4E-09	5.2E-09	5.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)sdi7

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

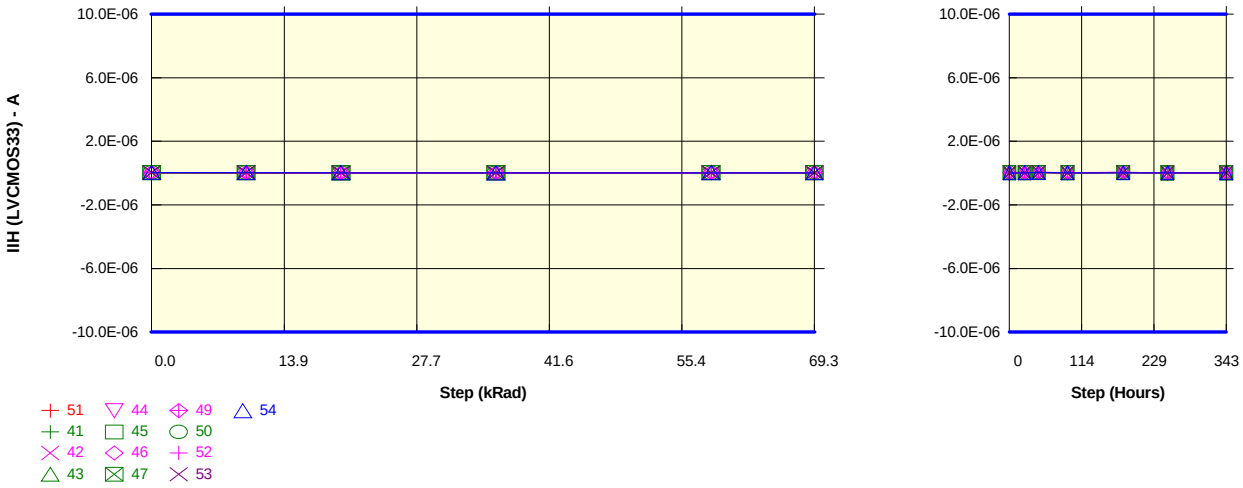
IIH (LVCMOS33) sdi7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.2E-09	24.2E-09	21.4E-09	19.8E-09	24.9E-09	25.6E-09	25.6E-09	39.4E-09	26.6E-09	37.6E-09	20.8E-09	22.8E-09
ON samples												
41	42.6E-09	30.1E-09	25.2E-09	46.8E-09	28.3E-09	29.4E-09	29.4E-09	47.8E-09	27.4E-09	45.8E-09	25.0E-09	27.1E-09
42	40.9E-09	32.1E-09	26.2E-09	17.4E-09	30.0E-09	31.9E-09	31.9E-09	51.2E-09	29.3E-09	49.5E-09	26.5E-09	29.3E-09
43	37.9E-09	31.3E-09	25.2E-09	25.9E-09	29.7E-09	31.1E-09	31.1E-09	48.1E-09	29.5E-09	47.5E-09	25.9E-09	28.9E-09
44	38.4E-09	32.1E-09	25.6E-09	18.5E-09	29.7E-09	30.0E-09	30.0E-09	44.6E-09	29.5E-09	44.3E-09	24.9E-09	28.1E-09
45	43.2E-09	37.6E-09	30.2E-09	18.5E-09	35.7E-09	36.7E-09	36.7E-09	59.8E-09	37.1E-09	60.0E-09	31.6E-09	34.0E-09
46	31.9E-09	28.2E-09	20.6E-09	20.7E-09	27.8E-09	29.1E-09	29.1E-09	45.7E-09	29.4E-09	46.3E-09	24.2E-09	26.1E-09
47	26.8E-09	25.0E-09	18.0E-09	23.9E-09	23.2E-09	24.3E-09	24.3E-09	40.8E-09	24.6E-09	41.4E-09	20.4E-09	21.3E-09
49	30.6E-09	27.2E-09	19.9E-09	23.6E-09	24.9E-09	25.8E-09	25.8E-09	43.2E-09	26.5E-09	45.0E-09	22.1E-09	22.5E-09
50	27.1E-09	22.4E-09	16.9E-09	22.2E-09	20.2E-09	21.4E-09	21.4E-09	36.1E-09	21.9E-09	37.3E-09	18.3E-09	18.4E-09
52	33.1E-09	24.7E-09	22.2E-09	16.3E-09	23.5E-09	23.9E-09	23.9E-09	39.5E-09	24.6E-09	41.7E-09	20.2E-09	20.2E-09
Statistics												
Min	26.8E-09	22.4E-09	16.9E-09	16.3E-09	20.2E-09	21.4E-09	21.4E-09	36.1E-09	21.9E-09	37.3E-09	18.3E-09	18.4E-09
Max	43.2E-09	37.6E-09	30.2E-09	46.8E-09	35.7E-09	36.7E-09	36.7E-09	59.8E-09	37.1E-09	60.0E-09	31.6E-09	34.0E-09
Average	35.2E-09	29.1E-09	23.0E-09	23.4E-09	27.3E-09	28.3E-09	28.3E-09	45.7E-09	28.0E-09	45.9E-09	23.9E-09	25.6E-09
Sigma	5.9E-09	4.3E-09	4.0E-09	8.4E-09	4.2E-09	4.3E-09	4.3E-09	6.3E-09	3.9E-09	5.7E-09	3.6E-09	4.6E-09

Measurements

IIH (LVCMOS33) sdi7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	30.2E-09	24.2E-09	21.4E-09	19.8E-09	24.9E-09	25.6E-09	25.6E-09	39.4E-09	26.6E-09	37.6E-09	20.8E-09	22.8E-09
OFF samples												
53	32.6E-09	23.8E-09	21.1E-09	27.5E-09	21.5E-09	20.3E-09	20.3E-09	36.2E-09	21.9E-09	37.7E-09	17.5E-09	17.6E-09
54	67.4E-09	55.8E-09	51.0E-09	19.1E-09	53.3E-09	51.7E-09	51.7E-09	73.6E-09	53.7E-09	51.6E-09	44.8E-09	46.5E-09
Statistics												
Min	32.6E-09	23.8E-09	21.1E-09	19.1E-09	21.5E-09	20.3E-09	20.3E-09	36.2E-09	21.9E-09	37.7E-09	17.5E-09	17.6E-09
Max	67.4E-09	55.8E-09	51.0E-09	27.5E-09	53.3E-09	51.7E-09	51.7E-09	73.6E-09	53.7E-09	51.6E-09	44.8E-09	46.5E-09
Average	50.0E-09	39.8E-09	36.0E-09	23.3E-09	37.4E-09	36.0E-09	36.0E-09	54.9E-09	37.8E-09	44.7E-09	31.1E-09	32.0E-09
Sigma	17.4E-09	16.0E-09	14.9E-09	4.2E-09	15.9E-09	15.7E-09	15.7E-09	18.7E-09	15.9E-09	7.0E-09	13.6E-09	14.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra6

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

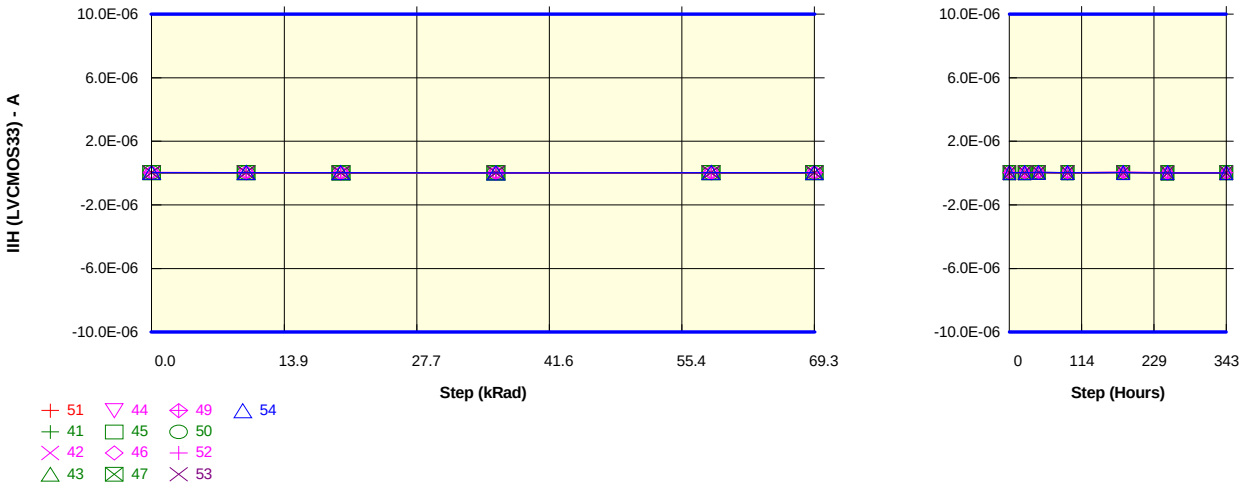
IIH (LVCMOS33) ufra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.5E-09	27.1E-09	23.6E-09	23.2E-09	27.9E-09	28.6E-09	28.6E-09	44.2E-09	29.9E-09	42.4E-09	23.4E-09	25.0E-09
ON samples												
41	39.0E-09	28.1E-09	22.6E-09	25.5E-09	25.7E-09	26.3E-09	26.3E-09	41.5E-09	24.4E-09	39.6E-09	21.9E-09	24.1E-09
42	43.4E-09	35.1E-09	29.7E-09	19.1E-09	33.2E-09	34.8E-09	34.8E-09	51.6E-09	32.3E-09	50.0E-09	29.3E-09	31.7E-09
43	34.8E-09	28.4E-09	22.4E-09	19.9E-09	26.7E-09	28.0E-09	28.0E-09	42.9E-09	26.0E-09	42.4E-09	22.7E-09	25.4E-09
44	33.5E-09	28.0E-09	21.8E-09	21.2E-09	26.2E-09	26.7E-09	26.7E-09	43.6E-09	26.5E-09	43.3E-09	22.4E-09	25.1E-09
45	39.3E-09	33.9E-09	26.5E-09	25.6E-09	31.4E-09	31.8E-09	31.8E-09	52.9E-09	32.4E-09	52.5E-09	27.0E-09	29.3E-09
46	33.5E-09	29.5E-09	20.9E-09	19.5E-09	27.6E-09	28.1E-09	28.1E-09	45.9E-09	28.8E-09	46.4E-09	23.3E-09	25.1E-09
47	31.2E-09	29.0E-09	20.9E-09	27.1E-09	26.9E-09	28.1E-09	28.1E-09	46.3E-09	28.2E-09	47.0E-09	23.3E-09	24.5E-09
49	34.6E-09	30.4E-09	22.2E-09	20.9E-09	27.6E-09	27.9E-09	27.9E-09	46.6E-09	28.5E-09	48.3E-09	23.6E-09	24.0E-09
50	33.6E-09	27.5E-09	21.0E-09	21.9E-09	24.7E-09	25.8E-09	25.8E-09	42.9E-09	26.5E-09	44.2E-09	21.5E-09	21.9E-09
52	48.3E-09	35.9E-09	32.1E-09	19.7E-09	34.1E-09	34.6E-09	34.6E-09	56.3E-09	35.2E-09	58.6E-09	28.5E-09	28.7E-09
Statistics												
Min	31.2E-09	27.5E-09	20.9E-09	19.1E-09	24.7E-09	25.8E-09	25.8E-09	41.5E-09	24.4E-09	39.6E-09	21.5E-09	21.9E-09
Max	48.3E-09	35.9E-09	32.1E-09	27.1E-09	34.1E-09	34.8E-09	34.8E-09	56.3E-09	35.2E-09	58.6E-09	29.3E-09	31.7E-09
Average	37.1E-09	30.6E-09	24.0E-09	22.0E-09	28.4E-09	29.2E-09	29.2E-09	47.0E-09	28.9E-09	47.2E-09	24.3E-09	26.0E-09
Sigma	5.1E-09	3.0E-09	3.8E-09	2.8E-09	3.1E-09	3.2E-09	3.2E-09	4.7E-09	3.2E-09	5.2E-09	2.7E-09	2.8E-09

Measurements

IIH (LVCMOS33) ufra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.5E-09	27.1E-09	23.6E-09	23.2E-09	27.9E-09	28.6E-09	28.6E-09	44.2E-09	29.9E-09	42.4E-09	23.4E-09	25.0E-09
OFF samples												
53	36.1E-09	26.4E-09	23.6E-09	23.6E-09	24.4E-09	23.3E-09	23.3E-09	40.5E-09	25.1E-09	41.9E-09	19.8E-09	20.0E-09
54	45.7E-09	35.8E-09	31.4E-09	20.7E-09	33.6E-09	32.0E-09	32.0E-09	53.1E-09	33.8E-09	32.4E-09	27.4E-09	27.5E-09
Statistics												
Min	36.1E-09	26.4E-09	23.6E-09	20.7E-09	24.4E-09	23.3E-09	23.3E-09	40.5E-09	25.1E-09	32.4E-09	19.8E-09	20.0E-09
Max	45.7E-09	35.8E-09	31.4E-09	23.6E-09	33.6E-09	32.0E-09	32.0E-09	53.1E-09	33.8E-09	41.9E-09	27.4E-09	27.5E-09
Average	40.9E-09	31.1E-09	27.5E-09	22.2E-09	29.0E-09	27.6E-09	27.6E-09	46.8E-09	29.4E-09	37.2E-09	23.6E-09	23.8E-09
Sigma	4.8E-09	4.7E-09	3.9E-09	1.5E-09	4.6E-09	4.3E-09	4.3E-09	6.3E-09	4.4E-09	4.7E-09	3.8E-09	3.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

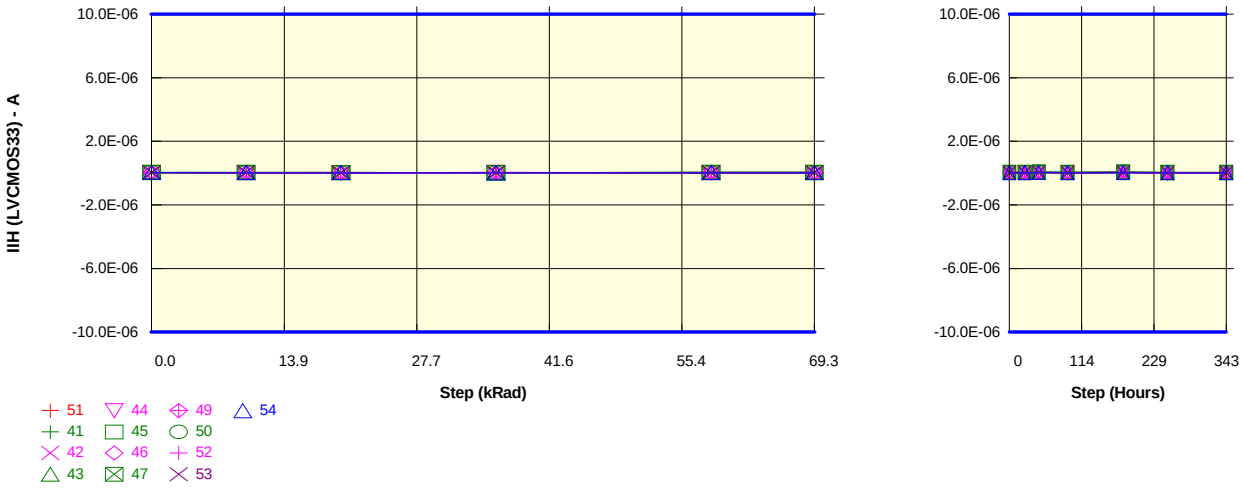
IIH (LVCMOS33) ufra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.9E-09	25.9E-09	23.5E-09	22.3E-09	28.1E-09	28.8E-09	28.8E-09	44.3E-09	30.3E-09	42.9E-09	22.6E-09	25.3E-09
ON samples												
41	39.7E-09	28.2E-09	23.2E-09	28.5E-09	26.3E-09	27.7E-09	27.7E-09	43.6E-09	25.3E-09	41.9E-09	22.0E-09	24.7E-09
42	41.6E-09	32.4E-09	27.4E-09	20.6E-09	31.2E-09	33.2E-09	33.2E-09	51.3E-09	30.6E-09	49.6E-09	26.5E-09	30.2E-09
43	37.1E-09	30.0E-09	24.5E-09	20.3E-09	28.7E-09	30.7E-09	30.7E-09	47.0E-09	28.6E-09	46.6E-09	24.4E-09	27.7E-09
44	33.3E-09	27.6E-09	21.9E-09	23.3E-09	26.3E-09	27.2E-09	27.2E-09	44.9E-09	27.1E-09	44.6E-09	22.2E-09	26.0E-09
45	41.4E-09	35.4E-09	28.5E-09	39.6E-09	34.0E-09	34.9E-09	34.9E-09	56.5E-09	35.3E-09	56.4E-09	28.9E-09	31.7E-09
46	31.8E-09	28.1E-09	20.3E-09	19.6E-09	26.7E-09	27.6E-09	27.6E-09	45.3E-09	28.4E-09	46.2E-09	22.2E-09	24.6E-09
47	33.9E-09	30.8E-09	22.9E-09	25.0E-09	29.0E-09	30.2E-09	30.2E-09	50.5E-09	31.1E-09	51.2E-09	24.9E-09	26.7E-09
49	34.2E-09	30.6E-09	22.9E-09	22.9E-09	29.0E-09	29.3E-09	29.3E-09	46.2E-09	30.3E-09	47.8E-09	24.2E-09	25.5E-09
50	31.8E-09	26.3E-09	20.7E-09	21.5E-09	24.3E-09	25.9E-09	25.9E-09	40.9E-09	26.3E-09	42.9E-09	21.3E-09	21.8E-09
52	61.4E-09	47.2E-09	44.4E-09	20.1E-09	47.4E-09	48.0E-09	48.0E-09	70.0E-09	48.7E-09	73.3E-09	39.6E-09	41.3E-09
Statistics												
Min	31.8E-09	26.3E-09	20.3E-09	19.6E-09	24.3E-09	25.9E-09	25.9E-09	40.9E-09	25.3E-09	41.9E-09	21.3E-09	21.8E-09
Max	61.4E-09	47.2E-09	44.4E-09	39.6E-09	47.4E-09	48.0E-09	48.0E-09	70.0E-09	48.7E-09	73.3E-09	39.6E-09	41.3E-09
Average	38.6E-09	31.6E-09	25.6E-09	24.1E-09	30.3E-09	31.5E-09	31.5E-09	49.6E-09	31.1E-09	50.0E-09	25.6E-09	28.0E-09
Sigma	8.4E-09	5.8E-09	6.7E-09	5.8E-09	6.3E-09	6.1E-09	6.1E-09	8.0E-09	6.4E-09	8.7E-09	5.2E-09	5.2E-09

Measurements

IIH (LVCMOS33) ufra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.9E-09	25.9E-09	23.5E-09	22.3E-09	28.1E-09	28.8E-09	28.8E-09	44.3E-09	30.3E-09	42.9E-09	22.6E-09	25.3E-09
OFF samples												
53	38.1E-09	28.0E-09	25.3E-09	26.5E-09	25.9E-09	24.6E-09	24.6E-09	43.4E-09	26.9E-09	45.7E-09	20.9E-09	21.2E-09
54	49.2E-09	38.8E-09	34.6E-09	23.3E-09	36.6E-09	35.6E-09	35.6E-09	57.0E-09	37.6E-09	35.8E-09	29.3E-09	30.4E-09
Statistics												
Min	38.1E-09	28.0E-09	25.3E-09	23.3E-09	25.9E-09	24.6E-09	24.6E-09	43.4E-09	26.9E-09	35.8E-09	20.9E-09	21.2E-09
Max	49.2E-09	38.8E-09	34.6E-09	26.5E-09	36.6E-09	35.6E-09	35.6E-09	57.0E-09	37.6E-09	45.7E-09	29.3E-09	30.4E-09
Average	43.7E-09	33.4E-09	30.0E-09	24.9E-09	31.3E-09	30.1E-09	30.1E-09	50.2E-09	32.2E-09	40.7E-09	25.1E-09	25.8E-09
Sigma	5.6E-09	5.4E-09	4.7E-09	1.6E-09	5.4E-09	5.5E-09	5.5E-09	6.8E-09	5.3E-09	5.0E-09	4.2E-09	4.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra4

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

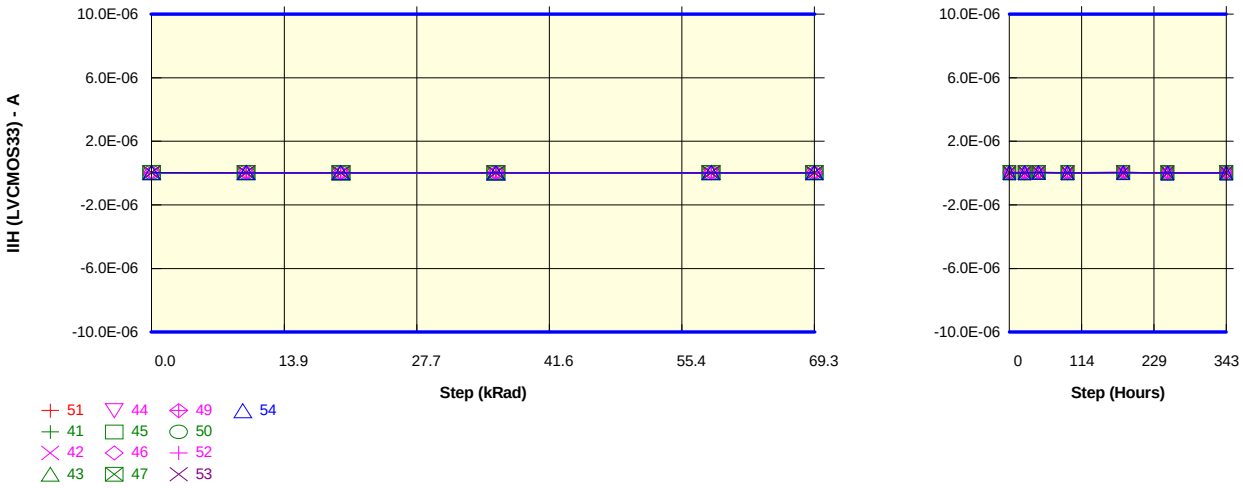
IIH (LVCMOS33) ufra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.0E-09	26.2E-09	23.7E-09	22.4E-09	28.0E-09	28.7E-09	28.7E-09	43.8E-09	29.7E-09	42.2E-09	23.3E-09	25.2E-09
ON samples												
41	37.7E-09	26.7E-09	22.1E-09	24.1E-09	25.3E-09	26.3E-09	26.3E-09	40.5E-09	24.1E-09	38.8E-09	21.8E-09	24.0E-09
42	38.6E-09	29.9E-09	24.7E-09	19.3E-09	28.1E-09	29.7E-09	29.7E-09	47.3E-09	27.2E-09	45.9E-09	24.4E-09	26.9E-09
43	38.0E-09	31.1E-09	25.5E-09	19.0E-09	29.9E-09	31.2E-09	31.2E-09	47.6E-09	29.4E-09	46.8E-09	25.6E-09	28.8E-09
44	30.5E-09	25.5E-09	20.3E-09	66.6E-09	24.5E-09	25.3E-09	25.3E-09	40.6E-09	24.6E-09	40.2E-09	20.9E-09	23.7E-09
45	48.5E-09	43.1E-09	35.8E-09	26.1E-09	43.6E-09	44.5E-09	44.5E-09	63.0E-09	44.2E-09	63.0E-09	37.3E-09	41.0E-09
46	34.5E-09	30.2E-09	21.9E-09	19.7E-09	28.7E-09	29.3E-09	29.3E-09	48.1E-09	29.8E-09	48.8E-09	24.3E-09	26.1E-09
47	67.3E-09	68.2E-09	57.2E-09	21.8E-09	70.7E-09	73.2E-09	73.2E-09	88.6E-09	71.7E-09	90.2E-09	63.9E-09	67.4E-09
49	35.0E-09	30.6E-09	22.6E-09	23.7E-09	28.0E-09	28.5E-09	28.5E-09	47.9E-09	28.9E-09	49.6E-09	24.2E-09	24.7E-09
50	31.2E-09	25.8E-09	19.8E-09	22.3E-09	23.9E-09	24.7E-09	24.7E-09	40.1E-09	25.3E-09	41.5E-09	20.6E-09	21.4E-09
52	48.9E-09	36.1E-09	33.0E-09	19.6E-09	34.9E-09	35.5E-09	35.5E-09	58.6E-09	36.1E-09	60.8E-09	29.3E-09	29.7E-09
Statistics												
Min	30.5E-09	25.5E-09	19.8E-09	19.0E-09	23.9E-09	24.7E-09	24.7E-09	40.1E-09	24.1E-09	38.8E-09	20.6E-09	21.4E-09
Max	67.3E-09	68.2E-09	57.2E-09	66.6E-09	70.7E-09	73.2E-09	73.2E-09	88.6E-09	71.7E-09	90.2E-09	63.9E-09	67.4E-09
Average	41.0E-09	34.7E-09	28.3E-09	26.2E-09	33.7E-09	34.8E-09	34.8E-09	52.2E-09	34.1E-09	52.5E-09	29.2E-09	31.3E-09
Sigma	10.6E-09	12.2E-09	10.9E-09	13.7E-09	13.5E-09	13.9E-09	13.9E-09	14.1E-09	13.8E-09	14.7E-09	12.4E-09	13.1E-09

Measurements

IIH (LVCMOS33) ufra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.0E-09	26.2E-09	23.7E-09	22.4E-09	28.0E-09	28.7E-09	28.7E-09	43.8E-09	29.7E-09	42.2E-09	23.3E-09	25.2E-09
OFF samples												
53	36.6E-09	26.6E-09	24.3E-09	37.2E-09	24.8E-09	23.5E-09	23.5E-09	41.1E-09	25.2E-09	42.7E-09	20.1E-09	20.1E-09
54	43.8E-09	34.1E-09	30.1E-09	21.2E-09	31.6E-09	30.3E-09	30.3E-09	50.3E-09	31.9E-09	30.5E-09	25.7E-09	26.0E-09
Statistics												
Min	36.6E-09	26.6E-09	24.3E-09	21.2E-09	24.8E-09	23.5E-09	23.5E-09	41.1E-09	25.2E-09	30.5E-09	20.1E-09	20.1E-09
Max	43.8E-09	34.1E-09	30.1E-09	37.2E-09	31.6E-09	30.3E-09	30.3E-09	50.3E-09	31.9E-09	42.7E-09	25.7E-09	26.0E-09
Average	40.2E-09	30.3E-09	27.2E-09	29.2E-09	28.2E-09	26.9E-09	26.9E-09	45.7E-09	28.6E-09	36.6E-09	22.9E-09	23.0E-09
Sigma	3.6E-09	3.8E-09	2.9E-09	8.0E-09	3.4E-09	3.4E-09	3.4E-09	4.6E-09	3.4E-09	6.1E-09	2.8E-09	3.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra3

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

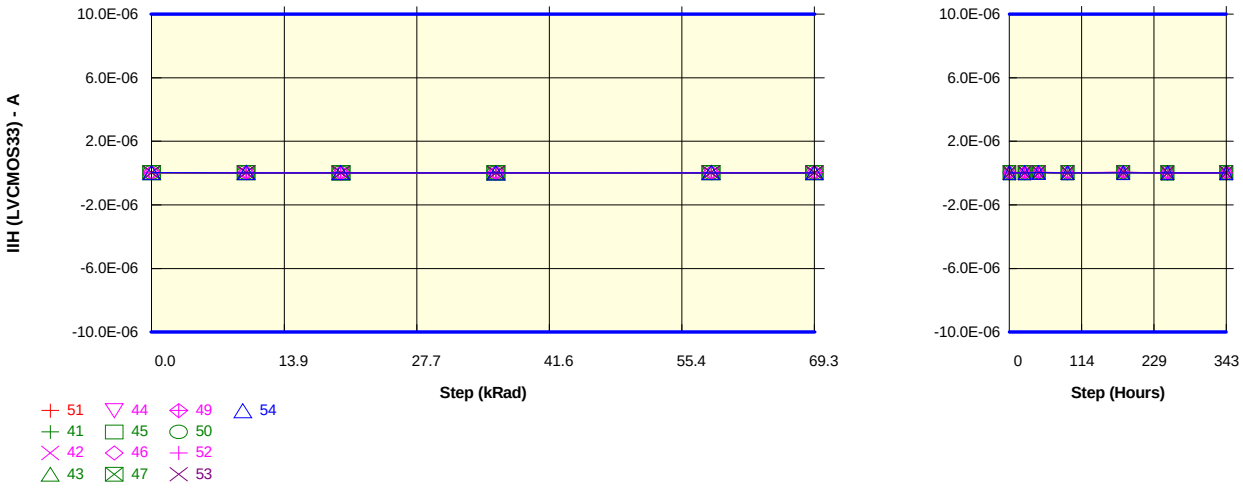
IIH (LVCMOS33) ufra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.8E-09	25.8E-09	23.3E-09	22.0E-09	27.5E-09	28.4E-09	28.4E-09	43.0E-09	29.3E-09	41.3E-09	22.8E-09	24.9E-09
ON samples												
41	34.1E-09	24.3E-09	19.7E-09	23.9E-09	22.5E-09	23.3E-09	23.3E-09	36.8E-09	21.4E-09	35.3E-09	19.5E-09	21.5E-09
42	37.7E-09	29.2E-09	24.2E-09	19.3E-09	27.5E-09	29.4E-09	29.4E-09	46.7E-09	26.9E-09	45.2E-09	24.1E-09	26.9E-09
43	37.9E-09	30.5E-09	24.7E-09	19.8E-09	29.2E-09	30.7E-09	30.7E-09	48.1E-09	28.6E-09	47.3E-09	25.1E-09	28.5E-09
44	32.4E-09	27.0E-09	21.2E-09	23.7E-09	25.4E-09	26.2E-09	26.2E-09	43.1E-09	25.8E-09	42.7E-09	22.1E-09	25.0E-09
45	42.5E-09	36.6E-09	29.2E-09	26.4E-09	35.4E-09	36.2E-09	36.2E-09	57.3E-09	36.5E-09	57.4E-09	30.7E-09	33.5E-09
46	34.1E-09	29.8E-09	21.5E-09	17.2E-09	28.4E-09	29.3E-09	29.3E-09	48.5E-09	29.9E-09	49.1E-09	24.4E-09	26.4E-09
47	33.6E-09	31.3E-09	22.9E-09	21.9E-09	29.4E-09	30.7E-09	30.7E-09	50.5E-09	30.7E-09	51.6E-09	25.4E-09	27.1E-09
49	37.8E-09	33.2E-09	24.6E-09	22.7E-09	30.3E-09	31.0E-09	31.0E-09	52.6E-09	31.7E-09	54.5E-09	26.3E-09	27.1E-09
50	32.5E-09	26.7E-09	20.5E-09	22.3E-09	24.6E-09	25.7E-09	25.7E-09	42.0E-09	26.2E-09	43.5E-09	21.5E-09	22.1E-09
52	49.8E-09	36.8E-09	33.7E-09	20.1E-09	35.5E-09	36.3E-09	36.3E-09	60.6E-09	37.0E-09	63.0E-09	30.4E-09	30.4E-09
Statistics												
Min	32.4E-09	24.3E-09	19.7E-09	17.2E-09	22.5E-09	23.3E-09	23.3E-09	36.8E-09	21.4E-09	35.3E-09	19.5E-09	21.5E-09
Max	49.8E-09	36.8E-09	33.7E-09	26.4E-09	35.5E-09	36.3E-09	36.3E-09	60.6E-09	37.0E-09	63.0E-09	30.7E-09	33.5E-09
Average	37.2E-09	30.5E-09	24.2E-09	21.7E-09	28.8E-09	29.9E-09	29.9E-09	48.6E-09	29.5E-09	48.9E-09	24.9E-09	26.8E-09
Sigma	5.2E-09	3.9E-09	4.1E-09	2.5E-09	4.0E-09	4.0E-09	4.0E-09	6.8E-09	4.6E-09	7.6E-09	3.4E-09	3.4E-09

Measurements

IIH (LVCMOS33) ufra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.8E-09	25.8E-09	23.3E-09	22.0E-09	27.5E-09	28.4E-09	28.4E-09	43.0E-09	29.3E-09	41.3E-09	22.8E-09	24.9E-09
OFF samples												
53	35.7E-09	26.3E-09	23.7E-09	28.2E-09	24.3E-09	22.9E-09	22.9E-09	40.4E-09	24.7E-09	42.1E-09	19.7E-09	20.0E-09
54	42.6E-09	32.9E-09	29.0E-09	22.8E-09	30.1E-09	28.8E-09	28.8E-09	47.9E-09	30.5E-09	29.1E-09	24.5E-09	24.8E-09
Statistics												
Min	35.7E-09	26.3E-09	23.7E-09	22.8E-09	24.3E-09	22.9E-09	22.9E-09	40.4E-09	24.7E-09	29.1E-09	19.7E-09	20.0E-09
Max	42.6E-09	32.9E-09	29.0E-09	28.2E-09	30.1E-09	28.8E-09	28.8E-09	47.9E-09	30.5E-09	42.1E-09	24.5E-09	24.8E-09
Average	39.2E-09	29.6E-09	26.4E-09	25.5E-09	27.2E-09	25.9E-09	25.9E-09	44.1E-09	27.6E-09	35.6E-09	22.1E-09	22.4E-09
Sigma	3.4E-09	3.3E-09	2.7E-09	2.7E-09	2.9E-09	2.9E-09	2.9E-09	3.8E-09	2.9E-09	6.5E-09	2.4E-09	2.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra2

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

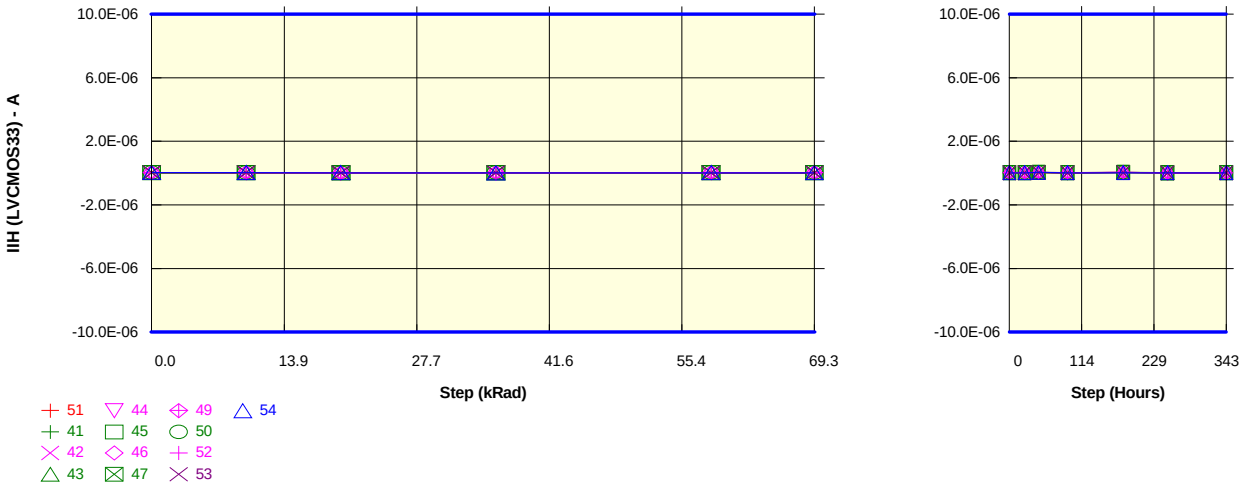
IIH (LVCMOS33) ufra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.1E-09	26.6E-09	23.8E-09	22.6E-09	28.4E-09	29.0E-09	29.0E-09	43.6E-09	29.9E-09	42.0E-09	23.8E-09	25.7E-09
ON samples												
41	35.8E-09	25.5E-09	21.1E-09	24.9E-09	24.3E-09	25.2E-09	25.2E-09	39.7E-09	23.1E-09	38.1E-09	21.2E-09	23.2E-09
42	41.2E-09	32.1E-09	26.9E-09	20.5E-09	30.6E-09	32.5E-09	32.5E-09	52.5E-09	29.7E-09	50.6E-09	27.0E-09	29.6E-09
43	37.5E-09	30.6E-09	24.8E-09	22.1E-09	29.9E-09	31.2E-09	31.2E-09	48.4E-09	29.2E-09	47.9E-09	25.7E-09	28.6E-09
44	35.8E-09	30.3E-09	24.2E-09	22.6E-09	29.3E-09	29.7E-09	29.7E-09	48.5E-09	29.3E-09	48.0E-09	25.1E-09	28.5E-09
45	39.2E-09	33.7E-09	26.8E-09	26.2E-09	32.2E-09	33.1E-09	33.1E-09	55.2E-09	33.3E-09	55.1E-09	28.5E-09	30.4E-09
46	34.6E-09	30.6E-09	22.2E-09	17.9E-09	29.3E-09	30.3E-09	30.3E-09	49.5E-09	30.7E-09	50.3E-09	25.0E-09	27.0E-09
47	31.9E-09	29.5E-09	21.9E-09	23.3E-09	28.3E-09	29.5E-09	29.5E-09	48.3E-09	29.5E-09	49.1E-09	24.9E-09	26.0E-09
49	37.8E-09	33.4E-09	25.0E-09	22.7E-09	31.1E-09	31.8E-09	31.8E-09	52.8E-09	32.5E-09	54.7E-09	27.2E-09	27.8E-09
50	34.7E-09	29.0E-09	22.4E-09	23.1E-09	27.0E-09	28.1E-09	28.1E-09	46.3E-09	28.7E-09	47.6E-09	23.5E-09	24.3E-09
52	48.3E-09	36.0E-09	33.0E-09	21.8E-09	35.2E-09	35.8E-09	35.8E-09	58.6E-09	36.4E-09	60.9E-09	30.1E-09	30.2E-09
Statistics												
Min	31.9E-09	25.5E-09	21.1E-09	17.9E-09	24.3E-09	25.2E-09	25.2E-09	39.7E-09	23.1E-09	38.1E-09	21.2E-09	23.2E-09
Max	48.3E-09	36.0E-09	33.0E-09	26.2E-09	35.2E-09	35.8E-09	35.8E-09	58.6E-09	36.4E-09	60.9E-09	30.1E-09	30.4E-09
Average	37.7E-09	31.0E-09	24.8E-09	22.5E-09	29.7E-09	30.7E-09	30.7E-09	50.0E-09	30.2E-09	50.2E-09	25.8E-09	27.6E-09
Sigma	4.3E-09	2.8E-09	3.3E-09	2.1E-09	2.8E-09	2.8E-09	2.8E-09	4.9E-09	3.3E-09	5.7E-09	2.4E-09	2.3E-09

Measurements

IIH (LVCMOS33)ufra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.1E-09	26.6E-09	23.8E-09	22.6E-09	28.4E-09	29.0E-09	29.0E-09	43.6E-09	29.9E-09	42.0E-09	23.8E-09	25.7E-09
OFF samples												
53	37.4E-09	27.7E-09	25.1E-09	24.1E-09	25.8E-09	24.4E-09	24.4E-09	41.9E-09	26.0E-09	43.5E-09	21.1E-09	21.0E-09
54	43.2E-09	33.9E-09	30.0E-09	23.7E-09	31.6E-09	30.2E-09	30.2E-09	49.1E-09	31.6E-09	30.4E-09	25.7E-09	26.2E-09
Statistics												
Min	37.4E-09	27.7E-09	25.1E-09	23.7E-09	25.8E-09	24.4E-09	24.4E-09	41.9E-09	26.0E-09	30.4E-09	21.1E-09	21.0E-09
Max	43.2E-09	33.9E-09	30.0E-09	24.1E-09	31.6E-09	30.2E-09	30.2E-09	49.1E-09	31.6E-09	43.5E-09	25.7E-09	26.2E-09
Average	40.3E-09	30.8E-09	27.5E-09	23.9E-09	28.7E-09	27.3E-09	27.3E-09	45.5E-09	28.8E-09	36.9E-09	23.4E-09	23.6E-09
Sigma	2.9E-09	3.1E-09	2.4E-09	225.0E-12	2.9E-09	2.9E-09	2.9E-09	3.6E-09	2.8E-09	6.6E-09	2.3E-09	2.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

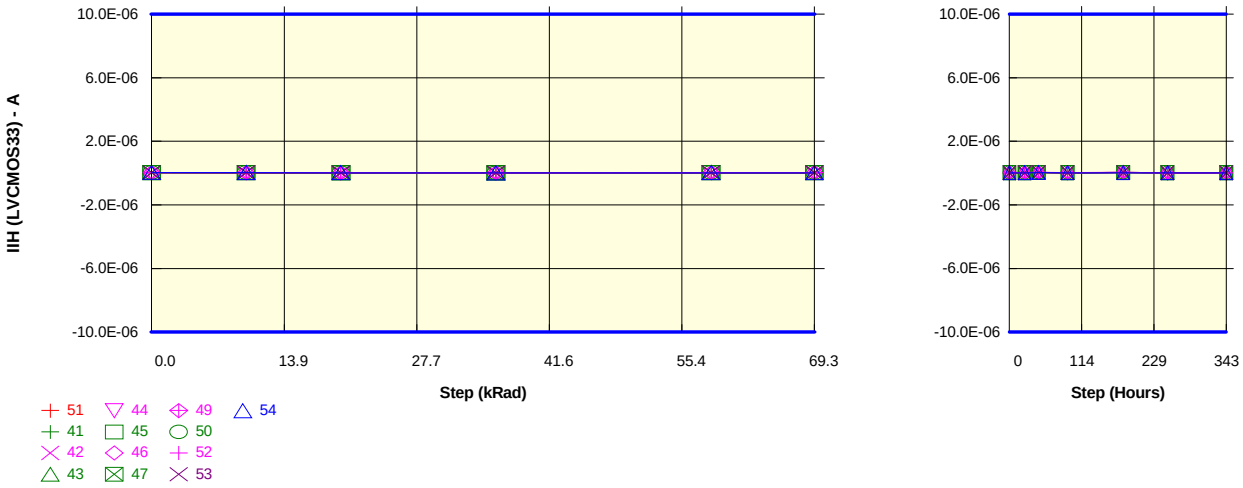
IIH (LVCMOS33) ufra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.4E-09	25.6E-09	23.0E-09	21.9E-09	27.2E-09	27.8E-09	27.8E-09	42.2E-09	29.0E-09	40.6E-09	22.6E-09	24.7E-09
ON samples												
41	36.6E-09	26.1E-09	21.3E-09	26.4E-09	24.5E-09	25.4E-09	25.4E-09	40.5E-09	23.5E-09	39.0E-09	21.4E-09	23.5E-09
42	45.4E-09	35.8E-09	29.6E-09	19.6E-09	33.7E-09	35.7E-09	35.7E-09	58.2E-09	33.0E-09	56.3E-09	29.8E-09	32.9E-09
43	39.2E-09	31.9E-09	25.9E-09	21.5E-09	30.8E-09	32.2E-09	32.2E-09	50.6E-09	30.3E-09	49.8E-09	26.5E-09	30.0E-09
44	34.9E-09	29.0E-09	22.9E-09	23.7E-09	27.9E-09	28.7E-09	28.7E-09	47.9E-09	28.4E-09	47.3E-09	24.5E-09	27.5E-09
45	45.2E-09	40.0E-09	32.6E-09	27.2E-09	39.7E-09	41.0E-09	41.0E-09	62.9E-09	41.2E-09	62.8E-09	35.1E-09	38.5E-09
46	37.2E-09	33.4E-09	24.4E-09	18.7E-09	32.4E-09	33.3E-09	33.3E-09	52.3E-09	33.8E-09	53.2E-09	27.6E-09	30.2E-09
47	32.7E-09	30.3E-09	22.3E-09	26.1E-09	28.9E-09	30.3E-09	30.3E-09	49.3E-09	30.3E-09	50.3E-09	25.3E-09	26.9E-09
49	34.7E-09	31.0E-09	23.0E-09	24.4E-09	28.7E-09	29.2E-09	29.2E-09	48.5E-09	29.8E-09	50.5E-09	24.9E-09	25.7E-09
50	34.2E-09	28.5E-09	21.9E-09	26.9E-09	26.3E-09	27.5E-09	27.5E-09	45.2E-09	28.1E-09	46.7E-09	23.2E-09	23.8E-09
52	49.9E-09	37.4E-09	34.1E-09	21.7E-09	36.2E-09	37.0E-09	37.0E-09	61.4E-09	37.8E-09	63.8E-09	31.1E-09	31.1E-09
Statistics												
Min	32.7E-09	26.1E-09	21.3E-09	18.7E-09	24.5E-09	25.4E-09	25.4E-09	40.5E-09	23.5E-09	39.0E-09	21.4E-09	23.5E-09
Max	49.9E-09	40.0E-09	34.1E-09	27.2E-09	39.7E-09	41.0E-09	41.0E-09	62.9E-09	41.2E-09	63.8E-09	35.1E-09	38.5E-09
Average	39.0E-09	32.3E-09	25.8E-09	23.6E-09	30.9E-09	32.0E-09	32.0E-09	51.7E-09	31.6E-09	51.9E-09	26.9E-09	29.0E-09
Sigma	5.5E-09	4.1E-09	4.4E-09	2.9E-09	4.4E-09	4.5E-09	4.5E-09	6.8E-09	4.8E-09	7.1E-09	3.9E-09	4.3E-09

Measurements

IIH (LVCMOS33) ufra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	32.4E-09	25.6E-09	23.0E-09	21.9E-09	27.2E-09	27.8E-09	27.8E-09	42.2E-09	29.0E-09	40.6E-09	22.6E-09	24.7E-09
OFF samples												
53	36.4E-09	26.7E-09	24.0E-09	32.4E-09	24.5E-09	23.1E-09	23.1E-09	40.5E-09	24.8E-09	42.3E-09	19.9E-09	20.2E-09
54	46.9E-09	36.8E-09	32.4E-09	22.0E-09	33.6E-09	32.1E-09	32.1E-09	53.5E-09	34.0E-09	32.5E-09	27.5E-09	27.8E-09
Statistics												
Min	36.4E-09	26.7E-09	24.0E-09	22.0E-09	24.5E-09	23.1E-09	23.1E-09	40.5E-09	24.8E-09	32.5E-09	19.9E-09	20.2E-09
Max	46.9E-09	36.8E-09	32.4E-09	32.4E-09	33.6E-09	32.1E-09	32.1E-09	53.5E-09	34.0E-09	42.3E-09	27.5E-09	27.8E-09
Average	41.7E-09	31.7E-09	28.2E-09	27.2E-09	29.0E-09	27.6E-09	27.6E-09	47.0E-09	29.4E-09	37.4E-09	23.7E-09	24.0E-09
Sigma	5.2E-09	5.0E-09	4.2E-09	5.2E-09	4.5E-09	4.5E-09	4.5E-09	6.5E-09	4.6E-09	4.9E-09	3.8E-09	3.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufra0

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

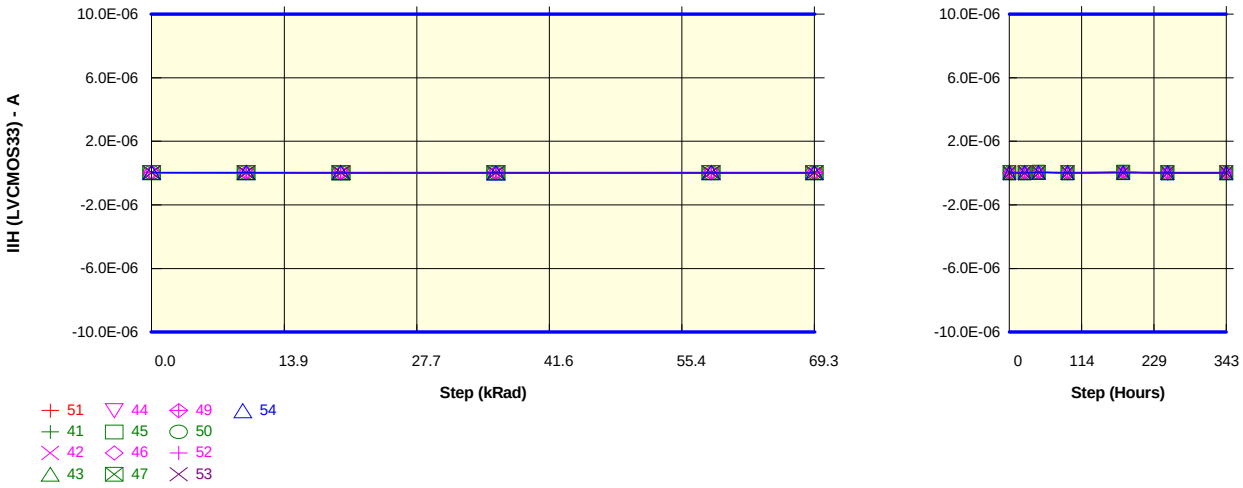
IIH (LVCMOS33) ufra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.7E-09	25.4E-09	22.7E-09	22.3E-09	27.1E-09	27.8E-09	27.8E-09	42.1E-09	28.5E-09	40.5E-09	23.0E-09	24.4E-09
ON samples												
41	37.2E-09	27.3E-09	22.4E-09	24.6E-09	26.1E-09	27.1E-09	27.1E-09	42.5E-09	24.7E-09	40.7E-09	23.0E-09	24.9E-09
42	39.3E-09	31.1E-09	26.1E-09	20.7E-09	30.1E-09	32.0E-09	32.0E-09	51.2E-09	29.1E-09	49.8E-09	26.5E-09	29.4E-09
43	37.7E-09	31.5E-09	25.5E-09	25.1E-09	30.6E-09	32.1E-09	32.1E-09	49.9E-09	29.8E-09	49.1E-09	26.7E-09	29.8E-09
44	37.0E-09	31.8E-09	25.8E-09	23.1E-09	31.6E-09	32.5E-09	32.5E-09	50.8E-09	31.9E-09	50.4E-09	27.5E-09	31.4E-09
45	38.4E-09	33.7E-09	26.8E-09	28.4E-09	32.7E-09	33.6E-09	33.6E-09	54.6E-09	33.6E-09	54.5E-09	28.6E-09	31.0E-09
46	34.3E-09	30.5E-09	22.3E-09	19.2E-09	30.2E-09	30.9E-09	30.9E-09	50.7E-09	31.2E-09	51.3E-09	25.8E-09	27.8E-09
47	32.9E-09	30.6E-09	22.7E-09	23.3E-09	29.5E-09	30.4E-09	30.4E-09	50.8E-09	30.5E-09	51.7E-09	25.9E-09	27.2E-09
49	37.7E-09	34.2E-09	25.6E-09	23.5E-09	32.1E-09	32.7E-09	32.7E-09	54.5E-09	33.2E-09	56.4E-09	28.2E-09	28.8E-09
50	34.6E-09	29.2E-09	22.5E-09	23.7E-09	27.3E-09	28.3E-09	28.3E-09	47.0E-09	29.0E-09	48.5E-09	24.2E-09	24.9E-09
52	49.6E-09	37.7E-09	34.8E-09	21.8E-09	37.5E-09	37.7E-09	37.7E-09	61.7E-09	38.3E-09	63.8E-09	31.7E-09	32.3E-09
Statistics												
Min	32.9E-09	27.3E-09	22.3E-09	19.2E-09	26.1E-09	27.1E-09	27.1E-09	42.5E-09	24.7E-09	40.7E-09	23.0E-09	24.9E-09
Max	49.6E-09	37.7E-09	34.8E-09	28.4E-09	37.5E-09	37.7E-09	37.7E-09	61.7E-09	38.3E-09	63.8E-09	31.7E-09	32.3E-09
Average	37.9E-09	31.7E-09	25.4E-09	23.3E-09	30.8E-09	31.7E-09	31.7E-09	51.4E-09	31.1E-09	51.6E-09	26.8E-09	28.7E-09
Sigma	4.4E-09	2.7E-09	3.5E-09	2.4E-09	3.0E-09	2.8E-09	2.8E-09	4.8E-09	3.4E-09	5.7E-09	2.3E-09	2.4E-09

Measurements

IIH (LVCMOS33)ufra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	31.7E-09	25.4E-09	22.7E-09	22.3E-09	27.1E-09	27.8E-09	27.8E-09	42.1E-09	28.5E-09	40.5E-09	23.0E-09	24.4E-09
OFF samples												
53	38.0E-09	28.0E-09	25.5E-09	25.3E-09	26.2E-09	24.6E-09	24.6E-09	43.3E-09	26.2E-09	44.9E-09	21.5E-09	21.3E-09
54	44.6E-09	34.6E-09	30.5E-09	24.2E-09	32.2E-09	30.7E-09	30.7E-09	51.0E-09	32.0E-09	30.8E-09	26.5E-09	26.6E-09
Statistics												
Min	38.0E-09	28.0E-09	25.5E-09	24.2E-09	26.2E-09	24.6E-09	24.6E-09	43.3E-09	26.2E-09	30.8E-09	21.5E-09	21.3E-09
Max	44.6E-09	34.6E-09	30.5E-09	25.3E-09	32.2E-09	30.7E-09	30.7E-09	51.0E-09	32.0E-09	44.9E-09	26.5E-09	26.6E-09
Average	41.3E-09	31.3E-09	28.0E-09	24.8E-09	29.2E-09	27.6E-09	27.6E-09	47.1E-09	29.1E-09	37.8E-09	24.0E-09	24.0E-09
Sigma	3.3E-09	3.3E-09	2.5E-09	550.0E-12	3.0E-09	3.0E-09	3.0E-09	3.8E-09	2.9E-09	7.1E-09	2.5E-09	2.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)ufrck

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

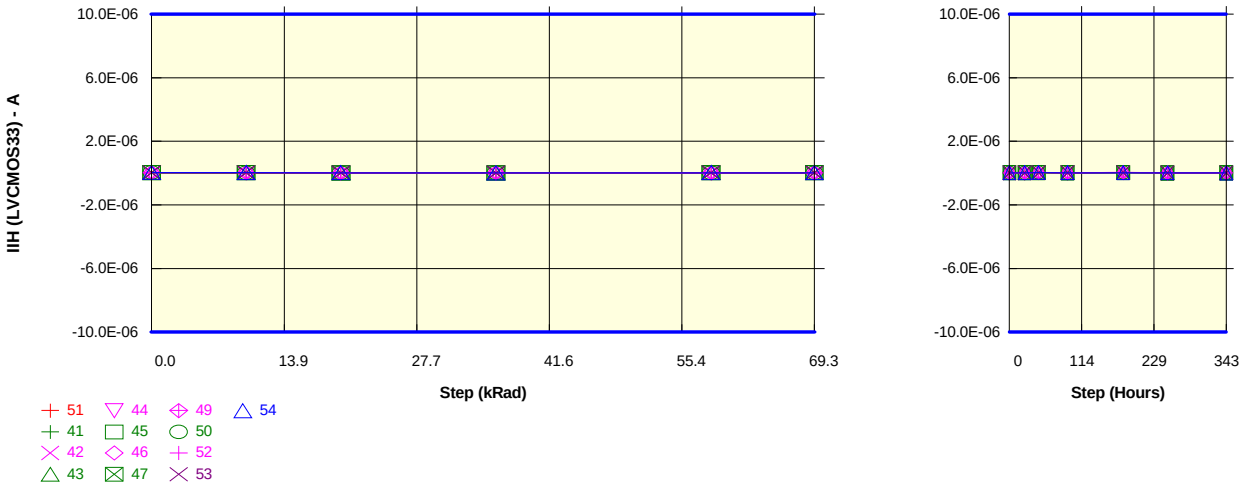
IIH (LVCMOS33) ufrck	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	67.1E-09	57.3E-09	54.3E-09	54.8E-09	62.9E-09	64.0E-09	64.0E-09	77.4E-09	65.6E-09	76.0E-09	53.2E-09	58.6E-09
ON samples												
41	36.5E-09	26.6E-09	21.9E-09	26.4E-09	25.3E-09	26.3E-09	26.3E-09	42.1E-09	24.4E-09	40.2E-09	22.3E-09	24.4E-09
42	43.6E-09	34.6E-09	28.7E-09	21.3E-09	33.2E-09	35.2E-09	35.2E-09	57.5E-09	32.5E-09	55.6E-09	29.5E-09	32.5E-09
43	40.9E-09	34.2E-09	28.1E-09	20.9E-09	33.7E-09	35.4E-09	35.4E-09	54.0E-09	33.4E-09	53.4E-09	29.5E-09	33.0E-09
44	32.7E-09	27.9E-09	22.4E-09	24.5E-09	26.8E-09	27.7E-09	27.7E-09	45.8E-09	27.4E-09	45.6E-09	23.4E-09	26.7E-09
45	42.7E-09	37.7E-09	30.3E-09	27.9E-09	37.0E-09	37.9E-09	37.9E-09	62.3E-09	38.3E-09	62.1E-09	32.5E-09	35.2E-09
46	36.7E-09	33.0E-09	24.0E-09	19.1E-09	32.1E-09	33.1E-09	33.1E-09	54.2E-09	33.6E-09	55.1E-09	27.7E-09	30.0E-09
47	34.7E-09	32.4E-09	23.9E-09	25.5E-09	30.7E-09	32.2E-09	32.2E-09	53.8E-09	32.5E-09	54.9E-09	27.4E-09	28.7E-09
49	37.9E-09	34.3E-09	25.7E-09	26.9E-09	32.0E-09	32.7E-09	32.7E-09	55.4E-09	33.5E-09	57.3E-09	28.2E-09	28.8E-09
50	31.1E-09	26.3E-09	20.1E-09	25.6E-09	24.4E-09	25.7E-09	25.7E-09	42.8E-09	26.2E-09	44.2E-09	21.8E-09	22.3E-09
52	50.4E-09	38.8E-09	35.6E-09	19.9E-09	38.0E-09	38.8E-09	38.8E-09	65.1E-09	39.6E-09	67.7E-09	33.0E-09	32.9E-09
Statistics												
Min	31.1E-09	26.3E-09	20.1E-09	19.1E-09	24.4E-09	25.7E-09	25.7E-09	42.1E-09	24.4E-09	40.2E-09	21.8E-09	22.3E-09
Max	50.4E-09	38.8E-09	35.6E-09	27.9E-09	38.0E-09	38.8E-09	38.8E-09	65.1E-09	39.6E-09	67.7E-09	33.0E-09	35.2E-09
Average	38.7E-09	32.6E-09	26.0E-09	23.8E-09	31.3E-09	32.5E-09	32.5E-09	53.3E-09	32.1E-09	53.6E-09	27.5E-09	29.4E-09
Sigma	5.5E-09	4.1E-09	4.4E-09	3.0E-09	4.4E-09	4.4E-09	4.4E-09	7.3E-09	4.7E-09	7.9E-09	3.7E-09	3.9E-09

Measurements

IIH (LVCMOS33) ufrck	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	67.1E-09	57.3E-09	54.3E-09	54.8E-09	62.9E-09	64.0E-09	64.0E-09	77.4E-09	65.6E-09	76.0E-09	53.2E-09	58.6E-09
OFF samples												
53	39.1E-09	28.9E-09	25.8E-09	28.2E-09	26.5E-09	25.0E-09	25.0E-09	43.9E-09	26.8E-09	45.9E-09	21.5E-09	21.7E-09
54	46.8E-09	36.5E-09	32.0E-09	24.5E-09	33.2E-09	31.9E-09	31.9E-09	53.5E-09	33.7E-09	32.2E-09	27.3E-09	27.7E-09
Statistics												
Min	39.1E-09	28.9E-09	25.8E-09	24.5E-09	26.5E-09	25.0E-09	25.0E-09	43.9E-09	26.8E-09	32.2E-09	21.5E-09	21.7E-09
Max	46.8E-09	36.5E-09	32.0E-09	28.2E-09	33.2E-09	31.9E-09	31.9E-09	53.5E-09	33.7E-09	45.9E-09	27.3E-09	27.7E-09
Average	42.9E-09	32.7E-09	28.9E-09	26.3E-09	29.8E-09	28.4E-09	28.4E-09	48.7E-09	30.3E-09	39.0E-09	24.4E-09	24.7E-09
Sigma	3.9E-09	3.8E-09	3.1E-09	1.9E-09	3.4E-09	3.5E-09	3.5E-09	4.8E-09	3.5E-09	6.8E-09	2.9E-09	3.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS33)FF

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

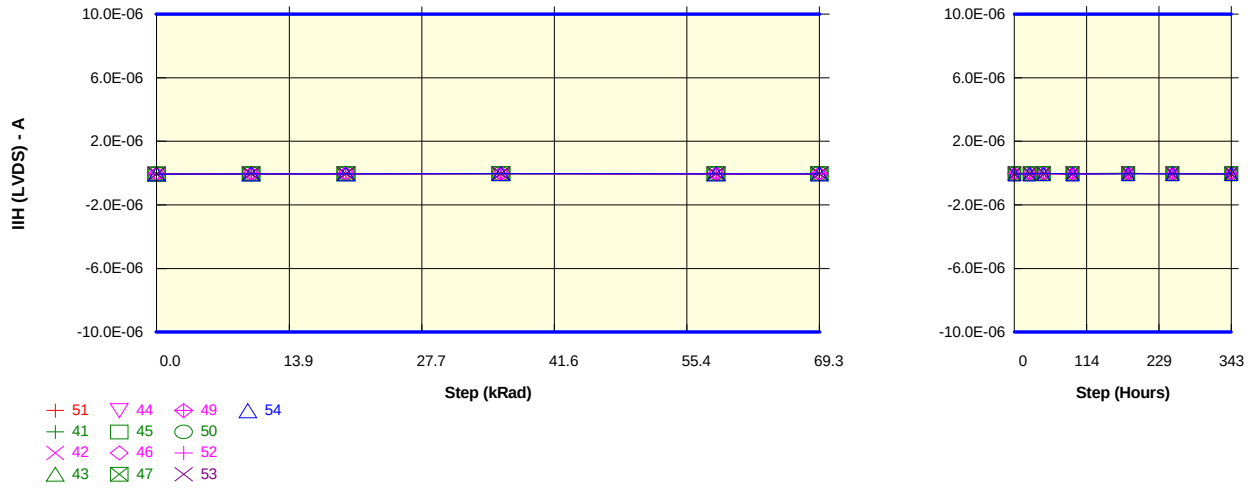
IIH (LVCMOS33) FF	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.6E-09	26.7E-09	23.7E-09	22.9E-09	27.9E-09	28.7E-09	28.7E-09	44.0E-09	29.8E-09	42.1E-09	23.8E-09	25.2E-09
ON samples												
41	35.6E-09	24.7E-09	19.8E-09	24.0E-09	21.7E-09	21.7E-09	21.7E-09	34.1E-09	20.1E-09	32.5E-09	18.2E-09	19.3E-09
42	41.9E-09	32.1E-09	26.0E-09	20.5E-09	28.3E-09	29.5E-09	29.5E-09	46.9E-09	27.0E-09	45.2E-09	24.1E-09	26.3E-09
43	36.3E-09	29.0E-09	22.8E-09	20.1E-09	26.2E-09	26.7E-09	26.7E-09	41.0E-09	25.0E-09	40.4E-09	21.6E-09	24.0E-09
44	33.9E-09	27.8E-09	21.4E-09	20.8E-09	24.7E-09	24.9E-09	24.9E-09	40.6E-09	24.6E-09	40.3E-09	20.7E-09	23.3E-09
45	39.4E-09	32.9E-09	25.3E-09	25.2E-09	29.0E-09	29.0E-09	29.0E-09	48.1E-09	29.5E-09	47.8E-09	24.5E-09	26.1E-09
46	33.8E-09	29.1E-09	20.3E-09	17.5E-09	25.6E-09	25.9E-09	25.9E-09	42.2E-09	26.4E-09	43.0E-09	21.3E-09	22.7E-09
47	31.8E-09	28.6E-09	20.5E-09	23.1E-09	25.6E-09	26.2E-09	26.2E-09	42.7E-09	26.3E-09	43.6E-09	21.7E-09	22.7E-09
49	34.2E-09	29.5E-09	21.1E-09	21.1E-09	25.4E-09	25.4E-09	25.4E-09	41.5E-09	26.0E-09	43.0E-09	21.3E-09	21.5E-09
50	30.9E-09	25.0E-09	18.5E-09	20.8E-09	21.8E-09	22.3E-09	22.3E-09	36.1E-09	22.8E-09	37.4E-09	18.6E-09	18.9E-09
52	50.2E-09	36.4E-09	32.4E-09	18.7E-09	32.6E-09	32.2E-09	32.2E-09	53.6E-09	33.0E-09	56.0E-09	26.6E-09	26.5E-09
Statistics												
Min	30.9E-09	24.7E-09	18.5E-09	17.5E-09	21.7E-09	21.7E-09	21.7E-09	34.1E-09	20.1E-09	32.5E-09	18.2E-09	18.9E-09
Max	50.2E-09	36.4E-09	32.4E-09	25.2E-09	32.6E-09	32.2E-09	32.2E-09	53.6E-09	33.0E-09	56.0E-09	26.6E-09	26.5E-09
Average	36.8E-09	29.5E-09	22.8E-09	21.2E-09	26.1E-09	26.4E-09	26.4E-09	42.7E-09	26.0E-09	42.9E-09	21.8E-09	23.1E-09
Sigma	5.5E-09	3.4E-09	3.9E-09	2.2E-09	3.1E-09	3.0E-09	3.0E-09	5.4E-09	3.3E-09	5.9E-09	2.5E-09	2.6E-09

Measurements

IIH (LVCMOS33) FF	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	33.6E-09	26.7E-09	23.7E-09	22.9E-09	27.9E-09	28.7E-09	28.7E-09	44.0E-09	29.8E-09	42.1E-09	23.8E-09	25.2E-09
OFF samples												
53	38.8E-09	28.2E-09	25.4E-09	22.8E-09	25.8E-09	24.5E-09	24.5E-09	43.1E-09	26.2E-09	44.9E-09	21.2E-09	21.0E-09
54	44.8E-09	34.5E-09	30.1E-09	20.2E-09	31.0E-09	29.9E-09	29.9E-09	50.4E-09	31.5E-09	30.0E-09	25.4E-09	25.3E-09
Statistics												
Min	38.8E-09	28.2E-09	25.4E-09	20.2E-09	25.8E-09	24.5E-09	24.5E-09	43.1E-09	26.2E-09	30.0E-09	21.2E-09	21.0E-09
Max	44.8E-09	34.5E-09	30.1E-09	22.8E-09	31.0E-09	29.9E-09	29.9E-09	50.4E-09	31.5E-09	44.9E-09	25.4E-09	25.3E-09
Average	41.8E-09	31.3E-09	27.7E-09	21.5E-09	28.4E-09	27.2E-09	27.2E-09	46.7E-09	28.8E-09	37.5E-09	23.3E-09	23.1E-09
Sigma	3.0E-09	3.1E-09	2.4E-09	1.3E-09	2.6E-09	2.7E-09	2.7E-09	3.6E-09	2.7E-09	7.5E-09	2.1E-09	2.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)srckn

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

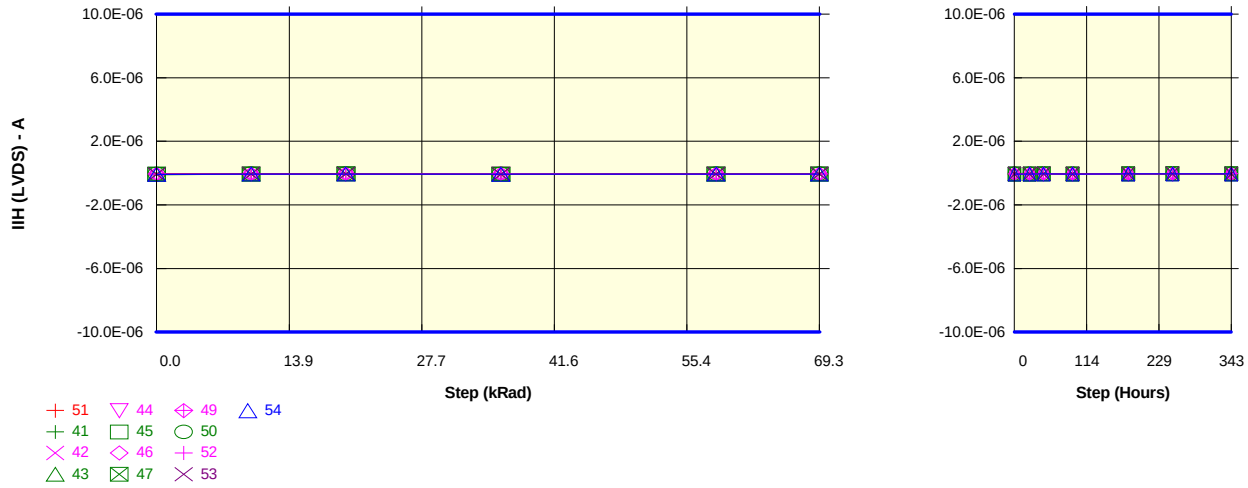
IIH (LVDS)srckn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-43.2E-09	-34.7E-09	-29.4E-09	-32.8E-09	-43.3E-09	-41.9E-09	-41.9E-09	-30.4E-09	-44.7E-09	-28.1E-09	-29.9E-09	-40.7E-09
ON samples												
41	-76.1E-09	-55.5E-09	-49.6E-09	-42.6E-09	-33.3E-09	-40.6E-09	-40.6E-09	-36.2E-09	-32.7E-09	-16.3E-09	-39.5E-09	-49.8E-09
42	-53.5E-09	-40.9E-09	-38.3E-09	-33.2E-09	-39.5E-09	-40.7E-09	-40.7E-09	-21.6E-09	-39.1E-09	-19.8E-09	-32.0E-09	-29.2E-09
43	-50.4E-09	-40.3E-09	-34.9E-09	-35.5E-09	-32.3E-09	-38.8E-09	-38.8E-09	-23.6E-09	-35.8E-09	-29.2E-09	-32.1E-09	-38.3E-09
44	-55.1E-09	-43.7E-09	-38.4E-09	-34.0E-09	-44.0E-09	-42.0E-09	-42.0E-09	-30.9E-09	-43.8E-09	-32.4E-09	-36.3E-09	-42.1E-09
45	-57.5E-09	-47.8E-09	-44.0E-09	-23.9E-09	-43.9E-09	-45.6E-09	-45.6E-09	-34.6E-09	-41.3E-09	-30.6E-09	-39.0E-09	-44.4E-09
46	-56.3E-09	-47.7E-09	-39.7E-09	-31.2E-09	-46.9E-09	-46.5E-09	-46.5E-09	-35.2E-09	-47.1E-09	-35.4E-09	-39.5E-09	-45.3E-09
47	-49.3E-09	-41.5E-09	-35.2E-09	-30.6E-09	-36.8E-09	-34.9E-09	-34.9E-09	-24.6E-09	-30.4E-09	-31.1E-09	-31.5E-09	-41.2E-09
49	-54.7E-09	-44.4E-09	-39.8E-09	-34.8E-09	-40.7E-09	-37.9E-09	-37.9E-09	-29.1E-09	-37.9E-09	-28.0E-09	-33.0E-09	-38.1E-09
50	-40.4E-09	-30.8E-09	-22.7E-09	-29.7E-09	-27.8E-09	-28.7E-09	-28.7E-09	-20.6E-09	-29.8E-09	-22.8E-09	-25.2E-09	-28.6E-09
52	-44.3E-09	-33.2E-09	-33.7E-09	-25.1E-09	-31.3E-09	-30.8E-09	-30.8E-09	-21.7E-09	-28.9E-09	-24.6E-09	-25.7E-09	-28.7E-09
Statistics												
Min	-76.1E-09	-55.5E-09	-49.6E-09	-42.6E-09	-46.9E-09	-46.5E-09	-46.5E-09	-36.2E-09	-47.1E-09	-35.4E-09	-39.5E-09	-49.8E-09
Max	-40.4E-09	-30.8E-09	-22.7E-09	-23.9E-09	-27.8E-09	-28.7E-09	-28.7E-09	-20.6E-09	-28.9E-09	-16.3E-09	-25.2E-09	-28.6E-09
Average	-53.8E-09	-42.6E-09	-37.6E-09	-32.0E-09	-37.6E-09	-38.6E-09	-38.6E-09	-27.8E-09	-36.7E-09	-27.0E-09	-33.4E-09	-38.5E-09
Sigma	9.1E-09	6.8E-09	6.7E-09	5.1E-09	6.0E-09	5.5E-09	5.5E-09	5.8E-09	5.9E-09	5.7E-09	5.0E-09	7.1E-09

Measurements

IIH (LVDS)srckn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-43.2E-09	-34.7E-09	-29.4E-09	-32.8E-09	-43.3E-09	-41.9E-09	-41.9E-09	-30.4E-09	-44.7E-09	-28.1E-09	-29.9E-09	-40.7E-09
OFF samples												
53	-51.7E-09	-39.6E-09	-43.3E-09	-38.7E-09	-39.9E-09	-40.9E-09	-40.9E-09	-29.8E-09	-38.4E-09	-27.8E-09	-34.3E-09	-37.4E-09
54	-62.7E-09	-51.0E-09	-53.0E-09	-29.4E-09	-48.7E-09	-49.2E-09	-49.2E-09	-35.1E-09	-48.1E-09	-45.5E-09	-42.2E-09	-45.4E-09
Statistics												
Min	-62.7E-09	-51.0E-09	-53.0E-09	-38.7E-09	-48.7E-09	-49.2E-09	-49.2E-09	-35.1E-09	-48.1E-09	-45.5E-09	-42.2E-09	-45.4E-09
Max	-51.7E-09	-39.6E-09	-43.3E-09	-29.4E-09	-39.9E-09	-40.9E-09	-40.9E-09	-29.8E-09	-38.4E-09	-27.8E-09	-34.3E-09	-37.4E-09
Average	-57.2E-09	-45.3E-09	-48.1E-09	-34.0E-09	-44.3E-09	-45.0E-09	-45.0E-09	-32.5E-09	-43.2E-09	-36.6E-09	-38.2E-09	-41.4E-09
Sigma	5.5E-09	5.7E-09	4.9E-09	4.7E-09	4.4E-09	4.1E-09	4.1E-09	2.7E-09	4.8E-09	8.9E-09	3.9E-09	4.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)srckp

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

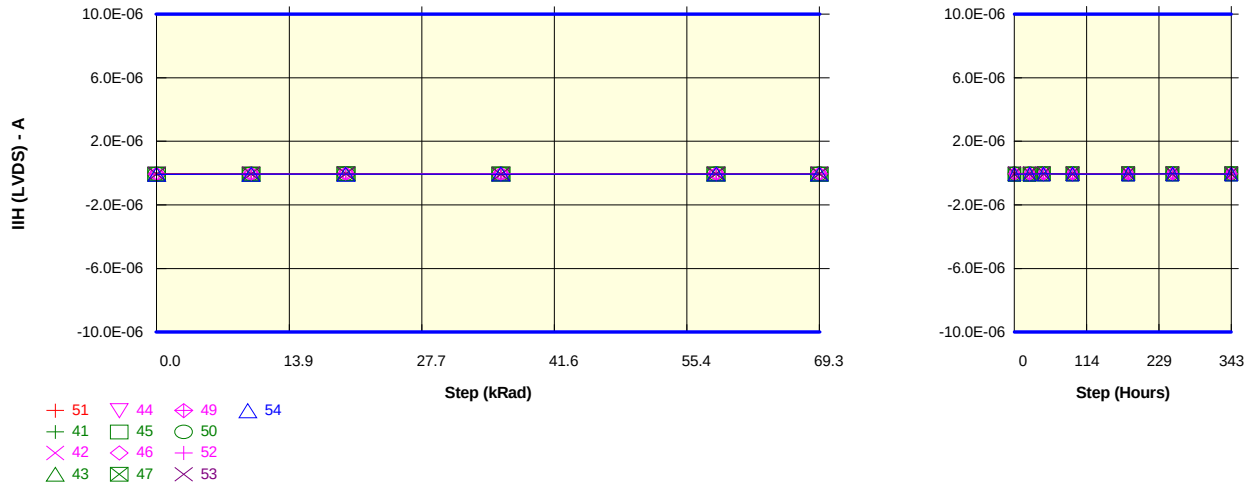
IIH (LVDS)srckp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-51.2E-09	-42.4E-09	-43.6E-09	-45.7E-09	-51.7E-09	-52.6E-09	-52.6E-09	-43.6E-09	-53.2E-09	-44.5E-09	-39.3E-09	-47.4E-09
ON samples												
41	-97.0E-09	-72.3E-09	-66.6E-09	-65.9E-09	-69.3E-09	-69.9E-09	-69.9E-09	-59.9E-09	-63.5E-09	-59.8E-09	-54.5E-09	-64.0E-09
42	-69.9E-09	-56.7E-09	-51.7E-09	-59.2E-09	-55.3E-09	-56.9E-09	-56.9E-09	-47.7E-09	-50.8E-09	-48.4E-09	-43.3E-09	-51.8E-09
43	-61.2E-09	-50.8E-09	-44.7E-09	-62.6E-09	-48.4E-09	-48.9E-09	-48.9E-09	-40.9E-09	-45.1E-09	-41.9E-09	-37.5E-09	-45.5E-09
44	-63.8E-09	-55.5E-09	-48.6E-09	-53.6E-09	-54.0E-09	-54.4E-09	-54.4E-09	-46.2E-09	-51.4E-09	-47.2E-09	-42.6E-09	-51.2E-09
45	-65.6E-09	-57.9E-09	-50.2E-09	-46.0E-09	-55.2E-09	-55.8E-09	-55.8E-09	-48.2E-09	-53.7E-09	-49.6E-09	-44.4E-09	-52.1E-09
46	-59.6E-09	-52.7E-09	-42.6E-09	-81.0E-09	-50.9E-09	-51.1E-09	-51.1E-09	-43.9E-09	-49.3E-09	-45.2E-09	-40.5E-09	-47.3E-09
47	-54.7E-09	-51.0E-09	-41.0E-09	-66.2E-09	-48.0E-09	-48.7E-09	-48.7E-09	-42.1E-09	-47.0E-09	-43.7E-09	-39.1E-09	-45.1E-09
49	-72.2E-09	-63.8E-09	-51.8E-09	-55.0E-09	-59.9E-09	-59.2E-09	-59.2E-09	-51.1E-09	-57.5E-09	-53.8E-09	-48.3E-09	-54.7E-09
50	-48.7E-09	-40.8E-09	-34.0E-09	-55.4E-09	-36.6E-09	-36.9E-09	-36.9E-09	-32.1E-09	-36.2E-09	-33.8E-09	-29.9E-09	-34.2E-09
52	-54.0E-09	-42.3E-09	-41.3E-09	-43.6E-09	-39.5E-09	-38.8E-09	-38.8E-09	-33.6E-09	-37.7E-09	-35.6E-09	-31.5E-09	-35.7E-09
Statistics												
Min	-97.0E-09	-72.3E-09	-66.6E-09	-81.0E-09	-69.3E-09	-69.9E-09	-69.9E-09	-59.9E-09	-63.5E-09	-59.8E-09	-54.5E-09	-64.0E-09
Max	-48.7E-09	-40.8E-09	-34.0E-09	-43.6E-09	-36.6E-09	-36.9E-09	-36.9E-09	-32.1E-09	-36.2E-09	-33.8E-09	-29.9E-09	-34.2E-09
Average	-64.7E-09	-54.4E-09	-47.2E-09	-58.8E-09	-51.7E-09	-52.0E-09	-52.0E-09	-44.6E-09	-49.2E-09	-45.9E-09	-41.1E-09	-48.2E-09
Sigma	12.8E-09	8.9E-09	8.4E-09	10.3E-09	9.0E-09	9.2E-09	9.2E-09	7.7E-09	7.9E-09	7.4E-09	7.0E-09	8.4E-09

Measurements

IIH (LVDS)srckp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-51.2E-09	-42.4E-09	-43.6E-09	-45.7E-09	-51.7E-09	-52.6E-09	-52.6E-09	-43.6E-09	-53.2E-09	-44.5E-09	-39.3E-09	-47.4E-09
OFF samples												
53	-66.0E-09	-54.1E-09	-54.7E-09	-64.4E-09	-52.6E-09	-49.7E-09	-49.7E-09	-45.1E-09	-50.3E-09	-47.8E-09	-42.4E-09	-47.8E-09
54	-74.4E-09	-63.1E-09	-61.0E-09	-66.3E-09	-58.0E-09	-55.5E-09	-55.5E-09	-49.2E-09	-55.7E-09	-53.5E-09	-47.2E-09	-53.1E-09
Statistics												
Min	-74.4E-09	-63.1E-09	-61.0E-09	-66.3E-09	-58.0E-09	-55.5E-09	-55.5E-09	-49.2E-09	-55.7E-09	-53.5E-09	-47.2E-09	-53.1E-09
Max	-66.0E-09	-54.1E-09	-54.7E-09	-64.4E-09	-52.6E-09	-49.7E-09	-49.7E-09	-45.1E-09	-50.3E-09	-47.8E-09	-42.4E-09	-47.8E-09
Average	-70.2E-09	-58.6E-09	-57.9E-09	-65.3E-09	-55.3E-09	-52.6E-09	-52.6E-09	-47.1E-09	-53.0E-09	-50.7E-09	-44.8E-09	-50.4E-09
Sigma	4.2E-09	4.5E-09	3.1E-09	975.0E-12	2.7E-09	2.9E-09	2.9E-09	2.1E-09	2.7E-09	2.8E-09	2.4E-09	2.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)ck_sp

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

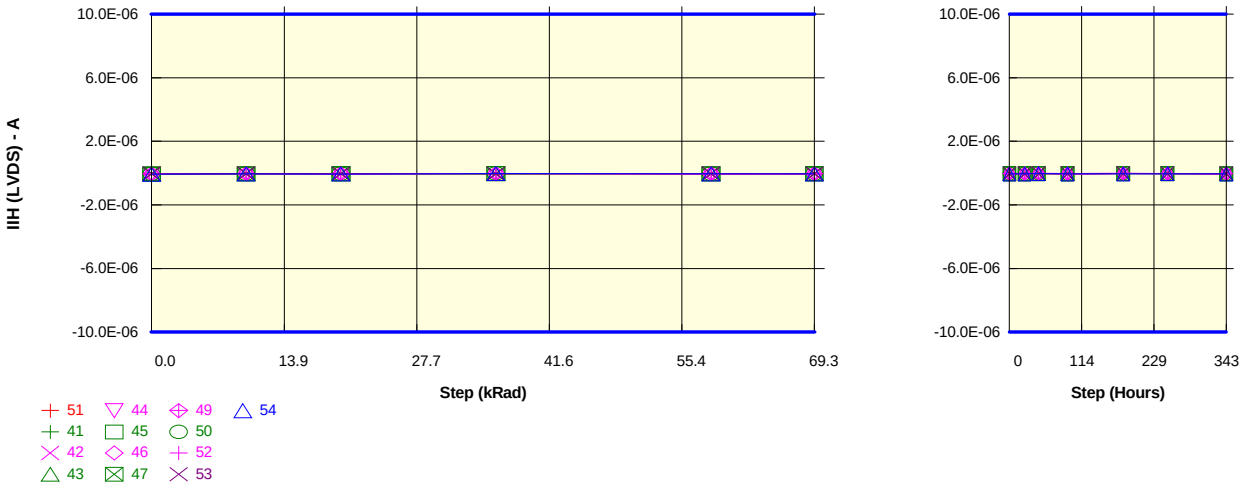
IIH (LVDS)ck_sp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-45.5E-09	-37.7E-09	-38.5E-09	-40.7E-09	-46.0E-09	-46.8E-09	-46.8E-09	-38.6E-09	-47.1E-09	-39.6E-09	-34.9E-09	-41.7E-09
ON samples												
41	-86.7E-09	-65.3E-09	-59.6E-09	-72.2E-09	-60.9E-09	-61.2E-09	-61.2E-09	-52.3E-09	-55.5E-09	-52.2E-09	-47.7E-09	-56.0E-09
42	-55.5E-09	-43.4E-09	-38.1E-09	-46.9E-09	-38.2E-09	-38.8E-09	-38.8E-09	-31.7E-09	-34.4E-09	-32.5E-09	-29.1E-09	-35.2E-09
43	-58.6E-09	-48.7E-09	-42.8E-09	-58.5E-09	-46.3E-09	-47.5E-09	-47.5E-09	-39.6E-09	-43.4E-09	-40.5E-09	-36.4E-09	-43.8E-09
44	-60.1E-09	-52.2E-09	-45.3E-09	-52.3E-09	-50.1E-09	-50.8E-09	-50.8E-09	-42.9E-09	-48.0E-09	-44.1E-09	-39.6E-09	-47.7E-09
45	-77.4E-09	-68.4E-09	-58.8E-09	-51.0E-09	-63.5E-09	-64.2E-09	-64.2E-09	-55.5E-09	-61.9E-09	-57.2E-09	-51.4E-09	-60.1E-09
46	-62.0E-09	-55.7E-09	-45.1E-09	-72.1E-09	-54.0E-09	-54.2E-09	-54.2E-09	-46.5E-09	-52.4E-09	-48.2E-09	-43.1E-09	-50.3E-09
47	-53.2E-09	-49.3E-09	-39.8E-09	-47.7E-09	-46.4E-09	-47.5E-09	-47.5E-09	-40.5E-09	-45.5E-09	-42.4E-09	-37.8E-09	-43.6E-09
49	-64.2E-09	-56.6E-09	-45.8E-09	-52.5E-09	-53.1E-09	-52.5E-09	-52.5E-09	-44.9E-09	-50.7E-09	-47.6E-09	-42.4E-09	-48.4E-09
50	-55.7E-09	-46.4E-09	-38.6E-09	-58.8E-09	-41.5E-09	-41.8E-09	-41.8E-09	-36.4E-09	-40.9E-09	-38.4E-09	-34.1E-09	-38.7E-09
52	-58.8E-09	-46.4E-09	-45.8E-09	-49.6E-09	-43.5E-09	-42.7E-09	-42.7E-09	-37.0E-09	-41.5E-09	-39.3E-09	-34.7E-09	-39.5E-09
Statistics												
Min	-86.7E-09	-68.4E-09	-59.6E-09	-72.2E-09	-63.5E-09	-64.2E-09	-64.2E-09	-55.5E-09	-61.9E-09	-57.2E-09	-51.4E-09	-60.1E-09
Max	-53.2E-09	-43.4E-09	-38.1E-09	-46.9E-09	-38.2E-09	-38.8E-09	-38.8E-09	-31.7E-09	-34.4E-09	-32.5E-09	-29.1E-09	-35.2E-09
Average	-63.2E-09	-53.2E-09	-45.9E-09	-56.1E-09	-49.7E-09	-50.1E-09	-50.1E-09	-42.7E-09	-47.4E-09	-44.2E-09	-39.6E-09	-46.3E-09
Sigma	10.1E-09	7.9E-09	7.2E-09	8.8E-09	7.8E-09	7.8E-09	7.8E-09	6.9E-09	7.6E-09	6.9E-09	6.3E-09	7.4E-09

Measurements

IIH (LVDS)ck_sp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-45.5E-09	-37.7E-09	-38.5E-09	-40.7E-09	-46.0E-09	-46.8E-09	-46.8E-09	-38.6E-09	-47.1E-09	-39.6E-09	-34.9E-09	-41.7E-09
OFF samples												
53	-52.5E-09	-42.8E-09	-43.1E-09	-74.8E-09	-41.6E-09	-39.2E-09	-39.2E-09	-35.3E-09	-39.7E-09	-37.6E-09	-32.8E-09	-37.5E-09
54	-80.7E-09	-68.4E-09	-66.7E-09	-59.0E-09	-63.5E-09	-60.5E-09	-60.5E-09	-53.3E-09	-60.5E-09	-58.3E-09	-51.5E-09	-57.8E-09
Statistics												
Min	-80.7E-09	-68.4E-09	-66.7E-09	-74.8E-09	-63.5E-09	-60.5E-09	-60.5E-09	-53.3E-09	-60.5E-09	-58.3E-09	-51.5E-09	-57.8E-09
Max	-52.5E-09	-42.8E-09	-43.1E-09	-59.0E-09	-41.6E-09	-39.2E-09	-39.2E-09	-35.3E-09	-39.7E-09	-37.6E-09	-32.8E-09	-37.5E-09
Average	-66.6E-09	-55.6E-09	-54.9E-09	-66.9E-09	-52.6E-09	-49.8E-09	-49.8E-09	-44.3E-09	-50.1E-09	-47.9E-09	-42.1E-09	-47.7E-09
Sigma	14.1E-09	12.8E-09	11.8E-09	7.9E-09	11.0E-09	10.7E-09	10.7E-09	9.0E-09	10.4E-09	10.4E-09	9.3E-09	10.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)ck_sn

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

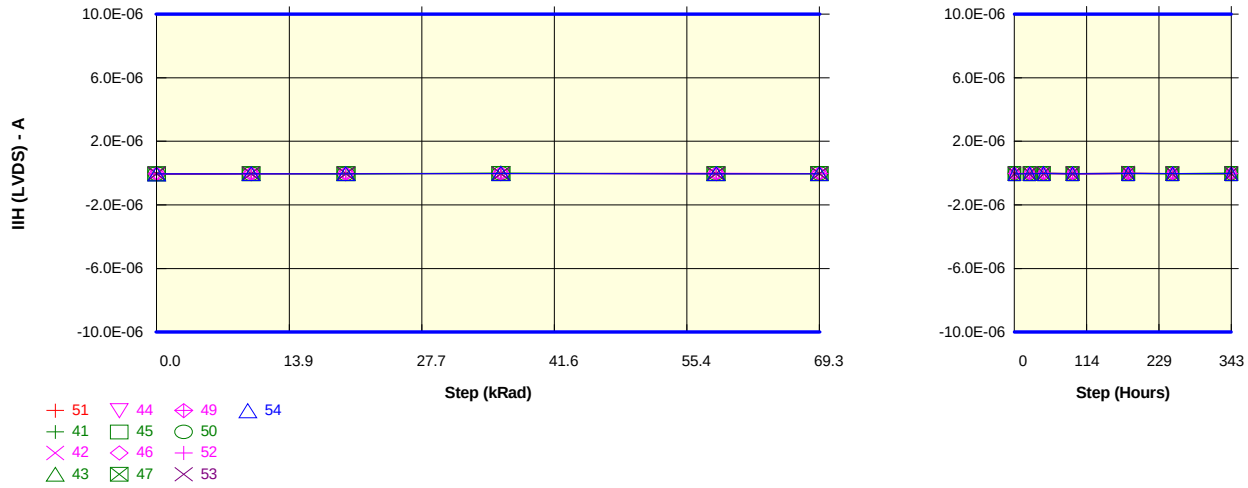
IIH (LVDS)ck_sn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-41.3E-09	-33.6E-09	-31.8E-09	-32.4E-09	-41.8E-09	-40.6E-09	-40.6E-09	-30.1E-09	-43.0E-09	-28.7E-09	-28.2E-09	-38.4E-09
ON samples												
41	-69.2E-09	-50.3E-09	-46.5E-09	-45.4E-09	-36.6E-09	-42.1E-09	-42.1E-09	-34.5E-09	-36.5E-09	-22.3E-09	-36.4E-09	-44.7E-09
42	-55.1E-09	-42.8E-09	-40.4E-09	-28.7E-09	-41.5E-09	-42.4E-09	-42.4E-09	-24.2E-09	-40.4E-09	-24.2E-09	-33.8E-09	-30.3E-09
43	-43.5E-09	-34.6E-09	-30.4E-09	-37.1E-09	-30.0E-09	-33.8E-09	-33.8E-09	-22.1E-09	-31.3E-09	-25.2E-09	-27.5E-09	-32.7E-09
44	-50.9E-09	-41.8E-09	-36.8E-09	-26.8E-09	-41.8E-09	-41.2E-09	-41.2E-09	-31.2E-09	-41.5E-09	-32.0E-09	-33.9E-09	-40.3E-09
45	-64.5E-09	-54.5E-09	-50.1E-09	-19.5E-09	-50.5E-09	-51.2E-09	-51.2E-09	-39.8E-09	-48.2E-09	-36.7E-09	-43.5E-09	-49.8E-09
46	-52.1E-09	-44.8E-09	-38.0E-09	-35.4E-09	-44.2E-09	-44.2E-09	-44.2E-09	-34.0E-09	-44.6E-09	-34.0E-09	-37.2E-09	-42.5E-09
47	-38.9E-09	-32.9E-09	-27.7E-09	-35.4E-09	-29.3E-09	-27.9E-09	-27.9E-09	-19.7E-09	-25.5E-09	-23.4E-09	-23.7E-09	-30.7E-09
49	-53.2E-09	-44.0E-09	-39.4E-09	-30.8E-09	-42.5E-09	-40.8E-09	-40.8E-09	-31.6E-09	-40.4E-09	-31.8E-09	-34.6E-09	-39.5E-09
50	-48.9E-09	-38.1E-09	-30.9E-09	-20.5E-09	-34.6E-09	-35.1E-09	-35.1E-09	-26.2E-09	-35.9E-09	-28.0E-09	-30.6E-09	-34.3E-09
52	-38.6E-09	-28.2E-09	-27.8E-09	-32.0E-09	-25.6E-09	-24.9E-09	-24.9E-09	-16.9E-09	-23.5E-09	-18.7E-09	-20.7E-09	-23.3E-09
Statistics												
Min	-69.2E-09	-54.5E-09	-50.1E-09	-45.4E-09	-50.5E-09	-51.2E-09	-51.2E-09	-39.8E-09	-48.2E-09	-36.7E-09	-43.5E-09	-49.8E-09
Max	-38.6E-09	-28.2E-09	-27.7E-09	-19.5E-09	-25.6E-09	-24.9E-09	-24.9E-09	-16.9E-09	-23.5E-09	-18.7E-09	-20.7E-09	-23.3E-09
Average	-51.5E-09	-41.2E-09	-36.8E-09	-31.1E-09	-37.6E-09	-38.3E-09	-38.3E-09	-28.0E-09	-36.8E-09	-27.6E-09	-32.2E-09	-36.8E-09
Sigma	9.5E-09	7.6E-09	7.3E-09	7.4E-09	7.4E-09	7.5E-09	7.5E-09	7.0E-09	7.6E-09	5.5E-09	6.4E-09	7.5E-09

Measurements

IIH (LVDS)ck_sn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-41.3E-09	-33.6E-09	-31.8E-09	-32.4E-09	-41.8E-09	-40.6E-09	-40.6E-09	-30.1E-09	-43.0E-09	-28.7E-09	-28.2E-09	-38.4E-09
OFF samples												
53	-43.5E-09	-33.5E-09	-35.9E-09	-45.9E-09	-33.2E-09	-33.4E-09	-33.4E-09	-24.8E-09	-31.8E-09	-23.9E-09	-27.5E-09	-30.7E-09
54	-65.9E-09	-53.1E-09	-55.6E-09	-35.3E-09	-50.6E-09	-51.0E-09	-51.0E-09	-37.0E-09	-49.8E-09	-47.4E-09	-43.0E-09	-47.1E-09
Statistics												
Min	-65.9E-09	-53.1E-09	-55.6E-09	-45.9E-09	-50.6E-09	-51.0E-09	-51.0E-09	-37.0E-09	-49.8E-09	-47.4E-09	-43.0E-09	-47.1E-09
Max	-43.5E-09	-33.5E-09	-35.9E-09	-35.3E-09	-33.2E-09	-33.4E-09	-33.4E-09	-24.8E-09	-31.8E-09	-23.9E-09	-27.5E-09	-30.7E-09
Average	-54.7E-09	-43.3E-09	-45.7E-09	-40.6E-09	-41.9E-09	-42.2E-09	-42.2E-09	-30.9E-09	-40.8E-09	-35.7E-09	-35.3E-09	-38.9E-09
Sigma	11.2E-09	9.8E-09	9.8E-09	5.3E-09	8.7E-09	8.8E-09	8.8E-09	6.1E-09	9.0E-09	11.8E-09	7.8E-09	8.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)sdi9p

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

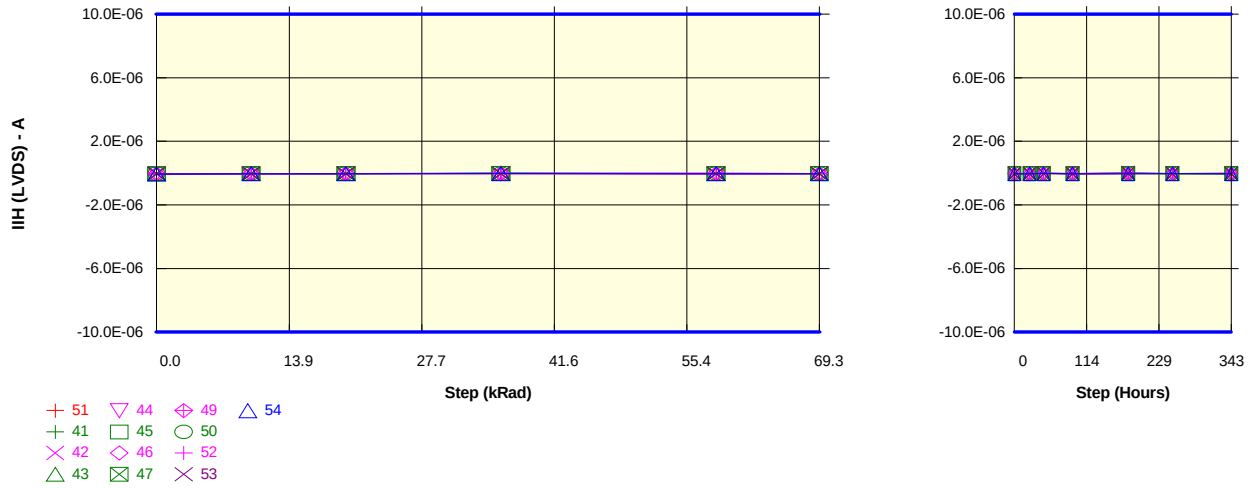
IIH (LVDS)sdi 9p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-35.2E-09	-27.1E-09	-28.6E-09	-22.0E-09	-35.6E-09	-34.8E-09	-34.8E-09	-25.3E-09	-37.2E-09	-22.2E-09	-27.5E-09	-33.5E-09
ON samples												
41	-64.7E-09	-46.8E-09	-46.0E-09	-13.1E-09	-46.0E-09	-45.2E-09	-45.2E-09	-33.2E-09	-33.5E-09	-32.0E-09	-38.0E-09	-43.5E-09
42	-50.0E-09	-38.2E-09	-36.9E-09	-21.5E-09	-39.0E-09	-31.5E-09	-31.5E-09	-19.4E-09	-37.6E-09	-26.7E-09	-32.6E-09	-36.8E-09
43	-39.6E-09	-30.6E-09	-29.9E-09	-9.8E-09	-29.1E-09	-26.2E-09	-26.2E-09	-17.1E-09	-29.4E-09	-20.2E-09	-25.0E-09	-29.4E-09
44	-43.4E-09	-34.9E-09	-28.6E-09	-25.4E-09	-26.8E-09	-34.8E-09	-34.8E-09	-24.9E-09	-34.7E-09	-24.8E-09	-29.4E-09	-34.6E-09
45	-55.2E-09	-45.0E-09	-38.1E-09	-22.2E-09	-36.4E-09	-21.9E-09	-21.9E-09	-30.5E-09	-43.8E-09	-28.3E-09	-37.8E-09	-39.4E-09
46	-43.9E-09	-36.2E-09	-32.7E-09	-36.3E-09	-33.1E-09	-35.8E-09	-35.8E-09	-24.2E-09	-37.8E-09	-23.9E-09	-28.7E-09	-31.8E-09
47	-39.9E-09	-32.1E-09	-30.2E-09	-23.5E-09	-30.6E-09	-32.6E-09	-32.6E-09	-22.8E-09	-30.8E-09	-14.7E-09	-29.0E-09	-18.8E-09
49	-46.9E-09	-38.4E-09	-33.0E-09	-21.3E-09	-34.0E-09	-34.3E-09	-34.3E-09	-18.7E-09	-36.7E-09	-26.4E-09	-31.4E-09	-34.1E-09
50	-39.2E-09	-30.3E-09	-28.6E-09	-26.1E-09	-22.8E-09	-25.0E-09	-25.0E-09	-18.8E-09	-26.9E-09	-20.7E-09	-23.3E-09	-15.0E-09
52	-42.2E-09	-30.6E-09	-32.8E-09	-19.4E-09	-17.9E-09	-26.6E-09	-26.6E-09	-1.9E-09	-27.2E-09	-18.3E-09	-24.5E-09	-19.6E-09
Statistics												
Min	-64.7E-09	-46.8E-09	-46.0E-09	-36.3E-09	-46.0E-09	-45.2E-09	-45.2E-09	-33.2E-09	-43.8E-09	-32.0E-09	-38.0E-09	-43.5E-09
Max	-39.2E-09	-30.3E-09	-28.6E-09	-9.8E-09	-17.9E-09	-21.9E-09	-21.9E-09	-1.9E-09	-26.9E-09	-14.7E-09	-23.3E-09	-15.0E-09
Average	-46.5E-09	-36.3E-09	-33.7E-09	-21.9E-09	-31.6E-09	-31.4E-09	-31.4E-09	-21.1E-09	-33.8E-09	-23.6E-09	-30.0E-09	-30.3E-09
Sigma	7.7E-09	5.6E-09	5.1E-09	6.9E-09	7.7E-09	6.4E-09	6.4E-09	8.1E-09	5.1E-09	4.9E-09	4.9E-09	9.0E-09

Measurements

IIH (LVDS)sdi 9p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-35.2E-09	-27.1E-09	-28.6E-09	-22.0E-09	-35.6E-09	-34.8E-09	-34.8E-09	-25.3E-09	-37.2E-09	-22.2E-09	-27.5E-09	-33.5E-09
OFF samples												
53	-40.4E-09	-31.1E-09	-33.6E-09	-33.6E-09	-29.6E-09	-31.2E-09	-31.2E-09	-19.3E-09	-27.5E-09	-9.5E-09	-26.3E-09	-27.7E-09
54	-53.9E-09	-41.0E-09	-39.7E-09	-26.9E-09	-40.4E-09	-37.7E-09	-37.7E-09	-26.1E-09	-40.0E-09	-35.3E-09	-30.9E-09	-35.4E-09
Statistics												
Min	-53.9E-09	-41.0E-09	-39.7E-09	-33.6E-09	-40.4E-09	-37.7E-09	-37.7E-09	-26.1E-09	-40.0E-09	-35.3E-09	-30.9E-09	-35.4E-09
Max	-40.4E-09	-31.1E-09	-33.6E-09	-26.9E-09	-29.6E-09	-31.2E-09	-31.2E-09	-19.3E-09	-27.5E-09	-9.5E-09	-26.3E-09	-27.7E-09
Average	-47.2E-09	-36.1E-09	-36.7E-09	-30.2E-09	-35.0E-09	-34.5E-09	-34.5E-09	-22.7E-09	-33.7E-09	-22.4E-09	-28.6E-09	-31.5E-09
Sigma	6.8E-09	4.9E-09	3.0E-09	3.3E-09	5.4E-09	3.3E-09	3.3E-09	3.4E-09	6.2E-09	12.9E-09	2.3E-09	3.9E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)sdi9n

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

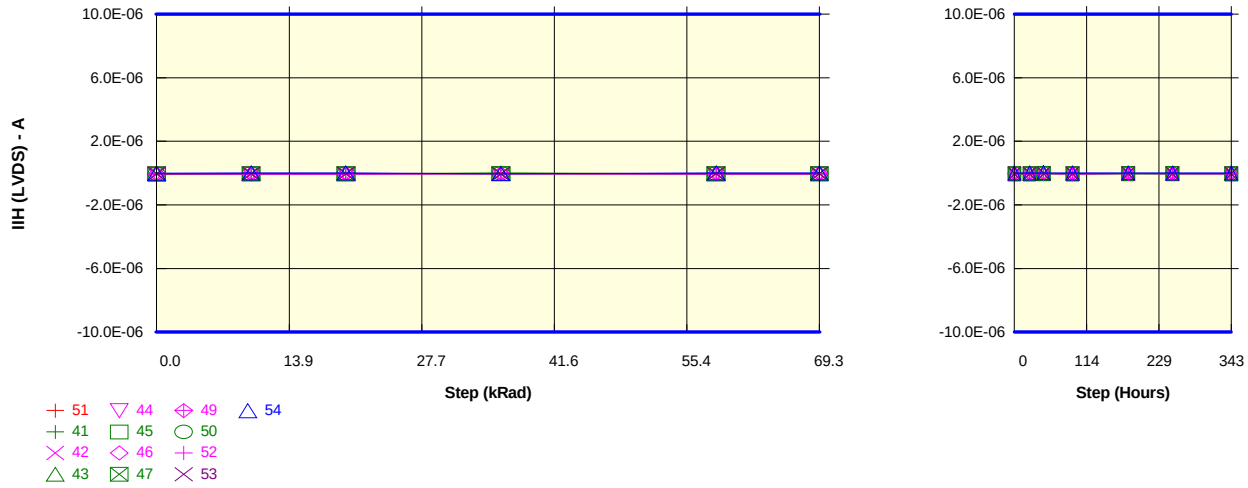
IIH (LVDS)sdi 9n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-34.7E-09	-26.6E-09	-28.3E-09	-21.6E-09	-35.2E-09	-34.5E-09	-34.5E-09	-24.9E-09	-36.8E-09	-21.8E-09	-27.1E-09	-33.1E-09
ON samples												
41	-67.5E-09	-48.4E-09	-48.0E-09	-16.0E-09	-47.8E-09	-47.4E-09	-47.4E-09	-35.0E-09	-35.3E-09	-33.7E-09	-39.9E-09	-45.9E-09
42	-49.6E-09	-37.7E-09	-36.6E-09	-22.5E-09	-38.3E-09	-31.1E-09	-31.1E-09	-19.0E-09	-37.1E-09	-26.3E-09	-32.1E-09	-36.4E-09
43	-39.8E-09	-30.8E-09	-30.5E-09	-650.0E-12	-29.7E-09	-26.8E-09	-26.8E-09	-17.2E-09	-30.1E-09	-20.4E-09	-25.2E-09	-30.0E-09
44	-37.5E-09	-28.8E-09	-22.9E-09	-26.5E-09	-19.1E-09	-27.6E-09	-27.6E-09	-18.3E-09	-28.0E-09	-18.0E-09	-23.8E-09	-27.9E-09
45	-54.8E-09	-44.3E-09	-37.8E-09	-18.8E-09	-36.6E-09	-22.4E-09	-22.4E-09	-31.1E-09	-44.3E-09	-28.7E-09	-38.0E-09	-39.8E-09
46	-51.2E-09	-42.6E-09	-38.4E-09	-37.8E-09	-38.7E-09	-41.4E-09	-41.4E-09	-28.4E-09	-43.7E-09	-27.6E-09	-33.4E-09	-36.9E-09
47	-42.3E-09	-33.8E-09	-31.9E-09	-23.3E-09	-32.3E-09	-34.7E-09	-34.7E-09	-24.2E-09	-32.7E-09	-15.5E-09	-31.1E-09	-20.0E-09
49	-49.1E-09	-39.9E-09	-34.3E-09	-21.7E-09	-35.4E-09	-35.9E-09	-35.9E-09	-19.0E-09	-38.2E-09	-27.4E-09	-32.9E-09	-35.7E-09
50	-36.6E-09	-28.2E-09	-26.6E-09	-30.3E-09	-21.0E-09	-23.1E-09	-23.1E-09	-17.2E-09	-24.9E-09	-19.2E-09	-21.5E-09	-13.8E-09
52	-36.3E-09	-25.6E-09	-28.2E-09	-17.7E-09	-15.1E-09	-22.6E-09	-22.6E-09	3.0E-09	-23.2E-09	-15.4E-09	-20.6E-09	-16.7E-09
Statistics												
Min	-67.5E-09	-48.4E-09	-48.0E-09	-37.8E-09	-47.8E-09	-47.4E-09	-47.4E-09	-35.0E-09	-44.3E-09	-33.7E-09	-39.9E-09	-45.9E-09
Max	-36.3E-09	-25.6E-09	-22.9E-09	-650.0E-12	-15.1E-09	-22.4E-09	-22.4E-09	3.0E-09	-23.2E-09	-15.4E-09	-20.6E-09	-13.8E-09
Average	-46.5E-09	-36.0E-09	-33.5E-09	-21.5E-09	-31.4E-09	-31.3E-09	-31.3E-09	-20.6E-09	-33.7E-09	-23.2E-09	-29.8E-09	-30.3E-09
Sigma	9.5E-09	7.3E-09	6.8E-09	9.3E-09	9.7E-09	8.1E-09	8.1E-09	9.9E-09	6.9E-09	6.0E-09	6.4E-09	10.1E-09

Measurements

IIH (LVDS)sdi 9n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-34.7E-09	-26.6E-09	-28.3E-09	-21.6E-09	-35.2E-09	-34.5E-09	-34.5E-09	-24.9E-09	-36.8E-09	-21.8E-09	-27.1E-09	-33.1E-09
OFF samples												
53	-42.7E-09	-32.5E-09	-35.4E-09	-34.0E-09	-30.9E-09	-32.6E-09	-32.6E-09	-20.2E-09	-28.9E-09	-9.5E-09	-27.6E-09	-28.9E-09
54	-58.6E-09	-44.8E-09	-43.4E-09	-28.0E-09	-44.8E-09	-42.1E-09	-42.1E-09	-29.5E-09	-44.3E-09	-39.5E-09	-34.6E-09	-39.4E-09
Statistics												
Min	-58.6E-09	-44.8E-09	-43.4E-09	-34.0E-09	-44.8E-09	-42.1E-09	-42.1E-09	-29.5E-09	-44.3E-09	-39.5E-09	-34.6E-09	-39.4E-09
Max	-42.7E-09	-32.5E-09	-35.4E-09	-28.0E-09	-30.9E-09	-32.6E-09	-32.6E-09	-20.2E-09	-28.9E-09	-9.5E-09	-27.6E-09	-28.9E-09
Average	-50.7E-09	-38.7E-09	-39.4E-09	-31.0E-09	-37.8E-09	-37.3E-09	-37.3E-09	-24.8E-09	-36.6E-09	-24.5E-09	-31.1E-09	-34.2E-09
Sigma	7.9E-09	6.2E-09	4.0E-09	3.0E-09	6.9E-09	4.8E-09	4.8E-09	4.7E-09	7.7E-09	15.0E-09	3.5E-09	5.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)sdiAp

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

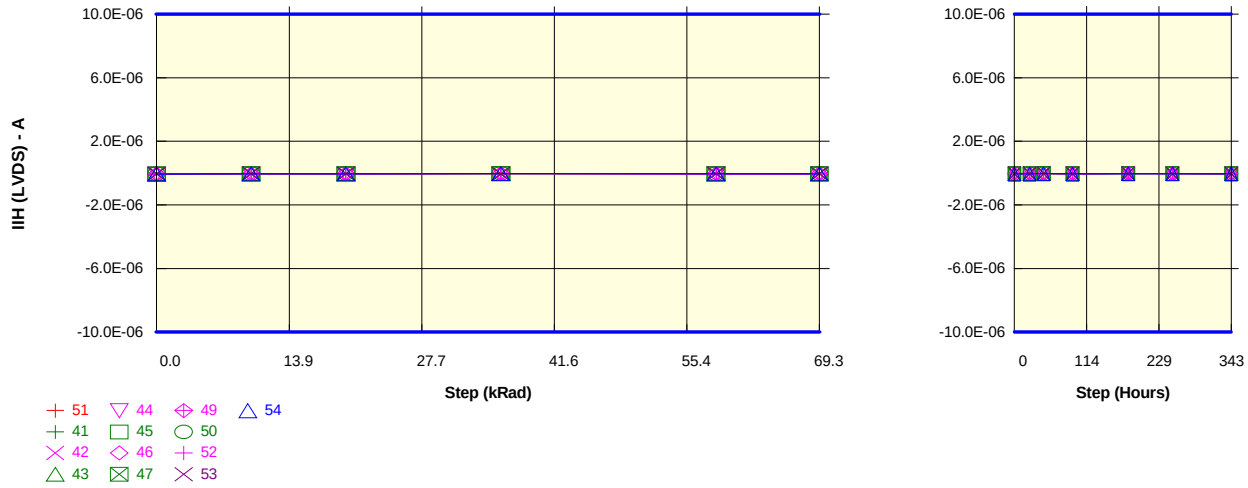
IIH (LVDS)sdi Ap	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-39.0E-09	-31.4E-09	-29.8E-09	-30.3E-09	-39.5E-09	-38.4E-09	-38.4E-09	-28.6E-09	-40.8E-09	-27.1E-09	-26.8E-09	-36.7E-09
ON samples												
41	-71.8E-09	-52.3E-09	-48.5E-09	33.3E-09	-38.3E-09	-44.3E-09	-44.3E-09	-36.2E-09	-38.2E-09	-23.7E-09	-38.4E-09	-47.0E-09
42	-57.5E-09	-44.5E-09	-41.9E-09	-30.2E-09	-42.0E-09	-42.9E-09	-42.9E-09	-23.6E-09	-41.1E-09	-23.9E-09	-34.7E-09	-30.7E-09
43	-46.1E-09	-37.0E-09	-32.5E-09	-33.0E-09	-32.4E-09	-36.3E-09	-36.3E-09	-24.0E-09	-33.8E-09	-27.4E-09	-29.9E-09	-35.6E-09
44	-45.3E-09	-37.2E-09	-32.5E-09	-30.7E-09	-37.2E-09	-36.7E-09	-36.7E-09	-27.6E-09	-36.9E-09	-28.6E-09	-30.0E-09	-36.1E-09
45	-67.0E-09	-56.4E-09	-51.9E-09	-29.4E-09	-52.2E-09	-53.0E-09	-53.0E-09	-41.2E-09	-50.0E-09	-38.2E-09	-45.3E-09	-51.7E-09
46	-54.0E-09	-45.8E-09	-38.7E-09	-37.3E-09	-45.5E-09	-45.1E-09	-45.1E-09	-34.5E-09	-45.5E-09	-34.9E-09	-38.3E-09	-43.6E-09
47	-41.6E-09	-35.7E-09	-30.5E-09	-34.7E-09	-33.2E-09	-32.0E-09	-32.0E-09	-23.5E-09	-29.5E-09	-27.4E-09	-27.4E-09	-34.8E-09
49	-56.3E-09	-47.3E-09	-41.8E-09	-33.0E-09	-45.0E-09	-43.1E-09	-43.1E-09	-33.4E-09	-42.7E-09	-33.7E-09	-36.9E-09	-41.8E-09
50	-47.5E-09	-37.0E-09	-30.3E-09	-21.6E-09	-33.6E-09	-34.3E-09	-34.3E-09	-25.5E-09	-35.1E-09	-27.4E-09	-30.0E-09	-33.6E-09
52	-49.4E-09	-37.4E-09	-37.2E-09	-31.8E-09	-35.2E-09	-34.7E-09	-34.7E-09	-25.1E-09	-33.2E-09	-27.8E-09	-29.3E-09	-32.7E-09
Statistics												
Min	-71.8E-09	-56.4E-09	-51.9E-09	-37.3E-09	-52.2E-09	-53.0E-09	-53.0E-09	-41.2E-09	-50.0E-09	-38.2E-09	-45.3E-09	-51.7E-09
Max	-41.6E-09	-35.7E-09	-30.3E-09	33.3E-09	-32.4E-09	-32.0E-09	-32.0E-09	-23.5E-09	-29.5E-09	-23.7E-09	-27.4E-09	-30.7E-09
Average	-53.6E-09	-43.0E-09	-38.6E-09	-24.8E-09	-39.4E-09	-40.2E-09	-40.2E-09	-29.4E-09	-38.6E-09	-29.3E-09	-34.0E-09	-38.7E-09
Sigma	9.3E-09	7.0E-09	7.1E-09	19.7E-09	6.2E-09	6.2E-09	6.2E-09	6.0E-09	5.9E-09	4.5E-09	5.4E-09	6.6E-09

Measurements

IIH (LVDS)sdi Ap	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-39.0E-09	-31.4E-09	-29.8E-09	-30.3E-09	-39.5E-09	-38.4E-09	-38.4E-09	-28.6E-09	-40.8E-09	-27.1E-09	-26.8E-09	-36.7E-09
OFF samples												
53	-44.8E-09	-34.8E-09	-37.0E-09	-48.0E-09	-34.4E-09	-35.0E-09	-35.0E-09	-25.9E-09	-33.4E-09	-25.3E-09	-29.4E-09	-32.3E-09
54	7.5E-09	17.3E-09	16.9E-09	-37.5E-09	25.3E-09	23.7E-09	23.7E-09	32.9E-09	25.0E-09	25.7E-09	24.7E-09	25.2E-09
Statistics												
Min	-44.8E-09	-34.8E-09	-37.0E-09	-48.0E-09	-34.4E-09	-35.0E-09	-35.0E-09	-25.9E-09	-33.4E-09	-25.3E-09	-29.4E-09	-32.3E-09
Max	7.5E-09	17.3E-09	16.9E-09	-37.5E-09	25.3E-09	23.7E-09	23.7E-09	32.9E-09	25.0E-09	25.7E-09	24.7E-09	25.2E-09
Average	-18.7E-09	-8.8E-09	-10.1E-09	-42.8E-09	-4.6E-09	-5.7E-09	-5.7E-09	3.5E-09	-4.2E-09	200.0E-12	-2.3E-09	-3.6E-09
Sigma	26.1E-09	26.0E-09	27.0E-09	5.3E-09	29.9E-09	29.4E-09	29.4E-09	29.4E-09	29.2E-09	25.5E-09	27.0E-09	28.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVDS)sdiAn

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

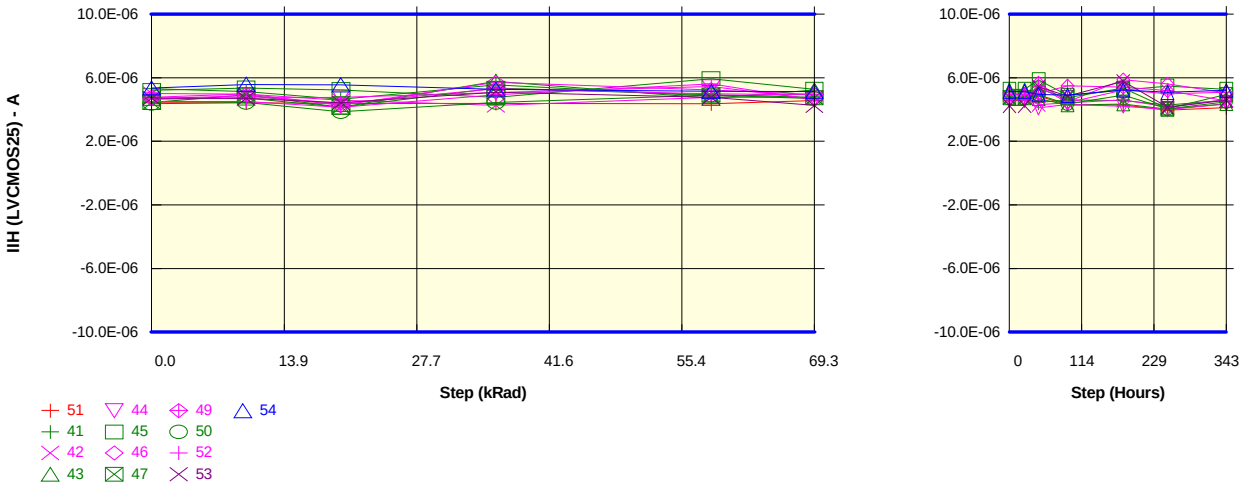
IIH (LVDS)sdi An	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-40.5E-09	-32.8E-09	-31.3E-09	-31.8E-09	-40.9E-09	-39.8E-09	-39.8E-09	-29.7E-09	-42.3E-09	-28.3E-09	-28.3E-09	-38.2E-09
ON samples												
41	-68.6E-09	-50.0E-09	-46.3E-09	-44.2E-09	-36.5E-09	-42.1E-09	-42.1E-09	-34.3E-09	-36.6E-09	-22.4E-09	-36.5E-09	-44.9E-09
42	-59.1E-09	-45.6E-09	-42.7E-09	-31.1E-09	-43.6E-09	-44.7E-09	-44.7E-09	-24.8E-09	-42.8E-09	-24.9E-09	-36.4E-09	-31.7E-09
43	-51.4E-09	-41.4E-09	-36.0E-09	-36.3E-09	-35.6E-09	-40.1E-09	-40.1E-09	-26.6E-09	-37.3E-09	-30.2E-09	-33.4E-09	-39.2E-09
44	-49.7E-09	-41.0E-09	-36.1E-09	-33.3E-09	-40.8E-09	-40.4E-09	-40.4E-09	-30.6E-09	-40.9E-09	-31.5E-09	-33.5E-09	-39.8E-09
45	-65.5E-09	-54.6E-09	-50.7E-09	-29.2E-09	-51.4E-09	-52.0E-09	-52.0E-09	-40.5E-09	-49.0E-09	-37.4E-09	-44.6E-09	-50.7E-09
46	-53.7E-09	-46.4E-09	-39.2E-09	-35.0E-09	-45.7E-09	-45.4E-09	-45.4E-09	-35.0E-09	-45.8E-09	-35.1E-09	-38.7E-09	-44.0E-09
47	-45.1E-09	-38.7E-09	-33.1E-09	-36.2E-09	-35.9E-09	-34.4E-09	-34.4E-09	-25.2E-09	-31.7E-09	-29.4E-09	-29.7E-09	-37.3E-09
49	-55.6E-09	-46.4E-09	-41.0E-09	-36.3E-09	-43.4E-09	-41.8E-09	-41.8E-09	-32.4E-09	-41.8E-09	-32.4E-09	-36.2E-09	-40.8E-09
50	-44.5E-09	-34.2E-09	-27.8E-09	-21.4E-09	-31.6E-09	-32.1E-09	-32.1E-09	-23.9E-09	-32.9E-09	-25.7E-09	-28.1E-09	-31.6E-09
52	-49.1E-09	-37.0E-09	-36.7E-09	-29.4E-09	-35.3E-09	-34.6E-09	-34.6E-09	-25.2E-09	-33.0E-09	-27.6E-09	-29.3E-09	-32.5E-09
Statistics												
Min	-68.6E-09	-54.6E-09	-50.7E-09	-44.2E-09	-51.4E-09	-52.0E-09	-52.0E-09	-40.5E-09	-49.0E-09	-37.4E-09	-44.6E-09	-50.7E-09
Max	-44.5E-09	-34.2E-09	-27.8E-09	-21.4E-09	-31.6E-09	-32.1E-09	-32.1E-09	-23.9E-09	-31.7E-09	-22.4E-09	-28.1E-09	-31.6E-09
Average	-54.2E-09	-43.5E-09	-38.9E-09	-33.2E-09	-40.0E-09	-40.7E-09	-40.7E-09	-29.8E-09	-39.2E-09	-29.6E-09	-34.6E-09	-39.2E-09
Sigma	7.7E-09	5.9E-09	6.2E-09	5.7E-09	5.7E-09	5.6E-09	5.6E-09	5.3E-09	5.5E-09	4.4E-09	4.7E-09	5.9E-09

Measurements

IIH (LVDS)sdi An	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-40.5E-09	-32.8E-09	-31.3E-09	-31.8E-09	-40.9E-09	-39.8E-09	-39.8E-09	-29.7E-09	-42.3E-09	-28.3E-09	-28.3E-09	-38.2E-09
OFF samples												
53	-46.0E-09	-35.7E-09	-38.1E-09	-46.8E-09	-35.6E-09	-36.1E-09	-36.1E-09	-27.1E-09	-34.6E-09	-26.2E-09	-30.4E-09	-33.5E-09
54	-62.3E-09	-51.1E-09	-53.2E-09	-35.8E-09	-48.6E-09	-48.8E-09	-48.8E-09	-35.7E-09	-48.0E-09	-45.7E-09	-41.7E-09	-45.4E-09
Statistics												
Min	-62.3E-09	-51.1E-09	-53.2E-09	-46.8E-09	-48.6E-09	-48.8E-09	-48.8E-09	-35.7E-09	-48.0E-09	-45.7E-09	-41.7E-09	-45.4E-09
Max	-46.0E-09	-35.7E-09	-38.1E-09	-35.8E-09	-35.6E-09	-36.1E-09	-36.1E-09	-27.1E-09	-34.6E-09	-26.2E-09	-30.4E-09	-33.5E-09
Average	-54.1E-09	-43.4E-09	-45.6E-09	-41.3E-09	-42.1E-09	-42.5E-09	-42.5E-09	-31.4E-09	-41.3E-09	-35.9E-09	-36.0E-09	-39.4E-09
Sigma	8.1E-09	7.7E-09	7.6E-09	5.5E-09	6.5E-09	6.3E-09	6.3E-09	4.3E-09	6.7E-09	9.8E-09	5.6E-09	5.9E-09

Test conditions : TID
Parameter : Input Leakage Current : IIH (LVCMOS25)

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

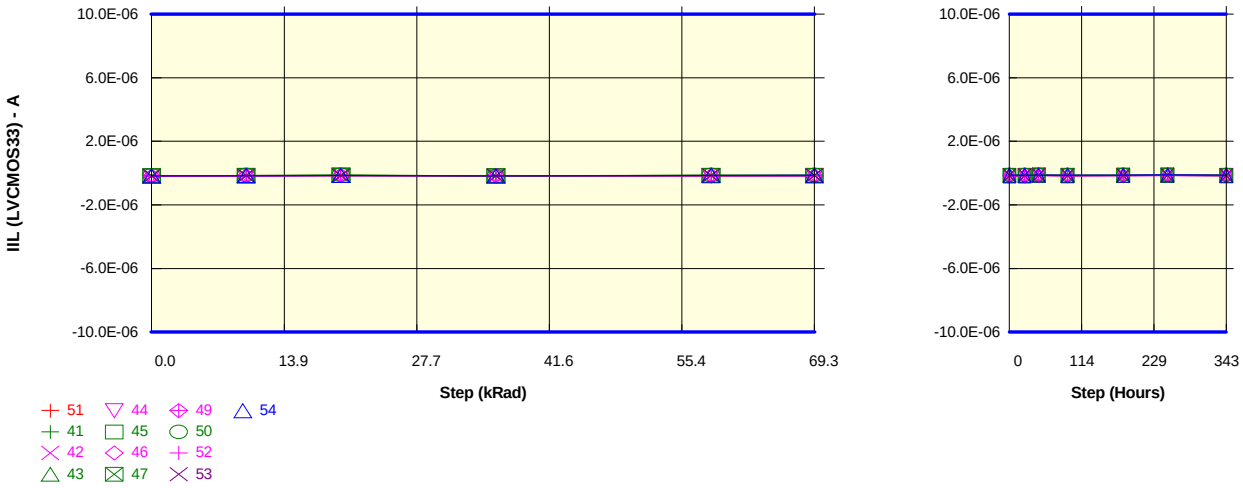
IIH (LVCMOS 25)	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	4.4E-06	4.4E-06	4.4E-06	4.4E-06	4.4E-06	4.6E-06	4.6E-06	4.9E-06	4.3E-06	4.3E-06	4.0E-06	4.1E-06
ON samples												
41	5.3E-06	5.1E-06	4.7E-06	5.6E-06	4.9E-06	5.0E-06	5.0E-06	4.4E-06	4.6E-06	4.6E-06	4.3E-06	4.6E-06
42	5.0E-06	5.0E-06	4.6E-06	4.3E-06	4.8E-06	4.8E-06	4.8E-06	4.3E-06	4.4E-06	4.6E-06	4.2E-06	4.6E-06
43	4.7E-06	4.7E-06	4.1E-06	5.8E-06	4.7E-06	5.2E-06	5.2E-06	4.7E-06	4.3E-06	4.4E-06	4.0E-06	4.4E-06
44	4.6E-06	4.7E-06	4.8E-06	5.1E-06	5.5E-06	4.7E-06	4.7E-06	4.1E-06	4.3E-06	4.2E-06	4.0E-06	4.4E-06
45	5.2E-06	5.4E-06	5.3E-06	4.8E-06	5.9E-06	5.3E-06	5.3E-06	5.9E-06	4.9E-06	5.2E-06	5.5E-06	5.3E-06
46	4.8E-06	5.0E-06	4.3E-06	5.7E-06	5.2E-06	5.0E-06	5.0E-06	5.7E-06	4.5E-06	5.9E-06	5.6E-06	5.1E-06
47	4.5E-06	4.9E-06	4.2E-06	5.3E-06	4.9E-06	4.8E-06	4.8E-06	5.3E-06	4.8E-06	5.3E-06	4.1E-06	5.0E-06
49	4.7E-06	4.9E-06	4.4E-06	5.3E-06	5.0E-06	4.9E-06	4.9E-06	5.0E-06	5.5E-06	5.4E-06	5.2E-06	4.6E-06
50	4.4E-06	4.4E-06	3.9E-06	4.4E-06	4.9E-06	4.7E-06	4.7E-06	4.9E-06	4.4E-06	4.9E-06	4.0E-06	4.5E-06
52	4.5E-06	4.5E-06	4.1E-06	4.9E-06	5.6E-06	4.6E-06	4.6E-06	5.5E-06	4.4E-06	5.2E-06	5.0E-06	5.1E-06
Statistics												
Min	4.4E-06	4.4E-06	3.9E-06	4.3E-06	4.7E-06	4.6E-06	4.6E-06	4.1E-06	4.3E-06	4.2E-06	4.0E-06	4.4E-06
Max	5.3E-06	5.4E-06	5.3E-06	5.8E-06	5.9E-06	5.3E-06	5.3E-06	5.9E-06	5.5E-06	5.9E-06	5.6E-06	5.3E-06
Average	4.8E-06	4.9E-06	4.4E-06	5.1E-06	5.1E-06	4.9E-06	4.9E-06	5.0E-06	4.6E-06	5.0E-06	4.6E-06	4.7E-06
Sigma	300.8E-09	262.7E-09	383.0E-09	491.9E-09	390.2E-09	221.5E-09	221.5E-09	567.5E-09	345.1E-09	505.5E-09	619.7E-09	309.7E-09

Measurements

IIH (LVCMOS 25)	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	4.4E-06	4.4E-06	4.4E-06	4.4E-06	4.4E-06	4.6E-06	4.6E-06	4.9E-06	4.3E-06	4.3E-06	4.0E-06	4.1E-06
OFF samples												
53	4.7E-06	4.7E-06	4.4E-06	5.1E-06	4.8E-06	4.3E-06	4.3E-06	5.4E-06	4.8E-06	5.8E-06	4.1E-06	4.6E-06
54	5.4E-06	5.6E-06	5.6E-06	5.3E-06	5.2E-06	5.1E-06	5.1E-06	5.0E-06	4.9E-06	5.2E-06	5.1E-06	5.2E-06
Statistics												
Min	4.7E-06	4.7E-06	4.4E-06	5.1E-06	4.8E-06	4.3E-06	4.3E-06	5.0E-06	4.8E-06	5.2E-06	4.1E-06	4.6E-06
Max	5.4E-06	5.6E-06	5.6E-06	5.3E-06	5.2E-06	5.1E-06	5.1E-06	5.4E-06	4.9E-06	5.8E-06	5.1E-06	5.2E-06
Average	5.0E-06	5.1E-06	5.0E-06	5.2E-06	5.0E-06	4.7E-06	4.7E-06	5.2E-06	4.9E-06	5.5E-06	4.6E-06	4.9E-06
Sigma	315.0E-09	445.0E-09	565.0E-09	90.0E-09	190.0E-09	440.0E-09	440.0E-09	235.0E-09	27.5E-09	267.5E-09	467.5E-09	312.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)pllpd

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

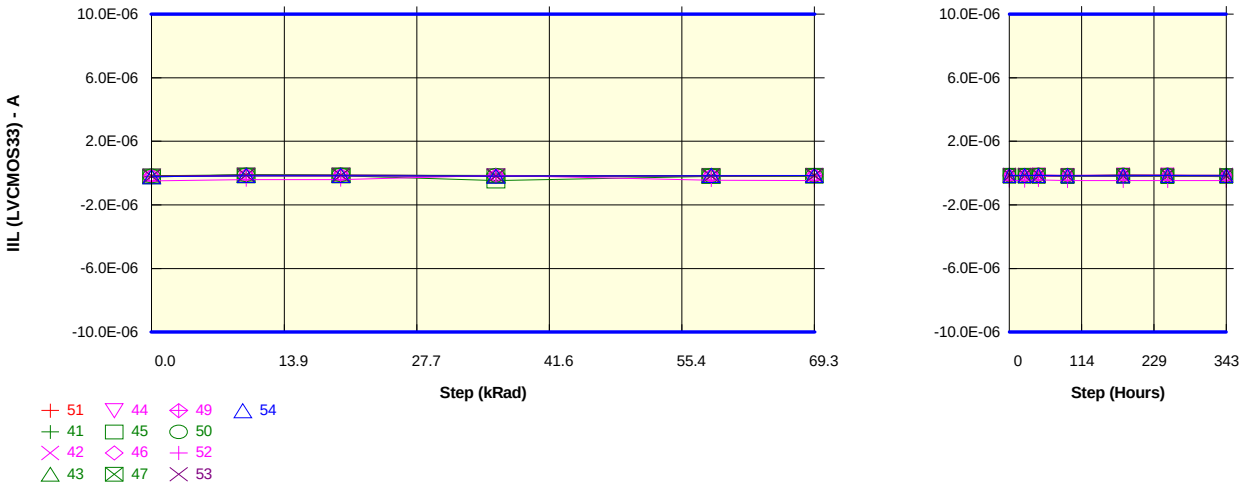
IIL (LVCMOS33)pllpd	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-157.5E-09	-137.0E-09	-137.0E-09	-148.0E-09	-159.0E-09	-162.0E-09	-162.0E-09	-137.5E-09	-163.0E-09	-142.5E-09	-130.0E-09	-148.5E-09
ON samples												
41	-166.5E-09	-132.5E-09	-119.0E-09	-151.0E-09	-124.5E-09	-126.0E-09	-126.0E-09	-109.0E-09	-114.0E-09	-111.5E-09	-103.5E-09	-117.5E-09
42	-178.0E-09	-148.0E-09	-133.5E-09	-170.0E-09	-142.0E-09	-147.0E-09	-147.0E-09	-126.0E-09	-132.0E-09	-130.0E-09	-119.0E-09	-137.5E-09
43	-183.0E-09	-158.0E-09	-140.0E-09	-166.5E-09	-152.5E-09	-154.5E-09	-154.5E-09	-133.5E-09	-144.5E-09	-139.0E-09	-128.0E-09	-148.0E-09
44	-166.5E-09	-147.0E-09	-129.5E-09	-161.5E-09	-142.0E-09	-144.5E-09	-144.5E-09	-125.0E-09	-138.0E-09	-131.0E-09	-119.0E-09	-139.0E-09
45	-188.5E-09	-172.0E-09	-147.5E-09	-184.5E-09	-159.0E-09	-161.0E-09	-161.0E-09	-142.0E-09	-154.5E-09	-147.5E-09	-135.5E-09	-154.0E-09
46	-192.0E-09	-179.0E-09	-146.5E-09	-144.5E-09	-172.5E-09	-175.0E-09	-175.0E-09	-154.0E-09	-168.5E-09	-160.5E-09	-145.5E-09	-167.5E-09
47	-156.5E-09	-149.0E-09	-122.5E-09	-169.5E-09	-143.0E-09	-146.0E-09	-146.0E-09	-127.0E-09	-140.0E-09	-136.0E-09	-123.0E-09	-138.5E-09
49	-178.5E-09	-163.0E-09	-132.5E-09	-173.5E-09	-152.0E-09	-150.0E-09	-150.0E-09	-131.5E-09	-146.5E-09	-142.0E-09	-128.5E-09	-144.0E-09
50	-152.0E-09	-132.5E-09	-111.5E-09	-189.5E-09	-119.5E-09	-121.0E-09	-121.0E-09	-107.0E-09	-118.5E-09	-115.0E-09	-104.5E-09	-115.0E-09
52	-204.5E-09	-167.0E-09	-162.5E-09	-139.0E-09	-159.0E-09	-157.5E-09	-157.5E-09	-139.0E-09	-153.5E-09	-149.5E-09	-134.5E-09	-149.0E-09
Statistics												
Min	-204.5E-09	-179.0E-09	-162.5E-09	-189.5E-09	-172.5E-09	-175.0E-09	-175.0E-09	-154.0E-09	-168.5E-09	-160.5E-09	-145.5E-09	-167.5E-09
Max	-152.0E-09	-132.5E-09	-111.5E-09	-139.0E-09	-119.5E-09	-121.0E-09	-121.0E-09	-107.0E-09	-114.0E-09	-111.5E-09	-103.5E-09	-115.0E-09
Average	-176.6E-09	-154.8E-09	-134.5E-09	-165.0E-09	-146.6E-09	-148.3E-09	-148.3E-09	-129.4E-09	-141.0E-09	-136.2E-09	-124.1E-09	-141.0E-09
Sigma	15.5E-09	15.0E-09	14.4E-09	15.5E-09	15.2E-09	15.0E-09	15.0E-09	13.5E-09	15.7E-09	14.4E-09	12.6E-09	15.0E-09

Measurements

IIL (LVCMOS33)pllpd	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-157.5E-09	-137.0E-09	-137.0E-09	-148.0E-09	-159.0E-09	-162.0E-09	-162.0E-09	-137.5E-09	-163.0E-09	-142.5E-09	-130.0E-09	-148.5E-09
OFF samples												
53	-193.0E-09	-160.5E-09	-157.0E-09	-185.0E-09	-150.5E-09	-141.0E-09	-141.0E-09	-131.5E-09	-143.5E-09	-140.0E-09	-125.0E-09	-138.0E-09
54	-169.5E-09	-145.5E-09	-139.5E-09	-168.5E-09	-131.0E-09	-123.0E-09	-123.0E-09	-112.0E-09	-124.0E-09	-120.5E-09	-107.5E-09	-120.0E-09
Statistics												
Min	-193.0E-09	-160.5E-09	-157.0E-09	-185.0E-09	-150.5E-09	-141.0E-09	-141.0E-09	-131.5E-09	-143.5E-09	-140.0E-09	-125.0E-09	-138.0E-09
Max	-169.5E-09	-145.5E-09	-139.5E-09	-168.5E-09	-131.0E-09	-123.0E-09	-123.0E-09	-112.0E-09	-124.0E-09	-120.5E-09	-107.5E-09	-120.0E-09
Average	-181.3E-09	-153.0E-09	-148.3E-09	-176.8E-09	-140.8E-09	-132.0E-09	-132.0E-09	-121.8E-09	-133.8E-09	-130.3E-09	-116.3E-09	-129.0E-09
Sigma	11.7E-09	7.5E-09	8.8E-09	8.3E-09	9.8E-09	9.0E-09	9.0E-09	9.8E-09	9.8E-09	9.8E-09	8.8E-09	9.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sm_cs

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

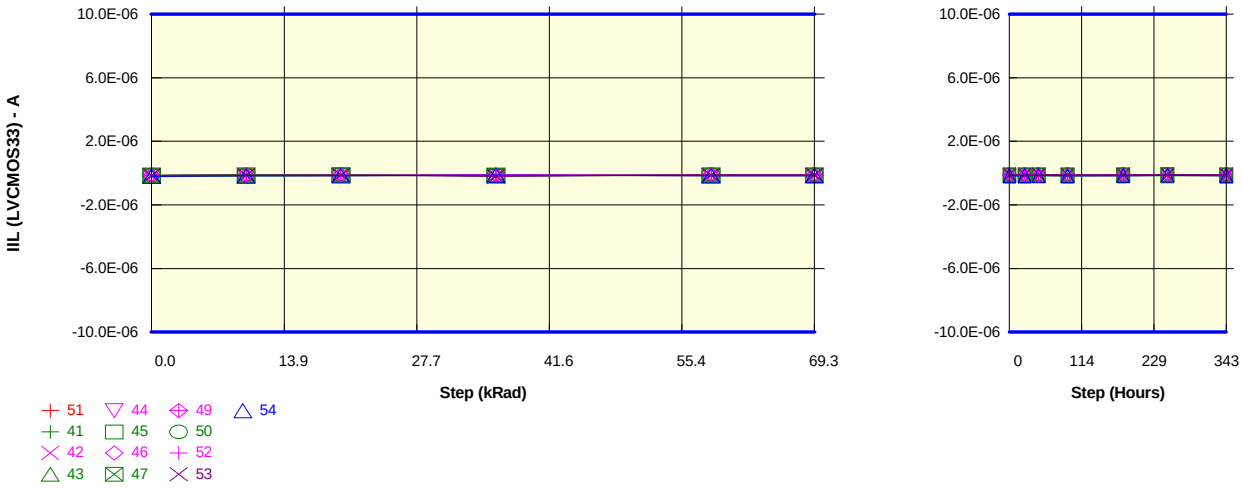
IIL (LVCMOS33)sm_cs	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-204.5E-09	-131.5E-09	-147.5E-09	-156.0E-09	-168.5E-09	-164.5E-09	-164.5E-09	-151.0E-09	-181.5E-09	-160.5E-09	-157.0E-09	-152.5E-09
ON samples												
41	-226.5E-09	-144.5E-09	-147.0E-09	-178.0E-09	-174.0E-09	-167.0E-09	-167.0E-09	-170.5E-09	-193.5E-09	-187.5E-09	-173.5E-09	-216.0E-09
42	-173.0E-09	-150.5E-09	-154.0E-09	-140.0E-09	-159.5E-09	-190.5E-09	-190.5E-09	-181.5E-09	-151.0E-09	-178.0E-09	-157.0E-09	-181.0E-09
43	-190.0E-09	-121.0E-09	-124.0E-09	-144.0E-09	-186.5E-09	-146.5E-09	-146.5E-09	-195.0E-09	-163.0E-09	-154.5E-09	-187.5E-09	-133.0E-09
44	-187.0E-09	-116.0E-09	-118.5E-09	-169.5E-09	-143.5E-09	-137.0E-09	-137.0E-09	-118.0E-09	-137.0E-09	-122.5E-09	-116.5E-09	-180.5E-09
45	-225.0E-09	-153.5E-09	-160.0E-09	-481.5E-09	-204.5E-09	-190.0E-09	-190.0E-09	-168.0E-09	-176.5E-09	-169.0E-09	-187.5E-09	-188.0E-09
46	-198.0E-09	-128.5E-09	-120.5E-09	-175.5E-09	-146.0E-09	-141.0E-09	-141.0E-09	-133.5E-09	-135.0E-09	-142.0E-09	-134.5E-09	-158.5E-09
47	-187.5E-09	-122.0E-09	-132.0E-09	-187.0E-09	-156.5E-09	-151.5E-09	-151.5E-09	-149.0E-09	-172.0E-09	-166.0E-09	-172.5E-09	-154.5E-09
49	-177.5E-09	-159.5E-09	-157.5E-09	-144.5E-09	-172.0E-09	-165.0E-09	-165.0E-09	-214.5E-09	-166.0E-09	-171.5E-09	-164.0E-09	-178.0E-09
50	-173.5E-09	-100.5E-09	-111.0E-09	-151.5E-09	-154.5E-09	-146.0E-09	-146.0E-09	-132.5E-09	-148.0E-09	-122.5E-09	-129.0E-09	-171.0E-09
52	-494.5E-09	-404.5E-09	-412.0E-09	-128.5E-09	-430.5E-09	-454.5E-09	-454.5E-09	-415.5E-09	-466.5E-09	-467.0E-09	-458.0E-09	-465.0E-09
Statistics												
Min	-494.5E-09	-404.5E-09	-412.0E-09	-481.5E-09	-430.5E-09	-454.5E-09	-454.5E-09	-415.5E-09	-466.5E-09	-467.0E-09	-458.0E-09	-465.0E-09
Max	-173.0E-09	-100.5E-09	-111.0E-09	-128.5E-09	-143.5E-09	-137.0E-09	-137.0E-09	-118.0E-09	-135.0E-09	-122.5E-09	-116.5E-09	-133.0E-09
Average	-223.3E-09	-160.1E-09	-163.7E-09	-190.0E-09	-192.8E-09	-188.9E-09	-188.9E-09	-187.8E-09	-190.9E-09	-188.1E-09	-188.0E-09	-202.6E-09
Sigma	92.2E-09	83.4E-09	84.5E-09	98.8E-09	81.2E-09	90.3E-09	90.3E-09	81.1E-09	93.5E-09	95.3E-09	92.9E-09	89.9E-09

Measurements

IIL (LVCMOS33)sm_cs	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-204.5E-09	-131.5E-09	-147.5E-09	-156.0E-09	-168.5E-09	-164.5E-09	-164.5E-09	-151.0E-09	-181.5E-09	-160.5E-09	-157.0E-09	-152.5E-09
OFF samples												
53	-194.0E-09	-119.0E-09	-135.0E-09	-180.5E-09	-177.5E-09	-133.5E-09	-133.5E-09	-121.0E-09	-142.0E-09	-122.5E-09	-112.5E-09	-124.0E-09
54	-226.0E-09	-149.5E-09	-151.0E-09	-190.0E-09	-148.5E-09	-143.5E-09	-143.5E-09	-144.0E-09	-159.5E-09	-157.5E-09	-141.0E-09	-149.0E-09
Statistics												
Min	-226.0E-09	-149.5E-09	-151.0E-09	-190.0E-09	-177.5E-09	-143.5E-09	-143.5E-09	-144.0E-09	-159.5E-09	-157.5E-09	-141.0E-09	-149.0E-09
Max	-194.0E-09	-119.0E-09	-135.0E-09	-180.5E-09	-148.5E-09	-133.5E-09	-133.5E-09	-121.0E-09	-142.0E-09	-122.5E-09	-112.5E-09	-124.0E-09
Average	-210.0E-09	-134.3E-09	-143.0E-09	-185.3E-09	-163.0E-09	-138.5E-09	-138.5E-09	-132.5E-09	-150.8E-09	-140.0E-09	-126.8E-09	-136.5E-09
Sigma	16.0E-09	15.3E-09	8.0E-09	4.8E-09	14.5E-09	5.0E-09	5.0E-09	11.5E-09	8.8E-09	17.5E-09	14.3E-09	12.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)srrst

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

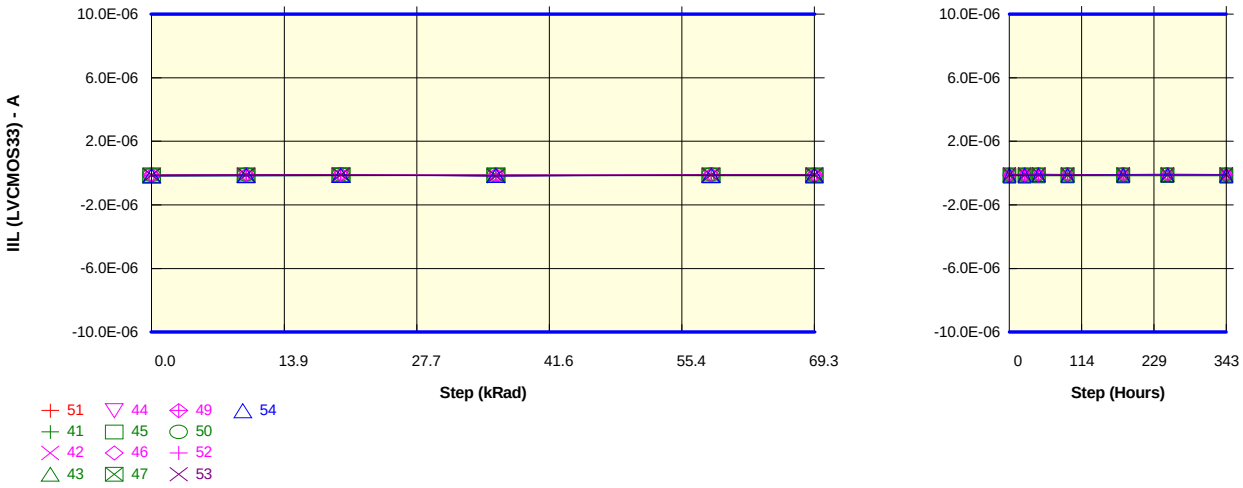
IIL (LVCMOS 33)srrst	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-133.0E-09	-113.5E-09	-113.5E-09	-124.0E-09	-134.0E-09	-136.0E-09	-136.0E-09	-115.0E-09	-137.0E-09	-117.5E-09	-107.0E-09	-123.0E-09
ON samples												
41	-127.5E-09	-97.0E-09	-86.2E-09	-186.0E-09	-87.4E-09	-89.6E-09	-89.6E-09	-78.6E-09	-83.5E-09	-80.4E-09	-74.4E-09	-86.0E-09
42	-209.5E-09	-170.5E-09	-151.5E-09	-120.0E-09	-157.0E-09	-164.5E-09	-164.5E-09	-144.5E-09	-153.0E-09	-148.5E-09	-137.5E-09	-158.0E-09
43	-135.0E-09	-113.5E-09	-99.5E-09	-133.5E-09	-106.5E-09	-110.0E-09	-110.0E-09	-96.0E-09	-104.5E-09	-99.5E-09	-90.6E-09	-108.0E-09
44	-140.0E-09	-121.0E-09	-103.5E-09	-126.5E-09	-112.0E-09	-115.0E-09	-115.0E-09	-101.5E-09	-112.5E-09	-105.5E-09	-98.0E-09	-114.5E-09
45	-219.5E-09	-191.0E-09	-165.5E-09	-138.5E-09	-175.5E-09	-179.5E-09	-179.5E-09	-163.0E-09	-180.0E-09	-171.0E-09	-157.5E-09	-179.5E-09
46	-153.5E-09	-137.0E-09	-109.5E-09	-107.5E-09	-130.5E-09	-133.0E-09	-133.0E-09	-119.0E-09	-132.0E-09	-124.0E-09	-113.5E-09	-130.5E-09
47	-128.5E-09	-119.5E-09	-95.0E-09	-192.0E-09	-109.5E-09	-113.5E-09	-113.5E-09	-101.0E-09	-112.0E-09	-106.5E-09	-97.5E-09	-109.0E-09
49	-132.5E-09	-119.0E-09	-95.5E-09	-124.5E-09	-108.0E-09	-106.0E-09	-106.0E-09	-95.5E-09	-107.0E-09	-102.0E-09	-92.2E-09	-104.5E-09
50	-126.5E-09	-106.5E-09	-87.1E-09	-144.0E-09	-95.5E-09	-98.0E-09	-98.0E-09	-85.9E-09	-98.0E-09	-92.3E-09	-83.4E-09	-95.0E-09
52	-160.5E-09	-128.0E-09	-122.5E-09	-116.0E-09	-117.5E-09	-118.5E-09	-118.5E-09	-106.5E-09	-118.5E-09	-114.5E-09	-104.5E-09	-115.5E-09
Statistics												
Min	-219.5E-09	-191.0E-09	-165.5E-09	-192.0E-09	-175.5E-09	-179.5E-09	-179.5E-09	-163.0E-09	-180.0E-09	-171.0E-09	-157.5E-09	-179.5E-09
Max	-126.5E-09	-97.0E-09	-86.2E-09	-107.5E-09	-87.4E-09	-89.6E-09	-89.6E-09	-78.6E-09	-83.5E-09	-80.4E-09	-74.4E-09	-86.0E-09
Average	-153.3E-09	-130.3E-09	-111.6E-09	-138.9E-09	-119.9E-09	-122.8E-09	-122.8E-09	-109.1E-09	-120.1E-09	-114.4E-09	-104.9E-09	-120.1E-09
Sigma	32.5E-09	27.6E-09	25.7E-09	27.1E-09	25.9E-09	27.2E-09	27.2E-09	24.9E-09	26.8E-09	25.7E-09	24.0E-09	27.3E-09

Measurements

IIL (LVCMOS 33)srrst	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-133.0E-09	-113.5E-09	-113.5E-09	-124.0E-09	-134.0E-09	-136.0E-09	-136.0E-09	-115.0E-09	-137.0E-09	-117.5E-09	-107.0E-09	-123.0E-09
OFF samples												
53	-136.5E-09	-111.5E-09	-109.5E-09	-209.0E-09	-104.0E-09	-97.5E-09	-97.5E-09	-88.4E-09	-99.5E-09	-95.5E-09	-83.9E-09	-95.5E-09
54	-208.5E-09	-177.5E-09	-170.0E-09	-123.5E-09	-160.5E-09	-152.0E-09	-152.0E-09	-138.0E-09	-153.0E-09	-148.0E-09	-133.5E-09	-148.0E-09
Statistics												
Min	-208.5E-09	-177.5E-09	-170.0E-09	-209.0E-09	-160.5E-09	-152.0E-09	-152.0E-09	-138.0E-09	-153.0E-09	-148.0E-09	-133.5E-09	-148.0E-09
Max	-136.5E-09	-111.5E-09	-109.5E-09	-123.5E-09	-104.0E-09	-97.5E-09	-97.5E-09	-88.4E-09	-99.5E-09	-95.5E-09	-83.9E-09	-95.5E-09
Average	-172.5E-09	-144.5E-09	-139.8E-09	-166.3E-09	-132.3E-09	-124.8E-09	-124.8E-09	-113.2E-09	-126.3E-09	-121.8E-09	-108.7E-09	-121.8E-09
Sigma	36.0E-09	33.0E-09	30.3E-09	42.8E-09	28.3E-09	27.3E-09	27.3E-09	24.8E-09	26.8E-09	26.3E-09	24.8E-09	26.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram8

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

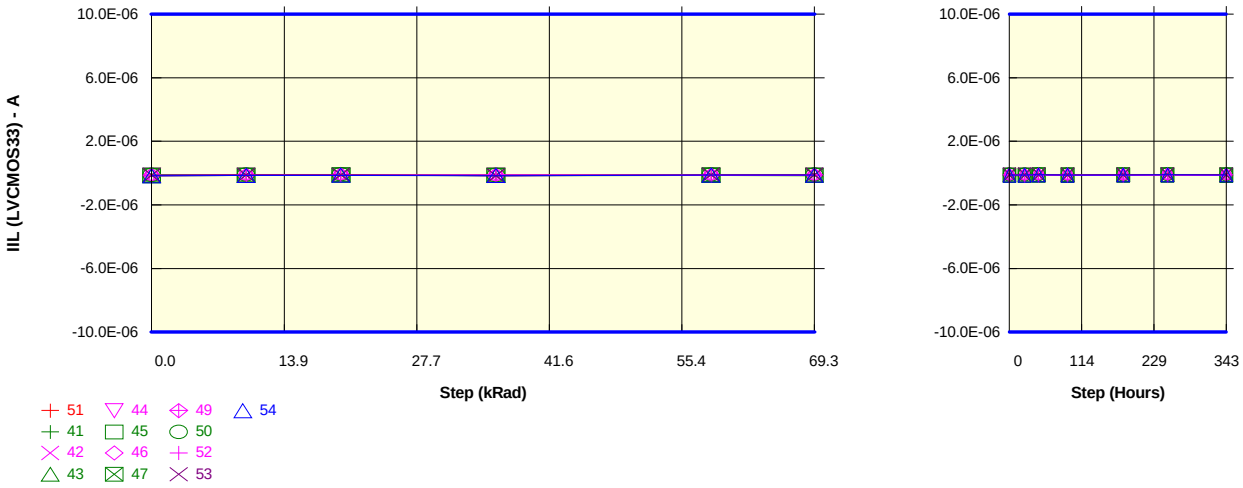
IIL (LVCMOS33)sram8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-123.5E-09	-105.5E-09	-105.0E-09	-116.5E-09	-123.5E-09	-125.5E-09	-125.5E-09	-106.0E-09	-126.5E-09	-109.5E-09	-99.5E-09	-114.5E-09
ON samples												
41	-162.5E-09	-130.5E-09	-119.5E-09	-158.5E-09	-131.0E-09	-140.0E-09	-140.0E-09	-120.0E-09	-126.5E-09	-122.5E-09	-115.5E-09	-133.0E-09
42	-145.0E-09	-123.0E-09	-113.0E-09	-97.5E-09	-127.0E-09	-136.0E-09	-136.0E-09	-115.0E-09	-121.5E-09	-119.5E-09	-112.0E-09	-128.5E-09
43	-136.0E-09	-121.0E-09	-108.5E-09	-136.0E-09	-122.0E-09	-131.0E-09	-131.0E-09	-111.5E-09	-120.0E-09	-115.5E-09	-108.0E-09	-126.0E-09
44	-132.5E-09	-119.5E-09	-105.0E-09	-131.0E-09	-122.0E-09	-128.5E-09	-128.5E-09	-111.0E-09	-121.5E-09	-115.5E-09	-108.5E-09	-126.5E-09
45	-180.5E-09	-164.0E-09	-146.0E-09	-115.0E-09	-167.0E-09	-177.0E-09	-177.0E-09	-156.5E-09	-169.5E-09	-163.0E-09	-152.5E-09	-172.5E-09
46	-116.5E-09	-109.5E-09	-88.2E-09	-147.5E-09	-112.0E-09	-117.0E-09	-117.0E-09	-102.0E-09	-112.5E-09	-106.0E-09	-99.5E-09	-113.5E-09
47	-123.0E-09	-120.0E-09	-98.0E-09	-146.0E-09	-119.0E-09	-126.0E-09	-126.0E-09	-110.0E-09	-120.0E-09	-115.5E-09	-107.5E-09	-120.5E-09
49	-145.0E-09	-134.5E-09	-112.0E-09	-134.5E-09	-134.5E-09	-140.5E-09	-140.5E-09	-122.0E-09	-135.0E-09	-131.0E-09	-121.5E-09	-135.0E-09
50	-112.5E-09	-99.0E-09	-84.0E-09	-118.5E-09	-96.5E-09	-102.0E-09	-102.0E-09	-88.9E-09	-99.0E-09	-96.0E-09	-87.5E-09	-98.5E-09
52	-122.5E-09	-101.5E-09	-100.0E-09	-112.0E-09	-102.5E-09	-104.5E-09	-104.5E-09	-90.9E-09	-101.0E-09	-98.0E-09	-89.6E-09	-100.5E-09
Statistics												
Min	-180.5E-09	-164.0E-09	-146.0E-09	-158.5E-09	-167.0E-09	-177.0E-09	-177.0E-09	-156.5E-09	-169.5E-09	-163.0E-09	-152.5E-09	-172.5E-09
Max	-112.5E-09	-99.0E-09	-84.0E-09	-97.5E-09	-96.5E-09	-102.0E-09	-102.0E-09	-88.9E-09	-99.0E-09	-96.0E-09	-87.5E-09	-98.5E-09
Average	-137.6E-09	-122.3E-09	-107.4E-09	-129.7E-09	-123.4E-09	-130.3E-09	-130.3E-09	-112.8E-09	-122.7E-09	-118.3E-09	-110.2E-09	-125.5E-09
Sigma	20.3E-09	17.6E-09	16.6E-09	17.8E-09	18.5E-09	20.2E-09	20.2E-09	18.0E-09	18.7E-09	18.1E-09	17.4E-09	19.7E-09

Measurements

IIL (LVCMOS33)sram8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-123.5E-09	-105.5E-09	-105.0E-09	-116.5E-09	-123.5E-09	-125.5E-09	-125.5E-09	-106.0E-09	-126.5E-09	-109.5E-09	-99.5E-09	-114.5E-09
OFF samples												
53	-109.0E-09	-87.6E-09	-85.8E-09	-184.5E-09	-82.3E-09	-76.4E-09	-76.4E-09	-70.0E-09	-77.9E-09	-75.2E-09	-67.0E-09	-74.4E-09
54	-170.5E-09	-149.0E-09	-141.5E-09	-145.0E-09	-136.0E-09	-129.0E-09	-129.0E-09	-116.0E-09	-129.5E-09	-125.0E-09	-114.0E-09	-125.0E-09
Statistics												
Min	-170.5E-09	-149.0E-09	-141.5E-09	-184.5E-09	-136.0E-09	-129.0E-09	-129.0E-09	-116.0E-09	-129.5E-09	-125.0E-09	-114.0E-09	-125.0E-09
Max	-109.0E-09	-87.6E-09	-85.8E-09	-145.0E-09	-82.3E-09	-76.4E-09	-76.4E-09	-70.0E-09	-77.9E-09	-75.2E-09	-67.0E-09	-74.4E-09
Average	-139.8E-09	-118.3E-09	-113.6E-09	-164.8E-09	-109.2E-09	-102.7E-09	-102.7E-09	-93.0E-09	-103.7E-09	-100.1E-09	-90.5E-09	-99.7E-09
Sigma	30.8E-09	30.7E-09	27.9E-09	19.8E-09	26.9E-09	26.3E-09	26.3E-09	23.0E-09	25.8E-09	24.9E-09	23.5E-09	25.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram7

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

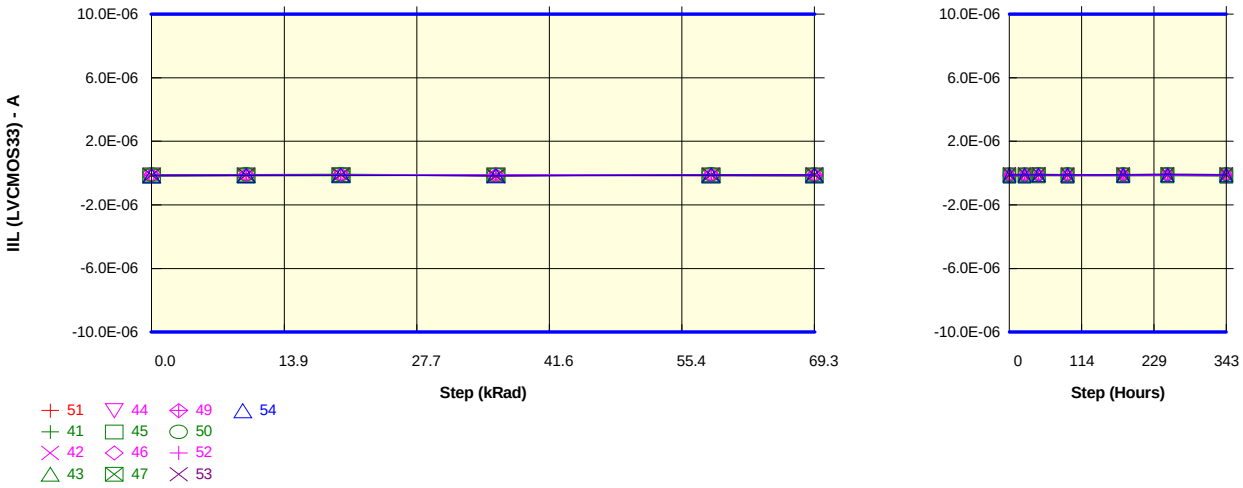
IIL (LVCMOS 33)sram7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-99.5E-09	-100.0E-09	-108.0E-09	-118.0E-09	-120.0E-09	-120.0E-09	-101.0E-09	-121.0E-09	-103.5E-09	-92.8E-09	-108.5E-09
ON samples												
41	-164.0E-09	-129.5E-09	-117.5E-09	-145.5E-09	-126.5E-09	-133.5E-09	-133.5E-09	-114.5E-09	-120.5E-09	-117.5E-09	-109.0E-09	-126.5E-09
42	-148.0E-09	-124.5E-09	-113.0E-09	-114.0E-09	-123.0E-09	-131.5E-09	-131.5E-09	-112.5E-09	-118.0E-09	-115.5E-09	-107.0E-09	-124.0E-09
43	-136.5E-09	-118.5E-09	-106.5E-09	-131.5E-09	-118.5E-09	-126.0E-09	-126.0E-09	-107.0E-09	-115.5E-09	-111.0E-09	-102.5E-09	-121.0E-09
44	-132.5E-09	-117.0E-09	-103.0E-09	-109.5E-09	-115.5E-09	-123.0E-09	-123.0E-09	-106.0E-09	-115.5E-09	-109.5E-09	-101.5E-09	-120.0E-09
45	-155.0E-09	-138.0E-09	-122.0E-09	-112.5E-09	-139.0E-09	-146.0E-09	-146.0E-09	-128.5E-09	-139.0E-09	-133.0E-09	-123.5E-09	-142.0E-09
46	-121.5E-09	-110.5E-09	-89.3E-09	-144.5E-09	-111.5E-09	-115.0E-09	-115.0E-09	-101.0E-09	-111.0E-09	-104.5E-09	-95.5E-09	-111.0E-09
47	-106.0E-09	-101.5E-09	-81.7E-09	-144.0E-09	-98.0E-09	-103.5E-09	-103.5E-09	-89.6E-09	-99.0E-09	-95.0E-09	-86.4E-09	-99.0E-09
49	-152.5E-09	-138.5E-09	-114.5E-09	-132.0E-09	-135.0E-09	-139.5E-09	-139.5E-09	-122.0E-09	-135.0E-09	-130.0E-09	-119.5E-09	-133.5E-09
50	-102.5E-09	-87.1E-09	-73.9E-09	-118.5E-09	-83.2E-09	-88.1E-09	-88.1E-09	-77.3E-09	-85.5E-09	-82.2E-09	-74.9E-09	-84.0E-09
52	-123.5E-09	-100.5E-09	-98.5E-09	-97.5E-09	-98.0E-09	-101.0E-09	-101.0E-09	-87.8E-09	-98.5E-09	-94.3E-09	-86.0E-09	-96.0E-09
Statistics												
Min	-164.0E-09	-138.5E-09	-122.0E-09	-145.5E-09	-139.0E-09	-146.0E-09	-146.0E-09	-128.5E-09	-139.0E-09	-133.0E-09	-123.5E-09	-142.0E-09
Max	-102.5E-09	-87.1E-09	-73.9E-09	-97.5E-09	-83.2E-09	-88.1E-09	-88.1E-09	-77.3E-09	-85.5E-09	-82.2E-09	-74.9E-09	-84.0E-09
Average	-134.2E-09	-116.6E-09	-102.0E-09	-125.0E-09	-114.8E-09	-120.7E-09	-120.7E-09	-104.6E-09	-113.7E-09	-109.2E-09	-100.6E-09	-115.7E-09
Sigma	19.8E-09	16.0E-09	15.2E-09	16.0E-09	16.7E-09	17.6E-09	17.6E-09	15.2E-09	15.5E-09	15.1E-09	14.5E-09	17.1E-09

Measurements

IIL (LVCMOS 33)sram7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-99.5E-09	-100.0E-09	-108.0E-09	-118.0E-09	-120.0E-09	-120.0E-09	-101.0E-09	-121.0E-09	-103.5E-09	-92.8E-09	-108.5E-09
OFF samples												
53	-132.0E-09	-107.0E-09	-103.5E-09	-158.0E-09	-98.0E-09	-90.9E-09	-90.9E-09	-83.7E-09	-92.7E-09	-89.6E-09	-79.4E-09	-88.6E-09
54	-162.0E-09	-137.0E-09	-132.0E-09	-147.0E-09	-126.0E-09	-119.0E-09	-119.0E-09	-107.5E-09	-120.5E-09	-116.0E-09	-103.0E-09	-115.0E-09
Statistics												
Min	-162.0E-09	-137.0E-09	-132.0E-09	-158.0E-09	-126.0E-09	-119.0E-09	-119.0E-09	-107.5E-09	-120.5E-09	-116.0E-09	-103.0E-09	-115.0E-09
Max	-132.0E-09	-107.0E-09	-103.5E-09	-147.0E-09	-98.0E-09	-90.9E-09	-90.9E-09	-83.7E-09	-92.7E-09	-89.6E-09	-79.4E-09	-88.6E-09
Average	-147.0E-09	-122.0E-09	-117.8E-09	-152.5E-09	-112.0E-09	-104.9E-09	-104.9E-09	-95.6E-09	-106.6E-09	-102.8E-09	-91.2E-09	-101.8E-09
Sigma	15.0E-09	15.0E-09	14.3E-09	5.5E-09	14.0E-09	14.1E-09	14.1E-09	11.9E-09	13.9E-09	13.2E-09	11.8E-09	13.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram6

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

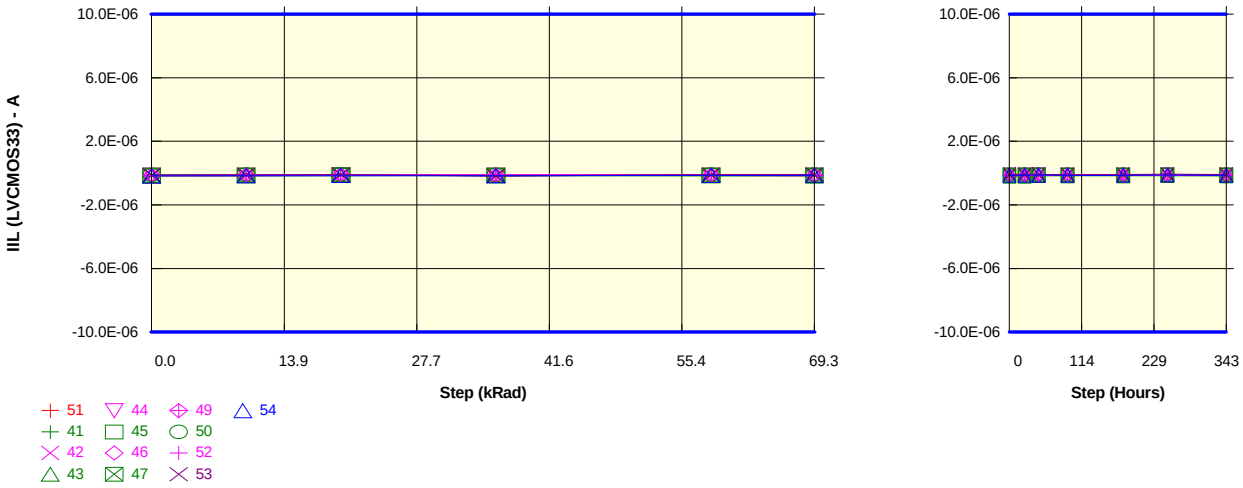
IIL (LVCMOS33)sram6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-100.0E-09	-100.0E-09	-109.0E-09	-117.5E-09	-120.0E-09	-120.0E-09	-101.0E-09	-120.5E-09	-103.5E-09	-93.2E-09	-108.5E-09
ON samples												
41	-169.5E-09	-134.0E-09	-123.5E-09	-149.5E-09	-136.0E-09	-144.5E-09	-144.5E-09	-124.5E-09	-130.0E-09	-127.0E-09	-118.0E-09	-137.0E-09
42	-147.0E-09	-122.5E-09	-113.0E-09	-102.0E-09	-125.5E-09	-135.0E-09	-135.0E-09	-115.0E-09	-121.0E-09	-118.0E-09	-109.5E-09	-127.0E-09
43	-136.0E-09	-118.0E-09	-105.5E-09	-128.5E-09	-118.5E-09	-127.5E-09	-127.5E-09	-108.5E-09	-117.0E-09	-112.0E-09	-105.0E-09	-122.5E-09
44	-126.5E-09	-112.5E-09	-99.5E-09	-115.5E-09	-115.0E-09	-122.5E-09	-122.5E-09	-105.5E-09	-114.0E-09	-109.0E-09	-100.5E-09	-118.5E-09
45	-193.0E-09	-176.0E-09	-157.5E-09	-115.0E-09	-177.0E-09	-186.0E-09	-186.0E-09	-164.0E-09	-179.0E-09	-170.5E-09	-159.0E-09	-181.5E-09
46	-120.5E-09	-110.5E-09	-90.5E-09	-153.0E-09	-113.0E-09	-117.5E-09	-117.5E-09	-104.0E-09	-113.0E-09	-107.5E-09	-98.0E-09	-114.0E-09
47	-110.0E-09	-104.5E-09	-85.6E-09	-145.5E-09	-105.0E-09	-112.5E-09	-112.5E-09	-97.0E-09	-107.0E-09	-102.0E-09	-93.4E-09	-106.5E-09
49	-171.5E-09	-157.0E-09	-132.5E-09	-129.5E-09	-157.5E-09	-164.0E-09	-164.0E-09	-143.5E-09	-158.5E-09	-152.5E-09	-141.5E-09	-157.5E-09
50	-95.0E-09	-81.1E-09	-69.2E-09	-119.0E-09	-78.4E-09	-83.3E-09	-83.3E-09	-72.8E-09	-80.8E-09	-77.7E-09	-70.6E-09	-79.2E-09
52	-124.0E-09	-101.5E-09	-100.5E-09	-91.5E-09	-102.5E-09	-105.0E-09	-105.0E-09	-91.7E-09	-102.0E-09	-99.5E-09	-89.5E-09	-100.5E-09
Statistics												
Min	-193.0E-09	-176.0E-09	-157.5E-09	-153.0E-09	-177.0E-09	-186.0E-09	-186.0E-09	-164.0E-09	-179.0E-09	-170.5E-09	-159.0E-09	-181.5E-09
Max	-95.0E-09	-81.1E-09	-69.2E-09	-91.5E-09	-78.4E-09	-83.3E-09	-83.3E-09	-72.8E-09	-80.8E-09	-77.7E-09	-70.6E-09	-79.2E-09
Average	-139.3E-09	-121.8E-09	-107.7E-09	-124.9E-09	-122.8E-09	-129.8E-09	-129.8E-09	-112.6E-09	-122.2E-09	-117.6E-09	-108.5E-09	-124.4E-09
Sigma	29.1E-09	26.3E-09	24.0E-09	19.3E-09	26.8E-09	28.0E-09	28.0E-09	24.8E-09	26.7E-09	25.5E-09	24.4E-09	27.6E-09

Measurements

IIL (LVCMOS33)sram6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-100.0E-09	-100.0E-09	-109.0E-09	-117.5E-09	-120.0E-09	-120.0E-09	-101.0E-09	-120.5E-09	-103.5E-09	-93.2E-09	-108.5E-09
OFF samples												
53	-116.5E-09	-93.3E-09	-91.9E-09	-197.0E-09	-87.0E-09	-81.1E-09	-81.1E-09	-74.5E-09	-82.6E-09	-79.7E-09	-70.3E-09	-78.8E-09
54	-164.0E-09	-140.0E-09	-134.0E-09	-169.0E-09	-127.5E-09	-121.0E-09	-121.0E-09	-109.5E-09	-122.0E-09	-118.0E-09	-105.5E-09	-117.5E-09
Statistics												
Min	-164.0E-09	-140.0E-09	-134.0E-09	-197.0E-09	-127.5E-09	-121.0E-09	-121.0E-09	-109.5E-09	-122.0E-09	-118.0E-09	-105.5E-09	-117.5E-09
Max	-116.5E-09	-93.3E-09	-91.9E-09	-169.0E-09	-87.0E-09	-81.1E-09	-81.1E-09	-74.5E-09	-82.6E-09	-79.7E-09	-70.3E-09	-78.8E-09
Average	-140.3E-09	-116.7E-09	-112.9E-09	-183.0E-09	-107.3E-09	-101.1E-09	-101.1E-09	-92.0E-09	-102.3E-09	-98.9E-09	-87.9E-09	-98.1E-09
Sigma	23.8E-09	23.4E-09	21.1E-09	14.0E-09	20.3E-09	20.0E-09	20.0E-09	17.5E-09	19.7E-09	19.2E-09	17.6E-09	19.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

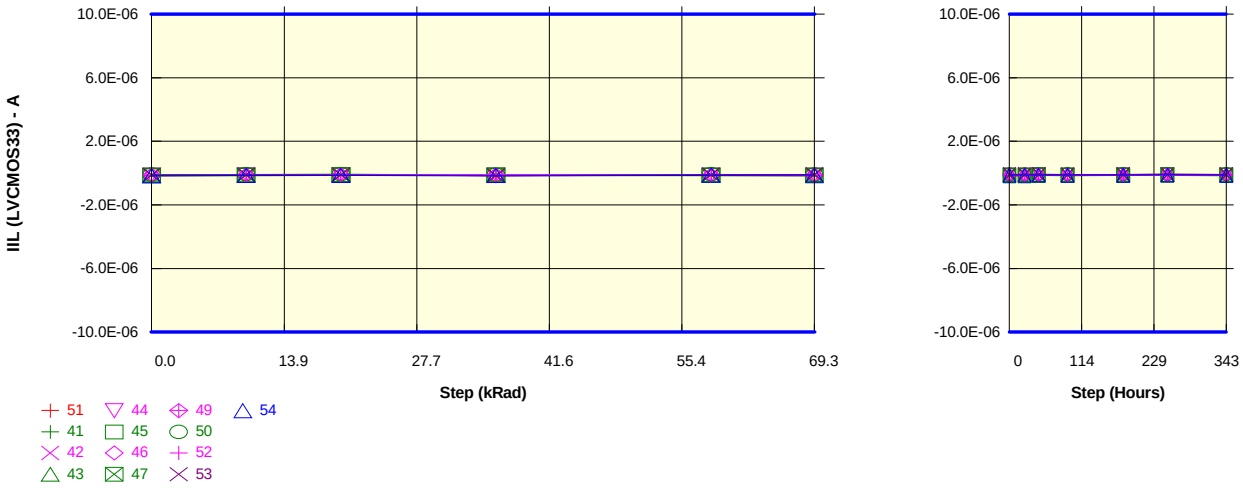
IIL (LVCMOS33)sram5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-112.0E-09	-93.4E-09	-95.0E-09	-102.0E-09	-111.5E-09	-114.0E-09	-114.0E-09	-95.5E-09	-114.5E-09	-98.0E-09	-87.7E-09	-103.0E-09
ON samples												
41	-181.0E-09	-146.5E-09	-135.0E-09	-161.0E-09	-146.0E-09	-155.5E-09	-155.5E-09	-134.5E-09	-140.5E-09	-136.5E-09	-129.0E-09	-149.0E-09
42	-160.0E-09	-135.5E-09	-125.5E-09	-99.5E-09	-139.0E-09	-149.5E-09	-149.5E-09	-127.0E-09	-133.0E-09	-131.0E-09	-123.0E-09	-140.5E-09
43	-135.5E-09	-118.5E-09	-107.0E-09	-121.5E-09	-118.5E-09	-127.5E-09	-127.5E-09	-108.5E-09	-117.0E-09	-112.0E-09	-105.0E-09	-123.0E-09
44	-120.5E-09	-107.5E-09	-95.5E-09	-123.0E-09	-109.5E-09	-116.0E-09	-116.0E-09	-99.0E-09	-108.5E-09	-103.0E-09	-96.0E-09	-113.0E-09
45	-179.5E-09	-164.5E-09	-146.0E-09	-119.5E-09	-164.0E-09	-173.0E-09	-173.0E-09	-152.5E-09	-165.5E-09	-158.0E-09	-147.0E-09	-168.5E-09
46	-129.0E-09	-120.0E-09	-98.5E-09	-162.5E-09	-122.0E-09	-127.5E-09	-127.5E-09	-112.5E-09	-122.5E-09	-116.5E-09	-107.0E-09	-124.0E-09
47	-118.5E-09	-114.5E-09	-93.0E-09	-159.0E-09	-112.0E-09	-120.0E-09	-120.0E-09	-104.5E-09	-115.0E-09	-110.0E-09	-101.5E-09	-114.5E-09
49	-158.5E-09	-146.0E-09	-121.5E-09	-130.0E-09	-142.5E-09	-149.0E-09	-149.0E-09	-130.0E-09	-143.5E-09	-138.5E-09	-128.5E-09	-143.5E-09
50	-111.5E-09	-97.0E-09	-82.1E-09	-126.5E-09	-92.0E-09	-99.0E-09	-99.0E-09	-86.7E-09	-96.0E-09	-92.5E-09	-84.7E-09	-95.0E-09
52	-129.5E-09	-106.5E-09	-105.0E-09	-106.0E-09	-106.5E-09	-110.0E-09	-110.0E-09	-96.0E-09	-106.0E-09	-103.5E-09	-93.7E-09	-105.0E-09
Statistics												
Min	-181.0E-09	-164.5E-09	-146.0E-09	-162.5E-09	-164.0E-09	-173.0E-09	-173.0E-09	-152.5E-09	-165.5E-09	-158.0E-09	-147.0E-09	-168.5E-09
Max	-111.5E-09	-97.0E-09	-82.1E-09	-99.5E-09	-92.0E-09	-99.0E-09	-99.0E-09	-86.7E-09	-96.0E-09	-92.5E-09	-84.7E-09	-95.0E-09
Average	-142.4E-09	-125.7E-09	-110.9E-09	-130.9E-09	-125.2E-09	-132.7E-09	-132.7E-09	-115.1E-09	-124.8E-09	-120.2E-09	-111.5E-09	-127.6E-09
Sigma	24.2E-09	20.4E-09	19.3E-09	21.5E-09	20.9E-09	22.0E-09	22.0E-09	19.3E-09	19.8E-09	19.2E-09	18.5E-09	21.3E-09

Measurements

IIL (LVCMOS33)sram5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-112.0E-09	-93.4E-09	-95.0E-09	-102.0E-09	-111.5E-09	-114.0E-09	-114.0E-09	-95.5E-09	-114.5E-09	-98.0E-09	-87.7E-09	-103.0E-09
OFF samples												
53	-112.0E-09	-90.8E-09	-89.8E-09	-183.0E-09	-86.1E-09	-80.3E-09	-80.3E-09	-73.5E-09	-81.8E-09	-78.8E-09	-69.6E-09	-77.8E-09
54	-178.0E-09	-153.5E-09	-146.5E-09	-153.5E-09	-138.5E-09	-131.5E-09	-131.5E-09	-119.5E-09	-133.0E-09	-128.5E-09	-115.5E-09	-128.5E-09
Statistics												
Min	-178.0E-09	-153.5E-09	-146.5E-09	-183.0E-09	-138.5E-09	-131.5E-09	-131.5E-09	-119.5E-09	-133.0E-09	-128.5E-09	-115.5E-09	-128.5E-09
Max	-112.0E-09	-90.8E-09	-89.8E-09	-153.5E-09	-86.1E-09	-80.3E-09	-80.3E-09	-73.5E-09	-81.8E-09	-78.8E-09	-69.6E-09	-77.8E-09
Average	-145.0E-09	-122.1E-09	-118.2E-09	-168.3E-09	-112.3E-09	-105.9E-09	-105.9E-09	-96.5E-09	-107.4E-09	-103.7E-09	-92.5E-09	-103.1E-09
Sigma	33.0E-09	31.4E-09	28.4E-09	14.8E-09	26.2E-09	25.6E-09	25.6E-09	23.0E-09	25.6E-09	24.9E-09	23.0E-09	25.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram4

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

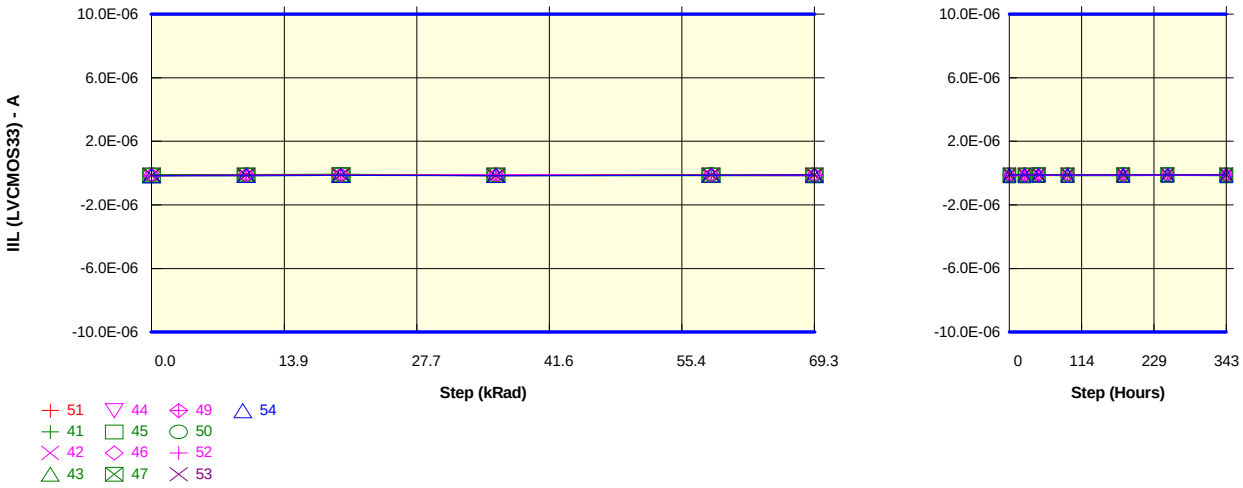
IIL (LVCMOS33)sram4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-98.5E-09	-99.5E-09	-108.0E-09	-117.0E-09	-118.5E-09	-118.5E-09	-100.0E-09	-120.0E-09	-102.5E-09	-92.3E-09	-107.0E-09
ON samples												
41	-172.5E-09	-138.0E-09	-127.5E-09	-152.5E-09	-138.0E-09	-147.0E-09	-147.0E-09	-126.5E-09	-132.0E-09	-128.5E-09	-120.0E-09	-139.5E-09
42	-134.0E-09	-112.5E-09	-103.5E-09	-101.0E-09	-115.5E-09	-124.0E-09	-124.0E-09	-105.0E-09	-110.5E-09	-108.0E-09	-100.5E-09	-116.0E-09
43	-124.0E-09	-107.5E-09	-96.0E-09	-113.5E-09	-108.5E-09	-117.0E-09	-117.0E-09	-99.5E-09	-107.0E-09	-103.0E-09	-95.0E-09	-112.5E-09
44	-110.5E-09	-98.0E-09	-87.1E-09	-113.5E-09	-100.5E-09	-107.0E-09	-107.0E-09	-91.1E-09	-101.0E-09	-95.0E-09	-87.4E-09	-104.0E-09
45	-159.0E-09	-145.5E-09	-129.0E-09	-122.0E-09	-147.0E-09	-154.0E-09	-154.0E-09	-135.5E-09	-147.5E-09	-141.0E-09	-130.5E-09	-150.0E-09
46	-117.0E-09	-108.0E-09	-87.5E-09	-156.5E-09	-112.0E-09	-116.5E-09	-116.5E-09	-101.5E-09	-110.5E-09	-105.5E-09	-96.5E-09	-112.0E-09
47	-107.5E-09	-102.5E-09	-83.8E-09	-133.0E-09	-104.0E-09	-111.0E-09	-111.0E-09	-96.0E-09	-105.5E-09	-101.5E-09	-92.3E-09	-105.0E-09
49	-151.5E-09	-139.5E-09	-116.0E-09	-120.0E-09	-139.5E-09	-144.5E-09	-144.5E-09	-126.0E-09	-139.0E-09	-134.0E-09	-123.5E-09	-138.5E-09
50	-91.7E-09	-80.1E-09	-68.6E-09	-117.0E-09	-77.2E-09	-82.4E-09	-82.4E-09	-72.0E-09	-79.9E-09	-76.8E-09	-69.7E-09	-78.6E-09
52	-132.0E-09	-108.5E-09	-107.5E-09	-89.5E-09	-109.0E-09	-112.0E-09	-112.0E-09	-98.0E-09	-108.0E-09	-105.5E-09	-96.0E-09	-107.5E-09
Statistics												
Min	-172.5E-09	-145.5E-09	-129.0E-09	-156.5E-09	-147.0E-09	-154.0E-09	-154.0E-09	-135.5E-09	-147.5E-09	-141.0E-09	-130.5E-09	-150.0E-09
Max	-91.7E-09	-80.1E-09	-68.6E-09	-89.5E-09	-77.2E-09	-82.4E-09	-82.4E-09	-72.0E-09	-79.9E-09	-76.8E-09	-69.7E-09	-78.6E-09
Average	-130.0E-09	-114.0E-09	-100.7E-09	-121.8E-09	-115.1E-09	-121.5E-09	-121.5E-09	-105.1E-09	-114.1E-09	-109.9E-09	-101.1E-09	-116.4E-09
Sigma	23.8E-09	19.7E-09	18.7E-09	19.8E-09	20.0E-09	20.6E-09	20.6E-09	18.1E-09	18.9E-09	18.4E-09	17.5E-09	20.0E-09

Measurements

IIL (LVCMOS33)sram4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-98.5E-09	-99.5E-09	-108.0E-09	-117.0E-09	-118.5E-09	-118.5E-09	-100.0E-09	-120.0E-09	-102.5E-09	-92.3E-09	-107.0E-09
OFF samples												
53	-115.0E-09	-92.2E-09	-90.9E-09	-164.5E-09	-86.3E-09	-80.4E-09	-80.4E-09	-73.9E-09	-82.0E-09	-79.1E-09	-69.8E-09	-78.3E-09
54	-168.0E-09	-143.0E-09	-137.0E-09	-149.0E-09	-130.5E-09	-124.0E-09	-124.0E-09	-112.0E-09	-125.5E-09	-120.5E-09	-108.0E-09	-121.0E-09
Statistics												
Min	-168.0E-09	-143.0E-09	-137.0E-09	-164.5E-09	-130.5E-09	-124.0E-09	-124.0E-09	-112.0E-09	-125.5E-09	-120.5E-09	-108.0E-09	-121.0E-09
Max	-115.0E-09	-92.2E-09	-90.9E-09	-149.0E-09	-86.3E-09	-80.4E-09	-80.4E-09	-73.9E-09	-82.0E-09	-79.1E-09	-69.8E-09	-78.3E-09
Average	-141.5E-09	-117.6E-09	-113.9E-09	-156.8E-09	-108.4E-09	-102.2E-09	-102.2E-09	-92.9E-09	-103.8E-09	-99.8E-09	-88.9E-09	-99.6E-09
Sigma	26.5E-09	25.4E-09	23.1E-09	7.8E-09	22.1E-09	21.8E-09	21.8E-09	19.1E-09	21.8E-09	20.7E-09	19.1E-09	21.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram3

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

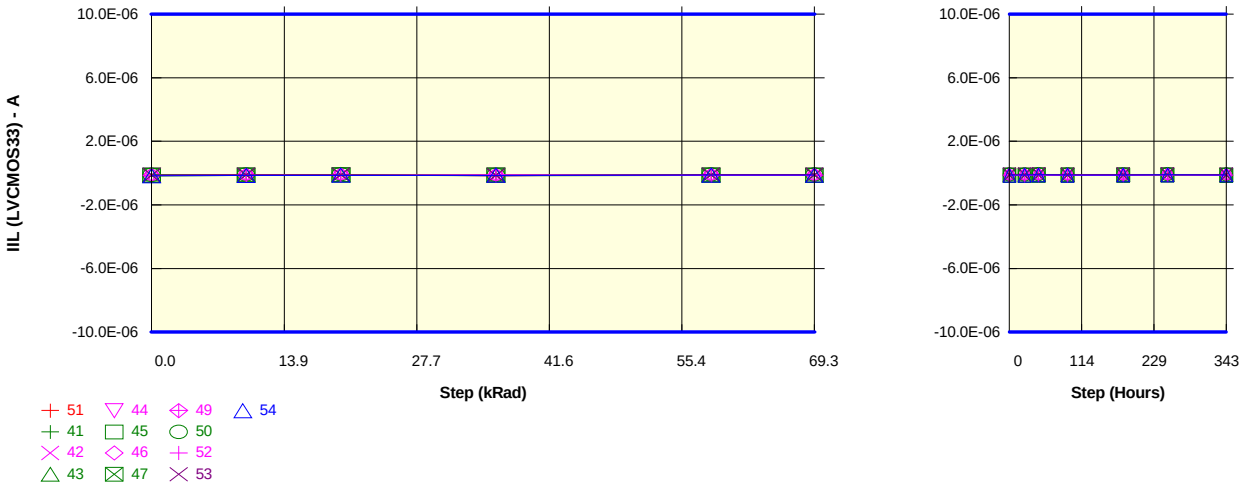
IIL (LVCMOS33)sram3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-139.0E-09	-117.5E-09	-119.5E-09	-127.5E-09	-139.5E-09	-141.5E-09	-141.5E-09	-119.5E-09	-142.0E-09	-123.0E-09	-111.0E-09	-128.5E-09
ON samples												
41	-158.0E-09	-125.5E-09	-116.0E-09	-153.0E-09	-129.0E-09	-136.5E-09	-136.5E-09	-118.0E-09	-122.5E-09	-119.5E-09	-112.0E-09	-129.0E-09
42	-138.0E-09	-116.5E-09	-108.0E-09	-111.0E-09	-119.0E-09	-128.5E-09	-128.5E-09	-108.5E-09	-114.5E-09	-112.0E-09	-104.0E-09	-120.0E-09
43	-139.0E-09	-121.5E-09	-110.5E-09	-119.5E-09	-124.0E-09	-133.5E-09	-133.5E-09	-114.0E-09	-123.0E-09	-118.0E-09	-110.0E-09	-128.5E-09
44	-118.0E-09	-105.0E-09	-93.0E-09	-109.5E-09	-107.0E-09	-112.5E-09	-112.5E-09	-97.0E-09	-106.0E-09	-101.0E-09	-93.3E-09	-110.0E-09
45	-160.5E-09	-147.0E-09	-131.0E-09	-132.5E-09	-150.5E-09	-159.0E-09	-159.0E-09	-139.0E-09	-152.5E-09	-145.0E-09	-134.5E-09	-154.5E-09
46	-130.5E-09	-121.5E-09	-99.5E-09	-142.5E-09	-124.0E-09	-129.0E-09	-129.0E-09	-113.5E-09	-124.0E-09	-118.0E-09	-108.5E-09	-125.5E-09
47	-105.5E-09	-101.5E-09	-82.0E-09	-137.0E-09	-100.5E-09	-107.0E-09	-107.0E-09	-92.4E-09	-102.0E-09	-98.0E-09	-89.2E-09	-101.5E-09
49	-152.0E-09	-141.0E-09	-118.0E-09	-135.5E-09	-140.5E-09	-146.0E-09	-146.0E-09	-127.0E-09	-141.0E-09	-136.0E-09	-126.0E-09	-141.0E-09
50	-98.0E-09	-83.2E-09	-71.8E-09	-129.0E-09	-81.5E-09	-86.6E-09	-86.6E-09	-75.7E-09	-83.8E-09	-80.9E-09	-73.8E-09	-82.6E-09
52	-145.5E-09	-120.0E-09	-119.5E-09	-93.5E-09	-119.0E-09	-124.0E-09	-124.0E-09	-108.5E-09	-119.0E-09	-116.5E-09	-106.0E-09	-119.0E-09
Statistics												
Min	-160.5E-09	-147.0E-09	-131.0E-09	-153.0E-09	-150.5E-09	-159.0E-09	-159.0E-09	-139.0E-09	-152.5E-09	-145.0E-09	-134.5E-09	-154.5E-09
Max	-98.0E-09	-83.2E-09	-71.8E-09	-93.5E-09	-81.5E-09	-86.6E-09	-86.6E-09	-75.7E-09	-83.8E-09	-80.9E-09	-73.8E-09	-82.6E-09
Average	-134.5E-09	-118.3E-09	-104.9E-09	-126.3E-09	-119.5E-09	-126.3E-09	-126.3E-09	-109.4E-09	-118.8E-09	-114.5E-09	-105.7E-09	-121.2E-09
Sigma	20.4E-09	17.6E-09	17.4E-09	16.9E-09	18.7E-09	19.4E-09	19.4E-09	17.0E-09	18.4E-09	17.4E-09	16.6E-09	19.1E-09

Measurements

IIL (LVCMOS33)sram3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-139.0E-09	-117.5E-09	-119.5E-09	-127.5E-09	-139.5E-09	-141.5E-09	-141.5E-09	-119.5E-09	-142.0E-09	-123.0E-09	-111.0E-09	-128.5E-09
OFF samples												
53	-129.0E-09	-104.5E-09	-104.0E-09	-167.0E-09	-97.0E-09	-89.9E-09	-89.9E-09	-82.7E-09	-91.5E-09	-88.3E-09	-78.2E-09	-87.3E-09
54	-170.0E-09	-145.5E-09	-140.5E-09	-149.0E-09	-131.5E-09	-124.5E-09	-124.5E-09	-113.0E-09	-125.5E-09	-121.5E-09	-108.5E-09	-121.5E-09
Statistics												
Min	-170.0E-09	-145.5E-09	-140.5E-09	-167.0E-09	-131.5E-09	-124.5E-09	-124.5E-09	-113.0E-09	-125.5E-09	-121.5E-09	-108.5E-09	-121.5E-09
Max	-129.0E-09	-104.5E-09	-104.0E-09	-149.0E-09	-97.0E-09	-89.9E-09	-89.9E-09	-82.7E-09	-91.5E-09	-88.3E-09	-78.2E-09	-87.3E-09
Average	-149.5E-09	-125.0E-09	-122.3E-09	-158.0E-09	-114.3E-09	-107.2E-09	-107.2E-09	-97.8E-09	-108.5E-09	-104.9E-09	-93.4E-09	-104.4E-09
Sigma	20.5E-09	20.5E-09	18.2E-09	9.0E-09	17.3E-09	17.3E-09	17.3E-09	15.2E-09	17.0E-09	16.6E-09	15.2E-09	17.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram2

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

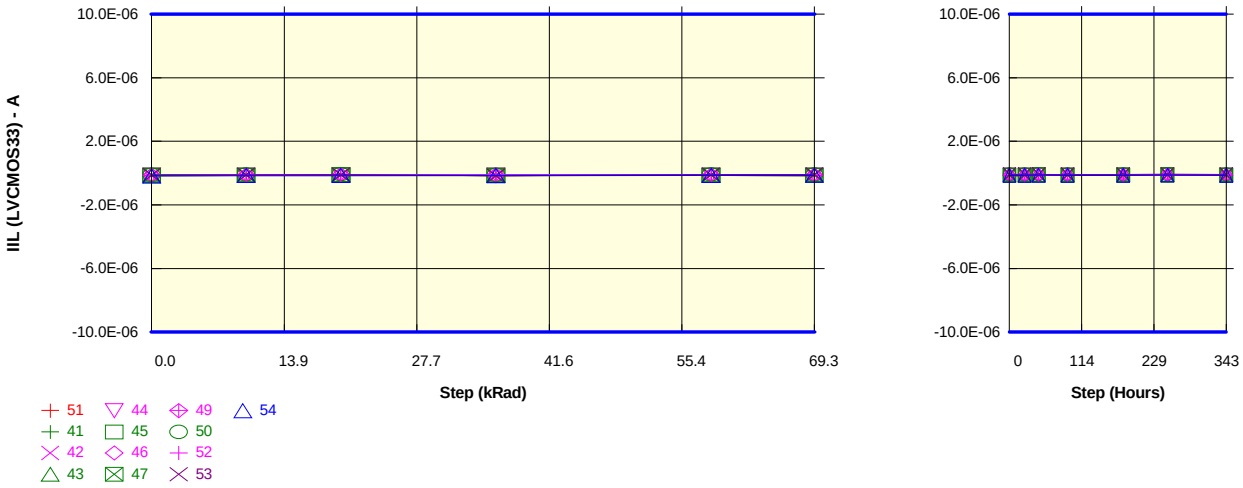
IIL (LVCMOS33)sram2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-119.0E-09	-101.5E-09	-101.5E-09	-110.5E-09	-119.5E-09	-121.5E-09	-121.5E-09	-102.5E-09	-122.0E-09	-105.0E-09	-95.0E-09	-110.5E-09
ON samples												
41	-161.0E-09	-129.0E-09	-118.5E-09	-147.5E-09	-128.5E-09	-137.0E-09	-137.0E-09	-117.5E-09	-122.5E-09	-119.5E-09	-112.5E-09	-130.0E-09
42	-134.0E-09	-113.5E-09	-103.5E-09	-106.0E-09	-114.5E-09	-124.0E-09	-124.0E-09	-105.0E-09	-110.5E-09	-108.0E-09	-101.0E-09	-117.0E-09
43	-129.0E-09	-113.5E-09	-101.0E-09	-117.0E-09	-113.5E-09	-121.0E-09	-121.0E-09	-102.0E-09	-110.0E-09	-106.0E-09	-99.0E-09	-117.0E-09
44	-114.5E-09	-102.0E-09	-89.9E-09	-127.5E-09	-103.0E-09	-109.0E-09	-109.0E-09	-93.0E-09	-102.5E-09	-97.0E-09	-89.8E-09	-106.5E-09
45	-144.5E-09	-131.5E-09	-115.5E-09	-132.0E-09	-132.0E-09	-139.0E-09	-139.0E-09	-121.5E-09	-132.5E-09	-127.0E-09	-117.0E-09	-135.5E-09
46	-110.0E-09	-103.0E-09	-83.3E-09	-145.5E-09	-105.5E-09	-109.5E-09	-109.5E-09	-96.0E-09	-105.5E-09	-99.0E-09	-90.6E-09	-105.5E-09
47	-120.5E-09	-116.0E-09	-95.0E-09	-133.5E-09	-115.0E-09	-123.0E-09	-123.0E-09	-107.0E-09	-117.5E-09	-112.0E-09	-105.0E-09	-117.5E-09
49	-134.0E-09	-124.5E-09	-102.0E-09	-126.5E-09	-121.5E-09	-126.5E-09	-126.5E-09	-110.0E-09	-121.5E-09	-117.0E-09	-108.0E-09	-121.5E-09
50	-106.0E-09	-91.0E-09	-76.8E-09	-111.5E-09	-87.2E-09	-92.1E-09	-92.1E-09	-80.6E-09	-89.3E-09	-86.6E-09	-79.3E-09	-88.7E-09
52	-142.0E-09	-118.5E-09	-116.5E-09	-101.0E-09	-119.0E-09	-123.0E-09	-123.0E-09	-108.0E-09	-119.0E-09	-116.0E-09	-105.5E-09	-117.5E-09
Statistics												
Min	-161.0E-09	-131.5E-09	-118.5E-09	-147.5E-09	-132.0E-09	-139.0E-09	-139.0E-09	-121.5E-09	-132.5E-09	-127.0E-09	-117.0E-09	-135.5E-09
Max	-106.0E-09	-91.0E-09	-76.8E-09	-101.0E-09	-87.2E-09	-92.1E-09	-92.1E-09	-80.6E-09	-89.3E-09	-86.6E-09	-79.3E-09	-88.7E-09
Average	-129.6E-09	-114.2E-09	-100.2E-09	-124.8E-09	-114.0E-09	-120.4E-09	-120.4E-09	-104.1E-09	-113.1E-09	-108.8E-09	-100.8E-09	-115.7E-09
Sigma	16.3E-09	12.1E-09	13.5E-09	15.0E-09	12.4E-09	13.2E-09	13.2E-09	11.3E-09	11.6E-09	11.5E-09	10.9E-09	12.5E-09

Measurements

IIL (LVCMOS33)sram2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-119.0E-09	-101.5E-09	-101.5E-09	-110.5E-09	-119.5E-09	-121.5E-09	-121.5E-09	-102.5E-09	-122.0E-09	-105.0E-09	-95.0E-09	-110.5E-09
OFF samples												
53	-121.0E-09	-98.0E-09	-96.0E-09	-149.0E-09	-90.6E-09	-84.7E-09	-84.7E-09	-77.9E-09	-86.3E-09	-83.4E-09	-73.8E-09	-82.5E-09
54	-160.5E-09	-137.5E-09	-131.5E-09	-131.5E-09	-125.5E-09	-119.5E-09	-119.5E-09	-108.0E-09	-120.5E-09	-116.0E-09	-103.5E-09	-116.5E-09
Statistics												
Min	-160.5E-09	-137.5E-09	-131.5E-09	-149.0E-09	-125.5E-09	-119.5E-09	-119.5E-09	-108.0E-09	-120.5E-09	-116.0E-09	-103.5E-09	-116.5E-09
Max	-121.0E-09	-98.0E-09	-96.0E-09	-131.5E-09	-90.6E-09	-84.7E-09	-84.7E-09	-77.9E-09	-86.3E-09	-83.4E-09	-73.8E-09	-82.5E-09
Average	-140.8E-09	-117.8E-09	-113.8E-09	-140.3E-09	-108.0E-09	-102.1E-09	-102.1E-09	-92.9E-09	-103.4E-09	-99.7E-09	-88.7E-09	-99.5E-09
Sigma	19.8E-09	19.8E-09	17.8E-09	8.7E-09	17.5E-09	17.4E-09	17.4E-09	15.1E-09	17.1E-09	16.3E-09	14.9E-09	17.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

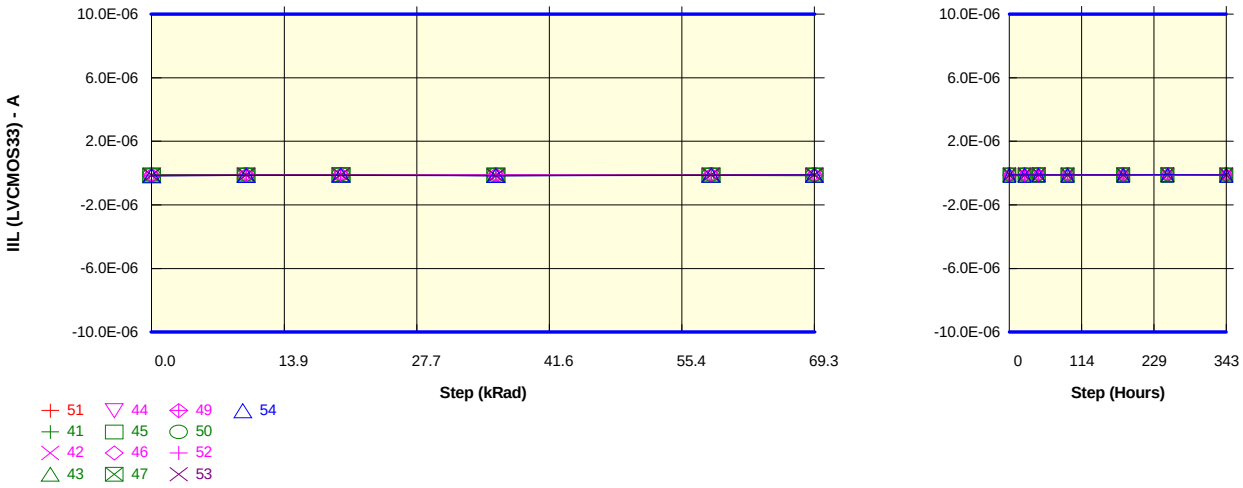
IIL (LVCMOS33)sram1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-121.5E-09	-102.5E-09	-103.0E-09	-111.0E-09	-122.0E-09	-123.5E-09	-123.5E-09	-104.5E-09	-124.5E-09	-107.0E-09	-96.0E-09	-112.0E-09
ON samples												
41	-177.0E-09	-141.0E-09	-131.0E-09	-161.5E-09	-141.0E-09	-148.5E-09	-148.5E-09	-129.0E-09	-134.0E-09	-131.0E-09	-123.0E-09	-141.0E-09
42	-158.5E-09	-132.5E-09	-121.5E-09	-99.0E-09	-134.0E-09	-144.5E-09	-144.5E-09	-123.5E-09	-130.0E-09	-127.5E-09	-118.5E-09	-137.0E-09
43	-124.0E-09	-106.0E-09	-95.5E-09	-117.5E-09	-106.0E-09	-115.0E-09	-115.0E-09	-97.0E-09	-105.0E-09	-100.0E-09	-92.6E-09	-110.5E-09
44	-118.0E-09	-103.5E-09	-91.4E-09	-112.5E-09	-105.0E-09	-111.5E-09	-111.5E-09	-96.0E-09	-105.5E-09	-99.5E-09	-91.4E-09	-109.0E-09
45	-152.0E-09	-137.5E-09	-122.5E-09	-118.0E-09	-139.5E-09	-147.0E-09	-147.0E-09	-127.5E-09	-140.0E-09	-133.5E-09	-123.5E-09	-141.5E-09
46	-119.0E-09	-110.0E-09	-89.4E-09	-157.5E-09	-112.0E-09	-117.5E-09	-117.5E-09	-102.0E-09	-112.0E-09	-106.0E-09	-97.5E-09	-112.5E-09
47	-109.0E-09	-103.0E-09	-84.5E-09	-155.0E-09	-103.0E-09	-110.0E-09	-110.0E-09	-95.5E-09	-105.0E-09	-100.0E-09	-91.4E-09	-104.5E-09
49	-141.5E-09	-129.5E-09	-108.0E-09	-118.0E-09	-129.5E-09	-133.0E-09	-133.0E-09	-116.5E-09	-128.5E-09	-123.5E-09	-114.0E-09	-127.5E-09
50	-105.0E-09	-89.8E-09	-77.1E-09	-117.5E-09	-86.3E-09	-91.6E-09	-91.6E-09	-80.5E-09	-88.9E-09	-85.8E-09	-78.2E-09	-87.8E-09
52	-130.0E-09	-105.0E-09	-105.0E-09	-99.0E-09	-105.0E-09	-109.0E-09	-109.0E-09	-95.5E-09	-105.0E-09	-102.0E-09	-92.4E-09	-104.0E-09
Statistics												
Min	-177.0E-09	-141.0E-09	-131.0E-09	-161.5E-09	-141.0E-09	-148.5E-09	-148.5E-09	-129.0E-09	-140.0E-09	-133.5E-09	-123.5E-09	-141.5E-09
Max	-105.0E-09	-89.8E-09	-77.1E-09	-99.0E-09	-86.3E-09	-91.6E-09	-91.6E-09	-80.5E-09	-88.9E-09	-85.8E-09	-78.2E-09	-87.8E-09
Average	-133.4E-09	-115.8E-09	-102.6E-09	-125.6E-09	-116.1E-09	-122.8E-09	-122.8E-09	-106.3E-09	-115.4E-09	-110.9E-09	-102.2E-09	-117.5E-09
Sigma	22.1E-09	16.8E-09	17.1E-09	22.4E-09	17.6E-09	18.3E-09	18.3E-09	15.7E-09	15.7E-09	15.7E-09	15.2E-09	17.3E-09

Measurements

IIL (LVCMOS33)sram1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-121.5E-09	-102.5E-09	-103.0E-09	-111.0E-09	-122.0E-09	-123.5E-09	-123.5E-09	-104.5E-09	-124.5E-09	-107.0E-09	-96.0E-09	-112.0E-09
OFF samples												
53	-114.5E-09	-91.6E-09	-90.6E-09	-157.0E-09	-85.8E-09	-79.9E-09	-79.9E-09	-73.4E-09	-81.5E-09	-78.5E-09	-69.2E-09	-77.6E-09
54	-174.5E-09	-148.5E-09	-144.5E-09	-137.5E-09	-139.5E-09	-133.0E-09	-133.0E-09	-120.0E-09	-134.0E-09	-129.5E-09	-116.0E-09	-129.0E-09
Statistics												
Min	-174.5E-09	-148.5E-09	-144.5E-09	-157.0E-09	-139.5E-09	-133.0E-09	-133.0E-09	-120.0E-09	-134.0E-09	-129.5E-09	-116.0E-09	-129.0E-09
Max	-114.5E-09	-91.6E-09	-90.6E-09	-137.5E-09	-85.8E-09	-79.9E-09	-79.9E-09	-73.4E-09	-81.5E-09	-78.5E-09	-69.2E-09	-77.6E-09
Average	-144.5E-09	-120.0E-09	-117.5E-09	-147.3E-09	-112.6E-09	-106.5E-09	-106.5E-09	-96.7E-09	-107.7E-09	-104.0E-09	-92.6E-09	-103.3E-09
Sigma	30.0E-09	28.5E-09	27.0E-09	9.8E-09	26.9E-09	26.6E-09	26.6E-09	23.3E-09	26.3E-09	25.5E-09	23.4E-09	25.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sram0

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

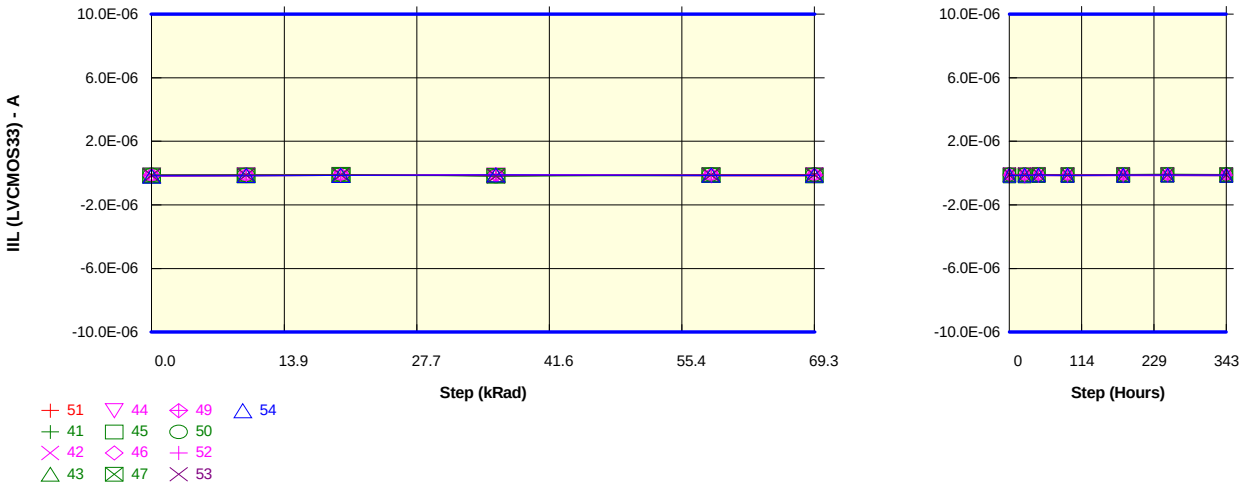
IIL (LVCMOS33)sram0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-124.5E-09	-105.0E-09	-105.5E-09	-115.5E-09	-124.0E-09	-126.5E-09	-126.5E-09	-106.5E-09	-127.0E-09	-108.5E-09	-99.0E-09	-114.0E-09
ON samples												
41	-148.0E-09	-117.5E-09	-106.5E-09	-150.0E-09	-118.0E-09	-125.5E-09	-125.5E-09	-108.0E-09	-112.5E-09	-109.5E-09	-104.0E-09	-120.0E-09
42	-139.0E-09	-116.5E-09	-107.0E-09	-108.0E-09	-118.5E-09	-127.5E-09	-127.5E-09	-108.5E-09	-113.5E-09	-111.5E-09	-105.0E-09	-121.0E-09
43	-133.5E-09	-117.0E-09	-104.5E-09	-118.5E-09	-118.5E-09	-126.5E-09	-126.5E-09	-107.0E-09	-115.5E-09	-111.5E-09	-104.5E-09	-122.0E-09
44	-116.5E-09	-103.5E-09	-90.5E-09	-132.5E-09	-105.0E-09	-110.0E-09	-110.0E-09	-95.0E-09	-103.5E-09	-99.0E-09	-91.3E-09	-108.5E-09
45	-153.0E-09	-139.5E-09	-122.5E-09	-124.0E-09	-140.0E-09	-147.0E-09	-147.0E-09	-128.5E-09	-140.5E-09	-134.0E-09	-125.5E-09	-144.0E-09
46	-128.5E-09	-119.0E-09	-97.5E-09	-133.0E-09	-122.0E-09	-127.0E-09	-127.0E-09	-111.5E-09	-122.0E-09	-115.5E-09	-107.0E-09	-124.0E-09
47	-126.0E-09	-122.0E-09	-99.0E-09	-137.0E-09	-120.0E-09	-128.5E-09	-128.5E-09	-112.0E-09	-123.0E-09	-117.5E-09	-109.5E-09	-123.0E-09
49	-149.0E-09	-137.5E-09	-113.5E-09	-130.0E-09	-135.5E-09	-141.0E-09	-141.0E-09	-122.5E-09	-135.5E-09	-130.0E-09	-122.5E-09	-136.5E-09
50	-104.5E-09	-89.5E-09	-76.0E-09	-129.0E-09	-86.2E-09	-91.6E-09	-91.6E-09	-80.3E-09	-88.9E-09	-85.8E-09	-78.6E-09	-88.1E-09
52	-132.0E-09	-109.5E-09	-108.5E-09	-101.5E-09	-110.0E-09	-113.0E-09	-113.0E-09	-99.0E-09	-109.5E-09	-106.5E-09	-97.5E-09	-108.5E-09
Statistics												
Min	-153.0E-09	-139.5E-09	-122.5E-09	-150.0E-09	-140.0E-09	-147.0E-09	-147.0E-09	-128.5E-09	-140.5E-09	-134.0E-09	-125.5E-09	-144.0E-09
Max	-104.5E-09	-89.5E-09	-76.0E-09	-101.5E-09	-86.2E-09	-91.6E-09	-91.6E-09	-80.3E-09	-88.9E-09	-85.8E-09	-78.6E-09	-88.1E-09
Average	-133.0E-09	-117.2E-09	-102.5E-09	-126.4E-09	-117.4E-09	-123.8E-09	-123.8E-09	-107.2E-09	-116.4E-09	-112.1E-09	-104.5E-09	-119.6E-09
Sigma	14.4E-09	14.0E-09	12.2E-09	13.4E-09	14.3E-09	15.0E-09	15.0E-09	12.9E-09	14.2E-09	13.2E-09	13.0E-09	14.7E-09

Measurements

IIL (LVCMOS33)sram0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-124.5E-09	-105.0E-09	-105.5E-09	-115.5E-09	-124.0E-09	-126.5E-09	-126.5E-09	-106.5E-09	-127.0E-09	-108.5E-09	-99.0E-09	-114.0E-09
OFF samples												
53	-121.0E-09	-98.5E-09	-96.5E-09	-157.5E-09	-92.2E-09	-85.8E-09	-85.8E-09	-78.7E-09	-87.2E-09	-84.1E-09	-74.6E-09	-83.1E-09
54	-166.0E-09	-142.5E-09	-135.0E-09	-146.0E-09	-128.5E-09	-121.5E-09	-121.5E-09	-110.0E-09	-122.5E-09	-118.5E-09	-106.5E-09	-118.0E-09
Statistics												
Min	-166.0E-09	-142.5E-09	-135.0E-09	-157.5E-09	-128.5E-09	-121.5E-09	-121.5E-09	-110.0E-09	-122.5E-09	-118.5E-09	-106.5E-09	-118.0E-09
Max	-121.0E-09	-98.5E-09	-96.5E-09	-146.0E-09	-92.2E-09	-85.8E-09	-85.8E-09	-78.7E-09	-87.2E-09	-84.1E-09	-74.6E-09	-83.1E-09
Average	-143.5E-09	-120.5E-09	-115.8E-09	-151.8E-09	-110.4E-09	-103.6E-09	-103.6E-09	-94.4E-09	-104.8E-09	-101.3E-09	-90.6E-09	-100.6E-09
Sigma	22.5E-09	22.0E-09	19.3E-09	5.7E-09	18.2E-09	17.9E-09	17.9E-09	15.7E-09	17.7E-09	17.2E-09	16.0E-09	17.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra14

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

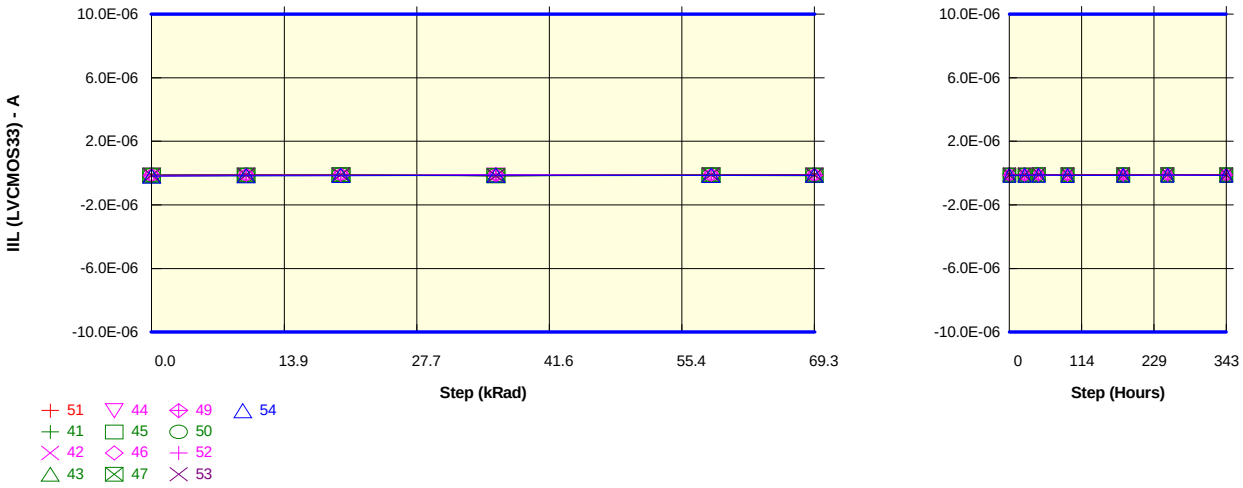
IIL (LVCMOS 33)sra14	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-135.5E-09	-116.0E-09	-116.0E-09	-125.0E-09	-136.0E-09	-138.0E-09	-138.0E-09	-117.5E-09	-139.5E-09	-120.5E-09	-109.0E-09	-125.5E-09
ON samples												
41	-117.0E-09	-88.5E-09	-79.8E-09	-158.0E-09	-84.0E-09	-86.6E-09	-86.6E-09	-73.8E-09	-77.3E-09	-75.2E-09	-69.3E-09	-81.1E-09
42	-185.0E-09	-153.0E-09	-138.5E-09	-117.5E-09	-145.5E-09	-152.5E-09	-152.5E-09	-130.5E-09	-137.0E-09	-134.0E-09	-124.5E-09	-144.0E-09
43	-135.5E-09	-115.5E-09	-101.0E-09	-104.0E-09	-110.5E-09	-115.5E-09	-115.5E-09	-97.0E-09	-105.5E-09	-101.0E-09	-92.3E-09	-110.0E-09
44	-107.5E-09	-91.9E-09	-79.0E-09	-109.5E-09	-88.3E-09	-91.6E-09	-91.6E-09	-78.1E-09	-86.3E-09	-81.3E-09	-74.4E-09	-88.7E-09
45	-182.0E-09	-161.5E-09	-139.0E-09	-146.5E-09	-150.0E-09	-155.5E-09	-155.5E-09	-136.0E-09	-149.0E-09	-142.0E-09	-131.0E-09	-151.0E-09
46	-180.5E-09	-168.0E-09	-140.5E-09	-101.0E-09	-168.5E-09	-173.0E-09	-173.0E-09	-153.0E-09	-166.0E-09	-160.5E-09	-147.5E-09	-169.5E-09
47	-107.0E-09	-101.0E-09	-80.8E-09	-174.0E-09	-95.5E-09	-99.5E-09	-99.5E-09	-85.8E-09	-95.0E-09	-90.4E-09	-82.2E-09	-93.3E-09
49	-114.5E-09	-101.5E-09	-81.7E-09	-126.0E-09	-95.0E-09	-96.5E-09	-96.5E-09	-82.6E-09	-92.0E-09	-88.3E-09	-80.7E-09	-90.9E-09
50	-125.5E-09	-103.5E-09	-86.5E-09	-181.5E-09	-95.0E-09	-98.5E-09	-98.5E-09	-85.9E-09	-95.5E-09	-91.6E-09	-83.2E-09	-93.2E-09
52	-166.0E-09	-131.5E-09	-128.5E-09	-112.5E-09	-124.5E-09	-125.0E-09	-125.0E-09	-110.0E-09	-121.5E-09	-118.0E-09	-107.0E-09	-119.5E-09
Statistics												
Min	-185.0E-09	-168.0E-09	-140.5E-09	-181.5E-09	-168.5E-09	-173.0E-09	-173.0E-09	-153.0E-09	-166.0E-09	-160.5E-09	-147.5E-09	-169.5E-09
Max	-107.0E-09	-88.5E-09	-79.0E-09	-101.0E-09	-84.0E-09	-86.6E-09	-86.6E-09	-73.8E-09	-77.3E-09	-75.2E-09	-69.3E-09	-81.1E-09
Average	-142.1E-09	-121.6E-09	-105.5E-09	-133.1E-09	-115.7E-09	-119.4E-09	-119.4E-09	-103.3E-09	-112.5E-09	-108.2E-09	-99.2E-09	-114.1E-09
Sigma	31.0E-09	28.3E-09	26.2E-09	28.2E-09	28.3E-09	29.2E-09	29.2E-09	26.3E-09	28.1E-09	27.4E-09	25.5E-09	29.2E-09

Measurements

IIL (LVCMOS 33)sra14	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-135.5E-09	-116.0E-09	-116.0E-09	-125.0E-09	-136.0E-09	-138.0E-09	-138.0E-09	-117.5E-09	-139.5E-09	-120.5E-09	-109.0E-09	-125.5E-09
OFF samples												
53	-136.0E-09	-109.5E-09	-107.5E-09	-177.5E-09	-102.0E-09	-95.0E-09	-95.0E-09	-87.0E-09	-97.0E-09	-93.2E-09	-82.4E-09	-92.0E-09
54	-176.0E-09	-150.0E-09	-144.0E-09	-107.0E-09	-135.0E-09	-128.5E-09	-128.5E-09	-115.5E-09	-129.5E-09	-125.0E-09	-111.5E-09	-125.0E-09
Statistics												
Min	-176.0E-09	-150.0E-09	-144.0E-09	-177.5E-09	-135.0E-09	-128.5E-09	-128.5E-09	-115.5E-09	-129.5E-09	-125.0E-09	-111.5E-09	-125.0E-09
Max	-136.0E-09	-109.5E-09	-107.5E-09	-107.0E-09	-102.0E-09	-95.0E-09	-95.0E-09	-87.0E-09	-97.0E-09	-93.2E-09	-82.4E-09	-92.0E-09
Average	-156.0E-09	-129.8E-09	-125.8E-09	-142.3E-09	-118.5E-09	-111.8E-09	-111.8E-09	-101.3E-09	-113.3E-09	-109.1E-09	-97.0E-09	-108.5E-09
Sigma	20.0E-09	20.2E-09	18.3E-09	35.3E-09	16.5E-09	16.8E-09	16.8E-09	14.3E-09	16.3E-09	15.9E-09	14.6E-09	16.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra13

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

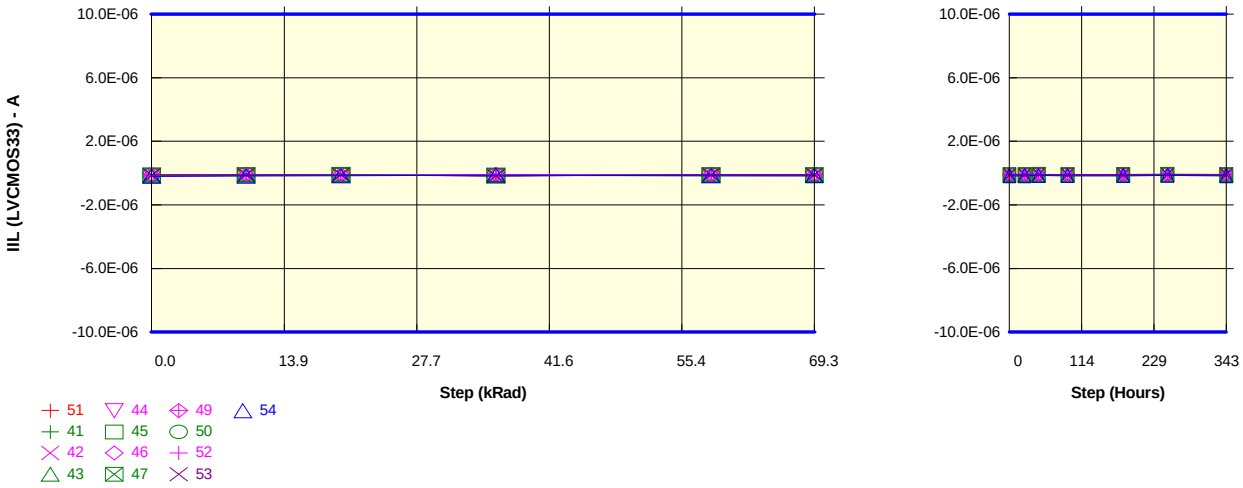
IIL (LVCMOS 33)sra13	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-120.5E-09	-102.0E-09	-103.5E-09	-111.0E-09	-121.5E-09	-123.0E-09	-123.0E-09	-104.0E-09	-123.5E-09	-106.0E-09	-96.0E-09	-111.5E-09
ON samples												
41	-125.0E-09	-95.5E-09	-83.9E-09	-165.5E-09	-86.6E-09	-90.2E-09	-90.2E-09	-76.8E-09	-80.9E-09	-78.5E-09	-72.9E-09	-84.8E-09
42	-170.0E-09	-138.5E-09	-126.0E-09	-106.0E-09	-132.5E-09	-141.0E-09	-141.0E-09	-119.0E-09	-125.5E-09	-123.5E-09	-113.5E-09	-132.0E-09
43	-132.0E-09	-113.0E-09	-98.5E-09	-115.5E-09	-108.5E-09	-114.0E-09	-114.0E-09	-96.5E-09	-104.0E-09	-100.0E-09	-91.1E-09	-109.0E-09
44	-118.0E-09	-102.5E-09	-88.4E-09	-112.0E-09	-98.5E-09	-102.5E-09	-102.5E-09	-86.7E-09	-97.0E-09	-90.6E-09	-83.2E-09	-99.5E-09
45	-170.5E-09	-150.5E-09	-129.5E-09	-149.0E-09	-142.0E-09	-148.5E-09	-148.5E-09	-130.5E-09	-141.5E-09	-135.5E-09	-124.5E-09	-144.0E-09
46	-148.0E-09	-133.5E-09	-107.0E-09	-104.0E-09	-128.5E-09	-131.0E-09	-131.0E-09	-115.5E-09	-126.0E-09	-119.5E-09	-110.0E-09	-125.5E-09
47	-108.5E-09	-102.0E-09	-82.0E-09	-160.5E-09	-98.0E-09	-102.0E-09	-102.0E-09	-87.5E-09	-97.0E-09	-92.1E-09	-84.0E-09	-96.0E-09
49	-133.5E-09	-120.5E-09	-97.5E-09	-123.5E-09	-112.5E-09	-114.0E-09	-114.0E-09	-99.0E-09	-109.5E-09	-105.5E-09	-96.0E-09	-108.0E-09
50	-131.5E-09	-112.0E-09	-92.9E-09	-141.0E-09	-102.5E-09	-105.5E-09	-105.5E-09	-91.7E-09	-102.0E-09	-98.5E-09	-89.0E-09	-101.0E-09
52	-167.5E-09	-135.5E-09	-131.0E-09	-121.5E-09	-128.5E-09	-129.5E-09	-129.5E-09	-114.5E-09	-125.5E-09	-122.0E-09	-111.5E-09	-124.0E-09
Statistics												
Min	-170.5E-09	-150.5E-09	-131.0E-09	-165.5E-09	-142.0E-09	-148.5E-09	-148.5E-09	-130.5E-09	-141.5E-09	-135.5E-09	-124.5E-09	-144.0E-09
Max	-108.5E-09	-95.5E-09	-82.0E-09	-104.0E-09	-86.6E-09	-90.2E-09	-90.2E-09	-76.8E-09	-80.9E-09	-78.5E-09	-72.9E-09	-84.8E-09
Average	-140.5E-09	-120.4E-09	-103.7E-09	-129.9E-09	-113.8E-09	-117.8E-09	-117.8E-09	-101.8E-09	-110.9E-09	-106.6E-09	-97.6E-09	-112.4E-09
Sigma	21.3E-09	17.4E-09	17.9E-09	21.4E-09	17.2E-09	17.9E-09	17.9E-09	16.3E-09	17.3E-09	17.0E-09	15.6E-09	17.5E-09

Measurements

IIL (LVCMOS 33)sra13	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-120.5E-09	-102.0E-09	-103.5E-09	-111.0E-09	-121.5E-09	-123.0E-09	-123.0E-09	-104.0E-09	-123.5E-09	-106.0E-09	-96.0E-09	-111.5E-09
OFF samples												
53	-120.5E-09	-98.0E-09	-97.0E-09	-167.5E-09	-91.2E-09	-84.9E-09	-84.9E-09	-77.8E-09	-86.5E-09	-83.4E-09	-73.7E-09	-82.3E-09
54	-185.5E-09	-159.5E-09	-151.5E-09	-126.0E-09	-141.5E-09	-134.5E-09	-134.5E-09	-122.0E-09	-136.0E-09	-131.5E-09	-118.0E-09	-131.5E-09
Statistics												
Min	-185.5E-09	-159.5E-09	-151.5E-09	-167.5E-09	-141.5E-09	-134.5E-09	-134.5E-09	-122.0E-09	-136.0E-09	-131.5E-09	-118.0E-09	-131.5E-09
Max	-120.5E-09	-98.0E-09	-97.0E-09	-126.0E-09	-91.2E-09	-84.9E-09	-84.9E-09	-77.8E-09	-86.5E-09	-83.4E-09	-73.7E-09	-82.3E-09
Average	-153.0E-09	-128.8E-09	-124.3E-09	-146.8E-09	-116.4E-09	-109.7E-09	-109.7E-09	-99.9E-09	-111.2E-09	-107.4E-09	-95.8E-09	-106.9E-09
Sigma	32.5E-09	30.8E-09	27.3E-09	20.7E-09	25.2E-09	24.8E-09	24.8E-09	22.1E-09	24.8E-09	24.1E-09	22.2E-09	24.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra12

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

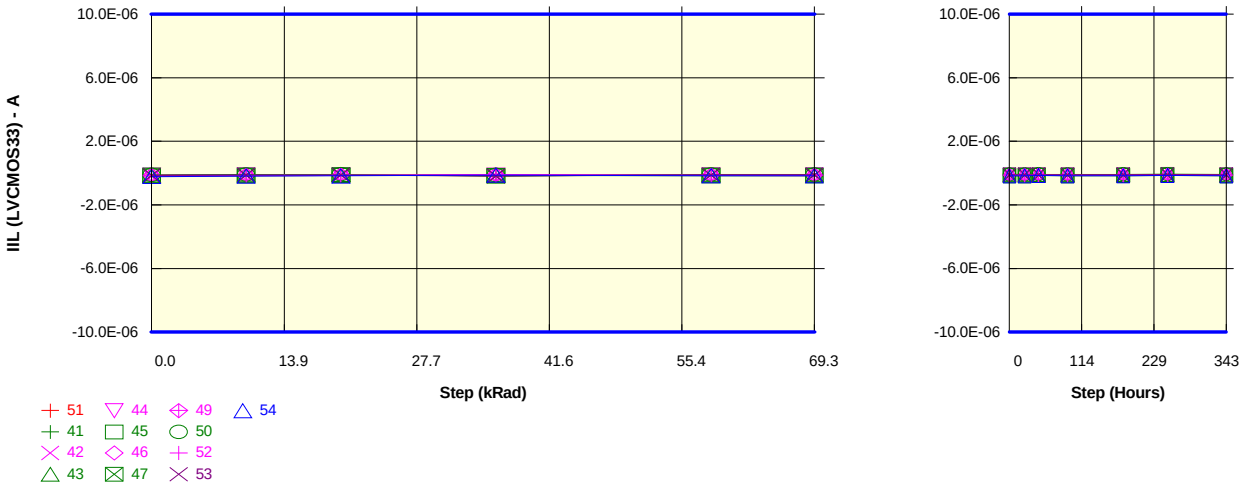
IIL (LVCMOS 33)sra12	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-98.5E-09	-99.5E-09	-107.0E-09	-117.0E-09	-119.5E-09	-119.5E-09	-100.0E-09	-119.5E-09	-103.0E-09	-92.0E-09	-107.5E-09
ON samples												
41	-122.0E-09	-91.9E-09	-82.2E-09	-185.0E-09	-85.9E-09	-89.0E-09	-89.0E-09	-75.9E-09	-79.6E-09	-77.3E-09	-71.5E-09	-83.6E-09
42	-183.5E-09	-149.5E-09	-134.0E-09	-105.0E-09	-142.5E-09	-150.5E-09	-150.5E-09	-128.5E-09	-135.0E-09	-132.0E-09	-122.0E-09	-141.5E-09
43	-129.0E-09	-109.0E-09	-96.0E-09	-103.5E-09	-104.5E-09	-109.5E-09	-109.5E-09	-91.9E-09	-100.0E-09	-96.5E-09	-87.5E-09	-104.0E-09
44	-105.5E-09	-90.5E-09	-77.4E-09	-101.0E-09	-87.1E-09	-90.5E-09	-90.5E-09	-77.1E-09	-85.1E-09	-80.1E-09	-73.3E-09	-87.3E-09
45	-187.0E-09	-166.0E-09	-141.5E-09	-144.0E-09	-153.0E-09	-159.5E-09	-159.5E-09	-140.0E-09	-152.0E-09	-145.5E-09	-134.5E-09	-154.5E-09
46	-137.0E-09	-123.5E-09	-99.0E-09	-103.0E-09	-119.5E-09	-122.0E-09	-122.0E-09	-107.0E-09	-117.0E-09	-110.5E-09	-101.5E-09	-117.0E-09
47	-100.5E-09	-92.4E-09	-74.5E-09	-171.5E-09	-87.7E-09	-91.6E-09	-91.6E-09	-79.2E-09	-87.8E-09	-83.6E-09	-76.0E-09	-86.4E-09
49	-122.5E-09	-109.5E-09	-88.2E-09	-120.0E-09	-101.5E-09	-102.0E-09	-102.0E-09	-87.6E-09	-98.0E-09	-93.8E-09	-85.6E-09	-97.0E-09
50	-113.5E-09	-96.5E-09	-79.5E-09	-130.5E-09	-86.9E-09	-90.0E-09	-90.0E-09	-78.7E-09	-87.4E-09	-84.2E-09	-76.2E-09	-85.6E-09
52	-164.5E-09	-131.0E-09	-128.5E-09	-105.0E-09	-124.5E-09	-127.0E-09	-127.0E-09	-111.0E-09	-123.0E-09	-119.5E-09	-108.0E-09	-121.0E-09
Statistics												
Min	-187.0E-09	-166.0E-09	-141.5E-09	-185.0E-09	-153.0E-09	-159.5E-09	-159.5E-09	-140.0E-09	-152.0E-09	-145.5E-09	-134.5E-09	-154.5E-09
Max	-100.5E-09	-90.5E-09	-74.5E-09	-101.0E-09	-85.9E-09	-89.0E-09	-89.0E-09	-75.9E-09	-79.6E-09	-77.3E-09	-71.5E-09	-83.6E-09
Average	-136.5E-09	-116.0E-09	-100.1E-09	-126.9E-09	-109.3E-09	-113.2E-09	-113.2E-09	-97.7E-09	-106.5E-09	-102.3E-09	-93.6E-09	-107.8E-09
Sigma	29.7E-09	24.8E-09	24.0E-09	29.1E-09	23.3E-09	24.6E-09	24.6E-09	21.8E-09	23.0E-09	22.4E-09	20.9E-09	23.8E-09

Measurements

IIL (LVCMOS 33)sra12	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.5E-09	-98.5E-09	-99.5E-09	-107.0E-09	-117.0E-09	-119.5E-09	-119.5E-09	-100.0E-09	-119.5E-09	-103.0E-09	-92.0E-09	-107.5E-09
OFF samples												
53	-120.5E-09	-97.0E-09	-96.0E-09	-181.0E-09	-90.2E-09	-84.0E-09	-84.0E-09	-77.2E-09	-85.5E-09	-82.6E-09	-73.0E-09	-81.5E-09
54	-205.0E-09	-176.0E-09	-169.5E-09	-115.5E-09	-158.5E-09	-150.0E-09	-150.0E-09	-137.0E-09	-151.5E-09	-146.5E-09	-132.0E-09	-147.0E-09
Statistics												
Min	-205.0E-09	-176.0E-09	-169.5E-09	-181.0E-09	-158.5E-09	-150.0E-09	-150.0E-09	-137.0E-09	-151.5E-09	-146.5E-09	-132.0E-09	-147.0E-09
Max	-120.5E-09	-97.0E-09	-96.0E-09	-115.5E-09	-90.2E-09	-84.0E-09	-84.0E-09	-77.2E-09	-85.5E-09	-82.6E-09	-73.0E-09	-81.5E-09
Average	-162.8E-09	-136.5E-09	-132.8E-09	-148.3E-09	-124.3E-09	-117.0E-09	-117.0E-09	-107.1E-09	-118.5E-09	-114.6E-09	-102.5E-09	-114.3E-09
Sigma	42.3E-09	39.5E-09	36.8E-09	32.8E-09	34.2E-09	33.0E-09	33.0E-09	29.9E-09	33.0E-09	32.0E-09	29.5E-09	32.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra11

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

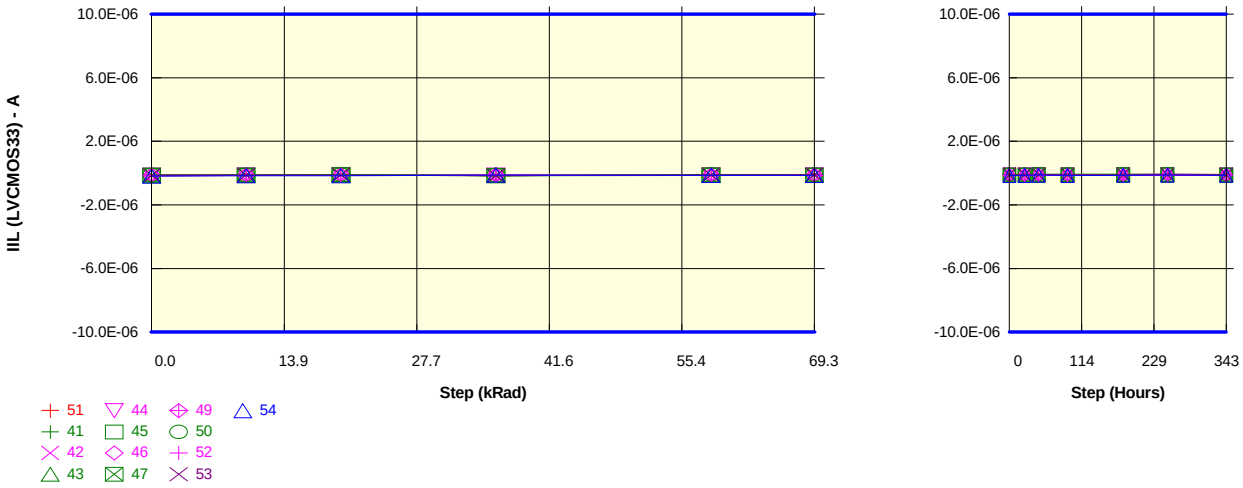
IIL (LVCMOS33)sra11	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-116.0E-09	-97.5E-09	-98.5E-09	-107.0E-09	-116.5E-09	-118.5E-09	-118.5E-09	-100.0E-09	-118.5E-09	-102.0E-09	-91.7E-09	-107.0E-09
ON samples												
41	-126.5E-09	-95.5E-09	-85.1E-09	-193.5E-09	-89.2E-09	-92.5E-09	-92.5E-09	-78.8E-09	-82.6E-09	-80.2E-09	-74.1E-09	-86.5E-09
42	-182.5E-09	-151.0E-09	-136.5E-09	-121.5E-09	-141.0E-09	-149.0E-09	-149.0E-09	-126.5E-09	-133.5E-09	-130.5E-09	-121.5E-09	-140.5E-09
43	-134.0E-09	-113.5E-09	-99.0E-09	-110.5E-09	-108.0E-09	-113.5E-09	-113.5E-09	-95.5E-09	-103.5E-09	-99.5E-09	-91.4E-09	-108.5E-09
44	-114.0E-09	-99.0E-09	-84.5E-09	-127.0E-09	-92.9E-09	-97.0E-09	-97.0E-09	-82.7E-09	-91.1E-09	-86.1E-09	-78.9E-09	-95.0E-09
45	-187.5E-09	-165.0E-09	-142.5E-09	-138.0E-09	-154.5E-09	-160.0E-09	-160.0E-09	-141.0E-09	-153.5E-09	-147.0E-09	-135.5E-09	-155.5E-09
46	-142.0E-09	-128.5E-09	-103.0E-09	-107.5E-09	-123.0E-09	-126.0E-09	-126.0E-09	-110.5E-09	-121.0E-09	-114.5E-09	-105.0E-09	-121.0E-09
47	-127.0E-09	-118.5E-09	-96.0E-09	-171.5E-09	-110.5E-09	-115.5E-09	-115.5E-09	-101.5E-09	-111.0E-09	-107.0E-09	-97.0E-09	-110.5E-09
49	-130.0E-09	-117.0E-09	-93.6E-09	-125.0E-09	-107.5E-09	-108.5E-09	-108.5E-09	-93.8E-09	-104.5E-09	-101.5E-09	-91.7E-09	-103.5E-09
50	-109.0E-09	-91.1E-09	-76.0E-09	-135.0E-09	-82.5E-09	-85.9E-09	-85.9E-09	-75.0E-09	-83.4E-09	-80.2E-09	-72.5E-09	-81.7E-09
52	-159.0E-09	-127.5E-09	-123.0E-09	-101.5E-09	-119.5E-09	-120.5E-09	-120.5E-09	-105.5E-09	-116.5E-09	-113.5E-09	-103.0E-09	-115.0E-09
Statistics												
Min	-187.5E-09	-165.0E-09	-142.5E-09	-193.5E-09	-154.5E-09	-160.0E-09	-160.0E-09	-141.0E-09	-153.5E-09	-147.0E-09	-135.5E-09	-155.5E-09
Max	-109.0E-09	-91.1E-09	-76.0E-09	-101.5E-09	-82.5E-09	-85.9E-09	-85.9E-09	-75.0E-09	-82.6E-09	-80.2E-09	-72.5E-09	-81.7E-09
Average	-141.2E-09	-120.7E-09	-103.9E-09	-133.1E-09	-112.9E-09	-116.8E-09	-116.8E-09	-101.1E-09	-110.1E-09	-106.0E-09	-97.1E-09	-111.8E-09
Sigma	25.6E-09	22.5E-09	21.5E-09	27.5E-09	21.5E-09	22.4E-09	22.4E-09	19.9E-09	21.2E-09	20.5E-09	19.2E-09	21.8E-09

Measurements

IIL (LVCMOS33)sra11	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-116.0E-09	-97.5E-09	-98.5E-09	-107.0E-09	-116.5E-09	-118.5E-09	-118.5E-09	-100.0E-09	-118.5E-09	-102.0E-09	-91.7E-09	-107.0E-09
OFF samples												
53	-141.5E-09	-114.0E-09	-111.5E-09	-181.0E-09	-106.0E-09	-99.5E-09	-99.5E-09	-91.0E-09	-101.5E-09	-98.5E-09	-86.5E-09	-96.5E-09
54	-216.5E-09	-185.0E-09	-177.0E-09	-121.0E-09	-167.0E-09	-157.5E-09	-157.5E-09	-144.0E-09	-159.5E-09	-154.5E-09	-140.0E-09	-153.5E-09
Statistics												
Min	-216.5E-09	-185.0E-09	-177.0E-09	-181.0E-09	-167.0E-09	-157.5E-09	-157.5E-09	-144.0E-09	-159.5E-09	-154.5E-09	-140.0E-09	-153.5E-09
Max	-141.5E-09	-114.0E-09	-111.5E-09	-121.0E-09	-106.0E-09	-99.5E-09	-99.5E-09	-91.0E-09	-101.5E-09	-98.5E-09	-86.5E-09	-96.5E-09
Average	-179.0E-09	-149.5E-09	-144.3E-09	-151.0E-09	-136.5E-09	-128.5E-09	-128.5E-09	-117.5E-09	-130.5E-09	-126.5E-09	-113.3E-09	-125.0E-09
Sigma	37.5E-09	35.5E-09	32.8E-09	30.0E-09	30.5E-09	29.0E-09	29.0E-09	26.5E-09	29.0E-09	28.0E-09	26.8E-09	28.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra10

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

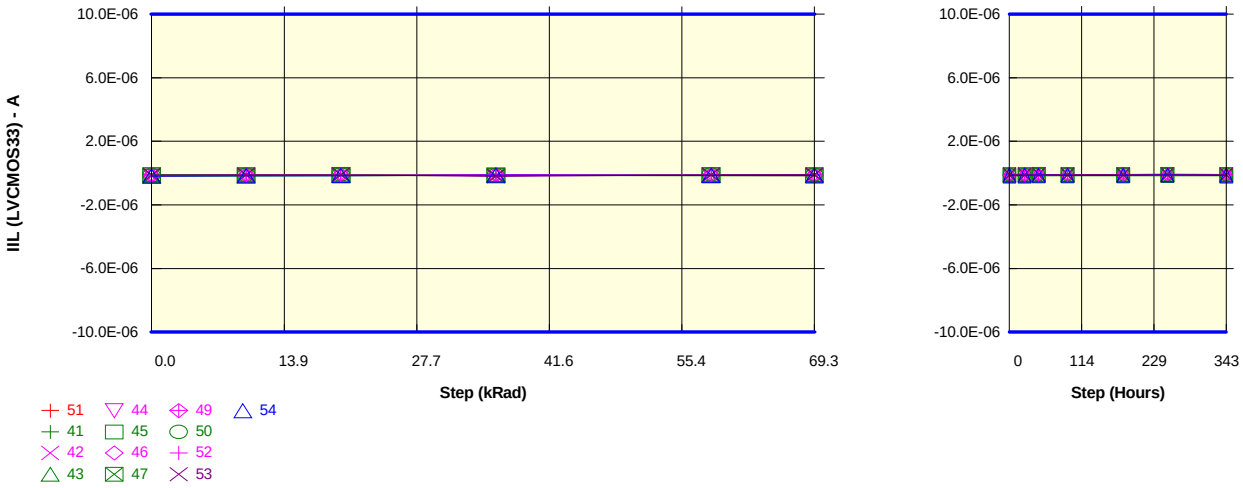
IIL (LVCMOS 33)sra10	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-120.0E-09	-101.0E-09	-102.0E-09	-110.0E-09	-119.5E-09	-122.0E-09	-122.0E-09	-102.5E-09	-122.5E-09	-105.5E-09	-95.0E-09	-110.0E-09
ON samples												
41	-110.5E-09	-82.4E-09	-73.8E-09	-169.5E-09	-76.8E-09	-81.4E-09	-81.4E-09	-69.2E-09	-72.7E-09	-70.6E-09	-65.6E-09	-76.6E-09
42	-157.0E-09	-129.5E-09	-118.0E-09	-119.0E-09	-123.5E-09	-132.5E-09	-132.5E-09	-112.5E-09	-118.0E-09	-116.0E-09	-107.0E-09	-124.5E-09
43	-134.5E-09	-116.0E-09	-102.0E-09	-100.5E-09	-111.0E-09	-117.5E-09	-117.5E-09	-99.5E-09	-107.5E-09	-103.0E-09	-95.5E-09	-112.5E-09
44	-101.5E-09	-87.2E-09	-75.5E-09	-114.5E-09	-84.8E-09	-89.5E-09	-89.5E-09	-76.1E-09	-84.0E-09	-79.2E-09	-72.6E-09	-86.2E-09
45	-159.0E-09	-143.0E-09	-123.5E-09	-153.5E-09	-133.0E-09	-140.0E-09	-140.0E-09	-122.5E-09	-134.5E-09	-128.0E-09	-118.5E-09	-136.5E-09
46	-129.5E-09	-117.0E-09	-93.7E-09	-92.4E-09	-114.5E-09	-118.0E-09	-118.0E-09	-103.0E-09	-113.0E-09	-107.5E-09	-98.0E-09	-114.0E-09
47	-113.0E-09	-105.5E-09	-84.5E-09	-150.5E-09	-101.0E-09	-106.0E-09	-106.0E-09	-91.3E-09	-101.0E-09	-97.0E-09	-88.2E-09	-100.5E-09
49	-127.0E-09	-115.5E-09	-93.0E-09	-128.0E-09	-107.5E-09	-110.5E-09	-110.5E-09	-95.5E-09	-106.0E-09	-103.0E-09	-93.9E-09	-105.5E-09
50	-117.5E-09	-100.5E-09	-83.2E-09	-125.5E-09	-89.9E-09	-95.0E-09	-95.0E-09	-82.8E-09	-91.7E-09	-88.5E-09	-80.5E-09	-90.1E-09
52	-171.5E-09	-138.0E-09	-134.5E-09	-109.5E-09	-131.0E-09	-135.0E-09	-135.0E-09	-118.5E-09	-130.5E-09	-127.5E-09	-116.0E-09	-128.5E-09
Statistics												
Min	-171.5E-09	-143.0E-09	-134.5E-09	-169.5E-09	-133.0E-09	-140.0E-09	-140.0E-09	-122.5E-09	-134.5E-09	-128.0E-09	-118.5E-09	-136.5E-09
Max	-101.5E-09	-82.4E-09	-73.8E-09	-92.4E-09	-76.8E-09	-81.4E-09	-81.4E-09	-69.2E-09	-72.7E-09	-70.6E-09	-65.6E-09	-76.6E-09
Average	-132.1E-09	-113.5E-09	-98.2E-09	-126.3E-09	-107.3E-09	-112.5E-09	-112.5E-09	-97.1E-09	-105.9E-09	-102.0E-09	-93.6E-09	-107.5E-09
Sigma	22.2E-09	19.1E-09	19.8E-09	23.4E-09	18.3E-09	18.9E-09	18.9E-09	16.9E-09	18.5E-09	18.1E-09	16.6E-09	18.5E-09

Measurements

IIL (LVCMOS 33)sra10	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-120.0E-09	-101.0E-09	-102.0E-09	-110.0E-09	-119.5E-09	-122.0E-09	-122.0E-09	-102.5E-09	-122.5E-09	-105.5E-09	-95.0E-09	-110.0E-09
OFF samples												
53	-136.5E-09	-111.5E-09	-108.5E-09	-157.0E-09	-103.5E-09	-95.5E-09	-95.5E-09	-87.5E-09	-97.5E-09	-93.7E-09	-83.3E-09	-92.6E-09
54	-192.5E-09	-163.5E-09	-155.0E-09	-121.0E-09	-144.0E-09	-137.0E-09	-137.0E-09	-124.0E-09	-138.0E-09	-133.5E-09	-120.5E-09	-133.0E-09
Statistics												
Min	-192.5E-09	-163.5E-09	-155.0E-09	-157.0E-09	-144.0E-09	-137.0E-09	-137.0E-09	-124.0E-09	-138.0E-09	-133.5E-09	-120.5E-09	-133.0E-09
Max	-136.5E-09	-111.5E-09	-108.5E-09	-121.0E-09	-103.5E-09	-95.5E-09	-95.5E-09	-87.5E-09	-97.5E-09	-93.7E-09	-83.3E-09	-92.6E-09
Average	-164.5E-09	-137.5E-09	-131.8E-09	-139.0E-09	-123.8E-09	-116.3E-09	-116.3E-09	-105.8E-09	-117.8E-09	-113.6E-09	-101.9E-09	-112.8E-09
Sigma	28.0E-09	26.0E-09	23.3E-09	18.0E-09	20.3E-09	20.8E-09	20.8E-09	18.3E-09	20.3E-09	19.9E-09	18.6E-09	20.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra9

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

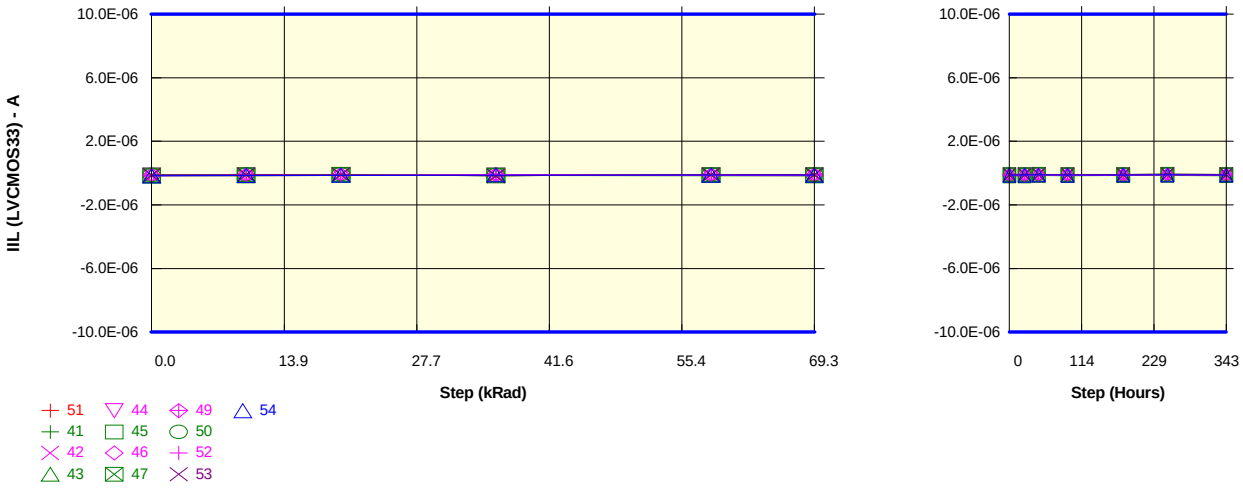
IIL (LVCMOS33)sra9	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-105.0E-09	-88.3E-09	-88.9E-09	-97.0E-09	-106.0E-09	-108.0E-09	-108.0E-09	-89.6E-09	-108.0E-09	-92.0E-09	-83.0E-09	-97.0E-09
ON samples												
41	-120.0E-09	-90.8E-09	-81.0E-09	-159.5E-09	-84.7E-09	-88.9E-09	-88.9E-09	-75.8E-09	-79.6E-09	-77.3E-09	-71.4E-09	-83.2E-09
42	-171.5E-09	-141.5E-09	-127.5E-09	-106.0E-09	-136.0E-09	-145.5E-09	-145.5E-09	-123.5E-09	-130.0E-09	-127.5E-09	-118.0E-09	-136.5E-09
43	-142.0E-09	-120.5E-09	-106.5E-09	-113.5E-09	-116.5E-09	-122.5E-09	-122.5E-09	-104.0E-09	-112.0E-09	-107.5E-09	-99.0E-09	-117.0E-09
44	-116.5E-09	-100.5E-09	-86.1E-09	-100.0E-09	-96.5E-09	-100.5E-09	-100.5E-09	-85.7E-09	-95.0E-09	-89.1E-09	-81.8E-09	-97.5E-09
45	-204.5E-09	-181.5E-09	-156.5E-09	-128.5E-09	-171.0E-09	-177.5E-09	-177.5E-09	-156.0E-09	-170.5E-09	-163.0E-09	-150.5E-09	-172.5E-09
46	-153.0E-09	-138.5E-09	-110.5E-09	-102.5E-09	-132.5E-09	-137.5E-09	-137.5E-09	-121.0E-09	-132.0E-09	-125.0E-09	-115.0E-09	-132.5E-09
47	-97.5E-09	-91.2E-09	-73.6E-09	-163.5E-09	-86.2E-09	-91.1E-09	-91.1E-09	-78.9E-09	-87.2E-09	-83.2E-09	-75.6E-09	-85.9E-09
49	-129.5E-09	-116.5E-09	-93.5E-09	-133.0E-09	-107.0E-09	-109.0E-09	-109.0E-09	-95.0E-09	-105.5E-09	-101.5E-09	-92.2E-09	-103.5E-09
50	-123.0E-09	-104.5E-09	-86.9E-09	-143.0E-09	-95.5E-09	-99.5E-09	-99.5E-09	-86.7E-09	-96.5E-09	-92.2E-09	-83.8E-09	-93.9E-09
52	-145.5E-09	-115.0E-09	-112.0E-09	-113.5E-09	-110.0E-09	-112.5E-09	-112.5E-09	-98.0E-09	-108.5E-09	-106.0E-09	-95.5E-09	-106.5E-09
Statistics												
Min	-204.5E-09	-181.5E-09	-156.5E-09	-163.5E-09	-171.0E-09	-177.5E-09	-177.5E-09	-156.0E-09	-170.5E-09	-163.0E-09	-150.5E-09	-172.5E-09
Max	-97.5E-09	-90.8E-09	-73.6E-09	-100.0E-09	-84.7E-09	-88.9E-09	-88.9E-09	-75.8E-09	-79.6E-09	-77.3E-09	-71.4E-09	-83.2E-09
Average	-140.3E-09	-120.1E-09	-103.4E-09	-126.3E-09	-113.6E-09	-118.4E-09	-118.4E-09	-102.4E-09	-111.7E-09	-107.2E-09	-98.3E-09	-112.9E-09
Sigma	29.2E-09	26.3E-09	23.7E-09	21.9E-09	25.3E-09	26.5E-09	26.5E-09	23.5E-09	25.3E-09	24.3E-09	22.7E-09	26.2E-09

Measurements

IIL (LVCMOS33)sra9	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-105.0E-09	-88.3E-09	-88.9E-09	-97.0E-09	-106.0E-09	-108.0E-09	-108.0E-09	-89.6E-09	-108.0E-09	-92.0E-09	-83.0E-09	-97.0E-09
OFF samples												
53	-121.5E-09	-98.5E-09	-96.5E-09	-198.0E-09	-91.1E-09	-85.0E-09	-85.0E-09	-78.1E-09	-86.5E-09	-83.4E-09	-73.9E-09	-82.5E-09
54	-182.5E-09	-154.5E-09	-146.0E-09	-120.0E-09	-138.5E-09	-132.0E-09	-132.0E-09	-119.5E-09	-134.0E-09	-129.5E-09	-116.0E-09	-128.5E-09
Statistics												
Min	-182.5E-09	-154.5E-09	-146.0E-09	-198.0E-09	-138.5E-09	-132.0E-09	-132.0E-09	-119.5E-09	-134.0E-09	-129.5E-09	-116.0E-09	-128.5E-09
Max	-121.5E-09	-98.5E-09	-96.5E-09	-120.0E-09	-91.1E-09	-85.0E-09	-85.0E-09	-78.1E-09	-86.5E-09	-83.4E-09	-73.9E-09	-82.5E-09
Average	-152.0E-09	-126.5E-09	-121.3E-09	-159.0E-09	-114.8E-09	-108.5E-09	-108.5E-09	-98.8E-09	-110.2E-09	-106.5E-09	-94.9E-09	-105.5E-09
Sigma	30.5E-09	28.0E-09	24.8E-09	39.0E-09	23.7E-09	23.5E-09	23.5E-09	20.7E-09	23.8E-09	23.1E-09	21.1E-09	23.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra8

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

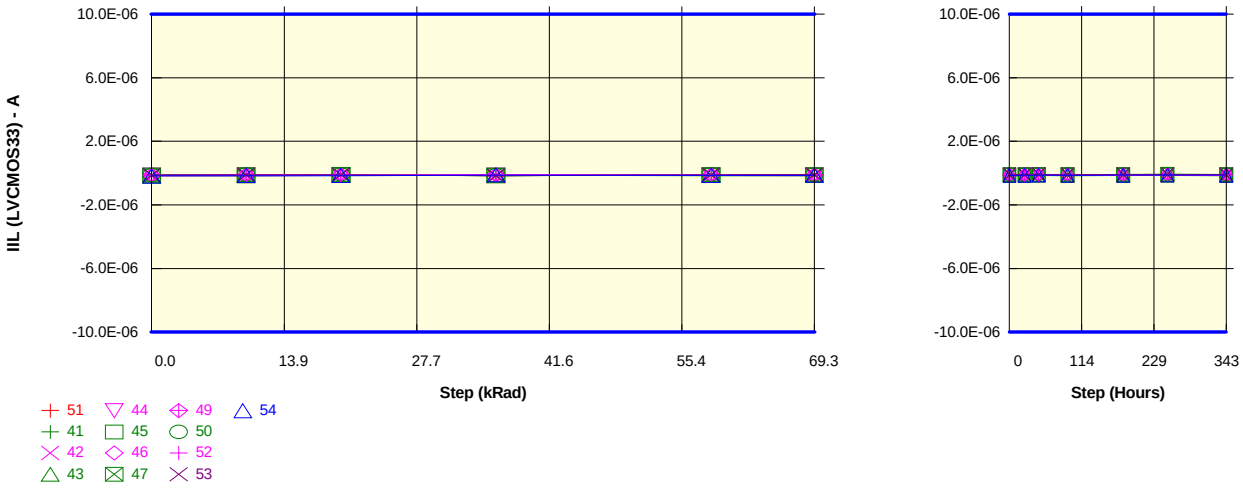
IIL (LVCMOS 33)sra8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-118.5E-09	-100.5E-09	-101.5E-09	-109.5E-09	-118.5E-09	-121.0E-09	-121.0E-09	-101.5E-09	-122.0E-09	-104.0E-09	-93.4E-09	-109.0E-09
ON samples												
41	-118.5E-09	-88.7E-09	-79.9E-09	-147.5E-09	-83.8E-09	-87.7E-09	-87.7E-09	-74.6E-09	-78.2E-09	-76.0E-09	-70.3E-09	-82.2E-09
42	-179.0E-09	-146.0E-09	-130.5E-09	-103.0E-09	-140.5E-09	-149.5E-09	-149.5E-09	-127.0E-09	-133.0E-09	-131.5E-09	-122.0E-09	-141.0E-09
43	-141.0E-09	-120.5E-09	-105.5E-09	-106.5E-09	-115.0E-09	-122.0E-09	-122.0E-09	-103.5E-09	-112.0E-09	-108.0E-09	-99.5E-09	-117.5E-09
44	-109.5E-09	-94.3E-09	-81.4E-09	-102.5E-09	-90.1E-09	-95.5E-09	-95.5E-09	-80.7E-09	-89.0E-09	-83.7E-09	-77.1E-09	-91.6E-09
45	-174.5E-09	-154.0E-09	-133.0E-09	-128.0E-09	-146.0E-09	-153.5E-09	-153.5E-09	-135.0E-09	-147.0E-09	-140.5E-09	-130.0E-09	-150.0E-09
46	-130.0E-09	-118.0E-09	-95.0E-09	-100.5E-09	-115.0E-09	-119.0E-09	-119.0E-09	-104.0E-09	-114.5E-09	-108.5E-09	-99.5E-09	-115.0E-09
47	-102.5E-09	-95.0E-09	-75.6E-09	-167.5E-09	-89.3E-09	-93.8E-09	-93.8E-09	-81.1E-09	-89.9E-09	-85.7E-09	-78.0E-09	-88.9E-09
49	-117.0E-09	-105.5E-09	-84.4E-09	-130.5E-09	-97.0E-09	-99.5E-09	-99.5E-09	-85.7E-09	-96.5E-09	-91.8E-09	-84.0E-09	-95.5E-09
50	-111.0E-09	-93.8E-09	-77.9E-09	-125.0E-09	-86.7E-09	-90.4E-09	-90.4E-09	-78.9E-09	-87.6E-09	-84.4E-09	-76.5E-09	-86.1E-09
52	-145.0E-09	-116.0E-09	-113.0E-09	-103.5E-09	-109.5E-09	-111.5E-09	-111.5E-09	-98.0E-09	-108.5E-09	-105.5E-09	-96.0E-09	-106.0E-09
Statistics												
Min	-179.0E-09	-154.0E-09	-133.0E-09	-167.5E-09	-146.0E-09	-153.5E-09	-153.5E-09	-135.0E-09	-147.0E-09	-140.5E-09	-130.0E-09	-150.0E-09
Max	-102.5E-09	-88.7E-09	-75.6E-09	-100.5E-09	-83.8E-09	-87.7E-09	-87.7E-09	-74.6E-09	-78.2E-09	-76.0E-09	-70.3E-09	-82.2E-09
Average	-132.8E-09	-113.2E-09	-97.6E-09	-121.5E-09	-107.3E-09	-112.2E-09	-112.2E-09	-96.8E-09	-105.6E-09	-101.5E-09	-93.3E-09	-107.4E-09
Sigma	25.5E-09	21.3E-09	20.7E-09	21.5E-09	21.1E-09	22.6E-09	22.6E-09	19.8E-09	20.7E-09	20.3E-09	19.1E-09	22.2E-09

Measurements

IIL (LVCMOS 33)sra8	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-118.5E-09	-100.5E-09	-101.5E-09	-109.5E-09	-118.5E-09	-121.0E-09	-121.0E-09	-101.5E-09	-122.0E-09	-104.0E-09	-93.4E-09	-109.0E-09
OFF samples												
53	-120.0E-09	-95.5E-09	-95.0E-09	-171.5E-09	-89.2E-09	-83.4E-09	-83.4E-09	-76.7E-09	-85.1E-09	-82.1E-09	-72.5E-09	-81.1E-09
54	-166.0E-09	-140.0E-09	-134.5E-09	-110.0E-09	-126.0E-09	-119.0E-09	-119.0E-09	-108.0E-09	-120.5E-09	-116.5E-09	-104.5E-09	-116.5E-09
Statistics												
Min	-166.0E-09	-140.0E-09	-134.5E-09	-171.5E-09	-126.0E-09	-119.0E-09	-119.0E-09	-108.0E-09	-120.5E-09	-116.5E-09	-104.5E-09	-116.5E-09
Max	-120.0E-09	-95.5E-09	-95.0E-09	-110.0E-09	-89.2E-09	-83.4E-09	-83.4E-09	-76.7E-09	-85.1E-09	-82.1E-09	-72.5E-09	-81.1E-09
Average	-143.0E-09	-117.8E-09	-114.8E-09	-140.8E-09	-107.6E-09	-101.2E-09	-101.2E-09	-92.4E-09	-102.8E-09	-99.3E-09	-88.5E-09	-98.8E-09
Sigma	23.0E-09	22.3E-09	19.8E-09	30.8E-09	18.4E-09	17.8E-09	17.8E-09	15.7E-09	17.7E-09	17.2E-09	16.0E-09	17.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra7

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

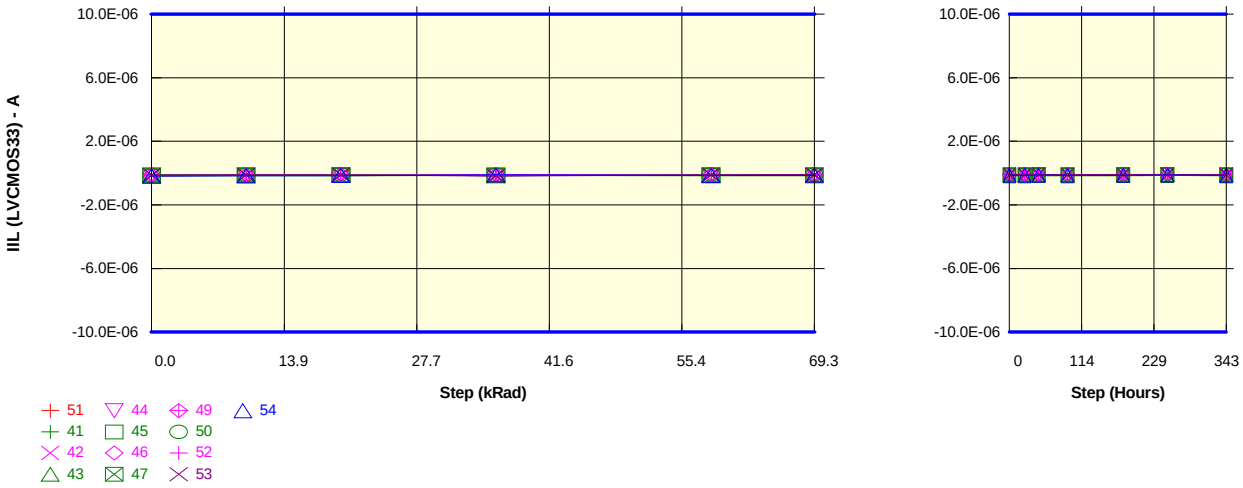
IIL (LVCMOS33)sra7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-110.5E-09	-92.1E-09	-92.6E-09	-100.5E-09	-110.5E-09	-112.0E-09	-112.0E-09	-93.5E-09	-113.0E-09	-96.5E-09	-86.1E-09	-101.0E-09
ON samples												
41	-119.5E-09	-89.5E-09	-80.6E-09	-158.0E-09	-83.4E-09	-86.5E-09	-86.5E-09	-73.7E-09	-77.3E-09	-75.1E-09	-69.4E-09	-81.4E-09
42	-179.5E-09	-149.0E-09	-134.5E-09	-105.0E-09	-141.0E-09	-149.5E-09	-149.5E-09	-127.5E-09	-134.0E-09	-131.0E-09	-122.0E-09	-141.5E-09
43	-133.5E-09	-112.5E-09	-100.0E-09	-110.5E-09	-107.5E-09	-113.5E-09	-113.5E-09	-96.5E-09	-104.0E-09	-99.5E-09	-91.2E-09	-109.0E-09
44	-111.5E-09	-95.5E-09	-83.5E-09	-105.0E-09	-92.5E-09	-97.5E-09	-97.5E-09	-82.9E-09	-91.3E-09	-86.1E-09	-79.0E-09	-93.7E-09
45	-173.0E-09	-153.5E-09	-131.5E-09	-119.5E-09	-145.0E-09	-151.0E-09	-151.0E-09	-132.0E-09	-144.5E-09	-137.5E-09	-127.0E-09	-146.5E-09
46	-146.0E-09	-131.0E-09	-105.0E-09	-100.5E-09	-127.0E-09	-129.5E-09	-129.5E-09	-114.5E-09	-125.5E-09	-119.0E-09	-109.0E-09	-126.5E-09
47	-103.5E-09	-97.0E-09	-77.1E-09	-169.5E-09	-91.2E-09	-96.0E-09	-96.0E-09	-82.9E-09	-91.7E-09	-87.4E-09	-79.5E-09	-90.5E-09
49	-117.0E-09	-105.0E-09	-83.9E-09	-124.0E-09	-98.0E-09	-99.0E-09	-99.0E-09	-85.6E-09	-96.0E-09	-91.8E-09	-83.6E-09	-94.3E-09
50	-117.5E-09	-97.0E-09	-81.7E-09	-139.0E-09	-89.5E-09	-92.7E-09	-92.7E-09	-81.2E-09	-90.1E-09	-86.7E-09	-78.6E-09	-88.3E-09
52	-136.5E-09	-108.0E-09	-105.0E-09	-107.0E-09	-102.5E-09	-104.0E-09	-104.0E-09	-90.6E-09	-101.5E-09	-98.5E-09	-88.2E-09	-99.5E-09
Statistics												
Min	-179.5E-09	-153.5E-09	-134.5E-09	-169.5E-09	-145.0E-09	-151.0E-09	-151.0E-09	-132.0E-09	-144.5E-09	-137.5E-09	-127.0E-09	-146.5E-09
Max	-103.5E-09	-89.5E-09	-77.1E-09	-100.5E-09	-83.4E-09	-86.5E-09	-86.5E-09	-73.7E-09	-77.3E-09	-75.1E-09	-69.4E-09	-81.4E-09
Average	-133.8E-09	-113.8E-09	-98.3E-09	-123.8E-09	-107.7E-09	-111.9E-09	-111.9E-09	-96.7E-09	-105.6E-09	-101.2E-09	-92.7E-09	-107.1E-09
Sigma	24.4E-09	21.7E-09	19.9E-09	22.8E-09	21.0E-09	22.3E-09	22.3E-09	19.6E-09	20.7E-09	19.8E-09	18.7E-09	21.9E-09

Measurements

IIL (LVCMOS33)sra7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-110.5E-09	-92.1E-09	-92.6E-09	-100.5E-09	-110.5E-09	-112.0E-09	-112.0E-09	-93.5E-09	-113.0E-09	-96.5E-09	-86.1E-09	-101.0E-09
OFF samples												
53	-121.5E-09	-98.0E-09	-96.0E-09	-169.5E-09	-90.7E-09	-84.9E-09	-84.9E-09	-78.0E-09	-86.4E-09	-83.6E-09	-73.7E-09	-82.5E-09
54	-177.5E-09	-151.0E-09	-144.5E-09	-109.5E-09	-135.5E-09	-128.5E-09	-128.5E-09	-115.5E-09	-129.0E-09	-125.5E-09	-111.5E-09	-124.5E-09
Statistics												
Min	-177.5E-09	-151.0E-09	-144.5E-09	-169.5E-09	-135.5E-09	-128.5E-09	-128.5E-09	-115.5E-09	-129.0E-09	-125.5E-09	-111.5E-09	-124.5E-09
Max	-121.5E-09	-98.0E-09	-96.0E-09	-109.5E-09	-90.7E-09	-84.9E-09	-84.9E-09	-78.0E-09	-86.4E-09	-83.6E-09	-73.7E-09	-82.5E-09
Average	-149.5E-09	-124.5E-09	-120.3E-09	-139.5E-09	-113.1E-09	-106.7E-09	-106.7E-09	-96.7E-09	-107.7E-09	-104.5E-09	-92.6E-09	-103.5E-09
Sigma	28.0E-09	26.5E-09	24.3E-09	30.0E-09	22.4E-09	21.8E-09	21.8E-09	18.8E-09	21.3E-09	21.0E-09	18.9E-09	21.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra6

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

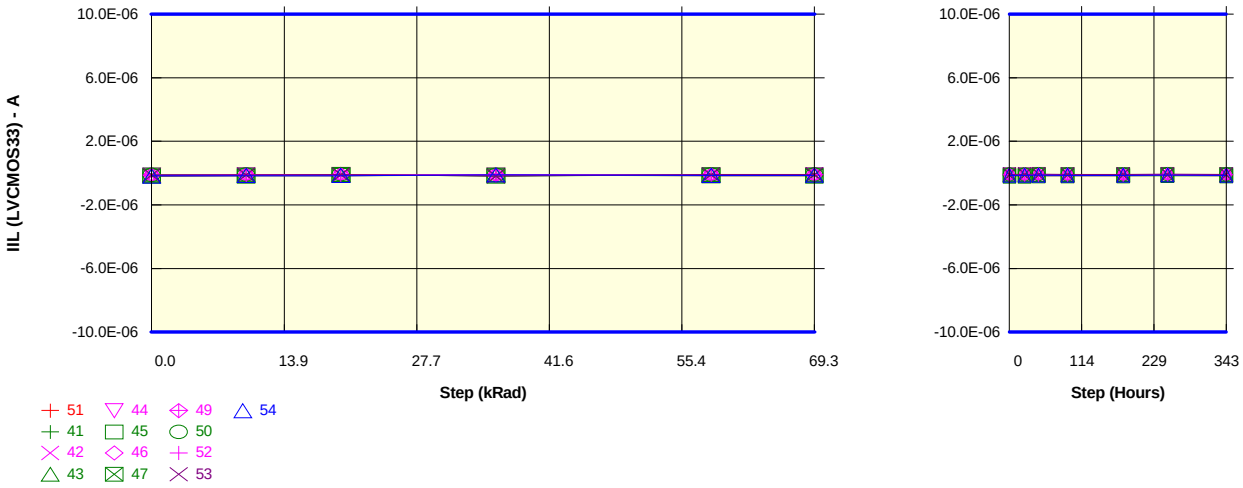
IIL (LVCMOS 33)sra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-105.5E-09	-87.5E-09	-88.1E-09	-96.5E-09	-105.0E-09	-106.5E-09	-106.5E-09	-89.0E-09	-108.0E-09	-91.4E-09	-82.1E-09	-96.5E-09
ON samples												
41	-125.0E-09	-95.0E-09	-84.7E-09	-162.5E-09	-88.5E-09	-93.8E-09	-93.8E-09	-80.2E-09	-84.0E-09	-81.8E-09	-75.3E-09	-87.9E-09
42	-160.5E-09	-133.0E-09	-121.0E-09	-107.5E-09	-128.0E-09	-136.0E-09	-136.0E-09	-115.0E-09	-121.0E-09	-119.0E-09	-109.5E-09	-127.0E-09
43	-127.5E-09	-108.5E-09	-95.0E-09	-109.0E-09	-106.0E-09	-111.0E-09	-111.0E-09	-93.0E-09	-101.0E-09	-97.5E-09	-88.3E-09	-105.0E-09
44	-111.5E-09	-96.0E-09	-82.7E-09	-117.5E-09	-92.6E-09	-98.0E-09	-98.0E-09	-82.5E-09	-91.2E-09	-85.9E-09	-78.5E-09	-93.3E-09
45	-189.0E-09	-166.5E-09	-144.5E-09	-129.0E-09	-158.5E-09	-166.5E-09	-166.5E-09	-146.0E-09	-159.0E-09	-151.5E-09	-140.0E-09	-160.5E-09
46	-132.5E-09	-119.0E-09	-96.0E-09	-106.0E-09	-116.5E-09	-120.5E-09	-120.5E-09	-105.5E-09	-115.0E-09	-109.5E-09	-99.0E-09	-115.0E-09
47	-116.0E-09	-109.0E-09	-86.9E-09	-154.0E-09	-104.0E-09	-109.0E-09	-109.0E-09	-93.9E-09	-105.0E-09	-99.0E-09	-90.0E-09	-103.0E-09
49	-112.5E-09	-100.5E-09	-81.0E-09	-119.0E-09	-93.7E-09	-97.0E-09	-97.0E-09	-83.2E-09	-92.8E-09	-89.0E-09	-81.0E-09	-91.1E-09
50	-119.0E-09	-102.0E-09	-84.8E-09	-127.0E-09	-91.8E-09	-97.5E-09	-97.5E-09	-84.4E-09	-93.7E-09	-90.2E-09	-81.5E-09	-91.4E-09
52	-145.0E-09	-117.5E-09	-114.0E-09	-110.5E-09	-111.0E-09	-112.0E-09	-112.0E-09	-99.0E-09	-109.0E-09	-106.5E-09	-96.0E-09	-106.5E-09
Statistics												
Min	-189.0E-09	-166.5E-09	-144.5E-09	-162.5E-09	-158.5E-09	-166.5E-09	-166.5E-09	-146.0E-09	-159.0E-09	-151.5E-09	-140.0E-09	-160.5E-09
Max	-111.5E-09	-95.0E-09	-81.0E-09	-106.0E-09	-88.5E-09	-93.8E-09	-93.8E-09	-80.2E-09	-84.0E-09	-81.8E-09	-75.3E-09	-87.9E-09
Average	-133.9E-09	-114.7E-09	-99.0E-09	-124.2E-09	-109.1E-09	-114.1E-09	-114.1E-09	-98.3E-09	-107.2E-09	-103.0E-09	-93.9E-09	-108.1E-09
Sigma	23.4E-09	20.5E-09	19.9E-09	18.7E-09	20.3E-09	21.3E-09	21.3E-09	19.1E-09	20.4E-09	19.5E-09	18.3E-09	20.9E-09

Measurements

IIL (LVCMOS 33)sra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-105.5E-09	-87.5E-09	-88.1E-09	-96.5E-09	-105.0E-09	-106.5E-09	-106.5E-09	-89.0E-09	-108.0E-09	-91.4E-09	-82.1E-09	-96.5E-09
OFF samples												
53	-122.5E-09	-100.0E-09	-98.0E-09	-184.5E-09	-92.0E-09	-86.2E-09	-86.2E-09	-79.1E-09	-87.8E-09	-84.8E-09	-74.8E-09	-83.7E-09
54	-185.5E-09	-156.5E-09	-148.5E-09	-107.0E-09	-139.5E-09	-132.0E-09	-132.0E-09	-119.0E-09	-133.5E-09	-128.5E-09	-115.0E-09	-128.5E-09
Statistics												
Min	-185.5E-09	-156.5E-09	-148.5E-09	-184.5E-09	-139.5E-09	-132.0E-09	-132.0E-09	-119.0E-09	-133.5E-09	-128.5E-09	-115.0E-09	-128.5E-09
Max	-122.5E-09	-100.0E-09	-98.0E-09	-107.0E-09	-92.0E-09	-86.2E-09	-86.2E-09	-79.1E-09	-87.8E-09	-84.8E-09	-74.8E-09	-83.7E-09
Average	-154.0E-09	-128.3E-09	-123.3E-09	-145.8E-09	-115.8E-09	-109.1E-09	-109.1E-09	-99.1E-09	-110.6E-09	-106.6E-09	-94.9E-09	-106.1E-09
Sigma	31.5E-09	28.3E-09	25.3E-09	38.8E-09	23.8E-09	22.9E-09	22.9E-09	20.0E-09	22.9E-09	21.9E-09	20.1E-09	22.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

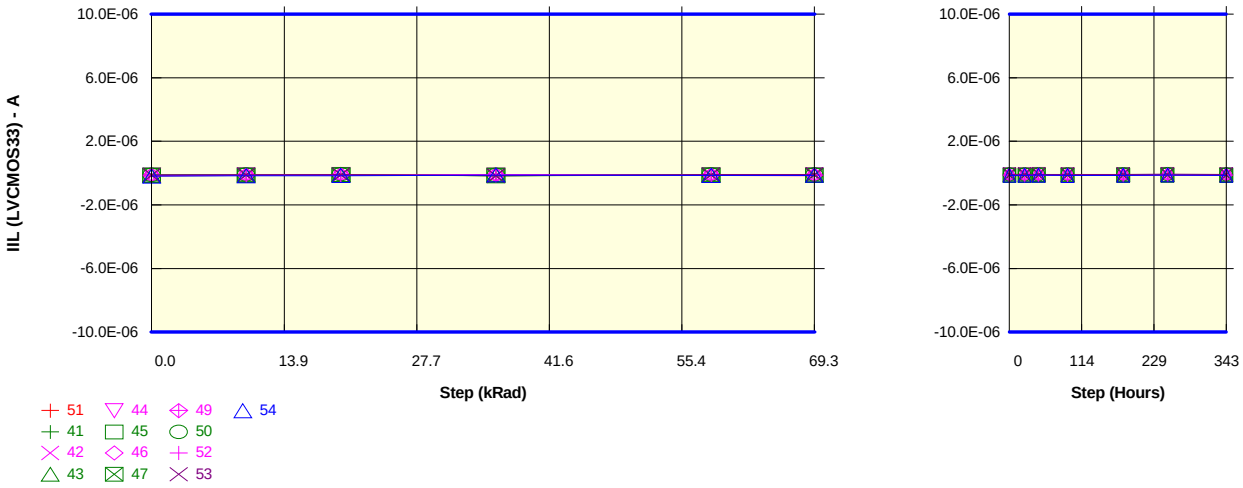
IIL (LVCMOS 33)sra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-119.0E-09	-102.0E-09	-101.5E-09	-111.0E-09	-119.0E-09	-122.5E-09	-122.5E-09	-104.5E-09	-123.5E-09	-106.0E-09	-96.0E-09	-110.5E-09
ON samples												
41	-126.5E-09	-95.0E-09	-84.6E-09	-159.5E-09	-90.0E-09	-96.0E-09	-96.0E-09	-81.6E-09	-85.5E-09	-82.9E-09	-77.4E-09	-89.6E-09
42	-199.0E-09	-165.5E-09	-150.5E-09	-98.0E-09	-157.5E-09	-170.5E-09	-170.5E-09	-147.0E-09	-153.5E-09	-150.5E-09	-140.0E-09	-161.0E-09
43	-126.0E-09	-107.5E-09	-94.0E-09	-104.5E-09	-105.5E-09	-112.0E-09	-112.0E-09	-96.0E-09	-103.5E-09	-98.5E-09	-89.6E-09	-106.5E-09
44	-107.0E-09	-91.1E-09	-79.2E-09	-110.0E-09	-88.5E-09	-93.3E-09	-93.3E-09	-79.8E-09	-87.7E-09	-82.6E-09	-76.5E-09	-90.4E-09
45	-193.0E-09	-173.0E-09	-148.5E-09	-112.5E-09	-165.0E-09	-175.0E-09	-175.0E-09	-154.5E-09	-168.5E-09	-160.0E-09	-147.5E-09	-169.0E-09
46	-127.0E-09	-115.0E-09	-91.9E-09	-107.0E-09	-112.5E-09	-117.0E-09	-117.0E-09	-104.0E-09	-113.0E-09	-105.5E-09	-97.0E-09	-112.0E-09
47	-107.5E-09	-100.5E-09	-80.5E-09	-188.5E-09	-97.5E-09	-103.0E-09	-103.0E-09	-87.9E-09	-99.0E-09	-92.6E-09	-85.0E-09	-96.0E-09
49	-104.0E-09	-93.4E-09	-75.4E-09	-119.5E-09	-87.7E-09	-90.5E-09	-90.5E-09	-78.7E-09	-87.6E-09	-83.9E-09	-76.8E-09	-86.0E-09
50	-109.0E-09	-91.6E-09	-77.4E-09	-122.0E-09	-85.0E-09	-89.2E-09	-89.2E-09	-78.1E-09	-86.7E-09	-83.6E-09	-76.4E-09	-85.2E-09
52	-126.5E-09	-101.0E-09	-98.5E-09	-102.5E-09	-97.0E-09	-98.5E-09	-98.5E-09	-85.6E-09	-96.5E-09	-91.9E-09	-83.7E-09	-92.8E-09
Statistics												
Min	-199.0E-09	-173.0E-09	-150.5E-09	-188.5E-09	-165.0E-09	-175.0E-09	-175.0E-09	-154.5E-09	-168.5E-09	-160.0E-09	-147.5E-09	-169.0E-09
Max	-104.0E-09	-91.1E-09	-75.4E-09	-98.0E-09	-85.0E-09	-89.2E-09	-89.2E-09	-78.1E-09	-85.5E-09	-82.6E-09	-76.4E-09	-85.2E-09
Average	-132.6E-09	-113.4E-09	-98.0E-09	-122.4E-09	-108.6E-09	-114.5E-09	-114.5E-09	-99.3E-09	-108.1E-09	-103.2E-09	-95.0E-09	-108.8E-09
Sigma	33.0E-09	28.9E-09	26.7E-09	27.5E-09	27.6E-09	30.3E-09	30.3E-09	26.9E-09	27.9E-09	27.1E-09	25.3E-09	29.3E-09

Measurements

IIL (LVCMOS 33)sra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-119.0E-09	-102.0E-09	-101.5E-09	-111.0E-09	-119.0E-09	-122.5E-09	-122.5E-09	-104.5E-09	-123.5E-09	-106.0E-09	-96.0E-09	-110.5E-09
OFF samples												
53	-113.5E-09	-90.7E-09	-88.9E-09	-191.5E-09	-84.5E-09	-78.6E-09	-78.6E-09	-72.6E-09	-80.5E-09	-77.3E-09	-68.8E-09	-76.3E-09
54	-179.0E-09	-152.0E-09	-145.0E-09	-100.5E-09	-137.5E-09	-129.5E-09	-129.5E-09	-119.5E-09	-132.5E-09	-127.0E-09	-114.5E-09	-126.5E-09
Statistics												
Min	-179.0E-09	-152.0E-09	-145.0E-09	-191.5E-09	-137.5E-09	-129.5E-09	-129.5E-09	-119.5E-09	-132.5E-09	-127.0E-09	-114.5E-09	-126.5E-09
Max	-113.5E-09	-90.7E-09	-88.9E-09	-100.5E-09	-84.5E-09	-78.6E-09	-78.6E-09	-72.6E-09	-80.5E-09	-77.3E-09	-68.8E-09	-76.3E-09
Average	-146.3E-09	-121.4E-09	-117.0E-09	-146.0E-09	-111.0E-09	-104.0E-09	-104.0E-09	-96.0E-09	-106.5E-09	-102.2E-09	-91.6E-09	-101.4E-09
Sigma	32.8E-09	30.7E-09	28.1E-09	45.5E-09	26.5E-09	25.5E-09	25.5E-09	23.5E-09	26.0E-09	24.9E-09	22.9E-09	25.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra4

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

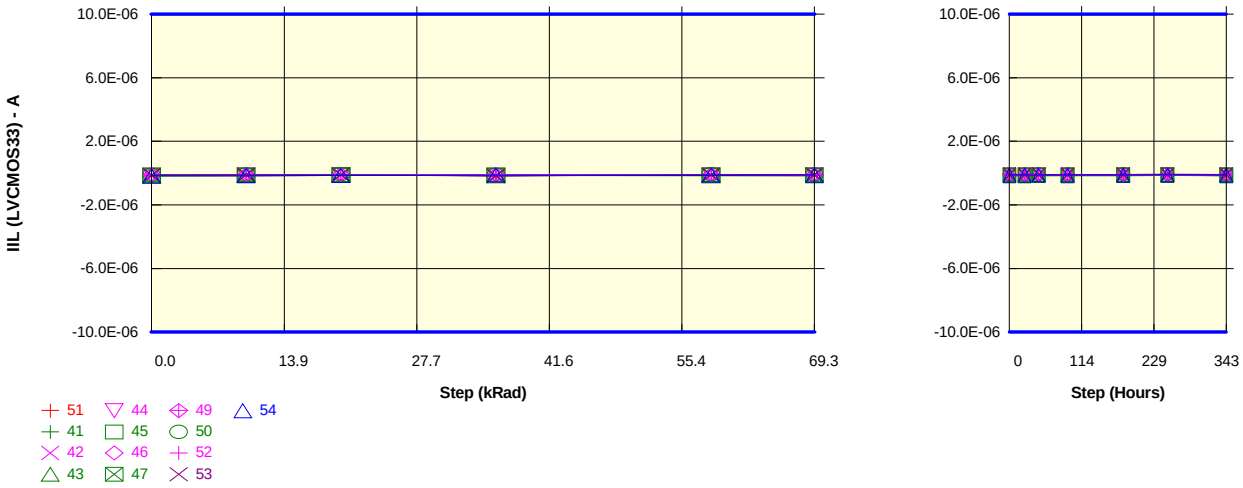
IIL (LVCMOS 33)sra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-108.5E-09	-90.8E-09	-91.3E-09	-100.0E-09	-108.0E-09	-111.0E-09	-111.0E-09	-92.2E-09	-111.0E-09	-95.0E-09	-85.6E-09	-99.5E-09
ON samples												
41	-122.5E-09	-95.5E-09	-85.0E-09	-163.5E-09	-90.8E-09	-98.0E-09	-98.0E-09	-82.6E-09	-86.7E-09	-84.7E-09	-79.6E-09	-92.6E-09
42	-166.0E-09	-139.5E-09	-128.5E-09	-100.0E-09	-137.5E-09	-148.0E-09	-148.0E-09	-127.0E-09	-133.0E-09	-130.0E-09	-122.5E-09	-141.0E-09
43	-129.5E-09	-111.0E-09	-97.5E-09	-101.0E-09	-109.0E-09	-116.5E-09	-116.5E-09	-99.5E-09	-107.5E-09	-103.0E-09	-95.5E-09	-113.0E-09
44	-101.0E-09	-87.6E-09	-76.4E-09	-124.5E-09	-87.0E-09	-92.4E-09	-92.4E-09	-78.8E-09	-87.0E-09	-82.2E-09	-76.0E-09	-90.2E-09
45	-151.5E-09	-137.0E-09	-118.5E-09	-133.5E-09	-134.0E-09	-141.5E-09	-141.5E-09	-123.5E-09	-135.5E-09	-128.5E-09	-120.0E-09	-138.5E-09
46	-134.0E-09	-123.5E-09	-100.5E-09	-107.5E-09	-123.0E-09	-128.5E-09	-128.5E-09	-113.5E-09	-123.5E-09	-116.5E-09	-107.0E-09	-124.0E-09
47	-120.5E-09	-115.5E-09	-93.2E-09	-162.5E-09	-112.5E-09	-120.0E-09	-120.0E-09	-104.5E-09	-115.5E-09	-110.5E-09	-101.5E-09	-114.5E-09
49	-118.5E-09	-108.5E-09	-88.7E-09	-121.0E-09	-105.0E-09	-108.5E-09	-108.5E-09	-94.0E-09	-105.5E-09	-101.0E-09	-93.5E-09	-105.5E-09
50	-110.5E-09	-95.5E-09	-80.0E-09	-130.0E-09	-88.2E-09	-93.9E-09	-93.9E-09	-82.3E-09	-91.2E-09	-87.9E-09	-81.2E-09	-90.5E-09
52	-148.0E-09	-121.5E-09	-118.0E-09	-104.5E-09	-118.5E-09	-122.0E-09	-122.0E-09	-107.0E-09	-119.0E-09	-115.0E-09	-106.0E-09	-117.5E-09
Statistics												
Min	-166.0E-09	-139.5E-09	-128.5E-09	-163.5E-09	-137.5E-09	-148.0E-09	-148.0E-09	-127.0E-09	-135.5E-09	-130.0E-09	-122.5E-09	-141.0E-09
Max	-101.0E-09	-87.6E-09	-76.4E-09	-100.0E-09	-87.0E-09	-92.4E-09	-92.4E-09	-78.8E-09	-86.7E-09	-82.2E-09	-76.0E-09	-90.2E-09
Average	-130.2E-09	-113.5E-09	-98.6E-09	-124.8E-09	-110.5E-09	-116.9E-09	-116.9E-09	-101.3E-09	-110.4E-09	-105.9E-09	-98.3E-09	-112.7E-09
Sigma	19.0E-09	16.6E-09	16.8E-09	22.2E-09	17.3E-09	18.2E-09	18.2E-09	16.2E-09	17.1E-09	16.4E-09	15.4E-09	17.5E-09

Measurements

IIL (LVCMOS 33)sra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-108.5E-09	-90.8E-09	-91.3E-09	-100.0E-09	-108.0E-09	-111.0E-09	-111.0E-09	-92.2E-09	-111.0E-09	-95.0E-09	-85.6E-09	-99.5E-09
OFF samples												
53	-115.0E-09	-92.4E-09	-90.1E-09	-153.5E-09	-85.5E-09	-79.8E-09	-79.8E-09	-73.5E-09	-81.5E-09	-78.8E-09	-69.9E-09	-77.9E-09
54	-185.0E-09	-158.0E-09	-150.0E-09	-115.0E-09	-140.5E-09	-132.5E-09	-132.5E-09	-121.0E-09	-135.5E-09	-130.0E-09	-117.5E-09	-130.0E-09
Statistics												
Min	-185.0E-09	-158.0E-09	-150.0E-09	-153.5E-09	-140.5E-09	-132.5E-09	-132.5E-09	-121.0E-09	-135.5E-09	-130.0E-09	-117.5E-09	-130.0E-09
Max	-115.0E-09	-92.4E-09	-90.1E-09	-115.0E-09	-85.5E-09	-79.8E-09	-79.8E-09	-73.5E-09	-81.5E-09	-78.8E-09	-69.9E-09	-77.9E-09
Average	-150.0E-09	-125.2E-09	-120.0E-09	-134.3E-09	-113.0E-09	-106.2E-09	-106.2E-09	-97.2E-09	-108.5E-09	-104.4E-09	-93.7E-09	-104.0E-09
Sigma	35.0E-09	32.8E-09	30.0E-09	19.3E-09	27.5E-09	26.4E-09	26.4E-09	23.8E-09	27.0E-09	25.6E-09	23.8E-09	26.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra3

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

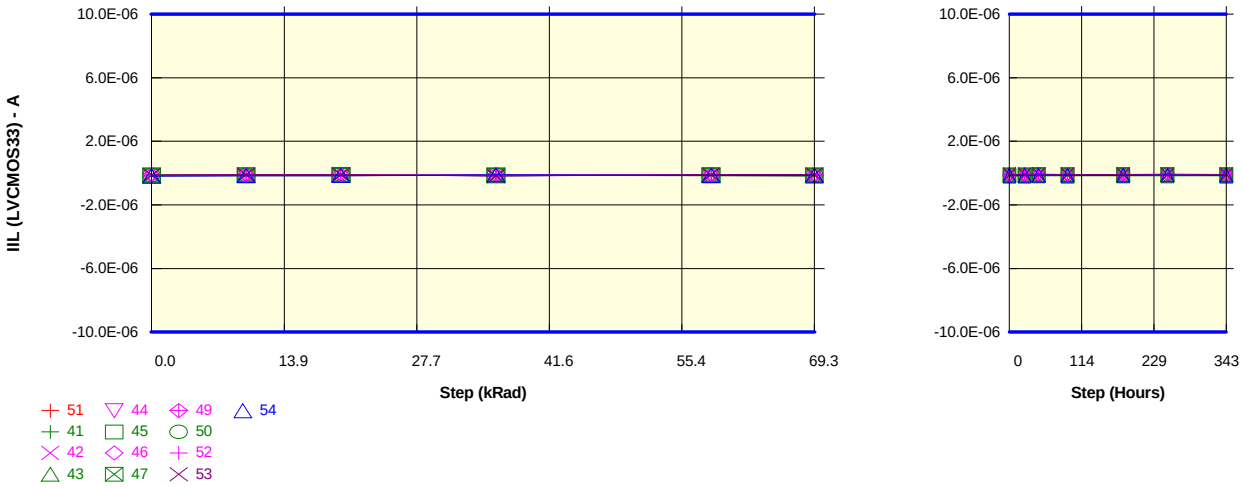
IIL (LVCMOS 33)sra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-116.0E-09	-97.0E-09	-98.0E-09	-106.0E-09	-115.5E-09	-118.0E-09	-118.0E-09	-99.0E-09	-118.5E-09	-101.5E-09	-91.3E-09	-106.5E-09
ON samples												
41	-133.5E-09	-103.0E-09	-92.3E-09	-152.5E-09	-97.5E-09	-103.5E-09	-103.5E-09	-88.2E-09	-92.7E-09	-90.2E-09	-83.9E-09	-98.0E-09
42	-178.0E-09	-146.5E-09	-132.5E-09	-100.5E-09	-140.5E-09	-152.5E-09	-152.5E-09	-129.5E-09	-135.5E-09	-134.0E-09	-124.5E-09	-144.5E-09
43	-115.5E-09	-98.5E-09	-86.5E-09	-106.0E-09	-97.0E-09	-103.0E-09	-103.0E-09	-86.6E-09	-93.8E-09	-89.9E-09	-82.8E-09	-99.0E-09
44	-108.5E-09	-92.8E-09	-81.4E-09	-125.0E-09	-90.5E-09	-97.0E-09	-97.0E-09	-82.2E-09	-90.4E-09	-85.4E-09	-79.1E-09	-93.6E-09
45	-185.5E-09	-165.5E-09	-142.5E-09	-127.5E-09	-155.5E-09	-166.5E-09	-166.5E-09	-147.0E-09	-160.0E-09	-153.0E-09	-142.5E-09	-163.0E-09
46	-125.5E-09	-113.0E-09	-90.1E-09	-114.5E-09	-110.5E-09	-116.5E-09	-116.5E-09	-102.0E-09	-111.5E-09	-105.5E-09	-97.0E-09	-112.5E-09
47	-124.0E-09	-115.0E-09	-93.4E-09	-167.5E-09	-110.0E-09	-118.0E-09	-118.0E-09	-102.0E-09	-113.0E-09	-108.0E-09	-99.5E-09	-112.0E-09
49	-117.5E-09	-104.5E-09	-84.4E-09	-110.0E-09	-99.5E-09	-103.5E-09	-103.5E-09	-89.3E-09	-100.0E-09	-96.0E-09	-87.8E-09	-99.5E-09
50	-107.0E-09	-88.9E-09	-74.1E-09	-119.0E-09	-80.9E-09	-86.4E-09	-86.4E-09	-75.5E-09	-83.8E-09	-81.0E-09	-73.6E-09	-82.6E-09
52	-142.0E-09	-113.5E-09	-111.5E-09	-97.5E-09	-110.0E-09	-113.5E-09	-113.5E-09	-99.5E-09	-110.5E-09	-106.5E-09	-97.5E-09	-109.0E-09
Statistics												
Min	-185.5E-09	-165.5E-09	-142.5E-09	-167.5E-09	-155.5E-09	-166.5E-09	-166.5E-09	-147.0E-09	-160.0E-09	-153.0E-09	-142.5E-09	-163.0E-09
Max	-107.0E-09	-88.9E-09	-74.1E-09	-97.5E-09	-80.9E-09	-86.4E-09	-86.4E-09	-75.5E-09	-83.8E-09	-81.0E-09	-73.6E-09	-82.6E-09
Average	-133.7E-09	-114.1E-09	-98.9E-09	-122.0E-09	-109.2E-09	-116.0E-09	-116.0E-09	-100.2E-09	-109.1E-09	-105.0E-09	-96.8E-09	-111.4E-09
Sigma	26.1E-09	22.9E-09	21.5E-09	21.4E-09	21.6E-09	23.7E-09	23.7E-09	21.1E-09	22.1E-09	21.6E-09	20.4E-09	23.2E-09

Measurements

IIL (LVCMOS 33)sra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-116.0E-09	-97.0E-09	-98.0E-09	-106.0E-09	-115.5E-09	-118.0E-09	-118.0E-09	-99.0E-09	-118.5E-09	-101.5E-09	-91.3E-09	-106.5E-09
OFF samples												
53	-115.5E-09	-92.6E-09	-90.9E-09	-181.0E-09	-85.8E-09	-80.1E-09	-80.1E-09	-73.5E-09	-81.6E-09	-79.0E-09	-70.0E-09	-78.1E-09
54	-171.5E-09	-144.5E-09	-138.5E-09	-110.0E-09	-128.5E-09	-122.5E-09	-122.5E-09	-110.5E-09	-123.5E-09	-119.0E-09	-107.5E-09	-119.5E-09
Statistics												
Min	-171.5E-09	-144.5E-09	-138.5E-09	-181.0E-09	-128.5E-09	-122.5E-09	-122.5E-09	-110.5E-09	-123.5E-09	-119.0E-09	-107.5E-09	-119.5E-09
Max	-115.5E-09	-92.6E-09	-90.9E-09	-110.0E-09	-85.8E-09	-80.1E-09	-80.1E-09	-73.5E-09	-81.6E-09	-79.0E-09	-70.0E-09	-78.1E-09
Average	-143.5E-09	-118.5E-09	-114.7E-09	-145.5E-09	-107.2E-09	-101.3E-09	-101.3E-09	-92.0E-09	-102.5E-09	-99.0E-09	-88.7E-09	-98.8E-09
Sigma	28.0E-09	26.0E-09	23.8E-09	35.5E-09	21.4E-09	21.2E-09	21.2E-09	18.5E-09	21.0E-09	20.0E-09	18.8E-09	20.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra2

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

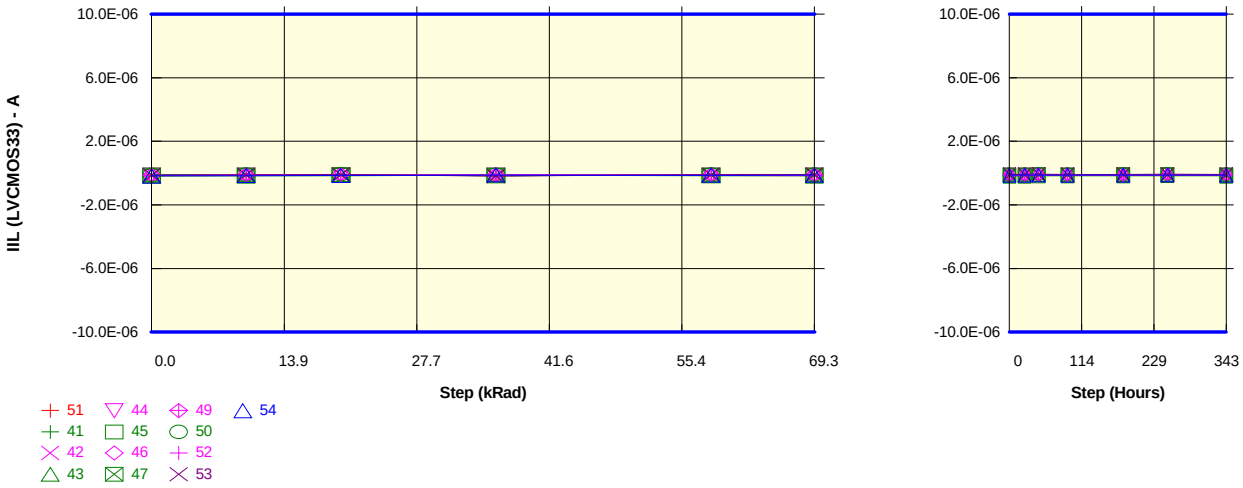
IIL (LVCMOS 33)sra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-114.5E-09	-95.5E-09	-96.5E-09	-104.5E-09	-114.0E-09	-116.0E-09	-116.0E-09	-98.0E-09	-116.0E-09	-100.5E-09	-89.6E-09	-105.0E-09
ON samples												
41	-139.5E-09	-109.0E-09	-100.0E-09	-161.5E-09	-107.0E-09	-114.5E-09	-114.5E-09	-97.5E-09	-102.0E-09	-100.5E-09	-92.8E-09	-108.5E-09
42	-167.0E-09	-140.0E-09	-127.5E-09	-96.0E-09	-139.5E-09	-149.5E-09	-149.5E-09	-127.5E-09	-134.5E-09	-131.5E-09	-122.0E-09	-141.5E-09
43	-129.5E-09	-110.0E-09	-99.5E-09	-117.0E-09	-111.5E-09	-119.5E-09	-119.5E-09	-101.0E-09	-109.0E-09	-104.5E-09	-96.5E-09	-114.5E-09
44	-118.0E-09	-104.0E-09	-90.6E-09	-103.5E-09	-103.5E-09	-110.0E-09	-110.0E-09	-93.8E-09	-103.5E-09	-98.0E-09	-90.0E-09	-107.5E-09
45	-188.0E-09	-171.0E-09	-151.5E-09	-116.5E-09	-169.0E-09	-180.5E-09	-180.5E-09	-158.5E-09	-173.0E-09	-166.0E-09	-154.5E-09	-177.5E-09
46	-116.5E-09	-106.0E-09	-86.0E-09	-120.5E-09	-108.5E-09	-111.5E-09	-111.5E-09	-98.5E-09	-108.5E-09	-102.5E-09	-92.8E-09	-109.0E-09
47	-101.5E-09	-95.0E-09	-77.4E-09	-163.0E-09	-93.8E-09	-101.0E-09	-101.0E-09	-86.6E-09	-96.5E-09	-91.1E-09	-83.3E-09	-95.5E-09
49	-110.5E-09	-102.0E-09	-82.9E-09	-123.5E-09	-99.0E-09	-103.0E-09	-103.0E-09	-88.9E-09	-99.0E-09	-95.5E-09	-87.3E-09	-99.0E-09
50	-122.5E-09	-105.5E-09	-89.1E-09	-113.5E-09	-101.0E-09	-107.5E-09	-107.5E-09	-94.3E-09	-104.5E-09	-101.0E-09	-91.6E-09	-103.5E-09
52	-128.5E-09	-104.5E-09	-103.0E-09	-116.0E-09	-102.0E-09	-106.0E-09	-106.0E-09	-92.3E-09	-102.5E-09	-99.5E-09	-90.2E-09	-101.5E-09
Statistics												
Min	-188.0E-09	-171.0E-09	-151.5E-09	-163.0E-09	-169.0E-09	-180.5E-09	-180.5E-09	-158.5E-09	-173.0E-09	-166.0E-09	-154.5E-09	-177.5E-09
Max	-101.5E-09	-95.0E-09	-77.4E-09	-96.0E-09	-93.8E-09	-101.0E-09	-101.0E-09	-86.6E-09	-96.5E-09	-91.1E-09	-83.3E-09	-95.5E-09
Average	-132.2E-09	-114.7E-09	-100.7E-09	-123.1E-09	-113.5E-09	-120.3E-09	-120.3E-09	-103.9E-09	-113.3E-09	-109.0E-09	-100.1E-09	-115.8E-09
Sigma	25.2E-09	21.9E-09	21.5E-09	21.0E-09	21.9E-09	23.9E-09	23.9E-09	21.2E-09	22.3E-09	21.6E-09	20.7E-09	23.8E-09

Measurements

IIL (LVCMOS 33)sra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-114.5E-09	-95.5E-09	-96.5E-09	-104.5E-09	-114.0E-09	-116.0E-09	-116.0E-09	-98.0E-09	-116.0E-09	-100.5E-09	-89.6E-09	-105.0E-09
OFF samples												
53	-109.0E-09	-88.3E-09	-87.1E-09	-189.5E-09	-82.9E-09	-77.2E-09	-77.2E-09	-70.8E-09	-78.6E-09	-75.9E-09	-66.8E-09	-75.0E-09
54	-180.0E-09	-153.0E-09	-146.5E-09	-108.0E-09	-138.0E-09	-130.5E-09	-130.5E-09	-119.0E-09	-132.5E-09	-127.5E-09	-114.0E-09	-127.0E-09
Statistics												
Min	-180.0E-09	-153.0E-09	-146.5E-09	-189.5E-09	-138.0E-09	-130.5E-09	-130.5E-09	-119.0E-09	-132.5E-09	-127.5E-09	-114.0E-09	-127.0E-09
Max	-109.0E-09	-88.3E-09	-87.1E-09	-108.0E-09	-82.9E-09	-77.2E-09	-77.2E-09	-70.8E-09	-78.6E-09	-75.9E-09	-66.8E-09	-75.0E-09
Average	-144.5E-09	-120.6E-09	-116.8E-09	-148.8E-09	-110.4E-09	-103.9E-09	-103.9E-09	-94.9E-09	-105.5E-09	-101.7E-09	-90.4E-09	-101.0E-09
Sigma	35.5E-09	32.4E-09	29.7E-09	40.8E-09	27.6E-09	26.7E-09	26.7E-09	24.1E-09	27.0E-09	25.8E-09	23.6E-09	26.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

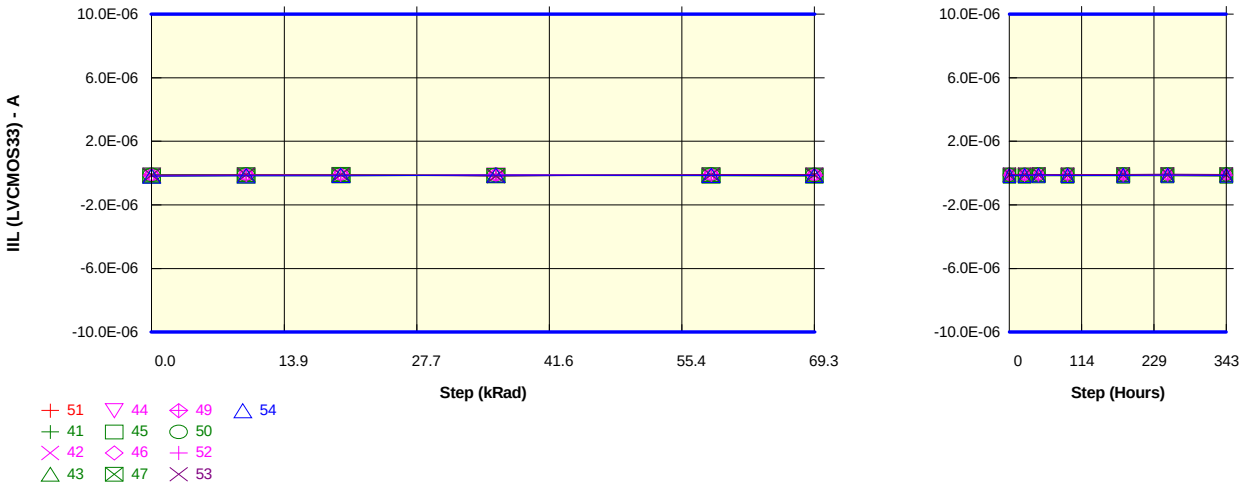
IIL (LVCMOS33)sra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-114.0E-09	-96.0E-09	-96.5E-09	-104.0E-09	-114.0E-09	-115.5E-09	-115.5E-09	-97.5E-09	-116.5E-09	-100.0E-09	-89.4E-09	-104.5E-09
ON samples												
41	-137.0E-09	-106.0E-09	-96.0E-09	-153.0E-09	-103.0E-09	-109.0E-09	-109.0E-09	-92.7E-09	-98.0E-09	-95.0E-09	-88.6E-09	-103.5E-09
42	-168.5E-09	-140.0E-09	-128.5E-09	-99.0E-09	-140.0E-09	-151.5E-09	-151.5E-09	-129.0E-09	-135.0E-09	-132.5E-09	-124.0E-09	-143.0E-09
43	-127.5E-09	-108.5E-09	-97.5E-09	-114.5E-09	-108.0E-09	-115.5E-09	-115.5E-09	-97.5E-09	-105.5E-09	-101.5E-09	-93.7E-09	-111.5E-09
44	-117.0E-09	-102.0E-09	-87.7E-09	-111.5E-09	-100.0E-09	-105.5E-09	-105.5E-09	-89.9E-09	-100.0E-09	-93.6E-09	-86.9E-09	-103.5E-09
45	-191.0E-09	-172.5E-09	-152.0E-09	-117.0E-09	-167.5E-09	-177.0E-09	-177.0E-09	-156.0E-09	-170.5E-09	-162.5E-09	-151.5E-09	-174.0E-09
46	-108.5E-09	-99.5E-09	-79.5E-09	-118.5E-09	-99.0E-09	-103.0E-09	-103.0E-09	-89.5E-09	-99.5E-09	-92.7E-09	-84.9E-09	-99.0E-09
47	-110.0E-09	-103.0E-09	-83.4E-09	-164.5E-09	-100.5E-09	-107.0E-09	-107.0E-09	-92.2E-09	-102.5E-09	-97.5E-09	-89.5E-09	-102.0E-09
49	-121.0E-09	-108.5E-09	-87.9E-09	-121.0E-09	-105.0E-09	-109.0E-09	-109.0E-09	-95.0E-09	-105.0E-09	-101.5E-09	-92.5E-09	-104.0E-09
50	-107.5E-09	-90.4E-09	-76.4E-09	-105.5E-09	-84.8E-09	-90.3E-09	-90.3E-09	-78.9E-09	-87.5E-09	-84.3E-09	-76.8E-09	-86.5E-09
52	-130.5E-09	-104.5E-09	-103.0E-09	-100.5E-09	-103.5E-09	-106.0E-09	-106.0E-09	-92.6E-09	-102.5E-09	-100.0E-09	-91.0E-09	-102.0E-09
Statistics												
Min	-191.0E-09	-172.5E-09	-152.0E-09	-164.5E-09	-167.5E-09	-177.0E-09	-177.0E-09	-156.0E-09	-170.5E-09	-162.5E-09	-151.5E-09	-174.0E-09
Max	-107.5E-09	-90.4E-09	-76.4E-09	-99.0E-09	-84.8E-09	-90.3E-09	-90.3E-09	-78.9E-09	-87.5E-09	-84.3E-09	-76.8E-09	-86.5E-09
Average	-131.9E-09	-113.5E-09	-99.2E-09	-120.5E-09	-111.1E-09	-117.4E-09	-117.4E-09	-101.3E-09	-110.6E-09	-106.1E-09	-97.9E-09	-112.9E-09
Sigma	26.2E-09	23.1E-09	22.6E-09	20.5E-09	22.9E-09	24.9E-09	24.9E-09	22.0E-09	23.0E-09	22.3E-09	21.3E-09	24.6E-09

Measurements

IIL (LVCMOS33)sra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-114.0E-09	-96.0E-09	-96.5E-09	-104.0E-09	-114.0E-09	-115.5E-09	-115.5E-09	-97.5E-09	-116.5E-09	-100.0E-09	-89.4E-09	-104.5E-09
OFF samples												
53	-113.0E-09	-91.0E-09	-89.9E-09	-191.0E-09	-85.2E-09	-79.2E-09	-79.2E-09	-72.6E-09	-80.6E-09	-77.8E-09	-68.8E-09	-77.0E-09
54	-172.0E-09	-145.0E-09	-138.5E-09	-115.0E-09	-131.0E-09	-124.0E-09	-124.0E-09	-113.0E-09	-126.0E-09	-122.0E-09	-108.5E-09	-121.5E-09
Statistics												
Min	-172.0E-09	-145.0E-09	-138.5E-09	-191.0E-09	-131.0E-09	-124.0E-09	-124.0E-09	-113.0E-09	-126.0E-09	-122.0E-09	-108.5E-09	-121.5E-09
Max	-113.0E-09	-91.0E-09	-89.9E-09	-115.0E-09	-85.2E-09	-79.2E-09	-79.2E-09	-72.6E-09	-80.6E-09	-77.8E-09	-68.8E-09	-77.0E-09
Average	-142.5E-09	-118.0E-09	-114.2E-09	-153.0E-09	-108.1E-09	-101.6E-09	-101.6E-09	-92.8E-09	-103.3E-09	-99.9E-09	-88.6E-09	-99.3E-09
Sigma	29.5E-09	27.0E-09	24.3E-09	38.0E-09	22.9E-09	22.4E-09	22.4E-09	20.2E-09	22.7E-09	22.1E-09	19.9E-09	22.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sra0

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

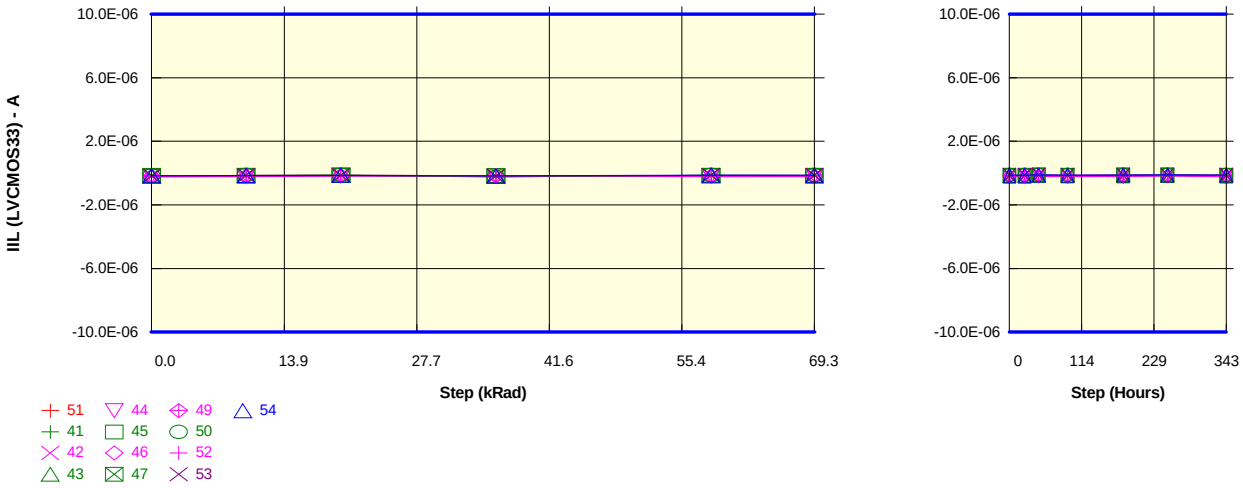
IIL (LVCMOS33)sra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-107.5E-09	-89.8E-09	-90.4E-09	-98.5E-09	-107.0E-09	-109.5E-09	-109.5E-09	-91.2E-09	-110.0E-09	-93.7E-09	-84.4E-09	-98.0E-09
ON samples												
41	-133.5E-09	-104.5E-09	-95.0E-09	-167.5E-09	-102.5E-09	-110.0E-09	-110.0E-09	-93.4E-09	-98.5E-09	-95.5E-09	-88.9E-09	-104.5E-09
42	-170.5E-09	-142.5E-09	-131.5E-09	-102.0E-09	-143.0E-09	-155.5E-09	-155.5E-09	-132.0E-09	-139.0E-09	-136.5E-09	-127.0E-09	-147.0E-09
43	-124.5E-09	-107.0E-09	-96.0E-09	-119.0E-09	-108.5E-09	-116.0E-09	-116.0E-09	-98.5E-09	-106.5E-09	-102.0E-09	-93.6E-09	-111.0E-09
44	-119.5E-09	-104.5E-09	-92.2E-09	-107.5E-09	-105.0E-09	-111.5E-09	-111.5E-09	-95.5E-09	-105.0E-09	-99.0E-09	-91.4E-09	-108.5E-09
45	-193.5E-09	-174.5E-09	-155.5E-09	-136.0E-09	-174.5E-09	-187.0E-09	-187.0E-09	-164.5E-09	-179.5E-09	-171.5E-09	-160.5E-09	-182.5E-09
46	-126.0E-09	-115.0E-09	-93.5E-09	-116.5E-09	-118.0E-09	-122.5E-09	-122.5E-09	-108.5E-09	-118.0E-09	-112.0E-09	-102.5E-09	-119.5E-09
47	-104.0E-09	-98.5E-09	-80.0E-09	-166.5E-09	-98.0E-09	-104.5E-09	-104.5E-09	-90.2E-09	-100.5E-09	-95.5E-09	-87.0E-09	-99.0E-09
49	-126.0E-09	-116.5E-09	-95.0E-09	-118.0E-09	-111.0E-09	-116.0E-09	-116.0E-09	-100.5E-09	-112.0E-09	-108.5E-09	-99.0E-09	-111.5E-09
50	-116.0E-09	-99.0E-09	-84.0E-09	-123.0E-09	-95.0E-09	-101.5E-09	-101.5E-09	-88.6E-09	-98.0E-09	-95.0E-09	-86.4E-09	-97.5E-09
52	-149.5E-09	-122.0E-09	-120.5E-09	-109.0E-09	-121.5E-09	-125.0E-09	-125.0E-09	-110.5E-09	-121.0E-09	-118.0E-09	-108.5E-09	-119.5E-09
Statistics												
Min	-193.5E-09	-174.5E-09	-155.5E-09	-167.5E-09	-174.5E-09	-187.0E-09	-187.0E-09	-164.5E-09	-179.5E-09	-171.5E-09	-160.5E-09	-182.5E-09
Max	-104.0E-09	-98.5E-09	-80.0E-09	-102.0E-09	-95.0E-09	-101.5E-09	-101.5E-09	-88.6E-09	-98.0E-09	-95.0E-09	-86.4E-09	-97.5E-09
Average	-136.3E-09	-118.4E-09	-104.3E-09	-126.5E-09	-117.7E-09	-125.0E-09	-125.0E-09	-108.2E-09	-117.8E-09	-113.4E-09	-104.5E-09	-120.1E-09
Sigma	25.9E-09	22.5E-09	22.7E-09	22.1E-09	23.0E-09	25.1E-09	25.1E-09	22.3E-09	23.8E-09	23.0E-09	22.1E-09	24.7E-09

Measurements

IIL (LVCMOS33)sra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-107.5E-09	-89.8E-09	-90.4E-09	-98.5E-09	-107.0E-09	-109.5E-09	-109.5E-09	-91.2E-09	-110.0E-09	-93.7E-09	-84.4E-09	-98.0E-09
OFF samples												
53	-115.0E-09	-93.3E-09	-91.9E-09	-196.5E-09	-88.2E-09	-82.0E-09	-82.0E-09	-75.2E-09	-83.4E-09	-80.5E-09	-71.2E-09	-79.6E-09
54	-187.5E-09	-159.0E-09	-152.5E-09	-120.5E-09	-144.0E-09	-136.5E-09	-136.5E-09	-123.5E-09	-137.5E-09	-132.5E-09	-120.0E-09	-132.5E-09
Statistics												
Min	-187.5E-09	-159.0E-09	-152.5E-09	-196.5E-09	-144.0E-09	-136.5E-09	-136.5E-09	-123.5E-09	-137.5E-09	-132.5E-09	-120.0E-09	-132.5E-09
Max	-115.0E-09	-93.3E-09	-91.9E-09	-120.5E-09	-88.2E-09	-82.0E-09	-82.0E-09	-75.2E-09	-83.4E-09	-80.5E-09	-71.2E-09	-79.6E-09
Average	-151.3E-09	-126.2E-09	-122.2E-09	-158.5E-09	-116.1E-09	-109.2E-09	-109.2E-09	-99.4E-09	-110.5E-09	-106.5E-09	-95.6E-09	-106.1E-09
Sigma	36.3E-09	32.9E-09	30.3E-09	38.0E-09	27.9E-09	27.3E-09	27.3E-09	24.2E-09	27.1E-09	26.0E-09	24.4E-09	26.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)en_sr

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

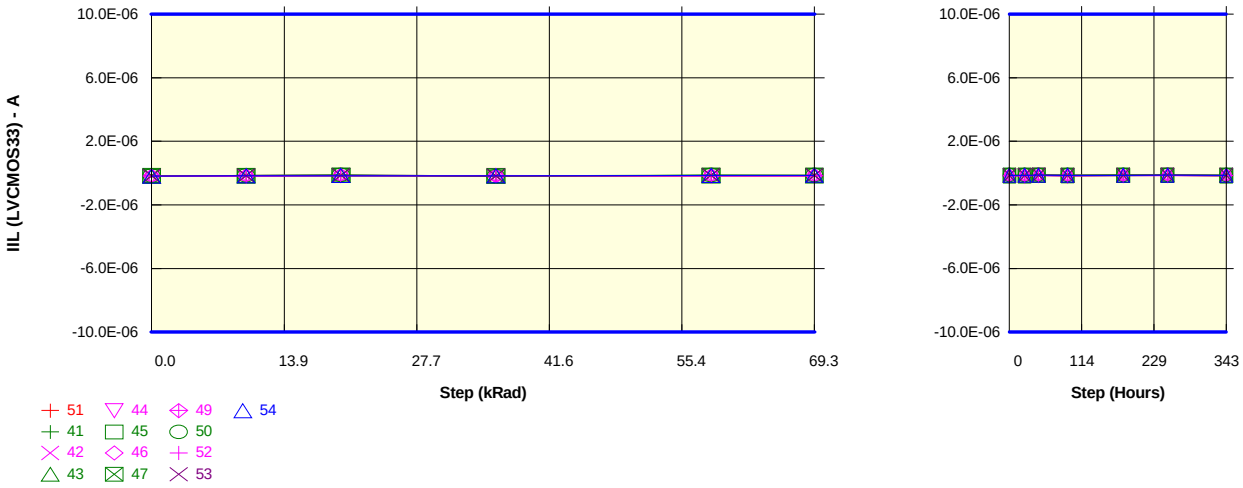
IIL (LVCMOS33)en_sr	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-167.0E-09	-143.0E-09	-143.5E-09	-154.5E-09	-167.0E-09	-169.5E-09	-169.5E-09	-144.5E-09	-170.5E-09	-148.5E-09	-134.5E-09	-154.5E-09
ON samples												
41	-189.0E-09	-149.5E-09	-135.0E-09	-146.0E-09	-142.0E-09	-147.0E-09	-147.0E-09	-128.5E-09	-134.5E-09	-130.5E-09	-123.5E-09	-141.5E-09
42	-161.5E-09	-134.0E-09	-122.5E-09	-155.0E-09	-130.0E-09	-137.5E-09	-137.5E-09	-117.0E-09	-123.5E-09	-121.5E-09	-112.0E-09	-129.5E-09
43	-191.0E-09	-164.0E-09	-145.5E-09	-164.0E-09	-155.0E-09	-164.0E-09	-164.0E-09	-140.5E-09	-152.0E-09	-146.0E-09	-136.5E-09	-159.0E-09
44	-167.5E-09	-146.0E-09	-128.5E-09	-155.5E-09	-142.0E-09	-147.5E-09	-147.5E-09	-128.5E-09	-140.5E-09	-133.5E-09	-125.0E-09	-145.5E-09
45	-194.5E-09	-174.0E-09	-152.0E-09	-180.5E-09	-163.5E-09	-171.5E-09	-171.5E-09	-151.5E-09	-165.5E-09	-157.0E-09	-146.0E-09	-168.0E-09
46	-251.0E-09	-228.0E-09	-188.0E-09	-165.5E-09	-221.0E-09	-228.5E-09	-228.5E-09	-205.0E-09	-222.0E-09	-211.5E-09	-197.0E-09	-223.0E-09
47	-152.0E-09	-143.5E-09	-116.5E-09	-154.5E-09	-137.0E-09	-143.0E-09	-143.0E-09	-126.5E-09	-139.0E-09	-132.5E-09	-121.5E-09	-138.0E-09
49	-188.0E-09	-169.5E-09	-139.5E-09	-177.5E-09	-160.0E-09	-163.5E-09	-163.5E-09	-144.0E-09	-159.5E-09	-153.5E-09	-142.0E-09	-158.0E-09
50	-156.0E-09	-132.5E-09	-113.0E-09	-239.0E-09	-124.0E-09	-128.5E-09	-128.5E-09	-114.5E-09	-126.5E-09	-121.5E-09	-112.0E-09	-123.5E-09
52	-202.0E-09	-163.5E-09	-159.5E-09	-145.5E-09	-157.5E-09	-160.0E-09	-160.0E-09	-142.0E-09	-156.0E-09	-151.5E-09	-139.0E-09	-153.5E-09
Statistics												
Min	-251.0E-09	-228.0E-09	-188.0E-09	-239.0E-09	-221.0E-09	-228.5E-09	-228.5E-09	-205.0E-09	-222.0E-09	-211.5E-09	-197.0E-09	-223.0E-09
Max	-152.0E-09	-132.5E-09	-113.0E-09	-145.5E-09	-124.0E-09	-128.5E-09	-128.5E-09	-114.5E-09	-123.5E-09	-121.5E-09	-112.0E-09	-123.5E-09
Average	-185.3E-09	-160.5E-09	-140.0E-09	-168.3E-09	-153.2E-09	-159.1E-09	-159.1E-09	-139.8E-09	-151.9E-09	-145.9E-09	-135.5E-09	-154.0E-09
Sigma	27.5E-09	26.4E-09	21.5E-09	26.1E-09	25.8E-09	26.4E-09	26.4E-09	24.5E-09	26.9E-09	25.1E-09	23.5E-09	26.5E-09

Measurements

IIL (LVCMOS33)en_sr	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-167.0E-09	-143.0E-09	-143.5E-09	-154.5E-09	-167.0E-09	-169.5E-09	-169.5E-09	-144.5E-09	-170.5E-09	-148.5E-09	-134.5E-09	-154.5E-09
OFF samples												
53	-176.5E-09	-145.5E-09	-143.0E-09	-192.5E-09	-135.0E-09	-127.0E-09	-127.0E-09	-117.5E-09	-129.0E-09	-125.0E-09	-112.0E-09	-124.5E-09
54	-161.0E-09	-137.0E-09	-131.0E-09	-177.0E-09	-125.5E-09	-119.0E-09	-119.0E-09	-107.5E-09	-119.5E-09	-115.5E-09	-103.5E-09	-115.5E-09
Statistics												
Min	-176.5E-09	-145.5E-09	-143.0E-09	-192.5E-09	-135.0E-09	-127.0E-09	-127.0E-09	-117.5E-09	-129.0E-09	-125.0E-09	-112.0E-09	-124.5E-09
Max	-161.0E-09	-137.0E-09	-131.0E-09	-177.0E-09	-125.5E-09	-119.0E-09	-119.0E-09	-107.5E-09	-119.5E-09	-115.5E-09	-103.5E-09	-115.5E-09
Average	-168.8E-09	-141.3E-09	-137.0E-09	-184.8E-09	-130.3E-09	-123.0E-09	-123.0E-09	-112.5E-09	-124.3E-09	-120.3E-09	-107.8E-09	-120.0E-09
Sigma	7.8E-09	4.3E-09	6.0E-09	7.8E-09	4.8E-09	4.0E-09	4.0E-09	5.0E-09	4.7E-09	4.8E-09	4.2E-09	4.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)rst_s

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

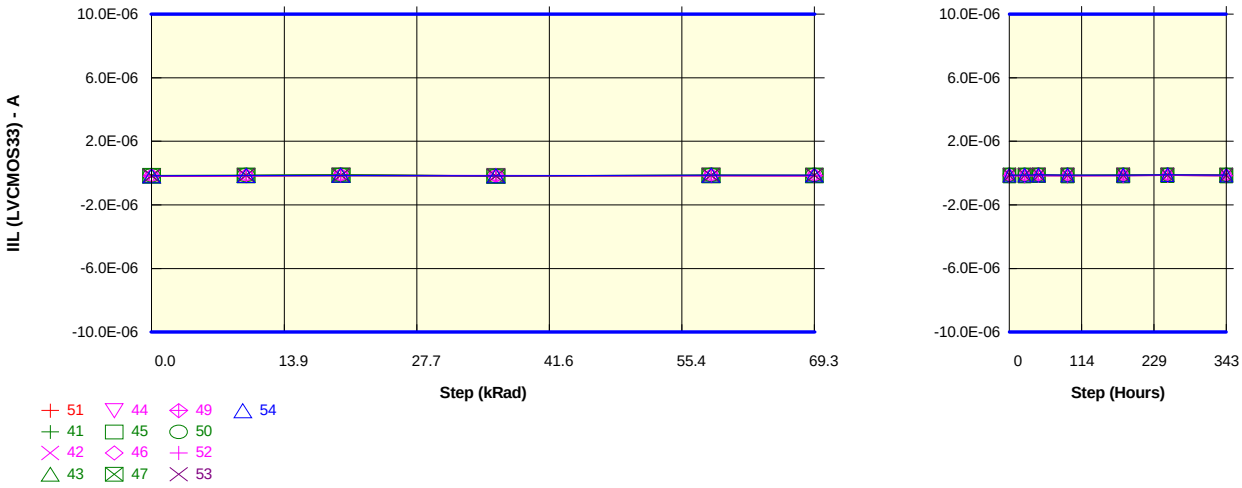
IIL (LVCMOS33)rst_s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-155.5E-09	-136.0E-09	-134.5E-09	-151.0E-09	-156.0E-09	-159.0E-09	-159.0E-09	-135.0E-09	-160.0E-09	-139.5E-09	-129.5E-09	-145.0E-09
ON samples												
41	-162.0E-09	-128.5E-09	-114.5E-09	-166.5E-09	-116.5E-09	-121.0E-09	-121.0E-09	-104.5E-09	-110.0E-09	-107.0E-09	-102.0E-09	-115.0E-09
42	-169.0E-09	-142.0E-09	-126.0E-09	-168.0E-09	-131.5E-09	-138.5E-09	-138.5E-09	-117.5E-09	-124.0E-09	-122.0E-09	-116.5E-09	-130.5E-09
43	-190.5E-09	-165.5E-09	-144.5E-09	-175.0E-09	-155.0E-09	-160.0E-09	-160.0E-09	-138.0E-09	-148.0E-09	-143.5E-09	-135.0E-09	-155.0E-09
44	-178.0E-09	-158.0E-09	-136.0E-09	-148.5E-09	-148.0E-09	-152.5E-09	-152.5E-09	-133.0E-09	-145.5E-09	-138.5E-09	-130.5E-09	-150.5E-09
45	-190.5E-09	-171.5E-09	-146.0E-09	-174.5E-09	-157.5E-09	-162.5E-09	-162.5E-09	-143.5E-09	-157.5E-09	-150.0E-09	-141.0E-09	-159.5E-09
46	-202.5E-09	-188.0E-09	-152.5E-09	-142.0E-09	-177.5E-09	-179.5E-09	-179.5E-09	-160.0E-09	-174.5E-09	-165.5E-09	-154.5E-09	-175.5E-09
47	-146.0E-09	-137.5E-09	-110.0E-09	-163.5E-09	-128.0E-09	-132.5E-09	-132.5E-09	-116.5E-09	-127.5E-09	-123.0E-09	-114.5E-09	-126.5E-09
49	-172.5E-09	-158.5E-09	-127.5E-09	-181.5E-09	-146.0E-09	-147.5E-09	-147.5E-09	-129.5E-09	-143.5E-09	-139.0E-09	-130.0E-09	-142.5E-09
50	-157.0E-09	-137.5E-09	-114.0E-09	-199.5E-09	-122.5E-09	-127.0E-09	-127.0E-09	-112.0E-09	-123.0E-09	-119.5E-09	-112.0E-09	-122.5E-09
52	-193.0E-09	-157.5E-09	-151.5E-09	-148.5E-09	-150.0E-09	-149.0E-09	-149.0E-09	-132.5E-09	-146.5E-09	-142.0E-09	-131.5E-09	-144.0E-09
Statistics												
Min	-202.5E-09	-188.0E-09	-152.5E-09	-199.5E-09	-177.5E-09	-179.5E-09	-179.5E-09	-160.0E-09	-174.5E-09	-165.5E-09	-154.5E-09	-175.5E-09
Max	-146.0E-09	-128.5E-09	-110.0E-09	-142.0E-09	-116.5E-09	-121.0E-09	-121.0E-09	-104.5E-09	-110.0E-09	-107.0E-09	-102.0E-09	-115.0E-09
Average	-176.1E-09	-154.5E-09	-132.3E-09	-166.8E-09	-143.3E-09	-147.0E-09	-147.0E-09	-128.7E-09	-140.0E-09	-135.0E-09	-126.8E-09	-142.2E-09
Sigma	17.1E-09	17.3E-09	15.3E-09	16.5E-09	17.6E-09	16.9E-09	16.9E-09	15.7E-09	18.0E-09	16.3E-09	14.7E-09	17.8E-09

Measurements

IIL (LVCMOS33)rst_s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-155.5E-09	-136.0E-09	-134.5E-09	-151.0E-09	-156.0E-09	-159.0E-09	-159.0E-09	-135.0E-09	-160.0E-09	-139.5E-09	-129.5E-09	-145.0E-09
OFF samples												
53	-186.0E-09	-156.0E-09	-151.5E-09	-187.5E-09	-144.0E-09	-135.5E-09	-135.5E-09	-125.5E-09	-137.5E-09	-134.0E-09	-121.5E-09	-132.5E-09
54	-182.0E-09	-158.0E-09	-149.0E-09	-167.5E-09	-141.5E-09	-133.5E-09	-133.5E-09	-121.5E-09	-135.0E-09	-130.5E-09	-119.5E-09	-130.5E-09
Statistics												
Min	-186.0E-09	-158.0E-09	-151.5E-09	-187.5E-09	-144.0E-09	-135.5E-09	-135.5E-09	-125.5E-09	-137.5E-09	-134.0E-09	-121.5E-09	-132.5E-09
Max	-182.0E-09	-156.0E-09	-149.0E-09	-167.5E-09	-141.5E-09	-133.5E-09	-133.5E-09	-121.5E-09	-135.0E-09	-130.5E-09	-119.5E-09	-130.5E-09
Average	-184.0E-09	-157.0E-09	-150.3E-09	-177.5E-09	-142.8E-09	-134.5E-09	-134.5E-09	-123.5E-09	-136.3E-09	-132.3E-09	-120.5E-09	-131.5E-09
Sigma	2.0E-09	1.0E-09	1.2E-09	10.0E-09	1.3E-09	1000.0E-12	1000.0E-12	2.0E-09	1.2E-09	1.8E-09	1000.0E-12	1000.0E-12

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sdi1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

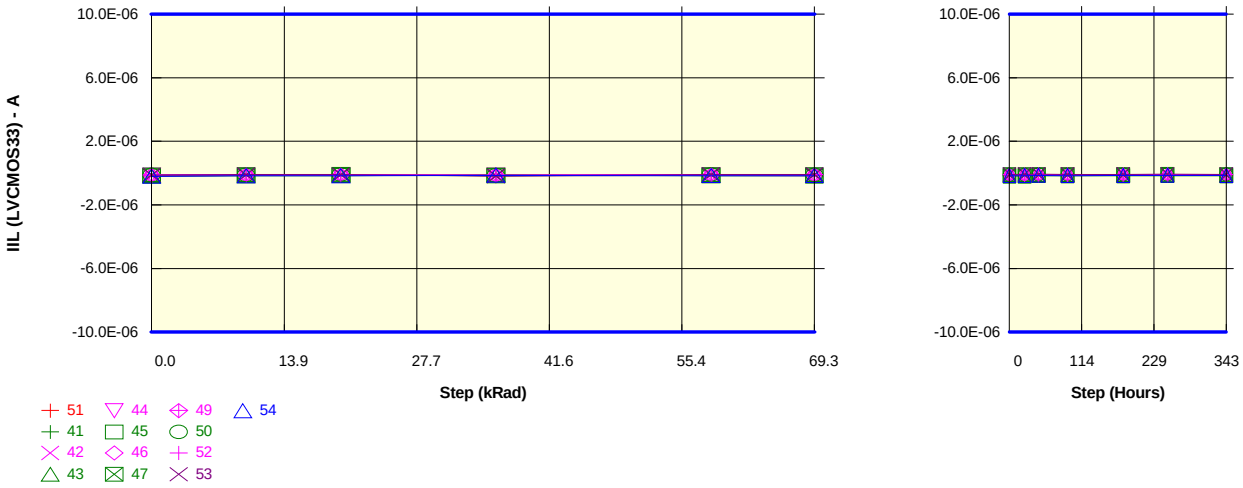
IIL (LVCMOS33)sdi1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-161.0E-09	-139.0E-09	-138.0E-09	-150.0E-09	-161.0E-09	-163.5E-09	-163.5E-09	-139.0E-09	-165.0E-09	-143.0E-09	-130.0E-09	-149.0E-09
ON samples												
41	-184.0E-09	-147.5E-09	-134.5E-09	-144.0E-09	-139.0E-09	-145.0E-09	-145.0E-09	-126.5E-09	-132.5E-09	-128.5E-09	-120.0E-09	-138.5E-09
42	-177.0E-09	-149.5E-09	-134.0E-09	-158.5E-09	-141.5E-09	-151.5E-09	-151.5E-09	-130.0E-09	-137.5E-09	-134.5E-09	-125.0E-09	-144.0E-09
43	-159.0E-09	-138.0E-09	-122.5E-09	-156.5E-09	-132.0E-09	-140.5E-09	-140.5E-09	-120.0E-09	-129.5E-09	-124.0E-09	-115.0E-09	-135.0E-09
44	-158.0E-09	-141.5E-09	-123.0E-09	-141.5E-09	-135.0E-09	-141.0E-09	-141.0E-09	-122.5E-09	-134.5E-09	-127.0E-09	-118.0E-09	-138.0E-09
45	-182.0E-09	-167.5E-09	-144.5E-09	-186.5E-09	-158.5E-09	-167.5E-09	-167.5E-09	-147.0E-09	-161.5E-09	-154.0E-09	-142.5E-09	-163.0E-09
46	-181.0E-09	-168.0E-09	-136.5E-09	-166.5E-09	-161.0E-09	-168.5E-09	-168.5E-09	-148.5E-09	-163.0E-09	-154.5E-09	-142.5E-09	-163.0E-09
47	-138.0E-09	-131.0E-09	-106.5E-09	-172.0E-09	-124.5E-09	-132.0E-09	-132.0E-09	-115.0E-09	-127.0E-09	-121.5E-09	-111.5E-09	-126.0E-09
49	-164.5E-09	-150.0E-09	-123.5E-09	-153.0E-09	-141.0E-09	-146.0E-09	-146.0E-09	-128.0E-09	-141.5E-09	-136.5E-09	-126.0E-09	-140.5E-09
50	-137.5E-09	-119.0E-09	-102.5E-09	-177.0E-09	-110.5E-09	-115.5E-09	-115.5E-09	-102.0E-09	-113.0E-09	-108.5E-09	-99.5E-09	-111.0E-09
52	-202.0E-09	-167.0E-09	-165.0E-09	-133.0E-09	-162.5E-09	-166.0E-09	-166.0E-09	-147.5E-09	-162.0E-09	-157.0E-09	-144.0E-09	-159.5E-09
Statistics												
Min	-202.0E-09	-168.0E-09	-165.0E-09	-186.5E-09	-162.5E-09	-168.5E-09	-168.5E-09	-148.5E-09	-163.0E-09	-157.0E-09	-144.0E-09	-163.0E-09
Max	-137.5E-09	-119.0E-09	-102.5E-09	-133.0E-09	-110.5E-09	-115.5E-09	-115.5E-09	-102.0E-09	-113.0E-09	-108.5E-09	-99.5E-09	-111.0E-09
Average	-168.3E-09	-147.9E-09	-129.3E-09	-158.9E-09	-140.6E-09	-147.4E-09	-147.4E-09	-128.7E-09	-140.2E-09	-134.6E-09	-124.4E-09	-141.9E-09
Sigma	19.7E-09	15.6E-09	17.2E-09	16.0E-09	15.8E-09	16.0E-09	16.0E-09	14.5E-09	16.1E-09	15.3E-09	14.1E-09	15.8E-09

Measurements

IIL (LVCMOS33)sdi1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-161.0E-09	-139.0E-09	-138.0E-09	-150.0E-09	-161.0E-09	-163.5E-09	-163.5E-09	-139.0E-09	-165.0E-09	-143.0E-09	-130.0E-09	-149.0E-09
OFF samples												
53	-180.0E-09	-150.0E-09	-145.5E-09	-185.0E-09	-136.5E-09	-128.5E-09	-128.5E-09	-119.0E-09	-130.0E-09	-126.5E-09	-113.5E-09	-125.5E-09
54	-158.5E-09	-136.0E-09	-129.0E-09	-158.0E-09	-120.5E-09	-114.0E-09	-114.0E-09	-103.0E-09	-115.0E-09	-110.5E-09	-99.0E-09	-111.0E-09
Statistics												
Min	-180.0E-09	-150.0E-09	-145.5E-09	-185.0E-09	-136.5E-09	-128.5E-09	-128.5E-09	-119.0E-09	-130.0E-09	-126.5E-09	-113.5E-09	-125.5E-09
Max	-158.5E-09	-136.0E-09	-129.0E-09	-158.0E-09	-120.5E-09	-114.0E-09	-114.0E-09	-103.0E-09	-115.0E-09	-110.5E-09	-99.0E-09	-111.0E-09
Average	-169.3E-09	-143.0E-09	-137.3E-09	-171.5E-09	-128.5E-09	-121.3E-09	-121.3E-09	-111.0E-09	-122.5E-09	-118.5E-09	-106.3E-09	-118.3E-09
Sigma	10.7E-09	7.0E-09	8.3E-09	13.5E-09	8.0E-09	7.2E-09	7.2E-09	8.0E-09	7.5E-09	8.0E-09	7.3E-09	7.3E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sdi5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

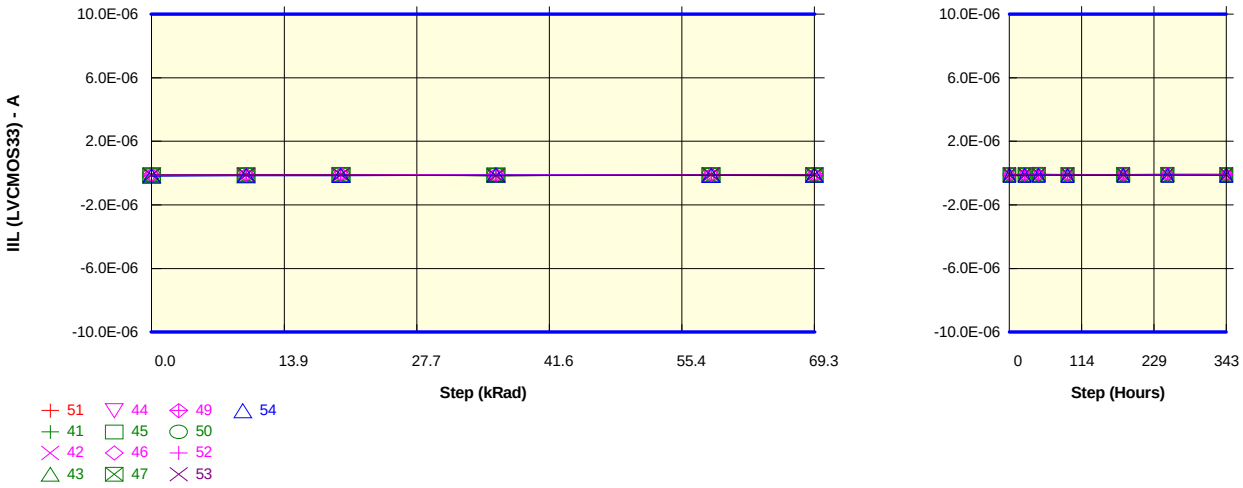
IIL (LVCMOS33)sdi5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-111.5E-09	-93.6E-09	-93.6E-09	-105.5E-09	-111.0E-09	-113.0E-09	-113.0E-09	-95.0E-09	-113.5E-09	-98.0E-09	-88.2E-09	-102.5E-09
ON samples												
41	-173.0E-09	-136.5E-09	-125.5E-09	-179.5E-09	-135.5E-09	-143.0E-09	-143.0E-09	-123.5E-09	-129.0E-09	-125.5E-09	-119.5E-09	-136.5E-09
42	-167.5E-09	-140.5E-09	-128.5E-09	-97.0E-09	-137.5E-09	-149.0E-09	-149.0E-09	-127.0E-09	-133.5E-09	-130.5E-09	-122.5E-09	-141.5E-09
43	-137.5E-09	-119.0E-09	-106.0E-09	-113.5E-09	-119.5E-09	-127.0E-09	-127.0E-09	-108.5E-09	-117.5E-09	-112.5E-09	-105.0E-09	-122.0E-09
44	-111.0E-09	-98.0E-09	-85.1E-09	-104.5E-09	-97.5E-09	-103.5E-09	-103.5E-09	-88.0E-09	-97.0E-09	-91.5E-09	-85.0E-09	-101.0E-09
45	-186.0E-09	-166.0E-09	-146.5E-09	-99.5E-09	-162.5E-09	-172.0E-09	-172.0E-09	-151.0E-09	-165.0E-09	-157.5E-09	-148.5E-09	-169.0E-09
46	-141.0E-09	-130.0E-09	-106.5E-09	-155.5E-09	-130.0E-09	-136.5E-09	-136.5E-09	-119.0E-09	-131.5E-09	-124.5E-09	-115.5E-09	-131.5E-09
47	-99.5E-09	-93.6E-09	-76.0E-09	-164.5E-09	-91.0E-09	-97.5E-09	-97.5E-09	-83.9E-09	-93.0E-09	-88.5E-09	-81.5E-09	-92.1E-09
49	-135.5E-09	-123.0E-09	-101.5E-09	-134.5E-09	-119.0E-09	-122.5E-09	-122.5E-09	-107.5E-09	-119.0E-09	-114.5E-09	-106.5E-09	-119.5E-09
50	-118.5E-09	-102.0E-09	-86.2E-09	-140.0E-09	-96.0E-09	-101.5E-09	-101.5E-09	-89.0E-09	-99.5E-09	-95.0E-09	-87.9E-09	-98.5E-09
52	-108.0E-09	-85.7E-09	-84.5E-09	-114.5E-09	-84.2E-09	-86.7E-09	-86.7E-09	-75.8E-09	-84.1E-09	-81.5E-09	-74.6E-09	-82.8E-09
Statistics												
Min	-186.0E-09	-166.0E-09	-146.5E-09	-179.5E-09	-162.5E-09	-172.0E-09	-172.0E-09	-151.0E-09	-165.0E-09	-157.5E-09	-148.5E-09	-169.0E-09
Max	-99.5E-09	-85.7E-09	-76.0E-09	-97.0E-09	-84.2E-09	-86.7E-09	-86.7E-09	-75.8E-09	-84.1E-09	-81.5E-09	-74.6E-09	-82.8E-09
Average	-137.8E-09	-119.4E-09	-104.6E-09	-130.3E-09	-117.3E-09	-123.9E-09	-123.9E-09	-107.3E-09	-116.9E-09	-112.1E-09	-104.6E-09	-119.4E-09
Sigma	28.1E-09	23.7E-09	21.7E-09	27.6E-09	23.6E-09	25.5E-09	25.5E-09	22.2E-09	23.0E-09	22.3E-09	21.7E-09	25.0E-09

Measurements

IIL (LVCMOS33)sdi5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-111.5E-09	-93.6E-09	-93.6E-09	-105.5E-09	-111.0E-09	-113.0E-09	-113.0E-09	-95.0E-09	-113.5E-09	-98.0E-09	-88.2E-09	-102.5E-09
OFF samples												
53	-108.5E-09	-87.7E-09	-86.0E-09	-186.5E-09	-81.4E-09	-75.8E-09	-75.8E-09	-69.5E-09	-77.2E-09	-74.3E-09	-65.9E-09	-73.4E-09
54	-198.0E-09	-169.5E-09	-162.5E-09	-131.5E-09	-153.0E-09	-145.0E-09	-145.0E-09	-131.5E-09	-146.5E-09	-141.0E-09	-127.5E-09	-141.5E-09
Statistics												
Min	-198.0E-09	-169.5E-09	-162.5E-09	-186.5E-09	-153.0E-09	-145.0E-09	-145.0E-09	-131.5E-09	-146.5E-09	-141.0E-09	-127.5E-09	-141.5E-09
Max	-108.5E-09	-87.7E-09	-86.0E-09	-131.5E-09	-81.4E-09	-75.8E-09	-75.8E-09	-69.5E-09	-77.2E-09	-74.3E-09	-65.9E-09	-73.4E-09
Average	-153.3E-09	-128.6E-09	-124.2E-09	-159.0E-09	-117.2E-09	-110.4E-09	-110.4E-09	-100.5E-09	-111.8E-09	-107.6E-09	-96.7E-09	-107.5E-09
Sigma	44.8E-09	40.9E-09	38.3E-09	27.5E-09	35.8E-09	34.6E-09	34.6E-09	31.0E-09	34.7E-09	33.4E-09	30.8E-09	34.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)sdi7

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

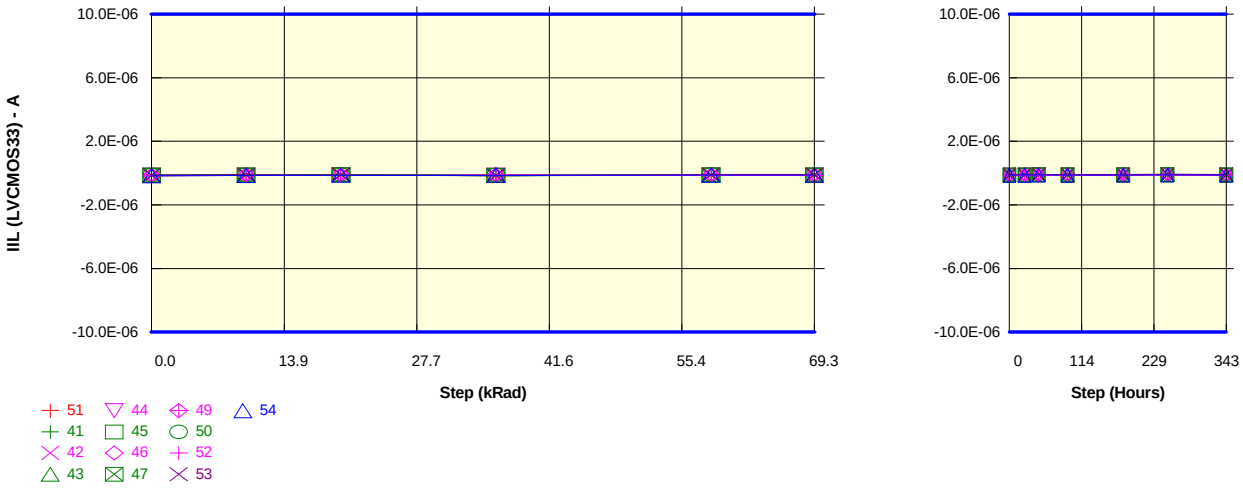
IIL (LVCMOS33)sdi7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-112.0E-09	-95.5E-09	-95.0E-09	-105.5E-09	-112.5E-09	-114.5E-09	-114.5E-09	-96.5E-09	-115.0E-09	-98.5E-09	-88.8E-09	-103.5E-09
ON samples												
41	-158.5E-09	-125.0E-09	-114.5E-09	-166.5E-09	-122.0E-09	-129.0E-09	-129.0E-09	-111.0E-09	-116.5E-09	-114.0E-09	-107.5E-09	-123.0E-09
42	-150.0E-09	-126.0E-09	-114.0E-09	-93.5E-09	-123.0E-09	-133.0E-09	-133.0E-09	-113.0E-09	-119.5E-09	-116.5E-09	-109.5E-09	-126.0E-09
43	-124.0E-09	-106.0E-09	-95.0E-09	-110.0E-09	-106.0E-09	-112.0E-09	-112.0E-09	-95.5E-09	-103.0E-09	-99.0E-09	-91.5E-09	-108.0E-09
44	-115.0E-09	-99.5E-09	-83.8E-09	-100.5E-09	-90.4E-09	-91.0E-09	-91.0E-09	-77.8E-09	-85.9E-09	-80.4E-09	-72.9E-09	-86.4E-09
45	-153.5E-09	-139.5E-09	-122.5E-09	-104.5E-09	-138.0E-09	-145.0E-09	-145.0E-09	-127.5E-09	-139.5E-09	-132.5E-09	-123.5E-09	-142.5E-09
46	-111.0E-09	-102.0E-09	-81.0E-09	-140.5E-09	-101.0E-09	-106.5E-09	-106.5E-09	-92.0E-09	-102.5E-09	-96.5E-09	-88.1E-09	-102.0E-09
47	-95.0E-09	-90.4E-09	-72.9E-09	-146.0E-09	-88.4E-09	-95.0E-09	-95.0E-09	-81.5E-09	-90.5E-09	-86.1E-09	-77.4E-09	-87.9E-09
49	-119.0E-09	-108.5E-09	-88.1E-09	-119.0E-09	-105.0E-09	-109.5E-09	-109.5E-09	-95.0E-09	-106.5E-09	-102.0E-09	-93.3E-09	-105.0E-09
50	-103.5E-09	-88.4E-09	-75.0E-09	-109.5E-09	-83.9E-09	-89.0E-09	-89.0E-09	-77.9E-09	-86.7E-09	-83.5E-09	-76.5E-09	-85.7E-09
52	-115.0E-09	-92.4E-09	-90.1E-09	-99.5E-09	-89.6E-09	-92.5E-09	-92.5E-09	-81.0E-09	-89.9E-09	-87.2E-09	-79.7E-09	-88.4E-09
Statistics												
Min	-158.5E-09	-139.5E-09	-122.5E-09	-166.5E-09	-138.0E-09	-145.0E-09	-145.0E-09	-127.5E-09	-139.5E-09	-132.5E-09	-123.5E-09	-142.5E-09
Max	-95.0E-09	-88.4E-09	-72.9E-09	-93.5E-09	-83.9E-09	-89.0E-09	-89.0E-09	-77.8E-09	-85.9E-09	-80.4E-09	-72.9E-09	-85.7E-09
Average	-124.5E-09	-107.8E-09	-93.7E-09	-119.0E-09	-104.7E-09	-110.2E-09	-110.2E-09	-95.2E-09	-104.0E-09	-99.8E-09	-92.0E-09	-105.5E-09
Sigma	20.9E-09	16.3E-09	16.6E-09	22.8E-09	17.0E-09	18.6E-09	18.6E-09	16.2E-09	16.4E-09	16.0E-09	15.9E-09	18.6E-09

Measurements

IIL (LVCMOS33)sdi7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-112.0E-09	-95.5E-09	-95.0E-09	-105.5E-09	-112.5E-09	-114.5E-09	-114.5E-09	-96.5E-09	-115.0E-09	-98.5E-09	-88.8E-09	-103.5E-09
OFF samples												
53	-108.0E-09	-86.7E-09	-84.9E-09	-158.5E-09	-80.2E-09	-74.7E-09	-74.7E-09	-68.3E-09	-76.0E-09	-73.2E-09	-64.7E-09	-72.3E-09
54	-183.0E-09	-158.5E-09	-149.5E-09	-116.0E-09	-142.0E-09	-134.0E-09	-134.0E-09	-121.5E-09	-135.5E-09	-130.0E-09	-118.5E-09	-130.5E-09
Statistics												
Min	-183.0E-09	-158.5E-09	-149.5E-09	-158.5E-09	-142.0E-09	-134.0E-09	-134.0E-09	-121.5E-09	-135.5E-09	-130.0E-09	-118.5E-09	-130.5E-09
Max	-108.0E-09	-86.7E-09	-84.9E-09	-116.0E-09	-80.2E-09	-74.7E-09	-74.7E-09	-68.3E-09	-76.0E-09	-73.2E-09	-64.7E-09	-72.3E-09
Average	-145.5E-09	-122.6E-09	-117.2E-09	-137.3E-09	-111.1E-09	-104.4E-09	-104.4E-09	-94.9E-09	-105.7E-09	-101.6E-09	-91.6E-09	-101.4E-09
Sigma	37.5E-09	35.9E-09	32.3E-09	21.3E-09	30.9E-09	29.7E-09	29.7E-09	26.6E-09	29.8E-09	28.4E-09	26.9E-09	29.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra6

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

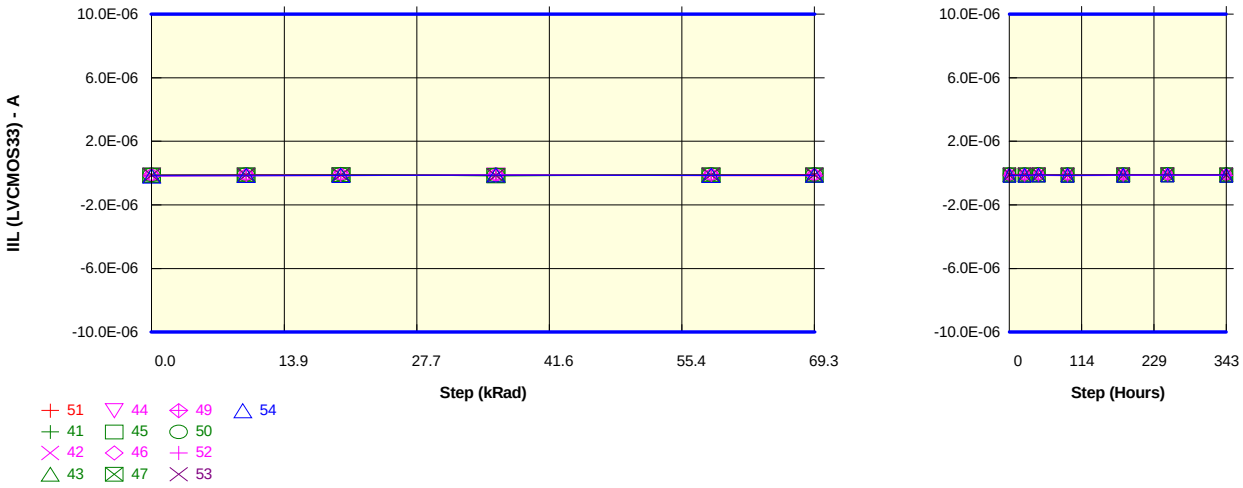
IIL (LVCMOS 33)ufra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-125.5E-09	-105.0E-09	-106.0E-09	-115.0E-09	-124.5E-09	-127.0E-09	-127.0E-09	-106.5E-09	-128.5E-09	-109.5E-09	-99.0E-09	-115.0E-09
ON samples												
41	-136.5E-09	-103.5E-09	-92.2E-09	-147.5E-09	-97.5E-09	-101.0E-09	-101.0E-09	-85.9E-09	-90.2E-09	-87.5E-09	-81.6E-09	-96.0E-09
42	-145.5E-09	-118.5E-09	-106.5E-09	-103.0E-09	-114.0E-09	-120.5E-09	-120.5E-09	-102.0E-09	-107.5E-09	-105.0E-09	-97.0E-09	-113.5E-09
43	-123.5E-09	-103.5E-09	-90.2E-09	-115.5E-09	-99.5E-09	-104.5E-09	-104.5E-09	-87.5E-09	-95.0E-09	-90.7E-09	-83.5E-09	-100.0E-09
44	-118.0E-09	-102.0E-09	-87.4E-09	-121.0E-09	-98.0E-09	-102.5E-09	-102.5E-09	-87.0E-09	-96.0E-09	-90.5E-09	-83.2E-09	-99.5E-09
45	-152.5E-09	-133.0E-09	-115.0E-09	-152.0E-09	-124.5E-09	-130.5E-09	-130.5E-09	-113.5E-09	-124.5E-09	-118.0E-09	-108.0E-09	-125.5E-09
46	-118.0E-09	-105.5E-09	-83.3E-09	-116.0E-09	-101.5E-09	-104.5E-09	-104.5E-09	-90.3E-09	-100.0E-09	-93.7E-09	-85.3E-09	-99.5E-09
47	-120.0E-09	-112.5E-09	-89.9E-09	-137.5E-09	-107.0E-09	-113.0E-09	-113.0E-09	-98.0E-09	-107.5E-09	-102.5E-09	-93.1E-09	-106.5E-09
49	-138.5E-09	-124.0E-09	-100.0E-09	-113.5E-09	-116.0E-09	-117.0E-09	-117.0E-09	-101.5E-09	-113.0E-09	-108.5E-09	-99.0E-09	-112.5E-09
50	-124.0E-09	-105.0E-09	-87.3E-09	-112.0E-09	-96.0E-09	-100.0E-09	-100.0E-09	-87.1E-09	-97.5E-09	-93.0E-09	-84.7E-09	-95.5E-09
52	-172.0E-09	-138.0E-09	-133.0E-09	-114.0E-09	-131.0E-09	-132.5E-09	-132.5E-09	-116.5E-09	-128.5E-09	-124.5E-09	-113.5E-09	-126.5E-09
Statistics												
Min	-172.0E-09	-138.0E-09	-133.0E-09	-152.0E-09	-131.0E-09	-132.5E-09	-132.5E-09	-116.5E-09	-128.5E-09	-124.5E-09	-113.5E-09	-126.5E-09
Max	-118.0E-09	-102.0E-09	-83.3E-09	-103.0E-09	-96.0E-09	-100.0E-09	-100.0E-09	-85.9E-09	-90.2E-09	-87.5E-09	-81.6E-09	-95.5E-09
Average	-134.9E-09	-114.6E-09	-98.5E-09	-123.2E-09	-108.5E-09	-112.6E-09	-112.6E-09	-96.9E-09	-106.0E-09	-101.4E-09	-92.9E-09	-107.5E-09
Sigma	16.9E-09	12.5E-09	14.8E-09	15.7E-09	11.7E-09	11.5E-09	11.5E-09	10.8E-09	12.2E-09	12.0E-09	10.7E-09	11.0E-09

Measurements

IIL (LVCMOS 33)ufra6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-125.5E-09	-105.0E-09	-106.0E-09	-115.0E-09	-124.5E-09	-127.0E-09	-127.0E-09	-106.5E-09	-128.5E-09	-109.5E-09	-99.0E-09	-115.0E-09
OFF samples												
53	-119.5E-09	-96.5E-09	-93.5E-09	-147.5E-09	-89.0E-09	-83.2E-09	-83.2E-09	-76.4E-09	-84.8E-09	-81.8E-09	-72.2E-09	-80.8E-09
54	-163.5E-09	-139.5E-09	-132.5E-09	-130.0E-09	-125.5E-09	-118.0E-09	-118.0E-09	-107.0E-09	-119.5E-09	-115.0E-09	-103.5E-09	-115.0E-09
Statistics												
Min	-163.5E-09	-139.5E-09	-132.5E-09	-147.5E-09	-125.5E-09	-118.0E-09	-118.0E-09	-107.0E-09	-119.5E-09	-115.0E-09	-103.5E-09	-115.0E-09
Max	-119.5E-09	-96.5E-09	-93.5E-09	-130.0E-09	-89.0E-09	-83.2E-09	-83.2E-09	-76.4E-09	-84.8E-09	-81.8E-09	-72.2E-09	-80.8E-09
Average	-141.5E-09	-118.0E-09	-113.0E-09	-138.8E-09	-107.3E-09	-100.6E-09	-100.6E-09	-91.7E-09	-102.1E-09	-98.4E-09	-87.8E-09	-97.9E-09
Sigma	22.0E-09	21.5E-09	19.5E-09	8.7E-09	18.2E-09	17.4E-09	17.4E-09	15.3E-09	17.4E-09	16.6E-09	15.7E-09	17.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra5

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

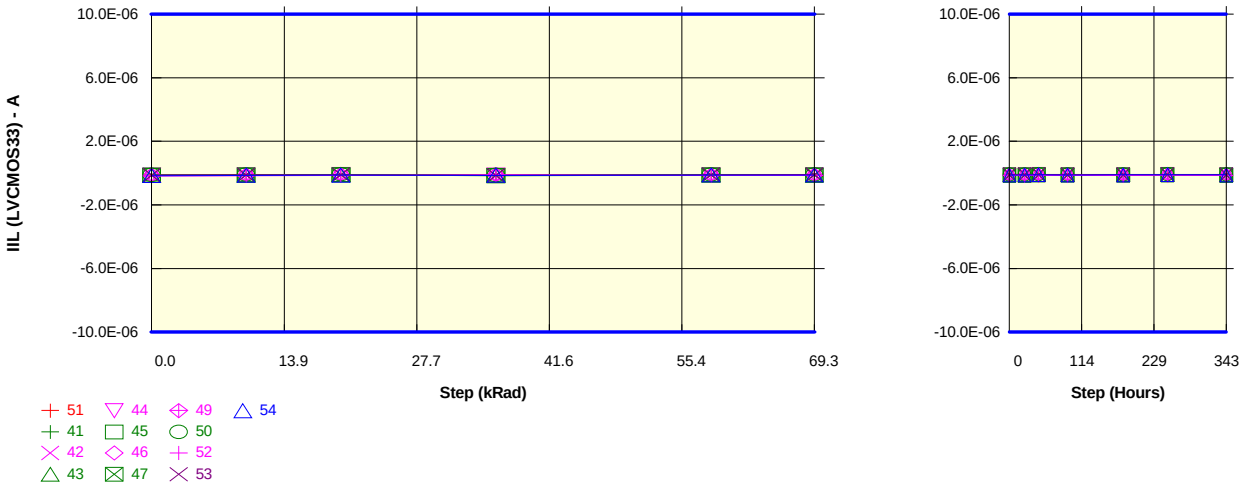
IIL (LVCMOS33)ufra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-121.5E-09	-102.5E-09	-103.5E-09	-112.0E-09	-124.0E-09	-126.5E-09	-126.5E-09	-107.0E-09	-129.0E-09	-110.5E-09	-100.5E-09	-114.5E-09
ON samples												
41	-144.0E-09	-110.0E-09	-98.5E-09	-155.0E-09	-107.5E-09	-112.0E-09	-112.0E-09	-96.5E-09	-101.5E-09	-98.0E-09	-88.5E-09	-105.5E-09
42	-149.5E-09	-120.5E-09	-108.0E-09	-111.5E-09	-119.5E-09	-127.5E-09	-127.5E-09	-108.0E-09	-113.5E-09	-111.5E-09	-104.0E-09	-119.0E-09
43	-131.5E-09	-110.5E-09	-98.0E-09	-121.5E-09	-109.5E-09	-115.0E-09	-115.0E-09	-97.5E-09	-106.0E-09	-101.5E-09	-91.3E-09	-110.0E-09
44	-123.5E-09	-106.0E-09	-91.9E-09	-124.0E-09	-105.5E-09	-111.0E-09	-111.0E-09	-96.0E-09	-104.0E-09	-99.0E-09	-89.1E-09	-108.5E-09
45	-143.5E-09	-126.5E-09	-108.0E-09	-166.5E-09	-122.5E-09	-129.0E-09	-129.0E-09	-112.5E-09	-122.5E-09	-119.0E-09	-108.5E-09	-124.0E-09
46	-123.0E-09	-111.5E-09	-88.9E-09	-124.0E-09	-111.5E-09	-115.0E-09	-115.0E-09	-101.0E-09	-110.0E-09	-104.5E-09	-96.0E-09	-109.5E-09
47	-123.5E-09	-114.5E-09	-91.1E-09	-140.0E-09	-109.5E-09	-116.0E-09	-116.0E-09	-101.0E-09	-111.0E-09	-106.5E-09	-98.0E-09	-111.5E-09
49	-123.0E-09	-109.5E-09	-87.6E-09	-123.0E-09	-104.5E-09	-106.0E-09	-106.0E-09	-89.6E-09	-102.5E-09	-98.0E-09	-88.0E-09	-101.5E-09
50	-114.5E-09	-95.5E-09	-79.9E-09	-119.0E-09	-88.2E-09	-92.2E-09	-92.2E-09	-81.1E-09	-89.0E-09	-86.3E-09	-78.5E-09	-87.7E-09
52	-189.0E-09	-152.5E-09	-148.0E-09	-105.5E-09	-145.0E-09	-148.0E-09	-148.0E-09	-132.0E-09	-144.5E-09	-140.5E-09	-129.5E-09	-142.5E-09
Statistics												
Min	-189.0E-09	-152.5E-09	-148.0E-09	-166.5E-09	-145.0E-09	-148.0E-09	-148.0E-09	-132.0E-09	-144.5E-09	-140.5E-09	-129.5E-09	-142.5E-09
Max	-114.5E-09	-95.5E-09	-79.9E-09	-105.5E-09	-88.2E-09	-92.2E-09	-92.2E-09	-81.1E-09	-89.0E-09	-86.3E-09	-78.5E-09	-87.7E-09
Average	-136.5E-09	-115.7E-09	-100.0E-09	-129.0E-09	-112.3E-09	-117.2E-09	-117.2E-09	-101.5E-09	-110.5E-09	-106.5E-09	-97.1E-09	-112.0E-09
Sigma	20.6E-09	14.5E-09	18.1E-09	18.2E-09	14.0E-09	14.2E-09	14.2E-09	13.1E-09	14.1E-09	14.1E-09	13.5E-09	13.8E-09

Measurements

IIL (LVCMOS33)ufra5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-121.5E-09	-102.5E-09	-103.5E-09	-112.0E-09	-124.0E-09	-126.5E-09	-126.5E-09	-107.0E-09	-129.0E-09	-110.5E-09	-100.5E-09	-114.5E-09
OFF samples												
53	-128.5E-09	-104.0E-09	-101.5E-09	-142.0E-09	-98.5E-09	-89.6E-09	-89.6E-09	-82.8E-09	-91.4E-09	-89.0E-09	-77.5E-09	-87.3E-09
54	-171.5E-09	-146.0E-09	-140.0E-09	-114.0E-09	-136.0E-09	-128.0E-09	-128.0E-09	-117.0E-09	-130.0E-09	-125.5E-09	-114.0E-09	-125.5E-09
Statistics												
Min	-171.5E-09	-146.0E-09	-140.0E-09	-142.0E-09	-136.0E-09	-128.0E-09	-128.0E-09	-117.0E-09	-130.0E-09	-125.5E-09	-114.0E-09	-125.5E-09
Max	-128.5E-09	-104.0E-09	-101.5E-09	-114.0E-09	-98.5E-09	-89.6E-09	-89.6E-09	-82.8E-09	-91.4E-09	-89.0E-09	-77.5E-09	-87.3E-09
Average	-150.0E-09	-125.0E-09	-120.8E-09	-128.0E-09	-117.3E-09	-108.8E-09	-108.8E-09	-99.9E-09	-110.7E-09	-107.2E-09	-95.7E-09	-106.4E-09
Sigma	21.5E-09	21.0E-09	19.2E-09	14.0E-09	18.8E-09	19.2E-09	19.2E-09	17.1E-09	19.3E-09	18.3E-09	18.3E-09	19.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra4

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

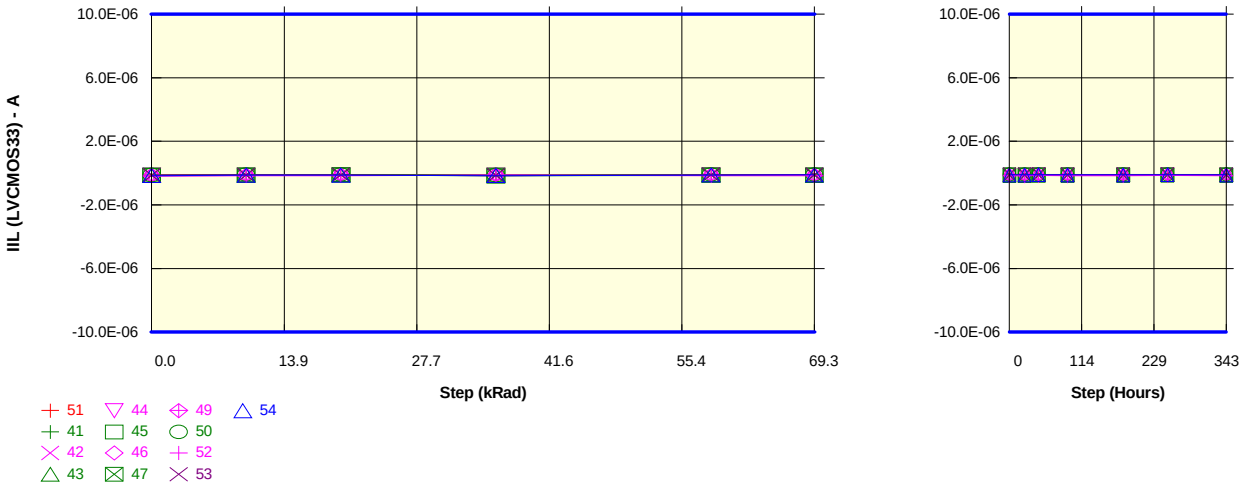
IIL (LVCMOS 33)ufra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-121.5E-09	-103.0E-09	-103.5E-09	-112.5E-09	-121.5E-09	-124.0E-09	-124.0E-09	-104.0E-09	-124.5E-09	-107.0E-09	-97.5E-09	-112.5E-09
ON samples												
41	-125.0E-09	-94.3E-09	-84.8E-09	-136.5E-09	-89.2E-09	-95.5E-09	-95.5E-09	-80.8E-09	-84.6E-09	-82.4E-09	-76.8E-09	-89.6E-09
42	-143.5E-09	-117.5E-09	-105.5E-09	-108.0E-09	-113.0E-09	-122.5E-09	-122.5E-09	-103.0E-09	-108.0E-09	-105.5E-09	-98.5E-09	-114.5E-09
43	-124.0E-09	-104.5E-09	-91.1E-09	-103.5E-09	-101.0E-09	-106.5E-09	-106.5E-09	-89.5E-09	-97.5E-09	-92.7E-09	-85.8E-09	-102.0E-09
44	-104.5E-09	-90.9E-09	-78.6E-09	-122.0E-09	-88.3E-09	-92.9E-09	-92.9E-09	-79.1E-09	-87.3E-09	-82.2E-09	-76.1E-09	-90.3E-09
45	-139.0E-09	-123.0E-09	-105.0E-09	-162.0E-09	-116.5E-09	-121.5E-09	-121.5E-09	-106.0E-09	-116.5E-09	-110.0E-09	-102.5E-09	-118.5E-09
46	-125.5E-09	-113.5E-09	-90.2E-09	-107.5E-09	-109.0E-09	-113.0E-09	-113.0E-09	-98.5E-09	-108.0E-09	-102.5E-09	-93.3E-09	-109.5E-09
47	-119.5E-09	-112.5E-09	-89.8E-09	-136.5E-09	-107.5E-09	-112.5E-09	-112.5E-09	-97.0E-09	-107.0E-09	-102.5E-09	-94.0E-09	-107.5E-09
49	-136.5E-09	-122.0E-09	-98.0E-09	-114.5E-09	-114.0E-09	-117.0E-09	-117.0E-09	-101.5E-09	-113.0E-09	-109.0E-09	-100.5E-09	-112.5E-09
50	-109.5E-09	-91.4E-09	-76.5E-09	-120.0E-09	-84.2E-09	-88.8E-09	-88.8E-09	-77.4E-09	-86.0E-09	-82.9E-09	-75.4E-09	-84.9E-09
52	-181.0E-09	-145.5E-09	-142.0E-09	-101.5E-09	-140.5E-09	-143.5E-09	-143.5E-09	-126.5E-09	-139.0E-09	-136.0E-09	-124.0E-09	-138.5E-09
Statistics												
Min	-181.0E-09	-145.5E-09	-142.0E-09	-162.0E-09	-140.5E-09	-143.5E-09	-143.5E-09	-126.5E-09	-139.0E-09	-136.0E-09	-124.0E-09	-138.5E-09
Max	-104.5E-09	-90.9E-09	-76.5E-09	-101.5E-09	-84.2E-09	-88.8E-09	-88.8E-09	-77.4E-09	-84.6E-09	-82.2E-09	-75.4E-09	-84.9E-09
Average	-130.8E-09	-111.5E-09	-96.1E-09	-121.2E-09	-106.3E-09	-111.4E-09	-111.4E-09	-95.9E-09	-104.7E-09	-100.6E-09	-92.7E-09	-106.8E-09
Sigma	20.4E-09	16.2E-09	17.9E-09	18.0E-09	15.9E-09	15.6E-09	15.6E-09	14.2E-09	15.9E-09	15.8E-09	14.3E-09	15.2E-09

Measurements

IIL (LVCMOS 33)ufra4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-121.5E-09	-103.0E-09	-103.5E-09	-112.5E-09	-121.5E-09	-124.0E-09	-124.0E-09	-104.0E-09	-124.5E-09	-107.0E-09	-97.5E-09	-112.5E-09
OFF samples												
53	-124.5E-09	-101.0E-09	-98.5E-09	-136.5E-09	-92.5E-09	-85.9E-09	-85.9E-09	-79.0E-09	-87.5E-09	-84.6E-09	-74.8E-09	-83.7E-09
54	-150.5E-09	-127.5E-09	-122.5E-09	-127.0E-09	-117.0E-09	-111.0E-09	-111.0E-09	-99.0E-09	-112.0E-09	-107.5E-09	-96.0E-09	-107.0E-09
Statistics												
Min	-150.5E-09	-127.5E-09	-122.5E-09	-136.5E-09	-117.0E-09	-111.0E-09	-111.0E-09	-99.0E-09	-112.0E-09	-107.5E-09	-96.0E-09	-107.0E-09
Max	-124.5E-09	-101.0E-09	-98.5E-09	-127.0E-09	-92.5E-09	-85.9E-09	-85.9E-09	-79.0E-09	-87.5E-09	-84.6E-09	-74.8E-09	-83.7E-09
Average	-137.5E-09	-114.3E-09	-110.5E-09	-131.8E-09	-104.8E-09	-98.5E-09	-98.5E-09	-89.0E-09	-99.8E-09	-96.0E-09	-85.4E-09	-95.3E-09
Sigma	13.0E-09	13.3E-09	12.0E-09	4.8E-09	12.2E-09	12.6E-09	12.6E-09	10.0E-09	12.2E-09	11.5E-09	10.6E-09	11.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra3

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

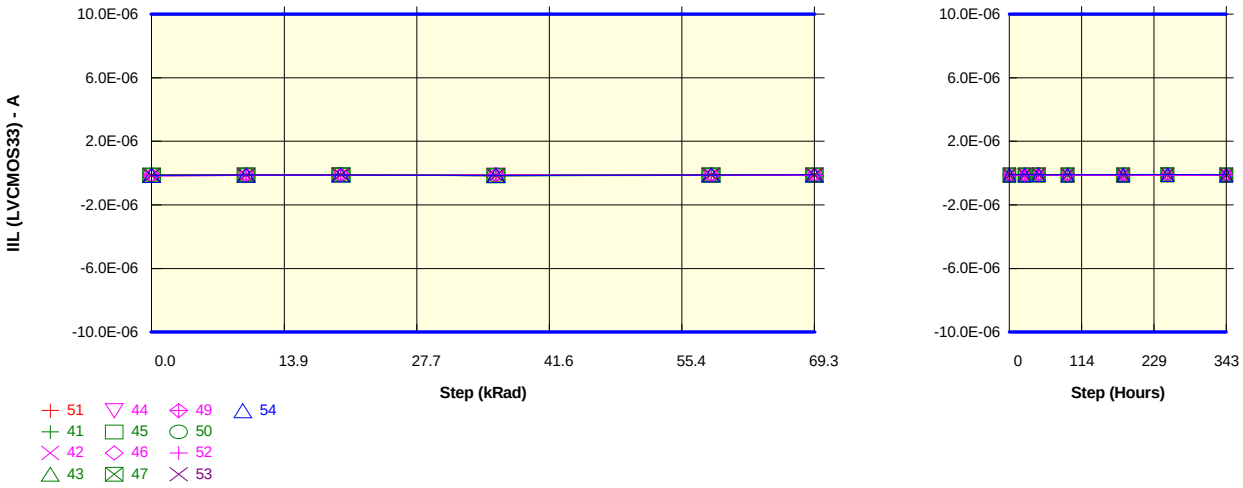
IIL (LVCMOS 33)ufra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-120.0E-09	-100.5E-09	-102.0E-09	-110.5E-09	-120.5E-09	-122.5E-09	-122.5E-09	-102.5E-09	-123.0E-09	-105.5E-09	-95.0E-09	-110.0E-09
ON samples												
41	-119.5E-09	-91.8E-09	-82.4E-09	-131.5E-09	-87.7E-09	-92.9E-09	-92.9E-09	-79.0E-09	-82.9E-09	-80.4E-09	-75.1E-09	-87.9E-09
42	-140.0E-09	-115.5E-09	-104.5E-09	-109.0E-09	-112.0E-09	-121.5E-09	-121.5E-09	-102.5E-09	-109.0E-09	-105.5E-09	-98.0E-09	-114.0E-09
43	-133.5E-09	-113.0E-09	-100.0E-09	-115.0E-09	-110.5E-09	-118.0E-09	-118.0E-09	-100.5E-09	-108.5E-09	-103.5E-09	-95.5E-09	-113.5E-09
44	-115.0E-09	-100.5E-09	-86.9E-09	-129.5E-09	-98.5E-09	-104.0E-09	-104.0E-09	-88.2E-09	-97.5E-09	-91.8E-09	-84.7E-09	-101.5E-09
45	-149.5E-09	-131.5E-09	-114.0E-09	-174.5E-09	-127.5E-09	-134.5E-09	-134.5E-09	-117.5E-09	-128.5E-09	-122.5E-09	-113.0E-09	-131.0E-09
46	-126.0E-09	-113.5E-09	-91.2E-09	-104.5E-09	-112.5E-09	-116.0E-09	-116.0E-09	-102.0E-09	-112.0E-09	-106.0E-09	-96.5E-09	-112.5E-09
47	-128.5E-09	-120.5E-09	-97.5E-09	-134.0E-09	-115.0E-09	-122.0E-09	-122.0E-09	-106.0E-09	-117.0E-09	-112.0E-09	-103.5E-09	-117.0E-09
49	-155.0E-09	-138.5E-09	-114.0E-09	-125.5E-09	-132.0E-09	-136.5E-09	-136.5E-09	-119.5E-09	-132.0E-09	-127.0E-09	-117.0E-09	-131.5E-09
50	-118.0E-09	-98.5E-09	-82.9E-09	-121.5E-09	-91.0E-09	-97.0E-09	-97.0E-09	-84.3E-09	-93.6E-09	-89.9E-09	-82.0E-09	-92.1E-09
52	-192.0E-09	-156.5E-09	-154.0E-09	-109.0E-09	-154.5E-09	-160.0E-09	-160.0E-09	-140.5E-09	-154.0E-09	-150.0E-09	-137.5E-09	-152.5E-09
Statistics												
Min	-192.0E-09	-156.5E-09	-154.0E-09	-174.5E-09	-154.5E-09	-160.0E-09	-160.0E-09	-140.5E-09	-154.0E-09	-150.0E-09	-137.5E-09	-152.5E-09
Max	-115.0E-09	-91.8E-09	-82.4E-09	-104.5E-09	-87.7E-09	-92.9E-09	-92.9E-09	-79.0E-09	-82.9E-09	-80.4E-09	-75.1E-09	-87.9E-09
Average	-137.7E-09	-118.0E-09	-102.7E-09	-125.4E-09	-114.1E-09	-120.2E-09	-120.2E-09	-104.0E-09	-113.5E-09	-108.9E-09	-100.3E-09	-115.3E-09
Sigma	22.1E-09	18.7E-09	20.3E-09	19.1E-09	19.1E-09	19.1E-09	19.1E-09	17.4E-09	19.6E-09	19.3E-09	17.6E-09	18.4E-09

Measurements

IIL (LVCMOS 33)ufra3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-120.0E-09	-100.5E-09	-102.0E-09	-110.5E-09	-120.5E-09	-122.5E-09	-122.5E-09	-102.5E-09	-123.0E-09	-105.5E-09	-95.0E-09	-110.0E-09
OFF samples												
53	-124.5E-09	-101.0E-09	-99.5E-09	-148.5E-09	-94.1E-09	-87.7E-09	-87.7E-09	-80.5E-09	-89.3E-09	-86.2E-09	-76.2E-09	-85.2E-09
54	-147.0E-09	-123.0E-09	-118.0E-09	-147.5E-09	-111.0E-09	-105.5E-09	-105.5E-09	-95.0E-09	-106.5E-09	-102.0E-09	-90.9E-09	-102.5E-09
Statistics												
Min	-147.0E-09	-123.0E-09	-118.0E-09	-148.5E-09	-111.0E-09	-105.5E-09	-105.5E-09	-95.0E-09	-106.5E-09	-102.0E-09	-90.9E-09	-102.5E-09
Max	-124.5E-09	-101.0E-09	-99.5E-09	-147.5E-09	-94.1E-09	-87.7E-09	-87.7E-09	-80.5E-09	-89.3E-09	-86.2E-09	-76.2E-09	-85.2E-09
Average	-135.8E-09	-112.0E-09	-108.8E-09	-148.0E-09	-102.5E-09	-96.6E-09	-96.6E-09	-87.7E-09	-97.9E-09	-94.1E-09	-83.5E-09	-93.9E-09
Sigma	11.3E-09	11.0E-09	9.3E-09	500.0E-12	8.5E-09	8.9E-09	8.9E-09	7.3E-09	8.6E-09	7.9E-09	7.4E-09	8.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra2

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

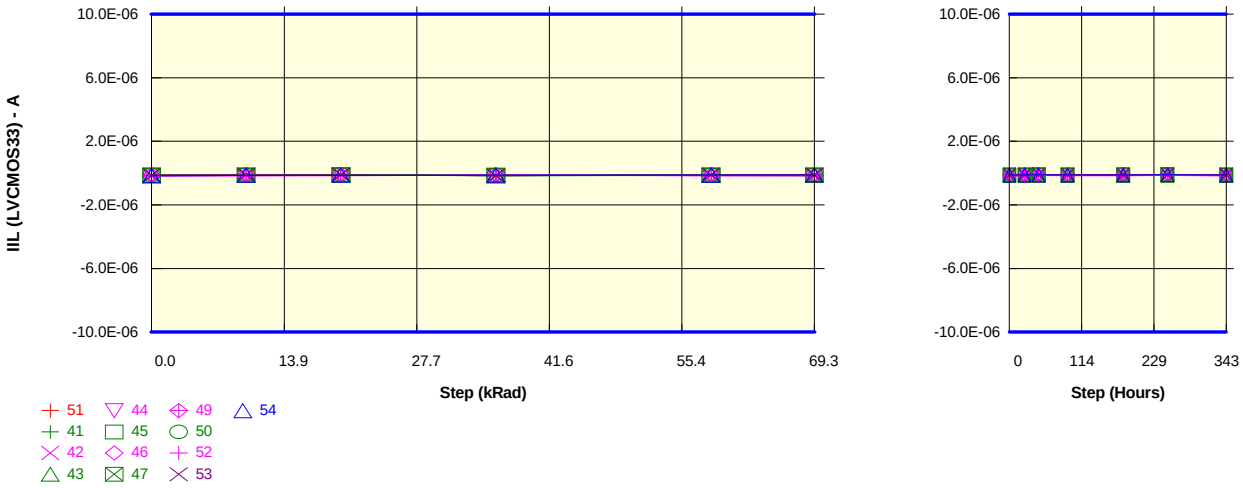
IIL (LVCMOS 33)ufra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-116.0E-09	-97.0E-09	-97.5E-09	-106.5E-09	-115.5E-09	-118.0E-09	-118.0E-09	-99.0E-09	-118.5E-09	-101.5E-09	-91.0E-09	-106.0E-09
ON samples												
41	-122.5E-09	-93.0E-09	-84.4E-09	-128.5E-09	-91.1E-09	-97.0E-09	-97.0E-09	-82.5E-09	-86.4E-09	-84.1E-09	-78.1E-09	-91.3E-09
42	-154.0E-09	-128.0E-09	-117.5E-09	-108.0E-09	-126.5E-09	-137.0E-09	-137.0E-09	-116.5E-09	-122.0E-09	-119.0E-09	-111.5E-09	-128.5E-09
43	-132.0E-09	-112.5E-09	-100.0E-09	-134.0E-09	-112.5E-09	-120.0E-09	-120.0E-09	-101.5E-09	-110.0E-09	-105.0E-09	-97.0E-09	-115.0E-09
44	-135.5E-09	-118.0E-09	-104.0E-09	-122.5E-09	-117.5E-09	-123.0E-09	-123.0E-09	-106.5E-09	-116.0E-09	-111.0E-09	-102.5E-09	-121.0E-09
45	-146.0E-09	-131.0E-09	-114.0E-09	-155.5E-09	-127.0E-09	-135.0E-09	-135.0E-09	-117.5E-09	-128.5E-09	-123.0E-09	-113.5E-09	-131.5E-09
46	-128.5E-09	-116.5E-09	-93.7E-09	-106.0E-09	-115.0E-09	-120.0E-09	-120.0E-09	-105.0E-09	-115.5E-09	-108.5E-09	-99.0E-09	-116.0E-09
47	-122.0E-09	-113.5E-09	-92.5E-09	-149.0E-09	-109.5E-09	-116.5E-09	-116.5E-09	-101.5E-09	-111.0E-09	-106.5E-09	-98.5E-09	-111.5E-09
49	-150.0E-09	-135.5E-09	-112.0E-09	-126.5E-09	-129.0E-09	-133.5E-09	-133.5E-09	-116.5E-09	-129.0E-09	-124.5E-09	-115.5E-09	-129.0E-09
50	-128.5E-09	-109.5E-09	-92.3E-09	-125.0E-09	-103.5E-09	-108.5E-09	-108.5E-09	-95.5E-09	-105.5E-09	-101.5E-09	-92.5E-09	-104.5E-09
52	-174.5E-09	-142.0E-09	-139.0E-09	-120.5E-09	-137.0E-09	-143.5E-09	-143.5E-09	-125.0E-09	-138.0E-09	-134.5E-09	-123.5E-09	-137.0E-09
Statistics												
Min	-174.5E-09	-142.0E-09	-139.0E-09	-155.5E-09	-137.0E-09	-143.5E-09	-143.5E-09	-125.0E-09	-138.0E-09	-134.5E-09	-123.5E-09	-137.0E-09
Max	-122.0E-09	-93.0E-09	-84.4E-09	-106.0E-09	-91.1E-09	-97.0E-09	-97.0E-09	-82.5E-09	-86.4E-09	-84.1E-09	-78.1E-09	-91.3E-09
Average	-139.4E-09	-120.0E-09	-104.9E-09	-127.6E-09	-116.9E-09	-123.4E-09	-123.4E-09	-106.8E-09	-116.2E-09	-111.8E-09	-103.2E-09	-118.5E-09
Sigma	15.8E-09	13.6E-09	15.3E-09	14.9E-09	12.9E-09	13.5E-09	13.5E-09	11.9E-09	13.8E-09	13.5E-09	12.5E-09	13.2E-09

Measurements

IIL (LVCMOS 33)ufra2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-116.0E-09	-97.0E-09	-97.5E-09	-106.5E-09	-115.5E-09	-118.0E-09	-118.0E-09	-99.0E-09	-118.5E-09	-101.5E-09	-91.0E-09	-106.0E-09
OFF samples												
53	-126.0E-09	-102.0E-09	-99.0E-09	-147.0E-09	-92.8E-09	-86.9E-09	-86.9E-09	-79.8E-09	-88.4E-09	-85.4E-09	-75.4E-09	-84.5E-09
54	-141.5E-09	-120.0E-09	-115.0E-09	-142.0E-09	-109.5E-09	-103.0E-09	-103.0E-09	-92.2E-09	-104.5E-09	-100.5E-09	-88.7E-09	-100.0E-09
Statistics												
Min	-141.5E-09	-120.0E-09	-115.0E-09	-147.0E-09	-109.5E-09	-103.0E-09	-103.0E-09	-92.2E-09	-104.5E-09	-100.5E-09	-88.7E-09	-100.0E-09
Max	-126.0E-09	-102.0E-09	-99.0E-09	-142.0E-09	-92.8E-09	-86.9E-09	-86.9E-09	-79.8E-09	-88.4E-09	-85.4E-09	-75.4E-09	-84.5E-09
Average	-133.8E-09	-111.0E-09	-107.0E-09	-144.5E-09	-101.1E-09	-94.9E-09	-94.9E-09	-86.0E-09	-96.5E-09	-93.0E-09	-82.1E-09	-92.2E-09
Sigma	7.8E-09	9.0E-09	8.0E-09	2.5E-09	8.4E-09	8.1E-09	8.1E-09	6.2E-09	8.1E-09	7.6E-09	6.7E-09	7.8E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra1

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

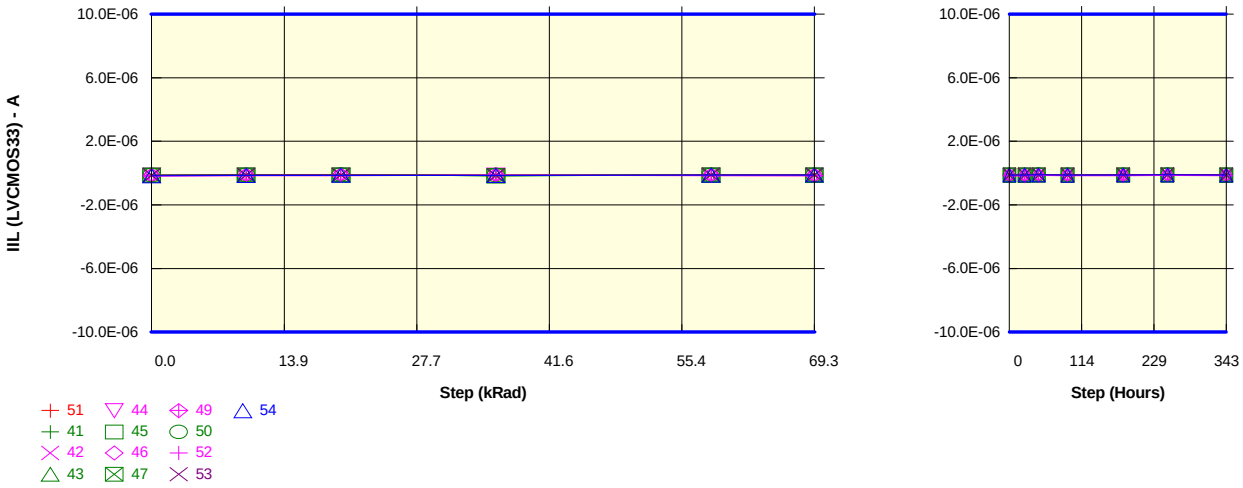
IIL (LVCMOS 33)ufra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-111.5E-09	-93.0E-09	-93.6E-09	-103.5E-09	-111.5E-09	-114.0E-09	-114.0E-09	-95.0E-09	-114.0E-09	-97.5E-09	-87.2E-09	-102.0E-09
ON samples												
41	-134.0E-09	-104.0E-09	-95.5E-09	-140.5E-09	-101.5E-09	-107.5E-09	-107.5E-09	-91.6E-09	-96.5E-09	-93.5E-09	-87.4E-09	-102.0E-09
42	-174.5E-09	-146.5E-09	-134.0E-09	-108.0E-09	-146.0E-09	-156.5E-09	-156.5E-09	-133.5E-09	-140.0E-09	-137.0E-09	-128.5E-09	-147.5E-09
43	-138.0E-09	-119.0E-09	-106.0E-09	-130.5E-09	-117.0E-09	-125.0E-09	-125.0E-09	-106.0E-09	-114.5E-09	-110.0E-09	-102.0E-09	-119.5E-09
44	-131.0E-09	-113.5E-09	-100.5E-09	-122.0E-09	-114.5E-09	-121.0E-09	-121.0E-09	-104.0E-09	-114.0E-09	-108.0E-09	-100.0E-09	-118.0E-09
45	-157.5E-09	-141.0E-09	-123.5E-09	-170.5E-09	-140.0E-09	-146.0E-09	-146.0E-09	-128.5E-09	-139.5E-09	-133.0E-09	-123.0E-09	-142.0E-09
46	-123.5E-09	-111.0E-09	-89.7E-09	-118.5E-09	-112.0E-09	-116.0E-09	-116.0E-09	-101.0E-09	-111.5E-09	-105.0E-09	-96.0E-09	-112.0E-09
47	-119.5E-09	-112.5E-09	-90.0E-09	-170.0E-09	-109.0E-09	-116.0E-09	-116.0E-09	-101.0E-09	-111.5E-09	-106.0E-09	-98.0E-09	-110.5E-09
49	-129.5E-09	-117.5E-09	-97.0E-09	-131.5E-09	-112.5E-09	-116.0E-09	-116.0E-09	-101.0E-09	-112.0E-09	-108.0E-09	-99.0E-09	-112.0E-09
50	-125.5E-09	-107.0E-09	-90.0E-09	-120.0E-09	-100.5E-09	-105.5E-09	-105.5E-09	-92.5E-09	-102.5E-09	-99.0E-09	-90.2E-09	-102.0E-09
52	-189.5E-09	-155.0E-09	-152.0E-09	-118.0E-09	-151.5E-09	-156.5E-09	-156.5E-09	-138.5E-09	-152.0E-09	-148.0E-09	-136.5E-09	-151.0E-09
Statistics												
Min	-189.5E-09	-155.0E-09	-152.0E-09	-170.5E-09	-151.5E-09	-156.5E-09	-156.5E-09	-138.5E-09	-152.0E-09	-148.0E-09	-136.5E-09	-151.0E-09
Max	-119.5E-09	-104.0E-09	-89.7E-09	-108.0E-09	-100.5E-09	-105.5E-09	-105.5E-09	-91.6E-09	-96.5E-09	-93.5E-09	-87.4E-09	-102.0E-09
Average	-142.3E-09	-122.7E-09	-107.8E-09	-133.0E-09	-120.5E-09	-126.6E-09	-126.6E-09	-109.8E-09	-119.4E-09	-114.8E-09	-106.1E-09	-121.7E-09
Sigma	22.4E-09	17.1E-09	20.4E-09	20.5E-09	17.5E-09	18.3E-09	18.3E-09	16.3E-09	17.1E-09	17.1E-09	16.1E-09	17.4E-09

Measurements

IIL (LVCMOS 33)ufra1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-111.5E-09	-93.0E-09	-93.6E-09	-103.5E-09	-111.5E-09	-114.0E-09	-114.0E-09	-95.0E-09	-114.0E-09	-97.5E-09	-87.2E-09	-102.0E-09
OFF samples												
53	-124.0E-09	-99.0E-09	-98.0E-09	-159.5E-09	-91.8E-09	-85.7E-09	-85.7E-09	-78.7E-09	-87.2E-09	-84.2E-09	-74.3E-09	-83.2E-09
54	-156.5E-09	-133.5E-09	-127.5E-09	-125.5E-09	-120.5E-09	-114.0E-09	-114.0E-09	-103.0E-09	-115.5E-09	-111.5E-09	-99.0E-09	-111.5E-09
Statistics												
Min	-156.5E-09	-133.5E-09	-127.5E-09	-159.5E-09	-120.5E-09	-114.0E-09	-114.0E-09	-103.0E-09	-115.5E-09	-111.5E-09	-99.0E-09	-111.5E-09
Max	-124.0E-09	-99.0E-09	-98.0E-09	-125.5E-09	-91.8E-09	-85.7E-09	-85.7E-09	-78.7E-09	-87.2E-09	-84.2E-09	-74.3E-09	-83.2E-09
Average	-140.3E-09	-116.3E-09	-112.8E-09	-142.5E-09	-106.1E-09	-99.8E-09	-99.8E-09	-90.9E-09	-101.4E-09	-97.8E-09	-86.6E-09	-97.3E-09
Sigma	16.3E-09	17.3E-09	14.8E-09	17.0E-09	14.4E-09	14.2E-09	14.2E-09	12.1E-09	14.2E-09	13.7E-09	12.4E-09	14.2E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufra0

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

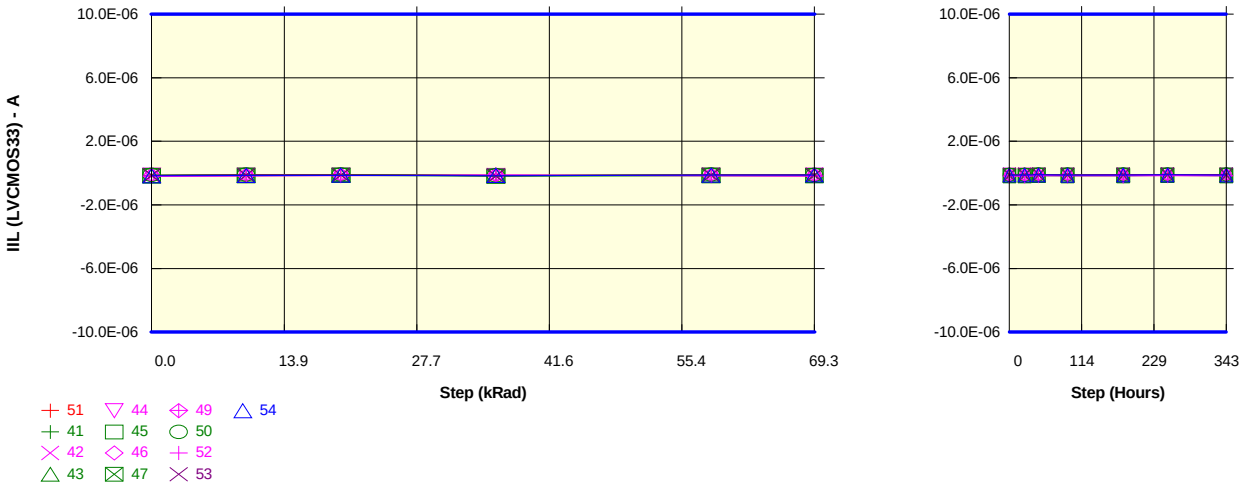
IIL (LVCMOS 33)ufra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.0E-09	-99.0E-09	-99.0E-09	-107.0E-09	-116.5E-09	-118.5E-09	-118.5E-09	-100.0E-09	-120.0E-09	-102.5E-09	-91.6E-09	-107.5E-09
ON samples												
41	-131.0E-09	-103.5E-09	-94.0E-09	-145.0E-09	-103.0E-09	-109.5E-09	-109.5E-09	-92.9E-09	-98.0E-09	-95.0E-09	-88.0E-09	-103.5E-09
42	-161.0E-09	-135.5E-09	-125.0E-09	-114.0E-09	-135.0E-09	-146.0E-09	-146.0E-09	-124.5E-09	-131.0E-09	-128.5E-09	-120.0E-09	-139.0E-09
43	-134.0E-09	-115.5E-09	-103.0E-09	-129.0E-09	-115.0E-09	-123.0E-09	-123.0E-09	-105.0E-09	-113.5E-09	-109.0E-09	-100.5E-09	-118.5E-09
44	-128.0E-09	-112.5E-09	-100.0E-09	-131.5E-09	-114.0E-09	-121.0E-09	-121.0E-09	-104.0E-09	-114.0E-09	-108.0E-09	-100.5E-09	-118.0E-09
45	-136.5E-09	-122.5E-09	-107.5E-09	-170.5E-09	-123.0E-09	-128.5E-09	-128.5E-09	-112.0E-09	-122.5E-09	-117.0E-09	-107.5E-09	-124.5E-09
46	-121.5E-09	-112.0E-09	-90.3E-09	-116.5E-09	-113.5E-09	-118.0E-09	-118.0E-09	-103.0E-09	-113.5E-09	-107.5E-09	-98.5E-09	-114.0E-09
47	-128.5E-09	-121.5E-09	-100.0E-09	-159.5E-09	-119.0E-09	-126.0E-09	-126.0E-09	-110.0E-09	-121.0E-09	-116.5E-09	-107.0E-09	-121.0E-09
49	-142.5E-09	-130.5E-09	-107.5E-09	-128.5E-09	-127.0E-09	-132.5E-09	-132.5E-09	-115.0E-09	-127.5E-09	-122.0E-09	-114.0E-09	-127.5E-09
50	-125.0E-09	-107.5E-09	-92.5E-09	-120.5E-09	-103.0E-09	-110.0E-09	-110.0E-09	-96.5E-09	-106.5E-09	-103.0E-09	-95.0E-09	-106.0E-09
52	-185.0E-09	-152.5E-09	-151.5E-09	-119.5E-09	-151.5E-09	-157.0E-09	-157.0E-09	-138.0E-09	-152.0E-09	-148.0E-09	-135.0E-09	-150.0E-09
Statistics												
Min	-185.0E-09	-152.5E-09	-151.5E-09	-170.5E-09	-151.5E-09	-157.0E-09	-157.0E-09	-138.0E-09	-152.0E-09	-148.0E-09	-135.0E-09	-150.0E-09
Max	-121.5E-09	-103.5E-09	-90.3E-09	-114.0E-09	-103.0E-09	-109.5E-09	-109.5E-09	-92.9E-09	-98.0E-09	-95.0E-09	-88.0E-09	-103.5E-09
Average	-139.3E-09	-121.4E-09	-107.1E-09	-133.5E-09	-120.4E-09	-127.2E-09	-127.2E-09	-110.1E-09	-120.0E-09	-115.5E-09	-106.6E-09	-122.2E-09
Sigma	18.5E-09	14.0E-09	17.6E-09	18.1E-09	14.0E-09	14.2E-09	14.2E-09	12.7E-09	14.1E-09	14.2E-09	12.9E-09	13.4E-09

Measurements

IIL (LVCMOS 33)ufra0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-117.0E-09	-99.0E-09	-99.0E-09	-107.0E-09	-116.5E-09	-118.5E-09	-118.5E-09	-100.0E-09	-120.0E-09	-102.5E-09	-91.6E-09	-107.5E-09
OFF samples												
53	-131.0E-09	-105.0E-09	-105.0E-09	-139.0E-09	-98.5E-09	-91.4E-09	-91.4E-09	-84.0E-09	-93.0E-09	-90.0E-09	-79.4E-09	-88.9E-09
54	-161.5E-09	-136.5E-09	-130.5E-09	-137.5E-09	-124.0E-09	-116.5E-09	-116.5E-09	-105.5E-09	-118.0E-09	-114.0E-09	-101.5E-09	-114.0E-09
Statistics												
Min	-161.5E-09	-136.5E-09	-130.5E-09	-139.0E-09	-124.0E-09	-116.5E-09	-116.5E-09	-105.5E-09	-118.0E-09	-114.0E-09	-101.5E-09	-114.0E-09
Max	-131.0E-09	-105.0E-09	-105.0E-09	-137.5E-09	-98.5E-09	-91.4E-09	-91.4E-09	-84.0E-09	-93.0E-09	-90.0E-09	-79.4E-09	-88.9E-09
Average	-146.3E-09	-120.8E-09	-117.8E-09	-138.3E-09	-111.3E-09	-103.9E-09	-103.9E-09	-94.8E-09	-105.5E-09	-102.0E-09	-90.5E-09	-101.4E-09
Sigma	15.3E-09	15.7E-09	12.8E-09	750.0E-12	12.8E-09	12.6E-09	12.6E-09	10.8E-09	12.5E-09	12.0E-09	11.1E-09	12.6E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)ufrck

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

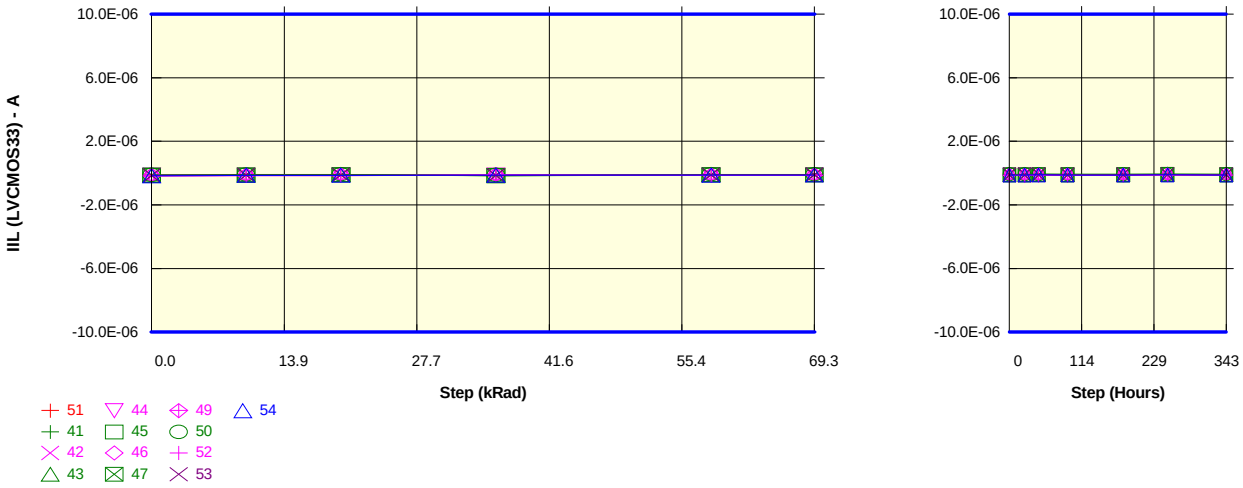
IIL (LVCMOS 33)ufrck	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-139.0E-09	-118.0E-09	-118.5E-09	-130.5E-09	-140.0E-09	-143.0E-09	-143.0E-09	-120.5E-09	-143.5E-09	-123.0E-09	-112.5E-09	-129.5E-09
ON samples												
41	-133.0E-09	-106.0E-09	-97.0E-09	-146.0E-09	-106.5E-09	-113.0E-09	-113.0E-09	-96.5E-09	-100.5E-09	-98.0E-09	-91.7E-09	-107.0E-09
42	-180.5E-09	-153.5E-09	-140.5E-09	-116.5E-09	-155.5E-09	-167.0E-09	-167.0E-09	-142.5E-09	-150.5E-09	-147.0E-09	-137.5E-09	-159.0E-09
43	-136.0E-09	-118.0E-09	-107.5E-09	-130.0E-09	-120.0E-09	-128.5E-09	-128.5E-09	-109.0E-09	-118.0E-09	-113.5E-09	-106.0E-09	-124.5E-09
44	-126.5E-09	-112.0E-09	-101.0E-09	-142.5E-09	-114.0E-09	-121.0E-09	-121.0E-09	-104.0E-09	-114.0E-09	-108.5E-09	-101.0E-09	-119.0E-09
45	-173.0E-09	-159.0E-09	-140.5E-09	-193.5E-09	-159.5E-09	-167.5E-09	-167.5E-09	-147.0E-09	-161.0E-09	-153.5E-09	-142.5E-09	-164.5E-09
46	-138.5E-09	-129.5E-09	-106.5E-09	-120.5E-09	-132.0E-09	-137.5E-09	-137.5E-09	-120.0E-09	-132.0E-09	-125.5E-09	-115.5E-09	-133.0E-09
47	-138.5E-09	-133.0E-09	-109.0E-09	-179.0E-09	-130.5E-09	-139.0E-09	-139.0E-09	-121.5E-09	-133.5E-09	-128.5E-09	-118.0E-09	-133.5E-09
49	-154.0E-09	-144.5E-09	-120.0E-09	-134.5E-09	-141.0E-09	-146.0E-09	-146.0E-09	-127.0E-09	-140.5E-09	-135.5E-09	-126.5E-09	-141.0E-09
50	-113.0E-09	-98.0E-09	-83.3E-09	-139.5E-09	-95.0E-09	-101.0E-09	-101.0E-09	-87.5E-09	-98.0E-09	-93.5E-09	-85.6E-09	-96.5E-09
52	-206.0E-09	-174.0E-09	-174.0E-09	-110.5E-09	-176.5E-09	-183.5E-09	-183.5E-09	-163.0E-09	-178.0E-09	-173.5E-09	-160.5E-09	-177.0E-09
Statistics												
Min	-206.0E-09	-174.0E-09	-174.0E-09	-193.5E-09	-176.5E-09	-183.5E-09	-183.5E-09	-163.0E-09	-178.0E-09	-173.5E-09	-160.5E-09	-177.0E-09
Max	-113.0E-09	-98.0E-09	-83.3E-09	-110.5E-09	-95.0E-09	-101.0E-09	-101.0E-09	-87.5E-09	-98.0E-09	-93.5E-09	-85.6E-09	-96.5E-09
Average	-149.9E-09	-132.8E-09	-117.9E-09	-141.3E-09	-133.1E-09	-140.4E-09	-140.4E-09	-121.8E-09	-132.6E-09	-127.7E-09	-118.5E-09	-135.5E-09
Sigma	27.0E-09	23.5E-09	25.3E-09	25.2E-09	24.2E-09	24.8E-09	24.8E-09	22.6E-09	24.6E-09	24.1E-09	22.5E-09	24.3E-09

Measurements

IIL (LVCMOS 33)ufrck	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-139.0E-09	-118.0E-09	-118.5E-09	-130.5E-09	-140.0E-09	-143.0E-09	-143.0E-09	-120.5E-09	-143.5E-09	-123.0E-09	-112.5E-09	-129.5E-09
OFF samples												
53	-132.0E-09	-107.0E-09	-105.0E-09	-179.5E-09	-99.0E-09	-91.4E-09	-91.4E-09	-84.3E-09	-93.4E-09	-90.1E-09	-79.8E-09	-89.1E-09
54	-161.5E-09	-136.5E-09	-131.0E-09	-152.5E-09	-124.0E-09	-117.5E-09	-117.5E-09	-106.0E-09	-119.0E-09	-114.0E-09	-102.0E-09	-114.5E-09
Statistics												
Min	-161.5E-09	-136.5E-09	-131.0E-09	-179.5E-09	-124.0E-09	-117.5E-09	-117.5E-09	-106.0E-09	-119.0E-09	-114.0E-09	-102.0E-09	-114.5E-09
Max	-132.0E-09	-107.0E-09	-105.0E-09	-152.5E-09	-99.0E-09	-91.4E-09	-91.4E-09	-84.3E-09	-93.4E-09	-90.1E-09	-79.8E-09	-89.1E-09
Average	-146.8E-09	-121.8E-09	-118.0E-09	-166.0E-09	-111.5E-09	-104.4E-09	-104.4E-09	-95.2E-09	-106.2E-09	-102.1E-09	-90.9E-09	-101.8E-09
Sigma	14.7E-09	14.7E-09	13.0E-09	13.5E-09	12.5E-09	13.1E-09	13.1E-09	10.8E-09	12.8E-09	12.0E-09	11.1E-09	12.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS33)FF

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

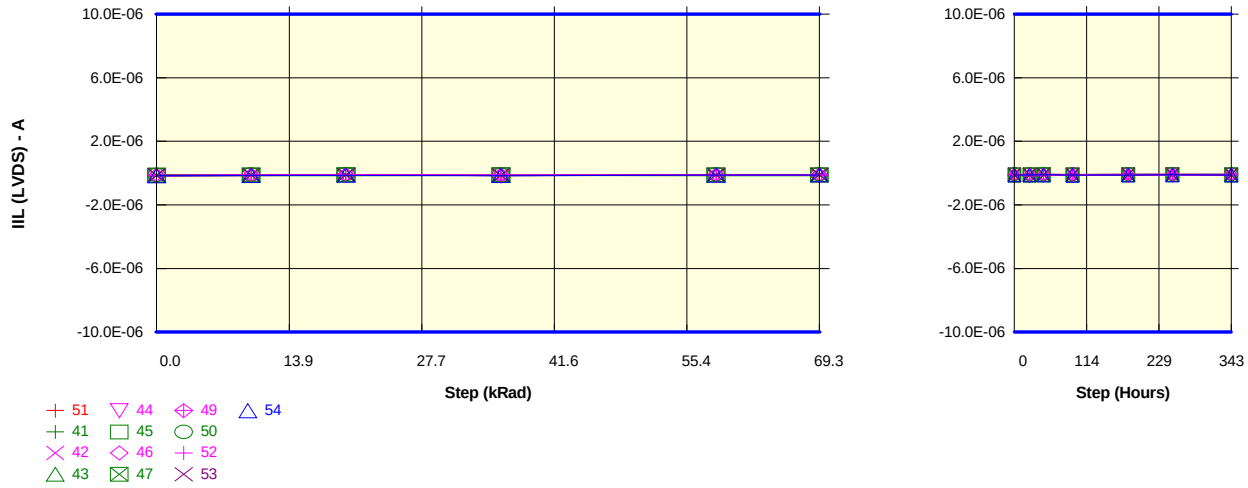
IIL (LVCMOS 33)FF	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-119.5E-09	-100.5E-09	-100.5E-09	-110.0E-09	-119.5E-09	-121.0E-09	-121.0E-09	-102.0E-09	-122.0E-09	-104.5E-09	-93.4E-09	-109.0E-09
ON samples												
41	-117.5E-09	-87.9E-09	-78.6E-09	-143.5E-09	-79.8E-09	-79.6E-09	-79.6E-09	-67.5E-09	-70.8E-09	-68.5E-09	-62.0E-09	-72.4E-09
42	-160.0E-09	-131.0E-09	-117.0E-09	-119.5E-09	-119.5E-09	-122.0E-09	-122.0E-09	-103.5E-09	-109.5E-09	-106.5E-09	-96.5E-09	-112.0E-09
43	-124.0E-09	-103.5E-09	-89.3E-09	-117.0E-09	-95.5E-09	-96.0E-09	-96.0E-09	-80.3E-09	-87.2E-09	-83.1E-09	-74.8E-09	-88.9E-09
44	-123.0E-09	-105.5E-09	-89.9E-09	-115.0E-09	-97.0E-09	-97.5E-09	-97.5E-09	-82.7E-09	-91.4E-09	-86.0E-09	-77.5E-09	-91.8E-09
45	-147.0E-09	-127.0E-09	-108.0E-09	-165.5E-09	-115.0E-09	-115.0E-09	-115.0E-09	-99.5E-09	-110.0E-09	-104.5E-09	-92.6E-09	-108.5E-09
46	-123.5E-09	-109.5E-09	-84.9E-09	-98.5E-09	-100.0E-09	-99.0E-09	-99.0E-09	-84.8E-09	-95.0E-09	-88.5E-09	-79.0E-09	-91.5E-09
47	-118.5E-09	-109.5E-09	-85.8E-09	-147.5E-09	-98.0E-09	-99.5E-09	-99.5E-09	-85.6E-09	-95.5E-09	-90.1E-09	-80.8E-09	-91.8E-09
49	-136.5E-09	-118.5E-09	-93.9E-09	-112.0E-09	-104.5E-09	-102.5E-09	-102.5E-09	-88.1E-09	-99.0E-09	-95.0E-09	-84.1E-09	-95.0E-09
50	-109.0E-09	-89.5E-09	-73.7E-09	-113.5E-09	-79.1E-09	-79.5E-09	-79.5E-09	-69.2E-09	-77.2E-09	-74.4E-09	-66.0E-09	-74.2E-09
52	-194.5E-09	-153.5E-09	-148.0E-09	-98.0E-09	-138.5E-09	-135.5E-09	-135.5E-09	-119.0E-09	-131.5E-09	-127.0E-09	-113.0E-09	-126.0E-09
Statistics												
Min	-194.5E-09	-153.5E-09	-148.0E-09	-165.5E-09	-138.5E-09	-135.5E-09	-135.5E-09	-119.0E-09	-131.5E-09	-127.0E-09	-113.0E-09	-126.0E-09
Max	-109.0E-09	-87.9E-09	-73.7E-09	-98.0E-09	-79.1E-09	-79.5E-09	-79.5E-09	-67.5E-09	-70.8E-09	-68.5E-09	-62.0E-09	-72.4E-09
Average	-135.4E-09	-113.5E-09	-96.9E-09	-123.0E-09	-102.7E-09	-102.6E-09	-102.6E-09	-88.0E-09	-96.7E-09	-92.3E-09	-82.6E-09	-95.2E-09
Sigma	24.4E-09	18.8E-09	21.0E-09	20.9E-09	17.1E-09	16.6E-09	16.6E-09	14.9E-09	16.5E-09	16.1E-09	14.2E-09	15.6E-09

Measurements

IIL (LVCMOS 33)FF	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-119.5E-09	-100.5E-09	-100.5E-09	-110.0E-09	-119.5E-09	-121.0E-09	-121.0E-09	-102.0E-09	-122.0E-09	-104.5E-09	-93.4E-09	-109.0E-09
OFF samples												
53	-138.5E-09	-111.5E-09	-110.0E-09	-139.5E-09	-104.0E-09	-96.0E-09	-96.0E-09	-88.0E-09	-97.0E-09	-93.9E-09	-83.2E-09	-92.6E-09
54	-160.0E-09	-135.0E-09	-129.5E-09	-121.0E-09	-123.0E-09	-116.5E-09	-116.5E-09	-104.5E-09	-116.5E-09	-112.5E-09	-100.5E-09	-112.0E-09
Statistics												
Min	-160.0E-09	-135.0E-09	-129.5E-09	-139.5E-09	-123.0E-09	-116.5E-09	-116.5E-09	-104.5E-09	-116.5E-09	-112.5E-09	-100.5E-09	-112.0E-09
Max	-138.5E-09	-111.5E-09	-110.0E-09	-121.0E-09	-104.0E-09	-96.0E-09	-96.0E-09	-88.0E-09	-97.0E-09	-93.9E-09	-83.2E-09	-92.6E-09
Average	-149.3E-09	-123.3E-09	-119.8E-09	-130.3E-09	-113.5E-09	-106.3E-09	-106.3E-09	-96.2E-09	-106.8E-09	-103.2E-09	-91.8E-09	-102.3E-09
Sigma	10.8E-09	11.8E-09	9.8E-09	9.3E-09	9.5E-09	10.3E-09	10.3E-09	8.3E-09	9.8E-09	9.3E-09	8.7E-09	9.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)srckn

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

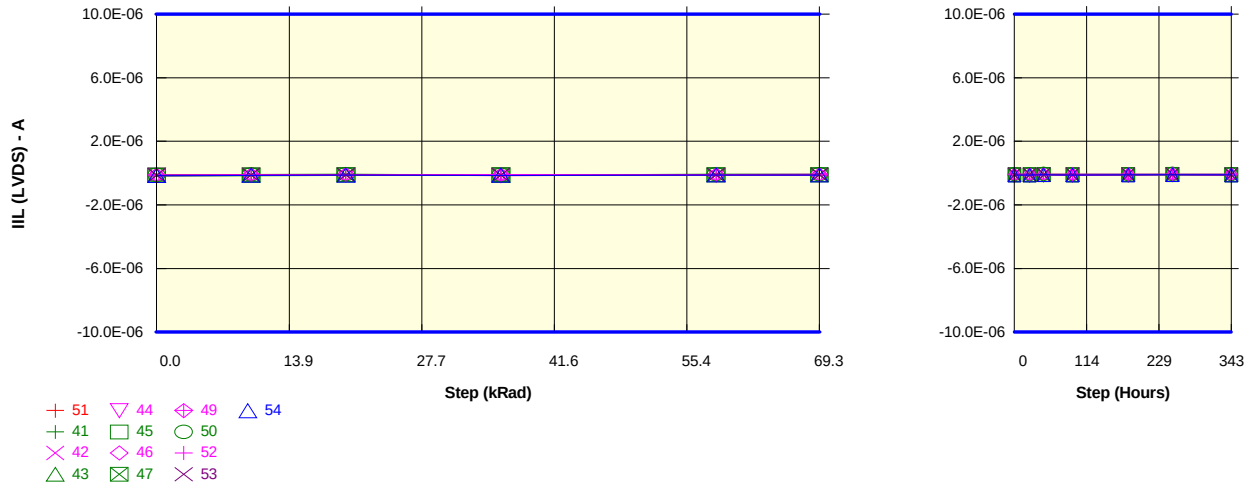
IIL (LVDS)srckn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-109.0E-09	-91.0E-09	-91.4E-09	-101.0E-09	-109.0E-09	-110.0E-09	-110.0E-09	-92.2E-09	-111.0E-09	-95.5E-09	-87.1E-09	-100.0E-09
ON samples												
41	-207.5E-09	-160.5E-09	-144.5E-09	-143.0E-09	-146.5E-09	-145.0E-09	-145.0E-09	-125.5E-09	-131.5E-09	-127.5E-09	-118.0E-09	-134.5E-09
42	-139.5E-09	-113.5E-09	-101.0E-09	-120.5E-09	-104.0E-09	-106.0E-09	-106.0E-09	-88.8E-09	-94.1E-09	-91.2E-09	-83.5E-09	-97.0E-09
43	-124.5E-09	-103.0E-09	-89.5E-09	-149.0E-09	-95.0E-09	-96.5E-09	-96.5E-09	-80.9E-09	-87.7E-09	-83.3E-09	-76.0E-09	-89.1E-09
44	-157.0E-09	-136.0E-09	-118.0E-09	-122.5E-09	-127.5E-09	-127.5E-09	-127.5E-09	-110.0E-09	-121.0E-09	-114.0E-09	-104.5E-09	-121.0E-09
45	-142.5E-09	-125.5E-09	-107.5E-09	-92.6E-09	-115.0E-09	-116.0E-09	-116.0E-09	-101.0E-09	-111.0E-09	-105.0E-09	-95.0E-09	-109.0E-09
46	-146.5E-09	-130.5E-09	-105.5E-09	-175.0E-09	-120.0E-09	-119.0E-09	-119.0E-09	-103.5E-09	-114.0E-09	-107.0E-09	-98.0E-09	-111.5E-09
47	-125.5E-09	-117.5E-09	-93.5E-09	-128.5E-09	-106.0E-09	-108.0E-09	-108.0E-09	-93.1E-09	-103.5E-09	-98.0E-09	-88.7E-09	-100.5E-09
49	-169.5E-09	-148.5E-09	-121.5E-09	-110.5E-09	-133.5E-09	-131.5E-09	-131.5E-09	-114.0E-09	-127.5E-09	-121.0E-09	-111.0E-09	-123.0E-09
50	-107.5E-09	-88.7E-09	-73.6E-09	-134.5E-09	-76.7E-09	-76.7E-09	-76.7E-09	-67.0E-09	-74.7E-09	-71.3E-09	-64.0E-09	-71.2E-09
52	-109.5E-09	-85.6E-09	-82.1E-09	-93.4E-09	-77.8E-09	-76.3E-09	-76.3E-09	-66.6E-09	-74.0E-09	-71.2E-09	-63.4E-09	-70.2E-09
Statistics												
Min	-207.5E-09	-160.5E-09	-144.5E-09	-175.0E-09	-146.5E-09	-145.0E-09	-145.0E-09	-125.5E-09	-131.5E-09	-127.5E-09	-118.0E-09	-134.5E-09
Max	-107.5E-09	-85.6E-09	-73.6E-09	-92.6E-09	-76.7E-09	-76.3E-09	-76.3E-09	-66.6E-09	-74.0E-09	-71.2E-09	-63.4E-09	-70.2E-09
Average	-143.0E-09	-120.9E-09	-103.7E-09	-126.9E-09	-110.2E-09	-110.3E-09	-110.3E-09	-95.0E-09	-103.9E-09	-98.9E-09	-90.2E-09	-102.7E-09
Sigma	28.5E-09	23.1E-09	19.7E-09	24.0E-09	21.8E-09	21.3E-09	21.3E-09	18.6E-09	19.7E-09	18.6E-09	17.8E-09	20.4E-09

Measurements

IIL (LVDS)srckn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-109.0E-09	-91.0E-09	-91.4E-09	-101.0E-09	-109.0E-09	-110.0E-09	-110.0E-09	-92.2E-09	-111.0E-09	-95.5E-09	-87.1E-09	-100.0E-09
OFF samples												
53	-137.0E-09	-112.0E-09	-111.5E-09	-137.0E-09	-107.0E-09	-99.0E-09	-99.0E-09	-90.3E-09	-100.5E-09	-97.0E-09	-85.9E-09	-96.0E-09
54	-160.5E-09	-137.0E-09	-130.0E-09	-152.0E-09	-123.5E-09	-116.5E-09	-116.5E-09	-105.0E-09	-118.0E-09	-113.5E-09	-102.0E-09	-113.0E-09
Statistics												
Min	-160.5E-09	-137.0E-09	-130.0E-09	-152.0E-09	-123.5E-09	-116.5E-09	-116.5E-09	-105.0E-09	-118.0E-09	-113.5E-09	-102.0E-09	-113.0E-09
Max	-137.0E-09	-112.0E-09	-111.5E-09	-137.0E-09	-107.0E-09	-99.0E-09	-99.0E-09	-90.3E-09	-100.5E-09	-97.0E-09	-85.9E-09	-96.0E-09
Average	-148.8E-09	-124.5E-09	-120.8E-09	-144.5E-09	-115.3E-09	-107.8E-09	-107.8E-09	-97.6E-09	-109.3E-09	-105.3E-09	-94.0E-09	-104.5E-09
Sigma	11.7E-09	12.5E-09	9.3E-09	7.5E-09	8.2E-09	8.8E-09	8.8E-09	7.4E-09	8.8E-09	8.3E-09	8.1E-09	8.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)srckp

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

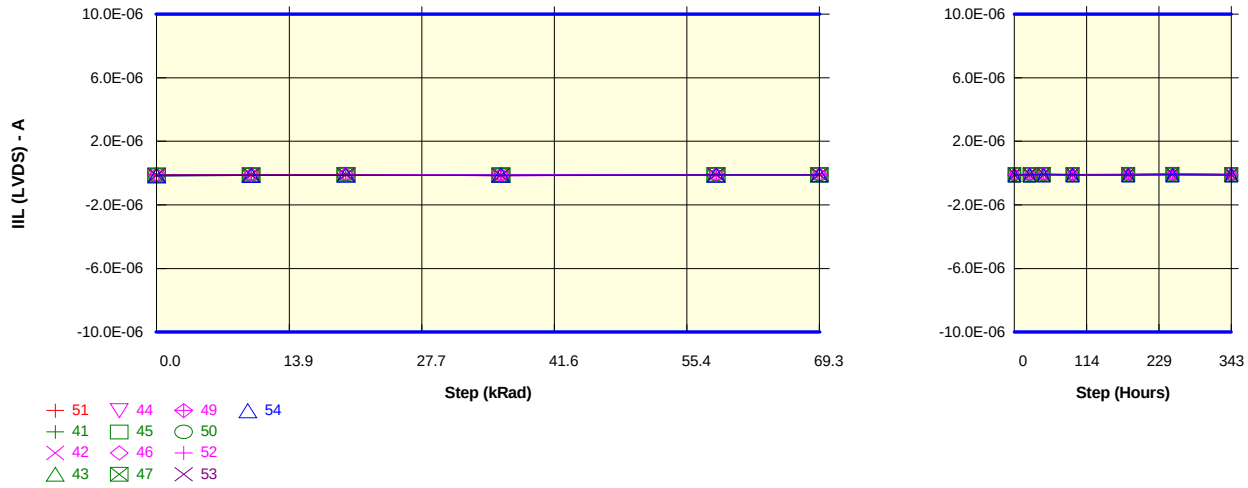
IIL (LVDS)srckp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-102.0E-09	-85.3E-09	-85.2E-09	-93.2E-09	-101.5E-09	-103.0E-09	-103.0E-09	-86.2E-09	-104.5E-09	-88.4E-09	-81.0E-09	-92.6E-09
ON samples												
41	-191.0E-09	-147.5E-09	-133.5E-09	-133.5E-09	-137.5E-09	-138.0E-09	-138.0E-09	-119.0E-09	-123.5E-09	-120.0E-09	-111.0E-09	-126.5E-09
42	-141.0E-09	-114.0E-09	-102.0E-09	-117.5E-09	-106.5E-09	-109.5E-09	-109.5E-09	-91.3E-09	-97.5E-09	-93.4E-09	-85.5E-09	-99.5E-09
43	-119.0E-09	-100.0E-09	-85.8E-09	-123.5E-09	-90.7E-09	-91.6E-09	-91.6E-09	-77.3E-09	-83.8E-09	-79.9E-09	-72.8E-09	-85.4E-09
44	-128.5E-09	-111.0E-09	-96.5E-09	-109.0E-09	-105.0E-09	-103.5E-09	-103.5E-09	-88.9E-09	-98.5E-09	-91.6E-09	-83.7E-09	-98.5E-09
45	-136.0E-09	-119.5E-09	-102.0E-09	-89.1E-09	-110.0E-09	-110.5E-09	-110.5E-09	-95.5E-09	-105.5E-09	-99.0E-09	-89.4E-09	-103.5E-09
46	-121.5E-09	-108.0E-09	-85.8E-09	-162.5E-09	-101.0E-09	-101.0E-09	-101.0E-09	-88.1E-09	-97.0E-09	-90.0E-09	-81.3E-09	-93.8E-09
47	-112.5E-09	-105.0E-09	-82.9E-09	-129.0E-09	-95.0E-09	-95.5E-09	-95.5E-09	-82.3E-09	-90.9E-09	-86.7E-09	-78.2E-09	-88.4E-09
49	-145.0E-09	-127.5E-09	-103.5E-09	-107.0E-09	-116.5E-09	-114.0E-09	-114.0E-09	-99.0E-09	-110.5E-09	-105.5E-09	-95.5E-09	-106.0E-09
50	-100.0E-09	-83.2E-09	-68.7E-09	-113.5E-09	-71.9E-09	-72.0E-09	-72.0E-09	-62.9E-09	-70.2E-09	-67.0E-09	-60.0E-09	-66.8E-09
52	-106.5E-09	-83.0E-09	-79.1E-09	-88.3E-09	-74.4E-09	-72.8E-09	-72.8E-09	-63.4E-09	-70.3E-09	-67.8E-09	-60.4E-09	-67.1E-09
Statistics												
Min	-191.0E-09	-147.5E-09	-133.5E-09	-162.5E-09	-137.5E-09	-138.0E-09	-138.0E-09	-119.0E-09	-123.5E-09	-120.0E-09	-111.0E-09	-126.5E-09
Max	-100.0E-09	-83.0E-09	-68.7E-09	-88.3E-09	-71.9E-09	-72.0E-09	-72.0E-09	-62.9E-09	-70.2E-09	-67.0E-09	-60.0E-09	-66.8E-09
Average	-130.1E-09	-109.9E-09	-94.0E-09	-117.3E-09	-100.8E-09	-100.8E-09	-100.8E-09	-86.8E-09	-94.8E-09	-90.1E-09	-81.8E-09	-93.5E-09
Sigma	24.6E-09	18.4E-09	17.0E-09	20.8E-09	18.4E-09	18.6E-09	18.6E-09	15.9E-09	16.0E-09	15.4E-09	14.6E-09	17.1E-09

Measurements

IIL (LVDS)srckp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-102.0E-09	-85.3E-09	-85.2E-09	-93.2E-09	-101.5E-09	-103.0E-09	-103.0E-09	-86.2E-09	-104.5E-09	-88.4E-09	-81.0E-09	-92.6E-09
OFF samples												
53	-132.5E-09	-108.5E-09	-108.0E-09	-130.0E-09	-103.0E-09	-96.0E-09	-96.0E-09	-87.3E-09	-96.5E-09	-92.7E-09	-83.0E-09	-91.6E-09
54	-152.5E-09	-129.5E-09	-123.0E-09	-132.0E-09	-114.5E-09	-109.0E-09	-109.0E-09	-97.5E-09	-109.0E-09	-105.0E-09	-93.6E-09	-104.5E-09
Statistics												
Min	-152.5E-09	-129.5E-09	-123.0E-09	-132.0E-09	-114.5E-09	-109.0E-09	-109.0E-09	-97.5E-09	-109.0E-09	-105.0E-09	-93.6E-09	-104.5E-09
Max	-132.5E-09	-108.5E-09	-108.0E-09	-130.0E-09	-103.0E-09	-96.0E-09	-96.0E-09	-87.3E-09	-96.5E-09	-92.7E-09	-83.0E-09	-91.6E-09
Average	-142.5E-09	-119.0E-09	-115.5E-09	-131.0E-09	-108.8E-09	-102.5E-09	-102.5E-09	-92.4E-09	-102.8E-09	-98.9E-09	-88.3E-09	-98.1E-09
Sigma	10.0E-09	10.5E-09	7.5E-09	1000.0E-12	5.8E-09	6.5E-09	6.5E-09	5.1E-09	6.3E-09	6.1E-09	5.3E-09	6.4E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)ck_sp

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

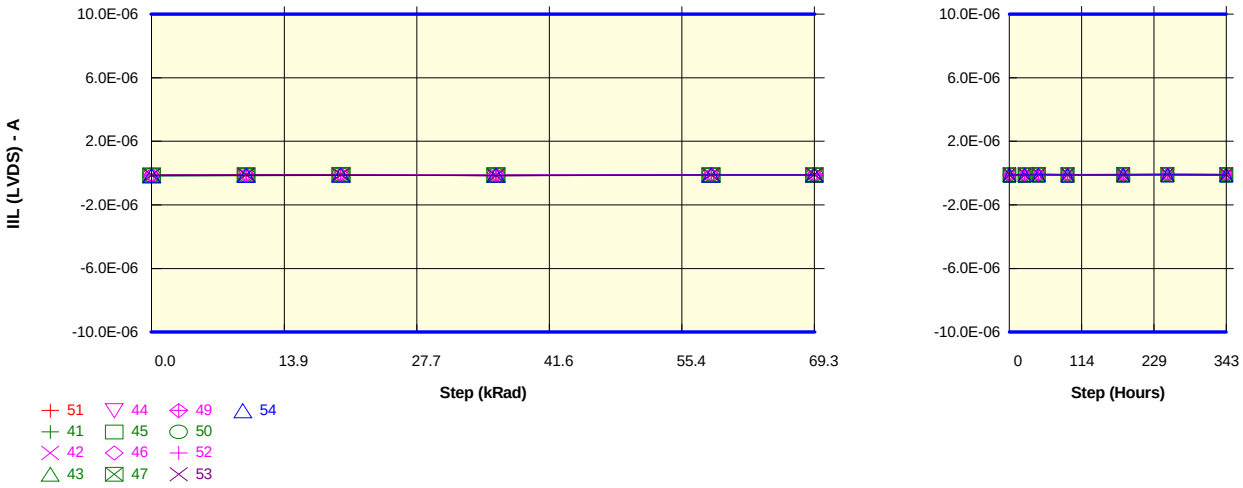
IIL (LVDS)ck_sp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-88.0E-09	-74.7E-09	-74.6E-09	-81.1E-09	-88.6E-09	-90.4E-09	-90.4E-09	-75.6E-09	-91.1E-09	-77.6E-09	-69.9E-09	-81.6E-09
ON samples												
41	-178.5E-09	-135.5E-09	-122.0E-09	-143.5E-09	-122.5E-09	-123.0E-09	-123.0E-09	-106.0E-09	-110.5E-09	-107.0E-09	-98.0E-09	-113.5E-09
42	-153.0E-09	-124.5E-09	-109.5E-09	-90.2E-09	-113.0E-09	-115.5E-09	-115.5E-09	-97.5E-09	-103.0E-09	-99.0E-09	-90.5E-09	-105.0E-09
43	-114.0E-09	-95.0E-09	-81.4E-09	-113.5E-09	-85.9E-09	-87.8E-09	-87.8E-09	-73.8E-09	-80.2E-09	-76.2E-09	-69.0E-09	-81.8E-09
44	-119.5E-09	-103.0E-09	-88.0E-09	-102.5E-09	-95.5E-09	-96.0E-09	-96.0E-09	-81.9E-09	-90.5E-09	-84.8E-09	-76.8E-09	-90.6E-09
45	-154.5E-09	-136.0E-09	-115.0E-09	-99.0E-09	-122.0E-09	-123.0E-09	-123.0E-09	-107.0E-09	-117.0E-09	-111.0E-09	-100.5E-09	-116.0E-09
46	-132.5E-09	-117.5E-09	-94.2E-09	-147.0E-09	-110.0E-09	-110.0E-09	-110.0E-09	-97.5E-09	-106.0E-09	-99.5E-09	-89.6E-09	-104.0E-09
47	-104.5E-09	-97.5E-09	-76.8E-09	-138.0E-09	-87.4E-09	-88.8E-09	-88.8E-09	-76.9E-09	-85.1E-09	-80.9E-09	-72.7E-09	-82.6E-09
49	-132.0E-09	-115.0E-09	-92.2E-09	-101.0E-09	-103.5E-09	-101.0E-09	-101.0E-09	-87.5E-09	-97.5E-09	-92.9E-09	-83.7E-09	-93.9E-09
50	-112.0E-09	-92.7E-09	-75.9E-09	-122.5E-09	-79.7E-09	-80.1E-09	-80.1E-09	-70.2E-09	-78.1E-09	-74.8E-09	-67.0E-09	-74.7E-09
52	-114.5E-09	-90.2E-09	-87.3E-09	-98.5E-09	-82.9E-09	-81.3E-09	-81.3E-09	-71.0E-09	-78.5E-09	-75.8E-09	-67.6E-09	-75.0E-09
Statistics												
Min	-178.5E-09	-136.0E-09	-122.0E-09	-147.0E-09	-122.5E-09	-123.0E-09	-123.0E-09	-107.0E-09	-117.0E-09	-111.0E-09	-100.5E-09	-116.0E-09
Max	-104.5E-09	-90.2E-09	-75.9E-09	-90.2E-09	-79.7E-09	-80.1E-09	-80.1E-09	-70.2E-09	-78.1E-09	-74.8E-09	-67.0E-09	-74.7E-09
Average	-131.5E-09	-110.7E-09	-94.2E-09	-115.6E-09	-100.2E-09	-100.6E-09	-100.6E-09	-86.9E-09	-94.6E-09	-90.2E-09	-81.5E-09	-93.7E-09
Sigma	22.5E-09	16.5E-09	15.3E-09	19.8E-09	15.3E-09	15.6E-09	15.6E-09	13.5E-09	13.5E-09	12.8E-09	12.0E-09	14.5E-09

Measurements

IIL (LVDS)ck_sp	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-88.0E-09	-74.7E-09	-74.6E-09	-81.1E-09	-88.6E-09	-90.4E-09	-90.4E-09	-75.6E-09	-91.1E-09	-77.6E-09	-69.9E-09	-81.6E-09
OFF samples												
53	-103.5E-09	-83.6E-09	-82.9E-09	-146.5E-09	-78.6E-09	-73.2E-09	-73.2E-09	-66.8E-09	-73.9E-09	-71.3E-09	-63.4E-09	-70.4E-09
54	-161.0E-09	-136.5E-09	-131.0E-09	-118.5E-09	-123.5E-09	-116.0E-09	-116.0E-09	-105.0E-09	-117.5E-09	-113.0E-09	-101.5E-09	-112.5E-09
Statistics												
Min	-161.0E-09	-136.5E-09	-131.0E-09	-146.5E-09	-123.5E-09	-116.0E-09	-116.0E-09	-105.0E-09	-117.5E-09	-113.0E-09	-101.5E-09	-112.5E-09
Max	-103.5E-09	-83.6E-09	-82.9E-09	-118.5E-09	-78.6E-09	-73.2E-09	-73.2E-09	-66.8E-09	-73.9E-09	-71.3E-09	-63.4E-09	-70.4E-09
Average	-132.3E-09	-110.0E-09	-106.9E-09	-132.5E-09	-101.0E-09	-94.6E-09	-94.6E-09	-85.9E-09	-95.7E-09	-92.1E-09	-82.5E-09	-91.5E-09
Sigma	28.8E-09	26.5E-09	24.1E-09	14.0E-09	22.5E-09	21.4E-09	21.4E-09	19.1E-09	21.8E-09	20.9E-09	19.1E-09	21.1E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)ck_sn

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

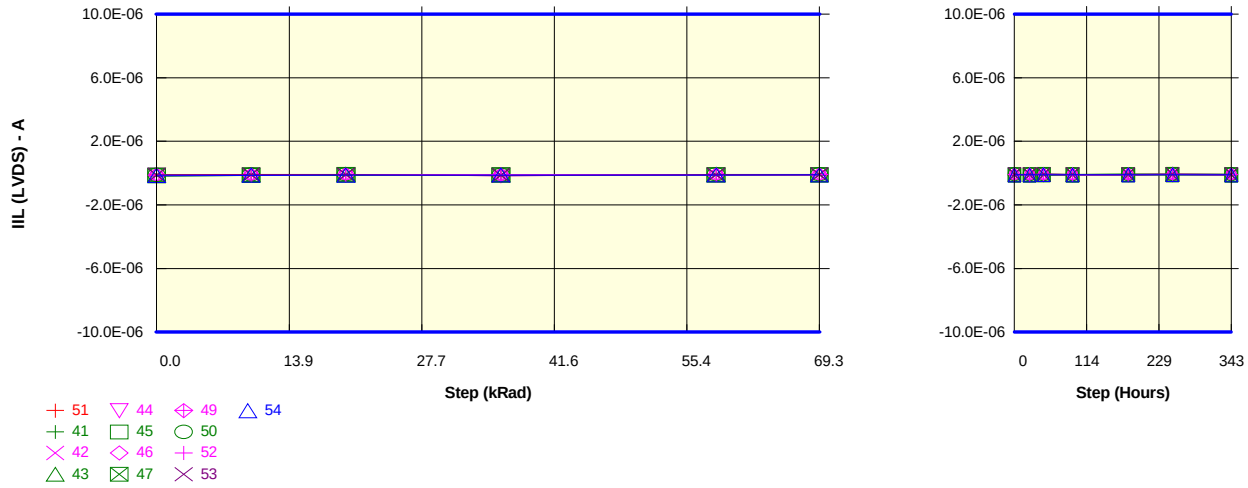
IIL (LVDS)ck_sn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-105.0E-09	-88.7E-09	-88.8E-09	-98.5E-09	-105.5E-09	-109.0E-09	-109.0E-09	-89.6E-09	-109.5E-09	-92.2E-09	-84.0E-09	-98.0E-09
ON samples												
41	-171.5E-09	-132.0E-09	-119.5E-09	-144.5E-09	-121.0E-09	-122.5E-09	-122.5E-09	-106.5E-09	-111.5E-09	-106.0E-09	-98.0E-09	-111.5E-09
42	-141.5E-09	-115.5E-09	-103.5E-09	-97.0E-09	-106.5E-09	-109.0E-09	-109.0E-09	-90.8E-09	-98.5E-09	-95.0E-09	-85.6E-09	-99.5E-09
43	-110.0E-09	-91.5E-09	-79.9E-09	-122.5E-09	-84.3E-09	-86.2E-09	-86.2E-09	-72.5E-09	-78.7E-09	-74.9E-09	-68.7E-09	-80.3E-09
44	-128.0E-09	-111.0E-09	-96.5E-09	-102.0E-09	-104.0E-09	-105.0E-09	-105.0E-09	-88.4E-09	-100.0E-09	-91.6E-09	-83.9E-09	-98.5E-09
45	-169.0E-09	-149.5E-09	-127.5E-09	-92.5E-09	-135.5E-09	-136.5E-09	-136.5E-09	-120.5E-09	-132.5E-09	-124.0E-09	-113.5E-09	-128.5E-09
46	-132.0E-09	-119.5E-09	-96.5E-09	-146.0E-09	-111.5E-09	-112.0E-09	-112.0E-09	-99.0E-09	-109.0E-09	-102.0E-09	-91.3E-09	-105.0E-09
47	-104.0E-09	-97.0E-09	-75.6E-09	-131.5E-09	-86.3E-09	-87.7E-09	-87.7E-09	-75.8E-09	-84.4E-09	-80.0E-09	-73.0E-09	-81.6E-09
49	-139.5E-09	-121.0E-09	-98.5E-09	-100.5E-09	-111.5E-09	-109.0E-09	-109.0E-09	-96.0E-09	-107.5E-09	-101.0E-09	-90.7E-09	-102.0E-09
50	-126.0E-09	-104.5E-09	-85.9E-09	-124.5E-09	-88.9E-09	-89.1E-09	-89.1E-09	-78.1E-09	-87.2E-09	-83.2E-09	-75.5E-09	-83.0E-09
52	-110.5E-09	-85.7E-09	-82.1E-09	-109.5E-09	-78.0E-09	-76.3E-09	-76.3E-09	-66.6E-09	-74.2E-09	-71.4E-09	-64.3E-09	-70.8E-09
Statistics												
Min	-171.5E-09	-149.5E-09	-127.5E-09	-146.0E-09	-135.5E-09	-136.5E-09	-136.5E-09	-120.5E-09	-132.5E-09	-124.0E-09	-113.5E-09	-128.5E-09
Max	-104.0E-09	-85.7E-09	-75.6E-09	-92.5E-09	-78.0E-09	-76.3E-09	-76.3E-09	-66.6E-09	-74.2E-09	-71.4E-09	-64.3E-09	-70.8E-09
Average	-133.2E-09	-112.7E-09	-96.5E-09	-117.0E-09	-102.7E-09	-103.3E-09	-103.3E-09	-89.4E-09	-98.3E-09	-92.9E-09	-84.4E-09	-96.1E-09
Sigma	22.0E-09	18.3E-09	16.1E-09	18.6E-09	17.3E-09	17.6E-09	17.6E-09	15.9E-09	16.8E-09	15.3E-09	14.1E-09	16.4E-09

Measurements

IIL (LVDS)ck_sn	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-105.0E-09	-88.7E-09	-88.8E-09	-98.5E-09	-105.5E-09	-109.0E-09	-109.0E-09	-89.6E-09	-109.5E-09	-92.2E-09	-84.0E-09	-98.0E-09
OFF samples												
53	-110.0E-09	-88.7E-09	-87.7E-09	-162.5E-09	-82.9E-09	-77.4E-09	-77.4E-09	-71.1E-09	-78.4E-09	-75.6E-09	-67.8E-09	-74.6E-09
54	-163.0E-09	-138.0E-09	-131.5E-09	-127.0E-09	-124.5E-09	-117.5E-09	-117.5E-09	-106.5E-09	-120.0E-09	-113.5E-09	-103.0E-09	-113.5E-09
Statistics												
Min	-163.0E-09	-138.0E-09	-131.5E-09	-162.5E-09	-124.5E-09	-117.5E-09	-117.5E-09	-106.5E-09	-120.0E-09	-113.5E-09	-103.0E-09	-113.5E-09
Max	-110.0E-09	-88.7E-09	-87.7E-09	-127.0E-09	-82.9E-09	-77.4E-09	-77.4E-09	-71.1E-09	-78.4E-09	-75.6E-09	-67.8E-09	-74.6E-09
Average	-136.5E-09	-113.3E-09	-109.6E-09	-144.8E-09	-103.7E-09	-97.4E-09	-97.4E-09	-88.8E-09	-99.2E-09	-94.5E-09	-85.4E-09	-94.1E-09
Sigma	26.5E-09	24.7E-09	21.9E-09	17.7E-09	20.8E-09	20.1E-09	20.1E-09	17.7E-09	20.8E-09	19.0E-09	17.6E-09	19.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)sdi9p

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

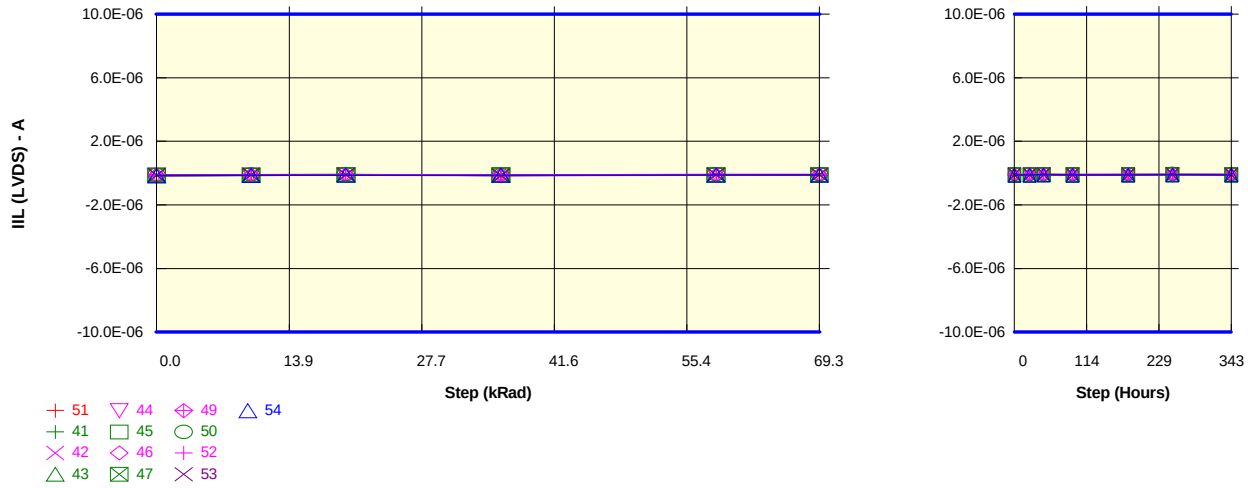
IIL (LVDS)sdi 9p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-96.5E-09	-80.9E-09	-81.0E-09	-87.8E-09	-96.5E-09	-98.0E-09	-98.0E-09	-81.7E-09	-98.5E-09	-83.7E-09	-75.9E-09	-87.6E-09
ON samples												
41	-185.5E-09	-142.0E-09	-128.5E-09	-132.5E-09	-130.5E-09	-130.0E-09	-130.0E-09	-112.0E-09	-117.0E-09	-113.5E-09	-103.5E-09	-119.5E-09
42	-139.0E-09	-112.0E-09	-100.0E-09	-95.0E-09	-104.0E-09	-107.0E-09	-107.0E-09	-89.8E-09	-96.5E-09	-92.3E-09	-84.2E-09	-98.5E-09
43	-105.0E-09	-87.1E-09	-74.8E-09	-115.0E-09	-79.3E-09	-80.7E-09	-80.7E-09	-67.8E-09	-73.8E-09	-69.9E-09	-63.5E-09	-74.9E-09
44	-122.0E-09	-105.0E-09	-89.3E-09	-104.5E-09	-97.5E-09	-98.5E-09	-98.5E-09	-84.1E-09	-92.3E-09	-86.8E-09	-79.0E-09	-92.5E-09
45	-159.0E-09	-140.5E-09	-120.5E-09	-97.5E-09	-127.0E-09	-126.0E-09	-126.0E-09	-111.5E-09	-122.0E-09	-114.5E-09	-105.0E-09	-119.0E-09
46	-121.0E-09	-108.0E-09	-85.9E-09	-155.5E-09	-102.5E-09	-101.0E-09	-101.0E-09	-89.2E-09	-97.0E-09	-90.8E-09	-82.1E-09	-96.0E-09
47	-105.5E-09	-99.0E-09	-78.6E-09	-128.5E-09	-89.6E-09	-90.4E-09	-90.4E-09	-78.5E-09	-86.9E-09	-82.2E-09	-74.3E-09	-83.4E-09
49	-128.0E-09	-113.0E-09	-90.3E-09	-92.8E-09	-101.5E-09	-100.0E-09	-100.0E-09	-86.1E-09	-96.5E-09	-91.6E-09	-82.6E-09	-92.2E-09
50	-106.5E-09	-87.9E-09	-73.2E-09	-112.0E-09	-76.4E-09	-76.8E-09	-76.8E-09	-67.4E-09	-74.8E-09	-71.5E-09	-64.0E-09	-71.1E-09
52	-116.5E-09	-90.6E-09	-86.0E-09	-93.6E-09	-81.0E-09	-79.4E-09	-79.4E-09	-69.7E-09	-77.2E-09	-74.1E-09	-66.3E-09	-73.3E-09
Statistics												
Min	-185.5E-09	-142.0E-09	-128.5E-09	-155.5E-09	-130.5E-09	-130.0E-09	-130.0E-09	-112.0E-09	-122.0E-09	-114.5E-09	-105.0E-09	-119.5E-09
Max	-105.0E-09	-87.1E-09	-73.2E-09	-92.8E-09	-76.4E-09	-76.8E-09	-76.8E-09	-67.4E-09	-73.8E-09	-69.9E-09	-63.5E-09	-71.1E-09
Average	-128.8E-09	-108.5E-09	-92.7E-09	-112.7E-09	-98.9E-09	-99.0E-09	-99.0E-09	-85.6E-09	-93.4E-09	-88.7E-09	-80.4E-09	-92.0E-09
Sigma	24.7E-09	18.7E-09	17.7E-09	19.6E-09	17.7E-09	17.5E-09	17.5E-09	15.3E-09	15.6E-09	14.9E-09	14.0E-09	16.4E-09

Measurements

IIL (LVDS)sdi 9p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-96.5E-09	-80.9E-09	-81.0E-09	-87.8E-09	-96.5E-09	-98.0E-09	-98.0E-09	-81.7E-09	-98.5E-09	-83.7E-09	-75.9E-09	-87.6E-09
OFF samples												
53	-107.0E-09	-88.0E-09	-86.5E-09	-151.5E-09	-82.5E-09	-77.4E-09	-77.4E-09	-70.9E-09	-78.3E-09	-75.5E-09	-67.3E-09	-74.6E-09
54	-150.5E-09	-127.0E-09	-121.5E-09	-115.5E-09	-114.0E-09	-107.5E-09	-107.5E-09	-96.5E-09	-108.0E-09	-104.5E-09	-92.4E-09	-103.5E-09
Statistics												
Min	-150.5E-09	-127.0E-09	-121.5E-09	-151.5E-09	-114.0E-09	-107.5E-09	-107.5E-09	-96.5E-09	-108.0E-09	-104.5E-09	-92.4E-09	-103.5E-09
Max	-107.0E-09	-88.0E-09	-86.5E-09	-115.5E-09	-82.5E-09	-77.4E-09	-77.4E-09	-70.9E-09	-78.3E-09	-75.5E-09	-67.3E-09	-74.6E-09
Average	-128.8E-09	-107.5E-09	-104.0E-09	-133.5E-09	-98.3E-09	-92.4E-09	-92.4E-09	-83.7E-09	-93.2E-09	-90.0E-09	-79.8E-09	-89.0E-09
Sigma	21.8E-09	19.5E-09	17.5E-09	18.0E-09	15.8E-09	15.1E-09	15.1E-09	12.8E-09	14.9E-09	14.5E-09	12.5E-09	14.5E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)sdi9n

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

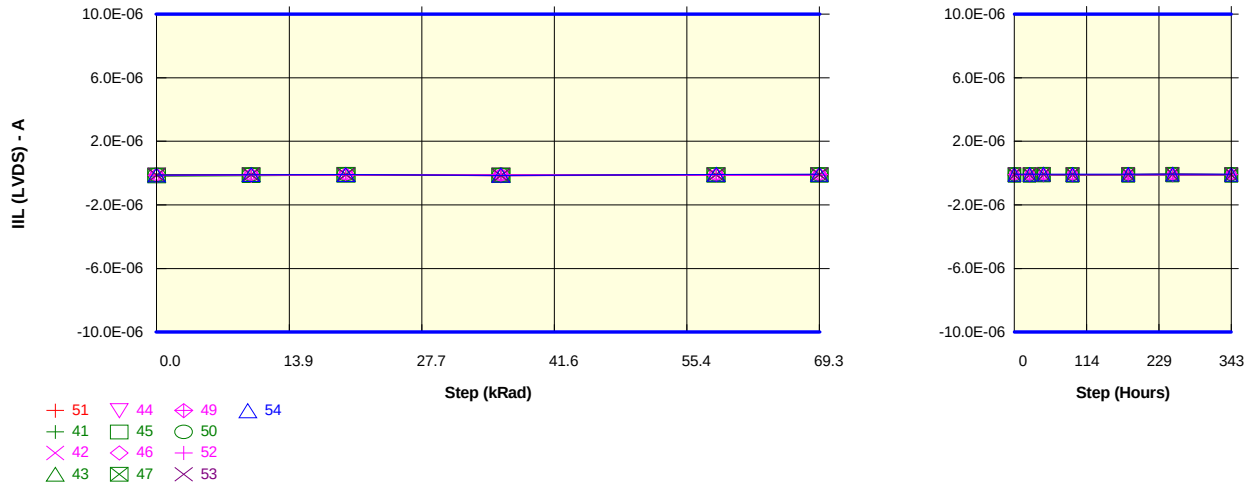
IIL (LVDS)sdi 9n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-91.1E-09	-77.9E-09	-77.8E-09	-84.5E-09	-91.8E-09	-93.6E-09	-93.6E-09	-78.6E-09	-94.4E-09	-80.5E-09	-73.1E-09	-84.3E-09
ON samples												
41	-186.5E-09	-143.0E-09	-130.0E-09	-145.0E-09	-131.0E-09	-131.0E-09	-131.0E-09	-113.5E-09	-118.5E-09	-115.0E-09	-106.5E-09	-121.0E-09
42	-140.0E-09	-114.5E-09	-102.0E-09	-105.5E-09	-106.0E-09	-109.0E-09	-109.0E-09	-91.7E-09	-97.0E-09	-94.1E-09	-86.0E-09	-100.5E-09
43	-111.0E-09	-92.3E-09	-80.3E-09	-122.5E-09	-84.5E-09	-86.0E-09	-86.0E-09	-72.6E-09	-78.8E-09	-74.8E-09	-68.0E-09	-79.9E-09
44	-130.5E-09	-112.5E-09	-96.5E-09	-111.5E-09	-104.0E-09	-105.0E-09	-105.0E-09	-89.6E-09	-99.0E-09	-92.7E-09	-84.7E-09	-99.5E-09
45	-165.0E-09	-145.0E-09	-124.5E-09	-85.2E-09	-132.0E-09	-132.5E-09	-132.5E-09	-116.0E-09	-127.5E-09	-120.0E-09	-109.5E-09	-124.5E-09
46	-148.5E-09	-134.0E-09	-107.0E-09	-156.0E-09	-125.5E-09	-124.5E-09	-124.5E-09	-108.0E-09	-119.0E-09	-112.0E-09	-102.0E-09	-116.0E-09
47	-113.0E-09	-106.0E-09	-84.3E-09	-130.0E-09	-97.5E-09	-98.5E-09	-98.5E-09	-85.2E-09	-95.0E-09	-89.2E-09	-81.0E-09	-90.6E-09
49	-137.0E-09	-120.0E-09	-98.0E-09	-100.0E-09	-109.5E-09	-107.0E-09	-107.0E-09	-92.6E-09	-103.5E-09	-99.0E-09	-89.2E-09	-100.0E-09
50	-104.5E-09	-87.2E-09	-72.3E-09	-137.5E-09	-75.7E-09	-75.6E-09	-75.6E-09	-66.1E-09	-73.6E-09	-70.5E-09	-63.1E-09	-70.2E-09
52	-101.5E-09	-78.7E-09	-75.6E-09	-91.7E-09	-71.1E-09	-69.5E-09	-69.5E-09	-60.6E-09	-67.4E-09	-64.9E-09	-57.8E-09	-64.0E-09
Statistics												
Min	-186.5E-09	-145.0E-09	-130.0E-09	-156.0E-09	-132.0E-09	-132.5E-09	-132.5E-09	-116.0E-09	-127.5E-09	-120.0E-09	-109.5E-09	-124.5E-09
Max	-101.5E-09	-78.7E-09	-72.3E-09	-85.2E-09	-71.1E-09	-69.5E-09	-69.5E-09	-60.6E-09	-67.4E-09	-64.9E-09	-57.8E-09	-64.0E-09
Average	-133.8E-09	-113.3E-09	-97.0E-09	-118.5E-09	-103.7E-09	-103.9E-09	-103.9E-09	-89.6E-09	-97.9E-09	-93.2E-09	-84.7E-09	-96.6E-09
Sigma	26.2E-09	21.8E-09	18.7E-09	22.4E-09	20.8E-09	20.9E-09	20.9E-09	18.2E-09	19.2E-09	18.0E-09	17.0E-09	19.7E-09

Measurements

IIL (LVDS)sdi 9n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-91.1E-09	-77.9E-09	-77.8E-09	-84.5E-09	-91.8E-09	-93.6E-09	-93.6E-09	-78.6E-09	-94.4E-09	-80.5E-09	-73.1E-09	-84.3E-09
OFF samples												
53	-119.0E-09	-98.0E-09	-96.5E-09	-158.0E-09	-90.7E-09	-85.1E-09	-85.1E-09	-78.1E-09	-86.1E-09	-83.2E-09	-74.2E-09	-82.0E-09
54	-163.5E-09	-139.5E-09	-132.5E-09	-124.0E-09	-125.0E-09	-118.0E-09	-118.0E-09	-107.0E-09	-119.5E-09	-114.0E-09	-103.5E-09	-114.0E-09
Statistics												
Min	-163.5E-09	-139.5E-09	-132.5E-09	-158.0E-09	-125.0E-09	-118.0E-09	-118.0E-09	-107.0E-09	-119.5E-09	-114.0E-09	-103.5E-09	-114.0E-09
Max	-119.0E-09	-98.0E-09	-96.5E-09	-124.0E-09	-90.7E-09	-85.1E-09	-85.1E-09	-78.1E-09	-86.1E-09	-83.2E-09	-74.2E-09	-82.0E-09
Average	-141.3E-09	-118.8E-09	-114.5E-09	-141.0E-09	-107.8E-09	-101.6E-09	-101.6E-09	-92.5E-09	-102.8E-09	-98.6E-09	-88.9E-09	-98.0E-09
Sigma	22.3E-09	20.8E-09	18.0E-09	17.0E-09	17.2E-09	16.4E-09	16.4E-09	14.5E-09	16.7E-09	15.4E-09	14.6E-09	16.0E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)sdiAp

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

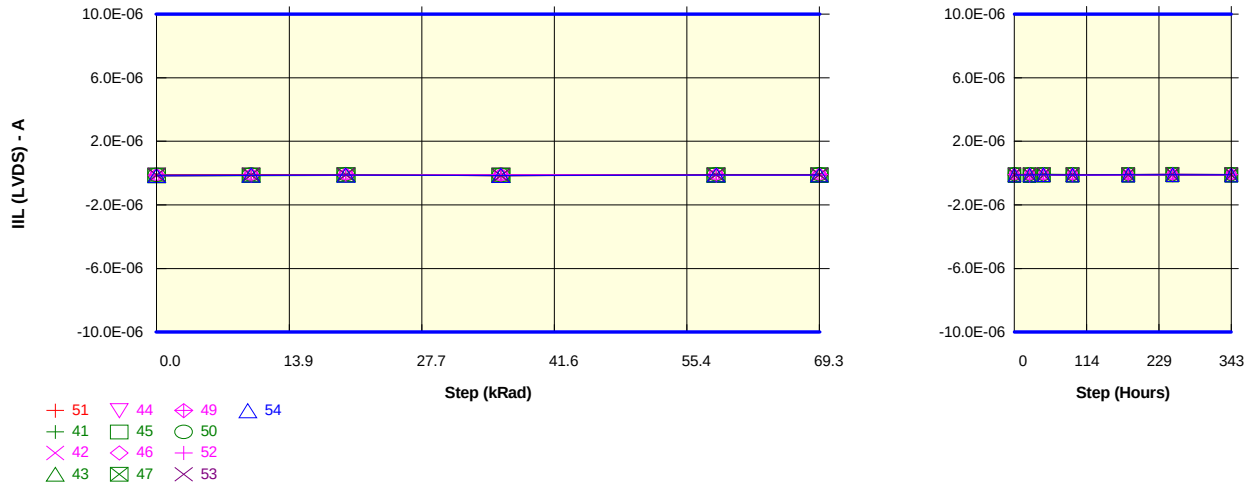
IIL (LVDS)sdi Ap	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-98.0E-09	-81.5E-09	-81.6E-09	-88.8E-09	-97.0E-09	-98.5E-09	-98.5E-09	-82.4E-09	-100.0E-09	-84.7E-09	-77.0E-09	-88.6E-09
ON samples												
41	-189.0E-09	-144.0E-09	-130.5E-09	-96.0E-09	-133.0E-09	-133.5E-09	-133.5E-09	-115.0E-09	-120.0E-09	-115.5E-09	-107.5E-09	-122.0E-09
42	-153.5E-09	-124.5E-09	-111.5E-09	-98.5E-09	-114.5E-09	-117.0E-09	-117.0E-09	-98.5E-09	-105.0E-09	-101.5E-09	-92.1E-09	-106.5E-09
43	-117.0E-09	-98.5E-09	-85.5E-09	-104.5E-09	-90.1E-09	-92.0E-09	-92.0E-09	-77.5E-09	-84.2E-09	-80.0E-09	-72.7E-09	-85.6E-09
44	-109.0E-09	-94.0E-09	-80.6E-09	-104.0E-09	-87.4E-09	-88.1E-09	-88.1E-09	-75.2E-09	-83.1E-09	-77.8E-09	-70.7E-09	-83.0E-09
45	-166.5E-09	-145.5E-09	-124.0E-09	-110.0E-09	-132.0E-09	-132.5E-09	-132.5E-09	-116.0E-09	-127.0E-09	-120.5E-09	-109.0E-09	-125.5E-09
46	-137.0E-09	-121.0E-09	-97.5E-09	-158.5E-09	-113.5E-09	-112.0E-09	-112.0E-09	-99.5E-09	-108.0E-09	-101.0E-09	-91.4E-09	-105.5E-09
47	-105.5E-09	-97.5E-09	-77.8E-09	-139.5E-09	-88.8E-09	-90.0E-09	-90.0E-09	-78.0E-09	-86.2E-09	-82.0E-09	-73.9E-09	-83.6E-09
49	-142.5E-09	-125.5E-09	-101.5E-09	-106.0E-09	-113.0E-09	-111.0E-09	-111.0E-09	-96.5E-09	-107.0E-09	-102.5E-09	-91.6E-09	-103.5E-09
50	-115.0E-09	-96.0E-09	-79.6E-09	-125.0E-09	-82.7E-09	-83.2E-09	-83.2E-09	-72.9E-09	-81.1E-09	-77.4E-09	-69.6E-09	-77.5E-09
52	-130.5E-09	-103.0E-09	-98.5E-09	-101.5E-09	-92.1E-09	-90.2E-09	-90.2E-09	-79.2E-09	-87.4E-09	-84.5E-09	-75.5E-09	-83.6E-09
Statistics												
Min	-189.0E-09	-145.5E-09	-130.5E-09	-158.5E-09	-133.0E-09	-133.5E-09	-133.5E-09	-116.0E-09	-127.0E-09	-120.5E-09	-109.0E-09	-125.5E-09
Max	-105.5E-09	-94.0E-09	-77.8E-09	-96.0E-09	-82.7E-09	-83.2E-09	-83.2E-09	-72.9E-09	-81.1E-09	-77.4E-09	-69.6E-09	-77.5E-09
Average	-136.6E-09	-114.9E-09	-98.7E-09	-114.4E-09	-104.7E-09	-104.9E-09	-104.9E-09	-90.8E-09	-98.9E-09	-94.3E-09	-85.4E-09	-97.6E-09
Sigma	25.6E-09	18.8E-09	17.7E-09	19.3E-09	17.9E-09	17.8E-09	17.8E-09	15.6E-09	15.8E-09	15.2E-09	14.2E-09	16.5E-09

Measurements

IIL (LVDS)sdi Ap	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-98.0E-09	-81.5E-09	-81.6E-09	-88.8E-09	-97.0E-09	-98.5E-09	-98.5E-09	-82.4E-09	-100.0E-09	-84.7E-09	-77.0E-09	-88.6E-09
OFF samples												
53	-111.5E-09	-90.6E-09	-89.2E-09	-158.0E-09	-85.1E-09	-79.6E-09	-79.6E-09	-72.9E-09	-80.5E-09	-77.6E-09	-69.2E-09	-76.8E-09
54	-116.5E-09	-91.6E-09	-84.9E-09	-128.5E-09	-76.4E-09	-70.6E-09	-70.6E-09	-61.5E-09	-71.3E-09	-68.4E-09	-58.6E-09	-67.4E-09
Statistics												
Min	-116.5E-09	-91.6E-09	-89.2E-09	-158.0E-09	-85.1E-09	-79.6E-09	-79.6E-09	-72.9E-09	-80.5E-09	-77.6E-09	-69.2E-09	-76.8E-09
Max	-111.5E-09	-90.6E-09	-84.9E-09	-128.5E-09	-76.4E-09	-70.6E-09	-70.6E-09	-61.5E-09	-71.3E-09	-68.4E-09	-58.6E-09	-67.4E-09
Average	-114.0E-09	-91.1E-09	-87.0E-09	-143.3E-09	-80.7E-09	-75.1E-09	-75.1E-09	-67.2E-09	-75.9E-09	-73.0E-09	-63.9E-09	-72.1E-09
Sigma	2.5E-09	525.0E-12	2.2E-09	14.7E-09	4.3E-09	4.5E-09	4.5E-09	5.7E-09	4.6E-09	4.6E-09	5.3E-09	4.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVDS)sdiAn

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

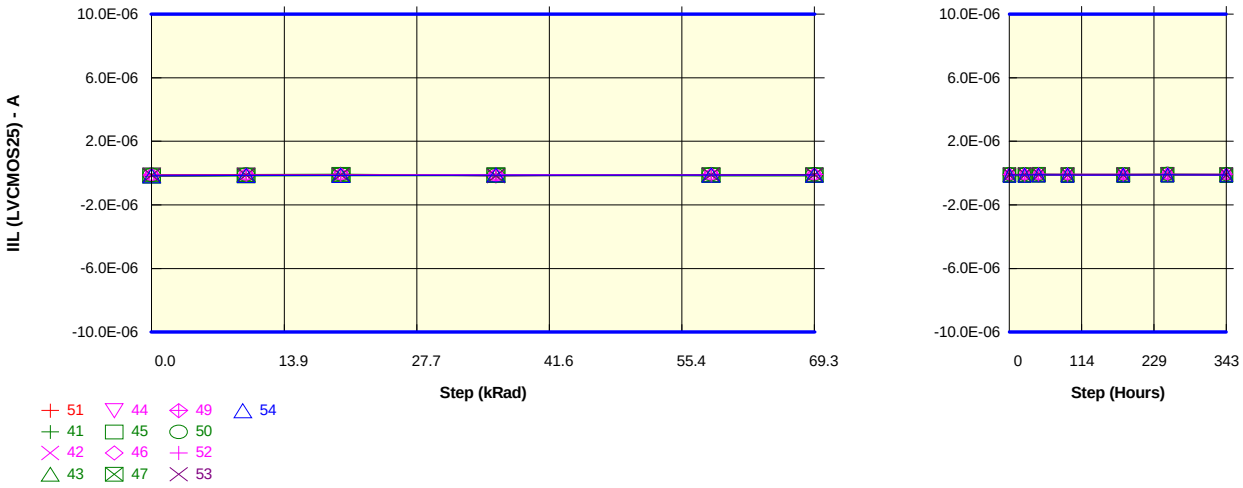
IIL (LVDS)sdi An	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-102.0E-09	-85.6E-09	-85.5E-09	-95.0E-09	-102.0E-09	-103.5E-09	-103.5E-09	-86.4E-09	-104.5E-09	-88.7E-09	-81.5E-09	-92.9E-09
ON samples												
41	-178.5E-09	-137.5E-09	-124.5E-09	-137.0E-09	-126.0E-09	-127.0E-09	-127.0E-09	-110.0E-09	-114.0E-09	-109.5E-09	-102.0E-09	-116.5E-09
42	-162.0E-09	-132.0E-09	-117.5E-09	-103.0E-09	-121.5E-09	-124.5E-09	-124.5E-09	-105.5E-09	-111.5E-09	-108.0E-09	-99.5E-09	-113.5E-09
43	-136.0E-09	-113.5E-09	-98.5E-09	-118.5E-09	-103.5E-09	-105.0E-09	-105.0E-09	-88.4E-09	-96.0E-09	-91.2E-09	-83.4E-09	-98.5E-09
44	-124.5E-09	-108.0E-09	-93.5E-09	-109.5E-09	-101.5E-09	-101.5E-09	-101.5E-09	-86.7E-09	-96.0E-09	-89.5E-09	-81.6E-09	-96.5E-09
45	-169.5E-09	-147.0E-09	-126.5E-09	-105.5E-09	-136.0E-09	-135.5E-09	-135.5E-09	-118.0E-09	-129.5E-09	-122.5E-09	-111.5E-09	-127.5E-09
46	-136.5E-09	-123.5E-09	-99.0E-09	-151.0E-09	-115.0E-09	-114.5E-09	-114.5E-09	-100.5E-09	-110.0E-09	-103.0E-09	-93.0E-09	-107.0E-09
47	-112.5E-09	-104.5E-09	-83.3E-09	-148.0E-09	-95.5E-09	-96.5E-09	-96.5E-09	-82.9E-09	-91.8E-09	-87.3E-09	-78.7E-09	-88.8E-09
49	-155.5E-09	-136.5E-09	-110.0E-09	-120.5E-09	-122.5E-09	-121.0E-09	-121.0E-09	-105.0E-09	-116.5E-09	-112.0E-09	-101.5E-09	-112.5E-09
50	-114.0E-09	-92.2E-09	-76.6E-09	-127.0E-09	-80.9E-09	-81.2E-09	-81.2E-09	-71.0E-09	-79.1E-09	-75.6E-09	-67.8E-09	-75.5E-09
52	-124.5E-09	-98.0E-09	-93.2E-09	-99.0E-09	-88.8E-09	-86.9E-09	-86.9E-09	-76.1E-09	-84.1E-09	-81.0E-09	-72.4E-09	-80.1E-09
Statistics												
Min	-178.5E-09	-147.0E-09	-126.5E-09	-151.0E-09	-136.0E-09	-135.5E-09	-135.5E-09	-118.0E-09	-129.5E-09	-122.5E-09	-111.5E-09	-127.5E-09
Max	-112.5E-09	-92.2E-09	-76.6E-09	-99.0E-09	-80.9E-09	-81.2E-09	-81.2E-09	-71.0E-09	-79.1E-09	-75.6E-09	-67.8E-09	-75.5E-09
Average	-141.4E-09	-119.3E-09	-102.3E-09	-121.9E-09	-109.1E-09	-109.4E-09	-109.4E-09	-94.4E-09	-102.8E-09	-97.9E-09	-89.1E-09	-101.6E-09
Sigma	22.4E-09	17.7E-09	16.1E-09	17.6E-09	16.9E-09	17.1E-09	17.1E-09	14.8E-09	15.1E-09	14.4E-09	13.7E-09	15.9E-09

Measurements

IIL (LVDS)sdi An	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-102.0E-09	-85.6E-09	-85.5E-09	-95.0E-09	-102.0E-09	-103.5E-09	-103.5E-09	-86.4E-09	-104.5E-09	-88.7E-09	-81.5E-09	-92.9E-09
OFF samples												
53	-116.5E-09	-96.0E-09	-94.0E-09	-161.0E-09	-89.6E-09	-84.2E-09	-84.2E-09	-77.0E-09	-85.2E-09	-82.0E-09	-73.3E-09	-81.1E-09
54	-153.0E-09	-130.5E-09	-125.5E-09	-139.5E-09	-117.0E-09	-110.0E-09	-110.0E-09	-99.0E-09	-111.5E-09	-107.5E-09	-96.0E-09	-106.5E-09
Statistics												
Min	-153.0E-09	-130.5E-09	-125.5E-09	-161.0E-09	-117.0E-09	-110.0E-09	-110.0E-09	-99.0E-09	-111.5E-09	-107.5E-09	-96.0E-09	-106.5E-09
Max	-116.5E-09	-96.0E-09	-94.0E-09	-139.5E-09	-89.6E-09	-84.2E-09	-84.2E-09	-77.0E-09	-85.2E-09	-82.0E-09	-73.3E-09	-81.1E-09
Average	-134.8E-09	-113.3E-09	-109.8E-09	-150.3E-09	-103.3E-09	-97.1E-09	-97.1E-09	-88.0E-09	-98.3E-09	-94.7E-09	-84.6E-09	-93.8E-09
Sigma	18.3E-09	17.2E-09	15.8E-09	10.7E-09	13.7E-09	12.9E-09	12.9E-09	11.0E-09	13.2E-09	12.8E-09	11.4E-09	12.7E-09

Test conditions : TID
Parameter : Input Leakage Current : IIL (LVCMOS25)

Unit : A
Spec Limit Min : -10.0E-06
Spec Limit Max : 10.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

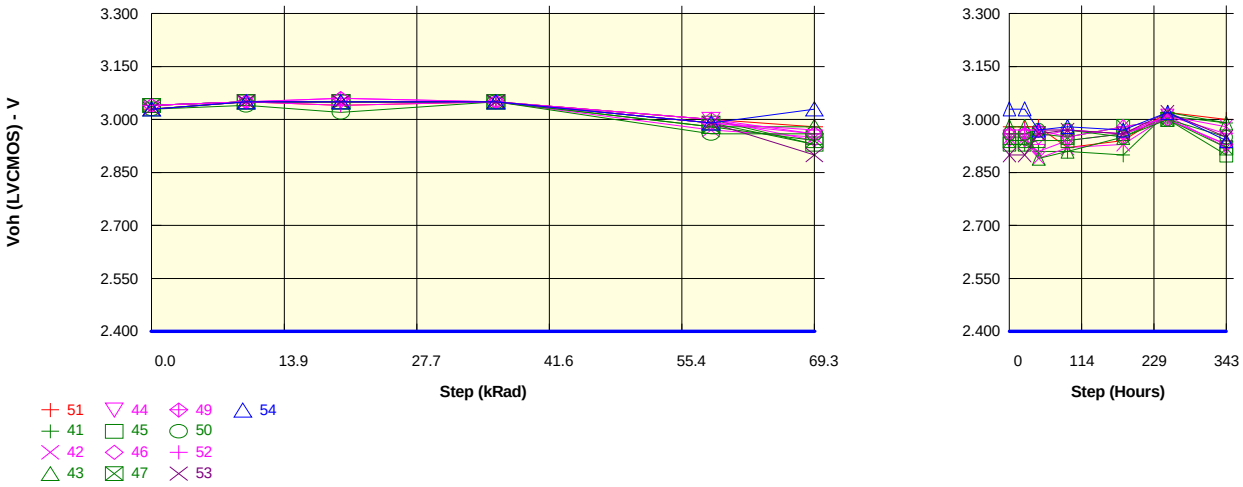
IIL (LVCMOS 25)	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-97.0E-09	-78.6E-09	-79.2E-09	-86.1E-09	-93.3E-09	-96.0E-09	-96.0E-09	-78.9E-09	-96.0E-09	-81.2E-09	-73.5E-09	-85.2E-09
ON samples												
41	-209.5E-09	-163.0E-09	-148.5E-09	-147.5E-09	-146.0E-09	-146.5E-09	-146.5E-09	-125.0E-09	-131.0E-09	-128.5E-09	-118.5E-09	-135.5E-09
42	-158.0E-09	-128.5E-09	-115.0E-09	-111.5E-09	-120.5E-09	-122.0E-09	-122.0E-09	-102.0E-09	-108.5E-09	-105.5E-09	-97.5E-09	-113.5E-09
43	-110.5E-09	-90.7E-09	-78.8E-09	-119.5E-09	-85.3E-09	-86.6E-09	-86.6E-09	-72.3E-09	-79.1E-09	-75.2E-09	-69.5E-09	-81.1E-09
44	-126.0E-09	-107.5E-09	-93.1E-09	-106.0E-09	-99.5E-09	-101.0E-09	-101.0E-09	-85.3E-09	-95.0E-09	-88.7E-09	-81.0E-09	-96.0E-09
45	-188.5E-09	-164.0E-09	-139.5E-09	-89.9E-09	-148.5E-09	-148.5E-09	-148.5E-09	-130.0E-09	-143.0E-09	-135.5E-09	-124.5E-09	-142.0E-09
46	-147.0E-09	-133.0E-09	-107.5E-09	-178.0E-09	-123.5E-09	-124.0E-09	-124.0E-09	-107.0E-09	-119.0E-09	-112.0E-09	-102.0E-09	-116.0E-09
47	-107.0E-09	-100.0E-09	-77.4E-09	-145.0E-09	-89.6E-09	-91.0E-09	-91.0E-09	-78.2E-09	-87.3E-09	-82.7E-09	-75.0E-09	-84.3E-09
49	-127.5E-09	-110.5E-09	-87.5E-09	-101.0E-09	-100.5E-09	-98.5E-09	-98.5E-09	-83.6E-09	-95.0E-09	-89.9E-09	-81.2E-09	-91.0E-09
50	-105.5E-09	-84.4E-09	-70.4E-09	-138.0E-09	-74.1E-09	-74.9E-09	-74.9E-09	-64.6E-09	-72.4E-09	-69.5E-09	-62.4E-09	-69.3E-09
52	-107.0E-09	-82.4E-09	-80.8E-09	-91.1E-09	-74.8E-09	-73.5E-09	-73.5E-09	-64.5E-09	-70.8E-09	-69.6E-09	-62.5E-09	-69.0E-09
Statistics												
Min	-209.5E-09	-164.0E-09	-148.5E-09	-178.0E-09	-148.5E-09	-148.5E-09	-148.5E-09	-130.0E-09	-143.0E-09	-135.5E-09	-124.5E-09	-142.0E-09
Max	-105.5E-09	-82.4E-09	-70.4E-09	-89.9E-09	-74.1E-09	-73.5E-09	-73.5E-09	-64.5E-09	-70.8E-09	-69.5E-09	-62.4E-09	-69.0E-09
Average	-138.7E-09	-116.4E-09	-99.8E-09	-122.7E-09	-106.2E-09	-106.6E-09	-106.6E-09	-91.2E-09	-100.1E-09	-95.7E-09	-87.4E-09	-99.8E-09
Sigma	34.8E-09	28.4E-09	25.7E-09	27.1E-09	25.9E-09	25.9E-09	25.9E-09	22.5E-09	23.5E-09	22.5E-09	21.1E-09	24.6E-09

Measurements

IIL (LVCMOS 25)	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	-97.0E-09	-78.6E-09	-79.2E-09	-86.1E-09	-93.3E-09	-96.0E-09	-96.0E-09	-78.9E-09	-96.0E-09	-81.2E-09	-73.5E-09	-85.2E-09
OFF samples												
53	-125.0E-09	-102.0E-09	-102.0E-09	-177.0E-09	-96.0E-09	-88.9E-09	-88.9E-09	-81.0E-09	-89.8E-09	-86.7E-09	-77.7E-09	-85.7E-09
54	-166.0E-09	-140.5E-09	-135.5E-09	-115.5E-09	-125.5E-09	-118.0E-09	-118.0E-09	-105.5E-09	-118.0E-09	-114.5E-09	-102.5E-09	-113.5E-09
Statistics												
Min	-166.0E-09	-140.5E-09	-135.5E-09	-177.0E-09	-125.5E-09	-118.0E-09	-118.0E-09	-105.5E-09	-118.0E-09	-114.5E-09	-102.5E-09	-113.5E-09
Max	-125.0E-09	-102.0E-09	-102.0E-09	-115.5E-09	-96.0E-09	-88.9E-09	-88.9E-09	-81.0E-09	-89.8E-09	-86.7E-09	-77.7E-09	-85.7E-09
Average	-145.5E-09	-121.3E-09	-118.8E-09	-146.3E-09	-110.8E-09	-103.5E-09	-103.5E-09	-93.2E-09	-103.9E-09	-100.6E-09	-90.1E-09	-99.6E-09
Sigma	20.5E-09	19.3E-09	16.7E-09	30.8E-09	14.7E-09	14.6E-09	14.6E-09	12.3E-09	14.1E-09	13.9E-09	12.4E-09	13.9E-09

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd8n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

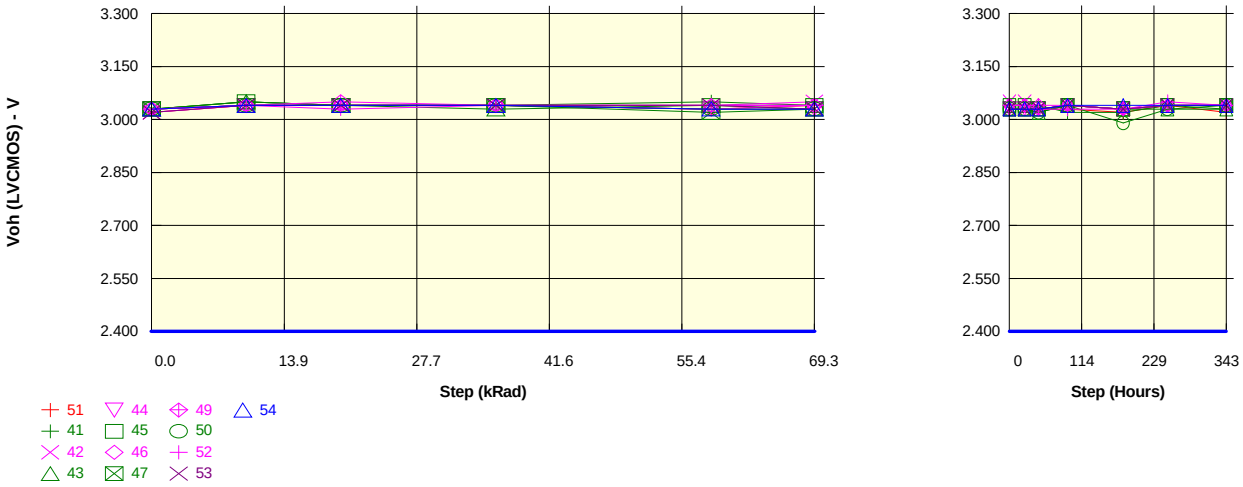
Voh (LVCMOS)srd8n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.040	3.050	3.000	2.980	2.980	2.980	2.920	2.940	3.020	3.000
ON samples												
41	3.040	3.050	3.050	3.050	3.000	2.930	2.930	2.910	2.910	2.900	3.020	2.990
42	3.040	3.050	3.050	3.050	2.970	2.950	2.950	2.890	2.920	2.930	3.010	2.980
43	3.030	3.050	3.050	3.050	2.980	2.980	2.980	2.890	2.910	2.950	3.010	2.990
44	3.040	3.050	3.050	3.050	3.000	2.940	2.940	2.910	2.940	2.960	3.010	2.920
45	3.040	3.050	3.050	3.050	2.990	2.930	2.930	2.940	2.940	2.960	3.000	2.900
46	3.040	3.050	3.060	3.050	3.000	2.960	2.960	2.950	2.970	2.960	3.000	2.930
47	3.040	3.050	3.050	3.050	2.980	2.940	2.940	2.960	2.950	2.980	3.000	2.920
49	3.040	3.050	3.060	3.050	2.990	2.960	2.960	2.970	2.950	2.980	3.000	2.930
50	3.030	3.040	3.020	3.050	2.960	2.960	2.960	2.970	2.970	2.950	3.000	2.950
52	3.040	3.050	3.040	3.050	2.990	2.970	2.970	2.970	2.970	2.960	3.010	2.960
Statistics												
Min	3.030	3.040	3.020	3.050	2.960	2.930	2.930	2.890	2.910	2.900	3.000	2.900
Max	3.040	3.050	3.060	3.050	3.000	2.980	2.980	2.970	2.970	2.980	3.020	2.990
Average	3.038	3.049	3.048	3.050	2.986	2.952	2.952	2.936	2.943	2.953	3.006	2.947
Sigma	0.004	0.003	0.011	0.000	0.013	0.016	0.016	0.031	0.022	0.022	0.007	0.030

Measurements

Voh (LVCMOS)srd8n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.040	3.050	3.000	2.980	2.980	2.980	2.920	2.940	3.020	3.000
OFF samples												
53	3.030	3.050	3.050	3.050	2.990	2.900	2.900	2.960	2.970	2.960	3.020	2.950
54	3.030	3.050	3.050	3.050	2.990	3.030	3.030	2.970	2.980	2.970	3.020	2.940
Statistics												
Min	3.030	3.050	3.050	3.050	2.990	2.900	2.900	2.960	2.970	2.960	3.020	2.940
Max	3.030	3.050	3.050	3.050	2.990	3.030	3.030	2.970	2.980	2.970	3.020	2.950
Average	3.030	3.050	3.050	3.050	2.990	2.965	2.965	2.965	2.975	2.965	3.020	2.945
Sigma	0.000	0.000	0.000	0.000	0.000	0.065	0.065	0.005	0.005	0.005	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd7n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

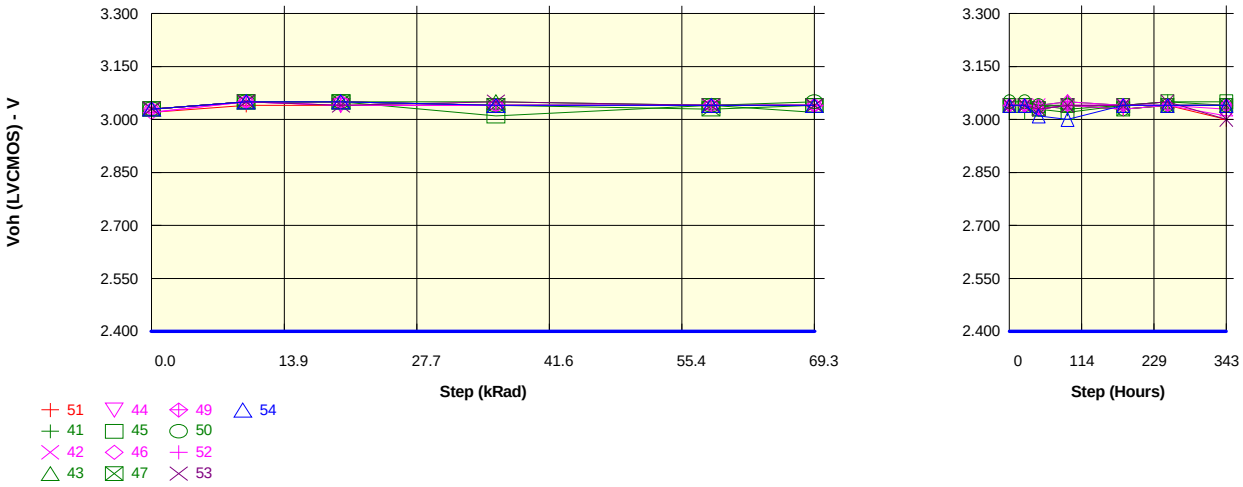
Voh (LVCMOS)srd7n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.020	3.040	3.020
ON samples												
41	3.030	3.050	3.040	3.040	3.050	3.040	3.040	3.040	3.020	3.020	3.040	3.030
42	3.020	3.040	3.040	3.040	3.040	3.050	3.050	3.030	3.040	3.030	3.040	3.040
43	3.030	3.050	3.040	3.030	3.040	3.030	3.030	3.020	3.040	3.030	3.030	3.030
44	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
45	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
46	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.040	3.030	3.040	3.040
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	2.990	3.030	3.040
52	3.030	3.040	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.050	3.040
Statistics												
Min	3.020	3.040	3.030	3.030	3.020	3.030	3.030	3.020	3.020	2.990	3.030	3.030
Max	3.030	3.050	3.050	3.040	3.050	3.050	3.050	3.040	3.040	3.030	3.050	3.040
Average	3.029	3.043	3.040	3.039	3.036	3.037	3.037	3.030	3.037	3.025	3.039	3.038
Sigma	0.003	0.005	0.004	0.003	0.008	0.006	0.006	0.006	0.006	0.012	0.005	0.004

Measurements

Voh (LVCMOS)srd7n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.020	3.040	3.020
OFF samples												
53	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Average	3.025	3.040	3.040	3.040	3.035	3.030	3.030	3.030	3.040	3.035	3.040	3.040
Sigma	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd6n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

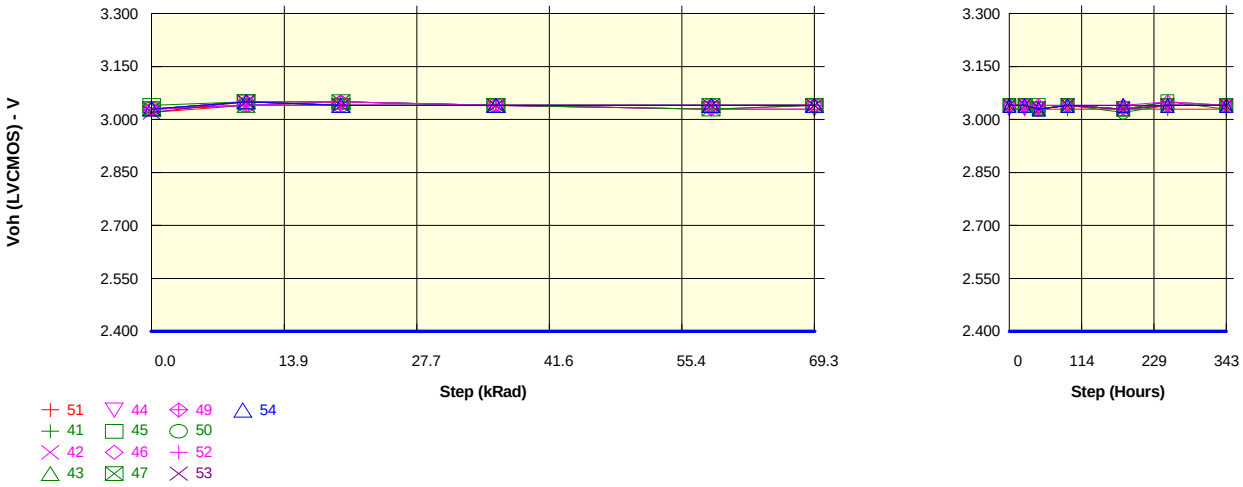
Voh (LVCMOS)srd6n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.000
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.020	3.020	3.040	3.030	3.040	3.050	3.040
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030
43	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.040	3.040
44	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
45	3.030	3.050	3.050	3.010	3.040	3.040	3.040	3.030	3.020	3.040	3.050	3.050
46	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
47	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040	3.040	3.040
50	3.030	3.050	3.050	3.040	3.040	3.050	3.050	3.040	3.040	3.030	3.040	3.040
52	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.010
Statistics												
Min	3.020	3.050	3.040	3.010	3.030	3.020	3.020	3.030	3.020	3.030	3.040	3.010
Max	3.030	3.050	3.050	3.050	3.040	3.050	3.050	3.040	3.050	3.040	3.050	3.050
Average	3.028	3.050	3.048	3.038	3.039	3.039	3.039	3.035	3.039	3.037	3.042	3.037
Sigma	0.004	0.000	0.004	0.010	0.003	0.007	0.007	0.005	0.008	0.005	0.004	0.010

Measurements

Voh (LVCMOS)srd6n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.000
OFF samples												
53	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.000
54	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.010	3.000	3.040	3.040	3.040
Statistics												
Min	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.010	3.000	3.040	3.040	3.000
Max	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Average	3.030	3.050	3.045	3.045	3.040	3.040	3.040	3.020	3.020	3.040	3.045	3.020
Sigma	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.010	0.020	0.000	0.005	0.020

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd5n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

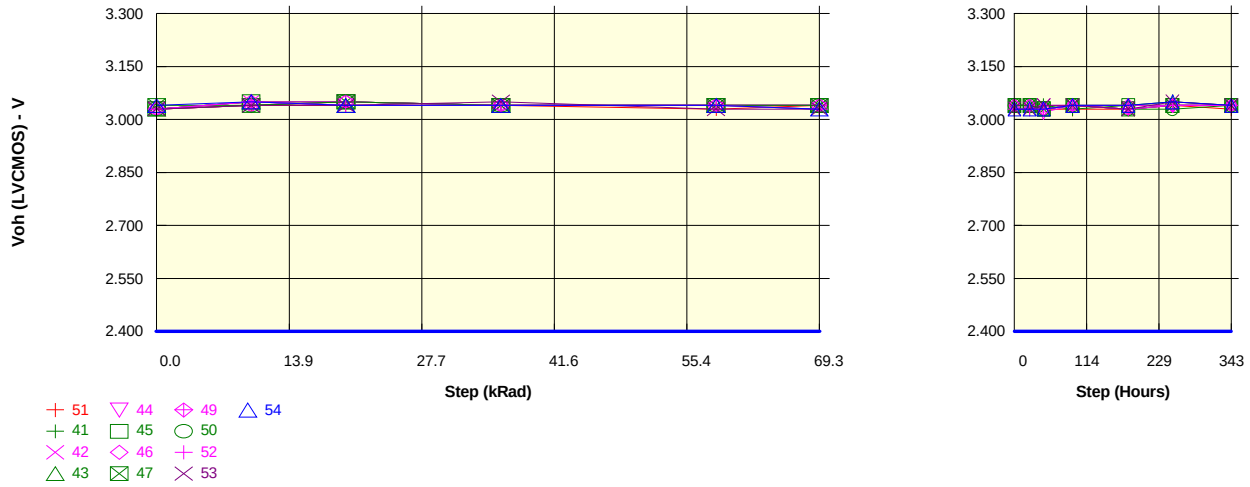
Voh (LVCMOS)srd5n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.030
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.030
42	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
43	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
44	3.030	3.050	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
45	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.040
46	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.020	3.040	3.040
52	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.020	3.040	3.030
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.031	3.045	3.046	3.040	3.037	3.039	3.039	3.032	3.040	3.030	3.043	3.039
Sigma	0.003	0.005	0.005	0.000	0.005	0.003	0.003	0.004	0.000	0.004	0.005	0.003

Measurements

Voh (LVCMOS)srd5n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.030
OFF samples												
53	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.025	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.035	3.040	3.040
Sigma	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd4n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

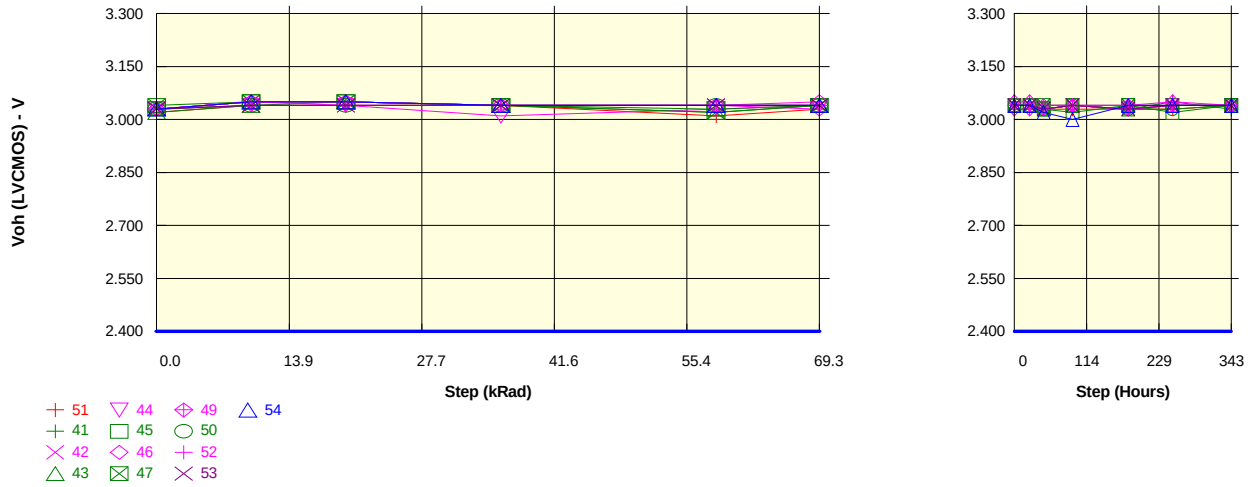
Voh (LVCMOS)srd4n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.030
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.040	3.030	3.040	3.050	3.040
42	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
43	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
44	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.040	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
50	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.040
52	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.020	3.030	3.030	3.030	3.040
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.031	3.046	3.047	3.040	3.040	3.038	3.038	3.031	3.039	3.034	3.040	3.040
Sigma	0.003	0.005	0.005	0.000	0.000	0.004	0.004	0.005	0.003	0.005	0.004	0.000

Measurements

Voh (LVCMOS)srd4n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.050	3.030	3.030	3.030	3.040	3.040	3.030	3.050	3.040
54	3.040	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.050	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.050	3.040
Max	3.040	3.050	3.040	3.050	3.040	3.030	3.030	3.040	3.040	3.040	3.050	3.040
Average	3.035	3.045	3.040	3.045	3.035	3.030	3.030	3.035	3.040	3.035	3.050	3.040
Sigma	0.005	0.005	0.000	0.005	0.005	0.000	0.000	0.005	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd3n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

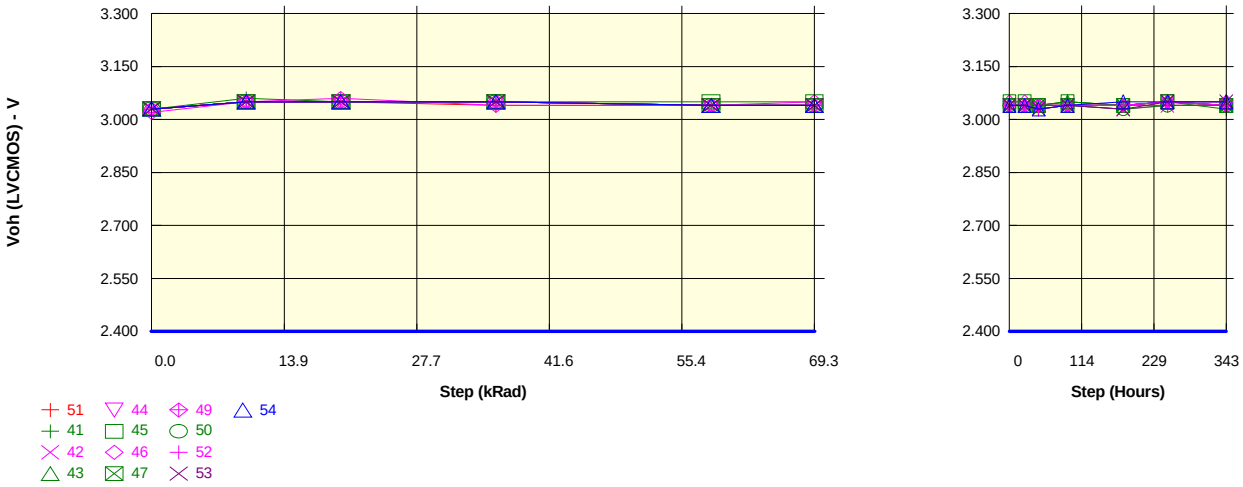
Voh (LVCMOS)srd3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.010	3.030	3.030	3.030	3.030	3.030	3.030	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.030
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
43	3.020	3.040	3.050	3.040	3.020	3.040	3.040	3.030	3.040	3.030	3.040	3.040
44	3.030	3.040	3.040	3.010	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
45	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.030	3.020	3.040	3.020	3.040
46	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
47	3.040	3.050	3.050	3.040	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.050	3.050	3.040	3.040	3.040	3.050	3.040
50	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.040
52	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.010	3.020	3.030	3.030	3.030	3.020	3.030	3.020	3.030
Max	3.040	3.050	3.050	3.040	3.040	3.050	3.050	3.040	3.040	3.040	3.050	3.040
Average	3.030	3.047	3.047	3.037	3.034	3.040	3.040	3.034	3.038	3.034	3.039	3.039
Sigma	0.004	0.005	0.005	0.009	0.008	0.004	0.004	0.005	0.006	0.005	0.008	0.003

Measurements

Voh (LVCMOS)srd3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.010	3.030	3.030	3.030	3.030	3.030	3.030	3.040
OFF samples												
53	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.020	3.000	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.000	3.030	3.040	3.040
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.045	3.045	3.040	3.040	3.040	3.040	3.025	3.020	3.035	3.040	3.040
Sigma	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.005	0.020	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd2n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

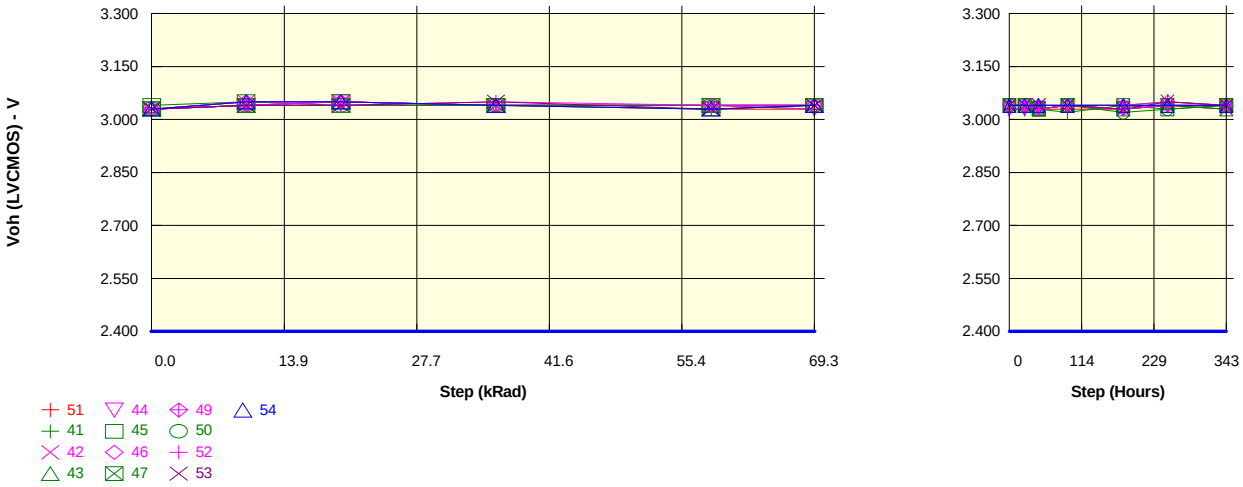
Voh (LVCMOS)srd2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
ON samples												
41	3.030	3.060	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.030
42	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
43	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
44	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
45	3.030	3.050	3.050	3.050	3.050	3.050	3.050	3.040	3.050	3.040	3.050	3.040
46	3.030	3.050	3.050	3.050	3.040	3.050	3.050	3.040	3.040	3.040	3.050	3.040
47	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
49	3.020	3.050	3.060	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.050
50	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
52	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Statistics												
Min	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
Max	3.030	3.060	3.060	3.050	3.050	3.050	3.050	3.040	3.050	3.040	3.050	3.050
Average	3.029	3.051	3.051	3.049	3.041	3.042	3.042	3.039	3.043	3.038	3.048	3.040
Sigma	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.003	0.005	0.004	0.004	0.004

Measurements

Voh (LVCMOS)srd2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
OFF samples												
53	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.050
54	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.050	3.050	3.050
Statistics												
Min	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.050
Max	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.050	3.050	3.050
Average	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.050
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd1n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

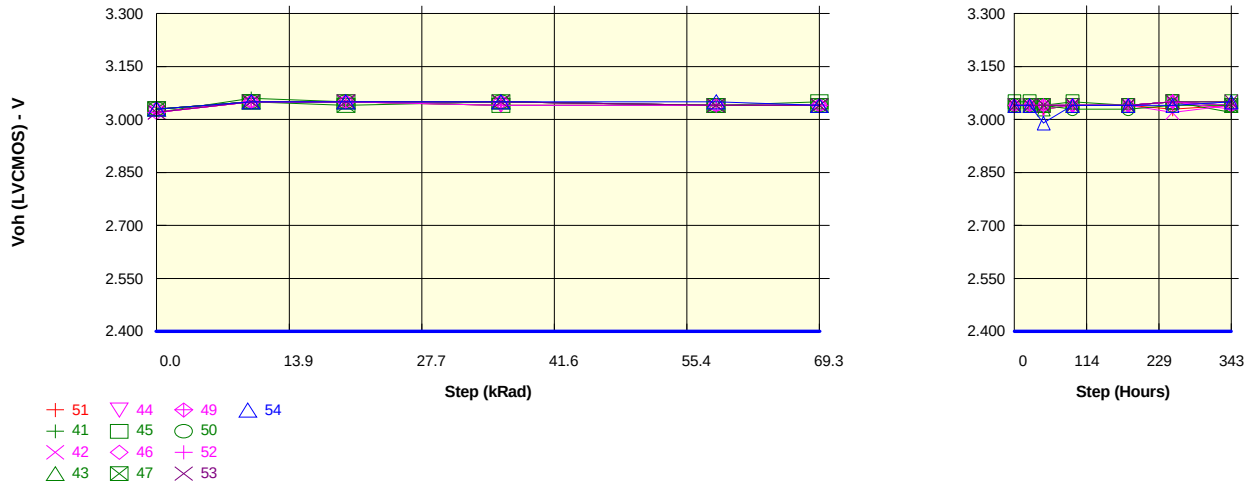
Voh (LVCMOS)srd1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
ON samples												
41	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.050	3.040
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030
43	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.030
44	3.030	3.040	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
45	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.020	3.030	3.040
52	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.020	3.030	3.030
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.031	3.044	3.046	3.041	3.039	3.038	3.038	3.032	3.038	3.034	3.040	3.038
Sigma	0.003	0.005	0.005	0.003	0.003	0.004	0.004	0.004	0.006	0.007	0.006	0.004

Measurements

Voh (LVCMOS)srd1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.050	3.030	3.040	3.040	3.040	3.040	3.030	3.050	3.040
54	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.050	3.050	3.030	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.030	3.045	3.045	3.045	3.030	3.040	3.040	3.040	3.040	3.035	3.045	3.040
Sigma	0.000	0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd0n

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

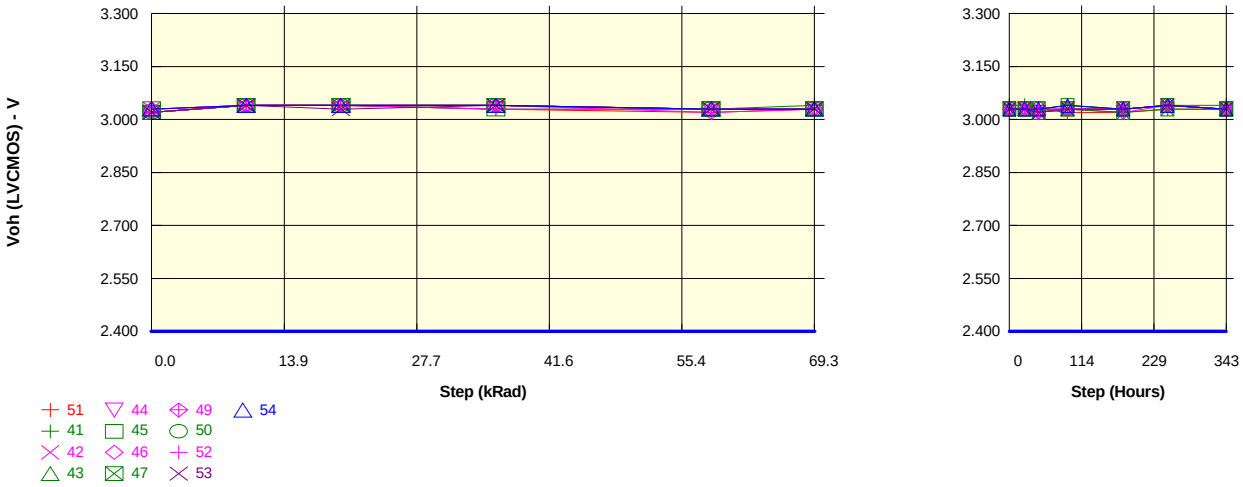
Voh (LVCMOS)srd0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040
ON samples												
41	3.020	3.060	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.020
42	3.020	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.040
43	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
44	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
45	3.030	3.050	3.050	3.040	3.040	3.050	3.050	3.040	3.050	3.040	3.050	3.050
46	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
47	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
49	3.020	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.040
52	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.030
Statistics												
Min	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020
Max	3.030	3.060	3.050	3.050	3.040	3.050	3.050	3.040	3.050	3.040	3.050	3.050
Average	3.026	3.051	3.049	3.047	3.040	3.041	3.041	3.038	3.040	3.039	3.046	3.038
Sigma	0.005	0.003	0.003	0.005	0.000	0.003	0.003	0.004	0.004	0.003	0.009	0.007

Measurements

Voh (LVCMOS)srd0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040
OFF samples												
53	3.020	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.050
54	3.030	3.050	3.050	3.050	3.050	3.040	3.040	2.990	3.040	3.040	3.040	3.050
Statistics												
Min	3.020	3.050	3.050	3.050	3.040	3.040	3.040	2.990	3.040	3.040	3.040	3.050
Max	3.030	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.050
Average	3.025	3.050	3.050	3.050	3.045	3.040	3.040	3.015	3.040	3.040	3.045	3.050
Sigma	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.025	0.000	0.000	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd8s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

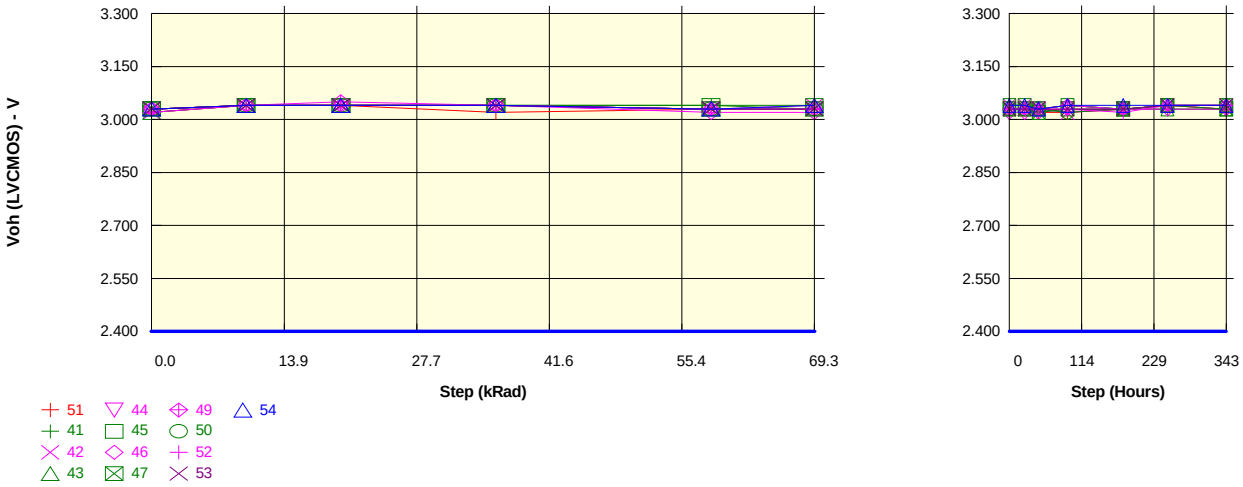
Voh (LVCMOS)srd8s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.020	3.030	3.030	3.030	3.020	3.020	3.030	3.030
ON samples												
41	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
42	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
43	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
44	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
45	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
46	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.030	3.020	3.040	3.030
47	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.020	3.030	3.030
49	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
50	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
52	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.030	3.020	3.030	3.030	3.020	3.030	3.020	3.030	3.030
Max	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.023	3.040	3.040	3.038	3.029	3.031	3.031	3.026	3.032	3.028	3.039	3.031
Sigma	0.005	0.000	0.000	0.004	0.003	0.003	0.003	0.005	0.004	0.004	0.003	0.003

Measurements

Voh (LVCMOS)srd8s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.020	3.030	3.030	3.030	3.020	3.020	3.030	3.030
OFF samples												
53	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
54	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
Statistics												
Min	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
Max	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
Average	3.025	3.040	3.035	3.040	3.030	3.030	3.030	3.025	3.035	3.030	3.040	3.030
Sigma	0.005	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd7s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

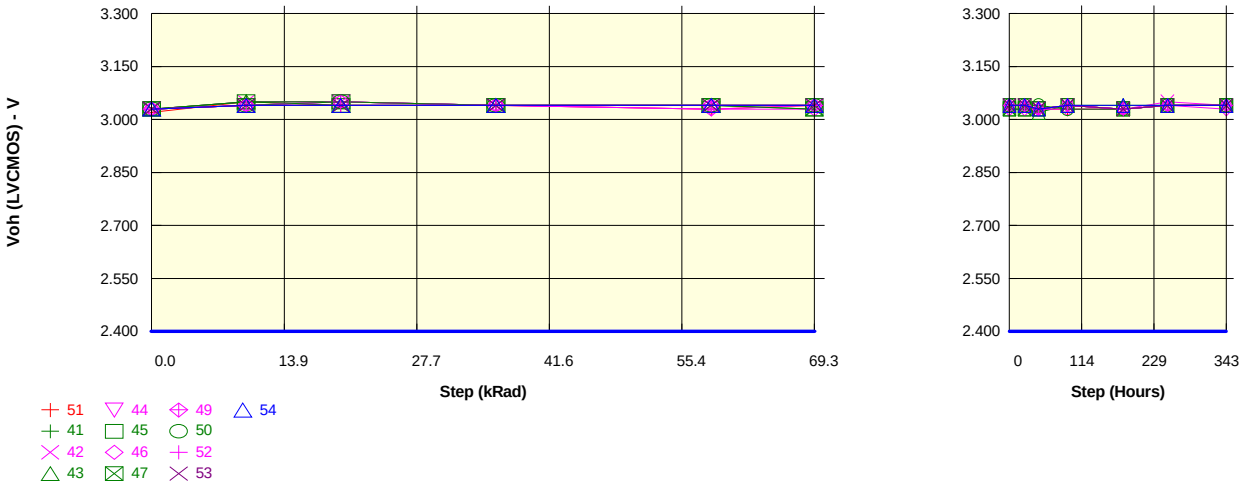
Voh (LVCMOS)srd7s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.020	3.030	3.030	3.030	3.020	3.020	3.030	3.040	3.030
ON samples												
41	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.030	3.030
42	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.020	3.030	3.040	3.040
43	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.030	3.030
44	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
45	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
46	3.030	3.040	3.040	3.040	3.020	3.020	3.020	3.020	3.030	3.030	3.030	3.030
47	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
49	3.030	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.030	3.040	3.040
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.020	3.020	3.020	3.020	3.020	3.020	3.030	3.030
Max	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.027	3.040	3.041	3.040	3.031	3.031	3.031	3.028	3.032	3.029	3.037	3.035
Sigma	0.005	0.000	0.003	0.000	0.005	0.005	0.005	0.004	0.007	0.003	0.005	0.005

Measurements

Voh (LVCMOS)srd7s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.020	3.030	3.030	3.030	3.020	3.020	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.030	3.035	3.035	3.030	3.035	3.035	3.040	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.005	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd6s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

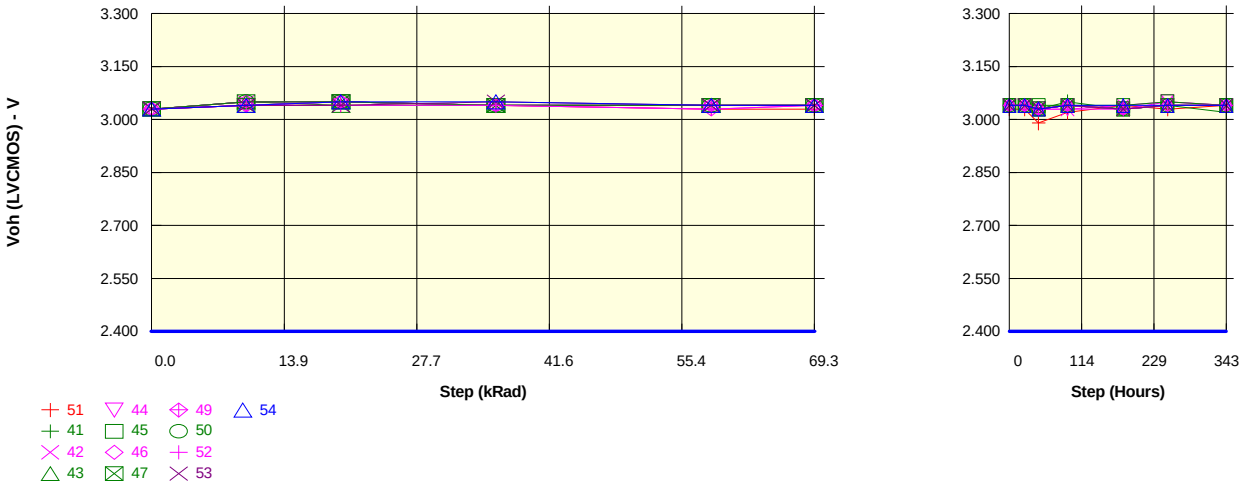
Voh (LVCMOS)srd6s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
43	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.020	3.040	3.040	3.040	3.040
44	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
46	3.030	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
47	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
50	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.040
52	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.030	3.044	3.047	3.040	3.038	3.037	3.037	3.030	3.038	3.031	3.041	3.039
Sigma	0.000	0.005	0.005	0.000	0.004	0.005	0.005	0.004	0.004	0.003	0.003	0.003

Measurements

Voh (LVCMOS)srd6s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.040
OFF samples												
53	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.035	3.040	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd5s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

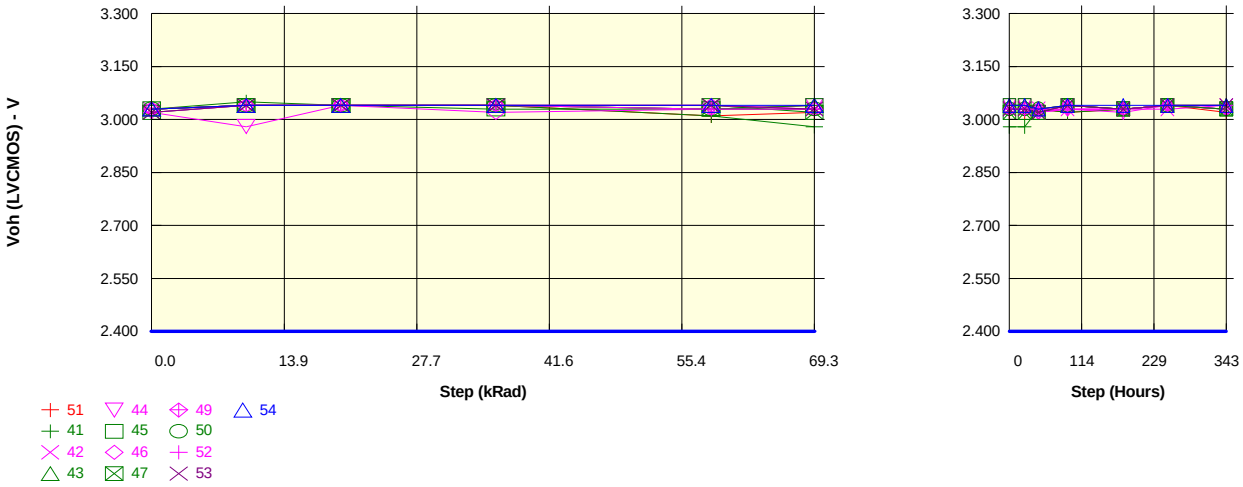
Voh (LVCMOS)srd5s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.030	3.030	2.990	3.020	3.040	3.030	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.050	3.030	3.040	3.020
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.050	3.040
43	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
44	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.050	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
46	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
50	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
52	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.020
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
Average	3.030	3.046	3.048	3.040	3.038	3.040	3.040	3.031	3.039	3.032	3.043	3.038
Sigma	0.000	0.005	0.004	0.000	0.004	0.000	0.000	0.003	0.005	0.004	0.005	0.006

Measurements

Voh (LVCMOS)srd5s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.030	3.030	2.990	3.020	3.040	3.030	3.040
OFF samples												
53	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.040	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.045	3.050	3.040	3.040	3.040	3.030	3.040	3.035	3.040	3.040
Sigma	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd4s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

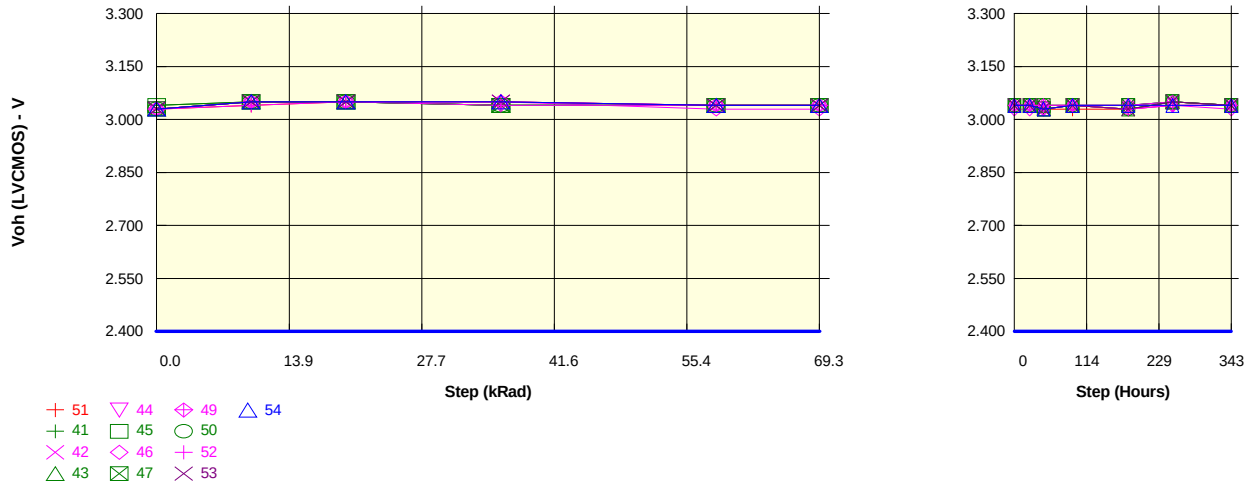
Voh (LVCMOS)srd4s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.010	3.020	3.020	3.030	3.020	3.030	3.040	3.020
ON samples												
41	3.030	3.050	3.040	3.040	3.010	2.980	2.980	3.030	3.020	3.030	3.040	3.040
42	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040
43	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
44	3.020	2.980	3.040	3.040	3.030	3.040	3.040	3.020	3.030	3.020	3.040	3.030
45	3.030	3.040	3.040	3.030	3.030	3.040	3.040	3.020	3.040	3.030	3.040	3.030
46	3.030	3.040	3.040	3.020	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
47	3.020	3.040	3.040	3.040	3.040	3.020	3.020	3.020	3.040	3.030	3.040	3.030
49	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.030
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
Statistics												
Min	3.020	2.980	3.040	3.020	3.010	2.980	2.980	3.020	3.020	3.020	3.030	3.030
Max	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.027	3.035	3.040	3.037	3.031	3.027	3.027	3.026	3.034	3.029	3.039	3.034
Sigma	0.005	0.019	0.000	0.006	0.008	0.017	0.017	0.005	0.007	0.003	0.003	0.005

Measurements

Voh (LVCMOS)srd4s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.010	3.020	3.020	3.030	3.020	3.030	3.040	3.020
OFF samples												
53	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.020	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.020	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.025	3.040	3.040	3.040	3.040	3.035	3.035	3.025	3.040	3.035	3.040	3.040
Sigma	0.005	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd3s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

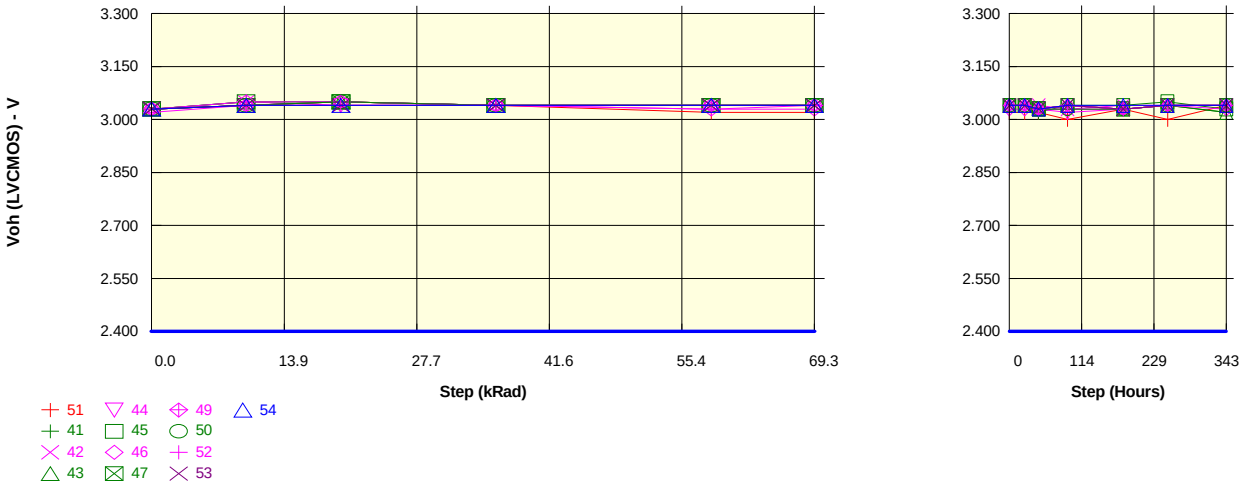
Voh (LVCMOS)srd3s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.050	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040
ON samples												
41	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
42	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
43	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
44	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
45	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
46	3.030	3.050	3.050	3.050	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
47	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
49	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.040
52	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.032	3.049	3.050	3.043	3.039	3.039	3.039	3.035	3.040	3.035	3.047	3.039
Sigma	0.004	0.003	0.000	0.005	0.003	0.003	0.003	0.005	0.000	0.005	0.005	0.003

Measurements

Voh (LVCMOS)srd3s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.050	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040
OFF samples												
53	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
54	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Average	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.035	3.045	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd2s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

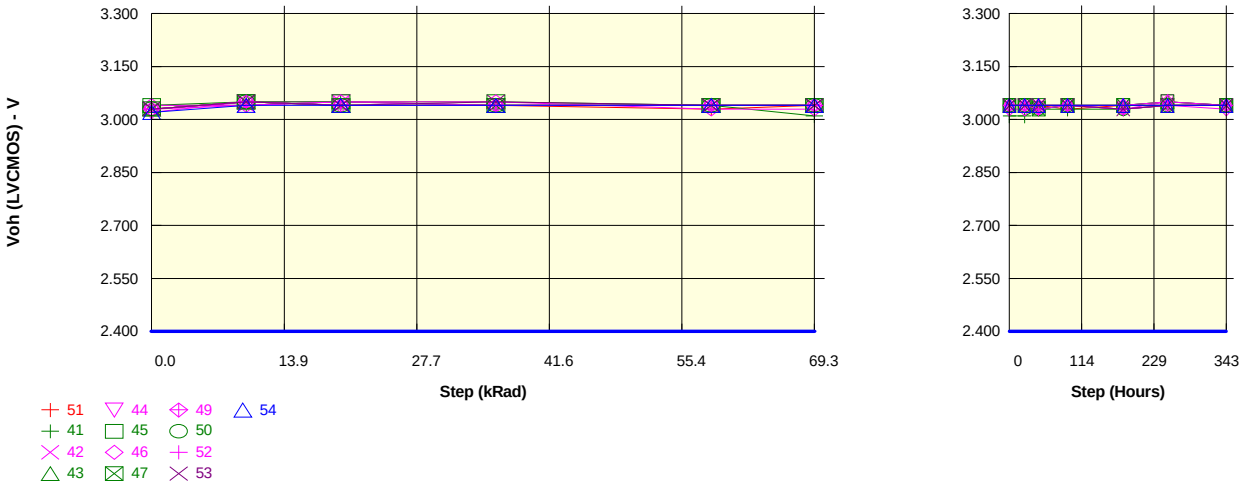
Voh (LVCMOS)srd2s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.050	3.040	3.020	3.020	3.020	3.020	3.000	3.030	3.000	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.020
42	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040
43	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.020
44	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.020	3.030	3.040	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.030
46	3.030	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
47	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
50	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040
52	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.030	3.040	3.020
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.029	3.044	3.047	3.040	3.038	3.039	3.039	3.030	3.035	3.032	3.041	3.034
Sigma	0.003	0.005	0.005	0.000	0.004	0.003	0.003	0.004	0.007	0.004	0.003	0.008

Measurements

Voh (LVCMOS)srd2s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.050	3.040	3.020	3.020	3.020	3.020	3.000	3.030	3.000	3.040
OFF samples												
53	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.035	3.040	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd1s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

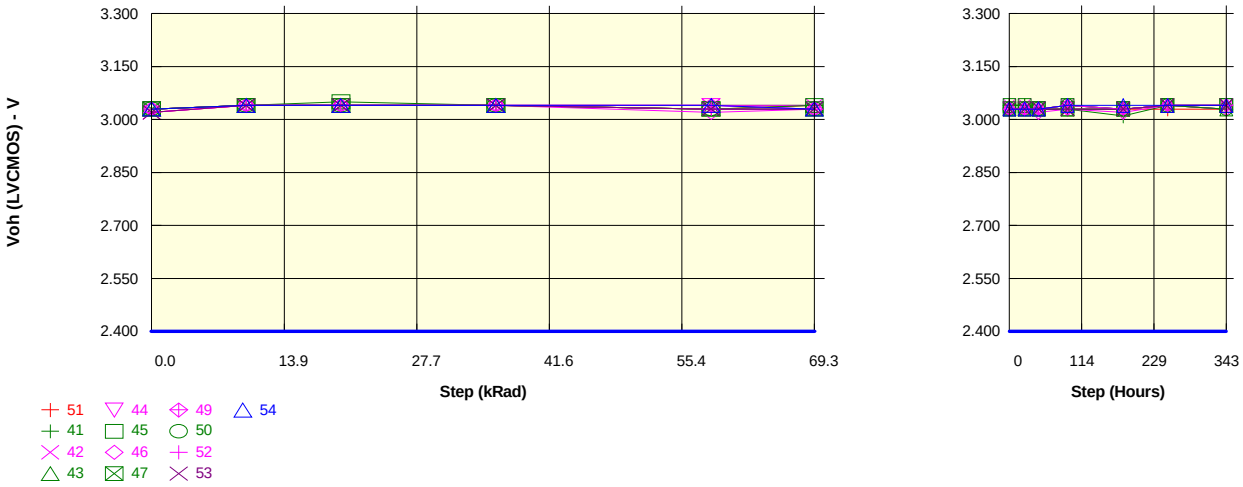
Voh (LVCMOS)srd1s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.040
ON samples												
41	3.040	3.040	3.050	3.040	3.040	3.010	3.010	3.030	3.030	3.030	3.040	3.040
42	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
43	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
44	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
45	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
46	3.040	3.040	3.050	3.050	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
47	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
49	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
52	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.010	3.010	3.030	3.030	3.030	3.040	3.030
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.032	3.047	3.045	3.042	3.039	3.036	3.036	3.034	3.039	3.035	3.044	3.039
Sigma	0.006	0.005	0.005	0.004	0.003	0.009	0.009	0.005	0.003	0.005	0.005	0.003

Measurements

Voh (LVCMOS)srd1s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.040
OFF samples												
53	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
54	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.025	3.045	3.040	3.045	3.040	3.040	3.040	3.040	3.040	3.035	3.040	3.040
Sigma	0.005	0.005	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)srd0s

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

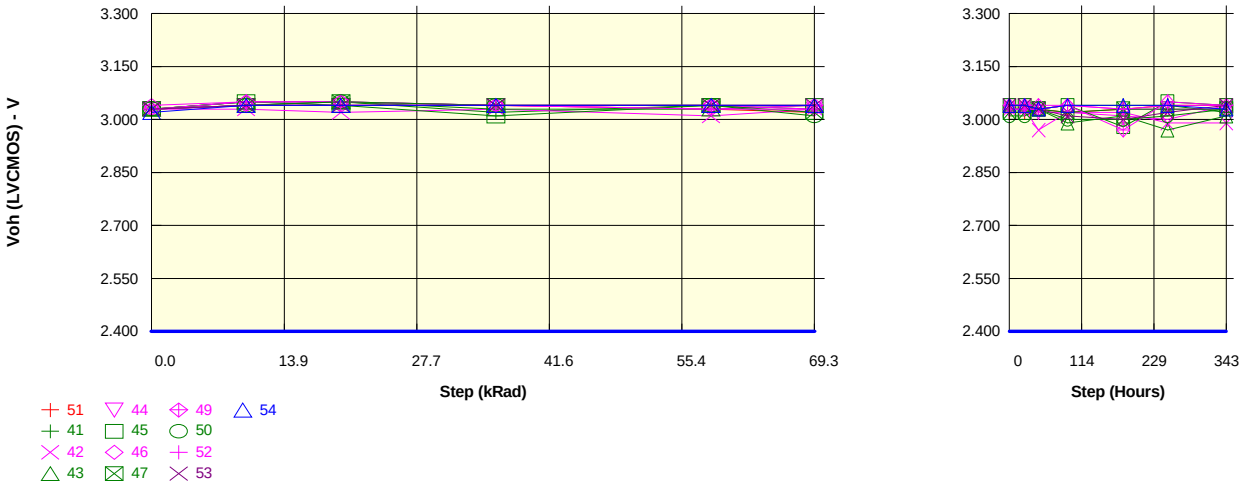
Voh (LVCMOS)srd0s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030
ON samples												
41	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.010	3.040	3.030
42	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
43	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
44	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.040
45	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
46	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.030	3.020	3.040	3.030
47	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
49	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.030	3.010	3.040	3.030
Max	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.028	3.040	3.041	3.040	3.033	3.033	3.033	3.029	3.035	3.027	3.040	3.036
Sigma	0.004	0.000	0.003	0.000	0.006	0.005	0.005	0.003	0.005	0.006	0.000	0.005

Measurements

Voh (LVCMOS)srd0s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030
OFF samples												
53	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Average	3.025	3.040	3.040	3.040	3.035	3.030	3.030	3.030	3.035	3.035	3.040	3.040
Sigma	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.005	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s1do3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

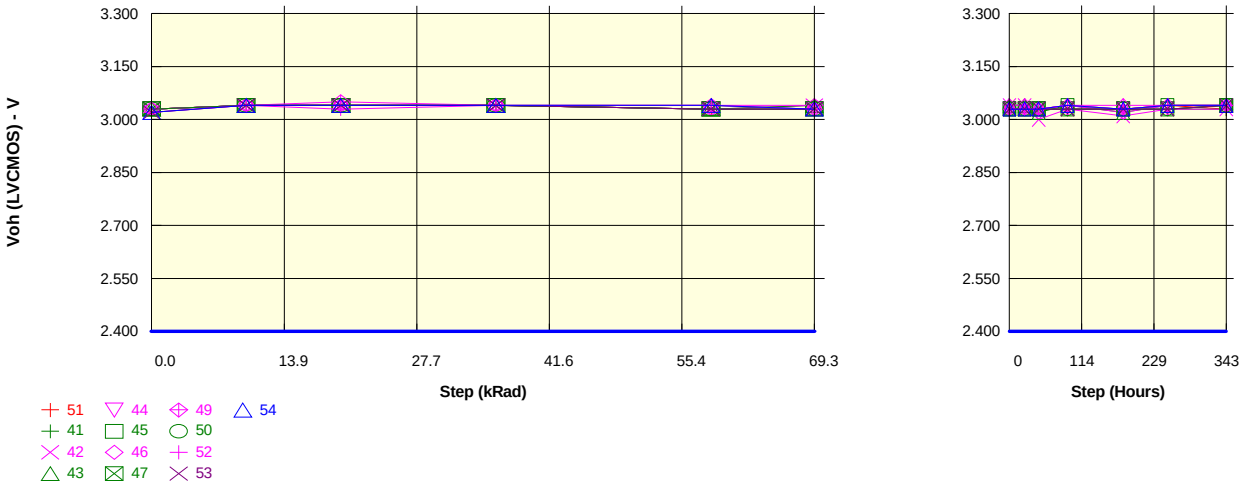
Voh (LVCMOS)s1do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.020	3.030	3.040	3.040
ON samples												
41	3.030	3.050	3.050	3.020	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.020
42	3.030	3.030	3.020	3.030	3.010	3.030	3.030	2.970	3.020	3.020	2.990	2.990
43	3.030	3.050	3.050	3.030	3.030	3.040	3.040	3.030	2.990	3.010	2.970	3.010
44	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.020	3.020	3.010	3.000	3.040
45	3.030	3.050	3.040	3.010	3.040	3.040	3.040	3.030	3.040	2.980	3.050	3.040
46	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.030	3.030
47	3.030	3.040	3.050	3.040	3.040	3.020	3.020	3.030	3.020	3.030	3.030	3.030
49	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	2.970	3.050	3.040
50	3.030	3.040	3.050	3.040	3.040	3.010	3.010	3.030	3.000	3.000	3.010	3.030
52	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.030	3.020	3.010	3.010	3.010	3.010	2.970	2.990	2.970	2.970	2.990
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.031	3.044	3.044	3.033	3.034	3.031	3.031	3.024	3.025	3.012	3.021	3.027
Sigma	0.003	0.007	0.009	0.010	0.009	0.009	0.009	0.019	0.017	0.022	0.026	0.016

Measurements

Voh (LVCMOS)s1do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.020	3.030	3.040	3.040
OFF samples												
53	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.010	3.000	3.020	3.040
54	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.010	3.000	3.020	3.030
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.025	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.025	3.020	3.030	3.035
Sigma	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.020	0.010	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s1do2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

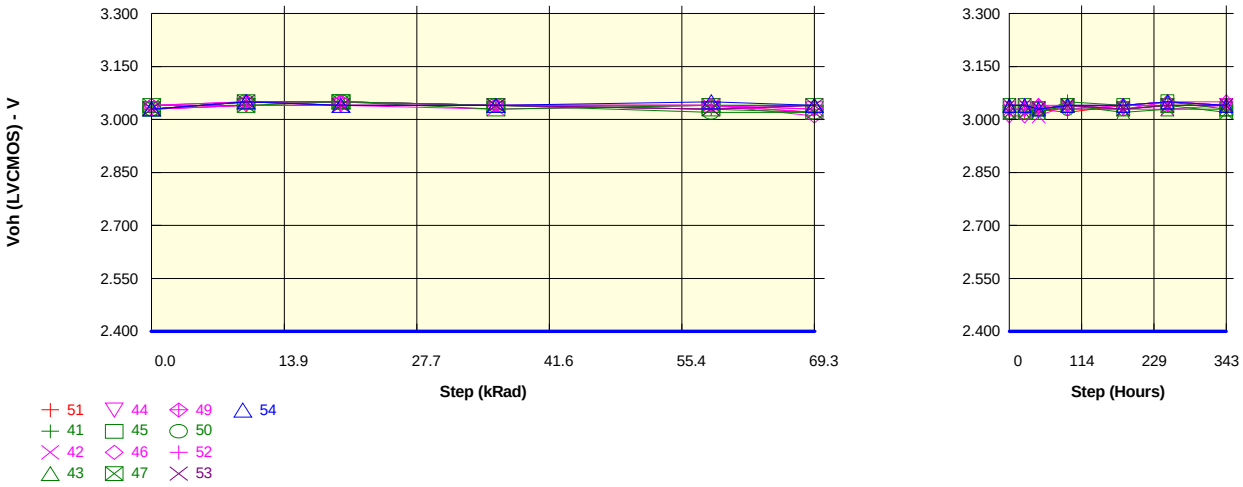
Voh (LVCMOS)s1do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
ON samples												
41	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030
42	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.000	3.030	3.010	3.030	3.030
43	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.020	3.040	3.020	3.040	3.040
44	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040
45	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
46	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.020	3.040	3.040
47	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040
52	3.020	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.000	3.030	3.010	3.030	3.030
Max	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.029	3.040	3.040	3.040	3.033	3.033	3.033	3.026	3.035	3.027	3.035	3.038
Sigma	0.003	0.000	0.004	0.000	0.005	0.005	0.005	0.009	0.005	0.008	0.005	0.004

Measurements

Voh (LVCMOS)s1do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
OFF samples												
53	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040
54	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040
Max	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Average	3.020	3.040	3.040	3.040	3.035	3.030	3.030	3.030	3.035	3.030	3.035	3.040
Sigma	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.005	0.000	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s1do1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

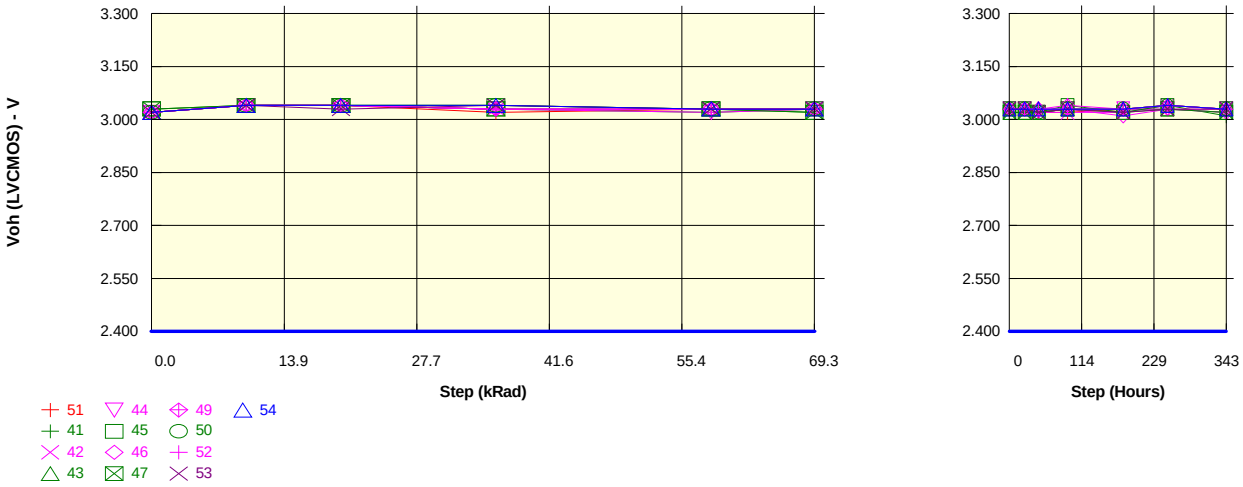
Voh (LVCMOS)s1do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.020	3.020	3.030	3.020	3.040	3.040	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.020	3.050	3.040	3.050	3.040
42	3.030	3.040	3.040	3.030	3.040	3.020	3.020	3.010	3.040	3.030	3.030	3.040
43	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.020	3.040	3.020	3.030	3.030
44	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
45	3.030	3.050	3.050	3.030	3.040	3.040	3.040	3.020	3.040	3.040	3.050	3.030
46	3.040	3.050	3.050	3.040	3.040	3.010	3.010	3.040	3.030	3.040	3.050	3.040
47	3.040	3.040	3.050	3.040	3.030	3.020	3.020	3.030	3.040	3.030	3.040	3.020
49	3.040	3.050	3.050	3.040	3.040	3.030	3.030	3.040	3.040	3.040	3.050	3.050
50	3.030	3.050	3.050	3.040	3.020	3.020	3.020	3.030	3.030	3.030	3.040	3.040
52	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.050	3.040
Statistics												
Min	3.030	3.040	3.040	3.030	3.020	3.010	3.010	3.010	3.030	3.020	3.030	3.020
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.050
Average	3.033	3.047	3.047	3.038	3.035	3.029	3.029	3.027	3.039	3.033	3.043	3.037
Sigma	0.005	0.005	0.005	0.004	0.007	0.010	0.010	0.009	0.005	0.006	0.008	0.008

Measurements

Voh (LVCMOS)s1do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.020	3.020	3.030	3.020	3.040	3.040	3.040
OFF samples												
53	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.040	3.040	3.050	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Statistics												
Min	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.040	3.050	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Average	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.035	3.045	3.040
Sigma	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s1do0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

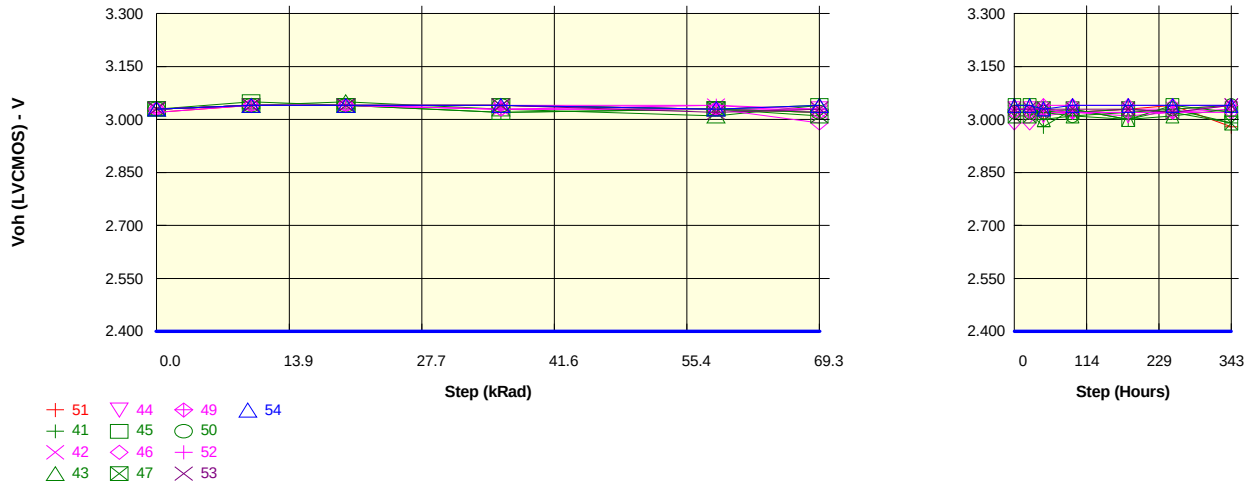
Voh (LVCMOS)s1do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.020	3.030	3.030	3.030	3.020	3.020	3.030	3.040	3.030
ON samples												
41	3.020	3.040	3.040	3.030	3.020	3.030	3.030	3.030	3.030	3.030	3.040	3.010
42	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.020	3.020	3.040	3.030
43	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.020	3.030	3.030	3.030	3.020
44	3.020	3.040	3.040	3.030	3.020	3.030	3.030	3.020	3.030	3.030	3.030	3.030
45	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.040	3.020	3.040	3.030
46	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.010	3.030	3.020
47	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.020	3.030	3.020	3.030	3.020
49	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
50	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.030
52	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.030	3.020	3.020	3.020	3.020	3.020	3.010	3.030	3.010
Max	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
Average	3.022	3.040	3.040	3.032	3.028	3.028	3.028	3.024	3.031	3.025	3.036	3.025
Sigma	0.004	0.000	0.000	0.004	0.004	0.004	0.004	0.005	0.005	0.007	0.005	0.007

Measurements

Voh (LVCMOS)s1do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.020	3.030	3.030	3.030	3.020	3.020	3.030	3.040	3.030
OFF samples												
53	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.020	3.030	3.020	3.030	3.030
54	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Statistics												
Min	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.020	3.030	3.020	3.030	3.030
Max	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Average	3.020	3.040	3.035	3.040	3.030	3.030	3.030	3.025	3.030	3.025	3.035	3.030
Sigma	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s2do3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

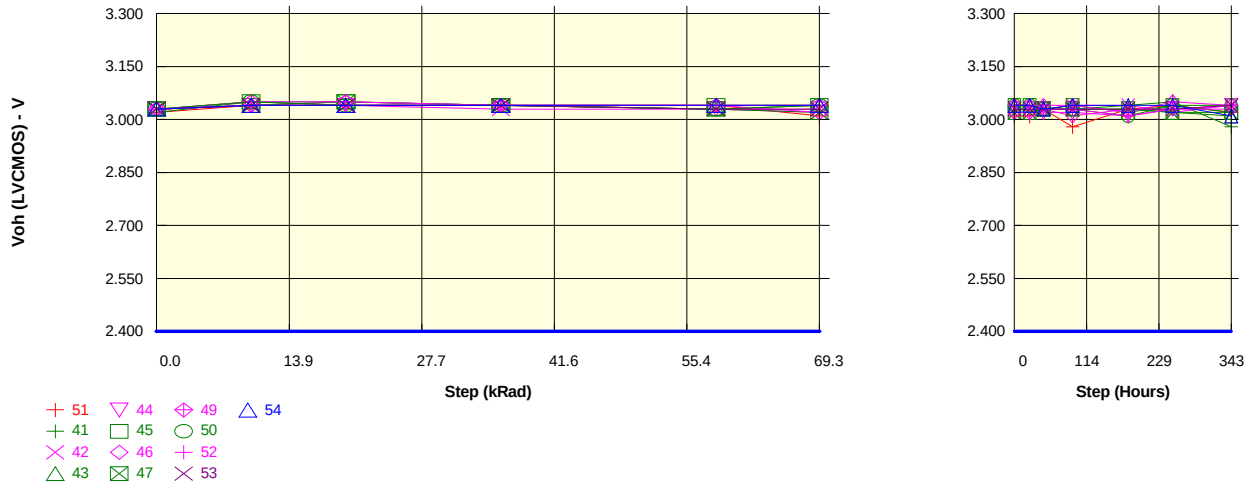
Voh (LVCMOS)s2do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.020	3.020	3.030	3.040	2.980
ON samples												
41	3.030	3.040	3.040	3.020	3.030	3.020	3.020	2.980	3.030	3.000	3.030	2.990
42	3.030	3.040	3.040	3.030	3.040	3.020	3.020	3.020	3.020	3.030	3.030	3.040
43	3.030	3.040	3.050	3.030	3.010	3.040	3.040	3.000	3.010	3.000	3.010	3.030
44	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.010	3.020	3.010	3.020	3.030
45	3.030	3.050	3.040	3.020	3.030	3.040	3.040	3.020	3.030	3.000	3.040	3.020
46	3.030	3.040	3.040	3.030	3.030	2.990	2.990	3.030	3.020	3.020	3.020	3.020
47	3.030	3.040	3.040	3.040	3.030	3.010	3.010	3.030	3.020	3.030	3.020	2.990
49	3.030	3.040	3.040	3.030	3.030	3.020	3.020	3.040	3.040	3.040	3.040	3.040
50	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.020	3.010	3.020	3.030	3.040
52	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.020	3.040
Statistics												
Min	3.020	3.040	3.040	3.020	3.010	2.990	2.990	2.980	3.010	3.000	3.010	2.990
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.029	3.041	3.041	3.032	3.030	3.022	3.022	3.018	3.022	3.017	3.026	3.024
Sigma	0.003	0.003	0.003	0.007	0.008	0.014	0.014	0.017	0.009	0.013	0.009	0.019

Measurements

Voh (LVCMOS)s2do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.020	3.020	3.030	3.040	2.980
OFF samples												
53	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.030	3.020	3.040
54	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.030	3.020	3.040
Max	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.025	3.035	3.035	3.030	3.035	3.035	3.030	3.040
Sigma	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.000	0.005	0.005	0.010	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s2do2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

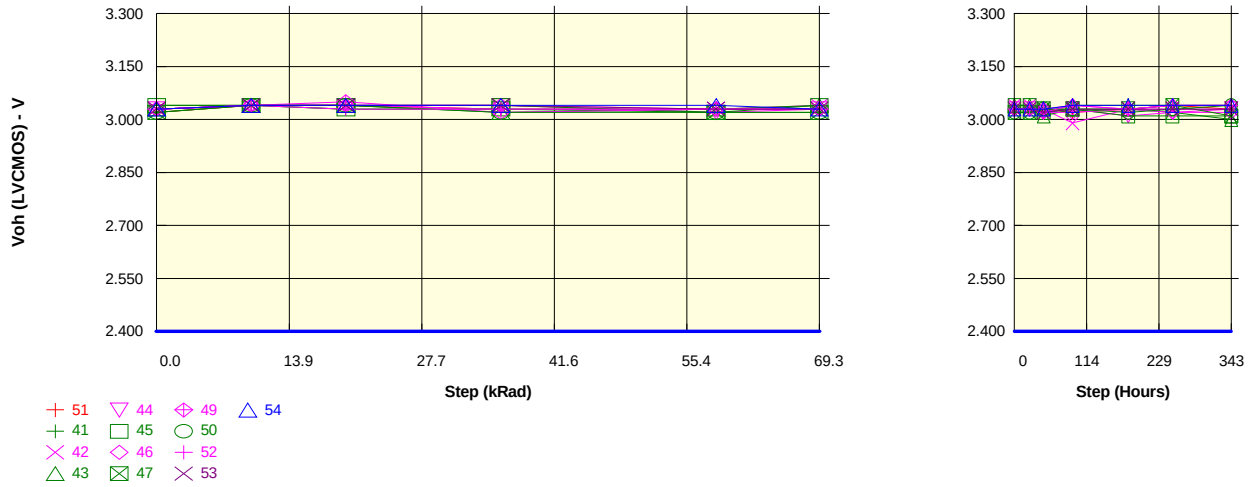
Voh (LVCMOS)s2do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.010	3.010	3.030	2.980	3.030	3.040	3.020
ON samples												
41	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.050	2.980
42	3.030	3.040	3.040	3.030	3.030	3.020	3.020	3.030	3.040	3.040	3.020	3.040
43	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.020	3.010
44	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.010	3.030	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.020	3.040	3.020
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.010	3.030	3.030	3.030
47	3.030	3.040	3.050	3.040	3.030	3.020	3.020	3.030	3.030	3.030	3.020	3.020
49	3.030	3.050	3.050	3.040	3.040	3.020	3.020	3.040	3.040	3.020	3.050	3.040
50	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.010	3.040	3.040
52	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.010	3.030	3.040
Statistics												
Min	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.020	3.010	3.010	3.020	2.980
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.029	3.044	3.044	3.039	3.035	3.033	3.033	3.030	3.030	3.024	3.033	3.026
Sigma	0.003	0.005	0.005	0.003	0.005	0.009	0.009	0.004	0.009	0.011	0.011	0.019

Measurements

Voh (LVCMOS)s2do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.010	3.010	3.030	2.980	3.030	3.040	3.020
OFF samples												
53	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.010
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.010
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.035	3.035	3.035	3.030	3.035	3.035	3.035	3.025
Sigma	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.000	0.005	0.005	0.005	0.015

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s2do1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

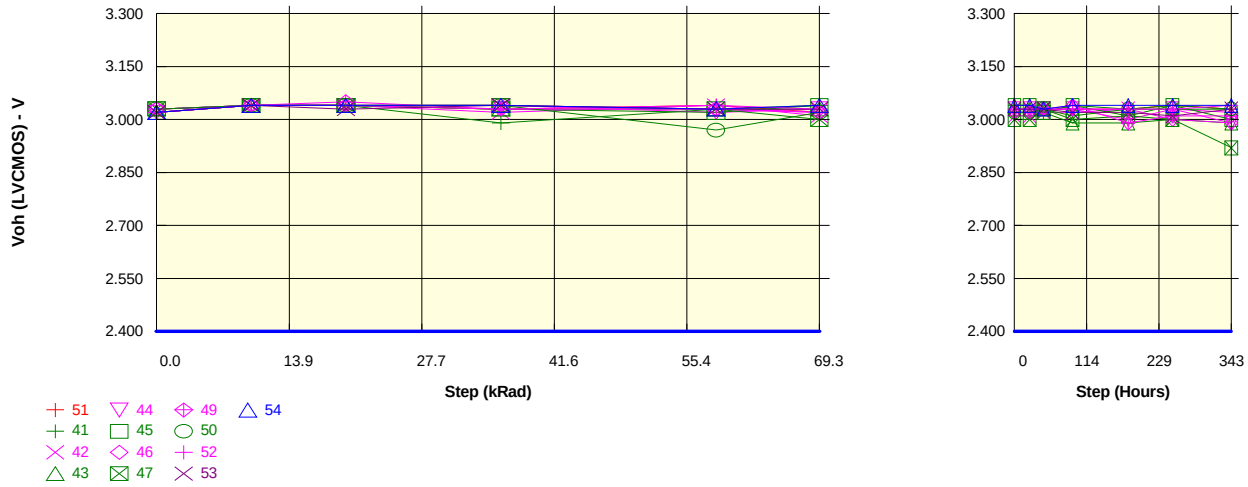
Voh (LVCMOS)s2do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.030	3.040	3.030
ON samples												
41	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.040	3.040	3.040	3.040
42	3.030	3.040	3.040	3.030	3.030	3.040	3.040	3.030	2.990	3.030	3.030	3.030
43	3.030	3.040	3.040	3.020	3.030	3.040	3.040	3.010	3.030	3.030	3.020	3.000
44	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.030	3.010	3.020	3.030
45	3.040	3.040	3.030	3.030	3.020	3.040	3.040	3.020	3.030	3.010	3.010	3.010
46	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.030	3.020	3.020
47	3.020	3.040	3.040	3.040	3.020	3.020	3.020	3.030	3.030	3.030	3.040	3.010
49	3.030	3.040	3.050	3.020	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
50	3.020	3.040	3.040	3.020	3.020	3.020	3.020	3.030	3.030	3.020	3.030	3.040
52	3.030	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.030	3.020	3.020	3.020	3.020	3.010	2.990	3.010	3.010	3.000
Max	3.040	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.038	3.030	3.026	3.031	3.031	3.023	3.028	3.026	3.029	3.026
Sigma	0.006	0.000	0.006	0.008	0.005	0.007	0.007	0.006	0.014	0.009	0.010	0.014

Measurements

Voh (LVCMOS)s2do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.030
54	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.030
Max	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.035	3.030	3.030	3.025	3.035	3.035	3.035	3.035
Sigma	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.005	0.005	0.005	0.005	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s2do0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

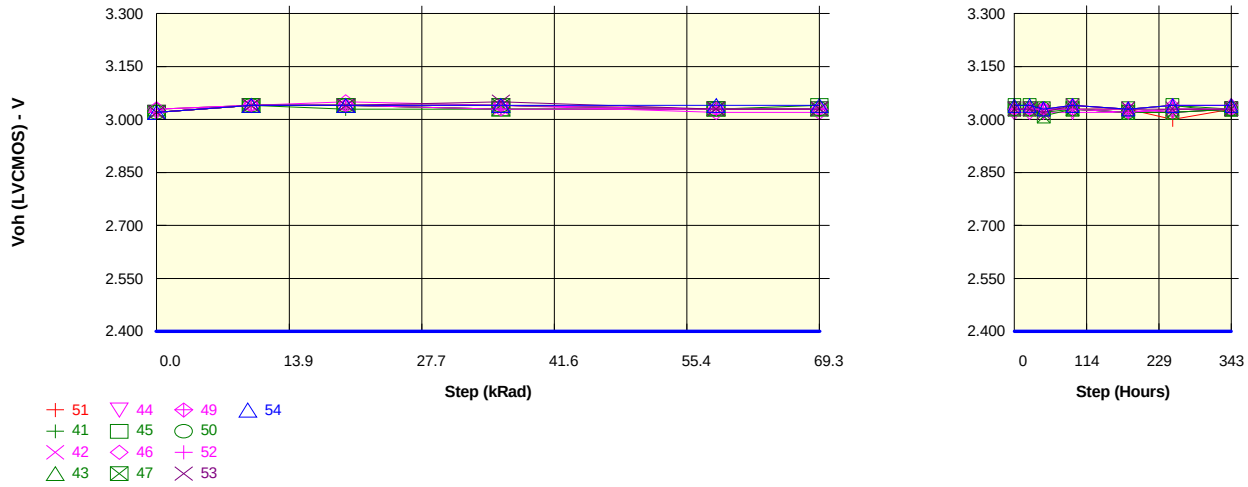
Voh (LVCMOS)s2do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.040	3.020	3.020	3.030	3.030	3.030	3.040	3.030
ON samples												
41	3.020	3.040	3.040	2.990	3.030	3.040	3.040	3.020	3.040	3.030	3.040	3.030
42	3.020	3.040	3.040	3.020	3.040	3.010	3.010	3.020	3.020	3.030	3.030	3.020
43	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.020	2.990	2.990	3.000	2.990
44	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.000	3.030	2.990
45	3.030	3.040	3.040	3.030	3.020	3.040	3.040	3.020	3.040	3.010	3.040	3.000
46	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.030	3.030	3.000	2.990
47	3.030	3.040	3.040	3.040	3.030	3.000	3.000	3.030	3.000	3.010	3.000	2.920
49	3.030	3.040	3.050	3.030	3.030	3.020	3.020	3.030	3.040	2.990	3.010	3.010
50	3.030	3.040	3.040	3.040	2.970	3.020	3.020	3.030	3.010	3.030	3.030	3.030
52	3.020	3.040	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040
Statistics												
Min	3.020	3.040	3.040	2.990	2.970	3.000	3.000	3.020	2.990	2.990	3.000	2.920
Max	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.025	3.040	3.041	3.029	3.024	3.024	3.024	3.026	3.023	3.015	3.021	3.002
Sigma	0.005	0.000	0.003	0.014	0.019	0.012	0.012	0.005	0.017	0.016	0.016	0.032

Measurements

Voh (LVCMOS)s2do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.040	3.020	3.020	3.030	3.030	3.030	3.040	3.030
OFF samples												
53	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.020	3.020	3.010	3.030
54	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.020	3.020	3.010	3.030
Max	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.020	3.040	3.035	3.040	3.030	3.035	3.035	3.030	3.030	3.030	3.025	3.035
Sigma	0.000	0.000	0.005	0.000	0.000	0.005	0.005	0.000	0.010	0.010	0.015	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s3do3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

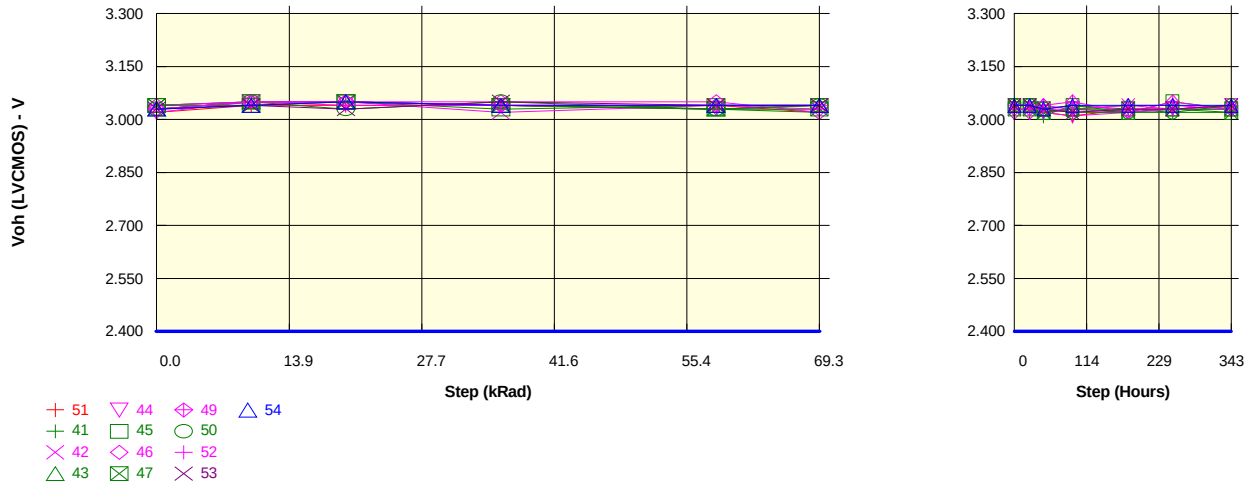
Voh (LVCMOS)s3do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.000	3.030
ON samples												
41	3.020	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.030	3.030	3.040	3.020
42	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.020	3.030
43	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.020	3.030	3.030
44	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.020	3.020	3.030
45	3.020	3.040	3.040	3.030	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.030
46	3.030	3.040	3.050	3.040	3.020	3.020	3.020	3.030	3.030	3.020	3.030	3.030
47	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.010	3.030	3.020	3.020	3.030
49	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
50	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.020	3.030
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.030	3.030
Statistics												
Min	3.020	3.040	3.030	3.030	3.020	3.020	3.020	3.010	3.020	3.020	3.020	3.020
Max	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.023	3.040	3.040	3.035	3.029	3.030	3.030	3.026	3.031	3.024	3.029	3.030
Sigma	0.005	0.000	0.004	0.005	0.003	0.004	0.004	0.007	0.005	0.005	0.008	0.004

Measurements

Voh (LVCMOS)s3do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.000	3.030
OFF samples												
53	3.020	3.040	3.040	3.050	3.030	3.030	3.030	3.020	3.040	3.030	3.030	3.030
54	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.030	3.030
Max	3.020	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.020	3.040	3.040	3.045	3.035	3.035	3.035	3.025	3.040	3.030	3.035	3.035
Sigma	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.005	0.000	0.000	0.005	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s3do2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

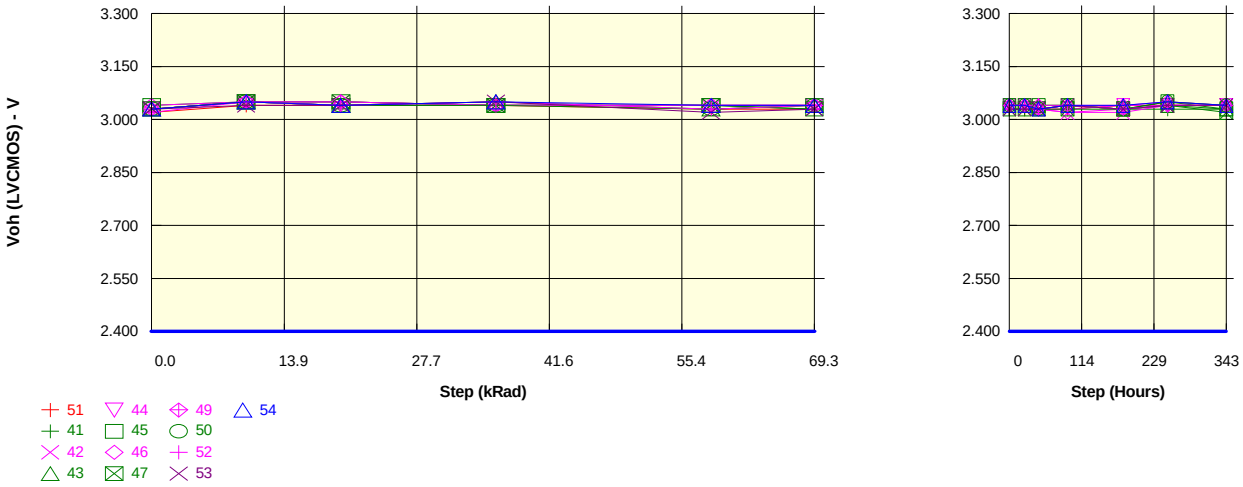
Voh (LVCMOS)s3do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.020	3.020	3.020	3.010	3.030	3.030	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.030	3.020	3.020	3.010	3.040	3.030	3.020	3.020
42	3.040	3.050	3.050	3.020	3.040	3.040	3.040	3.030	3.030	3.040	3.030	3.030
43	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.020	3.030	3.020	3.030	3.030
44	3.020	3.050	3.050	3.040	3.030	3.040	3.040	3.020	3.010	3.020	3.030	3.040
45	3.040	3.050	3.050	3.030	3.040	3.040	3.040	3.030	3.040	3.020	3.050	3.030
46	3.040	3.050	3.050	3.050	3.050	3.020	3.020	3.040	3.030	3.040	3.040	3.030
47	3.040	3.040	3.050	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.020
49	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.040	3.050	3.020	3.050	3.030
50	3.030	3.050	3.030	3.050	3.030	3.040	3.040	3.030	3.020	3.020	3.020	3.040
52	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.020	3.030	3.030	3.040
Statistics												
Min	3.020	3.040	3.030	3.020	3.030	3.020	3.020	3.010	3.010	3.020	3.020	3.020
Max	3.040	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.050	3.040	3.050	3.040
Average	3.033	3.049	3.047	3.039	3.036	3.034	3.034	3.027	3.030	3.027	3.033	3.031
Sigma	0.006	0.003	0.006	0.008	0.007	0.008	0.008	0.009	0.011	0.008	0.010	0.007

Measurements

Voh (LVCMOS)s3do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.020	3.020	3.020	3.010	3.030	3.030	3.040
OFF samples												
53	3.030	3.040	3.030	3.050	3.040	3.040	3.040	3.030	3.020	3.030	3.030	3.040
54	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.030	3.040	3.040	3.040	3.040	3.030	3.020	3.030	3.030	3.040
Max	3.030	3.040	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.045	3.040	3.040	3.040	3.030	3.030	3.035	3.035	3.040
Sigma	0.000	0.000	0.010	0.005	0.000	0.000	0.000	0.000	0.010	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s3do1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

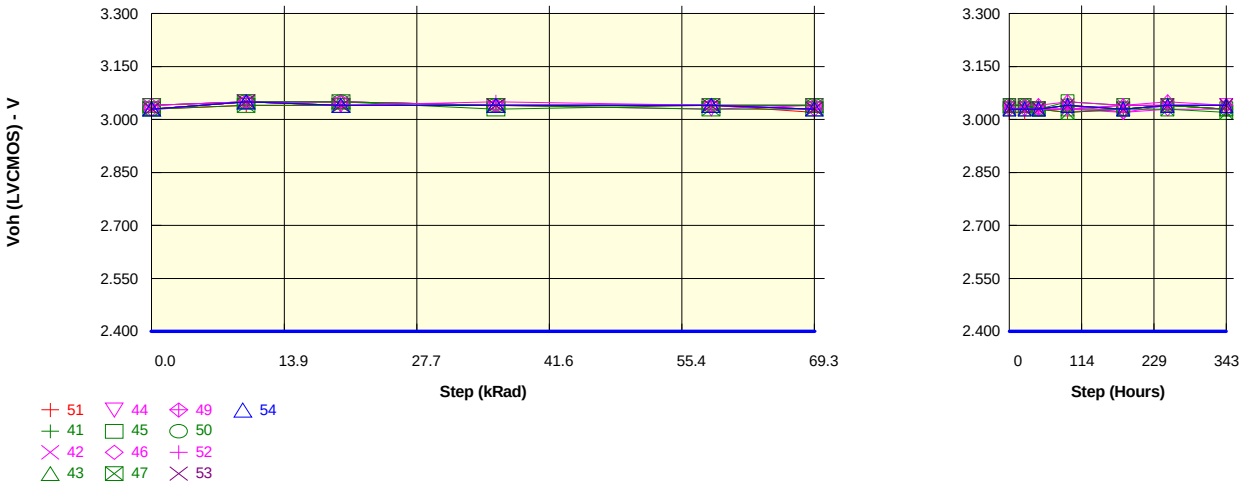
Voh (LVCMOS)s3do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.040	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.030	3.030
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.020	3.020	3.040	3.040
43	3.030	3.050	3.040	3.050	3.030	3.040	3.040	3.040	3.040	3.030	3.040	3.030
44	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.040	3.040
45	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.030
46	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.020	3.030	3.040	3.040
47	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.020
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.050	3.040
52	3.020	3.050	3.040	3.050	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.050	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.020	3.030	3.020
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.031	3.050	3.045	3.042	3.037	3.038	3.038	3.033	3.034	3.031	3.042	3.035
Sigma	0.005	0.000	0.005	0.004	0.005	0.004	0.004	0.005	0.008	0.005	0.006	0.007

Measurements

Voh (LVCMOS)s3do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.040	3.040
OFF samples												
53	3.030	3.040	3.040	3.050	3.020	3.030	3.030	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Statistics												
Min	3.030	3.040	3.040	3.050	3.020	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Average	3.030	3.045	3.040	3.050	3.030	3.035	3.035	3.030	3.040	3.035	3.045	3.040
Sigma	0.000	0.005	0.000	0.000	0.010	0.005	0.005	0.000	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s3do0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

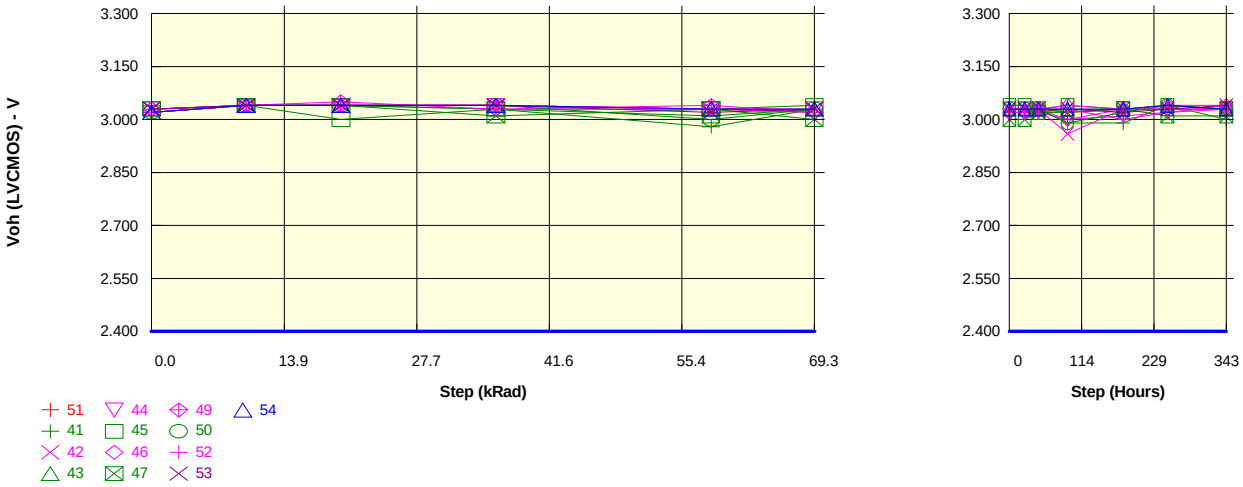
Voh (LVCMOS)s3do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.020	3.020	3.030	3.020	3.030	3.040	3.030
ON samples												
41	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
42	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.040	3.040
43	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030
44	3.040	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.020	3.040	3.040
45	3.040	3.050	3.050	3.030	3.040	3.040	3.040	3.030	3.050	3.040	3.040	3.030
46	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.020	3.030	3.030
47	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.030	3.030	3.020
49	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
50	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
52	3.030	3.050	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.020	3.030	3.020
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
Average	3.034	3.049	3.046	3.040	3.038	3.036	3.036	3.031	3.036	3.032	3.039	3.034
Sigma	0.005	0.003	0.005	0.004	0.004	0.005	0.005	0.003	0.009	0.007	0.005	0.007

Measurements

Voh (LVCMOS)s3do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.020	3.020	3.030	3.020	3.030	3.040	3.030
OFF samples												
53	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Average	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s4do3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

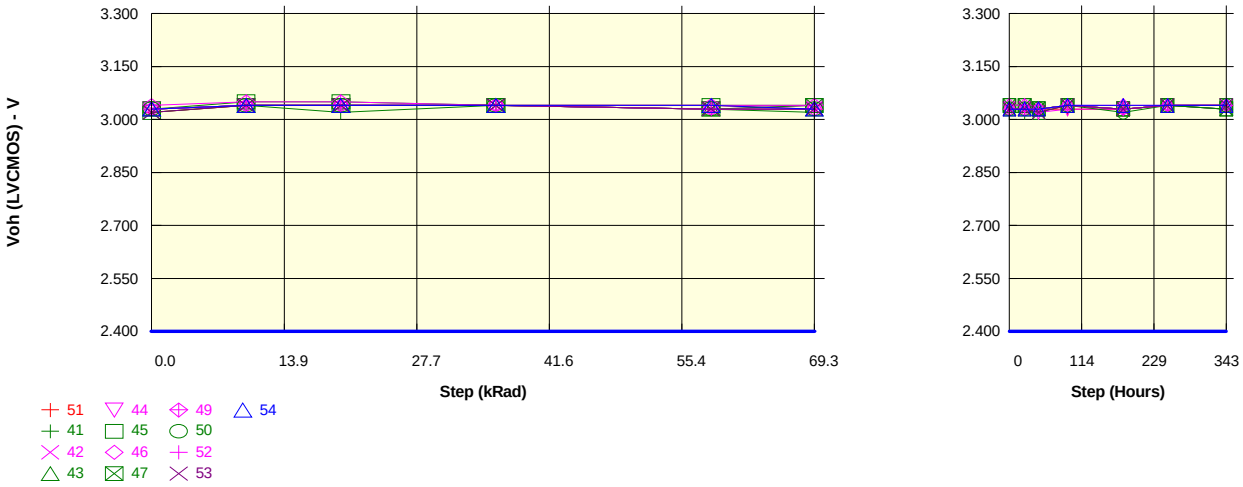
Voh (LVCMOS)s4do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.020	3.030	3.040	3.030
ON samples												
41	3.020	3.040	3.040	3.030	2.980	3.030	3.030	3.030	2.990	2.990	3.040	3.000
42	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	2.960	3.030	3.030	3.030
43	3.020	3.040	3.040	3.030	3.010	3.030	3.030	3.020	3.030	3.030	3.030	3.030
44	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.000	3.010	3.020	3.030
45	3.030	3.040	3.000	3.030	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.030
46	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.000	3.030	3.030	3.030
47	3.030	3.040	3.040	3.010	3.030	3.000	3.000	3.020	3.020	3.030	3.010	3.010
49	3.030	3.040	3.050	3.030	3.040	3.020	3.020	3.030	3.040	3.030	3.040	3.040
50	3.020	3.040	3.040	3.040	3.000	3.030	3.030	3.030	2.990	3.020	3.040	3.030
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.000	3.020	3.040
Statistics												
Min	3.020	3.040	3.000	3.010	2.980	3.000	3.000	3.020	2.960	2.990	3.010	3.000
Max	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.025	3.040	3.037	3.033	3.021	3.026	3.026	3.027	3.010	3.020	3.030	3.027
Sigma	0.005	0.000	0.013	0.009	0.018	0.010	0.010	0.005	0.025	0.014	0.010	0.012

Measurements

Voh (LVCMOS)s4do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.020	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.020	3.030	3.040
54	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.020	3.030	3.030
Max	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
Average	3.025	3.040	3.040	3.040	3.025	3.030	3.030	3.030	3.030	3.025	3.035	3.035
Sigma	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.005	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s4do2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

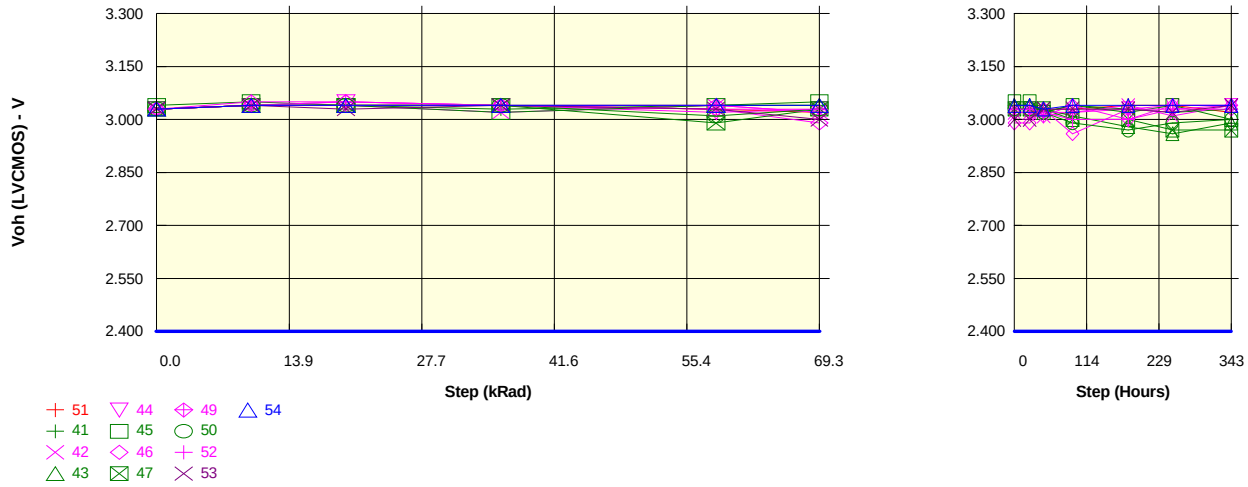
Voh (LVCMOS)s4do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.040
ON samples												
41	3.030	3.040	3.020	3.040	3.030	3.020	3.020	3.030	3.040	3.030	3.040	3.030
42	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
43	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.030
44	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.020	3.030	3.030	3.040	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
46	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
47	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.030
49	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.020	3.040	3.040
52	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.020	3.040	3.030	3.020	3.020	3.020	3.030	3.020	3.040	3.030
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.042	3.040	3.040	3.032	3.033	3.033	3.028	3.039	3.030	3.040	3.036
Sigma	0.004	0.004	0.008	0.000	0.004	0.006	0.006	0.004	0.003	0.004	0.000	0.005

Measurements

Voh (LVCMOS)s4do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.040
OFF samples												
53	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.040
Average	3.025	3.040	3.040	3.040	3.035	3.030	3.030	3.025	3.040	3.035	3.040	3.040
Sigma	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.005	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s4do1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

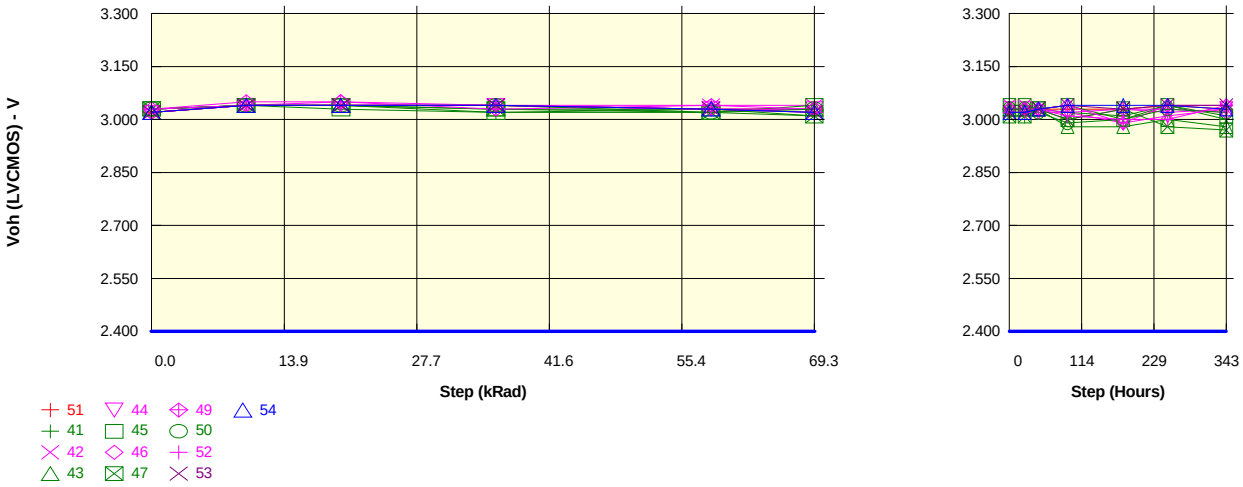
Voh (LVCMOS)s4do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.030	3.040	3.040	3.020
ON samples												
41	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.020	3.040	3.030	3.020	3.030
42	3.030	3.040	3.040	3.020	3.040	3.020	3.020	3.010	3.020	3.040	3.010	3.040
43	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.010	2.980	2.960	2.990
44	3.030	3.040	3.050	3.040	3.020	3.030	3.030	3.020	3.020	3.030	3.040	3.040
45	3.040	3.050	3.040	3.020	3.040	3.050	3.050	3.020	3.040	3.020	3.040	3.000
46	3.030	3.040	3.050	3.040	3.030	2.990	2.990	3.030	2.960	3.030	3.030	3.030
47	3.030	3.040	3.040	3.040	2.990	3.030	3.030	3.030	3.000	3.000	2.970	2.970
49	3.030	3.050	3.050	3.040	3.040	3.020	3.020	3.010	3.040	3.000	3.040	3.040
50	3.030	3.040	3.040	3.040	3.010	3.030	3.030	3.020	2.990	2.970	2.990	3.000
52	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.000	3.000	3.030	3.040
Statistics												
Min	3.030	3.040	3.040	3.020	2.990	2.990	2.990	3.010	2.960	2.970	2.960	2.970
Max	3.040	3.050	3.050	3.040	3.040	3.050	3.050	3.030	3.040	3.040	3.040	3.040
Average	3.031	3.042	3.043	3.035	3.028	3.028	3.028	3.021	3.012	3.010	3.013	3.018
Sigma	0.003	0.004	0.005	0.008	0.016	0.015	0.015	0.007	0.024	0.022	0.028	0.024

Measurements

Voh (LVCMOS)s4do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.030	3.040	3.040	3.020
OFF samples												
53	3.030	3.040	3.030	3.040	3.030	3.000	3.000	3.030	3.030	3.030	3.020	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.030	3.040	3.030	3.000	3.000	3.030	3.030	3.030	3.020	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.035	3.040	3.035	3.020	3.020	3.030	3.035	3.035	3.030	3.040
Sigma	0.000	0.000	0.005	0.000	0.005	0.020	0.020	0.000	0.005	0.005	0.010	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s4do0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

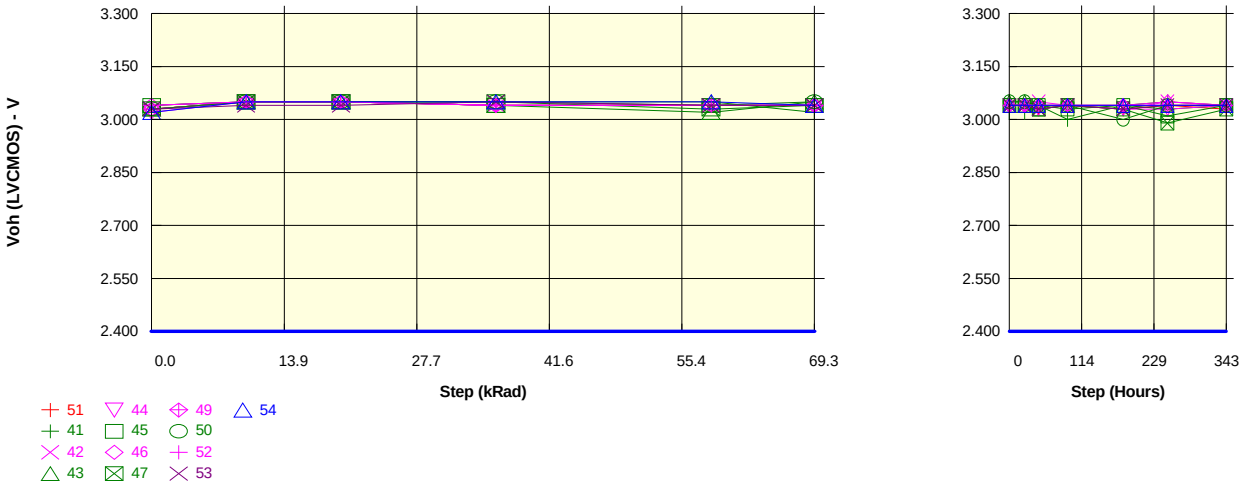
Voh (LVCMOS)s4do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
ON samples												
41	3.030	3.040	3.040	3.020	3.030	3.010	3.010	3.030	3.020	3.010	3.040	3.000
42	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.000	3.030	3.020	3.030
43	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	2.980	2.980	3.000	2.980
44	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	2.990	3.010	3.030
45	3.030	3.040	3.030	3.020	3.020	3.040	3.040	3.030	3.040	3.000	3.040	3.010
46	3.020	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.020	3.030	3.030	3.020
47	3.030	3.040	3.040	3.030	3.020	3.010	3.010	3.030	3.000	3.030	2.980	2.970
49	3.030	3.050	3.050	3.030	3.040	3.030	3.030	3.030	3.040	2.990	3.040	3.040
50	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.020	2.990	3.000	3.030	3.020
52	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.010	3.000	3.000	3.040
Statistics												
Min	3.020	3.040	3.030	3.020	3.020	3.010	3.010	3.020	2.980	2.980	2.980	2.970
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.026	3.041	3.041	3.033	3.029	3.027	3.027	3.028	3.012	3.006	3.019	3.014
Sigma	0.005	0.003	0.005	0.008	0.007	0.010	0.010	0.004	0.019	0.017	0.020	0.023

Measurements

Voh (LVCMOS)s4do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
OFF samples												
53	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.030	3.040	3.040
54	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.040	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.030	3.040	3.030
Max	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.040	3.040	3.040
Average	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.035	3.040	3.035
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s5do3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

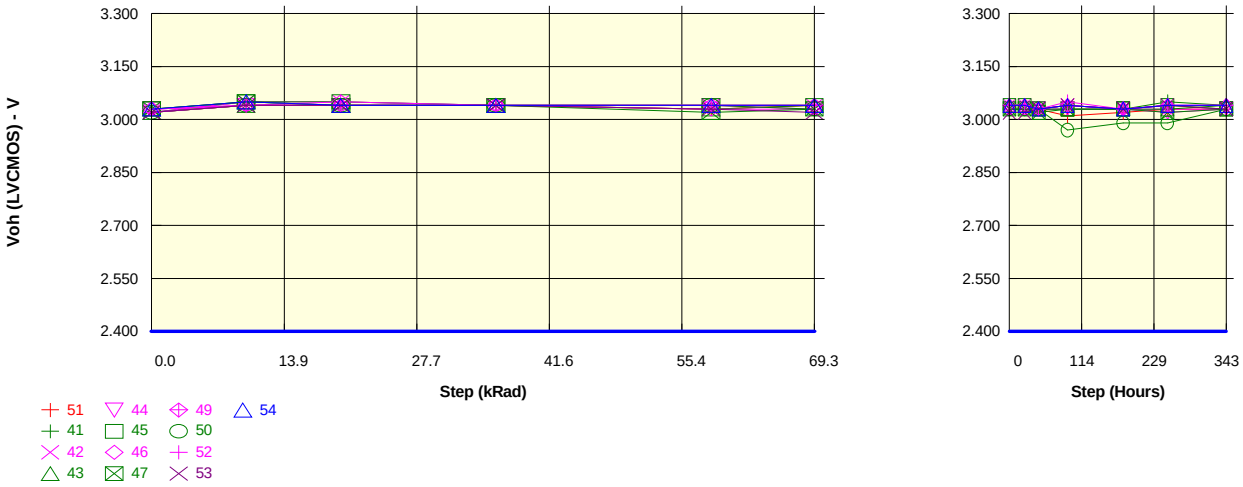
Voh (LVCMOS)s5do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
ON samples												
41	3.040	3.050	3.050	3.050	3.050	3.020	3.020	3.040	3.000	3.040	3.050	3.040
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.030	3.050	3.040
43	3.030	3.050	3.050	3.040	3.020	3.050	3.050	3.030	3.040	3.040	3.030	3.040
44	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.040
45	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.010	3.040
46	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
47	3.030	3.050	3.050	3.050	3.030	3.040	3.040	3.030	3.040	3.030	2.990	3.030
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.050	3.050	3.050	3.040	3.050	3.050	3.040	3.040	3.000	3.040	3.040
52	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.050	3.050	3.040	3.020	3.020	3.020	3.030	3.000	3.000	2.990	3.030
Max	3.040	3.050	3.050	3.050	3.050	3.050	3.050	3.050	3.040	3.040	3.050	3.040
Average	3.033	3.050	3.050	3.043	3.038	3.040	3.040	3.038	3.035	3.033	3.033	3.039
Sigma	0.006	0.000	0.000	0.005	0.007	0.008	0.008	0.006	0.012	0.012	0.018	0.003

Measurements

Voh (LVCMOS)s5do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.020	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.025	3.045	3.045	3.050	3.045	3.040	3.040	3.035	3.040	3.035	3.040	3.040
Sigma	0.005	0.005	0.005	0.000	0.005	0.000	0.000	0.005	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s5do2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

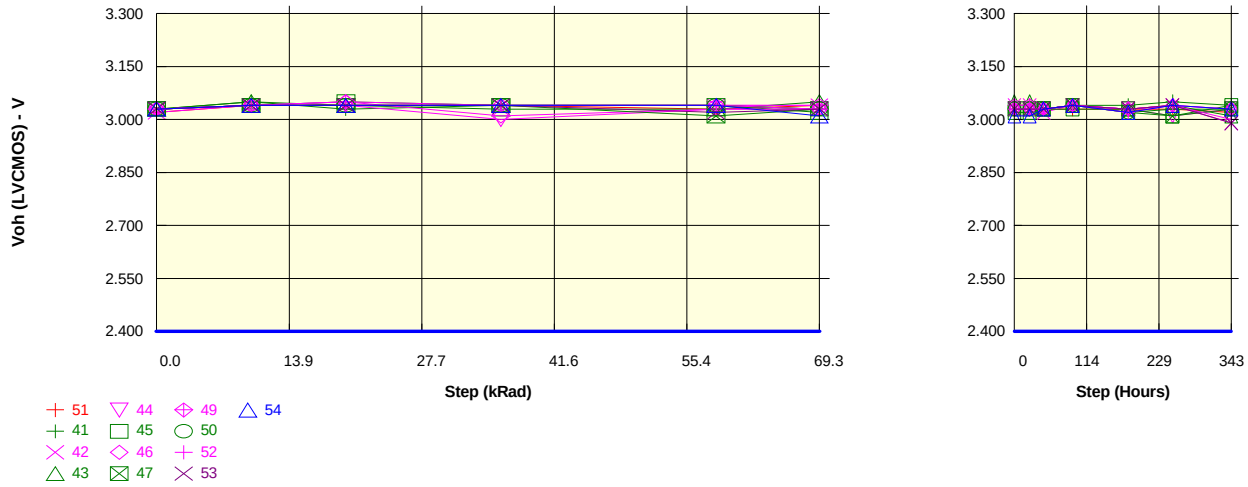
Voh (LVCMOS)s5do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.010	3.020	3.030	3.030
ON samples												
41	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
42	3.020	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.030
43	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.040
44	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.030
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030
46	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
47	3.030	3.050	3.040	3.040	3.020	3.030	3.030	3.020	3.030	3.030	3.020	3.030
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
50	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	2.970	2.990	2.990	3.030
52	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.020	2.970	2.990	2.990	3.030
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.050	3.030	3.050	3.040
Average	3.025	3.044	3.043	3.040	3.036	3.036	3.036	3.029	3.030	3.026	3.030	3.035
Sigma	0.005	0.005	0.005	0.000	0.007	0.005	0.005	0.003	0.021	0.012	0.016	0.005

Measurements

Voh (LVCMOS)s5do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.010	3.020	3.030	3.030
OFF samples												
53	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.030	3.040	3.030
54	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.030	3.040	3.030
Max	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.025	3.045	3.040	3.040	3.035	3.030	3.030	3.030	3.040	3.030	3.040	3.035
Sigma	0.005	0.005	0.000	0.000	0.005	0.010	0.010	0.000	0.000	0.000	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s5do1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

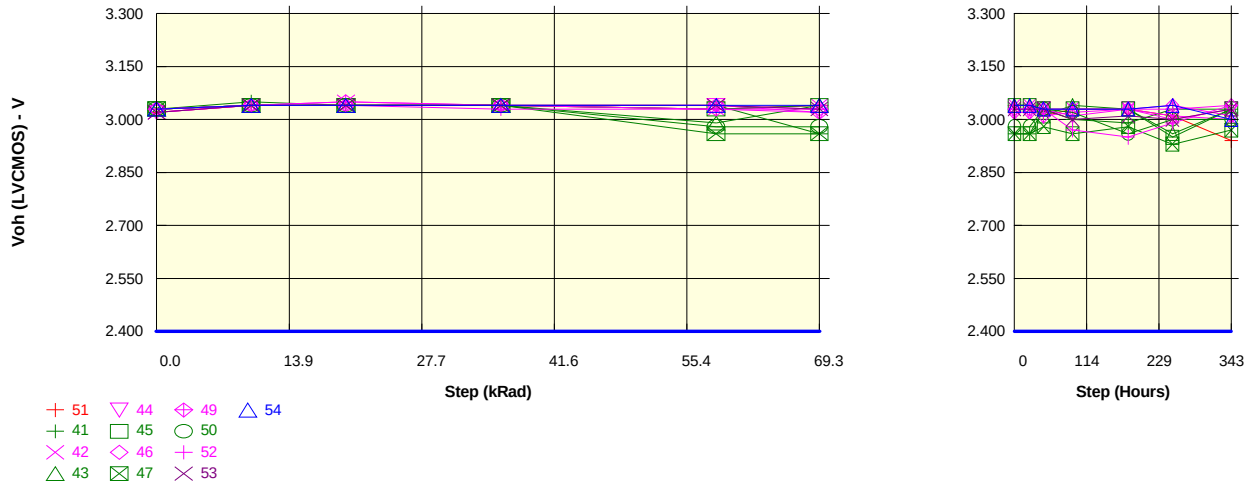
Voh (LVCMOS)s5do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.020
ON samples												
41	3.030	3.050	3.030	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.050	3.040
42	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	2.990
43	3.030	3.050	3.040	3.030	3.030	3.050	3.050	3.030	3.040	3.030	3.040	3.010
44	3.030	3.040	3.040	3.000	3.030	3.030	3.030	3.030	3.040	3.030	3.010	3.030
45	3.030	3.040	3.050	3.040	3.040	3.020	3.020	3.030	3.030	3.030	3.010	3.040
46	3.030	3.040	3.050	3.010	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
47	3.030	3.040	3.040	3.040	3.010	3.030	3.030	3.030	3.040	3.020	3.010	3.030
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
50	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.020	3.030	3.030
52	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.020	3.040	3.000
Statistics												
Min	3.020	3.040	3.030	3.000	3.010	3.020	3.020	3.020	3.030	3.020	3.010	2.990
Max	3.030	3.050	3.050	3.040	3.040	3.050	3.050	3.030	3.040	3.040	3.050	3.040
Average	3.029	3.042	3.042	3.032	3.034	3.033	3.033	3.029	3.039	3.028	3.031	3.023
Sigma	0.003	0.004	0.006	0.014	0.009	0.008	0.008	0.003	0.003	0.006	0.014	0.016

Measurements

Voh (LVCMOS)s5do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.020
OFF samples												
53	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.040	3.030	3.040	2.990
54	3.030	3.040	3.040	3.040	3.040	3.010	3.010	3.030	3.040	3.020	3.040	3.030
Statistics												
Min	3.030	3.040	3.040	3.040	3.020	3.010	3.010	3.030	3.040	3.020	3.040	2.990
Max	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.030
Average	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.040	3.025	3.040	3.010
Sigma	0.000	0.000	0.000	0.000	0.010	0.010	0.010	0.000	0.000	0.005	0.000	0.020

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s5do0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

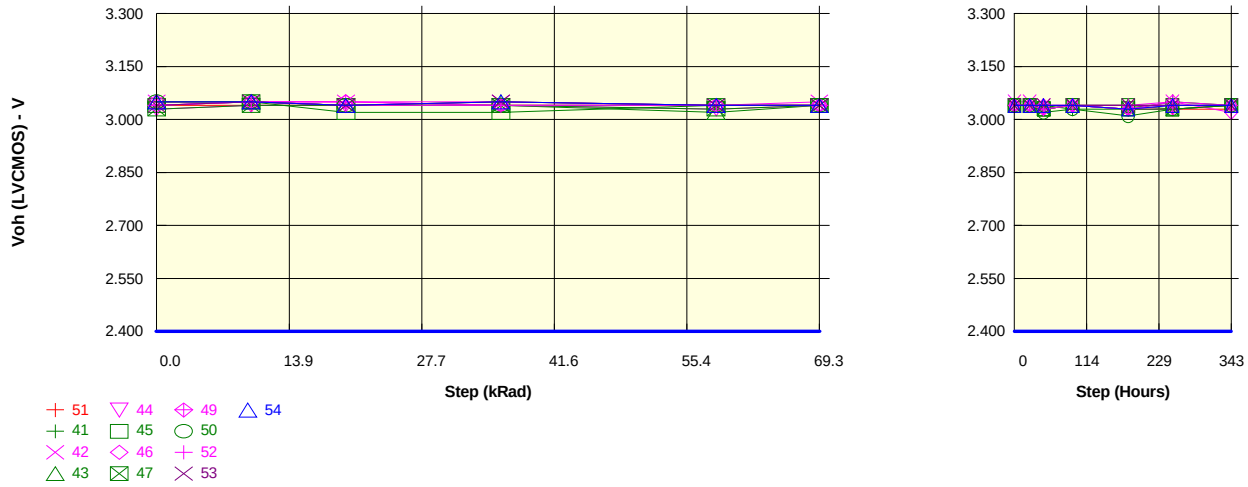
Voh (LVCMOS)s5do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.010	3.030	3.030	3.010	2.940
ON samples												
41	3.030	3.050	3.040	3.040	3.040	2.960	2.960	3.030	3.000	2.990	3.030	3.030
42	3.020	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.030	3.030	3.010	3.000
43	3.030	3.040	3.040	3.040	2.990	3.040	3.040	3.010	3.040	3.030	2.960	3.030
44	3.020	3.040	3.040	3.040	3.040	3.020	3.020	3.030	3.010	3.030	3.000	3.030
45	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.030	3.030	2.950	3.030
46	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.030	3.030	3.030	3.040
47	3.030	3.040	3.040	3.040	2.960	2.960	2.960	2.980	2.960	2.980	2.930	2.970
49	3.030	3.040	3.050	3.040	3.040	3.030	3.030	3.010	3.020	3.030	3.040	3.010
50	3.030	3.040	3.040	3.040	2.980	2.980	2.980	3.030	3.020	2.960	3.000	3.000
52	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	2.970	2.950	2.990	3.040
Statistics												
Min	3.020	3.040	3.040	3.030	2.960	2.960	2.960	2.980	2.960	2.950	2.930	2.970
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.028	3.041	3.042	3.039	3.017	3.012	3.012	3.021	3.011	3.006	2.994	3.018
Sigma	0.004	0.003	0.004	0.003	0.028	0.031	0.031	0.016	0.025	0.031	0.035	0.021

Measurements

Voh (LVCMOS)s5do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.010	3.030	3.030	3.010	2.940
OFF samples												
53	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.000	3.010	3.000	3.030
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.000
Statistics												
Min	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.000	3.010	3.000	3.000
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030
Average	3.025	3.040	3.040	3.040	3.040	3.035	3.035	3.030	3.015	3.020	3.020	3.015
Sigma	0.005	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.015	0.010	0.020	0.015

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s7do3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

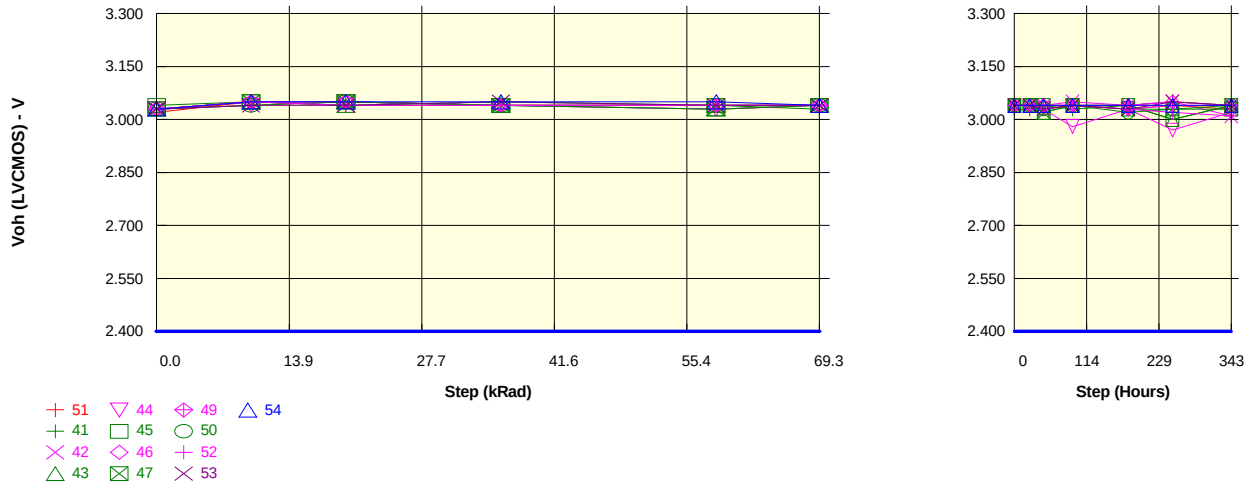
Voh (LVCMOS)s7do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.030
ON samples												
41	3.050	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.050	3.040
42	3.050	3.050	3.050	3.050	3.040	3.050	3.050	3.040	3.040	3.040	3.050	3.040
43	3.050	3.050	3.040	3.040	3.020	3.040	3.040	3.030	3.040	3.040	3.030	3.040
44	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.030	3.040
45	3.040	3.050	3.020	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
46	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.030	3.040
49	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.020
50	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.020	3.030	3.010	3.030	3.040
52	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.020	3.020	3.020	3.040	3.040	3.020	3.030	3.010	3.030	3.020
Max	3.050	3.050	3.050	3.050	3.040	3.050	3.050	3.040	3.040	3.040	3.050	3.040
Average	3.043	3.048	3.041	3.040	3.036	3.041	3.041	3.032	3.038	3.032	3.039	3.038
Sigma	0.008	0.004	0.008	0.008	0.007	0.003	0.003	0.006	0.004	0.009	0.008	0.006

Measurements

Voh (LVCMOS)s7do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.030
OFF samples												
53	3.040	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
54	3.050	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
Statistics												
Min	3.040	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
Max	3.050	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.045	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.035	3.040	3.040
Sigma	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s7do2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

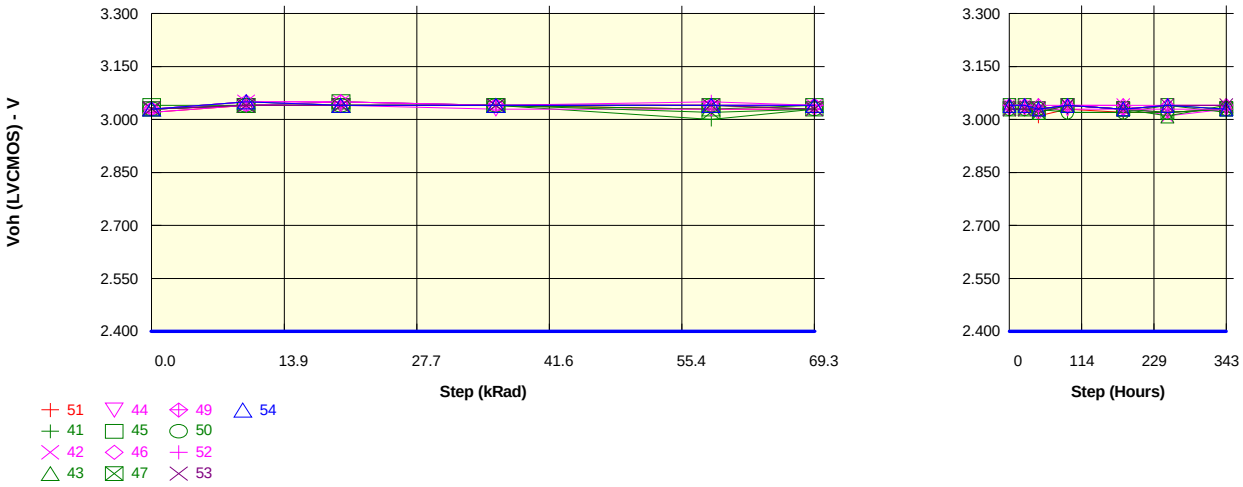
Voh (LVCMOS)s7do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
ON samples												
41	3.030	3.050	3.040	3.050	3.040	3.030	3.030	3.040	3.030	3.040	3.050	3.040
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.010
43	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.020	3.040	3.040	3.000	3.040
44	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	2.980	3.030	2.970	3.020
45	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.000	3.040
46	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
47	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.020	3.040	3.030	3.030	3.030
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.020	3.030	3.040
52	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.020	3.010
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	2.980	3.020	2.970	3.010
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
Average	3.031	3.048	3.047	3.041	3.037	3.039	3.039	3.033	3.034	3.034	3.024	3.031
Sigma	0.003	0.004	0.005	0.003	0.005	0.003	0.003	0.008	0.019	0.007	0.025	0.012

Measurements

Voh (LVCMOS)s7do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
54	3.030	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.030	3.045	3.045	3.050	3.045	3.040	3.040	3.035	3.040	3.035	3.045	3.040
Sigma	0.000	0.005	0.005	0.000	0.005	0.000	0.000	0.005	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s7do1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

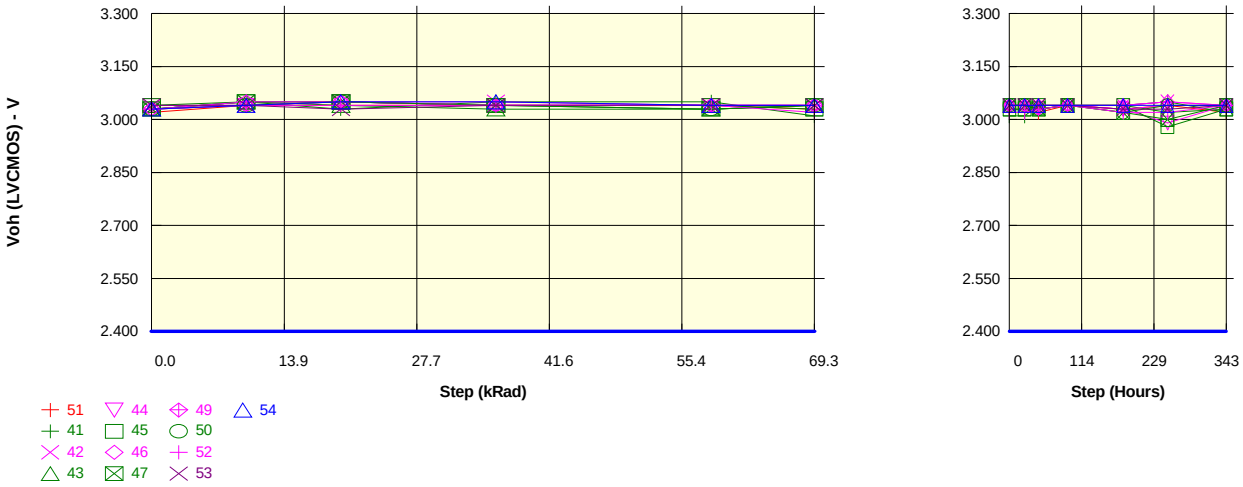
Voh (LVCMOS)s7do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.010	3.030	3.020	3.020	3.030
ON samples												
41	3.030	3.050	3.040	3.040	3.000	3.030	3.030	3.040	3.020	3.020	3.040	3.020
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.010	3.030
43	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.020	3.040	3.030	3.010	3.040
44	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.020	3.030
45	3.040	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
47	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.040	3.030	3.020	3.030
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
50	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.020	3.030
52	3.020	3.040	3.040	3.040	3.050	3.040	3.040	3.030	3.040	3.030	3.030	3.030
Statistics												
Min	3.020	3.040	3.040	3.030	3.000	3.030	3.030	3.020	3.020	3.020	3.010	3.020
Max	3.040	3.050	3.050	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.030	3.043	3.044	3.039	3.033	3.036	3.036	3.029	3.035	3.030	3.027	3.032
Sigma	0.004	0.005	0.005	0.003	0.013	0.005	0.005	0.007	0.008	0.006	0.012	0.006

Measurements

Voh (LVCMOS)s7do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.010	3.030	3.020	3.020	3.030
OFF samples												
53	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
Statistics												
Min	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.030
Max	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.030	3.045	3.040	3.040	3.040	3.035	3.035	3.030	3.040	3.030	3.040	3.035
Sigma	0.000	0.005	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)s7do0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

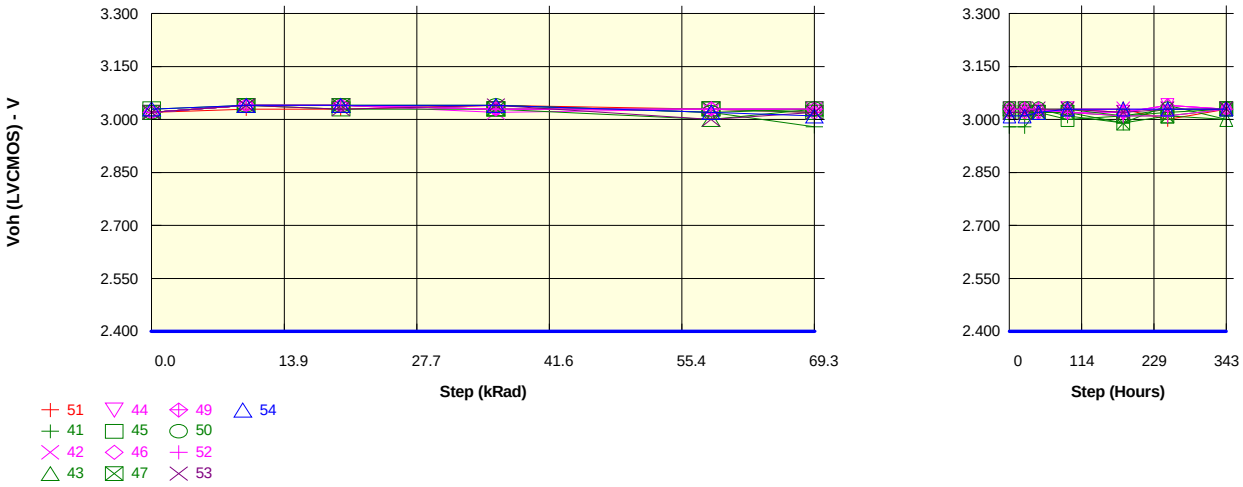
Voh (LVCMOS)s7do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.020	3.040	3.030	3.040	3.020
ON samples												
41	3.030	3.050	3.030	3.050	3.050	3.010	3.010	3.040	3.040	3.040	3.050	3.020
42	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
43	3.030	3.050	3.040	3.030	3.030	3.040	3.040	3.030	3.040	3.040	3.020	3.030
44	3.040	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	2.990	3.040
45	3.040	3.050	3.050	3.040	3.040	3.030	3.030	3.040	3.040	3.040	2.980	3.030
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.020	3.000	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.040
50	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.020	3.040	3.040
52	3.030	3.040	3.040	3.040	3.040	3.020	3.020	3.030	3.040	3.020	3.020	3.040
Statistics												
Min	3.030	3.040	3.030	3.030	3.030	3.010	3.010	3.030	3.040	3.020	2.980	3.020
Max	3.040	3.050	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040
Average	3.032	3.046	3.046	3.041	3.038	3.034	3.034	3.034	3.040	3.032	3.024	3.036
Sigma	0.004	0.005	0.007	0.005	0.006	0.010	0.010	0.005	0.000	0.009	0.025	0.007

Measurements

Voh (LVCMOS)s7do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.020	3.040	3.030	3.040	3.020
OFF samples												
53	3.040	3.040	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.040
54	3.030	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.040
Max	3.040	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.035	3.040	3.040	3.045	3.040	3.040	3.040	3.040	3.040	3.035	3.035	3.040
Sigma	0.005	0.000	0.010	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)rgos2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

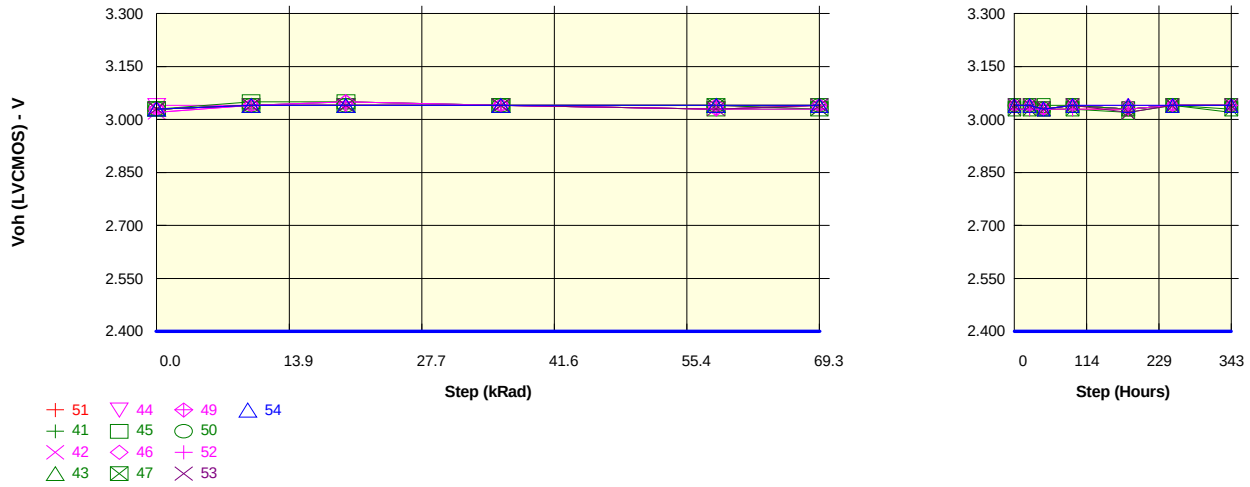
Voh (LVCMOS)rgos2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.030	3.030	3.040	3.030	3.020	3.020	3.020	3.030	3.030	3.000	3.030
ON samples												
41	3.020	3.040	3.040	3.040	3.020	2.980	2.980	3.030	3.010	2.990	3.040	3.000
42	3.020	3.040	3.040	3.020	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.030
43	3.020	3.040	3.040	3.030	3.000	3.030	3.030	3.020	3.020	3.010	3.010	3.000
44	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.030	3.020	3.040	3.030
45	3.030	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.000	3.010	3.020	3.030
46	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.020	3.030	3.020	3.040	3.030
47	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.020	3.020	2.990	3.010	3.030
49	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.020	3.040	3.030
50	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.010	3.030	3.030
52	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.010	3.010	3.030
Statistics												
Min	3.020	3.040	3.030	3.020	3.000	2.980	2.980	3.020	3.000	2.990	3.010	3.000
Max	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Average	3.021	3.040	3.039	3.031	3.025	3.023	3.023	3.024	3.021	3.011	3.027	3.024
Sigma	0.003	0.000	0.003	0.005	0.009	0.015	0.015	0.005	0.009	0.012	0.013	0.012

Measurements

Voh (LVCMOS)rgos2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.030	3.030	3.040	3.030	3.020	3.020	3.020	3.030	3.030	3.000	3.030
OFF samples												
53	3.020	3.040	3.030	3.040	3.000	3.020	3.020	3.030	3.030	3.020	3.030	3.030
54	3.030	3.040	3.040	3.040	3.020	3.010	3.010	3.020	3.030	3.030	3.030	3.030
Statistics												
Min	3.020	3.040	3.030	3.040	3.000	3.010	3.010	3.020	3.030	3.020	3.030	3.030
Max	3.030	3.040	3.040	3.040	3.020	3.020	3.020	3.030	3.030	3.030	3.030	3.030
Average	3.025	3.040	3.035	3.040	3.010	3.015	3.015	3.025	3.030	3.025	3.030	3.030
Sigma	0.005	0.000	0.005	0.000	0.010	0.005	0.005	0.005	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)rgos1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

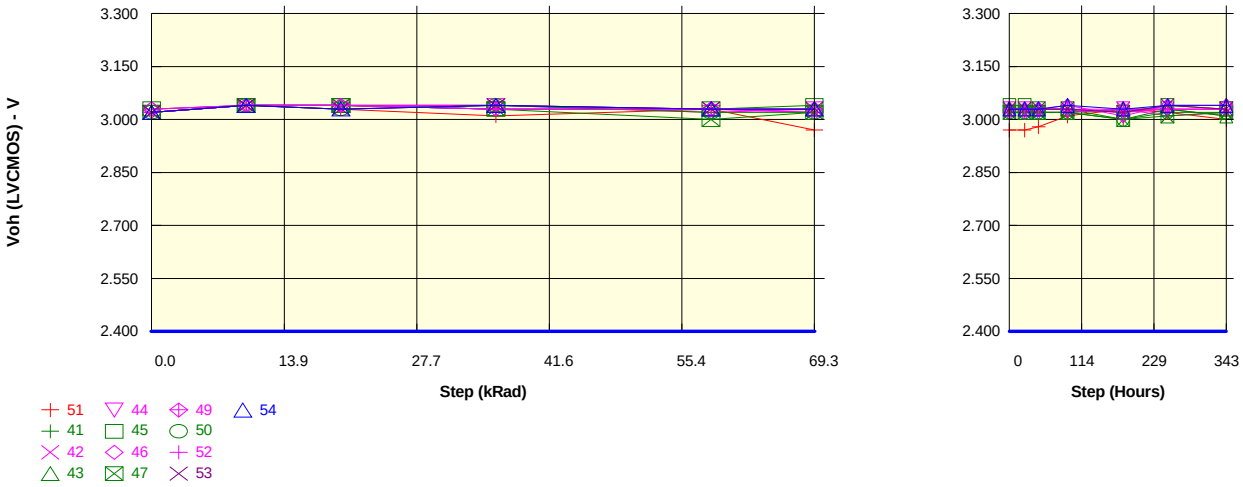
Voh (LVCMOS)rgos1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040
ON samples												
41	3.030	3.040	3.050	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.020
42	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
43	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
44	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
45	3.030	3.050	3.050	3.040	3.030	3.040	3.040	3.040	3.040	3.030	3.040	3.040
46	3.030	3.040	3.050	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.040	3.030
49	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
50	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.040	3.020
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040
Average	3.029	3.041	3.044	3.040	3.035	3.036	3.036	3.031	3.038	3.030	3.040	3.037
Sigma	0.005	0.003	0.005	0.000	0.005	0.005	0.005	0.003	0.004	0.004	0.000	0.006

Measurements

Voh (LVCMOS)rgos1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040
OFF samples												
53	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.020	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.020	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.035	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Sigma	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.010	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)rgos0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

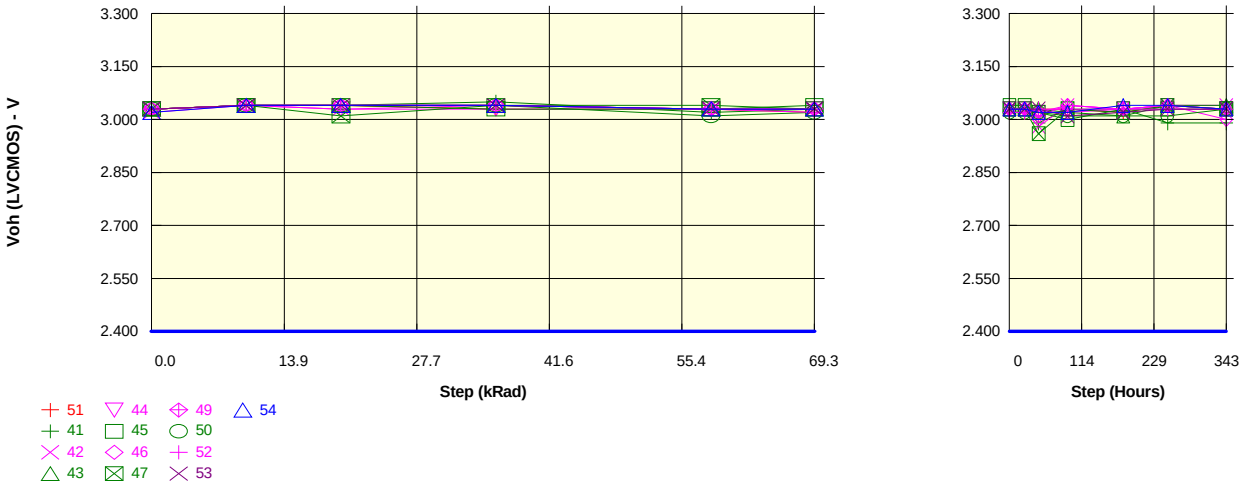
Voh (LVCMOS)rgos0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.030	3.010	3.030	2.970	2.970	2.980	3.010	3.030	3.020	3.000
ON samples												
41	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.000	3.030	3.010
42	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.020	3.020	3.030	3.010	3.020
43	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.030	3.030	3.010
44	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.020	3.030	3.030	3.030
45	3.030	3.040	3.040	3.030	3.030	3.040	3.040	3.030	3.030	3.020	3.040	3.030
46	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.030
47	3.020	3.040	3.040	3.030	3.000	3.020	3.020	3.020	3.020	3.000	3.010	3.020
49	3.030	3.040	3.040	3.030	3.030	3.020	3.020	3.030	3.040	3.010	3.040	3.040
50	3.020	3.040	3.030	3.040	3.020	3.020	3.020	3.020	3.020	3.000	3.020	3.020
52	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.020	3.030	3.030
Statistics												
Min	3.020	3.040	3.030	3.030	3.000	3.020	3.020	3.020	3.020	3.000	3.010	3.010
Max	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.023	3.040	3.039	3.034	3.025	3.027	3.027	3.025	3.026	3.017	3.027	3.024
Sigma	0.005	0.000	0.003	0.005	0.009	0.006	0.006	0.005	0.007	0.013	0.010	0.009

Measurements

Voh (LVCMOS)rgos0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.030	3.010	3.030	2.970	2.970	2.980	3.010	3.030	3.020	3.000
OFF samples												
53	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.040	3.030
54	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.040	3.030
Max	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Average	3.020	3.040	3.030	3.040	3.030	3.030	3.030	3.030	3.035	3.025	3.040	3.035
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro7

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

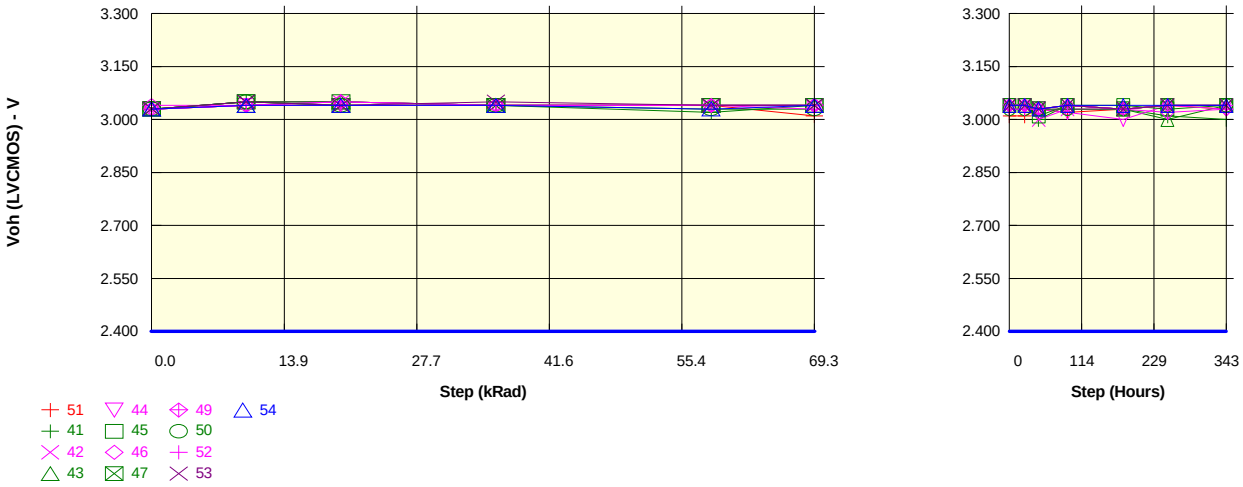
Voh (LVCMOS)ufro7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.030	3.030	3.020	3.020	3.030	3.030	3.020	3.040	3.030
ON samples												
41	3.030	3.040	3.040	3.050	3.020	3.030	3.030	2.990	3.030	3.030	2.990	2.990
42	3.020	3.040	3.030	3.040	3.030	3.030	3.030	2.980	3.040	3.030	3.040	3.040
43	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.010	3.040	3.040
44	3.030	3.040	3.030	3.030	3.030	3.030	3.030	3.020	3.020	3.030	3.040	3.030
45	3.030	3.040	3.040	3.030	3.030	3.040	3.040	3.020	3.000	3.030	3.030	3.030
46	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.030
47	3.030	3.040	3.010	3.040	3.040	3.030	3.030	2.960	3.030	3.020	3.040	3.030
49	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.010	3.040	3.030	3.040	3.000
50	3.030	3.040	3.040	3.040	3.010	3.020	3.020	3.020	3.010	3.010	3.010	3.030
52	3.030	3.040	3.040	3.040	3.030	3.020	3.020	3.030	3.030	3.030	3.030	3.030
Statistics												
Min	3.020	3.040	3.010	3.030	3.010	3.020	3.020	2.960	3.000	3.010	2.990	2.990
Max	3.030	3.040	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Average	3.029	3.040	3.035	3.039	3.028	3.029	3.029	3.008	3.026	3.025	3.030	3.025
Sigma	0.003	0.000	0.009	0.005	0.007	0.005	0.005	0.022	0.013	0.008	0.016	0.016

Measurements

Voh (LVCMOS)ufro7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.030	3.030	3.020	3.020	3.030	3.030	3.020	3.040	3.030
OFF samples												
53	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.010	3.020	3.030	3.030
54	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.020	3.040	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.010	3.020	3.030	3.030
Max	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.040	3.040	3.030
Average	3.025	3.040	3.040	3.040	3.030	3.030	3.030	3.025	3.015	3.030	3.035	3.030
Sigma	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.010	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro6

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

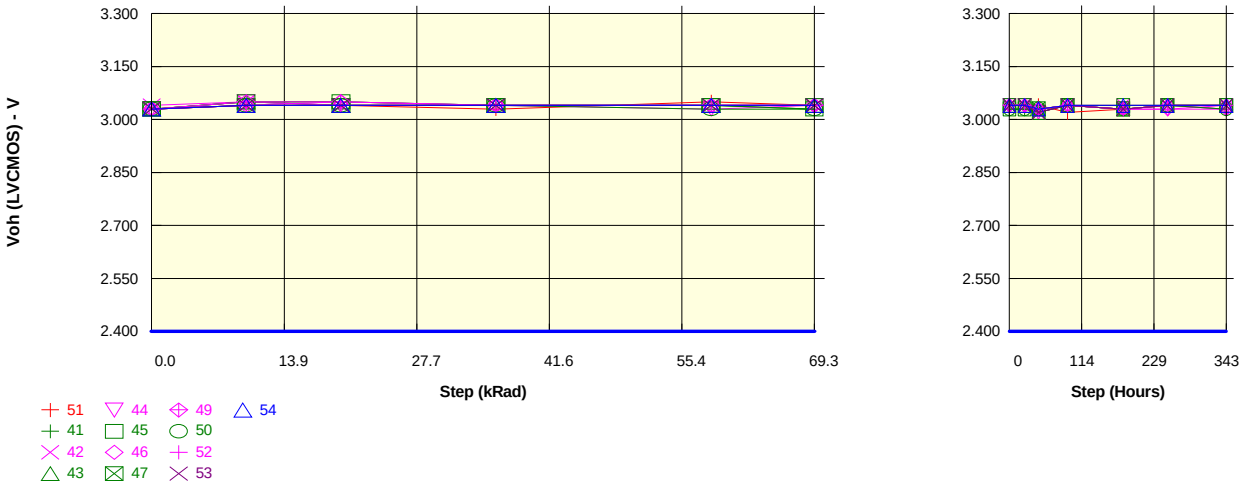
Voh (LVCMOS)ufro6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.010	3.010	3.030	3.020	3.030	3.040	3.030
ON samples												
41	3.030	3.050	3.050	3.040	3.020	3.040	3.040	3.000	3.040	3.030	3.010	3.000
42	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.000	3.030	3.030	3.040	3.040
43	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.000	3.040
44	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.020	3.000	3.040	3.040
45	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.010	3.040	3.040	3.030	3.040
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030
47	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.040	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.020	3.030
50	3.030	3.050	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.040
52	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.000	3.020	3.000	3.000	3.000
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.031	3.045	3.046	3.040	3.037	3.038	3.038	3.022	3.035	3.028	3.030	3.034
Sigma	0.003	0.005	0.005	0.000	0.006	0.004	0.004	0.012	0.007	0.010	0.014	0.012

Measurements

Voh (LVCMOS)ufro6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.010	3.010	3.030	3.020	3.030	3.040	3.030
OFF samples												
53	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.045	3.040	3.045	3.035	3.040	3.040	3.030	3.040	3.035	3.040	3.040
Sigma	0.000	0.005	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro5

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

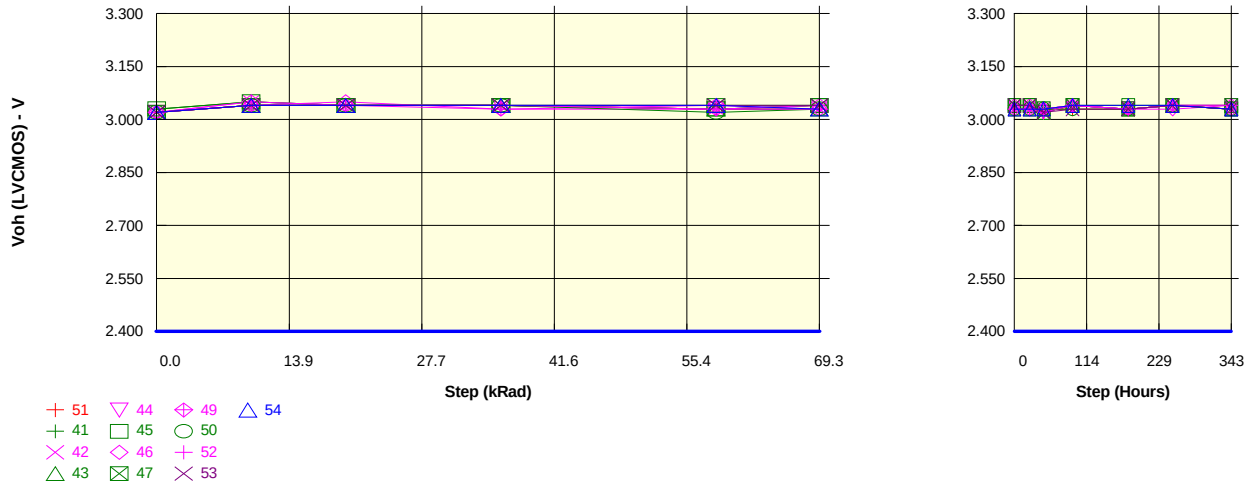
Voh (LVCMOS)ufro5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.030	3.050	3.040	3.040	3.040	3.020	3.030	3.040	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.030
42	3.040	3.050	3.040	3.040	3.040	3.040	3.040	3.020	3.040	3.040	3.040	3.040
43	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
44	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.020	3.040	3.030	3.030	3.030
45	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.020	3.040	3.040	3.040	3.040
46	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.040
47	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
49	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.030
50	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
52	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.030	3.030
Max	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.031	3.046	3.044	3.040	3.038	3.037	3.037	3.026	3.040	3.032	3.038	3.036
Sigma	0.003	0.005	0.005	0.000	0.004	0.005	0.005	0.005	0.000	0.004	0.004	0.005

Measurements

Voh (LVCMOS)ufro5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.030	3.050	3.040	3.040	3.040	3.020	3.030	3.040	3.040
OFF samples												
53	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
54	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Statistics												
Min	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
Max	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.025	3.040	3.035	3.040	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro4

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

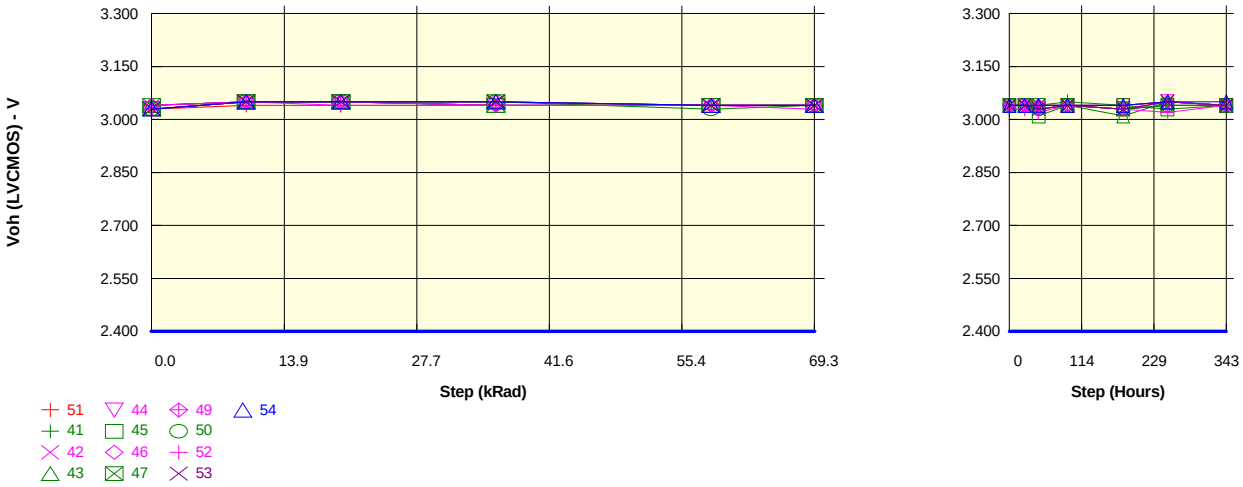
Voh (LVCMOS)ufro4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
ON samples												
41	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.020	3.040	3.030	3.040	3.030
42	3.020	3.050	3.040	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
43	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.030
44	3.020	3.040	3.040	3.040	3.030	3.040	3.040	3.020	3.040	3.030	3.040	3.040
45	3.030	3.050	3.040	3.040	3.030	3.040	3.040	3.030	3.040	3.040	3.040	3.030
46	3.020	3.040	3.050	3.030	3.030	3.040	3.040	3.030	3.040	3.030	3.030	3.040
47	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
49	3.020	3.050	3.040	3.030	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.030
50	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.030	3.040	3.030
52	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.040	3.030	3.040	3.040
Statistics												
Min	3.020	3.040	3.040	3.030	3.020	3.030	3.030	3.020	3.030	3.030	3.030	3.030
Max	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.040
Average	3.022	3.044	3.041	3.038	3.031	3.035	3.035	3.025	3.039	3.031	3.039	3.035
Sigma	0.004	0.005	0.003	0.004	0.005	0.005	0.005	0.005	0.003	0.003	0.003	0.005

Measurements

Voh (LVCMOS)ufro4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
OFF samples												
53	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.030	3.030	3.040	3.030
54	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.040	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.040	3.030	3.030	3.020	3.030	3.030	3.040	3.030
Max	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.040	3.030
Average	3.020	3.040	3.040	3.040	3.040	3.035	3.035	3.025	3.035	3.035	3.040	3.030
Sigma	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro3

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

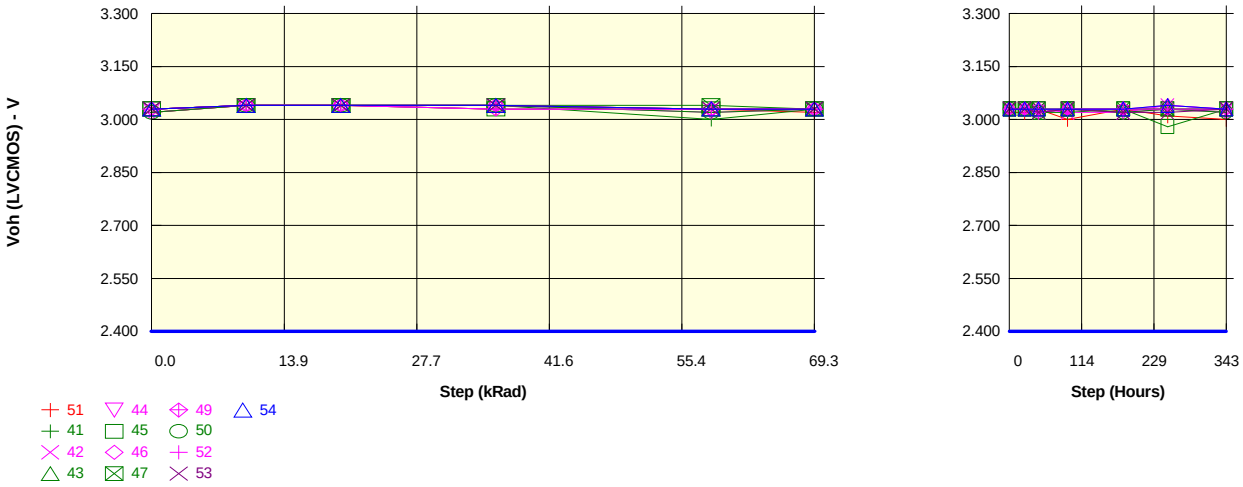
Voh (LVCMOS)ufro3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
ON samples												
41	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
42	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.040
43	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.010	3.050	3.040
44	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
45	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.010	3.040	3.040	3.030	3.040
46	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
49	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.050	3.040
50	3.030	3.050	3.050	3.050	3.030	3.040	3.040	3.030	3.040	3.030	3.040	3.040
52	3.030	3.050	3.040	3.040	3.040	3.030	3.030	3.020	3.040	3.030	3.020	3.040
Statistics												
Min	3.030	3.050	3.040	3.040	3.030	3.030	3.030	3.010	3.040	3.010	3.020	3.040
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
Average	3.035	3.050	3.049	3.044	3.039	3.039	3.039	3.032	3.041	3.031	3.042	3.040
Sigma	0.005	0.000	0.003	0.005	0.003	0.003	0.003	0.010	0.003	0.008	0.010	0.000

Measurements

Voh (LVCMOS)ufro3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
OFF samples												
53	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
54	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.050
Statistics												
Min	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
Max	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.040	3.040	3.050	3.050
Average	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.035	3.040	3.035	3.050	3.045
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro2

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

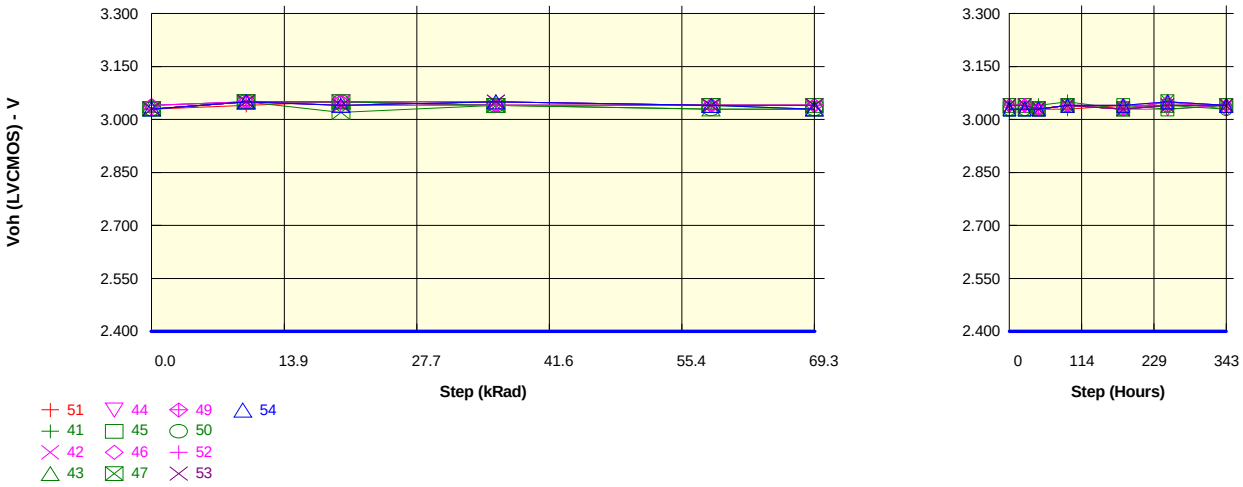
Voh (LVCMOS)ufro2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.030	3.000	3.030	3.010	3.000
ON samples												
41	3.020	3.040	3.040	3.040	3.000	3.030	3.030	3.020	3.020	3.030	3.030	3.030
42	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.020	3.040	3.030
43	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.030
44	3.030	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030	3.020	3.030	3.030
45	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030	2.980	3.030
46	3.020	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.020
47	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.030
49	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
50	3.020	3.040	3.040	3.040	3.020	3.030	3.030	3.020	3.030	3.020	3.030	3.020
52	3.030	3.040	3.040	3.030	3.030	3.030	3.030	3.020	3.030	3.030	3.030	3.030
Statistics												
Min	3.020	3.040	3.040	3.030	3.000	3.030	3.030	3.020	3.020	3.020	2.980	3.020
Max	3.030	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Average	3.027	3.040	3.040	3.037	3.026	3.030	3.030	3.025	3.028	3.027	3.027	3.028
Sigma	0.005	0.000	0.000	0.005	0.010	0.000	0.000	0.005	0.004	0.005	0.016	0.004

Measurements

Voh (LVCMOS)ufro2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.020	3.040	3.040	3.030	3.030	3.020	3.020	3.030	3.000	3.030	3.010	3.000
OFF samples												
53	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.020	3.020	3.030
54	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Statistics												
Min	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.020	3.030	3.020	3.020	3.030
Max	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.030	3.030	3.030	3.040	3.030
Average	3.030	3.040	3.040	3.040	3.030	3.030	3.030	3.025	3.030	3.025	3.030	3.030
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.010	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro1

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

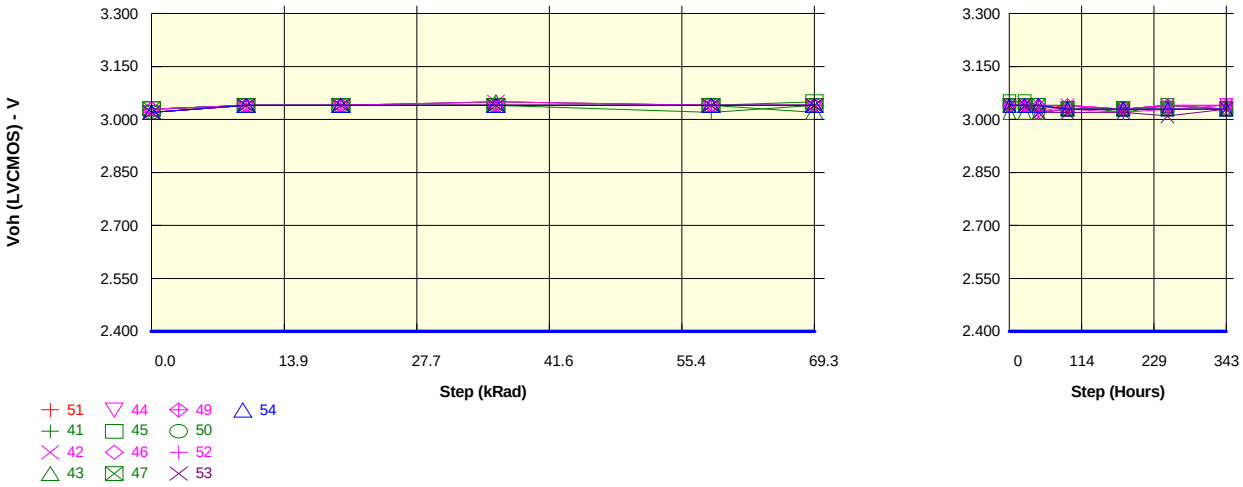
Voh (LVCMOS)ufro1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.040	3.040
ON samples												
41	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.030	3.040	3.040
42	3.030	3.050	3.050	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
43	3.040	3.050	3.050	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.040
44	3.030	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.040
45	3.030	3.050	3.050	3.040	3.040	3.030	3.030	3.030	3.040	3.040	3.030	3.040
46	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
47	3.030	3.050	3.020	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
49	3.040	3.050	3.050	3.040	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.030
50	3.030	3.050	3.050	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.040	3.030
52	3.030	3.050	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.050	3.040
Statistics												
Min	3.030	3.050	3.020	3.040	3.030	3.030	3.030	3.030	3.040	3.030	3.030	3.030
Max	3.040	3.050	3.050	3.050	3.040	3.040	3.040	3.040	3.050	3.040	3.050	3.040
Average	3.033	3.050	3.046	3.042	3.038	3.037	3.037	3.031	3.041	3.032	3.041	3.038
Sigma	0.005	0.000	0.009	0.004	0.004	0.005	0.005	0.003	0.003	0.004	0.007	0.004

Measurements

Voh (LVCMOS)ufro1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.050	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.040	3.040
OFF samples												
53	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.030	3.040	3.040
54	3.030	3.050	3.040	3.050	3.040	3.030	3.030	3.030	3.040	3.040	3.050	3.040
Statistics												
Min	3.030	3.050	3.040	3.050	3.040	3.030	3.030	3.030	3.040	3.030	3.040	3.040
Max	3.030	3.050	3.040	3.050	3.040	3.040	3.040	3.030	3.040	3.040	3.050	3.040
Average	3.030	3.050	3.040	3.050	3.040	3.035	3.035	3.030	3.040	3.035	3.045	3.040
Sigma	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVCMOS)ufro0

Unit : V
Spec Limit Min : 2.400
Spec limits are represented in bold lines on the graphic.



Measurements

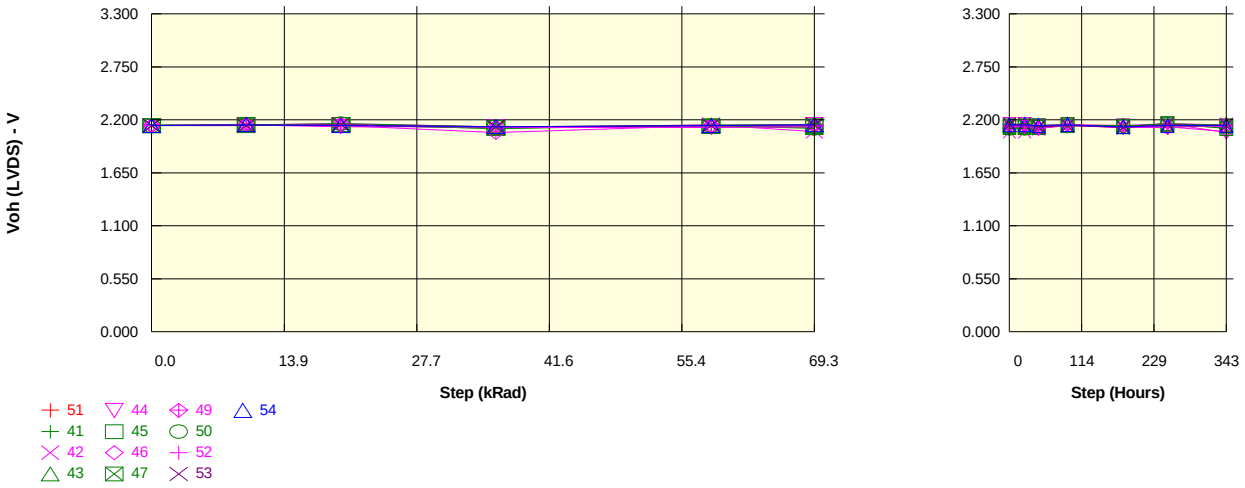
Voh (LVCMOS)ufro0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.030
ON samples												
41	3.030	3.040	3.040	3.040	3.020	3.040	3.040	3.040	3.040	3.020	3.040	3.030
42	3.020	3.040	3.040	3.050	3.040	3.040	3.040	3.020	3.040	3.030	3.040	3.040
43	3.020	3.040	3.040	3.050	3.040	3.020	3.020	3.020	3.030	3.030	3.040	3.030
44	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.040
45	3.030	3.040	3.040	3.040	3.040	3.050	3.050	3.040	3.030	3.030	3.040	3.030
46	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.040	3.030
47	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030
49	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.040
50	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.030	3.030	3.030	3.030
52	3.020	3.040	3.040	3.050	3.040	3.040	3.040	3.020	3.030	3.020	3.030	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.020	3.020	3.020	3.020	3.030	3.020	3.030	3.030
Max	3.030	3.040	3.040	3.050	3.040	3.050	3.050	3.040	3.040	3.030	3.040	3.040
Average	3.025	3.040	3.040	3.043	3.038	3.039	3.039	3.030	3.033	3.028	3.036	3.033
Sigma	0.005	0.000	0.000	0.005	0.006	0.007	0.007	0.010	0.005	0.004	0.005	0.005

Measurements

Voh (LVCMOS)ufro0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	3.030	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.040	3.030	3.030	3.030
OFF samples												
53	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.020	3.020	3.010	3.030
54	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030
Statistics												
Min	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.020	3.020	3.020	3.010	3.030
Max	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.030	3.030	3.030
Average	3.020	3.040	3.040	3.040	3.040	3.040	3.040	3.030	3.025	3.025	3.020	3.030
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.005	0.005	0.010	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o3p

Unit : V
No spec limit specified.



Measurements

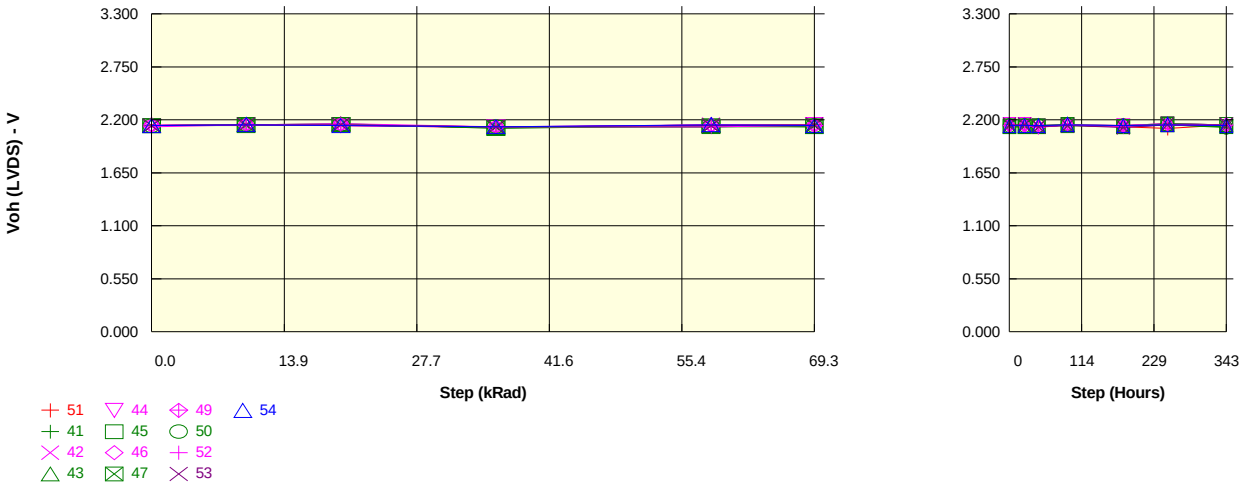
Voh (LVDS)s9o3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.140	2.120	2.140	2.150	2.150	2.140	2.150	2.140	2.120	2.150
ON samples												
41	2.150	2.150	2.150	2.110	2.150	2.150	2.150	2.120	2.140	2.140	2.120	2.150
42	2.140	2.150	2.150	2.120	2.150	2.080	2.080	2.110	2.150	2.130	2.160	2.150
43	2.140	2.150	2.150	2.110	2.140	2.120	2.120	2.130	2.150	2.130	2.150	2.150
44	2.140	2.150	2.130	2.130	2.120	2.150	2.150	2.140	2.150	2.140	2.160	2.070
45	2.140	2.150	2.150	2.120	2.130	2.130	2.130	2.140	2.150	2.130	2.160	2.140
46	2.140	2.150	2.160	2.130	2.130	2.140	2.140	2.120	2.150	2.130	2.130	2.080
47	2.140	2.140	2.150	2.120	2.140	2.140	2.140	2.120	2.140	2.130	2.160	2.110
49	2.140	2.150	2.140	2.070	2.140	2.140	2.140	2.110	2.150	2.120	2.120	2.150
50	2.140	2.150	2.160	2.130	2.140	2.110	2.110	2.130	2.140	2.140	2.150	2.120
52	2.140	2.140	2.150	2.120	2.120	2.130	2.130	2.110	2.140	2.120	2.150	2.130
Statistics												
Min	2.140	2.140	2.130	2.070	2.120	2.080	2.080	2.110	2.140	2.120	2.120	2.070
Max	2.150	2.150	2.160	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.160	2.150
Average	2.141	2.148	2.149	2.116	2.136	2.129	2.129	2.123	2.146	2.131	2.146	2.125
Sigma	0.003	0.004	0.008	0.017	0.010	0.020	0.020	0.011	0.005	0.007	0.016	0.028

Measurements

Voh (LVDS)s9o3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.140	2.120	2.140	2.150	2.150	2.140	2.150	2.140	2.120	2.150
OFF samples												
53	2.140	2.140	2.150	2.130	2.140	2.150	2.150	2.130	2.140	2.120	2.150	2.140
54	2.140	2.150	2.140	2.130	2.140	2.150	2.150	2.140	2.150	2.130	2.140	2.140
Statistics												
Min	2.140	2.140	2.140	2.130	2.140	2.150	2.150	2.130	2.140	2.120	2.140	2.140
Max	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.140	2.150	2.130	2.150	2.140
Average	2.140	2.145	2.145	2.130	2.140	2.150	2.150	2.135	2.145	2.125	2.145	2.140
Sigma	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o2p

Unit : V
No spec limit specified.



Measurements

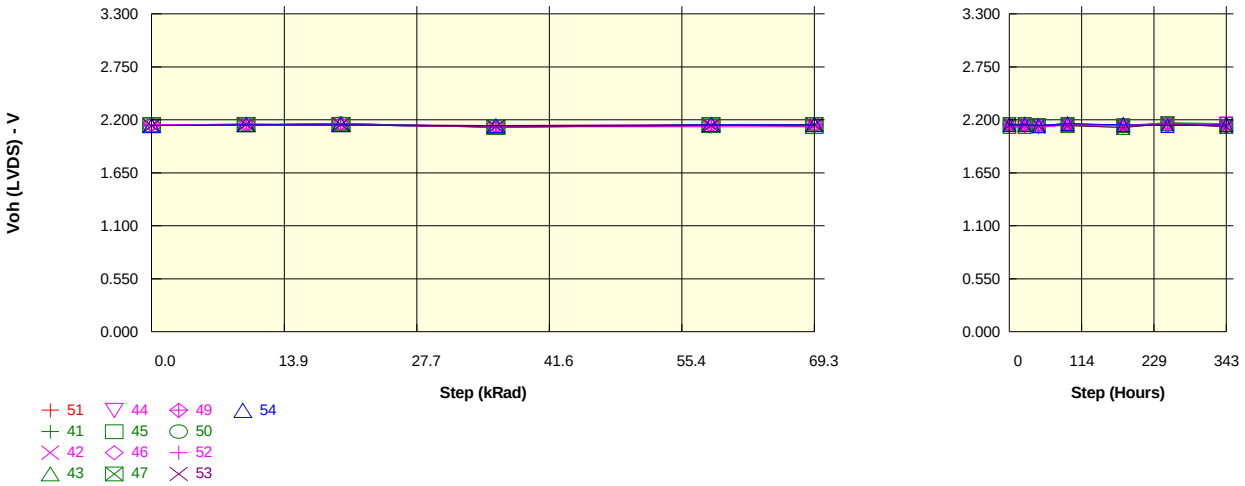
Voh (LVDS)s9o2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.140	2.120	2.150	2.150	2.150	2.140	2.150	2.130	2.110	2.150
ON samples												
41	2.140	2.150	2.150	2.120	2.150	2.150	2.150	2.140	2.140	2.140	2.160	2.150
42	2.140	2.150	2.140	2.120	2.150	2.140	2.140	2.130	2.150	2.140	2.160	2.150
43	2.140	2.150	2.160	2.110	2.140	2.130	2.130	2.130	2.150	2.130	2.150	2.150
44	2.140	2.150	2.140	2.130	2.130	2.150	2.150	2.140	2.150	2.140	2.160	2.150
45	2.140	2.150	2.150	2.120	2.130	2.130	2.130	2.140	2.150	2.130	2.160	2.150
46	2.140	2.150	2.160	2.130	2.140	2.150	2.150	2.130	2.150	2.130	2.150	2.140
47	2.140	2.140	2.150	2.120	2.140	2.140	2.140	2.130	2.140	2.130	2.150	2.130
49	2.150	2.150	2.150	2.130	2.150	2.140	2.140	2.130	2.150	2.140	2.150	2.150
50	2.140	2.150	2.150	2.130	2.130	2.140	2.140	2.140	2.150	2.140	2.150	2.120
52	2.130	2.150	2.150	2.130	2.130	2.140	2.140	2.120	2.150	2.130	2.150	2.140
Statistics												
Min	2.130	2.140	2.140	2.110	2.130	2.130	2.130	2.120	2.140	2.130	2.150	2.120
Max	2.150	2.150	2.160	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.160	2.150
Average	2.140	2.149	2.150	2.124	2.139	2.141	2.141	2.133	2.148	2.135	2.154	2.143
Sigma	0.004	0.003	0.006	0.007	0.008	0.007	0.007	0.006	0.004	0.005	0.005	0.010

Measurements

Voh (LVDS)s9o2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.140	2.120	2.150	2.150	2.150	2.140	2.150	2.130	2.110	2.150
OFF samples												
53	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.130	2.140	2.120	2.150	2.150
54	2.140	2.150	2.140	2.130	2.150	2.140	2.140	2.140	2.150	2.140	2.150	2.140
Statistics												
Min	2.140	2.150	2.140	2.130	2.140	2.140	2.140	2.130	2.140	2.120	2.150	2.140
Max	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.150	2.150
Average	2.140	2.150	2.145	2.130	2.145	2.145	2.145	2.135	2.145	2.130	2.150	2.145
Sigma	0.000	0.000	0.005	0.000	0.005	0.005	0.005	0.005	0.005	0.010	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o1p

Unit : V
No spec limit specified.



Measurements

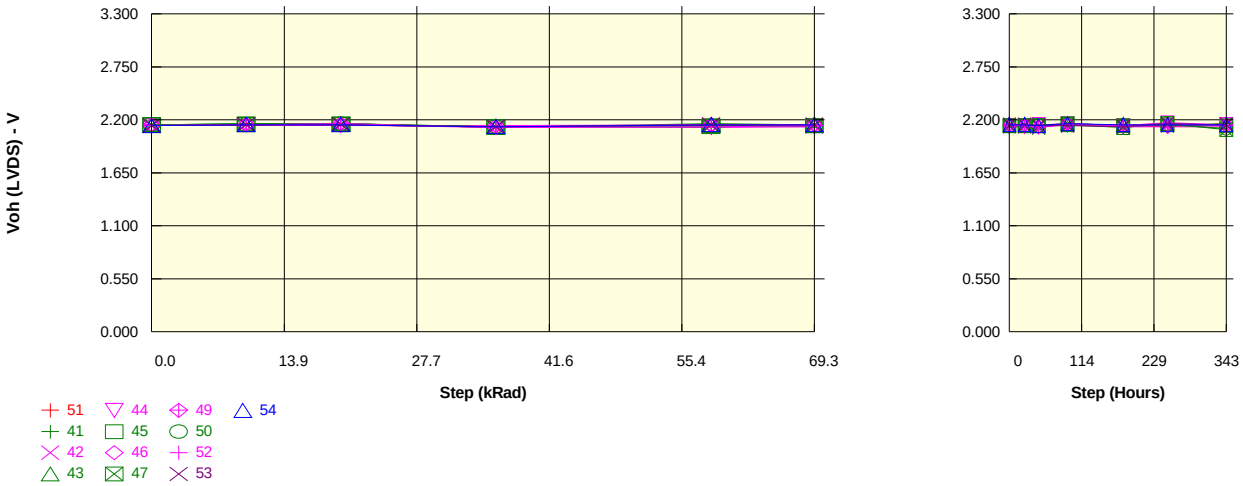
Voh (LVDS)s9o1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.140	2.150	2.150	2.150	2.140	2.150	2.140	2.160	2.150
ON samples												
41	2.150	2.150	2.160	2.120	2.150	2.150	2.150	2.140	2.140	2.140	2.170	2.160
42	2.140	2.160	2.150	2.130	2.150	2.140	2.140	2.130	2.160	2.140	2.160	2.150
43	2.140	2.150	2.160	2.120	2.150	2.150	2.150	2.140	2.160	2.140	2.160	2.150
44	2.150	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.160	2.160
45	2.150	2.150	2.150	2.130	2.150	2.130	2.130	2.140	2.150	2.140	2.160	2.150
46	2.150	2.150	2.160	2.130	2.140	2.140	2.140	2.140	2.160	2.140	2.150	2.150
47	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.140	2.140	2.120	2.160	2.130
49	2.150	2.150	2.160	2.130	2.140	2.150	2.150	2.140	2.150	2.140	2.160	2.150
50	2.140	2.150	2.160	2.130	2.140	2.150	2.150	2.140	2.150	2.140	2.150	2.140
52	2.150	2.150	2.150	2.130	2.130	2.130	2.130	2.120	2.150	2.140	2.150	2.140
Statistics												
Min	2.140	2.150	2.150	2.120	2.130	2.130	2.130	2.120	2.140	2.120	2.150	2.130
Max	2.150	2.160	2.160	2.130	2.150	2.150	2.150	2.140	2.160	2.140	2.170	2.160
Average	2.146	2.151	2.155	2.128	2.144	2.144	2.144	2.137	2.151	2.138	2.158	2.148
Sigma	0.005	0.003	0.005	0.004	0.007	0.008	0.008	0.006	0.007	0.006	0.006	0.009

Measurements

Voh (LVDS)s9o1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.140	2.150	2.150	2.150	2.140	2.150	2.140	2.160	2.150
OFF samples												
53	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.140	2.140	2.120	2.160	2.130
54	2.140	2.150	2.150	2.140	2.150	2.150	2.150	2.140	2.160	2.150	2.140	2.150
Statistics												
Min	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.140	2.140	2.120	2.140	2.130
Max	2.140	2.150	2.150	2.140	2.150	2.150	2.150	2.140	2.160	2.150	2.160	2.150
Average	2.140	2.150	2.150	2.135	2.145	2.150	2.150	2.140	2.150	2.135	2.150	2.140
Sigma	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.010	0.015	0.010	0.010

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o0p

Unit : V
No spec limit specified.



Measurements

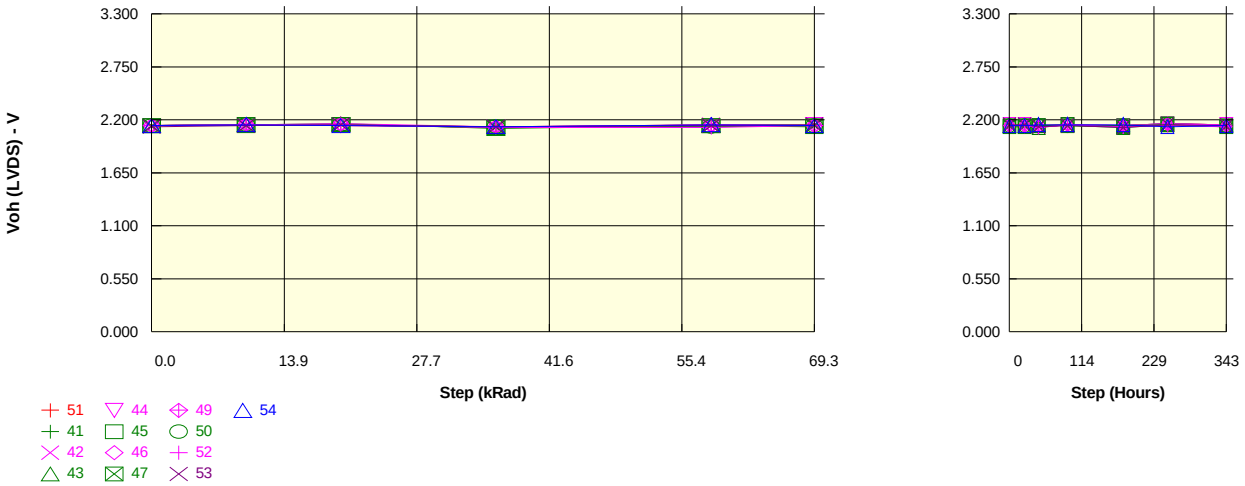
Voh (LVDS)s9o0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.130	2.160
ON samples												
41	2.150	2.160	2.160	2.120	2.160	2.150	2.150	2.140	2.140	2.140	2.140	2.160
42	2.140	2.150	2.150	2.120	2.150	2.130	2.130	2.120	2.160	2.140	2.160	2.150
43	2.140	2.150	2.160	2.120	2.150	2.140	2.140	2.120	2.160	2.140	2.140	2.150
44	2.140	2.150	2.150	2.130	2.120	2.130	2.130	2.150	2.160	2.140	2.170	2.150
45	2.150	2.160	2.150	2.130	2.130	2.140	2.140	2.140	2.160	2.140	2.160	2.140
46	2.140	2.150	2.140	2.140	2.150	2.150	2.150	2.130	2.160	2.130	2.130	2.130
47	2.150	2.150	2.160	2.130	2.140	2.140	2.140	2.140	2.150	2.120	2.160	2.100
49	2.150	2.150	2.160	2.120	2.150	2.150	2.150	2.130	2.160	2.130	2.150	2.150
50	2.150	2.150	2.160	2.130	2.140	2.140	2.140	2.140	2.150	2.140	2.150	2.110
52	2.140	2.150	2.160	2.120	2.130	2.140	2.140	2.120	2.150	2.140	2.160	2.140
Statistics												
Min	2.140	2.150	2.140	2.120	2.120	2.130	2.130	2.120	2.140	2.120	2.130	2.100
Max	2.150	2.160	2.160	2.140	2.160	2.150	2.150	2.150	2.160	2.140	2.170	2.160
Average	2.145	2.152	2.155	2.126	2.142	2.141	2.141	2.133	2.155	2.136	2.152	2.138
Sigma	0.005	0.004	0.007	0.007	0.012	0.007	0.007	0.010	0.007	0.007	0.012	0.018

Measurements

Voh (LVDS)s9o0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.130	2.160
OFF samples												
53	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.140	2.130	2.160	2.150
54	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.160	2.150	2.150	2.150
Statistics												
Min	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.140	2.130	2.150	2.150
Max	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.160	2.150	2.160	2.150
Average	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.155	2.150
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.010	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o3n

Unit : V
No spec limit specified.



Measurements

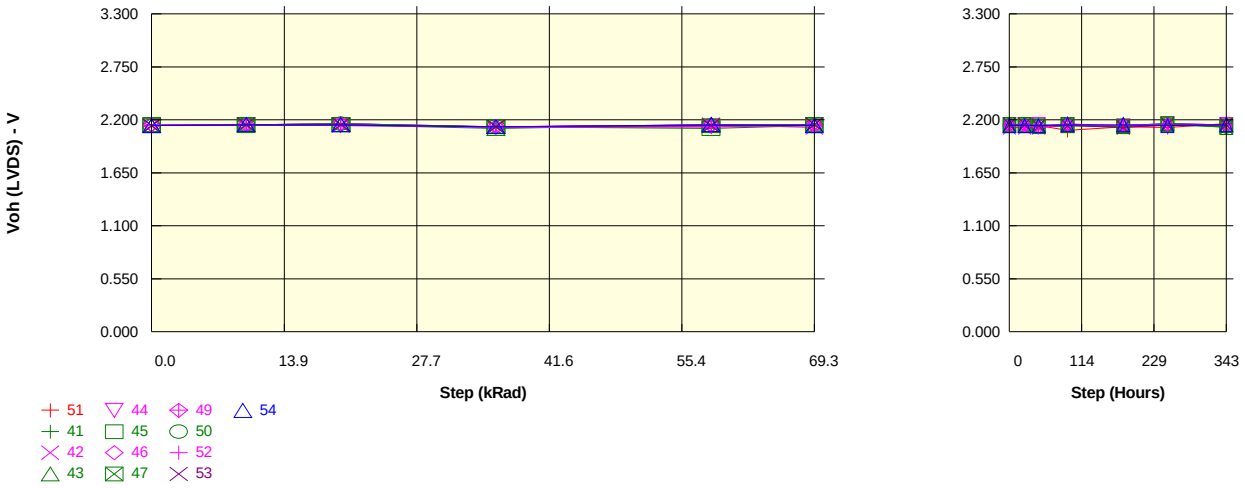
Voh (LVDS)s9o3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.140	2.130	2.150	2.140	2.140	2.140	2.150	2.130	2.160	2.150
ON samples												
41	2.140	2.150	2.150	2.120	2.150	2.150	2.150	2.140	2.140	2.130	2.160	2.150
42	2.140	2.150	2.150	2.120	2.150	2.140	2.140	2.130	2.150	2.140	2.160	2.150
43	2.140	2.150	2.160	2.110	2.140	2.140	2.140	2.120	2.150	2.130	2.150	2.150
44	2.140	2.150	2.140	2.130	2.130	2.150	2.150	2.140	2.150	2.140	2.160	2.150
45	2.140	2.150	2.150	2.130	2.140	2.130	2.130	2.140	2.150	2.140	2.160	2.140
46	2.140	2.150	2.160	2.130	2.150	2.140	2.140	2.130	2.150	2.130	2.150	2.150
47	2.140	2.140	2.150	2.120	2.140	2.140	2.140	2.140	2.140	2.120	2.150	2.130
49	2.140	2.150	2.150	2.130	2.140	2.140	2.140	2.130	2.150	2.140	2.160	2.140
50	2.140	2.150	2.150	2.130	2.130	2.140	2.140	2.140	2.140	2.140	2.150	2.130
52	2.140	2.150	2.150	2.120	2.120	2.140	2.140	2.120	2.150	2.130	2.140	2.130
Statistics												
Min	2.140	2.140	2.140	2.110	2.120	2.130	2.130	2.120	2.140	2.120	2.140	2.130
Max	2.140	2.150	2.160	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.160	2.150
Average	2.140	2.149	2.151	2.124	2.139	2.141	2.141	2.133	2.147	2.134	2.154	2.142
Sigma	0.000	0.003	0.005	0.007	0.009	0.005	0.005	0.008	0.005	0.007	0.007	0.009

Measurements

Voh (LVDS)s9o3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.140	2.130	2.150	2.140	2.140	2.140	2.150	2.130	2.160	2.150
OFF samples												
53	2.130	2.140	2.150	2.130	2.140	2.150	2.150	2.130	2.140	2.120	2.150	2.140
54	2.140	2.150	2.140	2.130	2.150	2.140	2.140	2.150	2.150	2.150	2.130	2.140
Statistics												
Min	2.130	2.140	2.140	2.130	2.140	2.140	2.140	2.130	2.140	2.120	2.130	2.140
Max	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.140
Average	2.135	2.145	2.145	2.130	2.145	2.145	2.145	2.140	2.145	2.135	2.140	2.140
Sigma	0.005	0.005	0.005	0.000	0.005	0.005	0.005	0.010	0.005	0.015	0.010	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o2n

Unit : V
No spec limit specified.



Measurements

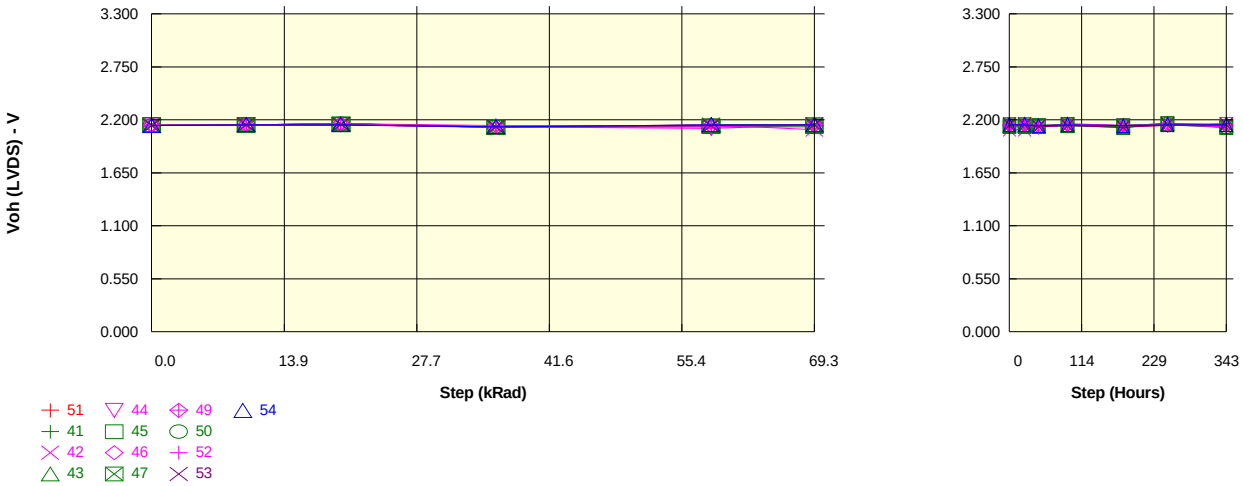
Voh (LVDS)s9o2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.090	2.130	2.120	2.160
ON samples												
41	2.140	2.150	2.160	2.120	2.150	2.150	2.150	2.140	2.140	2.140	2.160	2.150
42	2.140	2.150	2.140	2.130	2.150	2.120	2.120	2.120	2.140	2.140	2.160	2.150
43	2.140	2.150	2.150	2.110	2.150	2.140	2.140	2.130	2.140	2.140	2.150	2.150
44	2.140	2.150	2.140	2.130	2.130	2.150	2.150	2.150	2.150	2.140	2.160	2.150
45	2.150	2.150	2.150	2.130	2.110	2.140	2.140	2.140	2.150	2.130	2.160	2.140
46	2.150	2.150	2.160	2.130	2.140	2.150	2.150	2.130	2.160	2.130	2.140	2.140
47	2.140	2.140	2.150	2.130	2.140	2.150	2.150	2.130	2.140	2.130	2.160	2.120
49	2.150	2.150	2.160	2.130	2.150	2.140	2.140	2.130	2.150	2.140	2.150	2.150
50	2.140	2.150	2.160	2.130	2.140	2.140	2.140	2.130	2.150	2.140	2.150	2.130
52	2.140	2.150	2.150	2.120	2.130	2.140	2.140	2.120	2.150	2.140	2.150	2.140
Statistics												
Min	2.140	2.140	2.140	2.110	2.110	2.120	2.120	2.120	2.140	2.130	2.140	2.120
Max	2.150	2.150	2.160	2.130	2.150	2.150	2.150	2.150	2.160	2.140	2.160	2.150
Average	2.143	2.149	2.152	2.126	2.139	2.142	2.142	2.132	2.147	2.137	2.154	2.142
Sigma	0.005	0.003	0.007	0.007	0.012	0.009	0.009	0.009	0.006	0.005	0.007	0.010

Measurements

Voh (LVDS)s9o2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.090	2.130	2.120	2.160
OFF samples												
53	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.140	2.140	2.120	2.150	2.150
54	2.140	2.150	2.150	2.130	2.150	2.140	2.140	2.140	2.150	2.150	2.140	2.150
Statistics												
Min	2.140	2.150	2.150	2.130	2.140	2.140	2.140	2.140	2.140	2.120	2.140	2.150
Max	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.150	2.150	2.150
Average	2.140	2.150	2.150	2.130	2.145	2.145	2.145	2.140	2.145	2.135	2.145	2.150
Sigma	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.000	0.005	0.015	0.005	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o1n

Unit : V
No spec limit specified.



Measurements

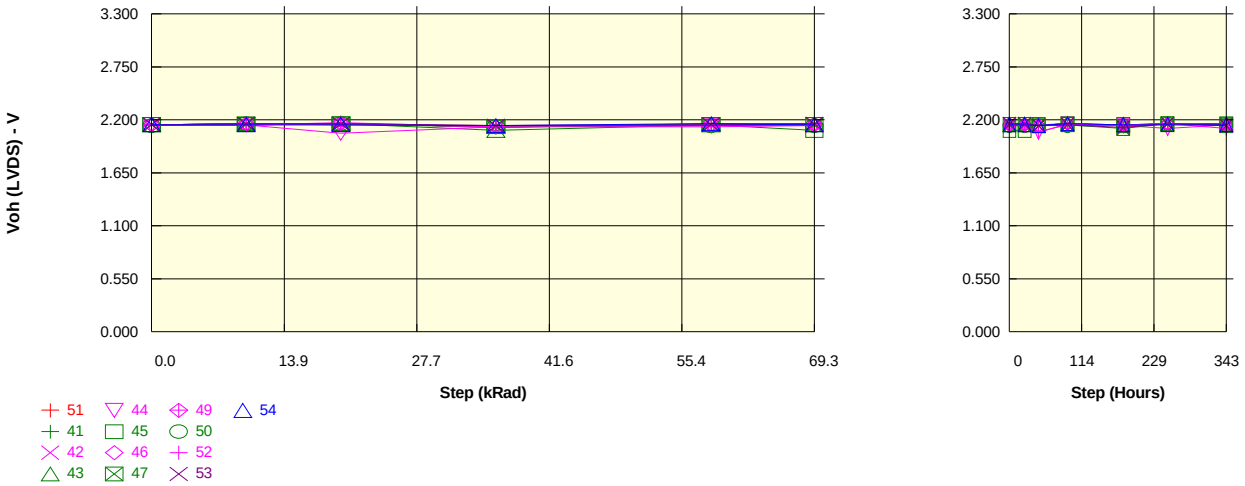
Voh (LVDS)s9o1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.130	2.140	2.150
ON samples												
41	2.140	2.150	2.160	2.120	2.150	2.150	2.150	2.140	2.150	2.140	2.150	2.160
42	2.140	2.150	2.150	2.120	2.150	2.100	2.100	2.130	2.160	2.140	2.160	2.150
43	2.150	2.150	2.160	2.120	2.140	2.140	2.140	2.130	2.140	2.120	2.160	2.150
44	2.140	2.150	2.150	2.130	2.110	2.150	2.150	2.140	2.150	2.140	2.160	2.150
45	2.150	2.150	2.150	2.130	2.130	2.130	2.130	2.140	2.150	2.140	2.160	2.130
46	2.140	2.150	2.160	2.140	2.140	2.150	2.150	2.130	2.150	2.140	2.150	2.140
47	2.150	2.140	2.160	2.120	2.140	2.140	2.140	2.140	2.140	2.130	2.160	2.120
49	2.150	2.150	2.160	2.120	2.140	2.140	2.140	2.130	2.150	2.140	2.150	2.150
50	2.140	2.150	2.160	2.130	2.140	2.140	2.140	2.130	2.140	2.140	2.150	2.120
52	2.140	2.150	2.160	2.130	2.130	2.150	2.150	2.120	2.150	2.140	2.150	2.130
Statistics												
Min	2.140	2.140	2.150	2.120	2.110	2.100	2.100	2.120	2.140	2.120	2.150	2.120
Max	2.150	2.150	2.160	2.140	2.150	2.150	2.150	2.140	2.160	2.140	2.160	2.160
Average	2.144	2.149	2.157	2.126	2.137	2.139	2.139	2.133	2.148	2.137	2.155	2.140
Sigma	0.005	0.003	0.005	0.007	0.011	0.014	0.014	0.006	0.006	0.006	0.005	0.013

Measurements

Voh (LVDS)s9o1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.130	2.140	2.150
OFF samples												
53	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.130	2.140	2.120	2.150	2.150
54	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.150	2.150
Statistics												
Min	2.140	2.150	2.150	2.130	2.140	2.150	2.150	2.130	2.140	2.120	2.150	2.150
Max	2.140	2.150	2.150	2.130	2.150	2.150	2.150	2.140	2.150	2.140	2.150	2.150
Average	2.140	2.150	2.150	2.130	2.145	2.150	2.150	2.135	2.145	2.130	2.150	2.150
Sigma	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.005	0.005	0.010	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)s9o0n

Unit : V
No spec limit specified.



Measurements

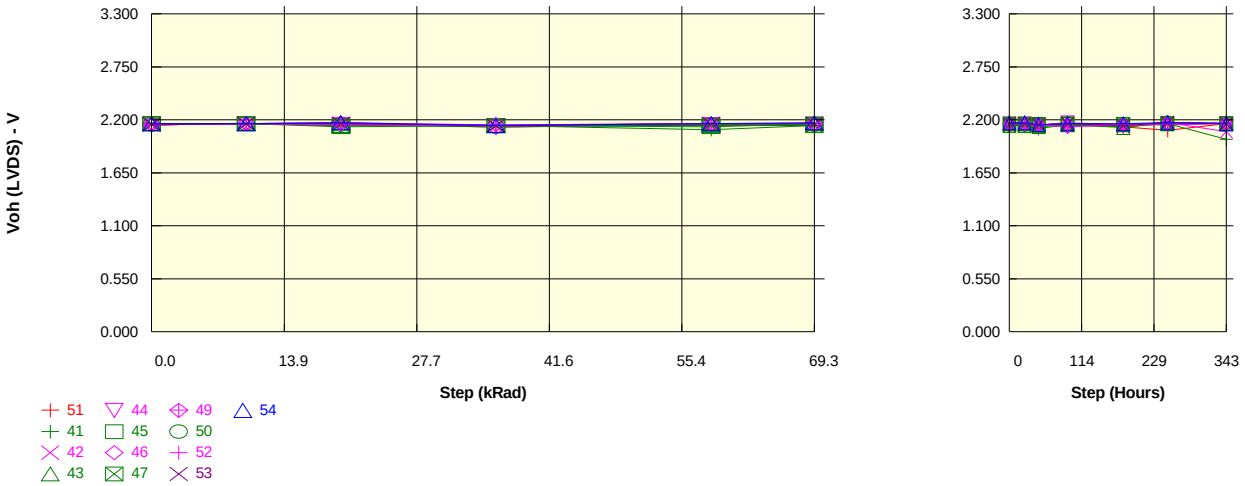
Voh (LVDS)s9o0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.160	2.150	2.140	2.150	2.150	2.150	2.140	2.160	2.140	2.160	2.160
ON samples												
41	2.150	2.160	2.160	2.120	2.160	2.160	2.160	2.150	2.150	2.150	2.160	2.160
42	2.150	2.160	2.160	2.130	2.150	2.140	2.140	2.140	2.160	2.140	2.160	2.160
43	2.150	2.160	2.160	2.090	2.150	2.150	2.150	2.140	2.160	2.140	2.160	2.150
44	2.150	2.150	2.060	2.130	2.140	2.150	2.150	2.070	2.160	2.140	2.110	2.150
45	2.150	2.160	2.160	2.130	2.150	2.090	2.090	2.150	2.160	2.150	2.160	2.160
46	2.150	2.150	2.170	2.130	2.140	2.150	2.150	2.140	2.160	2.140	2.160	2.150
47	2.150	2.150	2.160	2.130	2.150	2.150	2.150	2.140	2.150	2.110	2.160	2.140
49	2.150	2.160	2.160	2.130	2.150	2.150	2.150	2.140	2.160	2.150	2.160	2.150
50	2.140	2.160	2.160	2.130	2.140	2.140	2.140	2.140	2.140	2.140	2.160	2.140
52	2.150	2.150	2.160	2.130	2.130	2.140	2.140	2.080	2.150	2.140	2.160	2.110
Statistics												
Min	2.140	2.150	2.060	2.090	2.130	2.090	2.090	2.070	2.140	2.110	2.110	2.110
Max	2.150	2.160	2.170	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.160
Average	2.149	2.156	2.151	2.125	2.146	2.142	2.142	2.129	2.155	2.140	2.155	2.147
Sigma	0.003	0.005	0.030	0.012	0.008	0.018	0.018	0.027	0.007	0.011	0.015	0.014

Measurements

Voh (LVDS)s9o0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.140	2.160	2.150	2.140	2.150	2.150	2.150	2.140	2.160	2.140	2.160	2.160
OFF samples												
53	2.150	2.160	2.160	2.140	2.150	2.160	2.160	2.140	2.150	2.120	2.160	2.140
54	2.150	2.150	2.150	2.140	2.160	2.150	2.150	2.140	2.160	2.150	2.150	2.150
Statistics												
Min	2.150	2.150	2.150	2.140	2.150	2.150	2.150	2.140	2.150	2.120	2.150	2.140
Max	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.140	2.160	2.150	2.160	2.150
Average	2.150	2.155	2.155	2.140	2.155	2.155	2.155	2.140	2.155	2.135	2.155	2.145
Sigma	0.000	0.005	0.005	0.000	0.005	0.005	0.005	0.000	0.005	0.015	0.005	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo3p

Unit : V
No spec limit specified.



Measurements

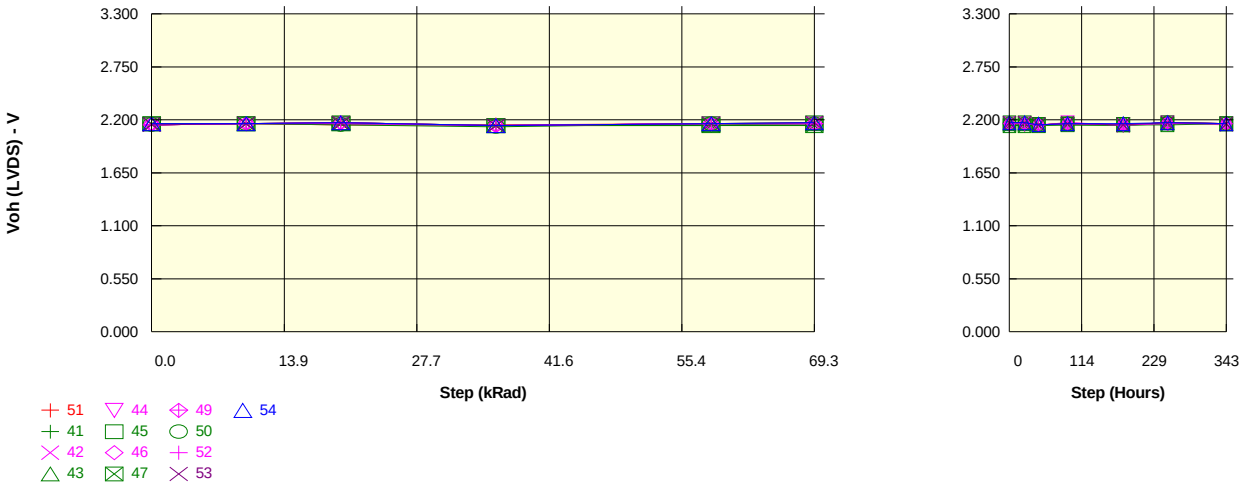
Voh (LVDS)sAo3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.130	2.090	2.160
ON samples												
41	2.160	2.160	2.150	2.140	2.100	2.140	2.140	2.110	2.150	2.130	2.160	2.000
42	2.160	2.160	2.160	2.140	2.150	2.140	2.140	2.140	2.160	2.140	2.170	2.080
43	2.160	2.160	2.140	2.140	2.150	2.160	2.160	2.130	2.150	2.120	2.170	2.160
44	2.160	2.160	2.150	2.140	2.150	2.150	2.150	2.150	2.170	2.150	2.150	2.160
45	2.160	2.160	2.130	2.140	2.130	2.160	2.160	2.150	2.160	2.150	2.160	2.160
46	2.160	2.160	2.170	2.120	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.170
47	2.160	2.160	2.140	2.140	2.140	2.140	2.140	2.140	2.150	2.150	2.160	2.160
49	2.150	2.160	2.170	2.150	2.160	2.160	2.160	2.150	2.130	2.150	2.160	2.160
50	2.150	2.160	2.150	2.130	2.150	2.150	2.150	2.150	2.160	2.150	2.170	2.160
52	2.150	2.160	2.150	2.140	2.160	2.160	2.160	2.140	2.160	2.150	2.170	2.160
Statistics												
Min	2.150	2.160	2.130	2.120	2.100	2.140	2.140	2.110	2.130	2.120	2.150	2.000
Max	2.160	2.160	2.170	2.150	2.160	2.160	2.160	2.150	2.170	2.150	2.170	2.170
Average	2.157	2.160	2.151	2.138	2.145	2.152	2.152	2.141	2.155	2.144	2.164	2.137
Sigma	0.005	0.000	0.012	0.007	0.017	0.009	0.009	0.012	0.010	0.010	0.007	0.052

Measurements

Voh (LVDS)sAo3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.130	2.090	2.160
OFF samples												
53	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.140	2.170	2.160
54	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Statistics												
Min	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.140	2.170	2.160
Max	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Average	2.155	2.160	2.165	2.140	2.160	2.165	2.165	2.150	2.160	2.150	2.170	2.160
Sigma	0.005	0.000	0.005	0.000	0.000	0.005	0.005	0.000	0.000	0.010	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo2p

Unit : V
No spec limit specified.



Measurements

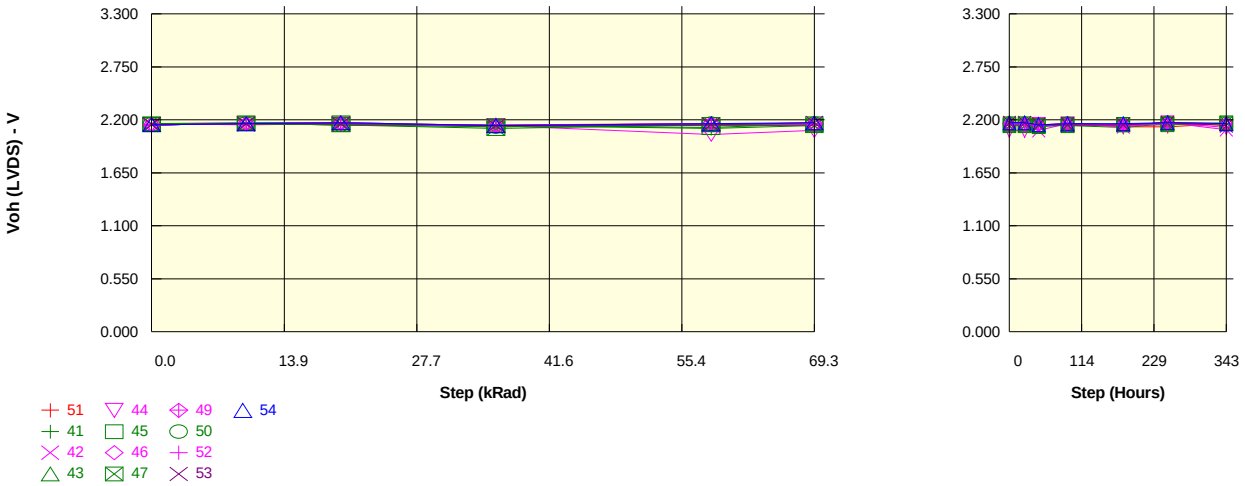
Voh (LVDS)sAo2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.160
ON samples												
41	2.150	2.160	2.170	2.140	2.140	2.150	2.150	2.150	2.150	2.140	2.160	2.160
42	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.140	2.170	2.140	2.170	2.150
43	2.160	2.160	2.160	2.140	2.150	2.160	2.160	2.150	2.160	2.150	2.170	2.160
44	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.170	2.150	2.170	2.160
45	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.150	2.170	2.160
46	2.160	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
47	2.160	2.160	2.160	2.140	2.140	2.140	2.140	2.140	2.150	2.150	2.150	2.160
49	2.150	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
50	2.150	2.160	2.150	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
52	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.160
Statistics												
Min	2.150	2.160	2.150	2.130	2.140	2.140	2.140	2.140	2.150	2.140	2.150	2.150
Max	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.170	2.150	2.170	2.160
Average	2.154	2.160	2.163	2.139	2.155	2.158	2.158	2.148	2.160	2.148	2.166	2.159
Sigma	0.005	0.000	0.006	0.003	0.008	0.007	0.007	0.004	0.006	0.004	0.007	0.003

Measurements

Voh (LVDS)sAo2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.160
OFF samples												
53	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.150	2.170	2.160
54	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Statistics												
Min	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.150	2.170	2.160
Max	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Average	2.155	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.155	2.170	2.160
Sigma	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo1p

Unit : V
No spec limit specified.



Measurements

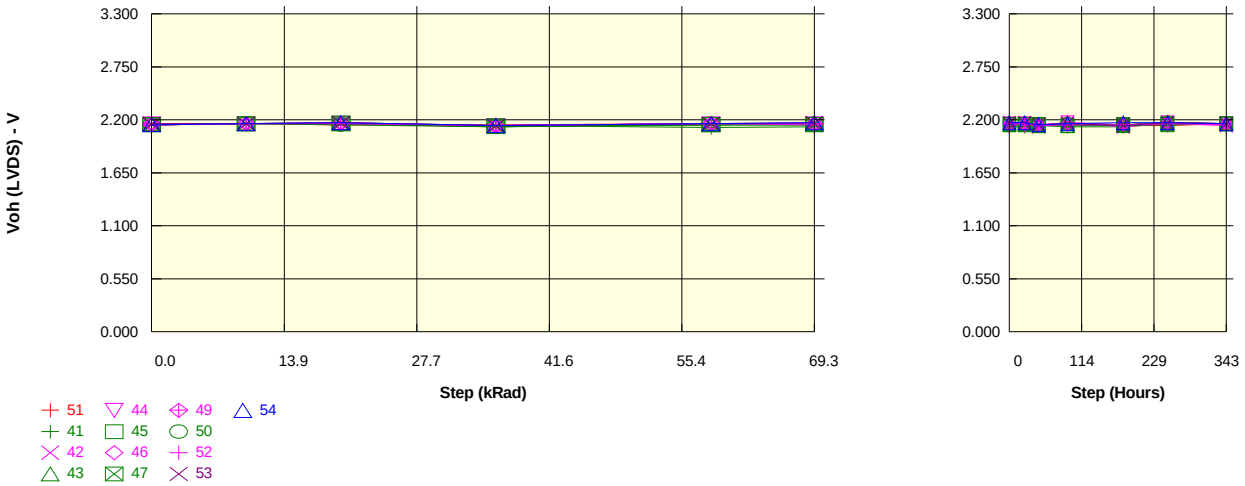
Voh (LVDS)sAo1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.150	2.150	2.140	2.160	2.130	2.130	2.160
ON samples												
41	2.150	2.160	2.160	2.140	2.110	2.140	2.140	2.140	2.140	2.120	2.160	2.160
42	2.160	2.150	2.160	2.140	2.140	2.140	2.140	2.090	2.160	2.130	2.170	2.100
43	2.160	2.160	2.150	2.140	2.150	2.150	2.150	2.130	2.150	2.150	2.170	2.160
44	2.150	2.160	2.160	2.140	2.050	2.090	2.090	2.150	2.160	2.150	2.170	2.120
45	2.160	2.170	2.170	2.140	2.120	2.160	2.160	2.140	2.150	2.150	2.160	2.160
46	2.150	2.160	2.160	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
47	2.150	2.160	2.150	2.110	2.150	2.140	2.140	2.140	2.140	2.150	2.150	2.170
49	2.150	2.160	2.170	2.140	2.160	2.150	2.150	2.150	2.150	2.140	2.160	2.160
50	2.150	2.160	2.150	2.130	2.160	2.160	2.160	2.140	2.160	2.150	2.170	2.160
52	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.140	2.160	2.150	2.160	2.160
Statistics												
Min	2.150	2.150	2.150	2.110	2.050	2.090	2.090	2.090	2.140	2.120	2.150	2.100
Max	2.160	2.170	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.170
Average	2.153	2.160	2.159	2.135	2.136	2.145	2.145	2.137	2.153	2.144	2.164	2.151
Sigma	0.005	0.004	0.007	0.009	0.033	0.020	0.020	0.017	0.008	0.010	0.007	0.021

Measurements

Voh (LVDS)sAo1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.150	2.150	2.140	2.160	2.130	2.130	2.160
OFF samples												
53	2.150	2.160	2.160	2.140	2.150	2.170	2.170	2.150	2.150	2.150	2.170	2.140
54	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Statistics												
Min	2.150	2.160	2.160	2.140	2.150	2.170	2.170	2.150	2.150	2.150	2.170	2.140
Max	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Average	2.150	2.160	2.165	2.140	2.155	2.170	2.170	2.150	2.155	2.155	2.170	2.150
Sigma	0.000	0.000	0.005	0.000	0.005	0.000	0.000	0.000	0.005	0.005	0.000	0.010

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo0p

Unit : V
No spec limit specified.



Measurements

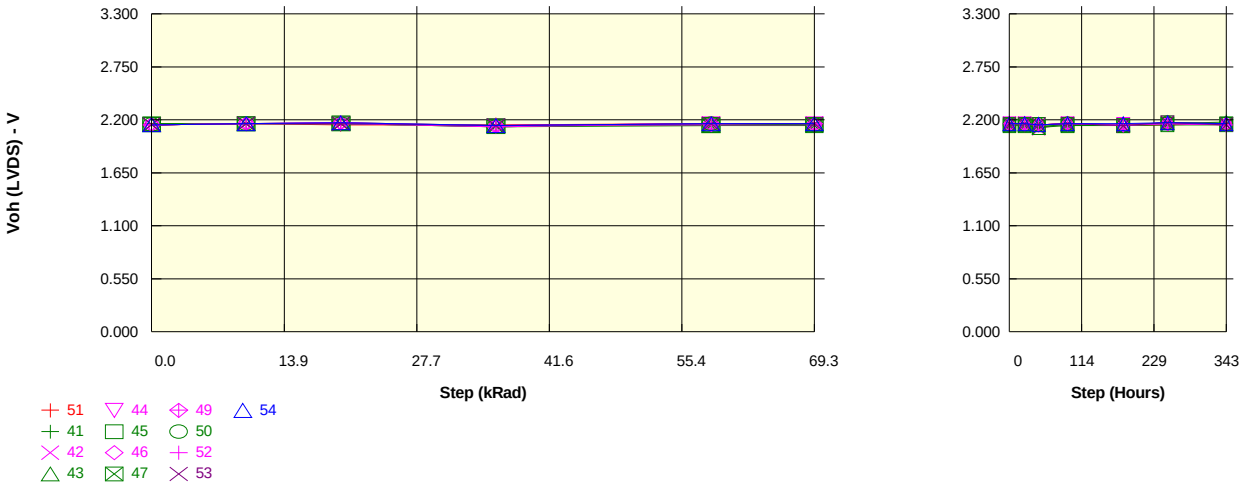
Voh (LVDS)sAo0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.140	2.140	2.160
ON samples												
41	2.160	2.160	2.160	2.140	2.120	2.130	2.130	2.140	2.130	2.130	2.160	2.160
42	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.130	2.170	2.130	2.160	2.140
43	2.160	2.160	2.160	2.140	2.150	2.160	2.160	2.140	2.160	2.150	2.170	2.160
44	2.160	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.170	2.150	2.170	2.160
45	2.150	2.160	2.170	2.140	2.150	2.150	2.150	2.150	2.140	2.140	2.160	2.160
46	2.150	2.160	2.160	2.130	2.160	2.160	2.160	2.150	2.170	2.150	2.170	2.160
47	2.150	2.160	2.160	2.130	2.150	2.150	2.150	2.140	2.140	2.150	2.150	2.160
49	2.160	2.160	2.170	2.140	2.160	2.150	2.150	2.150	2.160	2.150	2.160	2.160
50	2.150	2.160	2.150	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
52	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.140	2.150	2.150	2.160	2.150
Statistics												
Min	2.150	2.160	2.150	2.130	2.120	2.130	2.130	2.130	2.130	2.130	2.150	2.140
Max	2.160	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.170	2.150	2.170	2.160
Average	2.154	2.160	2.161	2.137	2.153	2.154	2.154	2.144	2.155	2.145	2.163	2.157
Sigma	0.005	0.000	0.005	0.005	0.012	0.009	0.009	0.007	0.014	0.008	0.006	0.006

Measurements

Voh (LVDS)sAo0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.140	2.140	2.160
OFF samples												
53	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.140	2.170	2.160
54	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.170	2.170	2.160
Statistics												
Min	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.140	2.170	2.160
Max	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.170	2.170	2.160
Average	2.155	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.155	2.170	2.160
Sigma	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.000

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo3n

Unit : V
No spec limit specified.



Measurements

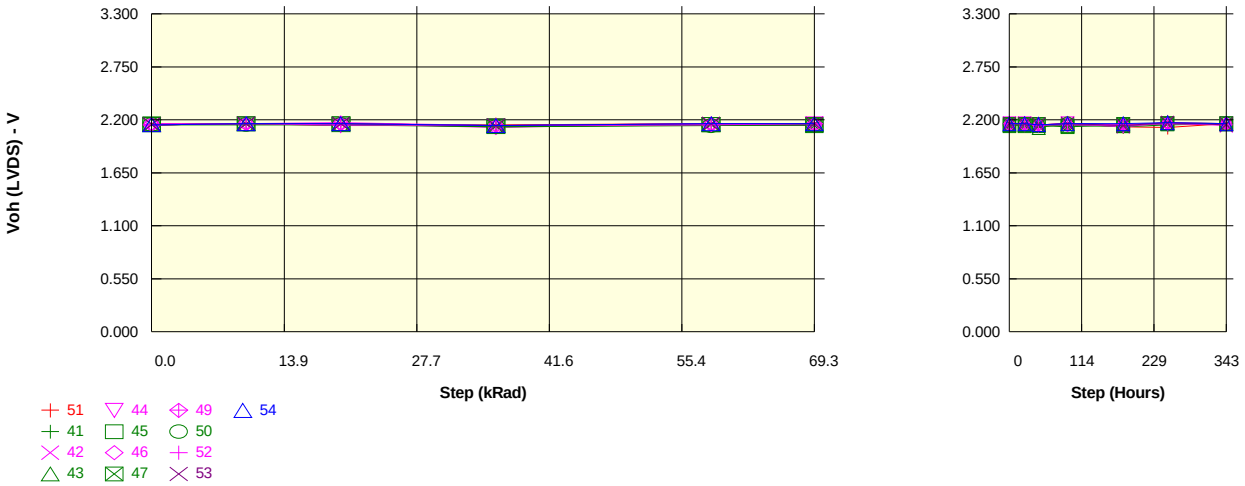
Voh (LVDS)sAo3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.140	2.140	2.150	2.160	2.140	2.150	2.160
ON samples												
41	2.160	2.160	2.160	2.140	2.140	2.150	2.150	2.150	2.150	2.140	2.160	2.180
42	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.110	2.160	2.140	2.170	2.150
43	2.150	2.160	2.160	2.140	2.140	2.160	2.160	2.120	2.160	2.150	2.170	2.160
44	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.150
45	2.160	2.160	2.170	2.140	2.150	2.150	2.150	2.150	2.150	2.140	2.170	2.160
46	2.150	2.160	2.170	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
47	2.150	2.160	2.160	2.130	2.140	2.140	2.140	2.120	2.140	2.140	2.150	2.150
49	2.150	2.160	2.170	2.140	2.150	2.150	2.150	2.150	2.160	2.150	2.160	2.150
50	2.150	2.160	2.160	2.130	2.160	2.150	2.150	2.150	2.160	2.140	2.170	2.160
52	2.150	2.160	2.160	2.130	2.160	2.160	2.160	2.150	2.160	2.140	2.160	2.150
Statistics												
Min	2.150	2.160	2.160	2.130	2.140	2.140	2.140	2.110	2.140	2.140	2.150	2.150
Max	2.160	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.180
Average	2.152	2.160	2.163	2.136	2.152	2.154	2.154	2.140	2.156	2.144	2.165	2.157
Sigma	0.004	0.000	0.005	0.005	0.009	0.007	0.007	0.015	0.007	0.005	0.007	0.009

Measurements

Voh (LVDS)sAo3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.140	2.140	2.150	2.160	2.140	2.150	2.160
OFF samples												
53	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.140	2.170	2.150
54	2.150	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.160	2.170	2.160
Statistics												
Min	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.140	2.170	2.150
Max	2.150	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.160	2.170	2.160
Average	2.150	2.160	2.165	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.155
Sigma	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo2n

Unit : V
No spec limit specified.



Measurements

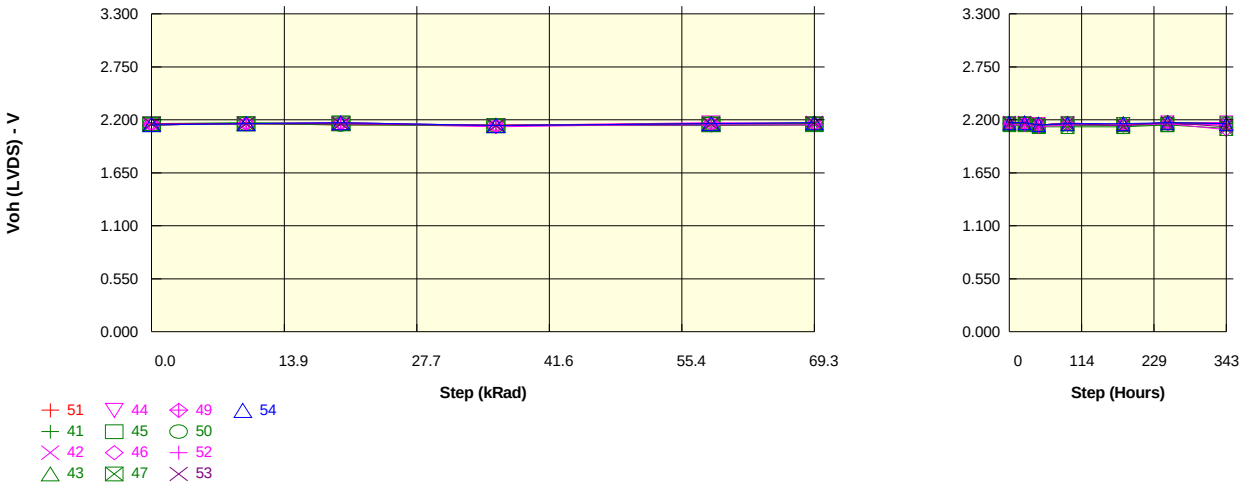
Voh (LVDS)sAo2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.140	2.150	2.160	2.160	2.160	2.150	2.160	2.130	2.120	2.160
ON samples												
41	2.150	2.160	2.160	2.140	2.140	2.150	2.150	2.150	2.150	2.130	2.150	2.160
42	2.160	2.160	2.160	2.140	2.160	2.160	2.160	2.130	2.160	2.130	2.170	2.140
43	2.150	2.160	2.150	2.140	2.150	2.150	2.150	2.120	2.160	2.140	2.170	2.160
44	2.150	2.160	2.140	2.140	2.150	2.160	2.160	2.150	2.160	2.150	2.160	2.160
45	2.160	2.160	2.160	2.140	2.150	2.150	2.150	2.150	2.140	2.140	2.160	2.160
46	2.160	2.160	2.160	2.120	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
47	2.150	2.160	2.160	2.130	2.150	2.140	2.140	2.140	2.130	2.150	2.160	2.160
49	2.150	2.160	2.170	2.140	2.150	2.150	2.150	2.150	2.150	2.140	2.160	2.160
50	2.150	2.150	2.150	2.130	2.140	2.150	2.150	2.140	2.160	2.150	2.160	2.160
52	2.150	2.160	2.150	2.140	2.150	2.160	2.160	2.140	2.160	2.150	2.160	2.150
Statistics												
Min	2.150	2.150	2.140	2.120	2.140	2.140	2.140	2.120	2.130	2.130	2.150	2.140
Max	2.160	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
Average	2.153	2.159	2.156	2.136	2.150	2.153	2.153	2.142	2.153	2.143	2.162	2.157
Sigma	0.005	0.003	0.008	0.007	0.006	0.006	0.006	0.010	0.010	0.008	0.006	0.006

Measurements

Voh (LVDS)sAo2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.140	2.150	2.160	2.160	2.160	2.150	2.160	2.130	2.120	2.160
OFF samples												
53	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.140	2.170	2.150
54	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.160	2.170	2.160
Statistics												
Min	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.140	2.170	2.150
Max	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.160	2.170	2.160
Average	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.155
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.005

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo1n

Unit : V
No spec limit specified.



Measurements

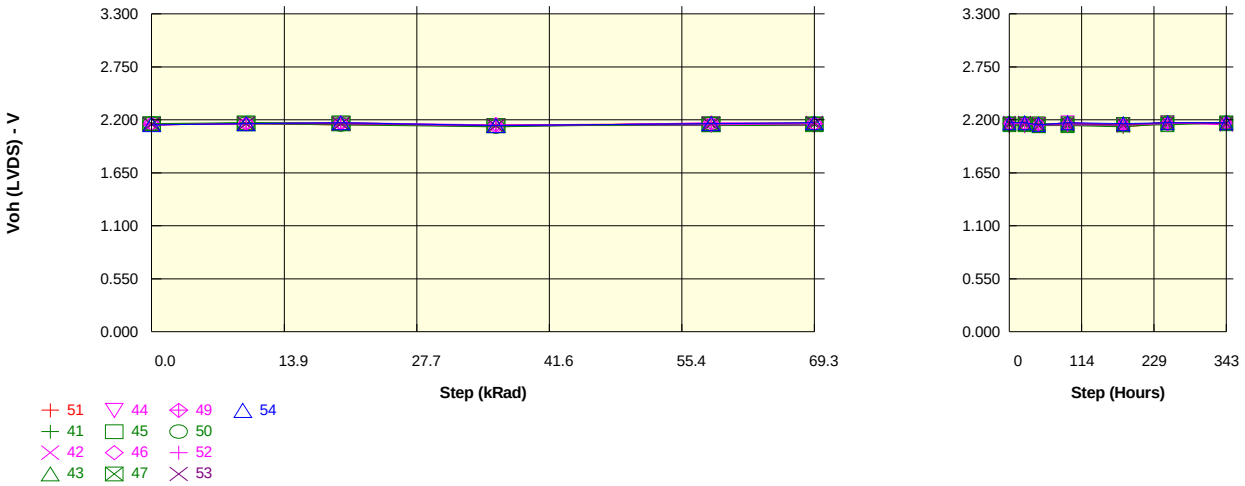
Voh (LVDS)sAo1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.160
ON samples												
41	2.160	2.170	2.160	2.140	2.140	2.150	2.150	2.150	2.140	2.140	2.160	2.160
42	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.140	2.170	2.140	2.160	2.150
43	2.160	2.160	2.160	2.140	2.150	2.160	2.160	2.150	2.160	2.150	2.170	2.160
44	2.160	2.160	2.160	2.140	2.170	2.160	2.160	2.150	2.160	2.150	2.170	2.170
45	2.150	2.160	2.170	2.140	2.160	2.160	2.160	2.140	2.160	2.150	2.150	2.160
46	2.150	2.160	2.160	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.170
47	2.160	2.160	2.160	2.140	2.150	2.150	2.150	2.130	2.130	2.130	2.150	2.110
49	2.160	2.160	2.170	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.100
50	2.150	2.160	2.150	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
52	2.160	2.160	2.160	2.140	2.150	2.150	2.150	2.130	2.150	2.150	2.160	2.150
Statistics												
Min	2.150	2.160	2.150	2.130	2.140	2.150	2.150	2.130	2.130	2.130	2.150	2.100
Max	2.160	2.170	2.170	2.140	2.170	2.160	2.160	2.150	2.170	2.150	2.170	2.170
Average	2.156	2.161	2.161	2.139	2.156	2.157	2.157	2.144	2.155	2.146	2.162	2.149
Sigma	0.005	0.003	0.005	0.003	0.008	0.005	0.005	0.008	0.011	0.007	0.007	0.023

Measurements

Voh (LVDS)sAo1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.150	2.160	2.160
OFF samples												
53	2.160	2.160	2.160	2.140	2.160	2.170	2.170	2.150	2.160	2.140	2.170	2.130
54	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Statistics												
Min	2.150	2.160	2.160	2.140	2.160	2.170	2.170	2.150	2.160	2.140	2.170	2.130
Max	2.160	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.160	2.160	2.170	2.160
Average	2.155	2.160	2.165	2.140	2.160	2.170	2.170	2.150	2.160	2.150	2.170	2.145
Sigma	0.005	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.015

Test conditions : TID
Parameter : High level Output Voltage : Voh (LVDS)sAo0n

Unit : V
No spec limit specified.



Measurements

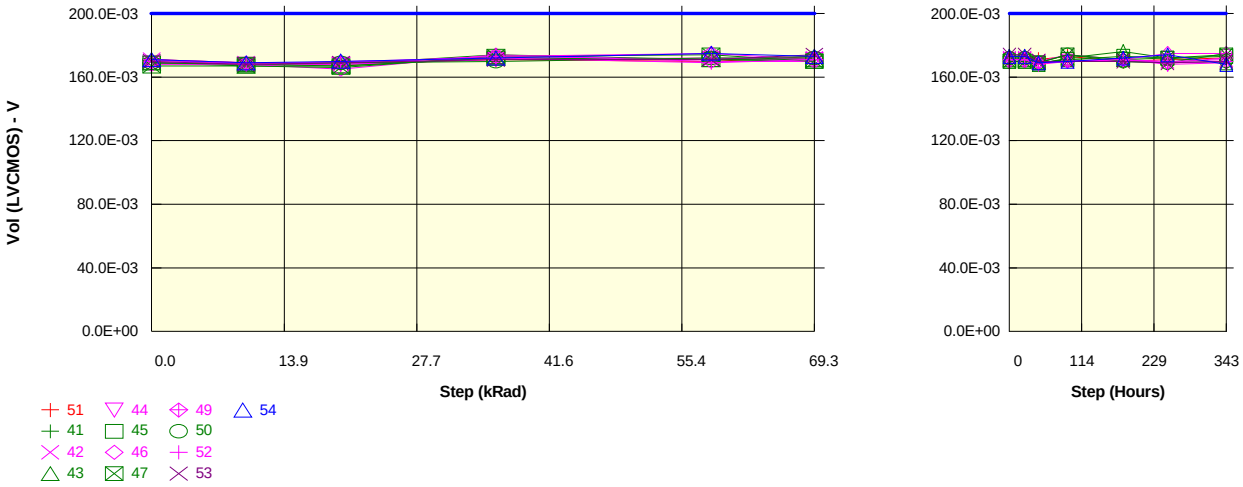
Voh (LVDS)sAo0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.130	2.160	2.160
ON samples												
41	2.150	2.170	2.160	2.140	2.140	2.140	2.140	2.140	2.140	2.130	2.160	2.160
42	2.160	2.160	2.160	2.140	2.160	2.160	2.160	2.140	2.160	2.140	2.170	2.150
43	2.160	2.160	2.160	2.140	2.150	2.160	2.160	2.140	2.150	2.150	2.170	2.170
44	2.150	2.160	2.160	2.140	2.160	2.140	2.140	2.150	2.170	2.150	2.170	2.160
45	2.160	2.170	2.170	2.140	2.160	2.160	2.160	2.160	2.160	2.150	2.170	2.160
46	2.160	2.160	2.160	2.130	2.170	2.160	2.160	2.150	2.170	2.150	2.170	2.170
47	2.160	2.160	2.160	2.140	2.150	2.150	2.150	2.140	2.140	2.150	2.150	2.170
49	2.160	2.160	2.170	2.150	2.150	2.160	2.160	2.150	2.150	2.150	2.160	2.170
50	2.160	2.160	2.150	2.130	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.170
52	2.150	2.160	2.160	2.140	2.160	2.160	2.160	2.150	2.160	2.150	2.170	2.160
Statistics												
Min	2.150	2.160	2.150	2.130	2.140	2.140	2.140	2.140	2.140	2.130	2.150	2.150
Max	2.160	2.170	2.170	2.150	2.170	2.160	2.160	2.160	2.170	2.150	2.170	2.170
Average	2.157	2.162	2.161	2.139	2.156	2.155	2.155	2.147	2.156	2.147	2.166	2.164
Sigma	0.005	0.004	0.005	0.005	0.008	0.008	0.008	0.006	0.010	0.006	0.007	0.007

Measurements

Voh (LVDS)sAo0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.150	2.160	2.150	2.150	2.160	2.160	2.160	2.150	2.160	2.130	2.160	2.160
OFF samples												
53	2.150	2.160	2.160	2.140	2.160	2.170	2.170	2.150	2.160	2.150	2.170	2.160
54	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.170	2.160	2.170	2.170
Statistics												
Min	2.150	2.160	2.160	2.140	2.160	2.170	2.170	2.150	2.160	2.150	2.170	2.160
Max	2.150	2.160	2.170	2.140	2.160	2.170	2.170	2.150	2.170	2.160	2.170	2.170
Average	2.150	2.160	2.165	2.140	2.160	2.170	2.170	2.150	2.165	2.155	2.170	2.165
Sigma	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.005

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)pll_l

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

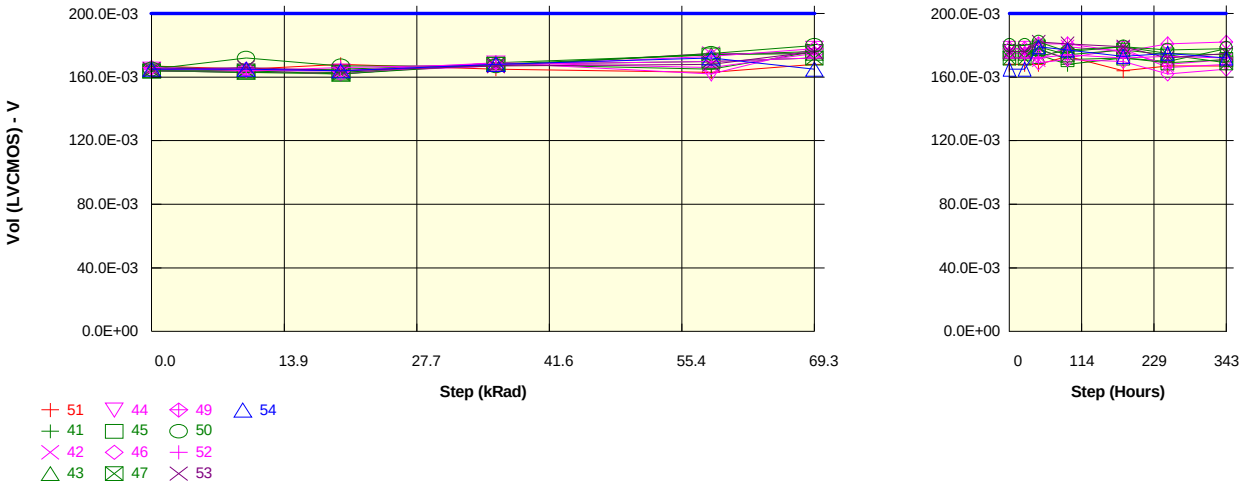
Vol (LVCMOS) pll_l	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	171.0E-03	170.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	170.0E-03	171.0E-03	172.0E-03
ON samples												
41	171.0E-03	168.0E-03	168.0E-03	174.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	171.0E-03	170.0E-03	169.0E-03	175.0E-03
42	171.0E-03	169.0E-03	168.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	171.0E-03	170.0E-03	171.0E-03
43	169.0E-03	167.0E-03	167.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	172.0E-03	176.0E-03	172.0E-03	169.0E-03
44	169.0E-03	168.0E-03	168.0E-03	171.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	171.0E-03	168.0E-03	169.0E-03
45	169.0E-03	168.0E-03	167.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	173.0E-03	172.0E-03	173.0E-03
46	168.0E-03	168.0E-03	165.0E-03	174.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	171.0E-03	175.0E-03	175.0E-03
47	167.0E-03	167.0E-03	166.0E-03	173.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03	174.0E-03	171.0E-03	172.0E-03	174.0E-03
49	170.0E-03	169.0E-03	169.0E-03	173.0E-03	175.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	171.0E-03	169.0E-03	172.0E-03
50	169.0E-03	168.0E-03	169.0E-03	170.0E-03	172.0E-03	172.0E-03	172.0E-03	169.0E-03	174.0E-03	170.0E-03	169.0E-03	170.0E-03
52	171.0E-03	168.0E-03	170.0E-03	172.0E-03	169.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	171.0E-03	169.0E-03	170.0E-03
Statistics												
Min	167.0E-03	167.0E-03	165.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03
Max	171.0E-03	169.0E-03	170.0E-03	174.0E-03	175.0E-03	173.0E-03	173.0E-03	170.0E-03	174.0E-03	176.0E-03	175.0E-03	175.0E-03
Average	169.4E-03	168.0E-03	167.7E-03	172.4E-03	171.6E-03	171.1E-03	171.1E-03	168.9E-03	171.6E-03	171.5E-03	170.5E-03	171.8E-03
Sigma	1.3E-03	632.5E-06	1.4E-03	1.2E-03	1.7E-03	943.4E-06	943.4E-06	538.5E-06	1.7E-03	1.7E-03	2.1E-03	2.2E-03

Measurements

Vol (LVCMOS) pll_l	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	171.0E-03	170.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	170.0E-03	171.0E-03	172.0E-03
OFF samples												
53	170.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	174.0E-03	174.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03
54	171.0E-03	169.0E-03	170.0E-03	172.0E-03	175.0E-03	173.0E-03	173.0E-03	169.0E-03	170.0E-03	172.0E-03	174.0E-03	168.0E-03
Statistics												
Min	170.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03
Max	171.0E-03	169.0E-03	170.0E-03	172.0E-03	175.0E-03	174.0E-03	174.0E-03	170.0E-03	170.0E-03	172.0E-03	174.0E-03	170.0E-03
Average	170.5E-03	168.5E-03	169.5E-03	171.5E-03	173.0E-03	173.5E-03	173.5E-03	169.5E-03	170.0E-03	171.0E-03	171.5E-03	169.0E-03
Sigma	500.0E-06	500.0E-06	500.0E-06	500.0E-06	2.0E-03	500.0E-06	500.0E-06	500.0E-06	0.0E+00	1.0E-03	2.5E-03	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd8n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

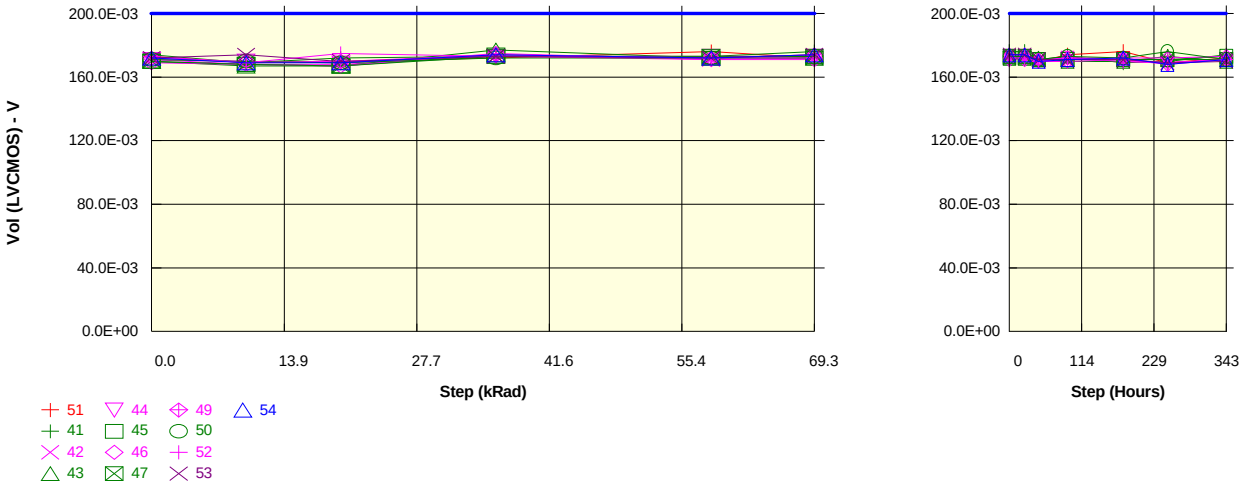
Vol (LVCMOS) srd8n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	167.0E-03	165.0E-03	168.0E-03	165.0E-03	163.0E-03	168.0E-03	168.0E-03	168.0E-03	173.0E-03	164.0E-03	167.0E-03	167.0E-03
ON samples												
41	167.0E-03	164.0E-03	165.0E-03	168.0E-03	165.0E-03	176.0E-03	176.0E-03	174.0E-03	168.0E-03	172.0E-03	170.0E-03	178.0E-03
42	164.0E-03	163.0E-03	163.0E-03	167.0E-03	175.0E-03	175.0E-03	175.0E-03	171.0E-03	179.0E-03	176.0E-03	168.0E-03	171.0E-03
43	164.0E-03	163.0E-03	162.0E-03	169.0E-03	174.0E-03	175.0E-03	175.0E-03	173.0E-03	177.0E-03	179.0E-03	175.0E-03	174.0E-03
44	165.0E-03	164.0E-03	164.0E-03	169.0E-03	162.0E-03	178.0E-03	178.0E-03	177.0E-03	172.0E-03	178.0E-03	166.0E-03	168.0E-03
45	164.0E-03	163.0E-03	163.0E-03	168.0E-03	174.0E-03	176.0E-03	176.0E-03	178.0E-03	171.0E-03	172.0E-03	169.0E-03	171.0E-03
46	164.0E-03	164.0E-03	162.0E-03	169.0E-03	166.0E-03	175.0E-03	175.0E-03	169.0E-03	171.0E-03	170.0E-03	162.0E-03	165.0E-03
47	164.0E-03	164.0E-03	162.0E-03	168.0E-03	170.0E-03	172.0E-03	172.0E-03	179.0E-03	174.0E-03	177.0E-03	174.0E-03	169.0E-03
49	166.0E-03	165.0E-03	164.0E-03	167.0E-03	173.0E-03	178.0E-03	178.0E-03	181.0E-03	181.0E-03	176.0E-03	181.0E-03	182.0E-03
50	165.0E-03	172.0E-03	167.0E-03	167.0E-03	175.0E-03	180.0E-03	180.0E-03	182.0E-03	176.0E-03	179.0E-03	177.0E-03	178.0E-03
52	166.0E-03	164.0E-03	166.0E-03	168.0E-03	170.0E-03	172.0E-03	172.0E-03	172.0E-03	174.0E-03	172.0E-03	173.0E-03	172.0E-03
Statistics												
Min	164.0E-03	163.0E-03	162.0E-03	167.0E-03	162.0E-03	172.0E-03	172.0E-03	169.0E-03	168.0E-03	170.0E-03	162.0E-03	165.0E-03
Max	167.0E-03	172.0E-03	167.0E-03	169.0E-03	175.0E-03	180.0E-03	180.0E-03	182.0E-03	181.0E-03	179.0E-03	181.0E-03	182.0E-03
Average	164.9E-03	164.6E-03	163.8E-03	168.0E-03	170.4E-03	175.7E-03	175.7E-03	175.6E-03	174.3E-03	175.1E-03	171.5E-03	172.8E-03
Sigma	1.0E-03	2.5E-03	1.7E-03	774.6E-06	4.4E-03	2.4E-03	2.4E-03	4.2E-03	3.8E-03	3.1E-03	5.3E-03	5.0E-03

Measurements

Vol (LVCMOS) srd8n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	167.0E-03	165.0E-03	168.0E-03	165.0E-03	163.0E-03	168.0E-03	168.0E-03	168.0E-03	173.0E-03	164.0E-03	167.0E-03	167.0E-03
OFF samples												
53	165.0E-03	166.0E-03	164.0E-03	167.0E-03	168.0E-03	176.0E-03	176.0E-03	182.0E-03	181.0E-03	179.0E-03	172.0E-03	175.0E-03
54	165.0E-03	165.0E-03	164.0E-03	168.0E-03	172.0E-03	165.0E-03	165.0E-03	179.0E-03	177.0E-03	173.0E-03	175.0E-03	172.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	167.0E-03	168.0E-03	165.0E-03	165.0E-03	179.0E-03	177.0E-03	173.0E-03	172.0E-03	172.0E-03
Max	165.0E-03	166.0E-03	164.0E-03	168.0E-03	172.0E-03	176.0E-03	176.0E-03	182.0E-03	181.0E-03	179.0E-03	175.0E-03	175.0E-03
Average	165.0E-03	165.5E-03	164.0E-03	167.5E-03	170.0E-03	170.5E-03	170.5E-03	180.5E-03	179.0E-03	176.0E-03	173.5E-03	173.5E-03
Sigma	0.0E+00	500.0E-06	0.0E+00	500.0E-06	2.0E-03	5.5E-03	5.5E-03	1.5E-03	2.0E-03	3.0E-03	1.5E-03	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd7n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

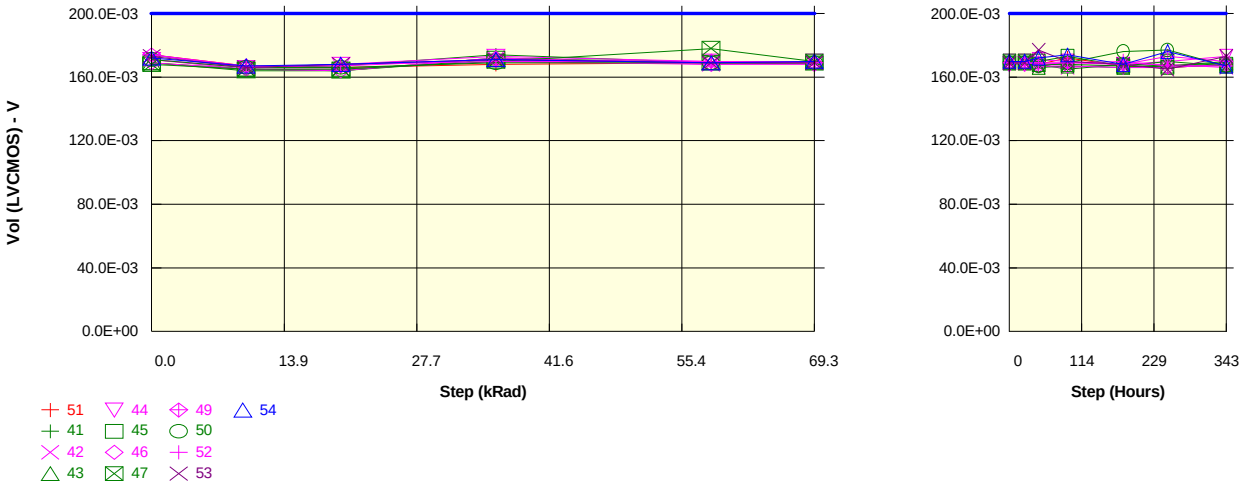
Vol (LVCMOS) srd7n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	173.0E-03	169.0E-03	170.0E-03	172.0E-03	176.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	176.0E-03	169.0E-03	172.0E-03
ON samples												
41	174.0E-03	169.0E-03	172.0E-03	173.0E-03	173.0E-03	176.0E-03	176.0E-03	171.0E-03	173.0E-03	169.0E-03	170.0E-03	174.0E-03
42	171.0E-03	168.0E-03	168.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03
43	170.0E-03	167.0E-03	167.0E-03	177.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	173.0E-03	170.0E-03
44	171.0E-03	170.0E-03	169.0E-03	173.0E-03	173.0E-03	173.0E-03	173.0E-03	171.0E-03	172.0E-03	170.0E-03	169.0E-03	171.0E-03
45	170.0E-03	168.0E-03	167.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03
46	169.0E-03	168.0E-03	167.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	171.0E-03	168.0E-03	171.0E-03
47	170.0E-03	168.0E-03	167.0E-03	173.0E-03	173.0E-03	173.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03
49	172.0E-03	170.0E-03	170.0E-03	174.0E-03	172.0E-03	174.0E-03	174.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	173.0E-03
50	171.0E-03	170.0E-03	169.0E-03	172.0E-03	172.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	172.0E-03	176.0E-03	171.0E-03
52	173.0E-03	169.0E-03	175.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	171.0E-03	169.0E-03	171.0E-03
Statistics												
Min	169.0E-03	167.0E-03	167.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
Max	174.0E-03	170.0E-03	175.0E-03	177.0E-03	173.0E-03	176.0E-03	176.0E-03	172.0E-03	173.0E-03	172.0E-03	176.0E-03	174.0E-03
Average	171.1E-03	168.7E-03	169.1E-03	173.7E-03	172.1E-03	172.8E-03	172.8E-03	170.8E-03	171.4E-03	170.7E-03	170.8E-03	171.6E-03
Sigma	1.4E-03	1.0E-03	2.5E-03	1.3E-03	700.0E-06	1.3E-03	1.3E-03	600.0E-06	1.1E-03	900.0E-06	2.3E-03	1.2E-03

Measurements

Vol (LVCMOS) srd7n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	173.0E-03	169.0E-03	170.0E-03	172.0E-03	176.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	176.0E-03	169.0E-03	172.0E-03
OFF samples												
53	172.0E-03	174.0E-03	170.0E-03	173.0E-03	172.0E-03	174.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
54	172.0E-03	169.0E-03	169.0E-03	174.0E-03	172.0E-03	174.0E-03	174.0E-03	170.0E-03	171.0E-03	172.0E-03	168.0E-03	171.0E-03
Statistics												
Min	172.0E-03	169.0E-03	169.0E-03	173.0E-03	172.0E-03	174.0E-03	174.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03
Max	172.0E-03	174.0E-03	170.0E-03	174.0E-03	172.0E-03	174.0E-03	174.0E-03	171.0E-03	171.0E-03	172.0E-03	169.0E-03	171.0E-03
Average	172.0E-03	171.5E-03	169.5E-03	173.5E-03	172.0E-03	174.0E-03	174.0E-03	170.5E-03	171.0E-03	171.5E-03	168.5E-03	170.5E-03
Sigma	0.0E+00	2.5E-03	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd6n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

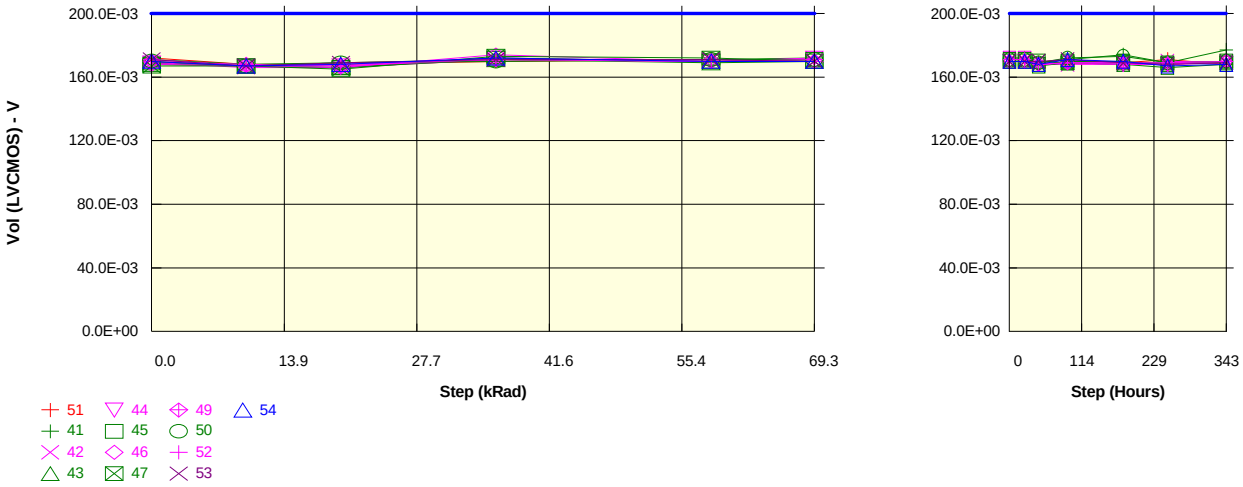
Vol (LVCMOS) srd6n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	174.0E-03	167.0E-03	166.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	167.0E-03	166.0E-03	168.0E-03
ON samples												
41	174.0E-03	166.0E-03	167.0E-03	174.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	165.0E-03	168.0E-03	167.0E-03	170.0E-03
42	171.0E-03	165.0E-03	165.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03
43	169.0E-03	164.0E-03	164.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	166.0E-03	167.0E-03	166.0E-03	167.0E-03	169.0E-03
44	171.0E-03	166.0E-03	168.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	168.0E-03	170.0E-03	173.0E-03
45	169.0E-03	165.0E-03	164.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	173.0E-03	167.0E-03	166.0E-03	168.0E-03
46	169.0E-03	165.0E-03	164.0E-03	172.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	168.0E-03
47	168.0E-03	165.0E-03	165.0E-03	170.0E-03	178.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	167.0E-03	170.0E-03	167.0E-03
49	174.0E-03	167.0E-03	167.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	173.0E-03	170.0E-03
50	171.0E-03	166.0E-03	166.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	176.0E-03	177.0E-03	167.0E-03
52	174.0E-03	166.0E-03	168.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	170.0E-03	167.0E-03	167.0E-03
Statistics												
Min	168.0E-03	164.0E-03	164.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	165.0E-03	166.0E-03	166.0E-03	166.0E-03
Max	174.0E-03	167.0E-03	168.0E-03	174.0E-03	178.0E-03	170.0E-03	170.0E-03	171.0E-03	173.0E-03	176.0E-03	177.0E-03	173.0E-03
Average	171.0E-03	165.5E-03	165.8E-03	171.2E-03	170.0E-03	169.2E-03	169.2E-03	168.1E-03	168.3E-03	168.4E-03	169.1E-03	168.5E-03
Sigma	2.2E-03	806.2E-06	1.5E-03	1.5E-03	2.8E-03	600.0E-06	600.0E-06	1.4E-03	2.1E-03	2.8E-03	3.4E-03	2.0E-03

Measurements

Vol (LVCMOS) srd6n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	174.0E-03	167.0E-03	166.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	167.0E-03	166.0E-03	168.0E-03
OFF samples												
53	173.0E-03	166.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	177.0E-03	170.0E-03	168.0E-03	165.0E-03	173.0E-03
54	172.0E-03	167.0E-03	168.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	172.0E-03	174.0E-03	168.0E-03	176.0E-03	167.0E-03
Statistics												
Min	172.0E-03	166.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03	170.0E-03	168.0E-03	165.0E-03	167.0E-03
Max	173.0E-03	167.0E-03	168.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	177.0E-03	174.0E-03	168.0E-03	176.0E-03	173.0E-03
Average	172.5E-03	166.5E-03	168.0E-03	171.0E-03	169.0E-03	169.5E-03	169.5E-03	174.5E-03	172.0E-03	168.0E-03	170.5E-03	170.0E-03
Sigma	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	2.5E-03	2.0E-03	0.0E+00	5.5E-03	3.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd5n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

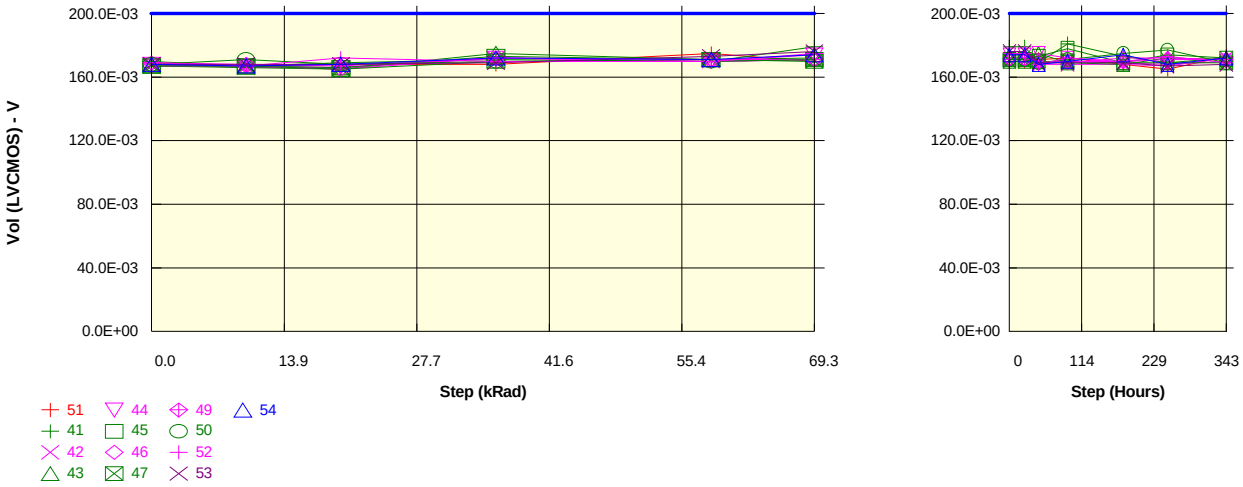
Vol (LVCMOS) srd5n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	168.0E-03	168.0E-03	170.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	169.0E-03	171.0E-03	168.0E-03
ON samples												
41	171.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	171.0E-03	174.0E-03	169.0E-03	177.0E-03
42	169.0E-03	166.0E-03	166.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	170.0E-03	170.0E-03
43	169.0E-03	167.0E-03	166.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
44	169.0E-03	167.0E-03	167.0E-03	172.0E-03	170.0E-03	172.0E-03	172.0E-03	168.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03
45	168.0E-03	167.0E-03	166.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03
46	168.0E-03	167.0E-03	166.0E-03	174.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	168.0E-03	170.0E-03
47	167.0E-03	167.0E-03	165.0E-03	173.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03
49	170.0E-03	168.0E-03	167.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03
50	170.0E-03	167.0E-03	169.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	173.0E-03	169.0E-03	170.0E-03
52	171.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03
Statistics												
Min	167.0E-03	166.0E-03	165.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03
Max	171.0E-03	168.0E-03	169.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	174.0E-03	170.0E-03	177.0E-03
Average	169.2E-03	167.1E-03	166.9E-03	171.6E-03	170.4E-03	170.7E-03	170.7E-03	168.3E-03	169.5E-03	169.6E-03	168.4E-03	170.3E-03
Sigma	1.2E-03	538.5E-06	1.3E-03	1.1E-03	800.0E-06	781.0E-06	781.0E-06	781.0E-06	1.1E-03	2.1E-03	1.0E-03	2.3E-03

Measurements

Vol (LVCMOS) srd5n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	168.0E-03	168.0E-03	170.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	169.0E-03	171.0E-03	168.0E-03
OFF samples												
53	171.0E-03	167.0E-03	169.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	169.0E-03	168.0E-03	169.0E-03
54	170.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03	170.0E-03	167.0E-03	168.0E-03
Statistics												
Min	170.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03	169.0E-03	167.0E-03	168.0E-03
Max	171.0E-03	167.0E-03	169.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	168.0E-03	169.0E-03
Average	170.5E-03	167.0E-03	168.5E-03	171.5E-03	170.5E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	169.5E-03	167.5E-03	168.5E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	1.0E-03	0.0E+00	500.0E-06	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd4n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

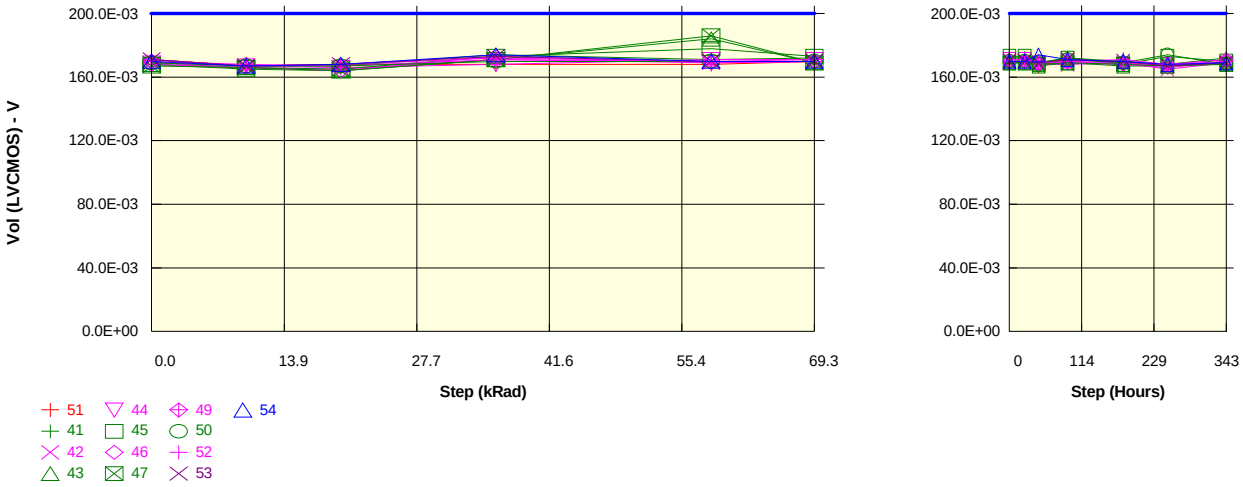
Vol (LVCMOS) srd4n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	168.0E-03	168.0E-03	175.0E-03	170.0E-03	170.0E-03	171.0E-03	172.0E-03	168.0E-03	165.0E-03	173.0E-03
ON samples												
41	170.0E-03	167.0E-03	169.0E-03	171.0E-03	170.0E-03	179.0E-03	179.0E-03	169.0E-03	181.0E-03	173.0E-03	169.0E-03	172.0E-03
42	168.0E-03	166.0E-03	166.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	172.0E-03
43	167.0E-03	166.0E-03	165.0E-03	175.0E-03	171.0E-03	172.0E-03	172.0E-03	175.0E-03	169.0E-03	168.0E-03	172.0E-03	171.0E-03
44	168.0E-03	167.0E-03	166.0E-03	172.0E-03	170.0E-03	174.0E-03	174.0E-03	175.0E-03	172.0E-03	169.0E-03	168.0E-03	170.0E-03
45	167.0E-03	167.0E-03	166.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03	178.0E-03	169.0E-03	174.0E-03	172.0E-03
46	167.0E-03	167.0E-03	165.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	172.0E-03	172.0E-03	171.0E-03
47	167.0E-03	167.0E-03	165.0E-03	170.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03
49	169.0E-03	168.0E-03	167.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03
50	168.0E-03	171.0E-03	168.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	175.0E-03	177.0E-03	169.0E-03
52	169.0E-03	167.0E-03	172.0E-03	170.0E-03	170.0E-03	175.0E-03	175.0E-03	168.0E-03	172.0E-03	170.0E-03	173.0E-03	169.0E-03
Statistics												
Min	167.0E-03	166.0E-03	165.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03
Max	170.0E-03	171.0E-03	172.0E-03	175.0E-03	171.0E-03	179.0E-03	179.0E-03	175.0E-03	181.0E-03	175.0E-03	177.0E-03	172.0E-03
Average	168.0E-03	167.3E-03	166.9E-03	171.7E-03	170.4E-03	172.5E-03	172.5E-03	170.6E-03	172.0E-03	170.3E-03	171.2E-03	170.6E-03
Sigma	1000.0E-06	1.3E-03	2.1E-03	1.5E-03	489.9E-06	2.6E-03	2.6E-03	2.6E-03	4.0E-03	2.2E-03	2.9E-03	1.2E-03

Measurements

Vol (LVCMOS) srd4n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	168.0E-03	168.0E-03	175.0E-03	170.0E-03	170.0E-03	171.0E-03	172.0E-03	168.0E-03	165.0E-03	173.0E-03
OFF samples												
53	168.0E-03	168.0E-03	168.0E-03	169.0E-03	173.0E-03	176.0E-03	176.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03
54	168.0E-03	167.0E-03	168.0E-03	172.0E-03	171.0E-03	174.0E-03	174.0E-03	168.0E-03	170.0E-03	174.0E-03	168.0E-03	172.0E-03
Statistics												
Min	168.0E-03	167.0E-03	168.0E-03	169.0E-03	171.0E-03	174.0E-03	174.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03
Max	168.0E-03	168.0E-03	168.0E-03	172.0E-03	173.0E-03	176.0E-03	176.0E-03	169.0E-03	170.0E-03	174.0E-03	168.0E-03	172.0E-03
Average	168.0E-03	167.5E-03	168.0E-03	170.5E-03	172.0E-03	175.0E-03	175.0E-03	168.5E-03	169.5E-03	171.5E-03	167.5E-03	170.0E-03
Sigma	0.0E+00	500.0E-06	0.0E+00	1.5E-03	1.0E-03	1.0E-03	1.0E-03	500.0E-06	500.0E-06	2.5E-03	500.0E-06	2.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd3n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

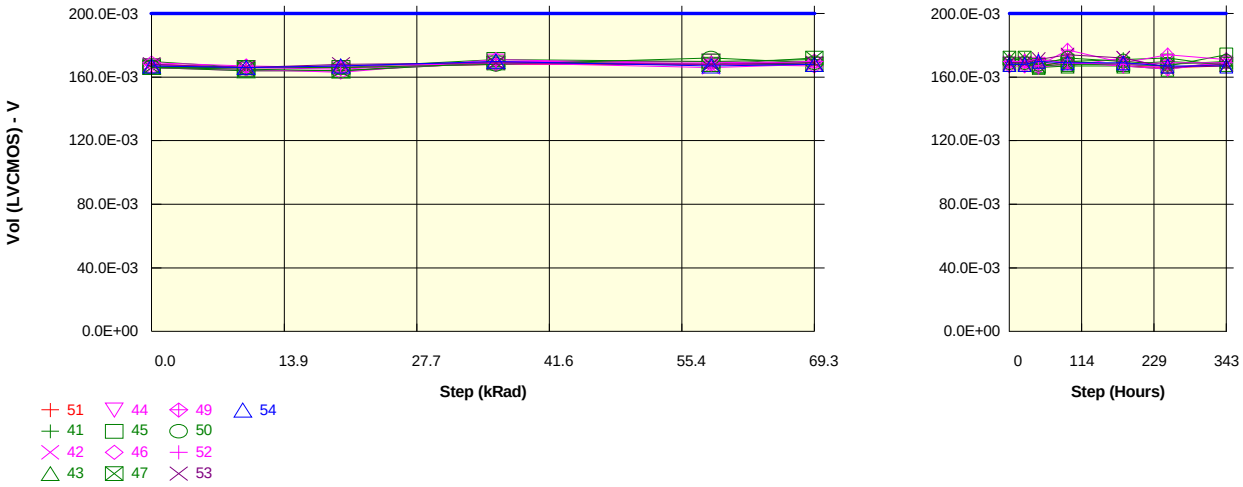
Vol (LVCMOS) srd3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	167.0E-03	168.0E-03	168.0E-03	168.0E-03	170.0E-03	170.0E-03	167.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03
ON samples												
41	171.0E-03	167.0E-03	167.0E-03	174.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	172.0E-03	170.0E-03	168.0E-03	172.0E-03
42	169.0E-03	166.0E-03	165.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03	165.0E-03	169.0E-03
43	168.0E-03	165.0E-03	164.0E-03	171.0E-03	184.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	167.0E-03	167.0E-03	169.0E-03
44	169.0E-03	167.0E-03	166.0E-03	168.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03
45	168.0E-03	166.0E-03	165.0E-03	173.0E-03	178.0E-03	173.0E-03	173.0E-03	169.0E-03	172.0E-03	168.0E-03	173.0E-03	170.0E-03
46	168.0E-03	166.0E-03	164.0E-03	173.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	170.0E-03
47	167.0E-03	166.0E-03	164.0E-03	171.0E-03	186.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	167.0E-03	168.0E-03
49	170.0E-03	168.0E-03	167.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	171.0E-03
50	169.0E-03	167.0E-03	167.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03	169.0E-03	174.0E-03	168.0E-03
52	171.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	171.0E-03	168.0E-03	170.0E-03
Statistics												
Min	167.0E-03	165.0E-03	164.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	168.0E-03
Max	171.0E-03	168.0E-03	168.0E-03	174.0E-03	186.0E-03	173.0E-03	173.0E-03	169.0E-03	172.0E-03	171.0E-03	174.0E-03	172.0E-03
Average	169.0E-03	166.5E-03	165.7E-03	171.4E-03	173.8E-03	170.5E-03	170.5E-03	168.3E-03	170.0E-03	168.7E-03	168.4E-03	169.6E-03
Sigma	1.3E-03	806.2E-06	1.4E-03	1.6E-03	6.1E-03	1.2E-03	1.2E-03	640.3E-06	1.3E-03	1.1E-03	2.7E-03	1.2E-03

Measurements

Vol (LVCMOS) srd3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	167.0E-03	168.0E-03	168.0E-03	168.0E-03	170.0E-03	170.0E-03	167.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03
OFF samples												
53	171.0E-03	167.0E-03	168.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	170.0E-03	167.0E-03	169.0E-03
54	170.0E-03	167.0E-03	168.0E-03	174.0E-03	170.0E-03	170.0E-03	170.0E-03	174.0E-03	171.0E-03	170.0E-03	168.0E-03	169.0E-03
Statistics												
Min	170.0E-03	167.0E-03	168.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	170.0E-03	167.0E-03	169.0E-03
Max	171.0E-03	167.0E-03	168.0E-03	174.0E-03	170.0E-03	170.0E-03	170.0E-03	174.0E-03	171.0E-03	170.0E-03	168.0E-03	169.0E-03
Average	170.5E-03	167.0E-03	168.0E-03	173.5E-03	170.0E-03	170.0E-03	170.0E-03	171.5E-03	171.0E-03	170.0E-03	167.5E-03	169.0E-03
Sigma	500.0E-06	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	2.5E-03	0.0E+00	0.0E+00	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd2n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

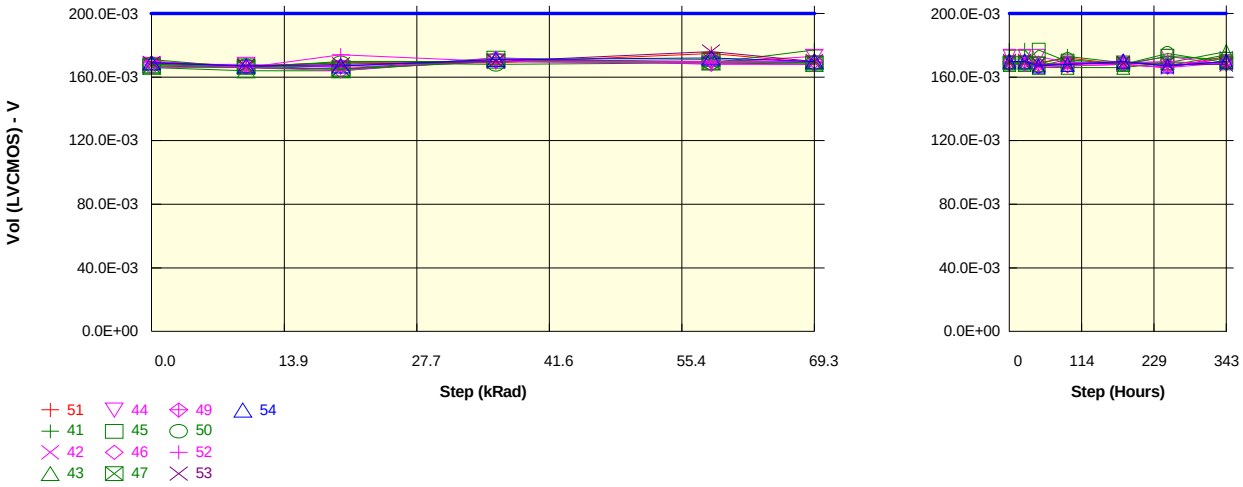
Vol (LVCMOS) srd2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	170.0E-03	167.0E-03	166.0E-03	167.0E-03
ON samples												
41	170.0E-03	166.0E-03	167.0E-03	169.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	172.0E-03	167.0E-03
42	166.0E-03	164.0E-03	164.0E-03	169.0E-03	166.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	172.0E-03	166.0E-03	168.0E-03
43	166.0E-03	164.0E-03	164.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	167.0E-03	165.0E-03	170.0E-03
44	167.0E-03	166.0E-03	165.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	169.0E-03
45	167.0E-03	166.0E-03	166.0E-03	171.0E-03	170.0E-03	168.0E-03	168.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	174.0E-03
46	166.0E-03	165.0E-03	163.0E-03	171.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	169.0E-03	167.0E-03	165.0E-03	169.0E-03
47	166.0E-03	165.0E-03	164.0E-03	169.0E-03	168.0E-03	172.0E-03	172.0E-03	167.0E-03	168.0E-03	168.0E-03	170.0E-03	168.0E-03
49	169.0E-03	167.0E-03	166.0E-03	168.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	177.0E-03	169.0E-03	174.0E-03	171.0E-03
50	166.0E-03	166.0E-03	166.0E-03	168.0E-03	172.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	170.0E-03	168.0E-03	170.0E-03
52	168.0E-03	166.0E-03	167.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	171.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03
Statistics												
Min	166.0E-03	164.0E-03	163.0E-03	168.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	165.0E-03	167.0E-03
Max	170.0E-03	167.0E-03	167.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	177.0E-03	172.0E-03	174.0E-03	174.0E-03
Average	167.1E-03	165.5E-03	165.2E-03	169.4E-03	168.9E-03	169.1E-03	169.1E-03	167.8E-03	169.8E-03	168.8E-03	168.2E-03	169.5E-03
Sigma	1.4E-03	922.0E-06	1.3E-03	1.0E-03	1.6E-03	1.5E-03	1.5E-03	1.7E-03	2.8E-03	1.6E-03	2.9E-03	1.9E-03

Measurements

Vol (LVCMOS) srd2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	170.0E-03	167.0E-03	166.0E-03	167.0E-03
OFF samples												
53	168.0E-03	166.0E-03	168.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	171.0E-03	174.0E-03	172.0E-03	166.0E-03	168.0E-03
54	167.0E-03	166.0E-03	167.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03
Statistics												
Min	167.0E-03	166.0E-03	167.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	166.0E-03	167.0E-03
Max	168.0E-03	166.0E-03	168.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	171.0E-03	174.0E-03	172.0E-03	167.0E-03	168.0E-03
Average	167.5E-03	166.0E-03	167.5E-03	169.5E-03	167.5E-03	168.5E-03	168.5E-03	170.5E-03	171.5E-03	170.5E-03	166.5E-03	167.5E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	2.5E-03	1.5E-03	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd1n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

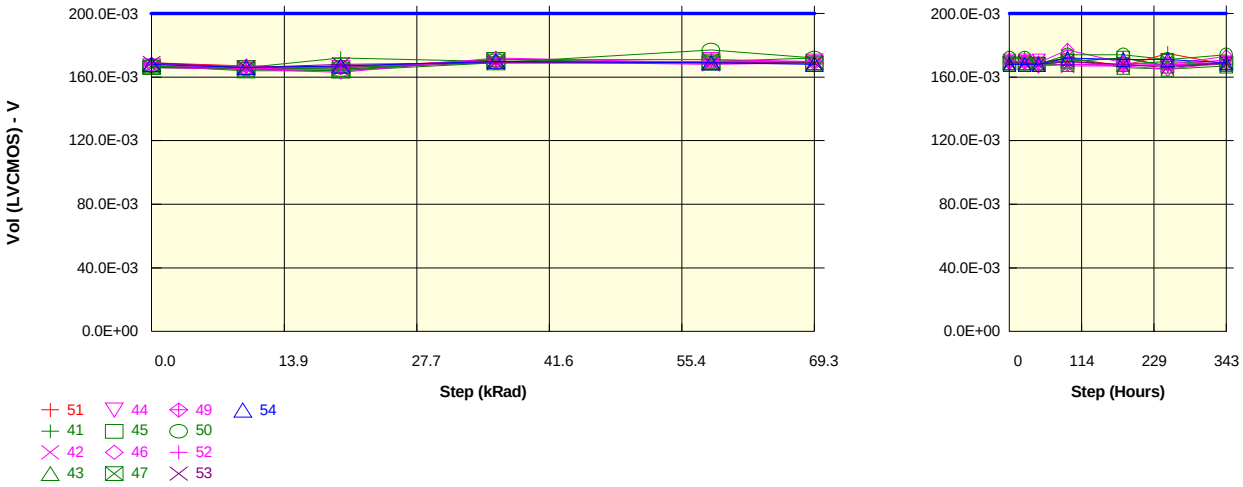
Vol (LVCMOS) srd1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	167.0E-03	169.0E-03	169.0E-03	175.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03	168.0E-03	166.0E-03	173.0E-03
ON samples												
41	171.0E-03	166.0E-03	170.0E-03	170.0E-03	169.0E-03	177.0E-03	177.0E-03	168.0E-03	173.0E-03	169.0E-03	167.0E-03	174.0E-03
42	168.0E-03	166.0E-03	165.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	168.0E-03	166.0E-03	172.0E-03
43	166.0E-03	164.0E-03	164.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	169.0E-03	176.0E-03
44	168.0E-03	168.0E-03	166.0E-03	170.0E-03	169.0E-03	173.0E-03	173.0E-03	173.0E-03	169.0E-03	168.0E-03	173.0E-03	168.0E-03
45	167.0E-03	167.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	177.0E-03	170.0E-03	168.0E-03	173.0E-03	171.0E-03
46	166.0E-03	166.0E-03	164.0E-03	172.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	168.0E-03	166.0E-03	169.0E-03
47	167.0E-03	166.0E-03	165.0E-03	170.0E-03	171.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03
49	169.0E-03	167.0E-03	167.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	170.0E-03	167.0E-03	170.0E-03
50	168.0E-03	167.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	171.0E-03	168.0E-03	175.0E-03	169.0E-03
52	170.0E-03	166.0E-03	174.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	169.0E-03	170.0E-03	168.0E-03
Statistics												
Min	166.0E-03	164.0E-03	164.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	166.0E-03	168.0E-03
Max	171.0E-03	168.0E-03	174.0E-03	172.0E-03	171.0E-03	177.0E-03	177.0E-03	177.0E-03	173.0E-03	170.0E-03	175.0E-03	176.0E-03
Average	168.0E-03	166.3E-03	166.9E-03	170.3E-03	169.2E-03	170.2E-03	170.2E-03	168.7E-03	168.9E-03	168.3E-03	169.5E-03	170.6E-03
Sigma	1.5E-03	1.0E-03	3.0E-03	1.1E-03	748.3E-06	2.6E-03	2.6E-03	3.3E-03	2.0E-03	1.0E-03	3.0E-03	2.5E-03

Measurements

Vol (LVCMOS) srd1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	167.0E-03	169.0E-03	169.0E-03	175.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03	168.0E-03	166.0E-03	173.0E-03
OFF samples												
53	169.0E-03	167.0E-03	168.0E-03	170.0E-03	176.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03	168.0E-03	168.0E-03
54	169.0E-03	167.0E-03	167.0E-03	171.0E-03	172.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	170.0E-03	167.0E-03	170.0E-03
Statistics												
Min	169.0E-03	167.0E-03	167.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	169.0E-03	167.0E-03	168.0E-03
Max	169.0E-03	167.0E-03	168.0E-03	171.0E-03	176.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	170.0E-03	168.0E-03	170.0E-03
Average	169.0E-03	167.0E-03	167.5E-03	170.5E-03	174.0E-03	170.0E-03	170.0E-03	167.5E-03	168.0E-03	169.5E-03	167.5E-03	169.0E-03
Sigma	0.0E+00	0.0E+00	500.0E-06	500.0E-06	2.0E-03	0.0E+00	0.0E+00	500.0E-06	0.0E+00	500.0E-06	500.0E-06	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd0n

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

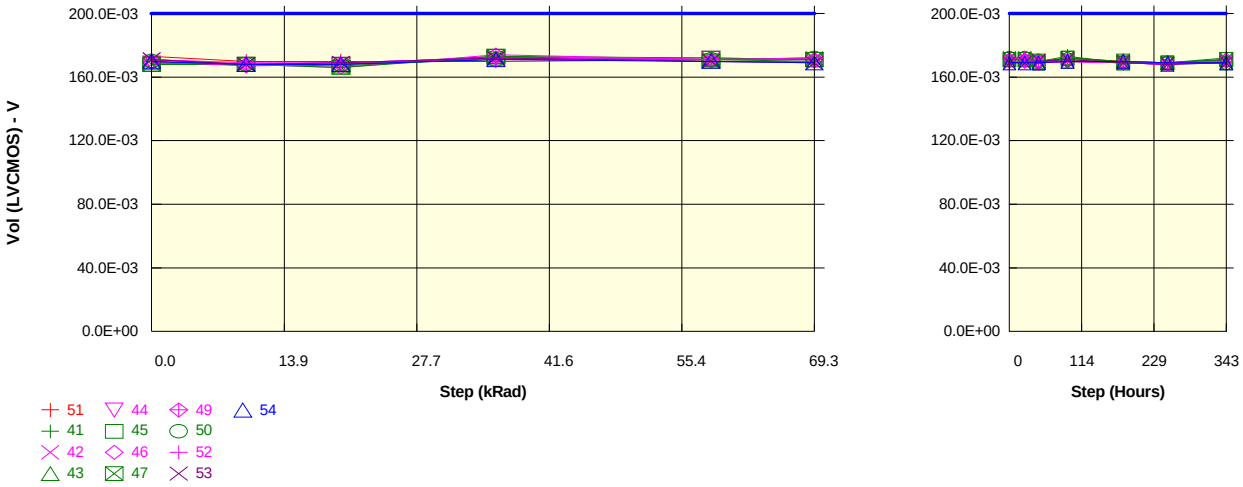
Vol (LVCMOS) srd0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	167.0E-03	175.0E-03	168.0E-03
ON samples												
41	168.0E-03	166.0E-03	172.0E-03	170.0E-03	170.0E-03	172.0E-03	172.0E-03	168.0E-03	170.0E-03	172.0E-03	167.0E-03	168.0E-03
42	167.0E-03	165.0E-03	165.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	170.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03
43	167.0E-03	164.0E-03	164.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03	166.0E-03	165.0E-03	167.0E-03
44	167.0E-03	166.0E-03	166.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03
45	166.0E-03	165.0E-03	164.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	172.0E-03	167.0E-03	169.0E-03
46	166.0E-03	165.0E-03	163.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	169.0E-03
47	166.0E-03	166.0E-03	165.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	170.0E-03	168.0E-03
49	168.0E-03	167.0E-03	166.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	177.0E-03	169.0E-03	168.0E-03	173.0E-03
50	167.0E-03	165.0E-03	166.0E-03	169.0E-03	177.0E-03	172.0E-03	172.0E-03	168.0E-03	174.0E-03	174.0E-03	171.0E-03	174.0E-03
52	169.0E-03	165.0E-03	167.0E-03	169.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	167.0E-03	171.0E-03
Statistics												
Min	166.0E-03	164.0E-03	163.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	167.0E-03
Max	169.0E-03	167.0E-03	172.0E-03	172.0E-03	177.0E-03	172.0E-03	172.0E-03	170.0E-03	177.0E-03	174.0E-03	171.0E-03	174.0E-03
Average	167.1E-03	165.4E-03	165.8E-03	170.1E-03	170.2E-03	169.9E-03	169.9E-03	168.4E-03	170.4E-03	169.0E-03	167.6E-03	169.6E-03
Sigma	943.4E-06	800.0E-06	2.4E-03	943.4E-06	2.4E-03	1.1E-03	1.1E-03	1.0E-03	3.0E-03	2.6E-03	1.8E-03	2.2E-03

Measurements

Vol (LVCMOS) srd0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	167.0E-03	175.0E-03	168.0E-03
OFF samples												
53	169.0E-03	166.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	168.0E-03	166.0E-03	169.0E-03
54	168.0E-03	166.0E-03	167.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03
Statistics												
Min	168.0E-03	166.0E-03	167.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	170.0E-03	168.0E-03	166.0E-03	169.0E-03
Max	169.0E-03	166.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03
Average	168.5E-03	166.0E-03	167.5E-03	169.5E-03	169.0E-03	168.5E-03	168.5E-03	168.0E-03	171.0E-03	169.5E-03	168.5E-03	169.0E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	500.0E-06	0.0E+00	500.0E-06	500.0E-06	0.0E+00	1.0E-03	1.5E-03	2.5E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd8s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

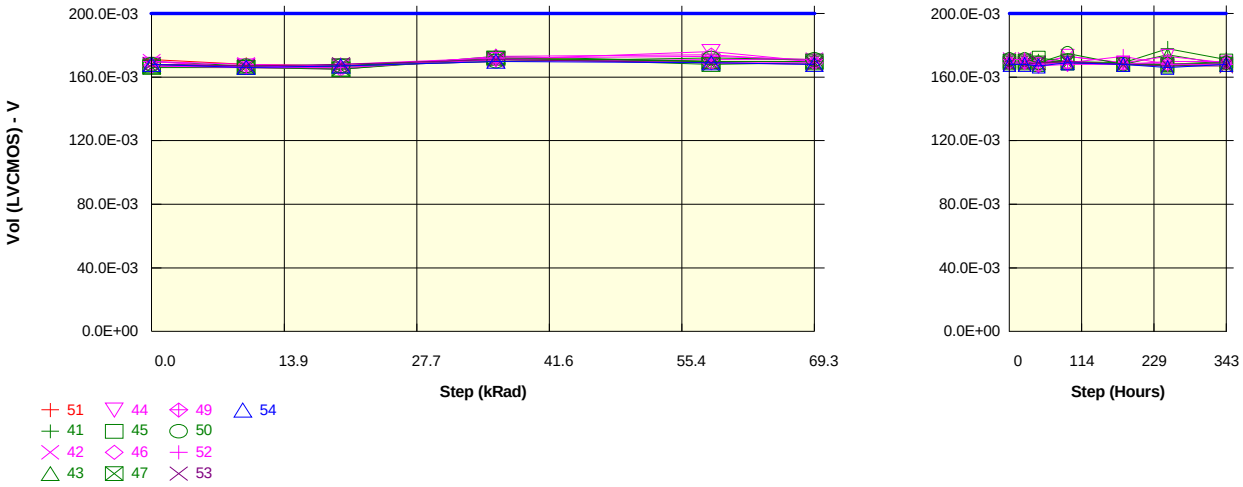
Vol (LVCMOS) srd8s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	173.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03
ON samples												
41	171.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	173.0E-03	169.0E-03	169.0E-03	172.0E-03
42	171.0E-03	168.0E-03	169.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03
43	169.0E-03	168.0E-03	167.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
44	169.0E-03	168.0E-03	168.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	171.0E-03
45	168.0E-03	168.0E-03	168.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	169.0E-03	169.0E-03	171.0E-03
46	169.0E-03	168.0E-03	166.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03	171.0E-03
47	168.0E-03	168.0E-03	166.0E-03	173.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03	170.0E-03	169.0E-03	171.0E-03
49	170.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
50	170.0E-03	168.0E-03	168.0E-03	171.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03
52	171.0E-03	169.0E-03	169.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03
Statistics												
Min	168.0E-03	167.0E-03	166.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
Max	171.0E-03	169.0E-03	169.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	173.0E-03	170.0E-03	169.0E-03	172.0E-03
Average	169.6E-03	168.0E-03	167.7E-03	172.3E-03	171.0E-03	171.2E-03	171.2E-03	169.5E-03	170.8E-03	169.3E-03	168.5E-03	170.4E-03
Sigma	1.1E-03	447.2E-06	1.0E-03	781.0E-06	632.5E-06	600.0E-06	600.0E-06	500.0E-06	1.1E-03	458.3E-06	500.0E-06	916.5E-06

Measurements

Vol (LVCMOS) srd8s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	173.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03
OFF samples												
53	171.0E-03	168.0E-03	169.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03	169.0E-03	168.0E-03	169.0E-03
54	170.0E-03	168.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03
Statistics												
Min	170.0E-03	168.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
Max	171.0E-03	168.0E-03	169.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03
Average	170.5E-03	168.0E-03	168.5E-03	171.5E-03	170.0E-03	169.0E-03	169.0E-03	169.5E-03	170.5E-03	169.5E-03	168.5E-03	169.0E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd7s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

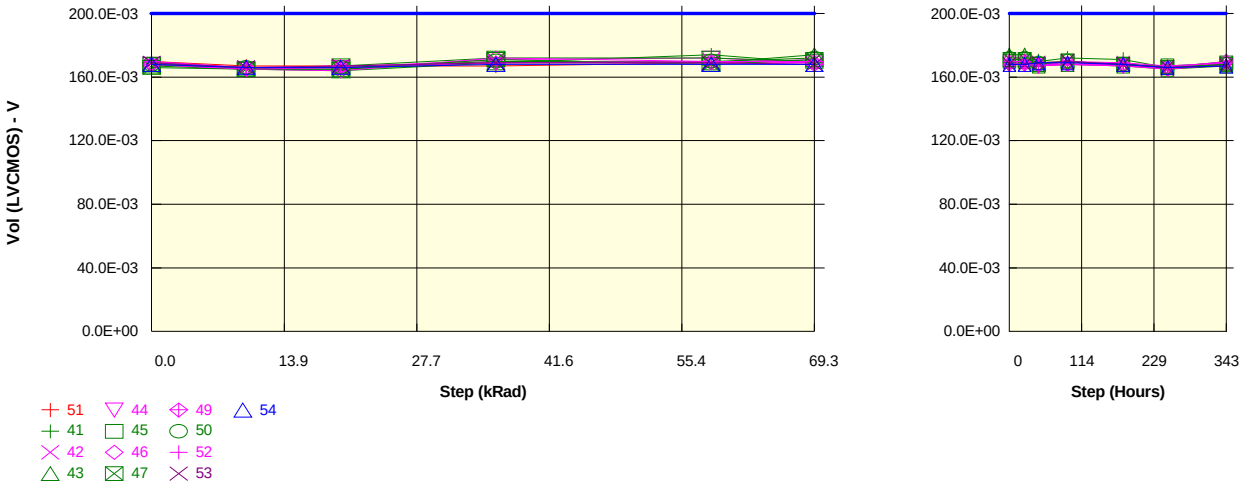
Vol (LVCMOS) srd7s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	168.0E-03	167.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03
ON samples												
41	170.0E-03	167.0E-03	166.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	178.0E-03	171.0E-03
42	170.0E-03	168.0E-03	167.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	173.0E-03	169.0E-03	168.0E-03	169.0E-03
43	167.0E-03	167.0E-03	165.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	174.0E-03	168.0E-03
44	168.0E-03	167.0E-03	167.0E-03	171.0E-03	176.0E-03	170.0E-03	170.0E-03	168.0E-03	173.0E-03	169.0E-03	173.0E-03	169.0E-03
45	167.0E-03	166.0E-03	167.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03	168.0E-03	168.0E-03	170.0E-03
46	167.0E-03	166.0E-03	165.0E-03	173.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03
47	166.0E-03	166.0E-03	165.0E-03	172.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	167.0E-03	168.0E-03
49	167.0E-03	166.0E-03	166.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03
50	168.0E-03	167.0E-03	167.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03	175.0E-03	168.0E-03	168.0E-03	169.0E-03
52	170.0E-03	166.0E-03	168.0E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	173.0E-03	168.0E-03	168.0E-03
Statistics												
Min	166.0E-03	166.0E-03	165.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03
Max	170.0E-03	168.0E-03	168.0E-03	173.0E-03	176.0E-03	171.0E-03	171.0E-03	172.0E-03	175.0E-03	173.0E-03	178.0E-03	171.0E-03
Average	168.0E-03	166.6E-03	166.3E-03	171.5E-03	171.3E-03	170.1E-03	170.1E-03	168.9E-03	170.5E-03	168.8E-03	170.2E-03	169.1E-03
Sigma	1.4E-03	663.3E-06	1.0E-03	1.0E-03	2.3E-03	700.0E-06	700.0E-06	1.3E-03	2.2E-03	1.5E-03	3.4E-03	943.4E-06

Measurements

Vol (LVCMOS) srd7s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	168.0E-03	167.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03
OFF samples												
53	168.0E-03	167.0E-03	168.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03
54	168.0E-03	166.0E-03	167.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
Statistics												
Min	168.0E-03	166.0E-03	167.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
Max	168.0E-03	167.0E-03	168.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	168.0E-03	167.0E-03	168.0E-03
Average	168.0E-03	166.5E-03	167.5E-03	170.5E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	169.5E-03	168.0E-03	166.5E-03	167.5E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	1.0E-03	500.0E-06	0.0E+00	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd6s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

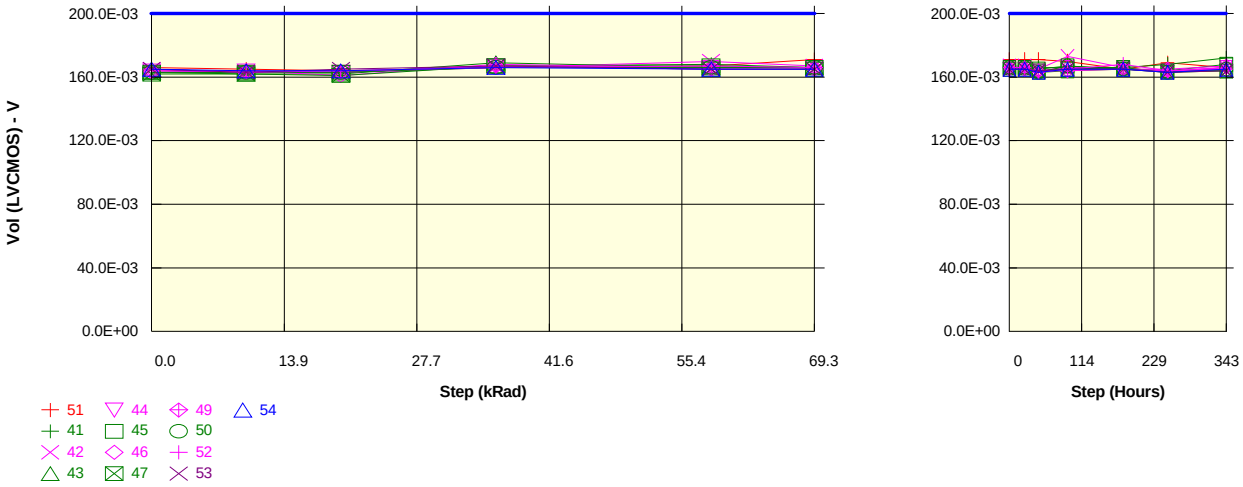
Vol (LVCMOS) srd6s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	170.0E-03	167.0E-03	166.0E-03	168.0E-03
ON samples												
41	169.0E-03	165.0E-03	165.0E-03	169.0E-03	174.0E-03	169.0E-03	169.0E-03	170.0E-03	172.0E-03	171.0E-03	166.0E-03	170.0E-03
42	169.0E-03	166.0E-03	166.0E-03	170.0E-03	169.0E-03	171.0E-03	171.0E-03	168.0E-03	168.0E-03	169.0E-03	165.0E-03	169.0E-03
43	167.0E-03	165.0E-03	164.0E-03	169.0E-03	169.0E-03	174.0E-03	174.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
44	168.0E-03	165.0E-03	166.0E-03	171.0E-03	172.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	168.0E-03
45	168.0E-03	165.0E-03	167.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	168.0E-03	167.0E-03	169.0E-03
46	168.0E-03	165.0E-03	164.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	165.0E-03	169.0E-03
47	166.0E-03	165.0E-03	165.0E-03	171.0E-03	168.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	168.0E-03	166.0E-03	168.0E-03
49	168.0E-03	165.0E-03	166.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	166.0E-03	170.0E-03
50	168.0E-03	166.0E-03	166.0E-03	170.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	170.0E-03	168.0E-03	166.0E-03	168.0E-03
52	170.0E-03	166.0E-03	167.0E-03	169.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	170.0E-03	169.0E-03	167.0E-03	169.0E-03
Statistics												
Min	166.0E-03	165.0E-03	164.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
Max	170.0E-03	166.0E-03	167.0E-03	172.0E-03	174.0E-03	174.0E-03	174.0E-03	170.0E-03	172.0E-03	171.0E-03	167.0E-03	170.0E-03
Average	168.1E-03	165.3E-03	165.6E-03	170.2E-03	170.3E-03	170.3E-03	170.3E-03	167.9E-03	169.2E-03	168.2E-03	165.8E-03	168.7E-03
Sigma	1.0E-03	458.3E-06	1.0E-03	1.2E-03	1.7E-03	1.7E-03	1.7E-03	943.4E-06	1.3E-03	1.2E-03	748.3E-06	900.0E-06

Measurements

Vol (LVCMOS) srd6s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	170.0E-03	167.0E-03	166.0E-03	168.0E-03
OFF samples												
53	169.0E-03	166.0E-03	167.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	168.0E-03	166.0E-03	167.0E-03
54	168.0E-03	166.0E-03	166.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
Statistics												
Min	168.0E-03	166.0E-03	166.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
Max	169.0E-03	166.0E-03	167.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	168.0E-03	166.0E-03	167.0E-03
Average	168.5E-03	166.0E-03	166.5E-03	168.5E-03	168.5E-03	168.0E-03	168.0E-03	169.0E-03	169.5E-03	168.0E-03	166.0E-03	167.0E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd5s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

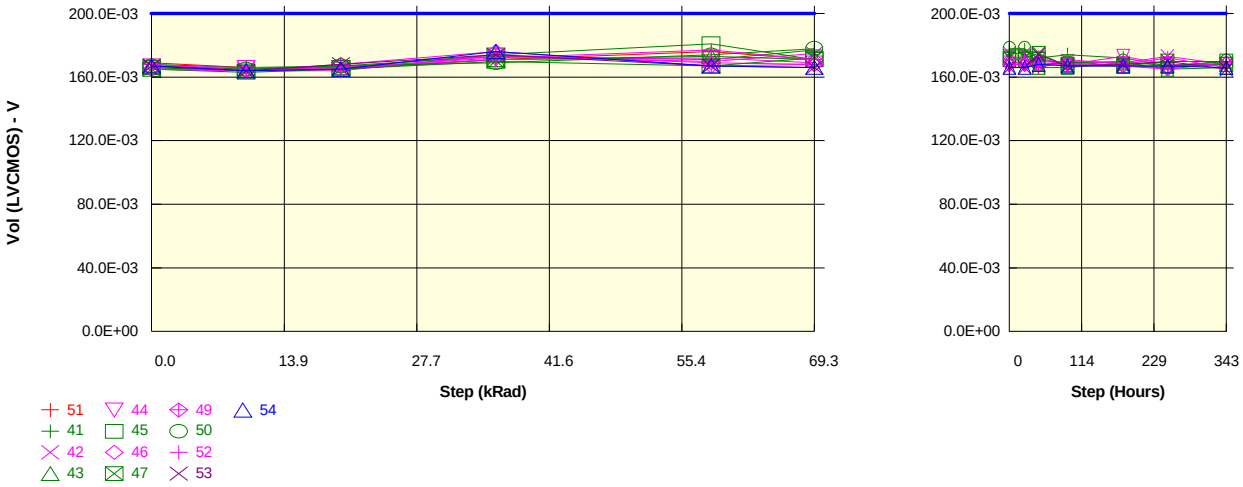
Vol (LVCMOS) srd5s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	164.0E-03	166.0E-03	167.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	165.0E-03	169.0E-03	166.0E-03
ON samples												
41	165.0E-03	163.0E-03	163.0E-03	167.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	166.0E-03	166.0E-03	168.0E-03	172.0E-03
42	165.0E-03	163.0E-03	163.0E-03	166.0E-03	170.0E-03	167.0E-03	167.0E-03	165.0E-03	173.0E-03	166.0E-03	163.0E-03	166.0E-03
43	163.0E-03	162.0E-03	162.0E-03	169.0E-03	166.0E-03	166.0E-03	166.0E-03	163.0E-03	164.0E-03	165.0E-03	164.0E-03	164.0E-03
44	164.0E-03	164.0E-03	163.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	164.0E-03	166.0E-03	165.0E-03	164.0E-03	166.0E-03
45	163.0E-03	163.0E-03	163.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	165.0E-03	167.0E-03	165.0E-03	164.0E-03	168.0E-03
46	163.0E-03	164.0E-03	161.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	164.0E-03	166.0E-03	165.0E-03	165.0E-03	167.0E-03
47	162.0E-03	162.0E-03	161.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	166.0E-03	163.0E-03	164.0E-03
49	164.0E-03	163.0E-03	163.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	164.0E-03	165.0E-03	164.0E-03	166.0E-03
50	163.0E-03	163.0E-03	163.0E-03	166.0E-03	166.0E-03	166.0E-03	166.0E-03	163.0E-03	167.0E-03	165.0E-03	163.0E-03	165.0E-03
52	165.0E-03	163.0E-03	164.0E-03	166.0E-03	167.0E-03	166.0E-03	166.0E-03	163.0E-03	165.0E-03	168.0E-03	164.0E-03	165.0E-03
Statistics												
Min	162.0E-03	162.0E-03	161.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	164.0E-03	165.0E-03	163.0E-03	164.0E-03
Max	165.0E-03	164.0E-03	164.0E-03	169.0E-03	170.0E-03	167.0E-03	167.0E-03	166.0E-03	173.0E-03	168.0E-03	168.0E-03	172.0E-03
Average	163.7E-03	163.0E-03	162.6E-03	167.0E-03	166.6E-03	165.9E-03	165.9E-03	164.1E-03	166.3E-03	165.6E-03	164.2E-03	166.3E-03
Sigma	1.0E-03	632.5E-06	916.5E-06	894.4E-06	1.4E-03	538.5E-06	538.5E-06	943.4E-06	2.5E-03	916.5E-06	1.4E-03	2.2E-03

Measurements

Vol (LVCMOS) srd5s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	164.0E-03	166.0E-03	167.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	165.0E-03	169.0E-03	166.0E-03
OFF samples												
53	165.0E-03	163.0E-03	165.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	163.0E-03	164.0E-03
54	165.0E-03	164.0E-03	164.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03
Statistics												
Min	165.0E-03	163.0E-03	164.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03	165.0E-03	163.0E-03	164.0E-03
Max	165.0E-03	164.0E-03	165.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03
Average	165.0E-03	163.5E-03	164.5E-03	166.5E-03	165.0E-03	165.0E-03	165.0E-03	163.5E-03	165.0E-03	165.0E-03	163.0E-03	164.5E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd4s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

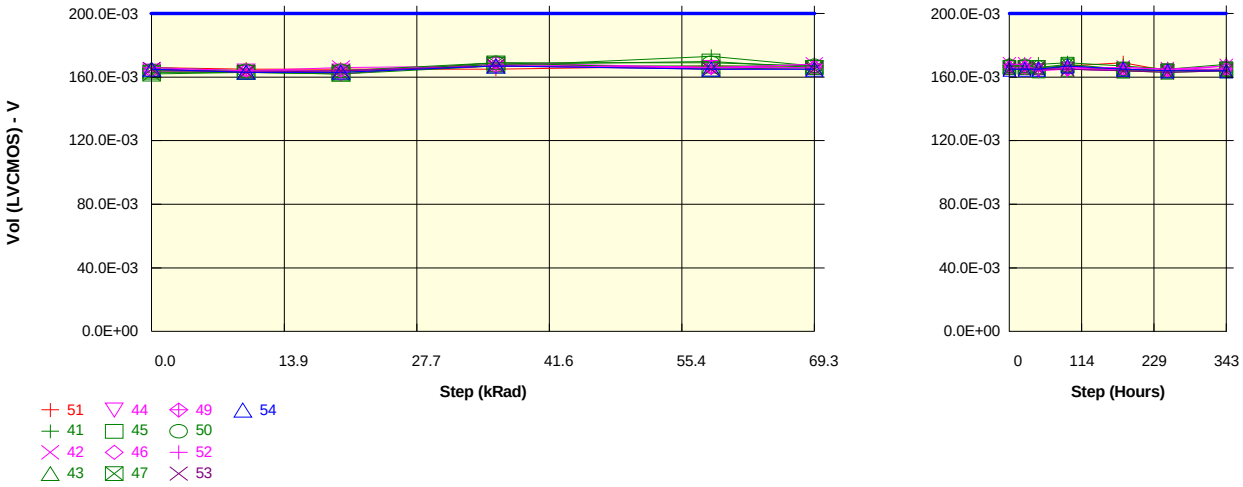
Vol (LVCMOS) srd4s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	166.0E-03	165.0E-03	171.0E-03	176.0E-03	171.0E-03	171.0E-03	166.0E-03	170.0E-03	167.0E-03	166.0E-03	168.0E-03
ON samples												
41	168.0E-03	166.0E-03	167.0E-03	173.0E-03	171.0E-03	177.0E-03	177.0E-03	172.0E-03	174.0E-03	172.0E-03	167.0E-03	170.0E-03
42	167.0E-03	165.0E-03	165.0E-03	173.0E-03	170.0E-03	175.0E-03	175.0E-03	167.0E-03	170.0E-03	169.0E-03	173.0E-03	168.0E-03
43	166.0E-03	164.0E-03	165.0E-03	171.0E-03	173.0E-03	171.0E-03	171.0E-03	166.0E-03	166.0E-03	169.0E-03	165.0E-03	166.0E-03
44	167.0E-03	166.0E-03	166.0E-03	171.0E-03	172.0E-03	169.0E-03	169.0E-03	172.0E-03	168.0E-03	173.0E-03	168.0E-03	168.0E-03
45	166.0E-03	164.0E-03	166.0E-03	174.0E-03	181.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	167.0E-03	170.0E-03	170.0E-03
46	165.0E-03	164.0E-03	164.0E-03	174.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	166.0E-03	169.0E-03
47	165.0E-03	163.0E-03	165.0E-03	170.0E-03	167.0E-03	172.0E-03	172.0E-03	175.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03
49	165.0E-03	164.0E-03	168.0E-03	176.0E-03	167.0E-03	168.0E-03	168.0E-03	170.0E-03	169.0E-03	167.0E-03	165.0E-03	169.0E-03
50	167.0E-03	165.0E-03	167.0E-03	169.0E-03	174.0E-03	178.0E-03	178.0E-03	168.0E-03	169.0E-03	170.0E-03	167.0E-03	170.0E-03
52	168.0E-03	164.0E-03	166.0E-03	172.0E-03	177.0E-03	171.0E-03	171.0E-03	167.0E-03	171.0E-03	168.0E-03	172.0E-03	166.0E-03
Statistics												
Min	165.0E-03	163.0E-03	164.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	166.0E-03	167.0E-03	165.0E-03	166.0E-03
Max	168.0E-03	166.0E-03	168.0E-03	176.0E-03	181.0E-03	178.0E-03	178.0E-03	175.0E-03	174.0E-03	173.0E-03	173.0E-03	170.0E-03
Average	166.4E-03	164.5E-03	165.9E-03	172.3E-03	172.1E-03	172.0E-03	172.0E-03	169.6E-03	169.0E-03	168.9E-03	168.0E-03	168.4E-03
Sigma	1.1E-03	922.0E-06	1.1E-03	2.0E-03	4.2E-03	3.4E-03	3.4E-03	2.7E-03	2.1E-03	2.1E-03	2.6E-03	1.4E-03

Measurements

Vol (LVCMOS) srd4s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	166.0E-03	165.0E-03	171.0E-03	176.0E-03	171.0E-03	171.0E-03	166.0E-03	170.0E-03	167.0E-03	166.0E-03	168.0E-03
OFF samples												
53	167.0E-03	164.0E-03	168.0E-03	174.0E-03	167.0E-03	166.0E-03	166.0E-03	174.0E-03	167.0E-03	168.0E-03	170.0E-03	165.0E-03
54	167.0E-03	164.0E-03	165.0E-03	176.0E-03	167.0E-03	166.0E-03	166.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03
Statistics												
Min	167.0E-03	164.0E-03	165.0E-03	174.0E-03	167.0E-03	166.0E-03	166.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03
Max	167.0E-03	164.0E-03	168.0E-03	176.0E-03	167.0E-03	166.0E-03	166.0E-03	174.0E-03	167.0E-03	168.0E-03	170.0E-03	166.0E-03
Average	167.0E-03	164.0E-03	166.5E-03	175.0E-03	167.0E-03	166.0E-03	166.0E-03	171.0E-03	167.0E-03	167.5E-03	168.5E-03	165.5E-03
Sigma	0.0E+00	0.0E+00	1.5E-03	1.0E-03	0.0E+00	0.0E+00	0.0E+00	3.0E-03	0.0E+00	500.0E-06	1.5E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd3s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

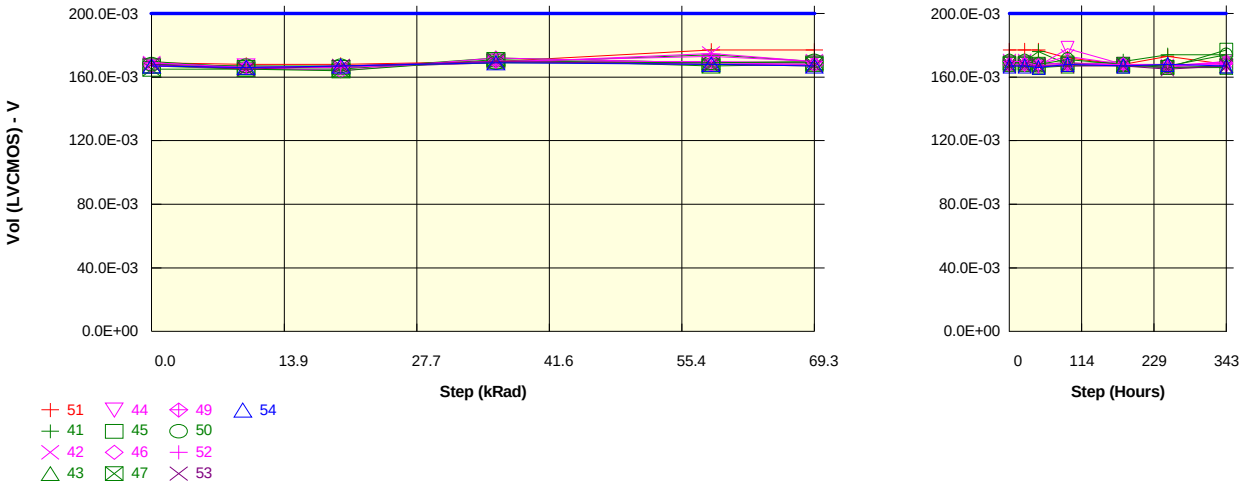
Vol (LVCMOS) srd3s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	166.0E-03	166.0E-03	164.0E-03	167.0E-03	169.0E-03	164.0E-03	164.0E-03
ON samples												
41	166.0E-03	164.0E-03	164.0E-03	167.0E-03	173.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	167.0E-03	165.0E-03	168.0E-03
42	165.0E-03	164.0E-03	166.0E-03	167.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	165.0E-03	166.0E-03	165.0E-03	167.0E-03
43	164.0E-03	163.0E-03	162.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	164.0E-03	163.0E-03	164.0E-03
44	164.0E-03	164.0E-03	164.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	164.0E-03	165.0E-03	164.0E-03	164.0E-03	165.0E-03
45	163.0E-03	163.0E-03	163.0E-03	168.0E-03	170.0E-03	166.0E-03	166.0E-03	164.0E-03	167.0E-03	164.0E-03	164.0E-03	165.0E-03
46	164.0E-03	164.0E-03	162.0E-03	169.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	167.0E-03
47	162.0E-03	163.0E-03	162.0E-03	169.0E-03	165.0E-03	166.0E-03	166.0E-03	166.0E-03	168.0E-03	165.0E-03	164.0E-03	165.0E-03
49	164.0E-03	164.0E-03	164.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03
50	164.0E-03	164.0E-03	164.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	165.0E-03	164.0E-03	165.0E-03
52	166.0E-03	164.0E-03	164.0E-03	167.0E-03	166.0E-03	168.0E-03	168.0E-03	164.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03
Statistics												
Min	162.0E-03	163.0E-03	162.0E-03	167.0E-03	165.0E-03	166.0E-03	166.0E-03	164.0E-03	165.0E-03	164.0E-03	163.0E-03	164.0E-03
Max	166.0E-03	164.0E-03	166.0E-03	169.0E-03	173.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	167.0E-03	165.0E-03	168.0E-03
Average	164.2E-03	163.7E-03	163.5E-03	167.8E-03	167.4E-03	166.7E-03	166.7E-03	165.4E-03	166.2E-03	165.1E-03	164.2E-03	165.6E-03
Sigma	1.2E-03	458.3E-06	1.2E-03	871.8E-06	2.4E-03	781.0E-06	781.0E-06	1.2E-03	1.4E-03	943.4E-06	600.0E-06	1.2E-03

Measurements

Vol (LVCMOS) srd3s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	166.0E-03	166.0E-03	164.0E-03	167.0E-03	169.0E-03	164.0E-03	164.0E-03
OFF samples												
53	165.0E-03	163.0E-03	164.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	163.0E-03	164.0E-03
54	165.0E-03	163.0E-03	163.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	165.0E-03	164.0E-03	164.0E-03
Statistics												
Min	165.0E-03	163.0E-03	163.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	163.0E-03	164.0E-03
Max	165.0E-03	163.0E-03	164.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	165.0E-03	164.0E-03	164.0E-03
Average	165.0E-03	163.0E-03	163.5E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	166.0E-03	164.5E-03	163.5E-03	164.0E-03
Sigma	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1000.0E-06	500.0E-06	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd2s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

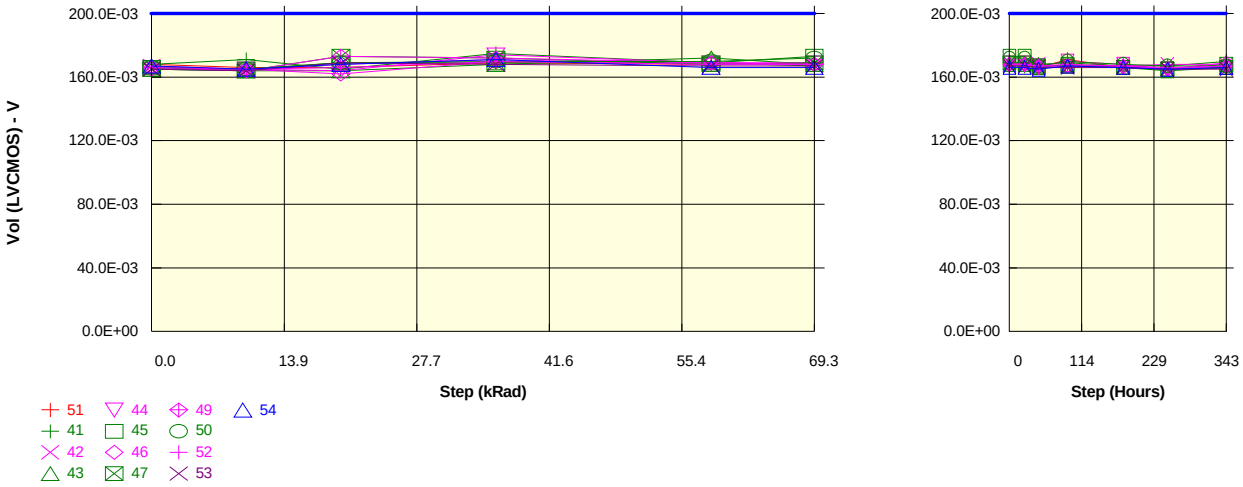
Vol (LVCMOS) srd2s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	168.0E-03	168.0E-03	170.0E-03	177.0E-03	177.0E-03	177.0E-03	177.0E-03	172.0E-03	168.0E-03	173.0E-03	168.0E-03
ON samples												
41	170.0E-03	166.0E-03	166.0E-03	169.0E-03	174.0E-03	170.0E-03	170.0E-03	176.0E-03	168.0E-03	170.0E-03	174.0E-03	174.0E-03
42	169.0E-03	166.0E-03	166.0E-03	169.0E-03	175.0E-03	170.0E-03	170.0E-03	168.0E-03	173.0E-03	168.0E-03	167.0E-03	170.0E-03
43	167.0E-03	165.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	166.0E-03	167.0E-03	168.0E-03	166.0E-03	166.0E-03
44	167.0E-03	167.0E-03	166.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	167.0E-03	178.0E-03	168.0E-03	166.0E-03	167.0E-03
45	167.0E-03	166.0E-03	166.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	167.0E-03	166.0E-03	177.0E-03
46	167.0E-03	166.0E-03	164.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	170.0E-03
47	165.0E-03	165.0E-03	164.0E-03	171.0E-03	167.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03
49	167.0E-03	166.0E-03	166.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03
50	168.0E-03	167.0E-03	167.0E-03	169.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03	168.0E-03	167.0E-03	174.0E-03
52	169.0E-03	166.0E-03	167.0E-03	170.0E-03	173.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03
Max	170.0E-03	167.0E-03	167.0E-03	172.0E-03	175.0E-03	170.0E-03	170.0E-03	176.0E-03	178.0E-03	170.0E-03	174.0E-03	177.0E-03
Average	167.6E-03	166.0E-03	165.7E-03	170.2E-03	170.3E-03	169.1E-03	169.1E-03	168.2E-03	169.9E-03	168.1E-03	167.3E-03	170.2E-03
Sigma	1.4E-03	632.5E-06	1.0E-03	1.1E-03	2.6E-03	830.7E-06	830.7E-06	2.7E-03	3.2E-03	700.0E-06	2.3E-03	3.5E-03

Measurements

Vol (LVCMOS) srd2s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	168.0E-03	168.0E-03	170.0E-03	177.0E-03	177.0E-03	177.0E-03	177.0E-03	172.0E-03	168.0E-03	173.0E-03	168.0E-03
OFF samples												
53	168.0E-03	165.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	167.0E-03
54	167.0E-03	166.0E-03	167.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	168.0E-03	167.0E-03	168.0E-03	167.0E-03
Statistics												
Min	167.0E-03	165.0E-03	167.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	165.0E-03	167.0E-03
Max	168.0E-03	166.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	167.0E-03	168.0E-03	167.0E-03
Average	167.5E-03	165.5E-03	167.0E-03	169.5E-03	168.0E-03	167.0E-03	167.0E-03	166.5E-03	167.5E-03	167.0E-03	166.5E-03	167.0E-03
Sigma	500.0E-06	500.0E-06	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	0.0E+00	1.5E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd1s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

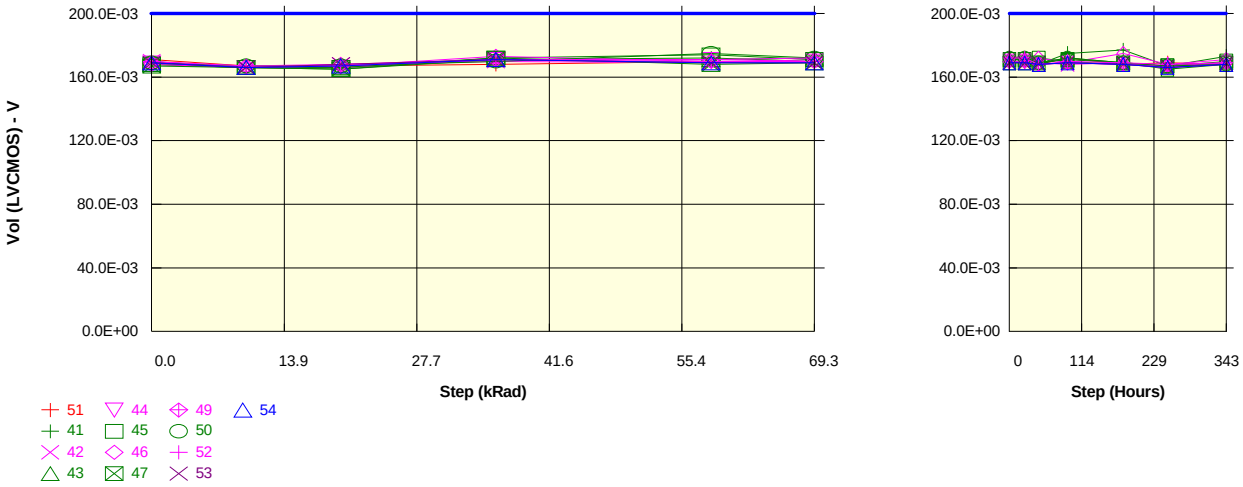
Vol (LVCMOS) srd1s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	166.0E-03	171.0E-03	166.0E-03	165.0E-03	166.0E-03
ON samples												
41	168.0E-03	171.0E-03	165.0E-03	175.0E-03	169.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	167.0E-03	167.0E-03	170.0E-03
42	167.0E-03	165.0E-03	168.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	168.0E-03	168.0E-03
43	165.0E-03	164.0E-03	164.0E-03	168.0E-03	172.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	166.0E-03	164.0E-03	166.0E-03
44	166.0E-03	165.0E-03	164.0E-03	174.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	170.0E-03	168.0E-03	165.0E-03	166.0E-03
45	166.0E-03	165.0E-03	169.0E-03	169.0E-03	169.0E-03	173.0E-03	173.0E-03	166.0E-03	168.0E-03	166.0E-03	165.0E-03	168.0E-03
46	165.0E-03	165.0E-03	162.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	169.0E-03
47	165.0E-03	164.0E-03	173.0E-03	172.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	166.0E-03
49	166.0E-03	164.0E-03	173.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	167.0E-03	165.0E-03	167.0E-03
50	166.0E-03	165.0E-03	169.0E-03	170.0E-03	170.0E-03	172.0E-03	172.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03
52	166.0E-03	165.0E-03	166.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	167.0E-03	166.0E-03	167.0E-03
Statistics												
Min	165.0E-03	164.0E-03	162.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	166.0E-03	164.0E-03	166.0E-03
Max	168.0E-03	171.0E-03	173.0E-03	175.0E-03	172.0E-03	173.0E-03	173.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	170.0E-03
Average	166.0E-03	165.3E-03	167.3E-03	171.1E-03	169.1E-03	169.1E-03	169.1E-03	166.9E-03	168.0E-03	166.8E-03	165.7E-03	167.4E-03
Sigma	894.4E-06	2.0E-03	3.6E-03	2.1E-03	1.1E-03	1.8E-03	1.8E-03	700.0E-06	1.2E-03	748.3E-06	1.2E-03	1.3E-03

Measurements

Vol (LVCMOS) srd1s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	166.0E-03	171.0E-03	166.0E-03	165.0E-03	166.0E-03
OFF samples												
53	165.0E-03	164.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03
54	167.0E-03	165.0E-03	168.0E-03	171.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	167.0E-03	166.0E-03	165.0E-03	166.0E-03
Statistics												
Min	165.0E-03	164.0E-03	168.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03
Max	167.0E-03	165.0E-03	169.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	166.0E-03	165.0E-03	166.0E-03
Average	166.0E-03	164.5E-03	168.5E-03	169.5E-03	166.5E-03	166.5E-03	166.5E-03	165.5E-03	166.5E-03	166.0E-03	165.0E-03	165.5E-03
Sigma	1000.0E-06	500.0E-06	500.0E-06	1.5E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)srd0s

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

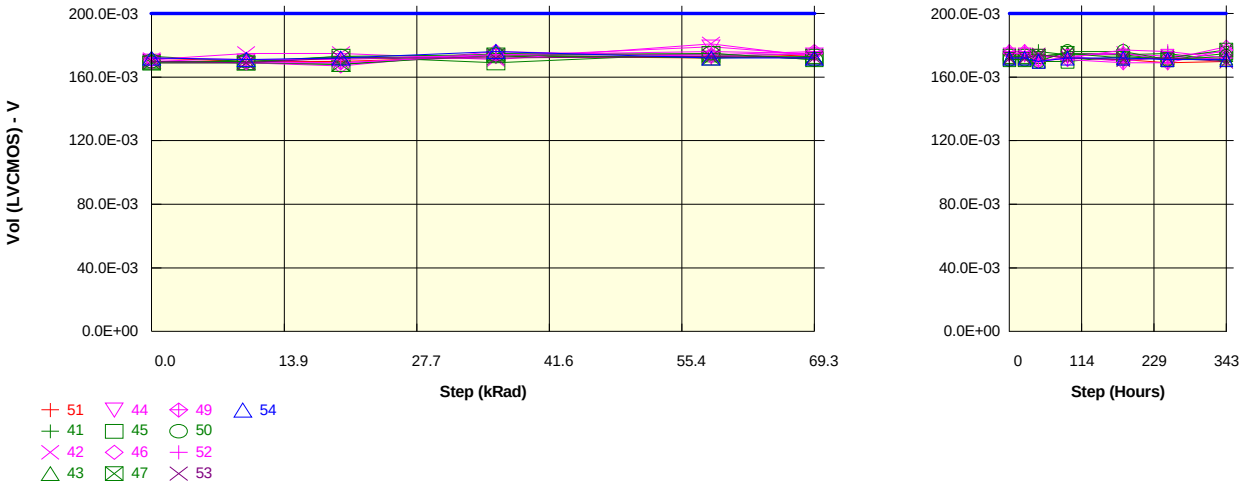
Vol (LVCMOS) srd0s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	167.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	172.0E-03	168.0E-03	169.0E-03	168.0E-03
ON samples												
41	170.0E-03	166.0E-03	166.0E-03	171.0E-03	172.0E-03	170.0E-03	170.0E-03	168.0E-03	175.0E-03	177.0E-03	167.0E-03	173.0E-03
42	170.0E-03	166.0E-03	168.0E-03	170.0E-03	169.0E-03	171.0E-03	171.0E-03	169.0E-03	168.0E-03	169.0E-03	166.0E-03	169.0E-03
43	168.0E-03	166.0E-03	165.0E-03	171.0E-03	171.0E-03	172.0E-03	172.0E-03	168.0E-03	172.0E-03	169.0E-03	165.0E-03	168.0E-03
44	169.0E-03	166.0E-03	166.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	169.0E-03
45	168.0E-03	166.0E-03	166.0E-03	172.0E-03	174.0E-03	171.0E-03	171.0E-03	172.0E-03	170.0E-03	168.0E-03	167.0E-03	170.0E-03
46	168.0E-03	166.0E-03	167.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	169.0E-03	175.0E-03	168.0E-03	171.0E-03
47	167.0E-03	166.0E-03	165.0E-03	172.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	167.0E-03	169.0E-03
49	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	167.0E-03	169.0E-03
50	169.0E-03	167.0E-03	167.0E-03	170.0E-03	175.0E-03	172.0E-03	172.0E-03	169.0E-03	172.0E-03	169.0E-03	167.0E-03	168.0E-03
52	170.0E-03	167.0E-03	167.0E-03	171.0E-03	171.0E-03	172.0E-03	172.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
Statistics												
Min	167.0E-03	166.0E-03	165.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	165.0E-03	168.0E-03
Max	170.0E-03	167.0E-03	168.0E-03	173.0E-03	175.0E-03	172.0E-03	172.0E-03	172.0E-03	175.0E-03	177.0E-03	168.0E-03	173.0E-03
Average	168.8E-03	166.3E-03	166.5E-03	171.2E-03	171.1E-03	170.7E-03	170.7E-03	169.1E-03	170.5E-03	170.1E-03	166.8E-03	169.5E-03
Sigma	979.8E-06	458.3E-06	1.0E-03	871.8E-06	2.0E-03	1.0E-03	1.0E-03	1.5E-03	2.0E-03	3.0E-03	871.8E-06	1.4E-03

Measurements

Vol (LVCMOS) srd0s	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	167.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	172.0E-03	168.0E-03	169.0E-03	168.0E-03
OFF samples												
53	169.0E-03	166.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
54	169.0E-03	166.0E-03	167.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
Statistics												
Min	169.0E-03	166.0E-03	167.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
Max	169.0E-03	166.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
Average	169.0E-03	166.0E-03	167.5E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
Sigma	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s1do3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

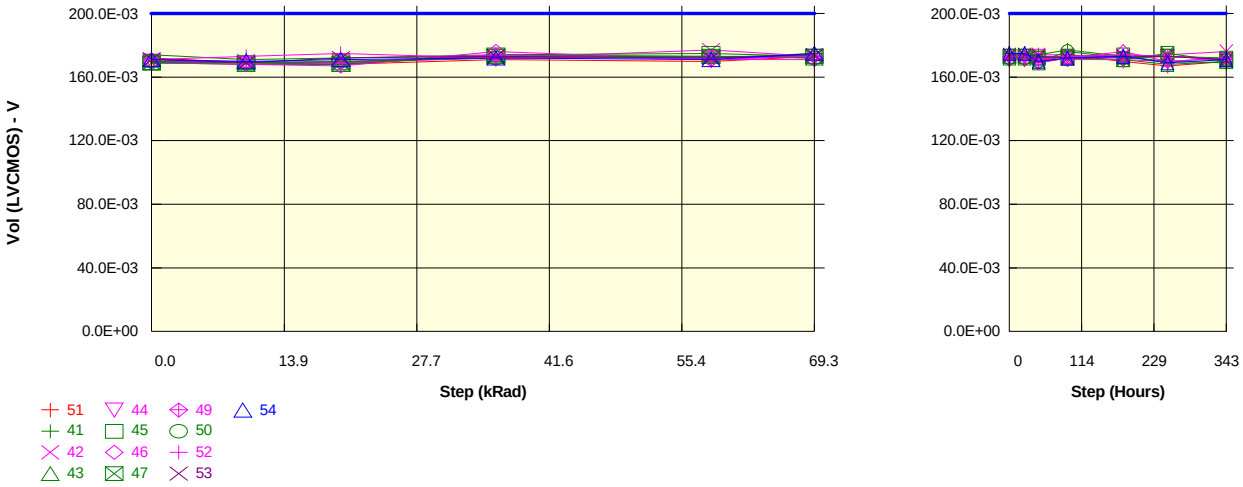
Vol (LVCMOS) s1do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	170.0E-03	173.0E-03	172.0E-03	174.0E-03	174.0E-03	174.0E-03	172.0E-03	171.0E-03	169.0E-03	170.0E-03
ON samples												
41	173.0E-03	170.0E-03	172.0E-03	173.0E-03	173.0E-03	175.0E-03	175.0E-03	176.0E-03	174.0E-03	174.0E-03	175.0E-03	170.0E-03
42	171.0E-03	175.0E-03	175.0E-03	171.0E-03	181.0E-03	173.0E-03	173.0E-03	171.0E-03	175.0E-03	175.0E-03	173.0E-03	176.0E-03
43	170.0E-03	169.0E-03	168.0E-03	175.0E-03	174.0E-03	172.0E-03	172.0E-03	173.0E-03	175.0E-03	174.0E-03	171.0E-03	172.0E-03
44	170.0E-03	170.0E-03	169.0E-03	173.0E-03	179.0E-03	174.0E-03	174.0E-03	173.0E-03	173.0E-03	170.0E-03	173.0E-03	171.0E-03
45	169.0E-03	169.0E-03	173.0E-03	169.0E-03	175.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	173.0E-03	171.0E-03	175.0E-03
46	169.0E-03	169.0E-03	167.0E-03	176.0E-03	173.0E-03	175.0E-03	175.0E-03	170.0E-03	173.0E-03	175.0E-03	171.0E-03	179.0E-03
47	169.0E-03	169.0E-03	168.0E-03	174.0E-03	172.0E-03	173.0E-03	173.0E-03	173.0E-03	175.0E-03	172.0E-03	172.0E-03	177.0E-03
49	171.0E-03	169.0E-03	169.0E-03	174.0E-03	174.0E-03	176.0E-03	176.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	177.0E-03
50	170.0E-03	170.0E-03	173.0E-03	174.0E-03	175.0E-03	171.0E-03	171.0E-03	170.0E-03	176.0E-03	176.0E-03	171.0E-03	173.0E-03
52	172.0E-03	171.0E-03	171.0E-03	174.0E-03	176.0E-03	175.0E-03	175.0E-03	170.0E-03	172.0E-03	177.0E-03	176.0E-03	172.0E-03
Statistics												
Min	169.0E-03	169.0E-03	167.0E-03	169.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03
Max	173.0E-03	175.0E-03	175.0E-03	176.0E-03	181.0E-03	176.0E-03	176.0E-03	176.0E-03	176.0E-03	177.0E-03	176.0E-03	179.0E-03
Average	170.4E-03	170.1E-03	170.5E-03	173.3E-03	175.2E-03	173.5E-03	173.5E-03	171.7E-03	173.4E-03	173.5E-03	172.2E-03	174.2E-03
Sigma	1.3E-03	1.8E-03	2.5E-03	1.9E-03	2.7E-03	1.7E-03	1.7E-03	1.9E-03	1.9E-03	2.4E-03	2.0E-03	2.9E-03

Measurements

Vol (LVCMOS) s1do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	170.0E-03	173.0E-03	172.0E-03	174.0E-03	174.0E-03	174.0E-03	172.0E-03	171.0E-03	169.0E-03	170.0E-03
OFF samples												
53	170.0E-03	169.0E-03	172.0E-03	172.0E-03	173.0E-03	172.0E-03	172.0E-03	174.0E-03	172.0E-03	171.0E-03	172.0E-03	170.0E-03
54	172.0E-03	171.0E-03	172.0E-03	176.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03
Statistics												
Min	170.0E-03	169.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03
Max	172.0E-03	171.0E-03	172.0E-03	176.0E-03	173.0E-03	172.0E-03	172.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03
Average	171.0E-03	170.0E-03	172.0E-03	174.0E-03	172.5E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	171.5E-03	171.5E-03	170.5E-03
Sigma	1.0E-03	1000.0E-06	0.0E+00	2.0E-03	500.0E-06	0.0E+00	0.0E+00	2.0E-03	0.0E+00	500.0E-06	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s1do2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

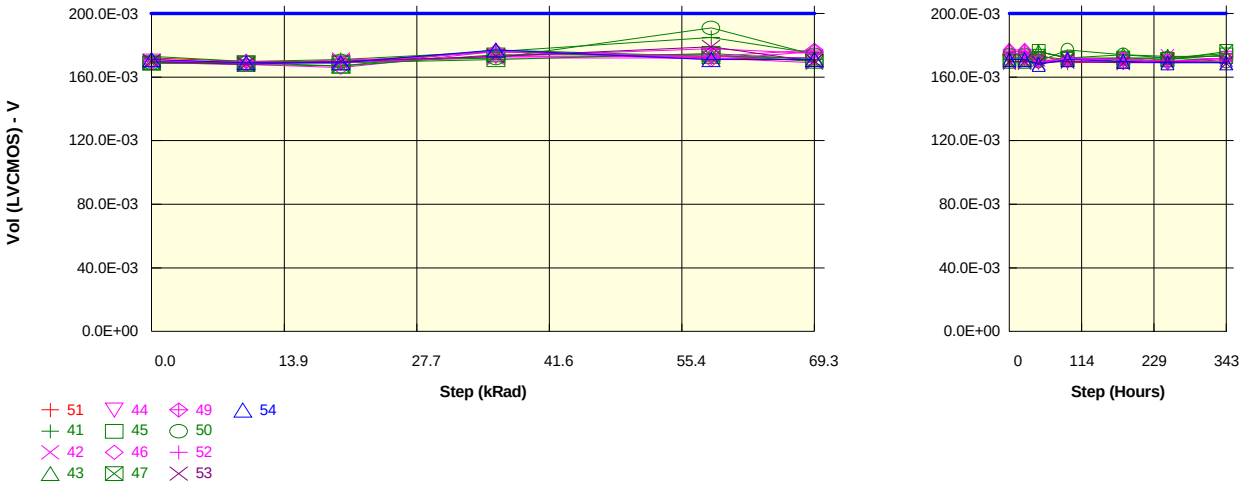
Vol (LVCMOS) s1do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	168.0E-03	171.0E-03	170.0E-03	173.0E-03	173.0E-03	169.0E-03	174.0E-03	170.0E-03	167.0E-03	170.0E-03
ON samples												
41	174.0E-03	171.0E-03	172.0E-03	174.0E-03	172.0E-03	175.0E-03	175.0E-03	174.0E-03	177.0E-03	173.0E-03	170.0E-03	169.0E-03
42	171.0E-03	170.0E-03	169.0E-03	172.0E-03	177.0E-03	173.0E-03	173.0E-03	174.0E-03	174.0E-03	172.0E-03	174.0E-03	176.0E-03
43	169.0E-03	168.0E-03	168.0E-03	174.0E-03	173.0E-03	172.0E-03	172.0E-03	169.0E-03	172.0E-03	171.0E-03	168.0E-03	170.0E-03
44	170.0E-03	169.0E-03	170.0E-03	173.0E-03	172.0E-03	173.0E-03	173.0E-03	173.0E-03	173.0E-03	172.0E-03	173.0E-03	171.0E-03
45	169.0E-03	169.0E-03	168.0E-03	174.0E-03	175.0E-03	173.0E-03	173.0E-03	172.0E-03	173.0E-03	174.0E-03	173.0E-03	172.0E-03
46	169.0E-03	168.0E-03	167.0E-03	176.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	172.0E-03	176.0E-03	170.0E-03	172.0E-03
47	169.0E-03	169.0E-03	169.0E-03	173.0E-03	173.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	171.0E-03	175.0E-03	170.0E-03
49	170.0E-03	169.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03
50	170.0E-03	169.0E-03	170.0E-03	172.0E-03	173.0E-03	172.0E-03	172.0E-03	170.0E-03	176.0E-03	172.0E-03	173.0E-03	171.0E-03
52	171.0E-03	173.0E-03	175.0E-03	172.0E-03	172.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	174.0E-03	173.0E-03	171.0E-03
Statistics												
Min	169.0E-03	168.0E-03	167.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03
Max	174.0E-03	173.0E-03	175.0E-03	176.0E-03	177.0E-03	175.0E-03	175.0E-03	174.0E-03	177.0E-03	176.0E-03	175.0E-03	176.0E-03
Average	170.2E-03	169.5E-03	169.7E-03	173.4E-03	172.9E-03	172.8E-03	172.8E-03	171.5E-03	173.3E-03	172.6E-03	171.9E-03	171.4E-03
Sigma	1.5E-03	1.4E-03	2.2E-03	1.2E-03	1.8E-03	979.8E-06	979.8E-06	1.7E-03	1.8E-03	1.6E-03	2.1E-03	1.8E-03

Measurements

Vol (LVCMOS) s1do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	168.0E-03	171.0E-03	170.0E-03	173.0E-03	173.0E-03	169.0E-03	174.0E-03	170.0E-03	167.0E-03	170.0E-03
OFF samples												
53	171.0E-03	169.0E-03	172.0E-03	173.0E-03	172.0E-03	174.0E-03	174.0E-03	173.0E-03	172.0E-03	173.0E-03	173.0E-03	171.0E-03
54	171.0E-03	170.0E-03	171.0E-03	172.0E-03	171.0E-03	175.0E-03	175.0E-03	170.0E-03	172.0E-03	173.0E-03	169.0E-03	171.0E-03
Statistics												
Min	171.0E-03	169.0E-03	171.0E-03	172.0E-03	171.0E-03	174.0E-03	174.0E-03	170.0E-03	172.0E-03	173.0E-03	169.0E-03	171.0E-03
Max	171.0E-03	170.0E-03	172.0E-03	173.0E-03	172.0E-03	175.0E-03	175.0E-03	173.0E-03	172.0E-03	173.0E-03	173.0E-03	171.0E-03
Average	171.0E-03	169.5E-03	171.5E-03	172.5E-03	171.5E-03	174.5E-03	174.5E-03	171.5E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.5E-03	0.0E+00	0.0E+00	2.0E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s1do1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

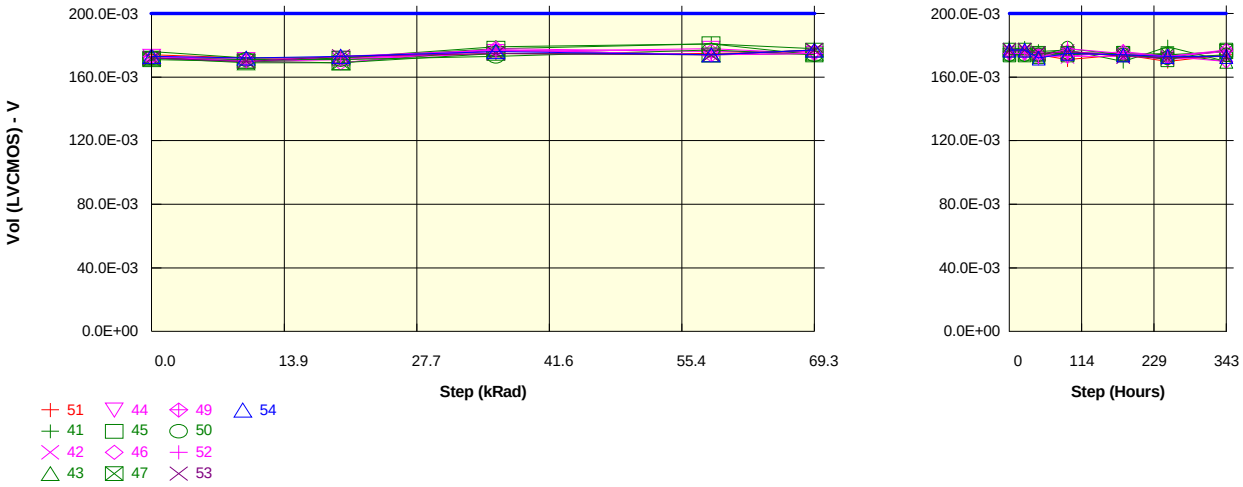
Vol (LVCMOS) s1do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	170.0E-03	176.0E-03	172.0E-03	171.0E-03	171.0E-03	174.0E-03	169.0E-03	170.0E-03	169.0E-03	170.0E-03
ON samples												
41	173.0E-03	170.0E-03	171.0E-03	176.0E-03	185.0E-03	175.0E-03	175.0E-03	176.0E-03	172.0E-03	172.0E-03	172.0E-03	175.0E-03
42	170.0E-03	168.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	173.0E-03	171.0E-03
43	169.0E-03	168.0E-03	167.0E-03	177.0E-03	173.0E-03	172.0E-03	172.0E-03	176.0E-03	172.0E-03	174.0E-03	173.0E-03	173.0E-03
44	170.0E-03	169.0E-03	169.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	171.0E-03	170.0E-03	172.0E-03
45	169.0E-03	169.0E-03	169.0E-03	171.0E-03	175.0E-03	171.0E-03	171.0E-03	176.0E-03	172.0E-03	170.0E-03	171.0E-03	174.0E-03
46	169.0E-03	168.0E-03	166.0E-03	176.0E-03	171.0E-03	176.0E-03	176.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	172.0E-03
47	169.0E-03	169.0E-03	167.0E-03	174.0E-03	174.0E-03	170.0E-03	170.0E-03	173.0E-03	171.0E-03	172.0E-03	171.0E-03	176.0E-03
49	170.0E-03	170.0E-03	169.0E-03	176.0E-03	173.0E-03	177.0E-03	177.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03
50	169.0E-03	169.0E-03	170.0E-03	172.0E-03	191.0E-03	174.0E-03	174.0E-03	170.0E-03	177.0E-03	174.0E-03	172.0E-03	170.0E-03
52	171.0E-03	169.0E-03	169.0E-03	173.0E-03	178.0E-03	175.0E-03	175.0E-03	169.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03
Statistics												
Min	169.0E-03	168.0E-03	166.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03
Max	173.0E-03	170.0E-03	171.0E-03	177.0E-03	191.0E-03	177.0E-03	177.0E-03	176.0E-03	177.0E-03	174.0E-03	173.0E-03	176.0E-03
Average	169.9E-03	168.9E-03	168.8E-03	174.0E-03	176.5E-03	173.1E-03	173.1E-03	172.1E-03	171.9E-03	171.4E-03	171.1E-03	172.5E-03
Sigma	1.2E-03	700.0E-06	1.6E-03	2.0E-03	6.2E-03	2.5E-03	2.5E-03	2.7E-03	1.9E-03	1.6E-03	1.3E-03	1.9E-03

Measurements

Vol (LVCMOS) s1do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	170.0E-03	176.0E-03	172.0E-03	171.0E-03	171.0E-03	174.0E-03	169.0E-03	170.0E-03	169.0E-03	170.0E-03
OFF samples												
53	170.0E-03	168.0E-03	170.0E-03	173.0E-03	179.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03
54	171.0E-03	169.0E-03	169.0E-03	177.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03
Statistics												
Min	170.0E-03	168.0E-03	169.0E-03	173.0E-03	171.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03
Max	171.0E-03	169.0E-03	170.0E-03	177.0E-03	179.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03
Average	170.5E-03	168.5E-03	169.5E-03	175.0E-03	175.0E-03	170.5E-03	170.5E-03	168.5E-03	170.5E-03	169.5E-03	169.5E-03	169.0E-03
Sigma	500.0E-06	500.0E-06	500.0E-06	2.0E-03	4.0E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s1do0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

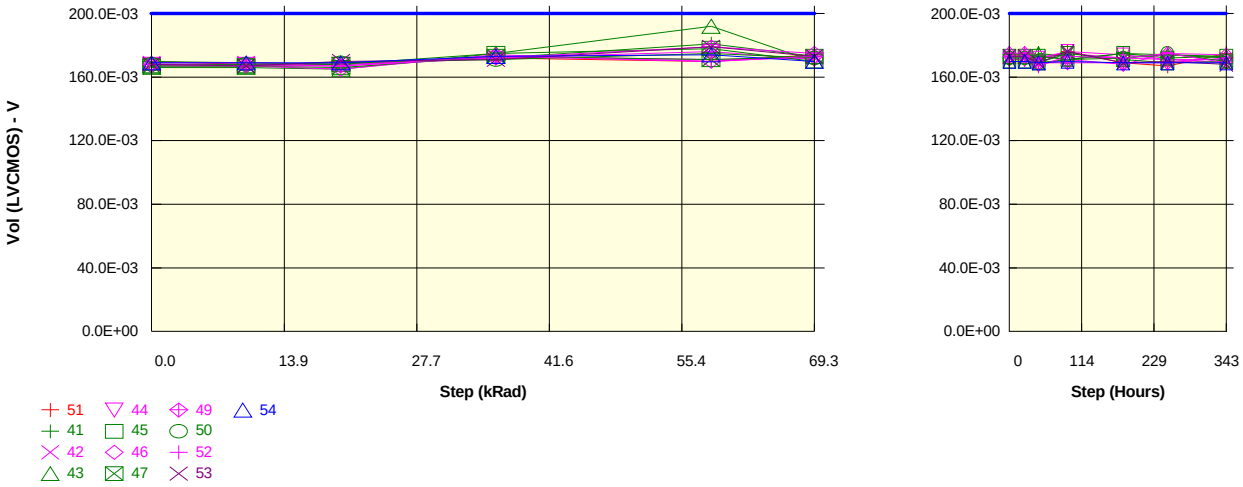
Vol (LVCMOS) s1do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	174.0E-03	172.0E-03	172.0E-03	175.0E-03	175.0E-03	176.0E-03	176.0E-03	174.0E-03	171.0E-03	174.0E-03	170.0E-03	174.0E-03
ON samples												
41	176.0E-03	172.0E-03	172.0E-03	179.0E-03	181.0E-03	178.0E-03	178.0E-03	176.0E-03	177.0E-03	170.0E-03	179.0E-03	170.0E-03
42	172.0E-03	170.0E-03	171.0E-03	175.0E-03	174.0E-03	177.0E-03	177.0E-03	175.0E-03	173.0E-03	173.0E-03	173.0E-03	176.0E-03
43	172.0E-03	169.0E-03	169.0E-03	177.0E-03	174.0E-03	175.0E-03	175.0E-03	173.0E-03	176.0E-03	174.0E-03	175.0E-03	170.0E-03
44	173.0E-03	171.0E-03	172.0E-03	176.0E-03	178.0E-03	175.0E-03	175.0E-03	173.0E-03	175.0E-03	174.0E-03	171.0E-03	174.0E-03
45	172.0E-03	170.0E-03	172.0E-03	178.0E-03	181.0E-03	174.0E-03	174.0E-03	174.0E-03	174.0E-03	175.0E-03	171.0E-03	177.0E-03
46	172.0E-03	170.0E-03	169.0E-03	178.0E-03	176.0E-03	176.0E-03	176.0E-03	174.0E-03	176.0E-03	174.0E-03	173.0E-03	170.0E-03
47	171.0E-03	170.0E-03	169.0E-03	175.0E-03	174.0E-03	177.0E-03	177.0E-03	175.0E-03	175.0E-03	175.0E-03	174.0E-03	176.0E-03
49	173.0E-03	171.0E-03	171.0E-03	177.0E-03	174.0E-03	175.0E-03	175.0E-03	173.0E-03	173.0E-03	176.0E-03	173.0E-03	177.0E-03
50	172.0E-03	171.0E-03	171.0E-03	173.0E-03	177.0E-03	174.0E-03	174.0E-03	174.0E-03	178.0E-03	174.0E-03	172.0E-03	174.0E-03
52	173.0E-03	170.0E-03	173.0E-03	177.0E-03	174.0E-03	175.0E-03	175.0E-03	172.0E-03	178.0E-03	175.0E-03	173.0E-03	176.0E-03
Statistics												
Min	171.0E-03	169.0E-03	169.0E-03	173.0E-03	174.0E-03	174.0E-03	174.0E-03	172.0E-03	173.0E-03	170.0E-03	171.0E-03	170.0E-03
Max	176.0E-03	172.0E-03	173.0E-03	179.0E-03	181.0E-03	178.0E-03	178.0E-03	176.0E-03	178.0E-03	176.0E-03	179.0E-03	177.0E-03
Average	172.6E-03	170.4E-03	170.9E-03	176.5E-03	176.3E-03	175.6E-03	175.6E-03	173.9E-03	175.5E-03	174.0E-03	173.4E-03	174.0E-03
Sigma	1.3E-03	800.0E-06	1.4E-03	1.7E-03	2.7E-03	1.3E-03	1.3E-03	1.1E-03	1.7E-03	1.5E-03	2.2E-03	2.8E-03

Measurements

Vol (LVCMOS) s1do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	174.0E-03	172.0E-03	172.0E-03	175.0E-03	175.0E-03	176.0E-03	176.0E-03	174.0E-03	171.0E-03	174.0E-03	170.0E-03	174.0E-03
OFF samples												
53	172.0E-03	170.0E-03	173.0E-03	175.0E-03	174.0E-03	177.0E-03	177.0E-03	175.0E-03	176.0E-03	173.0E-03	172.0E-03	173.0E-03
54	173.0E-03	172.0E-03	173.0E-03	176.0E-03	174.0E-03	177.0E-03	177.0E-03	172.0E-03	175.0E-03	174.0E-03	173.0E-03	173.0E-03
Statistics												
Min	172.0E-03	170.0E-03	173.0E-03	175.0E-03	174.0E-03	177.0E-03	177.0E-03	172.0E-03	175.0E-03	173.0E-03	172.0E-03	173.0E-03
Max	173.0E-03	172.0E-03	173.0E-03	176.0E-03	174.0E-03	177.0E-03	177.0E-03	175.0E-03	176.0E-03	174.0E-03	173.0E-03	173.0E-03
Average	172.5E-03	171.0E-03	173.0E-03	175.5E-03	174.0E-03	177.0E-03	177.0E-03	173.5E-03	175.5E-03	173.5E-03	172.5E-03	173.0E-03
Sigma	500.0E-06	1.0E-03	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	1.5E-03	500.0E-06	500.0E-06	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s2do3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

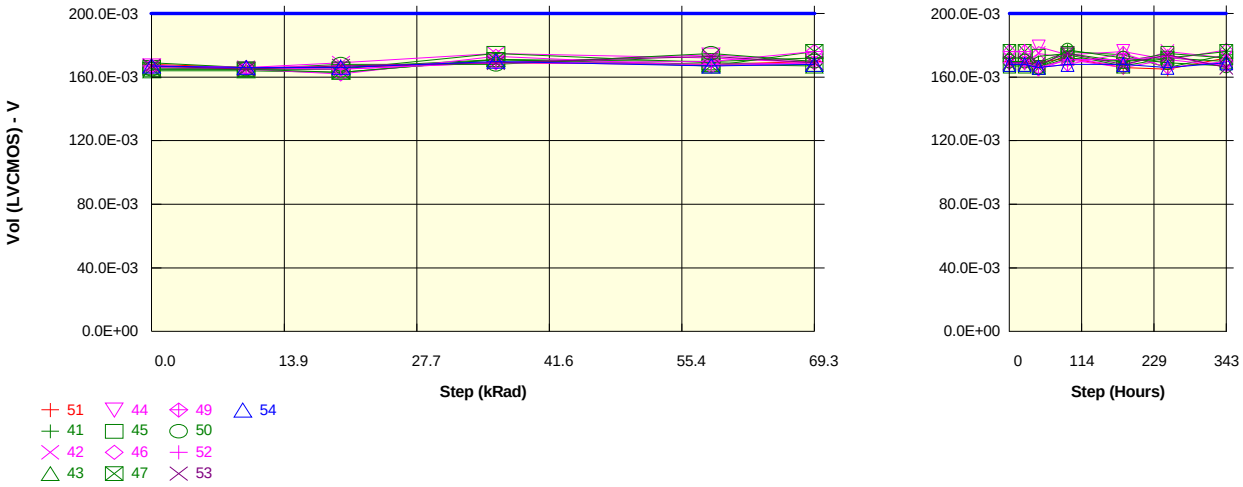
Vol (LVCMOS) s2do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	168.0E-03	172.0E-03	170.0E-03	174.0E-03	174.0E-03	171.0E-03	176.0E-03	169.0E-03	167.0E-03	175.0E-03
ON samples												
41	170.0E-03	169.0E-03	168.0E-03	172.0E-03	181.0E-03	173.0E-03	173.0E-03	174.0E-03	171.0E-03	175.0E-03	174.0E-03	172.0E-03
42	169.0E-03	169.0E-03	168.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	175.0E-03	172.0E-03	171.0E-03	171.0E-03
43	166.0E-03	166.0E-03	165.0E-03	175.0E-03	192.0E-03	170.0E-03	170.0E-03	175.0E-03	173.0E-03	172.0E-03	174.0E-03	173.0E-03
44	168.0E-03	168.0E-03	168.0E-03	172.0E-03	176.0E-03	171.0E-03	171.0E-03	172.0E-03	176.0E-03	174.0E-03	171.0E-03	169.0E-03
45	167.0E-03	167.0E-03	168.0E-03	175.0E-03	178.0E-03	170.0E-03	170.0E-03	173.0E-03	171.0E-03	175.0E-03	172.0E-03	173.0E-03
46	167.0E-03	167.0E-03	165.0E-03	174.0E-03	170.0E-03	173.0E-03	173.0E-03	168.0E-03	171.0E-03	168.0E-03	175.0E-03	174.0E-03
47	167.0E-03	167.0E-03	166.0E-03	173.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	175.0E-03	171.0E-03	169.0E-03	170.0E-03
49	168.0E-03	168.0E-03	167.0E-03	172.0E-03	179.0E-03	175.0E-03	175.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03
50	168.0E-03	168.0E-03	169.0E-03	171.0E-03	175.0E-03	172.0E-03	172.0E-03	169.0E-03	171.0E-03	172.0E-03	175.0E-03	170.0E-03
52	168.0E-03	167.0E-03	167.0E-03	173.0E-03	170.0E-03	173.0E-03	173.0E-03	167.0E-03	173.0E-03	172.0E-03	175.0E-03	169.0E-03
Statistics												
Min	166.0E-03	166.0E-03	165.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03
Max	170.0E-03	169.0E-03	169.0E-03	175.0E-03	192.0E-03	175.0E-03	175.0E-03	175.0E-03	176.0E-03	175.0E-03	175.0E-03	174.0E-03
Average	167.8E-03	167.6E-03	167.1E-03	173.0E-03	176.3E-03	172.2E-03	172.2E-03	170.8E-03	172.5E-03	172.0E-03	172.5E-03	171.3E-03
Sigma	1.1E-03	916.5E-06	1.3E-03	1.3E-03	6.5E-03	1.5E-03	1.5E-03	2.6E-03	2.2E-03	2.2E-03	2.3E-03	1.7E-03

Measurements

Vol (LVCMOS) s2do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	168.0E-03	172.0E-03	170.0E-03	174.0E-03	174.0E-03	171.0E-03	176.0E-03	169.0E-03	167.0E-03	175.0E-03
OFF samples												
53	168.0E-03	167.0E-03	170.0E-03	171.0E-03	179.0E-03	173.0E-03	173.0E-03	169.0E-03	176.0E-03	169.0E-03	170.0E-03	168.0E-03
54	169.0E-03	169.0E-03	169.0E-03	173.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03
Statistics												
Min	168.0E-03	167.0E-03	169.0E-03	171.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03
Max	169.0E-03	169.0E-03	170.0E-03	173.0E-03	179.0E-03	173.0E-03	173.0E-03	169.0E-03	176.0E-03	169.0E-03	170.0E-03	169.0E-03
Average	168.5E-03	168.0E-03	169.5E-03	172.0E-03	176.5E-03	171.5E-03	171.5E-03	169.0E-03	173.0E-03	169.0E-03	169.5E-03	168.5E-03
Sigma	500.0E-06	1.0E-03	500.0E-06	1.0E-03	2.5E-03	1.5E-03	1.5E-03	0.0E+00	3.0E-03	0.0E+00	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s2do2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

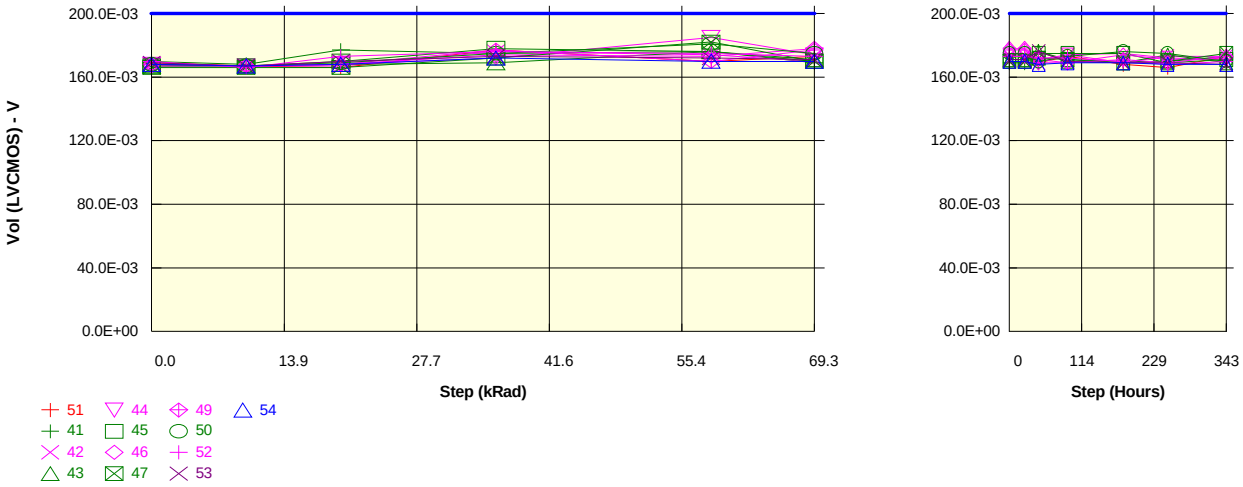
Vol (LVCMOS) s2do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	169.0E-03	172.0E-03	166.0E-03	165.0E-03	172.0E-03
ON samples												
41	169.0E-03	166.0E-03	166.0E-03	171.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	176.0E-03	174.0E-03	166.0E-03	174.0E-03
42	167.0E-03	166.0E-03	169.0E-03	175.0E-03	172.0E-03	169.0E-03	169.0E-03	175.0E-03	172.0E-03	167.0E-03	176.0E-03	172.0E-03
43	164.0E-03	164.0E-03	163.0E-03	171.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03
44	167.0E-03	165.0E-03	165.0E-03	169.0E-03	174.0E-03	170.0E-03	170.0E-03	179.0E-03	174.0E-03	176.0E-03	171.0E-03	167.0E-03
45	166.0E-03	165.0E-03	165.0E-03	175.0E-03	169.0E-03	168.0E-03	168.0E-03	173.0E-03	175.0E-03	170.0E-03	175.0E-03	172.0E-03
46	166.0E-03	165.0E-03	162.0E-03	173.0E-03	167.0E-03	169.0E-03	169.0E-03	165.0E-03	171.0E-03	166.0E-03	171.0E-03	177.0E-03
47	165.0E-03	165.0E-03	163.0E-03	171.0E-03	167.0E-03	176.0E-03	176.0E-03	166.0E-03	174.0E-03	167.0E-03	172.0E-03	176.0E-03
49	167.0E-03	166.0E-03	165.0E-03	169.0E-03	170.0E-03	176.0E-03	176.0E-03	166.0E-03	168.0E-03	175.0E-03	166.0E-03	170.0E-03
50	165.0E-03	165.0E-03	168.0E-03	168.0E-03	175.0E-03	170.0E-03	170.0E-03	166.0E-03	177.0E-03	172.0E-03	169.0E-03	167.0E-03
52	167.0E-03	166.0E-03	167.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	166.0E-03	171.0E-03	171.0E-03	173.0E-03	167.0E-03
Statistics												
Min	164.0E-03	164.0E-03	162.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	168.0E-03	166.0E-03	166.0E-03	167.0E-03
Max	169.0E-03	166.0E-03	169.0E-03	175.0E-03	175.0E-03	176.0E-03	176.0E-03	179.0E-03	177.0E-03	176.0E-03	176.0E-03	177.0E-03
Average	166.3E-03	165.3E-03	165.3E-03	171.1E-03	170.0E-03	170.6E-03	170.6E-03	169.1E-03	173.0E-03	170.8E-03	171.1E-03	171.2E-03
Sigma	1.3E-03	640.3E-06	2.1E-03	2.4E-03	2.7E-03	3.0E-03	3.0E-03	4.6E-03	2.6E-03	3.3E-03	3.2E-03	3.5E-03

Measurements

Vol (LVCMOS) s2do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	169.0E-03	172.0E-03	166.0E-03	165.0E-03	172.0E-03
OFF samples												
53	167.0E-03	165.0E-03	167.0E-03	169.0E-03	173.0E-03	169.0E-03	169.0E-03	168.0E-03	175.0E-03	168.0E-03	174.0E-03	166.0E-03
54	167.0E-03	166.0E-03	166.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03
Statistics												
Min	167.0E-03	165.0E-03	166.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	166.0E-03
Max	167.0E-03	166.0E-03	167.0E-03	170.0E-03	173.0E-03	169.0E-03	169.0E-03	168.0E-03	175.0E-03	168.0E-03	174.0E-03	169.0E-03
Average	167.0E-03	165.5E-03	166.5E-03	169.5E-03	170.0E-03	168.5E-03	168.5E-03	167.0E-03	171.5E-03	168.0E-03	170.0E-03	167.5E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	3.0E-03	500.0E-06	500.0E-06	1000.0E-06	3.5E-03	0.0E+00	4.0E-03	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s2do1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

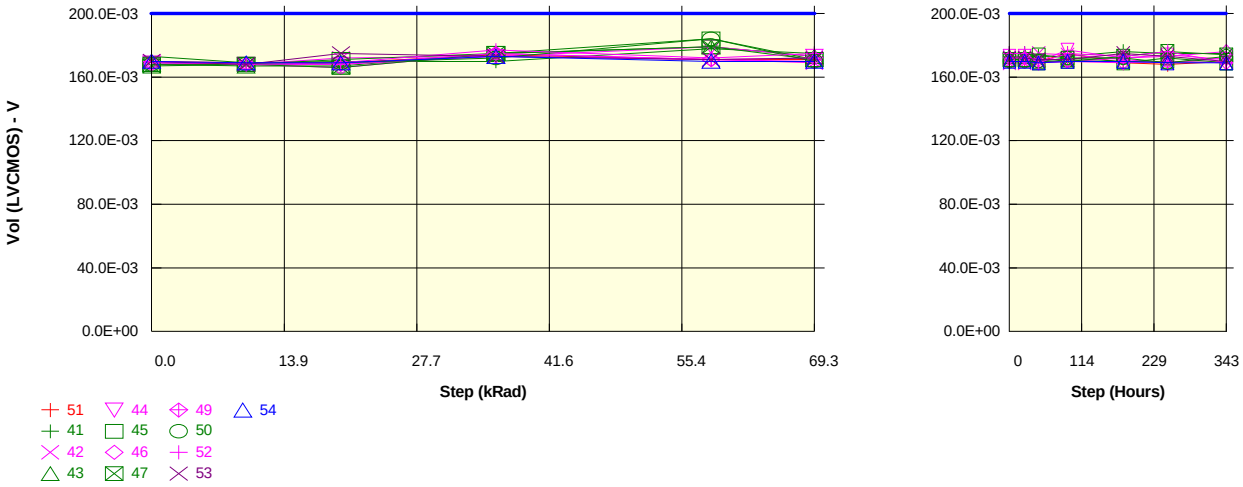
Vol (LVCMOS) s2do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	177.0E-03	170.0E-03	173.0E-03	173.0E-03	169.0E-03	173.0E-03	168.0E-03	166.0E-03	173.0E-03
ON samples												
41	170.0E-03	168.0E-03	177.0E-03	175.0E-03	176.0E-03	169.0E-03	169.0E-03	176.0E-03	171.0E-03	170.0E-03	170.0E-03	173.0E-03
42	168.0E-03	167.0E-03	167.0E-03	176.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03	174.0E-03	169.0E-03	173.0E-03	173.0E-03
43	167.0E-03	167.0E-03	168.0E-03	169.0E-03	176.0E-03	171.0E-03	171.0E-03	176.0E-03	170.0E-03	169.0E-03	174.0E-03	169.0E-03
44	168.0E-03	167.0E-03	168.0E-03	172.0E-03	185.0E-03	174.0E-03	174.0E-03	171.0E-03	174.0E-03	175.0E-03	172.0E-03	171.0E-03
45	167.0E-03	167.0E-03	170.0E-03	178.0E-03	176.0E-03	170.0E-03	170.0E-03	175.0E-03	175.0E-03	175.0E-03	169.0E-03	171.0E-03
46	167.0E-03	167.0E-03	168.0E-03	174.0E-03	173.0E-03	178.0E-03	178.0E-03	171.0E-03	169.0E-03	174.0E-03	171.0E-03	172.0E-03
47	166.0E-03	166.0E-03	166.0E-03	172.0E-03	182.0E-03	170.0E-03	170.0E-03	172.0E-03	171.0E-03	169.0E-03	170.0E-03	175.0E-03
49	168.0E-03	167.0E-03	168.0E-03	177.0E-03	170.0E-03	177.0E-03	177.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	173.0E-03
50	168.0E-03	167.0E-03	169.0E-03	175.0E-03	181.0E-03	175.0E-03	175.0E-03	170.0E-03	173.0E-03	176.0E-03	175.0E-03	170.0E-03
52	170.0E-03	166.0E-03	173.0E-03	176.0E-03	175.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	170.0E-03	168.0E-03	170.0E-03
Statistics												
Min	166.0E-03	166.0E-03	166.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03
Max	170.0E-03	168.0E-03	177.0E-03	178.0E-03	185.0E-03	178.0E-03	178.0E-03	176.0E-03	175.0E-03	176.0E-03	175.0E-03	175.0E-03
Average	167.9E-03	166.9E-03	169.4E-03	174.4E-03	176.8E-03	172.7E-03	172.7E-03	172.1E-03	171.8E-03	171.8E-03	171.1E-03	171.7E-03
Sigma	1.2E-03	538.5E-06	3.1E-03	2.6E-03	4.3E-03	3.0E-03	3.0E-03	2.5E-03	2.0E-03	2.7E-03	2.2E-03	1.7E-03

Measurements

Vol (LVCMOS) s2do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	177.0E-03	170.0E-03	173.0E-03	173.0E-03	169.0E-03	173.0E-03	168.0E-03	166.0E-03	173.0E-03
OFF samples												
53	169.0E-03	167.0E-03	170.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	176.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03
54	168.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03
Statistics												
Min	168.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03
Max	169.0E-03	167.0E-03	170.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	176.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03
Average	168.5E-03	167.0E-03	169.0E-03	172.5E-03	171.0E-03	170.5E-03	170.5E-03	172.0E-03	169.5E-03	169.0E-03	168.5E-03	168.0E-03
Sigma	500.0E-06	0.0E+00	1.0E-03	500.0E-06	1.0E-03	500.0E-06	500.0E-06	4.0E-03	500.0E-06	0.0E+00	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s2do0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

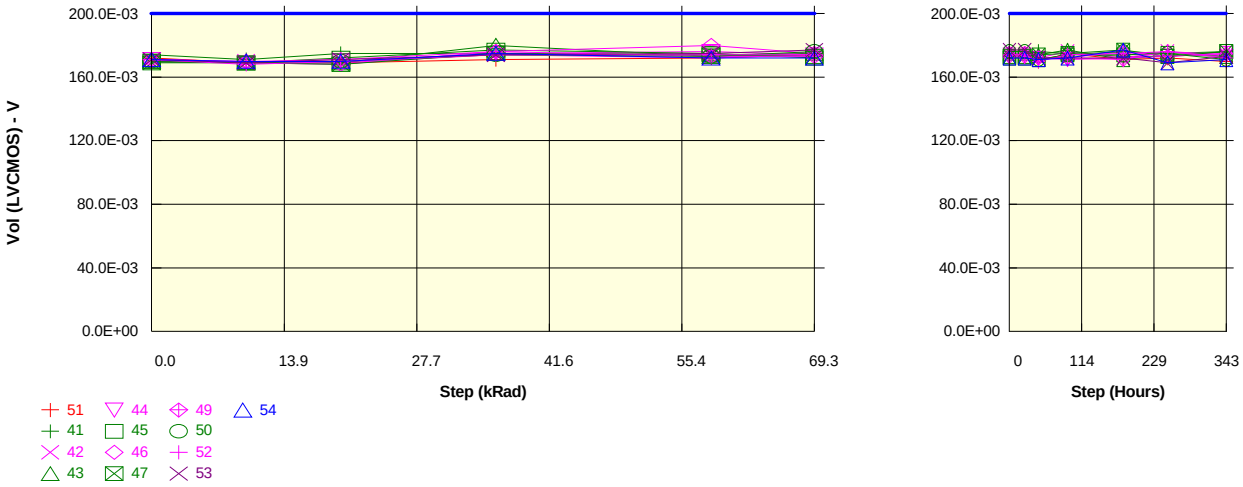
Vol (LVCMOS) s2do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	169.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	175.0E-03	169.0E-03	168.0E-03	170.0E-03
ON samples												
41	173.0E-03	169.0E-03	170.0E-03	170.0E-03	178.0E-03	175.0E-03	175.0E-03	173.0E-03	173.0E-03	176.0E-03	175.0E-03	175.0E-03
42	170.0E-03	168.0E-03	172.0E-03	173.0E-03	171.0E-03	169.0E-03	169.0E-03	175.0E-03	174.0E-03	171.0E-03	169.0E-03	172.0E-03
43	168.0E-03	167.0E-03	167.0E-03	175.0E-03	179.0E-03	173.0E-03	173.0E-03	169.0E-03	171.0E-03	169.0E-03	172.0E-03	169.0E-03
44	169.0E-03	168.0E-03	168.0E-03	173.0E-03	179.0E-03	173.0E-03	173.0E-03	170.0E-03	177.0E-03	172.0E-03	174.0E-03	171.0E-03
45	168.0E-03	168.0E-03	171.0E-03	175.0E-03	184.0E-03	171.0E-03	171.0E-03	174.0E-03	172.0E-03	170.0E-03	170.0E-03	169.0E-03
46	168.0E-03	168.0E-03	166.0E-03	175.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	172.0E-03	173.0E-03	176.0E-03
47	167.0E-03	168.0E-03	166.0E-03	175.0E-03	179.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	173.0E-03	176.0E-03	174.0E-03
49	169.0E-03	168.0E-03	168.0E-03	175.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03
50	168.0E-03	168.0E-03	169.0E-03	172.0E-03	184.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	173.0E-03
52	170.0E-03	168.0E-03	169.0E-03	177.0E-03	172.0E-03	175.0E-03	175.0E-03	169.0E-03	175.0E-03	173.0E-03	176.0E-03	169.0E-03
Statistics												
Min	167.0E-03	167.0E-03	166.0E-03	170.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03
Max	173.0E-03	169.0E-03	172.0E-03	177.0E-03	184.0E-03	175.0E-03	175.0E-03	175.0E-03	177.0E-03	176.0E-03	176.0E-03	176.0E-03
Average	169.0E-03	168.0E-03	168.6E-03	174.0E-03	176.8E-03	171.9E-03	171.9E-03	170.8E-03	172.4E-03	171.7E-03	172.4E-03	171.7E-03
Sigma	1.6E-03	447.2E-06	1.9E-03	1.9E-03	4.9E-03	2.0E-03	2.0E-03	2.2E-03	2.2E-03	2.0E-03	2.7E-03	2.6E-03

Measurements

Vol (LVCMOS) s2do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	169.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	175.0E-03	169.0E-03	168.0E-03	170.0E-03
OFF samples												
53	170.0E-03	168.0E-03	175.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	175.0E-03	173.0E-03	170.0E-03
54	170.0E-03	169.0E-03	169.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03
Statistics												
Min	170.0E-03	168.0E-03	169.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03
Max	170.0E-03	169.0E-03	175.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	175.0E-03	173.0E-03	170.0E-03
Average	170.0E-03	168.5E-03	172.0E-03	173.0E-03	170.5E-03	171.0E-03	171.0E-03	170.0E-03	170.5E-03	172.5E-03	171.0E-03	169.5E-03
Sigma	0.0E+00	500.0E-06	3.0E-03	0.0E+00	500.0E-06	1.0E-03	1.0E-03	1000.0E-06	500.0E-06	2.5E-03	2.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s3do3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

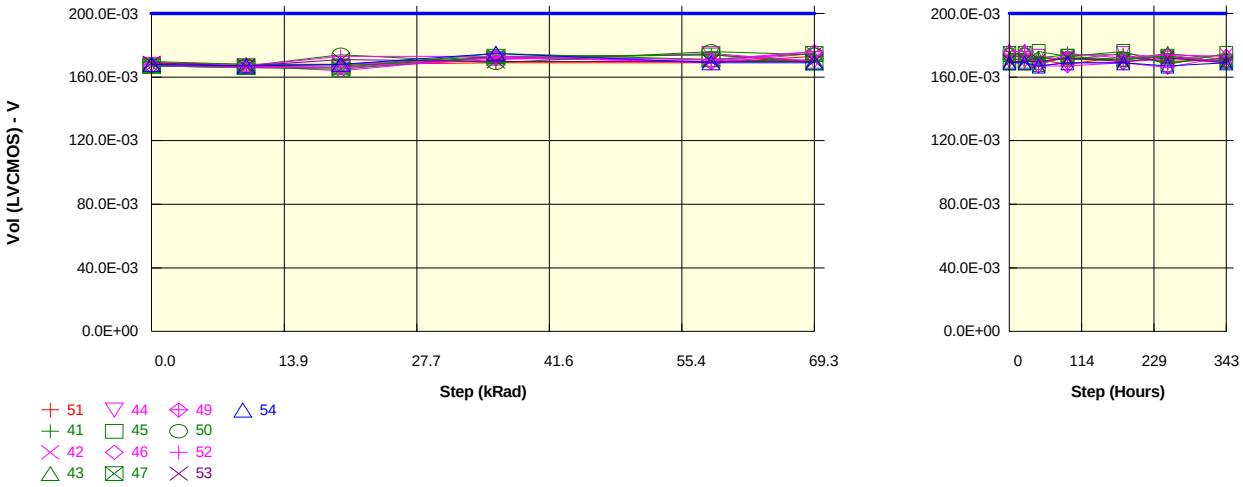
Vol (LVCMOS) s3do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	169.0E-03	171.0E-03	172.0E-03	174.0E-03	174.0E-03	170.0E-03	175.0E-03	171.0E-03	172.0E-03	170.0E-03
ON samples												
41	174.0E-03	171.0E-03	175.0E-03	175.0E-03	174.0E-03	175.0E-03	175.0E-03	176.0E-03	175.0E-03	173.0E-03	173.0E-03	176.0E-03
42	171.0E-03	170.0E-03	169.0E-03	174.0E-03	172.0E-03	174.0E-03	174.0E-03	172.0E-03	176.0E-03	172.0E-03	176.0E-03	173.0E-03
43	170.0E-03	169.0E-03	169.0E-03	180.0E-03	173.0E-03	175.0E-03	175.0E-03	174.0E-03	177.0E-03	171.0E-03	174.0E-03	173.0E-03
44	171.0E-03	169.0E-03	170.0E-03	175.0E-03	176.0E-03	174.0E-03	174.0E-03	172.0E-03	171.0E-03	172.0E-03	173.0E-03	175.0E-03
45	170.0E-03	169.0E-03	172.0E-03	177.0E-03	175.0E-03	172.0E-03	172.0E-03	171.0E-03	174.0E-03	174.0E-03	175.0E-03	176.0E-03
46	170.0E-03	169.0E-03	168.0E-03	176.0E-03	180.0E-03	175.0E-03	175.0E-03	172.0E-03	172.0E-03	171.0E-03	176.0E-03	174.0E-03
47	169.0E-03	169.0E-03	168.0E-03	175.0E-03	174.0E-03	173.0E-03	173.0E-03	174.0E-03	175.0E-03	177.0E-03	173.0E-03	176.0E-03
49	171.0E-03	170.0E-03	171.0E-03	176.0E-03	173.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	176.0E-03	173.0E-03	175.0E-03
50	170.0E-03	169.0E-03	170.0E-03	174.0E-03	173.0E-03	176.0E-03	176.0E-03	171.0E-03	174.0E-03	176.0E-03	175.0E-03	171.0E-03
52	171.0E-03	168.0E-03	170.0E-03	174.0E-03	174.0E-03	174.0E-03	174.0E-03	170.0E-03	174.0E-03	175.0E-03	176.0E-03	172.0E-03
Statistics												
Min	169.0E-03	168.0E-03	168.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	173.0E-03	171.0E-03
Max	174.0E-03	171.0E-03	175.0E-03	180.0E-03	180.0E-03	176.0E-03	176.0E-03	176.0E-03	177.0E-03	177.0E-03	176.0E-03	176.0E-03
Average	170.7E-03	169.3E-03	170.2E-03	175.6E-03	174.4E-03	174.1E-03	174.1E-03	172.4E-03	174.0E-03	173.7E-03	174.4E-03	174.1E-03
Sigma	1.3E-03	781.0E-06	2.0E-03	1.7E-03	2.2E-03	1.1E-03	1.1E-03	1.7E-03	1.8E-03	2.1E-03	1.3E-03	1.7E-03

Measurements

Vol (LVCMOS) s3do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	169.0E-03	171.0E-03	172.0E-03	174.0E-03	174.0E-03	170.0E-03	175.0E-03	171.0E-03	172.0E-03	170.0E-03
OFF samples												
53	171.0E-03	169.0E-03	171.0E-03	174.0E-03	175.0E-03	177.0E-03	177.0E-03	172.0E-03	172.0E-03	172.0E-03	169.0E-03	173.0E-03
54	171.0E-03	170.0E-03	170.0E-03	175.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	177.0E-03	169.0E-03	171.0E-03
Statistics												
Min	171.0E-03	169.0E-03	170.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	171.0E-03
Max	171.0E-03	170.0E-03	171.0E-03	175.0E-03	175.0E-03	177.0E-03	177.0E-03	172.0E-03	172.0E-03	177.0E-03	169.0E-03	173.0E-03
Average	171.0E-03	169.5E-03	170.5E-03	174.5E-03	173.5E-03	174.5E-03	174.5E-03	171.5E-03	172.0E-03	174.5E-03	169.0E-03	172.0E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	1.5E-03	2.5E-03	2.5E-03	500.0E-06	0.0E+00	2.5E-03	0.0E+00	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s3do2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

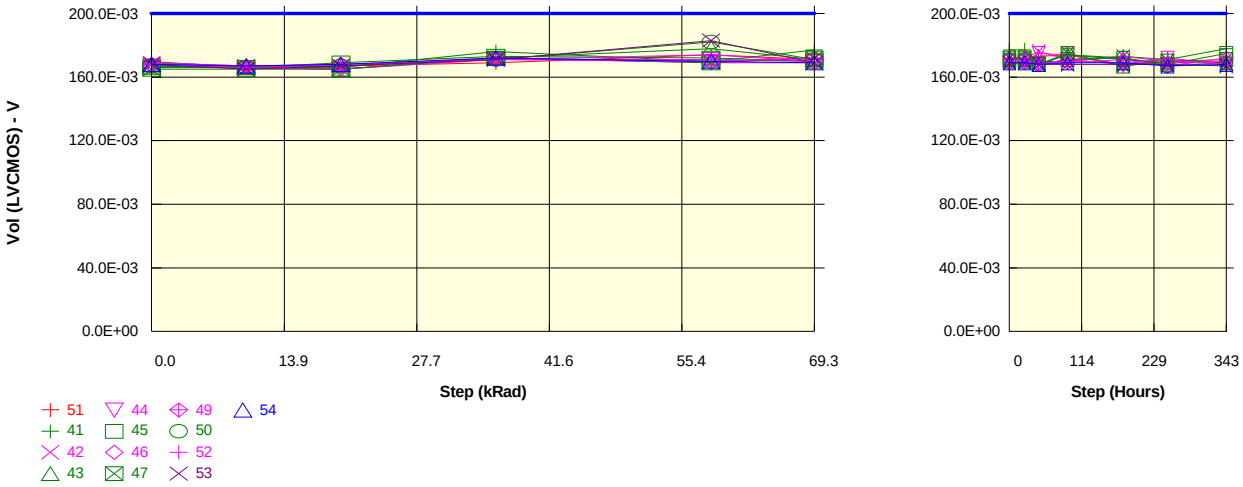
Vol (LVCMOS) s3do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	173.0E-03	173.0E-03	171.0E-03	168.0E-03	173.0E-03	170.0E-03	171.0E-03
ON samples												
41	170.0E-03	168.0E-03	168.0E-03	173.0E-03	174.0E-03	170.0E-03	170.0E-03	172.0E-03	174.0E-03	174.0E-03	169.0E-03	172.0E-03
42	169.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03	170.0E-03	171.0E-03	174.0E-03
43	167.0E-03	166.0E-03	166.0E-03	175.0E-03	171.0E-03	170.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	175.0E-03	171.0E-03
44	168.0E-03	167.0E-03	166.0E-03	171.0E-03	175.0E-03	170.0E-03	170.0E-03	173.0E-03	171.0E-03	175.0E-03	172.0E-03	169.0E-03
45	167.0E-03	167.0E-03	167.0E-03	172.0E-03	174.0E-03	169.0E-03	169.0E-03	176.0E-03	173.0E-03	176.0E-03	168.0E-03	175.0E-03
46	167.0E-03	167.0E-03	164.0E-03	173.0E-03	169.0E-03	175.0E-03	175.0E-03	167.0E-03	169.0E-03	169.0E-03	174.0E-03	173.0E-03
47	167.0E-03	166.0E-03	165.0E-03	173.0E-03	171.0E-03	175.0E-03	175.0E-03	168.0E-03	173.0E-03	171.0E-03	173.0E-03	170.0E-03
49	167.0E-03	166.0E-03	166.0E-03	172.0E-03	170.0E-03	176.0E-03	176.0E-03	167.0E-03	167.0E-03	169.0E-03	166.0E-03	173.0E-03
50	167.0E-03	167.0E-03	174.0E-03	169.0E-03	176.0E-03	174.0E-03	174.0E-03	169.0E-03	172.0E-03	171.0E-03	173.0E-03	170.0E-03
52	168.0E-03	167.0E-03	173.0E-03	173.0E-03	171.0E-03	176.0E-03	176.0E-03	167.0E-03	175.0E-03	172.0E-03	174.0E-03	169.0E-03
Statistics												
Min	167.0E-03	166.0E-03	164.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	169.0E-03	166.0E-03	169.0E-03
Max	170.0E-03	168.0E-03	174.0E-03	175.0E-03	176.0E-03	176.0E-03	176.0E-03	176.0E-03	175.0E-03	176.0E-03	175.0E-03	175.0E-03
Average	167.7E-03	166.8E-03	167.7E-03	172.3E-03	172.1E-03	172.6E-03	172.6E-03	170.1E-03	171.7E-03	171.8E-03	171.5E-03	171.6E-03
Sigma	1.0E-03	600.0E-06	3.1E-03	1.5E-03	2.3E-03	2.7E-03	2.7E-03	2.9E-03	2.2E-03	2.3E-03	2.8E-03	2.0E-03

Measurements

Vol (LVCMOS) s3do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	173.0E-03	173.0E-03	171.0E-03	168.0E-03	173.0E-03	170.0E-03	171.0E-03
OFF samples												
53	169.0E-03	167.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03	172.0E-03	169.0E-03
54	168.0E-03	167.0E-03	168.0E-03	175.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03
Statistics												
Min	168.0E-03	167.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03
Max	169.0E-03	167.0E-03	171.0E-03	175.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03	172.0E-03	169.0E-03
Average	168.5E-03	167.0E-03	169.5E-03	172.5E-03	169.5E-03	169.5E-03	169.5E-03	168.5E-03	170.5E-03	169.5E-03	169.5E-03	169.0E-03
Sigma	500.0E-06	0.0E+00	1.5E-03	2.5E-03	500.0E-06	500.0E-06	500.0E-06	1.5E-03	1.5E-03	500.0E-06	2.5E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s3do1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

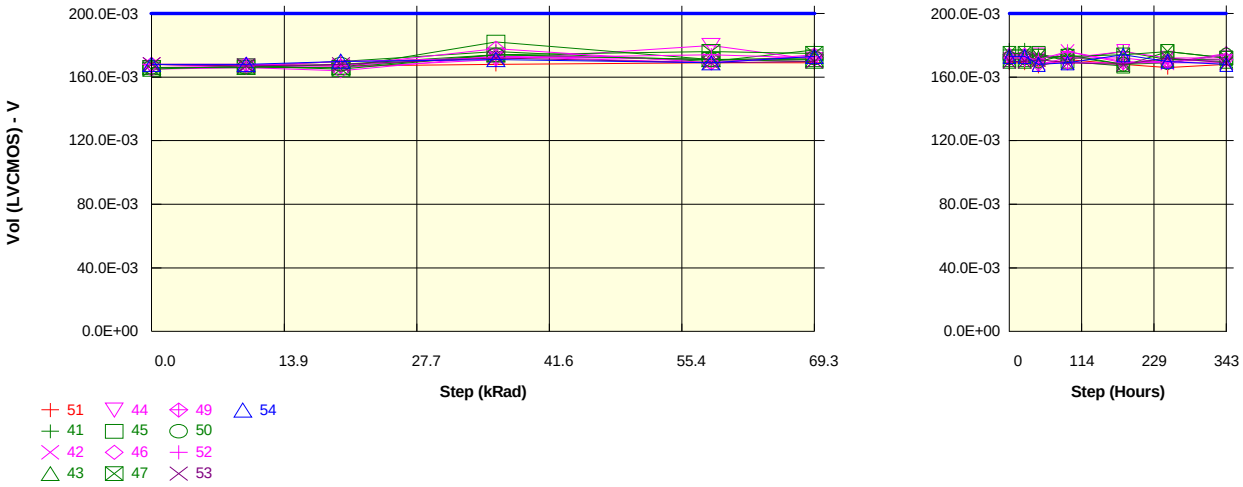
Vol (LVCMOS) s3do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	173.0E-03	174.0E-03	167.0E-03	171.0E-03	169.0E-03
ON samples												
41	170.0E-03	166.0E-03	166.0E-03	176.0E-03	170.0E-03	177.0E-03	177.0E-03	170.0E-03	170.0E-03	173.0E-03	171.0E-03	178.0E-03
42	169.0E-03	167.0E-03	167.0E-03	172.0E-03	170.0E-03	172.0E-03	172.0E-03	176.0E-03	171.0E-03	173.0E-03	170.0E-03	169.0E-03
43	167.0E-03	166.0E-03	165.0E-03	172.0E-03	178.0E-03	171.0E-03	171.0E-03	168.0E-03	174.0E-03	171.0E-03	169.0E-03	169.0E-03
44	167.0E-03	166.0E-03	165.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	175.0E-03	174.0E-03	168.0E-03	172.0E-03	168.0E-03
45	166.0E-03	166.0E-03	169.0E-03	173.0E-03	172.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03	172.0E-03	168.0E-03	175.0E-03
46	167.0E-03	166.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	171.0E-03	168.0E-03	169.0E-03	170.0E-03
47	165.0E-03	165.0E-03	165.0E-03	172.0E-03	169.0E-03	172.0E-03	172.0E-03	168.0E-03	175.0E-03	167.0E-03	170.0E-03	171.0E-03
49	168.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	169.0E-03	171.0E-03	167.0E-03	172.0E-03
50	167.0E-03	166.0E-03	167.0E-03	171.0E-03	182.0E-03	171.0E-03	171.0E-03	168.0E-03	174.0E-03	172.0E-03	167.0E-03	169.0E-03
52	169.0E-03	166.0E-03	168.0E-03	171.0E-03	174.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	169.0E-03	171.0E-03	168.0E-03
Statistics												
Min	165.0E-03	165.0E-03	165.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	167.0E-03	167.0E-03	168.0E-03
Max	170.0E-03	167.0E-03	169.0E-03	176.0E-03	182.0E-03	177.0E-03	177.0E-03	176.0E-03	175.0E-03	173.0E-03	172.0E-03	178.0E-03
Average	167.5E-03	166.1E-03	166.5E-03	172.1E-03	172.5E-03	171.4E-03	171.4E-03	169.8E-03	171.9E-03	170.4E-03	169.4E-03	170.9E-03
Sigma	1.4E-03	538.5E-06	1.4E-03	1.4E-03	4.1E-03	2.1E-03	2.1E-03	2.9E-03	2.0E-03	2.1E-03	1.6E-03	3.1E-03

Measurements

Vol (LVCMOS) s3do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	173.0E-03	174.0E-03	167.0E-03	171.0E-03	169.0E-03
OFF samples												
53	168.0E-03	165.0E-03	167.0E-03	171.0E-03	183.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03
54	168.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03
Statistics												
Min	168.0E-03	165.0E-03	167.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03
Max	168.0E-03	167.0E-03	168.0E-03	172.0E-03	183.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03
Average	168.0E-03	166.0E-03	167.5E-03	171.5E-03	176.5E-03	169.0E-03	169.0E-03	168.0E-03	168.5E-03	168.5E-03	167.5E-03	167.5E-03
Sigma	0.0E+00	1000.0E-06	500.0E-06	500.0E-06	6.5E-03	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s3do0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

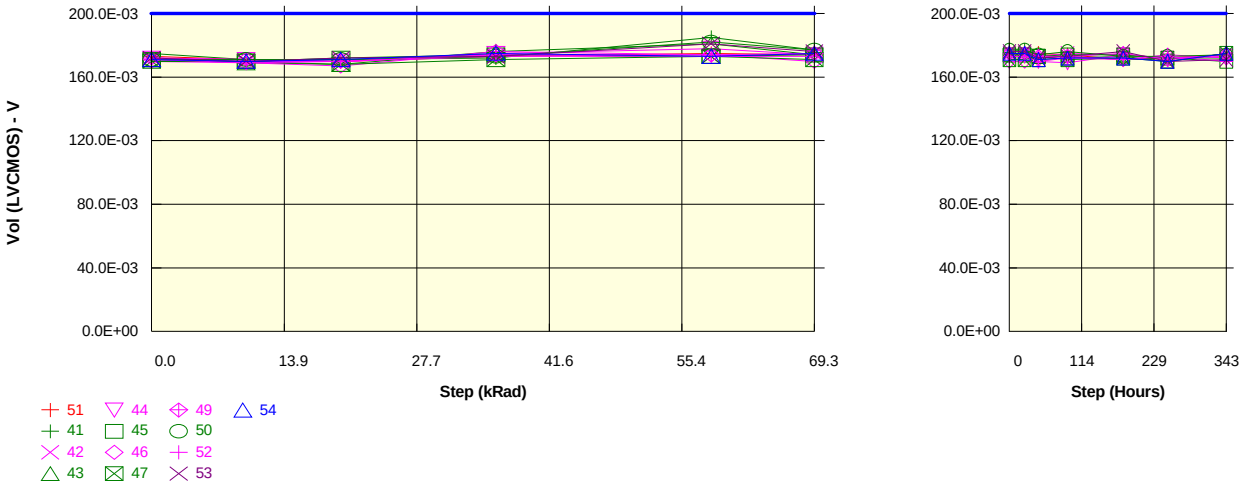
Vol (LVCMOS) s3do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	168.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	171.0E-03	168.0E-03	166.0E-03	168.0E-03
ON samples												
41	168.0E-03	167.0E-03	170.0E-03	176.0E-03	170.0E-03	177.0E-03	177.0E-03	174.0E-03	171.0E-03	176.0E-03	171.0E-03	171.0E-03
42	168.0E-03	167.0E-03	167.0E-03	173.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	176.0E-03	170.0E-03	169.0E-03	169.0E-03
43	166.0E-03	166.0E-03	166.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	173.0E-03	168.0E-03	171.0E-03	170.0E-03
44	166.0E-03	167.0E-03	166.0E-03	171.0E-03	180.0E-03	171.0E-03	171.0E-03	174.0E-03	172.0E-03	176.0E-03	172.0E-03	172.0E-03
45	166.0E-03	166.0E-03	166.0E-03	182.0E-03	171.0E-03	170.0E-03	170.0E-03	175.0E-03	170.0E-03	167.0E-03	176.0E-03	172.0E-03
46	165.0E-03	166.0E-03	164.0E-03	173.0E-03	169.0E-03	174.0E-03	174.0E-03	168.0E-03	172.0E-03	172.0E-03	169.0E-03	175.0E-03
47	165.0E-03	167.0E-03	165.0E-03	174.0E-03	176.0E-03	175.0E-03	175.0E-03	173.0E-03	173.0E-03	174.0E-03	176.0E-03	172.0E-03
49	168.0E-03	168.0E-03	167.0E-03	178.0E-03	169.0E-03	173.0E-03	173.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03
50	166.0E-03	166.0E-03	168.0E-03	174.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	168.0E-03	169.0E-03	174.0E-03
52	168.0E-03	167.0E-03	170.0E-03	172.0E-03	174.0E-03	172.0E-03	172.0E-03	171.0E-03	176.0E-03	169.0E-03	169.0E-03	174.0E-03
Statistics												
Min	165.0E-03	166.0E-03	164.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03
Max	168.0E-03	168.0E-03	170.0E-03	182.0E-03	180.0E-03	177.0E-03	177.0E-03	175.0E-03	176.0E-03	176.0E-03	176.0E-03	175.0E-03
Average	166.6E-03	166.7E-03	166.9E-03	174.7E-03	172.2E-03	172.5E-03	172.5E-03	171.5E-03	172.6E-03	170.9E-03	171.2E-03	172.0E-03
Sigma	1.2E-03	640.3E-06	1.9E-03	3.1E-03	3.3E-03	2.2E-03	2.2E-03	2.3E-03	2.2E-03	3.2E-03	2.6E-03	1.8E-03

Measurements

Vol (LVCMOS) s3do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	168.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	171.0E-03	168.0E-03	166.0E-03	168.0E-03
OFF samples												
53	168.0E-03	167.0E-03	168.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	171.0E-03	169.0E-03	168.0E-03	172.0E-03	169.0E-03
54	168.0E-03	168.0E-03	170.0E-03	171.0E-03	169.0E-03	173.0E-03	173.0E-03	168.0E-03	169.0E-03	174.0E-03	170.0E-03	168.0E-03
Statistics												
Min	168.0E-03	167.0E-03	168.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	170.0E-03	168.0E-03
Max	168.0E-03	168.0E-03	170.0E-03	172.0E-03	169.0E-03	173.0E-03	173.0E-03	171.0E-03	169.0E-03	174.0E-03	172.0E-03	169.0E-03
Average	168.0E-03	167.5E-03	169.0E-03	171.5E-03	169.0E-03	171.5E-03	171.5E-03	169.5E-03	169.0E-03	171.0E-03	171.0E-03	168.5E-03
Sigma	0.0E+00	500.0E-06	1.0E-03	500.0E-06	0.0E+00	1.5E-03	1.5E-03	1.5E-03	0.0E+00	3.0E-03	1.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s4do3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

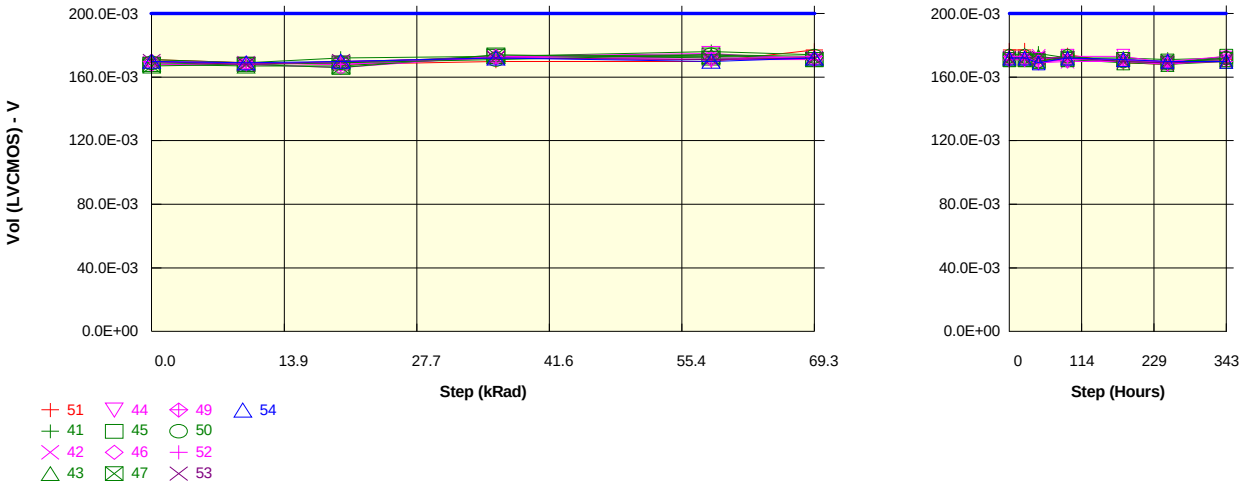
Vol (LVCMOS) s4do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	173.0E-03	171.0E-03	170.0E-03	173.0E-03	175.0E-03	174.0E-03	174.0E-03	175.0E-03	174.0E-03	171.0E-03	172.0E-03	174.0E-03
ON samples												
41	175.0E-03	171.0E-03	171.0E-03	172.0E-03	185.0E-03	177.0E-03	177.0E-03	173.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03
42	172.0E-03	170.0E-03	170.0E-03	173.0E-03	173.0E-03	175.0E-03	175.0E-03	173.0E-03	175.0E-03	174.0E-03	172.0E-03	174.0E-03
43	171.0E-03	169.0E-03	168.0E-03	176.0E-03	181.0E-03	174.0E-03	174.0E-03	171.0E-03	172.0E-03	173.0E-03	170.0E-03	175.0E-03
44	172.0E-03	171.0E-03	170.0E-03	175.0E-03	178.0E-03	174.0E-03	174.0E-03	170.0E-03	169.0E-03	174.0E-03	172.0E-03	173.0E-03
45	171.0E-03	170.0E-03	172.0E-03	174.0E-03	173.0E-03	174.0E-03	174.0E-03	173.0E-03	174.0E-03	174.0E-03	172.0E-03	170.0E-03
46	170.0E-03	169.0E-03	167.0E-03	176.0E-03	174.0E-03	170.0E-03	170.0E-03	172.0E-03	173.0E-03	171.0E-03	174.0E-03	172.0E-03
47	170.0E-03	170.0E-03	168.0E-03	171.0E-03	173.0E-03	171.0E-03	171.0E-03	173.0E-03	171.0E-03	172.0E-03	170.0E-03	175.0E-03
49	172.0E-03	171.0E-03	170.0E-03	174.0E-03	174.0E-03	175.0E-03	175.0E-03	173.0E-03	173.0E-03	175.0E-03	171.0E-03	174.0E-03
50	171.0E-03	171.0E-03	171.0E-03	173.0E-03	182.0E-03	177.0E-03	177.0E-03	174.0E-03	176.0E-03	173.0E-03	173.0E-03	174.0E-03
52	171.0E-03	169.0E-03	170.0E-03	174.0E-03	173.0E-03	173.0E-03	173.0E-03	170.0E-03	172.0E-03	171.0E-03	173.0E-03	170.0E-03
Statistics												
Min	170.0E-03	169.0E-03	167.0E-03	171.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03
Max	175.0E-03	171.0E-03	172.0E-03	176.0E-03	185.0E-03	177.0E-03	177.0E-03	174.0E-03	176.0E-03	175.0E-03	174.0E-03	175.0E-03
Average	171.5E-03	170.1E-03	169.7E-03	173.8E-03	176.6E-03	174.0E-03	174.0E-03	172.2E-03	172.8E-03	172.8E-03	171.9E-03	172.9E-03
Sigma	1.4E-03	830.7E-06	1.5E-03	1.5E-03	4.3E-03	2.1E-03	2.1E-03	1.3E-03	1.9E-03	1.4E-03	1.2E-03	1.8E-03

Measurements

Vol (LVCMOS) s4do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	173.0E-03	171.0E-03	170.0E-03	173.0E-03	175.0E-03	174.0E-03	174.0E-03	175.0E-03	174.0E-03	171.0E-03	172.0E-03	174.0E-03
OFF samples												
53	172.0E-03	170.0E-03	172.0E-03	173.0E-03	181.0E-03	176.0E-03	176.0E-03	172.0E-03	173.0E-03	176.0E-03	170.0E-03	171.0E-03
54	171.0E-03	170.0E-03	171.0E-03	175.0E-03	173.0E-03	175.0E-03	175.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	175.0E-03
Statistics												
Min	171.0E-03	170.0E-03	171.0E-03	173.0E-03	173.0E-03	175.0E-03	175.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03
Max	172.0E-03	170.0E-03	172.0E-03	175.0E-03	181.0E-03	176.0E-03	176.0E-03	172.0E-03	173.0E-03	176.0E-03	170.0E-03	175.0E-03
Average	171.5E-03	170.0E-03	171.5E-03	174.0E-03	177.0E-03	175.5E-03	175.5E-03	171.5E-03	172.5E-03	174.0E-03	170.0E-03	173.0E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	1.0E-03	4.0E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	2.0E-03	0.0E+00	2.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s4do2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

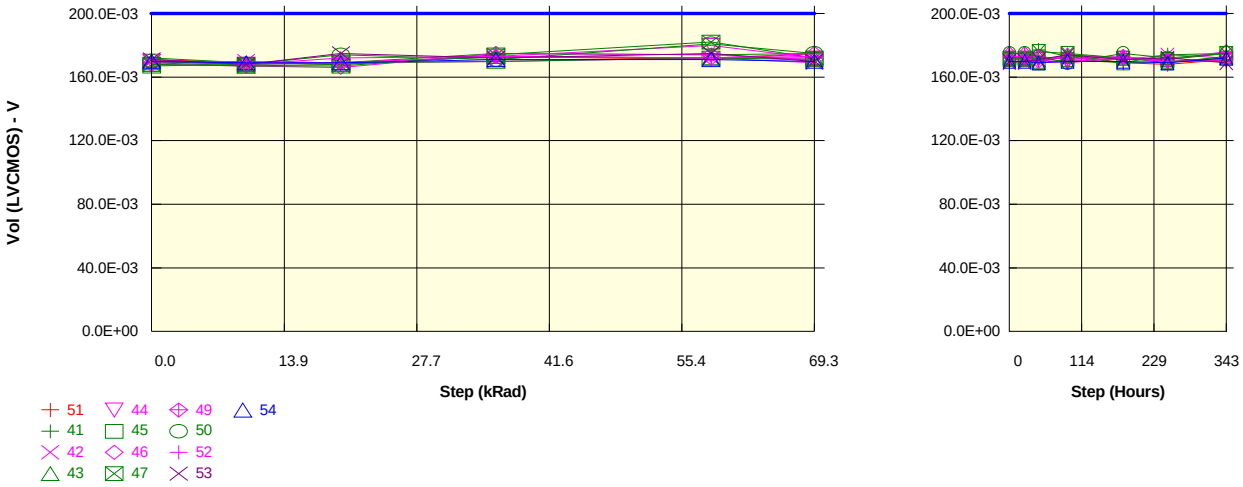
Vol (LVCMOS) s4do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	177.0E-03	177.0E-03	170.0E-03	174.0E-03	169.0E-03	168.0E-03	171.0E-03
ON samples												
41	171.0E-03	169.0E-03	172.0E-03	173.0E-03	176.0E-03	174.0E-03	174.0E-03	175.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03
42	169.0E-03	169.0E-03	168.0E-03	172.0E-03	174.0E-03	172.0E-03	172.0E-03	173.0E-03	170.0E-03	171.0E-03	168.0E-03	172.0E-03
43	168.0E-03	167.0E-03	167.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	173.0E-03	171.0E-03	169.0E-03	168.0E-03	170.0E-03
44	168.0E-03	168.0E-03	169.0E-03	173.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	172.0E-03
45	168.0E-03	168.0E-03	169.0E-03	173.0E-03	174.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	173.0E-03
46	168.0E-03	168.0E-03	166.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03
47	167.0E-03	168.0E-03	166.0E-03	174.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03	171.0E-03	170.0E-03	171.0E-03
49	170.0E-03	169.0E-03	168.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	173.0E-03
50	169.0E-03	168.0E-03	169.0E-03	171.0E-03	174.0E-03	173.0E-03	173.0E-03	170.0E-03	173.0E-03	170.0E-03	169.0E-03	172.0E-03
52	170.0E-03	168.0E-03	170.0E-03	172.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
Statistics												
Min	167.0E-03	167.0E-03	166.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
Max	171.0E-03	169.0E-03	172.0E-03	174.0E-03	176.0E-03	174.0E-03	174.0E-03	175.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03
Average	168.8E-03	168.2E-03	168.4E-03	172.6E-03	173.2E-03	172.0E-03	172.0E-03	171.0E-03	171.4E-03	170.9E-03	169.1E-03	171.6E-03
Sigma	1.2E-03	600.0E-06	1.7E-03	800.0E-06	1.6E-03	1000.0E-06	1000.0E-06	1.9E-03	1.0E-03	1.0E-03	943.4E-06	1.0E-03

Measurements

Vol (LVCMOS) s4do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	177.0E-03	177.0E-03	170.0E-03	174.0E-03	169.0E-03	168.0E-03	171.0E-03
OFF samples												
53	170.0E-03	168.0E-03	170.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	169.0E-03	170.0E-03
54	170.0E-03	169.0E-03	170.0E-03	172.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03
Statistics												
Min	170.0E-03	168.0E-03	170.0E-03	172.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	172.0E-03	170.0E-03	169.0E-03	170.0E-03
Max	170.0E-03	169.0E-03	170.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03
Average	170.0E-03	168.5E-03	170.0E-03	172.0E-03	170.5E-03	172.0E-03	172.0E-03	170.5E-03	172.0E-03	170.5E-03	169.5E-03	170.0E-03
Sigma	0.0E+00	500.0E-06	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	1.5E-03	0.0E+00	500.0E-06	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s4do1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

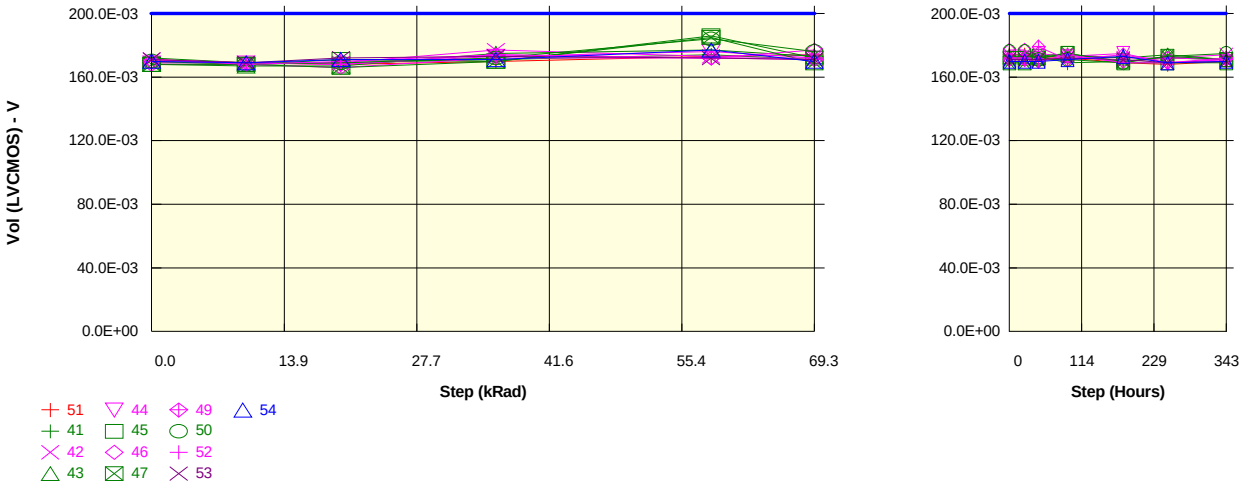
Vol (LVCMOS) s4do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	173.0E-03	171.0E-03	175.0E-03	175.0E-03	170.0E-03	174.0E-03	169.0E-03	168.0E-03	171.0E-03
ON samples												
41	172.0E-03	169.0E-03	169.0E-03	175.0E-03	174.0E-03	175.0E-03	175.0E-03	177.0E-03	173.0E-03	169.0E-03	174.0E-03	175.0E-03
42	170.0E-03	170.0E-03	169.0E-03	170.0E-03	172.0E-03	169.0E-03	169.0E-03	171.0E-03	172.0E-03	171.0E-03	174.0E-03	172.0E-03
43	169.0E-03	167.0E-03	168.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	173.0E-03	172.0E-03	169.0E-03	173.0E-03
44	170.0E-03	168.0E-03	169.0E-03	173.0E-03	180.0E-03	172.0E-03	172.0E-03	171.0E-03	169.0E-03	172.0E-03	170.0E-03	171.0E-03
45	167.0E-03	168.0E-03	169.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	169.0E-03	170.0E-03	172.0E-03
46	168.0E-03	167.0E-03	166.0E-03	175.0E-03	174.0E-03	171.0E-03	171.0E-03	170.0E-03	174.0E-03	172.0E-03	171.0E-03	176.0E-03
47	168.0E-03	167.0E-03	167.0E-03	174.0E-03	182.0E-03	172.0E-03	172.0E-03	176.0E-03	175.0E-03	172.0E-03	171.0E-03	175.0E-03
49	169.0E-03	169.0E-03	169.0E-03	173.0E-03	172.0E-03	175.0E-03	175.0E-03	173.0E-03	171.0E-03	173.0E-03	170.0E-03	171.0E-03
50	170.0E-03	168.0E-03	174.0E-03	171.0E-03	181.0E-03	175.0E-03	175.0E-03	173.0E-03	169.0E-03	175.0E-03	172.0E-03	175.0E-03
52	171.0E-03	168.0E-03	172.0E-03	173.0E-03	172.0E-03	173.0E-03	173.0E-03	169.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03
Statistics												
Min	167.0E-03	167.0E-03	166.0E-03	170.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03
Max	172.0E-03	170.0E-03	174.0E-03	175.0E-03	182.0E-03	175.0E-03	175.0E-03	177.0E-03	175.0E-03	175.0E-03	174.0E-03	176.0E-03
Average	169.4E-03	168.1E-03	169.2E-03	172.7E-03	175.1E-03	172.5E-03	172.5E-03	171.9E-03	171.7E-03	171.7E-03	171.1E-03	173.0E-03
Sigma	1.4E-03	943.4E-06	2.2E-03	1.7E-03	4.0E-03	1.9E-03	1.9E-03	2.7E-03	2.0E-03	1.7E-03	1.6E-03	2.0E-03

Measurements

Vol (LVCMOS) s4do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	173.0E-03	171.0E-03	175.0E-03	175.0E-03	170.0E-03	174.0E-03	169.0E-03	168.0E-03	171.0E-03
OFF samples												
53	171.0E-03	168.0E-03	175.0E-03	172.0E-03	175.0E-03	170.0E-03	170.0E-03	171.0E-03	174.0E-03	171.0E-03	172.0E-03	169.0E-03
54	170.0E-03	169.0E-03	169.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	172.0E-03
Statistics												
Min	170.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03
Max	171.0E-03	169.0E-03	175.0E-03	172.0E-03	175.0E-03	170.0E-03	170.0E-03	171.0E-03	174.0E-03	171.0E-03	172.0E-03	172.0E-03
Average	170.5E-03	168.5E-03	172.0E-03	171.5E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.5E-03	170.5E-03	170.5E-03
Sigma	500.0E-06	500.0E-06	3.0E-03	500.0E-06	2.0E-03	0.0E+00	0.0E+00	1000.0E-06	2.0E-03	500.0E-06	1.5E-03	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s4do0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

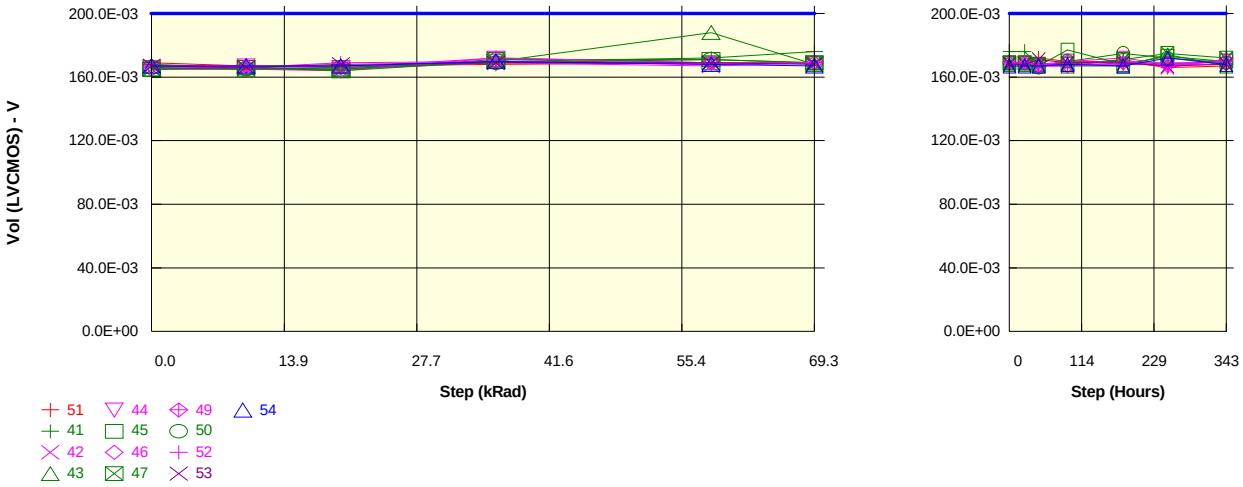
Vol (LVCMOS) s4do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	170.0E-03	173.0E-03	174.0E-03	174.0E-03	172.0E-03	172.0E-03	169.0E-03	168.0E-03	170.0E-03
ON samples												
41	172.0E-03	169.0E-03	169.0E-03	171.0E-03	174.0E-03	171.0E-03	171.0E-03	173.0E-03	169.0E-03	170.0E-03	172.0E-03	171.0E-03
42	171.0E-03	169.0E-03	169.0E-03	177.0E-03	173.0E-03	174.0E-03	174.0E-03	172.0E-03	174.0E-03	172.0E-03	172.0E-03	174.0E-03
43	168.0E-03	167.0E-03	167.0E-03	175.0E-03	177.0E-03	173.0E-03	173.0E-03	172.0E-03	174.0E-03	172.0E-03	174.0E-03	171.0E-03
44	169.0E-03	169.0E-03	168.0E-03	173.0E-03	176.0E-03	172.0E-03	172.0E-03	175.0E-03	173.0E-03	175.0E-03	169.0E-03	171.0E-03
45	168.0E-03	168.0E-03	171.0E-03	170.0E-03	186.0E-03	172.0E-03	172.0E-03	173.0E-03	175.0E-03	169.0E-03	169.0E-03	169.0E-03
46	168.0E-03	168.0E-03	166.0E-03	172.0E-03	172.0E-03	177.0E-03	177.0E-03	170.0E-03	173.0E-03	170.0E-03	172.0E-03	171.0E-03
47	168.0E-03	168.0E-03	166.0E-03	170.0E-03	185.0E-03	169.0E-03	169.0E-03	172.0E-03	175.0E-03	170.0E-03	173.0E-03	171.0E-03
49	170.0E-03	169.0E-03	168.0E-03	174.0E-03	172.0E-03	171.0E-03	171.0E-03	179.0E-03	171.0E-03	174.0E-03	169.0E-03	172.0E-03
50	170.0E-03	168.0E-03	169.0E-03	172.0E-03	184.0E-03	176.0E-03	176.0E-03	171.0E-03	171.0E-03	169.0E-03	173.0E-03	175.0E-03
52	171.0E-03	168.0E-03	170.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	169.0E-03	169.0E-03	171.0E-03
Statistics												
Min	168.0E-03	167.0E-03	166.0E-03	170.0E-03	172.0E-03	169.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03
Max	172.0E-03	169.0E-03	171.0E-03	177.0E-03	186.0E-03	177.0E-03	177.0E-03	179.0E-03	175.0E-03	175.0E-03	174.0E-03	175.0E-03
Average	169.5E-03	168.3E-03	168.3E-03	172.8E-03	177.1E-03	172.7E-03	172.7E-03	172.7E-03	172.9E-03	171.0E-03	171.2E-03	171.6E-03
Sigma	1.4E-03	640.3E-06	1.6E-03	2.1E-03	5.4E-03	2.3E-03	2.3E-03	2.5E-03	1.9E-03	2.0E-03	1.9E-03	1.6E-03

Measurements

Vol (LVCMOS) s4do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	170.0E-03	173.0E-03	174.0E-03	174.0E-03	172.0E-03	172.0E-03	169.0E-03	168.0E-03	170.0E-03
OFF samples												
53	171.0E-03	169.0E-03	172.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	171.0E-03	169.0E-03	170.0E-03
54	170.0E-03	169.0E-03	171.0E-03	171.0E-03	177.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	173.0E-03	169.0E-03	170.0E-03
Statistics												
Min	170.0E-03	169.0E-03	171.0E-03	171.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
Max	171.0E-03	169.0E-03	172.0E-03	173.0E-03	177.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	173.0E-03	169.0E-03	170.0E-03
Average	170.5E-03	169.0E-03	171.5E-03	172.0E-03	174.5E-03	170.5E-03	170.5E-03	170.5E-03	171.5E-03	172.0E-03	169.0E-03	170.0E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	1.0E-03	2.5E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.0E-03	0.0E+00	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s5do3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

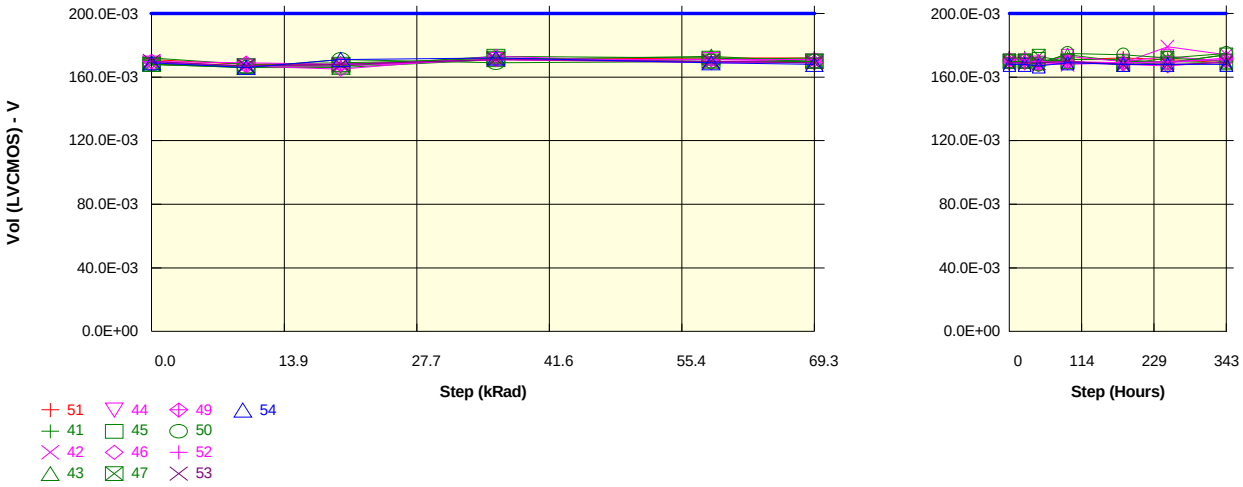
Vol (LVCMOS) s5do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03	170.0E-03	170.0E-03	166.0E-03	167.0E-03
ON samples												
41	168.0E-03	166.0E-03	167.0E-03	170.0E-03	172.0E-03	176.0E-03	176.0E-03	167.0E-03	169.0E-03	170.0E-03	168.0E-03	171.0E-03
42	167.0E-03	165.0E-03	165.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	171.0E-03	166.0E-03	171.0E-03
43	165.0E-03	165.0E-03	165.0E-03	170.0E-03	188.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	174.0E-03	167.0E-03
44	166.0E-03	167.0E-03	166.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	172.0E-03	168.0E-03	168.0E-03
45	165.0E-03	166.0E-03	165.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	167.0E-03	177.0E-03	168.0E-03	173.0E-03	170.0E-03
46	165.0E-03	165.0E-03	164.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	169.0E-03	169.0E-03	169.0E-03
47	165.0E-03	166.0E-03	164.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	171.0E-03	175.0E-03	172.0E-03
49	167.0E-03	167.0E-03	166.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	170.0E-03	169.0E-03	167.0E-03	171.0E-03
50	166.0E-03	165.0E-03	166.0E-03	169.0E-03	171.0E-03	169.0E-03	169.0E-03	166.0E-03	170.0E-03	175.0E-03	172.0E-03	169.0E-03
52	167.0E-03	166.0E-03	169.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	170.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03
Max	168.0E-03	167.0E-03	169.0E-03	172.0E-03	188.0E-03	176.0E-03	176.0E-03	168.0E-03	177.0E-03	175.0E-03	175.0E-03	172.0E-03
Average	166.1E-03	165.8E-03	165.7E-03	170.3E-03	171.3E-03	169.6E-03	169.6E-03	167.3E-03	169.3E-03	170.0E-03	170.0E-03	169.8E-03
Sigma	1.0E-03	748.3E-06	1.4E-03	1.0E-03	5.7E-03	2.2E-03	2.2E-03	640.3E-06	2.8E-03	2.2E-03	3.0E-03	1.5E-03

Measurements

Vol (LVCMOS) s5do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	172.0E-03	170.0E-03	170.0E-03	166.0E-03	167.0E-03
OFF samples												
53	167.0E-03	166.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03
54	167.0E-03	167.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	167.0E-03	172.0E-03	168.0E-03
Statistics												
Min	167.0E-03	166.0E-03	167.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	167.0E-03	167.0E-03	168.0E-03
Max	167.0E-03	167.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	172.0E-03	168.0E-03
Average	167.0E-03	166.5E-03	167.5E-03	169.5E-03	168.5E-03	167.5E-03	167.5E-03	169.0E-03	168.5E-03	168.0E-03	169.5E-03	168.0E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	2.0E-03	500.0E-06	1.0E-03	2.5E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s5do2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

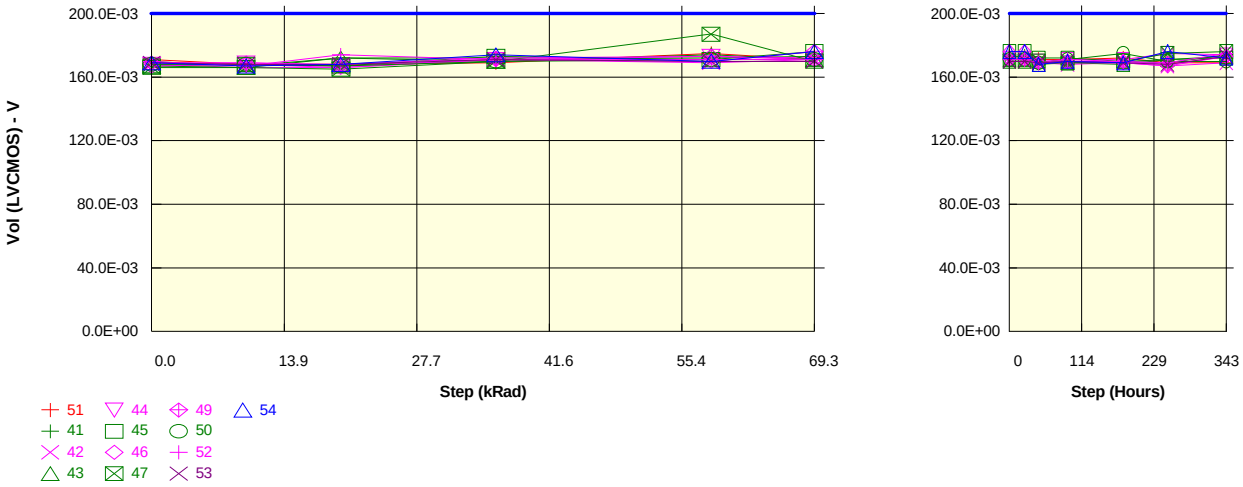
Vol (LVCMOS) s5do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	168.0E-03	168.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	169.0E-03	171.0E-03	172.0E-03	171.0E-03	169.0E-03
ON samples												
41	172.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	171.0E-03	171.0E-03	169.0E-03	174.0E-03
42	169.0E-03	167.0E-03	167.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03	179.0E-03	174.0E-03
43	168.0E-03	166.0E-03	166.0E-03	171.0E-03	173.0E-03	170.0E-03	170.0E-03	169.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03
44	169.0E-03	167.0E-03	167.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	173.0E-03	170.0E-03	173.0E-03	170.0E-03
45	168.0E-03	167.0E-03	167.0E-03	173.0E-03	172.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	168.0E-03	169.0E-03	174.0E-03
46	168.0E-03	167.0E-03	165.0E-03	173.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	167.0E-03	170.0E-03
47	168.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	173.0E-03	170.0E-03	168.0E-03	172.0E-03	170.0E-03
49	170.0E-03	169.0E-03	168.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	172.0E-03
50	168.0E-03	166.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	175.0E-03	174.0E-03	172.0E-03	175.0E-03
52	170.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03
Statistics												
Min	168.0E-03	166.0E-03	165.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03
Max	172.0E-03	169.0E-03	171.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	173.0E-03	175.0E-03	174.0E-03	179.0E-03	175.0E-03
Average	169.0E-03	167.1E-03	167.6E-03	171.3E-03	170.6E-03	170.1E-03	170.1E-03	169.4E-03	170.9E-03	169.6E-03	171.0E-03	171.9E-03
Sigma	1.3E-03	830.7E-06	1.6E-03	1.1E-03	1.2E-03	830.7E-06	830.7E-06	1.5E-03	2.2E-03	1.7E-03	3.2E-03	2.1E-03

Measurements

Vol (LVCMOS) s5do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	168.0E-03	168.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	169.0E-03	171.0E-03	172.0E-03	171.0E-03	169.0E-03
OFF samples												
53	170.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03
54	169.0E-03	166.0E-03	171.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03
Statistics												
Min	169.0E-03	166.0E-03	168.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03
Max	170.0E-03	167.0E-03	171.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03
Average	169.5E-03	166.5E-03	169.5E-03	171.5E-03	169.5E-03	168.5E-03	168.5E-03	168.0E-03	169.5E-03	168.0E-03	168.0E-03	168.5E-03
Sigma	500.0E-06	500.0E-06	1.5E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.0E-03	500.0E-06	0.0E+00	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s5do1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

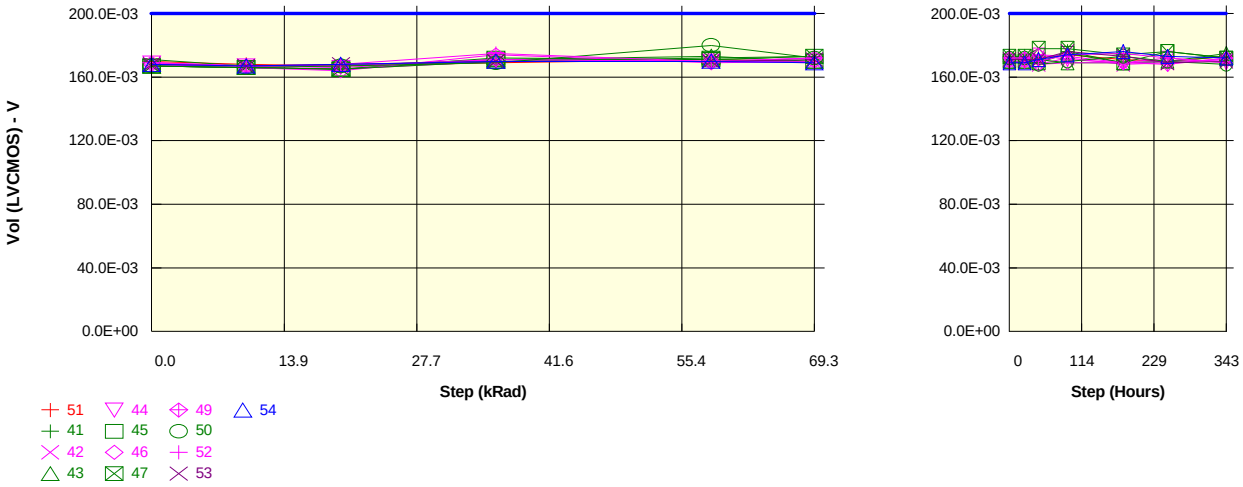
Vol (LVCMOS) s5do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	168.0E-03	168.0E-03	169.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	169.0E-03	169.0E-03
ON samples												
41	170.0E-03	167.0E-03	172.0E-03	172.0E-03	172.0E-03	173.0E-03	173.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	174.0E-03
42	168.0E-03	166.0E-03	166.0E-03	171.0E-03	169.0E-03	171.0E-03	171.0E-03	169.0E-03	168.0E-03	169.0E-03	167.0E-03	169.0E-03
43	167.0E-03	166.0E-03	172.0E-03	170.0E-03	174.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	168.0E-03	171.0E-03	173.0E-03
44	168.0E-03	169.0E-03	167.0E-03	171.0E-03	173.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	175.0E-03	174.0E-03
45	167.0E-03	168.0E-03	167.0E-03	173.0E-03	171.0E-03	176.0E-03	176.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	172.0E-03
46	167.0E-03	168.0E-03	166.0E-03	171.0E-03	170.0E-03	176.0E-03	176.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	173.0E-03
47	166.0E-03	166.0E-03	165.0E-03	170.0E-03	187.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	175.0E-03	176.0E-03
49	169.0E-03	169.0E-03	168.0E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	173.0E-03
50	168.0E-03	168.0E-03	167.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	175.0E-03	170.0E-03	170.0E-03
52	170.0E-03	167.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	169.0E-03	175.0E-03
Statistics												
Min	166.0E-03	166.0E-03	165.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03
Max	170.0E-03	169.0E-03	174.0E-03	173.0E-03	187.0E-03	176.0E-03	176.0E-03	172.0E-03	172.0E-03	175.0E-03	175.0E-03	176.0E-03
Average	168.0E-03	167.4E-03	168.4E-03	171.1E-03	173.1E-03	172.2E-03	172.2E-03	169.4E-03	170.0E-03	170.2E-03	170.2E-03	172.9E-03
Sigma	1.3E-03	1.1E-03	2.9E-03	943.4E-06	4.8E-03	2.0E-03	2.0E-03	1.0E-03	1.2E-03	1.8E-03	2.7E-03	2.0E-03

Measurements

Vol (LVCMOS) s5do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	168.0E-03	168.0E-03	169.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	169.0E-03	169.0E-03
OFF samples												
53	169.0E-03	168.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	173.0E-03
54	169.0E-03	167.0E-03	168.0E-03	174.0E-03	170.0E-03	176.0E-03	176.0E-03	168.0E-03	170.0E-03	169.0E-03	176.0E-03	172.0E-03
Statistics												
Min	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	172.0E-03
Max	169.0E-03	168.0E-03	168.0E-03	174.0E-03	170.0E-03	176.0E-03	176.0E-03	169.0E-03	170.0E-03	169.0E-03	176.0E-03	173.0E-03
Average	169.0E-03	167.5E-03	168.0E-03	172.5E-03	170.0E-03	173.0E-03	173.0E-03	168.5E-03	170.0E-03	169.0E-03	172.0E-03	172.5E-03
Sigma	0.0E+00	500.0E-06	0.0E+00	1.5E-03	0.0E+00	3.0E-03	3.0E-03	500.0E-06	0.0E+00	0.0E+00	4.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s5do0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

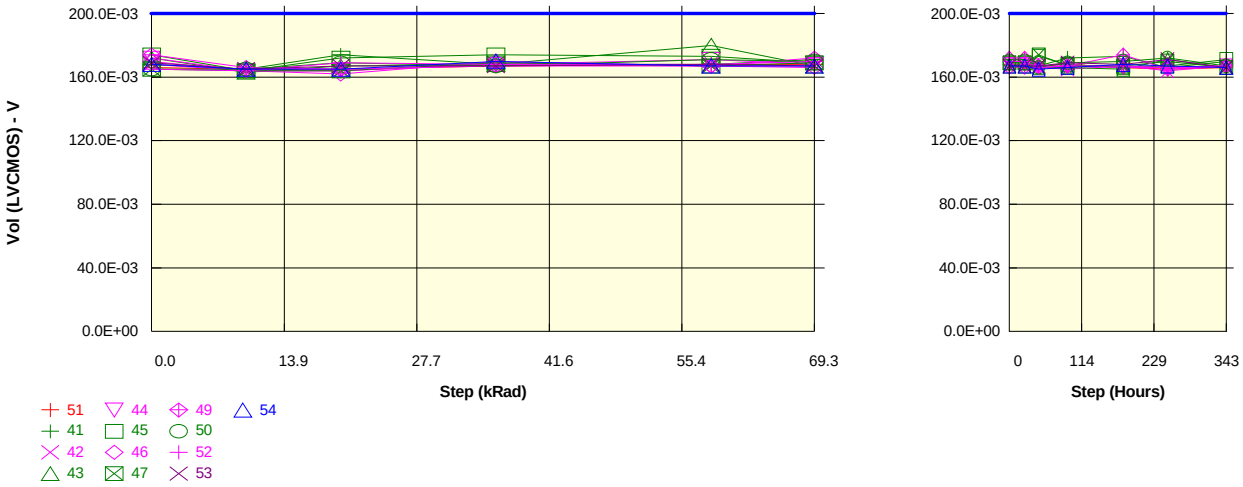
Vol (LVCMOS) s5do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	167.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	172.0E-03	174.0E-03	171.0E-03	170.0E-03	173.0E-03
ON samples												
41	171.0E-03	167.0E-03	167.0E-03	171.0E-03	171.0E-03	173.0E-03	173.0E-03	169.0E-03	176.0E-03	169.0E-03	170.0E-03	173.0E-03
42	167.0E-03	166.0E-03	165.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	172.0E-03	168.0E-03	169.0E-03	171.0E-03
43	167.0E-03	166.0E-03	165.0E-03	171.0E-03	173.0E-03	170.0E-03	170.0E-03	171.0E-03	169.0E-03	169.0E-03	170.0E-03	175.0E-03
44	169.0E-03	167.0E-03	166.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	174.0E-03	171.0E-03	169.0E-03	172.0E-03	169.0E-03
45	167.0E-03	166.0E-03	165.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	175.0E-03	169.0E-03	176.0E-03	172.0E-03
46	168.0E-03	166.0E-03	164.0E-03	174.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03
47	167.0E-03	166.0E-03	165.0E-03	170.0E-03	172.0E-03	173.0E-03	173.0E-03	178.0E-03	178.0E-03	174.0E-03	176.0E-03	172.0E-03
49	169.0E-03	167.0E-03	167.0E-03	171.0E-03	170.0E-03	172.0E-03	172.0E-03	174.0E-03	173.0E-03	169.0E-03	168.0E-03	172.0E-03
50	167.0E-03	166.0E-03	167.0E-03	169.0E-03	180.0E-03	172.0E-03	172.0E-03	168.0E-03	170.0E-03	173.0E-03	170.0E-03	168.0E-03
52	169.0E-03	167.0E-03	168.0E-03	175.0E-03	170.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	175.0E-03	172.0E-03	169.0E-03
Statistics												
Min	167.0E-03	166.0E-03	164.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03
Max	171.0E-03	167.0E-03	168.0E-03	175.0E-03	180.0E-03	173.0E-03	173.0E-03	178.0E-03	178.0E-03	175.0E-03	176.0E-03	175.0E-03
Average	168.1E-03	166.4E-03	165.9E-03	171.4E-03	171.6E-03	171.1E-03	171.1E-03	170.9E-03	172.7E-03	170.4E-03	171.3E-03	171.2E-03
Sigma	1.3E-03	489.9E-06	1.2E-03	1.7E-03	3.0E-03	1.4E-03	1.4E-03	3.2E-03	2.9E-03	2.4E-03	2.6E-03	2.0E-03

Measurements

Vol (LVCMOS) s5do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	167.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	172.0E-03	174.0E-03	171.0E-03	170.0E-03	173.0E-03
OFF samples												
53	168.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	176.0E-03	173.0E-03	169.0E-03	170.0E-03
54	168.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	171.0E-03	174.0E-03	176.0E-03	173.0E-03	172.0E-03
Statistics												
Min	168.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	171.0E-03	174.0E-03	173.0E-03	169.0E-03	170.0E-03
Max	168.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	176.0E-03	176.0E-03	173.0E-03	172.0E-03
Average	168.0E-03	167.0E-03	168.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	175.0E-03	174.5E-03	171.0E-03	171.0E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1000.0E-06	1000.0E-06	0.0E+00	1.0E-03	1.5E-03	2.0E-03	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s7do3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

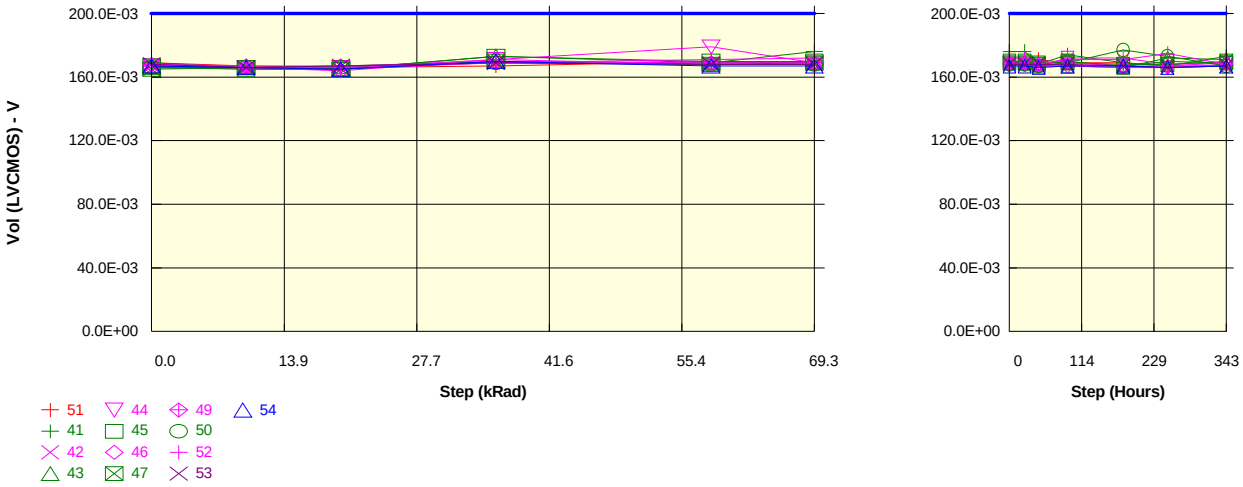
Vol (LVCMOS) s7do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	165.0E-03	167.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	166.0E-03	165.0E-03	166.0E-03
ON samples												
41	168.0E-03	165.0E-03	174.0E-03	168.0E-03	168.0E-03	171.0E-03	171.0E-03	167.0E-03	172.0E-03	173.0E-03	166.0E-03	170.0E-03
42	168.0E-03	164.0E-03	164.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	167.0E-03	164.0E-03	167.0E-03
43	172.0E-03	163.0E-03	167.0E-03	168.0E-03	180.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	165.0E-03	171.0E-03	166.0E-03
44	172.0E-03	164.0E-03	164.0E-03	168.0E-03	171.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	166.0E-03	166.0E-03	167.0E-03
45	174.0E-03	164.0E-03	172.0E-03	174.0E-03	173.0E-03	169.0E-03	169.0E-03	173.0E-03	168.0E-03	166.0E-03	167.0E-03	171.0E-03
46	170.0E-03	164.0E-03	162.0E-03	170.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	167.0E-03	166.0E-03	166.0E-03	167.0E-03
47	165.0E-03	164.0E-03	164.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03	174.0E-03	167.0E-03	167.0E-03	170.0E-03	166.0E-03
49	174.0E-03	166.0E-03	165.0E-03	167.0E-03	167.0E-03	172.0E-03	172.0E-03	167.0E-03	167.0E-03	174.0E-03	165.0E-03	167.0E-03
50	165.0E-03	165.0E-03	169.0E-03	167.0E-03	171.0E-03	170.0E-03	170.0E-03	166.0E-03	169.0E-03	170.0E-03	172.0E-03	167.0E-03
52	165.0E-03	164.0E-03	169.0E-03	168.0E-03	168.0E-03	170.0E-03	170.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03
Statistics												
Min	165.0E-03	163.0E-03	162.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03	164.0E-03	166.0E-03
Max	174.0E-03	166.0E-03	174.0E-03	174.0E-03	180.0E-03	172.0E-03	172.0E-03	174.0E-03	172.0E-03	174.0E-03	172.0E-03	171.0E-03
Average	169.3E-03	164.3E-03	167.0E-03	168.7E-03	169.9E-03	168.9E-03	168.9E-03	167.8E-03	167.6E-03	168.1E-03	167.3E-03	167.5E-03
Sigma	3.4E-03	781.0E-06	3.7E-03	2.0E-03	3.9E-03	1.8E-03	1.8E-03	2.9E-03	1.8E-03	3.0E-03	2.6E-03	1.6E-03

Measurements

Vol (LVCMOS) s7do3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	165.0E-03	167.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	166.0E-03	165.0E-03	166.0E-03
OFF samples												
53	169.0E-03	165.0E-03	167.0E-03	167.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	168.0E-03	171.0E-03	166.0E-03
54	168.0E-03	165.0E-03	165.0E-03	170.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	166.0E-03	168.0E-03	167.0E-03	166.0E-03
Statistics												
Min	168.0E-03	165.0E-03	165.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	166.0E-03	168.0E-03	167.0E-03	166.0E-03
Max	169.0E-03	165.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	168.0E-03	171.0E-03	166.0E-03
Average	168.5E-03	165.0E-03	166.0E-03	168.5E-03	167.5E-03	167.0E-03	167.0E-03	166.0E-03	167.5E-03	168.0E-03	169.0E-03	166.0E-03
Sigma	500.0E-06	0.0E+00	1000.0E-06	1.5E-03	500.0E-06	0.0E+00	0.0E+00	1000.0E-06	1.5E-03	0.0E+00	2.0E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s7do2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

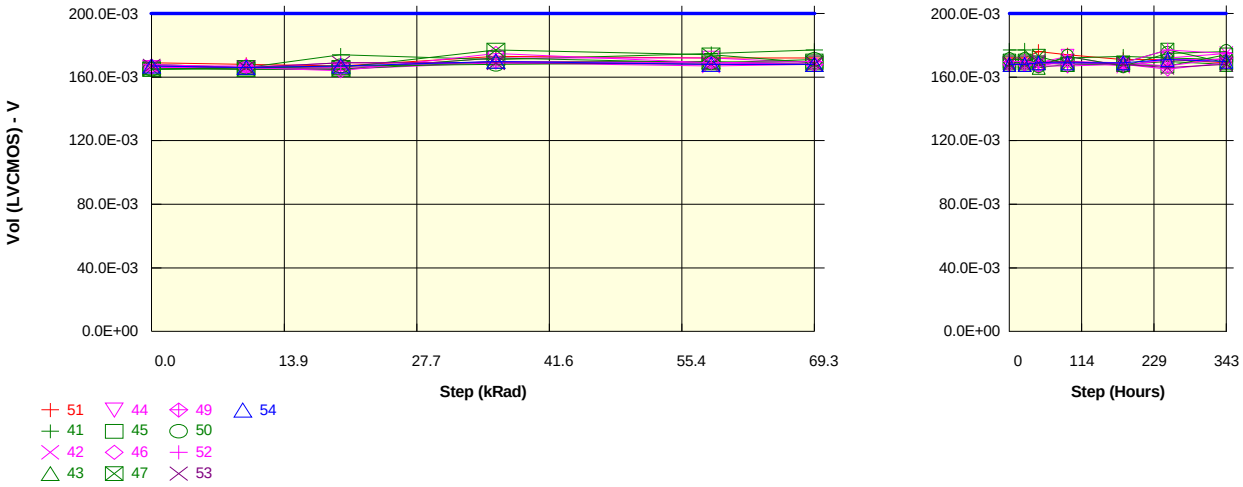
Vol (LVCMOS) s7do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	167.0E-03	170.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03
ON samples												
41	169.0E-03	166.0E-03	167.0E-03	170.0E-03	169.0E-03	176.0E-03	176.0E-03	168.0E-03	174.0E-03	169.0E-03	167.0E-03	173.0E-03
42	167.0E-03	165.0E-03	165.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03
43	166.0E-03	165.0E-03	165.0E-03	173.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	166.0E-03	172.0E-03	171.0E-03
44	167.0E-03	166.0E-03	166.0E-03	171.0E-03	179.0E-03	169.0E-03	169.0E-03	167.0E-03	172.0E-03	172.0E-03	168.0E-03	169.0E-03
45	167.0E-03	166.0E-03	165.0E-03	173.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	167.0E-03	170.0E-03	169.0E-03
46	166.0E-03	166.0E-03	164.0E-03	171.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	168.0E-03
47	165.0E-03	166.0E-03	165.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	170.0E-03
49	168.0E-03	167.0E-03	167.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	167.0E-03	167.0E-03	169.0E-03
50	166.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	169.0E-03	177.0E-03	173.0E-03	167.0E-03
52	168.0E-03	166.0E-03	166.0E-03	169.0E-03	171.0E-03	172.0E-03	172.0E-03	168.0E-03	171.0E-03	171.0E-03	175.0E-03	168.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	167.0E-03
Max	169.0E-03	167.0E-03	167.0E-03	173.0E-03	179.0E-03	176.0E-03	176.0E-03	169.0E-03	174.0E-03	177.0E-03	175.0E-03	173.0E-03
Average	166.9E-03	165.9E-03	165.6E-03	170.4E-03	170.0E-03	169.9E-03	169.9E-03	167.5E-03	169.5E-03	169.0E-03	169.2E-03	169.1E-03
Sigma	1.1E-03	538.5E-06	916.5E-06	1.5E-03	3.1E-03	2.3E-03	2.3E-03	670.8E-06	2.2E-03	3.3E-03	3.0E-03	1.8E-03

Measurements

Vol (LVCMOS) s7do2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	167.0E-03	170.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03
OFF samples												
53	168.0E-03	166.0E-03	167.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	166.0E-03	167.0E-03
54	167.0E-03	166.0E-03	165.0E-03	170.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03
Statistics												
Min	167.0E-03	166.0E-03	165.0E-03	169.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03
Max	168.0E-03	166.0E-03	167.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	166.0E-03	167.0E-03
Average	167.5E-03	166.0E-03	166.0E-03	169.5E-03	167.5E-03	167.5E-03	167.5E-03	167.0E-03	167.5E-03	167.0E-03	166.0E-03	167.0E-03
Sigma	500.0E-06	0.0E+00	1000.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1000.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s7do1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

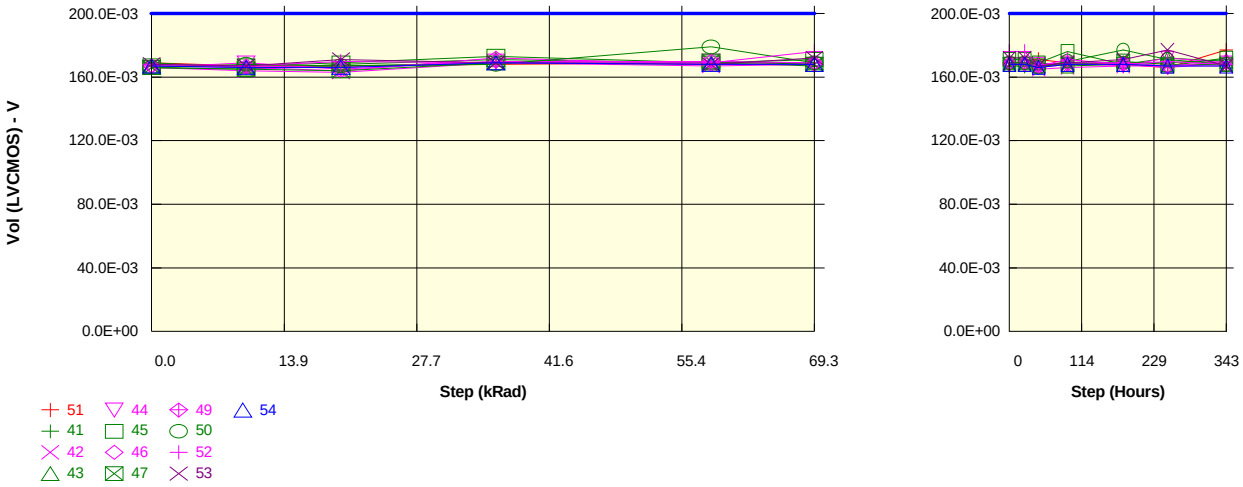
Vol (LVCMOS) s7do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	168.0E-03	167.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	176.0E-03	174.0E-03	171.0E-03	171.0E-03	169.0E-03
ON samples												
41	168.0E-03	166.0E-03	174.0E-03	171.0E-03	175.0E-03	177.0E-03	177.0E-03	168.0E-03	172.0E-03	173.0E-03	172.0E-03	171.0E-03
42	166.0E-03	165.0E-03	165.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	170.0E-03	170.0E-03	167.0E-03	172.0E-03	175.0E-03
43	166.0E-03	165.0E-03	165.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	170.0E-03	168.0E-03
44	166.0E-03	166.0E-03	165.0E-03	172.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	173.0E-03	167.0E-03	171.0E-03	171.0E-03
45	165.0E-03	165.0E-03	165.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	174.0E-03
46	166.0E-03	166.0E-03	164.0E-03	175.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	168.0E-03	165.0E-03	169.0E-03
47	165.0E-03	166.0E-03	166.0E-03	177.0E-03	174.0E-03	169.0E-03	169.0E-03	173.0E-03	168.0E-03	169.0E-03	177.0E-03	169.0E-03
49	167.0E-03	167.0E-03	166.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	170.0E-03	169.0E-03	167.0E-03	172.0E-03
50	165.0E-03	166.0E-03	167.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	167.0E-03	173.0E-03	167.0E-03	175.0E-03	176.0E-03
52	168.0E-03	166.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03	177.0E-03	175.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	168.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	167.0E-03	165.0E-03	168.0E-03
Max	168.0E-03	167.0E-03	174.0E-03	177.0E-03	175.0E-03	177.0E-03	177.0E-03	173.0E-03	173.0E-03	173.0E-03	177.0E-03	176.0E-03
Average	166.2E-03	165.8E-03	166.6E-03	171.3E-03	170.3E-03	169.8E-03	169.8E-03	168.5E-03	169.7E-03	168.5E-03	171.3E-03	172.0E-03
Sigma	1.1E-03	600.0E-06	2.8E-03	2.7E-03	2.4E-03	2.6E-03	2.6E-03	1.9E-03	2.1E-03	1.7E-03	4.0E-03	2.7E-03

Measurements

Vol (LVCMOS) s7do1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	168.0E-03	167.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	176.0E-03	174.0E-03	171.0E-03	171.0E-03	169.0E-03
OFF samples												
53	167.0E-03	166.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	168.0E-03	166.0E-03	168.0E-03
54	167.0E-03	166.0E-03	167.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03	170.0E-03
Statistics												
Min	167.0E-03	166.0E-03	167.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
Max	167.0E-03	166.0E-03	169.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	169.0E-03	171.0E-03	170.0E-03
Average	167.0E-03	166.0E-03	168.0E-03	169.5E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	169.5E-03	168.5E-03	168.5E-03	169.0E-03
Sigma	0.0E+00	0.0E+00	1.0E-03	500.0E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	2.5E-03	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)s7do0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

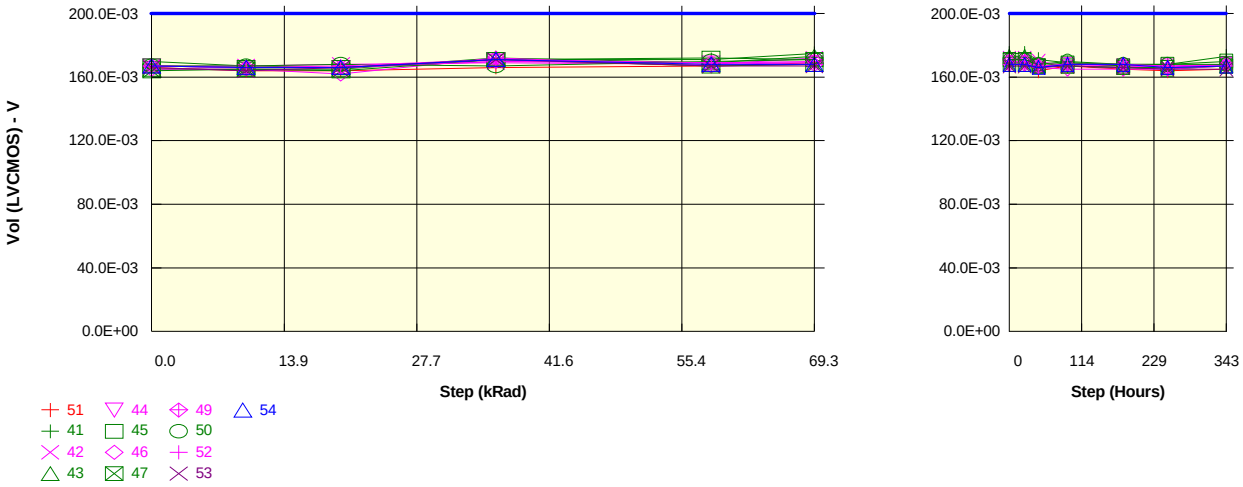
Vol (LVCMOS) s7do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	168.0E-03	166.0E-03	177.0E-03
ON samples												
41	169.0E-03	166.0E-03	167.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03
42	166.0E-03	164.0E-03	163.0E-03	169.0E-03	167.0E-03	168.0E-03	168.0E-03	165.0E-03	166.0E-03	167.0E-03	167.0E-03	167.0E-03
43	166.0E-03	165.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03
44	166.0E-03	169.0E-03	165.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	167.0E-03	172.0E-03	169.0E-03
45	167.0E-03	167.0E-03	169.0E-03	173.0E-03	169.0E-03	171.0E-03	171.0E-03	169.0E-03	176.0E-03	168.0E-03	167.0E-03	172.0E-03
46	167.0E-03	166.0E-03	164.0E-03	172.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03
47	166.0E-03	165.0E-03	164.0E-03	169.0E-03	170.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03
49	167.0E-03	167.0E-03	166.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03	167.0E-03	170.0E-03
50	166.0E-03	168.0E-03	167.0E-03	168.0E-03	179.0E-03	169.0E-03	169.0E-03	166.0E-03	170.0E-03	177.0E-03	171.0E-03	168.0E-03
52	168.0E-03	167.0E-03	170.0E-03	169.0E-03	169.0E-03	176.0E-03	176.0E-03	167.0E-03	171.0E-03	168.0E-03	170.0E-03	168.0E-03
Statistics												
Min	166.0E-03	164.0E-03	163.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	166.0E-03	167.0E-03	166.0E-03	167.0E-03
Max	169.0E-03	169.0E-03	170.0E-03	173.0E-03	179.0E-03	176.0E-03	176.0E-03	169.0E-03	176.0E-03	177.0E-03	172.0E-03	172.0E-03
Average	166.8E-03	166.4E-03	166.3E-03	170.0E-03	170.0E-03	169.3E-03	169.3E-03	167.1E-03	169.3E-03	169.1E-03	168.9E-03	169.2E-03
Sigma	979.8E-06	1.4E-03	2.2E-03	1.5E-03	3.1E-03	2.5E-03	2.5E-03	1.2E-03	2.6E-03	2.8E-03	2.1E-03	1.5E-03

Measurements

Vol (LVCMOS) s7do0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	168.0E-03	166.0E-03	177.0E-03
OFF samples												
53	168.0E-03	167.0E-03	171.0E-03	169.0E-03	168.0E-03	172.0E-03	172.0E-03	167.0E-03	169.0E-03	171.0E-03	177.0E-03	167.0E-03
54	167.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03
Statistics												
Min	167.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03
Max	168.0E-03	167.0E-03	171.0E-03	169.0E-03	168.0E-03	172.0E-03	172.0E-03	167.0E-03	169.0E-03	171.0E-03	177.0E-03	167.0E-03
Average	167.5E-03	166.5E-03	168.5E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	166.5E-03	168.5E-03	169.5E-03	172.0E-03	167.0E-03
Sigma	500.0E-06	500.0E-06	2.5E-03	0.0E+00	0.0E+00	2.0E-03	2.0E-03	500.0E-06	500.0E-06	1.5E-03	5.0E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sBdo3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

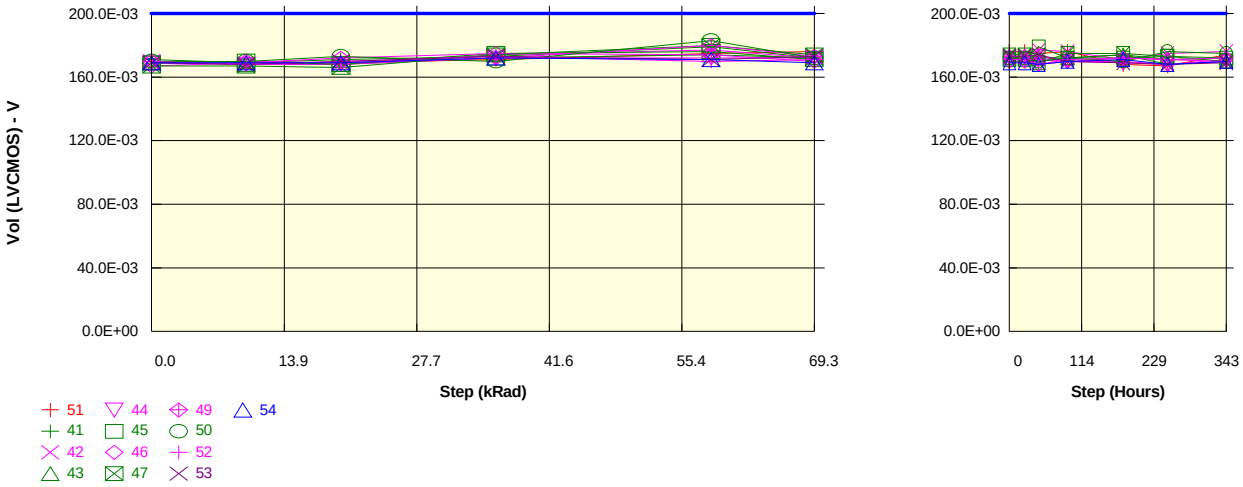
Vol (LVCMOS) sBdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	164.0E-03	164.0E-03	166.0E-03	167.0E-03	169.0E-03	169.0E-03	164.0E-03	167.0E-03	165.0E-03	164.0E-03	165.0E-03
ON samples												
41	170.0E-03	167.0E-03	166.0E-03	171.0E-03	171.0E-03	175.0E-03	175.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	173.0E-03
42	167.0E-03	167.0E-03	168.0E-03	169.0E-03	168.0E-03	172.0E-03	172.0E-03	170.0E-03	167.0E-03	167.0E-03	166.0E-03	168.0E-03
43	165.0E-03	165.0E-03	165.0E-03	172.0E-03	169.0E-03	173.0E-03	173.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	167.0E-03
44	167.0E-03	166.0E-03	166.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	167.0E-03	167.0E-03	168.0E-03
45	167.0E-03	166.0E-03	166.0E-03	171.0E-03	172.0E-03	171.0E-03	171.0E-03	167.0E-03	169.0E-03	167.0E-03	168.0E-03	170.0E-03
46	165.0E-03	165.0E-03	162.0E-03	172.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03
47	164.0E-03	165.0E-03	164.0E-03	171.0E-03	167.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	167.0E-03
49	167.0E-03	166.0E-03	166.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03
50	167.0E-03	167.0E-03	168.0E-03	167.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03
52	167.0E-03	166.0E-03	167.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	167.0E-03	167.0E-03
Statistics												
Min	164.0E-03	165.0E-03	162.0E-03	167.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03
Max	170.0E-03	167.0E-03	168.0E-03	172.0E-03	172.0E-03	175.0E-03	175.0E-03	171.0E-03	170.0E-03	168.0E-03	168.0E-03	173.0E-03
Average	166.6E-03	166.0E-03	165.8E-03	170.4E-03	169.1E-03	170.5E-03	170.5E-03	167.6E-03	167.8E-03	167.0E-03	166.6E-03	168.3E-03
Sigma	1.6E-03	774.6E-06	1.7E-03	1.4E-03	1.5E-03	2.2E-03	2.2E-03	1.6E-03	1.3E-03	1.0E-03	1.1E-03	1.8E-03

Measurements

Vol (LVCMOS) sBdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	164.0E-03	164.0E-03	166.0E-03	167.0E-03	169.0E-03	169.0E-03	164.0E-03	167.0E-03	165.0E-03	164.0E-03	165.0E-03
OFF samples												
53	166.0E-03	164.0E-03	166.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	166.0E-03	165.0E-03	165.0E-03
54	167.0E-03	166.0E-03	166.0E-03	171.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03
Statistics												
Min	166.0E-03	164.0E-03	166.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	166.0E-03	165.0E-03	165.0E-03
Max	167.0E-03	166.0E-03	166.0E-03	171.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03
Average	166.5E-03	165.0E-03	166.0E-03	171.0E-03	167.5E-03	167.5E-03	167.5E-03	166.0E-03	167.5E-03	167.0E-03	165.5E-03	166.0E-03
Sigma	500.0E-06	1.0E-03	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	500.0E-06	1.0E-03	500.0E-06	1000.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sBdo2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

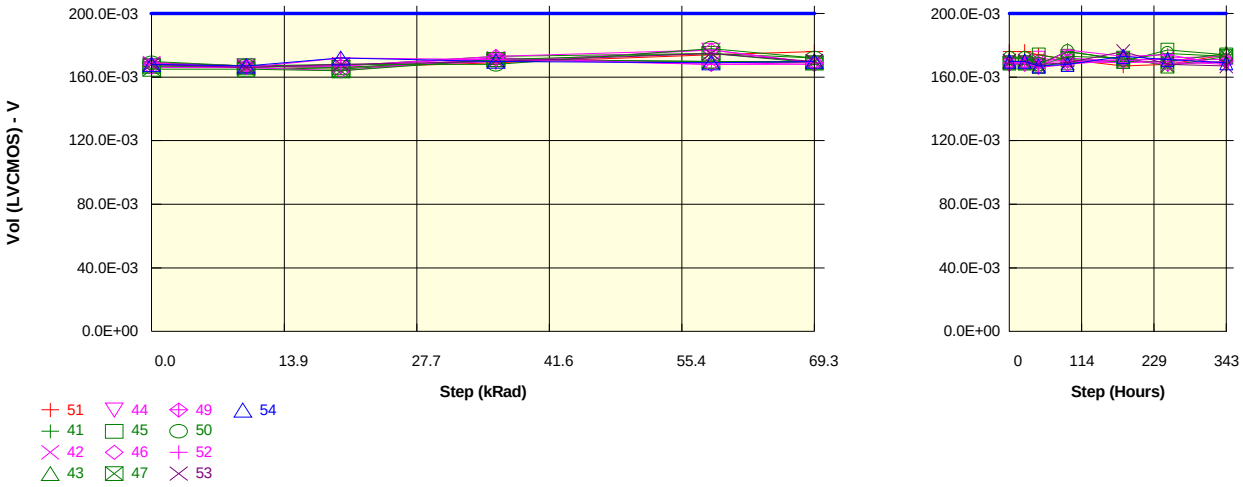
Vol (LVCMOS) sBdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	169.0E-03	171.0E-03	175.0E-03	176.0E-03	176.0E-03	175.0E-03	176.0E-03	168.0E-03	167.0E-03	174.0E-03
ON samples												
41	171.0E-03	169.0E-03	171.0E-03	173.0E-03	179.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	174.0E-03	171.0E-03	172.0E-03
42	170.0E-03	168.0E-03	168.0E-03	174.0E-03	177.0E-03	172.0E-03	172.0E-03	177.0E-03	176.0E-03	171.0E-03	175.0E-03	176.0E-03
43	169.0E-03	168.0E-03	168.0E-03	172.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	174.0E-03	168.0E-03	170.0E-03
44	169.0E-03	168.0E-03	168.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	173.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03
45	169.0E-03	170.0E-03	168.0E-03	175.0E-03	176.0E-03	171.0E-03	171.0E-03	179.0E-03	172.0E-03	172.0E-03	173.0E-03	172.0E-03
46	167.0E-03	169.0E-03	172.0E-03	175.0E-03	174.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	171.0E-03
47	167.0E-03	167.0E-03	166.0E-03	174.0E-03	180.0E-03	174.0E-03	174.0E-03	169.0E-03	175.0E-03	175.0E-03	173.0E-03	170.0E-03
49	170.0E-03	170.0E-03	169.0E-03	172.0E-03	180.0E-03	173.0E-03	173.0E-03	171.0E-03	170.0E-03	172.0E-03	171.0E-03	172.0E-03
50	170.0E-03	170.0E-03	173.0E-03	170.0E-03	183.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03	176.0E-03	175.0E-03
52	170.0E-03	168.0E-03	170.0E-03	173.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	171.0E-03	172.0E-03	171.0E-03	170.0E-03
Statistics												
Min	167.0E-03	167.0E-03	166.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
Max	171.0E-03	170.0E-03	173.0E-03	175.0E-03	183.0E-03	174.0E-03	174.0E-03	179.0E-03	176.0E-03	175.0E-03	176.0E-03	176.0E-03
Average	169.2E-03	168.7E-03	169.3E-03	173.0E-03	176.5E-03	171.9E-03	171.9E-03	171.7E-03	172.0E-03	171.9E-03	171.4E-03	171.8E-03
Sigma	1.2E-03	1.0E-03	2.1E-03	1.5E-03	3.9E-03	1.0E-03	1.0E-03	3.5E-03	1.9E-03	1.9E-03	2.7E-03	2.0E-03

Measurements

Vol (LVCMOS) sBdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	169.0E-03	171.0E-03	175.0E-03	176.0E-03	176.0E-03	175.0E-03	176.0E-03	168.0E-03	167.0E-03	174.0E-03
OFF samples												
53	169.0E-03	168.0E-03	170.0E-03	173.0E-03	171.0E-03	173.0E-03	173.0E-03	174.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
54	169.0E-03	169.0E-03	169.0E-03	172.0E-03	171.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	171.0E-03	168.0E-03	170.0E-03
Statistics												
Min	169.0E-03	168.0E-03	169.0E-03	172.0E-03	171.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
Max	169.0E-03	169.0E-03	170.0E-03	173.0E-03	171.0E-03	173.0E-03	173.0E-03	174.0E-03	170.0E-03	171.0E-03	168.0E-03	170.0E-03
Average	169.0E-03	168.5E-03	169.5E-03	172.5E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	168.0E-03	169.5E-03
Sigma	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	2.0E-03	2.0E-03	3.0E-03	0.0E+00	1000.0E-06	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sBdo1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

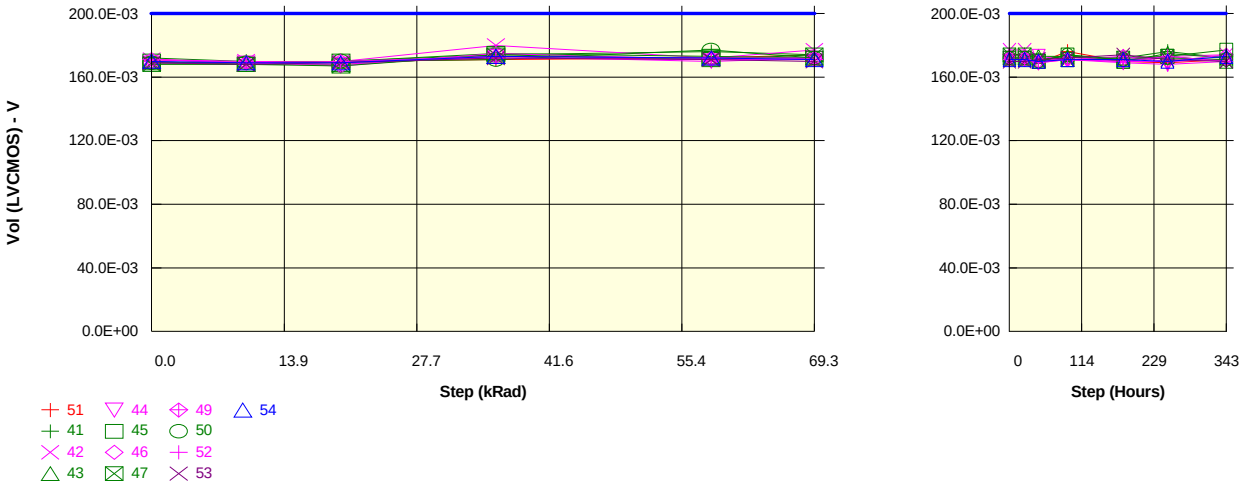
Vol (LVCMOS) sBdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	169.0E-03	174.0E-03	176.0E-03	176.0E-03	174.0E-03	171.0E-03	167.0E-03	168.0E-03	174.0E-03
ON samples												
41	170.0E-03	167.0E-03	167.0E-03	173.0E-03	175.0E-03	172.0E-03	172.0E-03	168.0E-03	176.0E-03	171.0E-03	168.0E-03	170.0E-03
42	169.0E-03	167.0E-03	167.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03	172.0E-03	173.0E-03
43	167.0E-03	166.0E-03	165.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	170.0E-03	170.0E-03	175.0E-03
44	167.0E-03	167.0E-03	166.0E-03	170.0E-03	177.0E-03	169.0E-03	169.0E-03	172.0E-03	170.0E-03	169.0E-03	170.0E-03	168.0E-03
45	167.0E-03	167.0E-03	166.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	174.0E-03	171.0E-03	170.0E-03	177.0E-03	174.0E-03
46	166.0E-03	166.0E-03	164.0E-03	172.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	171.0E-03	171.0E-03	171.0E-03
47	165.0E-03	165.0E-03	164.0E-03	171.0E-03	175.0E-03	169.0E-03	169.0E-03	167.0E-03	173.0E-03	172.0E-03	167.0E-03	173.0E-03
49	168.0E-03	167.0E-03	167.0E-03	173.0E-03	177.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03	168.0E-03	170.0E-03
50	169.0E-03	167.0E-03	168.0E-03	168.0E-03	178.0E-03	172.0E-03	172.0E-03	168.0E-03	176.0E-03	171.0E-03	175.0E-03	173.0E-03
52	169.0E-03	166.0E-03	172.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	166.0E-03	177.0E-03	173.0E-03	174.0E-03	168.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	169.0E-03	167.0E-03	168.0E-03
Max	170.0E-03	167.0E-03	172.0E-03	173.0E-03	178.0E-03	172.0E-03	172.0E-03	174.0E-03	177.0E-03	173.0E-03	177.0E-03	175.0E-03
Average	167.7E-03	166.5E-03	166.6E-03	171.2E-03	172.7E-03	169.7E-03	169.7E-03	168.7E-03	172.2E-03	170.8E-03	171.2E-03	171.5E-03
Sigma	1.5E-03	670.8E-06	2.2E-03	1.4E-03	3.8E-03	1.3E-03	1.3E-03	2.5E-03	3.0E-03	1.1E-03	3.1E-03	2.3E-03

Measurements

Vol (LVCMOS) sBdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	166.0E-03	169.0E-03	174.0E-03	176.0E-03	176.0E-03	174.0E-03	171.0E-03	167.0E-03	168.0E-03	174.0E-03
OFF samples												
53	168.0E-03	166.0E-03	168.0E-03	170.0E-03	175.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	176.0E-03	168.0E-03	167.0E-03
54	168.0E-03	167.0E-03	172.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	173.0E-03	171.0E-03	169.0E-03
Statistics												
Min	168.0E-03	166.0E-03	168.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	173.0E-03	168.0E-03	167.0E-03
Max	168.0E-03	167.0E-03	172.0E-03	170.0E-03	175.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	176.0E-03	171.0E-03	169.0E-03
Average	168.0E-03	166.5E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03	167.5E-03	168.5E-03	174.5E-03	169.5E-03	168.0E-03
Sigma	0.0E+00	500.0E-06	2.0E-03	0.0E+00	3.0E-03	0.0E+00	0.0E+00	500.0E-06	500.0E-06	1.5E-03	1.5E-03	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sBdo0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

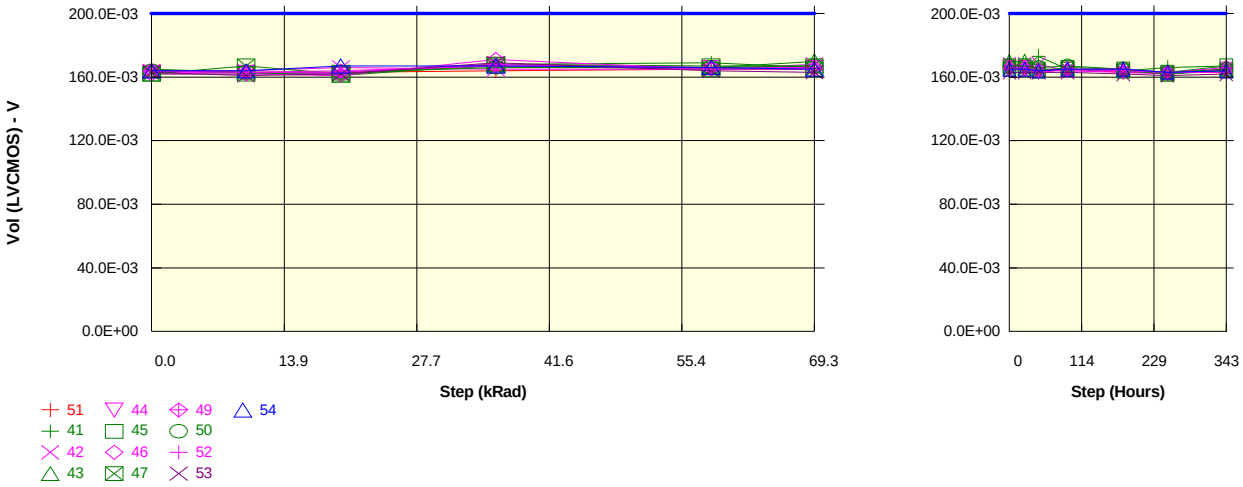
Vol (LVCMOS) sBdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	170.0E-03	171.0E-03	172.0E-03	174.0E-03	174.0E-03	169.0E-03	176.0E-03	170.0E-03	169.0E-03	171.0E-03
ON samples												
41	172.0E-03	170.0E-03	170.0E-03	174.0E-03	176.0E-03	174.0E-03	174.0E-03	171.0E-03	173.0E-03	172.0E-03	176.0E-03	172.0E-03
42	171.0E-03	170.0E-03	170.0E-03	180.0E-03	172.0E-03	177.0E-03	177.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03	174.0E-03
43	169.0E-03	168.0E-03	168.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	173.0E-03	173.0E-03	170.0E-03	175.0E-03	172.0E-03
44	169.0E-03	169.0E-03	168.0E-03	173.0E-03	170.0E-03	172.0E-03	172.0E-03	173.0E-03	171.0E-03	169.0E-03	168.0E-03	170.0E-03
45	170.0E-03	168.0E-03	170.0E-03	175.0E-03	173.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	170.0E-03	173.0E-03	177.0E-03
46	169.0E-03	169.0E-03	167.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	174.0E-03
47	168.0E-03	168.0E-03	167.0E-03	174.0E-03	171.0E-03	174.0E-03	174.0E-03	170.0E-03	171.0E-03	172.0E-03	173.0E-03	170.0E-03
49	171.0E-03	169.0E-03	170.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	173.0E-03	170.0E-03	171.0E-03
50	169.0E-03	169.0E-03	170.0E-03	171.0E-03	177.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	171.0E-03	172.0E-03	171.0E-03
52	171.0E-03	169.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	173.0E-03	170.0E-03
Statistics												
Min	168.0E-03	168.0E-03	167.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	169.0E-03	168.0E-03	170.0E-03
Max	172.0E-03	170.0E-03	170.0E-03	180.0E-03	177.0E-03	177.0E-03	177.0E-03	173.0E-03	174.0E-03	173.0E-03	176.0E-03	177.0E-03
Average	169.9E-03	168.9E-03	169.0E-03	174.0E-03	172.5E-03	172.7E-03	172.7E-03	170.6E-03	172.0E-03	170.8E-03	172.3E-03	172.1E-03
Sigma	1.2E-03	700.0E-06	1.3E-03	2.3E-03	2.2E-03	1.7E-03	1.7E-03	1.4E-03	1.3E-03	1.2E-03	2.3E-03	2.2E-03

Measurements

Vol (LVCMOS) sBdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	170.0E-03	171.0E-03	172.0E-03	174.0E-03	174.0E-03	169.0E-03	176.0E-03	170.0E-03	169.0E-03	171.0E-03
OFF samples												
53	169.0E-03	168.0E-03	169.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	171.0E-03	172.0E-03	174.0E-03	171.0E-03	170.0E-03
54	170.0E-03	169.0E-03	169.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	173.0E-03
Statistics												
Min	169.0E-03	168.0E-03	169.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03
Max	170.0E-03	169.0E-03	169.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	174.0E-03	171.0E-03	173.0E-03
Average	169.5E-03	168.5E-03	169.0E-03	172.5E-03	171.5E-03	170.5E-03	170.5E-03	170.5E-03	171.5E-03	172.5E-03	170.5E-03	171.5E-03
Sigma	500.0E-06	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.5E-03	500.0E-06	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sCdo3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

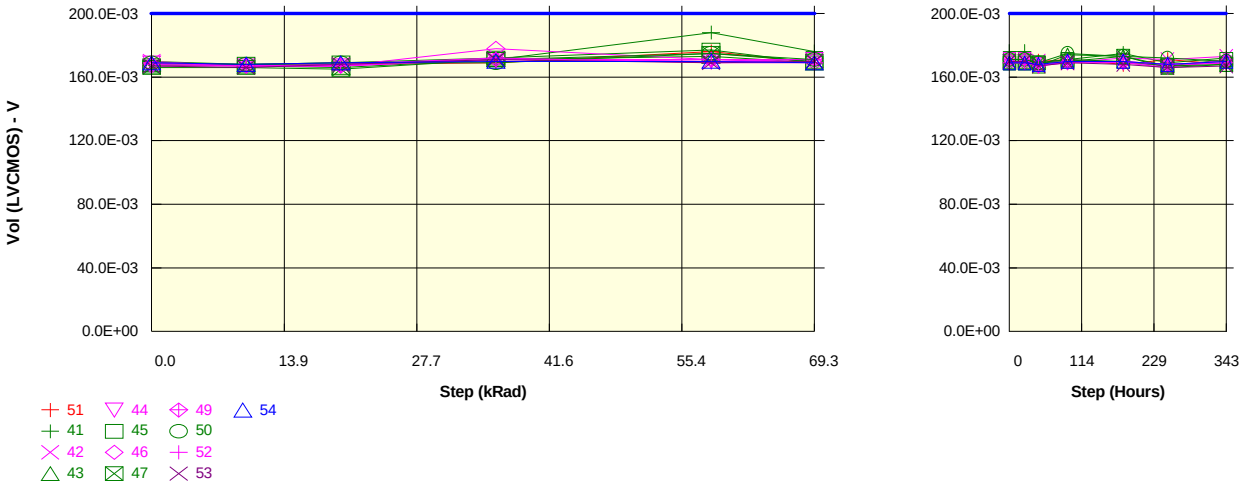
Vol (LVCMOS) sCdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	164.0E-03	163.0E-03	163.0E-03	164.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03	163.0E-03	163.0E-03	163.0E-03
ON samples												
41	165.0E-03	163.0E-03	163.0E-03	168.0E-03	169.0E-03	166.0E-03	166.0E-03	173.0E-03	165.0E-03	164.0E-03	166.0E-03	167.0E-03
42	164.0E-03	164.0E-03	166.0E-03	165.0E-03	165.0E-03	168.0E-03	168.0E-03	168.0E-03	164.0E-03	164.0E-03	163.0E-03	165.0E-03
43	164.0E-03	163.0E-03	161.0E-03	168.0E-03	166.0E-03	170.0E-03	170.0E-03	164.0E-03	165.0E-03	164.0E-03	162.0E-03	165.0E-03
44	163.0E-03	163.0E-03	162.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	164.0E-03	165.0E-03	164.0E-03	162.0E-03	165.0E-03
45	162.0E-03	162.0E-03	163.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	164.0E-03	166.0E-03	165.0E-03	163.0E-03	167.0E-03
46	162.0E-03	162.0E-03	161.0E-03	171.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	164.0E-03	163.0E-03	162.0E-03	165.0E-03
47	162.0E-03	167.0E-03	162.0E-03	167.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	162.0E-03	164.0E-03
49	164.0E-03	163.0E-03	164.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	164.0E-03	165.0E-03	164.0E-03	163.0E-03	166.0E-03
50	164.0E-03	163.0E-03	163.0E-03	166.0E-03	166.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	165.0E-03	163.0E-03	165.0E-03
52	164.0E-03	163.0E-03	163.0E-03	168.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03	165.0E-03	163.0E-03	163.0E-03
Statistics												
Min	162.0E-03	162.0E-03	161.0E-03	165.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	164.0E-03	163.0E-03	162.0E-03	163.0E-03
Max	165.0E-03	167.0E-03	166.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	173.0E-03	167.0E-03	165.0E-03	166.0E-03	167.0E-03
Average	163.4E-03	163.3E-03	162.8E-03	167.6E-03	166.0E-03	166.5E-03	166.5E-03	165.5E-03	165.1E-03	164.2E-03	162.9E-03	165.2E-03
Sigma	1.0E-03	1.3E-03	1.4E-03	1.5E-03	1.2E-03	1.5E-03	1.5E-03	2.8E-03	830.7E-06	600.0E-06	1.1E-03	1.2E-03

Measurements

Vol (LVCMOS) sCdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	164.0E-03	163.0E-03	163.0E-03	164.0E-03	165.0E-03	165.0E-03	165.0E-03	163.0E-03	165.0E-03	163.0E-03	163.0E-03	163.0E-03
OFF samples												
53	163.0E-03	161.0E-03	162.0E-03	169.0E-03	164.0E-03	163.0E-03	163.0E-03	163.0E-03	163.0E-03	162.0E-03	161.0E-03	162.0E-03
54	164.0E-03	164.0E-03	167.0E-03	167.0E-03	166.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	163.0E-03	164.0E-03
Statistics												
Min	163.0E-03	161.0E-03	162.0E-03	167.0E-03	164.0E-03	163.0E-03	163.0E-03	163.0E-03	163.0E-03	162.0E-03	161.0E-03	162.0E-03
Max	164.0E-03	164.0E-03	167.0E-03	169.0E-03	166.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	163.0E-03	164.0E-03
Average	163.5E-03	162.5E-03	164.5E-03	168.0E-03	165.0E-03	164.0E-03	164.0E-03	163.5E-03	164.0E-03	163.5E-03	162.0E-03	163.0E-03
Sigma	500.0E-06	1.5E-03	2.5E-03	1.0E-03	1.0E-03	1000.0E-06	1000.0E-06	500.0E-06	1000.0E-06	1.5E-03	1.0E-03	1000.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sCdo2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

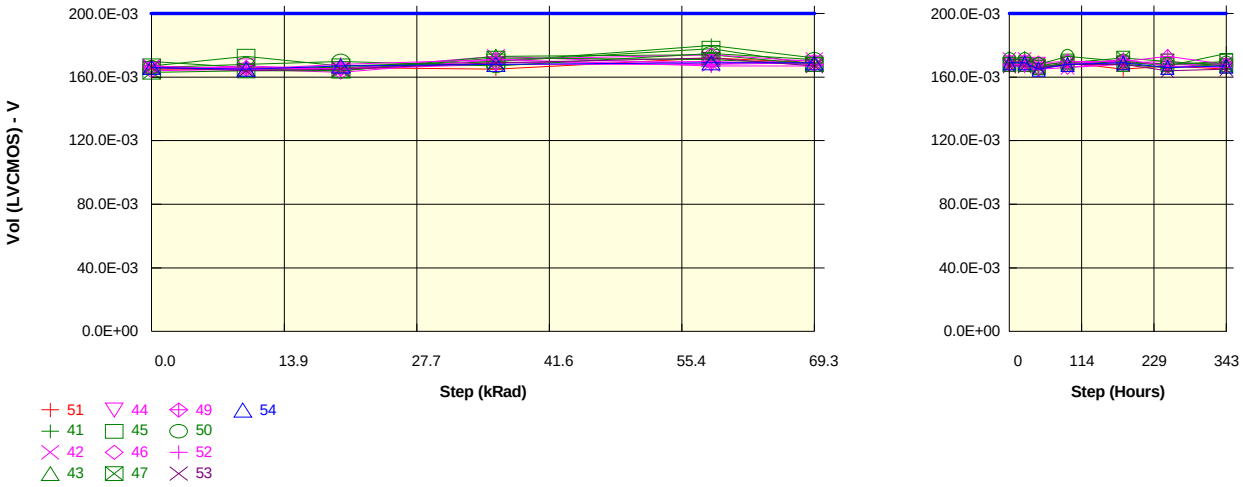
Vol (LVCMOS) sCdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	168.0E-03	169.0E-03	176.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03	168.0E-03	171.0E-03	168.0E-03
ON samples												
41	170.0E-03	168.0E-03	168.0E-03	171.0E-03	188.0E-03	176.0E-03	176.0E-03	169.0E-03	171.0E-03	175.0E-03	169.0E-03	172.0E-03
42	170.0E-03	167.0E-03	167.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	172.0E-03	171.0E-03	173.0E-03
43	168.0E-03	167.0E-03	166.0E-03	171.0E-03	173.0E-03	169.0E-03	169.0E-03	167.0E-03	174.0E-03	173.0E-03	166.0E-03	168.0E-03
44	169.0E-03	167.0E-03	167.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	171.0E-03	169.0E-03	167.0E-03	169.0E-03
45	167.0E-03	168.0E-03	169.0E-03	172.0E-03	177.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03	170.0E-03	167.0E-03	171.0E-03
46	167.0E-03	167.0E-03	167.0E-03	178.0E-03	171.0E-03	169.0E-03	169.0E-03	167.0E-03	170.0E-03	169.0E-03	166.0E-03	171.0E-03
47	166.0E-03	166.0E-03	165.0E-03	171.0E-03	175.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	173.0E-03	167.0E-03	168.0E-03
49	168.0E-03	167.0E-03	167.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	167.0E-03	169.0E-03	170.0E-03	168.0E-03	170.0E-03
50	169.0E-03	168.0E-03	169.0E-03	169.0E-03	175.0E-03	171.0E-03	171.0E-03	169.0E-03	175.0E-03	173.0E-03	172.0E-03	170.0E-03
52	169.0E-03	167.0E-03	168.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03
Statistics												
Min	166.0E-03	166.0E-03	165.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	169.0E-03	166.0E-03	168.0E-03
Max	170.0E-03	168.0E-03	169.0E-03	178.0E-03	188.0E-03	176.0E-03	176.0E-03	170.0E-03	175.0E-03	175.0E-03	172.0E-03	173.0E-03
Average	168.3E-03	167.2E-03	167.3E-03	171.8E-03	173.9E-03	170.5E-03	170.5E-03	168.2E-03	171.0E-03	171.4E-03	168.1E-03	170.1E-03
Sigma	1.3E-03	600.0E-06	1.2E-03	2.2E-03	5.3E-03	2.0E-03	2.0E-03	1.1E-03	1.9E-03	2.0E-03	1.9E-03	1.6E-03

Measurements

Vol (LVCMOS) sCdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	168.0E-03	169.0E-03	176.0E-03	169.0E-03	169.0E-03	170.0E-03	171.0E-03	168.0E-03	171.0E-03	168.0E-03
OFF samples												
53	167.0E-03	166.0E-03	168.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
54	169.0E-03	168.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03
Statistics												
Min	167.0E-03	166.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
Max	169.0E-03	168.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03
Average	168.0E-03	167.0E-03	168.5E-03	170.5E-03	169.5E-03	169.5E-03	169.5E-03	167.5E-03	169.5E-03	169.0E-03	167.0E-03	168.5E-03
Sigma	1.0E-03	1.0E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.0E-03	1.0E-03	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sCdo1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

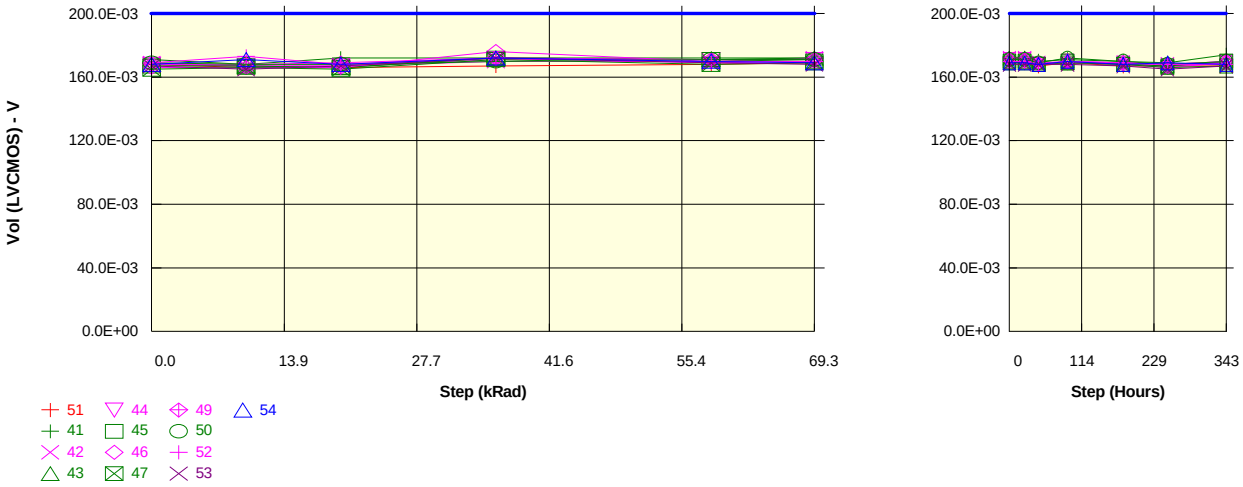
Vol (LVCMOS) sCdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	165.0E-03	165.0E-03	166.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	165.0E-03	169.0E-03	165.0E-03	167.0E-03	165.0E-03
ON samples												
41	170.0E-03	166.0E-03	166.0E-03	170.0E-03	180.0E-03	172.0E-03	172.0E-03	167.0E-03	168.0E-03	170.0E-03	167.0E-03	175.0E-03
42	167.0E-03	165.0E-03	165.0E-03	173.0E-03	168.0E-03	171.0E-03	171.0E-03	168.0E-03	166.0E-03	168.0E-03	166.0E-03	169.0E-03
43	166.0E-03	165.0E-03	164.0E-03	173.0E-03	174.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03
44	165.0E-03	167.0E-03	165.0E-03	168.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	170.0E-03	167.0E-03
45	167.0E-03	173.0E-03	167.0E-03	170.0E-03	178.0E-03	168.0E-03	168.0E-03	167.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
46	164.0E-03	165.0E-03	163.0E-03	171.0E-03	174.0E-03	170.0E-03	170.0E-03	165.0E-03	166.0E-03	170.0E-03	168.0E-03	168.0E-03
47	163.0E-03	164.0E-03	164.0E-03	172.0E-03	171.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03	172.0E-03	170.0E-03	167.0E-03
49	166.0E-03	166.0E-03	165.0E-03	169.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03	170.0E-03	173.0E-03	168.0E-03
50	166.0E-03	168.0E-03	170.0E-03	167.0E-03	175.0E-03	171.0E-03	171.0E-03	168.0E-03	173.0E-03	170.0E-03	168.0E-03	169.0E-03
52	167.0E-03	165.0E-03	168.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	168.0E-03	171.0E-03	167.0E-03	166.0E-03
Statistics												
Min	163.0E-03	164.0E-03	163.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	166.0E-03	168.0E-03	166.0E-03	166.0E-03
Max	170.0E-03	173.0E-03	170.0E-03	173.0E-03	180.0E-03	172.0E-03	172.0E-03	169.0E-03	173.0E-03	172.0E-03	173.0E-03	175.0E-03
Average	166.1E-03	166.4E-03	165.7E-03	170.4E-03	172.5E-03	169.2E-03	169.2E-03	166.9E-03	168.7E-03	169.7E-03	168.3E-03	168.7E-03
Sigma	1.8E-03	2.5E-03	2.0E-03	1.9E-03	4.2E-03	1.6E-03	1.6E-03	1.3E-03	2.0E-03	1.2E-03	2.1E-03	2.4E-03

Measurements

Vol (LVCMOS) sCdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	165.0E-03	165.0E-03	166.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	165.0E-03	169.0E-03	165.0E-03	167.0E-03	165.0E-03
OFF samples												
53	166.0E-03	164.0E-03	165.0E-03	169.0E-03	172.0E-03	167.0E-03	167.0E-03	166.0E-03	168.0E-03	168.0E-03	164.0E-03	165.0E-03
54	166.0E-03	165.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	165.0E-03	168.0E-03	169.0E-03	166.0E-03	167.0E-03
Statistics												
Min	166.0E-03	164.0E-03	165.0E-03	168.0E-03	169.0E-03	167.0E-03	167.0E-03	165.0E-03	168.0E-03	168.0E-03	164.0E-03	165.0E-03
Max	166.0E-03	165.0E-03	167.0E-03	169.0E-03	172.0E-03	169.0E-03	169.0E-03	166.0E-03	168.0E-03	169.0E-03	166.0E-03	167.0E-03
Average	166.0E-03	164.5E-03	166.0E-03	168.5E-03	170.5E-03	168.0E-03	168.0E-03	165.5E-03	168.0E-03	168.5E-03	165.0E-03	166.0E-03
Sigma	0.0E+00	500.0E-06	1000.0E-06	500.0E-06	1.5E-03	1.0E-03	1.0E-03	500.0E-06	0.0E+00	500.0E-06	1.0E-03	1000.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sCdo0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

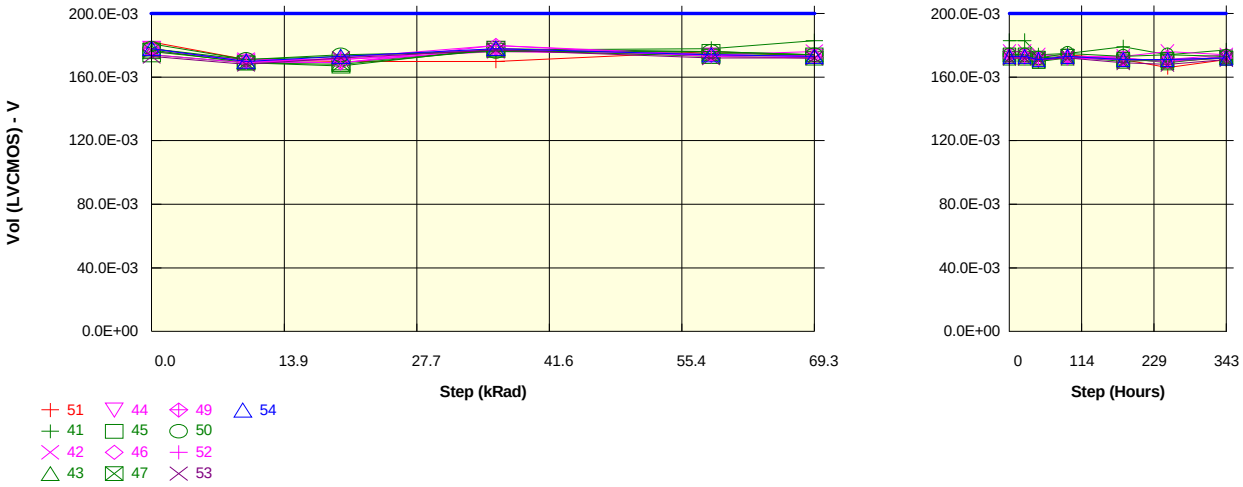
Vol (LVCMOS) sCdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	167.0E-03	167.0E-03	167.0E-03
ON samples												
41	171.0E-03	168.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	174.0E-03
42	169.0E-03	167.0E-03	167.0E-03	170.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03
43	168.0E-03	167.0E-03	166.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	169.0E-03	168.0E-03	167.0E-03	169.0E-03
44	168.0E-03	167.0E-03	167.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	169.0E-03	167.0E-03	169.0E-03
45	167.0E-03	167.0E-03	166.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	168.0E-03	167.0E-03	170.0E-03
46	166.0E-03	166.0E-03	166.0E-03	176.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	169.0E-03
47	165.0E-03	166.0E-03	165.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
49	168.0E-03	168.0E-03	169.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
50	169.0E-03	168.0E-03	168.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	170.0E-03	168.0E-03	170.0E-03
52	169.0E-03	173.0E-03	168.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	169.0E-03	168.0E-03	168.0E-03
Statistics												
Min	165.0E-03	166.0E-03	165.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	169.0E-03	168.0E-03	166.0E-03	167.0E-03
Max	171.0E-03	173.0E-03	172.0E-03	176.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03	169.0E-03	174.0E-03
Average	168.0E-03	167.7E-03	167.4E-03	171.8E-03	170.4E-03	170.8E-03	170.8E-03	168.6E-03	169.9E-03	168.8E-03	167.4E-03	169.6E-03
Sigma	1.6E-03	1.9E-03	1.9E-03	1.6E-03	1.1E-03	979.8E-06	979.8E-06	663.3E-06	943.4E-06	748.3E-06	916.5E-06	1.7E-03

Measurements

Vol (LVCMOS) sCdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	166.0E-03	167.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03	167.0E-03	167.0E-03	167.0E-03
OFF samples												
53	167.0E-03	165.0E-03	167.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
54	168.0E-03	171.0E-03	168.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03
Statistics												
Min	167.0E-03	165.0E-03	167.0E-03	172.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
Max	168.0E-03	171.0E-03	168.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	168.0E-03	169.0E-03	168.0E-03
Average	167.5E-03	168.0E-03	167.5E-03	172.0E-03	169.5E-03	168.5E-03	168.5E-03	168.0E-03	169.0E-03	167.5E-03	167.0E-03	167.5E-03
Sigma	500.0E-06	3.0E-03	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	0.0E+00	1.0E-03	500.0E-06	2.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sDdo3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

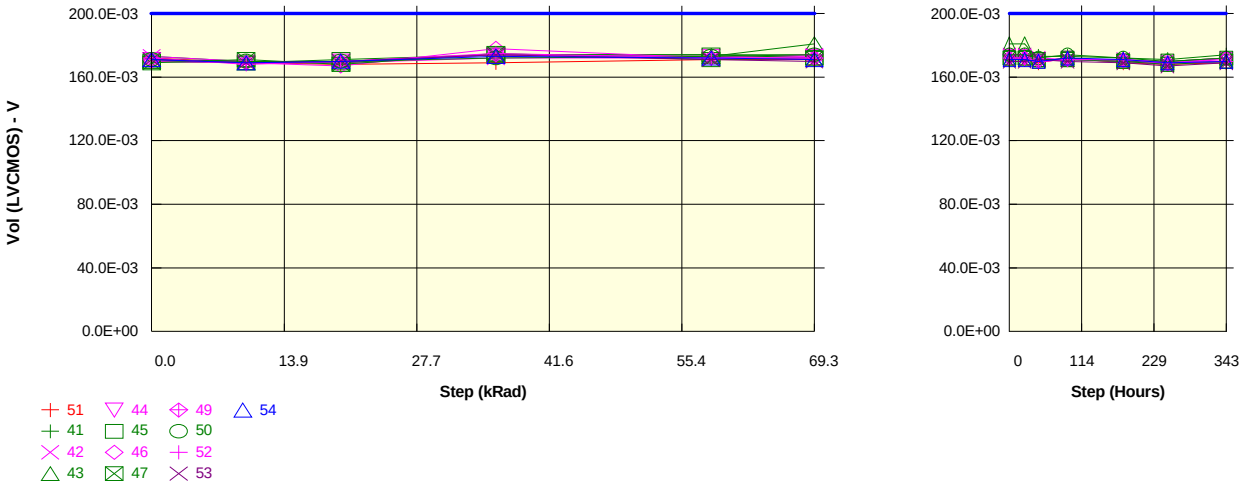
Vol (LVCMOS) sDdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	182.0E-03	171.0E-03	170.0E-03	170.0E-03	176.0E-03	173.0E-03	173.0E-03	170.0E-03	174.0E-03	171.0E-03	166.0E-03	171.0E-03
ON samples												
41	181.0E-03	171.0E-03	173.0E-03	177.0E-03	178.0E-03	183.0E-03	183.0E-03	174.0E-03	175.0E-03	179.0E-03	174.0E-03	177.0E-03
42	176.0E-03	171.0E-03	171.0E-03	176.0E-03	174.0E-03	176.0E-03	176.0E-03	174.0E-03	173.0E-03	173.0E-03	176.0E-03	174.0E-03
43	176.0E-03	170.0E-03	169.0E-03	177.0E-03	175.0E-03	174.0E-03	174.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	173.0E-03
44	178.0E-03	170.0E-03	169.0E-03	178.0E-03	174.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	172.0E-03	170.0E-03	172.0E-03
45	174.0E-03	169.0E-03	167.0E-03	178.0E-03	176.0E-03	174.0E-03	174.0E-03	170.0E-03	173.0E-03	171.0E-03	170.0E-03	172.0E-03
46	178.0E-03	170.0E-03	169.0E-03	180.0E-03	174.0E-03	173.0E-03	173.0E-03	171.0E-03	172.0E-03	171.0E-03	170.0E-03	173.0E-03
47	177.0E-03	169.0E-03	168.0E-03	177.0E-03	173.0E-03	172.0E-03	172.0E-03	172.0E-03	173.0E-03	170.0E-03	171.0E-03	172.0E-03
49	178.0E-03	170.0E-03	171.0E-03	178.0E-03	174.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	171.0E-03	171.0E-03	174.0E-03
50	178.0E-03	171.0E-03	174.0E-03	176.0E-03	176.0E-03	174.0E-03	174.0E-03	172.0E-03	175.0E-03	173.0E-03	174.0E-03	173.0E-03
52	174.0E-03	169.0E-03	172.0E-03	180.0E-03	173.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	171.0E-03	171.0E-03	172.0E-03
Statistics												
Min	174.0E-03	169.0E-03	167.0E-03	176.0E-03	173.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03	169.0E-03	172.0E-03
Max	181.0E-03	171.0E-03	174.0E-03	180.0E-03	178.0E-03	183.0E-03	183.0E-03	174.0E-03	175.0E-03	179.0E-03	176.0E-03	177.0E-03
Average	177.0E-03	170.0E-03	170.3E-03	177.7E-03	174.7E-03	174.4E-03	174.4E-03	171.6E-03	173.1E-03	172.3E-03	171.6E-03	173.2E-03
Sigma	2.0E-03	774.6E-06	2.1E-03	1.3E-03	1.5E-03	3.1E-03	3.1E-03	1.4E-03	1.0E-03	2.4E-03	2.2E-03	1.5E-03

Measurements

Vol (LVCMOS) sDdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	182.0E-03	171.0E-03	170.0E-03	170.0E-03	176.0E-03	173.0E-03	173.0E-03	170.0E-03	174.0E-03	171.0E-03	166.0E-03	171.0E-03
OFF samples												
53	173.0E-03	168.0E-03	172.0E-03	177.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	169.0E-03	168.0E-03	171.0E-03
54	178.0E-03	170.0E-03	173.0E-03	178.0E-03	174.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	171.0E-03	171.0E-03	172.0E-03
Statistics												
Min	173.0E-03	168.0E-03	172.0E-03	177.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	169.0E-03	168.0E-03	171.0E-03
Max	178.0E-03	170.0E-03	173.0E-03	178.0E-03	174.0E-03	173.0E-03	173.0E-03	171.0E-03	173.0E-03	171.0E-03	171.0E-03	172.0E-03
Average	175.5E-03	169.0E-03	172.5E-03	177.5E-03	173.0E-03	172.5E-03	172.5E-03	171.0E-03	172.5E-03	170.0E-03	169.5E-03	171.5E-03
Sigma	2.5E-03	1.0E-03	500.0E-06	500.0E-06	1000.0E-06	500.0E-06	500.0E-06	0.0E+00	500.0E-06	1000.0E-06	1.5E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sDdo2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

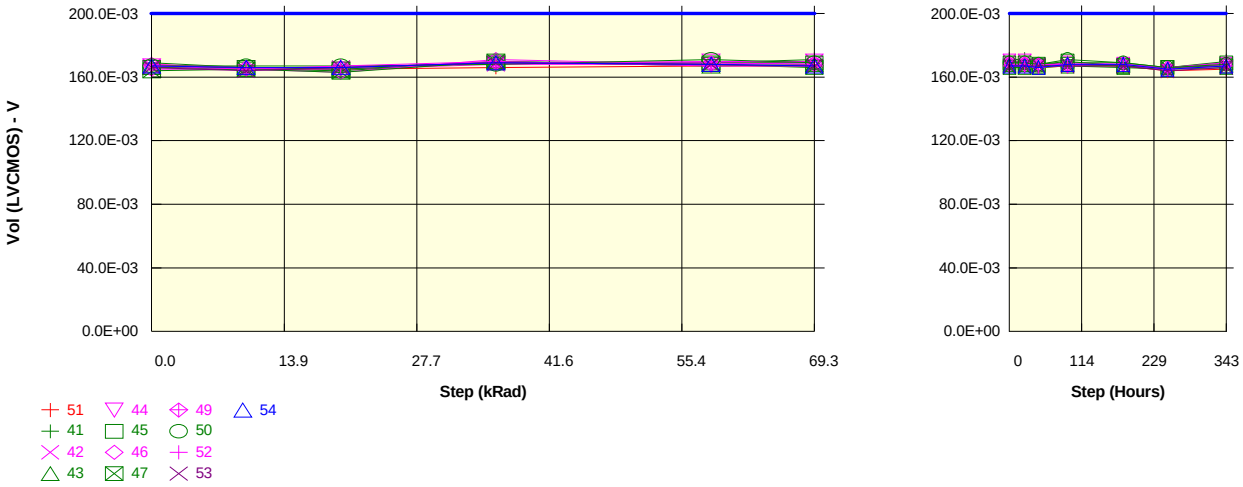
Vol (LVCMOS) sDdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	169.0E-03	168.0E-03	169.0E-03
ON samples												
41	173.0E-03	170.0E-03	170.0E-03	174.0E-03	174.0E-03	174.0E-03	174.0E-03	173.0E-03	173.0E-03	172.0E-03	171.0E-03	174.0E-03
42	173.0E-03	170.0E-03	169.0E-03	172.0E-03	172.0E-03	174.0E-03	174.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03
43	170.0E-03	169.0E-03	169.0E-03	174.0E-03	173.0E-03	181.0E-03	181.0E-03	171.0E-03	171.0E-03	170.0E-03	169.0E-03	170.0E-03
44	171.0E-03	169.0E-03	170.0E-03	174.0E-03	173.0E-03	173.0E-03	173.0E-03	170.0E-03	172.0E-03	170.0E-03	169.0E-03	171.0E-03
45	170.0E-03	169.0E-03	171.0E-03	174.0E-03	174.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03	172.0E-03
46	170.0E-03	169.0E-03	167.0E-03	178.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	170.0E-03	168.0E-03	172.0E-03
47	169.0E-03	171.0E-03	168.0E-03	175.0E-03	171.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	168.0E-03	170.0E-03
49	171.0E-03	169.0E-03	170.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03
50	171.0E-03	170.0E-03	170.0E-03	172.0E-03	173.0E-03	174.0E-03	174.0E-03	172.0E-03	174.0E-03	172.0E-03	170.0E-03	172.0E-03
52	172.0E-03	168.0E-03	170.0E-03	175.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
Statistics												
Min	169.0E-03	168.0E-03	167.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	170.0E-03	168.0E-03	170.0E-03
Max	173.0E-03	171.0E-03	171.0E-03	178.0E-03	174.0E-03	181.0E-03	181.0E-03	173.0E-03	174.0E-03	172.0E-03	171.0E-03	174.0E-03
Average	171.0E-03	169.4E-03	169.4E-03	174.2E-03	172.6E-03	173.6E-03	173.6E-03	170.9E-03	171.7E-03	170.7E-03	169.3E-03	171.5E-03
Sigma	1.3E-03	800.0E-06	1.1E-03	1.6E-03	916.5E-06	2.6E-03	2.6E-03	1.0E-03	1.0E-03	781.0E-06	900.0E-06	1.2E-03

Measurements

Vol (LVCMOS) sDdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	169.0E-03	168.0E-03	169.0E-03
OFF samples												
53	171.0E-03	169.0E-03	170.0E-03	174.0E-03	171.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	167.0E-03	169.0E-03
54	171.0E-03	169.0E-03	170.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03	171.0E-03	169.0E-03	170.0E-03
Statistics												
Min	171.0E-03	169.0E-03	170.0E-03	173.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	167.0E-03	169.0E-03
Max	171.0E-03	169.0E-03	170.0E-03	174.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	171.0E-03	169.0E-03	170.0E-03
Average	171.0E-03	169.0E-03	170.0E-03	173.5E-03	171.5E-03	170.5E-03	170.5E-03	170.5E-03	171.0E-03	170.0E-03	168.0E-03	169.5E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.0E-03	1000.0E-06	1.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sDdo1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

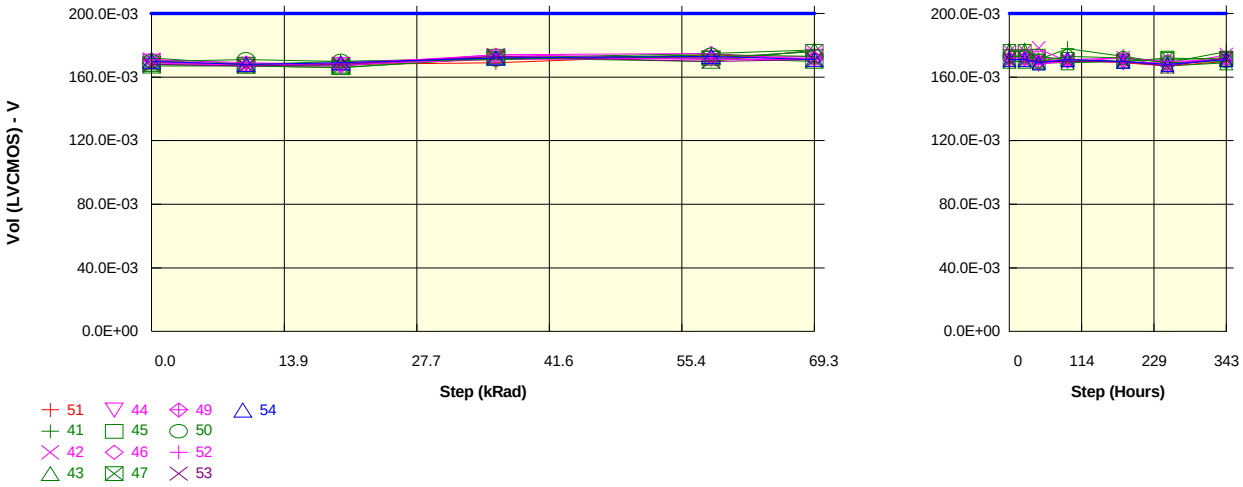
Vol (LVCMOS) sDdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	165.0E-03	165.0E-03	166.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	164.0E-03	165.0E-03
ON samples												
41	169.0E-03	166.0E-03	166.0E-03	169.0E-03	169.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	166.0E-03	170.0E-03
42	167.0E-03	165.0E-03	165.0E-03	168.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	167.0E-03	165.0E-03	168.0E-03
43	166.0E-03	165.0E-03	164.0E-03	170.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03	166.0E-03	165.0E-03	166.0E-03
44	167.0E-03	166.0E-03	165.0E-03	169.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	168.0E-03	166.0E-03	168.0E-03
45	166.0E-03	166.0E-03	165.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	167.0E-03	166.0E-03	169.0E-03
46	165.0E-03	165.0E-03	163.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	168.0E-03	165.0E-03	168.0E-03
47	164.0E-03	165.0E-03	163.0E-03	170.0E-03	168.0E-03	166.0E-03	166.0E-03	167.0E-03	168.0E-03	167.0E-03	166.0E-03	167.0E-03
49	168.0E-03	166.0E-03	166.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03
50	167.0E-03	167.0E-03	167.0E-03	168.0E-03	171.0E-03	169.0E-03	169.0E-03	168.0E-03	171.0E-03	169.0E-03	166.0E-03	168.0E-03
52	167.0E-03	165.0E-03	167.0E-03	170.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	168.0E-03	168.0E-03	165.0E-03	167.0E-03
Statistics												
Min	164.0E-03	165.0E-03	163.0E-03	168.0E-03	167.0E-03	166.0E-03	166.0E-03	166.0E-03	167.0E-03	166.0E-03	165.0E-03	166.0E-03
Max	169.0E-03	167.0E-03	167.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	171.0E-03	169.0E-03	166.0E-03	170.0E-03
Average	166.6E-03	165.6E-03	165.1E-03	169.3E-03	168.6E-03	168.7E-03	168.7E-03	167.3E-03	168.5E-03	167.7E-03	165.6E-03	168.0E-03
Sigma	1.4E-03	663.3E-06	1.4E-03	900.0E-06	1.2E-03	1.4E-03	1.4E-03	781.0E-06	1.2E-03	900.0E-06	489.9E-06	1.1E-03

Measurements

Vol (LVCMOS) sDdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	165.0E-03	165.0E-03	166.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	164.0E-03	165.0E-03
OFF samples												
53	166.0E-03	164.0E-03	166.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	164.0E-03	166.0E-03
54	167.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	168.0E-03	168.0E-03	165.0E-03	167.0E-03
Statistics												
Min	166.0E-03	164.0E-03	166.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	167.0E-03	164.0E-03	166.0E-03
Max	167.0E-03	166.0E-03	166.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	168.0E-03	165.0E-03	167.0E-03
Average	166.5E-03	165.0E-03	166.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	166.5E-03	167.5E-03	167.5E-03	164.5E-03	166.5E-03
Sigma	500.0E-06	1.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sDdo0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

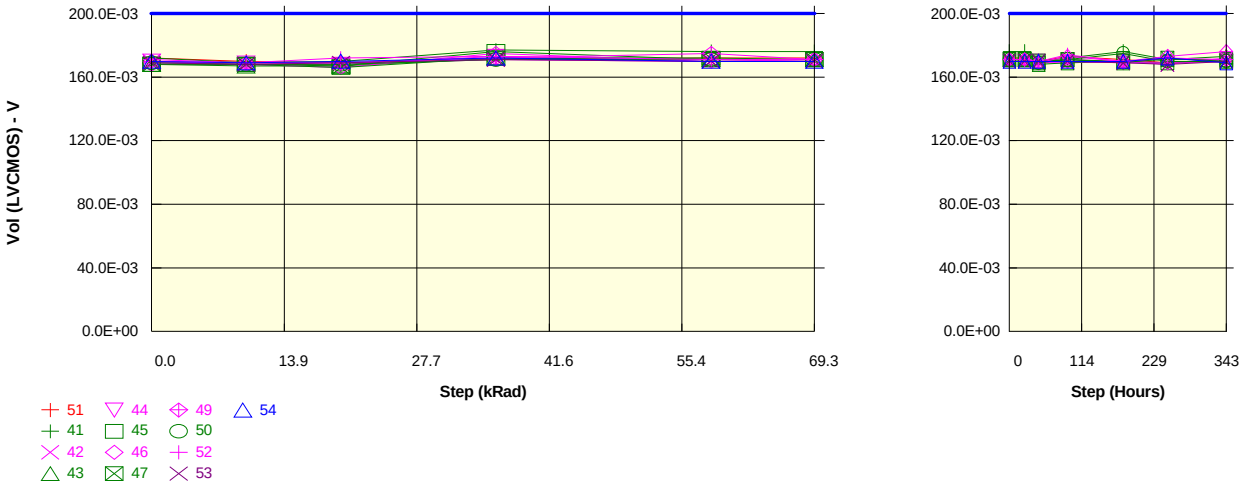
Vol (LVCMOS) sDdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	168.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	169.0E-03	167.0E-03	170.0E-03
ON samples												
41	172.0E-03	168.0E-03	170.0E-03	172.0E-03	175.0E-03	177.0E-03	177.0E-03	171.0E-03	178.0E-03	173.0E-03	169.0E-03	176.0E-03
42	171.0E-03	167.0E-03	168.0E-03	174.0E-03	172.0E-03	176.0E-03	176.0E-03	178.0E-03	170.0E-03	172.0E-03	167.0E-03	174.0E-03
43	168.0E-03	167.0E-03	166.0E-03	172.0E-03	170.0E-03	177.0E-03	177.0E-03	169.0E-03	169.0E-03	170.0E-03	167.0E-03	169.0E-03
44	170.0E-03	168.0E-03	168.0E-03	172.0E-03	172.0E-03	173.0E-03	173.0E-03	172.0E-03	171.0E-03	169.0E-03	169.0E-03	171.0E-03
45	169.0E-03	168.0E-03	167.0E-03	173.0E-03	172.0E-03	176.0E-03	176.0E-03	173.0E-03	171.0E-03	170.0E-03	171.0E-03	172.0E-03
46	169.0E-03	167.0E-03	167.0E-03	174.0E-03	175.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	172.0E-03
47	167.0E-03	167.0E-03	166.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	172.0E-03	171.0E-03
49	171.0E-03	169.0E-03	168.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	172.0E-03	170.0E-03	171.0E-03
50	170.0E-03	171.0E-03	170.0E-03	171.0E-03	174.0E-03	173.0E-03	173.0E-03	170.0E-03	173.0E-03	172.0E-03	169.0E-03	170.0E-03
52	170.0E-03	167.0E-03	169.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	171.0E-03
Statistics												
Min	167.0E-03	167.0E-03	166.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	169.0E-03
Max	172.0E-03	171.0E-03	170.0E-03	174.0E-03	175.0E-03	177.0E-03	177.0E-03	178.0E-03	178.0E-03	173.0E-03	172.0E-03	176.0E-03
Average	169.7E-03	167.9E-03	167.9E-03	172.4E-03	172.5E-03	173.6E-03	173.6E-03	171.0E-03	171.4E-03	170.8E-03	168.9E-03	171.7E-03
Sigma	1.4E-03	1.2E-03	1.4E-03	1.0E-03	1.6E-03	2.5E-03	2.5E-03	2.7E-03	2.4E-03	1.2E-03	1.6E-03	1.9E-03

Measurements

Vol (LVCMOS) sDdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	168.0E-03	169.0E-03	174.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	169.0E-03	167.0E-03	170.0E-03
OFF samples												
53	168.0E-03	167.0E-03	168.0E-03	173.0E-03	170.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	172.0E-03
54	170.0E-03	168.0E-03	169.0E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	168.0E-03	171.0E-03
Statistics												
Min	168.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	171.0E-03
Max	170.0E-03	168.0E-03	169.0E-03	173.0E-03	173.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	170.0E-03	168.0E-03	172.0E-03
Average	169.0E-03	167.5E-03	168.5E-03	172.5E-03	171.5E-03	171.0E-03	171.0E-03	169.5E-03	170.5E-03	170.0E-03	167.5E-03	171.5E-03
Sigma	1.0E-03	500.0E-06	500.0E-06	500.0E-06	1.5E-03	0.0E+00	0.0E+00	500.0E-06	500.0E-06	0.0E+00	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sEdo3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

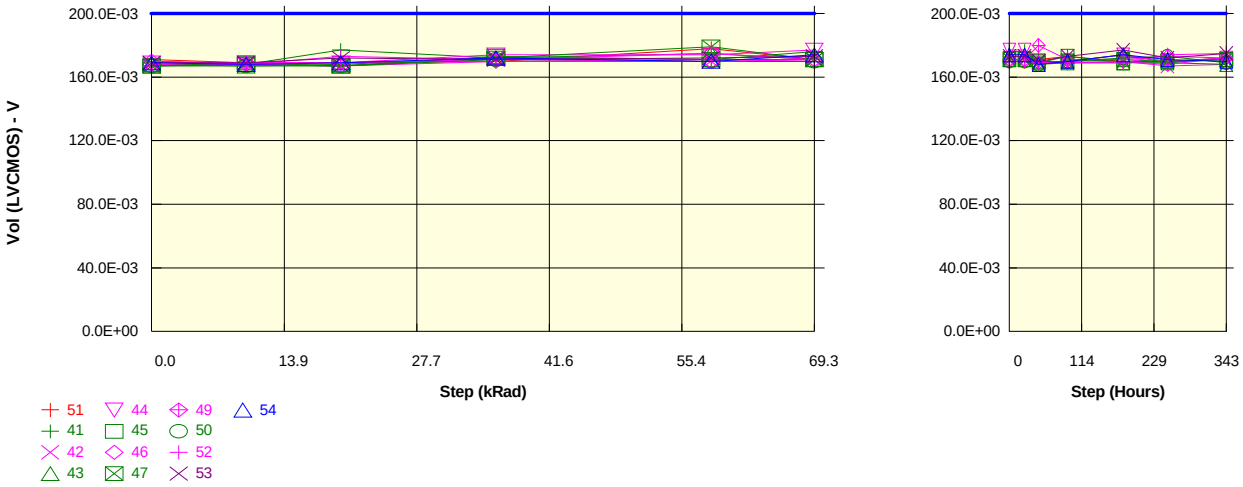
Vol (LVCMOS) sEdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	169.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	173.0E-03	171.0E-03	169.0E-03	170.0E-03
ON samples												
41	172.0E-03	169.0E-03	170.0E-03	177.0E-03	176.0E-03	176.0E-03	176.0E-03	170.0E-03	172.0E-03	176.0E-03	171.0E-03	171.0E-03
42	170.0E-03	168.0E-03	168.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	170.0E-03	168.0E-03	172.0E-03
43	168.0E-03	167.0E-03	167.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	170.0E-03	171.0E-03	173.0E-03
44	170.0E-03	169.0E-03	168.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	170.0E-03
45	168.0E-03	168.0E-03	167.0E-03	176.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	169.0E-03	171.0E-03
46	168.0E-03	168.0E-03	166.0E-03	175.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	169.0E-03	169.0E-03	171.0E-03
47	168.0E-03	168.0E-03	166.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	169.0E-03	172.0E-03	170.0E-03
49	170.0E-03	169.0E-03	169.0E-03	172.0E-03	175.0E-03	171.0E-03	171.0E-03	169.0E-03	173.0E-03	170.0E-03	173.0E-03	176.0E-03
50	169.0E-03	168.0E-03	168.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	175.0E-03	170.0E-03	170.0E-03
52	171.0E-03	169.0E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	174.0E-03	170.0E-03	172.0E-03	171.0E-03
Statistics												
Min	168.0E-03	167.0E-03	166.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03
Max	172.0E-03	169.0E-03	172.0E-03	177.0E-03	176.0E-03	176.0E-03	176.0E-03	170.0E-03	174.0E-03	176.0E-03	173.0E-03	176.0E-03
Average	169.4E-03	168.3E-03	168.1E-03	173.2E-03	171.8E-03	171.5E-03	171.5E-03	169.3E-03	171.1E-03	170.9E-03	170.4E-03	171.5E-03
Sigma	1.4E-03	640.3E-06	1.8E-03	2.0E-03	1.9E-03	1.5E-03	1.5E-03	640.3E-06	1.5E-03	2.3E-03	1.6E-03	1.7E-03

Measurements

Vol (LVCMOS) sEdo3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	169.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	173.0E-03	171.0E-03	169.0E-03	170.0E-03
OFF samples												
53	169.0E-03	168.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03	170.0E-03
54	170.0E-03	169.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	169.0E-03
Statistics												
Min	169.0E-03	168.0E-03	169.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	168.0E-03	169.0E-03
Max	170.0E-03	169.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03
Average	169.5E-03	168.5E-03	169.5E-03	171.5E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.5E-03	170.0E-03	169.5E-03
Sigma	500.0E-06	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	2.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sEdo2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

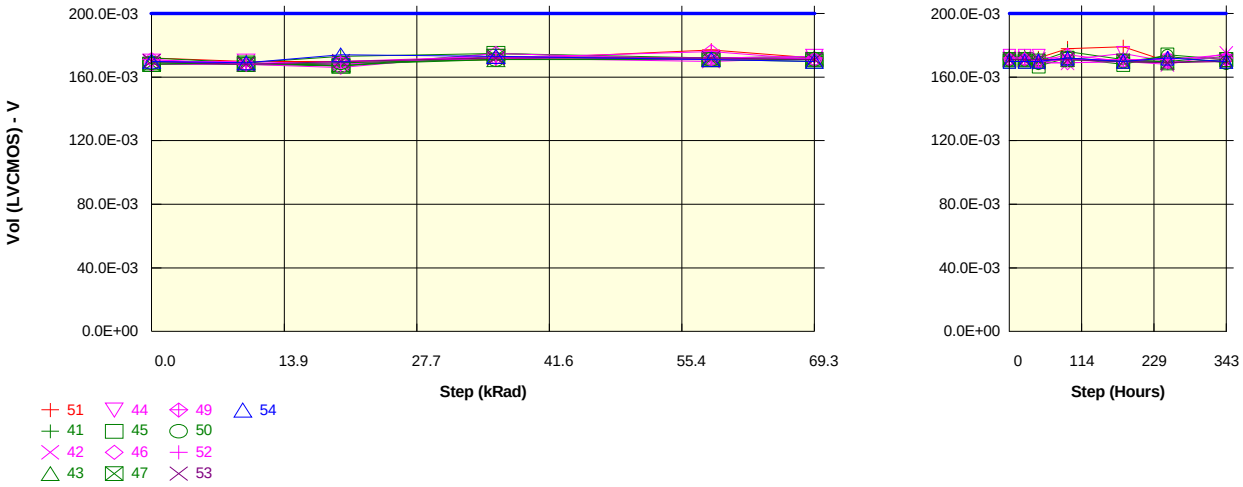
Vol (LVCMOS) sEdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	169.0E-03	170.0E-03	178.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03	170.0E-03	170.0E-03	172.0E-03
ON samples												
41	170.0E-03	168.0E-03	177.0E-03	172.0E-03	171.0E-03	176.0E-03	176.0E-03	169.0E-03	170.0E-03	174.0E-03	169.0E-03	172.0E-03
42	168.0E-03	168.0E-03	167.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	170.0E-03	167.0E-03	168.0E-03
43	168.0E-03	167.0E-03	168.0E-03	172.0E-03	175.0E-03	171.0E-03	171.0E-03	168.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03
44	169.0E-03	169.0E-03	169.0E-03	174.0E-03	174.0E-03	177.0E-03	177.0E-03	170.0E-03	170.0E-03	174.0E-03	170.0E-03	172.0E-03
45	167.0E-03	168.0E-03	167.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	173.0E-03	169.0E-03	170.0E-03	171.0E-03
46	168.0E-03	168.0E-03	167.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	169.0E-03	170.0E-03	168.0E-03	172.0E-03
47	167.0E-03	169.0E-03	167.0E-03	172.0E-03	179.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	171.0E-03
49	170.0E-03	169.0E-03	169.0E-03	171.0E-03	175.0E-03	171.0E-03	171.0E-03	180.0E-03	171.0E-03	171.0E-03	173.0E-03	172.0E-03
50	167.0E-03	167.0E-03	167.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03	172.0E-03	173.0E-03	169.0E-03
52	170.0E-03	168.0E-03	173.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	169.0E-03	174.0E-03	175.0E-03
Statistics												
Min	167.0E-03	167.0E-03	167.0E-03	170.0E-03	170.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03
Max	170.0E-03	169.0E-03	177.0E-03	174.0E-03	179.0E-03	177.0E-03	177.0E-03	180.0E-03	173.0E-03	174.0E-03	174.0E-03	175.0E-03
Average	168.4E-03	168.1E-03	169.1E-03	171.8E-03	172.5E-03	171.9E-03	171.9E-03	170.1E-03	170.0E-03	170.9E-03	170.3E-03	171.0E-03
Sigma	1.2E-03	700.0E-06	3.2E-03	1.1E-03	2.9E-03	2.3E-03	2.3E-03	3.4E-03	1.2E-03	1.8E-03	2.2E-03	2.0E-03

Measurements

Vol (LVCMOS) sEdo2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	169.0E-03	170.0E-03	178.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03	170.0E-03	170.0E-03	172.0E-03
OFF samples												
53	169.0E-03	169.0E-03	172.0E-03	171.0E-03	172.0E-03	173.0E-03	173.0E-03	170.0E-03	173.0E-03	177.0E-03	172.0E-03	175.0E-03
54	169.0E-03	168.0E-03	169.0E-03	172.0E-03	170.0E-03	174.0E-03	174.0E-03	168.0E-03	170.0E-03	174.0E-03	171.0E-03	170.0E-03
Statistics												
Min	169.0E-03	168.0E-03	169.0E-03	171.0E-03	170.0E-03	173.0E-03	173.0E-03	168.0E-03	170.0E-03	174.0E-03	171.0E-03	170.0E-03
Max	169.0E-03	169.0E-03	172.0E-03	172.0E-03	172.0E-03	174.0E-03	174.0E-03	170.0E-03	173.0E-03	177.0E-03	172.0E-03	175.0E-03
Average	169.0E-03	168.5E-03	170.5E-03	171.5E-03	171.0E-03	173.5E-03	173.5E-03	169.0E-03	171.5E-03	175.5E-03	171.5E-03	172.5E-03
Sigma	0.0E+00	500.0E-06	1.5E-03	500.0E-06	1.0E-03	500.0E-06	500.0E-06	1.0E-03	1.5E-03	1.5E-03	500.0E-06	2.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sEdo1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

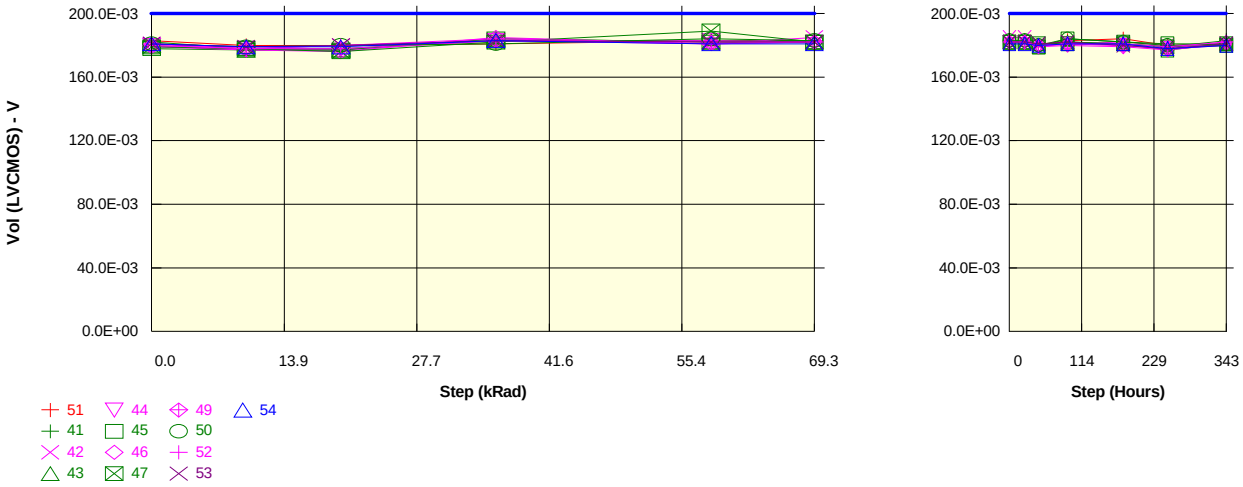
Vol (LVCMOS) sEdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	170.0E-03	171.0E-03	177.0E-03	172.0E-03	172.0E-03	172.0E-03	178.0E-03	179.0E-03	170.0E-03	170.0E-03
ON samples												
41	172.0E-03	169.0E-03	173.0E-03	175.0E-03	172.0E-03	173.0E-03	173.0E-03	170.0E-03	176.0E-03	171.0E-03	170.0E-03	173.0E-03
42	170.0E-03	168.0E-03	168.0E-03	172.0E-03	170.0E-03	172.0E-03	172.0E-03	169.0E-03	169.0E-03	170.0E-03	168.0E-03	175.0E-03
43	169.0E-03	168.0E-03	168.0E-03	171.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03
44	170.0E-03	170.0E-03	168.0E-03	173.0E-03	172.0E-03	173.0E-03	173.0E-03	173.0E-03	171.0E-03	175.0E-03	170.0E-03	170.0E-03
45	168.0E-03	168.0E-03	167.0E-03	175.0E-03	171.0E-03	170.0E-03	170.0E-03	167.0E-03	172.0E-03	168.0E-03	174.0E-03	171.0E-03
46	168.0E-03	168.0E-03	166.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	169.0E-03	170.0E-03	169.0E-03	171.0E-03
47	168.0E-03	169.0E-03	167.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	171.0E-03
49	171.0E-03	168.0E-03	169.0E-03	172.0E-03	176.0E-03	171.0E-03	171.0E-03	170.0E-03	174.0E-03	170.0E-03	172.0E-03	172.0E-03
50	169.0E-03	168.0E-03	169.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03	170.0E-03	173.0E-03	169.0E-03
52	171.0E-03	168.0E-03	170.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	174.0E-03
Statistics												
Min	168.0E-03	168.0E-03	166.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	169.0E-03	168.0E-03	168.0E-03	169.0E-03
Max	172.0E-03	170.0E-03	173.0E-03	175.0E-03	176.0E-03	173.0E-03	173.0E-03	173.0E-03	176.0E-03	175.0E-03	174.0E-03	175.0E-03
Average	169.6E-03	168.4E-03	168.5E-03	173.0E-03	171.7E-03	171.6E-03	171.6E-03	169.8E-03	171.6E-03	170.5E-03	170.6E-03	171.6E-03
Sigma	1.4E-03	663.3E-06	1.9E-03	1.5E-03	1.6E-03	916.5E-06	916.5E-06	1.5E-03	2.0E-03	1.7E-03	1.8E-03	1.8E-03

Measurements

Vol (LVCMOS) sEdo1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	170.0E-03	170.0E-03	171.0E-03	177.0E-03	172.0E-03	172.0E-03	172.0E-03	178.0E-03	179.0E-03	170.0E-03	170.0E-03
OFF samples												
53	170.0E-03	168.0E-03	170.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	169.0E-03	170.0E-03
54	170.0E-03	169.0E-03	174.0E-03	173.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03
Statistics												
Min	170.0E-03	168.0E-03	170.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	170.0E-03
Max	170.0E-03	169.0E-03	174.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03
Average	170.0E-03	168.5E-03	172.0E-03	172.5E-03	171.5E-03	170.5E-03	170.5E-03	170.5E-03	171.5E-03	170.0E-03	170.5E-03	170.0E-03
Sigma	0.0E+00	500.0E-06	2.0E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	0.0E+00	1.5E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)sEdo0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

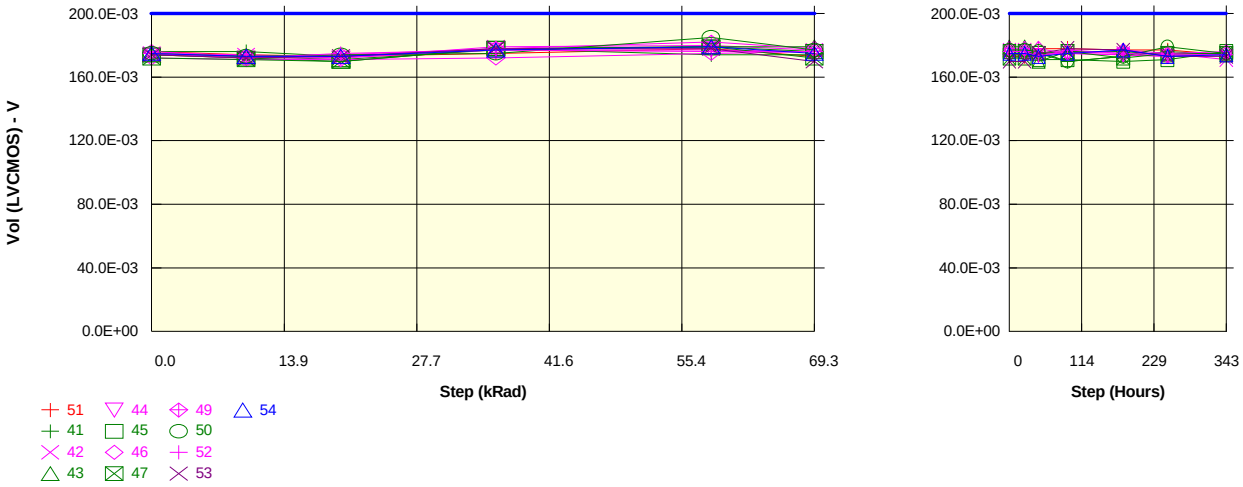
Vol (LVCMOS) sEdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	183.0E-03	180.0E-03	180.0E-03	181.0E-03	183.0E-03	183.0E-03	183.0E-03	180.0E-03	183.0E-03	184.0E-03	180.0E-03	181.0E-03
ON samples												
41	182.0E-03	178.0E-03	178.0E-03	183.0E-03	183.0E-03	183.0E-03	183.0E-03	180.0E-03	182.0E-03	181.0E-03	179.0E-03	183.0E-03
42	181.0E-03	178.0E-03	180.0E-03	183.0E-03	181.0E-03	185.0E-03	185.0E-03	180.0E-03	181.0E-03	182.0E-03	180.0E-03	181.0E-03
43	180.0E-03	177.0E-03	177.0E-03	184.0E-03	182.0E-03	182.0E-03	182.0E-03	179.0E-03	182.0E-03	181.0E-03	177.0E-03	181.0E-03
44	180.0E-03	178.0E-03	177.0E-03	183.0E-03	183.0E-03	182.0E-03	182.0E-03	179.0E-03	181.0E-03	180.0E-03	178.0E-03	180.0E-03
45	178.0E-03	177.0E-03	177.0E-03	184.0E-03	182.0E-03	182.0E-03	182.0E-03	179.0E-03	184.0E-03	182.0E-03	181.0E-03	181.0E-03
46	179.0E-03	177.0E-03	176.0E-03	185.0E-03	181.0E-03	182.0E-03	182.0E-03	179.0E-03	180.0E-03	179.0E-03	177.0E-03	181.0E-03
47	179.0E-03	178.0E-03	176.0E-03	182.0E-03	189.0E-03	182.0E-03	182.0E-03	181.0E-03	181.0E-03	181.0E-03	179.0E-03	180.0E-03
49	180.0E-03	178.0E-03	178.0E-03	183.0E-03	182.0E-03	182.0E-03	182.0E-03	180.0E-03	181.0E-03	180.0E-03	178.0E-03	182.0E-03
50	181.0E-03	179.0E-03	180.0E-03	181.0E-03	184.0E-03	183.0E-03	183.0E-03	180.0E-03	184.0E-03	182.0E-03	180.0E-03	181.0E-03
52	181.0E-03	178.0E-03	180.0E-03	184.0E-03	181.0E-03	182.0E-03	182.0E-03	180.0E-03	181.0E-03	181.0E-03	179.0E-03	182.0E-03
Statistics												
Min	178.0E-03	177.0E-03	176.0E-03	181.0E-03	181.0E-03	182.0E-03	182.0E-03	179.0E-03	180.0E-03	179.0E-03	177.0E-03	180.0E-03
Max	182.0E-03	179.0E-03	180.0E-03	185.0E-03	189.0E-03	185.0E-03	185.0E-03	181.0E-03	184.0E-03	182.0E-03	181.0E-03	183.0E-03
Average	180.1E-03	177.8E-03	177.9E-03	183.2E-03	182.8E-03	182.5E-03	182.5E-03	179.7E-03	181.7E-03	180.9E-03	178.8E-03	181.2E-03
Sigma	1.1E-03	600.0E-06	1.5E-03	1.1E-03	2.3E-03	922.0E-06	922.0E-06	640.3E-06	1.3E-03	943.4E-06	1.2E-03	871.8E-06

Measurements

Vol (LVCMOS) sEdo0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	183.0E-03	180.0E-03	180.0E-03	181.0E-03	183.0E-03	183.0E-03	183.0E-03	180.0E-03	183.0E-03	184.0E-03	180.0E-03	181.0E-03
OFF samples												
53	181.0E-03	179.0E-03	180.0E-03	183.0E-03	182.0E-03	182.0E-03	182.0E-03	181.0E-03	182.0E-03	180.0E-03	178.0E-03	181.0E-03
54	181.0E-03	179.0E-03	179.0E-03	183.0E-03	181.0E-03	181.0E-03	181.0E-03	180.0E-03	181.0E-03	181.0E-03	178.0E-03	180.0E-03
Statistics												
Min	181.0E-03	179.0E-03	179.0E-03	183.0E-03	181.0E-03	181.0E-03	181.0E-03	180.0E-03	181.0E-03	180.0E-03	178.0E-03	180.0E-03
Max	181.0E-03	179.0E-03	180.0E-03	183.0E-03	182.0E-03	182.0E-03	182.0E-03	181.0E-03	182.0E-03	181.0E-03	178.0E-03	181.0E-03
Average	181.0E-03	179.0E-03	179.5E-03	183.0E-03	181.5E-03	181.5E-03	181.5E-03	180.5E-03	181.5E-03	180.5E-03	178.0E-03	180.5E-03
Sigma	0.0E+00	0.0E+00	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)rgos2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

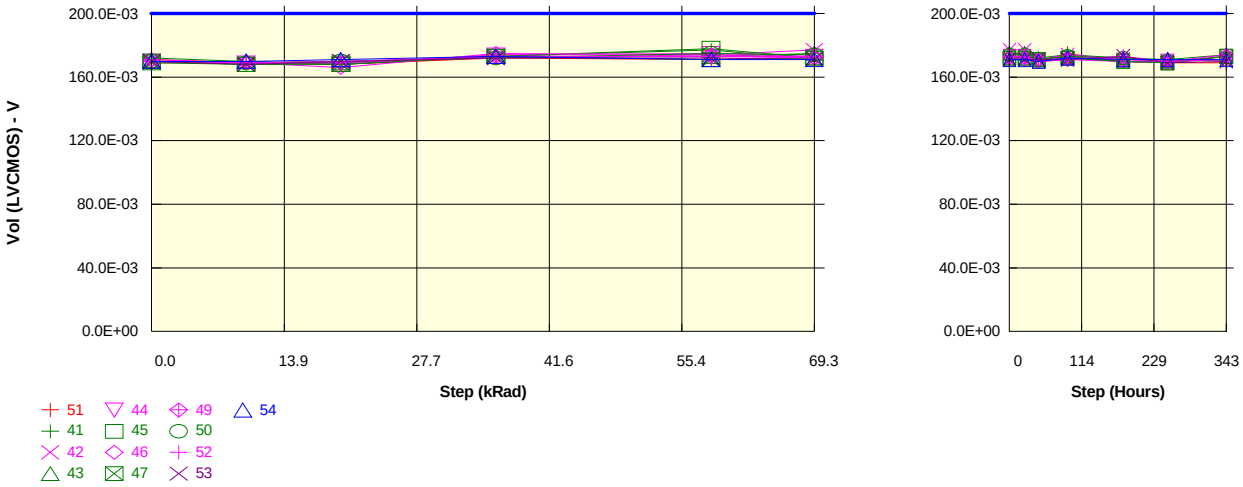
Vol (LVCMOS) rgos2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	176.0E-03	174.0E-03	173.0E-03	175.0E-03	178.0E-03	173.0E-03	173.0E-03	178.0E-03	178.0E-03	177.0E-03	177.0E-03	174.0E-03
ON samples												
41	176.0E-03	176.0E-03	173.0E-03	178.0E-03	174.0E-03	174.0E-03	174.0E-03	175.0E-03	170.0E-03	173.0E-03	176.0E-03	174.0E-03
42	175.0E-03	174.0E-03	172.0E-03	179.0E-03	180.0E-03	177.0E-03	177.0E-03	175.0E-03	176.0E-03	175.0E-03	175.0E-03	171.0E-03
43	174.0E-03	173.0E-03	171.0E-03	177.0E-03	179.0E-03	179.0E-03	179.0E-03	170.0E-03	176.0E-03	176.0E-03	174.0E-03	174.0E-03
44	174.0E-03	172.0E-03	172.0E-03	177.0E-03	177.0E-03	176.0E-03	176.0E-03	175.0E-03	175.0E-03	174.0E-03	173.0E-03	175.0E-03
45	174.0E-03	172.0E-03	170.0E-03	178.0E-03	179.0E-03	176.0E-03	176.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	176.0E-03
46	172.0E-03	171.0E-03	171.0E-03	172.0E-03	175.0E-03	176.0E-03	176.0E-03	174.0E-03	175.0E-03	174.0E-03	173.0E-03	175.0E-03
47	172.0E-03	171.0E-03	170.0E-03	178.0E-03	179.0E-03	172.0E-03	172.0E-03	175.0E-03	176.0E-03	172.0E-03	175.0E-03	175.0E-03
49	176.0E-03	173.0E-03	174.0E-03	178.0E-03	182.0E-03	178.0E-03	178.0E-03	178.0E-03	175.0E-03	177.0E-03	175.0E-03	176.0E-03
50	175.0E-03	173.0E-03	174.0E-03	175.0E-03	185.0E-03	177.0E-03	177.0E-03	176.0E-03	170.0E-03	173.0E-03	179.0E-03	175.0E-03
52	175.0E-03	172.0E-03	175.0E-03	177.0E-03	176.0E-03	176.0E-03	176.0E-03	173.0E-03	177.0E-03	175.0E-03	174.0E-03	174.0E-03
Statistics												
Min	172.0E-03	171.0E-03	170.0E-03	172.0E-03	174.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	171.0E-03
Max	176.0E-03	176.0E-03	175.0E-03	179.0E-03	185.0E-03	179.0E-03	179.0E-03	178.0E-03	177.0E-03	177.0E-03	179.0E-03	176.0E-03
Average	174.3E-03	172.7E-03	172.2E-03	176.9E-03	178.6E-03	176.1E-03	176.1E-03	174.2E-03	174.1E-03	173.9E-03	174.5E-03	174.5E-03
Sigma	1.3E-03	1.4E-03	1.7E-03	1.9E-03	3.1E-03	1.9E-03	1.9E-03	2.2E-03	2.5E-03	1.9E-03	2.0E-03	1.4E-03

Measurements

Vol (LVCMOS) rgos2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	176.0E-03	174.0E-03	173.0E-03	175.0E-03	178.0E-03	173.0E-03	173.0E-03	178.0E-03	178.0E-03	177.0E-03	177.0E-03	174.0E-03
OFF samples												
53	174.0E-03	172.0E-03	173.0E-03	178.0E-03	178.0E-03	170.0E-03	170.0E-03	175.0E-03	178.0E-03	177.0E-03	173.0E-03	173.0E-03
54	175.0E-03	173.0E-03	173.0E-03	177.0E-03	179.0E-03	175.0E-03	175.0E-03	173.0E-03	175.0E-03	177.0E-03	173.0E-03	174.0E-03
Statistics												
Min	174.0E-03	172.0E-03	173.0E-03	177.0E-03	178.0E-03	170.0E-03	170.0E-03	173.0E-03	175.0E-03	177.0E-03	173.0E-03	173.0E-03
Max	175.0E-03	173.0E-03	173.0E-03	178.0E-03	179.0E-03	175.0E-03	175.0E-03	175.0E-03	178.0E-03	177.0E-03	173.0E-03	174.0E-03
Average	174.5E-03	172.5E-03	173.0E-03	177.5E-03	178.5E-03	172.5E-03	172.5E-03	174.0E-03	176.5E-03	177.0E-03	173.0E-03	173.5E-03
Sigma	500.0E-06	500.0E-06	0.0E+00	500.0E-06	500.0E-06	2.5E-03	2.5E-03	1000.0E-06	1.5E-03	0.0E+00	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)rgos1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

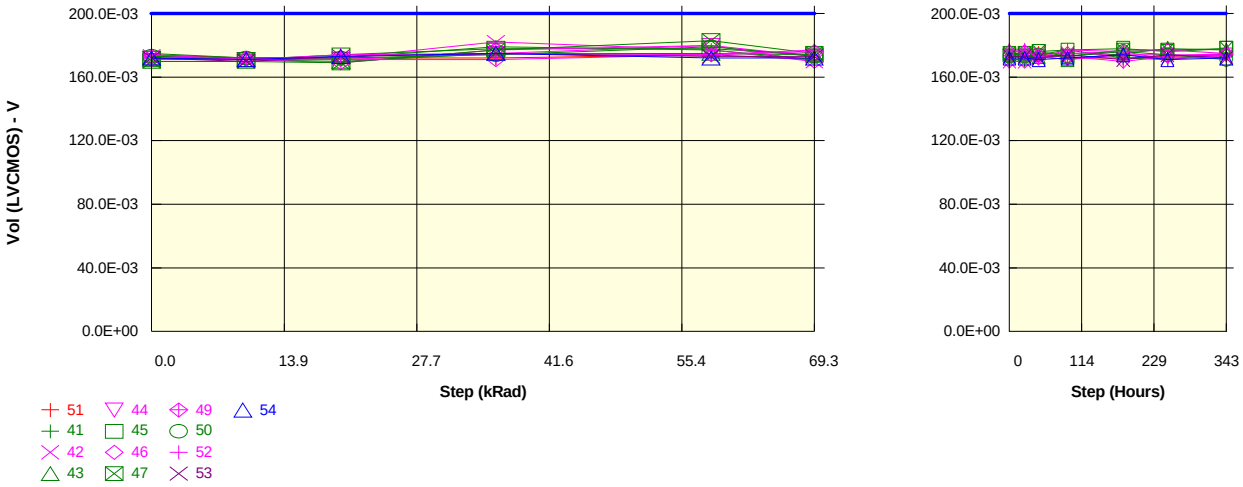
Vol (LVCMOS) rgos1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	175.0E-03	170.0E-03	169.0E-03	169.0E-03
ON samples												
41	172.0E-03	170.0E-03	168.0E-03	173.0E-03	177.0E-03	171.0E-03	171.0E-03	172.0E-03	174.0E-03	172.0E-03	171.0E-03	174.0E-03
42	170.0E-03	169.0E-03	170.0E-03	172.0E-03	174.0E-03	177.0E-03	177.0E-03	171.0E-03	174.0E-03	171.0E-03	170.0E-03	171.0E-03
43	170.0E-03	170.0E-03	168.0E-03	173.0E-03	173.0E-03	175.0E-03	175.0E-03	171.0E-03	173.0E-03	170.0E-03	170.0E-03	173.0E-03
44	170.0E-03	169.0E-03	168.0E-03	174.0E-03	175.0E-03	173.0E-03	173.0E-03	170.0E-03	172.0E-03	170.0E-03	170.0E-03	171.0E-03
45	170.0E-03	168.0E-03	169.0E-03	173.0E-03	178.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	170.0E-03	169.0E-03	173.0E-03
46	169.0E-03	169.0E-03	166.0E-03	175.0E-03	174.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	173.0E-03
47	169.0E-03	168.0E-03	168.0E-03	173.0E-03	171.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	170.0E-03	169.0E-03	173.0E-03
49	171.0E-03	169.0E-03	169.0E-03	173.0E-03	173.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03
50	170.0E-03	169.0E-03	170.0E-03	172.0E-03	175.0E-03	174.0E-03	174.0E-03	171.0E-03	173.0E-03	172.0E-03	170.0E-03	171.0E-03
52	170.0E-03	169.0E-03	170.0E-03	173.0E-03	173.0E-03	173.0E-03	173.0E-03	170.0E-03	171.0E-03	173.0E-03	170.0E-03	171.0E-03
Statistics												
Min	169.0E-03	168.0E-03	166.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	170.0E-03	169.0E-03	171.0E-03
Max	172.0E-03	170.0E-03	170.0E-03	175.0E-03	178.0E-03	177.0E-03	177.0E-03	172.0E-03	174.0E-03	173.0E-03	171.0E-03	174.0E-03
Average	170.1E-03	169.0E-03	168.6E-03	173.1E-03	174.3E-03	173.1E-03	173.1E-03	170.7E-03	172.4E-03	171.0E-03	169.8E-03	172.4E-03
Sigma	830.7E-06	632.5E-06	1.2E-03	830.7E-06	2.0E-03	1.7E-03	1.7E-03	640.3E-06	1.0E-03	1.1E-03	600.0E-06	1.2E-03

Measurements

Vol (LVCMOS) rgos1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	171.0E-03	169.0E-03	168.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	170.0E-03	175.0E-03	170.0E-03	169.0E-03	169.0E-03
OFF samples												
53	170.0E-03	168.0E-03	170.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	173.0E-03	169.0E-03	170.0E-03
54	170.0E-03	170.0E-03	171.0E-03	173.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03
Statistics												
Min	170.0E-03	168.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
Max	170.0E-03	170.0E-03	171.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03
Average	170.0E-03	169.0E-03	170.5E-03	172.5E-03	171.5E-03	171.0E-03	171.0E-03	170.5E-03	171.5E-03	172.0E-03	170.0E-03	170.5E-03
Sigma	0.0E+00	1.0E-03	500.0E-06	500.0E-06	500.0E-06	0.0E+00	0.0E+00	500.0E-06	500.0E-06	1.0E-03	1000.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)rgos0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

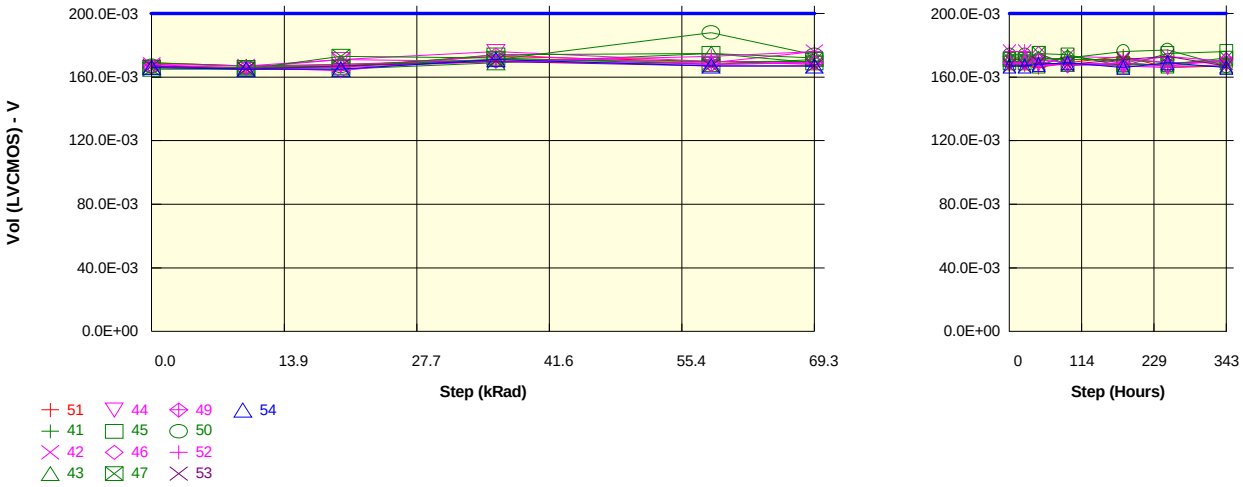
Vol (LVCMOS) rgos0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	174.0E-03	172.0E-03	172.0E-03	172.0E-03	174.0E-03	171.0E-03	171.0E-03	175.0E-03	172.0E-03	172.0E-03	173.0E-03	174.0E-03
ON samples												
41	175.0E-03	172.0E-03	172.0E-03	179.0E-03	177.0E-03	171.0E-03	171.0E-03	174.0E-03	177.0E-03	172.0E-03	171.0E-03	175.0E-03
42	173.0E-03	171.0E-03	172.0E-03	182.0E-03	177.0E-03	170.0E-03	170.0E-03	175.0E-03	175.0E-03	174.0E-03	172.0E-03	173.0E-03
43	171.0E-03	171.0E-03	170.0E-03	175.0E-03	175.0E-03	174.0E-03	174.0E-03	173.0E-03	171.0E-03	175.0E-03	178.0E-03	177.0E-03
44	172.0E-03	171.0E-03	171.0E-03	175.0E-03	180.0E-03	173.0E-03	173.0E-03	173.0E-03	171.0E-03	174.0E-03	174.0E-03	174.0E-03
45	172.0E-03	171.0E-03	174.0E-03	178.0E-03	178.0E-03	174.0E-03	174.0E-03	176.0E-03	177.0E-03	178.0E-03	176.0E-03	178.0E-03
46	171.0E-03	171.0E-03	169.0E-03	177.0E-03	180.0E-03	170.0E-03	170.0E-03	172.0E-03	175.0E-03	176.0E-03	177.0E-03	175.0E-03
47	170.0E-03	170.0E-03	169.0E-03	177.0E-03	183.0E-03	175.0E-03	175.0E-03	176.0E-03	173.0E-03	177.0E-03	177.0E-03	178.0E-03
49	173.0E-03	172.0E-03	171.0E-03	171.0E-03	174.0E-03	176.0E-03	176.0E-03	174.0E-03	173.0E-03	170.0E-03	173.0E-03	175.0E-03
50	173.0E-03	172.0E-03	172.0E-03	174.0E-03	179.0E-03	173.0E-03	173.0E-03	174.0E-03	173.0E-03	176.0E-03	174.0E-03	171.0E-03
52	174.0E-03	171.0E-03	174.0E-03	175.0E-03	174.0E-03	177.0E-03	177.0E-03	172.0E-03	177.0E-03	176.0E-03	171.0E-03	174.0E-03
Statistics												
Min	170.0E-03	170.0E-03	169.0E-03	171.0E-03	174.0E-03	170.0E-03	170.0E-03	172.0E-03	171.0E-03	170.0E-03	171.0E-03	171.0E-03
Max	175.0E-03	172.0E-03	174.0E-03	182.0E-03	183.0E-03	177.0E-03	177.0E-03	176.0E-03	177.0E-03	178.0E-03	178.0E-03	178.0E-03
Average	172.4E-03	171.2E-03	171.4E-03	176.3E-03	177.7E-03	173.3E-03	173.3E-03	173.9E-03	174.2E-03	174.8E-03	174.3E-03	175.0E-03
Sigma	1.4E-03	600.0E-06	1.7E-03	2.9E-03	2.8E-03	2.3E-03	2.3E-03	1.4E-03	2.2E-03	2.3E-03	2.5E-03	2.1E-03

Measurements

Vol (LVCMOS) rgos0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	174.0E-03	172.0E-03	172.0E-03	172.0E-03	174.0E-03	171.0E-03	171.0E-03	175.0E-03	172.0E-03	172.0E-03	173.0E-03	174.0E-03
OFF samples												
53	172.0E-03	170.0E-03	173.0E-03	175.0E-03	173.0E-03	173.0E-03	173.0E-03	172.0E-03	174.0E-03	171.0E-03	174.0E-03	172.0E-03
54	172.0E-03	171.0E-03	173.0E-03	175.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	174.0E-03	171.0E-03	172.0E-03
Statistics												
Min	172.0E-03	170.0E-03	173.0E-03	175.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	171.0E-03	171.0E-03	172.0E-03
Max	172.0E-03	171.0E-03	173.0E-03	175.0E-03	173.0E-03	173.0E-03	173.0E-03	172.0E-03	174.0E-03	174.0E-03	174.0E-03	172.0E-03
Average	172.0E-03	170.5E-03	173.0E-03	175.0E-03	172.5E-03	172.5E-03	172.5E-03	171.5E-03	173.0E-03	172.5E-03	172.5E-03	172.0E-03
Sigma	0.0E+00	500.0E-06	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1000.0E-06	1.5E-03	1.5E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro7

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

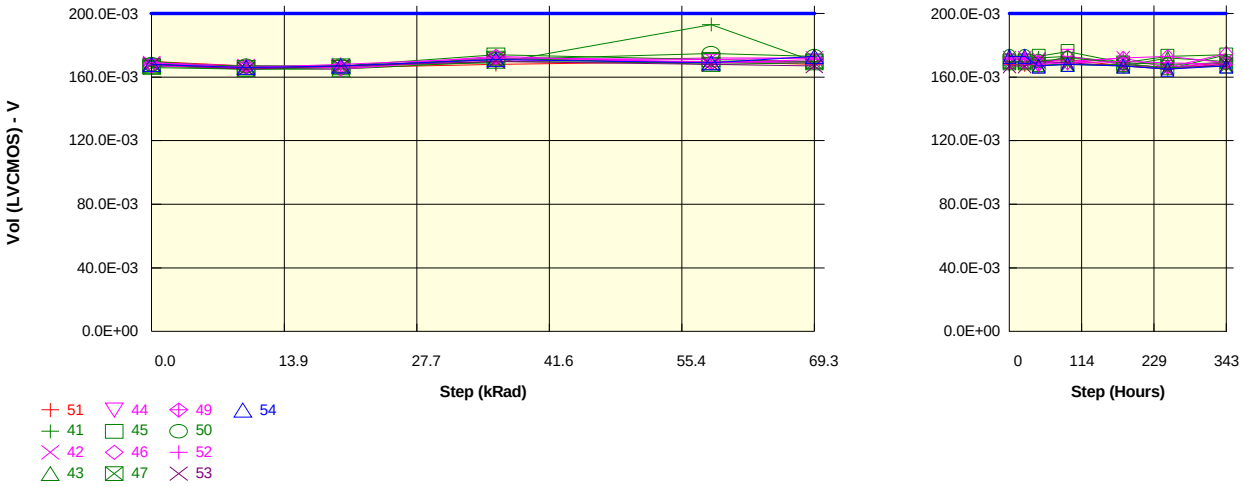
Vol (LVCMOS) ufro7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	173.0E-03	170.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03	173.0E-03	166.0E-03	167.0E-03
ON samples												
41	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
42	168.0E-03	167.0E-03	171.0E-03	170.0E-03	169.0E-03	176.0E-03	176.0E-03	168.0E-03	173.0E-03	172.0E-03	169.0E-03	169.0E-03
43	166.0E-03	165.0E-03	165.0E-03	169.0E-03	175.0E-03	172.0E-03	172.0E-03	167.0E-03	173.0E-03	169.0E-03	167.0E-03	167.0E-03
44	166.0E-03	166.0E-03	171.0E-03	176.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	167.0E-03	166.0E-03	168.0E-03
45	166.0E-03	166.0E-03	166.0E-03	174.0E-03	175.0E-03	169.0E-03	169.0E-03	175.0E-03	174.0E-03	167.0E-03	175.0E-03	176.0E-03
46	166.0E-03	166.0E-03	164.0E-03	174.0E-03	168.0E-03	169.0E-03	169.0E-03	175.0E-03	167.0E-03	169.0E-03	167.0E-03	171.0E-03
47	165.0E-03	165.0E-03	173.0E-03	172.0E-03	168.0E-03	171.0E-03	171.0E-03	175.0E-03	168.0E-03	168.0E-03	168.0E-03	172.0E-03
49	167.0E-03	166.0E-03	168.0E-03	170.0E-03	168.0E-03	169.0E-03	169.0E-03	171.0E-03	169.0E-03	167.0E-03	167.0E-03	171.0E-03
50	167.0E-03	166.0E-03	167.0E-03	171.0E-03	188.0E-03	174.0E-03	174.0E-03	171.0E-03	172.0E-03	176.0E-03	177.0E-03	167.0E-03
52	168.0E-03	165.0E-03	166.0E-03	170.0E-03	173.0E-03	176.0E-03	176.0E-03	167.0E-03	168.0E-03	169.0E-03	173.0E-03	170.0E-03
Statistics												
Min	165.0E-03	165.0E-03	164.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03
Max	169.0E-03	167.0E-03	173.0E-03	176.0E-03	188.0E-03	176.0E-03	176.0E-03	175.0E-03	174.0E-03	176.0E-03	177.0E-03	176.0E-03
Average	166.8E-03	165.9E-03	167.9E-03	171.7E-03	172.4E-03	171.5E-03	171.5E-03	170.9E-03	170.3E-03	169.5E-03	169.8E-03	170.1E-03
Sigma	1.2E-03	700.0E-06	2.8E-03	2.1E-03	5.8E-03	2.7E-03	2.7E-03	3.1E-03	2.5E-03	2.7E-03	3.6E-03	2.5E-03

Measurements

Vol (LVCMOS) ufro7	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	169.0E-03	167.0E-03	167.0E-03	173.0E-03	170.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03	173.0E-03	166.0E-03	167.0E-03
OFF samples												
53	167.0E-03	165.0E-03	167.0E-03	170.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	168.0E-03	171.0E-03	173.0E-03	167.0E-03
54	166.0E-03	165.0E-03	165.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	169.0E-03	166.0E-03	169.0E-03	166.0E-03
Statistics												
Min	166.0E-03	165.0E-03	165.0E-03	170.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	168.0E-03	166.0E-03	169.0E-03	166.0E-03
Max	167.0E-03	165.0E-03	167.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	169.0E-03	169.0E-03	171.0E-03	173.0E-03	167.0E-03
Average	166.5E-03	165.0E-03	166.0E-03	170.5E-03	167.0E-03	167.0E-03	167.0E-03	168.5E-03	168.5E-03	168.5E-03	171.0E-03	166.5E-03
Sigma	500.0E-06	0.0E+00	1000.0E-06	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	2.5E-03	2.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro6

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

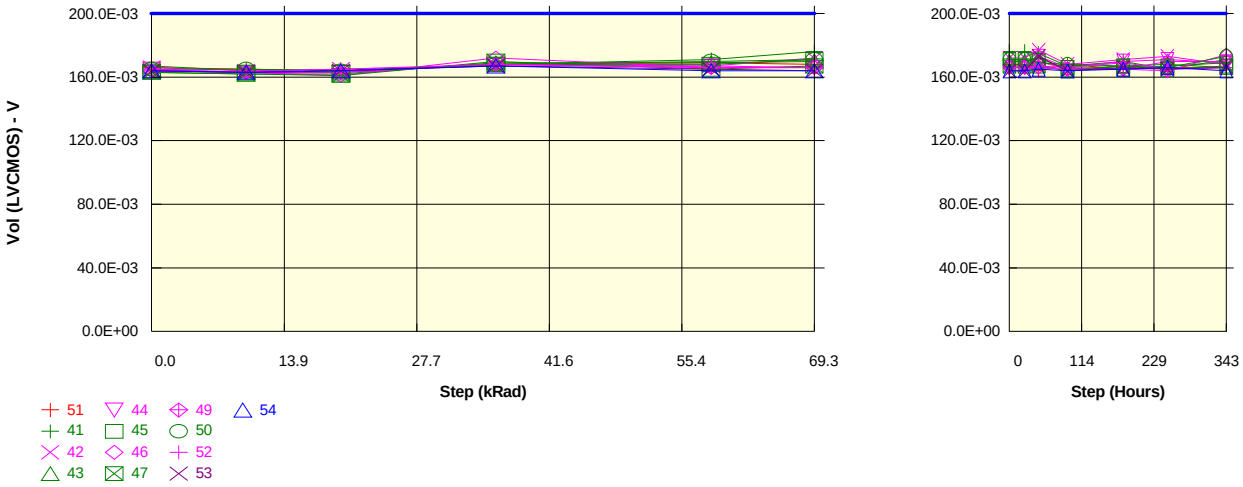
Vol (LVCMOS) ufro6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	167.0E-03	166.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	170.0E-03	171.0E-03	167.0E-03	166.0E-03	169.0E-03
ON samples												
41	170.0E-03	166.0E-03	167.0E-03	169.0E-03	193.0E-03	170.0E-03	170.0E-03	172.0E-03	173.0E-03	169.0E-03	165.0E-03	174.0E-03
42	169.0E-03	167.0E-03	167.0E-03	170.0E-03	172.0E-03	172.0E-03	172.0E-03	171.0E-03	170.0E-03	172.0E-03	166.0E-03	170.0E-03
43	167.0E-03	165.0E-03	165.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	168.0E-03	167.0E-03	172.0E-03	170.0E-03
44	167.0E-03	166.0E-03	166.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	167.0E-03	173.0E-03	168.0E-03	166.0E-03	168.0E-03
45	167.0E-03	166.0E-03	167.0E-03	174.0E-03	171.0E-03	170.0E-03	170.0E-03	173.0E-03	176.0E-03	169.0E-03	173.0E-03	174.0E-03
46	167.0E-03	166.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	173.0E-03	168.0E-03	166.0E-03	175.0E-03
47	166.0E-03	165.0E-03	166.0E-03	172.0E-03	168.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	166.0E-03	167.0E-03
49	168.0E-03	167.0E-03	166.0E-03	173.0E-03	169.0E-03	171.0E-03	171.0E-03	170.0E-03	169.0E-03	172.0E-03	173.0E-03	169.0E-03
50	168.0E-03	167.0E-03	167.0E-03	171.0E-03	175.0E-03	173.0E-03	173.0E-03	170.0E-03	172.0E-03	169.0E-03	168.0E-03	169.0E-03
52	169.0E-03	166.0E-03	168.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03	168.0E-03	169.0E-03	170.0E-03	169.0E-03	168.0E-03
Statistics												
Min	166.0E-03	165.0E-03	165.0E-03	169.0E-03	168.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
Max	170.0E-03	167.0E-03	168.0E-03	174.0E-03	193.0E-03	173.0E-03	173.0E-03	173.0E-03	176.0E-03	172.0E-03	173.0E-03	175.0E-03
Average	167.8E-03	166.1E-03	166.4E-03	171.4E-03	172.7E-03	170.6E-03	170.6E-03	169.4E-03	171.1E-03	169.2E-03	168.4E-03	170.4E-03
Sigma	1.2E-03	700.0E-06	916.5E-06	1.4E-03	7.0E-03	1.3E-03	1.3E-03	2.0E-03	2.5E-03	1.6E-03	3.0E-03	2.7E-03

Measurements

Vol (LVCMOS) ufro6	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	167.0E-03	166.0E-03	168.0E-03	170.0E-03	168.0E-03	168.0E-03	170.0E-03	171.0E-03	167.0E-03	166.0E-03	169.0E-03
OFF samples												
53	168.0E-03	165.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03	170.0E-03	169.0E-03	167.0E-03	165.0E-03	168.0E-03
54	168.0E-03	166.0E-03	167.0E-03	171.0E-03	169.0E-03	173.0E-03	173.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
Statistics												
Min	168.0E-03	165.0E-03	167.0E-03	170.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	168.0E-03	167.0E-03	165.0E-03	167.0E-03
Max	168.0E-03	166.0E-03	167.0E-03	171.0E-03	169.0E-03	173.0E-03	173.0E-03	170.0E-03	169.0E-03	167.0E-03	165.0E-03	168.0E-03
Average	168.0E-03	165.5E-03	167.0E-03	170.5E-03	168.5E-03	170.0E-03	170.0E-03	168.5E-03	168.5E-03	167.0E-03	165.0E-03	167.5E-03
Sigma	0.0E+00	500.0E-06	0.0E+00	500.0E-06	500.0E-06	3.0E-03	3.0E-03	1.5E-03	500.0E-06	0.0E+00	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro5

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

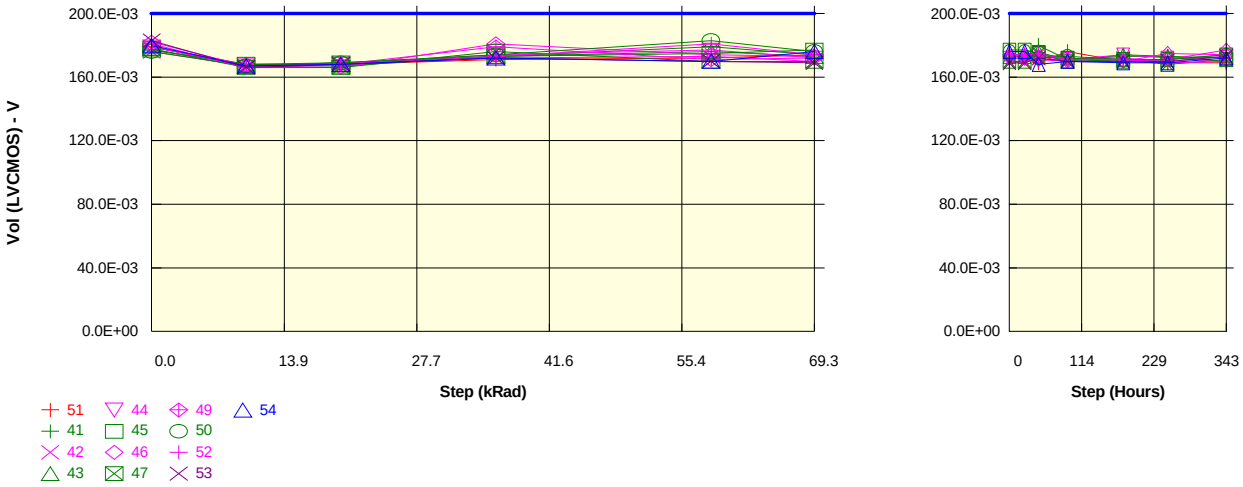
Vol (LVCMOS) ufro5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	164.0E-03	168.0E-03	169.0E-03	168.0E-03	168.0E-03	164.0E-03	168.0E-03	165.0E-03	166.0E-03	166.0E-03
ON samples												
41	167.0E-03	164.0E-03	164.0E-03	168.0E-03	171.0E-03	176.0E-03	176.0E-03	175.0E-03	167.0E-03	170.0E-03	165.0E-03	171.0E-03
42	166.0E-03	164.0E-03	165.0E-03	167.0E-03	167.0E-03	172.0E-03	172.0E-03	177.0E-03	168.0E-03	171.0E-03	173.0E-03	168.0E-03
43	163.0E-03	162.0E-03	162.0E-03	169.0E-03	169.0E-03	170.0E-03	170.0E-03	172.0E-03	165.0E-03	167.0E-03	168.0E-03	166.0E-03
44	165.0E-03	163.0E-03	163.0E-03	168.0E-03	167.0E-03	166.0E-03	166.0E-03	173.0E-03	166.0E-03	170.0E-03	171.0E-03	169.0E-03
45	164.0E-03	163.0E-03	163.0E-03	168.0E-03	168.0E-03	171.0E-03	171.0E-03	170.0E-03	166.0E-03	165.0E-03	167.0E-03	169.0E-03
46	164.0E-03	163.0E-03	161.0E-03	172.0E-03	166.0E-03	166.0E-03	166.0E-03	170.0E-03	165.0E-03	165.0E-03	170.0E-03	170.0E-03
47	163.0E-03	162.0E-03	161.0E-03	170.0E-03	165.0E-03	167.0E-03	167.0E-03	167.0E-03	164.0E-03	167.0E-03	165.0E-03	167.0E-03
49	164.0E-03	163.0E-03	163.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03	164.0E-03	174.0E-03
50	165.0E-03	165.0E-03	164.0E-03	168.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	168.0E-03	167.0E-03	166.0E-03	173.0E-03
52	165.0E-03	163.0E-03	165.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	167.0E-03	166.0E-03	169.0E-03	165.0E-03	166.0E-03
Statistics												
Min	163.0E-03	162.0E-03	161.0E-03	167.0E-03	165.0E-03	166.0E-03	166.0E-03	166.0E-03	164.0E-03	165.0E-03	164.0E-03	166.0E-03
Max	167.0E-03	165.0E-03	165.0E-03	172.0E-03	171.0E-03	176.0E-03	176.0E-03	177.0E-03	168.0E-03	171.0E-03	173.0E-03	174.0E-03
Average	164.6E-03	163.2E-03	163.1E-03	168.6E-03	167.5E-03	169.1E-03	169.1E-03	170.6E-03	166.0E-03	167.6E-03	167.4E-03	169.3E-03
Sigma	1.2E-03	871.8E-06	1.4E-03	1.4E-03	1.9E-03	3.3E-03	3.3E-03	3.4E-03	1.3E-03	2.2E-03	2.9E-03	2.6E-03

Measurements

Vol (LVCMOS) ufro5	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	166.0E-03	165.0E-03	164.0E-03	168.0E-03	169.0E-03	168.0E-03	168.0E-03	164.0E-03	168.0E-03	165.0E-03	166.0E-03	166.0E-03
OFF samples												
53	164.0E-03	163.0E-03	164.0E-03	167.0E-03	165.0E-03	164.0E-03	164.0E-03	173.0E-03	164.0E-03	166.0E-03	165.0E-03	166.0E-03
54	164.0E-03	163.0E-03	164.0E-03	167.0E-03	164.0E-03	164.0E-03	164.0E-03	165.0E-03	164.0E-03	165.0E-03	166.0E-03	164.0E-03
Statistics												
Min	164.0E-03	163.0E-03	164.0E-03	167.0E-03	164.0E-03	164.0E-03	164.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	164.0E-03
Max	164.0E-03	163.0E-03	164.0E-03	167.0E-03	165.0E-03	164.0E-03	164.0E-03	173.0E-03	164.0E-03	166.0E-03	166.0E-03	166.0E-03
Average	164.0E-03	163.0E-03	164.0E-03	167.0E-03	164.5E-03	164.0E-03	164.0E-03	169.0E-03	164.0E-03	165.5E-03	165.5E-03	165.0E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	4.0E-03	0.0E+00	500.0E-06	500.0E-06	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro4

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

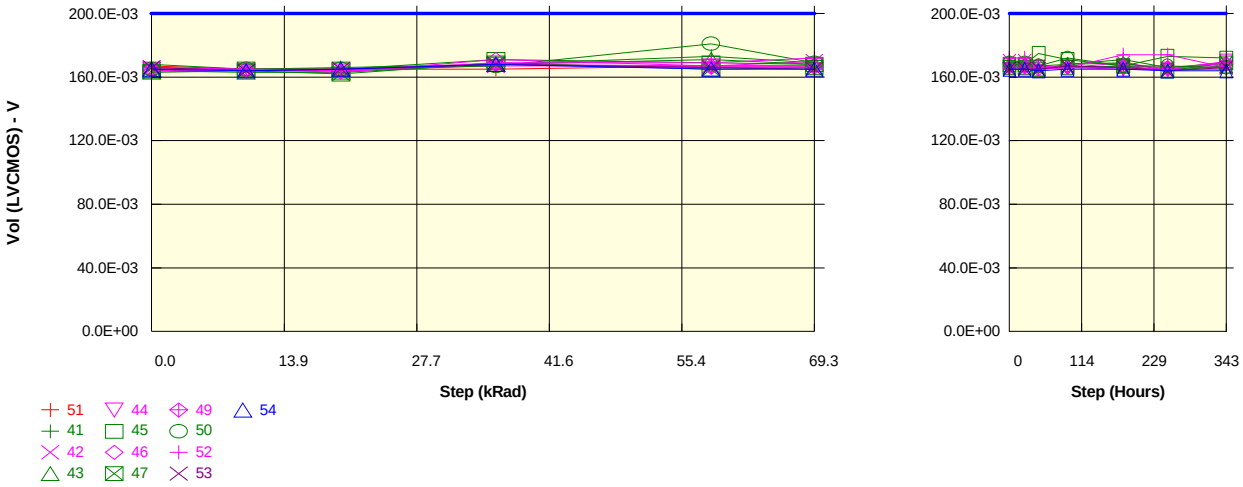
Vol (LVCMOS) ufro4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	179.0E-03	168.0E-03	168.0E-03	171.0E-03	172.0E-03	174.0E-03	174.0E-03	169.0E-03	176.0E-03	170.0E-03	169.0E-03	169.0E-03
ON samples												
41	177.0E-03	168.0E-03	168.0E-03	173.0E-03	179.0E-03	174.0E-03	174.0E-03	180.0E-03	171.0E-03	173.0E-03	173.0E-03	170.0E-03
42	176.0E-03	167.0E-03	169.0E-03	172.0E-03	173.0E-03	170.0E-03	170.0E-03	174.0E-03	171.0E-03	172.0E-03	170.0E-03	173.0E-03
43	179.0E-03	167.0E-03	167.0E-03	173.0E-03	176.0E-03	173.0E-03	173.0E-03	176.0E-03	170.0E-03	174.0E-03	173.0E-03	172.0E-03
44	179.0E-03	167.0E-03	168.0E-03	174.0E-03	177.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	174.0E-03	172.0E-03	170.0E-03
45	177.0E-03	168.0E-03	169.0E-03	173.0E-03	175.0E-03	177.0E-03	177.0E-03	175.0E-03	172.0E-03	170.0E-03	171.0E-03	174.0E-03
46	179.0E-03	167.0E-03	166.0E-03	181.0E-03	174.0E-03	173.0E-03	173.0E-03	173.0E-03	171.0E-03	170.0E-03	175.0E-03	174.0E-03
47	178.0E-03	166.0E-03	166.0E-03	176.0E-03	170.0E-03	170.0E-03	170.0E-03	175.0E-03	170.0E-03	171.0E-03	168.0E-03	171.0E-03
49	182.0E-03	167.0E-03	168.0E-03	179.0E-03	171.0E-03	172.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	171.0E-03	177.0E-03
50	176.0E-03	167.0E-03	169.0E-03	174.0E-03	183.0E-03	176.0E-03	176.0E-03	172.0E-03	173.0E-03	171.0E-03	171.0E-03	174.0E-03
52	181.0E-03	166.0E-03	168.0E-03	173.0E-03	181.0E-03	174.0E-03	174.0E-03	175.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
Statistics												
Min	176.0E-03	166.0E-03	166.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	171.0E-03	170.0E-03	170.0E-03	168.0E-03	170.0E-03
Max	182.0E-03	168.0E-03	169.0E-03	181.0E-03	183.0E-03	177.0E-03	177.0E-03	180.0E-03	173.0E-03	174.0E-03	175.0E-03	177.0E-03
Average	178.4E-03	167.0E-03	167.8E-03	174.8E-03	175.9E-03	173.1E-03	173.1E-03	174.2E-03	171.0E-03	171.6E-03	171.3E-03	172.5E-03
Sigma	1.9E-03	632.5E-06	1.1E-03	2.8E-03	4.0E-03	2.2E-03	2.2E-03	2.6E-03	894.4E-06	1.5E-03	2.0E-03	2.2E-03

Measurements

Vol (LVCMOS) ufro4	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	179.0E-03	168.0E-03	168.0E-03	171.0E-03	172.0E-03	174.0E-03	174.0E-03	169.0E-03	176.0E-03	170.0E-03	169.0E-03	169.0E-03
OFF samples												
53	183.0E-03	166.0E-03	168.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	173.0E-03
54	180.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	176.0E-03	176.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	172.0E-03
Statistics												
Min	180.0E-03	166.0E-03	168.0E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	169.0E-03	169.0E-03	172.0E-03
Max	183.0E-03	167.0E-03	168.0E-03	172.0E-03	170.0E-03	176.0E-03	176.0E-03	172.0E-03	170.0E-03	170.0E-03	170.0E-03	173.0E-03
Average	181.5E-03	166.5E-03	168.0E-03	172.0E-03	170.0E-03	172.5E-03	172.5E-03	170.0E-03	170.0E-03	169.5E-03	169.5E-03	172.5E-03
Sigma	1.5E-03	500.0E-06	0.0E+00	0.0E+00	0.0E+00	3.5E-03	3.5E-03	2.0E-03	0.0E+00	500.0E-06	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro3

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

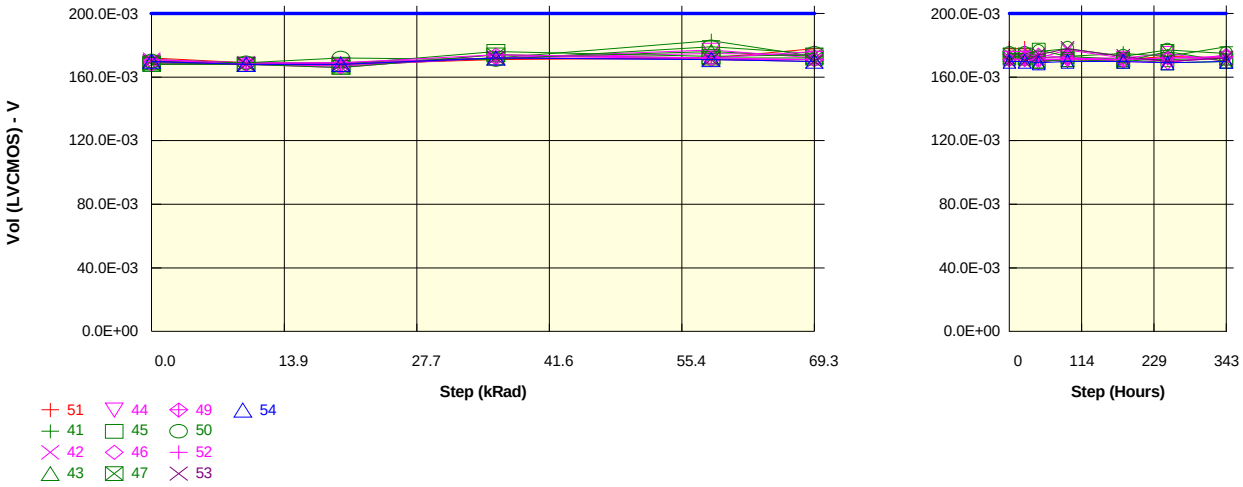
Vol (LVCMOS) ufro3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	167.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	167.0E-03	166.0E-03	165.0E-03	165.0E-03
ON samples												
41	168.0E-03	165.0E-03	166.0E-03	168.0E-03	173.0E-03	169.0E-03	169.0E-03	167.0E-03	168.0E-03	171.0E-03	166.0E-03	169.0E-03
42	166.0E-03	165.0E-03	165.0E-03	167.0E-03	167.0E-03	170.0E-03	170.0E-03	166.0E-03	166.0E-03	169.0E-03	165.0E-03	167.0E-03
43	164.0E-03	163.0E-03	163.0E-03	168.0E-03	171.0E-03	168.0E-03	168.0E-03	165.0E-03	168.0E-03	169.0E-03	164.0E-03	167.0E-03
44	165.0E-03	164.0E-03	164.0E-03	168.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	166.0E-03	165.0E-03	165.0E-03	170.0E-03
45	164.0E-03	165.0E-03	165.0E-03	171.0E-03	169.0E-03	168.0E-03	168.0E-03	175.0E-03	171.0E-03	167.0E-03	173.0E-03	172.0E-03
46	164.0E-03	165.0E-03	163.0E-03	171.0E-03	167.0E-03	167.0E-03	167.0E-03	167.0E-03	166.0E-03	167.0E-03	166.0E-03	168.0E-03
47	163.0E-03	164.0E-03	162.0E-03	169.0E-03	165.0E-03	166.0E-03	166.0E-03	165.0E-03	166.0E-03	167.0E-03	164.0E-03	169.0E-03
49	165.0E-03	164.0E-03	164.0E-03	168.0E-03	166.0E-03	166.0E-03	166.0E-03	165.0E-03	166.0E-03	166.0E-03	165.0E-03	169.0E-03
50	165.0E-03	165.0E-03	165.0E-03	167.0E-03	181.0E-03	169.0E-03	169.0E-03	167.0E-03	172.0E-03	167.0E-03	167.0E-03	166.0E-03
52	166.0E-03	165.0E-03	164.0E-03	169.0E-03	169.0E-03	172.0E-03	172.0E-03	165.0E-03	166.0E-03	174.0E-03	174.0E-03	166.0E-03
Statistics												
Min	163.0E-03	163.0E-03	162.0E-03	167.0E-03	165.0E-03	166.0E-03	166.0E-03	165.0E-03	166.0E-03	165.0E-03	164.0E-03	166.0E-03
Max	168.0E-03	165.0E-03	166.0E-03	171.0E-03	181.0E-03	172.0E-03	172.0E-03	175.0E-03	172.0E-03	174.0E-03	174.0E-03	172.0E-03
Average	165.0E-03	164.5E-03	164.1E-03	168.6E-03	169.5E-03	168.2E-03	168.2E-03	166.8E-03	167.5E-03	168.2E-03	166.9E-03	168.3E-03
Sigma	1.3E-03	670.8E-06	1.1E-03	1.4E-03	4.5E-03	1.8E-03	1.8E-03	2.9E-03	2.2E-03	2.5E-03	3.4E-03	1.8E-03

Measurements

Vol (LVCMOS) ufro3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	167.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	167.0E-03	167.0E-03	165.0E-03	167.0E-03	166.0E-03	165.0E-03	165.0E-03
OFF samples												
53	166.0E-03	164.0E-03	165.0E-03	168.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	166.0E-03	164.0E-03	166.0E-03
54	165.0E-03	164.0E-03	165.0E-03	168.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	164.0E-03	164.0E-03
Statistics												
Min	165.0E-03	164.0E-03	165.0E-03	168.0E-03	165.0E-03	165.0E-03	165.0E-03	164.0E-03	165.0E-03	165.0E-03	164.0E-03	164.0E-03
Max	166.0E-03	164.0E-03	165.0E-03	168.0E-03	166.0E-03	165.0E-03	165.0E-03	165.0E-03	167.0E-03	166.0E-03	164.0E-03	166.0E-03
Average	165.5E-03	164.0E-03	165.0E-03	168.0E-03	165.5E-03	165.0E-03	165.0E-03	164.5E-03	166.0E-03	165.5E-03	164.0E-03	165.0E-03
Sigma	500.0E-06	0.0E+00	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	500.0E-06	1000.0E-06	500.0E-06	0.0E+00	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro2

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

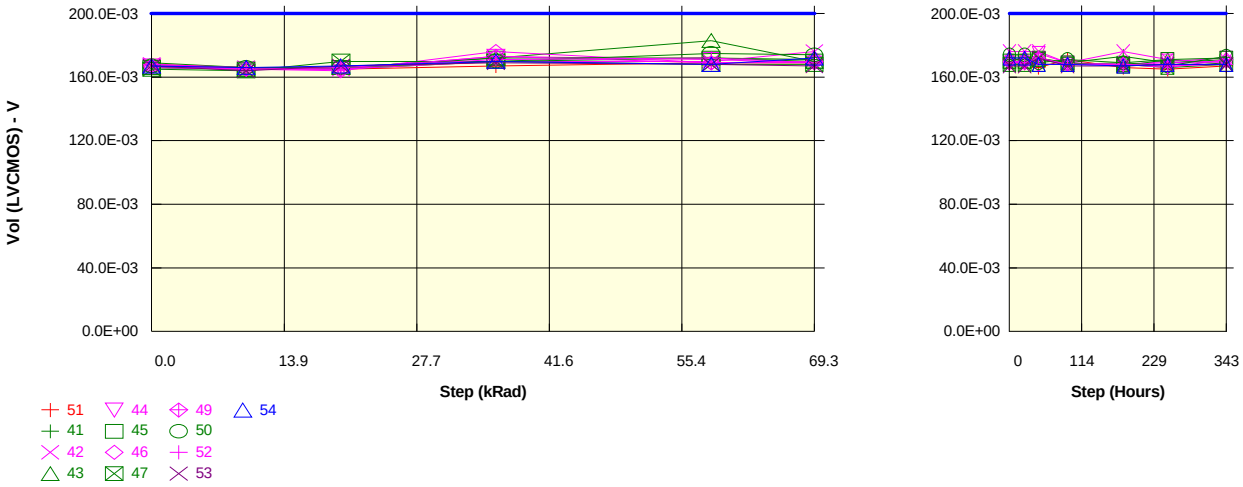
Vol (LVCMOS) ufro2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	168.0E-03	171.0E-03	172.0E-03	178.0E-03	178.0E-03	171.0E-03	170.0E-03	171.0E-03	173.0E-03	172.0E-03
ON samples												
41	171.0E-03	169.0E-03	169.0E-03	172.0E-03	183.0E-03	173.0E-03	173.0E-03	172.0E-03	173.0E-03	175.0E-03	173.0E-03	179.0E-03
42	171.0E-03	169.0E-03	169.0E-03	172.0E-03	175.0E-03	174.0E-03	174.0E-03	172.0E-03	177.0E-03	172.0E-03	170.0E-03	172.0E-03
43	169.0E-03	168.0E-03	167.0E-03	172.0E-03	176.0E-03	173.0E-03	173.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03
44	169.0E-03	168.0E-03	167.0E-03	172.0E-03	177.0E-03	172.0E-03	172.0E-03	169.0E-03	172.0E-03	172.0E-03	175.0E-03	170.0E-03
45	169.0E-03	168.0E-03	168.0E-03	176.0E-03	173.0E-03	174.0E-03	174.0E-03	177.0E-03	173.0E-03	171.0E-03	171.0E-03	172.0E-03
46	168.0E-03	168.0E-03	166.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	174.0E-03	172.0E-03	170.0E-03	169.0E-03	174.0E-03
47	168.0E-03	168.0E-03	166.0E-03	174.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	171.0E-03	170.0E-03	176.0E-03	170.0E-03
49	170.0E-03	169.0E-03	168.0E-03	172.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	172.0E-03	173.0E-03
50	170.0E-03	169.0E-03	172.0E-03	171.0E-03	179.0E-03	175.0E-03	175.0E-03	176.0E-03	178.0E-03	173.0E-03	177.0E-03	175.0E-03
52	171.0E-03	168.0E-03	169.0E-03	174.0E-03	172.0E-03	176.0E-03	176.0E-03	172.0E-03	172.0E-03	171.0E-03	172.0E-03	172.0E-03
Statistics												
Min	168.0E-03	168.0E-03	166.0E-03	171.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	169.0E-03	170.0E-03
Max	171.0E-03	169.0E-03	172.0E-03	176.0E-03	183.0E-03	176.0E-03	176.0E-03	177.0E-03	178.0E-03	175.0E-03	177.0E-03	179.0E-03
Average	169.6E-03	168.4E-03	168.1E-03	172.9E-03	175.0E-03	173.1E-03	173.1E-03	172.3E-03	173.0E-03	171.6E-03	172.4E-03	172.7E-03
Sigma	1.1E-03	489.9E-06	1.7E-03	1.4E-03	3.6E-03	1.6E-03	1.6E-03	2.5E-03	2.4E-03	1.4E-03	2.7E-03	2.6E-03

Measurements

Vol (LVCMOS) ufro2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	172.0E-03	169.0E-03	168.0E-03	171.0E-03	172.0E-03	178.0E-03	178.0E-03	171.0E-03	170.0E-03	171.0E-03	173.0E-03	172.0E-03
OFF samples												
53	170.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	174.0E-03	178.0E-03	173.0E-03	170.0E-03	172.0E-03
54	170.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03
Statistics												
Min	170.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03	170.0E-03	169.0E-03	170.0E-03
Max	170.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	174.0E-03	178.0E-03	173.0E-03	170.0E-03	172.0E-03
Average	170.0E-03	168.0E-03	168.0E-03	172.0E-03	171.0E-03	170.0E-03	170.0E-03	171.5E-03	174.0E-03	171.5E-03	169.5E-03	171.0E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.5E-03	4.0E-03	1.5E-03	500.0E-06	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro1

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

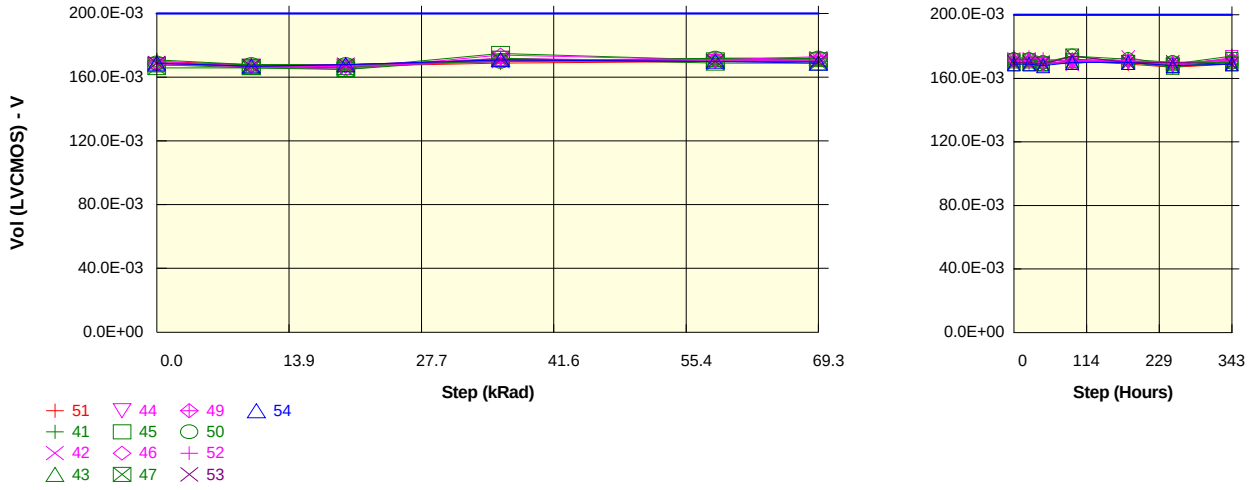
Vol (LVCMOS) ufro1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	165.0E-03	167.0E-03	169.0E-03	169.0E-03	169.0E-03	166.0E-03	171.0E-03	166.0E-03	165.0E-03	167.0E-03
ON samples												
41	169.0E-03	166.0E-03	165.0E-03	170.0E-03	172.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	173.0E-03	169.0E-03	171.0E-03
42	168.0E-03	166.0E-03	165.0E-03	170.0E-03	170.0E-03	176.0E-03	176.0E-03	176.0E-03	169.0E-03	176.0E-03	171.0E-03	169.0E-03
43	166.0E-03	165.0E-03	166.0E-03	172.0E-03	183.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	169.0E-03	171.0E-03	168.0E-03
44	167.0E-03	165.0E-03	165.0E-03	173.0E-03	171.0E-03	169.0E-03	169.0E-03	175.0E-03	169.0E-03	168.0E-03	170.0E-03	172.0E-03
45	166.0E-03	165.0E-03	166.0E-03	172.0E-03	172.0E-03	170.0E-03	170.0E-03	172.0E-03	169.0E-03	167.0E-03	171.0E-03	172.0E-03
46	166.0E-03	165.0E-03	164.0E-03	176.0E-03	169.0E-03	169.0E-03	169.0E-03	168.0E-03	168.0E-03	168.0E-03	169.0E-03	170.0E-03
47	165.0E-03	164.0E-03	170.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	171.0E-03	168.0E-03	168.0E-03	166.0E-03	168.0E-03
49	167.0E-03	165.0E-03	165.0E-03	173.0E-03	169.0E-03	170.0E-03	170.0E-03	172.0E-03	168.0E-03	168.0E-03	166.0E-03	171.0E-03
50	167.0E-03	166.0E-03	166.0E-03	170.0E-03	175.0E-03	174.0E-03	174.0E-03	169.0E-03	171.0E-03	169.0E-03	167.0E-03	173.0E-03
52	168.0E-03	165.0E-03	166.0E-03	171.0E-03	172.0E-03	169.0E-03	169.0E-03	172.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03
Statistics												
Min	165.0E-03	164.0E-03	164.0E-03	170.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	168.0E-03	167.0E-03	166.0E-03	168.0E-03
Max	169.0E-03	166.0E-03	170.0E-03	176.0E-03	183.0E-03	176.0E-03	176.0E-03	176.0E-03	171.0E-03	176.0E-03	171.0E-03	173.0E-03
Average	166.9E-03	165.2E-03	165.8E-03	171.7E-03	172.1E-03	170.6E-03	170.6E-03	171.4E-03	168.7E-03	169.4E-03	168.7E-03	170.2E-03
Sigma	1.1E-03	600.0E-06	1.5E-03	1.8E-03	4.1E-03	2.4E-03	2.4E-03	2.5E-03	900.0E-06	2.7E-03	2.0E-03	1.8E-03

Measurements

Vol (LVCMOS) ufro1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	168.0E-03	166.0E-03	165.0E-03	167.0E-03	169.0E-03	169.0E-03	169.0E-03	166.0E-03	171.0E-03	166.0E-03	165.0E-03	167.0E-03
OFF samples												
53	167.0E-03	164.0E-03	167.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	172.0E-03	167.0E-03	167.0E-03	168.0E-03	168.0E-03
54	167.0E-03	166.0E-03	167.0E-03	170.0E-03	168.0E-03	172.0E-03	172.0E-03	168.0E-03	168.0E-03	167.0E-03	168.0E-03	168.0E-03
Statistics												
Min	167.0E-03	164.0E-03	167.0E-03	169.0E-03	168.0E-03	167.0E-03	167.0E-03	168.0E-03	167.0E-03	167.0E-03	168.0E-03	168.0E-03
Max	167.0E-03	166.0E-03	167.0E-03	170.0E-03	168.0E-03	172.0E-03	172.0E-03	172.0E-03	168.0E-03	167.0E-03	168.0E-03	168.0E-03
Average	167.0E-03	165.0E-03	167.0E-03	169.5E-03	168.0E-03	169.5E-03	169.5E-03	170.0E-03	167.5E-03	167.0E-03	168.0E-03	168.0E-03
Sigma	0.0E+00	1.0E-03	0.0E+00	500.0E-06	0.0E+00	2.5E-03	2.5E-03	2.0E-03	500.0E-06	0.0E+00	0.0E+00	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVCMOS)ufro0

Unit : V
Spec Limit Max : 200.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

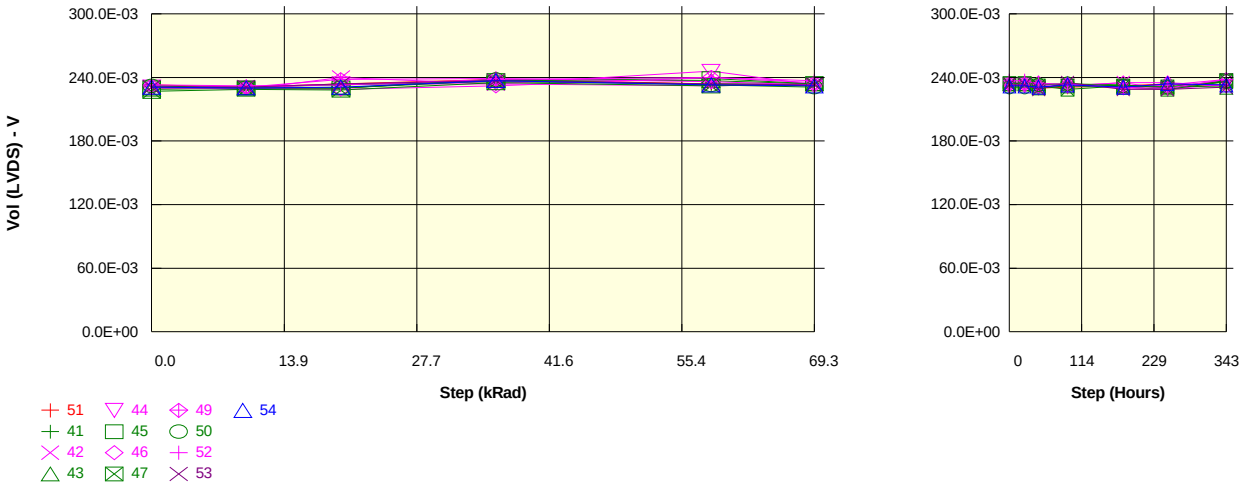
Vol (LVCMOS) ufro0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	167.0E-03	169.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	169.0E-03	167.0E-03	169.0E-03
ON samples												
41	171.0E-03	168.0E-03	168.0E-03	170.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	172.0E-03	171.0E-03	169.0E-03	174.0E-03
42	169.0E-03	167.0E-03	167.0E-03	170.0E-03	170.0E-03	172.0E-03	172.0E-03	170.0E-03	169.0E-03	173.0E-03	168.0E-03	171.0E-03
43	168.0E-03	166.0E-03	166.0E-03	171.0E-03	171.0E-03	172.0E-03	172.0E-03	169.0E-03	170.0E-03	170.0E-03	167.0E-03	171.0E-03
44	168.0E-03	167.0E-03	167.0E-03	172.0E-03	170.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	170.0E-03	168.0E-03	173.0E-03
45	168.0E-03	167.0E-03	166.0E-03	175.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	174.0E-03	170.0E-03	169.0E-03	172.0E-03
46	168.0E-03	167.0E-03	165.0E-03	174.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	170.0E-03	171.0E-03	169.0E-03	172.0E-03
47	166.0E-03	166.0E-03	165.0E-03	172.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	171.0E-03	170.0E-03	168.0E-03	169.0E-03
49	169.0E-03	167.0E-03	167.0E-03	170.0E-03	171.0E-03	171.0E-03	171.0E-03	169.0E-03	171.0E-03	171.0E-03	169.0E-03	172.0E-03
50	169.0E-03	168.0E-03	168.0E-03	170.0E-03	172.0E-03	172.0E-03	172.0E-03	170.0E-03	174.0E-03	172.0E-03	170.0E-03	170.0E-03
52	170.0E-03	167.0E-03	168.0E-03	171.0E-03	171.0E-03	173.0E-03	173.0E-03	172.0E-03	171.0E-03	171.0E-03	170.0E-03	171.0E-03
Statistics												
Min	166.0E-03	166.0E-03	165.0E-03	170.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	169.0E-03	170.0E-03	167.0E-03	169.0E-03
Max	171.0E-03	168.0E-03	168.0E-03	175.0E-03	172.0E-03	173.0E-03	173.0E-03	172.0E-03	174.0E-03	173.0E-03	170.0E-03	174.0E-03
Average	168.6E-03	167.0E-03	166.7E-03	171.5E-03	170.8E-03	171.4E-03	171.4E-03	169.6E-03	171.3E-03	170.9E-03	168.7E-03	171.5E-03
Sigma	1.3E-03	632.5E-06	1.1E-03	1.7E-03	871.8E-06	1.0E-03	1.0E-03	916.5E-06	1.6E-03	943.4E-06	900.0E-06	1.4E-03

Measurements

Vol (LVCMOS) ufro0	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	170.0E-03	168.0E-03	167.0E-03	169.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	171.0E-03	169.0E-03	167.0E-03	169.0E-03
OFF samples												
53	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03
54	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03
Statistics												
Min	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	169.0E-03	169.0E-03	168.0E-03	170.0E-03	170.0E-03	168.0E-03	169.0E-03
Max	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	170.0E-03	170.0E-03	169.0E-03	174.0E-03	170.0E-03	170.0E-03	169.0E-03
Average	169.0E-03	167.0E-03	168.0E-03	171.0E-03	170.0E-03	169.5E-03	169.5E-03	168.5E-03	172.0E-03	170.0E-03	169.0E-03	169.0E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	500.0E-06	500.0E-06	2.0E-03	0.0E+00	1.0E-03	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o3p

Unit : V
No spec limit specified.



Measurements

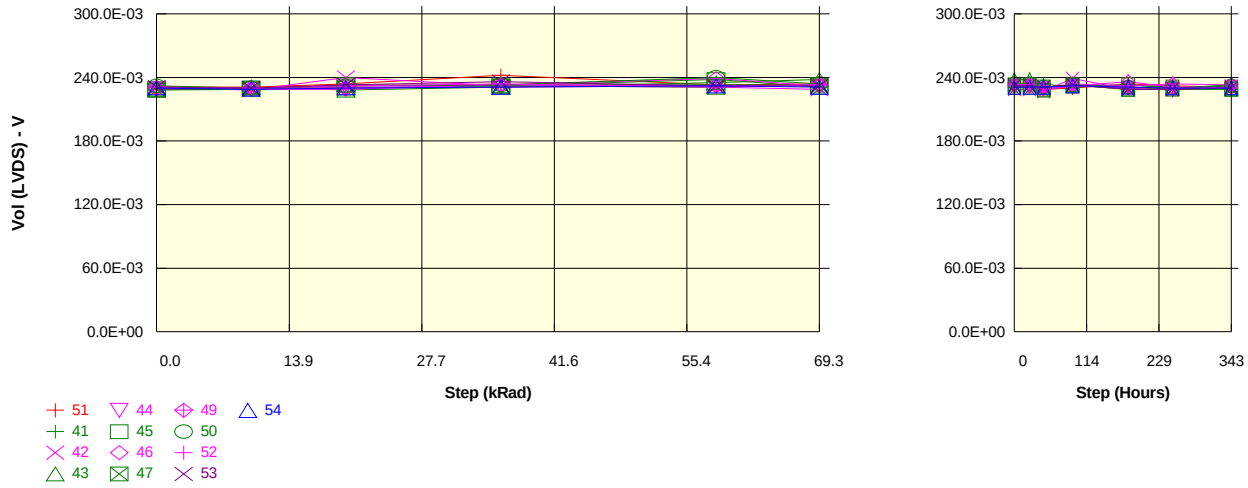
Vol (LVDS)s9 o3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	231.0E-03	234.0E-03	238.0E-03	234.0E-03	232.0E-03	232.0E-03	230.0E-03	231.0E-03	232.0E-03	234.0E-03	232.0E-03
ON samples												
41	232.0E-03	231.0E-03	233.0E-03	236.0E-03	234.0E-03	234.0E-03	234.0E-03	230.0E-03	234.0E-03	233.0E-03	230.0E-03	237.0E-03
42	231.0E-03	229.0E-03	240.0E-03	234.0E-03	232.0E-03	234.0E-03	234.0E-03	230.0E-03	232.0E-03	235.0E-03	229.0E-03	234.0E-03
43	229.0E-03	230.0E-03	230.0E-03	238.0E-03	237.0E-03	234.0E-03	234.0E-03	234.0E-03	234.0E-03	232.0E-03	232.0E-03	231.0E-03
44	231.0E-03	230.0E-03	234.0E-03	234.0E-03	246.0E-03	233.0E-03	233.0E-03	230.0E-03	232.0E-03	231.0E-03	229.0E-03	237.0E-03
45	230.0E-03	230.0E-03	230.0E-03	237.0E-03	239.0E-03	234.0E-03	234.0E-03	230.0E-03	232.0E-03	231.0E-03	229.0E-03	236.0E-03
46	230.0E-03	230.0E-03	229.0E-03	232.0E-03	240.0E-03	235.0E-03	235.0E-03	235.0E-03	232.0E-03	235.0E-03	235.0E-03	232.0E-03
47	227.0E-03	229.0E-03	228.0E-03	235.0E-03	232.0E-03	234.0E-03	234.0E-03	232.0E-03	229.0E-03	232.0E-03	231.0E-03	237.0E-03
49	232.0E-03	231.0E-03	238.0E-03	239.0E-03	236.0E-03	233.0E-03	233.0E-03	232.0E-03	234.0E-03	230.0E-03	233.0E-03	238.0E-03
50	232.0E-03	230.0E-03	230.0E-03	238.0E-03	233.0E-03	231.0E-03	231.0E-03	233.0E-03	234.0E-03	232.0E-03	231.0E-03	236.0E-03
52	233.0E-03	232.0E-03	233.0E-03	238.0E-03	240.0E-03	237.0E-03	237.0E-03	234.0E-03	234.0E-03	230.0E-03	230.0E-03	238.0E-03
Statistics												
Min	227.0E-03	229.0E-03	228.0E-03	232.0E-03	232.0E-03	231.0E-03	231.0E-03	230.0E-03	229.0E-03	230.0E-03	229.0E-03	231.0E-03
Max	233.0E-03	232.0E-03	240.0E-03	239.0E-03	246.0E-03	237.0E-03	237.0E-03	235.0E-03	234.0E-03	235.0E-03	235.0E-03	238.0E-03
Average	230.7E-03	230.2E-03	232.5E-03	236.1E-03	236.9E-03	233.9E-03	233.9E-03	232.0E-03	232.7E-03	232.1E-03	230.9E-03	235.6E-03
Sigma	1.7E-03	871.8E-06	3.7E-03	2.2E-03	4.2E-03	1.4E-03	1.4E-03	1.8E-03	1.6E-03	1.7E-03	1.9E-03	2.3E-03

Measurements

Vol (LVDS)s9 o3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	231.0E-03	234.0E-03	238.0E-03	234.0E-03	232.0E-03	232.0E-03	230.0E-03	231.0E-03	232.0E-03	234.0E-03	232.0E-03
OFF samples												
53	231.0E-03	231.0E-03	234.0E-03	237.0E-03	234.0E-03	233.0E-03	233.0E-03	229.0E-03	235.0E-03	229.0E-03	229.0E-03	231.0E-03
54	231.0E-03	230.0E-03	231.0E-03	237.0E-03	233.0E-03	232.0E-03	232.0E-03	231.0E-03	233.0E-03	231.0E-03	234.0E-03	233.0E-03
Statistics												
Min	231.0E-03	230.0E-03	231.0E-03	237.0E-03	233.0E-03	232.0E-03	232.0E-03	229.0E-03	233.0E-03	229.0E-03	229.0E-03	231.0E-03
Max	231.0E-03	231.0E-03	234.0E-03	237.0E-03	234.0E-03	233.0E-03	233.0E-03	231.0E-03	235.0E-03	231.0E-03	234.0E-03	233.0E-03
Average	231.0E-03	230.5E-03	232.5E-03	237.0E-03	233.5E-03	232.5E-03	232.5E-03	230.0E-03	234.0E-03	230.0E-03	231.5E-03	232.0E-03
Sigma	0.0E+00	500.0E-06	1.5E-03	0.0E+00	500.0E-06	500.0E-06	500.0E-06	1.0E-03	1.0E-03	1.0E-03	2.5E-03	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o2p

Unit : V
No spec limit specified.



Measurements

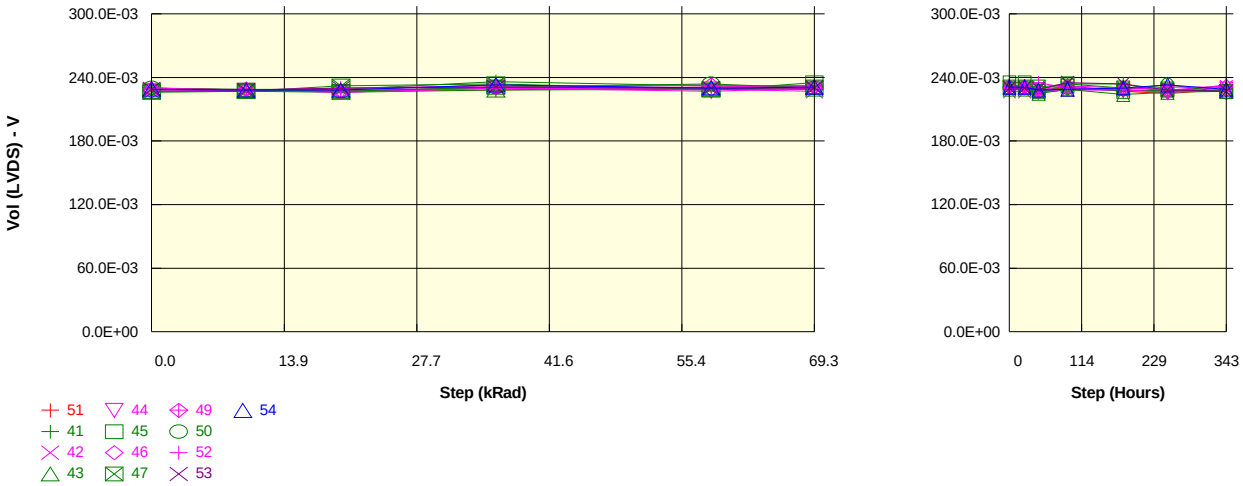
Vol (LVDS)s9 o2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	231.0E-03	231.0E-03	234.0E-03	242.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	230.0E-03	234.0E-03	232.0E-03	231.0E-03
ON samples												
41	231.0E-03	230.0E-03	232.0E-03	233.0E-03	233.0E-03	233.0E-03	233.0E-03	234.0E-03	231.0E-03	233.0E-03	230.0E-03	233.0E-03
42	230.0E-03	228.0E-03	240.0E-03	232.0E-03	231.0E-03	229.0E-03	229.0E-03	227.0E-03	239.0E-03	229.0E-03	229.0E-03	231.0E-03
43	228.0E-03	231.0E-03	228.0E-03	231.0E-03	235.0E-03	238.0E-03	238.0E-03	229.0E-03	233.0E-03	229.0E-03	230.0E-03	230.0E-03
44	229.0E-03	229.0E-03	231.0E-03	231.0E-03	232.0E-03	232.0E-03	232.0E-03	229.0E-03	232.0E-03	230.0E-03	228.0E-03	231.0E-03
45	229.0E-03	230.0E-03	230.0E-03	232.0E-03	238.0E-03	231.0E-03	231.0E-03	228.0E-03	232.0E-03	233.0E-03	231.0E-03	229.0E-03
46	229.0E-03	229.0E-03	229.0E-03	233.0E-03	239.0E-03	232.0E-03	232.0E-03	230.0E-03	232.0E-03	236.0E-03	231.0E-03	231.0E-03
47	228.0E-03	229.0E-03	233.0E-03	232.0E-03	231.0E-03	233.0E-03	233.0E-03	231.0E-03	233.0E-03	229.0E-03	229.0E-03	229.0E-03
49	231.0E-03	230.0E-03	230.0E-03	233.0E-03	232.0E-03	233.0E-03	233.0E-03	230.0E-03	234.0E-03	232.0E-03	234.0E-03	233.0E-03
50	232.0E-03	230.0E-03	232.0E-03	233.0E-03	240.0E-03	234.0E-03	234.0E-03	231.0E-03	233.0E-03	231.0E-03	230.0E-03	232.0E-03
52	231.0E-03	230.0E-03	232.0E-03	234.0E-03	231.0E-03	233.0E-03	233.0E-03	228.0E-03	232.0E-03	231.0E-03	230.0E-03	230.0E-03
Statistics												
Min	228.0E-03	228.0E-03	228.0E-03	231.0E-03	231.0E-03	229.0E-03	229.0E-03	227.0E-03	231.0E-03	229.0E-03	228.0E-03	229.0E-03
Max	232.0E-03	231.0E-03	240.0E-03	234.0E-03	240.0E-03	238.0E-03	238.0E-03	234.0E-03	239.0E-03	236.0E-03	234.0E-03	233.0E-03
Average	229.8E-03	229.6E-03	231.7E-03	232.4E-03	234.2E-03	232.8E-03	232.8E-03	229.7E-03	233.1E-03	231.3E-03	230.2E-03	230.9E-03
Sigma	1.3E-03	800.0E-06	3.1E-03	916.5E-06	3.4E-03	2.2E-03	2.2E-03	1.9E-03	2.1E-03	2.1E-03	1.5E-03	1.4E-03

Measurements

Vol (LVDS)s9 o2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	231.0E-03	231.0E-03	234.0E-03	242.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	230.0E-03	234.0E-03	232.0E-03	231.0E-03
OFF samples												
53	231.0E-03	230.0E-03	233.0E-03	236.0E-03	232.0E-03	232.0E-03	232.0E-03	231.0E-03	233.0E-03	229.0E-03	229.0E-03	230.0E-03
54	230.0E-03	229.0E-03	230.0E-03	231.0E-03	232.0E-03	231.0E-03	231.0E-03	231.0E-03	232.0E-03	231.0E-03	230.0E-03	230.0E-03
Statistics												
Min	230.0E-03	229.0E-03	230.0E-03	231.0E-03	232.0E-03	231.0E-03	231.0E-03	231.0E-03	232.0E-03	229.0E-03	229.0E-03	230.0E-03
Max	231.0E-03	230.0E-03	233.0E-03	236.0E-03	232.0E-03	232.0E-03	232.0E-03	231.0E-03	233.0E-03	231.0E-03	230.0E-03	230.0E-03
Average	230.5E-03	229.5E-03	231.5E-03	233.5E-03	232.0E-03	231.5E-03	231.5E-03	231.0E-03	232.5E-03	230.0E-03	229.5E-03	230.0E-03
Sigma	500.0E-06	500.0E-06	1.5E-03	2.5E-03	0.0E+00	500.0E-06	500.0E-06	0.0E+00	500.0E-06	1.0E-03	500.0E-06	0.0E+00

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o1p

Unit : V
No spec limit specified.



Measurements

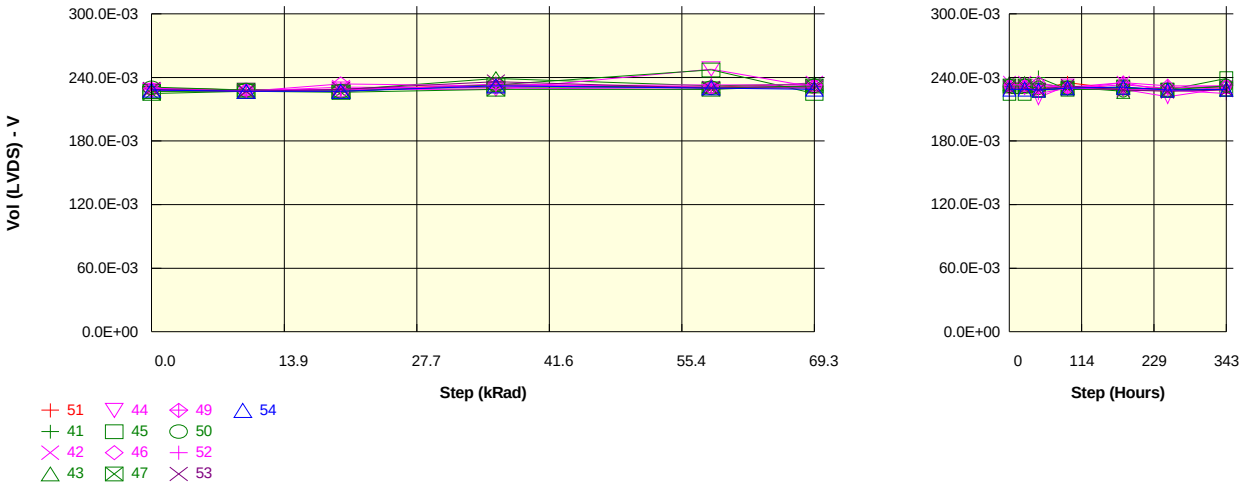
Vol (LVDS)s9 o1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	228.0E-03	228.0E-03	231.0E-03	232.0E-03	232.0E-03	227.0E-03	231.0E-03	227.0E-03	225.0E-03	229.0E-03
ON samples												
41	230.0E-03	229.0E-03	229.0E-03	236.0E-03	232.0E-03	232.0E-03	232.0E-03	229.0E-03	234.0E-03	234.0E-03	226.0E-03	233.0E-03
42	228.0E-03	227.0E-03	228.0E-03	233.0E-03	229.0E-03	227.0E-03	227.0E-03	226.0E-03	228.0E-03	228.0E-03	227.0E-03	231.0E-03
43	227.0E-03	227.0E-03	226.0E-03	228.0E-03	229.0E-03	229.0E-03	229.0E-03	225.0E-03	229.0E-03	224.0E-03	226.0E-03	227.0E-03
44	228.0E-03	228.0E-03	226.0E-03	230.0E-03	227.0E-03	230.0E-03	230.0E-03	227.0E-03	229.0E-03	228.0E-03	227.0E-03	229.0E-03
45	227.0E-03	228.0E-03	227.0E-03	231.0E-03	228.0E-03	235.0E-03	235.0E-03	227.0E-03	232.0E-03	227.0E-03	228.0E-03	227.0E-03
46	227.0E-03	228.0E-03	226.0E-03	230.0E-03	229.0E-03	231.0E-03	231.0E-03	226.0E-03	230.0E-03	228.0E-03	226.0E-03	228.0E-03
47	226.0E-03	227.0E-03	232.0E-03	234.0E-03	229.0E-03	231.0E-03	231.0E-03	231.0E-03	234.0E-03	230.0E-03	229.0E-03	227.0E-03
49	229.0E-03	229.0E-03	227.0E-03	231.0E-03	233.0E-03	231.0E-03	231.0E-03	228.0E-03	232.0E-03	230.0E-03	228.0E-03	232.0E-03
50	230.0E-03	228.0E-03	227.0E-03	231.0E-03	234.0E-03	230.0E-03	230.0E-03	227.0E-03	230.0E-03	229.0E-03	233.0E-03	226.0E-03
52	230.0E-03	228.0E-03	230.0E-03	232.0E-03	232.0E-03	230.0E-03	230.0E-03	235.0E-03	230.0E-03	229.0E-03	231.0E-03	231.0E-03
Statistics												
Min	226.0E-03	227.0E-03	226.0E-03	228.0E-03	227.0E-03	227.0E-03	227.0E-03	225.0E-03	228.0E-03	224.0E-03	226.0E-03	226.0E-03
Max	230.0E-03	229.0E-03	232.0E-03	236.0E-03	234.0E-03	235.0E-03	235.0E-03	235.0E-03	234.0E-03	234.0E-03	233.0E-03	233.0E-03
Average	228.2E-03	227.9E-03	227.8E-03	231.6E-03	230.2E-03	230.6E-03	230.6E-03	228.1E-03	230.8E-03	228.7E-03	228.1E-03	229.1E-03
Sigma	1.4E-03	700.0E-06	1.9E-03	2.2E-03	2.2E-03	2.0E-03	2.0E-03	2.8E-03	2.0E-03	2.4E-03	2.2E-03	2.3E-03

Measurements

Vol (LVDS)s9 o1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	228.0E-03	228.0E-03	231.0E-03	232.0E-03	232.0E-03	227.0E-03	231.0E-03	227.0E-03	225.0E-03	229.0E-03
OFF samples												
53	229.0E-03	228.0E-03	230.0E-03	231.0E-03	230.0E-03	230.0E-03	230.0E-03	229.0E-03	235.0E-03	234.0E-03	228.0E-03	227.0E-03
54	229.0E-03	228.0E-03	228.0E-03	233.0E-03	230.0E-03	231.0E-03	231.0E-03	228.0E-03	229.0E-03	230.0E-03	233.0E-03	229.0E-03
Statistics												
Min	229.0E-03	228.0E-03	228.0E-03	231.0E-03	230.0E-03	230.0E-03	230.0E-03	228.0E-03	229.0E-03	230.0E-03	228.0E-03	227.0E-03
Max	229.0E-03	228.0E-03	230.0E-03	233.0E-03	230.0E-03	231.0E-03	231.0E-03	229.0E-03	235.0E-03	234.0E-03	233.0E-03	229.0E-03
Average	229.0E-03	228.0E-03	229.0E-03	232.0E-03	230.0E-03	230.5E-03	230.5E-03	228.5E-03	232.0E-03	232.0E-03	230.5E-03	228.0E-03
Sigma	0.0E+00	0.0E+00	1.0E-03	1.0E-03	0.0E+00	500.0E-06	500.0E-06	500.0E-06	3.0E-03	2.0E-03	2.5E-03	1.0E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o0p

Unit : V
No spec limit specified.



Measurements

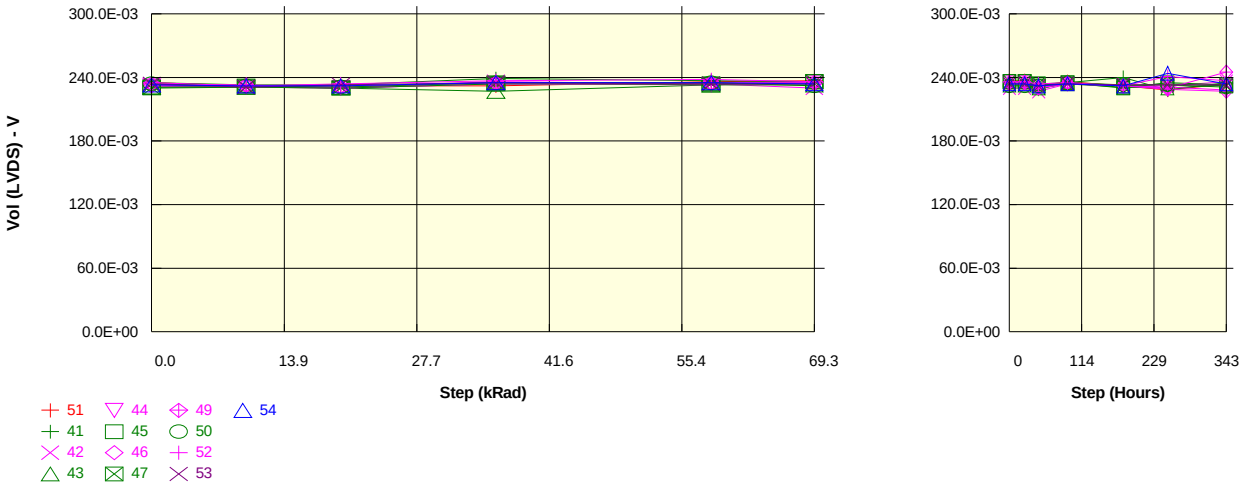
Vol (LVDS)s9 o0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	229.0E-03	233.0E-03	231.0E-03	234.0E-03	234.0E-03	228.0E-03	235.0E-03	229.0E-03	231.0E-03	230.0E-03
ON samples												
41	231.0E-03	228.0E-03	229.0E-03	231.0E-03	231.0E-03	231.0E-03	231.0E-03	240.0E-03	229.0E-03	229.0E-03	230.0E-03	231.0E-03
42	228.0E-03	227.0E-03	231.0E-03	230.0E-03	229.0E-03	235.0E-03	235.0E-03	232.0E-03	229.0E-03	235.0E-03	227.0E-03	231.0E-03
43	227.0E-03	227.0E-03	228.0E-03	239.0E-03	232.0E-03	234.0E-03	234.0E-03	234.0E-03	231.0E-03	227.0E-03	229.0E-03	229.0E-03
44	228.0E-03	228.0E-03	229.0E-03	229.0E-03	248.0E-03	231.0E-03	231.0E-03	221.0E-03	232.0E-03	229.0E-03	222.0E-03	230.0E-03
45	227.0E-03	228.0E-03	227.0E-03	233.0E-03	247.0E-03	225.0E-03	225.0E-03	228.0E-03	229.0E-03	230.0E-03	228.0E-03	239.0E-03
46	228.0E-03	227.0E-03	234.0E-03	232.0E-03	230.0E-03	232.0E-03	232.0E-03	235.0E-03	230.0E-03	233.0E-03	230.0E-03	232.0E-03
47	225.0E-03	227.0E-03	226.0E-03	229.0E-03	229.0E-03	232.0E-03	232.0E-03	228.0E-03	230.0E-03	231.0E-03	228.0E-03	229.0E-03
49	229.0E-03	228.0E-03	227.0E-03	234.0E-03	231.0E-03	231.0E-03	231.0E-03	232.0E-03	231.0E-03	235.0E-03	232.0E-03	232.0E-03
50	230.0E-03	228.0E-03	227.0E-03	233.0E-03	230.0E-03	232.0E-03	232.0E-03	230.0E-03	230.0E-03	228.0E-03	228.0E-03	232.0E-03
52	230.0E-03	227.0E-03	229.0E-03	232.0E-03	233.0E-03	233.0E-03	233.0E-03	225.0E-03	230.0E-03	229.0E-03	228.0E-03	225.0E-03
Statistics												
Min	225.0E-03	227.0E-03	226.0E-03	229.0E-03	229.0E-03	225.0E-03	225.0E-03	221.0E-03	229.0E-03	227.0E-03	222.0E-03	225.0E-03
Max	231.0E-03	228.0E-03	234.0E-03	239.0E-03	248.0E-03	235.0E-03	235.0E-03	240.0E-03	232.0E-03	235.0E-03	232.0E-03	239.0E-03
Average	228.3E-03	227.5E-03	228.7E-03	232.2E-03	234.0E-03	231.6E-03	231.6E-03	230.5E-03	230.1E-03	230.6E-03	228.2E-03	231.0E-03
Sigma	1.7E-03	500.0E-06	2.2E-03	2.8E-03	6.9E-03	2.5E-03	2.5E-03	5.1E-03	943.4E-06	2.7E-03	2.5E-03	3.3E-03

Measurements

Vol (LVDS)s9 o0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	229.0E-03	233.0E-03	231.0E-03	234.0E-03	234.0E-03	228.0E-03	235.0E-03	229.0E-03	231.0E-03	230.0E-03
OFF samples												
53	229.0E-03	227.0E-03	229.0E-03	236.0E-03	230.0E-03	230.0E-03	230.0E-03	228.0E-03	232.0E-03	228.0E-03	227.0E-03	228.0E-03
54	228.0E-03	227.0E-03	227.0E-03	232.0E-03	230.0E-03	229.0E-03	229.0E-03	228.0E-03	230.0E-03	231.0E-03	228.0E-03	229.0E-03
Statistics												
Min	228.0E-03	227.0E-03	227.0E-03	232.0E-03	230.0E-03	229.0E-03	229.0E-03	228.0E-03	230.0E-03	228.0E-03	227.0E-03	228.0E-03
Max	229.0E-03	227.0E-03	229.0E-03	236.0E-03	230.0E-03	230.0E-03	230.0E-03	228.0E-03	232.0E-03	231.0E-03	228.0E-03	229.0E-03
Average	228.5E-03	227.0E-03	228.0E-03	234.0E-03	230.0E-03	229.5E-03	229.5E-03	228.0E-03	231.0E-03	229.5E-03	227.5E-03	228.5E-03
Sigma	500.0E-06	0.0E+00	1.0E-03	2.0E-03	0.0E+00	500.0E-06	500.0E-06	0.0E+00	1.0E-03	1.5E-03	500.0E-06	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o3n

Unit : V
No spec limit specified.



Measurements

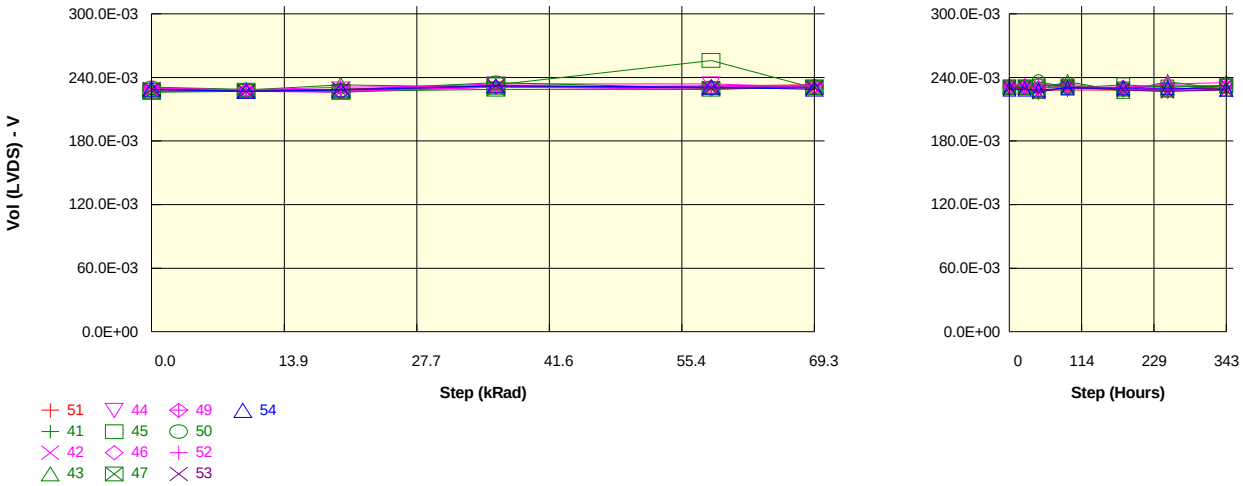
Vol (LVDS)s9o3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	235.0E-03	232.0E-03	232.0E-03	232.0E-03	236.0E-03	237.0E-03	237.0E-03	232.0E-03	236.0E-03	232.0E-03	228.0E-03	234.0E-03
ON samples												
41	235.0E-03	233.0E-03	233.0E-03	239.0E-03	237.0E-03	236.0E-03	236.0E-03	229.0E-03	235.0E-03	240.0E-03	228.0E-03	235.0E-03
42	233.0E-03	231.0E-03	231.0E-03	236.0E-03	234.0E-03	230.0E-03	230.0E-03	227.0E-03	234.0E-03	232.0E-03	232.0E-03	236.0E-03
43	231.0E-03	231.0E-03	230.0E-03	227.0E-03	233.0E-03	233.0E-03	233.0E-03	230.0E-03	234.0E-03	231.0E-03	230.0E-03	233.0E-03
44	232.0E-03	231.0E-03	230.0E-03	234.0E-03	233.0E-03	235.0E-03	235.0E-03	231.0E-03	234.0E-03	232.0E-03	231.0E-03	228.0E-03
45	231.0E-03	232.0E-03	230.0E-03	235.0E-03	233.0E-03	236.0E-03	236.0E-03	232.0E-03	235.0E-03	230.0E-03	235.0E-03	233.0E-03
46	232.0E-03	232.0E-03	230.0E-03	234.0E-03	234.0E-03	235.0E-03	235.0E-03	230.0E-03	234.0E-03	232.0E-03	229.0E-03	227.0E-03
47	230.0E-03	231.0E-03	230.0E-03	234.0E-03	234.0E-03	236.0E-03	236.0E-03	234.0E-03	235.0E-03	232.0E-03	234.0E-03	232.0E-03
49	234.0E-03	233.0E-03	231.0E-03	235.0E-03	235.0E-03	235.0E-03	235.0E-03	230.0E-03	235.0E-03	232.0E-03	230.0E-03	245.0E-03
50	234.0E-03	232.0E-03	231.0E-03	235.0E-03	235.0E-03	232.0E-03	232.0E-03	232.0E-03	235.0E-03	233.0E-03	233.0E-03	231.0E-03
52	235.0E-03	232.0E-03	234.0E-03	237.0E-03	238.0E-03	236.0E-03	236.0E-03	234.0E-03	235.0E-03	232.0E-03	241.0E-03	237.0E-03
Statistics												
Min	230.0E-03	231.0E-03	230.0E-03	227.0E-03	233.0E-03	230.0E-03	230.0E-03	227.0E-03	234.0E-03	230.0E-03	228.0E-03	227.0E-03
Max	235.0E-03	233.0E-03	234.0E-03	239.0E-03	238.0E-03	236.0E-03	236.0E-03	234.0E-03	235.0E-03	240.0E-03	241.0E-03	245.0E-03
Average	232.7E-03	231.8E-03	231.0E-03	234.6E-03	234.6E-03	234.4E-03	234.4E-03	230.9E-03	234.6E-03	232.6E-03	232.3E-03	233.7E-03
Sigma	1.7E-03	748.3E-06	1.3E-03	2.9E-03	1.6E-03	2.0E-03	2.0E-03	2.1E-03	489.9E-06	2.6E-03	3.6E-03	4.8E-03

Measurements

Vol (LVDS)s9o3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	235.0E-03	232.0E-03	232.0E-03	232.0E-03	236.0E-03	237.0E-03	237.0E-03	232.0E-03	236.0E-03	232.0E-03	228.0E-03	234.0E-03
OFF samples												
53	234.0E-03	231.0E-03	233.0E-03	235.0E-03	234.0E-03	234.0E-03	234.0E-03	232.0E-03	234.0E-03	233.0E-03	233.0E-03	233.0E-03
54	233.0E-03	232.0E-03	232.0E-03	235.0E-03	235.0E-03	234.0E-03	234.0E-03	232.0E-03	234.0E-03	232.0E-03	244.0E-03	234.0E-03
Statistics												
Min	233.0E-03	231.0E-03	232.0E-03	235.0E-03	234.0E-03	234.0E-03	234.0E-03	232.0E-03	234.0E-03	232.0E-03	233.0E-03	233.0E-03
Max	234.0E-03	232.0E-03	233.0E-03	235.0E-03	235.0E-03	234.0E-03	234.0E-03	232.0E-03	234.0E-03	233.0E-03	244.0E-03	234.0E-03
Average	233.5E-03	231.5E-03	232.5E-03	235.0E-03	234.5E-03	234.0E-03	234.0E-03	232.0E-03	234.0E-03	232.5E-03	238.5E-03	233.5E-03
Sigma	500.0E-06	500.0E-06	500.0E-06	0.0E+00	500.0E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	5.5E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o2n

Unit : V
No spec limit specified.



Measurements

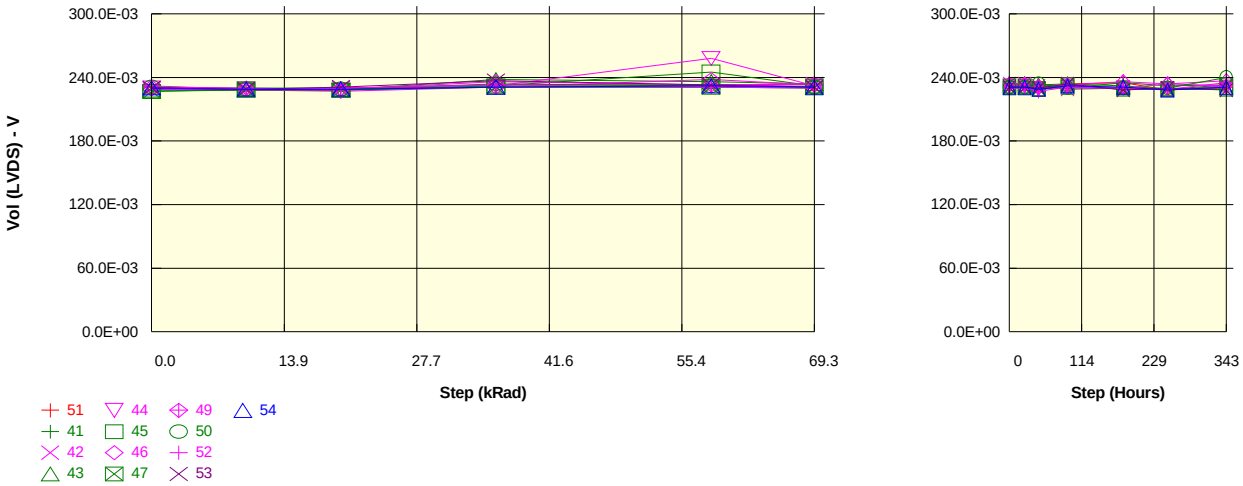
Vol (LVDS)s9o2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	228.0E-03	231.0E-03	232.0E-03	233.0E-03	233.0E-03	228.0E-03	228.0E-03	228.0E-03	229.0E-03	230.0E-03
ON samples												
41	231.0E-03	229.0E-03	229.0E-03	232.0E-03	231.0E-03	232.0E-03	232.0E-03	234.0E-03	231.0E-03	230.0E-03	232.0E-03	231.0E-03
42	228.0E-03	227.0E-03	229.0E-03	231.0E-03	230.0E-03	231.0E-03	231.0E-03	232.0E-03	234.0E-03	228.0E-03	227.0E-03	233.0E-03
43	227.0E-03	228.0E-03	233.0E-03	231.0E-03	231.0E-03	231.0E-03	231.0E-03	229.0E-03	236.0E-03	227.0E-03	236.0E-03	229.0E-03
44	228.0E-03	227.0E-03	229.0E-03	234.0E-03	234.0E-03	231.0E-03	231.0E-03	226.0E-03	231.0E-03	228.0E-03	227.0E-03	229.0E-03
45	228.0E-03	228.0E-03	226.0E-03	233.0E-03	256.0E-03	230.0E-03	230.0E-03	227.0E-03	230.0E-03	233.0E-03	231.0E-03	232.0E-03
46	227.0E-03	227.0E-03	226.0E-03	231.0E-03	229.0E-03	232.0E-03	232.0E-03	234.0E-03	230.0E-03	230.0E-03	234.0E-03	235.0E-03
47	226.0E-03	227.0E-03	227.0E-03	229.0E-03	229.0E-03	231.0E-03	231.0E-03	232.0E-03	232.0E-03	229.0E-03	228.0E-03	232.0E-03
49	230.0E-03	228.0E-03	227.0E-03	231.0E-03	231.0E-03	231.0E-03	231.0E-03	230.0E-03	231.0E-03	231.0E-03	233.0E-03	232.0E-03
50	230.0E-03	228.0E-03	228.0E-03	235.0E-03	230.0E-03	231.0E-03	231.0E-03	236.0E-03	231.0E-03	229.0E-03	228.0E-03	233.0E-03
52	230.0E-03	228.0E-03	231.0E-03	232.0E-03	231.0E-03	233.0E-03	233.0E-03	231.0E-03	230.0E-03	229.0E-03	230.0E-03	228.0E-03
Statistics												
Min	226.0E-03	227.0E-03	226.0E-03	229.0E-03	229.0E-03	230.0E-03	230.0E-03	226.0E-03	230.0E-03	227.0E-03	227.0E-03	228.0E-03
Max	231.0E-03	229.0E-03	233.0E-03	235.0E-03	256.0E-03	233.0E-03	233.0E-03	236.0E-03	236.0E-03	233.0E-03	236.0E-03	235.0E-03
Average	228.5E-03	227.7E-03	228.5E-03	231.9E-03	233.2E-03	231.3E-03	231.3E-03	231.1E-03	231.6E-03	229.4E-03	230.6E-03	231.4E-03
Sigma	1.6E-03	640.3E-06	2.1E-03	1.6E-03	7.7E-03	781.0E-06	781.0E-06	3.0E-03	1.9E-03	1.6E-03	3.0E-03	2.1E-03

Measurements

Vol (LVDS)s9o2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	228.0E-03	231.0E-03	232.0E-03	233.0E-03	233.0E-03	228.0E-03	228.0E-03	228.0E-03	229.0E-03	230.0E-03
OFF samples												
53	229.0E-03	227.0E-03	229.0E-03	232.0E-03	230.0E-03	230.0E-03	230.0E-03	226.0E-03	231.0E-03	228.0E-03	227.0E-03	228.0E-03
54	229.0E-03	227.0E-03	228.0E-03	232.0E-03	231.0E-03	229.0E-03	229.0E-03	228.0E-03	230.0E-03	230.0E-03	230.0E-03	229.0E-03
Statistics												
Min	229.0E-03	227.0E-03	228.0E-03	232.0E-03	230.0E-03	229.0E-03	229.0E-03	226.0E-03	230.0E-03	228.0E-03	227.0E-03	228.0E-03
Max	229.0E-03	227.0E-03	229.0E-03	232.0E-03	231.0E-03	230.0E-03	230.0E-03	228.0E-03	231.0E-03	230.0E-03	230.0E-03	229.0E-03
Average	229.0E-03	227.0E-03	228.5E-03	232.0E-03	230.5E-03	229.5E-03	229.5E-03	227.0E-03	230.5E-03	229.0E-03	228.5E-03	228.5E-03
Sigma	0.0E+00	0.0E+00	500.0E-06	0.0E+00	500.0E-06	500.0E-06	500.0E-06	1.0E-03	500.0E-06	1.0E-03	1.5E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o1n

Unit : V
No spec limit specified.



Measurements

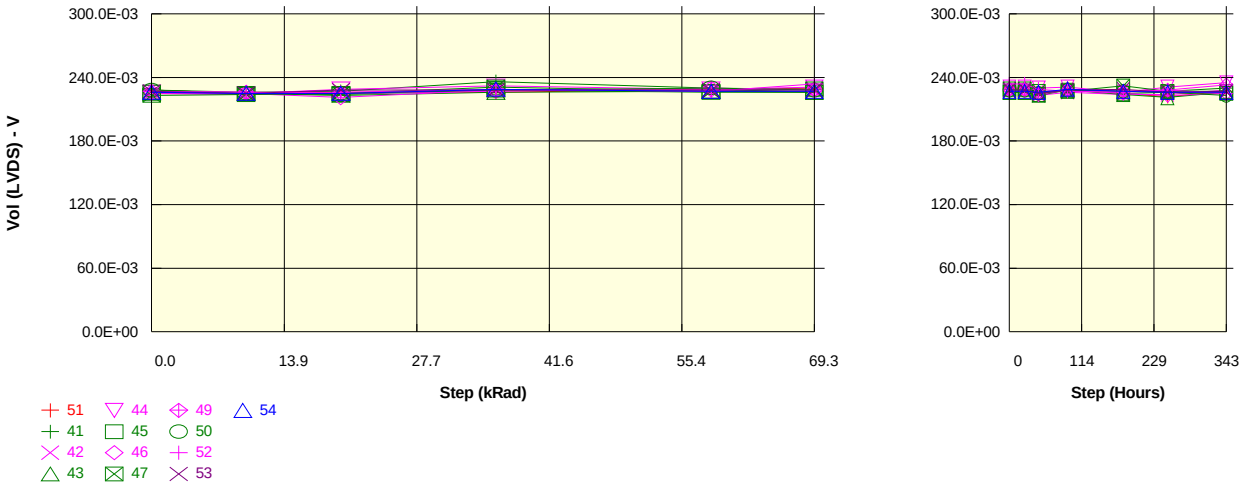
Vol (LVDS)s9o1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	231.0E-03	229.0E-03	230.0E-03	231.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	234.0E-03	235.0E-03	228.0E-03	231.0E-03
ON samples												
41	231.0E-03	230.0E-03	230.0E-03	233.0E-03	233.0E-03	233.0E-03	233.0E-03	232.0E-03	230.0E-03	235.0E-03	232.0E-03	233.0E-03
42	229.0E-03	228.0E-03	230.0E-03	231.0E-03	231.0E-03	234.0E-03	234.0E-03	232.0E-03	229.0E-03	230.0E-03	228.0E-03	232.0E-03
43	228.0E-03	228.0E-03	228.0E-03	238.0E-03	236.0E-03	234.0E-03	234.0E-03	233.0E-03	234.0E-03	232.0E-03	229.0E-03	230.0E-03
44	230.0E-03	229.0E-03	228.0E-03	232.0E-03	258.0E-03	232.0E-03	232.0E-03	229.0E-03	233.0E-03	230.0E-03	229.0E-03	231.0E-03
45	227.0E-03	229.0E-03	228.0E-03	232.0E-03	245.0E-03	232.0E-03	232.0E-03	229.0E-03	231.0E-03	230.0E-03	229.0E-03	229.0E-03
46	229.0E-03	228.0E-03	227.0E-03	231.0E-03	238.0E-03	233.0E-03	233.0E-03	230.0E-03	231.0E-03	230.0E-03	234.0E-03	237.0E-03
47	227.0E-03	228.0E-03	228.0E-03	231.0E-03	231.0E-03	230.0E-03	230.0E-03	229.0E-03	233.0E-03	229.0E-03	229.0E-03	233.0E-03
49	231.0E-03	230.0E-03	229.0E-03	236.0E-03	233.0E-03	234.0E-03	234.0E-03	232.0E-03	233.0E-03	236.0E-03	234.0E-03	232.0E-03
50	231.0E-03	229.0E-03	229.0E-03	234.0E-03	232.0E-03	231.0E-03	231.0E-03	234.0E-03	230.0E-03	230.0E-03	230.0E-03	240.0E-03
52	232.0E-03	229.0E-03	230.0E-03	233.0E-03	231.0E-03	230.0E-03	230.0E-03	227.0E-03	231.0E-03	230.0E-03	229.0E-03	235.0E-03
Statistics												
Min	227.0E-03	228.0E-03	227.0E-03	231.0E-03	231.0E-03	230.0E-03	230.0E-03	227.0E-03	229.0E-03	229.0E-03	228.0E-03	229.0E-03
Max	232.0E-03	230.0E-03	230.0E-03	238.0E-03	258.0E-03	234.0E-03	234.0E-03	234.0E-03	234.0E-03	236.0E-03	234.0E-03	240.0E-03
Average	229.5E-03	228.8E-03	228.7E-03	233.1E-03	236.8E-03	232.3E-03	232.3E-03	230.7E-03	231.5E-03	231.2E-03	230.3E-03	233.2E-03
Sigma	1.7E-03	748.3E-06	1.0E-03	2.2E-03	8.2E-03	1.5E-03	1.5E-03	2.1E-03	1.6E-03	2.3E-03	2.1E-03	3.2E-03

Measurements

Vol (LVDS)s9o1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	231.0E-03	229.0E-03	230.0E-03	231.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	234.0E-03	235.0E-03	228.0E-03	231.0E-03
OFF samples												
53	230.0E-03	229.0E-03	231.0E-03	237.0E-03	233.0E-03	231.0E-03	231.0E-03	230.0E-03	234.0E-03	228.0E-03	230.0E-03	228.0E-03
54	230.0E-03	229.0E-03	229.0E-03	231.0E-03	232.0E-03	231.0E-03	231.0E-03	229.0E-03	232.0E-03	231.0E-03	228.0E-03	231.0E-03
Statistics												
Min	230.0E-03	229.0E-03	229.0E-03	231.0E-03	232.0E-03	231.0E-03	231.0E-03	229.0E-03	232.0E-03	228.0E-03	228.0E-03	228.0E-03
Max	230.0E-03	229.0E-03	231.0E-03	237.0E-03	233.0E-03	231.0E-03	231.0E-03	230.0E-03	234.0E-03	231.0E-03	230.0E-03	231.0E-03
Average	230.0E-03	229.0E-03	230.0E-03	234.0E-03	232.5E-03	231.0E-03	231.0E-03	229.5E-03	233.0E-03	229.5E-03	229.0E-03	229.5E-03
Sigma	0.0E+00	0.0E+00	1.0E-03	3.0E-03	500.0E-06	0.0E+00	0.0E+00	500.0E-06	1.0E-03	1.5E-03	1.0E-03	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)s9o0n

Unit : V
No spec limit specified.



Measurements

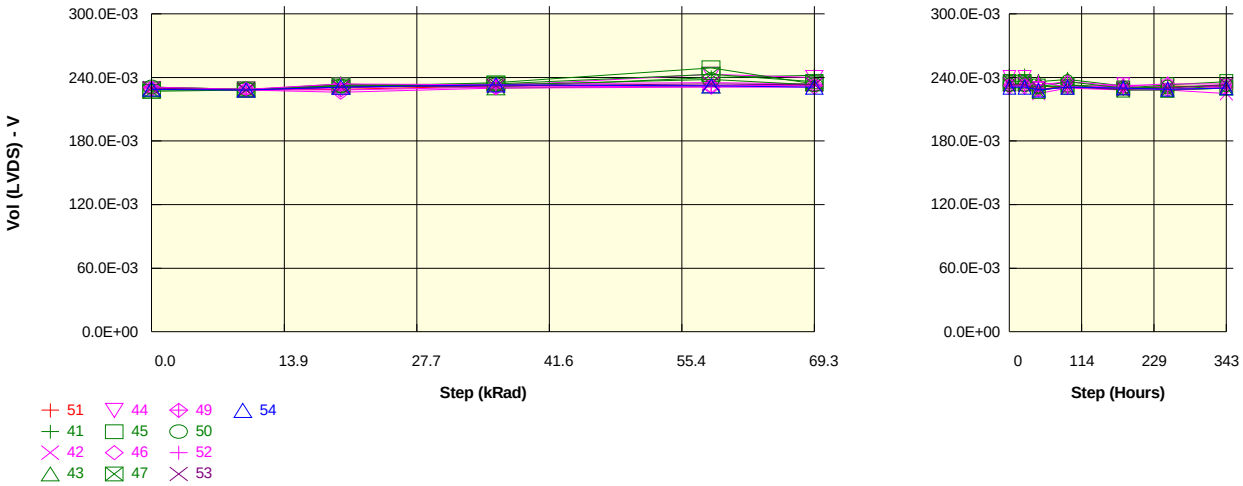
Vol (LVDS)s9 o0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	228.0E-03	225.0E-03	226.0E-03	226.0E-03	229.0E-03	230.0E-03	230.0E-03	225.0E-03	229.0E-03	225.0E-03	222.0E-03	227.0E-03
ON samples												
41	228.0E-03	226.0E-03	227.0E-03	236.0E-03	230.0E-03	229.0E-03	229.0E-03	225.0E-03	229.0E-03	227.0E-03	227.0E-03	230.0E-03
42	225.0E-03	224.0E-03	225.0E-03	228.0E-03	227.0E-03	227.0E-03	227.0E-03	223.0E-03	226.0E-03	224.0E-03	224.0E-03	228.0E-03
43	225.0E-03	225.0E-03	223.0E-03	226.0E-03	227.0E-03	226.0E-03	226.0E-03	223.0E-03	228.0E-03	224.0E-03	221.0E-03	226.0E-03
44	226.0E-03	225.0E-03	229.0E-03	232.0E-03	229.0E-03	231.0E-03	231.0E-03	230.0E-03	231.0E-03	226.0E-03	231.0E-03	235.0E-03
45	226.0E-03	225.0E-03	224.0E-03	228.0E-03	226.0E-03	226.0E-03	226.0E-03	224.0E-03	228.0E-03	225.0E-03	226.0E-03	225.0E-03
46	225.0E-03	225.0E-03	221.0E-03	228.0E-03	228.0E-03	229.0E-03	229.0E-03	224.0E-03	228.0E-03	225.0E-03	223.0E-03	225.0E-03
47	223.0E-03	224.0E-03	225.0E-03	231.0E-03	227.0E-03	229.0E-03	229.0E-03	227.0E-03	227.0E-03	232.0E-03	227.0E-03	227.0E-03
49	227.0E-03	226.0E-03	225.0E-03	227.0E-03	230.0E-03	228.0E-03	228.0E-03	225.0E-03	229.0E-03	227.0E-03	228.0E-03	233.0E-03
50	228.0E-03	225.0E-03	225.0E-03	228.0E-03	230.0E-03	228.0E-03	228.0E-03	225.0E-03	228.0E-03	227.0E-03	226.0E-03	223.0E-03
52	227.0E-03	226.0E-03	226.0E-03	229.0E-03	227.0E-03	234.0E-03	234.0E-03	229.0E-03	227.0E-03	226.0E-03	228.0E-03	225.0E-03
Statistics												
Min	223.0E-03	224.0E-03	221.0E-03	226.0E-03	226.0E-03	226.0E-03	226.0E-03	223.0E-03	226.0E-03	224.0E-03	221.0E-03	223.0E-03
Max	228.0E-03	226.0E-03	229.0E-03	236.0E-03	230.0E-03	234.0E-03	234.0E-03	230.0E-03	231.0E-03	232.0E-03	231.0E-03	235.0E-03
Average	226.0E-03	225.1E-03	225.0E-03	229.3E-03	228.1E-03	228.7E-03	228.7E-03	225.5E-03	228.1E-03	226.3E-03	226.1E-03	227.7E-03
Sigma	1.5E-03	700.0E-06	2.0E-03	2.8E-03	1.4E-03	2.3E-03	2.3E-03	2.3E-03	1.3E-03	2.2E-03	2.7E-03	3.7E-03

Measurements

Vol (LVDS)s9 o0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	228.0E-03	225.0E-03	226.0E-03	226.0E-03	229.0E-03	230.0E-03	230.0E-03	225.0E-03	229.0E-03	225.0E-03	222.0E-03	227.0E-03
OFF samples												
53	227.0E-03	225.0E-03	228.0E-03	228.0E-03	228.0E-03	228.0E-03	228.0E-03	225.0E-03	228.0E-03	229.0E-03	226.0E-03	227.0E-03
54	226.0E-03	225.0E-03	225.0E-03	229.0E-03	227.0E-03	227.0E-03	227.0E-03	226.0E-03	229.0E-03	227.0E-03	226.0E-03	226.0E-03
Statistics												
Min	226.0E-03	225.0E-03	225.0E-03	228.0E-03	227.0E-03	227.0E-03	227.0E-03	225.0E-03	228.0E-03	227.0E-03	226.0E-03	226.0E-03
Max	227.0E-03	225.0E-03	228.0E-03	229.0E-03	228.0E-03	228.0E-03	228.0E-03	226.0E-03	229.0E-03	229.0E-03	226.0E-03	227.0E-03
Average	226.5E-03	225.0E-03	226.5E-03	228.5E-03	227.5E-03	227.5E-03	227.5E-03	225.5E-03	228.5E-03	228.0E-03	226.0E-03	226.5E-03
Sigma	500.0E-06	0.0E+00	1.5E-03	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	500.0E-06	1.0E-03	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo3p

Unit : V
No spec limit specified.



Measurements

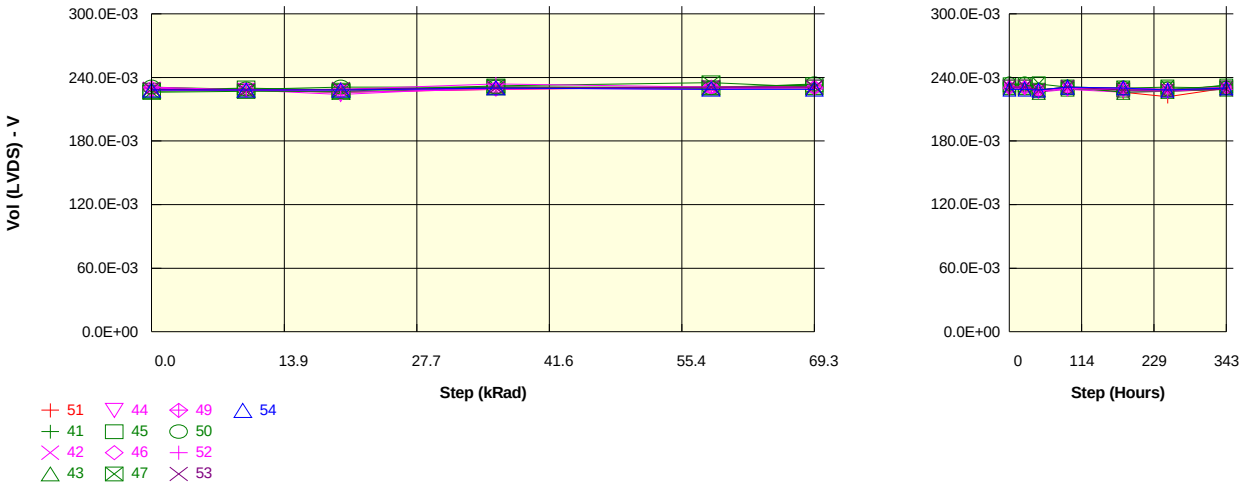
Vol (LVDS)sAo3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	229.0E-03	232.0E-03	232.0E-03	233.0E-03	233.0E-03	228.0E-03	233.0E-03	229.0E-03	232.0E-03	231.0E-03
ON samples												
41	231.0E-03	229.0E-03	232.0E-03	231.0E-03	240.0E-03	242.0E-03	242.0E-03	231.0E-03	233.0E-03	231.0E-03	229.0E-03	232.0E-03
42	229.0E-03	229.0E-03	230.0E-03	234.0E-03	235.0E-03	234.0E-03	234.0E-03	225.0E-03	230.0E-03	228.0E-03	228.0E-03	225.0E-03
43	228.0E-03	228.0E-03	234.0E-03	230.0E-03	232.0E-03	234.0E-03	234.0E-03	236.0E-03	238.0E-03	232.0E-03	228.0E-03	230.0E-03
44	229.0E-03	229.0E-03	233.0E-03	232.0E-03	243.0E-03	240.0E-03	240.0E-03	229.0E-03	231.0E-03	233.0E-03	231.0E-03	232.0E-03
45	229.0E-03	229.0E-03	231.0E-03	235.0E-03	249.0E-03	234.0E-03	234.0E-03	232.0E-03	231.0E-03	230.0E-03	233.0E-03	236.0E-03
46	229.0E-03	228.0E-03	226.0E-03	230.0E-03	231.0E-03	231.0E-03	231.0E-03	228.0E-03	231.0E-03	232.0E-03	228.0E-03	231.0E-03
47	227.0E-03	228.0E-03	233.0E-03	234.0E-03	243.0E-03	236.0E-03	236.0E-03	227.0E-03	233.0E-03	228.0E-03	228.0E-03	230.0E-03
49	230.0E-03	229.0E-03	228.0E-03	231.0E-03	232.0E-03	233.0E-03	233.0E-03	233.0E-03	236.0E-03	232.0E-03	234.0E-03	234.0E-03
50	231.0E-03	229.0E-03	232.0E-03	233.0E-03	238.0E-03	233.0E-03	233.0E-03	231.0E-03	236.0E-03	230.0E-03	231.0E-03	233.0E-03
52	231.0E-03	229.0E-03	234.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	236.0E-03	231.0E-03	230.0E-03	229.0E-03	230.0E-03
Statistics												
Min	227.0E-03	228.0E-03	226.0E-03	230.0E-03	231.0E-03	231.0E-03	231.0E-03	225.0E-03	230.0E-03	228.0E-03	228.0E-03	225.0E-03
Max	231.0E-03	229.0E-03	234.0E-03	235.0E-03	249.0E-03	242.0E-03	242.0E-03	236.0E-03	238.0E-03	233.0E-03	234.0E-03	236.0E-03
Average	229.4E-03	228.7E-03	231.3E-03	232.3E-03	237.5E-03	234.9E-03	234.9E-03	230.8E-03	233.0E-03	230.6E-03	229.9E-03	231.3E-03
Sigma	1.3E-03	458.3E-06	2.5E-03	1.7E-03	5.8E-03	3.3E-03	3.3E-03	3.5E-03	2.6E-03	1.6E-03	2.1E-03	2.8E-03

Measurements

Vol (LVDS)sAo3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	229.0E-03	232.0E-03	232.0E-03	233.0E-03	233.0E-03	228.0E-03	233.0E-03	229.0E-03	232.0E-03	231.0E-03
OFF samples												
53	230.0E-03	228.0E-03	231.0E-03	232.0E-03	234.0E-03	233.0E-03	233.0E-03	229.0E-03	231.0E-03	229.0E-03	230.0E-03	233.0E-03
54	229.0E-03	228.0E-03	231.0E-03	233.0E-03	232.0E-03	231.0E-03	231.0E-03	228.0E-03	231.0E-03	230.0E-03	229.0E-03	230.0E-03
Statistics												
Min	229.0E-03	228.0E-03	231.0E-03	232.0E-03	232.0E-03	231.0E-03	231.0E-03	228.0E-03	231.0E-03	229.0E-03	229.0E-03	230.0E-03
Max	230.0E-03	228.0E-03	231.0E-03	233.0E-03	234.0E-03	233.0E-03	233.0E-03	229.0E-03	231.0E-03	230.0E-03	230.0E-03	233.0E-03
Average	229.5E-03	228.0E-03	231.0E-03	232.5E-03	233.0E-03	232.0E-03	232.0E-03	228.5E-03	231.0E-03	229.5E-03	229.5E-03	231.5E-03
Sigma	500.0E-06	0.0E+00	0.0E+00	500.0E-06	1.0E-03	1.0E-03	1.0E-03	500.0E-06	0.0E+00	500.0E-06	500.0E-06	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo2p

Unit : V
No spec limit specified.



Measurements

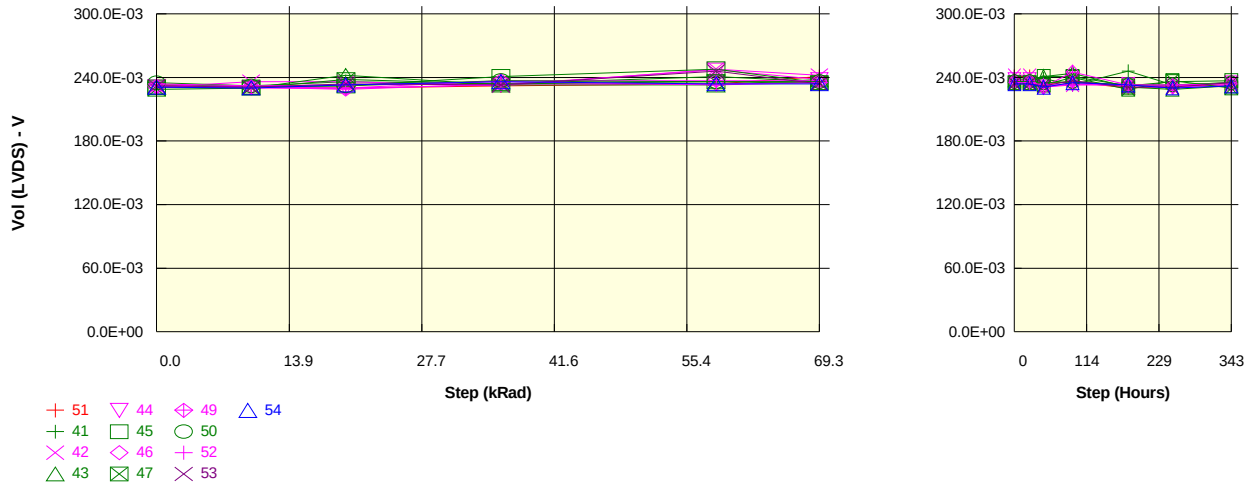
Vol (LVDS)sAo2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	226.0E-03	229.0E-03	231.0E-03	232.0E-03	232.0E-03	227.0E-03	231.0E-03	226.0E-03	222.0E-03	230.0E-03
ON samples												
41	230.0E-03	229.0E-03	229.0E-03	231.0E-03	231.0E-03	233.0E-03	233.0E-03	228.0E-03	230.0E-03	228.0E-03	227.0E-03	233.0E-03
42	229.0E-03	228.0E-03	228.0E-03	230.0E-03	229.0E-03	231.0E-03	231.0E-03	226.0E-03	229.0E-03	226.0E-03	227.0E-03	229.0E-03
43	227.0E-03	228.0E-03	226.0E-03	230.0E-03	230.0E-03	230.0E-03	230.0E-03	226.0E-03	231.0E-03	226.0E-03	227.0E-03	229.0E-03
44	228.0E-03	228.0E-03	224.0E-03	231.0E-03	230.0E-03	231.0E-03	231.0E-03	227.0E-03	230.0E-03	228.0E-03	227.0E-03	230.0E-03
45	228.0E-03	230.0E-03	228.0E-03	231.0E-03	230.0E-03	233.0E-03	233.0E-03	228.0E-03	229.0E-03	228.0E-03	229.0E-03	232.0E-03
46	228.0E-03	228.0E-03	226.0E-03	229.0E-03	231.0E-03	231.0E-03	231.0E-03	228.0E-03	230.0E-03	228.0E-03	228.0E-03	230.0E-03
47	226.0E-03	227.0E-03	227.0E-03	232.0E-03	235.0E-03	231.0E-03	231.0E-03	234.0E-03	231.0E-03	230.0E-03	231.0E-03	230.0E-03
49	230.0E-03	228.0E-03	228.0E-03	230.0E-03	230.0E-03	230.0E-03	230.0E-03	228.0E-03	229.0E-03	230.0E-03	228.0E-03	231.0E-03
50	231.0E-03	229.0E-03	231.0E-03	231.0E-03	230.0E-03	234.0E-03	234.0E-03	228.0E-03	231.0E-03	230.0E-03	229.0E-03	230.0E-03
52	231.0E-03	228.0E-03	229.0E-03	234.0E-03	231.0E-03	231.0E-03	231.0E-03	227.0E-03	230.0E-03	230.0E-03	229.0E-03	229.0E-03
Statistics												
Min	226.0E-03	227.0E-03	224.0E-03	229.0E-03	229.0E-03	230.0E-03	230.0E-03	226.0E-03	229.0E-03	226.0E-03	227.0E-03	229.0E-03
Max	231.0E-03	230.0E-03	231.0E-03	234.0E-03	235.0E-03	234.0E-03	234.0E-03	234.0E-03	231.0E-03	230.0E-03	231.0E-03	233.0E-03
Average	228.8E-03	228.3E-03	227.6E-03	230.9E-03	230.7E-03	231.5E-03	231.5E-03	228.0E-03	230.0E-03	228.4E-03	228.2E-03	230.3E-03
Sigma	1.6E-03	781.0E-06	1.9E-03	1.3E-03	1.6E-03	1.3E-03	1.3E-03	2.1E-03	774.6E-06	1.5E-03	1.2E-03	1.3E-03

Measurements

Vol (LVDS)sAo2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	230.0E-03	228.0E-03	226.0E-03	229.0E-03	231.0E-03	232.0E-03	232.0E-03	227.0E-03	231.0E-03	226.0E-03	222.0E-03	230.0E-03
OFF samples												
53	229.0E-03	228.0E-03	229.0E-03	230.0E-03	231.0E-03	231.0E-03	231.0E-03	228.0E-03	231.0E-03	228.0E-03	228.0E-03	229.0E-03
54	228.0E-03	228.0E-03	228.0E-03	230.0E-03	229.0E-03	229.0E-03	229.0E-03	228.0E-03	231.0E-03	230.0E-03	228.0E-03	230.0E-03
Statistics												
Min	228.0E-03	228.0E-03	228.0E-03	230.0E-03	229.0E-03	229.0E-03	229.0E-03	228.0E-03	231.0E-03	228.0E-03	228.0E-03	229.0E-03
Max	229.0E-03	228.0E-03	229.0E-03	230.0E-03	231.0E-03	231.0E-03	231.0E-03	228.0E-03	231.0E-03	230.0E-03	228.0E-03	230.0E-03
Average	228.5E-03	228.0E-03	228.5E-03	230.0E-03	230.0E-03	230.0E-03	230.0E-03	228.0E-03	231.0E-03	229.0E-03	228.0E-03	229.5E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	0.0E+00	1.0E-03	1.0E-03	1.0E-03	0.0E+00	0.0E+00	1.0E-03	0.0E+00	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo1p

Unit : V
No spec limit specified.



Measurements

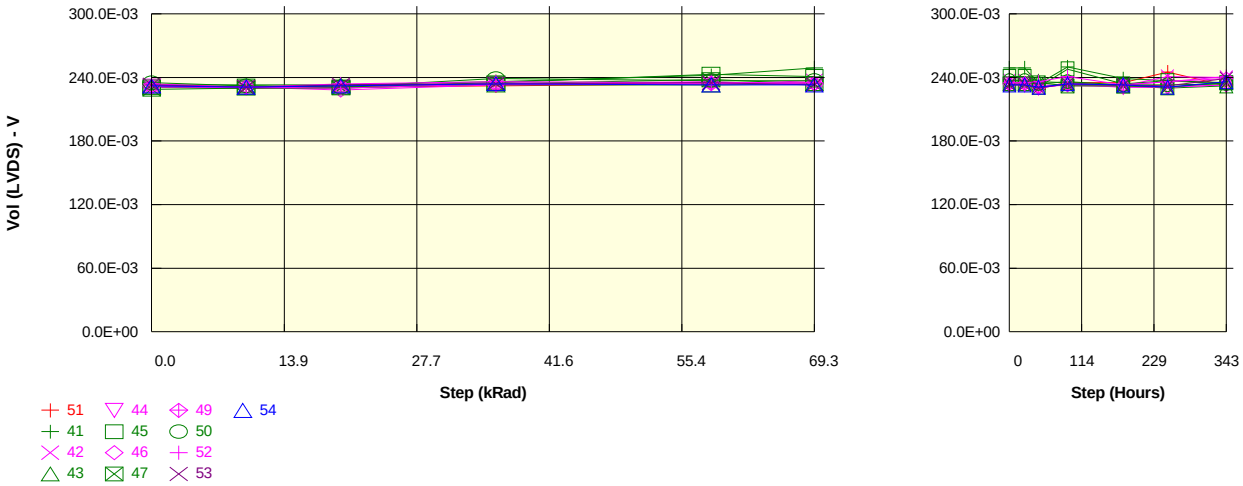
Vol (LVDS)sAo1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	231.0E-03	230.0E-03	232.0E-03	234.0E-03	241.0E-03	241.0E-03	234.0E-03	236.0E-03	230.0E-03	232.0E-03	233.0E-03
ON samples												
41	233.0E-03	232.0E-03	236.0E-03	234.0E-03	241.0E-03	236.0E-03	236.0E-03	239.0E-03	233.0E-03	246.0E-03	233.0E-03	235.0E-03
42	231.0E-03	236.0E-03	236.0E-03	232.0E-03	248.0E-03	242.0E-03	242.0E-03	231.0E-03	233.0E-03	234.0E-03	230.0E-03	232.0E-03
43	231.0E-03	230.0E-03	242.0E-03	233.0E-03	233.0E-03	238.0E-03	238.0E-03	241.0E-03	244.0E-03	231.0E-03	229.0E-03	232.0E-03
44	231.0E-03	230.0E-03	230.0E-03	233.0E-03	247.0E-03	238.0E-03	238.0E-03	231.0E-03	235.0E-03	233.0E-03	232.0E-03	235.0E-03
45	231.0E-03	231.0E-03	232.0E-03	241.0E-03	248.0E-03	235.0E-03	235.0E-03	241.0E-03	241.0E-03	232.0E-03	236.0E-03	237.0E-03
46	231.0E-03	231.0E-03	229.0E-03	234.0E-03	234.0E-03	235.0E-03	235.0E-03	231.0E-03	234.0E-03	232.0E-03	231.0E-03	233.0E-03
47	229.0E-03	230.0E-03	238.0E-03	234.0E-03	236.0E-03	235.0E-03	235.0E-03	233.0E-03	240.0E-03	229.0E-03	237.0E-03	230.0E-03
49	232.0E-03	231.0E-03	230.0E-03	237.0E-03	237.0E-03	237.0E-03	237.0E-03	231.0E-03	245.0E-03	233.0E-03	232.0E-03	235.0E-03
50	235.0E-03	232.0E-03	232.0E-03	237.0E-03	236.0E-03	236.0E-03	236.0E-03	235.0E-03	236.0E-03	233.0E-03	233.0E-03	235.0E-03
52	234.0E-03	232.0E-03	233.0E-03	236.0E-03	233.0E-03	235.0E-03	235.0E-03	233.0E-03	233.0E-03	233.0E-03	233.0E-03	234.0E-03
Statistics												
Min	229.0E-03	230.0E-03	229.0E-03	232.0E-03	233.0E-03	235.0E-03	235.0E-03	231.0E-03	233.0E-03	229.0E-03	229.0E-03	230.0E-03
Max	235.0E-03	236.0E-03	242.0E-03	241.0E-03	248.0E-03	242.0E-03	242.0E-03	241.0E-03	245.0E-03	246.0E-03	237.0E-03	237.0E-03
Average	231.8E-03	231.5E-03	233.8E-03	235.1E-03	239.3E-03	236.7E-03	236.7E-03	234.6E-03	237.4E-03	233.6E-03	232.6E-03	233.8E-03
Sigma	1.7E-03	1.7E-03	3.9E-03	2.5E-03	5.9E-03	2.1E-03	2.1E-03	4.0E-03	4.5E-03	4.3E-03	2.3E-03	1.9E-03

Measurements

Vol (LVDS)sAo1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	231.0E-03	230.0E-03	232.0E-03	234.0E-03	241.0E-03	241.0E-03	234.0E-03	236.0E-03	230.0E-03	232.0E-03	233.0E-03
OFF samples												
53	232.0E-03	231.0E-03	234.0E-03	233.0E-03	246.0E-03	234.0E-03	234.0E-03	232.0E-03	237.0E-03	231.0E-03	231.0E-03	235.0E-03
54	231.0E-03	230.0E-03	233.0E-03	236.0E-03	234.0E-03	234.0E-03	234.0E-03	231.0E-03	235.0E-03	233.0E-03	230.0E-03	232.0E-03
Statistics												
Min	231.0E-03	230.0E-03	233.0E-03	233.0E-03	234.0E-03	234.0E-03	234.0E-03	231.0E-03	235.0E-03	231.0E-03	230.0E-03	232.0E-03
Max	232.0E-03	231.0E-03	234.0E-03	236.0E-03	246.0E-03	234.0E-03	234.0E-03	232.0E-03	237.0E-03	233.0E-03	231.0E-03	235.0E-03
Average	231.5E-03	230.5E-03	233.5E-03	234.5E-03	240.0E-03	234.0E-03	234.0E-03	231.5E-03	236.0E-03	232.0E-03	230.5E-03	233.5E-03
Sigma	500.0E-06	500.0E-06	500.0E-06	1.5E-03	6.0E-03	0.0E+00	0.0E+00	500.0E-06	1.0E-03	1.0E-03	500.0E-06	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo0p

Unit : V
No spec limit specified.



Measurements

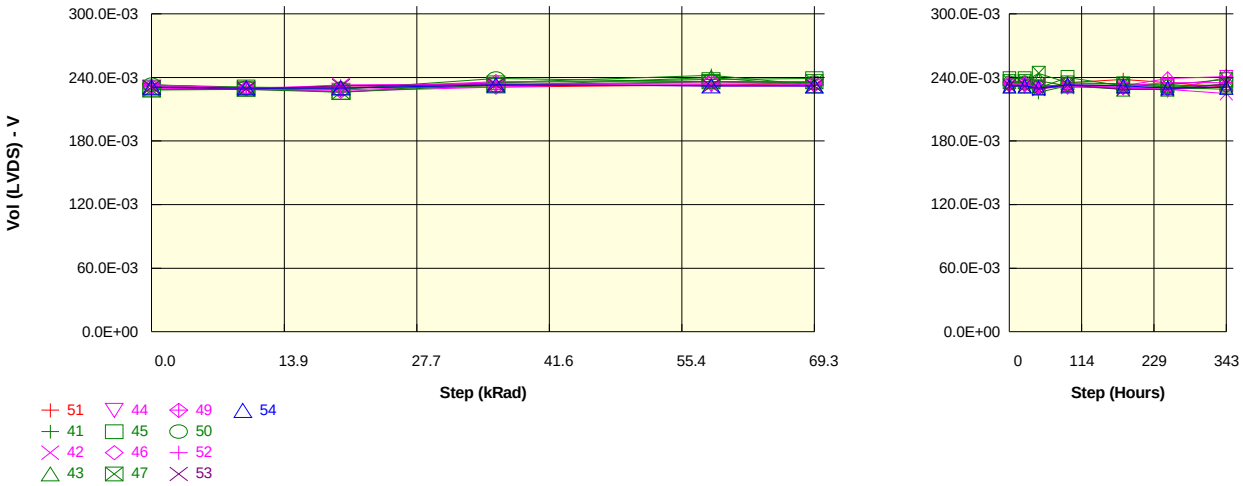
Vol (LVDS)sAo0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	230.0E-03	231.0E-03	232.0E-03	234.0E-03	235.0E-03	235.0E-03	230.0E-03	235.0E-03	235.0E-03	245.0E-03	232.0E-03
ON samples												
41	233.0E-03	233.0E-03	233.0E-03	236.0E-03	242.0E-03	249.0E-03	249.0E-03	234.0E-03	250.0E-03	239.0E-03	237.0E-03	234.0E-03
42	231.0E-03	230.0E-03	232.0E-03	235.0E-03	234.0E-03	237.0E-03	237.0E-03	233.0E-03	232.0E-03	232.0E-03	241.0E-03	240.0E-03
43	231.0E-03	230.0E-03	233.0E-03	233.0E-03	233.0E-03	234.0E-03	234.0E-03	236.0E-03	235.0E-03	232.0E-03	230.0E-03	232.0E-03
44	232.0E-03	230.0E-03	230.0E-03	234.0E-03	236.0E-03	233.0E-03	233.0E-03	230.0E-03	234.0E-03	231.0E-03	231.0E-03	233.0E-03
45	231.0E-03	232.0E-03	231.0E-03	235.0E-03	243.0E-03	241.0E-03	241.0E-03	231.0E-03	248.0E-03	234.0E-03	237.0E-03	235.0E-03
46	231.0E-03	231.0E-03	228.0E-03	233.0E-03	234.0E-03	234.0E-03	234.0E-03	231.0E-03	233.0E-03	231.0E-03	231.0E-03	233.0E-03
47	229.0E-03	230.0E-03	230.0E-03	234.0E-03	238.0E-03	234.0E-03	234.0E-03	235.0E-03	232.0E-03	232.0E-03	231.0E-03	235.0E-03
49	232.0E-03	231.0E-03	230.0E-03	234.0E-03	235.0E-03	234.0E-03	234.0E-03	230.0E-03	234.0E-03	233.0E-03	236.0E-03	239.0E-03
50	235.0E-03	232.0E-03	231.0E-03	239.0E-03	237.0E-03	237.0E-03	237.0E-03	234.0E-03	236.0E-03	233.0E-03	233.0E-03	234.0E-03
52	234.0E-03	231.0E-03	234.0E-03	236.0E-03	235.0E-03	235.0E-03	235.0E-03	236.0E-03	241.0E-03	233.0E-03	236.0E-03	241.0E-03
Statistics												
Min	229.0E-03	230.0E-03	228.0E-03	233.0E-03	233.0E-03	233.0E-03	233.0E-03	230.0E-03	232.0E-03	231.0E-03	230.0E-03	232.0E-03
Max	235.0E-03	233.0E-03	234.0E-03	239.0E-03	243.0E-03	249.0E-03	249.0E-03	236.0E-03	250.0E-03	239.0E-03	241.0E-03	241.0E-03
Average	231.9E-03	231.0E-03	231.2E-03	234.9E-03	236.7E-03	236.8E-03	236.8E-03	233.0E-03	237.5E-03	233.0E-03	234.3E-03	235.6E-03
Sigma	1.6E-03	1000.0E-06	1.7E-03	1.7E-03	3.2E-03	4.6E-03	4.6E-03	2.2E-03	6.3E-03	2.2E-03	3.4E-03	3.0E-03

Measurements

Vol (LVDS)sAo0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	230.0E-03	231.0E-03	232.0E-03	234.0E-03	235.0E-03	235.0E-03	230.0E-03	235.0E-03	235.0E-03	245.0E-03	232.0E-03
OFF samples												
53	233.0E-03	231.0E-03	233.0E-03	234.0E-03	235.0E-03	233.0E-03	233.0E-03	230.0E-03	234.0E-03	233.0E-03	232.0E-03	239.0E-03
54	232.0E-03	231.0E-03	232.0E-03	234.0E-03	233.0E-03	233.0E-03	233.0E-03	231.0E-03	234.0E-03	233.0E-03	231.0E-03	236.0E-03
Statistics												
Min	232.0E-03	231.0E-03	232.0E-03	234.0E-03	233.0E-03	233.0E-03	233.0E-03	230.0E-03	234.0E-03	233.0E-03	231.0E-03	236.0E-03
Max	233.0E-03	231.0E-03	233.0E-03	234.0E-03	235.0E-03	233.0E-03	233.0E-03	231.0E-03	234.0E-03	233.0E-03	232.0E-03	239.0E-03
Average	232.5E-03	231.0E-03	232.5E-03	234.0E-03	234.0E-03	233.0E-03	233.0E-03	230.5E-03	234.0E-03	233.0E-03	231.5E-03	237.5E-03
Sigma	500.0E-06	0.0E+00	500.0E-06	0.0E+00	1.0E-03	0.0E+00	0.0E+00	500.0E-06	0.0E+00	0.0E+00	500.0E-06	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo3n

Unit : V
No spec limit specified.



Measurements

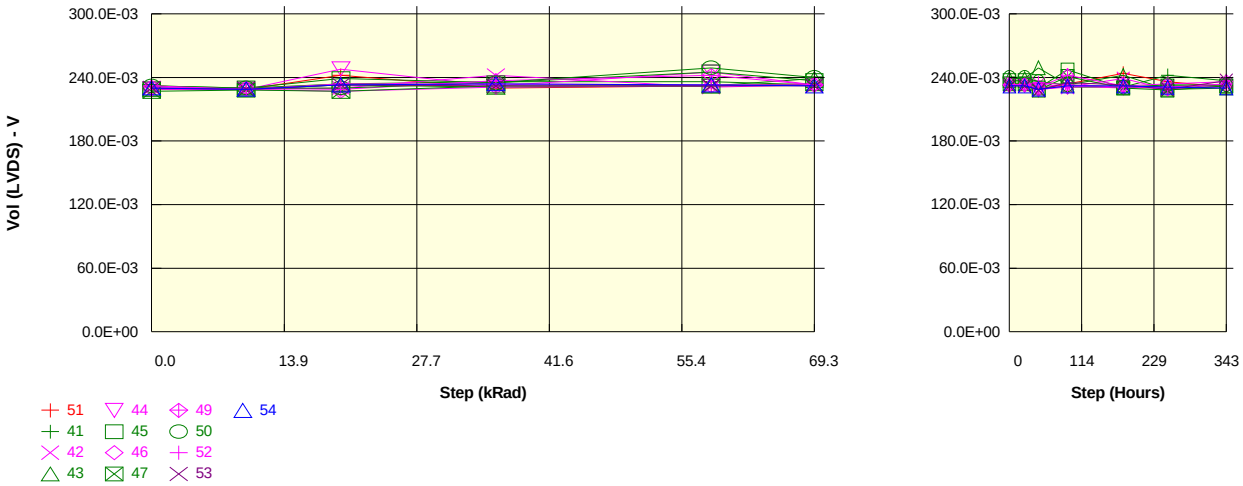
Vol (LVDS)sAo3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	232.0E-03	230.0E-03	231.0E-03	231.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	235.0E-03	238.0E-03	235.0E-03	231.0E-03
ON samples												
41	233.0E-03	231.0E-03	230.0E-03	235.0E-03	242.0E-03	233.0E-03	233.0E-03	226.0E-03	232.0E-03	230.0E-03	231.0E-03	229.0E-03
42	231.0E-03	229.0E-03	233.0E-03	234.0E-03	232.0E-03	232.0E-03	232.0E-03	233.0E-03	231.0E-03	231.0E-03	229.0E-03	225.0E-03
43	229.0E-03	229.0E-03	230.0E-03	232.0E-03	240.0E-03	232.0E-03	232.0E-03	237.0E-03	232.0E-03	229.0E-03	229.0E-03	231.0E-03
44	231.0E-03	229.0E-03	228.0E-03	233.0E-03	233.0E-03	232.0E-03	232.0E-03	231.0E-03	233.0E-03	230.0E-03	228.0E-03	240.0E-03
45	230.0E-03	231.0E-03	226.0E-03	235.0E-03	238.0E-03	239.0E-03	239.0E-03	230.0E-03	240.0E-03	232.0E-03	232.0E-03	233.0E-03
46	230.0E-03	229.0E-03	227.0E-03	231.0E-03	236.0E-03	233.0E-03	233.0E-03	230.0E-03	232.0E-03	230.0E-03	229.0E-03	233.0E-03
47	228.0E-03	229.0E-03	226.0E-03	233.0E-03	236.0E-03	236.0E-03	236.0E-03	244.0E-03	235.0E-03	234.0E-03	233.0E-03	238.0E-03
49	232.0E-03	230.0E-03	230.0E-03	236.0E-03	236.0E-03	235.0E-03	235.0E-03	230.0E-03	231.0E-03	232.0E-03	239.0E-03	241.0E-03
50	233.0E-03	230.0E-03	229.0E-03	239.0E-03	236.0E-03	235.0E-03	235.0E-03	231.0E-03	234.0E-03	234.0E-03	231.0E-03	233.0E-03
52	233.0E-03	230.0E-03	232.0E-03	234.0E-03	234.0E-03	234.0E-03	234.0E-03	230.0E-03	233.0E-03	232.0E-03	235.0E-03	235.0E-03
Statistics												
Min	228.0E-03	229.0E-03	226.0E-03	231.0E-03	232.0E-03	232.0E-03	232.0E-03	226.0E-03	231.0E-03	229.0E-03	228.0E-03	225.0E-03
Max	233.0E-03	231.0E-03	233.0E-03	239.0E-03	242.0E-03	239.0E-03	239.0E-03	244.0E-03	240.0E-03	234.0E-03	239.0E-03	241.0E-03
Average	231.0E-03	229.7E-03	229.1E-03	234.2E-03	236.3E-03	234.1E-03	234.1E-03	232.2E-03	233.3E-03	231.4E-03	231.6E-03	233.8E-03
Sigma	1.7E-03	781.0E-06	2.3E-03	2.1E-03	2.9E-03	2.1E-03	2.1E-03	4.7E-03	2.5E-03	1.6E-03	3.2E-03	4.7E-03

Measurements

Vol (LVDS)sAo3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	232.0E-03	230.0E-03	231.0E-03	231.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	235.0E-03	238.0E-03	235.0E-03	231.0E-03
OFF samples												
53	231.0E-03	229.0E-03	232.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	229.0E-03	233.0E-03	229.0E-03	229.0E-03	234.0E-03
54	231.0E-03	230.0E-03	230.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	230.0E-03	233.0E-03	232.0E-03	230.0E-03	231.0E-03
Statistics												
Min	231.0E-03	229.0E-03	230.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	229.0E-03	233.0E-03	229.0E-03	229.0E-03	231.0E-03
Max	231.0E-03	230.0E-03	232.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	230.0E-03	233.0E-03	232.0E-03	230.0E-03	234.0E-03
Average	231.0E-03	229.5E-03	231.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	229.5E-03	233.0E-03	230.5E-03	229.5E-03	232.5E-03
Sigma	0.0E+00	500.0E-06	1.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	500.0E-06	0.0E+00	1.5E-03	500.0E-06	1.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo2n

Unit : V
No spec limit specified.



Measurements

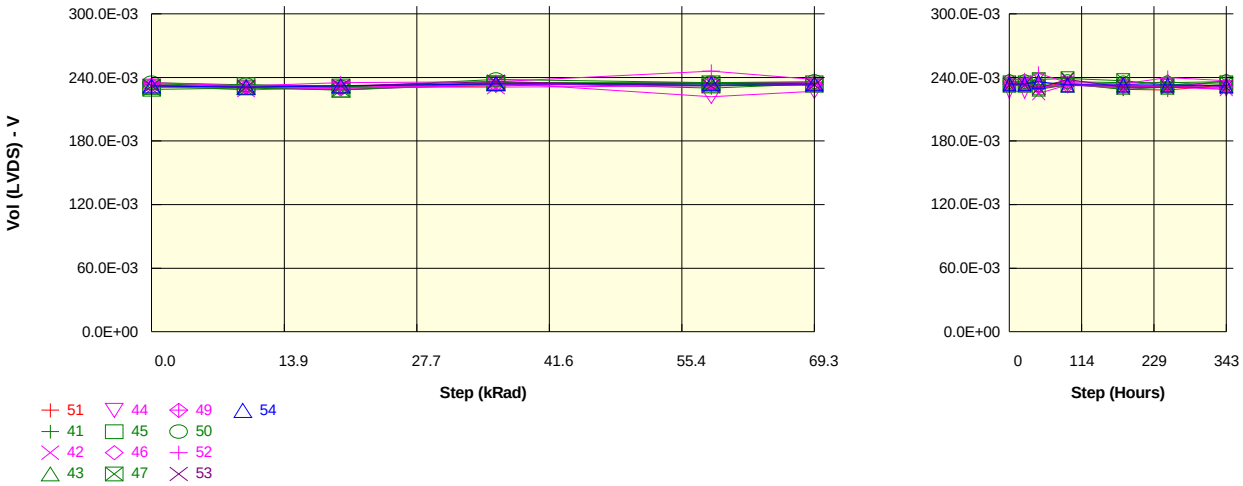
Vol (LVDS)sAo2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	232.0E-03	229.0E-03	242.0E-03	230.0E-03	232.0E-03	234.0E-03	234.0E-03	229.0E-03	234.0E-03	244.0E-03	236.0E-03	231.0E-03
ON samples												
41	232.0E-03	230.0E-03	234.0E-03	236.0E-03	236.0E-03	233.0E-03	233.0E-03	231.0E-03	231.0E-03	231.0E-03	242.0E-03	237.0E-03
42	230.0E-03	229.0E-03	230.0E-03	242.0E-03	231.0E-03	233.0E-03	233.0E-03	234.0E-03	231.0E-03	239.0E-03	229.0E-03	234.0E-03
43	229.0E-03	229.0E-03	233.0E-03	231.0E-03	232.0E-03	239.0E-03	239.0E-03	249.0E-03	233.0E-03	242.0E-03	229.0E-03	230.0E-03
44	229.0E-03	229.0E-03	248.0E-03	232.0E-03	245.0E-03	233.0E-03	233.0E-03	228.0E-03	232.0E-03	230.0E-03	231.0E-03	231.0E-03
45	229.0E-03	230.0E-03	239.0E-03	235.0E-03	245.0E-03	237.0E-03	237.0E-03	230.0E-03	247.0E-03	230.0E-03	232.0E-03	232.0E-03
46	229.0E-03	229.0E-03	227.0E-03	231.0E-03	232.0E-03	233.0E-03	233.0E-03	229.0E-03	231.0E-03	232.0E-03	229.0E-03	232.0E-03
47	227.0E-03	228.0E-03	227.0E-03	232.0E-03	232.0E-03	234.0E-03	234.0E-03	228.0E-03	241.0E-03	230.0E-03	228.0E-03	232.0E-03
49	231.0E-03	230.0E-03	229.0E-03	237.0E-03	242.0E-03	233.0E-03	233.0E-03	231.0E-03	242.0E-03	232.0E-03	234.0E-03	236.0E-03
50	232.0E-03	230.0E-03	230.0E-03	235.0E-03	249.0E-03	240.0E-03	240.0E-03	236.0E-03	233.0E-03	231.0E-03	233.0E-03	233.0E-03
52	232.0E-03	229.0E-03	234.0E-03	234.0E-03	233.0E-03	233.0E-03	233.0E-03	235.0E-03	233.0E-03	231.0E-03	231.0E-03	234.0E-03
Statistics												
Min	227.0E-03	228.0E-03	227.0E-03	231.0E-03	231.0E-03	233.0E-03	233.0E-03	228.0E-03	231.0E-03	230.0E-03	228.0E-03	230.0E-03
Max	232.0E-03	230.0E-03	248.0E-03	242.0E-03	249.0E-03	240.0E-03	240.0E-03	249.0E-03	247.0E-03	242.0E-03	242.0E-03	237.0E-03
Average	230.0E-03	229.3E-03	233.1E-03	234.5E-03	237.7E-03	234.8E-03	234.8E-03	233.1E-03	235.4E-03	232.8E-03	231.8E-03	233.1E-03
Sigma	1.6E-03	640.3E-06	6.1E-03	3.2E-03	6.5E-03	2.6E-03	2.6E-03	5.9E-03	5.4E-03	4.0E-03	3.9E-03	2.1E-03

Measurements

Vol (LVDS)sAo2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	232.0E-03	229.0E-03	242.0E-03	230.0E-03	232.0E-03	234.0E-03	234.0E-03	229.0E-03	234.0E-03	244.0E-03	236.0E-03	231.0E-03
OFF samples												
53	230.0E-03	229.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	232.0E-03	228.0E-03	235.0E-03	233.0E-03	229.0E-03	237.0E-03
54	230.0E-03	229.0E-03	233.0E-03	234.0E-03	233.0E-03	232.0E-03	232.0E-03	229.0E-03	232.0E-03	232.0E-03	231.0E-03	230.0E-03
Statistics												
Min	230.0E-03	229.0E-03	233.0E-03	232.0E-03	232.0E-03	232.0E-03	232.0E-03	228.0E-03	232.0E-03	232.0E-03	229.0E-03	230.0E-03
Max	230.0E-03	229.0E-03	233.0E-03	234.0E-03	233.0E-03	232.0E-03	232.0E-03	229.0E-03	235.0E-03	233.0E-03	231.0E-03	237.0E-03
Average	230.0E-03	229.0E-03	233.0E-03	233.0E-03	232.5E-03	232.0E-03	232.0E-03	228.5E-03	233.5E-03	232.5E-03	230.0E-03	233.5E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	1.0E-03	500.0E-06	0.0E+00	0.0E+00	500.0E-06	1.5E-03	500.0E-06	1.0E-03	3.5E-03

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo1n

Unit : V
No spec limit specified.



Measurements

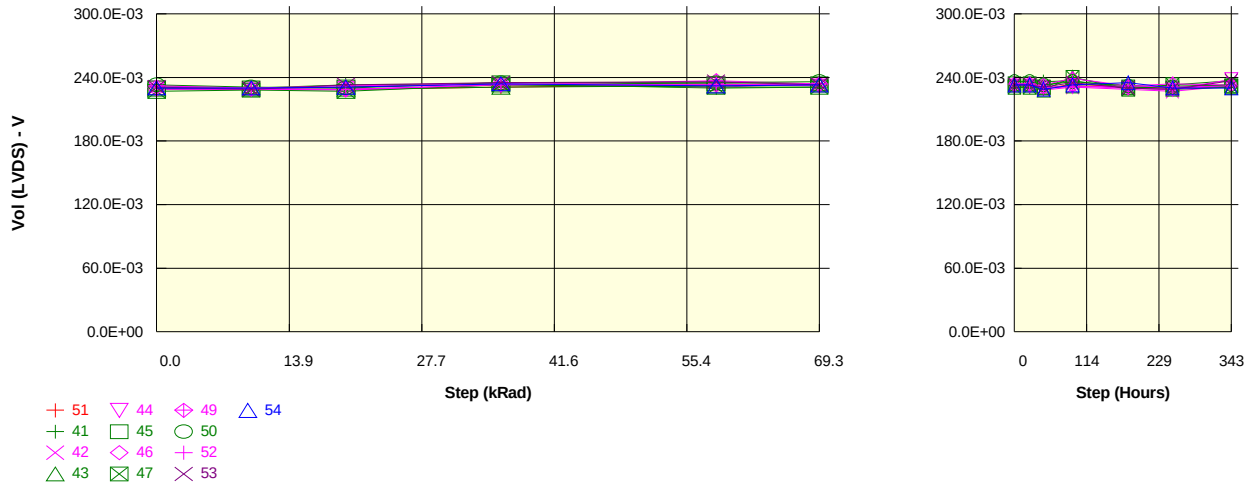
Vol (LVDS)sAo1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	231.0E-03	230.0E-03	232.0E-03	235.0E-03	235.0E-03	235.0E-03	231.0E-03	235.0E-03	229.0E-03	228.0E-03	233.0E-03
ON samples												
41	234.0E-03	232.0E-03	231.0E-03	235.0E-03	230.0E-03	234.0E-03	234.0E-03	230.0E-03	234.0E-03	229.0E-03	231.0E-03	237.0E-03
42	232.0E-03	228.0E-03	231.0E-03	231.0E-03	232.0E-03	235.0E-03	235.0E-03	225.0E-03	233.0E-03	230.0E-03	231.0E-03	229.0E-03
43	231.0E-03	231.0E-03	228.0E-03	234.0E-03	233.0E-03	233.0E-03	233.0E-03	229.0E-03	233.0E-03	231.0E-03	231.0E-03	233.0E-03
44	232.0E-03	231.0E-03	230.0E-03	235.0E-03	222.0E-03	227.0E-03	227.0E-03	231.0E-03	234.0E-03	231.0E-03	232.0E-03	229.0E-03
45	231.0E-03	233.0E-03	232.0E-03	234.0E-03	232.0E-03	235.0E-03	235.0E-03	230.0E-03	233.0E-03	232.0E-03	232.0E-03	233.0E-03
46	231.0E-03	231.0E-03	229.0E-03	233.0E-03	235.0E-03	235.0E-03	235.0E-03	231.0E-03	234.0E-03	232.0E-03	231.0E-03	233.0E-03
47	229.0E-03	230.0E-03	228.0E-03	235.0E-03	235.0E-03	233.0E-03	233.0E-03	238.0E-03	239.0E-03	237.0E-03	233.0E-03	235.0E-03
49	233.0E-03	231.0E-03	230.0E-03	233.0E-03	235.0E-03	233.0E-03	233.0E-03	232.0E-03	232.0E-03	233.0E-03	236.0E-03	231.0E-03
50	235.0E-03	233.0E-03	231.0E-03	238.0E-03	235.0E-03	236.0E-03	236.0E-03	233.0E-03	236.0E-03	235.0E-03	235.0E-03	236.0E-03
52	235.0E-03	232.0E-03	235.0E-03	236.0E-03	246.0E-03	238.0E-03	238.0E-03	244.0E-03	235.0E-03	234.0E-03	240.0E-03	237.0E-03
Statistics												
Min	229.0E-03	228.0E-03	228.0E-03	231.0E-03	222.0E-03	227.0E-03	227.0E-03	225.0E-03	232.0E-03	229.0E-03	231.0E-03	229.0E-03
Max	235.0E-03	233.0E-03	235.0E-03	238.0E-03	246.0E-03	238.0E-03	238.0E-03	244.0E-03	239.0E-03	237.0E-03	240.0E-03	237.0E-03
Average	232.3E-03	231.2E-03	230.5E-03	234.4E-03	233.5E-03	233.9E-03	233.9E-03	232.3E-03	234.3E-03	232.4E-03	233.2E-03	233.3E-03
Sigma	1.8E-03	1.4E-03	2.0E-03	1.8E-03	5.6E-03	2.7E-03	2.7E-03	5.0E-03	1.9E-03	2.3E-03	2.8E-03	2.8E-03

Measurements

Vol (LVDS)sAo1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	233.0E-03	231.0E-03	230.0E-03	232.0E-03	235.0E-03	235.0E-03	235.0E-03	231.0E-03	235.0E-03	229.0E-03	228.0E-03	233.0E-03
OFF samples												
53	232.0E-03	231.0E-03	232.0E-03	236.0E-03	232.0E-03	233.0E-03	233.0E-03	230.0E-03	238.0E-03	231.0E-03	231.0E-03	231.0E-03
54	232.0E-03	231.0E-03	232.0E-03	234.0E-03	234.0E-03	234.0E-03	234.0E-03	236.0E-03	233.0E-03	233.0E-03	233.0E-03	232.0E-03
Statistics												
Min	232.0E-03	231.0E-03	232.0E-03	234.0E-03	232.0E-03	233.0E-03	233.0E-03	230.0E-03	233.0E-03	231.0E-03	231.0E-03	231.0E-03
Max	232.0E-03	231.0E-03	232.0E-03	236.0E-03	234.0E-03	234.0E-03	234.0E-03	236.0E-03	238.0E-03	233.0E-03	233.0E-03	232.0E-03
Average	232.0E-03	231.0E-03	232.0E-03	235.0E-03	233.0E-03	233.5E-03	233.5E-03	233.0E-03	235.5E-03	232.0E-03	232.0E-03	231.5E-03
Sigma	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	500.0E-06	500.0E-06	3.0E-03	2.5E-03	1.0E-03	1.0E-03	500.0E-06

Test conditions : TID
Parameter : Low level Output Voltage : Vol (LVDS)sAo0n

Unit : V
No spec limit specified.



Measurements

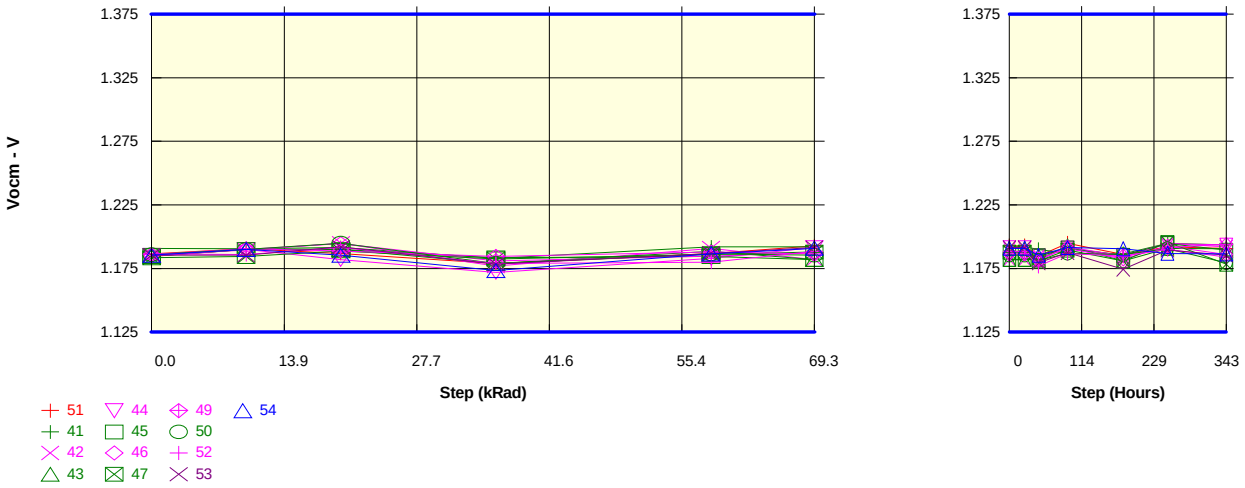
Vol (LVDS)sAo0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	231.0E-03	229.0E-03	229.0E-03	231.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	234.0E-03	231.0E-03	230.0E-03	231.0E-03
ON samples												
41	232.0E-03	230.0E-03	233.0E-03	234.0E-03	230.0E-03	231.0E-03	231.0E-03	236.0E-03	237.0E-03	230.0E-03	233.0E-03	237.0E-03
42	230.0E-03	229.0E-03	231.0E-03	234.0E-03	231.0E-03	234.0E-03	234.0E-03	228.0E-03	231.0E-03	229.0E-03	227.0E-03	232.0E-03
43	229.0E-03	229.0E-03	229.0E-03	231.0E-03	232.0E-03	233.0E-03	233.0E-03	228.0E-03	240.0E-03	230.0E-03	229.0E-03	231.0E-03
44	230.0E-03	229.0E-03	229.0E-03	233.0E-03	234.0E-03	232.0E-03	232.0E-03	230.0E-03	232.0E-03	230.0E-03	229.0E-03	238.0E-03
45	230.0E-03	230.0E-03	231.0E-03	235.0E-03	234.0E-03	234.0E-03	234.0E-03	230.0E-03	232.0E-03	231.0E-03	230.0E-03	232.0E-03
46	229.0E-03	229.0E-03	228.0E-03	233.0E-03	233.0E-03	233.0E-03	233.0E-03	230.0E-03	232.0E-03	230.0E-03	229.0E-03	233.0E-03
47	227.0E-03	228.0E-03	227.0E-03	233.0E-03	231.0E-03	231.0E-03	231.0E-03	231.0E-03	240.0E-03	229.0E-03	233.0E-03	232.0E-03
49	231.0E-03	229.0E-03	229.0E-03	233.0E-03	237.0E-03	234.0E-03	234.0E-03	233.0E-03	239.0E-03	232.0E-03	234.0E-03	233.0E-03
50	233.0E-03	231.0E-03	230.0E-03	235.0E-03	235.0E-03	236.0E-03	236.0E-03	233.0E-03	236.0E-03	232.0E-03	231.0E-03	233.0E-03
52	232.0E-03	230.0E-03	232.0E-03	234.0E-03	233.0E-03	234.0E-03	234.0E-03	231.0E-03	231.0E-03	232.0E-03	231.0E-03	232.0E-03
Statistics												
Min	227.0E-03	228.0E-03	227.0E-03	231.0E-03	230.0E-03	231.0E-03	231.0E-03	228.0E-03	231.0E-03	229.0E-03	227.0E-03	231.0E-03
Max	233.0E-03	231.0E-03	233.0E-03	235.0E-03	237.0E-03	236.0E-03	236.0E-03	236.0E-03	240.0E-03	232.0E-03	234.0E-03	238.0E-03
Average	230.3E-03	229.4E-03	229.9E-03	233.5E-03	233.0E-03	233.2E-03	233.2E-03	231.0E-03	235.0E-03	230.5E-03	230.6E-03	233.3E-03
Sigma	1.7E-03	800.0E-06	1.8E-03	1.1E-03	2.0E-03	1.5E-03	1.5E-03	2.3E-03	3.6E-03	1.1E-03	2.1E-03	2.2E-03

Measurements

Vol (LVDS)sAo0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	231.0E-03	229.0E-03	229.0E-03	231.0E-03	233.0E-03	234.0E-03	234.0E-03	229.0E-03	234.0E-03	231.0E-03	230.0E-03	231.0E-03
OFF samples												
53	231.0E-03	229.0E-03	233.0E-03	235.0E-03	236.0E-03	233.0E-03	233.0E-03	231.0E-03	235.0E-03	230.0E-03	229.0E-03	237.0E-03
54	230.0E-03	230.0E-03	231.0E-03	234.0E-03	232.0E-03	233.0E-03	233.0E-03	229.0E-03	233.0E-03	235.0E-03	230.0E-03	230.0E-03
Statistics												
Min	230.0E-03	229.0E-03	231.0E-03	234.0E-03	232.0E-03	233.0E-03	233.0E-03	229.0E-03	233.0E-03	230.0E-03	229.0E-03	230.0E-03
Max	231.0E-03	230.0E-03	233.0E-03	235.0E-03	236.0E-03	233.0E-03	233.0E-03	231.0E-03	235.0E-03	235.0E-03	230.0E-03	237.0E-03
Average	230.5E-03	229.5E-03	232.0E-03	234.5E-03	234.0E-03	233.0E-03	233.0E-03	230.0E-03	234.0E-03	232.5E-03	229.5E-03	233.5E-03
Sigma	500.0E-06	500.0E-06	1.0E-03	500.0E-06	2.0E-03	0.0E+00	0.0E+00	1.0E-03	1.0E-03	2.5E-03	500.0E-06	3.5E-03

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_3p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

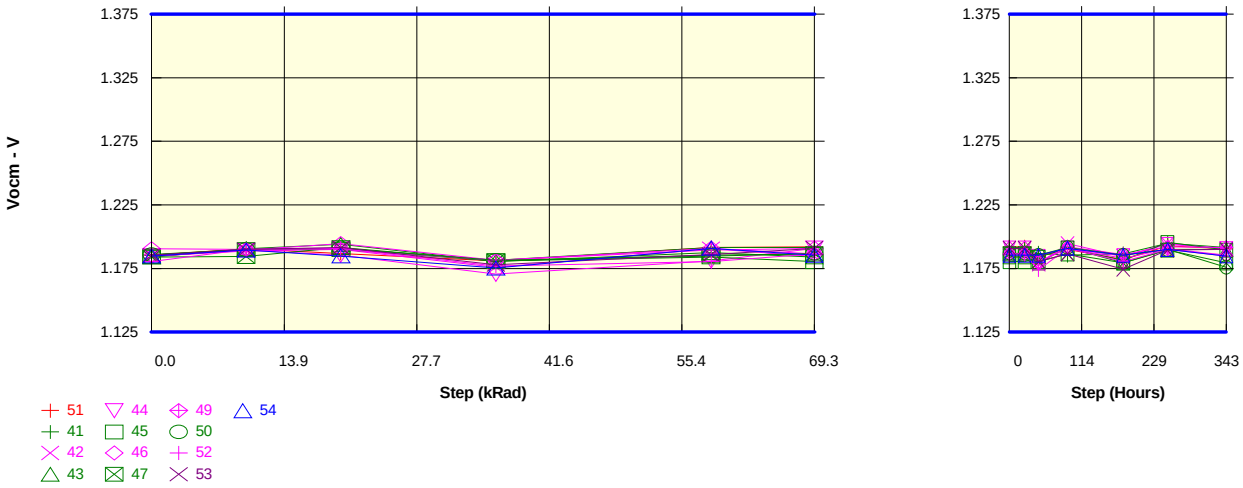
VocmSRC9_DO_3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.187	1.191	1.187	1.179	1.187	1.193	1.193	1.185	1.195	1.186	1.192	1.191
ON samples												
41	1.191	1.191	1.192	1.183	1.192	1.192	1.192	1.190	1.187	1.187	1.195	1.194
42	1.186	1.190	1.195	1.177	1.191	1.182	1.182	1.185	1.191	1.184	1.195	1.192
43	1.185	1.190	1.190	1.179	1.189	1.182	1.182	1.182	1.193	1.181	1.191	1.191
44	1.186	1.190	1.182	1.172	1.183	1.192	1.192	1.185	1.191	1.186	1.195	1.194
45	1.185	1.190	1.190	1.184	1.185	1.182	1.182	1.185	1.191	1.186	1.195	1.190
46	1.185	1.190	1.195	1.181	1.185	1.188	1.188	1.183	1.191	1.183	1.193	1.186
47	1.184	1.185	1.189	1.183	1.186	1.188	1.188	1.181	1.190	1.181	1.196	1.179
49	1.186	1.191	1.189	1.185	1.188	1.187	1.187	1.181	1.192	1.185	1.192	1.194
50	1.186	1.190	1.195	1.179	1.187	1.186	1.186	1.182	1.187	1.186	1.191	1.180
52	1.187	1.186	1.192	1.179	1.180	1.189	1.189	1.177	1.187	1.185	1.190	1.184
Statistics												
Min	1.184	1.185	1.182	1.172	1.180	1.182	1.182	1.177	1.187	1.181	1.190	1.179
Max	1.191	1.191	1.195	1.185	1.192	1.192	1.192	1.190	1.193	1.187	1.196	1.194
Average	1.186	1.189	1.191	1.180	1.186	1.187	1.187	1.183	1.190	1.184	1.193	1.188
Sigma	0.002	0.002	0.004	0.004	0.003	0.004	0.004	0.003	0.002	0.002	0.002	0.006

Measurements

VocmSRC9_DO_3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.187	1.191	1.187	1.179	1.187	1.193	1.193	1.185	1.195	1.186	1.192	1.191
OFF samples												
53	1.186	1.186	1.192	1.179	1.187	1.192	1.192	1.180	1.188	1.175	1.190	1.186
54	1.186	1.190	1.186	1.174	1.187	1.191	1.191	1.186	1.192	1.191	1.187	1.187
Statistics												
Min	1.186	1.186	1.186	1.174	1.187	1.191	1.191	1.180	1.188	1.175	1.187	1.186
Max	1.186	1.190	1.192	1.179	1.187	1.192	1.192	1.186	1.192	1.191	1.190	1.187
Average	1.186	1.188	1.189	1.176	1.187	1.191	1.191	1.183	1.190	1.183	1.188	1.186
Sigma	0.000	0.002	0.003	0.002	0.000	0.000	0.000	0.003	0.002	0.008	0.001	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_2p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

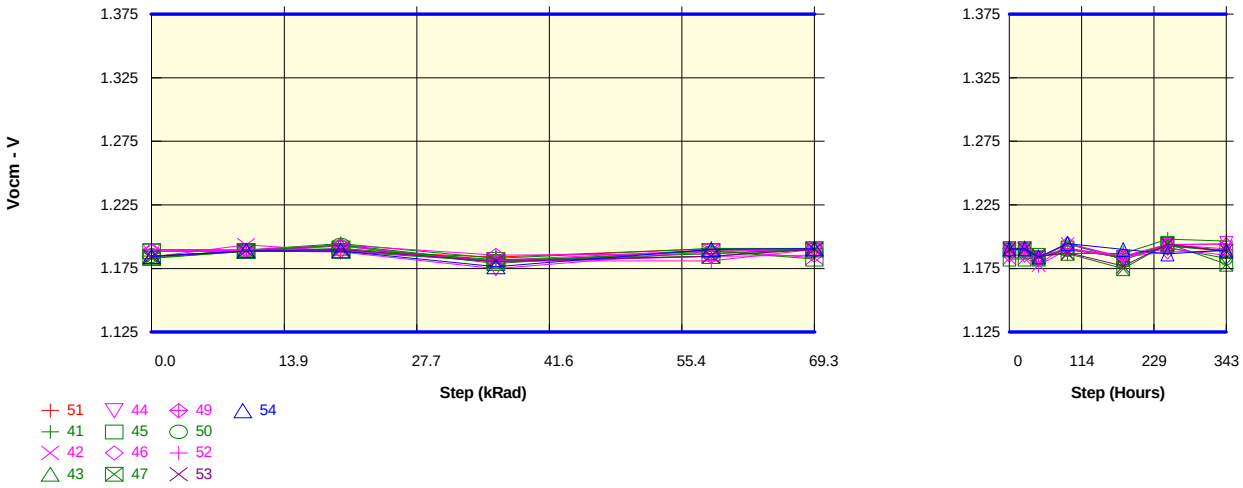
VocmSRC9_DO_2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.186	1.191	1.187	1.181	1.192	1.192	1.192	1.185	1.190	1.182	1.193	1.191
ON samples												
41	1.186	1.190	1.191	1.182	1.192	1.192	1.192	1.187	1.186	1.187	1.195	1.192
42	1.185	1.189	1.190	1.176	1.191	1.185	1.185	1.179	1.195	1.185	1.195	1.191
43	1.184	1.191	1.194	1.181	1.188	1.184	1.184	1.180	1.192	1.180	1.190	1.190
44	1.185	1.190	1.186	1.171	1.181	1.191	1.191	1.185	1.191	1.185	1.194	1.191
45	1.185	1.190	1.190	1.181	1.184	1.181	1.181	1.184	1.191	1.182	1.196	1.190
46	1.185	1.190	1.195	1.182	1.190	1.191	1.191	1.180	1.191	1.183	1.191	1.186
47	1.184	1.185	1.192	1.181	1.186	1.187	1.187	1.181	1.187	1.180	1.190	1.180
49	1.191	1.190	1.190	1.182	1.191	1.187	1.187	1.180	1.192	1.186	1.192	1.192
50	1.186	1.190	1.191	1.182	1.185	1.187	1.187	1.186	1.192	1.186	1.190	1.176
52	1.181	1.190	1.191	1.177	1.181	1.187	1.187	1.174	1.191	1.181	1.190	1.185
Statistics												
Min	1.181	1.185	1.186	1.171	1.181	1.181	1.181	1.174	1.186	1.180	1.190	1.176
Max	1.191	1.191	1.195	1.182	1.192	1.192	1.192	1.187	1.195	1.187	1.196	1.192
Average	1.185	1.189	1.191	1.179	1.187	1.187	1.187	1.181	1.191	1.183	1.192	1.187
Sigma	0.002	0.002	0.002	0.003	0.004	0.003	0.003	0.004	0.002	0.003	0.002	0.005

Measurements

VocmSRC9_DO_2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.186	1.191	1.187	1.181	1.192	1.192	1.192	1.185	1.190	1.182	1.193	1.191
OFF samples												
53	1.186	1.190	1.192	1.178	1.186	1.191	1.191	1.181	1.187	1.175	1.190	1.190
54	1.185	1.190	1.185	1.176	1.191	1.186	1.186	1.186	1.191	1.186	1.190	1.185
Statistics												
Min	1.185	1.190	1.185	1.176	1.186	1.186	1.186	1.181	1.187	1.175	1.190	1.185
Max	1.186	1.190	1.192	1.178	1.191	1.191	1.191	1.186	1.191	1.186	1.190	1.190
Average	1.185	1.190	1.188	1.177	1.189	1.188	1.188	1.183	1.189	1.180	1.190	1.188
Sigma	0.000	0.000	0.003	0.001	0.003	0.003	0.003	0.002	0.002	0.005	0.000	0.002

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_1p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

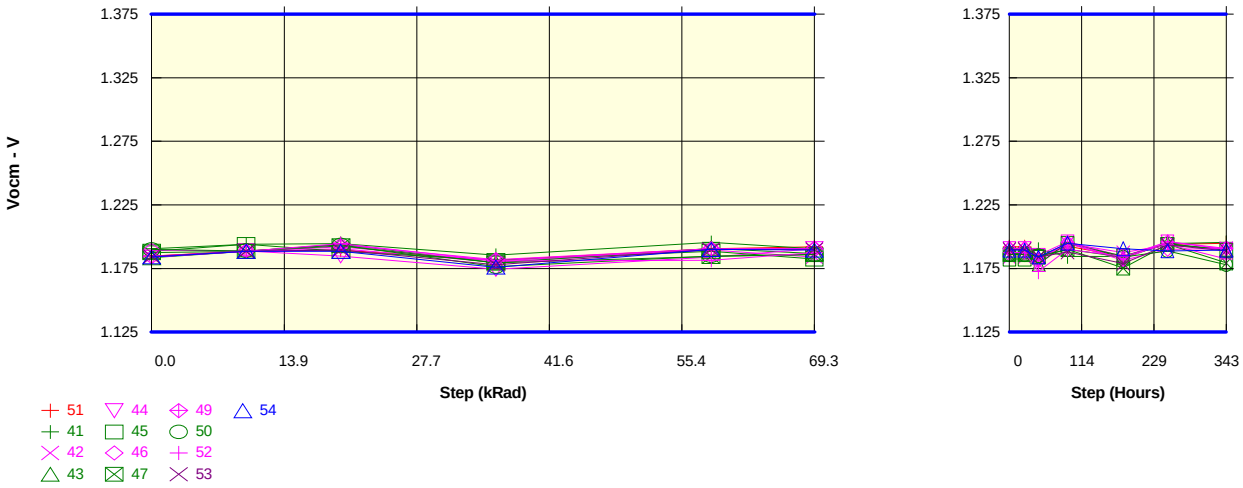
VocmSRC9_DO_1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.185	1.189	1.189	1.184	1.191	1.191	1.191	1.184	1.191	1.184	1.193	1.190
ON samples												
41	1.190	1.190	1.195	1.183	1.191	1.191	1.191	1.185	1.187	1.187	1.198	1.197
42	1.184	1.194	1.189	1.182	1.190	1.184	1.184	1.178	1.194	1.184	1.194	1.191
43	1.184	1.189	1.193	1.179	1.190	1.190	1.190	1.183	1.195	1.182	1.193	1.189
44	1.189	1.189	1.188	1.175	1.189	1.190	1.190	1.184	1.190	1.184	1.194	1.195
45	1.189	1.189	1.189	1.181	1.189	1.183	1.183	1.184	1.191	1.184	1.194	1.189
46	1.189	1.189	1.193	1.180	1.185	1.186	1.186	1.183	1.195	1.184	1.188	1.189
47	1.183	1.189	1.191	1.182	1.185	1.191	1.191	1.186	1.187	1.175	1.195	1.179
49	1.190	1.190	1.194	1.186	1.187	1.191	1.191	1.184	1.191	1.185	1.194	1.194
50	1.185	1.189	1.194	1.181	1.187	1.190	1.190	1.184	1.190	1.185	1.192	1.183
52	1.190	1.189	1.190	1.181	1.181	1.190	1.190	1.178	1.190	1.185	1.191	1.186
Statistics												
Min	1.183	1.189	1.188	1.175	1.181	1.183	1.183	1.178	1.187	1.175	1.188	1.179
Max	1.190	1.194	1.195	1.186	1.191	1.191	1.191	1.186	1.195	1.187	1.198	1.197
Average	1.187	1.189	1.191	1.181	1.187	1.188	1.188	1.183	1.191	1.183	1.193	1.189
Sigma	0.003	0.001	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.005

Measurements

VocmSRC9_DO_1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.185	1.189	1.189	1.184	1.191	1.191	1.191	1.184	1.191	1.184	1.193	1.190
OFF samples												
53	1.185	1.189	1.190	1.181	1.185	1.190	1.190	1.185	1.188	1.177	1.194	1.189
54	1.185	1.189	1.189	1.177	1.190	1.191	1.191	1.184	1.195	1.190	1.187	1.190
Statistics												
Min	1.185	1.189	1.189	1.177	1.185	1.190	1.190	1.184	1.188	1.177	1.187	1.189
Max	1.185	1.189	1.190	1.181	1.190	1.191	1.191	1.185	1.195	1.190	1.194	1.190
Average	1.185	1.189	1.190	1.179	1.188	1.190	1.190	1.184	1.191	1.184	1.190	1.189
Sigma	0.000	0.000	0.001	0.002	0.002	0.000	0.000	0.000	0.004	0.006	0.004	0.000

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_0p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

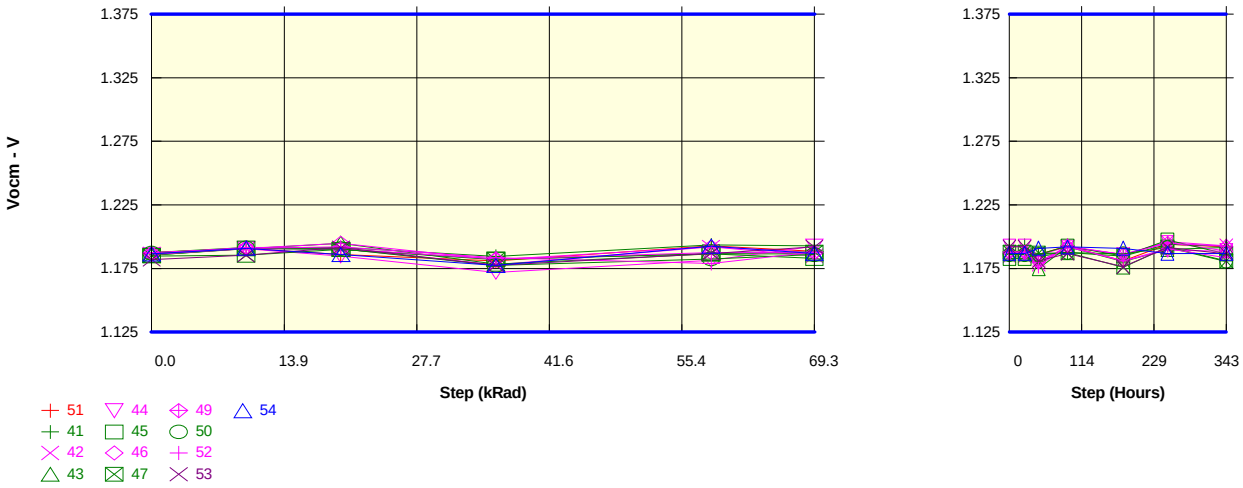
VocmSRC9_DO_0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.185	1.189	1.190	1.182	1.191	1.192	1.192	1.184	1.193	1.185	1.194	1.195
ON samples												
41	1.191	1.194	1.195	1.186	1.196	1.191	1.191	1.190	1.185	1.185	1.195	1.196
42	1.184	1.189	1.191	1.180	1.190	1.184	1.184	1.179	1.195	1.188	1.194	1.191
43	1.184	1.189	1.194	1.180	1.191	1.187	1.187	1.179	1.196	1.184	1.195	1.190
44	1.184	1.189	1.185	1.175	1.184	1.191	1.191	1.186	1.196	1.185	1.196	1.190
45	1.189	1.194	1.189	1.182	1.189	1.183	1.183	1.184	1.195	1.185	1.194	1.190
46	1.184	1.189	1.192	1.181	1.190	1.191	1.191	1.183	1.195	1.182	1.190	1.191
47	1.188	1.189	1.193	1.180	1.185	1.186	1.186	1.184	1.190	1.176	1.194	1.180
49	1.190	1.189	1.194	1.182	1.191	1.191	1.191	1.181	1.196	1.183	1.196	1.191
50	1.190	1.189	1.194	1.177	1.185	1.186	1.186	1.185	1.190	1.184	1.189	1.178
52	1.185	1.189	1.195	1.181	1.182	1.188	1.188	1.173	1.190	1.185	1.194	1.183
Statistics												
Min	1.184	1.189	1.185	1.175	1.182	1.183	1.183	1.173	1.185	1.176	1.189	1.178
Max	1.191	1.194	1.195	1.186	1.196	1.191	1.191	1.190	1.196	1.188	1.196	1.196
Average	1.187	1.190	1.192	1.180	1.188	1.188	1.188	1.182	1.193	1.183	1.194	1.188
Sigma	0.003	0.002	0.003	0.003	0.004	0.003	0.003	0.005	0.004	0.003	0.002	0.005

Measurements

VocmSRC9_DO_0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.185	1.189	1.190	1.182	1.191	1.192	1.192	1.184	1.193	1.185	1.194	1.195
OFF samples												
53	1.185	1.189	1.190	1.178	1.190	1.190	1.190	1.184	1.188	1.179	1.194	1.189
54	1.184	1.189	1.189	1.176	1.190	1.190	1.190	1.184	1.195	1.191	1.189	1.190
Statistics												
Min	1.184	1.189	1.189	1.176	1.190	1.190	1.190	1.184	1.188	1.179	1.189	1.189
Max	1.185	1.189	1.190	1.178	1.190	1.190	1.190	1.184	1.195	1.191	1.194	1.190
Average	1.184	1.189	1.189	1.177	1.190	1.190	1.190	1.184	1.192	1.185	1.191	1.189
Sigma	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.003	0.006	0.002	0.000

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_3n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

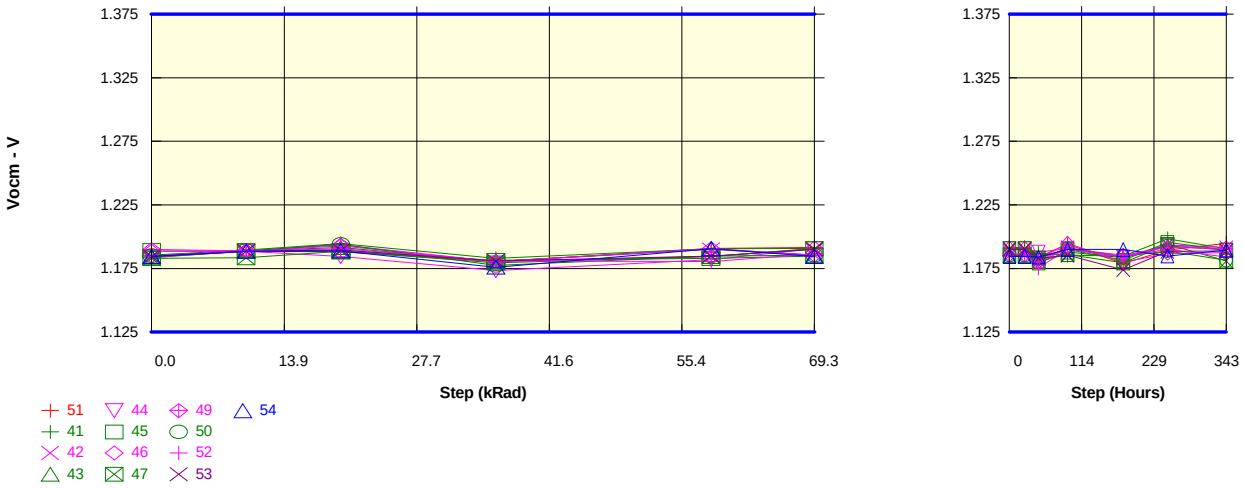
VocmSRC9_DO_3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.188	1.191	1.186	1.181	1.193	1.189	1.189	1.186	1.193	1.181	1.194	1.192
ON samples												
41	1.188	1.192	1.192	1.185	1.194	1.193	1.193	1.185	1.188	1.185	1.194	1.193
42	1.187	1.191	1.191	1.178	1.192	1.185	1.185	1.179	1.192	1.186	1.196	1.193
43	1.186	1.191	1.195	1.179	1.187	1.187	1.187	1.175	1.192	1.181	1.190	1.192
44	1.186	1.191	1.185	1.172	1.182	1.193	1.193	1.186	1.192	1.186	1.196	1.189
45	1.186	1.191	1.190	1.183	1.187	1.183	1.183	1.186	1.193	1.185	1.198	1.187
46	1.186	1.191	1.195	1.182	1.192	1.188	1.188	1.180	1.192	1.181	1.190	1.189
47	1.185	1.186	1.190	1.182	1.187	1.188	1.188	1.187	1.188	1.176	1.192	1.181
49	1.187	1.192	1.191	1.183	1.188	1.188	1.188	1.180	1.193	1.186	1.195	1.193
50	1.187	1.191	1.191	1.178	1.183	1.186	1.186	1.186	1.188	1.187	1.192	1.181
52	1.188	1.191	1.192	1.184	1.179	1.188	1.188	1.177	1.193	1.181	1.191	1.184
Statistics												
Min	1.185	1.186	1.185	1.172	1.179	1.183	1.183	1.175	1.188	1.176	1.190	1.181
Max	1.188	1.192	1.195	1.185	1.194	1.193	1.193	1.187	1.193	1.187	1.198	1.193
Average	1.186	1.190	1.191	1.180	1.187	1.188	1.188	1.182	1.191	1.183	1.193	1.188
Sigma	0.001	0.002	0.003	0.004	0.005	0.003	0.003	0.004	0.002	0.003	0.003	0.005

Measurements

VocmSRC9_DO_3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.188	1.191	1.186	1.181	1.193	1.189	1.189	1.186	1.193	1.181	1.194	1.192
OFF samples												
53	1.182	1.186	1.192	1.178	1.187	1.192	1.192	1.181	1.187	1.177	1.192	1.187
54	1.187	1.191	1.186	1.178	1.193	1.187	1.187	1.191	1.192	1.191	1.187	1.187
Statistics												
Min	1.182	1.186	1.186	1.178	1.187	1.187	1.187	1.181	1.187	1.177	1.187	1.187
Max	1.187	1.191	1.192	1.178	1.193	1.192	1.192	1.191	1.192	1.191	1.192	1.187
Average	1.184	1.188	1.189	1.178	1.190	1.190	1.190	1.186	1.190	1.184	1.189	1.187
Sigma	0.002	0.003	0.003	0.000	0.003	0.002	0.002	0.005	0.002	0.007	0.002	0.000

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_2n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

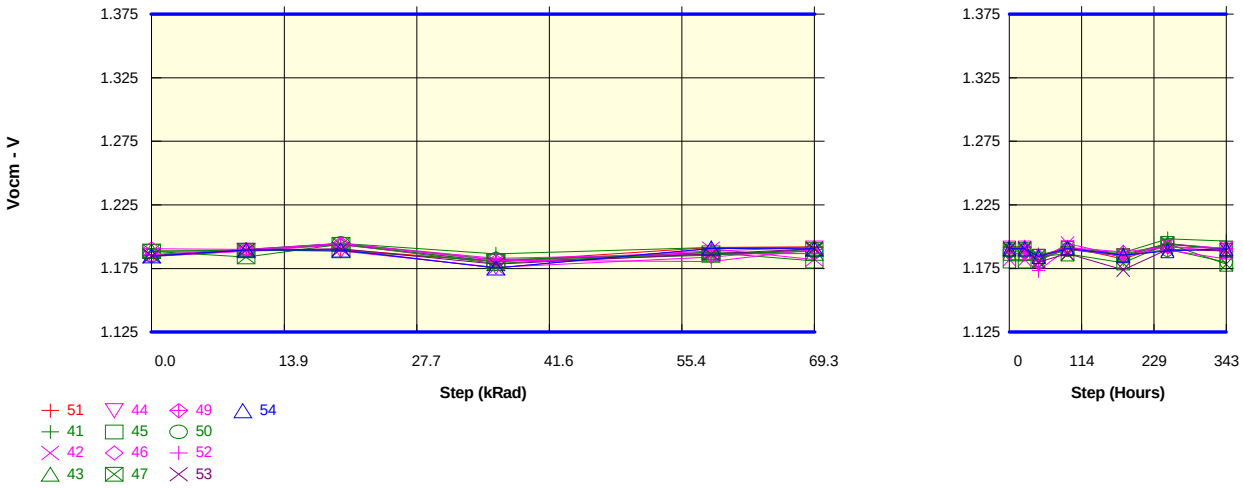
VocmSRC9_DO_2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.185	1.189	1.189	1.181	1.191	1.192	1.192	1.184	1.194	1.179	1.190	1.195
ON samples												
41	1.186	1.190	1.195	1.183	1.191	1.191	1.191	1.187	1.186	1.185	1.199	1.191
42	1.184	1.189	1.190	1.181	1.190	1.186	1.186	1.181	1.192	1.184	1.194	1.192
43	1.184	1.189	1.192	1.181	1.191	1.186	1.186	1.180	1.188	1.184	1.193	1.190
44	1.184	1.189	1.185	1.174	1.182	1.191	1.191	1.188	1.191	1.184	1.194	1.190
45	1.189	1.189	1.188	1.182	1.183	1.185	1.185	1.184	1.190	1.182	1.196	1.190
46	1.189	1.189	1.193	1.181	1.185	1.191	1.191	1.182	1.195	1.180	1.187	1.188
47	1.183	1.184	1.189	1.180	1.185	1.191	1.191	1.181	1.186	1.180	1.194	1.181
49	1.190	1.189	1.194	1.181	1.191	1.186	1.186	1.180	1.191	1.186	1.192	1.191
50	1.185	1.189	1.194	1.178	1.185	1.186	1.186	1.183	1.191	1.185	1.189	1.182
52	1.185	1.189	1.191	1.181	1.181	1.187	1.187	1.176	1.190	1.185	1.190	1.184
Statistics												
Min	1.183	1.184	1.185	1.174	1.181	1.185	1.185	1.176	1.186	1.180	1.187	1.181
Max	1.190	1.190	1.195	1.183	1.191	1.191	1.191	1.188	1.195	1.186	1.199	1.192
Average	1.186	1.188	1.191	1.180	1.186	1.188	1.188	1.182	1.190	1.183	1.193	1.188
Sigma	0.002	0.002	0.003	0.002	0.004	0.003	0.003	0.003	0.003	0.002	0.003	0.004

Measurements

VocmSRC9_DO_2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.185	1.189	1.189	1.181	1.191	1.192	1.192	1.184	1.194	1.179	1.190	1.195
OFF samples												
53	1.185	1.189	1.190	1.181	1.185	1.190	1.190	1.183	1.186	1.174	1.189	1.189
54	1.185	1.189	1.189	1.176	1.191	1.185	1.185	1.184	1.190	1.190	1.185	1.190
Statistics												
Min	1.185	1.189	1.189	1.176	1.185	1.185	1.185	1.183	1.186	1.174	1.185	1.189
Max	1.185	1.189	1.190	1.181	1.191	1.190	1.190	1.184	1.190	1.190	1.189	1.190
Average	1.185	1.189	1.189	1.179	1.188	1.187	1.187	1.184	1.188	1.182	1.187	1.189
Sigma	0.000	0.000	0.000	0.002	0.003	0.003	0.003	0.001	0.002	0.008	0.002	0.000

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_1n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

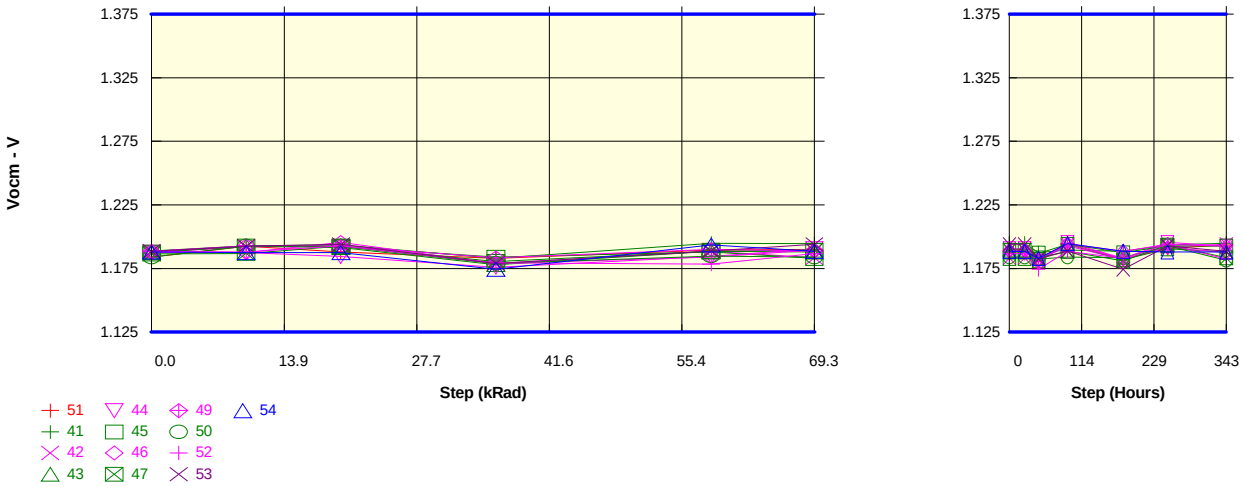
VocmSRC9_DO_1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.186	1.190	1.190	1.181	1.192	1.192	1.192	1.185	1.192	1.183	1.194	1.191
ON samples												
41	1.186	1.190	1.195	1.187	1.192	1.192	1.192	1.186	1.190	1.188	1.199	1.197
42	1.185	1.189	1.190	1.176	1.191	1.182	1.182	1.181	1.195	1.185	1.194	1.191
43	1.189	1.189	1.194	1.179	1.188	1.187	1.187	1.182	1.192	1.186	1.195	1.190
44	1.185	1.190	1.189	1.176	1.184	1.191	1.191	1.185	1.192	1.185	1.195	1.191
45	1.189	1.190	1.189	1.181	1.188	1.181	1.181	1.185	1.191	1.185	1.195	1.190
46	1.185	1.189	1.194	1.181	1.189	1.192	1.192	1.185	1.191	1.185	1.192	1.189
47	1.189	1.184	1.194	1.181	1.186	1.190	1.190	1.185	1.187	1.180	1.195	1.179
49	1.191	1.190	1.195	1.183	1.187	1.187	1.187	1.181	1.192	1.188	1.192	1.191
50	1.186	1.190	1.195	1.182	1.186	1.189	1.189	1.182	1.190	1.185	1.190	1.180
52	1.186	1.190	1.195	1.182	1.181	1.190	1.190	1.174	1.191	1.185	1.190	1.183
Statistics												
Min	1.185	1.184	1.189	1.176	1.181	1.181	1.181	1.174	1.187	1.180	1.190	1.179
Max	1.191	1.190	1.195	1.187	1.192	1.192	1.192	1.186	1.195	1.188	1.199	1.197
Average	1.187	1.189	1.193	1.181	1.187	1.188	1.188	1.182	1.191	1.185	1.193	1.188
Sigma	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.003	0.002	0.002	0.002	0.005

Measurements

VocmSRC9_DO_1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.186	1.190	1.190	1.181	1.192	1.192	1.192	1.185	1.192	1.183	1.194	1.191
OFF samples												
53	1.185	1.190	1.191	1.179	1.187	1.191	1.191	1.180	1.187	1.174	1.190	1.189
54	1.185	1.190	1.190	1.176	1.191	1.191	1.191	1.185	1.191	1.186	1.189	1.191
Statistics												
Min	1.185	1.190	1.190	1.176	1.187	1.191	1.191	1.180	1.187	1.174	1.189	1.189
Max	1.185	1.190	1.191	1.179	1.191	1.191	1.191	1.185	1.191	1.186	1.190	1.191
Average	1.185	1.190	1.190	1.177	1.189	1.191	1.191	1.182	1.189	1.180	1.190	1.190
Sigma	0.000	0.000	0.001	0.002	0.002	0.000	0.000	0.002	0.002	0.006	0.001	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRC9_DO_0n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

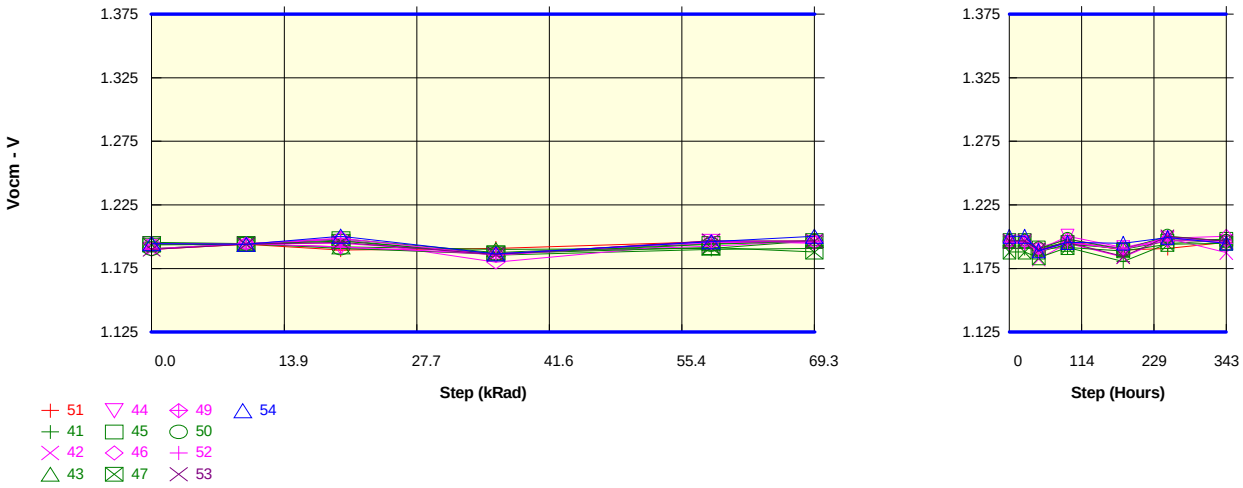
VocmSRC9_DO_0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.184	1.193	1.188	1.183	1.190	1.190	1.190	1.183	1.195	1.183	1.191	1.194
ON samples												
41	1.189	1.193	1.194	1.183	1.195	1.195	1.195	1.188	1.190	1.189	1.194	1.195
42	1.188	1.192	1.193	1.179	1.189	1.184	1.184	1.182	1.193	1.182	1.192	1.194
43	1.188	1.193	1.192	1.178	1.189	1.188	1.188	1.182	1.194	1.182	1.191	1.188
44	1.188	1.188	1.185	1.176	1.185	1.191	1.191	1.180	1.196	1.183	1.196	1.193
45	1.188	1.193	1.192	1.184	1.188	1.183	1.183	1.187	1.194	1.188	1.193	1.193
46	1.188	1.188	1.196	1.179	1.184	1.190	1.190	1.182	1.194	1.183	1.192	1.188
47	1.187	1.187	1.193	1.181	1.189	1.190	1.190	1.184	1.189	1.181	1.194	1.184
49	1.189	1.193	1.193	1.184	1.190	1.189	1.189	1.183	1.195	1.189	1.194	1.193
50	1.184	1.193	1.193	1.179	1.185	1.184	1.184	1.183	1.184	1.184	1.193	1.182
52	1.189	1.188	1.193	1.180	1.179	1.187	1.187	1.175	1.189	1.183	1.194	1.183
Statistics												
Min	1.184	1.187	1.185	1.176	1.179	1.183	1.183	1.175	1.184	1.181	1.191	1.182
Max	1.189	1.193	1.196	1.184	1.195	1.195	1.195	1.188	1.196	1.189	1.196	1.195
Average	1.188	1.191	1.192	1.180	1.187	1.188	1.188	1.182	1.192	1.184	1.193	1.189
Sigma	0.001	0.003	0.003	0.002	0.004	0.003	0.003	0.003	0.004	0.003	0.001	0.005

Measurements

VocmSRC9_DO_0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.184	1.193	1.188	1.183	1.190	1.190	1.190	1.183	1.195	1.183	1.191	1.194
OFF samples												
53	1.189	1.193	1.194	1.179	1.189	1.194	1.194	1.183	1.189	1.175	1.193	1.189
54	1.188	1.188	1.188	1.175	1.194	1.189	1.189	1.183	1.195	1.189	1.188	1.188
Statistics												
Min	1.188	1.188	1.188	1.175	1.189	1.189	1.189	1.183	1.189	1.175	1.188	1.188
Max	1.189	1.193	1.194	1.179	1.194	1.194	1.194	1.183	1.195	1.189	1.193	1.189
Average	1.188	1.190	1.191	1.177	1.191	1.191	1.191	1.183	1.192	1.182	1.191	1.188
Sigma	0.000	0.002	0.003	0.002	0.002	0.003	0.003	0.000	0.003	0.007	0.002	0.000

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_3p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

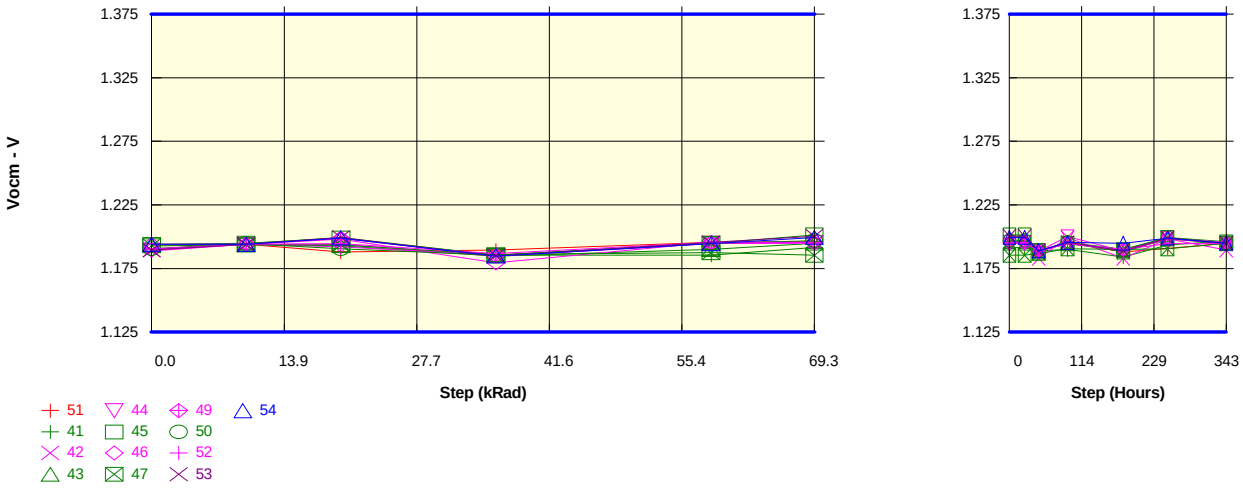
VocmSRCA_DO_3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.190	1.194	1.190	1.191	1.196	1.197	1.197	1.189	1.197	1.190	1.191	1.196
ON samples												
41	1.196	1.195	1.198	1.186	1.190	1.191	1.191	1.191	1.192	1.181	1.195	1.198
42	1.195	1.195	1.195	1.187	1.193	1.197	1.197	1.183	1.195	1.184	1.199	1.188
43	1.194	1.194	1.192	1.190	1.191	1.197	1.197	1.188	1.194	1.191	1.199	1.195
44	1.195	1.195	1.192	1.186	1.197	1.195	1.195	1.190	1.201	1.192	1.199	1.196
45	1.195	1.195	1.199	1.188	1.195	1.197	1.197	1.191	1.196	1.190	1.197	1.198
46	1.195	1.194	1.198	1.180	1.196	1.196	1.196	1.189	1.196	1.191	1.199	1.201
47	1.194	1.194	1.197	1.187	1.192	1.188	1.188	1.184	1.192	1.189	1.194	1.195
49	1.190	1.195	1.199	1.186	1.196	1.197	1.197	1.192	1.198	1.191	1.197	1.197
50	1.191	1.195	1.191	1.187	1.194	1.197	1.197	1.191	1.198	1.190	1.201	1.197
52	1.191	1.195	1.192	1.187	1.196	1.196	1.196	1.188	1.196	1.190	1.200	1.195
Statistics												
Min	1.190	1.194	1.191	1.180	1.190	1.188	1.188	1.183	1.192	1.181	1.194	1.188
Max	1.196	1.195	1.199	1.190	1.197	1.197	1.197	1.192	1.201	1.192	1.201	1.201
Average	1.193	1.194	1.195	1.186	1.194	1.195	1.195	1.188	1.196	1.189	1.198	1.196
Sigma	0.002	0.000	0.003	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003

Measurements

VocmSRCA_DO_3p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.190	1.194	1.190	1.191	1.196	1.197	1.197	1.189	1.197	1.190	1.191	1.196
OFF samples												
53	1.190	1.194	1.196	1.186	1.197	1.197	1.197	1.190	1.196	1.185	1.200	1.197
54	1.195	1.194	1.201	1.187	1.196	1.201	1.201	1.189	1.196	1.195	1.200	1.195
Statistics												
Min	1.190	1.194	1.196	1.186	1.196	1.197	1.197	1.189	1.196	1.185	1.200	1.195
Max	1.195	1.194	1.201	1.187	1.197	1.201	1.201	1.190	1.196	1.195	1.200	1.197
Average	1.192	1.194	1.198	1.186	1.197	1.199	1.199	1.189	1.196	1.190	1.200	1.196
Sigma	0.002	0.000	0.002	0.000	0.001	0.002	0.002	0.000	0.000	0.005	0.000	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_2p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

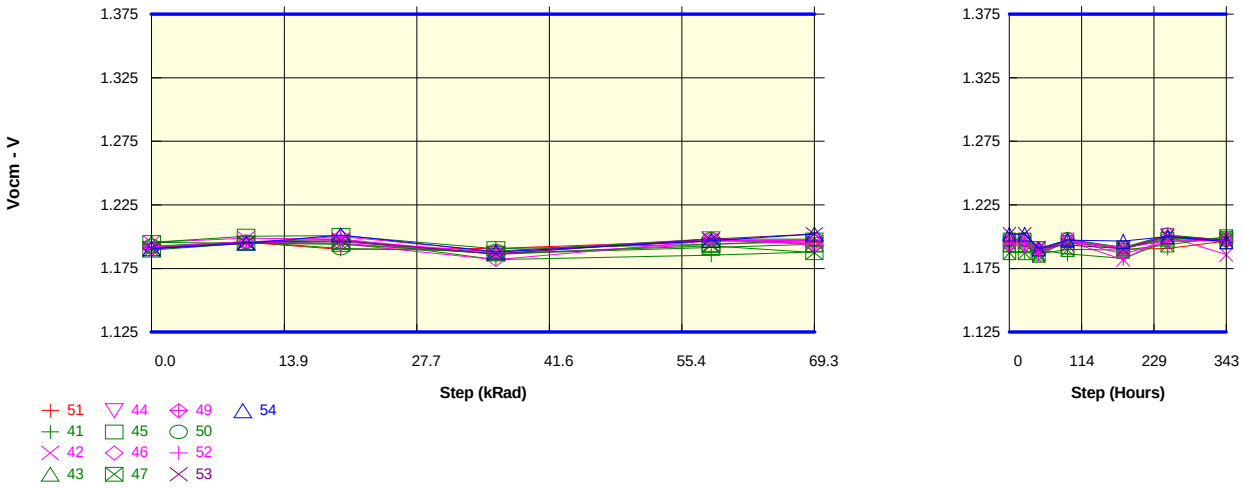
VocmSRCA_DO_2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.190	1.194	1.188	1.190	1.196	1.196	1.196	1.189	1.196	1.188	1.191	1.195
ON samples												
41	1.190	1.195	1.200	1.186	1.186	1.192	1.192	1.189	1.190	1.184	1.194	1.197
42	1.190	1.194	1.194	1.185	1.195	1.196	1.196	1.183	1.200	1.183	1.199	1.190
43	1.194	1.194	1.193	1.185	1.190	1.195	1.195	1.188	1.196	1.188	1.199	1.195
44	1.189	1.194	1.192	1.186	1.195	1.196	1.196	1.189	1.200	1.189	1.199	1.195
45	1.194	1.195	1.199	1.186	1.195	1.202	1.202	1.189	1.195	1.189	1.200	1.196
46	1.194	1.194	1.198	1.180	1.196	1.196	1.196	1.189	1.195	1.189	1.199	1.195
47	1.193	1.194	1.194	1.186	1.188	1.186	1.186	1.187	1.191	1.190	1.191	1.195
49	1.190	1.194	1.199	1.185	1.195	1.195	1.195	1.189	1.195	1.190	1.199	1.196
50	1.191	1.195	1.191	1.186	1.195	1.197	1.197	1.189	1.196	1.190	1.200	1.195
52	1.191	1.194	1.195	1.187	1.196	1.196	1.196	1.189	1.195	1.190	1.195	1.195
Statistics												
Min	1.189	1.194	1.191	1.180	1.186	1.186	1.186	1.183	1.190	1.183	1.191	1.190
Max	1.194	1.195	1.200	1.187	1.196	1.202	1.202	1.189	1.200	1.190	1.200	1.197
Average	1.191	1.194	1.195	1.185	1.193	1.195	1.195	1.188	1.195	1.188	1.197	1.195
Sigma	0.002	0.000	0.003	0.002	0.004	0.004	0.004	0.002	0.003	0.002	0.003	0.002

Measurements

VocmSRCA_DO_2p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.190	1.194	1.188	1.190	1.196	1.196	1.196	1.189	1.196	1.188	1.191	1.195
OFF samples												
53	1.190	1.194	1.200	1.185	1.196	1.201	1.201	1.189	1.196	1.189	1.199	1.195
54	1.194	1.194	1.199	1.185	1.195	1.200	1.200	1.189	1.196	1.195	1.199	1.195
Statistics												
Min	1.190	1.194	1.199	1.185	1.195	1.200	1.200	1.189	1.196	1.189	1.199	1.195
Max	1.194	1.194	1.200	1.185	1.196	1.201	1.201	1.189	1.196	1.195	1.199	1.195
Average	1.192	1.194	1.199	1.185	1.195	1.200	1.200	1.189	1.196	1.192	1.199	1.195
Sigma	0.002	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.003	0.000	0.000

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_1p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

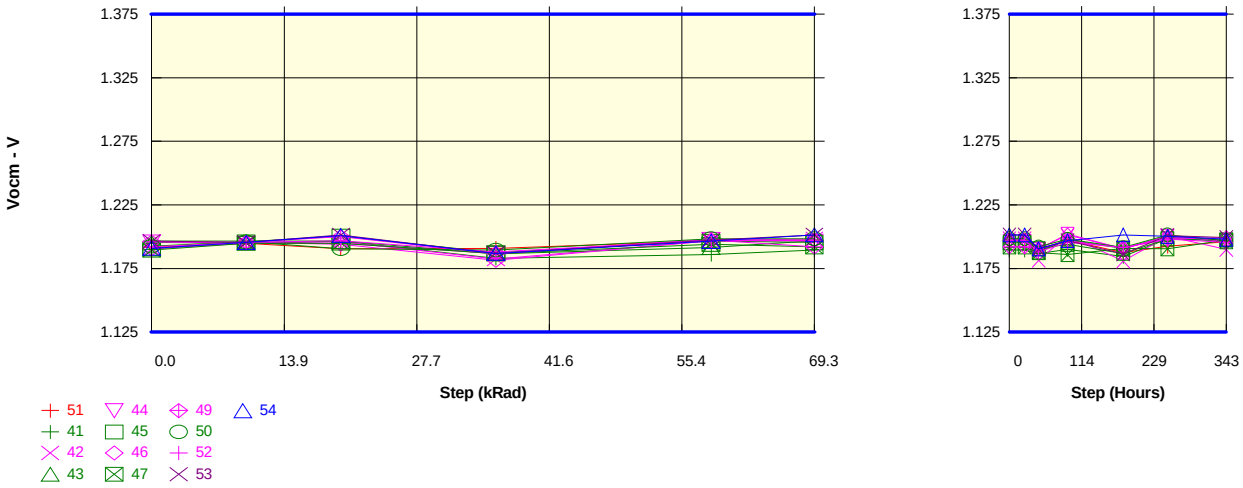
VocmSRCA_DO_1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.192	1.196	1.190	1.191	1.197	1.196	1.196	1.187	1.198	1.190	1.191	1.197
ON samples												
41	1.192	1.196	1.198	1.182	1.186	1.188	1.188	1.190	1.187	1.183	1.197	1.198
42	1.196	1.199	1.198	1.186	1.194	1.196	1.196	1.186	1.197	1.182	1.200	1.186
43	1.196	1.195	1.196	1.187	1.192	1.194	1.194	1.186	1.197	1.191	1.200	1.196
44	1.191	1.195	1.195	1.187	1.199	1.194	1.194	1.191	1.198	1.192	1.201	1.198
45	1.196	1.201	1.201	1.191	1.194	1.198	1.198	1.191	1.196	1.191	1.198	1.199
46	1.191	1.196	1.195	1.182	1.197	1.198	1.198	1.191	1.197	1.191	1.201	1.197
47	1.190	1.195	1.194	1.187	1.193	1.188	1.188	1.187	1.190	1.190	1.194	1.200
49	1.191	1.196	1.200	1.189	1.199	1.194	1.194	1.191	1.198	1.187	1.196	1.198
50	1.193	1.196	1.191	1.189	1.198	1.198	1.198	1.188	1.198	1.192	1.202	1.198
52	1.192	1.196	1.197	1.188	1.197	1.198	1.198	1.187	1.197	1.192	1.197	1.197
Statistics												
Min	1.190	1.195	1.191	1.182	1.186	1.188	1.188	1.186	1.187	1.182	1.194	1.186
Max	1.196	1.201	1.201	1.191	1.199	1.198	1.198	1.191	1.198	1.192	1.202	1.200
Average	1.192	1.196	1.196	1.187	1.195	1.194	1.194	1.188	1.195	1.189	1.198	1.196
Sigma	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.002	0.004	0.003	0.002	0.004

Measurements

VocmSRCA_DO_1p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.192	1.196	1.190	1.191	1.197	1.196	1.196	1.187	1.198	1.190	1.191	1.197
OFF samples												
53	1.191	1.196	1.197	1.187	1.198	1.202	1.202	1.191	1.194	1.191	1.201	1.198
54	1.191	1.195	1.202	1.188	1.197	1.202	1.202	1.191	1.198	1.197	1.200	1.196
Statistics												
Min	1.191	1.195	1.197	1.187	1.197	1.202	1.202	1.191	1.194	1.191	1.200	1.196
Max	1.191	1.196	1.202	1.188	1.198	1.202	1.202	1.191	1.198	1.197	1.201	1.198
Average	1.191	1.195	1.199	1.187	1.198	1.202	1.202	1.191	1.196	1.194	1.200	1.197
Sigma	0.000	0.000	0.002	0.001	0.001	0.000	0.000	0.000	0.002	0.003	0.000	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_0p

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

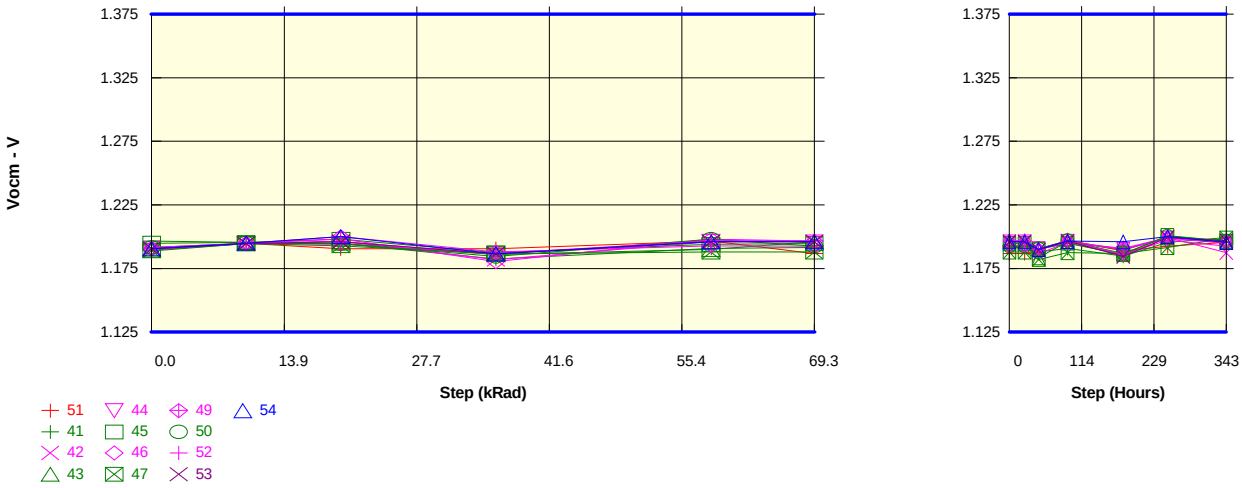
VocmSRCA_DO_0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.192	1.195	1.191	1.191	1.197	1.198	1.198	1.190	1.198	1.188	1.193	1.196
ON samples												
41	1.197	1.197	1.197	1.183	1.186	1.190	1.190	1.187	1.190	1.185	1.199	1.197
42	1.191	1.195	1.196	1.183	1.197	1.199	1.199	1.182	1.201	1.181	1.201	1.190
43	1.196	1.195	1.197	1.187	1.192	1.197	1.197	1.188	1.198	1.191	1.200	1.196
44	1.196	1.195	1.195	1.187	1.198	1.197	1.197	1.190	1.202	1.191	1.201	1.197
45	1.191	1.196	1.201	1.188	1.197	1.196	1.196	1.191	1.194	1.187	1.199	1.198
46	1.191	1.196	1.194	1.182	1.197	1.197	1.197	1.191	1.202	1.191	1.201	1.197
47	1.190	1.195	1.195	1.187	1.194	1.192	1.192	1.188	1.186	1.191	1.191	1.198
49	1.196	1.196	1.200	1.187	1.198	1.192	1.192	1.190	1.197	1.192	1.198	1.200
50	1.193	1.196	1.191	1.190	1.199	1.199	1.199	1.192	1.198	1.192	1.202	1.197
52	1.192	1.196	1.197	1.188	1.198	1.198	1.198	1.188	1.196	1.192	1.198	1.196
Statistics												
Min	1.190	1.195	1.191	1.182	1.186	1.190	1.190	1.182	1.186	1.181	1.191	1.190
Max	1.197	1.197	1.201	1.190	1.199	1.199	1.199	1.192	1.202	1.192	1.202	1.200
Average	1.193	1.196	1.196	1.186	1.195	1.195	1.195	1.189	1.196	1.189	1.199	1.196
Sigma	0.003	0.000	0.003	0.003	0.004	0.003	0.003	0.003	0.005	0.003	0.003	0.002

Measurements

VocmSRCA_DO_0p	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.192	1.195	1.191	1.191	1.197	1.198	1.198	1.190	1.198	1.188	1.193	1.196
OFF samples												
53	1.197	1.196	1.202	1.187	1.198	1.202	1.202	1.190	1.197	1.187	1.201	1.200
54	1.191	1.196	1.201	1.187	1.197	1.202	1.202	1.191	1.197	1.202	1.201	1.198
Statistics												
Min	1.191	1.196	1.201	1.187	1.197	1.202	1.202	1.190	1.197	1.187	1.201	1.198
Max	1.197	1.196	1.202	1.187	1.198	1.202	1.202	1.191	1.197	1.202	1.201	1.200
Average	1.194	1.196	1.201	1.187	1.197	1.202	1.202	1.190	1.197	1.194	1.201	1.199
Sigma	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_3n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

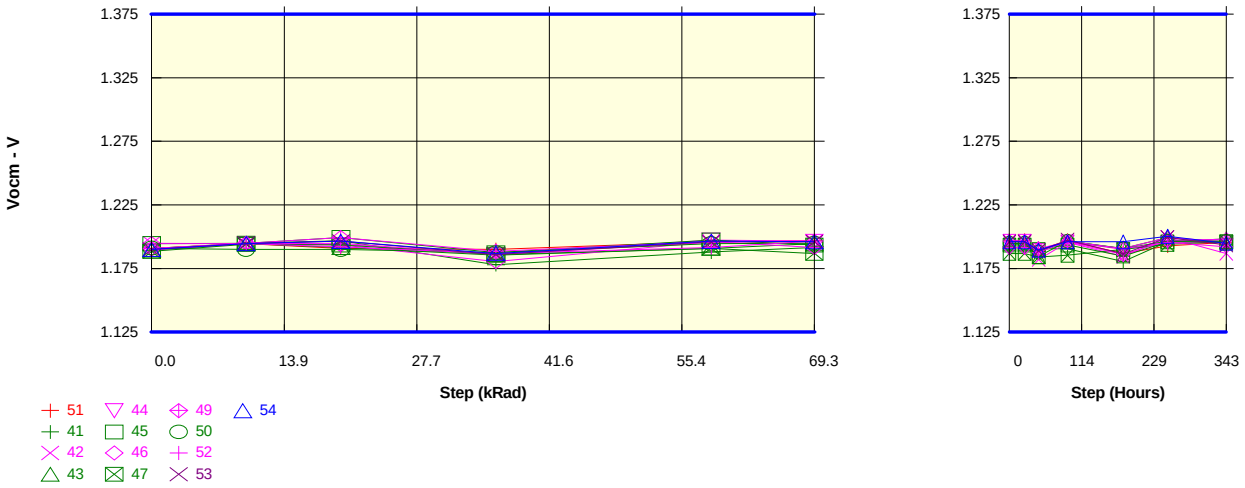
VocmSRCA_DO_3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.191	1.195	1.191	1.191	1.197	1.187	1.187	1.190	1.198	1.189	1.193	1.196
ON samples												
41	1.197	1.196	1.195	1.183	1.191	1.192	1.192	1.188	1.191	1.185	1.196	1.200
42	1.191	1.195	1.197	1.182	1.196	1.196	1.196	1.187	1.196	1.186	1.200	1.188
43	1.190	1.195	1.195	1.186	1.190	1.196	1.196	1.184	1.196	1.190	1.200	1.196
44	1.191	1.195	1.194	1.187	1.197	1.196	1.196	1.191	1.197	1.190	1.199	1.195
45	1.195	1.196	1.198	1.188	1.194	1.195	1.195	1.190	1.195	1.186	1.201	1.197
46	1.190	1.195	1.199	1.181	1.198	1.197	1.197	1.190	1.196	1.190	1.200	1.197
47	1.189	1.195	1.193	1.187	1.188	1.188	1.188	1.182	1.188	1.187	1.192	1.199
49	1.191	1.195	1.200	1.188	1.193	1.193	1.193	1.190	1.196	1.191	1.200	1.196
50	1.192	1.195	1.195	1.185	1.198	1.193	1.193	1.191	1.197	1.187	1.201	1.197
52	1.192	1.195	1.196	1.187	1.197	1.197	1.197	1.190	1.197	1.186	1.198	1.193
Statistics												
Min	1.189	1.195	1.193	1.181	1.188	1.188	1.188	1.182	1.188	1.185	1.192	1.188
Max	1.197	1.196	1.200	1.188	1.198	1.197	1.197	1.191	1.197	1.191	1.201	1.200
Average	1.192	1.195	1.196	1.185	1.194	1.194	1.194	1.188	1.195	1.188	1.198	1.195
Sigma	0.002	0.000	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003	0.003

Measurements

VocmSRCA_DO_3n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.191	1.195	1.191	1.191	1.197	1.187	1.187	1.190	1.198	1.189	1.193	1.196
OFF samples												
53	1.191	1.195	1.196	1.187	1.196	1.196	1.196	1.190	1.197	1.185	1.200	1.197
54	1.191	1.195	1.200	1.187	1.196	1.196	1.196	1.190	1.197	1.196	1.200	1.196
Statistics												
Min	1.191	1.195	1.196	1.187	1.196	1.196	1.196	1.190	1.197	1.185	1.200	1.196
Max	1.191	1.195	1.200	1.187	1.196	1.196	1.196	1.190	1.197	1.196	1.200	1.197
Average	1.191	1.195	1.198	1.187	1.196	1.196	1.196	1.190	1.197	1.190	1.200	1.196
Sigma	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_2n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

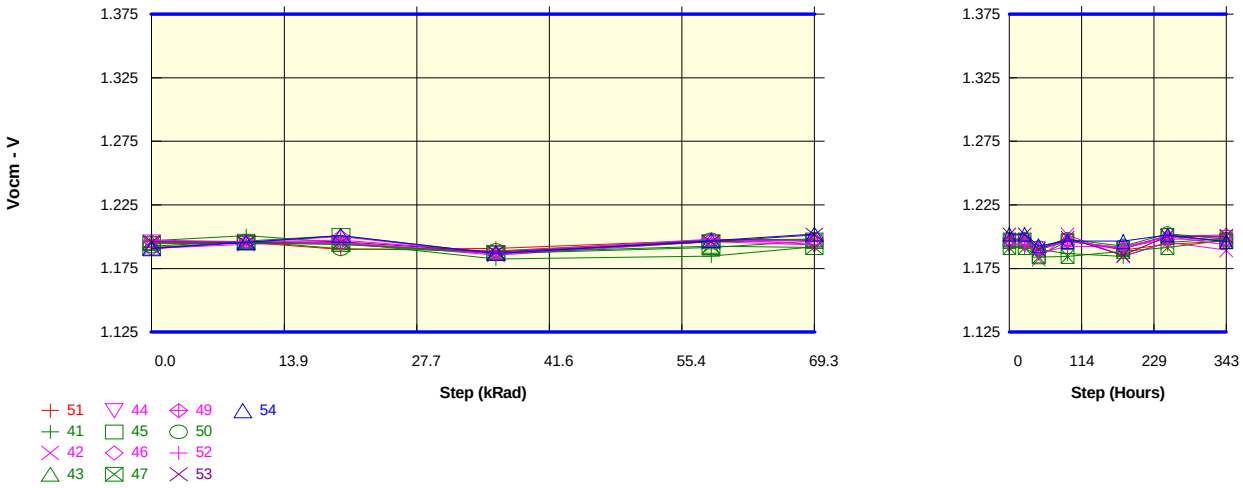
VocmSRCA_DO_2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.191	1.195	1.191	1.190	1.196	1.197	1.197	1.190	1.197	1.187	1.193	1.196
ON samples												
41	1.191	1.195	1.197	1.178	1.188	1.192	1.192	1.191	1.191	1.181	1.196	1.199
42	1.195	1.195	1.195	1.186	1.196	1.197	1.197	1.182	1.196	1.185	1.200	1.187
43	1.190	1.195	1.192	1.186	1.191	1.195	1.195	1.185	1.197	1.191	1.200	1.195
44	1.190	1.195	1.194	1.186	1.198	1.197	1.197	1.189	1.196	1.190	1.196	1.196
45	1.195	1.195	1.200	1.188	1.198	1.194	1.194	1.190	1.194	1.185	1.196	1.196
46	1.195	1.195	1.194	1.181	1.196	1.197	1.197	1.190	1.196	1.191	1.200	1.196
47	1.189	1.194	1.194	1.186	1.191	1.187	1.187	1.184	1.186	1.190	1.194	1.196
49	1.191	1.195	1.200	1.189	1.196	1.192	1.192	1.191	1.196	1.186	1.197	1.198
50	1.191	1.190	1.190	1.188	1.195	1.195	1.195	1.188	1.197	1.191	1.197	1.197
52	1.191	1.195	1.192	1.187	1.192	1.197	1.197	1.188	1.197	1.191	1.196	1.192
Statistics												
Min	1.189	1.190	1.190	1.178	1.188	1.187	1.187	1.182	1.186	1.181	1.194	1.187
Max	1.195	1.195	1.200	1.189	1.198	1.197	1.197	1.191	1.197	1.191	1.200	1.199
Average	1.192	1.194	1.195	1.185	1.194	1.194	1.194	1.188	1.194	1.188	1.197	1.195
Sigma	0.002	0.001	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.003

Measurements

VocmSRCA_DO_2n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.191	1.195	1.191	1.190	1.196	1.197	1.197	1.190	1.197	1.187	1.193	1.196
OFF samples												
53	1.190	1.195	1.197	1.186	1.196	1.196	1.196	1.189	1.198	1.187	1.200	1.194
54	1.190	1.195	1.197	1.187	1.197	1.196	1.196	1.190	1.196	1.196	1.201	1.195
Statistics												
Min	1.190	1.195	1.197	1.186	1.196	1.196	1.196	1.189	1.196	1.187	1.200	1.194
Max	1.190	1.195	1.197	1.187	1.197	1.196	1.196	1.190	1.198	1.196	1.201	1.195
Average	1.190	1.195	1.197	1.187	1.196	1.196	1.196	1.189	1.197	1.191	1.200	1.194
Sigma	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.005	0.001	0.001

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_1n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

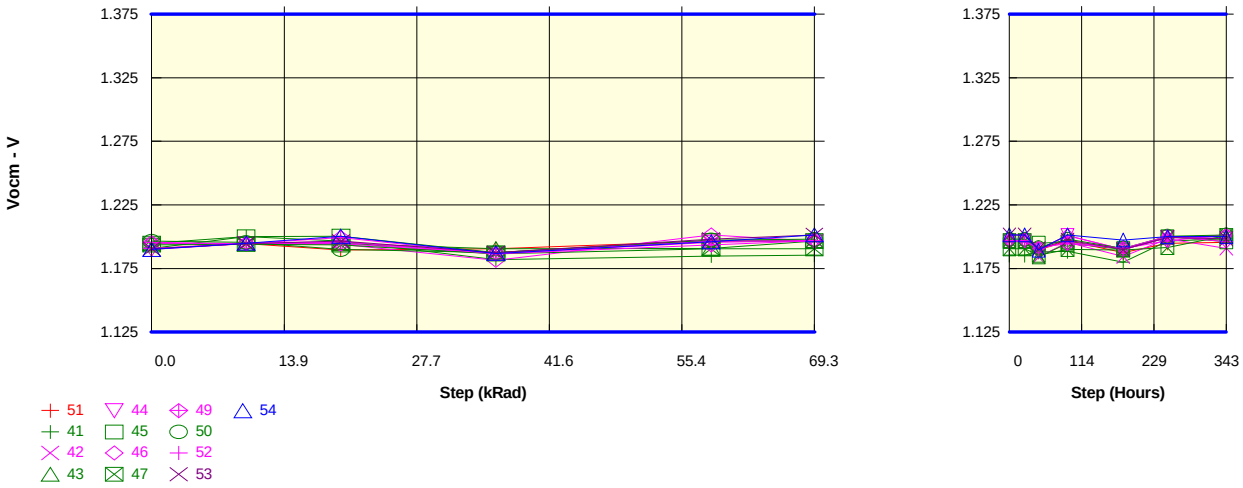
VocmSRCA_DO_1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.192	1.196	1.190	1.191	1.198	1.198	1.198	1.191	1.198	1.190	1.194	1.197
ON samples												
41	1.197	1.201	1.196	1.183	1.185	1.192	1.192	1.190	1.187	1.185	1.196	1.199
42	1.191	1.194	1.196	1.186	1.196	1.198	1.198	1.183	1.202	1.185	1.196	1.190
43	1.196	1.196	1.194	1.187	1.192	1.197	1.197	1.190	1.197	1.191	1.201	1.197
44	1.196	1.196	1.195	1.188	1.196	1.194	1.194	1.191	1.197	1.191	1.201	1.200
45	1.191	1.197	1.201	1.187	1.196	1.198	1.198	1.185	1.197	1.191	1.201	1.197
46	1.191	1.196	1.195	1.187	1.198	1.198	1.198	1.191	1.197	1.191	1.201	1.202
47	1.195	1.195	1.194	1.188	1.193	1.192	1.192	1.184	1.185	1.189	1.192	1.198
49	1.197	1.196	1.200	1.187	1.198	1.197	1.197	1.191	1.196	1.192	1.198	1.198
50	1.193	1.197	1.191	1.189	1.198	1.198	1.198	1.192	1.198	1.193	1.203	1.198
52	1.198	1.196	1.198	1.188	1.198	1.194	1.194	1.187	1.193	1.192	1.200	1.194
Statistics												
Min	1.191	1.194	1.191	1.183	1.185	1.192	1.192	1.183	1.185	1.185	1.192	1.190
Max	1.198	1.201	1.201	1.189	1.198	1.198	1.198	1.192	1.202	1.193	1.203	1.202
Average	1.194	1.196	1.196	1.187	1.195	1.195	1.195	1.188	1.195	1.190	1.199	1.197
Sigma	0.003	0.002	0.003	0.002	0.004	0.002	0.002	0.003	0.005	0.003	0.003	0.003

Measurements

VocmSRCA_DO_1n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.192	1.196	1.190	1.191	1.198	1.198	1.198	1.191	1.198	1.190	1.194	1.197
OFF samples												
53	1.196	1.196	1.196	1.188	1.196	1.202	1.202	1.190	1.199	1.186	1.201	1.201
54	1.191	1.196	1.201	1.187	1.197	1.202	1.202	1.193	1.197	1.197	1.202	1.196
Statistics												
Min	1.191	1.196	1.196	1.187	1.196	1.202	1.202	1.190	1.197	1.186	1.201	1.196
Max	1.196	1.196	1.201	1.188	1.197	1.202	1.202	1.193	1.199	1.197	1.202	1.201
Average	1.194	1.196	1.199	1.188	1.197	1.202	1.202	1.192	1.198	1.191	1.201	1.198
Sigma	0.002	0.000	0.002	0.001	0.001	0.000	0.000	0.001	0.001	0.006	0.000	0.002

Test conditions : TID
Parameter : Output Common Mode Voltage : VocmSRCA_DO_0n

Unit : V
Spec Limit Min : 1.125
Spec Limit Max : 1.375
Spec limits are represented in bold lines on the graphic.



Measurements

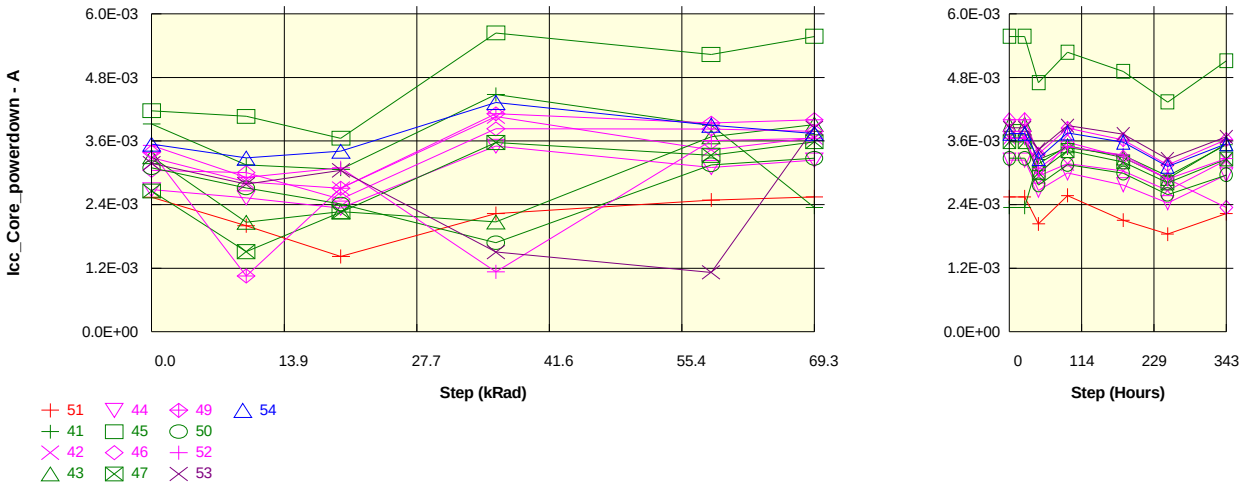
VocmSRCA_DO_0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.191	1.195	1.190	1.191	1.197	1.197	1.197	1.190	1.197	1.188	1.195	1.196
ON samples												
41	1.191	1.200	1.197	1.182	1.185	1.186	1.186	1.188	1.189	1.180	1.197	1.199
42	1.195	1.195	1.196	1.187	1.196	1.197	1.197	1.184	1.196	1.185	1.199	1.191
43	1.195	1.195	1.195	1.191	1.191	1.197	1.197	1.184	1.195	1.190	1.200	1.201
44	1.190	1.195	1.195	1.187	1.197	1.196	1.196	1.190	1.201	1.190	1.200	1.199
45	1.195	1.200	1.201	1.188	1.197	1.197	1.197	1.195	1.196	1.191	1.200	1.196
46	1.195	1.195	1.194	1.182	1.202	1.197	1.197	1.190	1.201	1.190	1.200	1.202
47	1.194	1.194	1.194	1.187	1.191	1.191	1.191	1.186	1.190	1.190	1.192	1.201
49	1.196	1.195	1.200	1.187	1.194	1.197	1.197	1.192	1.195	1.191	1.197	1.202
50	1.197	1.196	1.190	1.188	1.198	1.198	1.198	1.192	1.198	1.191	1.201	1.202
52	1.191	1.195	1.196	1.187	1.197	1.197	1.197	1.191	1.196	1.191	1.201	1.196
Statistics												
Min	1.190	1.194	1.190	1.182	1.185	1.186	1.186	1.184	1.189	1.180	1.192	1.191
Max	1.197	1.200	1.201	1.191	1.202	1.198	1.198	1.195	1.201	1.191	1.201	1.202
Average	1.194	1.196	1.195	1.186	1.195	1.195	1.195	1.189	1.196	1.189	1.198	1.199
Sigma	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.003	0.004	0.003	0.003	0.003

Measurements

VocmSRCA_DO_0n	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	1.191	1.195	1.190	1.191	1.197	1.197	1.197	1.190	1.197	1.188	1.195	1.196
OFF samples												
53	1.191	1.195	1.197	1.188	1.198	1.202	1.202	1.191	1.198	1.190	1.200	1.199
54	1.190	1.195	1.201	1.187	1.196	1.202	1.202	1.190	1.202	1.198	1.200	1.200
Statistics												
Min	1.190	1.195	1.197	1.187	1.196	1.202	1.202	1.190	1.198	1.190	1.200	1.199
Max	1.191	1.195	1.201	1.188	1.198	1.202	1.202	1.191	1.202	1.198	1.200	1.200
Average	1.190	1.195	1.199	1.187	1.197	1.202	1.202	1.190	1.200	1.194	1.200	1.199
Sigma	0.000	0.000	0.002	0.000	0.001	0.000	0.000	0.001	0.002	0.004	0.000	0.001

Test conditions : TID
Parameter : Power down current : Icc_Core_powerdown

Unit : A
No spec limit specified.



Measurements

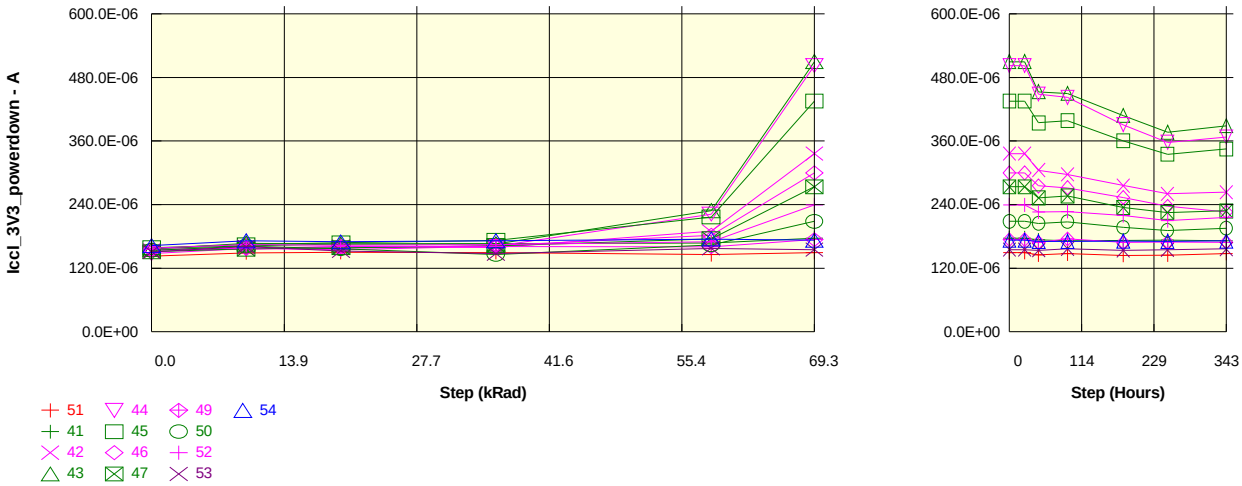
Icc_Core_powerdown	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.5E-03	2.0E-03	1.4E-03	2.2E-03	2.5E-03	2.5E-03	2.5E-03	2.0E-03	2.6E-03	2.1E-03	1.8E-03	2.2E-03
ON samples												
41	3.9E-03	3.2E-03	3.1E-03	4.5E-03	3.9E-03	2.4E-03	2.4E-03	3.3E-03	3.5E-03	3.3E-03	2.9E-03	3.5E-03
42	3.3E-03	2.8E-03	2.7E-03	4.1E-03	3.4E-03	3.7E-03	3.7E-03	2.9E-03	3.2E-03	3.0E-03	2.7E-03	3.2E-03
43	3.3E-03	2.1E-03	2.3E-03	2.1E-03	3.7E-03	3.9E-03	3.9E-03	3.2E-03	3.5E-03	3.3E-03	2.9E-03	3.6E-03
44	2.7E-03	2.5E-03	2.3E-03	3.5E-03	3.1E-03	3.2E-03	3.2E-03	2.7E-03	3.0E-03	2.8E-03	2.4E-03	3.0E-03
45	4.2E-03	4.1E-03	3.7E-03	5.6E-03	5.2E-03	5.6E-03	5.6E-03	4.7E-03	5.3E-03	4.9E-03	4.3E-03	5.1E-03
46	3.0E-03	3.0E-03	2.5E-03	3.8E-03	3.8E-03	3.8E-03	3.8E-03	2.9E-03	3.6E-03	3.3E-03	2.9E-03	2.3E-03
47	2.7E-03	1.5E-03	2.3E-03	3.6E-03	3.3E-03	3.6E-03	3.6E-03	3.0E-03	3.4E-03	3.2E-03	2.8E-03	3.3E-03
49	3.4E-03	1.1E-03	2.7E-03	4.1E-03	3.9E-03	4.0E-03	4.0E-03	3.4E-03	3.8E-03	3.6E-03	3.2E-03	3.6E-03
50	3.1E-03	2.7E-03	2.4E-03	1.7E-03	3.2E-03	3.3E-03	3.3E-03	2.8E-03	3.2E-03	3.0E-03	2.6E-03	3.0E-03
52	3.5E-03	2.9E-03	3.1E-03	1.1E-03	3.6E-03	3.7E-03	3.7E-03	3.1E-03	3.5E-03	3.3E-03	2.9E-03	3.3E-03
Statistics												
Min	2.7E-03	1.1E-03	2.3E-03	1.1E-03	3.1E-03	2.4E-03	2.4E-03	2.7E-03	3.0E-03	2.8E-03	2.4E-03	2.3E-03
Max	4.2E-03	4.1E-03	3.7E-03	5.6E-03	5.2E-03	5.6E-03	5.6E-03	4.7E-03	5.3E-03	4.9E-03	4.3E-03	5.1E-03
Average	3.3E-03	2.6E-03	2.7E-03	3.4E-03	3.7E-03	3.7E-03	3.7E-03	3.2E-03	3.6E-03	3.4E-03	3.0E-03	3.4E-03
Sigma	457.9E-06	814.6E-06	428.6E-06	1.3E-03	576.9E-06	767.5E-06	767.5E-06	542.2E-06	606.4E-06	558.0E-06	497.3E-06	676.8E-06

Measurements

Icc_Core_powerdown	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	2.5E-03	2.0E-03	1.4E-03	2.2E-03	2.5E-03	2.5E-03	2.5E-03	2.0E-03	2.6E-03	2.1E-03	1.8E-03	2.2E-03
OFF samples												
53	3.2E-03	2.8E-03	3.0E-03	1.5E-03	1.1E-03	3.8E-03	3.8E-03	3.4E-03	3.9E-03	3.7E-03	3.3E-03	3.7E-03
54	3.5E-03	3.3E-03	3.4E-03	4.3E-03	3.9E-03	3.7E-03	3.7E-03	3.3E-03	3.8E-03	3.6E-03	3.1E-03	3.5E-03
Statistics												
Min	3.2E-03	2.8E-03	3.0E-03	1.5E-03	1.1E-03	3.7E-03	3.7E-03	3.3E-03	3.8E-03	3.6E-03	3.1E-03	3.5E-03
Max	3.5E-03	3.3E-03	3.4E-03	4.3E-03	3.9E-03	3.8E-03	3.8E-03	3.4E-03	3.9E-03	3.7E-03	3.3E-03	3.7E-03
Average	3.4E-03	3.0E-03	3.2E-03	2.9E-03	2.5E-03	3.8E-03	3.8E-03	3.4E-03	3.8E-03	3.7E-03	3.2E-03	3.6E-03
Sigma	181.6E-06	246.2E-06	179.7E-06	1.4E-03	1.4E-03	51.7E-06	51.7E-06	84.1E-06	67.5E-06	75.5E-06	69.9E-06	66.5E-06

Test conditions : TID
Parameter : Power down current : Iccl_3V3_powerdown

Unit : A
No spec limit specified.



Measurements

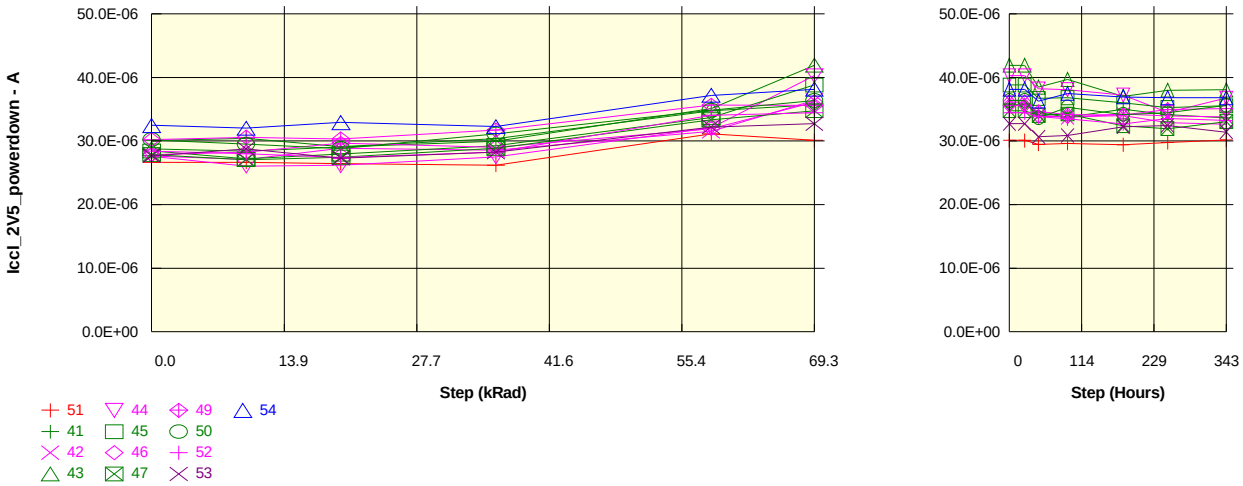
Iccl_3V3_powerdown	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	142.7E-06	149.3E-06	150.1E-06	149.9E-06	145.8E-06	149.8E-06	149.8E-06	145.2E-06	147.4E-06	144.5E-06	145.0E-06	148.0E-06
ON samples												
41	157.2E-06	161.9E-06	165.8E-06	166.2E-06	167.7E-06	177.2E-06	177.2E-06	173.7E-06	172.1E-06	172.9E-06	173.2E-06	171.4E-06
42	154.2E-06	155.6E-06	161.0E-06	159.5E-06	189.8E-06	336.2E-06	336.2E-06	305.2E-06	297.1E-06	276.1E-06	260.3E-06	263.5E-06
43	156.0E-06	167.4E-06	165.6E-06	165.7E-06	228.8E-06	509.9E-06	509.9E-06	453.1E-06	450.0E-06	408.1E-06	376.7E-06	388.7E-06
44	147.7E-06	157.0E-06	155.1E-06	161.3E-06	222.1E-06	502.4E-06	502.4E-06	448.7E-06	442.5E-06	391.0E-06	357.6E-06	367.8E-06
45	158.9E-06	164.4E-06	168.3E-06	172.9E-06	216.7E-06	435.5E-06	435.5E-06	394.3E-06	398.5E-06	360.3E-06	335.1E-06	345.1E-06
46	154.9E-06	157.4E-06	158.4E-06	163.1E-06	182.2E-06	300.1E-06	300.1E-06	275.5E-06	272.1E-06	253.7E-06	236.8E-06	226.1E-06
47	151.1E-06	156.4E-06	158.9E-06	162.7E-06	175.6E-06	273.8E-06	273.8E-06	252.8E-06	256.5E-06	234.8E-06	225.3E-06	228.2E-06
49	155.4E-06	158.3E-06	160.8E-06	160.8E-06	160.5E-06	174.0E-06	174.0E-06	168.9E-06	175.3E-06	168.8E-06	169.4E-06	169.1E-06
50	153.9E-06	161.6E-06	156.7E-06	146.1E-06	164.0E-06	208.4E-06	208.4E-06	204.5E-06	207.8E-06	197.1E-06	191.4E-06	195.2E-06
52	158.3E-06	164.7E-06	163.6E-06	164.5E-06	169.7E-06	239.6E-06	239.6E-06	226.2E-06	226.8E-06	219.8E-06	209.7E-06	216.0E-06
Statistics												
Min	147.7E-06	155.6E-06	155.1E-06	146.1E-06	160.5E-06	174.0E-06	174.0E-06	168.9E-06	172.1E-06	168.8E-06	169.4E-06	169.1E-06
Max	158.9E-06	167.4E-06	168.3E-06	172.9E-06	228.8E-06	509.9E-06	509.9E-06	453.1E-06	450.0E-06	408.1E-06	376.7E-06	388.7E-06
Average	154.8E-06	160.5E-06	161.4E-06	162.3E-06	187.7E-06	315.7E-06	315.7E-06	290.3E-06	289.9E-06	268.3E-06	253.6E-06	257.1E-06
Sigma	3.2E-06	3.9E-06	4.1E-06	6.5E-06	24.3E-06	120.8E-06	120.8E-06	102.0E-06	100.0E-06	84.2E-06	72.9E-06	77.3E-06

Measurements

Iccl_3V3_powerdown	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	142.7E-06	149.3E-06	150.1E-06	149.9E-06	145.8E-06	149.8E-06	149.8E-06	145.2E-06	147.4E-06	144.5E-06	145.0E-06	148.0E-06
OFF samples												
53	151.0E-06	160.8E-06	152.9E-06	147.7E-06	157.8E-06	155.0E-06	155.0E-06	154.1E-06	156.7E-06	153.7E-06	154.8E-06	156.5E-06
54	162.8E-06	171.8E-06	169.7E-06	171.8E-06	175.0E-06	173.0E-06	173.0E-06	170.5E-06	170.7E-06	171.3E-06	170.6E-06	171.4E-06
Statistics												
Min	151.0E-06	160.8E-06	152.9E-06	147.7E-06	157.8E-06	155.0E-06	155.0E-06	154.1E-06	156.7E-06	153.7E-06	154.8E-06	156.5E-06
Max	162.8E-06	171.8E-06	169.7E-06	171.8E-06	175.0E-06	173.0E-06	173.0E-06	170.5E-06	170.7E-06	171.3E-06	170.6E-06	171.4E-06
Average	156.9E-06	166.3E-06	161.3E-06	159.8E-06	166.4E-06	164.0E-06	164.0E-06	162.3E-06	163.7E-06	162.5E-06	162.7E-06	164.0E-06
Sigma	5.9E-06	5.5E-06	8.4E-06	12.1E-06	8.6E-06	9.0E-06	9.0E-06	8.2E-06	7.0E-06	8.8E-06	7.9E-06	7.4E-06

Test conditions : TID
Parameter : Power down current : Iccl_2V5_powerdown

Unit : A
No spec limit specified.



Measurements

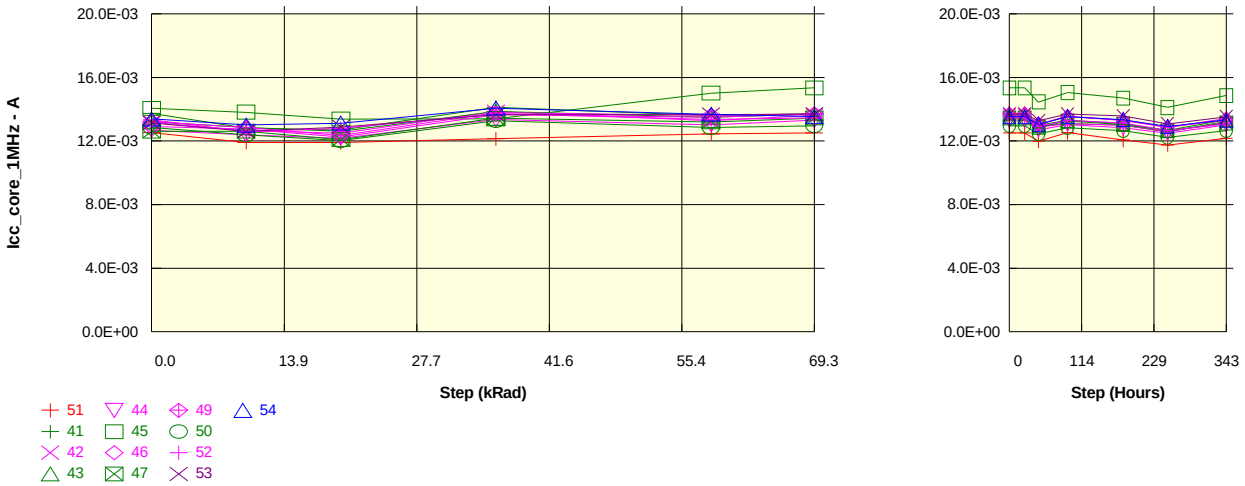
Iccl_2V5_powerdown	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	26.7E-06	26.7E-06	26.5E-06	26.2E-06	31.1E-06	30.1E-06	30.1E-06	29.5E-06	29.6E-06	29.4E-06	29.8E-06	30.2E-06
ON samples												
41	30.1E-06	30.4E-06	29.1E-06	30.4E-06	34.8E-06	35.7E-06	35.7E-06	34.5E-06	33.7E-06	35.0E-06	34.2E-06	33.7E-06
42	27.7E-06	27.1E-06	28.9E-06	28.5E-06	31.5E-06	36.4E-06	36.4E-06	34.0E-06	33.7E-06	34.3E-06	34.0E-06	33.8E-06
43	28.8E-06	28.4E-06	29.1E-06	30.0E-06	35.1E-06	41.9E-06	41.9E-06	38.5E-06	39.7E-06	37.1E-06	38.0E-06	38.0E-06
44	27.6E-06	26.1E-06	26.2E-06	27.5E-06	32.1E-06	40.3E-06	40.3E-06	38.2E-06	38.1E-06	37.2E-06	34.5E-06	36.8E-06
45	28.4E-06	27.2E-06	28.0E-06	29.3E-06	33.7E-06	38.8E-06	38.8E-06	36.7E-06	36.8E-06	36.0E-06	35.3E-06	35.6E-06
46	27.9E-06	28.3E-06	29.7E-06	29.0E-06	32.0E-06	36.2E-06	36.2E-06	33.9E-06	33.8E-06	34.0E-06	32.9E-06	32.7E-06
47	27.9E-06	27.1E-06	27.5E-06	28.8E-06	33.4E-06	34.8E-06	34.8E-06	34.0E-06	34.3E-06	32.4E-06	31.9E-06	33.1E-06
49	30.2E-06	30.6E-06	30.3E-06	31.7E-06	35.6E-06	35.6E-06	35.6E-06	34.7E-06	34.2E-06	34.1E-06	35.0E-06	35.1E-06
50	30.2E-06	29.5E-06	28.8E-06	31.1E-06	34.9E-06	36.4E-06	36.4E-06	33.7E-06	35.3E-06	34.2E-06	34.4E-06	35.6E-06
52	28.4E-06	28.0E-06	27.4E-06	28.3E-06	34.1E-06	34.4E-06	34.4E-06	33.9E-06	33.5E-06	32.7E-06	33.5E-06	33.2E-06
Statistics												
Min	27.6E-06	26.1E-06	26.2E-06	27.5E-06	31.5E-06	34.4E-06	34.4E-06	33.7E-06	33.5E-06	32.4E-06	31.9E-06	32.7E-06
Max	30.2E-06	30.6E-06	30.3E-06	31.7E-06	35.6E-06	41.9E-06	41.9E-06	38.5E-06	39.7E-06	37.2E-06	38.0E-06	38.0E-06
Average	28.7E-06	28.3E-06	28.5E-06	29.5E-06	33.7E-06	37.0E-06	37.0E-06	35.2E-06	35.3E-06	34.7E-06	34.4E-06	34.8E-06
Sigma	1.0E-06	1.4E-06	1.2E-06	1.2E-06	1.4E-06	2.3E-06	2.3E-06	1.8E-06	2.1E-06	1.6E-06	1.5E-06	1.7E-06

Measurements

Iccl_2V5_powerdown	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	26.7E-06	26.7E-06	26.5E-06	26.2E-06	31.1E-06	30.1E-06	30.1E-06	29.5E-06	29.6E-06	29.4E-06	29.8E-06	30.2E-06
OFF samples												
53	27.7E-06	28.8E-06	27.3E-06	28.3E-06	32.2E-06	32.7E-06	32.7E-06	30.7E-06	30.9E-06	32.2E-06	32.4E-06	31.4E-06
54	32.5E-06	32.0E-06	32.9E-06	32.3E-06	37.2E-06	38.2E-06	38.2E-06	36.3E-06	37.5E-06	36.9E-06	36.8E-06	36.8E-06
Statistics												
Min	27.7E-06	28.8E-06	27.3E-06	28.3E-06	32.2E-06	32.7E-06	32.7E-06	30.7E-06	30.9E-06	32.2E-06	32.4E-06	31.4E-06
Max	32.5E-06	32.0E-06	32.9E-06	32.3E-06	37.2E-06	38.2E-06	38.2E-06	36.3E-06	37.5E-06	36.9E-06	36.8E-06	36.8E-06
Average	30.1E-06	30.4E-06	30.1E-06	30.3E-06	34.7E-06	35.4E-06	35.4E-06	33.5E-06	34.2E-06	34.6E-06	34.6E-06	34.1E-06
Sigma	2.4E-06	1.6E-06	2.8E-06	2.0E-06	2.5E-06	2.7E-06	2.7E-06	2.8E-06	3.3E-06	2.4E-06	2.2E-06	2.7E-06

Test conditions : TID
Parameter : Operating current : Icc_core_1MHz

Unit : A
No spec limit specified.



Measurements

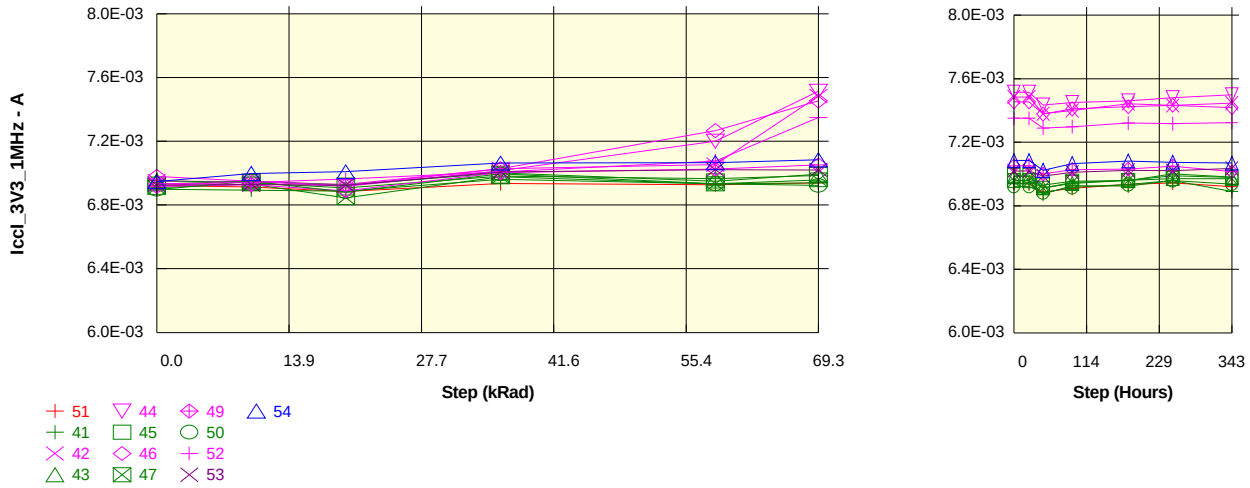
Icc_core_1MHz	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	12.5E-03	11.9E-03	11.9E-03	12.1E-03	12.5E-03	12.5E-03	12.5E-03	12.0E-03	12.5E-03	12.1E-03	11.8E-03	12.2E-03
ON samples												
41	13.7E-03	12.8E-03	12.7E-03	14.1E-03	13.6E-03	13.7E-03	13.7E-03	12.9E-03	13.1E-03	13.0E-03	12.6E-03	13.2E-03
42	13.2E-03	12.7E-03	12.5E-03	13.9E-03	13.3E-03	13.6E-03	13.6E-03	12.9E-03	13.1E-03	13.0E-03	12.6E-03	13.2E-03
43	13.2E-03	12.9E-03	12.6E-03	13.9E-03	13.5E-03	13.7E-03	13.7E-03	13.0E-03	13.3E-03	13.1E-03	12.7E-03	13.3E-03
44	12.7E-03	12.4E-03	12.2E-03	13.4E-03	13.0E-03	13.3E-03	13.3E-03	12.7E-03	13.0E-03	12.8E-03	12.5E-03	13.0E-03
45	14.1E-03	13.8E-03	13.4E-03	13.4E-03	15.0E-03	15.3E-03	15.3E-03	14.5E-03	15.1E-03	14.7E-03	14.1E-03	14.9E-03
46	12.9E-03	12.8E-03	12.3E-03	13.7E-03	13.5E-03	13.7E-03	13.7E-03	13.1E-03	13.5E-03	13.3E-03	12.9E-03	13.4E-03
47	12.6E-03	12.6E-03	12.1E-03	13.4E-03	13.2E-03	13.4E-03	13.4E-03	12.9E-03	13.3E-03	13.0E-03	12.7E-03	13.1E-03
49	13.2E-03	12.8E-03	12.3E-03	13.8E-03	13.6E-03	13.7E-03	13.7E-03	13.0E-03	13.6E-03	13.3E-03	12.9E-03	13.3E-03
50	12.9E-03	12.4E-03	12.0E-03	13.3E-03	12.8E-03	13.0E-03	13.0E-03	12.5E-03	12.8E-03	12.6E-03	12.2E-03	12.6E-03
52	13.3E-03	12.6E-03	12.8E-03	13.7E-03	13.4E-03	13.4E-03	13.4E-03	12.9E-03	13.3E-03	13.1E-03	12.7E-03	13.1E-03
Statistics												
Min	12.6E-03	12.4E-03	12.0E-03	13.3E-03	12.8E-03	13.0E-03	13.0E-03	12.5E-03	12.8E-03	12.6E-03	12.2E-03	12.6E-03
Max	14.1E-03	13.8E-03	13.4E-03	14.1E-03	15.0E-03	15.3E-03	15.3E-03	14.5E-03	15.1E-03	14.7E-03	14.1E-03	14.9E-03
Average	13.2E-03	12.8E-03	12.5E-03	13.6E-03	13.5E-03	13.7E-03	13.7E-03	13.0E-03	13.4E-03	13.2E-03	12.8E-03	13.3E-03
Sigma	431.0E-06	383.5E-06	387.9E-06	258.3E-06	558.9E-06	596.8E-06	596.8E-06	505.4E-06	585.5E-06	534.5E-06	479.0E-06	554.2E-06

Measurements

Icc_core_1MHz	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	12.5E-03	11.9E-03	11.9E-03	12.1E-03	12.5E-03	12.5E-03	12.5E-03	12.0E-03	12.5E-03	12.1E-03	11.8E-03	12.2E-03
OFF samples												
53	13.1E-03	12.6E-03	12.9E-03	13.7E-03	13.7E-03	13.7E-03	13.7E-03	13.3E-03	13.7E-03	13.6E-03	13.1E-03	13.5E-03
54	13.4E-03	13.0E-03	13.1E-03	14.1E-03	13.7E-03	13.5E-03	13.5E-03	13.1E-03	13.6E-03	13.4E-03	12.9E-03	13.3E-03
Statistics												
Min	13.1E-03	12.6E-03	12.9E-03	13.7E-03	13.7E-03	13.5E-03	13.5E-03	13.1E-03	13.6E-03	13.4E-03	12.9E-03	13.3E-03
Max	13.4E-03	13.0E-03	13.1E-03	14.1E-03	13.7E-03	13.7E-03	13.7E-03	13.3E-03	13.7E-03	13.6E-03	13.1E-03	13.5E-03
Average	13.3E-03	12.8E-03	13.0E-03	13.9E-03	13.7E-03	13.6E-03	13.6E-03	13.2E-03	13.6E-03	13.5E-03	13.0E-03	13.4E-03
Sigma	135.0E-06	193.0E-06	116.0E-06	203.0E-06	15.0E-06	80.0E-06	80.0E-06	113.0E-06	77.0E-06	114.0E-06	82.0E-06	95.0E-06

Test conditions : TID
Parameter : Operating current : Iccl_3V3_1MHz

Unit : A
No spec limit specified.



Measurements

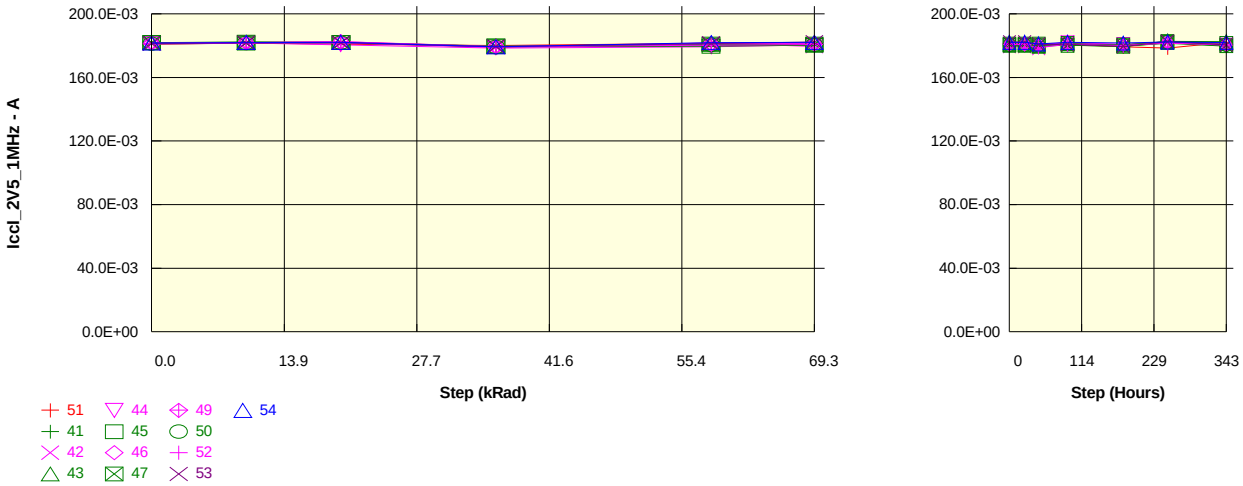
Iccl_3V3_1 MHz	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03
ON samples												
41	6.9E-03	6.9E-03	6.9E-03	7.0E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	7.0E-03	6.9E-03
42	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.1E-03	7.5E-03	7.5E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03
43	7.0E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03
44	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.2E-03	7.5E-03	7.5E-03	7.4E-03	7.5E-03	7.5E-03	7.5E-03	7.5E-03
45	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03
46	7.0E-03	7.0E-03	6.9E-03	7.0E-03	7.3E-03	7.5E-03	7.5E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03
47	6.9E-03	6.9E-03	6.8E-03	7.0E-03	6.9E-03	7.0E-03	7.0E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03
49	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.1E-03	7.1E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03
50	6.9E-03	6.9E-03	6.9E-03	7.0E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	7.0E-03	6.9E-03
52	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.1E-03	7.4E-03	7.4E-03	7.3E-03	7.3E-03	7.3E-03	7.3E-03	7.3E-03
Statistics												
Min	6.9E-03	6.9E-03	6.8E-03	7.0E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	7.0E-03	6.9E-03
Max	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.3E-03	7.5E-03	7.5E-03	7.4E-03	7.5E-03	7.5E-03	7.5E-03	7.5E-03
Average	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.2E-03	7.2E-03	7.1E-03	7.1E-03	7.1E-03	7.2E-03	7.1E-03
Sigma	24.9E-06	16.6E-06	30.5E-06	20.4E-06	112.4E-06	238.5E-06	238.5E-06	225.8E-06	219.0E-06	224.7E-06	214.3E-06	230.7E-06

Measurements

Iccl_3V3_1M Hz	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03	6.9E-03
OFF samples												
53	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03
54	6.9E-03	7.0E-03	7.0E-03	7.1E-03	7.1E-03	7.1E-03	7.1E-03	7.0E-03	7.1E-03	7.1E-03	7.1E-03	7.1E-03
Statistics												
Min	6.9E-03	6.9E-03	6.9E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03
Max	6.9E-03	7.0E-03	7.0E-03	7.1E-03	7.1E-03	7.1E-03	7.1E-03	7.0E-03	7.1E-03	7.1E-03	7.1E-03	7.1E-03
Average	6.9E-03	7.0E-03	7.0E-03	7.0E-03	7.0E-03	7.1E-03	7.1E-03	7.0E-03	7.0E-03	7.1E-03	7.0E-03	7.1E-03
Sigma	11.2E-06	33.7E-06	42.6E-06	27.7E-06	21.7E-06	32.0E-06	32.0E-06	18.3E-06	27.1E-06	29.5E-06	26.6E-06	16.3E-06

Test conditions : TID
Parameter : Operating current : Iccl_2V5_1MHz

Unit : A
No spec limit specified.



Measurements

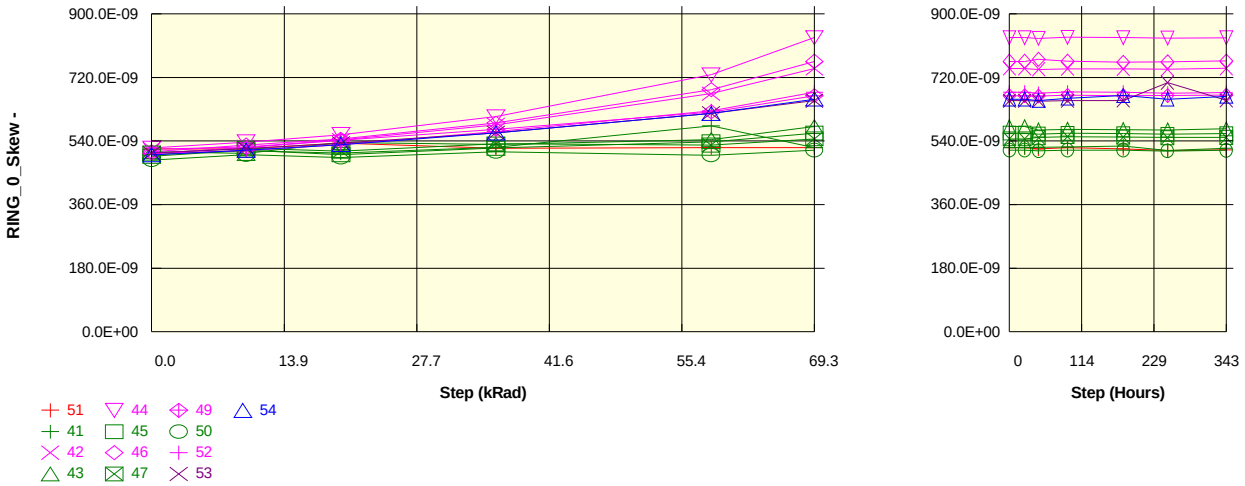
Iccl_2V5_1MHz	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	180.9E-03	181.7E-03	181.0E-03	180.1E-03	181.5E-03	181.3E-03	181.3E-03	180.8E-03	180.8E-03	179.4E-03	178.5E-03	182.1E-03
ON samples												
41	181.4E-03	182.1E-03	182.0E-03	179.0E-03	179.9E-03	181.0E-03	181.0E-03	179.8E-03	180.3E-03	179.7E-03	181.5E-03	179.8E-03
42	181.5E-03	181.9E-03	181.9E-03	178.9E-03	181.7E-03	179.6E-03	179.6E-03	178.5E-03	182.1E-03	180.1E-03	182.8E-03	180.4E-03
43	181.8E-03	182.2E-03	182.1E-03	179.5E-03	181.2E-03	181.0E-03	181.0E-03	179.6E-03	181.5E-03	180.4E-03	182.8E-03	182.4E-03
44	181.5E-03	181.8E-03	180.5E-03	178.5E-03	179.2E-03	180.4E-03	180.4E-03	180.3E-03	181.9E-03	180.7E-03	181.7E-03	180.4E-03
45	182.0E-03	182.1E-03	182.1E-03	179.7E-03	179.7E-03	180.2E-03	180.2E-03	181.0E-03	181.3E-03	180.4E-03	182.5E-03	181.3E-03
46	181.7E-03	181.9E-03	182.5E-03	179.4E-03	181.2E-03	181.6E-03	181.6E-03	180.3E-03	182.1E-03	180.4E-03	182.0E-03	180.6E-03
47	182.0E-03	181.7E-03	182.0E-03	179.7E-03	180.9E-03	181.0E-03	181.0E-03	180.0E-03	180.2E-03	179.7E-03	181.9E-03	179.9E-03
49	181.5E-03	181.8E-03	182.6E-03	179.5E-03	181.2E-03	181.3E-03	181.3E-03	180.2E-03	181.0E-03	180.3E-03	181.6E-03	180.7E-03
50	181.2E-03	181.6E-03	181.8E-03	179.2E-03	180.5E-03	180.4E-03	180.4E-03	180.2E-03	181.2E-03	180.4E-03	182.2E-03	180.5E-03
52	181.1E-03	181.6E-03	181.7E-03	179.3E-03	180.2E-03	180.7E-03	180.7E-03	178.7E-03	181.1E-03	180.1E-03	181.9E-03	180.4E-03
Statistics												
Min	181.1E-03	181.6E-03	180.5E-03	178.5E-03	179.2E-03	179.6E-03	179.6E-03	178.5E-03	180.2E-03	179.7E-03	181.5E-03	179.8E-03
Max	182.0E-03	182.2E-03	182.6E-03	179.7E-03	181.7E-03	181.6E-03	181.6E-03	181.0E-03	182.1E-03	180.7E-03	182.8E-03	182.4E-03
Average	181.6E-03	181.9E-03	181.9E-03	179.3E-03	180.6E-03	180.7E-03	180.7E-03	179.9E-03	181.3E-03	180.2E-03	182.1E-03	180.6E-03
Sigma	285.7E-06	214.1E-06	544.1E-06	355.8E-06	739.0E-06	554.4E-06	554.4E-06	716.8E-06	633.1E-06	320.1E-06	451.0E-06	719.1E-06

Measurements

Iccl_2V5_1MHz	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	180.9E-03	181.7E-03	181.0E-03	180.1E-03	181.5E-03	181.3E-03	181.3E-03	180.8E-03	180.8E-03	179.4E-03	178.5E-03	182.1E-03
OFF samples												
53	181.3E-03	181.7E-03	181.8E-03	179.4E-03	181.3E-03	182.2E-03	182.2E-03	180.7E-03	181.0E-03	179.6E-03	182.6E-03	180.5E-03
54	181.7E-03	182.0E-03	182.1E-03	179.3E-03	182.0E-03	182.1E-03	182.1E-03	181.1E-03	182.1E-03	181.6E-03	182.3E-03	182.0E-03
Statistics												
Min	181.3E-03	181.7E-03	181.8E-03	179.3E-03	181.3E-03	182.1E-03	182.1E-03	180.7E-03	181.0E-03	179.6E-03	182.3E-03	180.5E-03
Max	181.7E-03	182.0E-03	182.1E-03	179.4E-03	182.0E-03	182.2E-03	182.2E-03	181.1E-03	182.1E-03	181.6E-03	182.6E-03	182.0E-03
Average	181.5E-03	181.9E-03	182.0E-03	179.4E-03	181.6E-03	182.2E-03	182.2E-03	180.9E-03	181.5E-03	180.6E-03	182.4E-03	181.2E-03
Sigma	180.0E-06	110.0E-06	130.0E-06	70.0E-06	340.0E-06	20.0E-06	20.0E-06	220.0E-06	550.0E-06	1.0E-03	150.0E-06	740.0E-06

Test conditions : TID
Parameter : Ring oscillator SKEW : RING_0_Skew

Unit :
No spec limit specified.



Measurements

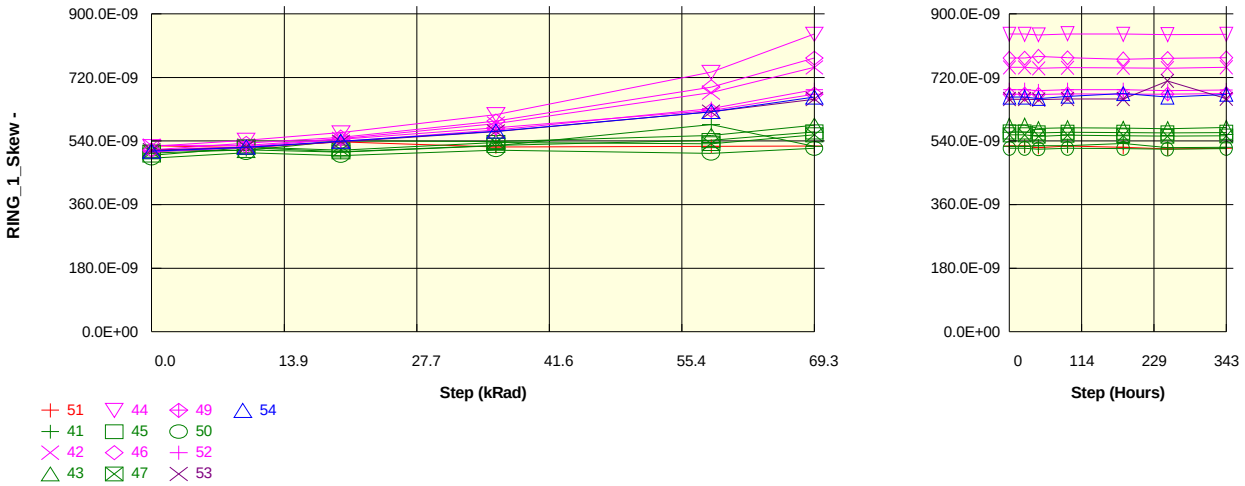
RING_0_Skew	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	518.2E-09	517.8E-09	533.7E-09	519.2E-09	521.0E-09	521.2E-09	521.2E-09	517.6E-09	521.2E-09	518.1E-09	513.2E-09	515.2E-09
ON samples												
41	502.7E-09	512.3E-09	505.4E-09	523.0E-09	583.3E-09	521.7E-09	521.7E-09	523.0E-09	523.7E-09	526.1E-09	513.4E-09	519.3E-09
42	517.3E-09	523.7E-09	542.7E-09	585.9E-09	674.2E-09	745.6E-09	745.6E-09	743.0E-09	744.8E-09	744.4E-09	743.5E-09	746.1E-09
43	509.9E-09	504.9E-09	535.8E-09	530.5E-09	544.4E-09	581.0E-09	581.0E-09	571.6E-09	573.5E-09	572.5E-09	571.3E-09	574.8E-09
44	520.2E-09	537.4E-09	558.5E-09	609.3E-09	727.5E-09	832.7E-09	832.7E-09	830.9E-09	833.8E-09	832.8E-09	831.8E-09	832.3E-09
45	496.7E-09	514.2E-09	501.7E-09	520.0E-09	538.2E-09	562.5E-09	562.5E-09	559.7E-09	561.8E-09	561.3E-09	559.5E-09	561.3E-09
46	510.0E-09	528.7E-09	545.7E-09	590.9E-09	685.7E-09	765.5E-09	765.5E-09	771.6E-09	766.3E-09	762.8E-09	764.6E-09	767.1E-09
47	506.1E-09	519.7E-09	511.0E-09	532.1E-09	528.8E-09	546.0E-09	546.0E-09	549.7E-09	552.7E-09	551.3E-09	550.0E-09	550.7E-09
49	505.1E-09	520.8E-09	541.7E-09	573.4E-09	622.4E-09	668.4E-09	668.4E-09	667.6E-09	669.5E-09	668.5E-09	669.0E-09	669.9E-09
50	486.5E-09	501.7E-09	493.9E-09	509.9E-09	500.4E-09	514.4E-09	514.4E-09	512.3E-09	514.4E-09	513.9E-09	511.8E-09	513.8E-09
52	504.8E-09	512.8E-09	530.1E-09	566.6E-09	625.9E-09	678.0E-09	678.0E-09	675.1E-09	678.3E-09	677.9E-09	675.5E-09	677.1E-09
Statistics												
Min	486.5E-09	501.7E-09	493.9E-09	509.9E-09	500.4E-09	514.4E-09	514.4E-09	512.3E-09	514.4E-09	513.9E-09	511.8E-09	513.8E-09
Max	520.2E-09	537.4E-09	558.5E-09	609.3E-09	727.5E-09	832.7E-09	832.7E-09	830.9E-09	833.8E-09	832.8E-09	831.8E-09	832.3E-09
Average	505.9E-09	517.6E-09	526.7E-09	554.2E-09	603.1E-09	641.6E-09	641.6E-09	640.5E-09	641.9E-09	641.1E-09	639.0E-09	641.2E-09
Sigma	9.2E-09	10.2E-09	20.8E-09	33.3E-09	72.4E-09	106.9E-09	106.9E-09	107.5E-09	106.9E-09	106.2E-09	108.1E-09	107.5E-09

Measurements

RING_0_Skew	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	518.2E-09	517.8E-09	533.7E-09	519.2E-09	521.0E-09	521.2E-09	521.2E-09	517.6E-09	521.2E-09	518.1E-09	513.2E-09	515.2E-09
OFF samples												
53	505.6E-09	518.8E-09	533.7E-09	563.0E-09	618.7E-09	654.3E-09	654.3E-09	653.0E-09	654.5E-09	654.6E-09	705.5E-09	655.3E-09
54	501.2E-09	514.1E-09	530.3E-09	563.1E-09	618.0E-09	658.7E-09	658.7E-09	654.6E-09	661.3E-09	668.6E-09	658.7E-09	666.8E-09
Statistics												
Min	501.2E-09	514.1E-09	530.3E-09	563.0E-09	618.0E-09	654.3E-09	654.3E-09	653.0E-09	654.5E-09	654.6E-09	658.7E-09	655.3E-09
Max	505.6E-09	518.8E-09	533.7E-09	563.1E-09	618.7E-09	658.7E-09	658.7E-09	654.6E-09	661.3E-09	668.6E-09	705.5E-09	666.8E-09
Average	503.4E-09	516.5E-09	532.0E-09	563.1E-09	618.4E-09	656.5E-09	656.5E-09	653.8E-09	657.9E-09	661.6E-09	682.1E-09	661.1E-09
Sigma	2.2E-09	2.4E-09	1.7E-09	65.0E-12	335.0E-12	2.2E-09	2.2E-09	825.0E-12	3.4E-09	7.0E-09	23.4E-09	5.7E-09

Test conditions : TID
Parameter : Ring oscillator SKEW : RING_1_Skew

Unit :
No spec limit specified.



Measurements

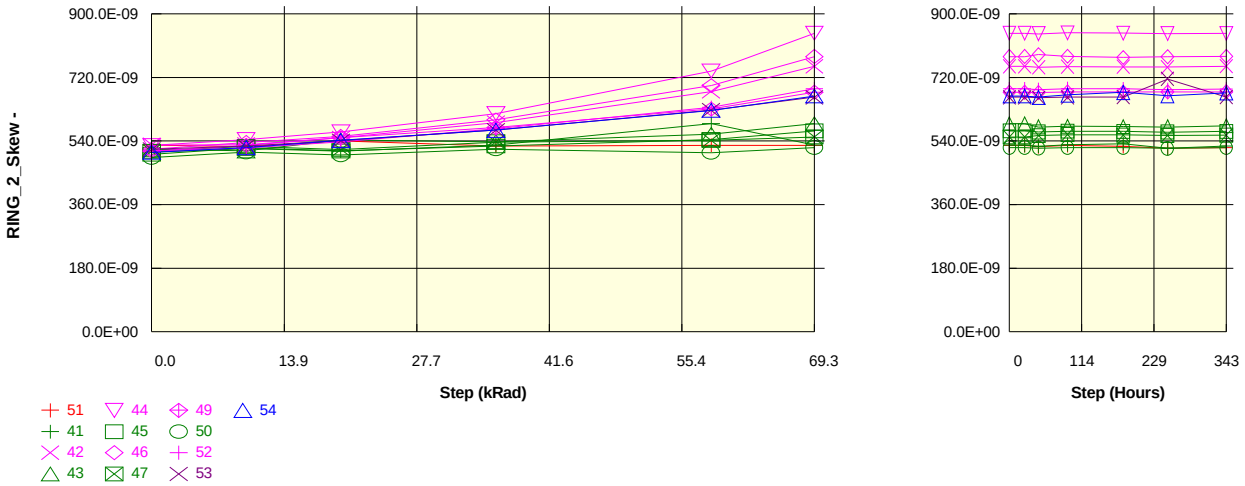
RING_1_Skew	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	526.8E-09	522.2E-09	538.2E-09	523.6E-09	525.3E-09	525.5E-09	525.5E-09	522.0E-09	525.6E-09	522.4E-09	517.6E-09	519.6E-09
ON samples												
41	506.1E-09	515.7E-09	508.8E-09	526.5E-09	586.9E-09	525.2E-09	525.2E-09	526.3E-09	527.0E-09	533.2E-09	520.8E-09	522.6E-09
42	527.4E-09	527.7E-09	546.7E-09	589.6E-09	677.3E-09	748.4E-09	748.4E-09	745.8E-09	747.7E-09	747.3E-09	746.2E-09	749.0E-09
43	514.2E-09	513.4E-09	540.2E-09	538.5E-09	555.8E-09	584.9E-09	584.9E-09	575.5E-09	577.5E-09	576.4E-09	575.3E-09	578.8E-09
44	524.8E-09	542.2E-09	563.4E-09	614.7E-09	734.7E-09	842.3E-09	842.3E-09	840.5E-09	843.5E-09	842.4E-09	841.4E-09	841.9E-09
45	500.4E-09	522.1E-09	509.7E-09	527.8E-09	541.9E-09	566.0E-09	566.0E-09	563.3E-09	565.3E-09	564.8E-09	563.0E-09	564.8E-09
46	515.2E-09	533.9E-09	551.1E-09	596.9E-09	693.2E-09	774.8E-09	774.8E-09	780.3E-09	775.6E-09	772.1E-09	774.0E-09	775.8E-09
47	509.7E-09	523.3E-09	514.8E-09	535.8E-09	532.7E-09	557.6E-09	557.6E-09	553.6E-09	556.6E-09	555.2E-09	553.9E-09	554.8E-09
49	513.9E-09	524.6E-09	545.4E-09	577.4E-09	626.5E-09	673.0E-09	673.0E-09	672.1E-09	674.1E-09	673.1E-09	673.4E-09	674.5E-09
50	491.5E-09	506.6E-09	498.7E-09	514.9E-09	505.4E-09	519.4E-09	519.4E-09	517.3E-09	519.4E-09	519.0E-09	516.8E-09	518.8E-09
52	509.7E-09	521.8E-09	539.1E-09	572.0E-09	632.3E-09	685.4E-09	685.4E-09	682.6E-09	685.7E-09	685.4E-09	682.9E-09	684.5E-09
Statistics												
Min	491.5E-09	506.6E-09	498.7E-09	514.9E-09	505.4E-09	519.4E-09	519.4E-09	517.3E-09	519.4E-09	519.0E-09	516.8E-09	518.8E-09
Max	527.4E-09	542.2E-09	563.4E-09	614.7E-09	734.7E-09	842.3E-09	842.3E-09	840.5E-09	843.5E-09	842.4E-09	841.4E-09	841.9E-09
Average	511.3E-09	523.1E-09	531.8E-09	559.4E-09	608.7E-09	647.7E-09	647.7E-09	645.7E-09	647.2E-09	646.9E-09	644.8E-09	646.5E-09
Sigma	10.1E-09	9.6E-09	20.7E-09	33.0E-09	72.7E-09	107.9E-09	107.9E-09	109.1E-09	108.6E-09	107.5E-09	109.3E-09	109.1E-09

Measurements

RING_1_Skew	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	526.8E-09	522.2E-09	538.2E-09	523.6E-09	525.3E-09	525.5E-09	525.5E-09	522.0E-09	525.6E-09	522.4E-09	517.6E-09	519.6E-09
OFF samples												
53	514.2E-09	522.9E-09	537.8E-09	567.2E-09	623.1E-09	658.9E-09	658.9E-09	657.7E-09	659.2E-09	659.3E-09	710.2E-09	659.9E-09
54	511.3E-09	523.1E-09	539.3E-09	568.1E-09	623.3E-09	664.2E-09	664.2E-09	660.2E-09	666.7E-09	674.2E-09	664.3E-09	672.5E-09
Statistics												
Min	511.3E-09	522.9E-09	537.8E-09	567.2E-09	623.1E-09	658.9E-09	658.9E-09	657.7E-09	659.2E-09	659.3E-09	664.3E-09	659.9E-09
Max	514.2E-09	523.1E-09	539.3E-09	568.1E-09	623.3E-09	664.2E-09	664.2E-09	660.2E-09	666.7E-09	674.2E-09	710.2E-09	672.5E-09
Average	512.7E-09	523.0E-09	538.5E-09	567.6E-09	623.2E-09	661.6E-09	661.6E-09	659.0E-09	662.9E-09	666.7E-09	687.3E-09	666.2E-09
Sigma	1.4E-09	85.0E-12	740.0E-12	425.0E-12	60.0E-12	2.6E-09	2.6E-09	1.3E-09	3.8E-09	7.5E-09	23.0E-09	6.3E-09

Test conditions : TID
Parameter : Ring oscillator SKEW : RING_2_Skew

Unit :
No spec limit specified.



Measurements

RING_2_Skew	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	529.0E-09	524.5E-09	540.5E-09	525.8E-09	527.7E-09	527.9E-09	527.9E-09	524.3E-09	527.9E-09	524.7E-09	519.9E-09	521.9E-09
ON samples												
41	508.8E-09	518.5E-09	511.5E-09	529.3E-09	589.7E-09	528.1E-09	528.1E-09	525.4E-09	530.1E-09	532.4E-09	519.7E-09	525.6E-09
42	529.4E-09	530.0E-09	549.0E-09	592.2E-09	680.5E-09	751.5E-09	751.5E-09	748.9E-09	750.9E-09	750.3E-09	749.3E-09	752.0E-09
43	516.9E-09	511.8E-09	543.0E-09	537.7E-09	559.7E-09	589.4E-09	589.4E-09	580.0E-09	582.0E-09	581.0E-09	579.8E-09	583.4E-09
44	527.3E-09	544.7E-09	566.1E-09	617.8E-09	738.2E-09	845.4E-09	845.4E-09	843.6E-09	846.5E-09	845.5E-09	844.4E-09	845.0E-09
45	502.6E-09	520.1E-09	511.9E-09	525.9E-09	544.3E-09	568.5E-09	568.5E-09	565.8E-09	567.9E-09	567.4E-09	565.6E-09	567.3E-09
46	517.4E-09	536.2E-09	553.5E-09	599.7E-09	697.0E-09	779.4E-09	779.4E-09	784.5E-09	780.0E-09	776.6E-09	778.5E-09	780.2E-09
47	511.2E-09	524.9E-09	516.3E-09	537.4E-09	542.2E-09	551.7E-09	551.7E-09	555.4E-09	558.4E-09	557.1E-09	555.8E-09	556.5E-09
49	511.7E-09	527.7E-09	548.8E-09	577.9E-09	631.2E-09	678.2E-09	678.2E-09	677.3E-09	679.4E-09	678.3E-09	678.9E-09	679.8E-09
50	493.7E-09	508.9E-09	500.9E-09	517.3E-09	507.7E-09	521.8E-09	521.8E-09	519.7E-09	521.8E-09	521.3E-09	519.1E-09	521.1E-09
52	512.0E-09	520.1E-09	537.6E-09	574.6E-09	635.1E-09	688.1E-09	688.1E-09	685.3E-09	688.3E-09	688.2E-09	685.6E-09	687.3E-09
Statistics												
Min	493.7E-09	508.9E-09	500.9E-09	517.3E-09	507.7E-09	521.8E-09	521.8E-09	519.7E-09	521.8E-09	521.3E-09	519.1E-09	521.1E-09
Max	529.4E-09	544.7E-09	566.1E-09	617.8E-09	738.2E-09	845.4E-09	845.4E-09	843.6E-09	846.5E-09	845.5E-09	844.4E-09	845.0E-09
Average	513.1E-09	524.3E-09	533.9E-09	561.0E-09	612.5E-09	650.2E-09	650.2E-09	648.6E-09	650.5E-09	649.8E-09	647.7E-09	649.8E-09
Sigma	10.1E-09	10.3E-09	20.9E-09	33.8E-09	72.3E-09	109.0E-09	109.0E-09	109.9E-09	108.9E-09	108.3E-09	110.1E-09	109.4E-09

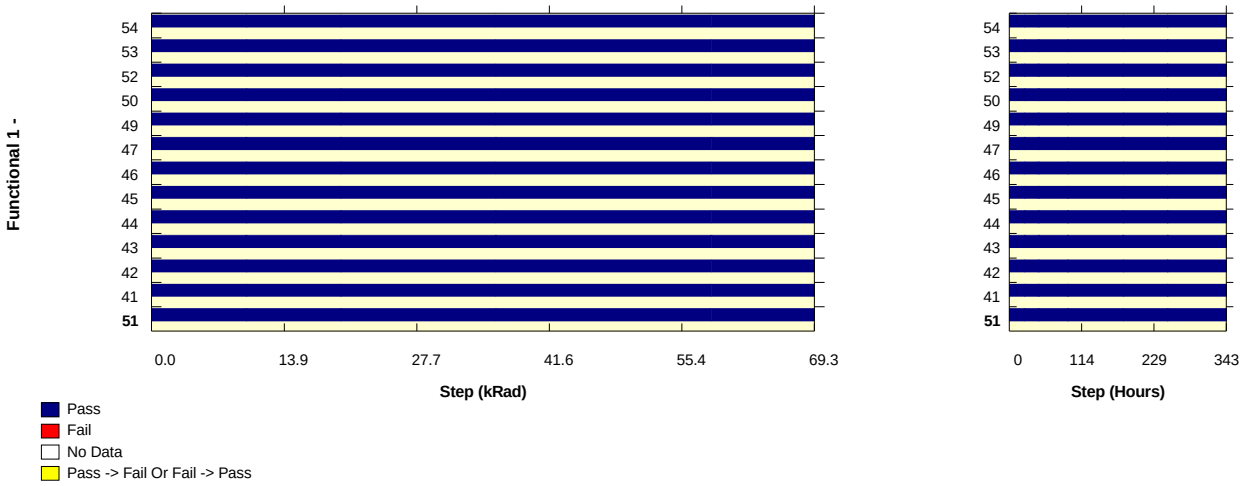
Measurements

RING_2_Skew	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	529.0E-09	524.5E-09	540.5E-09	525.8E-09	527.7E-09	527.9E-09	527.9E-09	524.3E-09	527.9E-09	524.7E-09	519.9E-09	521.9E-09
OFF samples												
53	516.8E-09	525.8E-09	541.0E-09	570.9E-09	627.5E-09	664.1E-09	664.1E-09	662.6E-09	664.1E-09	664.2E-09	715.7E-09	664.9E-09
54	508.3E-09	521.2E-09	541.8E-09	570.9E-09	626.5E-09	667.8E-09	667.8E-09	663.9E-09	670.4E-09	677.7E-09	667.8E-09	676.1E-09
Statistics												
Min	508.3E-09	521.2E-09	541.0E-09	570.9E-09	626.5E-09	664.1E-09	664.1E-09	662.6E-09	664.1E-09	664.2E-09	667.8E-09	664.9E-09
Max	516.8E-09	525.8E-09	541.8E-09	570.9E-09	627.5E-09	667.8E-09	667.8E-09	663.9E-09	670.4E-09	677.7E-09	715.7E-09	676.1E-09
Average	512.6E-09	523.5E-09	541.4E-09	570.9E-09	627.0E-09	665.9E-09	665.9E-09	663.2E-09	667.2E-09	670.9E-09	691.8E-09	670.5E-09
Sigma	4.2E-09	2.3E-09	385.0E-12	20.0E-12	515.0E-12	1.9E-09	1.9E-09	650.0E-12	3.2E-09	6.8E-09	23.9E-09	5.6E-09

Appendix 2: Functional test results

Test conditions : TID
Parameter : Functionnality : Functional 1

Unit :
No spec limit specified.



Measurements

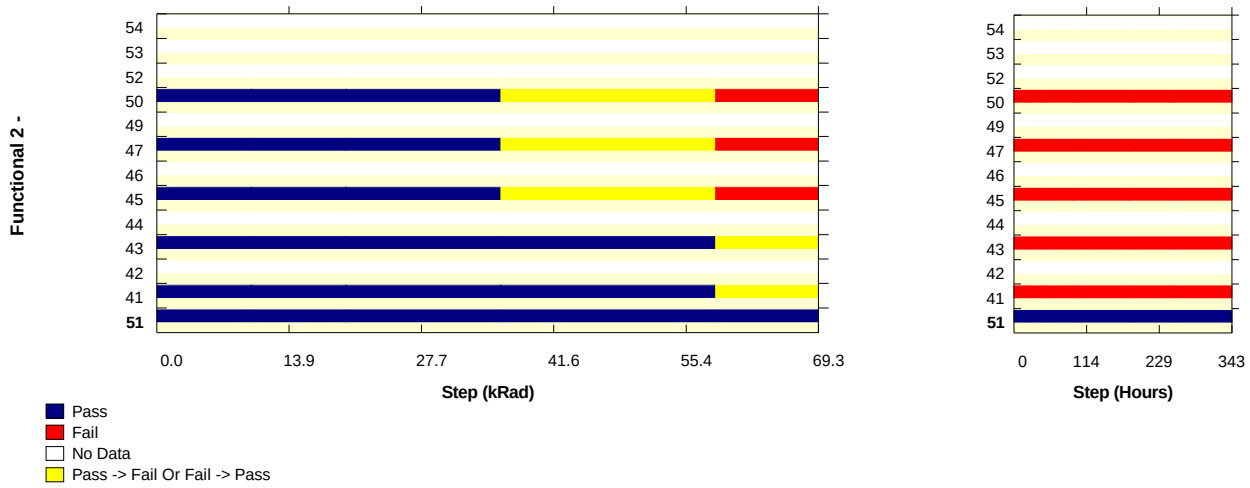
Functional 1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples												
41	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
42	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
43	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
44	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
45	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
46	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
47	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
49	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
50	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Functional 1	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples												
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Test conditions : TID
Parameter : Reconfiguration : Functional 2

Unit :
No spec limit specified.



Measurements

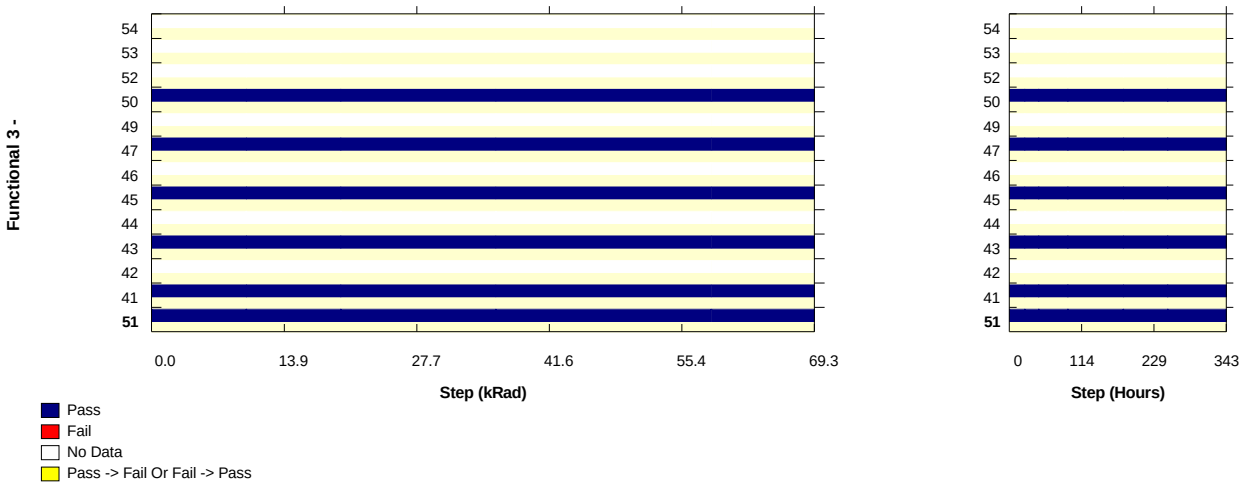
Functional 2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples												
41	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
42	PASS											
43	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
44	PASS											
45	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
46	PASS											
47	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
49	PASS											
50	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
52	PASS											

Measurements

Functional 2	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples												
53	PASS											
54	PASS											

Test conditions : TID
Parameter : Functionnality after Reconfiguration : Functional 3

Unit :
No spec limit specified.



Measurements

Functional 3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples												
41	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
42	PASS											
43	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
44	PASS											
45	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
46	PASS											
47	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
49	PASS											
50	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS											

Measurements

Functional 3	0 kRad	9.9 kRad	19.8 kRad	36 kRad	58.5 kRad	69.3 kRad	24 Hours	46 Hours	92 Hours	180 Hours	250 Hours	343 Hours
51_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples												
53	PASS											
54	PASS											

Appendix 3: Power supplies monitoring test results example on 1 sample