ESA study

"Test Methods, Requirements, and Guidelines for Evaluation of Radiation Sensitivity of Analog to Digital Converters (ADC), Digital to Analog Converters (DAC) and Vertical Power MOSFETs"

TOTAL DOSE RADIATION TEST REPORT

Part Type : RHF1401

Package : SOIC-48

Description : Radiation Hardened 14-Bit A/D Converter

Manufacturer : STMicroelectronics

Date Code: 31228A

ESTEC Contract N° 4000105495/12/NL/SFe dated February 27th, 2012

ESTEC Technical Responsible: Christian Poivey

Hirex reference:	HRX/TID/1133	Issue: 01	Date:	September 26th, 2013
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Approved by:	J.F. PASCAL	Technical Director		

CHANGE RECORD

ISSUE	DATE	PAGE	DESCRIPTION OF CHANGES
01	September 26th, 2013	All	Original Issue

TOTAL DOSE RADIATION TEST REPORT
on STMicroelectronics
RHF1401
Radiation Hardened 14-Bit A/D Converter

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1 Introduction

In the scope of the ESA study: “Test Methods, Requirements, and Guidelines for Evaluation of Radiation Sensitivity of Analog to Digital Converters (ADC), Digital to Analog Converters (DAC) and Vertical Power MOSFETs”, a total dose radiation evaluation test of the STMicroelectronics RHF1401, Radiation Hardened 14-Bit A/D Converter has been performed with an accumulated dose of about 102 krad(Si) at a dose rate of 200 rad(Si)/hour, in response to ESTEC purchase order reference 4000105495/12/NL/SFe.

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 ESTEC.
Test has been performed in accordance with Hirex Engineering proposal reference HRX/PRO/3624 Issue 01 dated 10/12/2012.

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/3624 Issue 01 dated 10/12/2012
- Hirex Engineering irradiation test plan for RHF1401: HRX/SPE/0267 Issue 02 dated 04/22/2013.
- Hirex Engineering Detail Design Document for RHF1401: HRX/DDD/1755 Issue 01
- Hirex Engineering Test Conditions for RHF1401: HRX/TC/1371 Issue 01
- ESCC Basic Specification No. 22900 issue 04.

2.2 Reference Documents

- STMicroelectronics RHF1401 datasheet: ID13317 Rev 6, July 2011.

3 Device architecture / functional diagram / technology

The RHF1401 is a 14-bit analog-to-digital converter that uses pure (ELDRS-free) CMOS 0.25 µm technology with 6 metal layers combining high performance, radiation robustness and very low power consumption. The RHF1401 is based on a pipeline structure and digital error correction to provide excellent static linearity. Specifically designed to optimize power consumption, the RHF1401 only dissipates 85 mW at 20 MSPS, while maintaining a high level of performance. The device integrates a STM proprietary track-and-hold structure to ensure a large effective resolution

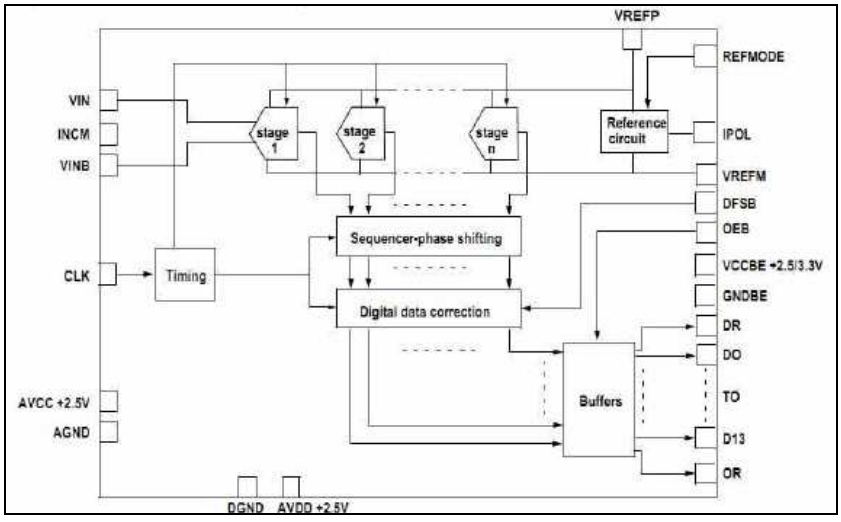


Figure 1: RHF1401 Block Diagram

Identification of the main blocks of the device is shown on Figure 2.

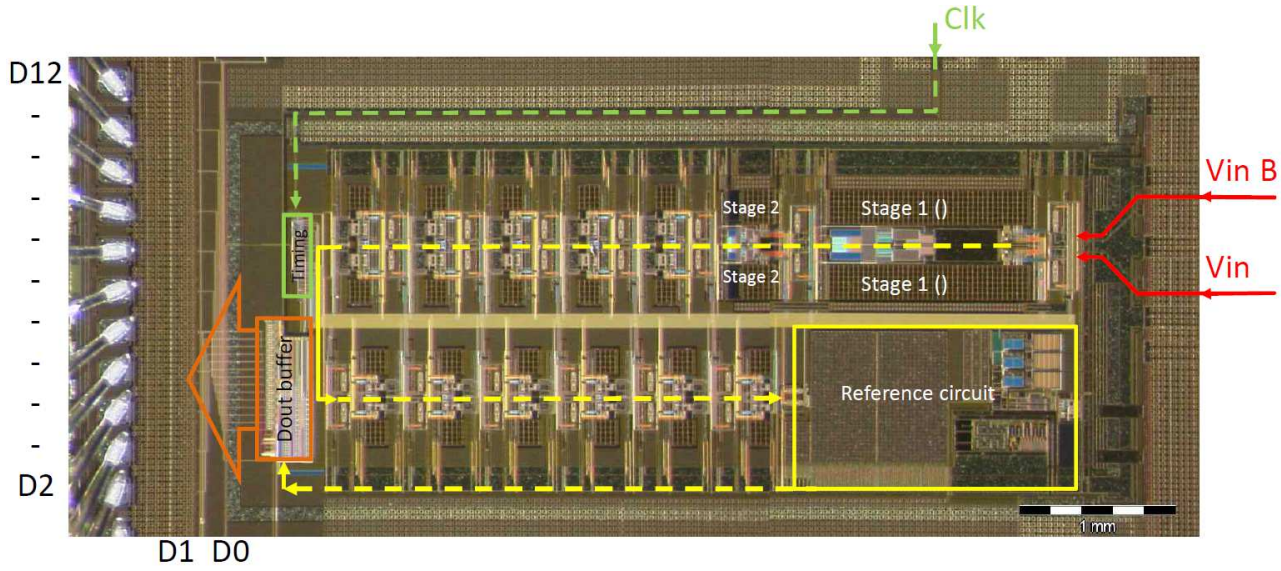


Figure 2: RHF1401 Die Floorplan

4 Test Samples

11 samples of the RHF1401 device were tested (5 ON + 5 OFF + 1 control sample).

Samples were allocated into the bias conditions during exposures and annealing as provided in the following table.

Serial Number	Allocation
11	Control
1	Biased ON
12	Biased ON
13	Biased ON
14	Biased ON
15	Biased ON
16	Biased OFF
17	Biased OFF
18	Biased OFF
19	Biased OFF
20	Biased OFF

Identification of the RHF1401 is given below:

Part Type:	RHF1401	**Part Number:**	RHF1401KSO1
Top Marking:	logo 31228A RHF1401KSO1 FR	**Bottom Marking**	-
Date Code:	31228A		

Complete traceability of the tested samples are provided on the following photos including die marking.

Photo 1 – Top Device Marking

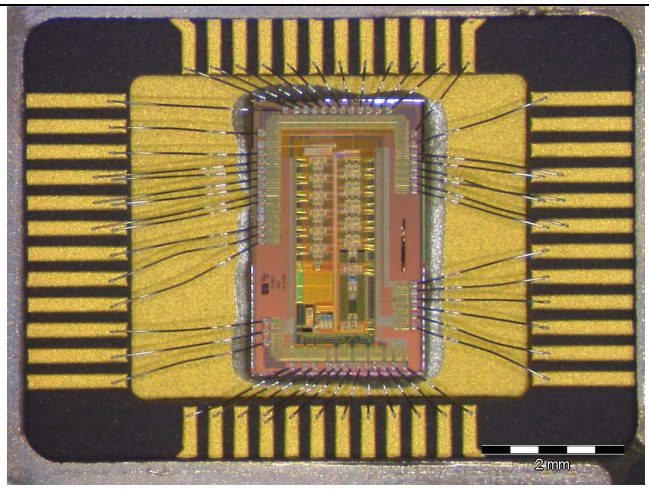


Photo 2 – Internal View

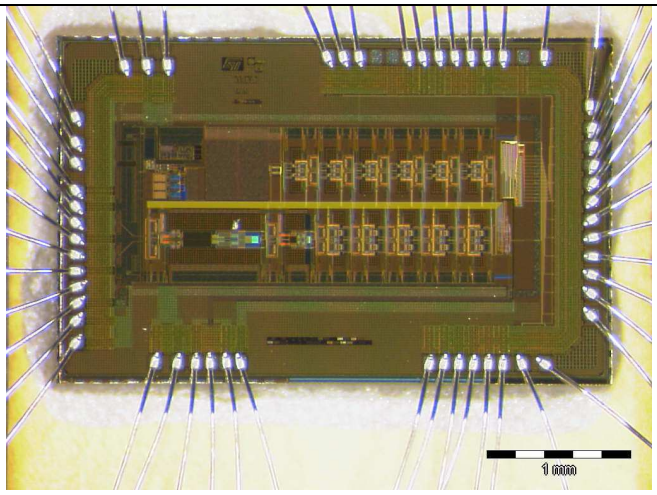


Photo 3 – Die View

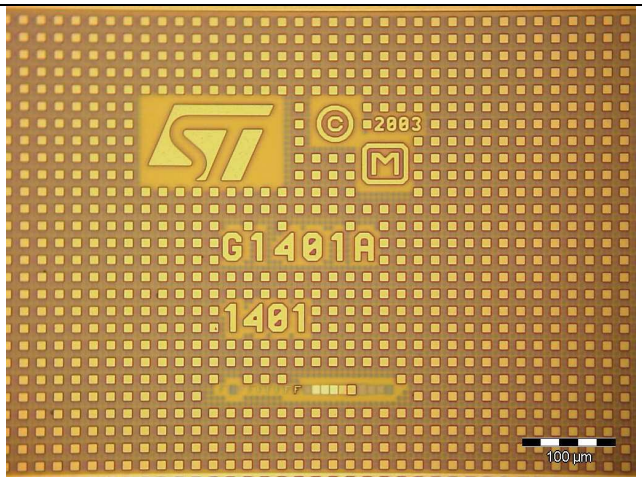


Photo 4 – Die marking

5 Experimental Conditions

5.1 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.

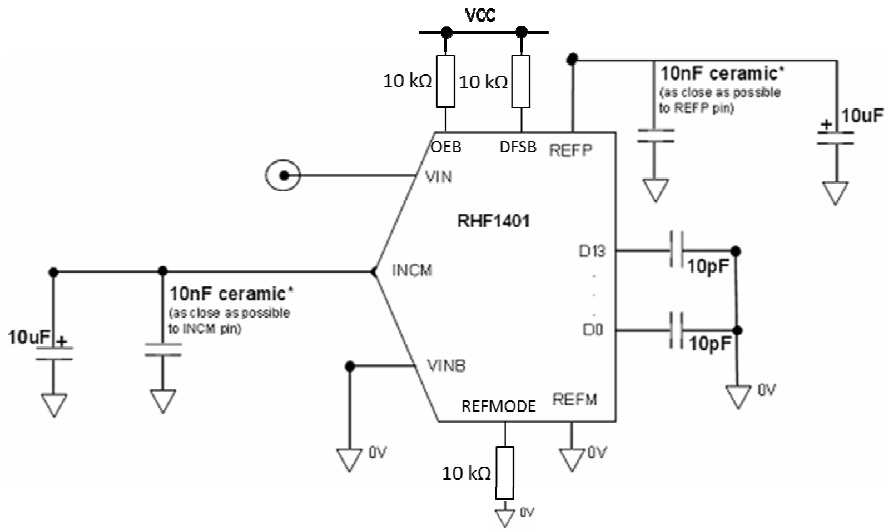
During the dose exposures, devices under test have been irradiated in an ambient temperature of 24°C ±6°C.
Prior to the test campaign the dose rate at board location is controlled using the Hirex calibrated dosimeter reference: Radcal Accu-Dose.
In addition, the dose received by the devices is verified by the measurement of one Alanine pellet dosimeter placed onto the bias board.
Resulting test conditions are provided below.

Irradiation Steps Requested	Pellet dosimetry data	Dose rate	Annealing steps	Temperature
krad (Si)	krad (Si)	rad(Si)/h	Hours	°C
0	0		-	Room
10	9	200	-	Room
20	18	200	-	Room
30	31.5	200	-	Room
50	49.9	200	-	Room
100	101.7	200	-	Room
-	-	-	24	Room
-	-	-	168	100

5.2 Bias during Dose Exposures and Measurements conditions

5.2.1 Bias conditions

During exposures test board allowed to bias 5 samples in accordance with the electrical circuit provided in Figure 3.
5 other samples were biased OFF with all pins connected to ground.
During annealing steps the same stress conditions were applied at room and 100°C temperatures.



AV_{CC} = DV_{CC} = V_{CCBE} = V_{CCBI} = 2.7V
F_S = 15Msps, V_{IN} = -0.4V DC
R_{POL} = 70kΩ ⇒ I_{POL} ~ 18µA with V_{pol} ~ 1.25V
OEB & DFSB: 10 kΩ to VCC
REFMODE: 10 kΩ to GROUND

Figure 3: Bias Conditions during Irradiation Exposures and Annealing

5.2.2 Electrical Measurements

Electrical parameters test program principle for RHF1401 is provided in Figure 4.

A test bench including one IMS tester, one Converters Tester and one HP3458 Multimeter were used to perform required measurements.

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

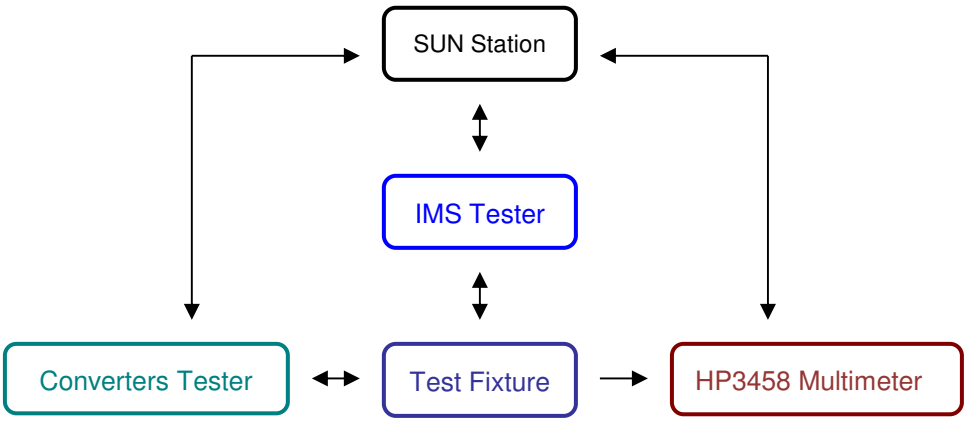


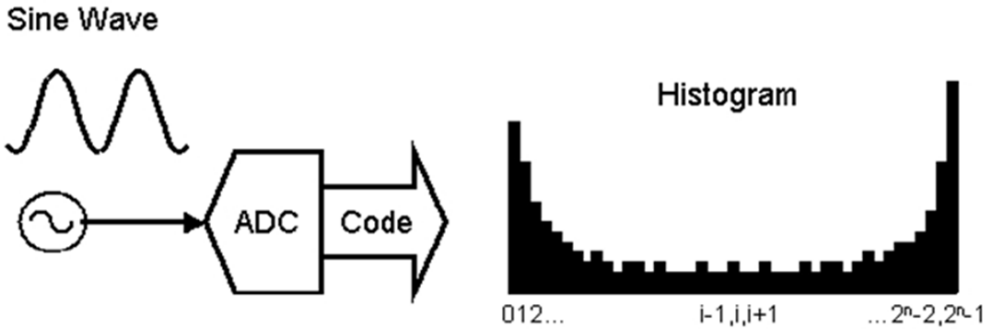
Figure 4: RHF1401 test program principle

5.2.3 Linearity and Dynamic Test methods description

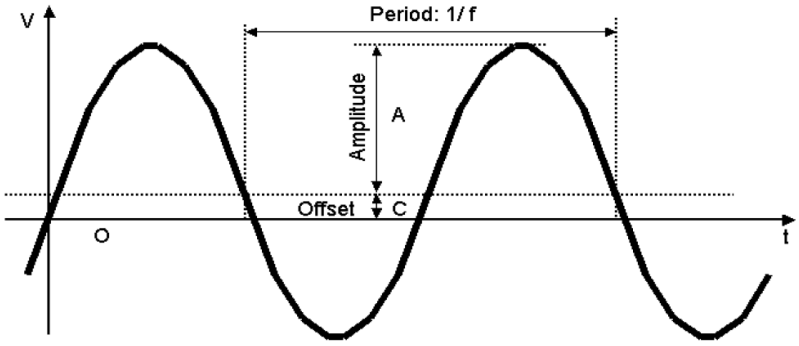
In this paragraph the test methods used to measure the converter parameters are presented.

5.2.3.1 Linearity Test - Sine Histogram method

Traditional Ramp wave method is quite simple in terms of linearity calculation because ramp histogram appear a flat linear profile. However, actually it is not so easy to generate a good linear ramp waveform. A precision active integrator circuit with a low-loss and low dielectric absorption capacitor is required to generate a good ramp. In regular IC tests, a high precision D/A converter is often utilized to generate a pseudo precision ramp waveform instead of an integrator.



On the other hand, in **sine wave histogram method**, a very low distortion sine wave is required. It is relatively easy to generate such a low distortion sine wave because an appropriate low pass filter can easily remove distortions. However, since an ADC generates a non-flat histogram distribution depicted as Figure 5 for a sine wave, post processing of the sine histogram for linearity calculation becomes much more complex than the case of ramp histogram.



Probability Density Function

A sine wave can be expressed as follows;

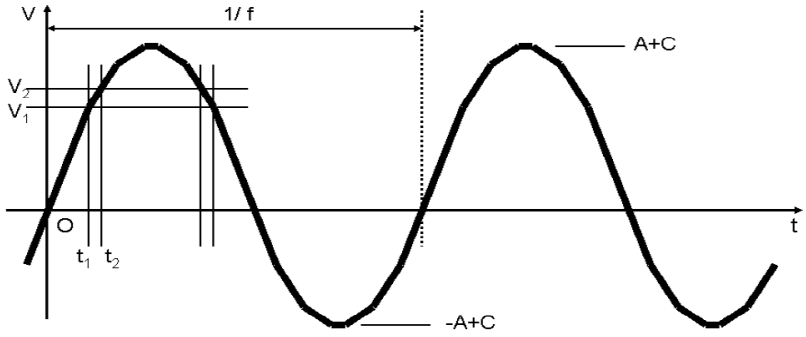
$$V(t) = A\sin(2\pi ft + B) + C$$

where A, B and C are amplitude, phase and offset of the signal respectively, f is a frequency of the signal, and t shows time.

Sine wave equation is modified with regard to time t as below:

$$t = \frac{1}{2\pi f}\left\{\sin^{-1}\left(\frac{V(t) - C}{A}\right) - B\right\}$$

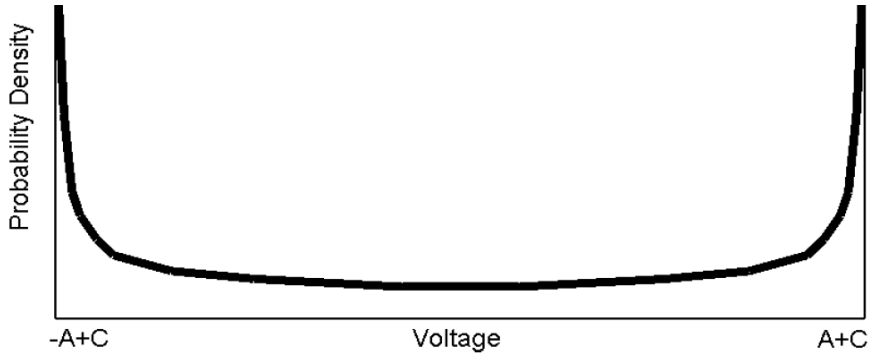
Histogram test is a statistical method. Histogram represents a probability of instantaneous voltage of the sine wave. A single period of the sine wave is a reciprocal of the frequency f. During the period of (1/f) the signal travels from (–A+C) to (A+C). When time is t1 and t2, the instantaneous voltage is located at the levels of V1 and V2 respectively as shown in Figure below.



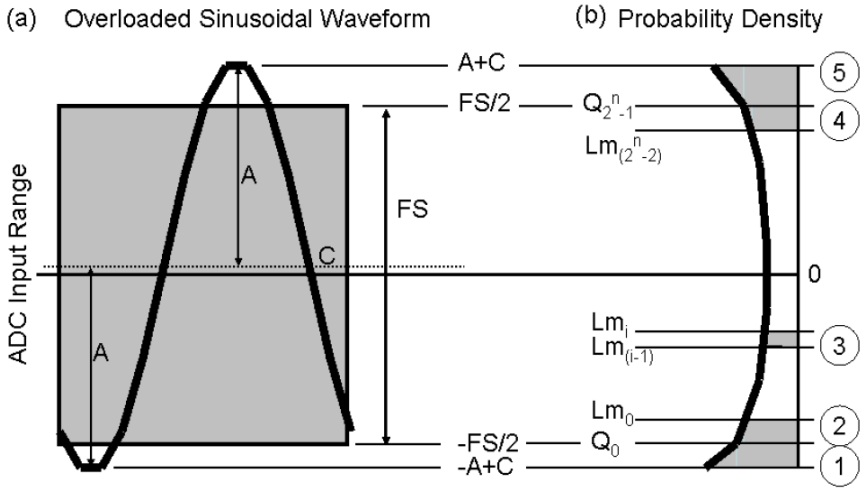
Considering the probability that the signal exists between voltage V1 and V2, it occurs twice during the period of (1/f) as shown in above. Consequently probability density P that the signal exists between voltages V1 and V2 can be expressed as below.

$$P = \frac{2(t_2 - t_1)}{\left(\frac{1}{f}\right)} = \frac{1}{\pi}\left\{\sin^{-1}\left(\frac{V_2 - C}{A}\right) - \sin^{-1}\left(\frac{V_1 - C}{A}\right)\right\}$$

This probability density looks a bathtub curve as shown on Figure below:



When analyzing linearity of an ADC, all available codes of ADC must be stimulated so that the test signal sine wave must be overloaded to the input range of the ADC. So the conditions of 2A>FS, (A+C)>FS/2 and (-A+C)<(-FS/2) must be required. The points of +/-(FS/2) are identical to Q2n-1 and Q0 of the device.



When an instantaneous level of the signal is located at less than Lm0, ADC generates code 0.
When P[0] denotes probability density that the code 0 occurs, P[0] is the sum of areas numbered 1 and 2 in the probability density curve (see above) so that P[0] can be derived as below.

$$P[0] = \frac{1}{\pi}\sin^{-1}\left(\frac{Lm_0 - C}{A}\right) + \frac{1}{2}$$

When the signal exists between levels Lmi-1 and Lmi, ADC generate code i. Let P[i] denote the probability density that code i occurs. P[i] corresponds to the area numbered 3 in the probability density curve (b). P[i] can be described as below.

$$P[i] = \frac{1}{\pi}\left\{\sin^{-1}\left(\frac{Lm_i - C}{A}\right) - \sin^{-1}\left(\frac{Lm_{i-1} - C}{A}\right)\right\} \qquad (i=1,2,\ldots,2n-2)$$

When the signal crosses over the threshold level Lm2n-2, ADC generates code (2n-1). The probability density of code (2n-1) is expressed as P[2n-1] which is the sum of areas numbered 4 and 5 in the probability density curve (b). Then P[2n-1] is described as below.

$$P[2^n - 1] = -\frac{1}{\pi}\sin^{-1}\left(\frac{Lm_{2^n-2} - C}{A}\right) + \frac{1}{2}$$

For calculating linearity of ADC, the measured histogram is directly compared to the ideal bathtub curve of the probability density Equations. These equations contain the factors of amplitude A and offset C, which must be evaluated in the calculation procedure. After constructing a sine histogram, firstly with analyzing the unbalance of the minimum and the maximum code bins, the offset and the amplitude of the sine wave should be estimated respectively, and then the histogram is compensated in terms of the offset and amplitude.

5.2.3.2 Dynamic Tests computation

For the dynamic parameter calculations the captured sinewave must converted to the frequency domain, using the (fast) fourrier transform.

In some situations it is not possible to capture an integer number of sinewaves. This will lead to spectral leakage. In these situations signal windowing can be useful.

From the spectrum results the following parameters can be calculated:

$$SINAD = \frac{c}{n+d} \quad ENOB = \frac{SINAD - 1.8}{6.02} \quad SNR = \frac{c}{n} \quad THD = \frac{d}{c}$$

Where:

$$c = \sqrt{\mathrm{Re}^2_{carrier} + \mathrm{Im}^2_{carrier}} \quad d = \sqrt{\sum_{distortion} \mathrm{Re}^2_{dist.} + \mathrm{Im}^2_{dist.}}$$

$$n = \sqrt{\sum_{noise} \mathrm{Re}^2_{noise} + \mathrm{Im}^2_{noise}}$$

Where “c” stands for the amplitude of the carrier bin.

The signal “d” stands for the sum of all distorsion bins and “n” for the sum of all noise bins. The position of the carrier bin is equal to the number of periods of the carrier in the captured window.

5.2.3.2.1 Signal to Noise and Distorsion (SINAD) & Effective Number of Bits (ENOB)

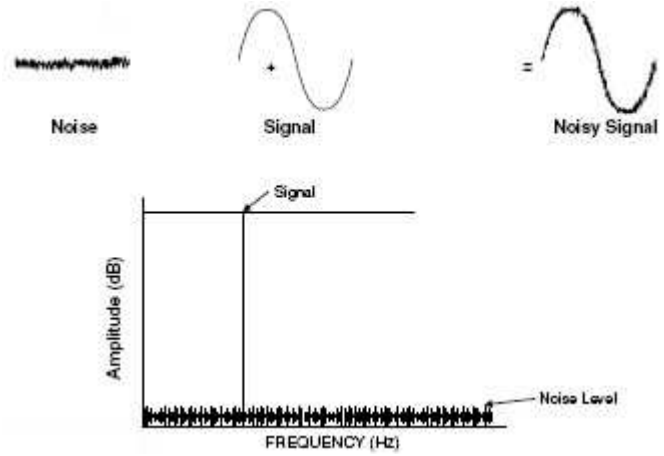
SINAD stands for Signal to Noise and Distorsion. It is the ratio signal (or carrier) and all other spectrum bins. The Effective Number of Bits (ENOB) is calculated from the SINAD.

The theoretical maximum signal-to-noise-and-distorsion for a linear ADC with a full-scale sine-wave input derives from quantization noise (or resolution for a DAC) and is defined as 20 * log(2^(n-1) x sqrt(6)), or about 6.02n + 1.76 dB.

With a perfectly linear but noisy system SINAD and SNR are interchangeable.

5.2.3.2.2 Signal to Noise ratio (SNR)

The Signal to Noise ratio or SNR stands for the ratio signal (or carrier) and all noise bins. Noise bins are all bins not being the carrier, a harmonic or DC.



SNR usually degrades as frequency increases because the accuracy of the comparator(s) within the ADC degrades at higher input slew rates. This loss of accuracy shows up as noise at the ADC output. In an A/D converter, noise comes from four main sources: (1) quantization noise, (2) noise generated by the converter itself, (3) application circuit noise and (4) jitter.

Quantization noise results from the quantization process, the process of assigning an output code to a range of input values.

The amplitude of the quantization noise decreases as resolution increases because the size of an LSB is smaller at higher resolutions, which reduces the maximum quantization error.

The theoretical maximum signal-to-noise ratio for a linear ADC with a full-scale sine-wave input derives from quantization noise (or resolution for a DAC) and is defined as 20 * log(2^(n-1) x sqrt(6)), or about 6.02n + 1.76 dB. With a perfectly linear but noisy system SINAD and SNR are interchangeable.

Application circuit noise is that noise seen by the converter as a result of the way the circuit is designed and laid out. SNR increases with increasing input amplitude until the input gets close to full scale. The SNR increases at the same rate as the input signal until the input signal approaches full scale. That is, increasing the input signal amplitude by 1 dB will cause a 1 dB in increase in SNR.

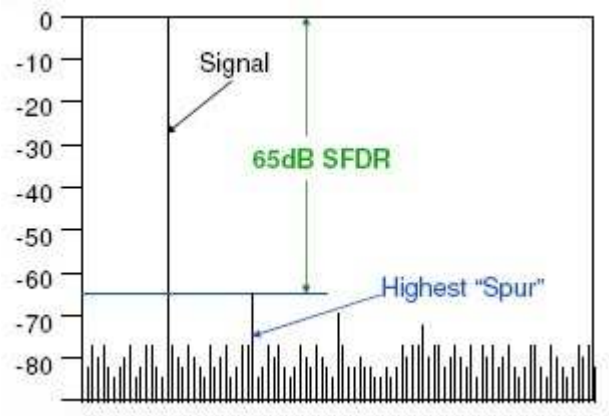
This is because the step size becomes a smaller part of the total signal amplitude as the the signal amplitude increases. When the input amplitude starts approaching full scale, however, the rate of increase of SNR vs. input signal decreases. SNR performance decreases at higher frequencies because the effects of jitter get worse.

5.2.3.2.3 Total Harmonic Distorsion (THD)

The Total Harmonic Distorsion or THD is the ratio distortion bins and signal (or carrier). Harmonics are mutiples of the carrier.

5.2.3.2.4 Spurious free dynamic range (SFDR)

The spurious free dynamic range is the difference in dB between the signal and the any other signal (spurious) in the spectrum with the highest peak.



5.2.3.2.5 Peak Distorsion

The peak distorsion is the highest distorsion bin.

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

PARAMETERS	SYMBOLS	TEST CONDITIONS (See note)	MIN	MAX	UNITS
Analog supply current	Aicc	Fs = 20Msps. Fin = 10MHz			A
Digital supply current	Dicc	Fs = 20Msps. Fin = 10MHz			A
Digital buffer supply current	Iccbi	Fs = 20Msps. Fin = 10MHz. OEB set to Vil			A
Digital buffer supply current	Iccbe	Fs = 20Msps. Fin = 10MHz. OEB set to Vil			A
Digital buffer supply current	Iccbez	Fs = 20Msps. Fin = 10MHz. OEB set to Vih			A
Digital buffer supply current	Iccbiz	Fs = 20Msps. Fin = 10MHz. OEB set to Vih			A
Polarization Voltage	Vpol	Fs = 20Msps. Fin = 10MHz			V
Input Common Mode Voltage	Vincm	Fs = 20Msps. Fin = 10MHz	400.0	500.0	mV
Top internal reference voltage	Vrefp	Fs = 20Msps. Fin = 10MHz. Vrefm = GND	760.0	950.0	mV
Logic “1” voltage	Voh_OR	Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA	2.250		V
Logic “1” voltage	Voh	Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA	2.250		V
Logic “1” voltage	Voh_DR	Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA	2.250		V
Logic “0” voltage	Vol_OR	Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA		250.0	mV
Logic “0” voltage	Vol	Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA		250.0	mV
Logic “0” voltage	Vol_DR	Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA		250.0	mV
High impedance leakage current	Iozh_OR	Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih	-15.0	15.0	µA
High impedance leakage current	Iozh	Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih	-15.0	15.0	µA
High impedance leakage current	Iozh_DR	Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih	-15.0	15.0	µA
High impedance leakage current	Iozl_OR	Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih	-15.0	15.0	µA
High impedance leakage current	Iozl	Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih	-15.0	15.0	µA
High impedance leakage current	Iozl_DR	Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih	-15.0	15.0	µA
Offset error @ Vin = -1dBFS	OE	Fs = 20Msps. Fin = 15MHz			%
Gain error @ Vin = 1.9V	GE	Fs = 20Msps. Fin = 15MHz			%
Differential non linearity	DNLP	Fs = 20Msps. Fin = 15MHz			LSB
Differential non linearity	DNLM	Fs = 20Msps. Fin = 15MHz			LSB
Integral non linearity	INLP	Fs = 20Msps. Fin = 15MHz			LSB
Integral non linearity	INLM	Fs = 20Msps. Fin = 15MHz			LSB
Spurious free dynamic range	SFDR	Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS			dBc
Signal to noise ratio	SNR	Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS			dBFS
Total harmonics distortion	THD	Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS			dB
Signal to noise and distortion ratio	SINAD	Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS			dB
Effective number of bits	ENOB	Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS			bits

Note:
Internal REFP (REFMODE=0) & INCM, Rpol = 45 kOhm, AVcc = DVcc = Vccbe = Vccbi = 2.5V unless otherwise specified

Table 1: Measured electrical parameters

6 Conclusion

A Total Ionizing Dose evaluation test was carried out by Hirex Engineering under ESTEC contract on the STMicroelectronics RHF1401 Radiation Hardened 14-Bit A/D Converter in SOIC-48 package.

10 samples plus one control sample were used during testing. They were exposed to radiation using a dose rate of 200 rad(Si)/hour at room temperature.

All parameters remained within specification limits all along testing demonstrating a fairly good resistance of this device to radiation induced effects.
To illustrate this good behaviour, we have reported in Appendix 1 a serie of plots comparison of INL, DNL and dynamic converter parameters. We can observe that the differences between initial readings, end of exposures and annealing steps are not significant.

All measurement test results are provided in Excel file named: “TID_0782_01_RHF1401.xls”.

7 Test Results

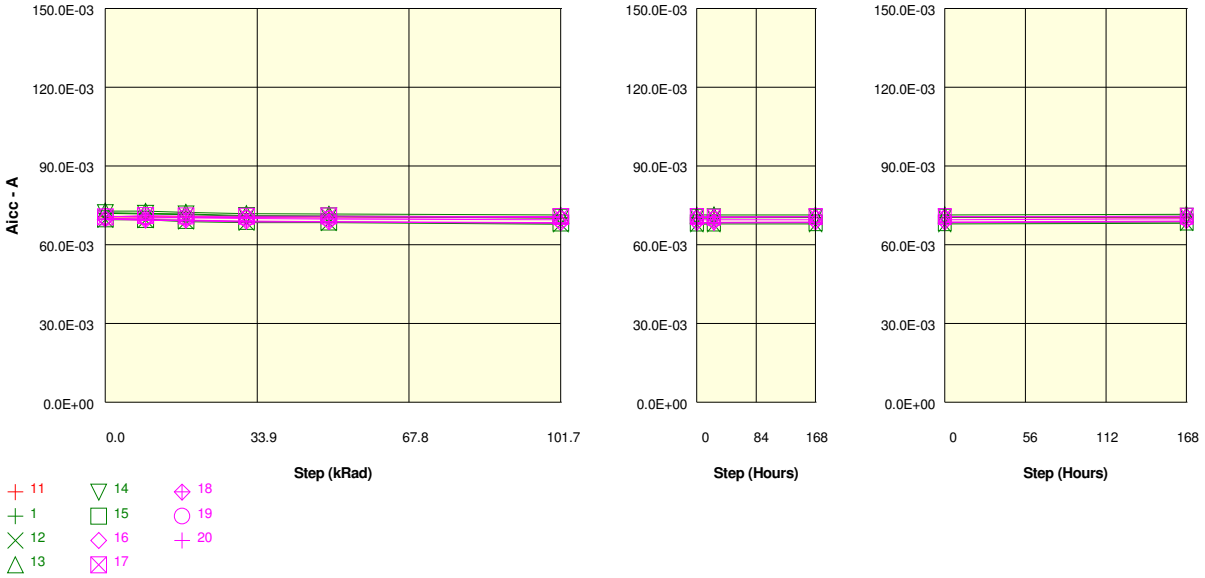
Test results including tables and graphics are provided in this section for each measured parameter.

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

For each parameter a drift calculation table is provided that computes the drift between a given exposure step with respect to initial readings:

$$\Delta(\text{Parameter value}) = (\text{Parameter value}_{\text{POSTRAD}}) - (\text{Parameter value}_{\text{PRERAD}})$$

Parameter : Analog supply current : Aicc
Test conditions : Fs = 20Msps. Fin = 10MHz
Unit : A
No spec limit specified.



Measurements

Aicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	70.7E-03	70.6E-03	70.7E-03	70.5E-03	70.7E-03	70.3E-03	70.3E-03	70.4E-03	70.3E-03
ON samples									
1	71.9E-03	71.8E-03	71.5E-03	70.9E-03	70.8E-03	70.2E-03	70.3E-03	70.3E-03	70.6E-03
12	69.6E-03	69.5E-03	68.9E-03	68.5E-03	68.4E-03	67.8E-03	67.9E-03	67.9E-03	68.3E-03
13	72.9E-03	72.8E-03	72.4E-03	71.8E-03	71.7E-03	71.3E-03	71.3E-03	71.3E-03	71.7E-03
14	72.3E-03	72.0E-03	71.7E-03	71.1E-03	71.0E-03	70.5E-03	70.6E-03	70.6E-03	70.9E-03
15	69.9E-03	69.7E-03	69.3E-03	68.9E-03	68.6E-03	68.3E-03	68.4E-03	68.4E-03	68.7E-03
Statistics									
Min	69.6E-03	69.5E-03	68.9E-03	68.5E-03	68.4E-03	67.8E-03	67.9E-03	67.9E-03	68.3E-03
Max	72.9E-03	72.8E-03	72.4E-03	71.8E-03	71.7E-03	71.3E-03	71.3E-03	71.3E-03	71.7E-03
Average	71.3E-03	71.1E-03	70.8E-03	70.2E-03	70.1E-03	69.6E-03	69.7E-03	69.7E-03	70.0E-03
Sigma	1.3E-03	1.3E-03	1.4E-03	1.3E-03	1.3E-03	1.3E-03	1.3E-03	1.3E-03	1.3E-03

Drift Calculation

Aicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-160.0E-06	-400.0E-06	-1.1E-03	-1.2E-03	-1.7E-03	-1.6E-03	-1.6E-03	-1.3E-03
12	-	-80.0E-06	-690.0E-06	-1.1E-03	-1.2E-03	-1.7E-03	-1.6E-03	-1.7E-03	-1.3E-03
13	-	-60.0E-06	-510.0E-06	-1.0E-03	-1.2E-03	-1.6E-03	-1.5E-03	-1.5E-03	-1.2E-03
14	-	-300.0E-06	-530.0E-06	-1.1E-03	-1.3E-03	-1.7E-03	-1.6E-03	-1.7E-03	-1.4E-03
15	-	-270.0E-06	-630.0E-06	-1.1E-03	-1.3E-03	-1.7E-03	-1.6E-03	-1.6E-03	-1.3E-03
Average	-	-174.0E-06	-552.0E-06	-1.1E-03	-1.2E-03	-1.7E-03	-1.6E-03	-1.6E-03	-1.3E-03
Sigma	-	97.1E-06	100.5E-06	38.8E-06	56.7E-06	59.5E-06	44.9E-06	61.4E-06	56.4E-06

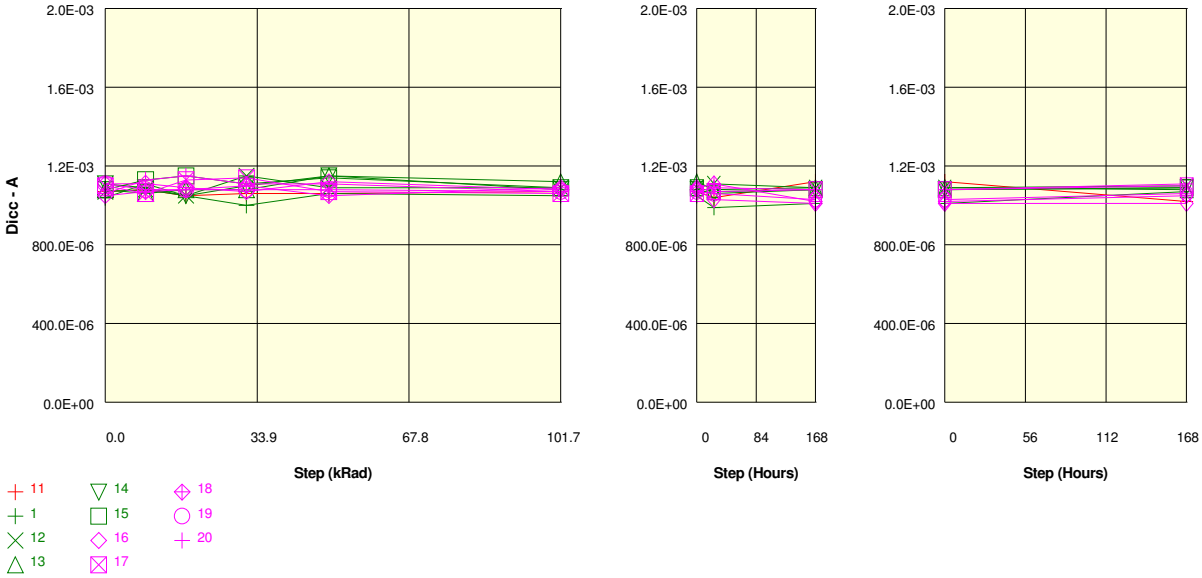
Measurements

Aicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	70.7E-03	70.6E-03	70.7E-03	70.5E-03	70.7E-03	70.3E-03	70.3E-03	70.4E-03	70.3E-03
OFF samples									
16	70.1E-03	70.2E-03	70.4E-03	70.4E-03	70.2E-03	70.3E-03	70.3E-03	70.6E-03	70.6E-03
17	70.6E-03	71.1E-03	71.0E-03	70.9E-03	71.0E-03	70.7E-03	70.6E-03	70.7E-03	70.9E-03
18	69.8E-03	69.5E-03	69.4E-03	69.0E-03	68.8E-03	68.5E-03	68.6E-03	68.7E-03	69.1E-03
19	70.8E-03	70.6E-03	70.3E-03	70.0E-03	69.8E-03	69.5E-03	69.5E-03	69.6E-03	69.9E-03
20	69.8E-03	69.4E-03	69.2E-03	68.7E-03	68.7E-03	68.3E-03	68.3E-03	68.4E-03	68.8E-03
Statistics									
Min	69.8E-03	69.4E-03	69.2E-03	68.7E-03	68.7E-03	68.3E-03	68.3E-03	68.4E-03	68.8E-03
Max	70.8E-03	71.1E-03	71.0E-03	70.9E-03	71.0E-03	70.7E-03	70.6E-03	70.7E-03	70.9E-03
Average	70.2E-03	70.1E-03	70.1E-03	69.8E-03	69.7E-03	69.5E-03	69.5E-03	69.6E-03	69.9E-03
Sigma	426.0E-06	671.7E-06	662.1E-06	825.1E-06	855.0E-06	977.9E-06	916.1E-06	937.3E-06	823.2E-06

Drift Calculation

Aicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	90.0E-06	340.0E-06	330.0E-06	90.0E-06	270.0E-06	270.0E-06	500.0E-06	560.0E-06
17	-	500.0E-06	330.0E-06	270.0E-06	330.0E-06	100.0E-06	-50.0E-06	100.0E-06	250.0E-06
18	-	-350.0E-06	-410.0E-06	-800.0E-06	-1.0E-03	-1.4E-03	-1.2E-03	-1.1E-03	-700.0E-06
19	-	-170.0E-06	-480.0E-06	-850.0E-06	-1.0E-03	-1.3E-03	-1.3E-03	-1.2E-03	-890.0E-06
20	-	-380.0E-06	-570.0E-06	-1.1E-03	-1.1E-03	-1.5E-03	-1.5E-03	-1.3E-03	-990.0E-06
Average	-	-62.0E-06	-158.0E-06	-420.0E-06	-534.0E-06	-748.0E-06	-752.0E-06	-606.0E-06	-354.0E-06
Sigma	-	327.0E-06	405.7E-06	594.1E-06	613.1E-06	766.4E-06	715.4E-06	753.2E-06	634.3E-06

Parameter : Digital supply current : Dicc
Test conditions : Fs = 20Msps. Fin = 10MHz
Unit : A
No spec limit specified.



Measurements

Dicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03	1.0E-03
ON samples									
1	1.0E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03	1.1E-03	990.0E-06	1.0E-03	1.1E-03
12	1.1E-03	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
13	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
14	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
15	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Statistics									
Min	1.0E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03	1.1E-03	990.0E-06	1.0E-03	1.1E-03
Max	1.1E-03	1.1E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Average	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Sigma	22.4E-06	24.2E-06	38.8E-06	49.6E-06	36.6E-06	22.4E-06	39.7E-06	30.3E-06	10.2E-06

Drift Calculation

Dicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	70.0E-06	10.0E-06	-40.0E-06	20.0E-06	10.0E-06	-50.0E-06	-30.0E-06	30.0E-06
12	-	10.0E-06	-20.0E-06	80.0E-06	20.0E-06	20.0E-06	40.0E-06	20.0E-06	30.0E-06
13	-	-20.0E-06	0.0E+00	0.0E+00	70.0E-06	40.0E-06	0.0E+00	10.0E-06	0.0E+00
14	-	-20.0E-06	-60.0E-06	-10.0E-06	40.0E-06	-30.0E-06	-50.0E-06	-30.0E-06	-20.0E-06
15	-	50.0E-06	70.0E-06	30.0E-06	60.0E-06	10.0E-06	-10.0E-06	0.0E+00	10.0E-06
Average	-	18.0E-06	-43.4E-21	12.0E-06	42.0E-06	10.0E-06	-14.0E-06	-6.0E-06	10.0E-06
Sigma	-	36.6E-06	42.4E-06	40.7E-06	20.4E-06	22.8E-06	33.8E-06	20.6E-06	19.0E-06

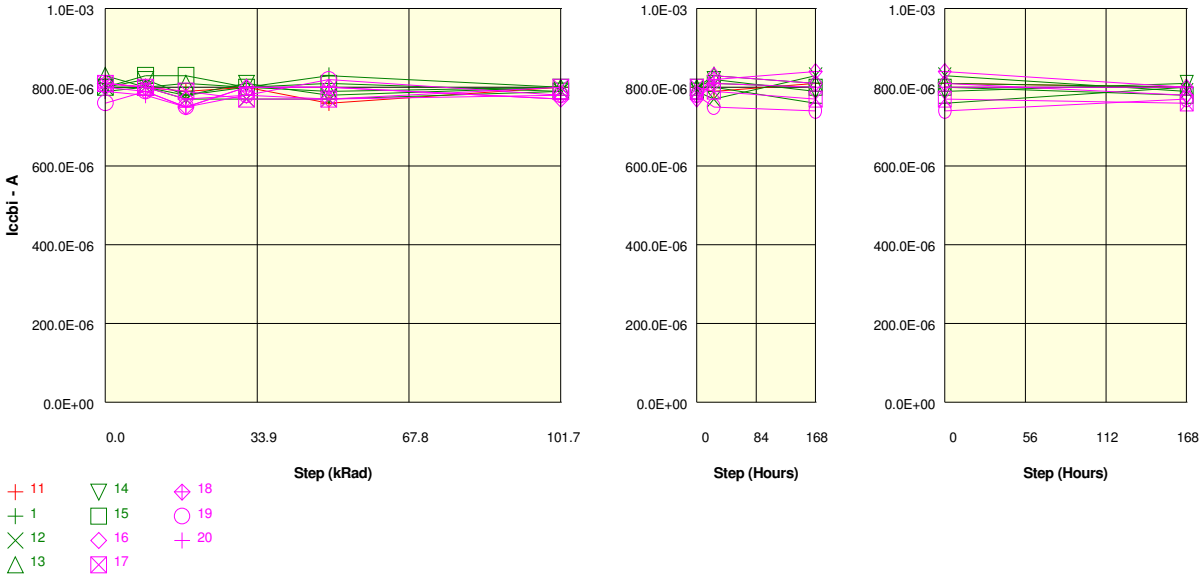
Measurements

Dicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03	1.0E-03
OFF samples									
16	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.0E-03	1.0E-03
17	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
18	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03
19	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03
20	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Statistics									
Min	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.0E-03	1.0E-03
Max	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Average	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.0E-03	1.1E-03
Sigma	25.8E-06	26.4E-06	28.7E-06	24.5E-06	25.8E-06	10.2E-06	27.1E-06	30.1E-06	36.1E-06

Drift Calculation

Dicc	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	2.0E-06	-20.0E-06	-40.0E-06	10.0E-06	-30.0E-06	-80.0E-06	-100.0E-06	-100.0E-06
17	-	-40.0E-06	30.0E-06	40.0E-06	-30.0E-06	-40.0E-06	-30.0E-06	-20.0E-06	0.0E+00
18	-	20.0E-06	30.0E-06	50.0E-06	0.0E+00	40.0E-06	60.0E-06	-30.0E-06	0.0E+00
19	-	-30.0E-06	-30.0E-06	-30.0E-06	-30.0E-06	-40.0E-06	-50.0E-06	-80.0E-06	-50.0E-06
20	-	70.0E-06	90.0E-06	50.0E-06	50.0E-06	10.0E-06	30.0E-06	20.0E-06	50.0E-06
Average	-	4.4E-06	20.0E-06	14.0E-06	-43.4E-21	-12.0E-06	-14.0E-06	-42.0E-06	-20.0E-06
Sigma	-	39.3E-06	42.9E-06	40.3E-06	29.7E-06	31.9E-06	51.6E-06	43.1E-06	51.0E-06

Parameter : Digital buffer supply current : Iccbi
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil
Unit : A
No spec limit specified.



Measurements

Iccbi	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	810.0E-06	800.0E-06	790.0E-06	800.0E-06	760.0E-06	800.0E-06	790.0E-06	810.0E-06	800.0E-06
ON samples									
1	790.0E-06	800.0E-06	780.0E-06	800.0E-06	830.0E-06	800.0E-06	800.0E-06	760.0E-06	800.0E-06
12	800.0E-06	800.0E-06	770.0E-06	770.0E-06	770.0E-06	790.0E-06	770.0E-06	830.0E-06	790.0E-06
13	830.0E-06	800.0E-06	810.0E-06	800.0E-06	790.0E-06	800.0E-06	830.0E-06	810.0E-06	800.0E-06
14	800.0E-06	820.0E-06	780.0E-06	810.0E-06	780.0E-06	800.0E-06	820.0E-06	790.0E-06	810.0E-06
15	800.0E-06	830.0E-06	830.0E-06	800.0E-06	810.0E-06	790.0E-06	810.0E-06	800.0E-06	780.0E-06
Statistics									
Min	790.0E-06	800.0E-06	770.0E-06	770.0E-06	770.0E-06	790.0E-06	770.0E-06	760.0E-06	780.0E-06
Max	830.0E-06	830.0E-06	830.0E-06	810.0E-06	830.0E-06	800.0E-06	830.0E-06	830.0E-06	810.0E-06
Average	804.0E-06	810.0E-06	794.0E-06	796.0E-06	796.0E-06	796.0E-06	806.0E-06	798.0E-06	796.0E-06
Sigma	13.6E-06	12.6E-06	22.4E-06	13.6E-06	21.5E-06	4.9E-06	20.6E-06	23.2E-06	10.2E-06

Drift Calculation

Iccbi	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	10.0E-06	-10.0E-06	10.0E-06	40.0E-06	10.0E-06	10.0E-06	-30.0E-06	10.0E-06
12	-	0.0E+00	-30.0E-06	-30.0E-06	-30.0E-06	-10.0E-06	-30.0E-06	30.0E-06	-10.0E-06
13	-	-30.0E-06	-20.0E-06	-30.0E-06	-40.0E-06	-30.0E-06	0.0E+00	-20.0E-06	-30.0E-06
14	-	20.0E-06	-20.0E-06	10.0E-06	-20.0E-06	0.0E+00	20.0E-06	-10.0E-06	10.0E-06
15	-	30.0E-06	30.0E-06	0.0E+00	10.0E-06	-10.0E-06	10.0E-06	0.0E+00	-20.0E-06
Average	-	6.0E-06	-10.0E-06	-8.0E-06	-8.0E-06	-8.0E-06	2.0E-06	-6.0E-06	-8.0E-06
Sigma	-	20.6E-06	21.0E-06	18.3E-06	29.3E-06	13.3E-06	17.2E-06	20.6E-06	16.0E-06

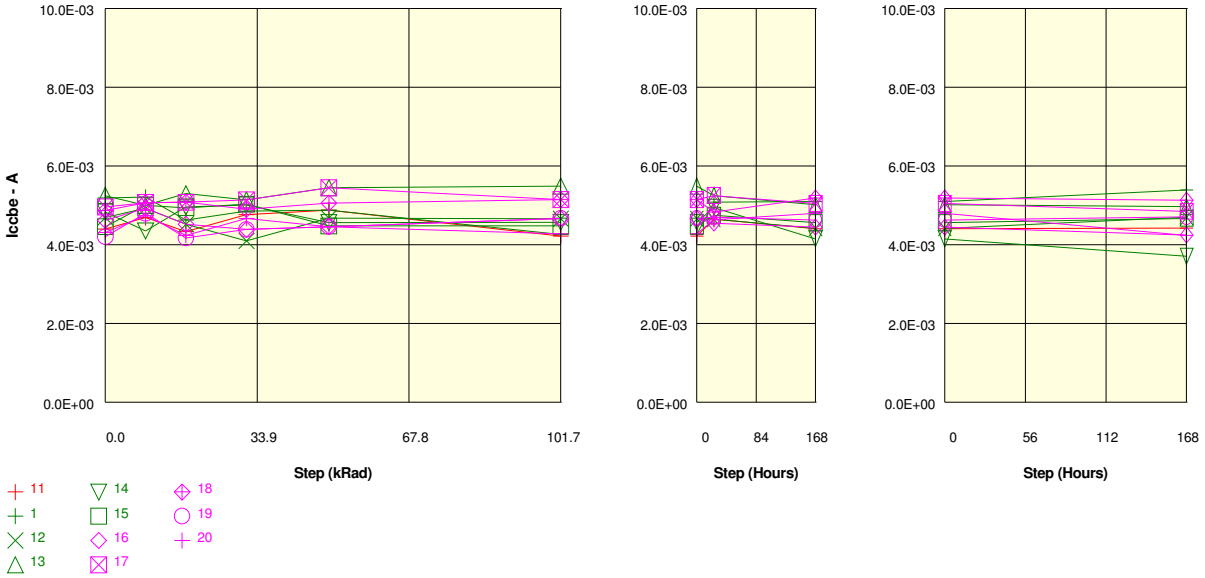
Measurements

Iccbi	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	810.0E-06	800.0E-06	790.0E-06	800.0E-06	760.0E-06	800.0E-06	790.0E-06	810.0E-06	800.0E-06
OFF samples									
16	810.0E-06	800.0E-06	770.0E-06	780.0E-06	770.0E-06	780.0E-06	830.0E-06	810.0E-06	780.0E-06
17	810.0E-06	800.0E-06	790.0E-06	770.0E-06	770.0E-06	800.0E-06	790.0E-06	770.0E-06	760.0E-06
18	800.0E-06	790.0E-06	750.0E-06	800.0E-06	800.0E-06	770.0E-06	820.0E-06	840.0E-06	800.0E-06
19	760.0E-06	790.0E-06	750.0E-06	780.0E-06	820.0E-06	780.0E-06	750.0E-06	740.0E-06	770.0E-06
20	790.0E-06	780.0E-06	750.0E-06	800.0E-06	800.0E-06	770.0E-06	810.0E-06	800.0E-06	800.0E-06
Statistics									
Min	760.0E-06	780.0E-06	750.0E-06	770.0E-06	770.0E-06	770.0E-06	750.0E-06	740.0E-06	760.0E-06
Max	810.0E-06	800.0E-06	790.0E-06	800.0E-06	820.0E-06	800.0E-06	830.0E-06	840.0E-06	800.0E-06
Average	794.0E-06	792.0E-06	762.0E-06	786.0E-06	792.0E-06	780.0E-06	800.0E-06	792.0E-06	782.0E-06
Sigma	18.5E-06	7.5E-06	16.0E-06	12.0E-06	19.4E-06	11.0E-06	28.3E-06	34.3E-06	16.0E-06

Drift Calculation

Iccbi	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-10.0E-06	-40.0E-06	-30.0E-06	-40.0E-06	-30.0E-06	20.0E-06	0.0E+00	-30.0E-06
17	-	-10.0E-06	-20.0E-06	-40.0E-06	-40.0E-06	-10.0E-06	-20.0E-06	-40.0E-06	-50.0E-06
18	-	-10.0E-06	-50.0E-06	0.0E+00	0.0E+00	-30.0E-06	20.0E-06	40.0E-06	0.0E+00
19	-	30.0E-06	-10.0E-06	20.0E-06	60.0E-06	20.0E-06	-10.0E-06	-20.0E-06	10.0E-06
20	-	-10.0E-06	-40.0E-06	10.0E-06	10.0E-06	-20.0E-06	20.0E-06	10.0E-06	10.0E-06
Average	-	-2.0E-06	-32.0E-06	-8.0E-06	-2.0E-06	-14.0E-06	6.0E-06	-2.0E-06	-12.0E-06
Sigma	-	16.0E-06	14.7E-06	23.2E-06	37.1E-06	18.5E-06	17.4E-06	27.1E-06	24.0E-06

Parameter : Digital buffer supply current : Iccbe
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil
Unit : A
No spec limit specified.



Measurements

Iccbe	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	4.4E-03	4.7E-03	4.3E-03	4.8E-03	4.9E-03	4.2E-03	4.7E-03	4.4E-03	4.4E-03
ON samples									
1	5.2E-03	5.2E-03	4.6E-03	4.9E-03	4.9E-03	4.3E-03	5.1E-03	5.1E-03	5.4E-03
12	4.7E-03	4.9E-03	4.5E-03	4.1E-03	4.7E-03	4.7E-03	4.7E-03	4.4E-03	4.7E-03
13	5.3E-03	5.0E-03	5.3E-03	5.1E-03	5.5E-03	5.5E-03	5.3E-03	5.0E-03	5.0E-03
14	4.8E-03	4.4E-03	5.0E-03	5.0E-03	4.6E-03	4.6E-03	5.0E-03	4.2E-03	3.7E-03
15	4.5E-03	5.0E-03	4.9E-03	5.0E-03	4.5E-03	4.5E-03	4.8E-03	4.6E-03	4.7E-03
Statistics									
Min	4.5E-03	4.4E-03	4.5E-03	4.1E-03	4.5E-03	4.3E-03	4.7E-03	4.2E-03	3.7E-03
Max	5.3E-03	5.2E-03	5.3E-03	5.1E-03	5.5E-03	5.5E-03	5.3E-03	5.1E-03	5.4E-03
Average	4.9E-03	4.9E-03	4.9E-03	4.8E-03	4.8E-03	4.7E-03	4.9E-03	4.7E-03	4.7E-03
Sigma	299.3E-06	289.6E-06	275.0E-06	374.8E-06	347.2E-06	420.5E-06	217.2E-06	360.7E-06	553.0E-06

Drift Calculation

Iccbe	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	20.0E-06	-560.0E-06	-330.0E-06	-310.0E-06	-930.0E-06	-110.0E-06	-90.0E-06	200.0E-06
12	-	240.0E-06	-170.0E-06	-590.0E-06	-10.0E-06	-30.0E-06	-40.0E-06	-270.0E-06	10.0E-06
13	-	-250.0E-06	50.0E-06	-110.0E-06	200.0E-06	240.0E-06	0.0E+00	-230.0E-06	-280.0E-06
14	-	-480.0E-06	130.0E-06	180.0E-06	-270.0E-06	-260.0E-06	120.0E-06	-680.0E-06	-1.1E-03
15	-	540.0E-06	480.0E-06	570.0E-06	20.0E-06	20.0E-06	290.0E-06	100.0E-06	210.0E-06
Average	-	14.0E-06	-14.0E-06	-56.0E-06	-74.0E-06	-192.0E-06	52.0E-06	-234.0E-06	-196.0E-06
Sigma	-	358.2E-06	343.9E-06	402.7E-06	190.9E-06	401.8E-06	140.5E-06	257.9E-06	495.0E-06

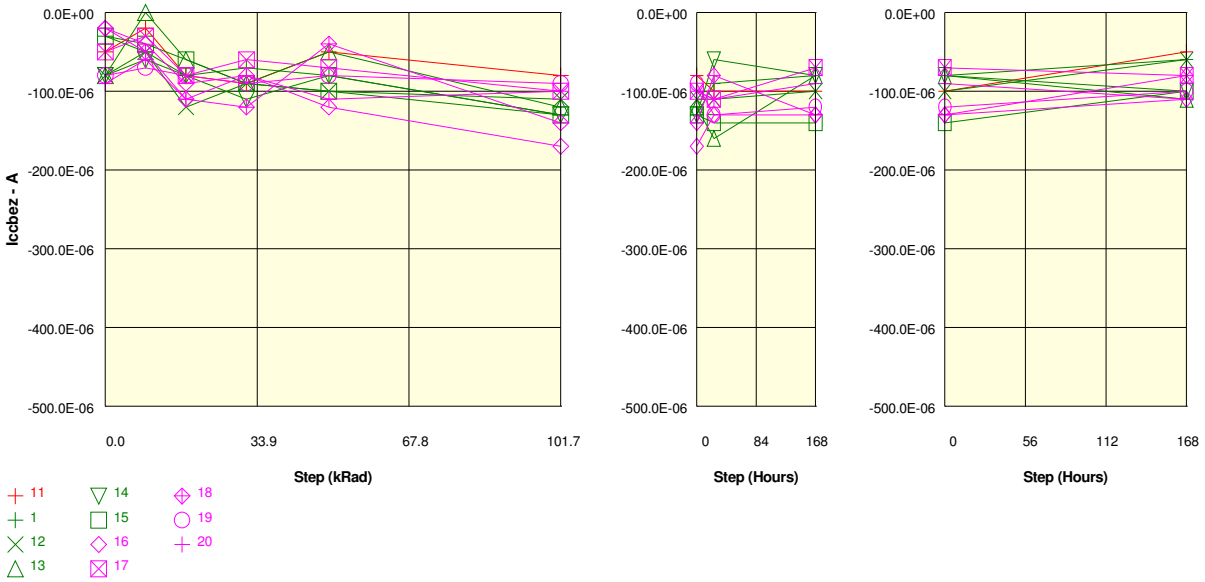
Measurements

Iccbe	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	4.4E-03	4.7E-03	4.3E-03	4.8E-03	4.9E-03	4.2E-03	4.7E-03	4.4E-03	4.4E-03
OFF samples									
16	4.6E-03	4.9E-03	4.5E-03	4.4E-03	4.5E-03	4.7E-03	4.6E-03	4.5E-03	4.3E-03
17	5.0E-03	5.1E-03	5.1E-03	5.1E-03	5.5E-03	5.2E-03	5.3E-03	5.1E-03	4.9E-03
18	4.9E-03	5.1E-03	5.1E-03	4.9E-03	5.1E-03	5.2E-03	4.8E-03	5.2E-03	5.1E-03
19	4.2E-03	4.8E-03	4.2E-03	4.4E-03	4.5E-03	4.7E-03	4.7E-03	4.6E-03	4.7E-03
20	4.3E-03	4.7E-03	4.2E-03	4.7E-03	4.5E-03	4.3E-03	4.6E-03	4.8E-03	4.2E-03
Statistics									
Min	4.2E-03	4.7E-03	4.2E-03	4.4E-03	4.5E-03	4.3E-03	4.6E-03	4.5E-03	4.2E-03
Max	5.0E-03	5.1E-03	5.1E-03	5.1E-03	5.5E-03	5.2E-03	5.3E-03	5.2E-03	5.1E-03
Average	4.6E-03	4.9E-03	4.6E-03	4.7E-03	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.6E-03
Sigma	298.9E-06	135.6E-06	395.0E-06	292.1E-06	408.5E-06	331.0E-06	245.5E-06	269.5E-06	346.7E-06

Drift Calculation

Iccbe	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	310.0E-06	-100.0E-06	-230.0E-06	-160.0E-06	50.0E-06	-70.0E-06	-170.0E-06	-370.0E-06
17	-	110.0E-06	120.0E-06	180.0E-06	490.0E-06	190.0E-06	290.0E-06	90.0E-06	-110.0E-06
18	-	200.0E-06	210.0E-06	30.0E-06	190.0E-06	280.0E-06	-40.0E-06	320.0E-06	260.0E-06
19	-	600.0E-06	-30.0E-06	190.0E-06	260.0E-06	470.0E-06	500.0E-06	430.0E-06	510.0E-06
20	-	430.0E-06	-70.0E-06	360.0E-06	150.0E-06	-30.0E-06	330.0E-06	490.0E-06	-70.0E-06
Average	-	330.0E-06	26.0E-06	106.0E-06	186.0E-06	192.0E-06	202.0E-06	232.0E-06	44.0E-06
Sigma	-	172.4E-06	119.1E-06	197.8E-06	209.2E-06	175.8E-06	221.6E-06	243.0E-06	307.2E-06

Parameter : Digital buffer supply current : Iccbez
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vih
Unit : A
No spec limit specified.



Measurements

Iccbez	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-50.0E-06	-20.0E-06	-80.0E-06	-90.0E-06	-50.0E-06	-80.0E-06	-100.0E-06	-100.0E-06	-50.0E-06
ON samples									
1	-30.0E-06	-50.0E-06	-80.0E-06	-70.0E-06	-80.0E-06	-130.0E-06	-90.0E-06	-80.0E-06	-60.0E-06
12	-80.0E-06	-50.0E-06	-120.0E-06	-90.0E-06	-100.0E-06	-110.0E-06	-110.0E-06	-100.0E-06	-60.0E-06
13	-80.0E-06	0.0E+00	-60.0E-06	-90.0E-06	-50.0E-06	-120.0E-06	-160.0E-06	-80.0E-06	-110.0E-06
14	-80.0E-06	-60.0E-06	-80.0E-06	-110.0E-06	-80.0E-06	-130.0E-06	-60.0E-06	-80.0E-06	-100.0E-06
15	-30.0E-06	-40.0E-06	-60.0E-06	-90.0E-06	-100.0E-06	-130.0E-06	-140.0E-06	-140.0E-06	-100.0E-06
Statistics									
Min	-80.0E-06	-60.0E-06	-120.0E-06	-110.0E-06	-100.0E-06	-130.0E-06	-160.0E-06	-140.0E-06	-110.0E-06
Max	-30.0E-06	0.0E+00	-60.0E-06	-70.0E-06	-50.0E-06	-110.0E-06	-60.0E-06	-80.0E-06	-60.0E-06
Average	-60.0E-06	-40.0E-06	-80.0E-06	-90.0E-06	-82.0E-06	-124.0E-06	-112.0E-06	-96.0E-06	-86.0E-06
Sigma	24.5E-06	21.0E-06	21.9E-06	12.6E-06	18.3E-06	8.0E-06	35.4E-06	23.3E-06	21.5E-06

Drift Calculation

Iccbez	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-20.0E-06	-50.0E-06	-40.0E-06	-50.0E-06	-100.0E-06	-60.0E-06	-50.0E-06	-30.0E-06
12	-	30.0E-06	-40.0E-06	-10.0E-06	-20.0E-06	-30.0E-06	-30.0E-06	-20.0E-06	20.0E-06
13	-	80.0E-06	20.0E-06	-10.0E-06	30.0E-06	-40.0E-06	-80.0E-06	0.0E+00	-30.0E-06
14	-	20.0E-06	0.0E+00	-30.0E-06	0.0E+00	-50.0E-06	20.0E-06	0.0E+00	-20.0E-06
15	-	-10.0E-06	-30.0E-06	-60.0E-06	-70.0E-06	-100.0E-06	-110.0E-06	-110.0E-06	-70.0E-06
Average	-	20.0E-06	-20.0E-06	-30.0E-06	-22.0E-06	-64.0E-06	-52.0E-06	-36.0E-06	-26.0E-06
Sigma	-	35.2E-06	26.1E-06	19.0E-06	35.4E-06	30.1E-06	44.5E-06	41.3E-06	28.7E-06

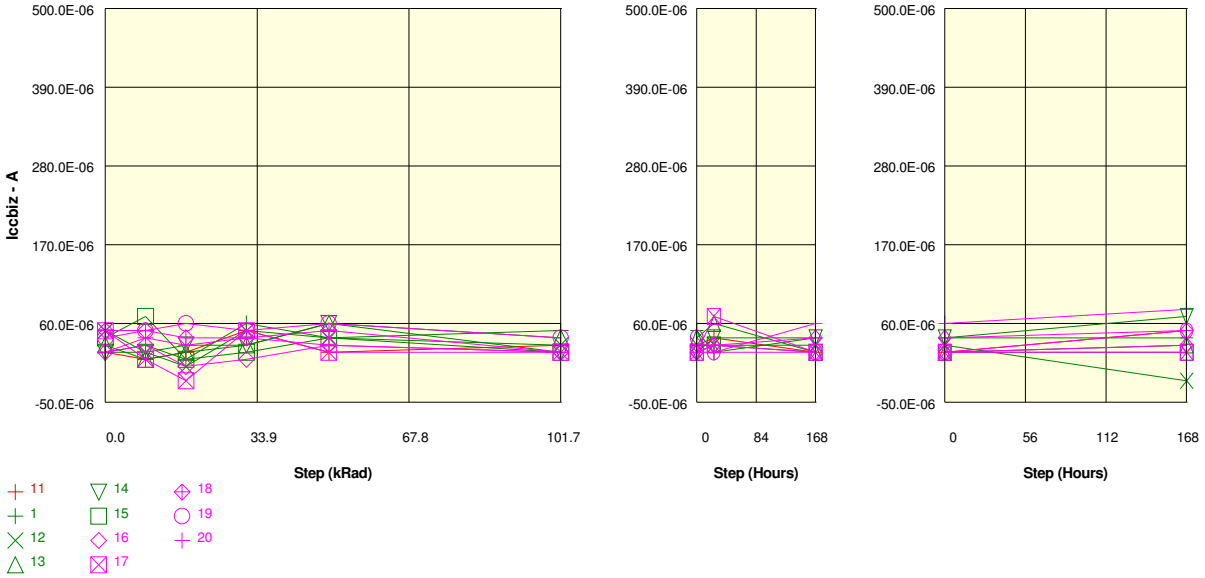
Measurements

Iccbez	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-50.0E-06	-20.0E-06	-80.0E-06	-90.0E-06	-50.0E-06	-80.0E-06	-100.0E-06	-100.0E-06	-50.0E-06
OFF samples									
16	-20.0E-06	-40.0E-06	-90.0E-06	-80.0E-06	-120.0E-06	-170.0E-06	-130.0E-06	-130.0E-06	-110.0E-06
17	-50.0E-06	-30.0E-06	-80.0E-06	-60.0E-06	-70.0E-06	-100.0E-06	-110.0E-06	-70.0E-06	-80.0E-06
18	-20.0E-06	-50.0E-06	-110.0E-06	-120.0E-06	-40.0E-06	-140.0E-06	-80.0E-06	-130.0E-06	-80.0E-06
19	-80.0E-06	-70.0E-06	-80.0E-06	-90.0E-06	-80.0E-06	-90.0E-06	-130.0E-06	-120.0E-06	-100.0E-06
20	-90.0E-06	-60.0E-06	-110.0E-06	-80.0E-06	-110.0E-06	-100.0E-06	-110.0E-06	-90.0E-06	-110.0E-06
Statistics									
Min	-90.0E-06	-70.0E-06	-110.0E-06	-120.0E-06	-120.0E-06	-170.0E-06	-130.0E-06	-130.0E-06	-110.0E-06
Max	-20.0E-06	-30.0E-06	-80.0E-06	-60.0E-06	-40.0E-06	-90.0E-06	-80.0E-06	-70.0E-06	-80.0E-06
Average	-52.0E-06	-50.0E-06	-94.0E-06	-86.0E-06	-84.0E-06	-120.0E-06	-112.0E-06	-108.0E-06	-96.0E-06
Sigma	29.3E-06	14.1E-06	13.6E-06	19.6E-06	28.7E-06	30.3E-06	18.3E-06	24.0E-06	13.6E-06

Drift Calculation

Iccbez	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-20.0E-06	-70.0E-06	-60.0E-06	-100.0E-06	-150.0E-06	-110.0E-06	-110.0E-06	-90.0E-06
17	-	20.0E-06	-30.0E-06	-10.0E-06	-20.0E-06	-50.0E-06	-60.0E-06	-20.0E-06	-30.0E-06
18	-	-30.0E-06	-90.0E-06	-100.0E-06	-20.0E-06	-120.0E-06	-60.0E-06	-110.0E-06	-60.0E-06
19	-	10.0E-06	0.0E+00	-10.0E-06	0.0E+00	-10.0E-06	-50.0E-06	-40.0E-06	-20.0E-06
20	-	30.0E-06	-20.0E-06	10.0E-06	-20.0E-06	-10.0E-06	-20.0E-06	0.0E+00	-20.0E-06
Average	-	2.0E-06	-42.0E-06	-34.0E-06	-32.0E-06	-68.0E-06	-60.0E-06	-56.0E-06	-44.0E-06
Sigma	-	23.2E-06	33.1E-06	40.3E-06	34.9E-06	57.4E-06	29.0E-06	45.9E-06	27.3E-06

Parameter : Digital buffer supply current : Iccbiz
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vih
Unit : A
No spec limit specified.



Measurements

Iccbiz	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	20.0E-06	10.0E-06	20.0E-06	50.0E-06	20.0E-06	30.0E-06	40.0E-06	20.0E-06	50.0E-06
ON samples									
1	20.0E-06	30.0E-06	10.0E-06	60.0E-06	40.0E-06	50.0E-06	20.0E-06	40.0E-06	40.0E-06
12	50.0E-06	20.0E-06	0.0E+00	50.0E-06	40.0E-06	30.0E-06	30.0E-06	30.0E-06	-20.0E-06
13	30.0E-06	10.0E-06	20.0E-06	30.0E-06	60.0E-06	40.0E-06	60.0E-06	20.0E-06	30.0E-06
14	20.0E-06	20.0E-06	30.0E-06	30.0E-06	60.0E-06	20.0E-06	40.0E-06	40.0E-06	70.0E-06
15	40.0E-06	70.0E-06	10.0E-06	20.0E-06	40.0E-06	20.0E-06	30.0E-06	20.0E-06	20.0E-06
Statistics									
Min	20.0E-06	10.0E-06	0.0E+00	20.0E-06	40.0E-06	20.0E-06	20.0E-06	20.0E-06	-20.0E-06
Max	50.0E-06	70.0E-06	30.0E-06	60.0E-06	60.0E-06	50.0E-06	60.0E-06	40.0E-06	70.0E-06
Average	32.0E-06	30.0E-06	14.0E-06	38.0E-06	48.0E-06	32.0E-06	36.0E-06	30.0E-06	28.0E-06
Sigma	11.7E-06	21.0E-06	10.2E-06	14.7E-06	9.8E-06	11.7E-06	13.6E-06	8.9E-06	29.3E-06

Drift Calculation

Iccbiz	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	10.0E-06	-10.0E-06	40.0E-06	20.0E-06	30.0E-06	0.0E+00	20.0E-06	20.0E-06
12	-	-30.0E-06	-50.0E-06	0.0E+00	-10.0E-06	-20.0E-06	-20.0E-06	-20.0E-06	-70.0E-06
13	-	-20.0E-06	-10.0E-06	0.0E+00	30.0E-06	10.0E-06	30.0E-06	-10.0E-06	0.0E+00
14	-	0.0E+00	10.0E-06	10.0E-06	40.0E-06	0.0E+00	20.0E-06	20.0E-06	50.0E-06
15	-	30.0E-06	-30.0E-06	-20.0E-06	0.0E+00	-20.0E-06	-10.0E-06	-20.0E-06	-20.0E-06
Average	-	-2.0E-06	-18.0E-06	6.0E-06	16.0E-06	0.0E+00	4.0E-06	-2.0E-06	-4.0E-06
Sigma	-	21.4E-06	20.4E-06	19.6E-06	18.5E-06	19.0E-06	18.5E-06	18.3E-06	40.3E-06

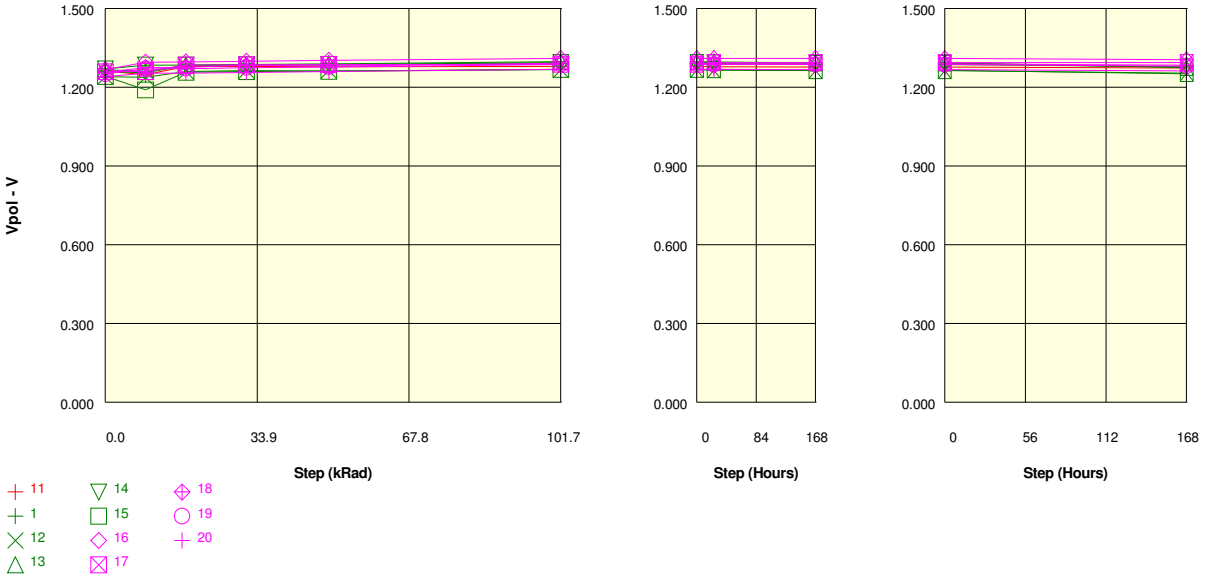
Measurements

Iccbiz	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	20.0E-06	10.0E-06	20.0E-06	50.0E-06	20.0E-06	30.0E-06	40.0E-06	20.0E-06	50.0E-06
OFF samples									
16	20.0E-06	30.0E-06	0.0E+00	10.0E-06	30.0E-06	20.0E-06	30.0E-06	20.0E-06	30.0E-06
17	50.0E-06	10.0E-06	-20.0E-06	50.0E-06	20.0E-06	20.0E-06	70.0E-06	20.0E-06	20.0E-06
18	50.0E-06	50.0E-06	40.0E-06	40.0E-06	50.0E-06	20.0E-06	30.0E-06	40.0E-06	50.0E-06
19	40.0E-06	50.0E-06	60.0E-06	50.0E-06	60.0E-06	40.0E-06	20.0E-06	20.0E-06	50.0E-06
20	20.0E-06	40.0E-06	30.0E-06	40.0E-06	30.0E-06	20.0E-06	20.0E-06	60.0E-06	80.0E-06
Statistics									
Min	20.0E-06	10.0E-06	-20.0E-06	10.0E-06	20.0E-06	20.0E-06	20.0E-06	20.0E-06	20.0E-06
Max	50.0E-06	50.0E-06	60.0E-06	50.0E-06	60.0E-06	40.0E-06	70.0E-06	60.0E-06	80.0E-06
Average	36.0E-06	36.0E-06	22.0E-06	38.0E-06	38.0E-06	24.0E-06	34.0E-06	32.0E-06	46.0E-06
Sigma	13.6E-06	15.0E-06	28.6E-06	14.7E-06	14.7E-06	8.0E-06	18.5E-06	16.0E-06	20.6E-06

Drift Calculation

Iccbiz	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	10.0E-06	-20.0E-06	-10.0E-06	10.0E-06	0.0E+00	10.0E-06	0.0E+00	10.0E-06
17	-	-40.0E-06	-70.0E-06	0.0E+00	-30.0E-06	-30.0E-06	20.0E-06	-30.0E-06	-30.0E-06
18	-	0.0E+00	-10.0E-06	-10.0E-06	0.0E+00	-30.0E-06	-20.0E-06	-10.0E-06	0.0E+00
19	-	10.0E-06	20.0E-06	10.0E-06	20.0E-06	0.0E+00	-20.0E-06	-20.0E-06	10.0E-06
20	-	20.0E-06	10.0E-06	20.0E-06	10.0E-06	0.0E+00	0.0E+00	40.0E-06	60.0E-06
Average	-	-677.6E-24	-14.0E-06	2.0E-06	2.0E-06	-12.0E-06	-2.0E-06	-4.0E-06	10.0E-06
Sigma	-	21.0E-06	31.4E-06	11.7E-06	17.2E-06	14.7E-06	16.0E-06	24.2E-06	29.0E-06

Parameter : Polarization Voltage : Vpol
Test conditions : Fs = 20Msps. Fin = 10MHz
Unit : V
No spec limit specified.



Measurements

Vpol	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	1.263	1.248	1.279	1.279	1.279	1.279	1.279	1.277	1.273
ON samples									
1	1.260	1.255	1.282	1.284	1.285	1.291	1.290	1.286	1.278
12	1.240	1.238	1.260	1.263	1.263	1.267	1.265	1.263	1.254
13	1.268	1.260	1.284	1.287	1.290	1.298	1.296	1.293	1.276
14	1.270	1.284	1.284	1.285	1.287	1.294	1.293	1.291	1.276
15	1.242	1.190	1.258	1.260	1.262	1.268	1.267	1.264	1.252
Statistics									
Min	1.240	1.190	1.258	1.260	1.262	1.267	1.265	1.263	1.252
Max	1.270	1.284	1.284	1.287	1.290	1.298	1.296	1.293	1.278
Average	1.256	1.245	1.274	1.276	1.277	1.284	1.282	1.280	1.267
Sigma	0.013	0.031	0.012	0.012	0.012	0.013	0.013	0.013	0.012

Drift Calculation

Vpol	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-5.1E-03	22.0E-03	23.5E-03	24.2E-03	31.1E-03	29.9E-03	25.8E-03	17.2E-03
12	-	-2.2E-03	19.9E-03	23.1E-03	22.9E-03	26.5E-03	24.9E-03	23.2E-03	14.3E-03
13	-	-7.9E-03	16.4E-03	18.7E-03	21.9E-03	30.1E-03	28.2E-03	25.1E-03	8.2E-03
14	-	14.6E-03	14.6E-03	15.8E-03	17.4E-03	24.8E-03	23.5E-03	21.6E-03	6.7E-03
15	-	-51.4E-03	16.3E-03	18.0E-03	20.0E-03	26.7E-03	25.5E-03	22.6E-03	10.3E-03
Average	-	-10.4E-03	17.8E-03	19.8E-03	21.3E-03	27.8E-03	26.4E-03	23.7E-03	11.3E-03
Sigma	-	21.9E-03	2.7E-03	3.0E-03	2.4E-03	2.4E-03	2.3E-03	1.6E-03	3.9E-03

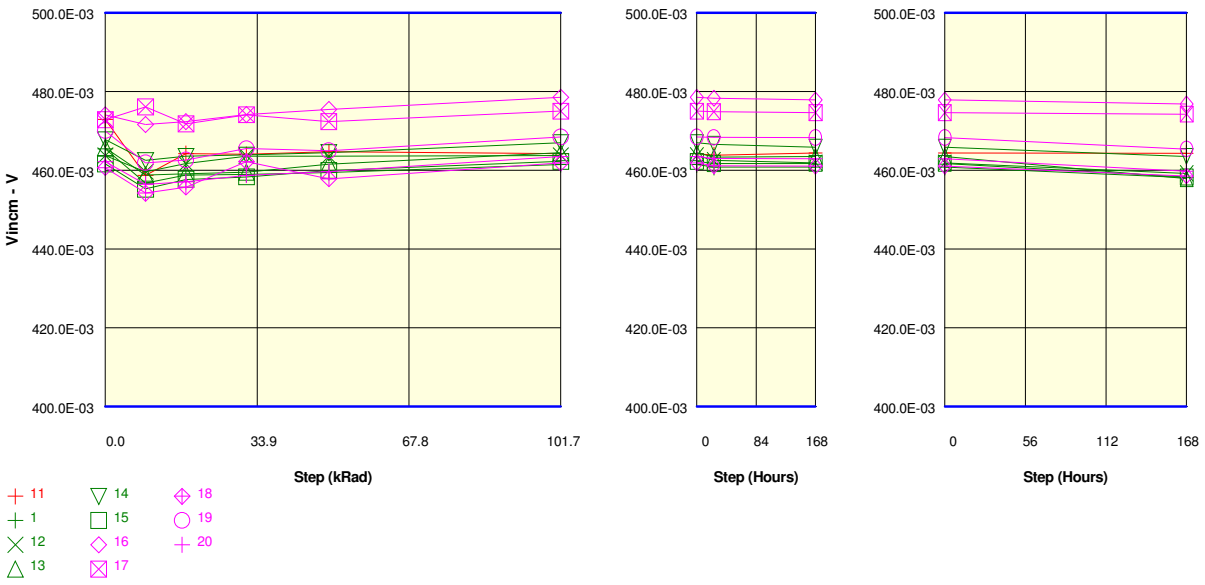
Measurements

Vpol	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	1.263	1.248	1.279	1.279	1.279	1.279	1.279	1.277	1.273
OFF samples									
16	1.267	1.295	1.297	1.299	1.302	1.310	1.310	1.310	1.305
17	1.259	1.260	1.284	1.285	1.287	1.287	1.294	1.294	1.294
18	1.258	1.275	1.276	1.284	1.281	1.291	1.290	1.290	1.284
19	1.251	1.270	1.271	1.275	1.277	1.287	1.287	1.287	1.280
20	1.240	1.254	1.254	1.257	1.259	1.268	1.268	1.268	1.263
Statistics									
Min	1.240	1.254	1.254	1.257	1.259	1.268	1.268	1.268	1.263
Max	1.267	1.295	1.297	1.299	1.302	1.310	1.310	1.310	1.305
Average	1.255	1.271	1.276	1.280	1.281	1.289	1.290	1.290	1.285
Sigma	0.009	0.014	0.014	0.014	0.014	0.013	0.013	0.013	0.014

Drift Calculation

Vpol	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	28.2E-03	29.4E-03	32.2E-03	35.3E-03	43.0E-03	42.8E-03	42.6E-03	37.8E-03
17	-	500.0E-06	24.8E-03	26.0E-03	27.6E-03	28.0E-03	35.0E-03	35.0E-03	35.0E-03
18	-	16.6E-03	18.2E-03	25.9E-03	22.8E-03	33.0E-03	32.0E-03	31.5E-03	26.4E-03
19	-	18.3E-03	19.5E-03	23.7E-03	25.7E-03	36.1E-03	35.6E-03	35.2E-03	28.7E-03
20	-	13.3E-03	13.7E-03	16.2E-03	19.0E-03	28.1E-03	27.8E-03	27.6E-03	22.3E-03
Average	-	15.4E-03	21.1E-03	24.8E-03	26.1E-03	33.6E-03	34.6E-03	34.4E-03	30.0E-03
Sigma	-	8.9E-03	5.4E-03	5.1E-03	5.4E-03	5.6E-03	4.9E-03	5.0E-03	5.7E-03

Parameter : Input Common Mode Voltage : Vincm
Test conditions : Fs = 20Msps. Fin = 10MHz
Unit : V
Spec Limit Min : 400.0E-03
Spec Limit Max : 500.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

Vincm	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	472.9E-03	458.7E-03	464.2E-03	464.0E-03	464.7E-03	464.2E-03	463.8E-03	464.4E-03	464.4E-03
ON samples									
1	465.5E-03	456.7E-03	458.8E-03	458.9E-03	459.5E-03	461.5E-03	460.8E-03	460.8E-03	458.1E-03
12	463.8E-03	459.6E-03	461.7E-03	463.6E-03	463.6E-03	463.8E-03	462.5E-03	461.9E-03	459.2E-03
13	465.7E-03	458.8E-03	459.2E-03	459.5E-03	461.5E-03	464.5E-03	463.3E-03	463.5E-03	457.9E-03
14	467.8E-03	462.5E-03	463.6E-03	463.9E-03	464.5E-03	467.0E-03	466.6E-03	465.9E-03	463.5E-03
15	461.6E-03	455.2E-03	457.7E-03	458.3E-03	460.0E-03	462.3E-03	461.7E-03	461.7E-03	458.3E-03
Statistics									
Min	461.6E-03	455.2E-03	457.7E-03	458.3E-03	459.5E-03	461.5E-03	460.8E-03	460.8E-03	457.9E-03
Max	467.8E-03	462.5E-03	463.6E-03	463.9E-03	464.5E-03	467.0E-03	466.6E-03	465.9E-03	463.5E-03
Average	464.9E-03	458.6E-03	460.2E-03	460.9E-03	461.8E-03	463.8E-03	463.0E-03	462.8E-03	459.4E-03
Sigma	2.1E-03	2.5E-03	2.1E-03	2.4E-03	2.0E-03	1.9E-03	2.0E-03	1.8E-03	2.1E-03

Drift Calculation

Vincm	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-8.7E-03	-6.7E-03	-6.5E-03	-6.0E-03	-4.0E-03	-4.6E-03	-4.6E-03	-7.4E-03
12	-	-4.1E-03	-2.1E-03	-128.0E-06	-199.0E-06	13.5E-06	-1.2E-03	-1.8E-03	-4.5E-03
13	-	-6.9E-03	-6.6E-03	-6.2E-03	-4.2E-03	-1.3E-03	-2.4E-03	-2.2E-03	-7.8E-03
14	-	-5.3E-03	-4.2E-03	-3.9E-03	-3.3E-03	-731.7E-06	-1.2E-03	-1.9E-03	-4.2E-03
15	-	-6.4E-03	-3.9E-03	-3.3E-03	-1.6E-03	651.5E-06	88.1E-06	127.8E-06	-3.3E-03
Average	-	-6.3E-03	-4.7E-03	-4.0E-03	-3.1E-03	-1.1E-03	-1.9E-03	-2.1E-03	-5.5E-03
Sigma	-	1.5E-03	1.7E-03	2.3E-03	2.0E-03	1.6E-03	1.6E-03	1.5E-03	1.8E-03

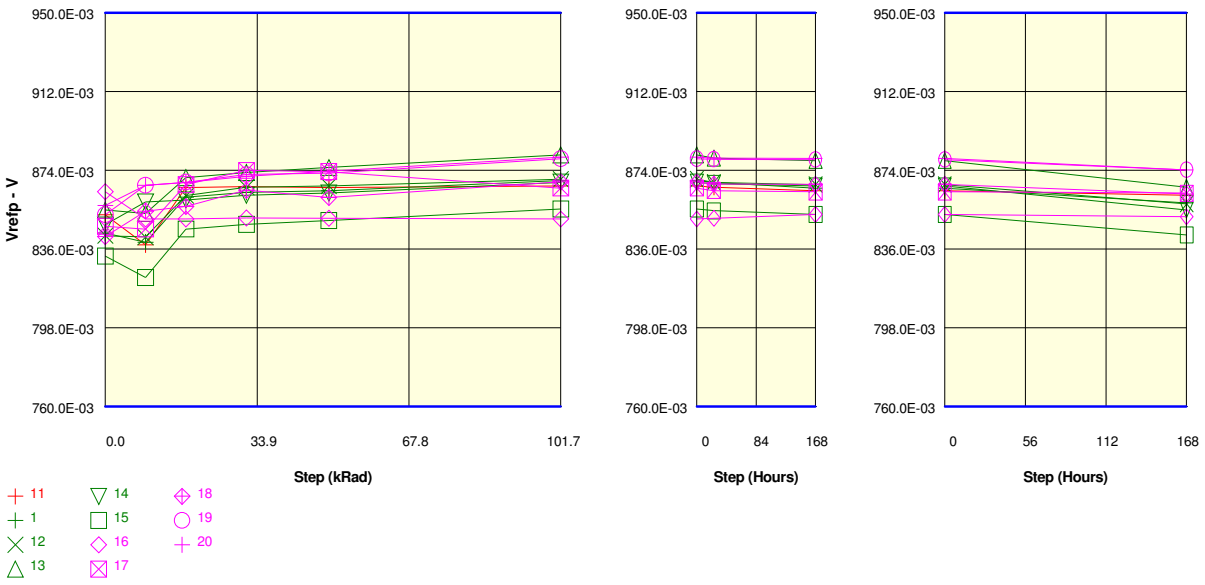
Measurements

Vincm	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	472.9E-03	458.7E-03	464.2E-03	464.0E-03	464.7E-03	464.2E-03	463.8E-03	464.4E-03	464.4E-03
OFF samples									
16	474.0E-03	471.7E-03	472.4E-03	474.2E-03	475.4E-03	478.5E-03	478.3E-03	477.9E-03	476.8E-03
17	472.8E-03	476.1E-03	471.8E-03	474.1E-03	472.4E-03	475.0E-03	474.9E-03	474.7E-03	474.3E-03
18	460.7E-03	454.2E-03	455.7E-03	462.2E-03	457.8E-03	461.9E-03	461.1E-03	461.0E-03	458.6E-03
19	470.1E-03	461.9E-03	462.6E-03	465.5E-03	465.0E-03	468.5E-03	468.3E-03	468.3E-03	465.4E-03
20	462.2E-03	456.5E-03	457.1E-03	458.7E-03	459.7E-03	463.5E-03	463.1E-03	462.9E-03	459.7E-03
Statistics									
Min	460.7E-03	454.2E-03	455.7E-03	458.7E-03	457.8E-03	461.9E-03	461.1E-03	461.0E-03	458.6E-03
Max	474.0E-03	476.1E-03	472.4E-03	474.2E-03	475.4E-03	478.5E-03	478.3E-03	477.9E-03	476.8E-03
Average	468.0E-03	464.1E-03	463.9E-03	466.9E-03	466.1E-03	469.5E-03	469.2E-03	469.0E-03	467.0E-03
Sigma	5.5E-03	8.5E-03	7.0E-03	6.2E-03	6.9E-03	6.5E-03	6.6E-03	6.5E-03	7.4E-03

Drift Calculation

Vincm	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-2.4E-03	-1.7E-03	115.5E-06	1.4E-03	4.5E-03	4.3E-03	3.8E-03	2.8E-03
17	-	3.3E-03	-1.1E-03	1.3E-03	-444.7E-06	2.2E-03	2.0E-03	1.8E-03	1.4E-03
18	-	-6.5E-03	-5.0E-03	1.5E-03	-2.9E-03	1.2E-03	457.2E-06	340.2E-06	-2.1E-03
19	-	-8.2E-03	-7.5E-03	-4.5E-03	-5.1E-03	-1.6E-03	-1.7E-03	-1.8E-03	-4.7E-03
20	-	-5.7E-03	-5.1E-03	-3.5E-03	-2.5E-03	1.2E-03	846.5E-06	716.7E-06	-2.5E-03
Average	-	-3.9E-03	-4.1E-03	-1.0E-03	-1.9E-03	1.5E-03	1.2E-03	982.6E-06	-1.0E-03
Sigma	-	4.0E-03	2.4E-03	2.5E-03	2.2E-03	2.0E-03	2.0E-03	1.8E-03	2.7E-03

Parameter : Top internal reference voltage : Vrefp
Test conditions : Fs = 20Msps. Fin = 10MHz. Vrefm = GND
Unit : V
Spec Limit Min : 760.0E-03
Spec Limit Max : 950.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

Vrefp	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	852.6E-03	838.0E-03	865.7E-03	866.1E-03	865.7E-03	866.4E-03	865.9E-03	864.2E-03	862.0E-03
ON samples									
1	843.7E-03	839.4E-03	861.0E-03	863.3E-03	864.1E-03	869.1E-03	868.1E-03	865.4E-03	858.2E-03
12	842.5E-03	841.8E-03	861.8E-03	865.9E-03	866.4E-03	869.7E-03	868.2E-03	867.2E-03	857.8E-03
13	854.8E-03	853.2E-03	870.5E-03	872.9E-03	875.4E-03	881.4E-03	879.9E-03	878.7E-03	865.9E-03
14	847.7E-03	858.8E-03	859.7E-03	861.9E-03	863.0E-03	868.2E-03	867.6E-03	866.5E-03	854.8E-03
15	832.6E-03	822.3E-03	845.6E-03	847.9E-03	849.8E-03	855.4E-03	854.5E-03	852.7E-03	842.8E-03
Statistics									
Min	832.6E-03	822.3E-03	845.6E-03	847.9E-03	849.8E-03	855.4E-03	854.5E-03	852.7E-03	842.8E-03
Max	854.8E-03	858.8E-03	870.5E-03	872.9E-03	875.4E-03	881.4E-03	879.9E-03	878.7E-03	865.9E-03
Average	844.3E-03	843.1E-03	859.7E-03	862.4E-03	863.7E-03	868.8E-03	867.7E-03	866.1E-03	855.9E-03
Sigma	7.2E-03	12.6E-03	8.0E-03	8.2E-03	8.2E-03	8.3E-03	8.0E-03	8.3E-03	7.5E-03

Drift Calculation

Vrefp	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-4.3E-03	17.3E-03	19.6E-03	20.4E-03	25.5E-03	24.4E-03	21.7E-03	14.5E-03
12	-	-629.1E-06	19.4E-03	23.4E-03	24.0E-03	27.3E-03	25.8E-03	24.7E-03	15.4E-03
13	-	-1.6E-03	15.7E-03	18.1E-03	20.6E-03	26.6E-03	25.1E-03	23.9E-03	11.1E-03
14	-	11.1E-03	12.0E-03	14.2E-03	15.4E-03	20.5E-03	19.9E-03	18.8E-03	7.2E-03
15	-	-10.3E-03	13.0E-03	15.3E-03	17.1E-03	22.7E-03	21.8E-03	20.0E-03	10.2E-03
Average	-	-1.2E-03	15.5E-03	18.1E-03	19.5E-03	24.5E-03	23.4E-03	21.8E-03	11.7E-03
Sigma	-	7.0E-03	2.7E-03	3.3E-03	3.0E-03	2.5E-03	2.2E-03	2.2E-03	3.0E-03

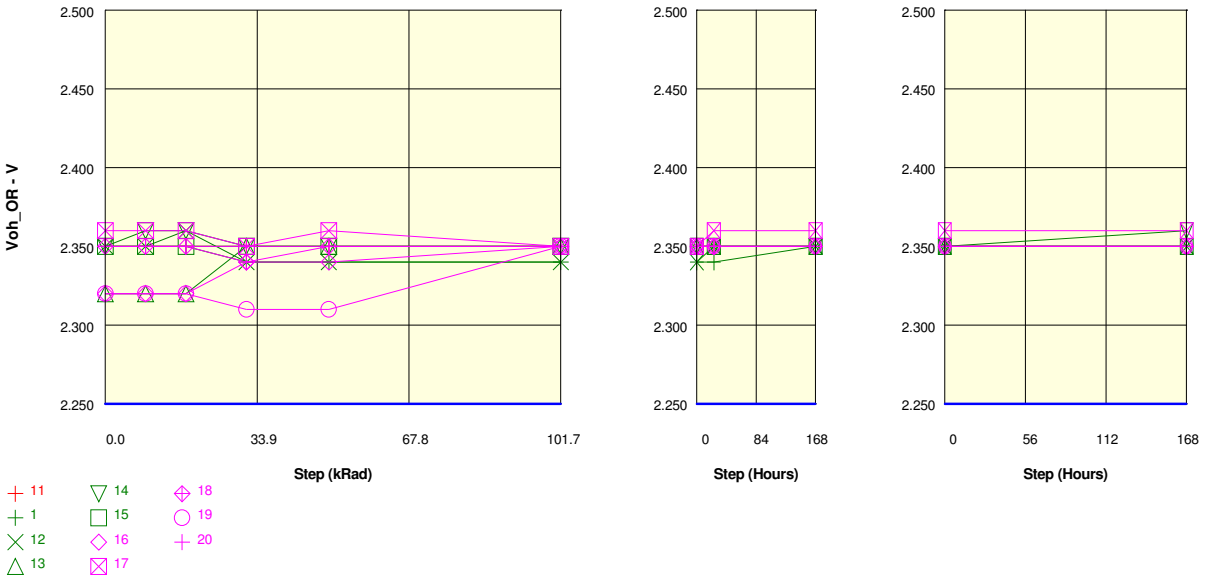
Measurements

Vrefp	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	852.6E-03	838.0E-03	865.7E-03	866.1E-03	865.7E-03	866.4E-03	865.9E-03	864.2E-03	862.0E-03
OFF samples									
16	863.7E-03	850.6E-03	850.5E-03	851.0E-03	850.9E-03	850.5E-03	850.9E-03	852.7E-03	851.6E-03
17	847.0E-03	845.6E-03	867.0E-03	874.0E-03	873.3E-03	865.4E-03	864.3E-03	863.6E-03	863.0E-03
18	842.0E-03	854.3E-03	856.5E-03	864.4E-03	860.9E-03	868.4E-03	867.4E-03	867.3E-03	862.6E-03
19	852.6E-03	866.8E-03	868.2E-03	872.0E-03	872.7E-03	879.6E-03	879.3E-03	879.2E-03	874.2E-03
20	857.0E-03	866.8E-03	868.2E-03	871.1E-03	873.5E-03	880.4E-03	879.9E-03	879.7E-03	874.2E-03
Statistics									
Min	842.0E-03	845.6E-03	850.5E-03	851.0E-03	850.9E-03	850.5E-03	850.9E-03	852.7E-03	851.6E-03
Max	863.7E-03	866.8E-03	868.2E-03	874.0E-03	873.5E-03	880.4E-03	879.9E-03	879.7E-03	874.2E-03
Average	852.5E-03	856.8E-03	862.1E-03	866.5E-03	866.3E-03	868.9E-03	868.4E-03	868.5E-03	865.1E-03
Sigma	7.6E-03	8.6E-03	7.3E-03	8.4E-03	9.0E-03	10.9E-03	10.7E-03	10.2E-03	8.5E-03

Drift Calculation

Vrefp	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-13.1E-03	-13.2E-03	-12.7E-03	-12.8E-03	-13.2E-03	-12.8E-03	-11.0E-03	-12.1E-03
17	-	-1.3E-03	20.1E-03	27.0E-03	26.4E-03	18.4E-03	17.3E-03	16.6E-03	16.0E-03
18	-	12.4E-03	14.5E-03	22.4E-03	19.0E-03	26.4E-03	25.5E-03	25.3E-03	20.7E-03
19	-	14.1E-03	15.6E-03	19.4E-03	20.1E-03	27.0E-03	26.7E-03	26.6E-03	21.6E-03
20	-	9.8E-03	11.1E-03	14.0E-03	16.5E-03	23.3E-03	22.9E-03	22.7E-03	17.2E-03
Average	-	4.4E-03	9.6E-03	14.0E-03	13.8E-03	16.4E-03	15.9E-03	16.0E-03	12.7E-03
Sigma	-	10.2E-03	11.8E-03	14.0E-03	13.7E-03	15.1E-03	14.7E-03	13.9E-03	12.6E-03

Parameter : Logic "1" voltage : Voh_OR
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

Voh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.340	2.340	2.340	2.340	2.350	2.350
12	2.350	2.350	2.360	2.340	2.340	2.340	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
14	2.350	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.340	2.340	2.340	2.340	2.350	2.350
Max	2.350	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.360
Average	2.344	2.346	2.348	2.346	2.346	2.346	2.348	2.350	2.352
Sigma	0.012	0.014	0.015	0.005	0.005	0.005	0.004	0.000	0.004

Drift Calculation

Voh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
12	-	0.0E+00	10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
14	-	10.0E-03	10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	10.0E-03
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	2.0E-03	4.0E-03	2.0E-03	2.0E-03	2.0E-03	4.0E-03	6.0E-03	8.0E-03
Sigma	-	4.0E-03	4.9E-03	14.7E-03	14.7E-03	14.7E-03	13.6E-03	12.0E-03	11.7E-03

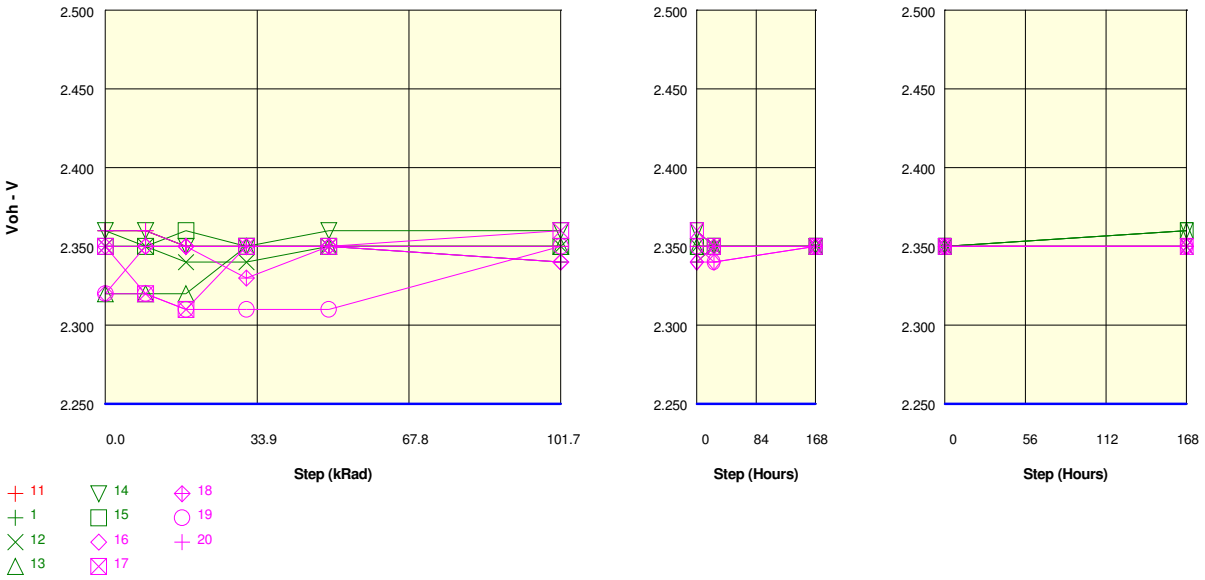
Measurements

Voh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.320	2.320	2.340	2.340	2.350	2.350	2.350	2.350
17	2.360	2.360	2.360	2.350	2.360	2.350	2.360	2.360	2.360
18	2.350	2.350	2.350	2.340	2.350	2.350	2.350	2.350	2.350
19	2.320	2.320	2.320	2.310	2.310	2.350	2.350	2.350	2.350
20	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.310	2.310	2.350	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.360	2.350	2.360	2.360	2.360
Average	2.340	2.340	2.340	2.338	2.342	2.350	2.352	2.352	2.352
Sigma	0.017	0.017	0.017	0.015	0.017	0.000	0.004	0.004	0.004

Drift Calculation

Voh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	0.0E+00	0.0E+00	20.0E-03	20.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
19	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	-2.0E-03	2.0E-03	10.0E-03	12.0E-03	12.0E-03	12.0E-03
Sigma	-	0.0E+00	0.0E+00	11.7E-03	9.8E-03	16.7E-03	14.7E-03	14.7E-03	14.7E-03

Parameter : Logic "1" voltage : VohD11
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.360	2.350	2.350	2.350	2.350	2.340	2.350	2.350	2.350
12	2.350	2.350	2.340	2.340	2.350	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.360	2.350	2.350	2.360	2.360	2.350	2.350	2.360
15	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.360
Statistics									
Min	2.320	2.320	2.320	2.340	2.350	2.340	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.360	2.360	2.350	2.350	2.360
Average	2.348	2.346	2.344	2.348	2.352	2.350	2.350	2.350	2.356
Sigma	0.015	0.014	0.014	0.004	0.004	0.006	0.000	0.000	0.005

Drift Calculation

VohD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-20.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
12	-	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03
14	-	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00
15	-	0.0E+00	10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	10.0E-03
Average	-	-2.0E-03	-4.0E-03	88.8E-18	4.0E-03	2.0E-03	2.0E-03	2.0E-03	8.0E-03
Sigma	-	4.0E-03	8.0E-03	15.5E-03	13.6E-03	16.0E-03	14.7E-03	14.7E-03	17.2E-03

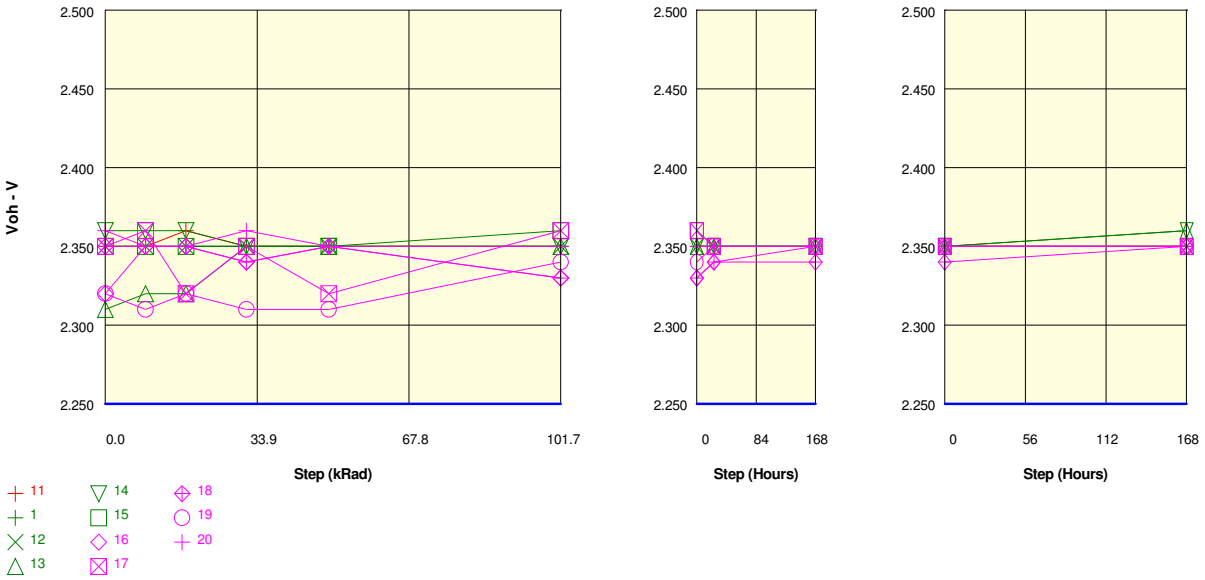
Measurements

VohD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.350	2.350	2.340	2.350	2.350	2.350
17	2.350	2.320	2.310	2.350	2.350	2.360	2.350	2.350	2.350
18	2.350	2.350	2.350	2.330	2.350	2.340	2.340	2.350	2.350
19	2.320	2.320	2.310	2.310	2.310	2.350	2.340	2.350	2.350
20	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.310	2.310	2.310	2.340	2.340	2.350	2.350
Max	2.360	2.360	2.350	2.350	2.350	2.360	2.350	2.350	2.350
Average	2.340	2.340	2.334	2.338	2.342	2.348	2.346	2.350	2.350
Sigma	0.017	0.017	0.020	0.016	0.016	0.007	0.005	0.000	0.000

Drift Calculation

VohD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	30.0E-03	30.0E-03	20.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	-30.0E-03	-40.0E-03	0.0E+00	0.0E+00	10.0E-03	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-20.0E-03	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
19	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	30.0E-03	20.0E-03	30.0E-03	30.0E-03
20	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
Average	-	0.0E+00	-6.0E-03	-2.0E-03	2.0E-03	8.0E-03	6.0E-03	10.0E-03	10.0E-03
Sigma	-	19.0E-03	22.4E-03	17.2E-03	14.7E-03	16.0E-03	16.2E-03	16.7E-03	16.7E-03

Parameter : Logic "1" voltage : VohD10
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
12	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
13	2.310	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.360
15	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.350	2.350
Statistics									
Min	2.310	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.350	2.360	2.350	2.350	2.360
Average	2.344	2.346	2.346	2.350	2.350	2.352	2.350	2.350	2.354
Sigma	0.017	0.014	0.014	0.000	0.000	0.004	0.000	0.000	0.005

Drift Calculation

VohD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	10.0E-03	10.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03	50.0E-03
14	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	10.0E-03	0.0E+00	0.0E+00	0.0E+00
Average	-	2.0E-03	2.0E-03	6.0E-03	6.0E-03	8.0E-03	6.0E-03	6.0E-03	10.0E-03
Sigma	-	4.0E-03	4.0E-03	17.4E-03	17.4E-03	17.2E-03	17.4E-03	17.4E-03	20.0E-03

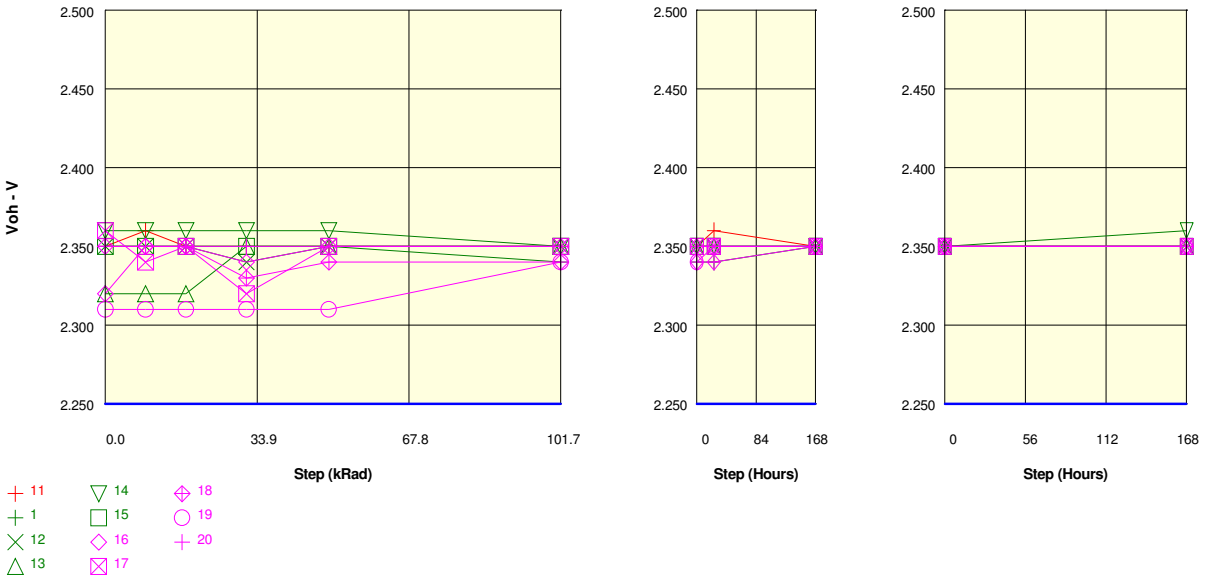
Measurements

VohD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.340	2.350	2.330	2.340	2.350	2.350
17	2.350	2.360	2.320	2.350	2.320	2.360	2.350	2.350	2.350
18	2.350	2.350	2.350	2.340	2.350	2.330	2.340	2.340	2.350
19	2.320	2.310	2.320	2.310	2.310	2.340	2.350	2.350	2.350
20	2.360	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.310	2.320	2.310	2.310	2.330	2.340	2.340	2.350
Max	2.360	2.360	2.350	2.360	2.350	2.360	2.350	2.350	2.350
Average	2.340	2.344	2.338	2.340	2.336	2.342	2.346	2.348	2.350
Sigma	0.017	0.017	0.015	0.017	0.017	0.012	0.005	0.004	0.000

Drift Calculation

VohD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	20.0E-03	30.0E-03	10.0E-03	20.0E-03	30.0E-03	30.0E-03
17	-	10.0E-03	-30.0E-03	0.0E+00	-30.0E-03	10.0E-03	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	-20.0E-03	-10.0E-03	-10.0E-03	0.0E+00
19	-	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	20.0E-03	30.0E-03	30.0E-03	30.0E-03
20	-	-10.0E-03	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
Average	-	4.0E-03	-2.0E-03	0.0E+00	-4.0E-03	2.0E-03	6.0E-03	8.0E-03	10.0E-03
Sigma	-	15.0E-03	19.4E-03	11.0E-03	19.6E-03	14.7E-03	16.2E-03	18.3E-03	16.7E-03

Parameter : Logic "1" voltage : VohD9
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.360	2.350	2.350	2.350	2.350	2.360	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.340	2.340	2.350	2.350
12	2.350	2.350	2.350	2.340	2.350	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
14	2.360	2.360	2.360	2.360	2.360	2.350	2.350	2.350	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.340	2.350	2.340	2.340	2.350	2.350
Max	2.360	2.360	2.360	2.360	2.360	2.350	2.350	2.350	2.360
Average	2.346	2.346	2.346	2.350	2.352	2.348	2.348	2.350	2.352
Sigma	0.014	0.014	0.014	0.006	0.004	0.004	0.004	0.000	0.004

Drift Calculation

VohD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
14	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	4.0E-03	6.0E-03	2.0E-03	2.0E-03	4.0E-03	6.0E-03
Sigma	-	0.0E+00	0.0E+00	13.6E-03	12.0E-03	14.7E-03	14.7E-03	13.6E-03	12.0E-03

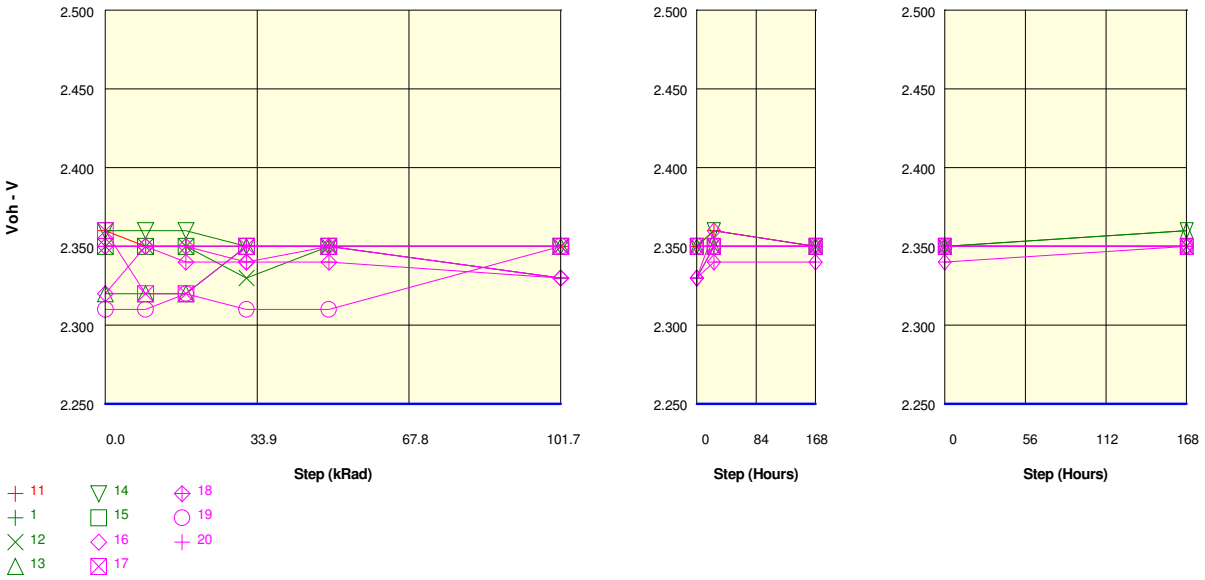
Measurements

VohD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.360	2.350	2.350	2.350	2.350	2.360	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.340	2.350	2.350	2.350	2.350	2.350
17	2.360	2.340	2.350	2.320	2.350	2.350	2.350	2.350	2.350
18	2.350	2.350	2.350	2.330	2.340	2.340	2.340	2.350	2.350
19	2.310	2.310	2.310	2.310	2.310	2.340	2.350	2.350	2.350
20	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.310	2.310	2.340	2.340	2.350	2.350
Max	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Average	2.338	2.340	2.342	2.330	2.340	2.346	2.348	2.350	2.350
Sigma	0.019	0.015	0.016	0.014	0.015	0.005	0.004	0.000	0.000

Drift Calculation

VohD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	20.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	-20.0E-03	-10.0E-03	-40.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
18	-	0.0E+00	0.0E+00	-20.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
19	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	30.0E-03	40.0E-03	40.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	2.0E-03	4.0E-03	-8.0E-03	2.0E-03	8.0E-03	10.0E-03	12.0E-03	12.0E-03
Sigma	-	16.0E-03	13.6E-03	20.4E-03	14.7E-03	18.3E-03	21.0E-03	19.4E-03	19.4E-03

Parameter : Logic "1" voltage : VohD8
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.360	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.330	2.350	2.350	2.350
12	2.350	2.350	2.350	2.330	2.350	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.360	2.360	2.350	2.350	2.350	2.360	2.350	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.330	2.350	2.330	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.350	2.350	2.360	2.350	2.360
Average	2.346	2.346	2.346	2.346	2.350	2.346	2.352	2.350	2.354
Sigma	0.014	0.014	0.014	0.008	0.000	0.008	0.004	0.000	0.005

Drift Calculation

VohD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-20.0E-03	0.0E+00	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	-20.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03
14	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	88.8E-18	4.0E-03	88.8E-18	6.0E-03	4.0E-03	8.0E-03
Sigma	-	0.0E+00	0.0E+00	16.7E-03	13.6E-03	16.7E-03	12.0E-03	13.6E-03	16.0E-03

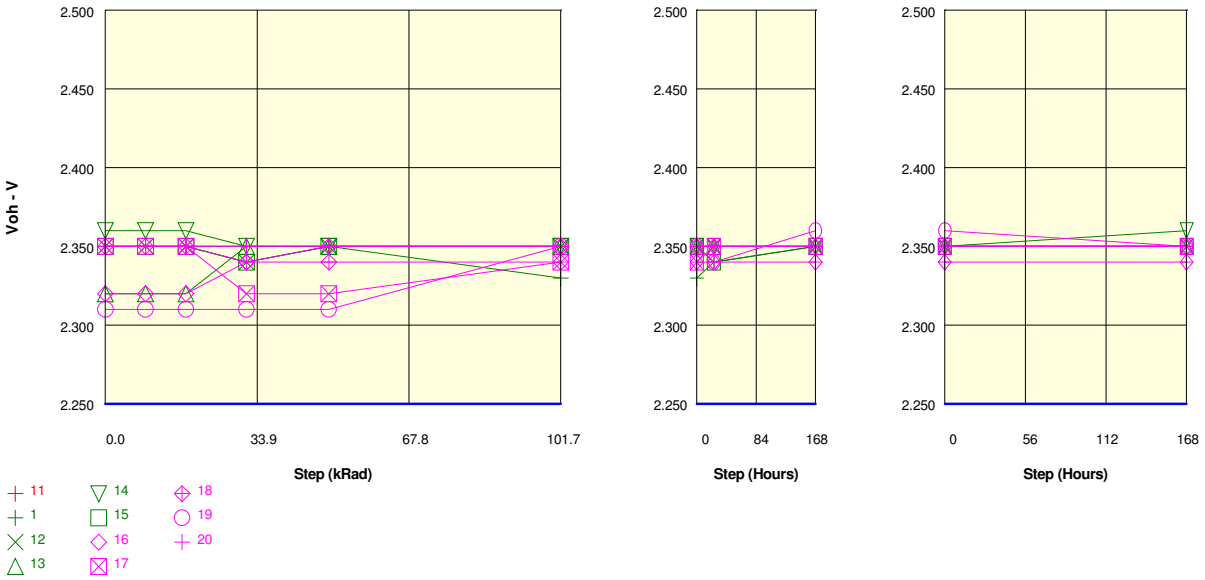
Measurements

VohD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.360	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.340	2.350	2.330	2.360	2.350	2.350
17	2.360	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
18	2.350	2.350	2.340	2.340	2.340	2.330	2.340	2.340	2.350
19	2.310	2.310	2.320	2.310	2.310	2.350	2.350	2.350	2.350
20	2.350	2.350	2.350	2.350	2.350	2.330	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.320	2.310	2.310	2.330	2.340	2.340	2.350
Max	2.360	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.350
Average	2.338	2.336	2.336	2.338	2.340	2.338	2.350	2.348	2.350
Sigma	0.019	0.017	0.014	0.015	0.015	0.010	0.006	0.004	0.000

Drift Calculation

VohD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	20.0E-03	30.0E-03	10.0E-03	40.0E-03	30.0E-03	30.0E-03
17	-	-40.0E-03	-40.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
18	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-20.0E-03	-10.0E-03	-10.0E-03	0.0E+00
19	-	0.0E+00	10.0E-03	0.0E+00	0.0E+00	40.0E-03	40.0E-03	40.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-20.0E-03	0.0E+00	0.0E+00	0.0E+00
Average	-	-2.0E-03	-2.0E-03	0.0E+00	2.0E-03	88.8E-18	12.0E-03	10.0E-03	12.0E-03
Sigma	-	22.3E-03	23.2E-03	11.0E-03	14.7E-03	22.8E-03	23.2E-03	21.0E-03	19.4E-03

Parameter : Logic "1" voltage : VohD7
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.330	2.340	2.350	2.350
12	2.350	2.350	2.350	2.340	2.350	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
14	2.360	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.360
15	2.350	2.350	2.350	2.340	2.350	2.350	2.340	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.340	2.350	2.330	2.340	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.360
Average	2.346	2.346	2.346	2.346	2.350	2.346	2.346	2.350	2.352
Sigma	0.014	0.014	0.014	0.005	0.000	0.008	0.005	0.000	0.004

Drift Calculation

VohD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-20.0E-03	-10.0E-03	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
14	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00
15	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	0.0E+00	4.0E-03	88.8E-18	0.0E+00	4.0E-03	6.0E-03
Sigma	-	0.0E+00	0.0E+00	15.5E-03	13.6E-03	16.7E-03	15.5E-03	13.6E-03	12.0E-03

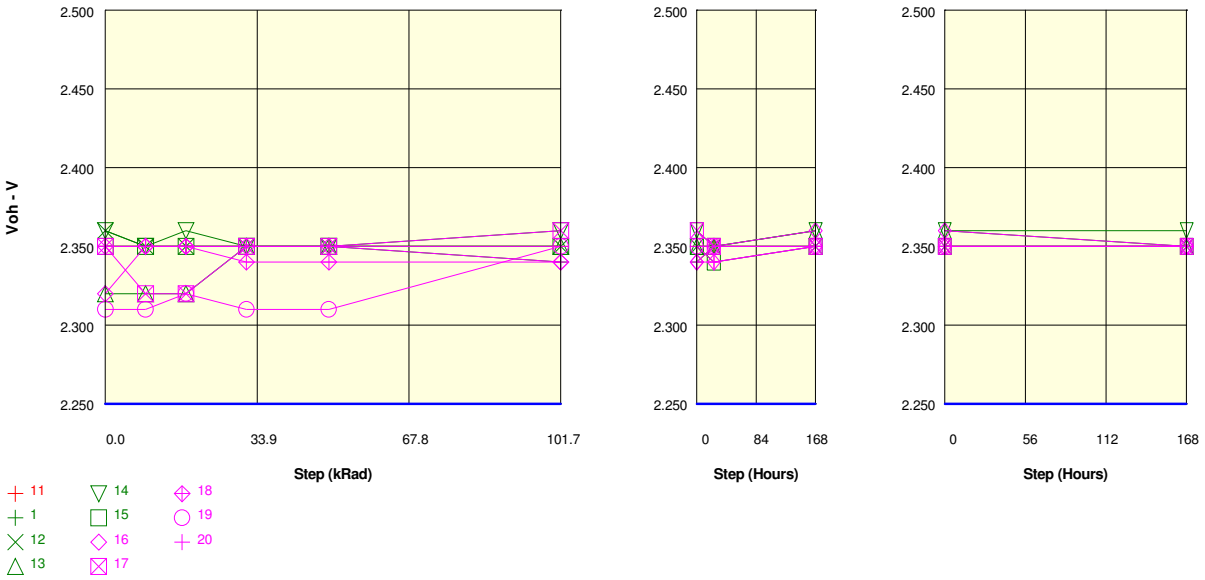
Measurements

VohD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.320	2.320	2.340	2.350	2.350	2.350	2.350	2.350
17	2.350	2.350	2.350	2.320	2.320	2.340	2.350	2.350	2.350
18	2.350	2.350	2.350	2.340	2.340	2.340	2.340	2.340	2.340
19	2.310	2.310	2.310	2.310	2.310	2.350	2.340	2.360	2.350
20	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.310	2.310	2.340	2.340	2.340	2.340
Max	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.360	2.350
Average	2.336	2.336	2.336	2.332	2.334	2.346	2.346	2.350	2.348
Sigma	0.017	0.017	0.017	0.015	0.016	0.005	0.005	0.006	0.004

Drift Calculation

VohD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	0.0E+00	0.0E+00	20.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	0.0E+00	0.0E+00	-30.0E-03	-30.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
19	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	40.0E-03	30.0E-03	50.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	-4.0E-03	-2.0E-03	10.0E-03	10.0E-03	14.0E-03	12.0E-03
Sigma	-	0.0E+00	0.0E+00	16.2E-03	19.4E-03	21.0E-03	16.7E-03	22.4E-03	19.4E-03

Parameter : Logic "1" voltage : VohD6
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.340	2.350	2.350	2.350
12	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.360	2.350
14	2.360	2.350	2.360	2.350	2.350	2.360	2.350	2.360	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.340	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.350	2.350	2.340	2.340	2.350	2.350
Max	2.360	2.350	2.360	2.350	2.350	2.360	2.350	2.360	2.360
Average	2.348	2.344	2.346	2.350	2.350	2.350	2.348	2.354	2.352
Sigma	0.015	0.012	0.014	0.000	0.000	0.006	0.004	0.005	0.004

Drift Calculation

VohD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
12	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03	30.0E-03
14	-	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00
Average	-	-4.0E-03	-2.0E-03	2.0E-03	2.0E-03	2.0E-03	88.8E-18	6.0E-03	4.0E-03
Sigma	-	4.9E-03	4.0E-03	14.7E-03	14.7E-03	14.7E-03	15.5E-03	17.4E-03	13.6E-03

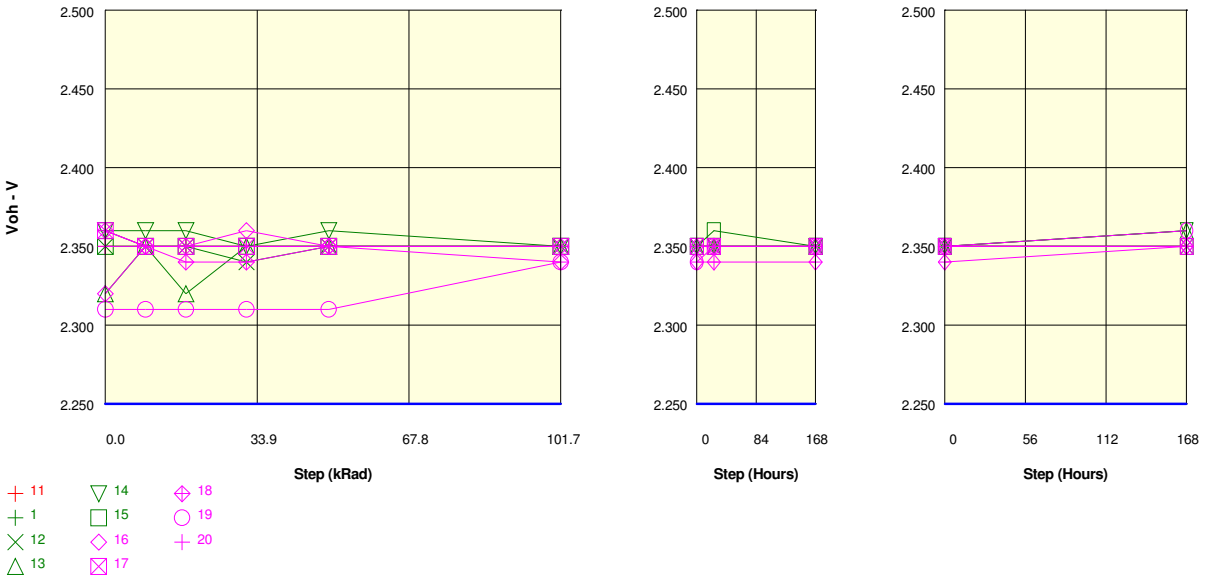
Measurements

VohD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.350	2.350	2.340	2.350	2.360	2.350
17	2.350	2.320	2.320	2.350	2.350	2.360	2.350	2.350	2.350
18	2.350	2.350	2.350	2.340	2.340	2.340	2.340	2.350	2.350
19	2.310	2.310	2.320	2.310	2.310	2.350	2.350	2.350	2.350
20	2.350	2.350	2.350	2.350	2.350	2.350	2.340	2.350	2.350
Statistics									
Min	2.310	2.310	2.320	2.310	2.310	2.340	2.340	2.350	2.350
Max	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.360	2.350
Average	2.336	2.336	2.338	2.340	2.340	2.348	2.346	2.352	2.350
Sigma	0.017	0.017	0.015	0.015	0.015	0.007	0.005	0.004	0.000

Drift Calculation

VohD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	30.0E-03	30.0E-03	20.0E-03	30.0E-03	40.0E-03	30.0E-03
17	-	-30.0E-03	-30.0E-03	0.0E+00	0.0E+00	10.0E-03	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
19	-	0.0E+00	10.0E-03	0.0E+00	0.0E+00	40.0E-03	40.0E-03	40.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00
Average	-	0.0E+00	2.0E-03	4.0E-03	4.0E-03	12.0E-03	10.0E-03	16.0E-03	14.0E-03
Sigma	-	19.0E-03	19.4E-03	13.6E-03	13.6E-03	17.2E-03	21.0E-03	19.6E-03	17.4E-03

Parameter : Logic "1" voltage : VohD5
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
12	2.350	2.350	2.350	2.340	2.350	2.350	2.350	2.350	2.350
13	2.320	2.350	2.320	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.360	2.360	2.350	2.360	2.350	2.350	2.350	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.350
Statistics									
Min	2.320	2.350	2.320	2.340	2.350	2.350	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.360	2.350	2.360	2.350	2.360
Average	2.348	2.352	2.346	2.348	2.352	2.350	2.352	2.350	2.354
Sigma	0.015	0.004	0.014	0.004	0.004	0.000	0.004	0.000	0.005

Drift Calculation

VohD5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
12	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	30.0E-03	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03
14	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	10.0E-03	0.0E+00	0.0E+00
Average	-	4.0E-03	-2.0E-03	88.8E-18	4.0E-03	2.0E-03	4.0E-03	2.0E-03	6.0E-03
Sigma	-	13.6E-03	4.0E-03	15.5E-03	13.6E-03	14.7E-03	15.0E-03	14.7E-03	17.4E-03

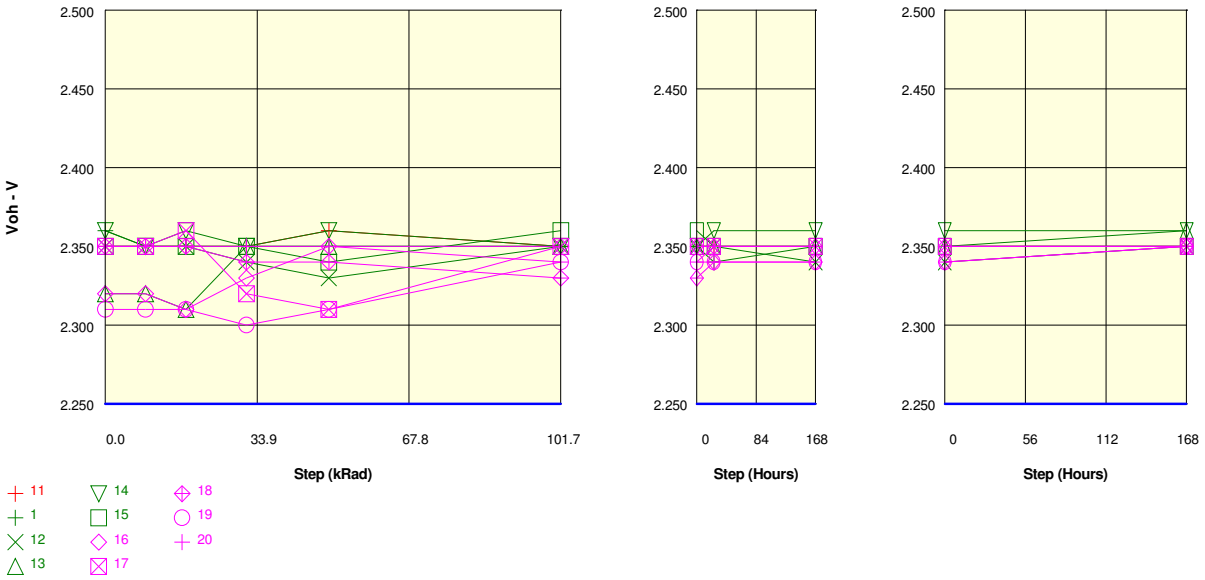
Measurements

VohD5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350
17	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
18	2.360	2.350	2.340	2.340	2.350	2.340	2.340	2.340	2.350
19	2.310	2.310	2.310	2.310	2.310	2.340	2.350	2.350	2.360
20	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.310	2.310	2.340	2.340	2.340	2.350
Max	2.360	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.360
Average	2.340	2.342	2.340	2.342	2.342	2.346	2.348	2.348	2.352
Sigma	0.021	0.016	0.015	0.017	0.016	0.005	0.004	0.004	0.004

Drift Calculation

VohD5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	40.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
18	-	-10.0E-03	-20.0E-03	-20.0E-03	-10.0E-03	-20.0E-03	-20.0E-03	-20.0E-03	-10.0E-03
19	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	30.0E-03	40.0E-03	40.0E-03	50.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	2.0E-03	88.8E-18	2.0E-03	2.0E-03	6.0E-03	8.0E-03	8.0E-03	12.0E-03
Sigma	-	14.7E-03	16.7E-03	20.4E-03	14.7E-03	20.6E-03	23.2E-03	23.2E-03	24.0E-03

Parameter : Logic "1" voltage : VohD4
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.360	2.350	2.350	2.350	2.350
ON samples									
1	2.360	2.350	2.350	2.350	2.350	2.350	2.340	2.350	2.350
12	2.350	2.350	2.350	2.340	2.330	2.350	2.350	2.340	2.350
13	2.320	2.320	2.310	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.350	2.360	2.350	2.360	2.350	2.360	2.360	2.360
15	2.350	2.350	2.350	2.350	2.340	2.360	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.310	2.340	2.330	2.350	2.340	2.340	2.350
Max	2.360	2.350	2.360	2.350	2.360	2.360	2.360	2.360	2.360
Average	2.348	2.344	2.344	2.348	2.346	2.352	2.350	2.350	2.354
Sigma	0.015	0.012	0.017	0.004	0.010	0.004	0.006	0.006	0.005

Drift Calculation

VohD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-20.0E-03	-10.0E-03	-10.0E-03
12	-	0.0E+00	0.0E+00	-10.0E-03	-20.0E-03	0.0E+00	0.0E+00	-10.0E-03	0.0E+00
13	-	0.0E+00	-10.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03
14	-	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	10.0E-03	0.0E+00	0.0E+00	0.0E+00
Average	-	-4.0E-03	-4.0E-03	88.8E-18	-2.0E-03	4.0E-03	2.0E-03	2.0E-03	6.0E-03
Sigma	-	4.9E-03	4.9E-03	15.5E-03	17.2E-03	15.0E-03	16.0E-03	14.7E-03	17.4E-03

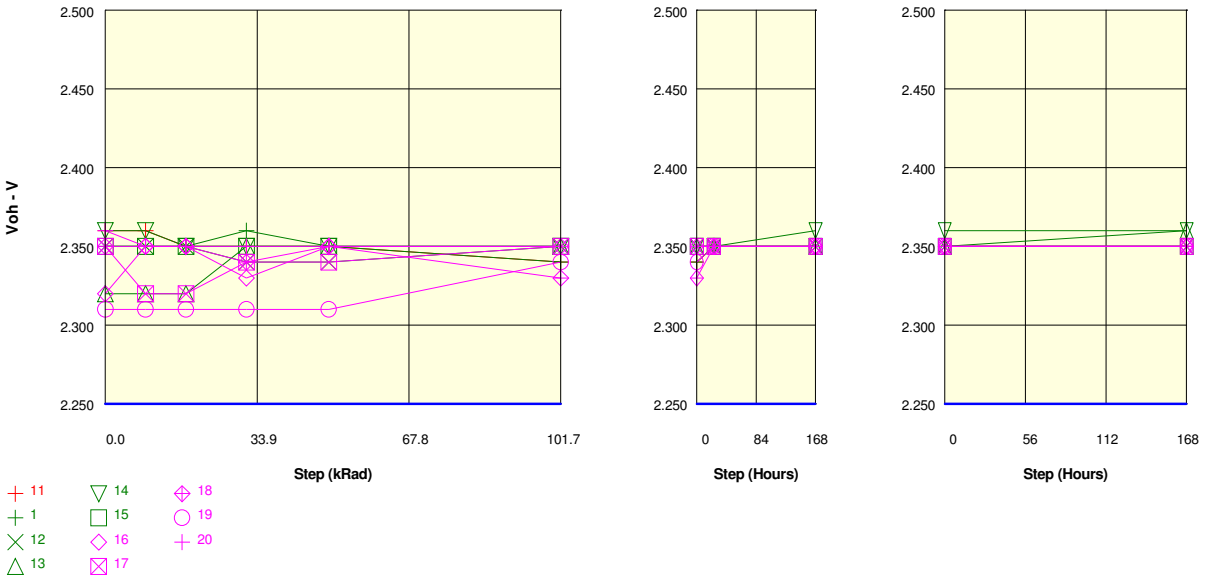
Measurements

VohD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.350	2.350	2.360	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.320	2.310	2.330	2.350	2.350	2.350	2.350	2.350
17	2.350	2.350	2.360	2.320	2.310	2.350	2.350	2.350	2.350
18	2.350	2.350	2.350	2.340	2.340	2.330	2.340	2.340	2.350
19	2.310	2.310	2.310	2.300	2.310	2.340	2.340	2.340	2.350
20	2.350	2.350	2.350	2.350	2.350	2.340	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.300	2.310	2.330	2.340	2.340	2.350
Max	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
Average	2.336	2.336	2.336	2.328	2.332	2.342	2.346	2.346	2.350
Sigma	0.017	0.017	0.022	0.017	0.018	0.007	0.005	0.005	0.000

Drift Calculation

VohD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	0.0E+00	-10.0E-03	10.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	0.0E+00	10.0E-03	-30.0E-03	-40.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-20.0E-03	-10.0E-03	-10.0E-03	0.0E+00
19	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	30.0E-03	30.0E-03	30.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	-8.0E-03	-4.0E-03	6.0E-03	10.0E-03	10.0E-03	14.0E-03
Sigma	-	0.0E+00	6.3E-03	13.3E-03	22.4E-03	20.6E-03	16.7E-03	16.7E-03	17.4E-03

Parameter : Logic "1" voltage : VohD3
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.360	2.360	2.350	2.350	2.350	2.340	2.350	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.360	2.350	2.340	2.350	2.350	2.350
12	2.350	2.350	2.350	2.340	2.340	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.360	2.350	2.350	2.350	2.350	2.350	2.360	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.340	2.340	2.340	2.350	2.350	2.350
Max	2.360	2.360	2.350	2.360	2.350	2.350	2.350	2.360	2.360
Average	2.346	2.346	2.344	2.350	2.348	2.348	2.350	2.352	2.354
Sigma	0.014	0.014	0.012	0.006	0.004	0.004	0.000	0.004	0.005

Drift Calculation

VohD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	10.0E-03	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03
14	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	-2.0E-03	4.0E-03	2.0E-03	2.0E-03	4.0E-03	6.0E-03	8.0E-03
Sigma	-	0.0E+00	4.0E-03	15.0E-03	14.7E-03	14.7E-03	13.6E-03	12.0E-03	16.0E-03

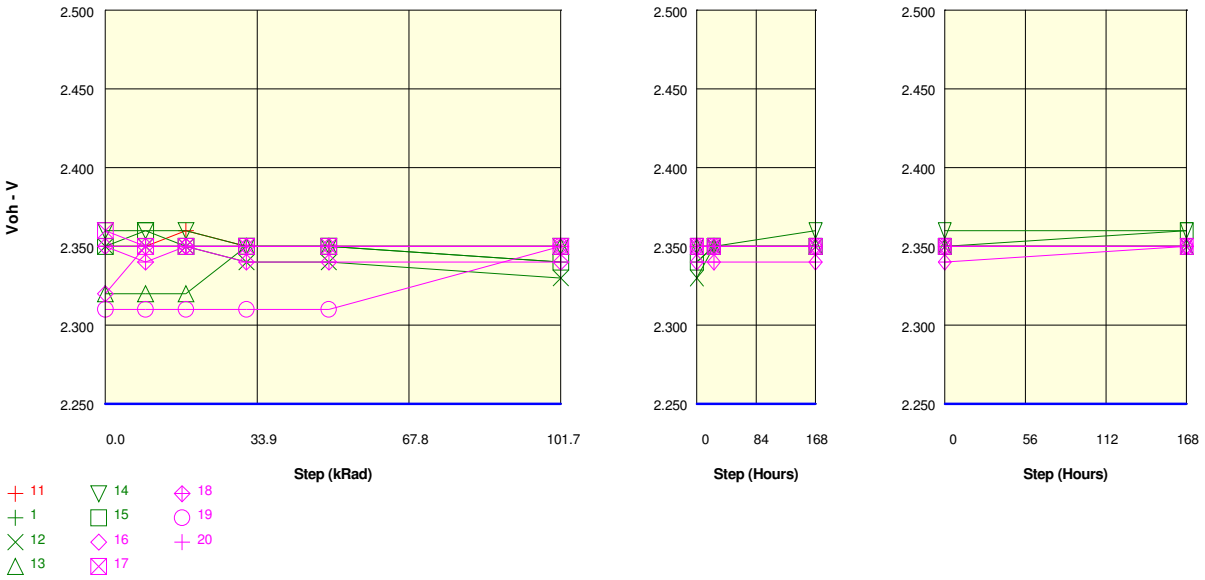
Measurements

VohD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.360	2.360	2.350	2.350	2.350	2.340	2.350	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.330	2.350	2.350	2.350	2.350	2.350
17	2.350	2.320	2.320	2.340	2.340	2.350	2.350	2.350	2.350
18	2.350	2.350	2.350	2.340	2.350	2.330	2.350	2.350	2.350
19	2.310	2.310	2.310	2.310	2.310	2.340	2.350	2.350	2.350
20	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.310	2.310	2.330	2.350	2.350	2.350
Max	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Average	2.338	2.336	2.336	2.334	2.340	2.344	2.350	2.350	2.350
Sigma	0.019	0.017	0.017	0.014	0.015	0.008	0.000	0.000	0.000

Drift Calculation

VohD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	10.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	-30.0E-03	-30.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	-20.0E-03	0.0E+00	0.0E+00	0.0E+00
19	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	30.0E-03	40.0E-03	40.0E-03	40.0E-03
20	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
Average	-	-2.0E-03	-2.0E-03	-4.0E-03	2.0E-03	6.0E-03	12.0E-03	12.0E-03	12.0E-03
Sigma	-	19.4E-03	19.4E-03	8.0E-03	14.7E-03	20.6E-03	19.4E-03	19.4E-03	19.4E-03

Parameter : Logic "1" voltage : VohD2
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.340	2.350	2.350	2.350
12	2.350	2.350	2.350	2.340	2.340	2.330	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
14	2.360	2.360	2.360	2.350	2.350	2.350	2.350	2.360	2.360
15	2.350	2.360	2.350	2.350	2.350	2.340	2.350	2.350	2.360
Statistics									
Min	2.320	2.320	2.320	2.340	2.340	2.330	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.350	2.350	2.350	2.360	2.360
Average	2.346	2.348	2.346	2.348	2.348	2.342	2.350	2.352	2.354
Sigma	0.014	0.015	0.014	0.004	0.004	0.007	0.000	0.004	0.005

Drift Calculation

VohD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-20.0E-03	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
14	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
15	-	10.0E-03	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	10.0E-03
Average	-	2.0E-03	0.0E+00	2.0E-03	2.0E-03	-4.0E-03	4.0E-03	6.0E-03	8.0E-03
Sigma	-	4.0E-03	0.0E+00	14.7E-03	14.7E-03	17.4E-03	13.6E-03	12.0E-03	11.7E-03

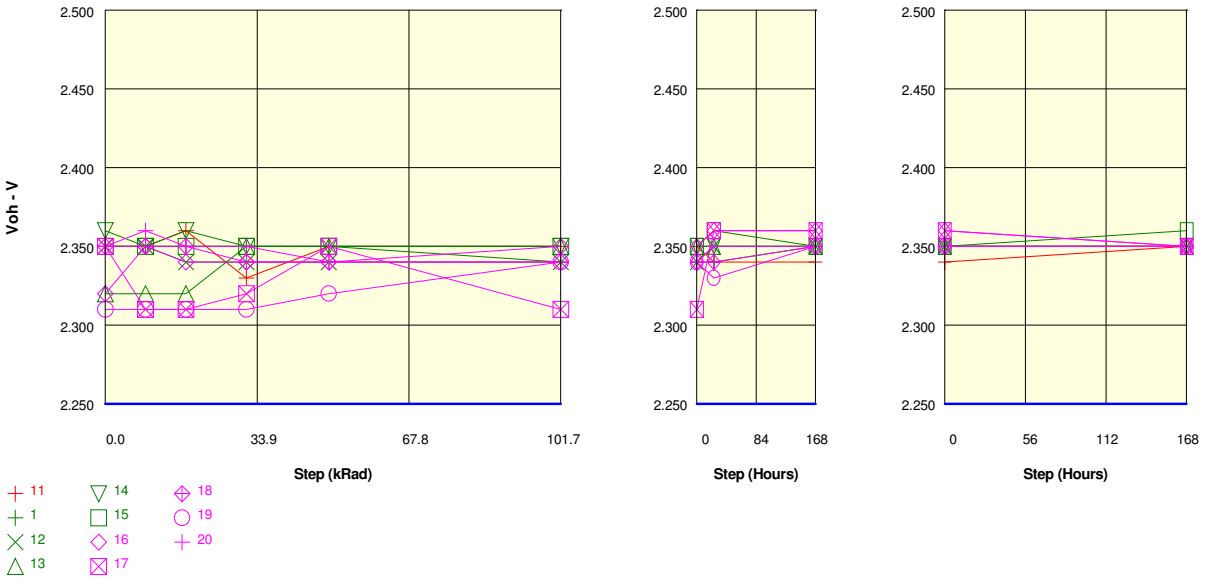
Measurements

VohD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
17	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
18	2.350	2.340	2.350	2.340	2.340	2.340	2.340	2.340	2.350
19	2.310	2.310	2.310	2.310	2.310	2.350	2.350	2.350	2.350
20	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.310	2.310	2.340	2.340	2.340	2.350
Max	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Average	2.338	2.340	2.342	2.340	2.340	2.348	2.348	2.348	2.350
Sigma	0.019	0.015	0.016	0.015	0.015	0.004	0.004	0.004	0.000

Drift Calculation

VohD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
17	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
18	-	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00
19	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	40.0E-03	40.0E-03	40.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	2.0E-03	4.0E-03	2.0E-03	2.0E-03	10.0E-03	10.0E-03	10.0E-03	12.0E-03
Sigma	-	14.7E-03	13.6E-03	14.7E-03	14.7E-03	21.0E-03	21.0E-03	21.0E-03	19.4E-03

Parameter : Logic "1" voltage : VohD1
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.330	2.350	2.350	2.340	2.340	2.350
ON samples									
1	2.350	2.350	2.350	2.350	2.350	2.340	2.340	2.350	2.350
12	2.350	2.350	2.340	2.340	2.340	2.340	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.350
14	2.360	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
15	2.350	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.360
Statistics									
Min	2.320	2.320	2.320	2.340	2.340	2.340	2.340	2.350	2.350
Max	2.360	2.350	2.360	2.350	2.350	2.350	2.360	2.350	2.360
Average	2.346	2.344	2.344	2.348	2.348	2.346	2.350	2.350	2.352
Sigma	0.014	0.012	0.014	0.004	0.004	0.005	0.006	0.000	0.004

Drift Calculation

VohD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
12	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
14	-	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	10.0E-03	0.0E+00	10.0E-03
Average	-	-2.0E-03	-2.0E-03	2.0E-03	2.0E-03	0.0E+00	4.0E-03	4.0E-03	6.0E-03
Sigma	-	4.0E-03	4.0E-03	14.7E-03	14.7E-03	15.5E-03	15.0E-03	13.6E-03	13.6E-03

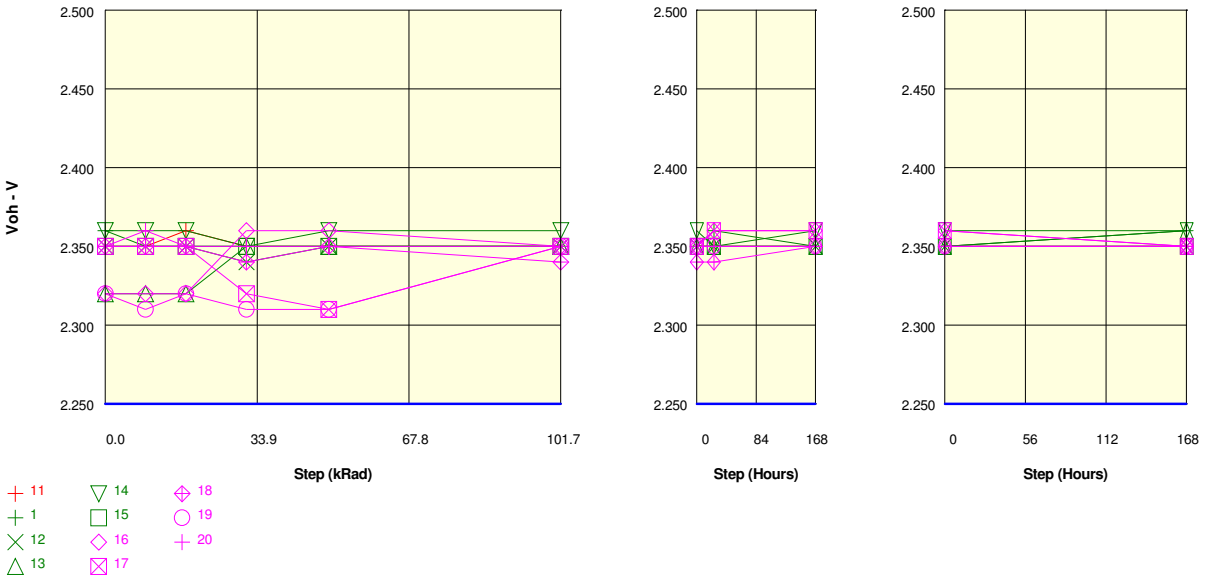
Measurements

VohD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.330	2.350	2.350	2.340	2.340	2.350
OFF samples									
16	2.320	2.350	2.340	2.340	2.340	2.350	2.360	2.360	2.350
17	2.350	2.310	2.310	2.320	2.350	2.310	2.360	2.360	2.350
18	2.350	2.350	2.350	2.340	2.340	2.340	2.340	2.350	2.350
19	2.310	2.310	2.310	2.310	2.320	2.340	2.330	2.350	2.350
20	2.350	2.360	2.350	2.350	2.340	2.340	2.350	2.350	2.350
Statistics									
Min	2.310	2.310	2.310	2.310	2.320	2.310	2.330	2.350	2.350
Max	2.350	2.360	2.350	2.350	2.350	2.350	2.360	2.360	2.350
Average	2.336	2.336	2.332	2.332	2.338	2.336	2.348	2.354	2.350
Sigma	0.017	0.022	0.018	0.015	0.010	0.014	0.012	0.005	0.000

Drift Calculation

VohD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	30.0E-03	20.0E-03	20.0E-03	20.0E-03	30.0E-03	40.0E-03	40.0E-03	30.0E-03
17	-	-40.0E-03	-40.0E-03	-30.0E-03	0.0E+00	-40.0E-03	10.0E-03	10.0E-03	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
19	-	0.0E+00	0.0E+00	0.0E+00	10.0E-03	30.0E-03	20.0E-03	40.0E-03	40.0E-03
20	-	10.0E-03	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	-4.0E-03	-4.0E-03	2.0E-03	-88.8E-18	12.0E-03	18.0E-03	14.0E-03
Sigma	-	22.8E-03	19.6E-03	16.2E-03	11.7E-03	26.8E-03	17.2E-03	18.3E-03	17.4E-03

Parameter : Logic "1" voltage : VohD0
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

VohD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
ON samples									
1	2.360	2.350	2.350	2.350	2.350	2.350	2.360	2.350	2.360
12	2.350	2.350	2.350	2.340	2.350	2.350	2.350	2.350	2.350
13	2.320	2.320	2.320	2.350	2.350	2.350	2.350	2.350	2.360
14	2.360	2.360	2.360	2.350	2.360	2.360	2.350	2.360	2.360
15	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.320	2.320	2.340	2.350	2.350	2.350	2.350	2.350
Max	2.360	2.360	2.360	2.350	2.360	2.360	2.360	2.360	2.360
Average	2.348	2.346	2.346	2.348	2.352	2.352	2.352	2.352	2.356
Sigma	0.015	0.014	0.014	0.004	0.004	0.004	0.004	0.004	0.005

Drift Calculation

VohD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00
12	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	30.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03	40.0E-03
14	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	-2.0E-03	-2.0E-03	88.8E-18	4.0E-03	4.0E-03	4.0E-03	4.0E-03	8.0E-03
Sigma	-	4.0E-03	4.0E-03	15.5E-03	13.6E-03	13.6E-03	13.6E-03	13.6E-03	16.0E-03

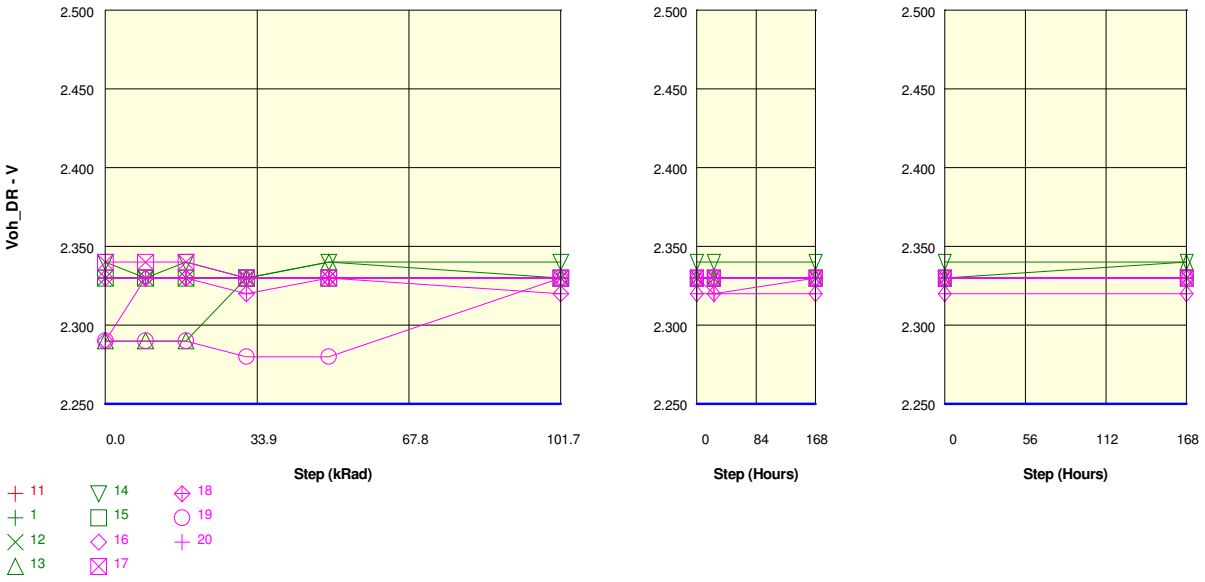
Measurements

VohD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.350	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350
OFF samples									
16	2.320	2.320	2.320	2.360	2.360	2.350	2.360	2.360	2.350
17	2.350	2.350	2.350	2.320	2.310	2.350	2.360	2.360	2.350
18	2.350	2.350	2.350	2.340	2.350	2.340	2.340	2.350	2.350
19	2.320	2.310	2.320	2.310	2.310	2.350	2.350	2.350	2.350
20	2.350	2.360	2.350	2.350	2.350	2.350	2.350	2.350	2.350
Statistics									
Min	2.320	2.310	2.320	2.310	2.310	2.340	2.340	2.350	2.350
Max	2.350	2.360	2.350	2.360	2.360	2.350	2.360	2.360	2.350
Average	2.338	2.338	2.338	2.336	2.336	2.348	2.352	2.354	2.350
Sigma	0.015	0.019	0.015	0.019	0.022	0.004	0.007	0.005	0.000

Drift Calculation

VohD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	0.0E+00	0.0E+00	40.0E-03	40.0E-03	30.0E-03	40.0E-03	40.0E-03	30.0E-03
17	-	0.0E+00	0.0E+00	-30.0E-03	-40.0E-03	0.0E+00	10.0E-03	10.0E-03	0.0E+00
18	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00	0.0E+00
19	-	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	30.0E-03	30.0E-03	30.0E-03	30.0E-03
20	-	10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	0.0E+00	0.0E+00	-2.0E-03	-2.0E-03	10.0E-03	14.0E-03	16.0E-03	12.0E-03
Sigma	-	6.3E-03	0.0E+00	23.2E-03	25.6E-03	16.7E-03	18.5E-03	16.2E-03	14.7E-03

Parameter : Logic "1" voltage : Voh_DR
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = 10µA
Unit : V
Spec Limit Min : 2.250
Spec limits are represented in bold lines on the graphic.



Measurements

Voh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
ON samples									
1	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
12	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
13	2.290	2.290	2.290	2.330	2.340	2.330	2.330	2.330	2.340
14	2.340	2.330	2.340	2.330	2.340	2.340	2.340	2.340	2.340
15	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
Statistics									
Min	2.290	2.290	2.290	2.330	2.330	2.330	2.330	2.330	2.330
Max	2.340	2.330	2.340	2.330	2.340	2.340	2.340	2.340	2.340
Average	2.324	2.322	2.324	2.330	2.334	2.332	2.332	2.332	2.334
Sigma	0.017	0.016	0.017	0.000	0.005	0.004	0.004	0.004	0.005

Drift Calculation

Voh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	0.0E+00	0.0E+00	40.0E-03	50.0E-03	40.0E-03	40.0E-03	40.0E-03	50.0E-03
14	-	-10.0E-03	0.0E+00	-10.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	-2.0E-03	0.0E+00	6.0E-03	10.0E-03	8.0E-03	8.0E-03	8.0E-03	10.0E-03
Sigma	-	4.0E-03	0.0E+00	17.4E-03	20.0E-03	16.0E-03	16.0E-03	16.0E-03	20.0E-03

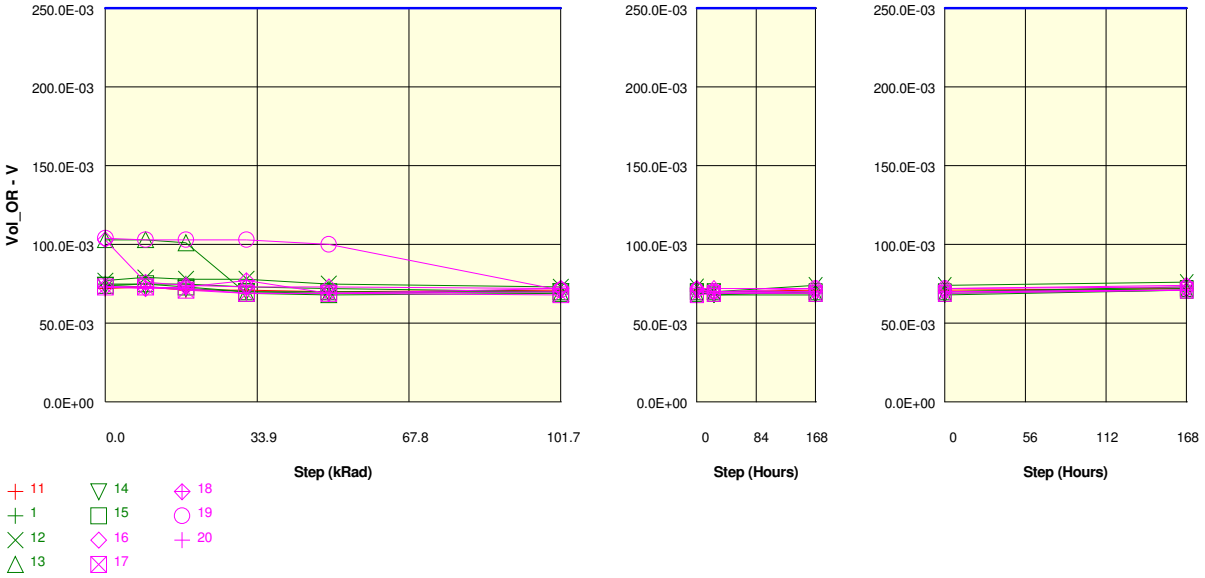
Measurements

Voh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
OFF samples									
16	2.290	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
17	2.340	2.340	2.340	2.330	2.330	2.330	2.330	2.330	2.330
18	2.330	2.330	2.330	2.320	2.330	2.320	2.320	2.320	2.320
19	2.290	2.290	2.290	2.280	2.280	2.330	2.330	2.330	2.330
20	2.330	2.330	2.330	2.330	2.330	2.330	2.320	2.330	2.330
Statistics									
Min	2.290	2.290	2.290	2.280	2.280	2.320	2.320	2.320	2.320
Max	2.340	2.340	2.340	2.330	2.330	2.330	2.330	2.330	2.330
Average	2.316	2.324	2.324	2.318	2.320	2.328	2.326	2.328	2.328
Sigma	0.022	0.017	0.017	0.019	0.020	0.004	0.005	0.004	0.004

Drift Calculation

Voh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	40.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03
17	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
18	-	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
19	-	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	40.0E-03	40.0E-03	40.0E-03	40.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	0.0E+00	0.0E+00
Average	-	8.0E-03	8.0E-03	2.0E-03	4.0E-03	12.0E-03	10.0E-03	12.0E-03	12.0E-03
Sigma	-	16.0E-03	16.0E-03	19.4E-03	18.5E-03	23.2E-03	24.5E-03	23.2E-03	23.2E-03

Parameter : Logic "0" voltage : Vol_OR
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

Vol_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	72.0E-03	73.0E-03	71.0E-03	71.0E-03	70.0E-03	71.0E-03	70.0E-03	71.0E-03	72.0E-03
ON samples									
1	75.0E-03	75.0E-03	75.0E-03	73.0E-03	72.0E-03	70.0E-03	68.0E-03	70.0E-03	73.0E-03
12	77.0E-03	79.0E-03	78.0E-03	78.0E-03	75.0E-03	73.0E-03	70.0E-03	74.0E-03	76.0E-03
13	103.0E-03	103.0E-03	101.0E-03	69.0E-03	68.0E-03	69.0E-03	69.0E-03	69.0E-03	71.0E-03
14	74.0E-03	73.0E-03	72.0E-03	70.0E-03	69.0E-03	70.0E-03	68.0E-03	68.0E-03	71.0E-03
15	74.0E-03	75.0E-03	73.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	72.0E-03
Statistics									
Min	74.0E-03	73.0E-03	72.0E-03	69.0E-03	68.0E-03	69.0E-03	68.0E-03	68.0E-03	71.0E-03
Max	103.0E-03	103.0E-03	101.0E-03	78.0E-03	75.0E-03	73.0E-03	70.0E-03	74.0E-03	76.0E-03
Average	80.6E-03	81.0E-03	79.8E-03	72.0E-03	70.8E-03	70.4E-03	69.0E-03	70.2E-03	72.6E-03
Sigma	11.3E-03	11.2E-03	10.8E-03	3.3E-03	2.5E-03	1.4E-03	894.4E-06	2.0E-03	1.9E-03

Drift Calculation

Vol_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	-2.0E-03	-3.0E-03	-5.0E-03	-7.0E-03	-5.0E-03	-2.0E-03
12	-	2.0E-03	1.0E-03	1.0E-03	-2.0E-03	-4.0E-03	-7.0E-03	-3.0E-03	-1.0E-03
13	-	0.0E+00	-2.0E-03	-34.0E-03	-35.0E-03	-34.0E-03	-34.0E-03	-34.0E-03	-32.0E-03
14	-	-1.0E-03	-2.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-6.0E-03	-6.0E-03	-3.0E-03
15	-	1.0E-03	-1.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-2.0E-03
Average	-	400.0E-06	-800.0E-06	-8.6E-03	-9.8E-03	-10.2E-03	-11.6E-03	-10.4E-03	-8.0E-03
Sigma	-	1.0E-03	1.2E-03	12.8E-03	12.6E-03	11.9E-03	11.3E-03	11.8E-03	12.0E-03

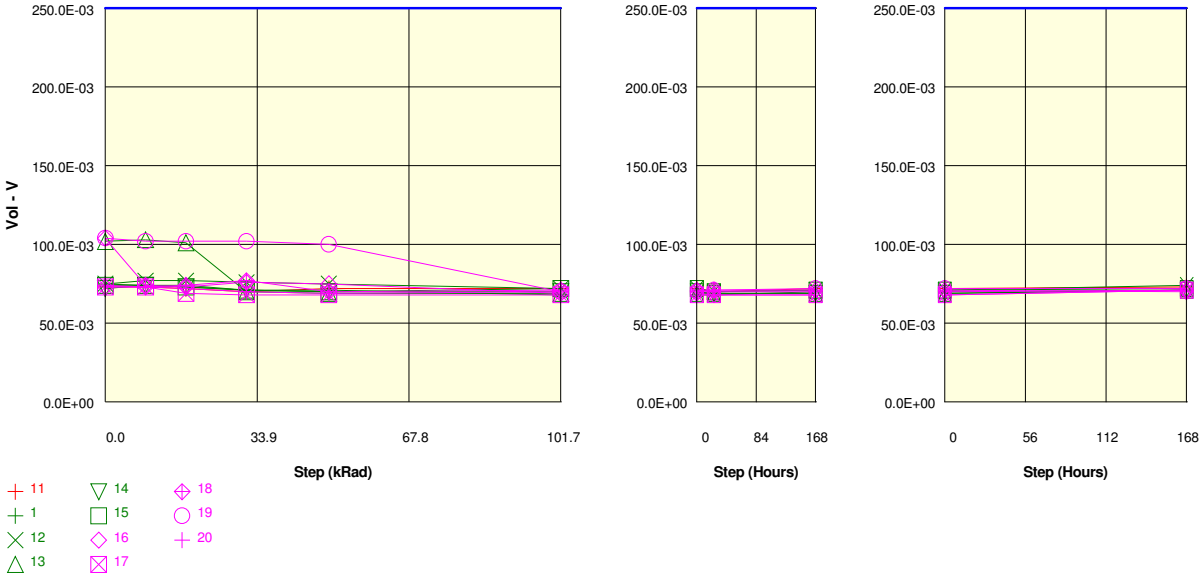
Measurements

Vol_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	72.0E-03	73.0E-03	71.0E-03	71.0E-03	70.0E-03	71.0E-03	70.0E-03	71.0E-03	72.0E-03
OFF samples									
16	103.0E-03	76.0E-03	74.0E-03	73.0E-03	73.0E-03	72.0E-03	72.0E-03	72.0E-03	74.0E-03
17	73.0E-03	73.0E-03	71.0E-03	69.0E-03	69.0E-03	68.0E-03	69.0E-03	69.0E-03	71.0E-03
18	73.0E-03	72.0E-03	73.0E-03	77.0E-03	69.0E-03	72.0E-03	70.0E-03	70.0E-03	71.0E-03
19	104.0E-03	103.0E-03	103.0E-03	103.0E-03	100.0E-03	71.0E-03	70.0E-03	72.0E-03	73.0E-03
20	73.0E-03	73.0E-03	72.0E-03	69.0E-03	69.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
Statistics									
Min	73.0E-03	72.0E-03	71.0E-03	69.0E-03	69.0E-03	68.0E-03	69.0E-03	69.0E-03	71.0E-03
Max	104.0E-03	103.0E-03	103.0E-03	103.0E-03	100.0E-03	72.0E-03	72.0E-03	72.0E-03	74.0E-03
Average	85.2E-03	79.4E-03	78.6E-03	78.2E-03	76.0E-03	70.6E-03	70.0E-03	70.6E-03	72.0E-03
Sigma	14.9E-03	11.9E-03	12.2E-03	12.7E-03	12.1E-03	1.5E-03	1.1E-03	1.2E-03	1.3E-03

Drift Calculation

Vol_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-27.0E-03	-29.0E-03	-30.0E-03	-30.0E-03	-31.0E-03	-31.0E-03	-31.0E-03	-29.0E-03
17	-	0.0E+00	-2.0E-03	-4.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-4.0E-03	-2.0E-03
18	-	-1.0E-03	0.0E+00	4.0E-03	-4.0E-03	-1.0E-03	-3.0E-03	-3.0E-03	-2.0E-03
19	-	-1.0E-03	-1.0E-03	-1.0E-03	-4.0E-03	-33.0E-03	-34.0E-03	-32.0E-03	-31.0E-03
20	-	0.0E+00	-1.0E-03	-4.0E-03	-4.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-2.0E-03
Average	-	-5.8E-03	-6.6E-03	-7.0E-03	-9.2E-03	-14.6E-03	-15.2E-03	-14.6E-03	-13.2E-03
Sigma	-	10.6E-03	11.2E-03	11.9E-03	10.4E-03	14.3E-03	14.2E-03	13.8E-03	13.7E-03

Parameter : Logic "0" voltage : VolD11
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	70.0E-03	72.0E-03	72.0E-03	70.0E-03	72.0E-03	73.0E-03
ON samples									
1	75.0E-03	74.0E-03	74.0E-03	71.0E-03	71.0E-03	68.0E-03	68.0E-03	70.0E-03	71.0E-03
12	75.0E-03	77.0E-03	77.0E-03	76.0E-03	75.0E-03	72.0E-03	70.0E-03	71.0E-03	74.0E-03
13	102.0E-03	103.0E-03	101.0E-03	70.0E-03	69.0E-03	69.0E-03	69.0E-03	69.0E-03	71.0E-03
14	72.0E-03	74.0E-03	73.0E-03	71.0E-03	70.0E-03	70.0E-03	69.0E-03	69.0E-03	71.0E-03
15	74.0E-03	74.0E-03	73.0E-03	71.0E-03	70.0E-03	72.0E-03	70.0E-03	71.0E-03	72.0E-03
Statistics									
Min	72.0E-03	74.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	68.0E-03	69.0E-03	71.0E-03
Max	102.0E-03	103.0E-03	101.0E-03	76.0E-03	75.0E-03	72.0E-03	70.0E-03	71.0E-03	74.0E-03
Average	79.6E-03	80.4E-03	79.6E-03	71.8E-03	71.0E-03	70.2E-03	69.2E-03	70.0E-03	71.8E-03
Sigma	11.3E-03	11.4E-03	10.8E-03	2.1E-03	2.1E-03	1.6E-03	748.3E-06	894.4E-06	1.2E-03

Drift Calculation

VolD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-1.0E-03	-1.0E-03	-4.0E-03	-4.0E-03	-7.0E-03	-7.0E-03	-5.0E-03	-4.0E-03
12	-	2.0E-03	2.0E-03	1.0E-03	0.0E+00	-3.0E-03	-5.0E-03	-4.0E-03	-1.0E-03
13	-	1.0E-03	-1000.0E-06	-32.0E-03	-33.0E-03	-33.0E-03	-33.0E-03	-33.0E-03	-31.0E-03
14	-	2.0E-03	1.0E-03	-1.0E-03	-2.0E-03	-2.0E-03	-3.0E-03	-3.0E-03	-1.0E-03
15	-	0.0E+00	-1.0E-03	-3.0E-03	-4.0E-03	-2.0E-03	-4.0E-03	-3.0E-03	-2.0E-03
Average	-	800.0E-06	2.8E-18	-7.8E-03	-8.6E-03	-9.4E-03	-10.4E-03	-9.6E-03	-7.8E-03
Sigma	-	1.2E-03	1.3E-03	12.2E-03	12.3E-03	11.9E-03	11.4E-03	11.7E-03	11.7E-03

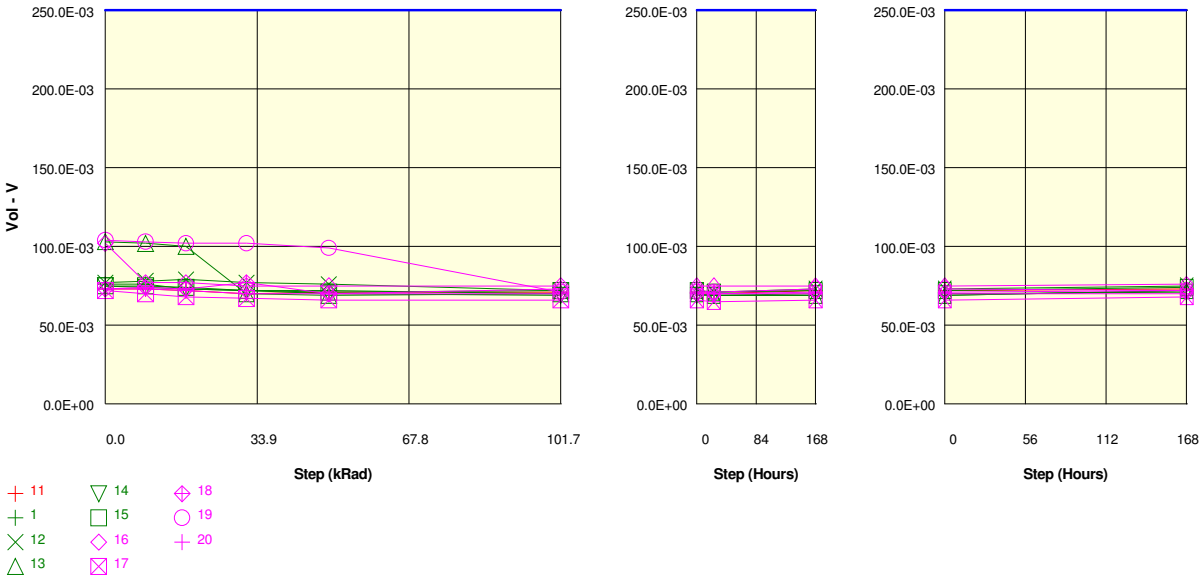
Measurements

VoID11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	70.0E-03	72.0E-03	72.0E-03	70.0E-03	72.0E-03	73.0E-03
OFF samples									
16	104.0E-03	74.0E-03	73.0E-03	76.0E-03	75.0E-03	69.0E-03	68.0E-03	68.0E-03	71.0E-03
17	73.0E-03	73.0E-03	69.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	71.0E-03
18	73.0E-03	73.0E-03	74.0E-03	77.0E-03	70.0E-03	71.0E-03	71.0E-03	71.0E-03	70.0E-03
19	104.0E-03	102.0E-03	102.0E-03	102.0E-03	100.0E-03	70.0E-03	71.0E-03	72.0E-03	72.0E-03
20	74.0E-03	73.0E-03	72.0E-03	70.0E-03	69.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03
Statistics									
Min	73.0E-03	73.0E-03	69.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	104.0E-03	102.0E-03	102.0E-03	102.0E-03	100.0E-03	71.0E-03	71.0E-03	72.0E-03	72.0E-03
Average	85.6E-03	79.0E-03	78.0E-03	78.6E-03	76.4E-03	69.6E-03	69.6E-03	69.8E-03	71.0E-03
Sigma	15.0E-03	11.5E-03	12.1E-03	12.2E-03	12.0E-03	1.0E-03	1.4E-03	1.6E-03	632.5E-06

Drift Calculation

VoID11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-30.0E-03	-31.0E-03	-28.0E-03	-29.0E-03	-35.0E-03	-36.0E-03	-36.0E-03	-33.0E-03
17	-	0.0E+00	-4.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-2.0E-03
18	-	0.0E+00	1.0E-03	4.0E-03	-3.0E-03	-2.0E-03	-2.0E-03	-2.0E-03	-3.0E-03
19	-	-2.0E-03	-2.0E-03	-2.0E-03	-4.0E-03	-34.0E-03	-33.0E-03	-32.0E-03	-32.0E-03
20	-	-1.0E-03	-2.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-3.0E-03
Average	-	-6.6E-03	-7.6E-03	-7.0E-03	-9.2E-03	-16.0E-03	-16.0E-03	-15.8E-03	-14.6E-03
Sigma	-	11.7E-03	11.8E-03	11.0E-03	9.9E-03	15.1E-03	15.2E-03	14.9E-03	14.6E-03

Parameter : Logic "0" voltage : VolD10
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	70.0E-03	71.0E-03	71.0E-03	70.0E-03	72.0E-03	73.0E-03
ON samples									
1	76.0E-03	76.0E-03	73.0E-03	72.0E-03	72.0E-03	70.0E-03	69.0E-03	69.0E-03	72.0E-03
12	77.0E-03	78.0E-03	79.0E-03	77.0E-03	76.0E-03	72.0E-03	71.0E-03	73.0E-03	75.0E-03
13	103.0E-03	102.0E-03	100.0E-03	70.0E-03	69.0E-03	70.0E-03	69.0E-03	69.0E-03	72.0E-03
14	75.0E-03	74.0E-03	73.0E-03	72.0E-03	70.0E-03	69.0E-03	69.0E-03	70.0E-03	71.0E-03
15	75.0E-03	75.0E-03	74.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	72.0E-03	74.0E-03
Statistics									
Min	75.0E-03	74.0E-03	73.0E-03	70.0E-03	69.0E-03	69.0E-03	69.0E-03	69.0E-03	71.0E-03
Max	103.0E-03	102.0E-03	100.0E-03	77.0E-03	76.0E-03	72.0E-03	71.0E-03	73.0E-03	75.0E-03
Average	81.2E-03	81.0E-03	79.8E-03	72.6E-03	71.6E-03	70.6E-03	69.8E-03	70.6E-03	72.8E-03
Sigma	10.9E-03	10.6E-03	10.3E-03	2.3E-03	2.4E-03	1.2E-03	979.8E-06	1.6E-03	1.5E-03

Drift Calculation

VolD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-3.0E-03	-4.0E-03	-4.0E-03	-6.0E-03	-7.0E-03	-7.0E-03	-4.0E-03
12	-	1.0E-03	2.0E-03	0.0E+00	-1.0E-03	-5.0E-03	-6.0E-03	-4.0E-03	-2.0E-03
13	-	-1.0E-03	-3.0E-03	-33.0E-03	-34.0E-03	-33.0E-03	-34.0E-03	-34.0E-03	-31.0E-03
14	-	-1.0E-03	-2.0E-03	-3.0E-03	-5.0E-03	-6.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
15	-	0.0E+00	-1.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-1.0E-03
Average	-	-200.0E-06	-1.4E-03	-8.6E-03	-9.6E-03	-10.6E-03	-11.4E-03	-10.6E-03	-8.4E-03
Sigma	-	748.3E-06	1.9E-03	12.3E-03	12.3E-03	11.3E-03	11.3E-03	11.8E-03	11.4E-03

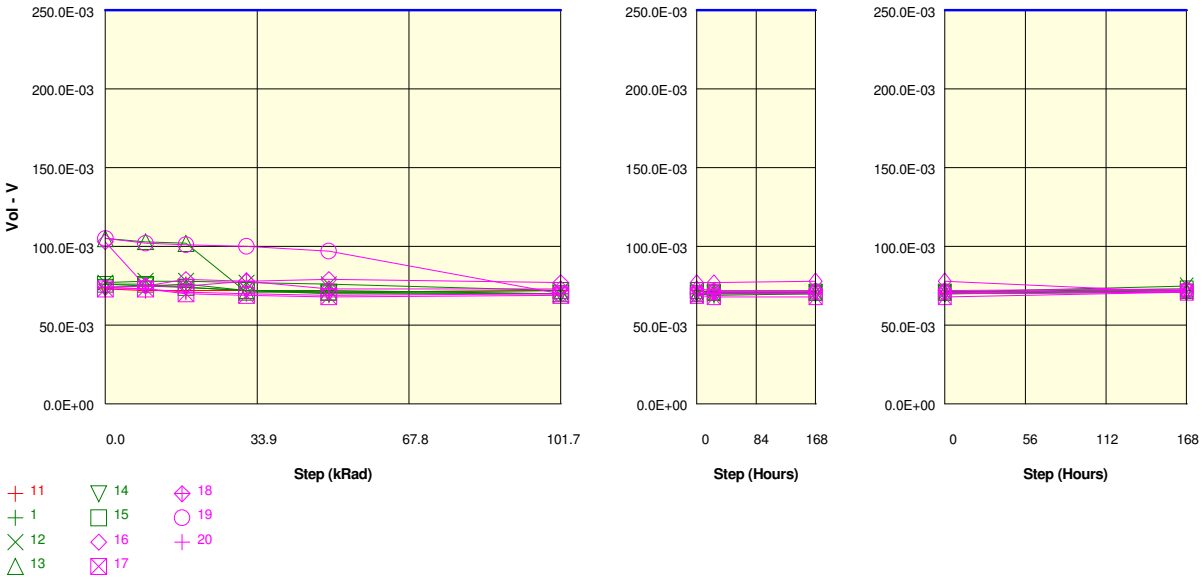
Measurements

VolD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	70.0E-03	71.0E-03	71.0E-03	70.0E-03	72.0E-03	73.0E-03
OFF samples									
16	102.0E-03	77.0E-03	77.0E-03	75.0E-03	75.0E-03	75.0E-03	75.0E-03	75.0E-03	76.0E-03
17	72.0E-03	70.0E-03	68.0E-03	67.0E-03	66.0E-03	66.0E-03	65.0E-03	66.0E-03	68.0E-03
18	73.0E-03	74.0E-03	73.0E-03	77.0E-03	70.0E-03	73.0E-03	70.0E-03	71.0E-03	72.0E-03
19	104.0E-03	103.0E-03	102.0E-03	102.0E-03	99.0E-03	71.0E-03	71.0E-03	73.0E-03	72.0E-03
20	73.0E-03	73.0E-03	72.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03
Statistics									
Min	72.0E-03	70.0E-03	68.0E-03	67.0E-03	66.0E-03	66.0E-03	65.0E-03	66.0E-03	68.0E-03
Max	104.0E-03	103.0E-03	102.0E-03	102.0E-03	99.0E-03	75.0E-03	75.0E-03	75.0E-03	76.0E-03
Average	84.8E-03	79.4E-03	78.4E-03	78.2E-03	76.0E-03	71.0E-03	70.2E-03	71.0E-03	71.6E-03
Sigma	14.9E-03	12.0E-03	12.1E-03	12.4E-03	11.8E-03	3.0E-03	3.2E-03	3.0E-03	2.7E-03

Drift Calculation

VolD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-25.0E-03	-25.0E-03	-27.0E-03	-27.0E-03	-27.0E-03	-27.0E-03	-27.0E-03	-26.0E-03
17	-	-2.0E-03	-4.0E-03	-5.0E-03	-6.0E-03	-6.0E-03	-7.0E-03	-6.0E-03	-4.0E-03
18	-	1.0E-03	0.0E+00	4.0E-03	-3.0E-03	0.0E+00	-3.0E-03	-2.0E-03	-1.0E-03
19	-	-1.0E-03	-2.0E-03	-2.0E-03	-5.0E-03	-33.0E-03	-33.0E-03	-31.0E-03	-32.0E-03
20	-	0.0E+00	-1.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03
Average	-	-5.4E-03	-6.4E-03	-6.6E-03	-8.8E-03	-13.8E-03	-14.6E-03	-13.8E-03	-13.2E-03
Sigma	-	9.9E-03	9.4E-03	10.6E-03	9.2E-03	13.5E-03	12.8E-03	12.5E-03	13.1E-03

Parameter : Logic "0" voltage : VolD9
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	72.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	71.0E-03	72.0E-03
ON samples									
1	76.0E-03	75.0E-03	76.0E-03	72.0E-03	72.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
12	77.0E-03	78.0E-03	78.0E-03	77.0E-03	76.0E-03	72.0E-03	70.0E-03	71.0E-03	75.0E-03
13	105.0E-03	103.0E-03	102.0E-03	71.0E-03	71.0E-03	70.0E-03	71.0E-03	71.0E-03	72.0E-03
14	74.0E-03	75.0E-03	74.0E-03	72.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03
15	76.0E-03	76.0E-03	74.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	71.0E-03	73.0E-03
Statistics									
Min	74.0E-03	75.0E-03	74.0E-03	71.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
Max	105.0E-03	103.0E-03	102.0E-03	77.0E-03	76.0E-03	72.0E-03	71.0E-03	71.0E-03	75.0E-03
Average	81.6E-03	81.4E-03	80.8E-03	72.8E-03	72.0E-03	70.8E-03	70.2E-03	70.6E-03	72.6E-03
Sigma	11.7E-03	10.9E-03	10.7E-03	2.1E-03	2.1E-03	979.8E-06	748.3E-06	489.9E-06	1.4E-03

Drift Calculation

VolD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-1.0E-03	0.0E+00	-4.0E-03	-4.0E-03	-6.0E-03	-7.0E-03	-6.0E-03	-4.0E-03
12	-	1.0E-03	1.0E-03	0.0E+00	-1.0E-03	-5.0E-03	-7.0E-03	-6.0E-03	-2.0E-03
13	-	-2.0E-03	-3.0E-03	-34.0E-03	-34.0E-03	-35.0E-03	-34.0E-03	-34.0E-03	-33.0E-03
14	-	1.0E-03	0.0E+00	-2.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-3.0E-03
15	-	0.0E+00	-2.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-3.0E-03
Average	-	-200.0E-06	-800.0E-06	-8.8E-03	-9.6E-03	-10.8E-03	-11.4E-03	-11.0E-03	-9.0E-03
Sigma	-	1.2E-03	1.5E-03	12.7E-03	12.3E-03	12.1E-03	11.4E-03	11.5E-03	12.0E-03

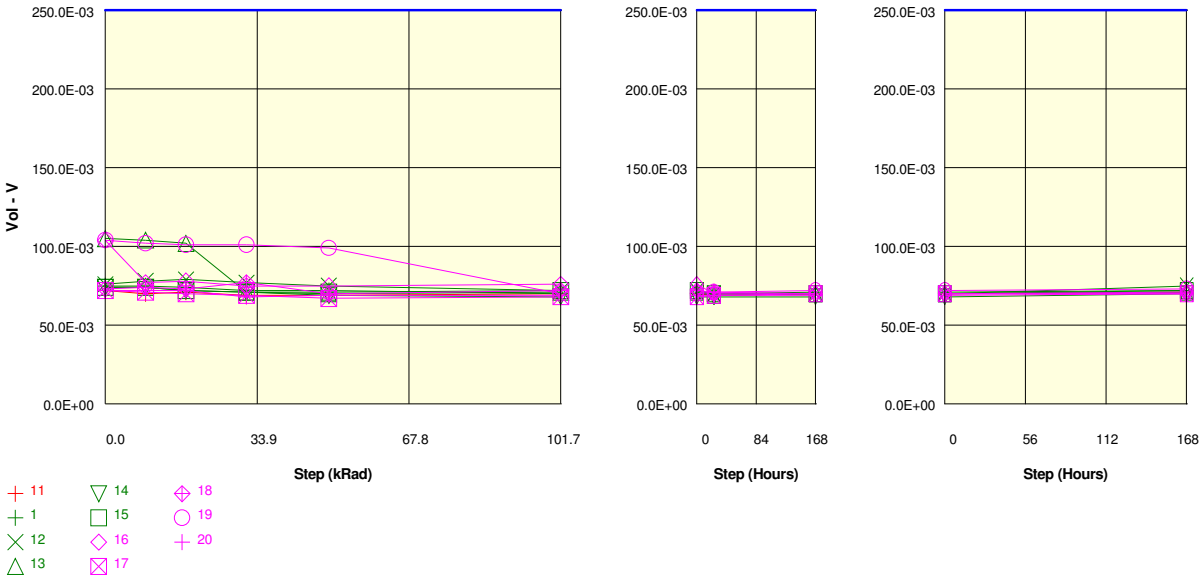
Measurements

VoID9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	72.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	71.0E-03	72.0E-03
OFF samples									
16	103.0E-03	75.0E-03	79.0E-03	78.0E-03	79.0E-03	77.0E-03	77.0E-03	78.0E-03	71.0E-03
17	73.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	69.0E-03	68.0E-03	68.0E-03	71.0E-03
18	74.0E-03	75.0E-03	75.0E-03	78.0E-03	73.0E-03	73.0E-03	72.0E-03	72.0E-03	73.0E-03
19	105.0E-03	102.0E-03	101.0E-03	100.0E-03	97.0E-03	70.0E-03	71.0E-03	71.0E-03	72.0E-03
20	74.0E-03	73.0E-03	71.0E-03	70.0E-03	69.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03
Statistics									
Min	73.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	69.0E-03	68.0E-03	68.0E-03	71.0E-03
Max	105.0E-03	102.0E-03	101.0E-03	100.0E-03	97.0E-03	77.0E-03	77.0E-03	78.0E-03	73.0E-03
Average	85.8E-03	79.6E-03	79.2E-03	79.0E-03	77.2E-03	71.8E-03	71.6E-03	71.8E-03	71.6E-03
Sigma	14.9E-03	11.2E-03	11.4E-03	11.2E-03	10.6E-03	2.9E-03	3.0E-03	3.4E-03	800.0E-06

Drift Calculation

VoID9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-28.0E-03	-24.0E-03	-25.0E-03	-24.0E-03	-26.0E-03	-26.0E-03	-25.0E-03	-32.0E-03
17	-	0.0E+00	-3.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-2.0E-03
18	-	1.0E-03	1.0E-03	4.0E-03	-1.0E-03	-1.0E-03	-2.0E-03	-2.0E-03	-1.0E-03
19	-	-3.0E-03	-4.0E-03	-5.0E-03	-8.0E-03	-35.0E-03	-34.0E-03	-34.0E-03	-33.0E-03
20	-	-1.0E-03	-3.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-3.0E-03
Average	-	-6.2E-03	-6.6E-03	-6.8E-03	-8.6E-03	-14.0E-03	-14.2E-03	-14.0E-03	-14.2E-03
Sigma	-	11.0E-03	8.9E-03	9.7E-03	8.0E-03	13.8E-03	13.2E-03	13.0E-03	15.0E-03

Parameter : Logic "0" voltage : VolD8
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	72.0E-03	70.0E-03	71.0E-03	69.0E-03	69.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
ON samples									
1	75.0E-03	75.0E-03	74.0E-03	72.0E-03	72.0E-03	70.0E-03	70.0E-03	71.0E-03	72.0E-03
12	76.0E-03	78.0E-03	79.0E-03	77.0E-03	75.0E-03	72.0E-03	70.0E-03	70.0E-03	75.0E-03
13	105.0E-03	104.0E-03	102.0E-03	71.0E-03	70.0E-03	71.0E-03	69.0E-03	70.0E-03	71.0E-03
14	74.0E-03	74.0E-03	72.0E-03	71.0E-03	69.0E-03	68.0E-03	68.0E-03	68.0E-03	70.0E-03
15	74.0E-03	74.0E-03	72.0E-03	71.0E-03	71.0E-03	72.0E-03	70.0E-03	70.0E-03	72.0E-03
Statistics									
Min	74.0E-03	74.0E-03	72.0E-03	71.0E-03	69.0E-03	68.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	105.0E-03	104.0E-03	102.0E-03	77.0E-03	75.0E-03	72.0E-03	70.0E-03	71.0E-03	75.0E-03
Average	80.8E-03	81.0E-03	79.8E-03	72.4E-03	71.4E-03	70.6E-03	69.4E-03	69.8E-03	72.0E-03
Sigma	12.1E-03	11.6E-03	11.4E-03	2.3E-03	2.1E-03	1.5E-03	800.0E-06	979.8E-06	1.7E-03

Drift Calculation

VolD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-1.0E-03	-3.0E-03	-3.0E-03	-5.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
12	-	2.0E-03	3.0E-03	1.0E-03	-1.0E-03	-4.0E-03	-6.0E-03	-6.0E-03	-1.0E-03
13	-	-1.0E-03	-3.0E-03	-34.0E-03	-35.0E-03	-34.0E-03	-36.0E-03	-35.0E-03	-34.0E-03
14	-	0.0E+00	-2.0E-03	-3.0E-03	-5.0E-03	-6.0E-03	-6.0E-03	-6.0E-03	-4.0E-03
15	-	0.0E+00	-2.0E-03	-3.0E-03	-3.0E-03	-2.0E-03	-4.0E-03	-4.0E-03	-2.0E-03
Average	-	200.0E-06	-1.0E-03	-8.4E-03	-9.4E-03	-10.2E-03	-11.4E-03	-11.0E-03	-8.8E-03
Sigma	-	979.8E-06	2.1E-03	12.9E-03	12.9E-03	12.0E-03	12.3E-03	12.0E-03	12.6E-03

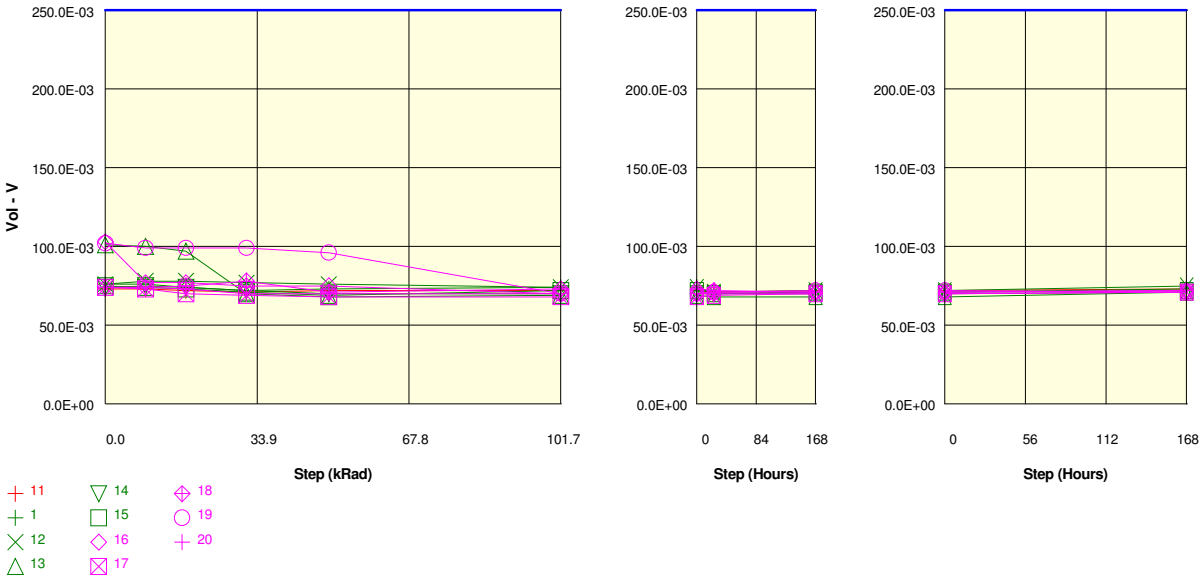
Measurements

VolD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	72.0E-03	70.0E-03	71.0E-03	69.0E-03	69.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
OFF samples									
16	104.0E-03	77.0E-03	78.0E-03	75.0E-03	75.0E-03	76.0E-03	70.0E-03	70.0E-03	70.0E-03
17	72.0E-03	71.0E-03	70.0E-03	69.0E-03	67.0E-03	68.0E-03	69.0E-03	70.0E-03	70.0E-03
18	73.0E-03	74.0E-03	73.0E-03	77.0E-03	70.0E-03	72.0E-03	71.0E-03	70.0E-03	71.0E-03
19	104.0E-03	102.0E-03	101.0E-03	101.0E-03	99.0E-03	70.0E-03	71.0E-03	72.0E-03	73.0E-03
20	72.0E-03	72.0E-03	72.0E-03	68.0E-03	69.0E-03	69.0E-03	69.0E-03	69.0E-03	70.0E-03
Statistics									
Min	72.0E-03	71.0E-03	70.0E-03	68.0E-03	67.0E-03	68.0E-03	69.0E-03	69.0E-03	70.0E-03
Max	104.0E-03	102.0E-03	101.0E-03	101.0E-03	99.0E-03	76.0E-03	71.0E-03	72.0E-03	73.0E-03
Average	85.0E-03	79.2E-03	78.8E-03	78.0E-03	76.0E-03	71.0E-03	70.0E-03	70.2E-03	70.8E-03
Sigma	15.5E-03	11.6E-03	11.4E-03	12.0E-03	11.8E-03	2.8E-03	894.4E-06	979.8E-06	1.2E-03

Drift Calculation

VolD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-27.0E-03	-26.0E-03	-29.0E-03	-29.0E-03	-28.0E-03	-34.0E-03	-34.0E-03	-34.0E-03
17	-	-1.0E-03	-2.0E-03	-3.0E-03	-5.0E-03	-4.0E-03	-3.0E-03	-2.0E-03	-2.0E-03
18	-	1.0E-03	0.0E+00	4.0E-03	-3.0E-03	-1.0E-03	-2.0E-03	-3.0E-03	-2.0E-03
19	-	-2.0E-03	-3.0E-03	-3.0E-03	-5.0E-03	-34.0E-03	-33.0E-03	-32.0E-03	-31.0E-03
20	-	0.0E+00	0.0E+00	-4.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-2.0E-03
Average	-	-5.8E-03	-6.2E-03	-7.0E-03	-9.0E-03	-14.0E-03	-15.0E-03	-14.8E-03	-14.2E-03
Sigma	-	10.6E-03	10.0E-03	11.4E-03	10.0E-03	14.0E-03	15.1E-03	14.9E-03	15.0E-03

Parameter : Logic "0" voltage : VolD7
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	71.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	73.0E-03
ON samples									
1	76.0E-03	76.0E-03	74.0E-03	72.0E-03	73.0E-03	74.0E-03	70.0E-03	71.0E-03	73.0E-03
12	76.0E-03	78.0E-03	78.0E-03	77.0E-03	76.0E-03	74.0E-03	71.0E-03	72.0E-03	75.0E-03
13	101.0E-03	100.0E-03	97.0E-03	70.0E-03	68.0E-03	69.0E-03	68.0E-03	68.0E-03	71.0E-03
14	74.0E-03	75.0E-03	74.0E-03	72.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03
15	75.0E-03	74.0E-03	73.0E-03	71.0E-03	69.0E-03	72.0E-03	70.0E-03	71.0E-03	72.0E-03
Statistics									
Min	74.0E-03	74.0E-03	73.0E-03	70.0E-03	68.0E-03	69.0E-03	68.0E-03	68.0E-03	71.0E-03
Max	101.0E-03	100.0E-03	97.0E-03	77.0E-03	76.0E-03	74.0E-03	71.0E-03	72.0E-03	75.0E-03
Average	80.4E-03	80.6E-03	79.2E-03	72.4E-03	71.2E-03	71.8E-03	69.8E-03	70.4E-03	72.4E-03
Sigma	10.3E-03	9.8E-03	9.1E-03	2.4E-03	2.9E-03	2.0E-03	979.8E-06	1.4E-03	1.5E-03

Drift Calculation

VolD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-2.0E-03	-4.0E-03	-3.0E-03	-2.0E-03	-6.0E-03	-5.0E-03	-3.0E-03
12	-	2.0E-03	2.0E-03	1.0E-03	0.0E+00	-2.0E-03	-5.0E-03	-4.0E-03	-1.0E-03
13	-	-1.0E-03	-4.0E-03	-31.0E-03	-33.0E-03	-32.0E-03	-33.0E-03	-33.0E-03	-30.0E-03
14	-	1.0E-03	0.0E+00	-2.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-3.0E-03
15	-	-1.0E-03	-2.0E-03	-4.0E-03	-6.0E-03	-3.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
Average	-	200.0E-06	-1.2E-03	-8.0E-03	-9.2E-03	-8.6E-03	-10.6E-03	-10.0E-03	-8.0E-03
Sigma	-	1.2E-03	2.0E-03	11.6E-03	12.1E-03	11.7E-03	11.2E-03	11.5E-03	11.0E-03

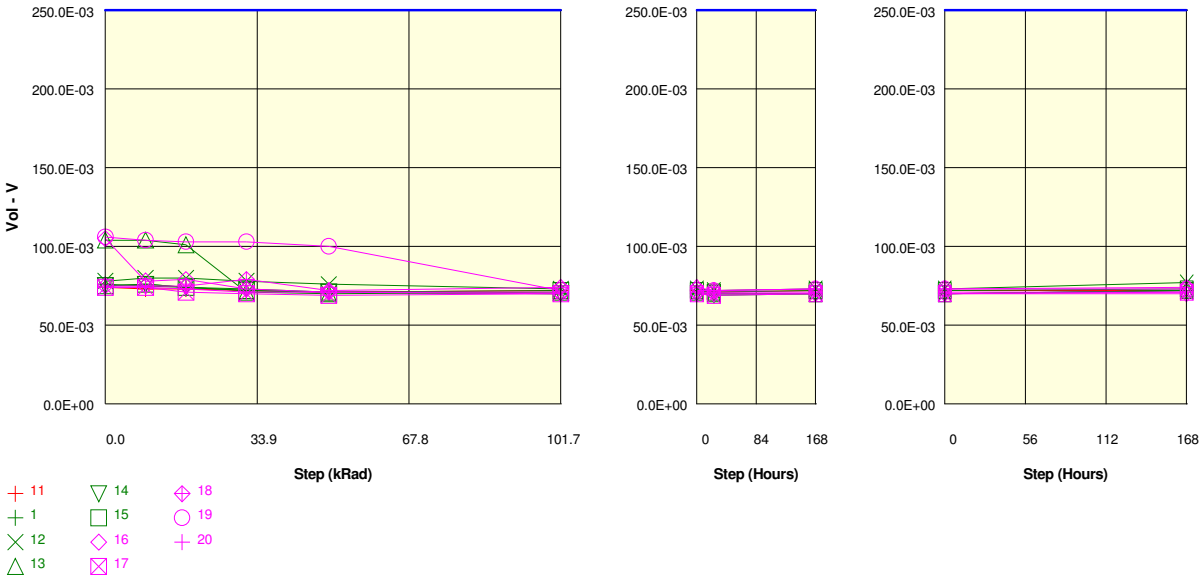
Measurements

VoID7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	71.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	73.0E-03
OFF samples									
16	103.0E-03	77.0E-03	77.0E-03	75.0E-03	75.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03
17	74.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	68.0E-03	69.0E-03	70.0E-03	71.0E-03
18	74.0E-03	74.0E-03	75.0E-03	78.0E-03	71.0E-03	73.0E-03	72.0E-03	71.0E-03	72.0E-03
19	102.0E-03	99.0E-03	99.0E-03	99.0E-03	96.0E-03	70.0E-03	71.0E-03	72.0E-03	71.0E-03
20	74.0E-03	74.0E-03	73.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03	71.0E-03	72.0E-03
Statistics									
Min	74.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	68.0E-03	69.0E-03	70.0E-03	71.0E-03
Max	103.0E-03	99.0E-03	99.0E-03	99.0E-03	96.0E-03	73.0E-03	72.0E-03	72.0E-03	72.0E-03
Average	85.4E-03	79.4E-03	78.8E-03	78.2E-03	76.0E-03	70.2E-03	70.6E-03	70.8E-03	71.4E-03
Sigma	14.0E-03	9.9E-03	10.4E-03	10.9E-03	10.3E-03	1.6E-03	1.0E-03	748.3E-06	489.9E-06

Drift Calculation

VoID7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-26.0E-03	-26.0E-03	-28.0E-03	-28.0E-03	-33.0E-03	-33.0E-03	-33.0E-03	-32.0E-03
17	-	-1.0E-03	-4.0E-03	-5.0E-03	-6.0E-03	-6.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
18	-	0.0E+00	1.0E-03	4.0E-03	-3.0E-03	-1.0E-03	-2.0E-03	-3.0E-03	-2.0E-03
19	-	-3.0E-03	-3.0E-03	-3.0E-03	-6.0E-03	-32.0E-03	-31.0E-03	-30.0E-03	-31.0E-03
20	-	0.0E+00	-1.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-3.0E-03	-3.0E-03	-2.0E-03
Average	-	-6.0E-03	-6.6E-03	-7.2E-03	-9.4E-03	-15.2E-03	-14.8E-03	-14.6E-03	-14.0E-03
Sigma	-	10.1E-03	9.9E-03	10.9E-03	9.4E-03	14.2E-03	14.1E-03	13.8E-03	14.3E-03

Parameter : Logic "0" voltage : VolD6
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	74.0E-03	73.0E-03	73.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	72.0E-03	72.0E-03
ON samples									
1	76.0E-03	75.0E-03	74.0E-03	72.0E-03	71.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
12	78.0E-03	80.0E-03	80.0E-03	78.0E-03	76.0E-03	73.0E-03	72.0E-03	73.0E-03	77.0E-03
13	104.0E-03	104.0E-03	101.0E-03	71.0E-03	70.0E-03	71.0E-03	70.0E-03	70.0E-03	72.0E-03
14	75.0E-03	76.0E-03	74.0E-03	73.0E-03	71.0E-03	70.0E-03	70.0E-03	70.0E-03	72.0E-03
15	75.0E-03	76.0E-03	74.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	72.0E-03	73.0E-03
Statistics									
Min	75.0E-03	75.0E-03	74.0E-03	71.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
Max	104.0E-03	104.0E-03	101.0E-03	78.0E-03	76.0E-03	73.0E-03	72.0E-03	73.0E-03	77.0E-03
Average	81.6E-03	82.2E-03	80.6E-03	73.2E-03	71.8E-03	71.2E-03	70.4E-03	71.0E-03	73.2E-03
Sigma	11.3E-03	11.0E-03	10.5E-03	2.5E-03	2.1E-03	1.2E-03	1.0E-03	1.3E-03	1.9E-03

Drift Calculation

VolD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-1.0E-03	-2.0E-03	-4.0E-03	-5.0E-03	-6.0E-03	-7.0E-03	-6.0E-03	-4.0E-03
12	-	2.0E-03	2.0E-03	0.0E+00	-2.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-1.0E-03
13	-	0.0E+00	-3.0E-03	-33.0E-03	-34.0E-03	-33.0E-03	-34.0E-03	-34.0E-03	-32.0E-03
14	-	1.0E-03	-1.0E-03	-2.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-3.0E-03
15	-	1.0E-03	-1.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-2.0E-03
Average	-	600.0E-06	-1000.0E-06	-8.4E-03	-9.8E-03	-10.4E-03	-11.2E-03	-10.6E-03	-8.4E-03
Sigma	-	1.0E-03	1.7E-03	12.4E-03	12.1E-03	11.3E-03	11.4E-03	11.7E-03	11.8E-03

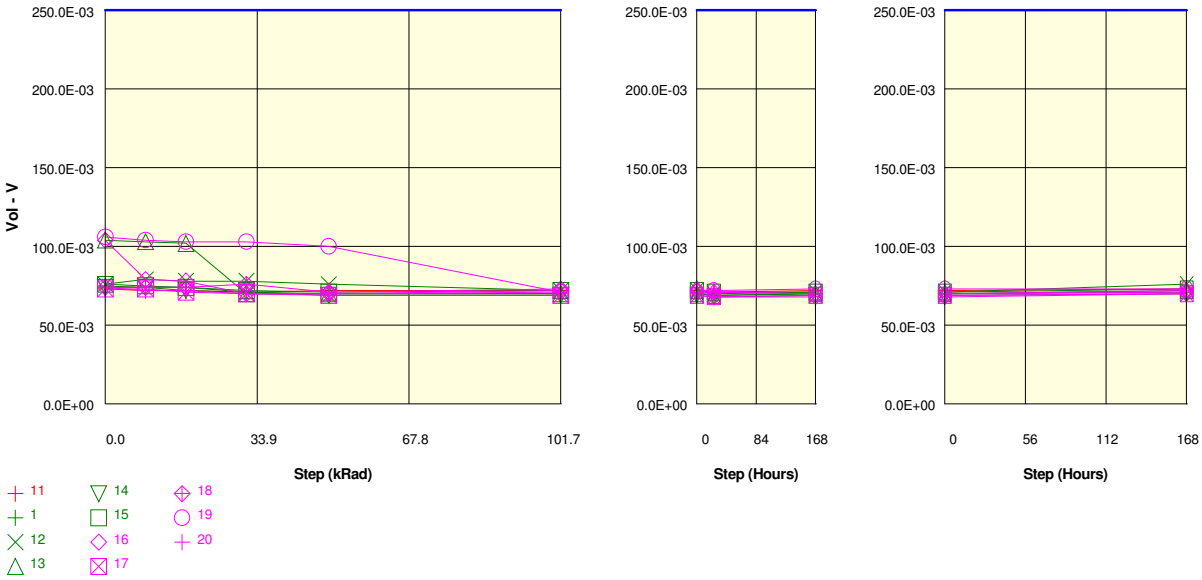
Measurements

VolD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	74.0E-03	73.0E-03	73.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	72.0E-03	72.0E-03
OFF samples									
16	105.0E-03	78.0E-03	79.0E-03	73.0E-03	71.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03
17	74.0E-03	74.0E-03	71.0E-03	70.0E-03	69.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
18	75.0E-03	75.0E-03	75.0E-03	79.0E-03	72.0E-03	74.0E-03	72.0E-03	73.0E-03	74.0E-03
19	106.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	72.0E-03	72.0E-03	73.0E-03	73.0E-03
20	74.0E-03	74.0E-03	73.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03
Statistics									
Min	74.0E-03	74.0E-03	71.0E-03	70.0E-03	69.0E-03	70.0E-03	69.0E-03	70.0E-03	70.0E-03
Max	106.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	74.0E-03	72.0E-03	73.0E-03	74.0E-03
Average	86.8E-03	81.0E-03	80.2E-03	79.2E-03	76.6E-03	71.4E-03	70.8E-03	71.4E-03	71.8E-03
Sigma	15.3E-03	11.6E-03	11.7E-03	12.3E-03	11.7E-03	1.5E-03	1.2E-03	1.4E-03	1.5E-03

Drift Calculation

VolD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-27.0E-03	-26.0E-03	-32.0E-03	-34.0E-03	-35.0E-03	-35.0E-03	-35.0E-03	-35.0E-03
17	-	0.0E+00	-3.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
18	-	0.0E+00	0.0E+00	4.0E-03	-3.0E-03	-1.0E-03	-3.0E-03	-2.0E-03	-1.0E-03
19	-	-2.0E-03	-3.0E-03	-3.0E-03	-6.0E-03	-34.0E-03	-34.0E-03	-33.0E-03	-33.0E-03
20	-	0.0E+00	-1.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03
Average	-	-5.8E-03	-6.6E-03	-7.6E-03	-10.2E-03	-15.4E-03	-16.0E-03	-15.4E-03	-15.0E-03
Sigma	-	10.6E-03	9.8E-03	12.5E-03	12.0E-03	15.6E-03	15.1E-03	15.2E-03	15.5E-03

Parameter : Logic "0" voltage : VoID5
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VoID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	73.0E-03
ON samples									
1	75.0E-03	74.0E-03	74.0E-03	71.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
12	76.0E-03	79.0E-03	78.0E-03	78.0E-03	76.0E-03	72.0E-03	70.0E-03	71.0E-03	76.0E-03
13	104.0E-03	103.0E-03	102.0E-03	70.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
14	74.0E-03	74.0E-03	72.0E-03	71.0E-03	69.0E-03	69.0E-03	68.0E-03	69.0E-03	70.0E-03
15	76.0E-03	75.0E-03	74.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	71.0E-03	73.0E-03
Statistics									
Min	74.0E-03	74.0E-03	72.0E-03	70.0E-03	69.0E-03	69.0E-03	68.0E-03	69.0E-03	70.0E-03
Max	104.0E-03	103.0E-03	102.0E-03	78.0E-03	76.0E-03	72.0E-03	71.0E-03	71.0E-03	76.0E-03
Average	81.0E-03	81.0E-03	80.0E-03	72.4E-03	71.2E-03	70.6E-03	69.4E-03	70.2E-03	72.4E-03
Sigma	11.5E-03	11.2E-03	11.2E-03	2.9E-03	2.5E-03	1.2E-03	1.0E-03	748.3E-06	2.1E-03

Drift Calculation

VoID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-1.0E-03	-1.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
12	-	3.0E-03	2.0E-03	2.0E-03	0.0E+00	-4.0E-03	-6.0E-03	-5.0E-03	0.0E+00
13	-	-1.0E-03	-2.0E-03	-34.0E-03	-34.0E-03	-34.0E-03	-35.0E-03	-34.0E-03	-32.0E-03
14	-	0.0E+00	-2.0E-03	-3.0E-03	-5.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
15	-	-1.0E-03	-2.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-3.0E-03
Average	-	0.0E+00	-1.0E-03	-8.6E-03	-9.8E-03	-10.4E-03	-11.6E-03	-10.8E-03	-8.6E-03
Sigma	-	1.5E-03	1.5E-03	12.9E-03	12.3E-03	11.8E-03	11.7E-03	11.6E-03	11.8E-03

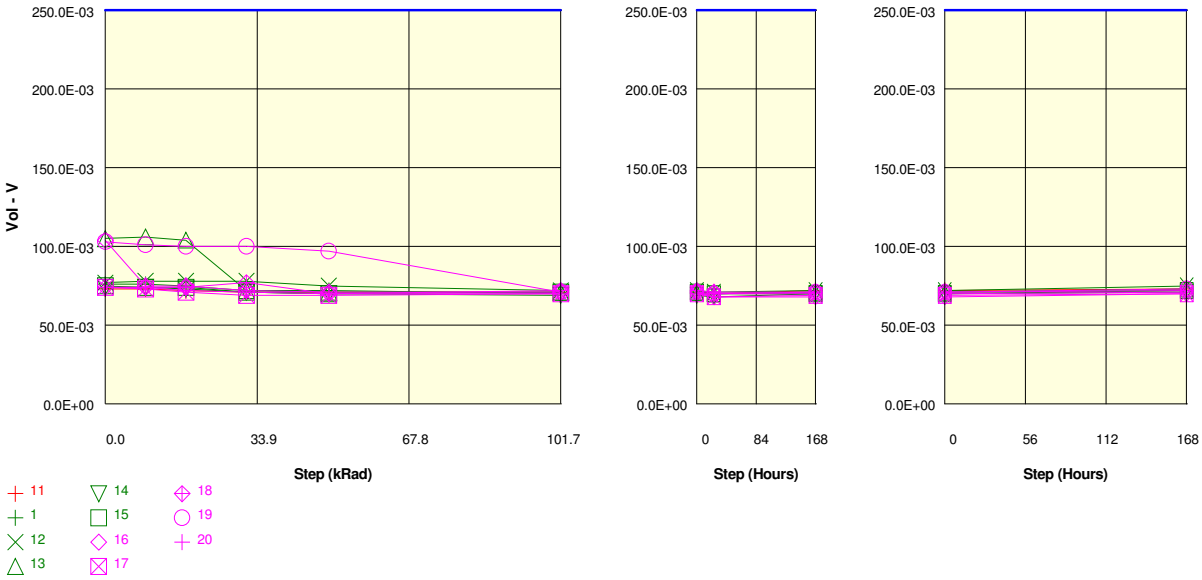
Measurements

VoID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	72.0E-03	71.0E-03	72.0E-03	73.0E-03
OFF samples									
16	104.0E-03	79.0E-03	78.0E-03	70.0E-03	70.0E-03	72.0E-03	68.0E-03	68.0E-03	70.0E-03
17	73.0E-03	73.0E-03	71.0E-03	70.0E-03	69.0E-03	69.0E-03	68.0E-03	69.0E-03	70.0E-03
18	74.0E-03	74.0E-03	74.0E-03	76.0E-03	71.0E-03	73.0E-03	71.0E-03	70.0E-03	72.0E-03
19	106.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	71.0E-03	72.0E-03	73.0E-03	73.0E-03
20	74.0E-03	72.0E-03	72.0E-03	70.0E-03	70.0E-03	71.0E-03	71.0E-03	70.0E-03	71.0E-03
Statistics									
Min	73.0E-03	72.0E-03	71.0E-03	70.0E-03	69.0E-03	69.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	106.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	73.0E-03	72.0E-03	73.0E-03	73.0E-03
Average	86.2E-03	80.4E-03	79.6E-03	77.8E-03	76.0E-03	71.2E-03	70.0E-03	70.0E-03	71.2E-03
Sigma	15.4E-03	12.0E-03	11.9E-03	12.8E-03	12.0E-03	1.3E-03	1.7E-03	1.7E-03	1.2E-03

Drift Calculation

VoID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-25.0E-03	-26.0E-03	-34.0E-03	-34.0E-03	-32.0E-03	-36.0E-03	-36.0E-03	-34.0E-03
17	-	0.0E+00	-2.0E-03	-3.0E-03	-4.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
18	-	0.0E+00	0.0E+00	2.0E-03	-3.0E-03	-1.0E-03	-3.0E-03	-4.0E-03	-2.0E-03
19	-	-2.0E-03	-3.0E-03	-3.0E-03	-6.0E-03	-35.0E-03	-34.0E-03	-33.0E-03	-33.0E-03
20	-	-2.0E-03	-2.0E-03	-4.0E-03	-4.0E-03	-3.0E-03	-3.0E-03	-4.0E-03	-3.0E-03
Average	-	-5.8E-03	-6.6E-03	-8.4E-03	-10.2E-03	-15.0E-03	-16.2E-03	-16.2E-03	-15.0E-03
Sigma	-	9.6E-03	9.7E-03	13.0E-03	11.9E-03	15.2E-03	15.4E-03	15.0E-03	15.1E-03

Parameter : Logic "0" voltage : VolD4
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	71.0E-03	71.0E-03	71.0E-03	70.0E-03	72.0E-03	73.0E-03
ON samples									
1	76.0E-03	76.0E-03	75.0E-03	72.0E-03	72.0E-03	70.0E-03	70.0E-03	71.0E-03	72.0E-03
12	77.0E-03	78.0E-03	78.0E-03	78.0E-03	75.0E-03	72.0E-03	71.0E-03	72.0E-03	75.0E-03
13	105.0E-03	106.0E-03	104.0E-03	72.0E-03	71.0E-03	71.0E-03	70.0E-03	71.0E-03	73.0E-03
14	74.0E-03	74.0E-03	73.0E-03	71.0E-03	70.0E-03	69.0E-03	68.0E-03	70.0E-03	71.0E-03
15	75.0E-03	74.0E-03	74.0E-03	71.0E-03	70.0E-03	71.0E-03	70.0E-03	70.0E-03	72.0E-03
Statistics									
Min	74.0E-03	74.0E-03	73.0E-03	71.0E-03	70.0E-03	69.0E-03	68.0E-03	70.0E-03	71.0E-03
Max	105.0E-03	106.0E-03	104.0E-03	78.0E-03	75.0E-03	72.0E-03	71.0E-03	72.0E-03	75.0E-03
Average	81.4E-03	81.6E-03	80.8E-03	72.8E-03	71.6E-03	70.6E-03	69.8E-03	70.8E-03	72.6E-03
Sigma	11.8E-03	12.3E-03	11.7E-03	2.6E-03	1.9E-03	1.0E-03	979.8E-06	748.3E-06	1.4E-03

Drift Calculation

VolD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-1.0E-03	-4.0E-03	-4.0E-03	-6.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
12	-	1.0E-03	1.0E-03	1.0E-03	-2.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-2.0E-03
13	-	1.0E-03	-1.0E-03	-33.0E-03	-34.0E-03	-34.0E-03	-35.0E-03	-34.0E-03	-32.0E-03
14	-	0.0E+00	-1.0E-03	-3.0E-03	-4.0E-03	-5.0E-03	-6.0E-03	-4.0E-03	-3.0E-03
15	-	-1.0E-03	-1.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-3.0E-03
Average	-	200.0E-06	-600.0E-06	-8.6E-03	-9.8E-03	-10.8E-03	-11.6E-03	-10.6E-03	-8.8E-03
Sigma	-	748.3E-06	800.0E-06	12.3E-03	12.1E-03	11.6E-03	11.7E-03	11.7E-03	11.6E-03

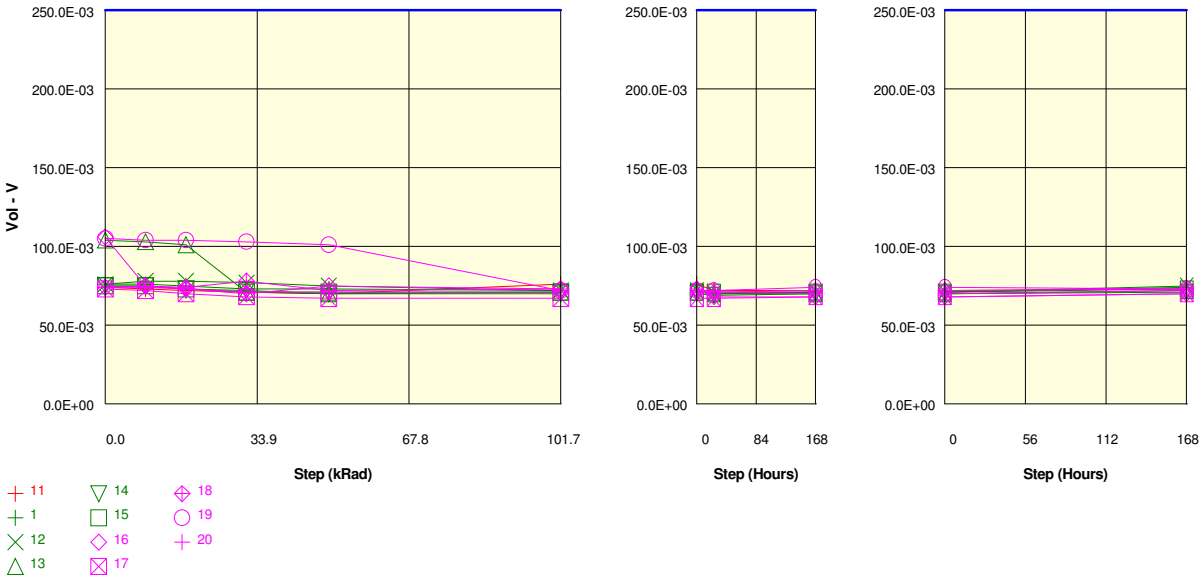
Measurements

VoID4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	71.0E-03	71.0E-03	71.0E-03	70.0E-03	72.0E-03	73.0E-03
OFF samples									
16	104.0E-03	75.0E-03	75.0E-03	72.0E-03	71.0E-03	71.0E-03	68.0E-03	68.0E-03	70.0E-03
17	74.0E-03	73.0E-03	71.0E-03	69.0E-03	69.0E-03	70.0E-03	68.0E-03	69.0E-03	70.0E-03
18	74.0E-03	74.0E-03	74.0E-03	77.0E-03	70.0E-03	72.0E-03	71.0E-03	71.0E-03	72.0E-03
19	103.0E-03	101.0E-03	100.0E-03	100.0E-03	97.0E-03	71.0E-03	70.0E-03	71.0E-03	73.0E-03
20	74.0E-03	74.0E-03	72.0E-03	71.0E-03	70.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03
Statistics									
Min	74.0E-03	73.0E-03	71.0E-03	69.0E-03	69.0E-03	70.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	104.0E-03	101.0E-03	100.0E-03	100.0E-03	97.0E-03	72.0E-03	71.0E-03	71.0E-03	73.0E-03
Average	85.8E-03	79.4E-03	78.4E-03	77.8E-03	75.4E-03	70.8E-03	69.4E-03	69.8E-03	71.2E-03
Sigma	14.5E-03	10.8E-03	10.9E-03	11.4E-03	10.8E-03	748.3E-06	1.2E-03	1.2E-03	1.2E-03

Drift Calculation

VoID4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-29.0E-03	-29.0E-03	-32.0E-03	-33.0E-03	-33.0E-03	-36.0E-03	-36.0E-03	-34.0E-03
17	-	-1.0E-03	-3.0E-03	-5.0E-03	-5.0E-03	-4.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
18	-	0.0E+00	0.0E+00	3.0E-03	-4.0E-03	-2.0E-03	-3.0E-03	-3.0E-03	-2.0E-03
19	-	-2.0E-03	-3.0E-03	-3.0E-03	-6.0E-03	-32.0E-03	-33.0E-03	-32.0E-03	-30.0E-03
20	-	0.0E+00	-2.0E-03	-3.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-3.0E-03
Average	-	-6.4E-03	-7.4E-03	-8.0E-03	-10.4E-03	-15.0E-03	-16.4E-03	-16.0E-03	-14.6E-03
Sigma	-	11.3E-03	10.9E-03	12.3E-03	11.3E-03	14.3E-03	14.8E-03	14.8E-03	14.3E-03

Parameter : Logic "0" voltage : VolD3
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	74.0E-03	73.0E-03	72.0E-03	71.0E-03	70.0E-03	76.0E-03	72.0E-03	72.0E-03	73.0E-03
ON samples									
1	76.0E-03	76.0E-03	75.0E-03	73.0E-03	73.0E-03	72.0E-03	70.0E-03	71.0E-03	74.0E-03
12	76.0E-03	78.0E-03	78.0E-03	77.0E-03	75.0E-03	72.0E-03	70.0E-03	71.0E-03	75.0E-03
13	104.0E-03	103.0E-03	101.0E-03	71.0E-03	70.0E-03	71.0E-03	70.0E-03	70.0E-03	72.0E-03
14	75.0E-03	75.0E-03	73.0E-03	72.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
15	75.0E-03	75.0E-03	73.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	73.0E-03
Statistics									
Min	75.0E-03	75.0E-03	73.0E-03	71.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	71.0E-03
Max	104.0E-03	103.0E-03	101.0E-03	77.0E-03	75.0E-03	72.0E-03	71.0E-03	71.0E-03	75.0E-03
Average	81.2E-03	81.4E-03	80.0E-03	72.8E-03	71.8E-03	71.2E-03	70.0E-03	70.6E-03	73.0E-03
Sigma	11.4E-03	10.9E-03	10.7E-03	2.2E-03	1.9E-03	748.3E-06	632.5E-06	489.9E-06	1.4E-03

Drift Calculation

VolD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-1.0E-03	-3.0E-03	-3.0E-03	-4.0E-03	-6.0E-03	-5.0E-03	-2.0E-03
12	-	2.0E-03	2.0E-03	1.0E-03	-1.0E-03	-4.0E-03	-6.0E-03	-5.0E-03	-1.0E-03
13	-	-1.0E-03	-3.0E-03	-33.0E-03	-34.0E-03	-33.0E-03	-34.0E-03	-34.0E-03	-32.0E-03
14	-	0.0E+00	-2.0E-03	-3.0E-03	-5.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
15	-	0.0E+00	-2.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-2.0E-03
Average	-	200.0E-06	-1.2E-03	-8.4E-03	-9.4E-03	-10.0E-03	-11.2E-03	-10.6E-03	-8.2E-03
Sigma	-	979.8E-06	1.7E-03	12.4E-03	12.4E-03	11.5E-03	11.4E-03	11.7E-03	11.9E-03

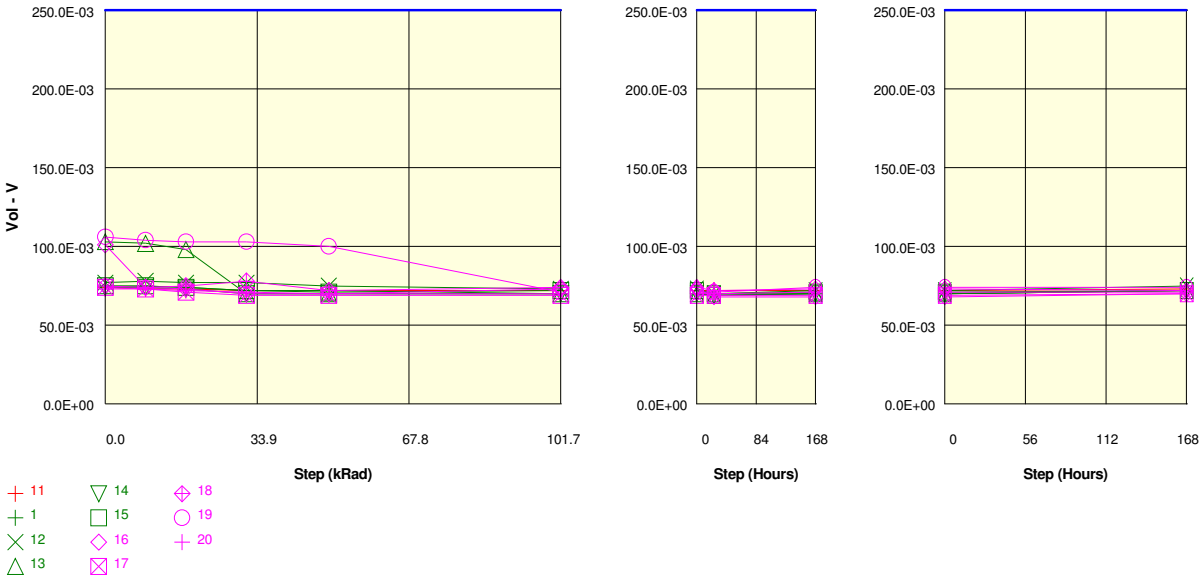
Measurements

VoID3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	74.0E-03	73.0E-03	72.0E-03	71.0E-03	70.0E-03	76.0E-03	72.0E-03	72.0E-03	73.0E-03
OFF samples									
16	106.0E-03	75.0E-03	73.0E-03	70.0E-03	75.0E-03	73.0E-03	68.0E-03	68.0E-03	70.0E-03
17	73.0E-03	72.0E-03	70.0E-03	68.0E-03	67.0E-03	67.0E-03	67.0E-03	68.0E-03	70.0E-03
18	74.0E-03	75.0E-03	74.0E-03	78.0E-03	72.0E-03	73.0E-03	71.0E-03	72.0E-03	73.0E-03
19	105.0E-03	104.0E-03	104.0E-03	103.0E-03	101.0E-03	72.0E-03	72.0E-03	74.0E-03	73.0E-03
20	74.0E-03	74.0E-03	73.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	70.0E-03	72.0E-03
Statistics									
Min	73.0E-03	72.0E-03	70.0E-03	68.0E-03	67.0E-03	67.0E-03	67.0E-03	68.0E-03	70.0E-03
Max	106.0E-03	104.0E-03	104.0E-03	103.0E-03	101.0E-03	73.0E-03	72.0E-03	74.0E-03	73.0E-03
Average	86.4E-03	80.0E-03	78.8E-03	78.0E-03	77.2E-03	71.2E-03	69.8E-03	70.4E-03	71.6E-03
Sigma	15.6E-03	12.0E-03	12.7E-03	12.9E-03	12.2E-03	2.2E-03	1.9E-03	2.3E-03	1.4E-03

Drift Calculation

VoID3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-31.0E-03	-33.0E-03	-36.0E-03	-31.0E-03	-33.0E-03	-38.0E-03	-38.0E-03	-36.0E-03
17	-	-1.0E-03	-3.0E-03	-5.0E-03	-6.0E-03	-6.0E-03	-6.0E-03	-5.0E-03	-3.0E-03
18	-	1.0E-03	0.0E+00	4.0E-03	-2.0E-03	-1.0E-03	-3.0E-03	-2.0E-03	-1.0E-03
19	-	-1.0E-03	-1.0E-03	-2.0E-03	-4.0E-03	-33.0E-03	-33.0E-03	-31.0E-03	-32.0E-03
20	-	0.0E+00	-1.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-4.0E-03	-2.0E-03
Average	-	-6.4E-03	-7.6E-03	-8.4E-03	-9.2E-03	-15.2E-03	-16.6E-03	-16.0E-03	-14.8E-03
Sigma	-	12.3E-03	12.7E-03	14.1E-03	11.0E-03	14.6E-03	15.6E-03	15.3E-03	15.7E-03

Parameter : Logic "0" voltage : VolD2
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	74.0E-03	73.0E-03	73.0E-03	72.0E-03	72.0E-03	72.0E-03	72.0E-03	72.0E-03	73.0E-03
ON samples									
1	75.0E-03	75.0E-03	74.0E-03	72.0E-03	72.0E-03	70.0E-03	70.0E-03	70.0E-03	72.0E-03
12	77.0E-03	78.0E-03	77.0E-03	77.0E-03	75.0E-03	73.0E-03	70.0E-03	72.0E-03	75.0E-03
13	103.0E-03	102.0E-03	98.0E-03	70.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
14	74.0E-03	74.0E-03	73.0E-03	70.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
15	75.0E-03	75.0E-03	74.0E-03	72.0E-03	71.0E-03	72.0E-03	70.0E-03	71.0E-03	72.0E-03
Statistics									
Min	74.0E-03	74.0E-03	73.0E-03	70.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
Max	103.0E-03	102.0E-03	98.0E-03	77.0E-03	75.0E-03	73.0E-03	70.0E-03	72.0E-03	75.0E-03
Average	80.8E-03	80.8E-03	79.2E-03	72.2E-03	71.6E-03	71.0E-03	69.6E-03	70.6E-03	72.6E-03
Sigma	11.1E-03	10.7E-03	9.5E-03	2.6E-03	1.9E-03	1.3E-03	489.9E-06	800.0E-06	1.2E-03

Drift Calculation

VolD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-1.0E-03	-3.0E-03	-3.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-3.0E-03
12	-	1.0E-03	0.0E+00	0.0E+00	-2.0E-03	-4.0E-03	-7.0E-03	-5.0E-03	-2.0E-03
13	-	-1.0E-03	-5.0E-03	-33.0E-03	-33.0E-03	-33.0E-03	-34.0E-03	-33.0E-03	-31.0E-03
14	-	0.0E+00	-1.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-5.0E-03	-4.0E-03	-2.0E-03
15	-	0.0E+00	-1.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
Average	-	0.0E+00	-1.6E-03	-8.6E-03	-9.2E-03	-9.8E-03	-11.2E-03	-10.2E-03	-8.2E-03
Sigma	-	632.5E-06	1.7E-03	12.3E-03	11.9E-03	11.6E-03	11.4E-03	11.4E-03	11.4E-03

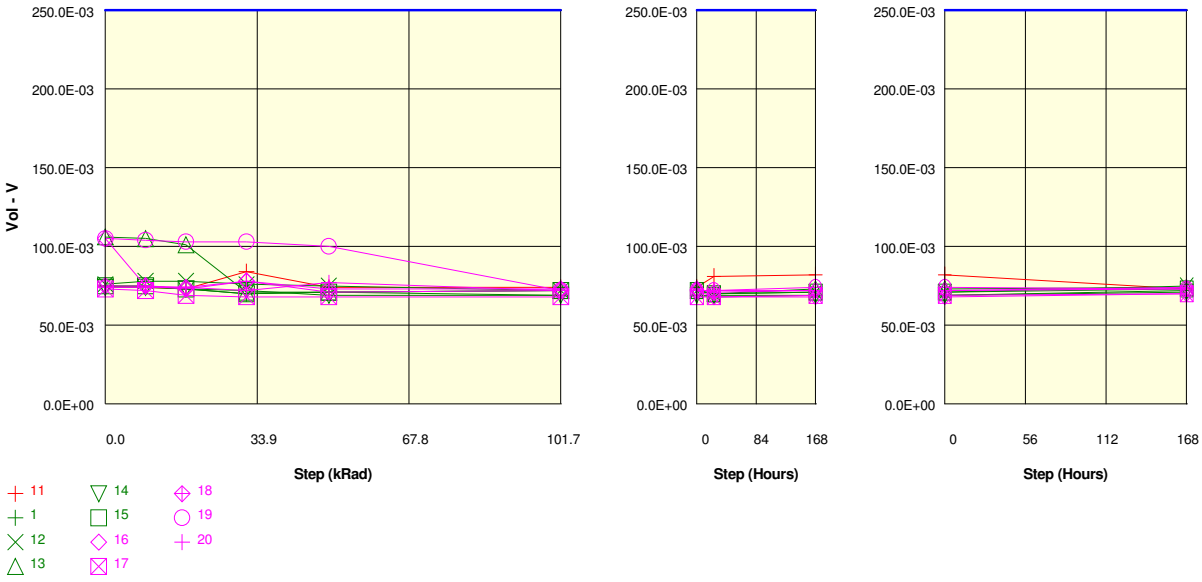
Measurements

VoID2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	74.0E-03	73.0E-03	73.0E-03	72.0E-03	72.0E-03	72.0E-03	72.0E-03	72.0E-03	73.0E-03
OFF samples									
16	101.0E-03	74.0E-03	73.0E-03	70.0E-03	70.0E-03	73.0E-03	68.0E-03	68.0E-03	70.0E-03
17	74.0E-03	73.0E-03	71.0E-03	69.0E-03	69.0E-03	69.0E-03	69.0E-03	69.0E-03	70.0E-03
18	75.0E-03	74.0E-03	75.0E-03	78.0E-03	72.0E-03	74.0E-03	72.0E-03	73.0E-03	72.0E-03
19	106.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	71.0E-03	71.0E-03	74.0E-03	74.0E-03
20	73.0E-03	73.0E-03	72.0E-03	71.0E-03	70.0E-03	70.0E-03	70.0E-03	71.0E-03	71.0E-03
Statistics									
Min	73.0E-03	73.0E-03	71.0E-03	69.0E-03	69.0E-03	69.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	106.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	74.0E-03	72.0E-03	74.0E-03	74.0E-03
Average	85.8E-03	79.6E-03	78.8E-03	78.2E-03	76.2E-03	71.4E-03	70.0E-03	71.0E-03	71.4E-03
Sigma	14.6E-03	12.2E-03	12.2E-03	12.8E-03	11.9E-03	1.9E-03	1.4E-03	2.3E-03	1.5E-03

Drift Calculation

VoID2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-27.0E-03	-28.0E-03	-31.0E-03	-31.0E-03	-28.0E-03	-33.0E-03	-33.0E-03	-31.0E-03
17	-	-1.0E-03	-3.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-4.0E-03
18	-	-1.0E-03	0.0E+00	3.0E-03	-3.0E-03	-1.0E-03	-3.0E-03	-2.0E-03	-3.0E-03
19	-	-2.0E-03	-3.0E-03	-3.0E-03	-6.0E-03	-35.0E-03	-35.0E-03	-32.0E-03	-32.0E-03
20	-	0.0E+00	-1.0E-03	-2.0E-03	-3.0E-03	-3.0E-03	-3.0E-03	-2.0E-03	-2.0E-03
Average	-	-6.2E-03	-7.0E-03	-7.6E-03	-9.6E-03	-14.4E-03	-15.8E-03	-14.8E-03	-14.4E-03
Sigma	-	10.4E-03	10.6E-03	12.0E-03	10.8E-03	14.2E-03	14.9E-03	14.5E-03	14.0E-03

Parameter : Logic "0" voltage : VolD1
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	75.0E-03	74.0E-03	73.0E-03	84.0E-03	74.0E-03	74.0E-03	81.0E-03	82.0E-03	73.0E-03
ON samples									
1	75.0E-03	75.0E-03	73.0E-03	70.0E-03	71.0E-03	69.0E-03	68.0E-03	69.0E-03	72.0E-03
12	76.0E-03	78.0E-03	78.0E-03	76.0E-03	75.0E-03	72.0E-03	70.0E-03	71.0E-03	75.0E-03
13	106.0E-03	105.0E-03	101.0E-03	71.0E-03	71.0E-03	72.0E-03	70.0E-03	73.0E-03	74.0E-03
14	74.0E-03	74.0E-03	73.0E-03	72.0E-03	69.0E-03	69.0E-03	69.0E-03	69.0E-03	71.0E-03
15	75.0E-03	75.0E-03	73.0E-03	70.0E-03	71.0E-03	72.0E-03	70.0E-03	71.0E-03	73.0E-03
Statistics									
Min	74.0E-03	74.0E-03	73.0E-03	70.0E-03	69.0E-03	69.0E-03	68.0E-03	69.0E-03	71.0E-03
Max	106.0E-03	105.0E-03	101.0E-03	76.0E-03	75.0E-03	72.0E-03	70.0E-03	73.0E-03	75.0E-03
Average	81.2E-03	81.4E-03	79.6E-03	71.8E-03	71.4E-03	70.8E-03	69.4E-03	70.6E-03	73.0E-03
Sigma	12.4E-03	11.9E-03	10.9E-03	2.2E-03	2.0E-03	1.5E-03	800.0E-06	1.5E-03	1.4E-03

Drift Calculation

VolD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-2.0E-03	-5.0E-03	-4.0E-03	-6.0E-03	-7.0E-03	-6.0E-03	-3.0E-03
12	-	2.0E-03	2.0E-03	0.0E+00	-1.0E-03	-4.0E-03	-6.0E-03	-5.0E-03	-1.0E-03
13	-	-1.0E-03	-5.0E-03	-35.0E-03	-35.0E-03	-34.0E-03	-36.0E-03	-33.0E-03	-32.0E-03
14	-	0.0E+00	-1.0E-03	-2.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-3.0E-03
15	-	0.0E+00	-2.0E-03	-5.0E-03	-4.0E-03	-3.0E-03	-5.0E-03	-4.0E-03	-2.0E-03
Average	-	200.0E-06	-1.6E-03	-9.4E-03	-9.8E-03	-10.4E-03	-11.8E-03	-10.6E-03	-8.2E-03
Sigma	-	979.8E-06	2.2E-03	12.9E-03	12.7E-03	11.8E-03	12.1E-03	11.2E-03	11.9E-03

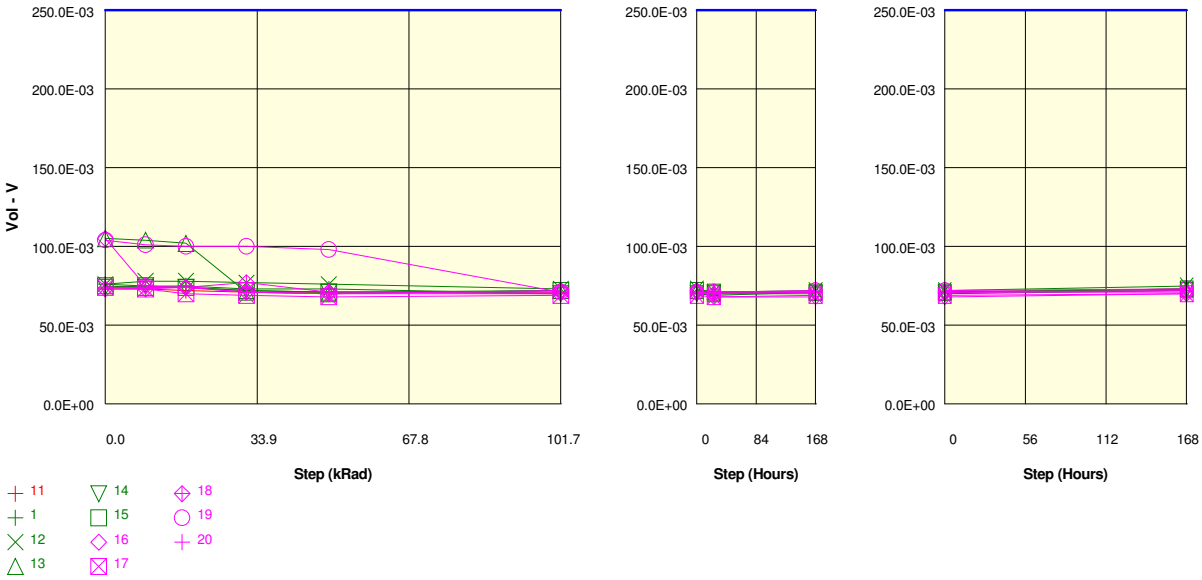
Measurements

VoID1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	75.0E-03	74.0E-03	73.0E-03	84.0E-03	74.0E-03	74.0E-03	81.0E-03	82.0E-03	73.0E-03
OFF samples									
16	105.0E-03	75.0E-03	73.0E-03	78.0E-03	71.0E-03	72.0E-03	68.0E-03	68.0E-03	70.0E-03
17	73.0E-03	72.0E-03	69.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	69.0E-03	70.0E-03
18	75.0E-03	75.0E-03	74.0E-03	78.0E-03	73.0E-03	73.0E-03	71.0E-03	72.0E-03	73.0E-03
19	105.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	72.0E-03	72.0E-03	74.0E-03	73.0E-03
20	74.0E-03	74.0E-03	74.0E-03	72.0E-03	77.0E-03	72.0E-03	72.0E-03	72.0E-03	74.0E-03
Statistics									
Min	73.0E-03	72.0E-03	69.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	105.0E-03	104.0E-03	103.0E-03	103.0E-03	100.0E-03	73.0E-03	72.0E-03	74.0E-03	74.0E-03
Average	86.4E-03	80.0E-03	78.6E-03	79.8E-03	77.8E-03	71.4E-03	70.2E-03	71.0E-03	72.0E-03
Sigma	15.2E-03	12.0E-03	12.3E-03	12.2E-03	11.5E-03	1.7E-03	1.8E-03	2.2E-03	1.7E-03

Drift Calculation

VoID1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-30.0E-03	-32.0E-03	-27.0E-03	-34.0E-03	-33.0E-03	-37.0E-03	-37.0E-03	-35.0E-03
17	-	-1.0E-03	-4.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-5.0E-03	-4.0E-03	-3.0E-03
18	-	0.0E+00	-1.0E-03	3.0E-03	-2.0E-03	-2.0E-03	-4.0E-03	-3.0E-03	-2.0E-03
19	-	-1.0E-03	-2.0E-03	-2.0E-03	-5.0E-03	-33.0E-03	-33.0E-03	-31.0E-03	-32.0E-03
20	-	0.0E+00	0.0E+00	-2.0E-03	3.0E-03	-2.0E-03	-2.0E-03	-2.0E-03	0.0E+00
Average	-	-6.4E-03	-7.8E-03	-6.6E-03	-8.6E-03	-15.0E-03	-16.2E-03	-15.4E-03	-14.4E-03
Sigma	-	11.8E-03	12.2E-03	10.5E-03	13.0E-03	14.7E-03	15.4E-03	15.3E-03	15.7E-03

Parameter : Logic "0" voltage : VolD0
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

VolD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	73.0E-03
ON samples									
1	76.0E-03	75.0E-03	75.0E-03	73.0E-03	73.0E-03	70.0E-03	69.0E-03	71.0E-03	72.0E-03
12	76.0E-03	78.0E-03	78.0E-03	77.0E-03	76.0E-03	73.0E-03	71.0E-03	72.0E-03	75.0E-03
13	105.0E-03	104.0E-03	102.0E-03	71.0E-03	70.0E-03	72.0E-03	70.0E-03	71.0E-03	73.0E-03
14	74.0E-03	75.0E-03	74.0E-03	72.0E-03	71.0E-03	70.0E-03	70.0E-03	70.0E-03	72.0E-03
15	75.0E-03	74.0E-03	74.0E-03	72.0E-03	71.0E-03	72.0E-03	71.0E-03	71.0E-03	73.0E-03
Statistics									
Min	74.0E-03	74.0E-03	74.0E-03	71.0E-03	70.0E-03	70.0E-03	69.0E-03	70.0E-03	72.0E-03
Max	105.0E-03	104.0E-03	102.0E-03	77.0E-03	76.0E-03	73.0E-03	71.0E-03	72.0E-03	75.0E-03
Average	81.2E-03	81.2E-03	80.6E-03	73.0E-03	72.2E-03	71.4E-03	70.2E-03	71.0E-03	73.0E-03
Sigma	11.9E-03	11.5E-03	10.8E-03	2.1E-03	2.1E-03	1.2E-03	748.3E-06	632.5E-06	1.1E-03

Drift Calculation

VolD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-1.0E-03	-1.0E-03	-3.0E-03	-3.0E-03	-6.0E-03	-7.0E-03	-5.0E-03	-4.0E-03
12	-	2.0E-03	2.0E-03	1.0E-03	0.0E+00	-3.0E-03	-5.0E-03	-4.0E-03	-1.0E-03
13	-	-1.0E-03	-3.0E-03	-34.0E-03	-35.0E-03	-33.0E-03	-35.0E-03	-34.0E-03	-32.0E-03
14	-	1.0E-03	0.0E+00	-2.0E-03	-3.0E-03	-4.0E-03	-4.0E-03	-4.0E-03	-2.0E-03
15	-	-1.0E-03	-1.0E-03	-3.0E-03	-4.0E-03	-3.0E-03	-4.0E-03	-4.0E-03	-2.0E-03
Average	-	0.0E+00	-600.0E-06	-8.2E-03	-9.0E-03	-9.8E-03	-11.0E-03	-10.2E-03	-8.2E-03
Sigma	-	1.3E-03	1.6E-03	13.0E-03	13.1E-03	11.7E-03	12.0E-03	11.9E-03	11.9E-03

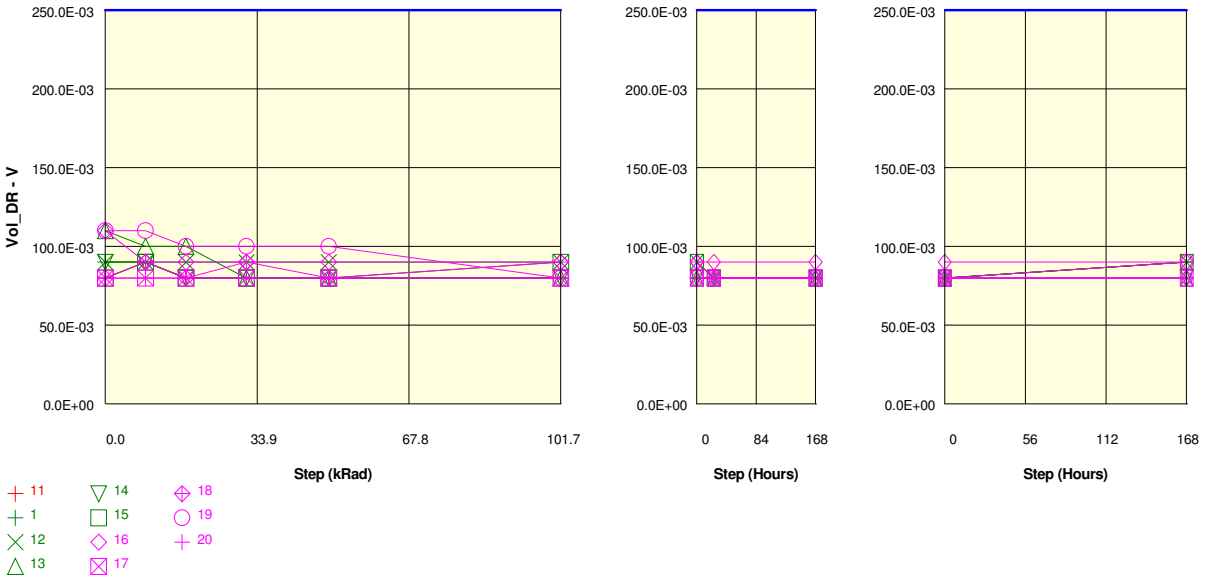
Measurements

VolD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	73.0E-03	73.0E-03	72.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	71.0E-03	73.0E-03
OFF samples									
16	105.0E-03	75.0E-03	74.0E-03	71.0E-03	70.0E-03	72.0E-03	68.0E-03	68.0E-03	70.0E-03
17	74.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	69.0E-03	68.0E-03	69.0E-03	70.0E-03
18	73.0E-03	73.0E-03	74.0E-03	77.0E-03	71.0E-03	71.0E-03	70.0E-03	71.0E-03	71.0E-03
19	104.0E-03	101.0E-03	100.0E-03	100.0E-03	98.0E-03	71.0E-03	71.0E-03	72.0E-03	73.0E-03
20	74.0E-03	74.0E-03	74.0E-03	71.0E-03	70.0E-03	70.0E-03	71.0E-03	71.0E-03	72.0E-03
Statistics									
Min	73.0E-03	73.0E-03	70.0E-03	69.0E-03	68.0E-03	69.0E-03	68.0E-03	68.0E-03	70.0E-03
Max	105.0E-03	101.0E-03	100.0E-03	100.0E-03	98.0E-03	72.0E-03	71.0E-03	72.0E-03	73.0E-03
Average	86.0E-03	79.2E-03	78.4E-03	77.6E-03	75.4E-03	70.6E-03	69.6E-03	70.2E-03	71.2E-03
Sigma	15.1E-03	10.9E-03	10.9E-03	11.5E-03	11.3E-03	1.0E-03	1.4E-03	1.5E-03	1.2E-03

Drift Calculation

VolD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-30.0E-03	-31.0E-03	-34.0E-03	-35.0E-03	-33.0E-03	-37.0E-03	-37.0E-03	-35.0E-03
17	-	-1.0E-03	-4.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-6.0E-03	-5.0E-03	-4.0E-03
18	-	0.0E+00	1.0E-03	4.0E-03	-2.0E-03	-2.0E-03	-3.0E-03	-2.0E-03	-2.0E-03
19	-	-3.0E-03	-4.0E-03	-4.0E-03	-6.0E-03	-33.0E-03	-33.0E-03	-32.0E-03	-31.0E-03
20	-	0.0E+00	0.0E+00	-3.0E-03	-4.0E-03	-4.0E-03	-3.0E-03	-3.0E-03	-2.0E-03
Average	-	-6.8E-03	-7.6E-03	-8.4E-03	-10.6E-03	-15.4E-03	-16.4E-03	-15.8E-03	-14.8E-03
Sigma	-	11.7E-03	11.9E-03	13.2E-03	12.3E-03	14.4E-03	15.3E-03	15.4E-03	14.9E-03

Parameter : Logic “0” voltage : Vol_DR
Test conditions : Fs = 20Msps. Fin = 10MHz. OEB set to Vil & IOL = -10µA
Unit : V
Spec Limit Max : 250.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

Vol_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	80.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	90.0E-03
ON samples									
1	90.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	90.0E-03
12	90.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03	80.0E-03	80.0E-03	90.0E-03
13	110.0E-03	100.0E-03	100.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03
14	90.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03
15	80.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03	90.0E-03	80.0E-03	80.0E-03	90.0E-03
Statistics									
Min	80.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03
Max	110.0E-03	100.0E-03	100.0E-03	90.0E-03	90.0E-03	90.0E-03	80.0E-03	80.0E-03	90.0E-03
Average	92.0E-03	92.0E-03	86.0E-03	82.0E-03	82.0E-03	84.0E-03	80.0E-03	80.0E-03	86.0E-03
Sigma	9.8E-03	4.0E-03	8.0E-03	4.0E-03	4.0E-03	4.9E-03	416.5E-12	416.5E-12	4.9E-03

Drift Calculation

Vol_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	0.0E+00
12	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-10.0E-03	-10.0E-03	0.0E+00
13	-	-10.0E-03	-10.0E-03	-30.0E-03	-30.0E-03	-30.0E-03	-30.0E-03	-30.0E-03	-30.0E-03
14	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03	-10.0E-03
15	-	10.0E-03	0.0E+00	0.0E+00	0.0E+00	10.0E-03	0.0E+00	0.0E+00	10.0E-03
Average	-	0.0E+00	-6.0E-03	-10.0E-03	-10.0E-03	-8.0E-03	-12.0E-03	-12.0E-03	-6.0E-03
Sigma	-	6.3E-03	4.9E-03	11.0E-03	11.0E-03	13.3E-03	9.8E-03	9.8E-03	13.6E-03

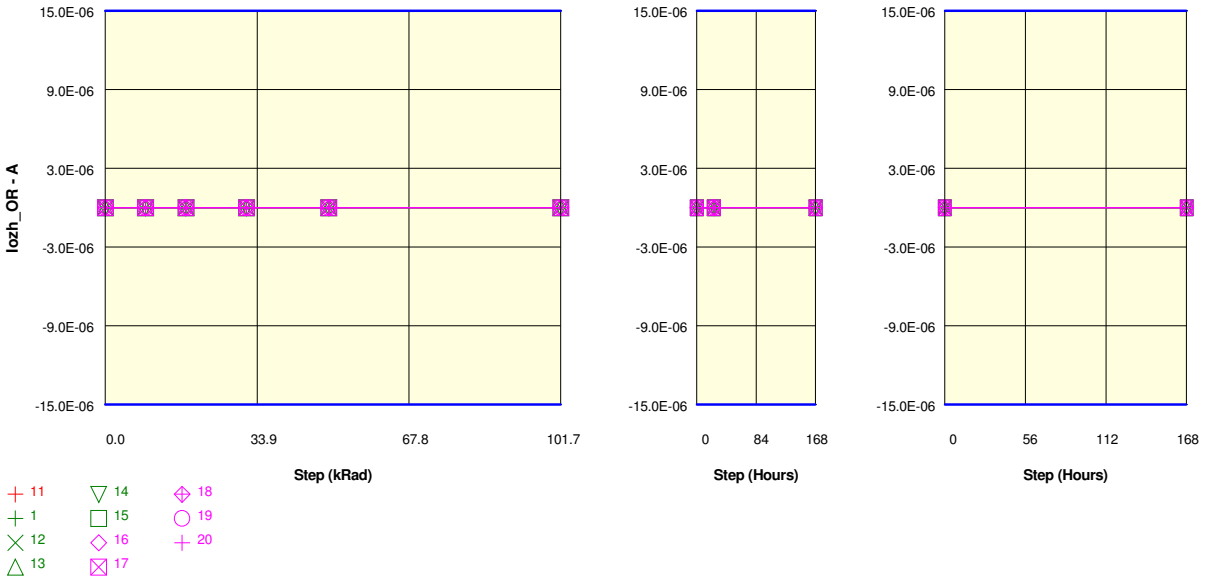
Measurements

Vol_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	80.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	90.0E-03
OFF samples									
16	110.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03
17	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03
18	80.0E-03	90.0E-03	80.0E-03	90.0E-03	80.0E-03	90.0E-03	80.0E-03	80.0E-03	80.0E-03
19	110.0E-03	110.0E-03	100.0E-03	100.0E-03	100.0E-03	80.0E-03	80.0E-03	80.0E-03	90.0E-03
20	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03
Statistics									
Min	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03	80.0E-03
Max	110.0E-03	110.0E-03	100.0E-03	100.0E-03	100.0E-03	90.0E-03	90.0E-03	90.0E-03	90.0E-03
Average	92.0E-03	90.0E-03	86.0E-03	88.0E-03	86.0E-03	84.0E-03	82.0E-03	82.0E-03	84.0E-03
Sigma	14.7E-03	11.0E-03	8.0E-03	7.5E-03	8.0E-03	4.9E-03	4.0E-03	4.0E-03	4.9E-03

Drift Calculation

Vol_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-20.0E-03	-20.0E-03	-20.0E-03	-20.0E-03	-20.0E-03	-20.0E-03	-20.0E-03	-20.0E-03
17	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
18	-	10.0E-03	0.0E+00	10.0E-03	0.0E+00	10.0E-03	0.0E+00	0.0E+00	0.0E+00
19	-	0.0E+00	-10.0E-03	-10.0E-03	-10.0E-03	-30.0E-03	-30.0E-03	-30.0E-03	-20.0E-03
20	-	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Average	-	-2.0E-03	-6.0E-03	-4.0E-03	-6.0E-03	-8.0E-03	-10.0E-03	-10.0E-03	-8.0E-03
Sigma	-	9.8E-03	8.0E-03	10.2E-03	8.0E-03	14.7E-03	12.6E-03	12.6E-03	9.8E-03

Parameter : High impedance leakage current : Iozh_OR
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iozh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	300.0E-12	600.0E-12	650.0E-12	400.0E-12	350.0E-12	300.0E-12	500.0E-12	350.0E-12	350.0E-12
ON samples									
1	300.0E-12	450.0E-12	500.0E-12	450.0E-12	300.0E-12	400.0E-12	400.0E-12	450.0E-12	350.0E-12
12	250.0E-12	500.0E-12	500.0E-12	400.0E-12	350.0E-12	500.0E-12	450.0E-12	450.0E-12	350.0E-12
13	300.0E-12	400.0E-12	400.0E-12	450.0E-12	350.0E-12	500.0E-12	500.0E-12	500.0E-12	350.0E-12
14	250.0E-12	400.0E-12	450.0E-12	300.0E-12	400.0E-12	500.0E-12	500.0E-12	450.0E-12	350.0E-12
15	300.0E-12	400.0E-12	400.0E-12	350.0E-12	250.0E-12	550.0E-12	450.0E-12	350.0E-12	300.0E-12
Statistics									
Min	250.0E-12	400.0E-12	400.0E-12	300.0E-12	250.0E-12	400.0E-12	400.0E-12	350.0E-12	300.0E-12
Max	300.0E-12	500.0E-12	500.0E-12	450.0E-12	400.0E-12	550.0E-12	500.0E-12	500.0E-12	350.0E-12
Average	280.0E-12	430.0E-12	450.0E-12	390.0E-12	330.0E-12	490.0E-12	460.0E-12	440.0E-12	340.0E-12
Sigma	24.5E-12	40.0E-12	44.7E-12	58.3E-12	51.0E-12	49.0E-12	37.4E-12	49.0E-12	20.0E-12

Drift Calculation

Iozh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	150.0E-12	200.0E-12	150.0E-12	0.0E+00	100.0E-12	100.0E-12	150.0E-12	50.0E-12
12	-	250.0E-12	250.0E-12	150.0E-12	100.0E-12	250.0E-12	200.0E-12	200.0E-12	100.0E-12
13	-	100.0E-12	100.0E-12	150.0E-12	50.0E-12	200.0E-12	200.0E-12	200.0E-12	50.0E-12
14	-	150.0E-12	200.0E-12	50.0E-12	150.0E-12	250.0E-12	250.0E-12	200.0E-12	100.0E-12
15	-	100.0E-12	100.0E-12	50.0E-12	-50.0E-12	250.0E-12	150.0E-12	50.0E-12	0.0E+00
Average	-	150.0E-12	170.0E-12	110.0E-12	50.0E-12	210.0E-12	180.0E-12	160.0E-12	60.0E-12
Sigma	-	54.8E-12	60.0E-12	49.0E-12	70.7E-12	58.3E-12	51.0E-12	58.3E-12	37.4E-12

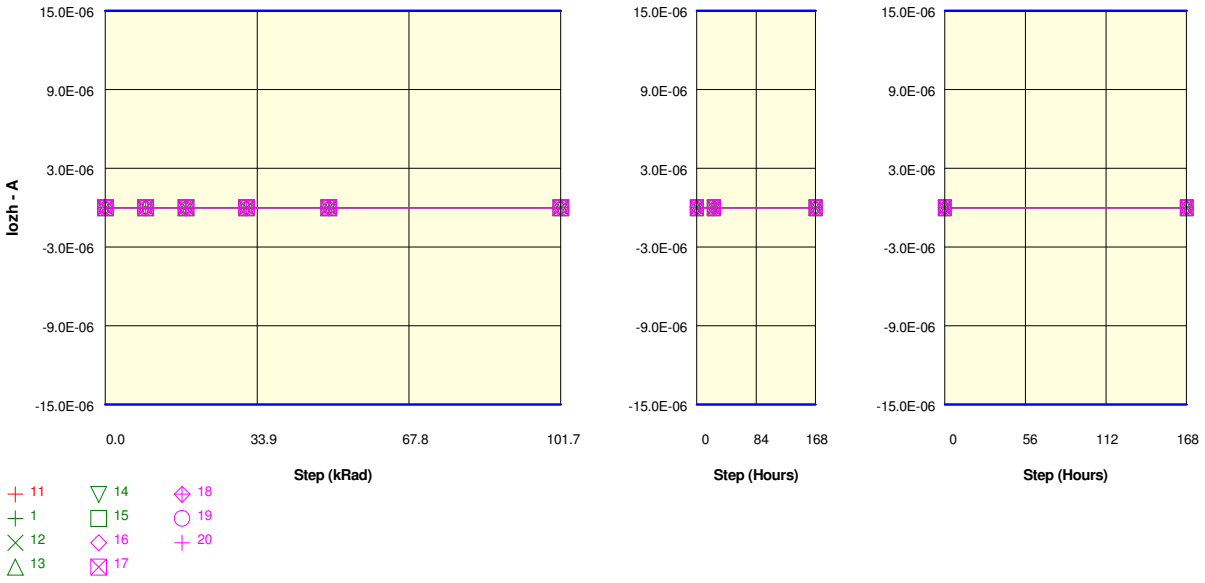
Measurements

Iozh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	300.0E-12	600.0E-12	650.0E-12	400.0E-12	350.0E-12	300.0E-12	500.0E-12	350.0E-12	350.0E-12
OFF samples									
16	250.0E-12	450.0E-12	500.0E-12	600.0E-12	500.0E-12	650.0E-12	550.0E-12	550.0E-12	450.0E-12
17	250.0E-12	500.0E-12	400.0E-12	350.0E-12	300.0E-12	600.0E-12	550.0E-12	450.0E-12	350.0E-12
18	300.0E-12	400.0E-12	500.0E-12	500.0E-12	350.0E-12	450.0E-12	500.0E-12	450.0E-12	350.0E-12
19	300.0E-12	350.0E-12	500.0E-12	400.0E-12	300.0E-12	500.0E-12	450.0E-12	450.0E-12	300.0E-12
20	250.0E-12	400.0E-12	350.0E-12	350.0E-12	250.0E-12	450.0E-12	450.0E-12	350.0E-12	300.0E-12
Statistics									
Min	250.0E-12	350.0E-12	350.0E-12	350.0E-12	250.0E-12	450.0E-12	450.0E-12	350.0E-12	300.0E-12
Max	300.0E-12	500.0E-12	500.0E-12	600.0E-12	500.0E-12	650.0E-12	550.0E-12	550.0E-12	450.0E-12
Average	270.0E-12	420.0E-12	450.0E-12	440.0E-12	340.0E-12	530.0E-12	500.0E-12	450.0E-12	350.0E-12
Sigma	24.5E-12	51.0E-12	63.2E-12	97.0E-12	86.0E-12	81.2E-12	44.7E-12	63.2E-12	54.8E-12

Drift Calculation

Iozh_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	200.0E-12	250.0E-12	350.0E-12	250.0E-12	400.0E-12	300.0E-12	300.0E-12	200.0E-12
17	-	250.0E-12	150.0E-12	100.0E-12	50.0E-12	350.0E-12	300.0E-12	200.0E-12	100.0E-12
18	-	100.0E-12	200.0E-12	200.0E-12	50.0E-12	150.0E-12	200.0E-12	150.0E-12	50.0E-12
19	-	50.0E-12	200.0E-12	100.0E-12	0.0E+00	200.0E-12	150.0E-12	150.0E-12	0.0E+00
20	-	150.0E-12	100.0E-12	100.0E-12	0.0E+00	200.0E-12	200.0E-12	100.0E-12	50.0E-12
Average	-	150.0E-12	180.0E-12	170.0E-12	70.0E-12	260.0E-12	230.0E-12	180.0E-12	80.0E-12
Sigma	-	70.7E-12	51.0E-12	98.0E-12	92.7E-12	97.0E-12	60.0E-12	67.8E-12	67.8E-12

Parameter : High impedance leakage current : IozhD11
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	300.0E-12	650.0E-12	650.0E-12	350.0E-12	250.0E-12	400.0E-12	500.0E-12	400.0E-12	400.0E-12
ON samples									
1	300.0E-12	400.0E-12	500.0E-12	400.0E-12	300.0E-12	550.0E-12	500.0E-12	450.0E-12	400.0E-12
12	350.0E-12	500.0E-12	500.0E-12	450.0E-12	350.0E-12	550.0E-12	500.0E-12	500.0E-12	400.0E-12
13	350.0E-12	500.0E-12	500.0E-12	450.0E-12	350.0E-12	550.0E-12	550.0E-12	450.0E-12	300.0E-12
14	300.0E-12	450.0E-12	400.0E-12	500.0E-12	350.0E-12	600.0E-12	550.0E-12	350.0E-12	400.0E-12
15	350.0E-12	450.0E-12	300.0E-12	400.0E-12	300.0E-12	550.0E-12	500.0E-12	500.0E-12	350.0E-12
Statistics									
Min	300.0E-12	400.0E-12	300.0E-12	400.0E-12	300.0E-12	550.0E-12	500.0E-12	350.0E-12	300.0E-12
Max	350.0E-12	500.0E-12	500.0E-12	500.0E-12	350.0E-12	600.0E-12	550.0E-12	500.0E-12	400.0E-12
Average	330.0E-12	460.0E-12	440.0E-12	440.0E-12	330.0E-12	560.0E-12	520.0E-12	450.0E-12	370.0E-12
Sigma	24.5E-12	37.4E-12	80.0E-12	37.4E-12	24.5E-12	20.0E-12	24.5E-12	54.8E-12	40.0E-12

Drift Calculation

IozhD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	100.0E-12	200.0E-12	100.0E-12	0.0E+00	250.0E-12	200.0E-12	150.0E-12	100.0E-12
12	-	150.0E-12	150.0E-12	100.0E-12	0.0E+00	200.0E-12	150.0E-12	150.0E-12	50.0E-12
13	-	150.0E-12	150.0E-12	100.0E-12	0.0E+00	200.0E-12	200.0E-12	100.0E-12	-50.0E-12
14	-	150.0E-12	100.0E-12	200.0E-12	50.0E-12	300.0E-12	250.0E-12	50.0E-12	100.0E-12
15	-	100.0E-12	-50.0E-12	50.0E-12	-50.0E-12	200.0E-12	150.0E-12	150.0E-12	0.0E+00
Average	-	130.0E-12	110.0E-12	110.0E-12	0.0E+00	230.0E-12	190.0E-12	120.0E-12	40.0E-12
Sigma	-	24.5E-12	86.0E-12	49.0E-12	31.6E-12	40.0E-12	37.4E-12	40.0E-12	58.3E-12

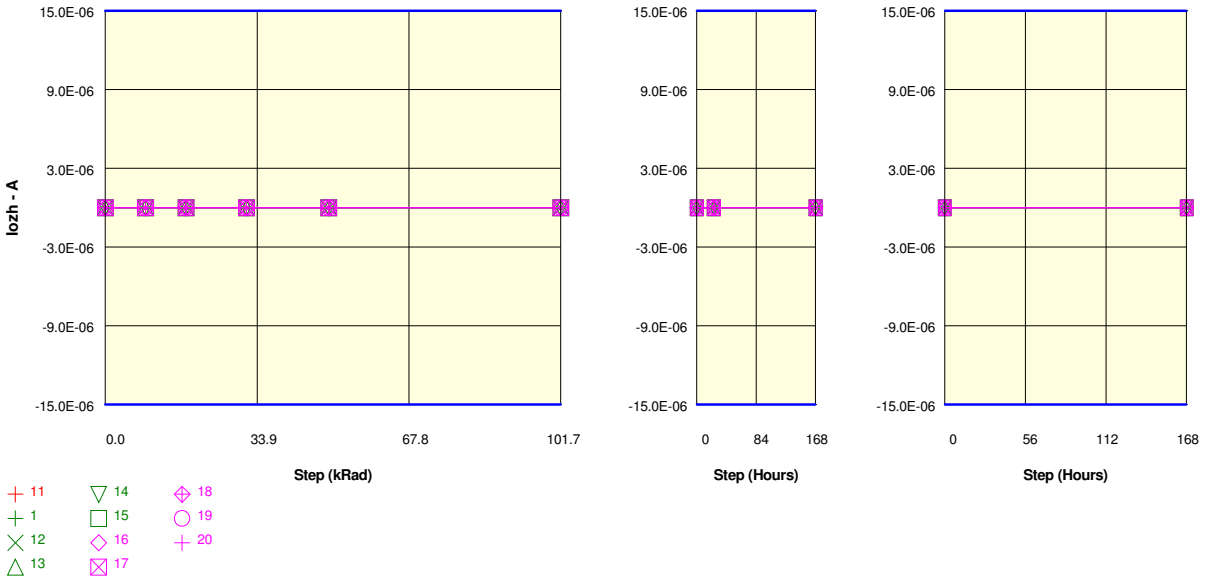
Measurements

Iozh D11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	300.0E-12	650.0E-12	650.0E-12	350.0E-12	250.0E-12	400.0E-12	500.0E-12	400.0E-12	400.0E-12
OFF samples									
16	300.0E-12	450.0E-12	500.0E-12	500.0E-12	450.0E-12	600.0E-12	600.0E-12	550.0E-12	450.0E-12
17	250.0E-12	400.0E-12	450.0E-12	500.0E-12	400.0E-12	500.0E-12	600.0E-12	500.0E-12	350.0E-12
18	350.0E-12	400.0E-12	400.0E-12	450.0E-12	400.0E-12	500.0E-12	500.0E-12	450.0E-12	300.0E-12
19	350.0E-12	350.0E-12	400.0E-12	400.0E-12	400.0E-12	500.0E-12	450.0E-12	450.0E-12	350.0E-12
20	250.0E-12	450.0E-12	400.0E-12	400.0E-12	300.0E-12	500.0E-12	550.0E-12	450.0E-12	350.0E-12
Statistics									
Min	250.0E-12	350.0E-12	400.0E-12	400.0E-12	300.0E-12	500.0E-12	450.0E-12	450.0E-12	300.0E-12
Max	350.0E-12	450.0E-12	500.0E-12	500.0E-12	450.0E-12	600.0E-12	600.0E-12	550.0E-12	450.0E-12
Average	300.0E-12	410.0E-12	430.0E-12	450.0E-12	390.0E-12	520.0E-12	540.0E-12	480.0E-12	360.0E-12
Sigma	44.7E-12	37.4E-12	40.0E-12	44.7E-12	49.0E-12	40.0E-12	58.3E-12	40.0E-12	49.0E-12

Drift Calculation

Iozh D11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	150.0E-12	200.0E-12	200.0E-12	150.0E-12	300.0E-12	300.0E-12	250.0E-12	150.0E-12
17	-	150.0E-12	200.0E-12	250.0E-12	150.0E-12	250.0E-12	350.0E-12	250.0E-12	100.0E-12
18	-	50.0E-12	50.0E-12	100.0E-12	50.0E-12	150.0E-12	150.0E-12	100.0E-12	-50.0E-12
19	-	0.0E+00	50.0E-12	50.0E-12	50.0E-12	150.0E-12	100.0E-12	100.0E-12	0.0E+00
20	-	200.0E-12	150.0E-12	150.0E-12	50.0E-12	250.0E-12	300.0E-12	200.0E-12	100.0E-12
Average	-	110.0E-12	130.0E-12	150.0E-12	90.0E-12	220.0E-12	240.0E-12	180.0E-12	60.0E-12
Sigma	-	73.5E-12	67.8E-12	70.7E-12	49.0E-12	60.0E-12	97.0E-12	67.8E-12	73.5E-12

Parameter : High impedance leakage current : IozhD10
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	250.0E-12	800.0E-12	650.0E-12	400.0E-12	200.0E-12	350.0E-12	400.0E-12	300.0E-12	350.0E-12
ON samples									
1	250.0E-12	450.0E-12	600.0E-12	400.0E-12	250.0E-12	600.0E-12	600.0E-12	450.0E-12	300.0E-12
12	300.0E-12	450.0E-12	500.0E-12	500.0E-12	400.0E-12	500.0E-12	450.0E-12	400.0E-12	400.0E-12
13	350.0E-12	350.0E-12	500.0E-12	350.0E-12	300.0E-12	450.0E-12	450.0E-12	400.0E-12	350.0E-12
14	350.0E-12	400.0E-12	400.0E-12	400.0E-12	300.0E-12	500.0E-12	500.0E-12	450.0E-12	350.0E-12
15	300.0E-12	450.0E-12	400.0E-12	350.0E-12	250.0E-12	400.0E-12	500.0E-12	400.0E-12	250.0E-12
Statistics									
Min	250.0E-12	350.0E-12	400.0E-12	350.0E-12	250.0E-12	400.0E-12	450.0E-12	400.0E-12	250.0E-12
Max	350.0E-12	450.0E-12	600.0E-12	500.0E-12	400.0E-12	600.0E-12	600.0E-12	450.0E-12	400.0E-12
Average	310.0E-12	420.0E-12	480.0E-12	400.0E-12	300.0E-12	490.0E-12	500.0E-12	420.0E-12	330.0E-12
Sigma	37.4E-12	40.0E-12	74.8E-12	54.8E-12	54.8E-12	66.3E-12	54.8E-12	24.5E-12	51.0E-12

Drift Calculation

IozhD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	200.0E-12	350.0E-12	150.0E-12	0.0E+00	350.0E-12	350.0E-12	200.0E-12	50.0E-12
12	-	150.0E-12	200.0E-12	200.0E-12	100.0E-12	200.0E-12	150.0E-12	100.0E-12	100.0E-12
13	-	0.0E+00	150.0E-12	0.0E+00	-50.0E-12	100.0E-12	100.0E-12	50.0E-12	0.0E+00
14	-	50.0E-12	50.0E-12	50.0E-12	-50.0E-12	150.0E-12	150.0E-12	100.0E-12	0.0E+00
15	-	150.0E-12	100.0E-12	50.0E-12	-50.0E-12	100.0E-12	200.0E-12	100.0E-12	-50.0E-12
Average	-	110.0E-12	170.0E-12	90.0E-12	-10.0E-12	180.0E-12	190.0E-12	110.0E-12	20.0E-12
Sigma	-	73.5E-12	103.0E-12	73.5E-12	58.3E-12	92.7E-12	86.0E-12	49.0E-12	51.0E-12

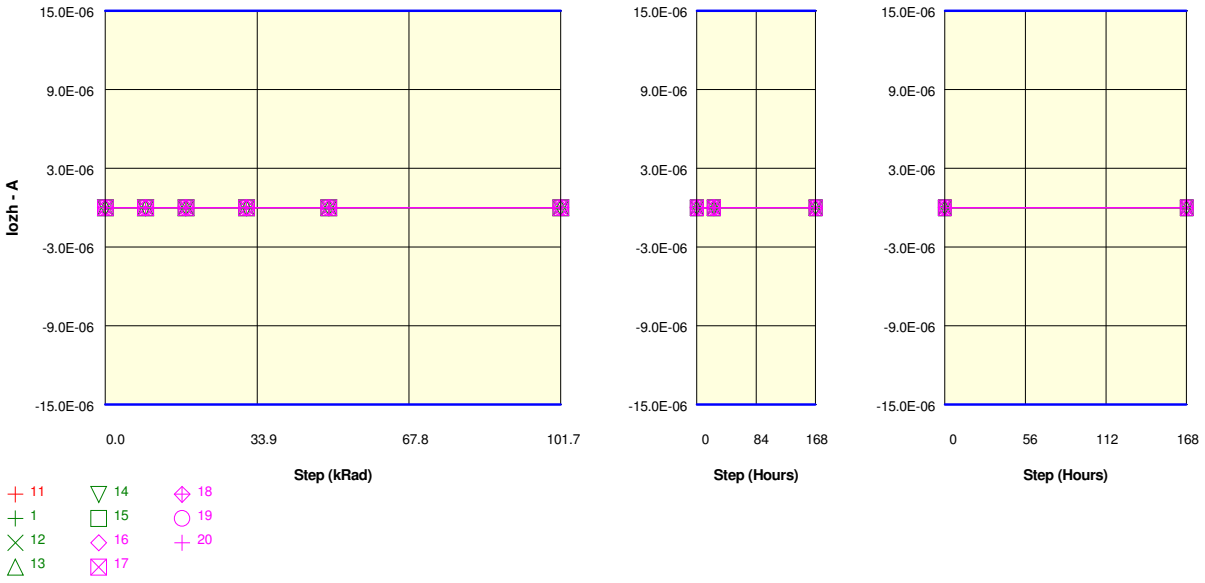
Measurements

lozhD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	250.0E-12	800.0E-12	650.0E-12	400.0E-12	200.0E-12	350.0E-12	400.0E-12	300.0E-12	350.0E-12
OFF samples									
16	350.0E-12	500.0E-12	500.0E-12	450.0E-12	400.0E-12	600.0E-12	700.0E-12	450.0E-12	500.0E-12
17	350.0E-12	450.0E-12	450.0E-12	450.0E-12	350.0E-12	600.0E-12	550.0E-12	500.0E-12	400.0E-12
18	250.0E-12	350.0E-12	400.0E-12	500.0E-12	300.0E-12	500.0E-12	500.0E-12	450.0E-12	300.0E-12
19	400.0E-12	300.0E-12	400.0E-12	400.0E-12	300.0E-12	450.0E-12	600.0E-12	450.0E-12	300.0E-12
20	250.0E-12	350.0E-12	400.0E-12	300.0E-12	300.0E-12	500.0E-12	500.0E-12	400.0E-12	400.0E-12
Statistics									
Min	250.0E-12	300.0E-12	400.0E-12	300.0E-12	300.0E-12	450.0E-12	500.0E-12	400.0E-12	300.0E-12
Max	400.0E-12	500.0E-12	500.0E-12	500.0E-12	400.0E-12	600.0E-12	700.0E-12	500.0E-12	500.0E-12
Average	320.0E-12	390.0E-12	430.0E-12	420.0E-12	330.0E-12	530.0E-12	570.0E-12	450.0E-12	380.0E-12
Sigma	60.0E-12	73.5E-12	40.0E-12	67.8E-12	40.0E-12	60.0E-12	74.8E-12	31.6E-12	74.8E-12

Drift Calculation

lozhD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	150.0E-12	150.0E-12	100.0E-12	50.0E-12	250.0E-12	350.0E-12	100.0E-12	150.0E-12
17	-	100.0E-12	100.0E-12	100.0E-12	0.0E+00	250.0E-12	200.0E-12	150.0E-12	50.0E-12
18	-	100.0E-12	150.0E-12	250.0E-12	50.0E-12	250.0E-12	250.0E-12	200.0E-12	50.0E-12
19	-	-100.0E-12	0.0E+00	0.0E+00	-100.0E-12	50.0E-12	200.0E-12	50.0E-12	-100.0E-12
20	-	100.0E-12	150.0E-12	50.0E-12	50.0E-12	250.0E-12	250.0E-12	150.0E-12	150.0E-12
Average	-	70.0E-12	110.0E-12	100.0E-12	10.0E-12	210.0E-12	250.0E-12	130.0E-12	60.0E-12
Sigma	-	87.2E-12	58.3E-12	83.7E-12	58.3E-12	80.0E-12	54.8E-12	51.0E-12	91.7E-12

Parameter : High impedance leakage current : IozhD9
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	350.0E-12	750.0E-12	800.0E-12	300.0E-12	300.0E-12	350.0E-12	600.0E-12	350.0E-12	350.0E-12
ON samples									
1	350.0E-12	600.0E-12	600.0E-12	450.0E-12	350.0E-12	600.0E-12	600.0E-12	450.0E-12	300.0E-12
12	300.0E-12	500.0E-12	500.0E-12	400.0E-12	400.0E-12	500.0E-12	500.0E-12	400.0E-12	350.0E-12
13	300.0E-12	400.0E-12	500.0E-12	350.0E-12	300.0E-12	550.0E-12	550.0E-12	400.0E-12	300.0E-12
14	350.0E-12	400.0E-12	400.0E-12	450.0E-12	300.0E-12	500.0E-12	500.0E-12	350.0E-12	350.0E-12
15	350.0E-12	400.0E-12	400.0E-12	300.0E-12	250.0E-12	450.0E-12	500.0E-12	450.0E-12	250.0E-12
Statistics									
Min	300.0E-12	400.0E-12	400.0E-12	300.0E-12	250.0E-12	450.0E-12	500.0E-12	350.0E-12	250.0E-12
Max	350.0E-12	600.0E-12	600.0E-12	450.0E-12	400.0E-12	600.0E-12	600.0E-12	450.0E-12	350.0E-12
Average	330.0E-12	460.0E-12	480.0E-12	390.0E-12	320.0E-12	520.0E-12	530.0E-12	410.0E-12	310.0E-12
Sigma	24.5E-12	80.0E-12	74.8E-12	58.3E-12	51.0E-12	51.0E-12	40.0E-12	37.4E-12	37.4E-12

Drift Calculation

IozhD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	250.0E-12	250.0E-12	100.0E-12	0.0E+00	250.0E-12	250.0E-12	100.0E-12	-50.0E-12
12	-	200.0E-12	200.0E-12	100.0E-12	100.0E-12	200.0E-12	200.0E-12	100.0E-12	50.0E-12
13	-	100.0E-12	200.0E-12	50.0E-12	0.0E+00	250.0E-12	250.0E-12	100.0E-12	0.0E+00
14	-	50.0E-12	50.0E-12	100.0E-12	-50.0E-12	150.0E-12	150.0E-12	0.0E+00	0.0E+00
15	-	50.0E-12	50.0E-12	-50.0E-12	-100.0E-12	100.0E-12	150.0E-12	100.0E-12	-100.0E-12
Average	-	130.0E-12	150.0E-12	60.0E-12	-10.0E-12	190.0E-12	200.0E-12	80.0E-12	-20.0E-12
Sigma	-	81.2E-12	83.7E-12	58.3E-12	66.3E-12	58.3E-12	44.7E-12	40.0E-12	51.0E-12

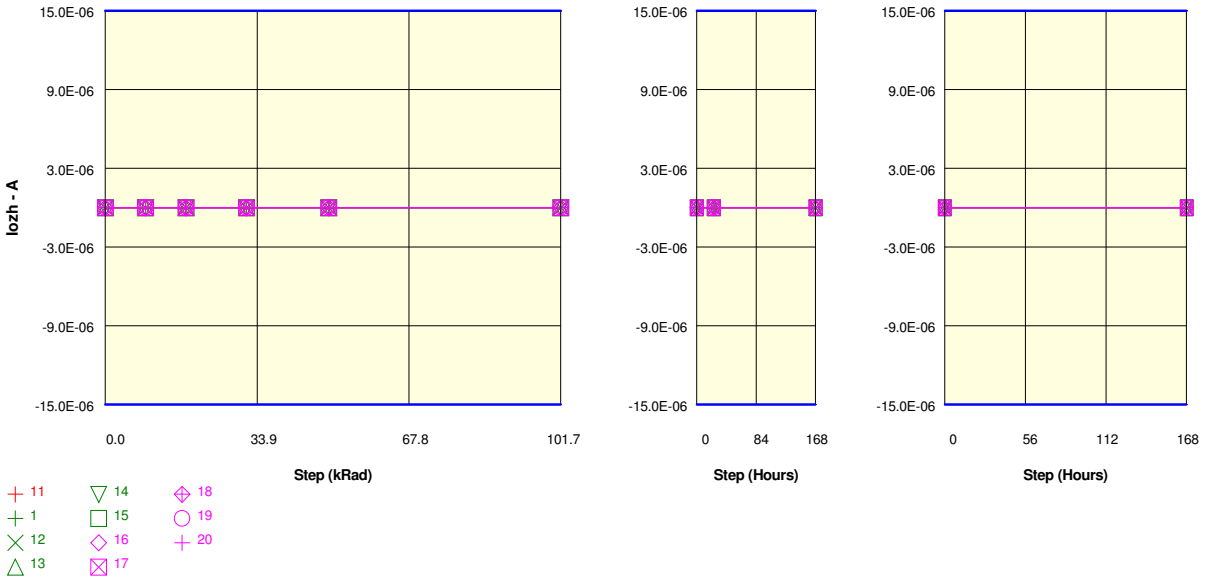
Measurements

IozhD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	350.0E-12	750.0E-12	800.0E-12	300.0E-12	300.0E-12	350.0E-12	600.0E-12	350.0E-12	350.0E-12
OFF samples									
16	300.0E-12	500.0E-12	350.0E-12	300.0E-12	500.0E-12	300.0E-12	550.0E-12	550.0E-12	350.0E-12
17	300.0E-12	400.0E-12	500.0E-12	400.0E-12	300.0E-12	500.0E-12	600.0E-12	400.0E-12	250.0E-12
18	400.0E-12	350.0E-12	500.0E-12	500.0E-12	350.0E-12	500.0E-12	550.0E-12	350.0E-12	250.0E-12
19	350.0E-12	400.0E-12	400.0E-12	400.0E-12	300.0E-12	450.0E-12	450.0E-12	500.0E-12	300.0E-12
20	250.0E-12	400.0E-12	400.0E-12	350.0E-12	300.0E-12	600.0E-12	500.0E-12	350.0E-12	300.0E-12
Statistics									
Min	250.0E-12	350.0E-12	350.0E-12	300.0E-12	300.0E-12	300.0E-12	450.0E-12	350.0E-12	250.0E-12
Max	400.0E-12	500.0E-12	500.0E-12	500.0E-12	500.0E-12	600.0E-12	600.0E-12	550.0E-12	350.0E-12
Average	320.0E-12	410.0E-12	430.0E-12	390.0E-12	350.0E-12	470.0E-12	530.0E-12	430.0E-12	290.0E-12
Sigma	51.0E-12	49.0E-12	60.0E-12	66.3E-12	77.5E-12	98.0E-12	51.0E-12	81.2E-12	37.4E-12

Drift Calculation

IozhD9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	200.0E-12	50.0E-12	0.0E+00	200.0E-12	0.0E+00	250.0E-12	250.0E-12	50.0E-12
17	-	100.0E-12	200.0E-12	100.0E-12	0.0E+00	200.0E-12	300.0E-12	100.0E-12	-50.0E-12
18	-	-50.0E-12	100.0E-12	100.0E-12	-50.0E-12	100.0E-12	150.0E-12	-50.0E-12	-150.0E-12
19	-	50.0E-12	50.0E-12	50.0E-12	-50.0E-12	100.0E-12	100.0E-12	150.0E-12	-50.0E-12
20	-	150.0E-12	150.0E-12	100.0E-12	50.0E-12	350.0E-12	250.0E-12	100.0E-12	50.0E-12
Average	-	90.0E-12	110.0E-12	70.0E-12	30.0E-12	150.0E-12	210.0E-12	110.0E-12	-30.0E-12
Sigma	-	86.0E-12	58.3E-12	40.0E-12	92.7E-12	118.3E-12	73.5E-12	97.0E-12	74.8E-12

Parameter : High impedance leakage current : IozhD8
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	550.0E-12	1.4E-09	1.5E-09	500.0E-12	600.0E-12	650.0E-12	800.0E-12	550.0E-12	900.0E-12
ON samples									
1	600.0E-12	1.0E-09	1.5E-09	550.0E-12	600.0E-12	900.0E-12	750.0E-12	650.0E-12	900.0E-12
12	550.0E-12	1.0E-09	1.0E-09	550.0E-12	700.0E-12	850.0E-12	700.0E-12	550.0E-12	900.0E-12
13	500.0E-12	950.0E-12	1.0E-09	600.0E-12	550.0E-12	800.0E-12	750.0E-12	650.0E-12	350.0E-12
14	600.0E-12	900.0E-12	1.1E-09	550.0E-12	800.0E-12	750.0E-12	850.0E-12	600.0E-12	850.0E-12
15	550.0E-12	950.0E-12	1.0E-09	600.0E-12	600.0E-12	950.0E-12	850.0E-12	600.0E-12	650.0E-12
Statistics									
Min	500.0E-12	900.0E-12	1.0E-09	550.0E-12	550.0E-12	750.0E-12	700.0E-12	550.0E-12	350.0E-12
Max	600.0E-12	1.0E-09	1.5E-09	600.0E-12	800.0E-12	950.0E-12	850.0E-12	650.0E-12	900.0E-12
Average	560.0E-12	960.0E-12	1.1E-09	570.0E-12	650.0E-12	850.0E-12	780.0E-12	610.0E-12	730.0E-12
Sigma	37.4E-12	37.4E-12	196.0E-12	24.5E-12	89.4E-12	70.7E-12	60.0E-12	37.4E-12	211.2E-12

Drift Calculation

IozhD8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	400.0E-12	900.0E-12	-50.0E-12	0.0E+00	300.0E-12	150.0E-12	50.0E-12	300.0E-12
12	-	450.0E-12	450.0E-12	0.0E+00	150.0E-12	300.0E-12	150.0E-12	0.0E+00	350.0E-12
13	-	450.0E-12	500.0E-12	100.0E-12	50.0E-12	300.0E-12	250.0E-12	150.0E-12	-150.0E-12
14	-	300.0E-12	450.0E-12	-50.0E-12	200.0E-12	150.0E-12	250.0E-12	0.0E+00	250.0E-12
15	-	400.0E-12	450.0E-12	50.0E-12	50.0E-12	400.0E-12	300.0E-12	50.0E-12	100.0E-12
Average	-	400.0E-12	550.0E-12	10.0E-12	90.0E-12	290.0E-12	220.0E-12	50.0E-12	170.0E-12
Sigma	-	54.8E-12	176.1E-12	58.3E-12	73.5E-12	80.0E-12	60.0E-12	54.8E-12	180.6E-12

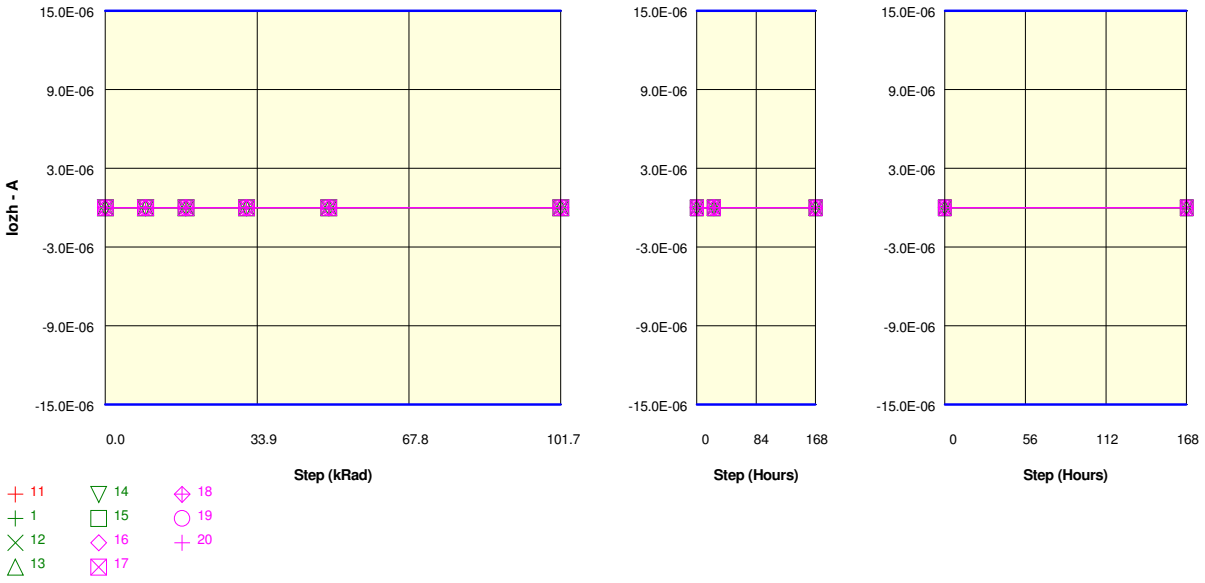
Measurements

Iozh D8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	550.0E-12	1.4E-09	1.5E-09	500.0E-12	600.0E-12	650.0E-12	800.0E-12	550.0E-12	900.0E-12
OFF samples									
16	500.0E-12	1.0E-09	1.0E-09	750.0E-12	800.0E-12	1.1E-09	1.0E-09	750.0E-12	900.0E-12
17	550.0E-12	1.0E-09	950.0E-12	600.0E-12	850.0E-12	700.0E-12	850.0E-12	600.0E-12	650.0E-12
18	800.0E-12	800.0E-12	1.0E-09	650.0E-12	550.0E-12	850.0E-12	1.0E-09	650.0E-12	800.0E-12
19	600.0E-12	650.0E-12	900.0E-12	600.0E-12	800.0E-12	750.0E-12	800.0E-12	650.0E-12	750.0E-12
20	550.0E-12	900.0E-12	1.0E-09	550.0E-12	500.0E-12	850.0E-12	900.0E-12	550.0E-12	800.0E-12
Statistics									
Min	500.0E-12	650.0E-12	900.0E-12	550.0E-12	500.0E-12	700.0E-12	800.0E-12	550.0E-12	650.0E-12
Max	800.0E-12	1.0E-09	1.0E-09	750.0E-12	850.0E-12	1.1E-09	1.0E-09	750.0E-12	900.0E-12
Average	600.0E-12	870.0E-12	970.0E-12	630.0E-12	700.0E-12	840.0E-12	910.0E-12	640.0E-12	780.0E-12
Sigma	104.9E-12	132.7E-12	40.0E-12	67.8E-12	144.9E-12	120.0E-12	80.0E-12	66.3E-12	81.2E-12

Drift Calculation

Iozh D8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	500.0E-12	500.0E-12	250.0E-12	300.0E-12	550.0E-12	500.0E-12	250.0E-12	400.0E-12
17	-	450.0E-12	400.0E-12	50.0E-12	300.0E-12	150.0E-12	300.0E-12	50.0E-12	100.0E-12
18	-	0.0E+00	200.0E-12	-150.0E-12	-250.0E-12	50.0E-12	200.0E-12	-150.0E-12	0.0E+00
19	-	50.0E-12	300.0E-12	0.0E+00	200.0E-12	150.0E-12	200.0E-12	50.0E-12	150.0E-12
20	-	350.0E-12	450.0E-12	0.0E+00	-50.0E-12	300.0E-12	350.0E-12	0.0E+00	250.0E-12
Average	-	270.0E-12	370.0E-12	30.0E-12	100.0E-12	240.0E-12	310.0E-12	40.0E-12	180.0E-12
Sigma	-	206.4E-12	107.7E-12	128.8E-12	216.8E-12	174.4E-12	111.4E-12	128.1E-12	136.4E-12

Parameter : High impedance leakage current : IozhD7
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	450.0E-12	1.2E-09	1.3E-09	450.0E-12	450.0E-12	550.0E-12	600.0E-12	500.0E-12	550.0E-12
ON samples									
1	500.0E-12	900.0E-12	1.3E-09	500.0E-12	450.0E-12	850.0E-12	800.0E-12	600.0E-12	600.0E-12
12	500.0E-12	850.0E-12	850.0E-12	550.0E-12	450.0E-12	550.0E-12	600.0E-12	550.0E-12	550.0E-12
13	400.0E-12	900.0E-12	800.0E-12	500.0E-12	550.0E-12	700.0E-12	650.0E-12	550.0E-12	650.0E-12
14	500.0E-12	850.0E-12	850.0E-12	600.0E-12	500.0E-12	550.0E-12	550.0E-12	550.0E-12	500.0E-12
15	500.0E-12	850.0E-12	800.0E-12	450.0E-12	500.0E-12	600.0E-12	700.0E-12	450.0E-12	400.0E-12
Statistics									
Min	400.0E-12	850.0E-12	800.0E-12	450.0E-12	450.0E-12	550.0E-12	550.0E-12	450.0E-12	400.0E-12
Max	500.0E-12	900.0E-12	1.3E-09	600.0E-12	550.0E-12	850.0E-12	800.0E-12	600.0E-12	650.0E-12
Average	480.0E-12	870.0E-12	910.0E-12	520.0E-12	490.0E-12	650.0E-12	660.0E-12	540.0E-12	540.0E-12
Sigma	40.0E-12	24.5E-12	171.5E-12	51.0E-12	37.4E-12	114.0E-12	86.0E-12	49.0E-12	86.0E-12

Drift Calculation

IozhD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	400.0E-12	750.0E-12	0.0E+00	-50.0E-12	350.0E-12	300.0E-12	100.0E-12	100.0E-12
12	-	350.0E-12	350.0E-12	50.0E-12	-50.0E-12	50.0E-12	100.0E-12	50.0E-12	50.0E-12
13	-	500.0E-12	400.0E-12	100.0E-12	150.0E-12	300.0E-12	250.0E-12	150.0E-12	250.0E-12
14	-	350.0E-12	350.0E-12	100.0E-12	0.0E+00	50.0E-12	50.0E-12	50.0E-12	0.0E+00
15	-	350.0E-12	300.0E-12	-50.0E-12	0.0E+00	100.0E-12	200.0E-12	-50.0E-12	-100.0E-12
Average	-	390.0E-12	430.0E-12	40.0E-12	10.0E-12	170.0E-12	180.0E-12	60.0E-12	60.0E-12
Sigma	-	58.3E-12	163.1E-12	58.3E-12	73.5E-12	128.8E-12	92.7E-12	66.3E-12	115.8E-12

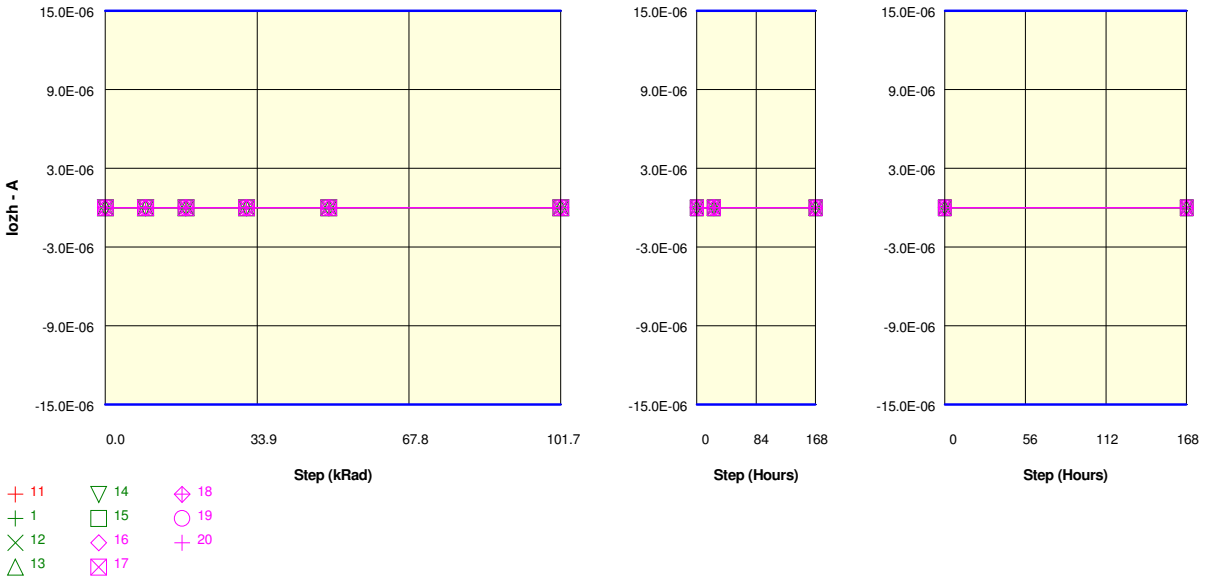
Measurements

IozhD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	450.0E-12	1.2E-09	1.3E-09	450.0E-12	450.0E-12	550.0E-12	600.0E-12	500.0E-12	550.0E-12
OFF samples									
16	450.0E-12	950.0E-12	850.0E-12	700.0E-12	600.0E-12	800.0E-12	950.0E-12	700.0E-12	700.0E-12
17	550.0E-12	900.0E-12	850.0E-12	500.0E-12	450.0E-12	700.0E-12	800.0E-12	500.0E-12	450.0E-12
18	500.0E-12	550.0E-12	900.0E-12	600.0E-12	500.0E-12	550.0E-12	850.0E-12	500.0E-12	600.0E-12
19	450.0E-12	500.0E-12	850.0E-12	550.0E-12	500.0E-12	800.0E-12	700.0E-12	500.0E-12	450.0E-12
20	500.0E-12	750.0E-12	850.0E-12	450.0E-12	450.0E-12	750.0E-12	650.0E-12	550.0E-12	500.0E-12
Statistics									
Min	450.0E-12	500.0E-12	850.0E-12	450.0E-12	450.0E-12	550.0E-12	650.0E-12	500.0E-12	450.0E-12
Max	550.0E-12	950.0E-12	900.0E-12	700.0E-12	600.0E-12	800.0E-12	950.0E-12	700.0E-12	700.0E-12
Average	490.0E-12	730.0E-12	860.0E-12	560.0E-12	500.0E-12	720.0E-12	790.0E-12	550.0E-12	540.0E-12
Sigma	37.4E-12	180.6E-12	20.0E-12	86.0E-12	54.8E-12	92.7E-12	106.8E-12	77.5E-12	97.0E-12

Drift Calculation

IozhD7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	500.0E-12	400.0E-12	250.0E-12	150.0E-12	350.0E-12	500.0E-12	250.0E-12	250.0E-12
17	-	350.0E-12	300.0E-12	-50.0E-12	-100.0E-12	150.0E-12	250.0E-12	-50.0E-12	-100.0E-12
18	-	50.0E-12	400.0E-12	100.0E-12	0.0E+00	50.0E-12	350.0E-12	0.0E+00	100.0E-12
19	-	50.0E-12	400.0E-12	100.0E-12	50.0E-12	350.0E-12	250.0E-12	50.0E-12	0.0E+00
20	-	250.0E-12	350.0E-12	-50.0E-12	-50.0E-12	250.0E-12	150.0E-12	50.0E-12	0.0E+00
Average	-	240.0E-12	370.0E-12	70.0E-12	10.0E-12	230.0E-12	300.0E-12	60.0E-12	50.0E-12
Sigma	-	174.4E-12	40.0E-12	112.2E-12	86.0E-12	116.6E-12	118.3E-12	102.0E-12	118.3E-12

Parameter : High impedance leakage current : IozhD6
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	600.0E-12	950.0E-12	1.1E-09	750.0E-12	850.0E-12	1.2E-09	1.2E-09	1.1E-09	1.1E-09
ON samples									
1	1.0E-09	1.3E-09	1.2E-09	650.0E-12	850.0E-12	1.4E-09	1.2E-09	1.1E-09	1.0E-09
12	1.0E-09	1.0E-09	1.1E-09	1.0E-09	800.0E-12	1.2E-09	1.2E-09	1.2E-09	1.0E-09
13	900.0E-12	900.0E-12	800.0E-12	850.0E-12	850.0E-12	1.2E-09	1.2E-09	950.0E-12	1.2E-09
14	1.0E-09	1.1E-09	850.0E-12	800.0E-12	1.1E-09	1.4E-09	1.3E-09	1.1E-09	1.0E-09
15	900.0E-12	1.3E-09	750.0E-12	950.0E-12	1.0E-09	1.2E-09	1.5E-09	1.0E-09	1.2E-09
Statistics									
Min	900.0E-12	900.0E-12	750.0E-12	650.0E-12	800.0E-12	1.2E-09	1.2E-09	950.0E-12	1.0E-09
Max	1.0E-09	1.3E-09	1.2E-09	1.0E-09	1.1E-09	1.4E-09	1.5E-09	1.2E-09	1.2E-09
Average	960.0E-12	1.1E-09	940.0E-12	850.0E-12	910.0E-12	1.3E-09	1.3E-09	1.1E-09	1.1E-09
Sigma	49.0E-12	151.7E-12	177.2E-12	122.5E-12	97.0E-12	87.2E-12	130.4E-12	70.7E-12	87.2E-12

Drift Calculation

IozhD6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	250.0E-12	200.0E-12	-350.0E-12	-150.0E-12	400.0E-12	200.0E-12	50.0E-12	0.0E+00
12	-	0.0E+00	100.0E-12	0.0E+00	-200.0E-12	200.0E-12	150.0E-12	150.0E-12	0.0E+00
13	-	0.0E+00	-100.0E-12	-50.0E-12	-50.0E-12	300.0E-12	250.0E-12	50.0E-12	300.0E-12
14	-	50.0E-12	-150.0E-12	-200.0E-12	50.0E-12	350.0E-12	250.0E-12	100.0E-12	0.0E+00
15	-	400.0E-12	-150.0E-12	50.0E-12	100.0E-12	300.0E-12	600.0E-12	100.0E-12	250.0E-12
Average	-	140.0E-12	-20.0E-12	-110.0E-12	-50.0E-12	310.0E-12	290.0E-12	90.0E-12	110.0E-12
Sigma	-	159.4E-12	143.5E-12	146.3E-12	114.0E-12	66.3E-12	159.4E-12	37.4E-12	135.6E-12

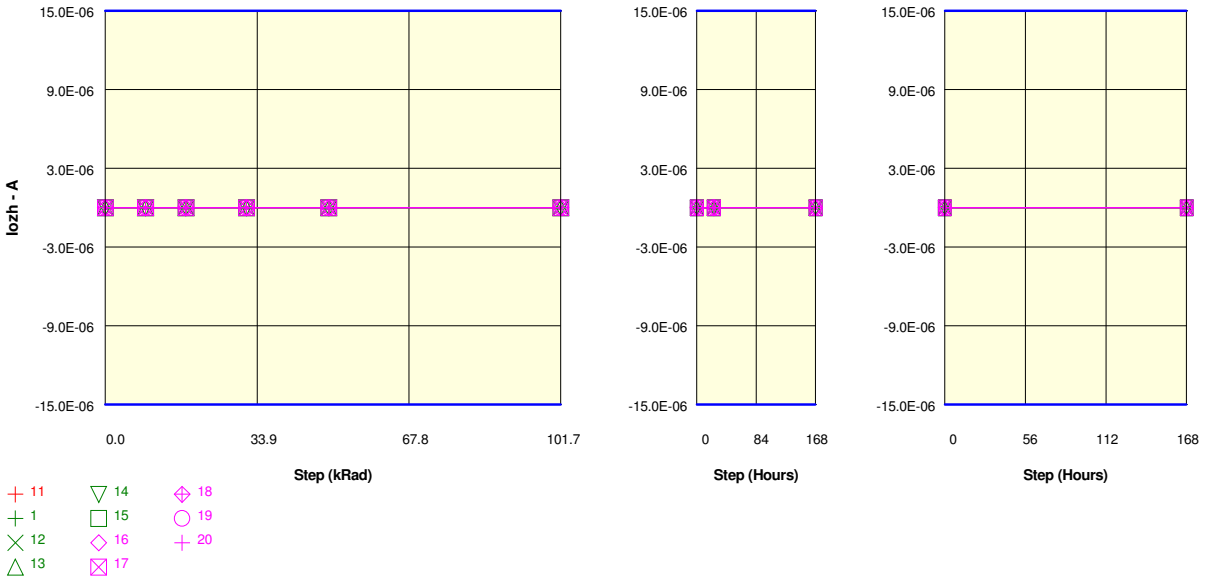
Measurements

Iozh D6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	600.0E-12	950.0E-12	1.1E-09	750.0E-12	850.0E-12	1.2E-09	1.2E-09	1.1E-09	1.1E-09
OFF samples									
16	900.0E-12	1.1E-09	1.1E-09	1.0E-09	1.0E-09	1.3E-09	1.4E-09	1.0E-09	1.0E-09
17	950.0E-12	1.1E-09	900.0E-12	800.0E-12	1.1E-09	1.2E-09	1.2E-09	1.1E-09	1.0E-09
18	850.0E-12	900.0E-12	1.0E-09	950.0E-12	800.0E-12	1.3E-09	1.2E-09	1.0E-09	1.1E-09
19	1.1E-09	1.1E-09	850.0E-12	850.0E-12	900.0E-12	950.0E-12	1.1E-09	1.1E-09	900.0E-12
20	900.0E-12	1.2E-09	1.2E-09	800.0E-12	700.0E-12	1.4E-09	1.3E-09	1.1E-09	900.0E-12
Statistics									
Min	850.0E-12	900.0E-12	850.0E-12	800.0E-12	700.0E-12	950.0E-12	1.1E-09	1.0E-09	900.0E-12
Max	1.1E-09	1.2E-09	1.2E-09	1.0E-09	1.1E-09	1.4E-09	1.4E-09	1.1E-09	1.1E-09
Average	930.0E-12	1.1E-09	1.0E-09	880.0E-12	890.0E-12	1.2E-09	1.2E-09	1.0E-09	970.0E-12
Sigma	67.8E-12	98.0E-12	122.5E-12	81.2E-12	128.1E-12	141.4E-12	92.7E-12	37.4E-12	60.0E-12

Drift Calculation

Iozh D6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	150.0E-12	150.0E-12	100.0E-12	100.0E-12	400.0E-12	450.0E-12	100.0E-12	100.0E-12
17	-	150.0E-12	-50.0E-12	-150.0E-12	100.0E-12	200.0E-12	250.0E-12	100.0E-12	50.0E-12
18	-	50.0E-12	150.0E-12	100.0E-12	-50.0E-12	400.0E-12	300.0E-12	150.0E-12	200.0E-12
19	-	50.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	50.0E-12	0.0E+00	-150.0E-12
20	-	300.0E-12	300.0E-12	-100.0E-12	-200.0E-12	450.0E-12	400.0E-12	200.0E-12	0.0E+00
Average	-	140.0E-12	70.0E-12	-50.0E-12	-40.0E-12	270.0E-12	290.0E-12	110.0E-12	40.0E-12
Sigma	-	91.7E-12	174.9E-12	126.5E-12	124.1E-12	204.0E-12	139.3E-12	66.3E-12	115.8E-12

Parameter : High impedance leakage current : IozhD5
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	450.0E-12	700.0E-12	800.0E-12	600.0E-12	650.0E-12	850.0E-12	850.0E-12	750.0E-12	850.0E-12
ON samples									
1	600.0E-12	900.0E-12	800.0E-12	650.0E-12	600.0E-12	1.0E-09	850.0E-12	900.0E-12	650.0E-12
12	550.0E-12	700.0E-12	850.0E-12	700.0E-12	550.0E-12	1.1E-09	800.0E-12	900.0E-12	750.0E-12
13	550.0E-12	800.0E-12	800.0E-12	550.0E-12	650.0E-12	950.0E-12	900.0E-12	850.0E-12	750.0E-12
14	700.0E-12	750.0E-12	750.0E-12	600.0E-12	700.0E-12	950.0E-12	950.0E-12	950.0E-12	700.0E-12
15	650.0E-12	850.0E-12	650.0E-12	600.0E-12	600.0E-12	850.0E-12	1.0E-09	750.0E-12	650.0E-12
Statistics									
Min	550.0E-12	700.0E-12	650.0E-12	550.0E-12	550.0E-12	850.0E-12	800.0E-12	750.0E-12	650.0E-12
Max	700.0E-12	900.0E-12	850.0E-12	700.0E-12	700.0E-12	1.1E-09	1.0E-09	950.0E-12	750.0E-12
Average	610.0E-12	800.0E-12	770.0E-12	620.0E-12	620.0E-12	960.0E-12	900.0E-12	870.0E-12	700.0E-12
Sigma	58.3E-12	70.7E-12	67.8E-12	51.0E-12	51.0E-12	66.3E-12	70.7E-12	67.8E-12	44.7E-12

Drift Calculation

IozhD5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	300.0E-12	200.0E-12	50.0E-12	0.0E+00	400.0E-12	250.0E-12	300.0E-12	50.0E-12
12	-	150.0E-12	300.0E-12	150.0E-12	0.0E+00	500.0E-12	250.0E-12	350.0E-12	200.0E-12
13	-	250.0E-12	250.0E-12	0.0E+00	100.0E-12	400.0E-12	350.0E-12	300.0E-12	200.0E-12
14	-	50.0E-12	50.0E-12	-100.0E-12	0.0E+00	250.0E-12	250.0E-12	250.0E-12	0.0E+00
15	-	200.0E-12	0.0E+00	-50.0E-12	-50.0E-12	200.0E-12	350.0E-12	100.0E-12	0.0E+00
Average	-	190.0E-12	160.0E-12	10.0E-12	10.0E-12	350.0E-12	290.0E-12	260.0E-12	90.0E-12
Sigma	-	86.0E-12	115.8E-12	86.0E-12	49.0E-12	109.5E-12	49.0E-12	86.0E-12	91.7E-12

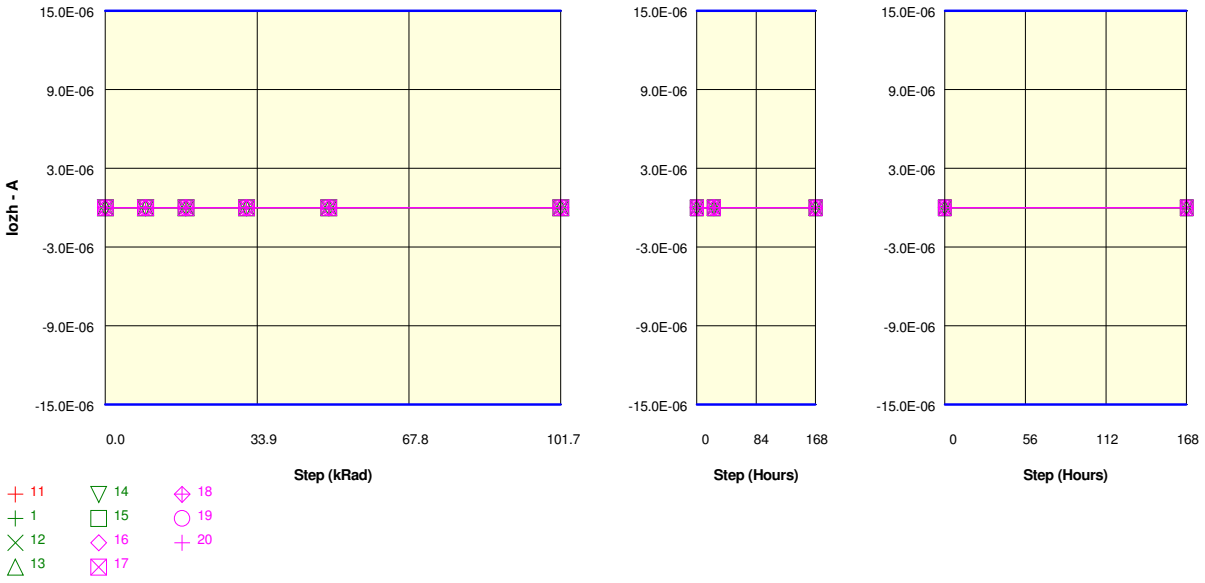
Measurements

Iozh D5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	450.0E-12	700.0E-12	800.0E-12	600.0E-12	650.0E-12	850.0E-12	850.0E-12	750.0E-12	850.0E-12
OFF samples									
16	650.0E-12	900.0E-12	850.0E-12	700.0E-12	700.0E-12	1.1E-09	950.0E-12	900.0E-12	850.0E-12
17	700.0E-12	850.0E-12	700.0E-12	700.0E-12	800.0E-12	1.0E-09	900.0E-12	850.0E-12	800.0E-12
18	600.0E-12	650.0E-12	700.0E-12	650.0E-12	600.0E-12	850.0E-12	1.0E-09	900.0E-12	800.0E-12
19	600.0E-12	700.0E-12	800.0E-12	550.0E-12	600.0E-12	900.0E-12	800.0E-12	800.0E-12	600.0E-12
20	600.0E-12	800.0E-12	650.0E-12	550.0E-12	600.0E-12	850.0E-12	900.0E-12	850.0E-12	800.0E-12
Statistics									
Min	600.0E-12	650.0E-12	650.0E-12	550.0E-12	600.0E-12	850.0E-12	800.0E-12	800.0E-12	600.0E-12
Max	700.0E-12	900.0E-12	850.0E-12	700.0E-12	800.0E-12	1.1E-09	1.0E-09	900.0E-12	850.0E-12
Average	630.0E-12	780.0E-12	740.0E-12	630.0E-12	660.0E-12	930.0E-12	910.0E-12	860.0E-12	770.0E-12
Sigma	40.0E-12	92.7E-12	73.5E-12	67.8E-12	80.0E-12	81.2E-12	66.3E-12	37.4E-12	87.2E-12

Drift Calculation

Iozh D5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	250.0E-12	200.0E-12	50.0E-12	50.0E-12	400.0E-12	300.0E-12	250.0E-12	200.0E-12
17	-	150.0E-12	0.0E+00	0.0E+00	100.0E-12	300.0E-12	200.0E-12	150.0E-12	100.0E-12
18	-	50.0E-12	100.0E-12	50.0E-12	0.0E+00	250.0E-12	400.0E-12	300.0E-12	200.0E-12
19	-	100.0E-12	200.0E-12	-50.0E-12	0.0E+00	300.0E-12	200.0E-12	200.0E-12	0.0E+00
20	-	200.0E-12	50.0E-12	-50.0E-12	0.0E+00	250.0E-12	300.0E-12	250.0E-12	200.0E-12
Average	-	150.0E-12	110.0E-12	-20.7E-27	30.0E-12	300.0E-12	280.0E-12	230.0E-12	140.0E-12
Sigma	-	70.7E-12	80.0E-12	44.7E-12	40.0E-12	54.8E-12	74.8E-12	51.0E-12	80.0E-12

Parameter : High impedance leakage current : IozhD4
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	400.0E-12	550.0E-12	700.0E-12	450.0E-12	450.0E-12	750.0E-12	800.0E-12	550.0E-12	600.0E-12
ON samples									
1	500.0E-12	500.0E-12	800.0E-12	600.0E-12	600.0E-12	800.0E-12	800.0E-12	700.0E-12	600.0E-12
12	500.0E-12	600.0E-12	550.0E-12	600.0E-12	500.0E-12	800.0E-12	700.0E-12	650.0E-12	600.0E-12
13	450.0E-12	650.0E-12	600.0E-12	600.0E-12	550.0E-12	800.0E-12	800.0E-12	650.0E-12	700.0E-12
14	450.0E-12	650.0E-12	550.0E-12	550.0E-12	500.0E-12	850.0E-12	900.0E-12	550.0E-12	600.0E-12
15	450.0E-12	650.0E-12	600.0E-12	650.0E-12	550.0E-12	700.0E-12	850.0E-12	650.0E-12	600.0E-12
Statistics									
Min	450.0E-12	500.0E-12	550.0E-12	550.0E-12	500.0E-12	700.0E-12	700.0E-12	550.0E-12	600.0E-12
Max	500.0E-12	650.0E-12	800.0E-12	650.0E-12	600.0E-12	850.0E-12	900.0E-12	700.0E-12	700.0E-12
Average	470.0E-12	610.0E-12	620.0E-12	600.0E-12	540.0E-12	790.0E-12	810.0E-12	640.0E-12	620.0E-12
Sigma	24.5E-12	58.3E-12	92.7E-12	31.6E-12	37.4E-12	49.0E-12	66.3E-12	49.0E-12	40.0E-12

Drift Calculation

IozhD4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	300.0E-12	100.0E-12	100.0E-12	300.0E-12	300.0E-12	200.0E-12	100.0E-12
12	-	100.0E-12	50.0E-12	100.0E-12	0.0E+00	300.0E-12	200.0E-12	150.0E-12	100.0E-12
13	-	200.0E-12	150.0E-12	150.0E-12	100.0E-12	350.0E-12	350.0E-12	200.0E-12	250.0E-12
14	-	200.0E-12	100.0E-12	100.0E-12	50.0E-12	400.0E-12	450.0E-12	100.0E-12	150.0E-12
15	-	200.0E-12	150.0E-12	200.0E-12	100.0E-12	250.0E-12	400.0E-12	200.0E-12	150.0E-12
Average	-	140.0E-12	150.0E-12	130.0E-12	70.0E-12	320.0E-12	340.0E-12	170.0E-12	150.0E-12
Sigma	-	80.0E-12	83.7E-12	40.0E-12	40.0E-12	51.0E-12	86.0E-12	40.0E-12	54.8E-12

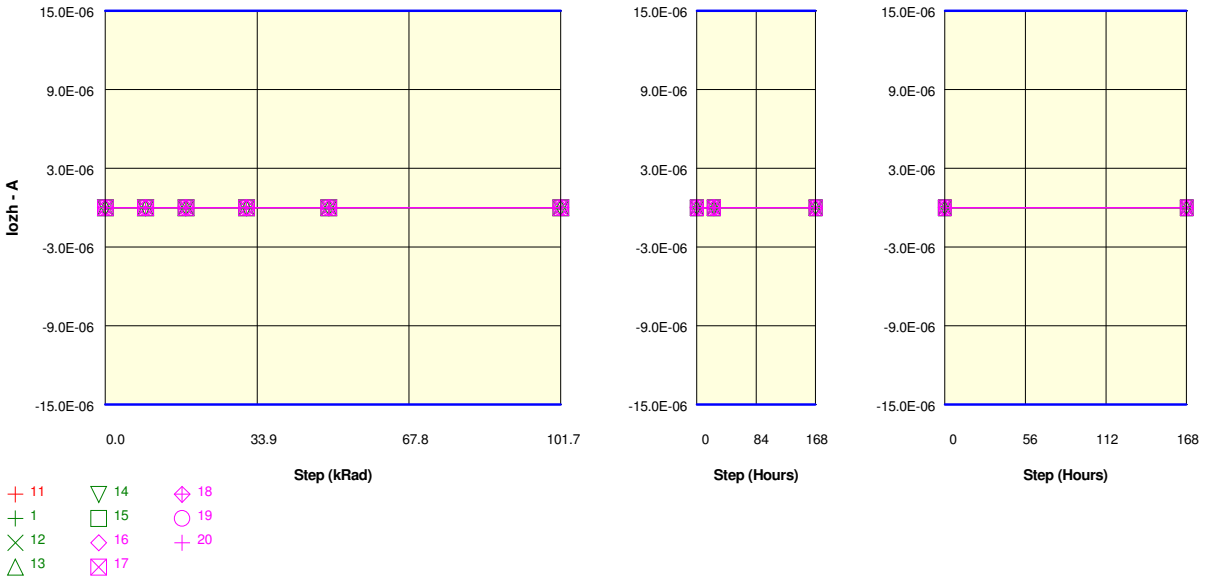
Measurements

Iozh D4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	400.0E-12	550.0E-12	700.0E-12	450.0E-12	450.0E-12	750.0E-12	800.0E-12	550.0E-12	600.0E-12
OFF samples									
16	450.0E-12	700.0E-12	700.0E-12	750.0E-12	600.0E-12	850.0E-12	850.0E-12	750.0E-12	700.0E-12
17	550.0E-12	700.0E-12	600.0E-12	550.0E-12	550.0E-12	750.0E-12	800.0E-12	850.0E-12	650.0E-12
18	500.0E-12	450.0E-12	650.0E-12	550.0E-12	500.0E-12	850.0E-12	850.0E-12	700.0E-12	500.0E-12
19	450.0E-12	600.0E-12	600.0E-12	600.0E-12	500.0E-12	750.0E-12	750.0E-12	650.0E-12	550.0E-12
20	400.0E-12	600.0E-12	600.0E-12	550.0E-12	400.0E-12	800.0E-12	700.0E-12	650.0E-12	550.0E-12
Statistics									
Min	400.0E-12	450.0E-12	600.0E-12	550.0E-12	400.0E-12	750.0E-12	700.0E-12	650.0E-12	500.0E-12
Max	550.0E-12	700.0E-12	700.0E-12	750.0E-12	600.0E-12	850.0E-12	850.0E-12	850.0E-12	700.0E-12
Average	470.0E-12	610.0E-12	630.0E-12	600.0E-12	510.0E-12	800.0E-12	790.0E-12	720.0E-12	590.0E-12
Sigma	51.0E-12	91.7E-12	40.0E-12	77.5E-12	66.3E-12	44.7E-12	58.3E-12	74.8E-12	73.5E-12

Drift Calculation

Iozh D4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	250.0E-12	250.0E-12	300.0E-12	150.0E-12	400.0E-12	400.0E-12	300.0E-12	250.0E-12
17	-	150.0E-12	50.0E-12	0.0E+00	0.0E+00	200.0E-12	250.0E-12	300.0E-12	100.0E-12
18	-	-50.0E-12	150.0E-12	50.0E-12	0.0E+00	350.0E-12	350.0E-12	200.0E-12	0.0E+00
19	-	150.0E-12	150.0E-12	150.0E-12	50.0E-12	300.0E-12	300.0E-12	200.0E-12	100.0E-12
20	-	200.0E-12	200.0E-12	150.0E-12	0.0E+00	400.0E-12	300.0E-12	250.0E-12	150.0E-12
Average	-	140.0E-12	160.0E-12	130.0E-12	40.0E-12	330.0E-12	320.0E-12	250.0E-12	120.0E-12
Sigma	-	102.0E-12	66.3E-12	103.0E-12	58.3E-12	74.8E-12	51.0E-12	44.7E-12	81.2E-12

Parameter : High impedance leakage current : IozhD3
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	350.0E-12	650.0E-12	650.0E-12	550.0E-12	450.0E-12	550.0E-12	650.0E-12	600.0E-12	650.0E-12
ON samples									
1	450.0E-12	600.0E-12	650.0E-12	550.0E-12	550.0E-12	750.0E-12	750.0E-12	700.0E-12	550.0E-12
12	450.0E-12	600.0E-12	800.0E-12	650.0E-12	500.0E-12	750.0E-12	850.0E-12	700.0E-12	650.0E-12
13	500.0E-12	550.0E-12	600.0E-12	550.0E-12	500.0E-12	700.0E-12	750.0E-12	650.0E-12	650.0E-12
14	450.0E-12	600.0E-12	750.0E-12	550.0E-12	600.0E-12	800.0E-12	800.0E-12	650.0E-12	600.0E-12
15	450.0E-12	500.0E-12	550.0E-12	600.0E-12	400.0E-12	650.0E-12	800.0E-12	600.0E-12	600.0E-12
Statistics									
Min	450.0E-12	500.0E-12	550.0E-12	550.0E-12	400.0E-12	650.0E-12	750.0E-12	600.0E-12	550.0E-12
Max	500.0E-12	600.0E-12	800.0E-12	650.0E-12	600.0E-12	800.0E-12	850.0E-12	700.0E-12	650.0E-12
Average	460.0E-12	570.0E-12	670.0E-12	580.0E-12	510.0E-12	730.0E-12	790.0E-12	660.0E-12	610.0E-12
Sigma	20.0E-12	40.0E-12	92.7E-12	40.0E-12	66.3E-12	51.0E-12	37.4E-12	37.4E-12	37.4E-12

Drift Calculation

IozhD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	150.0E-12	200.0E-12	100.0E-12	100.0E-12	300.0E-12	300.0E-12	250.0E-12	100.0E-12
12	-	150.0E-12	350.0E-12	200.0E-12	50.0E-12	300.0E-12	400.0E-12	250.0E-12	200.0E-12
13	-	50.0E-12	100.0E-12	50.0E-12	0.0E+00	200.0E-12	250.0E-12	150.0E-12	150.0E-12
14	-	150.0E-12	300.0E-12	100.0E-12	150.0E-12	350.0E-12	350.0E-12	200.0E-12	150.0E-12
15	-	50.0E-12	100.0E-12	150.0E-12	-50.0E-12	200.0E-12	350.0E-12	150.0E-12	150.0E-12
Average	-	110.0E-12	210.0E-12	120.0E-12	50.0E-12	270.0E-12	330.0E-12	200.0E-12	150.0E-12
Sigma	-	49.0E-12	102.0E-12	51.0E-12	70.7E-12	60.0E-12	51.0E-12	44.7E-12	31.6E-12

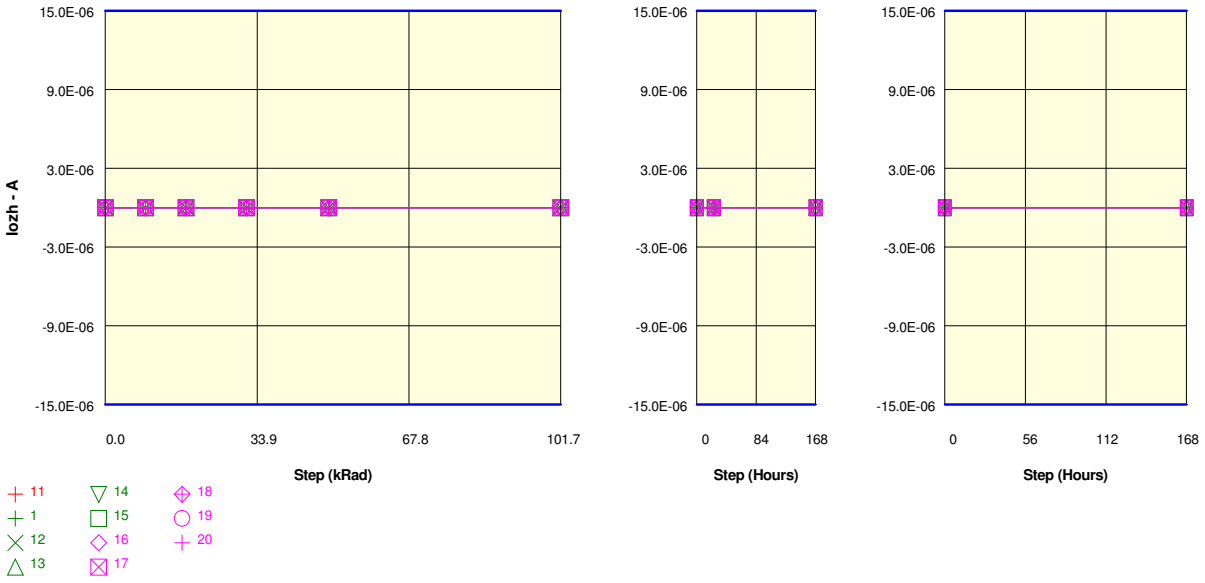
Measurements

IozhD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	350.0E-12	650.0E-12	650.0E-12	550.0E-12	450.0E-12	550.0E-12	650.0E-12	600.0E-12	650.0E-12
OFF samples									
16	500.0E-12	800.0E-12	750.0E-12	600.0E-12	700.0E-12	800.0E-12	900.0E-12	750.0E-12	650.0E-12
17	450.0E-12	600.0E-12	550.0E-12	650.0E-12	450.0E-12	850.0E-12	850.0E-12	800.0E-12	550.0E-12
18	450.0E-12	550.0E-12	650.0E-12	700.0E-12	450.0E-12	700.0E-12	750.0E-12	650.0E-12	650.0E-12
19	550.0E-12	550.0E-12	550.0E-12	550.0E-12	500.0E-12	800.0E-12	650.0E-12	650.0E-12	550.0E-12
20	500.0E-12	600.0E-12	600.0E-12	550.0E-12	500.0E-12	550.0E-12	650.0E-12	650.0E-12	600.0E-12
Statistics									
Min	450.0E-12	550.0E-12	550.0E-12	550.0E-12	450.0E-12	550.0E-12	650.0E-12	650.0E-12	550.0E-12
Max	550.0E-12	800.0E-12	750.0E-12	700.0E-12	700.0E-12	850.0E-12	900.0E-12	800.0E-12	650.0E-12
Average	490.0E-12	620.0E-12	620.0E-12	610.0E-12	520.0E-12	740.0E-12	760.0E-12	700.0E-12	600.0E-12
Sigma	37.4E-12	92.7E-12	74.8E-12	58.3E-12	92.7E-12	106.8E-12	102.0E-12	63.2E-12	44.7E-12

Drift Calculation

IozhD3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	300.0E-12	250.0E-12	100.0E-12	200.0E-12	300.0E-12	400.0E-12	250.0E-12	150.0E-12
17	-	150.0E-12	100.0E-12	200.0E-12	0.0E+00	400.0E-12	400.0E-12	350.0E-12	100.0E-12
18	-	100.0E-12	200.0E-12	250.0E-12	0.0E+00	250.0E-12	300.0E-12	200.0E-12	200.0E-12
19	-	0.0E+00	0.0E+00	0.0E+00	-50.0E-12	250.0E-12	100.0E-12	100.0E-12	0.0E+00
20	-	100.0E-12	100.0E-12	50.0E-12	0.0E+00	50.0E-12	150.0E-12	150.0E-12	100.0E-12
Average	-	130.0E-12	130.0E-12	120.0E-12	30.0E-12	250.0E-12	270.0E-12	210.0E-12	110.0E-12
Sigma	-	98.0E-12	87.2E-12	92.7E-12	87.2E-12	114.0E-12	124.9E-12	86.0E-12	66.3E-12

Parameter : High impedance leakage current : IozhD2
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	550.0E-12	650.0E-12	800.0E-12	600.0E-12	500.0E-12	650.0E-12	400.0E-12	500.0E-12	500.0E-12
ON samples									
1	850.0E-12	750.0E-12	950.0E-12	800.0E-12	600.0E-12	900.0E-12	800.0E-12	700.0E-12	550.0E-12
12	850.0E-12	700.0E-12	800.0E-12	800.0E-12	550.0E-12	700.0E-12	600.0E-12	650.0E-12	600.0E-12
13	800.0E-12	800.0E-12	800.0E-12	650.0E-12	450.0E-12	700.0E-12	850.0E-12	650.0E-12	450.0E-12
14	1.0E-09	850.0E-12	900.0E-12	800.0E-12	550.0E-12	800.0E-12	750.0E-12	550.0E-12	500.0E-12
15	800.0E-12	800.0E-12	850.0E-12	550.0E-12	550.0E-12	700.0E-12	650.0E-12	650.0E-12	500.0E-12
Statistics									
Min	800.0E-12	700.0E-12	800.0E-12	550.0E-12	450.0E-12	700.0E-12	600.0E-12	550.0E-12	450.0E-12
Max	1.0E-09	850.0E-12	950.0E-12	800.0E-12	600.0E-12	900.0E-12	850.0E-12	700.0E-12	600.0E-12
Average	860.0E-12	780.0E-12	860.0E-12	720.0E-12	540.0E-12	760.0E-12	730.0E-12	640.0E-12	520.0E-12
Sigma	73.5E-12	51.0E-12	58.3E-12	103.0E-12	49.0E-12	80.0E-12	92.7E-12	49.0E-12	51.0E-12

Drift Calculation

IozhD2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-100.0E-12	100.0E-12	-50.0E-12	-250.0E-12	50.0E-12	-50.0E-12	-150.0E-12	-300.0E-12
12	-	-150.0E-12	-50.0E-12	-50.0E-12	-300.0E-12	-150.0E-12	-250.0E-12	-200.0E-12	-250.0E-12
13	-	0.0E+00	0.0E+00	-150.0E-12	-350.0E-12	-100.0E-12	50.0E-12	-150.0E-12	-350.0E-12
14	-	-150.0E-12	-100.0E-12	-200.0E-12	-450.0E-12	-200.0E-12	-250.0E-12	-450.0E-12	-500.0E-12
15	-	0.0E+00	50.0E-12	-250.0E-12	-250.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-300.0E-12
Average	-	-80.0E-12	0.0E+00	-140.0E-12	-320.0E-12	-100.0E-12	-130.0E-12	-220.0E-12	-340.0E-12
Sigma	-	67.8E-12	70.7E-12	80.0E-12	74.8E-12	83.7E-12	116.6E-12	116.6E-12	86.0E-12

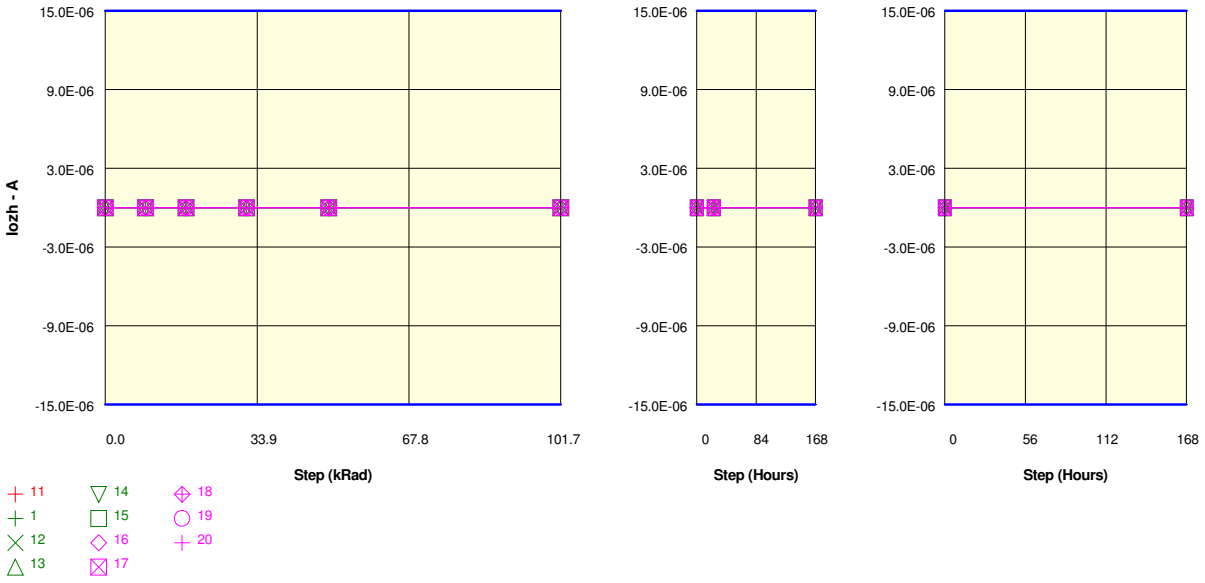
Measurements

Iozh D2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	550.0E-12	650.0E-12	800.0E-12	600.0E-12	500.0E-12	650.0E-12	400.0E-12	500.0E-12	500.0E-12
OFF samples									
16	800.0E-12	900.0E-12	1.2E-09	900.0E-12	700.0E-12	1.0E-09	1.0E-09	800.0E-12	700.0E-12
17	750.0E-12	900.0E-12	900.0E-12	700.0E-12	600.0E-12	850.0E-12	800.0E-12	650.0E-12	600.0E-12
18	900.0E-12	650.0E-12	950.0E-12	750.0E-12	550.0E-12	700.0E-12	800.0E-12	600.0E-12	500.0E-12
19	750.0E-12	700.0E-12	1.0E-09	750.0E-12	500.0E-12	650.0E-12	800.0E-12	650.0E-12	550.0E-12
20	650.0E-12	900.0E-12	1.0E-09	650.0E-12	550.0E-12	800.0E-12	600.0E-12	650.0E-12	600.0E-12
Statistics									
Min	650.0E-12	650.0E-12	900.0E-12	650.0E-12	500.0E-12	650.0E-12	600.0E-12	600.0E-12	500.0E-12
Max	900.0E-12	900.0E-12	1.2E-09	900.0E-12	700.0E-12	1.0E-09	1.0E-09	800.0E-12	700.0E-12
Average	770.0E-12	810.0E-12	1.0E-09	750.0E-12	580.0E-12	800.0E-12	800.0E-12	670.0E-12	590.0E-12
Sigma	81.2E-12	111.4E-12	83.7E-12	83.7E-12	67.8E-12	122.5E-12	126.5E-12	67.8E-12	66.3E-12

Drift Calculation

Iozh D2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	100.0E-12	350.0E-12	100.0E-12	-100.0E-12	200.0E-12	200.0E-12	0.0E+00	-100.0E-12
17	-	150.0E-12	150.0E-12	-50.0E-12	-150.0E-12	100.0E-12	50.0E-12	-100.0E-12	-150.0E-12
18	-	-250.0E-12	50.0E-12	-150.0E-12	-350.0E-12	-200.0E-12	-100.0E-12	-300.0E-12	-400.0E-12
19	-	-50.0E-12	250.0E-12	0.0E+00	-250.0E-12	-100.0E-12	50.0E-12	-100.0E-12	-200.0E-12
20	-	250.0E-12	350.0E-12	0.0E+00	-100.0E-12	150.0E-12	-50.0E-12	0.0E+00	-50.0E-12
Average	-	40.0E-12	230.0E-12	-20.0E-12	-190.0E-12	30.0E-12	30.0E-12	-100.0E-12	-180.0E-12
Sigma	-	174.4E-12	116.6E-12	81.2E-12	97.0E-12	153.6E-12	103.0E-12	109.5E-12	120.8E-12

Parameter : High impedance leakage current : IozhD1
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	500.0E-12	850.0E-12	900.0E-12	550.0E-12	350.0E-12	550.0E-12	500.0E-12	500.0E-12	500.0E-12
ON samples									
1	550.0E-12	600.0E-12	800.0E-12	600.0E-12	400.0E-12	750.0E-12	750.0E-12	550.0E-12	450.0E-12
12	600.0E-12	700.0E-12	800.0E-12	600.0E-12	500.0E-12	700.0E-12	650.0E-12	600.0E-12	450.0E-12
13	500.0E-12	700.0E-12	600.0E-12	650.0E-12	450.0E-12	700.0E-12	600.0E-12	600.0E-12	450.0E-12
14	400.0E-12	650.0E-12	700.0E-12	600.0E-12	450.0E-12	700.0E-12	650.0E-12	500.0E-12	550.0E-12
15	600.0E-12	650.0E-12	600.0E-12	450.0E-12	450.0E-12	550.0E-12	550.0E-12	600.0E-12	450.0E-12
Statistics									
Min	400.0E-12	600.0E-12	600.0E-12	450.0E-12	400.0E-12	550.0E-12	550.0E-12	500.0E-12	450.0E-12
Max	600.0E-12	700.0E-12	800.0E-12	650.0E-12	500.0E-12	750.0E-12	750.0E-12	600.0E-12	550.0E-12
Average	530.0E-12	660.0E-12	700.0E-12	580.0E-12	450.0E-12	680.0E-12	640.0E-12	570.0E-12	470.0E-12
Sigma	74.8E-12	37.4E-12	89.4E-12	67.8E-12	31.6E-12	67.8E-12	66.3E-12	40.0E-12	40.0E-12

Drift Calculation

IozhD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	50.0E-12	250.0E-12	50.0E-12	-150.0E-12	200.0E-12	200.0E-12	0.0E+00	-100.0E-12
12	-	100.0E-12	200.0E-12	0.0E+00	-100.0E-12	100.0E-12	50.0E-12	0.0E+00	-150.0E-12
13	-	200.0E-12	100.0E-12	150.0E-12	-50.0E-12	200.0E-12	100.0E-12	100.0E-12	-50.0E-12
14	-	250.0E-12	300.0E-12	200.0E-12	50.0E-12	300.0E-12	250.0E-12	100.0E-12	150.0E-12
15	-	50.0E-12	0.0E+00	-150.0E-12	-150.0E-12	-50.0E-12	-50.0E-12	0.0E+00	-150.0E-12
Average	-	130.0E-12	170.0E-12	50.0E-12	-80.0E-12	150.0E-12	110.0E-12	40.0E-12	-60.0E-12
Sigma	-	81.2E-12	107.7E-12	122.5E-12	74.8E-12	118.3E-12	106.8E-12	49.0E-12	111.4E-12

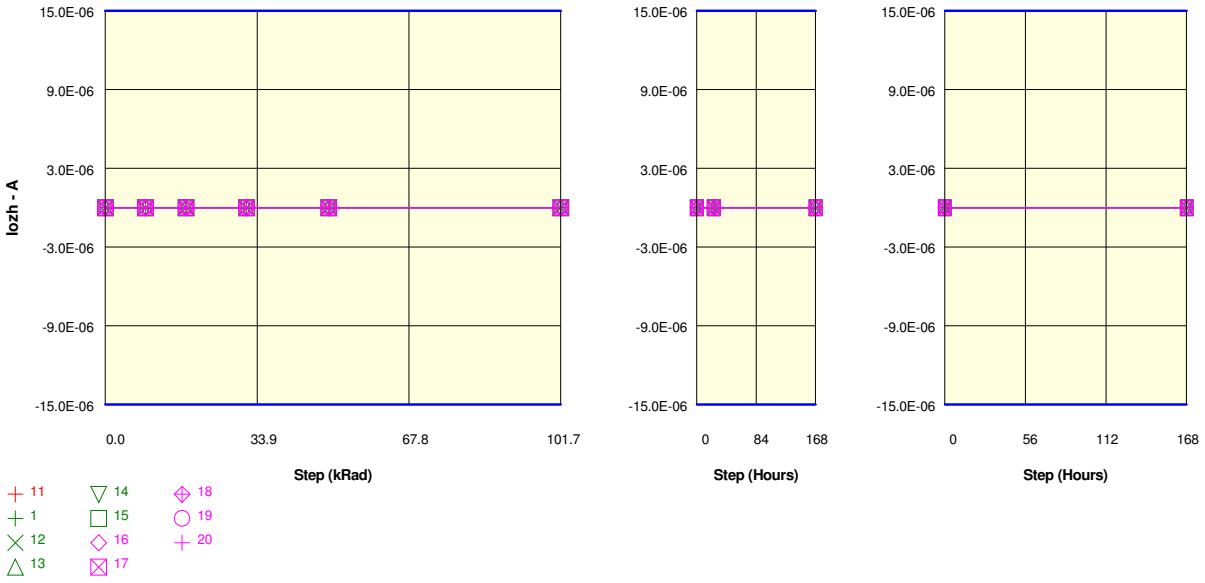
Measurements

IozhD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	500.0E-12	850.0E-12	900.0E-12	550.0E-12	350.0E-12	550.0E-12	500.0E-12	500.0E-12	500.0E-12
OFF samples									
16	600.0E-12	800.0E-12	850.0E-12	700.0E-12	550.0E-12	700.0E-12	800.0E-12	650.0E-12	600.0E-12
17	600.0E-12	650.0E-12	600.0E-12	600.0E-12	500.0E-12	550.0E-12	600.0E-12	550.0E-12	500.0E-12
18	700.0E-12	600.0E-12	800.0E-12	700.0E-12	550.0E-12	850.0E-12	900.0E-12	850.0E-12	650.0E-12
19	600.0E-12	450.0E-12	800.0E-12	600.0E-12	500.0E-12	700.0E-12	650.0E-12	650.0E-12	500.0E-12
20	600.0E-12	550.0E-12	600.0E-12	650.0E-12	450.0E-12	700.0E-12	650.0E-12	500.0E-12	400.0E-12
Statistics									
Min	600.0E-12	450.0E-12	600.0E-12	600.0E-12	450.0E-12	550.0E-12	600.0E-12	500.0E-12	400.0E-12
Max	700.0E-12	800.0E-12	850.0E-12	700.0E-12	550.0E-12	850.0E-12	900.0E-12	850.0E-12	650.0E-12
Average	620.0E-12	610.0E-12	730.0E-12	650.0E-12	510.0E-12	700.0E-12	720.0E-12	640.0E-12	530.0E-12
Sigma	40.0E-12	115.8E-12	107.7E-12	44.7E-12	37.4E-12	94.9E-12	112.2E-12	120.0E-12	87.2E-12

Drift Calculation

IozhD1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	200.0E-12	250.0E-12	100.0E-12	-50.0E-12	100.0E-12	200.0E-12	50.0E-12	0.0E+00
17	-	50.0E-12	0.0E+00	0.0E+00	-100.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-100.0E-12
18	-	-100.0E-12	100.0E-12	0.0E+00	-150.0E-12	150.0E-12	200.0E-12	150.0E-12	-50.0E-12
19	-	-150.0E-12	200.0E-12	0.0E+00	-100.0E-12	100.0E-12	50.0E-12	50.0E-12	-100.0E-12
20	-	-50.0E-12	0.0E+00	50.0E-12	-150.0E-12	100.0E-12	50.0E-12	-100.0E-12	-200.0E-12
Average	-	-10.0E-12	110.0E-12	30.0E-12	-110.0E-12	80.0E-12	100.0E-12	20.0E-12	-90.0E-12
Sigma	-	124.1E-12	102.0E-12	40.0E-12	37.4E-12	67.8E-12	83.7E-12	87.2E-12	66.3E-12

Parameter : High impedance leakage current : IozhD0
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozhD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	400.0E-12	700.0E-12	800.0E-12	550.0E-12	400.0E-12	550.0E-12	500.0E-12	500.0E-12	500.0E-12
ON samples									
1	450.0E-12	600.0E-12	800.0E-12	550.0E-12	400.0E-12	650.0E-12	650.0E-12	600.0E-12	400.0E-12
12	550.0E-12	650.0E-12	700.0E-12	650.0E-12	500.0E-12	700.0E-12	600.0E-12	600.0E-12	500.0E-12
13	500.0E-12	600.0E-12	600.0E-12	600.0E-12	500.0E-12	650.0E-12	700.0E-12	600.0E-12	450.0E-12
14	550.0E-12	600.0E-12	600.0E-12	500.0E-12	500.0E-12	550.0E-12	550.0E-12	600.0E-12	500.0E-12
15	500.0E-12	650.0E-12	650.0E-12	550.0E-12	400.0E-12	550.0E-12	600.0E-12	600.0E-12	500.0E-12
Statistics									
Min	450.0E-12	600.0E-12	600.0E-12	500.0E-12	400.0E-12	550.0E-12	550.0E-12	600.0E-12	400.0E-12
Max	550.0E-12	650.0E-12	800.0E-12	650.0E-12	500.0E-12	700.0E-12	700.0E-12	600.0E-12	500.0E-12
Average	510.0E-12	620.0E-12	670.0E-12	570.0E-12	460.0E-12	620.0E-12	620.0E-12	600.0E-12	470.0E-12
Sigma	37.4E-12	24.5E-12	74.8E-12	51.0E-12	49.0E-12	60.0E-12	51.0E-12	0.0E+00	40.0E-12

Drift Calculation

IozhD0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	150.0E-12	350.0E-12	100.0E-12	-50.0E-12	200.0E-12	200.0E-12	150.0E-12	-50.0E-12
12	-	100.0E-12	150.0E-12	100.0E-12	-50.0E-12	150.0E-12	50.0E-12	50.0E-12	-50.0E-12
13	-	100.0E-12	100.0E-12	100.0E-12	0.0E+00	150.0E-12	200.0E-12	100.0E-12	-50.0E-12
14	-	50.0E-12	50.0E-12	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00	50.0E-12	-50.0E-12
15	-	150.0E-12	150.0E-12	50.0E-12	-100.0E-12	50.0E-12	100.0E-12	100.0E-12	0.0E+00
Average	-	110.0E-12	160.0E-12	60.0E-12	-50.0E-12	110.0E-12	110.0E-12	90.0E-12	-40.0E-12
Sigma	-	37.4E-12	102.0E-12	58.3E-12	31.6E-12	73.5E-12	80.0E-12	37.4E-12	20.0E-12

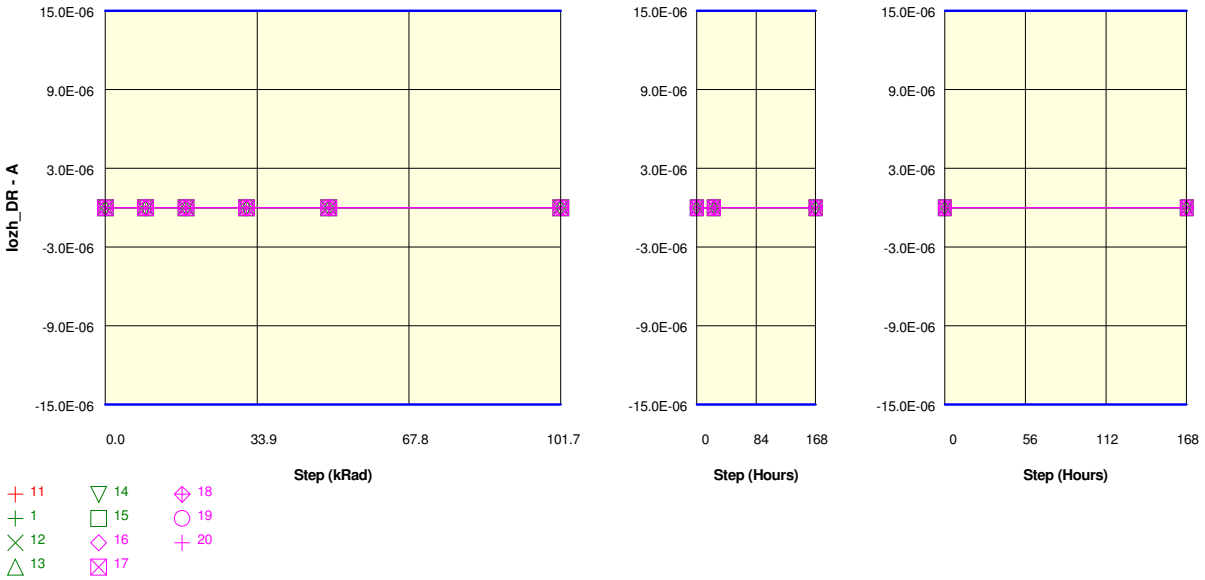
Measurements

Iozh D0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	400.0E-12	700.0E-12	800.0E-12	550.0E-12	400.0E-12	550.0E-12	500.0E-12	500.0E-12	500.0E-12
OFF samples									
16	600.0E-12	850.0E-12	850.0E-12	800.0E-12	700.0E-12	850.0E-12	900.0E-12	750.0E-12	600.0E-12
17	500.0E-12	600.0E-12	700.0E-12	550.0E-12	500.0E-12	600.0E-12	700.0E-12	550.0E-12	450.0E-12
18	600.0E-12	500.0E-12	650.0E-12	600.0E-12	500.0E-12	600.0E-12	750.0E-12	650.0E-12	500.0E-12
19	550.0E-12	500.0E-12	650.0E-12	650.0E-12	450.0E-12	600.0E-12	600.0E-12	500.0E-12	450.0E-12
20	600.0E-12	650.0E-12	550.0E-12	500.0E-12	400.0E-12	650.0E-12	550.0E-12	550.0E-12	450.0E-12
Statistics									
Min	500.0E-12	500.0E-12	550.0E-12	500.0E-12	400.0E-12	600.0E-12	550.0E-12	500.0E-12	450.0E-12
Max	600.0E-12	850.0E-12	850.0E-12	800.0E-12	700.0E-12	850.0E-12	900.0E-12	750.0E-12	600.0E-12
Average	570.0E-12	620.0E-12	680.0E-12	620.0E-12	510.0E-12	660.0E-12	700.0E-12	600.0E-12	490.0E-12
Sigma	40.0E-12	128.8E-12	98.0E-12	103.0E-12	102.0E-12	97.0E-12	122.5E-12	89.4E-12	58.3E-12

Drift Calculation

Iozh D0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	250.0E-12	250.0E-12	200.0E-12	100.0E-12	250.0E-12	300.0E-12	150.0E-12	0.0E+00
17	-	100.0E-12	200.0E-12	50.0E-12	0.0E+00	100.0E-12	200.0E-12	50.0E-12	-50.0E-12
18	-	-100.0E-12	50.0E-12	0.0E+00	-100.0E-12	0.0E+00	150.0E-12	50.0E-12	-100.0E-12
19	-	-50.0E-12	100.0E-12	100.0E-12	-100.0E-12	50.0E-12	50.0E-12	-50.0E-12	-100.0E-12
20	-	50.0E-12	-50.0E-12	-100.0E-12	-200.0E-12	50.0E-12	-50.0E-12	-50.0E-12	-150.0E-12
Average	-	50.0E-12	110.0E-12	50.0E-12	-60.0E-12	90.0E-12	130.0E-12	30.0E-12	-80.0E-12
Sigma	-	122.5E-12	106.8E-12	100.0E-12	102.0E-12	86.0E-12	120.8E-12	74.8E-12	51.0E-12

Parameter : High impedance leakage current : Iozh_DR
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iozh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	500.0E-12	650.0E-12	700.0E-12	550.0E-12	500.0E-12	550.0E-12	550.0E-12	350.0E-12	450.0E-12
ON samples									
1	500.0E-12	650.0E-12	700.0E-12	500.0E-12	500.0E-12	700.0E-12	700.0E-12	600.0E-12	600.0E-12
12	450.0E-12	650.0E-12	700.0E-12	550.0E-12	500.0E-12	700.0E-12	500.0E-12	600.0E-12	450.0E-12
13	450.0E-12	700.0E-12	600.0E-12	600.0E-12	500.0E-12	600.0E-12	600.0E-12	600.0E-12	500.0E-12
14	450.0E-12	700.0E-12	650.0E-12	550.0E-12	500.0E-12	600.0E-12	550.0E-12	500.0E-12	500.0E-12
15	500.0E-12	600.0E-12	550.0E-12	550.0E-12	600.0E-12	800.0E-12	700.0E-12	600.0E-12	500.0E-12
Statistics									
Min	450.0E-12	600.0E-12	550.0E-12	500.0E-12	500.0E-12	600.0E-12	500.0E-12	500.0E-12	450.0E-12
Max	500.0E-12	700.0E-12	700.0E-12	600.0E-12	600.0E-12	800.0E-12	700.0E-12	600.0E-12	600.0E-12
Average	470.0E-12	660.0E-12	640.0E-12	550.0E-12	520.0E-12	680.0E-12	610.0E-12	580.0E-12	510.0E-12
Sigma	24.5E-12	37.4E-12	58.3E-12	31.6E-12	40.0E-12	74.8E-12	80.0E-12	40.0E-12	49.0E-12

Drift Calculation

Iozh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	150.0E-12	200.0E-12	0.0E+00	0.0E+00	200.0E-12	200.0E-12	100.0E-12	100.0E-12
12	-	200.0E-12	250.0E-12	100.0E-12	50.0E-12	250.0E-12	50.0E-12	150.0E-12	0.0E+00
13	-	250.0E-12	150.0E-12	150.0E-12	50.0E-12	150.0E-12	150.0E-12	150.0E-12	50.0E-12
14	-	250.0E-12	200.0E-12	100.0E-12	50.0E-12	150.0E-12	100.0E-12	50.0E-12	50.0E-12
15	-	100.0E-12	50.0E-12	50.0E-12	100.0E-12	300.0E-12	200.0E-12	100.0E-12	0.0E+00
Average	-	190.0E-12	170.0E-12	80.0E-12	50.0E-12	210.0E-12	140.0E-12	110.0E-12	40.0E-12
Sigma	-	58.3E-12	67.8E-12	51.0E-12	31.6E-12	58.3E-12	58.3E-12	37.4E-12	37.4E-12

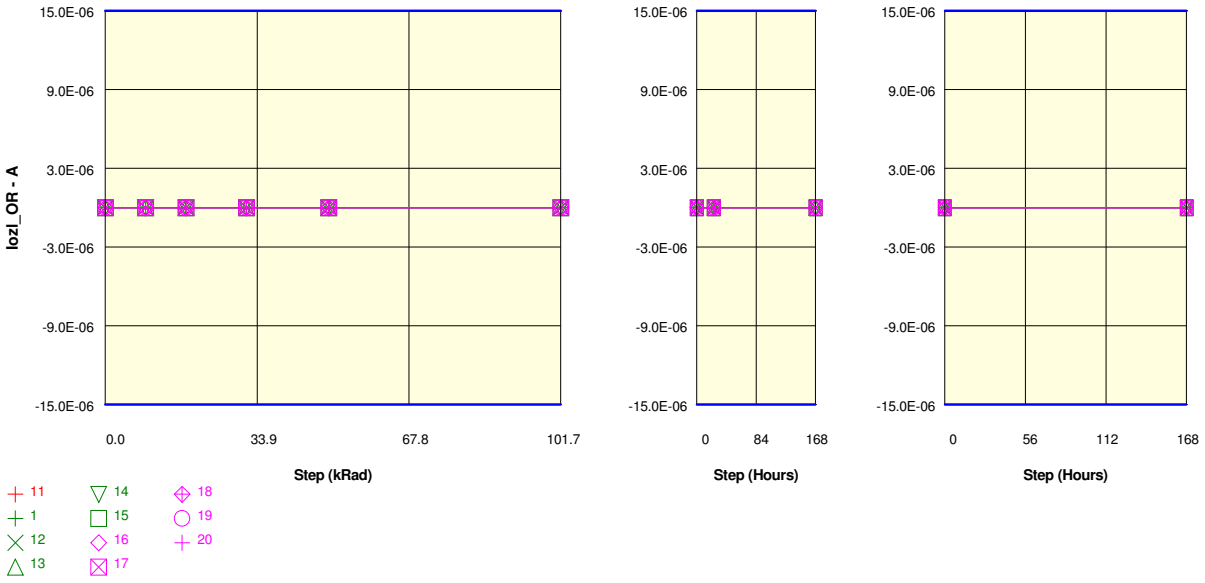
Measurements

Iozh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	500.0E-12	650.0E-12	700.0E-12	550.0E-12	500.0E-12	550.0E-12	550.0E-12	350.0E-12	450.0E-12
OFF samples									
16	500.0E-12	700.0E-12	700.0E-12	600.0E-12	600.0E-12	850.0E-12	800.0E-12	650.0E-12	600.0E-12
17	450.0E-12	700.0E-12	550.0E-12	600.0E-12	500.0E-12	500.0E-12	600.0E-12	550.0E-12	500.0E-12
18	450.0E-12	650.0E-12	600.0E-12	650.0E-12	450.0E-12	550.0E-12	600.0E-12	600.0E-12	600.0E-12
19	500.0E-12	500.0E-12	550.0E-12	500.0E-12	500.0E-12	550.0E-12	700.0E-12	600.0E-12	500.0E-12
20	400.0E-12	500.0E-12	600.0E-12	500.0E-12	450.0E-12	600.0E-12	600.0E-12	550.0E-12	450.0E-12
Statistics									
Min	400.0E-12	500.0E-12	550.0E-12	500.0E-12	450.0E-12	500.0E-12	600.0E-12	550.0E-12	450.0E-12
Max	500.0E-12	700.0E-12	700.0E-12	650.0E-12	600.0E-12	850.0E-12	800.0E-12	650.0E-12	600.0E-12
Average	460.0E-12	610.0E-12	600.0E-12	570.0E-12	500.0E-12	610.0E-12	660.0E-12	590.0E-12	530.0E-12
Sigma	37.4E-12	91.7E-12	54.8E-12	60.0E-12	54.8E-12	124.1E-12	80.0E-12	37.4E-12	60.0E-12

Drift Calculation

Iozh_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	200.0E-12	200.0E-12	100.0E-12	100.0E-12	350.0E-12	300.0E-12	150.0E-12	100.0E-12
17	-	250.0E-12	100.0E-12	150.0E-12	50.0E-12	50.0E-12	150.0E-12	100.0E-12	50.0E-12
18	-	200.0E-12	150.0E-12	200.0E-12	0.0E+00	100.0E-12	150.0E-12	150.0E-12	150.0E-12
19	-	0.0E+00	50.0E-12	0.0E+00	0.0E+00	50.0E-12	200.0E-12	100.0E-12	0.0E+00
20	-	100.0E-12	200.0E-12	100.0E-12	50.0E-12	200.0E-12	200.0E-12	150.0E-12	50.0E-12
Average	-	150.0E-12	140.0E-12	110.0E-12	40.0E-12	150.0E-12	200.0E-12	130.0E-12	70.0E-12
Sigma	-	89.4E-12	58.3E-12	66.3E-12	37.4E-12	114.0E-12	54.8E-12	24.5E-12	51.0E-12

Parameter : High impedance leakage current : Iozl_OR
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iozl_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-100.0E-12	-250.0E-12	-150.0E-12	-100.0E-12	-150.0E-12
ON samples									
1	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-200.0E-12
12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12
13	-150.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-150.0E-12
14	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-100.0E-12	-150.0E-12
15	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-150.0E-12
Statistics									
Min	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
Max	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12
Average	-150.0E-12	-150.0E-12	-150.0E-12	-160.0E-12	-150.0E-12	-180.0E-12	-150.0E-12	-140.0E-12	-160.0E-12
Sigma	0.0E+00	0.0E+00	31.6E-12	20.0E-12	44.7E-12	24.5E-12	31.6E-12	49.0E-12	20.0E-12

Drift Calculation

Iozl_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	50.0E-12	0.0E+00	50.0E-12	50.0E-12	-50.0E-12
12	-	0.0E+00	-50.0E-12	0.0E+00	50.0E-12	0.0E+00	0.0E+00	50.0E-12	0.0E+00
13	-	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	0.0E+00	-50.0E-12	0.0E+00
14	-	0.0E+00	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	50.0E-12	0.0E+00
15	-	0.0E+00	50.0E-12	0.0E+00	0.0E+00	-50.0E-12	0.0E+00	-50.0E-12	0.0E+00
Average	-	0.0E+00	-2.6E-27	-10.0E-12	-5.2E-27	-30.0E-12	-2.6E-27	10.0E-12	-10.0E-12
Sigma	-	0.0E+00	31.6E-12	20.0E-12	44.7E-12	24.5E-12	31.6E-12	49.0E-12	20.0E-12

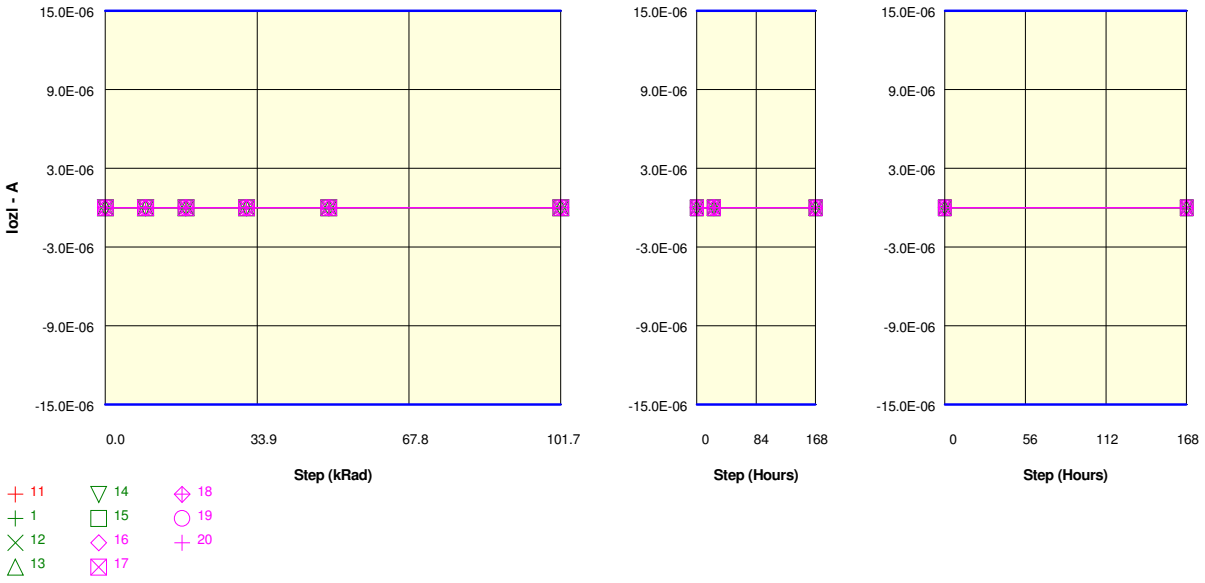
Measurements

Iozl_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-100.0E-12	-250.0E-12	-150.0E-12	-100.0E-12	-150.0E-12
OFF samples									
16	-150.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12
17	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-50.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-150.0E-12
18	-200.0E-12	-200.0E-12	-100.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-250.0E-12	-100.0E-12
19	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-150.0E-12
20	-100.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
Statistics									
Min	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12
Max	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-50.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-100.0E-12
Average	-150.0E-12	-170.0E-12	-150.0E-12	-160.0E-12	-130.0E-12	-200.0E-12	-160.0E-12	-190.0E-12	-150.0E-12
Sigma	31.6E-12	51.0E-12	54.8E-12	37.4E-12	51.0E-12	0.0E+00	20.0E-12	58.3E-12	31.6E-12

Drift Calculation

Iozl_OR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-100.0E-12	-100.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-50.0E-12	-100.0E-12	-50.0E-12
17	-	50.0E-12	50.0E-12	50.0E-12	100.0E-12	-50.0E-12	0.0E+00	50.0E-12	0.0E+00
18	-	0.0E+00	100.0E-12	0.0E+00	50.0E-12	0.0E+00	50.0E-12	-50.0E-12	100.0E-12
19	-	0.0E+00	0.0E+00	0.0E+00	50.0E-12	-50.0E-12	0.0E+00	-50.0E-12	0.0E+00
20	-	-50.0E-12	-50.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	-50.0E-12	-50.0E-12	-50.0E-12
Average	-	-20.0E-12	-2.6E-27	-10.0E-12	20.0E-12	-50.0E-12	-10.0E-12	-40.0E-12	0.0E+00
Sigma	-	51.0E-12	70.7E-12	37.4E-12	67.8E-12	31.6E-12	37.4E-12	49.0E-12	54.8E-12

Parameter : High impedance leakage current : IozID11
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozlD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-150.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12
ON samples									
1	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
12	-150.0E-12	-150.0E-12	-250.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12
13	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-100.0E-12	-150.0E-12
14	-150.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-100.0E-12	-150.0E-12	-250.0E-12	-200.0E-12	-100.0E-12
15	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-200.0E-12
Statistics									
Min	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12
Max	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-200.0E-12	-100.0E-12	-100.0E-12
Average	-160.0E-12	-180.0E-12	-170.0E-12	-150.0E-12	-120.0E-12	-170.0E-12	-210.0E-12	-170.0E-12	-160.0E-12
Sigma	20.0E-12	24.5E-12	40.0E-12	31.6E-12	40.0E-12	24.5E-12	20.0E-12	40.0E-12	37.4E-12

Drift Calculation

IozlD11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-50.0E-12	0.0E+00	0.0E+00	50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12
12	-	0.0E+00	-100.0E-12	50.0E-12	50.0E-12	0.0E+00	-50.0E-12	-50.0E-12	0.0E+00
13	-	-50.0E-12	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	50.0E-12	0.0E+00
14	-	-50.0E-12	0.0E+00	-50.0E-12	50.0E-12	0.0E+00	-100.0E-12	-50.0E-12	50.0E-12
15	-	50.0E-12	50.0E-12	50.0E-12	100.0E-12	50.0E-12	0.0E+00	50.0E-12	0.0E+00
Average	-	-20.0E-12	-10.0E-12	10.0E-12	40.0E-12	-10.0E-12	-50.0E-12	-10.0E-12	-2.6E-27
Sigma	-	40.0E-12	49.0E-12	37.4E-12	49.0E-12	37.4E-12	31.6E-12	49.0E-12	31.6E-12

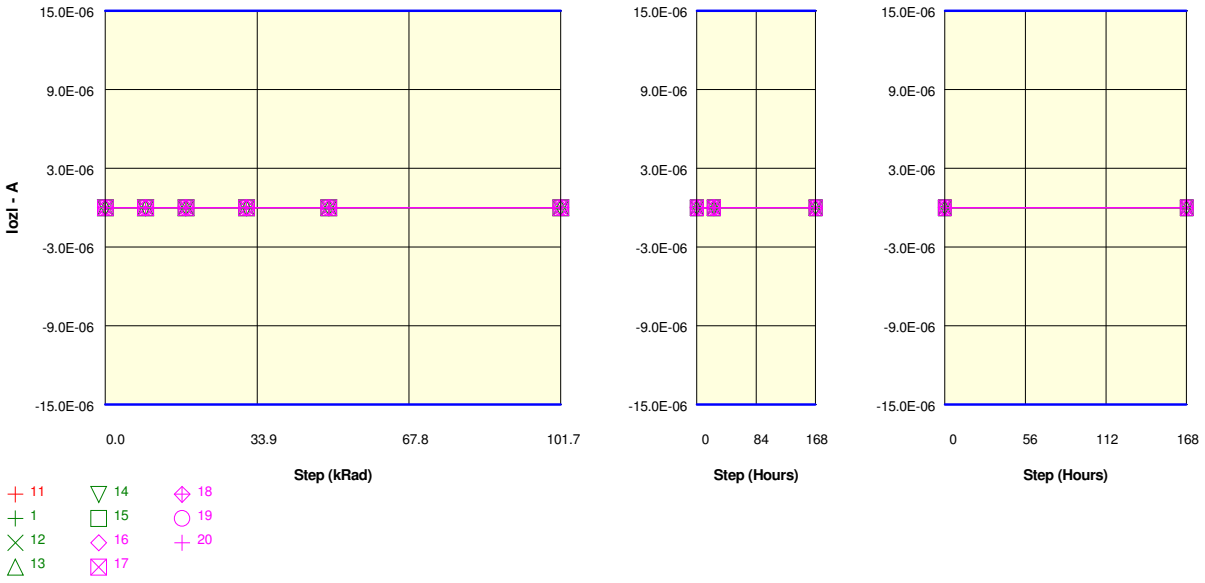
Measurements

IozID11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-150.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12
OFF samples									
16	-100.0E-12	-150.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
17	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12
18	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-150.0E-12	-150.0E-12
19	-150.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
20	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-250.0E-12	-100.0E-12	-150.0E-12
Statistics									
Min	-200.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12
Max	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12
Average	-150.0E-12	-170.0E-12	-180.0E-12	-170.0E-12	-180.0E-12	-170.0E-12	-190.0E-12	-140.0E-12	-160.0E-12
Sigma	31.6E-12	24.5E-12	51.0E-12	51.0E-12	40.0E-12	24.5E-12	58.3E-12	37.4E-12	20.0E-12

Drift Calculation

IozID11	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-50.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
17	-	0.0E+00	50.0E-12	50.0E-12	0.0E+00	0.0E+00	50.0E-12	50.0E-12	0.0E+00
18	-	-50.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-50.0E-12	-100.0E-12	0.0E+00	0.0E+00
19	-	0.0E+00	-50.0E-12	-100.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
20	-	0.0E+00	50.0E-12	50.0E-12	50.0E-12	50.0E-12	-50.0E-12	100.0E-12	50.0E-12
Average	-	-20.0E-12	-30.0E-12	-20.0E-12	-30.0E-12	-20.0E-12	-40.0E-12	10.0E-12	-10.0E-12
Sigma	-	24.5E-12	74.8E-12	67.8E-12	67.8E-12	51.0E-12	58.3E-12	66.3E-12	49.0E-12

Parameter : High impedance leakage current : IozID10
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozlD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-100.0E-12
ON samples									
1	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-100.0E-12
12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-200.0E-12	-150.0E-12	-200.0E-12
13	-200.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12
14	-100.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
15	-100.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-250.0E-12	-150.0E-12	-200.0E-12	-100.0E-12
Statistics									
Min	-200.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
Max	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12
Average	-140.0E-12	-140.0E-12	-140.0E-12	-150.0E-12	-120.0E-12	-160.0E-12	-170.0E-12	-170.0E-12	-140.0E-12
Sigma	49.0E-12	20.0E-12	37.4E-12	31.6E-12	24.5E-12	49.0E-12	24.5E-12	24.5E-12	37.4E-12

Drift Calculation

IozlD10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12	-100.0E-12	-50.0E-12	0.0E+00
12	-	50.0E-12	50.0E-12	50.0E-12	100.0E-12	100.0E-12	0.0E+00	50.0E-12	0.0E+00
13	-	50.0E-12	100.0E-12	50.0E-12	100.0E-12	50.0E-12	50.0E-12	0.0E+00	50.0E-12
14	-	-50.0E-12	-50.0E-12	-100.0E-12	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12
15	-	-50.0E-12	-100.0E-12	-50.0E-12	-50.0E-12	-150.0E-12	-50.0E-12	-100.0E-12	0.0E+00
Average	-	5.2E-27	0.0E+00	-10.0E-12	20.0E-12	-20.0E-12	-30.0E-12	-30.0E-12	2.6E-27
Sigma	-	44.7E-12	70.7E-12	58.3E-12	67.8E-12	87.2E-12	51.0E-12	51.0E-12	31.6E-12

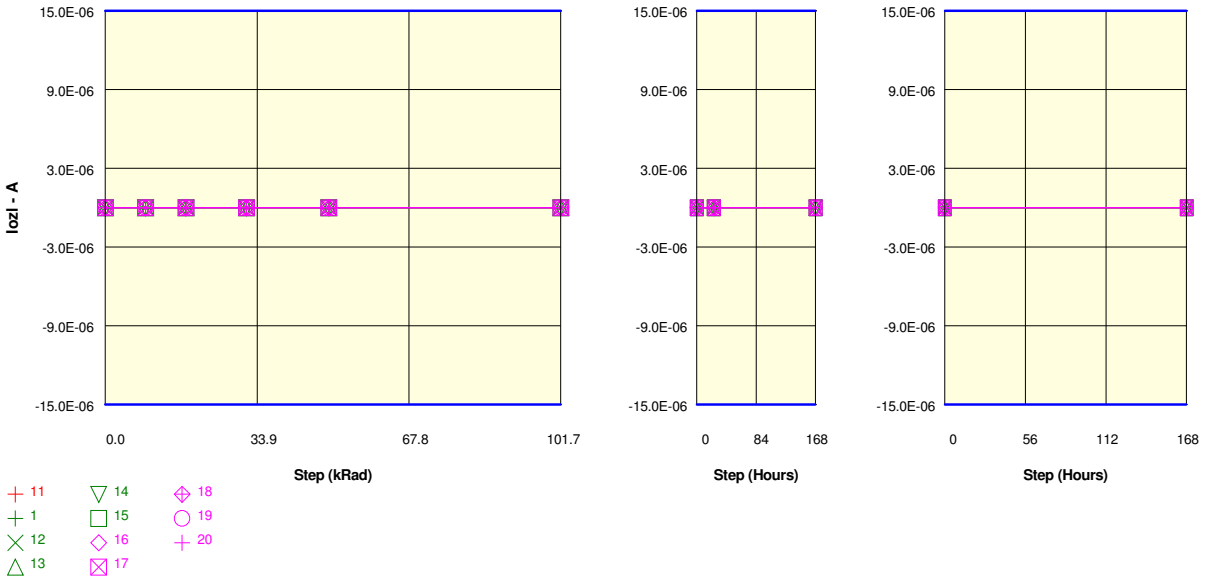
Measurements

IozID10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-100.0E-12
OFF samples									
16	-100.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
17	-200.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-100.0E-12
18	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
19	-100.0E-12	-200.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12
20	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12
Statistics									
Min	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
Max	-100.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
Average	-140.0E-12	-180.0E-12	-150.0E-12	-160.0E-12	-130.0E-12	-150.0E-12	-150.0E-12	-160.0E-12	-140.0E-12
Sigma	37.4E-12	24.5E-12	54.8E-12	20.0E-12	24.5E-12	31.6E-12	31.6E-12	37.4E-12	37.4E-12

Drift Calculation

IozID10	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-100.0E-12	-150.0E-12	-100.0E-12	-50.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
17	-	50.0E-12	100.0E-12	50.0E-12	100.0E-12	100.0E-12	100.0E-12	50.0E-12	100.0E-12
18	-	-50.0E-12	0.0E+00	0.0E+00	0.0E+00	-50.0E-12	0.0E+00	0.0E+00	0.0E+00
19	-	-100.0E-12	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00
20	-	0.0E+00	0.0E+00	0.0E+00	50.0E-12	0.0E+00	0.0E+00	-50.0E-12	0.0E+00
Average	-	-40.0E-12	-10.0E-12	-20.0E-12	10.0E-12	-10.0E-12	-10.0E-12	-20.0E-12	0.0E+00
Sigma	-	58.3E-12	80.0E-12	51.0E-12	58.3E-12	58.3E-12	66.3E-12	51.0E-12	63.2E-12

Parameter : High impedance leakage current : IozID9
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12
ON samples									
1	-100.0E-12	-100.0E-12	-50.0E-12	-100.0E-12	-200.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12
13	-150.0E-12	-150.0E-12	-200.0E-12	-50.0E-12	-100.0E-12	-200.0E-12	-100.0E-12	-150.0E-12	-150.0E-12
14	-100.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12
15	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-150.0E-12
Statistics									
Min	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
Max	-100.0E-12	-100.0E-12	-50.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
Average	-130.0E-12	-150.0E-12	-160.0E-12	-120.0E-12	-140.0E-12	-160.0E-12	-140.0E-12	-140.0E-12	-130.0E-12
Sigma	24.5E-12	31.6E-12	58.3E-12	51.0E-12	37.4E-12	37.4E-12	20.0E-12	20.0E-12	24.5E-12

Drift Calculation

IozID9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	0.0E+00	50.0E-12	0.0E+00	-100.0E-12	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12
12	-	0.0E+00	-50.0E-12	-50.0E-12	50.0E-12	0.0E+00	0.0E+00	0.0E+00	50.0E-12
13	-	0.0E+00	-50.0E-12	100.0E-12	50.0E-12	-50.0E-12	50.0E-12	0.0E+00	0.0E+00
14	-	-100.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	0.0E+00
15	-	0.0E+00	-50.0E-12	0.0E+00	0.0E+00	-50.0E-12	0.0E+00	50.0E-12	0.0E+00
Average	-	-20.0E-12	-30.0E-12	10.0E-12	-10.0E-12	-30.0E-12	-10.0E-12	-10.0E-12	0.0E+00
Sigma	-	40.0E-12	40.0E-12	49.0E-12	58.3E-12	24.5E-12	37.4E-12	37.4E-12	31.6E-12

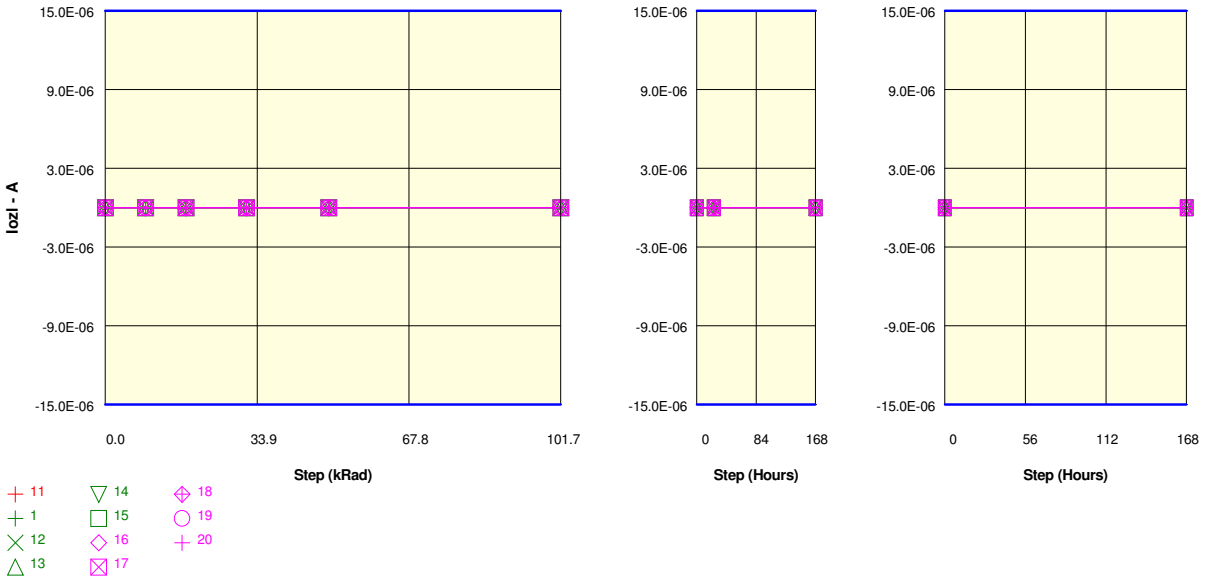
Measurements

IozID9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12
OFF samples									
16	-100.0E-12	-150.0E-12	-200.0E-12	-50.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-150.0E-12	-100.0E-12
17	-150.0E-12	-150.0E-12	-100.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12
18	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
19	-100.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12
20	-150.0E-12	-150.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-100.0E-12
Statistics									
Min	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-150.0E-12
Max	-100.0E-12	-100.0E-12	-100.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
Average	-130.0E-12	-150.0E-12	-130.0E-12	-90.0E-12	-120.0E-12	-150.0E-12	-120.0E-12	-110.0E-12	-120.0E-12
Sigma	24.5E-12	31.6E-12	40.0E-12	37.4E-12	24.5E-12	31.6E-12	24.5E-12	20.0E-12	24.5E-12

Drift Calculation

IozID9	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-50.0E-12	-100.0E-12	50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	0.0E+00
17	-	0.0E+00	50.0E-12	100.0E-12	50.0E-12	50.0E-12	50.0E-12	50.0E-12	0.0E+00
18	-	50.0E-12	50.0E-12	50.0E-12	0.0E+00	0.0E+00	50.0E-12	50.0E-12	50.0E-12
19	-	-100.0E-12	-50.0E-12	0.0E+00	0.0E+00	-50.0E-12	0.0E+00	0.0E+00	-50.0E-12
20	-	0.0E+00	50.0E-12	0.0E+00	50.0E-12	-50.0E-12	0.0E+00	50.0E-12	50.0E-12
Average	-	-20.0E-12	-2.6E-27	40.0E-12	10.0E-12	-20.0E-12	10.0E-12	20.0E-12	10.0E-12
Sigma	-	51.0E-12	63.2E-12	37.4E-12	37.4E-12	40.0E-12	37.4E-12	40.0E-12	37.4E-12

Parameter : High impedance leakage current : IozID8
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-300.0E-12	-450.0E-12	-700.0E-12	-300.0E-12	-350.0E-12	-650.0E-12	-500.0E-12	-400.0E-12	-450.0E-12
ON samples									
1	-300.0E-12	-550.0E-12	-750.0E-12	-250.0E-12	-450.0E-12	-350.0E-12	-550.0E-12	-300.0E-12	-550.0E-12
12	-300.0E-12	-600.0E-12	-550.0E-12	-250.0E-12	-300.0E-12	-450.0E-12	-500.0E-12	-300.0E-12	-650.0E-12
13	-350.0E-12	-600.0E-12	-550.0E-12	-250.0E-12	-300.0E-12	-500.0E-12	-700.0E-12	-350.0E-12	-750.0E-12
14	-250.0E-12	-500.0E-12	-550.0E-12	-300.0E-12	-550.0E-12	-500.0E-12	-450.0E-12	-300.0E-12	-600.0E-12
15	-200.0E-12	-550.0E-12	-550.0E-12	-250.0E-12	-450.0E-12	-450.0E-12	-500.0E-12	-300.0E-12	-600.0E-12
Statistics									
Min	-350.0E-12	-600.0E-12	-750.0E-12	-300.0E-12	-550.0E-12	-500.0E-12	-700.0E-12	-350.0E-12	-750.0E-12
Max	-200.0E-12	-500.0E-12	-550.0E-12	-250.0E-12	-300.0E-12	-350.0E-12	-450.0E-12	-300.0E-12	-550.0E-12
Average	-280.0E-12	-560.0E-12	-590.0E-12	-260.0E-12	-410.0E-12	-450.0E-12	-540.0E-12	-310.0E-12	-630.0E-12
Sigma	51.0E-12	37.4E-12	80.0E-12	20.0E-12	97.0E-12	54.8E-12	86.0E-12	20.0E-12	67.8E-12

Drift Calculation

IozID8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-250.0E-12	-450.0E-12	50.0E-12	-150.0E-12	-50.0E-12	-250.0E-12	0.0E+00	-250.0E-12
12	-	-300.0E-12	-250.0E-12	50.0E-12	0.0E+00	-150.0E-12	-200.0E-12	0.0E+00	-350.0E-12
13	-	-250.0E-12	-200.0E-12	100.0E-12	50.0E-12	-150.0E-12	-350.0E-12	0.0E+00	-400.0E-12
14	-	-250.0E-12	-300.0E-12	-50.0E-12	-300.0E-12	-250.0E-12	-200.0E-12	-50.0E-12	-350.0E-12
15	-	-350.0E-12	-350.0E-12	-50.0E-12	-250.0E-12	-250.0E-12	-300.0E-12	-100.0E-12	-400.0E-12
Average	-	-280.0E-12	-310.0E-12	20.0E-12	-130.0E-12	-170.0E-12	-260.0E-12	-30.0E-12	-350.0E-12
Sigma	-	40.0E-12	86.0E-12	60.0E-12	136.4E-12	74.8E-12	58.3E-12	40.0E-12	54.8E-12

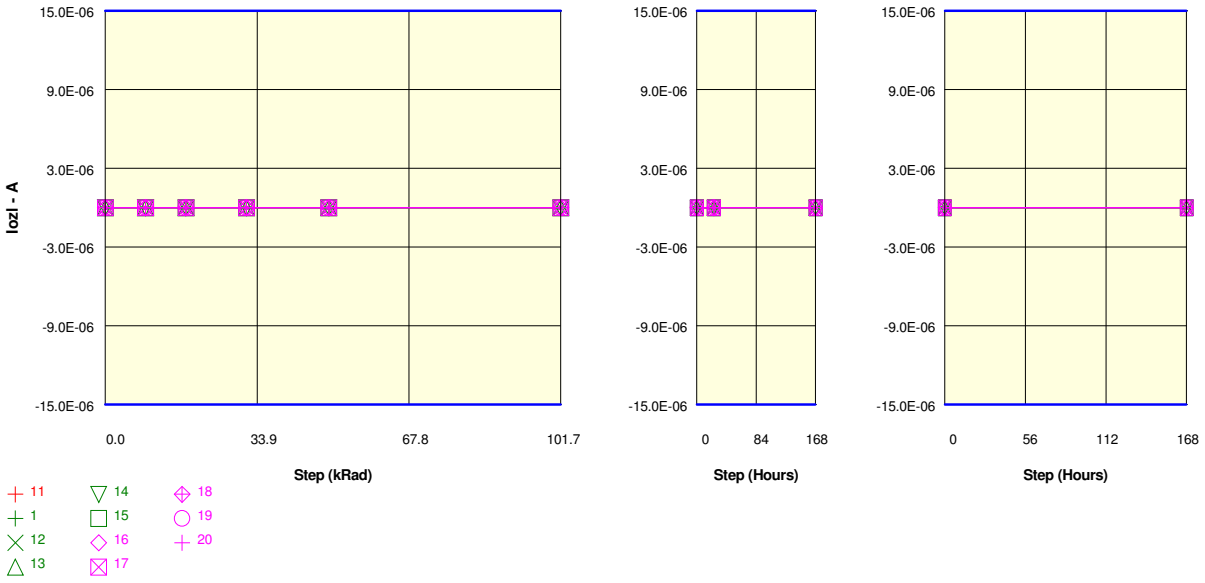
Measurements

IozID8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-300.0E-12	-450.0E-12	-700.0E-12	-300.0E-12	-350.0E-12	-650.0E-12	-500.0E-12	-400.0E-12	-450.0E-12
OFF samples									
16	-300.0E-12	-700.0E-12	-500.0E-12	-350.0E-12	-500.0E-12	-500.0E-12	-500.0E-12	-300.0E-12	-550.0E-12
17	-300.0E-12	-550.0E-12	-450.0E-12	-250.0E-12	-300.0E-12	-400.0E-12	-350.0E-12	-300.0E-12	-500.0E-12
18	-350.0E-12	-350.0E-12	-450.0E-12	-200.0E-12	-450.0E-12	-450.0E-12	-500.0E-12	-350.0E-12	-600.0E-12
19	-300.0E-12	-400.0E-12	-500.0E-12	-250.0E-12	-400.0E-12	-450.0E-12	-550.0E-12	-300.0E-12	-900.0E-12
20	-300.0E-12	-500.0E-12	-500.0E-12	-350.0E-12	-350.0E-12	-600.0E-12	-650.0E-12	-300.0E-12	-900.0E-12
Statistics									
Min	-350.0E-12	-700.0E-12	-500.0E-12	-350.0E-12	-500.0E-12	-600.0E-12	-650.0E-12	-350.0E-12	-900.0E-12
Max	-300.0E-12	-350.0E-12	-450.0E-12	-200.0E-12	-300.0E-12	-400.0E-12	-350.0E-12	-300.0E-12	-500.0E-12
Average	-310.0E-12	-500.0E-12	-480.0E-12	-280.0E-12	-400.0E-12	-480.0E-12	-510.0E-12	-310.0E-12	-690.0E-12
Sigma	20.0E-12	122.5E-12	24.5E-12	60.0E-12	70.7E-12	67.8E-12	97.0E-12	20.0E-12	174.4E-12

Drift Calculation

IozID8	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-400.0E-12	-200.0E-12	-50.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	0.0E+00	-250.0E-12
17	-	-250.0E-12	-150.0E-12	50.0E-12	0.0E+00	-100.0E-12	-50.0E-12	0.0E+00	-200.0E-12
18	-	0.0E+00	-100.0E-12	150.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	0.0E+00	-250.0E-12
19	-	-100.0E-12	-200.0E-12	50.0E-12	-100.0E-12	-150.0E-12	-250.0E-12	0.0E+00	-600.0E-12
20	-	-200.0E-12	-200.0E-12	-50.0E-12	-50.0E-12	-300.0E-12	-350.0E-12	0.0E+00	-600.0E-12
Average	-	-190.0E-12	-170.0E-12	30.0E-12	-90.0E-12	-170.0E-12	-200.0E-12	0.0E+00	-380.0E-12
Sigma	-	135.6E-12	40.0E-12	74.8E-12	66.3E-12	74.8E-12	100.0E-12	0.0E+00	180.6E-12

Parameter : High impedance leakage current : IozID7
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-300.0E-12	-350.0E-12	-550.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-250.0E-12
ON samples									
1	-250.0E-12	-400.0E-12	-500.0E-12	-150.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-300.0E-12
12	-250.0E-12	-400.0E-12	-500.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-250.0E-12
13	-300.0E-12	-350.0E-12	-400.0E-12	-250.0E-12	-250.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-300.0E-12
14	-250.0E-12	-450.0E-12	-400.0E-12	-300.0E-12	-200.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-300.0E-12
15	-200.0E-12	-400.0E-12	-400.0E-12	-250.0E-12	-200.0E-12	-300.0E-12	-350.0E-12	-200.0E-12	-250.0E-12
Statistics									
Min	-300.0E-12	-450.0E-12	-500.0E-12	-300.0E-12	-250.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-300.0E-12
Max	-200.0E-12	-350.0E-12	-400.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12
Average	-250.0E-12	-400.0E-12	-440.0E-12	-240.0E-12	-220.0E-12	-280.0E-12	-290.0E-12	-230.0E-12	-280.0E-12
Sigma	31.6E-12	31.6E-12	49.0E-12	49.0E-12	24.5E-12	24.5E-12	37.4E-12	24.5E-12	24.5E-12

Drift Calculation

IozID7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-150.0E-12	-250.0E-12	100.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-50.0E-12
12	-	-150.0E-12	-250.0E-12	0.0E+00	50.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	-	-50.0E-12	-100.0E-12	50.0E-12	50.0E-12	0.0E+00	0.0E+00	50.0E-12	0.0E+00
14	-	-200.0E-12	-150.0E-12	-50.0E-12	50.0E-12	-50.0E-12	-50.0E-12	50.0E-12	-50.0E-12
15	-	-200.0E-12	-200.0E-12	-50.0E-12	0.0E+00	-100.0E-12	-150.0E-12	0.0E+00	-50.0E-12
Average	-	-150.0E-12	-190.0E-12	10.0E-12	30.0E-12	-30.0E-12	-40.0E-12	20.0E-12	-30.0E-12
Sigma	-	54.8E-12	58.3E-12	58.3E-12	24.5E-12	40.0E-12	58.3E-12	24.5E-12	24.5E-12

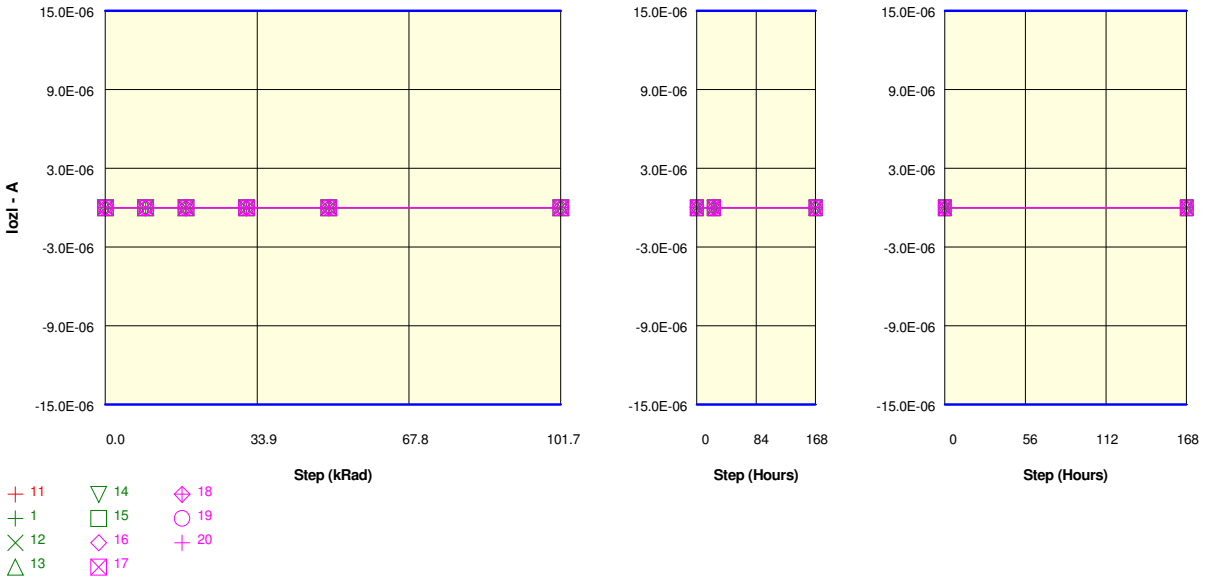
Measurements

IozID7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-300.0E-12	-350.0E-12	-550.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-250.0E-12
OFF samples									
16	-200.0E-12	-400.0E-12	-500.0E-12	-300.0E-12	-250.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-300.0E-12
17	-200.0E-12	-300.0E-12	-400.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-300.0E-12
18	-200.0E-12	-250.0E-12	-350.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-300.0E-12
19	-200.0E-12	-350.0E-12	-300.0E-12	-150.0E-12	-250.0E-12	-250.0E-12	-300.0E-12	-250.0E-12	-350.0E-12
20	-200.0E-12	-400.0E-12	-400.0E-12	-250.0E-12	-200.0E-12	-350.0E-12	-300.0E-12	-200.0E-12	-250.0E-12
Statistics									
Min	-200.0E-12	-400.0E-12	-500.0E-12	-300.0E-12	-250.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-350.0E-12
Max	-200.0E-12	-250.0E-12	-300.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-250.0E-12
Average	-200.0E-12	-340.0E-12	-390.0E-12	-210.0E-12	-230.0E-12	-280.0E-12	-270.0E-12	-220.0E-12	-300.0E-12
Sigma	0.0E+00	58.3E-12	66.3E-12	58.3E-12	24.5E-12	40.0E-12	40.0E-12	24.5E-12	31.6E-12

Drift Calculation

IozID7	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-200.0E-12	-300.0E-12	-100.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	0.0E+00	-100.0E-12
17	-	-100.0E-12	-200.0E-12	50.0E-12	0.0E+00	-50.0E-12	-50.0E-12	0.0E+00	-100.0E-12
18	-	-50.0E-12	-150.0E-12	0.0E+00	-50.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-100.0E-12
19	-	-150.0E-12	-100.0E-12	50.0E-12	-50.0E-12	-50.0E-12	-100.0E-12	-50.0E-12	-150.0E-12
20	-	-200.0E-12	-200.0E-12	-50.0E-12	0.0E+00	-150.0E-12	-100.0E-12	0.0E+00	-50.0E-12
Average	-	-140.0E-12	-190.0E-12	-10.0E-12	-30.0E-12	-80.0E-12	-70.0E-12	-20.0E-12	-100.0E-12
Sigma	-	58.3E-12	66.3E-12	58.3E-12	24.5E-12	40.0E-12	40.0E-12	24.5E-12	31.6E-12

Parameter : High impedance leakage current : IozID6
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-700.0E-12	-1.1E-09	-650.0E-12	-700.0E-12	-700.0E-12	-850.0E-12	-850.0E-12	-700.0E-12	-550.0E-12
ON samples									
1	-700.0E-12	-850.0E-12	-750.0E-12	-550.0E-12	-600.0E-12	-800.0E-12	-750.0E-12	-650.0E-12	-550.0E-12
12	-650.0E-12	-850.0E-12	-750.0E-12	-450.0E-12	-650.0E-12	-650.0E-12	-700.0E-12	-750.0E-12	-850.0E-12
13	-600.0E-12	-900.0E-12	-550.0E-12	-450.0E-12	-600.0E-12	-650.0E-12	-850.0E-12	-700.0E-12	-700.0E-12
14	-700.0E-12	-700.0E-12	-650.0E-12	-550.0E-12	-550.0E-12	-650.0E-12	-950.0E-12	-650.0E-12	-700.0E-12
15	-650.0E-12	-600.0E-12	-550.0E-12	-600.0E-12	-700.0E-12	-850.0E-12	-800.0E-12	-700.0E-12	-750.0E-12
Statistics									
Min	-700.0E-12	-900.0E-12	-750.0E-12	-600.0E-12	-700.0E-12	-850.0E-12	-950.0E-12	-750.0E-12	-850.0E-12
Max	-600.0E-12	-600.0E-12	-550.0E-12	-450.0E-12	-550.0E-12	-650.0E-12	-700.0E-12	-650.0E-12	-550.0E-12
Average	-660.0E-12	-780.0E-12	-650.0E-12	-520.0E-12	-620.0E-12	-720.0E-12	-810.0E-12	-690.0E-12	-710.0E-12
Sigma	37.4E-12	112.2E-12	89.4E-12	60.0E-12	51.0E-12	87.2E-12	86.0E-12	37.4E-12	97.0E-12

Drift Calculation

IozID6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-150.0E-12	-50.0E-12	150.0E-12	100.0E-12	-100.0E-12	-50.0E-12	50.0E-12	150.0E-12
12	-	-200.0E-12	-100.0E-12	200.0E-12	0.0E+00	0.0E+00	-50.0E-12	-100.0E-12	-200.0E-12
13	-	-300.0E-12	50.0E-12	150.0E-12	0.0E+00	-50.0E-12	-250.0E-12	-100.0E-12	-100.0E-12
14	-	0.0E+00	50.0E-12	150.0E-12	150.0E-12	50.0E-12	-250.0E-12	50.0E-12	0.0E+00
15	-	50.0E-12	100.0E-12	50.0E-12	-50.0E-12	-200.0E-12	-150.0E-12	-50.0E-12	-100.0E-12
Average	-	-120.0E-12	10.0E-12	140.0E-12	40.0E-12	-60.0E-12	-150.0E-12	-30.0E-12	-50.0E-12
Sigma	-	128.8E-12	73.5E-12	49.0E-12	73.5E-12	86.0E-12	89.4E-12	67.8E-12	118.3E-12

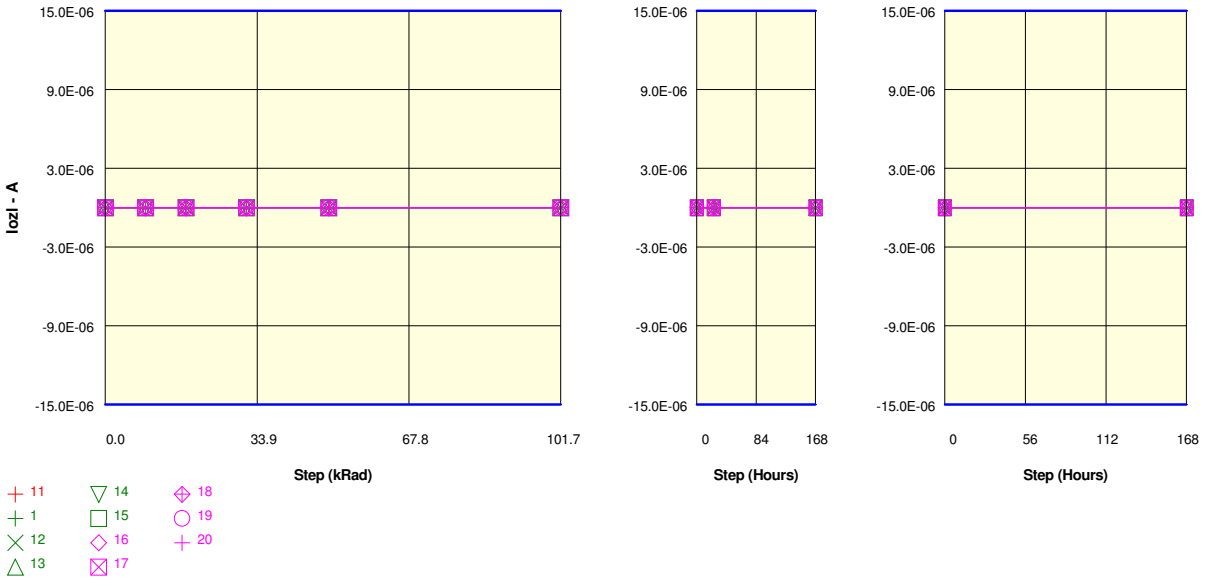
Measurements

IozID6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-700.0E-12	-1.1E-09	-650.0E-12	-700.0E-12	-700.0E-12	-850.0E-12	-850.0E-12	-700.0E-12	-550.0E-12
OFF samples									
16	-700.0E-12	-1.0E-09	-650.0E-12	-500.0E-12	-750.0E-12	-750.0E-12	-850.0E-12	-650.0E-12	-600.0E-12
17	-650.0E-12	-950.0E-12	-700.0E-12	-550.0E-12	-800.0E-12	-650.0E-12	-850.0E-12	-600.0E-12	-700.0E-12
18	-650.0E-12	-650.0E-12	-850.0E-12	-450.0E-12	-600.0E-12	-900.0E-12	-600.0E-12	-600.0E-12	-600.0E-12
19	-500.0E-12	-700.0E-12	-700.0E-12	-450.0E-12	-550.0E-12	-700.0E-12	-700.0E-12	-550.0E-12	-550.0E-12
20	-700.0E-12	-700.0E-12	-800.0E-12	-450.0E-12	-600.0E-12	-900.0E-12	-950.0E-12	-600.0E-12	-850.0E-12
Statistics									
Min	-700.0E-12	-1.0E-09	-850.0E-12	-550.0E-12	-800.0E-12	-900.0E-12	-950.0E-12	-650.0E-12	-850.0E-12
Max	-500.0E-12	-650.0E-12	-650.0E-12	-450.0E-12	-550.0E-12	-650.0E-12	-600.0E-12	-550.0E-12	-550.0E-12
Average	-640.0E-12	-800.0E-12	-740.0E-12	-480.0E-12	-660.0E-12	-780.0E-12	-790.0E-12	-600.0E-12	-660.0E-12
Sigma	73.5E-12	144.9E-12	73.5E-12	40.0E-12	97.0E-12	103.0E-12	124.1E-12	31.6E-12	106.8E-12

Drift Calculation

IozID6	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-300.0E-12	50.0E-12	200.0E-12	-50.0E-12	-50.0E-12	-150.0E-12	50.0E-12	100.0E-12
17	-	-300.0E-12	-50.0E-12	100.0E-12	-150.0E-12	0.0E+00	-200.0E-12	50.0E-12	-50.0E-12
18	-	0.0E+00	-200.0E-12	200.0E-12	50.0E-12	-250.0E-12	50.0E-12	50.0E-12	50.0E-12
19	-	-200.0E-12	-200.0E-12	50.0E-12	-50.0E-12	-200.0E-12	-200.0E-12	-50.0E-12	-50.0E-12
20	-	0.0E+00	-100.0E-12	250.0E-12	100.0E-12	-200.0E-12	-250.0E-12	100.0E-12	-150.0E-12
Average	-	-160.0E-12	-100.0E-12	160.0E-12	-20.0E-12	-140.0E-12	-150.0E-12	40.0E-12	-20.0E-12
Sigma	-	135.6E-12	94.9E-12	73.5E-12	87.2E-12	97.0E-12	104.9E-12	49.0E-12	87.2E-12

Parameter : High impedance leakage current : IozID5
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-450.0E-12	-550.0E-12	-400.0E-12	-400.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-500.0E-12	-350.0E-12
ON samples									
1	-400.0E-12	-500.0E-12	-450.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-500.0E-12	-450.0E-12	-400.0E-12
12	-400.0E-12	-500.0E-12	-450.0E-12	-250.0E-12	-350.0E-12	-450.0E-12	-450.0E-12	-450.0E-12	-450.0E-12
13	-300.0E-12	-550.0E-12	-450.0E-12	-350.0E-12	-350.0E-12	-400.0E-12	-600.0E-12	-450.0E-12	-400.0E-12
14	-400.0E-12	-550.0E-12	-400.0E-12	-250.0E-12	-400.0E-12	-450.0E-12	-550.0E-12	-450.0E-12	-450.0E-12
15	-450.0E-12	-400.0E-12	-350.0E-12	-350.0E-12	-350.0E-12	-500.0E-12	-500.0E-12	-500.0E-12	-500.0E-12
Statistics									
Min	-450.0E-12	-550.0E-12	-450.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-600.0E-12	-500.0E-12	-500.0E-12
Max	-300.0E-12	-400.0E-12	-350.0E-12	-250.0E-12	-350.0E-12	-400.0E-12	-450.0E-12	-450.0E-12	-400.0E-12
Average	-390.0E-12	-500.0E-12	-420.0E-12	-320.0E-12	-380.0E-12	-460.0E-12	-520.0E-12	-460.0E-12	-440.0E-12
Sigma	49.0E-12	54.8E-12	40.0E-12	60.0E-12	40.0E-12	37.4E-12	51.0E-12	20.0E-12	37.4E-12

Drift Calculation

IozID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-100.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-100.0E-12	-100.0E-12	-50.0E-12	0.0E+00
12	-	-100.0E-12	-50.0E-12	150.0E-12	50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12
13	-	-250.0E-12	-150.0E-12	-50.0E-12	-50.0E-12	-100.0E-12	-300.0E-12	-150.0E-12	-100.0E-12
14	-	-150.0E-12	0.0E+00	150.0E-12	0.0E+00	-50.0E-12	-150.0E-12	-50.0E-12	-50.0E-12
15	-	50.0E-12	100.0E-12	100.0E-12	100.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12
Average	-	-110.0E-12	-30.0E-12	70.0E-12	10.0E-12	-70.0E-12	-130.0E-12	-70.0E-12	-50.0E-12
Sigma	-	97.0E-12	81.2E-12	81.2E-12	58.3E-12	24.5E-12	92.7E-12	40.0E-12	31.6E-12

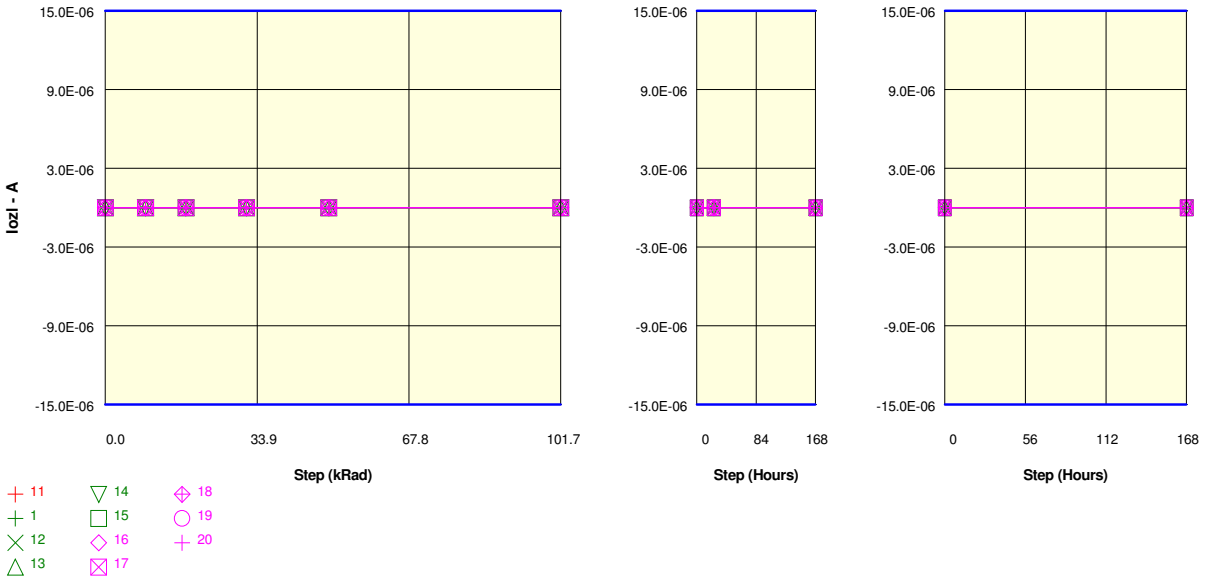
Measurements

IozID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-450.0E-12	-550.0E-12	-400.0E-12	-400.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-500.0E-12	-350.0E-12
OFF samples									
16	-400.0E-12	-600.0E-12	-400.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-550.0E-12	-350.0E-12	-450.0E-12
17	-500.0E-12	-450.0E-12	-400.0E-12	-250.0E-12	-350.0E-12	-400.0E-12	-500.0E-12	-400.0E-12	-400.0E-12
18	-450.0E-12	-350.0E-12	-500.0E-12	-300.0E-12	-400.0E-12	-450.0E-12	-450.0E-12	-450.0E-12	-400.0E-12
19	-300.0E-12	-400.0E-12	-450.0E-12	-250.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-500.0E-12	-300.0E-12
20	-350.0E-12	-450.0E-12	-450.0E-12	-300.0E-12	-350.0E-12	-450.0E-12	-500.0E-12	-450.0E-12	-400.0E-12
Statistics									
Min	-500.0E-12	-600.0E-12	-500.0E-12	-400.0E-12	-450.0E-12	-500.0E-12	-550.0E-12	-500.0E-12	-450.0E-12
Max	-300.0E-12	-350.0E-12	-400.0E-12	-250.0E-12	-350.0E-12	-400.0E-12	-450.0E-12	-350.0E-12	-300.0E-12
Average	-400.0E-12	-450.0E-12	-440.0E-12	-300.0E-12	-390.0E-12	-450.0E-12	-500.0E-12	-430.0E-12	-390.0E-12
Sigma	70.7E-12	83.7E-12	37.4E-12	54.8E-12	37.4E-12	31.6E-12	31.6E-12	51.0E-12	49.0E-12

Drift Calculation

IozID5	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-200.0E-12	0.0E+00	0.0E+00	-50.0E-12	-100.0E-12	-150.0E-12	50.0E-12	-50.0E-12
17	-	50.0E-12	100.0E-12	250.0E-12	150.0E-12	100.0E-12	0.0E+00	100.0E-12	100.0E-12
18	-	100.0E-12	-50.0E-12	150.0E-12	50.0E-12	0.0E+00	0.0E+00	0.0E+00	50.0E-12
19	-	-100.0E-12	-150.0E-12	50.0E-12	-100.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	0.0E+00
20	-	-100.0E-12	-100.0E-12	50.0E-12	0.0E+00	-100.0E-12	-150.0E-12	-100.0E-12	-50.0E-12
Average	-	-50.0E-12	-40.0E-12	100.0E-12	10.0E-12	-50.0E-12	-100.0E-12	-30.0E-12	10.0E-12
Sigma	-	109.5E-12	86.0E-12	89.4E-12	86.0E-12	89.4E-12	83.7E-12	107.7E-12	58.3E-12

Parameter : High impedance leakage current : IozID4
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-300.0E-12	-400.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-300.0E-12	-500.0E-12	-400.0E-12	-300.0E-12
ON samples									
1	-350.0E-12	-400.0E-12	-350.0E-12	-250.0E-12	-250.0E-12	-400.0E-12	-400.0E-12	-300.0E-12	-250.0E-12
12	-300.0E-12	-350.0E-12	-350.0E-12	-150.0E-12	-200.0E-12	-300.0E-12	-400.0E-12	-300.0E-12	-350.0E-12
13	-200.0E-12	-350.0E-12	-350.0E-12	-250.0E-12	-200.0E-12	-400.0E-12	-400.0E-12	-350.0E-12	-350.0E-12
14	-300.0E-12	-350.0E-12	-250.0E-12	-250.0E-12	-300.0E-12	-400.0E-12	-350.0E-12	-300.0E-12	-350.0E-12
15	-250.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-300.0E-12	-400.0E-12	-350.0E-12	-350.0E-12	-350.0E-12
Statistics									
Min	-350.0E-12	-400.0E-12	-350.0E-12	-250.0E-12	-300.0E-12	-400.0E-12	-400.0E-12	-350.0E-12	-350.0E-12
Max	-200.0E-12	-300.0E-12	-250.0E-12	-150.0E-12	-200.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
Average	-280.0E-12	-350.0E-12	-320.0E-12	-220.0E-12	-250.0E-12	-380.0E-12	-380.0E-12	-320.0E-12	-330.0E-12
Sigma	51.0E-12	31.6E-12	40.0E-12	40.0E-12	44.7E-12	40.0E-12	24.5E-12	24.5E-12	40.0E-12

Drift Calculation

IozID4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-50.0E-12	0.0E+00	100.0E-12	100.0E-12	-50.0E-12	-50.0E-12	50.0E-12	100.0E-12
12	-	-50.0E-12	-50.0E-12	150.0E-12	100.0E-12	0.0E+00	-100.0E-12	0.0E+00	-50.0E-12
13	-	-150.0E-12	-150.0E-12	-50.0E-12	0.0E+00	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12
14	-	-50.0E-12	50.0E-12	50.0E-12	0.0E+00	-100.0E-12	-50.0E-12	0.0E+00	-50.0E-12
15	-	-50.0E-12	-50.0E-12	50.0E-12	-50.0E-12	-150.0E-12	-100.0E-12	-100.0E-12	-100.0E-12
Average	-	-70.0E-12	-40.0E-12	60.0E-12	30.0E-12	-100.0E-12	-100.0E-12	-40.0E-12	-50.0E-12
Sigma	-	40.0E-12	66.3E-12	66.3E-12	60.0E-12	70.7E-12	54.8E-12	73.5E-12	83.7E-12

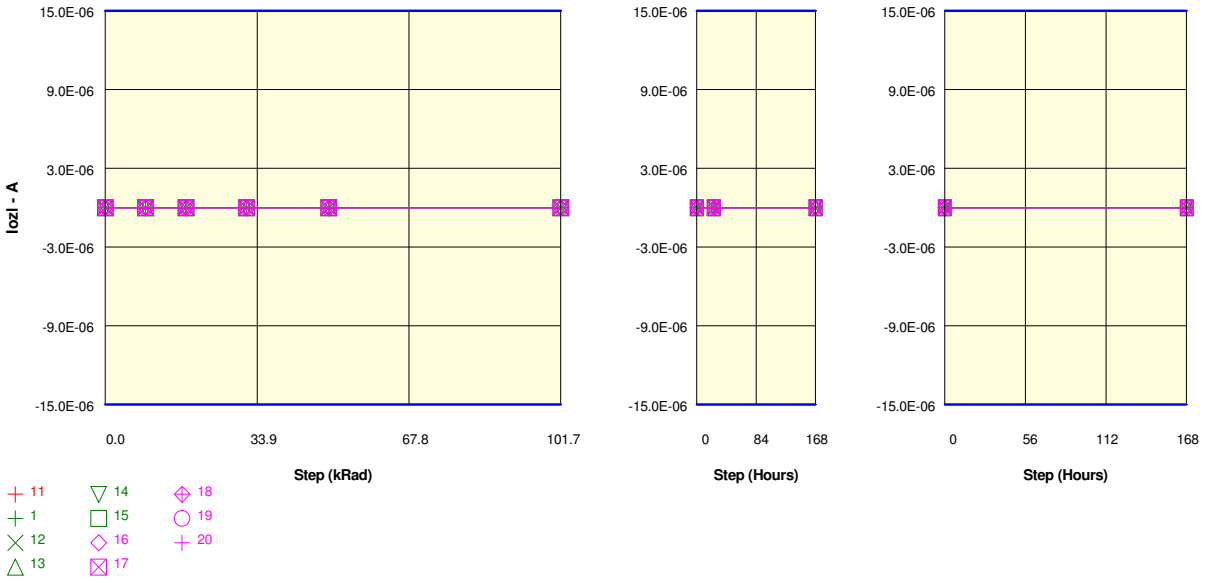
Measurements

IozID4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-300.0E-12	-400.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-300.0E-12	-500.0E-12	-400.0E-12	-300.0E-12
OFF samples									
16	-250.0E-12	-450.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-450.0E-12	-400.0E-12	-300.0E-12	-400.0E-12
17	-300.0E-12	-350.0E-12	-300.0E-12	-200.0E-12	-250.0E-12	-350.0E-12	-400.0E-12	-350.0E-12	-300.0E-12
18	-200.0E-12	-300.0E-12	-350.0E-12	-200.0E-12	-250.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-300.0E-12
19	-250.0E-12	-350.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-350.0E-12	-350.0E-12	-300.0E-12	-300.0E-12
20	-300.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-300.0E-12
Statistics									
Min	-300.0E-12	-450.0E-12	-350.0E-12	-300.0E-12	-300.0E-12	-450.0E-12	-400.0E-12	-350.0E-12	-400.0E-12
Max	-200.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-300.0E-12
Average	-260.0E-12	-350.0E-12	-310.0E-12	-220.0E-12	-230.0E-12	-350.0E-12	-370.0E-12	-310.0E-12	-320.0E-12
Sigma	37.4E-12	54.8E-12	20.0E-12	40.0E-12	51.0E-12	54.8E-12	24.5E-12	20.0E-12	40.0E-12

Drift Calculation

IozID4	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-200.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	-200.0E-12	-150.0E-12	-50.0E-12	-150.0E-12
17	-	-50.0E-12	0.0E+00	100.0E-12	50.0E-12	-50.0E-12	-100.0E-12	-50.0E-12	0.0E+00
18	-	-100.0E-12	-150.0E-12	0.0E+00	-50.0E-12	-100.0E-12	-150.0E-12	-100.0E-12	-100.0E-12
19	-	-100.0E-12	-50.0E-12	50.0E-12	100.0E-12	-100.0E-12	-100.0E-12	-50.0E-12	-50.0E-12
20	-	0.0E+00	0.0E+00	100.0E-12	100.0E-12	0.0E+00	-50.0E-12	0.0E+00	0.0E+00
Average	-	-90.0E-12	-50.0E-12	40.0E-12	30.0E-12	-90.0E-12	-110.0E-12	-50.0E-12	-60.0E-12
Sigma	-	66.3E-12	54.8E-12	58.3E-12	67.8E-12	66.3E-12	37.4E-12	31.6E-12	58.3E-12

Parameter : High impedance leakage current : IozID3
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-200.0E-12	-300.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-150.0E-12
ON samples									
1	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12
12	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-250.0E-12	-300.0E-12	-200.0E-12	-150.0E-12
13	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-150.0E-12	-300.0E-12	-250.0E-12	-200.0E-12	-150.0E-12
14	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-100.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-200.0E-12
15	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
Statistics									
Min	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-150.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-250.0E-12
Max	-150.0E-12	-150.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-150.0E-12
Average	-180.0E-12	-220.0E-12	-210.0E-12	-190.0E-12	-140.0E-12	-270.0E-12	-240.0E-12	-220.0E-12	-190.0E-12
Sigma	24.5E-12	40.0E-12	20.0E-12	20.0E-12	20.0E-12	24.5E-12	37.4E-12	24.5E-12	37.4E-12

Drift Calculation

IozID3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-50.0E-12	0.0E+00	0.0E+00	50.0E-12	-50.0E-12	0.0E+00	-50.0E-12	-50.0E-12
12	-	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00	-100.0E-12	-150.0E-12	-50.0E-12	0.0E+00
13	-	-50.0E-12	-50.0E-12	0.0E+00	50.0E-12	-100.0E-12	-50.0E-12	0.0E+00	50.0E-12
14	-	-50.0E-12	0.0E+00	0.0E+00	100.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	0.0E+00
15	-	0.0E+00	-50.0E-12	-50.0E-12	0.0E+00	-150.0E-12	-50.0E-12	-50.0E-12	-50.0E-12
Average	-	-40.0E-12	-30.0E-12	-10.0E-12	40.0E-12	-90.0E-12	-60.0E-12	-40.0E-12	-10.0E-12
Sigma	-	20.0E-12	24.5E-12	20.0E-12	37.4E-12	37.4E-12	49.0E-12	20.0E-12	37.4E-12

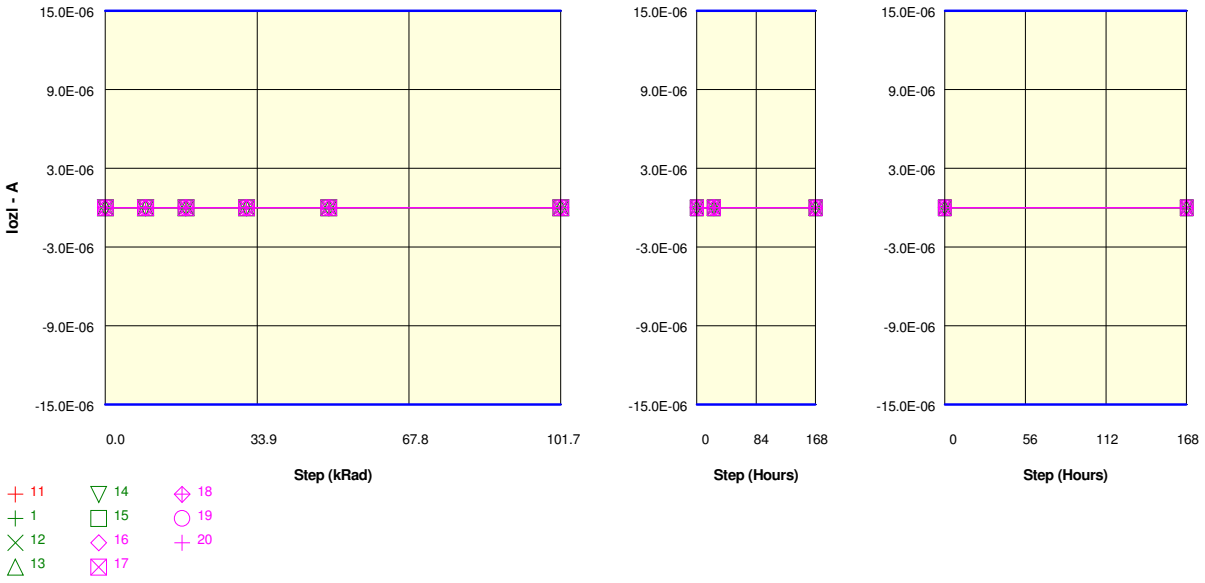
Measurements

IozID3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-200.0E-12	-300.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-150.0E-12
OFF samples									
16	-150.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-300.0E-12	-150.0E-12	-250.0E-12
17	-150.0E-12	-250.0E-12	-250.0E-12	-150.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-250.0E-12
18	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-100.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
19	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-150.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-200.0E-12
20	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-300.0E-12	-250.0E-12	-200.0E-12	-200.0E-12
Statistics									
Min	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-250.0E-12
Max	-150.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-100.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-200.0E-12
Average	-170.0E-12	-230.0E-12	-220.0E-12	-180.0E-12	-160.0E-12	-240.0E-12	-240.0E-12	-200.0E-12	-220.0E-12
Sigma	24.5E-12	24.5E-12	24.5E-12	24.5E-12	37.4E-12	37.4E-12	37.4E-12	31.6E-12	24.5E-12

Drift Calculation

IozID3	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-100.0E-12	-100.0E-12	-50.0E-12	-50.0E-12	-100.0E-12	-150.0E-12	0.0E+00	-100.0E-12
17	-	-100.0E-12	-100.0E-12	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12	-50.0E-12	-100.0E-12
18	-	0.0E+00	0.0E+00	0.0E+00	100.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00
19	-	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00	-100.0E-12	-100.0E-12	-100.0E-12	-50.0E-12
20	-	-50.0E-12	0.0E+00	0.0E+00	0.0E+00	-100.0E-12	-50.0E-12	0.0E+00	0.0E+00
Average	-	-60.0E-12	-50.0E-12	-10.0E-12	10.0E-12	-70.0E-12	-70.0E-12	-30.0E-12	-50.0E-12
Sigma	-	37.4E-12	44.7E-12	20.0E-12	49.0E-12	40.0E-12	51.0E-12	40.0E-12	44.7E-12

Parameter : High impedance leakage current : IozID2
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-650.0E-12	-750.0E-12	-1.0E-09	-400.0E-12	-300.0E-12	-300.0E-12	-450.0E-12	-450.0E-12	-250.0E-12
ON samples									
1	-550.0E-12	-850.0E-12	-1.0E-09	-400.0E-12	-250.0E-12	-300.0E-12	-400.0E-12	-300.0E-12	-300.0E-12
12	-500.0E-12	-700.0E-12	-850.0E-12	-400.0E-12	-250.0E-12	-350.0E-12	-400.0E-12	-300.0E-12	-300.0E-12
13	-500.0E-12	-700.0E-12	-850.0E-12	-450.0E-12	-300.0E-12	-350.0E-12	-350.0E-12	-350.0E-12	-250.0E-12
14	-550.0E-12	-650.0E-12	-800.0E-12	-350.0E-12	-250.0E-12	-400.0E-12	-400.0E-12	-350.0E-12	-300.0E-12
15	-500.0E-12	-650.0E-12	-850.0E-12	-350.0E-12	-200.0E-12	-350.0E-12	-400.0E-12	-300.0E-12	-250.0E-12
Statistics									
Min	-550.0E-12	-850.0E-12	-1.0E-09	-450.0E-12	-300.0E-12	-400.0E-12	-400.0E-12	-350.0E-12	-300.0E-12
Max	-500.0E-12	-650.0E-12	-800.0E-12	-350.0E-12	-200.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
Average	-520.0E-12	-710.0E-12	-870.0E-12	-390.0E-12	-250.0E-12	-350.0E-12	-390.0E-12	-320.0E-12	-280.0E-12
Sigma	24.5E-12	73.5E-12	67.8E-12	37.4E-12	31.6E-12	31.6E-12	20.0E-12	24.5E-12	24.5E-12

Drift Calculation

IozID2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-300.0E-12	-450.0E-12	150.0E-12	300.0E-12	250.0E-12	150.0E-12	250.0E-12	250.0E-12
12	-	-200.0E-12	-350.0E-12	100.0E-12	250.0E-12	150.0E-12	100.0E-12	200.0E-12	200.0E-12
13	-	-200.0E-12	-350.0E-12	50.0E-12	200.0E-12	150.0E-12	150.0E-12	150.0E-12	250.0E-12
14	-	-100.0E-12	-250.0E-12	200.0E-12	300.0E-12	150.0E-12	150.0E-12	200.0E-12	250.0E-12
15	-	-150.0E-12	-350.0E-12	150.0E-12	300.0E-12	150.0E-12	100.0E-12	200.0E-12	250.0E-12
Average	-	-190.0E-12	-350.0E-12	130.0E-12	270.0E-12	170.0E-12	130.0E-12	200.0E-12	240.0E-12
Sigma	-	66.3E-12	63.2E-12	51.0E-12	40.0E-12	40.0E-12	24.5E-12	31.6E-12	20.0E-12

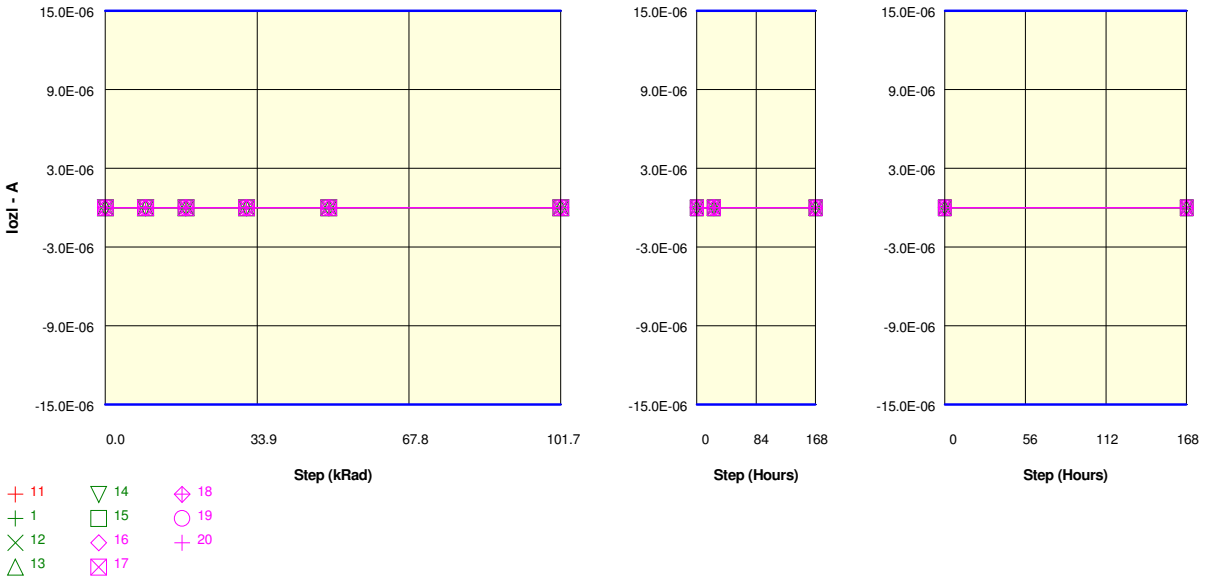
Measurements

IozID2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-650.0E-12	-750.0E-12	-1.0E-09	-400.0E-12	-300.0E-12	-300.0E-12	-450.0E-12	-450.0E-12	-250.0E-12
OFF samples									
16	-450.0E-12	-750.0E-12	-800.0E-12	-500.0E-12	-350.0E-12	-350.0E-12	-400.0E-12	-400.0E-12	-300.0E-12
17	-500.0E-12	-650.0E-12	-750.0E-12	-350.0E-12	-250.0E-12	-300.0E-12	-350.0E-12	-350.0E-12	-250.0E-12
18	-500.0E-12	-550.0E-12	-750.0E-12	-350.0E-12	-250.0E-12	-350.0E-12	-350.0E-12	-250.0E-12	-250.0E-12
19	-450.0E-12	-550.0E-12	-700.0E-12	-350.0E-12	-300.0E-12	-350.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
20	-500.0E-12	-600.0E-12	-650.0E-12	-400.0E-12	-250.0E-12	-350.0E-12	-300.0E-12	-300.0E-12	-350.0E-12
Statistics									
Min	-500.0E-12	-750.0E-12	-800.0E-12	-500.0E-12	-350.0E-12	-350.0E-12	-400.0E-12	-400.0E-12	-350.0E-12
Max	-450.0E-12	-550.0E-12	-650.0E-12	-350.0E-12	-250.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-250.0E-12
Average	-480.0E-12	-620.0E-12	-730.0E-12	-390.0E-12	-280.0E-12	-340.0E-12	-350.0E-12	-320.0E-12	-280.0E-12
Sigma	24.5E-12	74.8E-12	51.0E-12	58.3E-12	40.0E-12	20.0E-12	31.6E-12	51.0E-12	40.0E-12

Drift Calculation

IozID2	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-300.0E-12	-350.0E-12	-50.0E-12	100.0E-12	100.0E-12	50.0E-12	50.0E-12	150.0E-12
17	-	-150.0E-12	-250.0E-12	150.0E-12	250.0E-12	200.0E-12	150.0E-12	150.0E-12	250.0E-12
18	-	-50.0E-12	-250.0E-12	150.0E-12	250.0E-12	150.0E-12	150.0E-12	250.0E-12	250.0E-12
19	-	-100.0E-12	-250.0E-12	100.0E-12	150.0E-12	100.0E-12	100.0E-12	150.0E-12	200.0E-12
20	-	-100.0E-12	-150.0E-12	100.0E-12	250.0E-12	150.0E-12	200.0E-12	200.0E-12	150.0E-12
Average	-	-140.0E-12	-250.0E-12	90.0E-12	200.0E-12	140.0E-12	130.0E-12	160.0E-12	200.0E-12
Sigma	-	86.0E-12	63.2E-12	73.5E-12	63.2E-12	37.4E-12	51.0E-12	66.3E-12	44.7E-12

Parameter : High impedance leakage current : IozID1
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-500.0E-12	-500.0E-12	-600.0E-12	-350.0E-12	-200.0E-12	-300.0E-12	-400.0E-12	-250.0E-12	-250.0E-12
ON samples									
1	-350.0E-12	-500.0E-12	-600.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
12	-300.0E-12	-550.0E-12	-500.0E-12	-350.0E-12	-250.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
13	-300.0E-12	-500.0E-12	-500.0E-12	-300.0E-12	-250.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-200.0E-12
14	-300.0E-12	-450.0E-12	-450.0E-12	-250.0E-12	-250.0E-12	-300.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
15	-300.0E-12	-450.0E-12	-550.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-200.0E-12
Statistics									
Min	-350.0E-12	-550.0E-12	-600.0E-12	-350.0E-12	-300.0E-12	-350.0E-12	-350.0E-12	-300.0E-12	-250.0E-12
Max	-300.0E-12	-450.0E-12	-450.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-300.0E-12	-200.0E-12	-200.0E-12
Average	-310.0E-12	-490.0E-12	-520.0E-12	-290.0E-12	-260.0E-12	-300.0E-12	-330.0E-12	-270.0E-12	-230.0E-12
Sigma	20.0E-12	37.4E-12	51.0E-12	37.4E-12	20.0E-12	31.6E-12	24.5E-12	40.0E-12	24.5E-12

Drift Calculation

IozID1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-150.0E-12	-250.0E-12	100.0E-12	100.0E-12	100.0E-12	0.0E+00	50.0E-12	100.0E-12
12	-	-250.0E-12	-200.0E-12	-50.0E-12	50.0E-12	0.0E+00	-50.0E-12	0.0E+00	50.0E-12
13	-	-200.0E-12	-200.0E-12	0.0E+00	50.0E-12	-50.0E-12	0.0E+00	50.0E-12	100.0E-12
14	-	-150.0E-12	-150.0E-12	50.0E-12	50.0E-12	0.0E+00	-50.0E-12	0.0E+00	50.0E-12
15	-	-150.0E-12	-250.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	100.0E-12	100.0E-12
Average	-	-180.0E-12	-210.0E-12	20.0E-12	50.0E-12	10.0E-12	-20.0E-12	40.0E-12	80.0E-12
Sigma	-	40.0E-12	37.4E-12	51.0E-12	31.6E-12	49.0E-12	24.5E-12	37.4E-12	24.5E-12

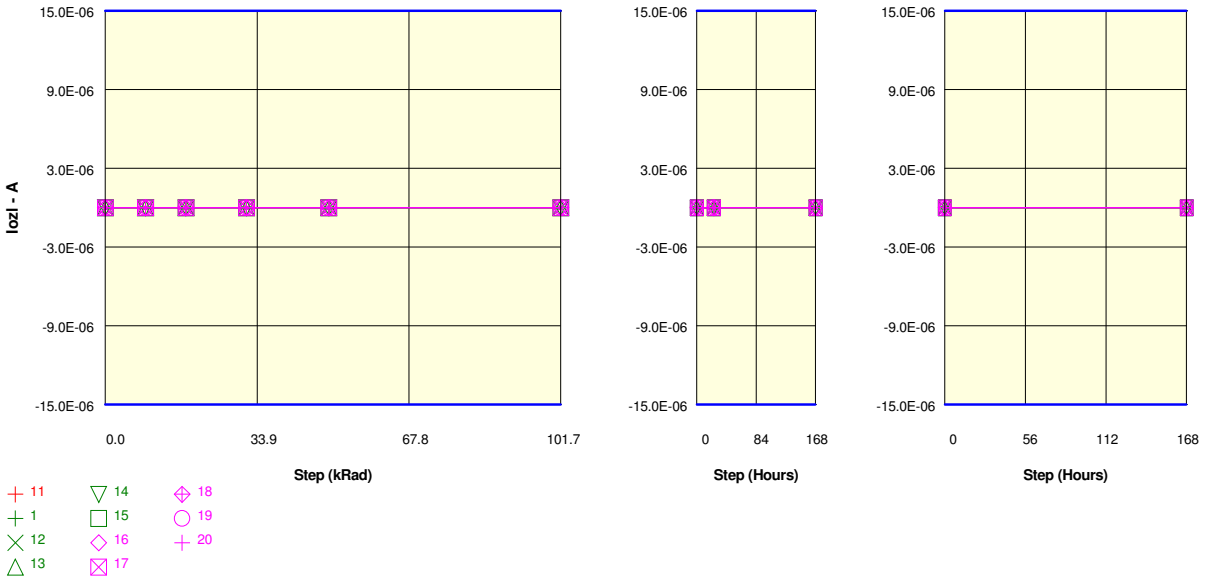
Measurements

IozID1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-500.0E-12	-500.0E-12	-600.0E-12	-350.0E-12	-200.0E-12	-300.0E-12	-400.0E-12	-250.0E-12	-250.0E-12
OFF samples									
16	-150.0E-12	-550.0E-12	-450.0E-12	-350.0E-12	-300.0E-12	-350.0E-12	-400.0E-12	-300.0E-12	-300.0E-12
17	-350.0E-12	-450.0E-12	-400.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-200.0E-12
18	-300.0E-12	-450.0E-12	-400.0E-12	-350.0E-12	-250.0E-12	-200.0E-12	-300.0E-12	-250.0E-12	-200.0E-12
19	-300.0E-12	-300.0E-12	-400.0E-12	-300.0E-12	-250.0E-12	-250.0E-12	-350.0E-12	-250.0E-12	-250.0E-12
20	-400.0E-12	-450.0E-12	-450.0E-12	-300.0E-12	-200.0E-12	-300.0E-12	-400.0E-12	-200.0E-12	-200.0E-12
Statistics									
Min	-400.0E-12	-550.0E-12	-450.0E-12	-350.0E-12	-300.0E-12	-350.0E-12	-400.0E-12	-300.0E-12	-300.0E-12
Max	-150.0E-12	-300.0E-12	-400.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
Average	-300.0E-12	-440.0E-12	-420.0E-12	-300.0E-12	-250.0E-12	-270.0E-12	-330.0E-12	-250.0E-12	-230.0E-12
Sigma	83.7E-12	80.0E-12	24.5E-12	54.8E-12	31.6E-12	51.0E-12	74.8E-12	31.6E-12	40.0E-12

Drift Calculation

IozID1	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-400.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-150.0E-12	-150.0E-12
17	-	-100.0E-12	-50.0E-12	150.0E-12	100.0E-12	100.0E-12	150.0E-12	100.0E-12	150.0E-12
18	-	-150.0E-12	-100.0E-12	-50.0E-12	50.0E-12	100.0E-12	0.0E+00	50.0E-12	100.0E-12
19	-	0.0E+00	-100.0E-12	0.0E+00	50.0E-12	50.0E-12	-50.0E-12	50.0E-12	50.0E-12
20	-	-50.0E-12	-50.0E-12	100.0E-12	200.0E-12	100.0E-12	0.0E+00	200.0E-12	200.0E-12
Average	-	-140.0E-12	-120.0E-12	5.2E-27	50.0E-12	30.0E-12	-30.0E-12	50.0E-12	70.0E-12
Sigma	-	139.3E-12	92.7E-12	122.5E-12	114.0E-12	116.6E-12	128.8E-12	114.0E-12	120.8E-12

Parameter : High impedance leakage current : IozID0
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

IozID0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-350.0E-12	-450.0E-12	-500.0E-12	-300.0E-12	-200.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-300.0E-12
ON samples									
1	-250.0E-12	-450.0E-12	-450.0E-12	-200.0E-12	-250.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-150.0E-12
12	-250.0E-12	-450.0E-12	-450.0E-12	-300.0E-12	-150.0E-12	-200.0E-12	-300.0E-12	-250.0E-12	-150.0E-12
13	-300.0E-12	-450.0E-12	-400.0E-12	-300.0E-12	-200.0E-12	-350.0E-12	-200.0E-12	-200.0E-12	-200.0E-12
14	-250.0E-12	-400.0E-12	-450.0E-12	-350.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-150.0E-12
15	-250.0E-12	-450.0E-12	-300.0E-12	-250.0E-12	-200.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-250.0E-12
Statistics									
Min	-300.0E-12	-450.0E-12	-450.0E-12	-350.0E-12	-250.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-250.0E-12
Max	-250.0E-12	-400.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-150.0E-12
Average	-260.0E-12	-440.0E-12	-410.0E-12	-280.0E-12	-210.0E-12	-280.0E-12	-270.0E-12	-240.0E-12	-180.0E-12
Sigma	20.0E-12	20.0E-12	58.3E-12	51.0E-12	37.4E-12	51.0E-12	40.0E-12	20.0E-12	40.0E-12

Drift Calculation

IozID0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-200.0E-12	-200.0E-12	50.0E-12	0.0E+00	-50.0E-12	-50.0E-12	0.0E+00	100.0E-12
12	-	-200.0E-12	-200.0E-12	-50.0E-12	100.0E-12	50.0E-12	-50.0E-12	0.0E+00	100.0E-12
13	-	-150.0E-12	-100.0E-12	0.0E+00	100.0E-12	-50.0E-12	100.0E-12	100.0E-12	100.0E-12
14	-	-150.0E-12	-200.0E-12	-100.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	100.0E-12
15	-	-200.0E-12	-50.0E-12	0.0E+00	50.0E-12	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00
Average	-	-180.0E-12	-150.0E-12	-20.0E-12	50.0E-12	-20.0E-12	-10.0E-12	20.0E-12	80.0E-12
Sigma	-	24.5E-12	63.2E-12	51.0E-12	44.7E-12	40.0E-12	58.3E-12	40.0E-12	40.0E-12

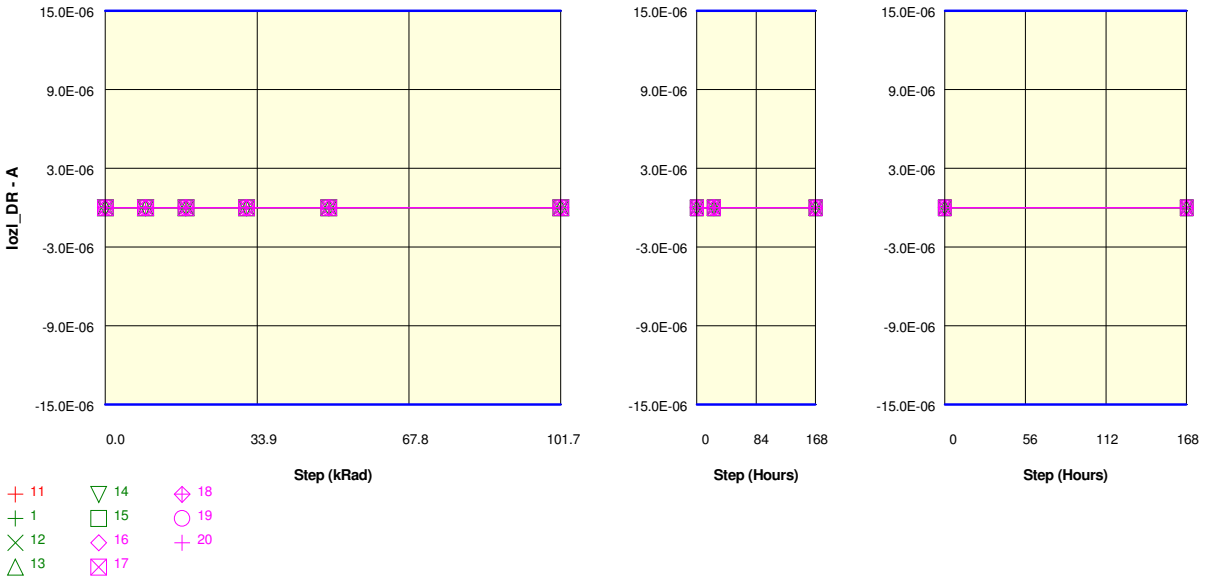
Measurements

IozID0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-350.0E-12	-450.0E-12	-500.0E-12	-300.0E-12	-200.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-300.0E-12
OFF samples									
16	-200.0E-12	-450.0E-12	-450.0E-12	-250.0E-12	-300.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-250.0E-12
17	-300.0E-12	-400.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-300.0E-12	-200.0E-12	-250.0E-12	-200.0E-12
18	-250.0E-12	-400.0E-12	-400.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-300.0E-12	-250.0E-12	-200.0E-12
19	-250.0E-12	-300.0E-12	-350.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-300.0E-12	-250.0E-12	-250.0E-12
20	-200.0E-12	-350.0E-12	-350.0E-12	-300.0E-12	-150.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-200.0E-12
Statistics									
Min	-300.0E-12	-450.0E-12	-450.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-250.0E-12
Max	-200.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12
Average	-240.0E-12	-380.0E-12	-370.0E-12	-230.0E-12	-210.0E-12	-260.0E-12	-280.0E-12	-250.0E-12	-220.0E-12
Sigma	37.4E-12	51.0E-12	51.0E-12	40.0E-12	49.0E-12	37.4E-12	51.0E-12	0.0E+00	24.5E-12

Drift Calculation

IozID0	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-250.0E-12	-250.0E-12	-50.0E-12	-100.0E-12	-100.0E-12	-150.0E-12	-50.0E-12	-50.0E-12
17	-	-100.0E-12	0.0E+00	100.0E-12	100.0E-12	0.0E+00	100.0E-12	50.0E-12	100.0E-12
18	-	-150.0E-12	-150.0E-12	50.0E-12	50.0E-12	50.0E-12	-50.0E-12	0.0E+00	50.0E-12
19	-	-50.0E-12	-100.0E-12	50.0E-12	50.0E-12	0.0E+00	-50.0E-12	0.0E+00	0.0E+00
20	-	-150.0E-12	-150.0E-12	-100.0E-12	50.0E-12	-50.0E-12	-50.0E-12	-50.0E-12	0.0E+00
Average	-	-140.0E-12	-130.0E-12	10.0E-12	30.0E-12	-20.0E-12	-40.0E-12	-10.0E-12	20.0E-12
Sigma	-	66.3E-12	81.2E-12	73.5E-12	67.8E-12	51.0E-12	80.0E-12	37.4E-12	51.0E-12

Parameter : High impedance leakage current : Iozl_DR
Test conditions : Fin = 0MHz. Rpol = 45kOhms. OEB set to Vih
Unit : A
Spec Limit Min : -15.0E-06
Spec Limit Max : 15.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iozl_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-200.0E-12	-450.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-250.0E-12
ON samples									
1	-200.0E-12	-350.0E-12	-350.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-150.0E-12
12	-250.0E-12	-350.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12
13	-250.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-250.0E-12
14	-300.0E-12	-250.0E-12	-300.0E-12	-300.0E-12	-250.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12
15	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-150.0E-12
Statistics									
Min	-300.0E-12	-350.0E-12	-350.0E-12	-300.0E-12	-250.0E-12	-300.0E-12	-250.0E-12	-250.0E-12	-250.0E-12
Max	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-150.0E-12
Average	-240.0E-12	-310.0E-12	-290.0E-12	-240.0E-12	-210.0E-12	-260.0E-12	-230.0E-12	-220.0E-12	-200.0E-12
Sigma	37.4E-12	49.0E-12	37.4E-12	37.4E-12	20.0E-12	20.0E-12	24.5E-12	24.5E-12	44.7E-12

Drift Calculation

Iozl_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-150.0E-12	-150.0E-12	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12	0.0E+00	50.0E-12
12	-	-100.0E-12	0.0E+00	0.0E+00	50.0E-12	0.0E+00	50.0E-12	0.0E+00	0.0E+00
13	-	-100.0E-12	-50.0E-12	0.0E+00	50.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00
14	-	50.0E-12	0.0E+00	0.0E+00	50.0E-12	50.0E-12	50.0E-12	100.0E-12	100.0E-12
15	-	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00	-100.0E-12	0.0E+00	0.0E+00	50.0E-12
Average	-	-70.0E-12	-50.0E-12	0.0E+00	30.0E-12	-20.0E-12	10.0E-12	20.0E-12	40.0E-12
Sigma	-	67.8E-12	54.8E-12	0.0E+00	24.5E-12	51.0E-12	37.4E-12	40.0E-12	37.4E-12

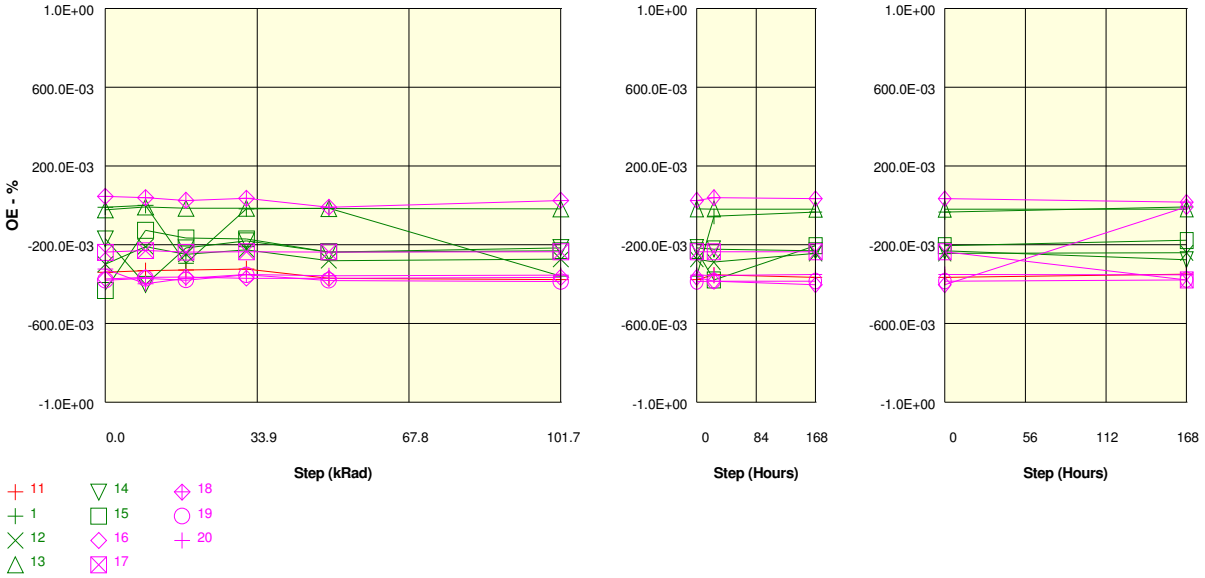
Measurements

Iozl_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-200.0E-12	-450.0E-12	-300.0E-12	-200.0E-12	-150.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-250.0E-12
OFF samples									
16	-200.0E-12	-300.0E-12	-300.0E-12	-200.0E-12	-300.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-250.0E-12
17	-250.0E-12	-300.0E-12	-250.0E-12	-300.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-250.0E-12
18	-250.0E-12	-250.0E-12	-200.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-300.0E-12	-250.0E-12	-200.0E-12
19	-200.0E-12	-300.0E-12	-250.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-250.0E-12
20	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-250.0E-12
Statistics									
Min	-250.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-300.0E-12	-350.0E-12	-250.0E-12	-250.0E-12
Max	-200.0E-12	-250.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-200.0E-12	-150.0E-12	-200.0E-12
Average	-220.0E-12	-280.0E-12	-240.0E-12	-240.0E-12	-240.0E-12	-220.0E-12	-250.0E-12	-220.0E-12	-240.0E-12
Sigma	24.5E-12	24.5E-12	37.4E-12	37.4E-12	37.4E-12	40.0E-12	63.2E-12	40.0E-12	20.0E-12

Drift Calculation

Iozl_DR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-100.0E-12	-100.0E-12	0.0E+00	-100.0E-12	-100.0E-12	-150.0E-12	-50.0E-12	-50.0E-12
17	-	-50.0E-12	0.0E+00	-50.0E-12	50.0E-12	50.0E-12	50.0E-12	100.0E-12	0.0E+00
18	-	0.0E+00	50.0E-12	0.0E+00	0.0E+00	50.0E-12	-50.0E-12	0.0E+00	50.0E-12
19	-	-100.0E-12	-50.0E-12	-50.0E-12	0.0E+00	0.0E+00	0.0E+00	-50.0E-12	-50.0E-12
20	-	-50.0E-12	0.0E+00	0.0E+00	-50.0E-12	0.0E+00	0.0E+00	0.0E+00	-50.0E-12
Average	-	-60.0E-12	-20.0E-12	-20.0E-12	-20.0E-12	5.2E-27	-30.0E-12	0.0E+00	-20.0E-12
Sigma	-	37.4E-12	51.0E-12	24.5E-12	51.0E-12	54.8E-12	67.8E-12	54.8E-12	40.0E-12

Parameter : Offset error @ Vin = -1dBFS : OE
Test conditions : Fs = 20Msps. Fin = 15MHz
Unit : %
No spec limit specified.



Measurements

OE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-339.5E-03	-330.8E-03	-328.3E-03	-322.3E-03	-370.1E-03	-376.4E-03	-353.1E-03	-365.6E-03	-348.5E-03
ON samples									
1	-9.3E-03	613.6E-06	-294.5E-03	-17.4E-03	-15.0E-03	-358.4E-03	-55.5E-03	-33.2E-03	-6.8E-03
12	-299.2E-03	-210.1E-03	-248.0E-03	-224.4E-03	-280.2E-03	-273.3E-03	-287.6E-03	-243.1E-03	-241.0E-03
13	-23.0E-03	-8.4E-03	-14.8E-03	-14.6E-03	-15.8E-03	-17.2E-03	-18.8E-03	-19.2E-03	-18.4E-03
14	-169.2E-03	-401.2E-03	-216.3E-03	-179.5E-03	-236.1E-03	-214.9E-03	-221.4E-03	-230.3E-03	-276.0E-03
15	-431.1E-03	-126.6E-03	-165.2E-03	-170.2E-03	-236.1E-03	-230.1E-03	-378.8E-03	-204.2E-03	-177.9E-03
Statistics									
Min	-431.1E-03	-401.2E-03	-294.5E-03	-224.4E-03	-280.2E-03	-358.4E-03	-378.8E-03	-243.1E-03	-276.0E-03
Max	-9.3E-03	613.6E-06	-14.8E-03	-14.6E-03	-15.0E-03	-17.2E-03	-18.8E-03	-19.2E-03	-6.8E-03
Average	-186.4E-03	-149.1E-03	-187.7E-03	-121.2E-03	-156.6E-03	-218.8E-03	-192.4E-03	-146.0E-03	-144.0E-03
Sigma	161.8E-03	148.3E-03	96.2E-03	87.8E-03	116.4E-03	112.5E-03	136.8E-03	98.7E-03	111.8E-03

Drift Calculation

OE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	9.9E-03	-285.2E-03	-8.1E-03	-5.7E-03	-349.1E-03	-46.2E-03	-23.9E-03	2.5E-03
12	-	89.1E-03	51.2E-03	74.8E-03	19.0E-03	25.9E-03	11.5E-03	56.1E-03	58.2E-03
13	-	14.6E-03	8.2E-03	8.4E-03	7.2E-03	5.8E-03	4.2E-03	3.8E-03	4.6E-03
14	-	-232.0E-03	-47.0E-03	-10.3E-03	-66.9E-03	-45.6E-03	-52.1E-03	-61.0E-03	-106.7E-03
15	-	304.5E-03	266.0E-03	260.9E-03	195.0E-03	201.0E-03	52.3E-03	226.9E-03	253.2E-03
Average	-	37.3E-03	-1.4E-03	65.1E-03	29.7E-03	-32.4E-03	-6.1E-03	40.4E-03	42.4E-03
Sigma	-	172.0E-03	177.2E-03	102.7E-03	87.8E-03	178.8E-03	38.9E-03	100.8E-03	118.3E-03

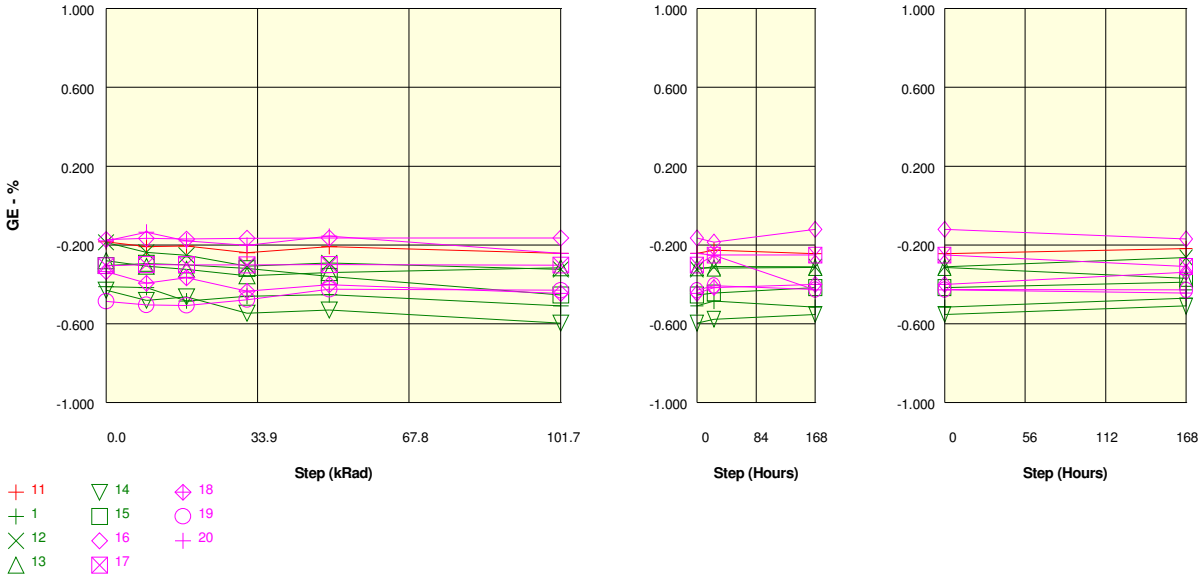
Measurements

OE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-339.5E-03	-330.8E-03	-328.3E-03	-322.3E-03	-370.1E-03	-376.4E-03	-353.1E-03	-365.6E-03	-348.5E-03
OFF samples									
16	-373.1E-03	-366.0E-03	-363.2E-03	-369.7E-03	-370.9E-03	-365.1E-03	-385.1E-03	-403.6E-03	-6.8E-03
17	-237.8E-03	-228.9E-03	-237.5E-03	-235.7E-03	-236.4E-03	-235.0E-03	-235.7E-03	-235.7E-03	-378.0E-03
18	45.9E-03	39.9E-03	25.7E-03	36.3E-03	-9.0E-03	25.8E-03	39.5E-03	33.8E-03	16.0E-03
19	-379.9E-03	-370.7E-03	-379.4E-03	-353.5E-03	-381.1E-03	-387.1E-03	-384.3E-03	-385.5E-03	-378.0E-03
20	-324.2E-03	-397.1E-03	-370.3E-03	-351.1E-03	-356.9E-03	-354.1E-03	-355.6E-03	-350.5E-03	-353.1E-03
Statistics									
Min	-379.9E-03	-397.1E-03	-379.4E-03	-369.7E-03	-381.1E-03	-387.1E-03	-385.1E-03	-403.6E-03	-378.0E-03
Max	45.9E-03	39.9E-03	25.7E-03	36.3E-03	-9.0E-03	25.8E-03	39.5E-03	33.8E-03	16.0E-03
Average	-253.8E-03	-264.6E-03	-264.9E-03	-254.7E-03	-270.9E-03	-263.1E-03	-264.3E-03	-268.3E-03	-220.0E-03
Sigma	158.2E-03	163.1E-03	154.3E-03	153.2E-03	140.9E-03	153.8E-03	161.5E-03	161.9E-03	183.7E-03

Drift Calculation

OE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	7.1E-03	9.9E-03	3.4E-03	2.2E-03	8.0E-03	-12.0E-03	-30.6E-03	366.3E-03
17	-	8.9E-03	317.4E-06	2.1E-03	1.5E-03	2.8E-03	2.2E-03	2.2E-03	-140.2E-03
18	-	-6.0E-03	-20.3E-03	-9.6E-03	-55.0E-03	-20.1E-03	-6.5E-03	-12.2E-03	-29.9E-03
19	-	9.2E-03	496.0E-06	26.4E-03	-1.3E-03	-7.2E-03	-4.5E-03	-5.6E-03	1.8E-03
20	-	-72.9E-03	-46.2E-03	-27.0E-03	-32.7E-03	-29.9E-03	-31.4E-03	-26.3E-03	-28.9E-03
Average	-	-10.8E-03	-11.1E-03	-942.0E-06	-17.1E-03	-9.3E-03	-10.4E-03	-14.5E-03	33.8E-03
Sigma	-	31.6E-03	20.1E-03	17.5E-03	23.0E-03	14.1E-03	11.4E-03	12.3E-03	173.1E-03

Parameter : Gain error @ Vin = 1.9V : GE
Test conditions : Fs = 20Msps. Fin = 15MHz
Unit : %
No spec limit specified.



Measurements

GE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-0.184	-0.209	-0.205	-0.240	-0.208	-0.243	-0.227	-0.245	-0.219
ON samples									
1	-0.411	-0.416	-0.485	-0.461	-0.452	-0.510	-0.485	-0.516	-0.471
12	-0.187	-0.237	-0.253	-0.308	-0.291	-0.324	-0.310	-0.311	-0.264
13	-0.280	-0.308	-0.324	-0.357	-0.340	-0.316	-0.318	-0.314	-0.369
14	-0.429	-0.481	-0.464	-0.547	-0.530	-0.597	-0.577	-0.552	-0.510
15	-0.304	-0.294	-0.301	-0.320	-0.360	-0.454	-0.444	-0.417	-0.388
Statistics									
Min	-0.429	-0.481	-0.485	-0.547	-0.530	-0.597	-0.577	-0.552	-0.510
Max	-0.187	-0.237	-0.253	-0.308	-0.291	-0.316	-0.310	-0.311	-0.264
Average	-0.322	-0.347	-0.365	-0.398	-0.395	-0.440	-0.427	-0.422	-0.401
Sigma	0.089	0.088	0.092	0.092	0.085	0.108	0.102	0.100	0.086

Drift Calculation

GE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-5.3E-03	-73.7E-03	-49.9E-03	-41.2E-03	-98.8E-03	-74.2E-03	-105.5E-03	-60.4E-03
12	-	-50.5E-03	-66.2E-03	-121.1E-03	-104.4E-03	-137.4E-03	-123.6E-03	-123.8E-03	-77.2E-03
13	-	-27.6E-03	-43.5E-03	-76.2E-03	-59.7E-03	-35.4E-03	-37.2E-03	-33.6E-03	-89.0E-03
14	-	-51.7E-03	-34.4E-03	-117.1E-03	-100.6E-03	-167.8E-03	-147.5E-03	-122.9E-03	-80.3E-03
15	-	10.1E-03	3.6E-03	-15.3E-03	-55.6E-03	-149.4E-03	-140.2E-03	-112.3E-03	-84.2E-03
Average	-	-25.0E-03	-42.9E-03	-75.9E-03	-72.3E-03	-117.7E-03	-104.6E-03	-99.6E-03	-78.2E-03
Sigma	-	24.4E-03	27.3E-03	40.2E-03	25.5E-03	47.0E-03	42.3E-03	33.7E-03	9.7E-03

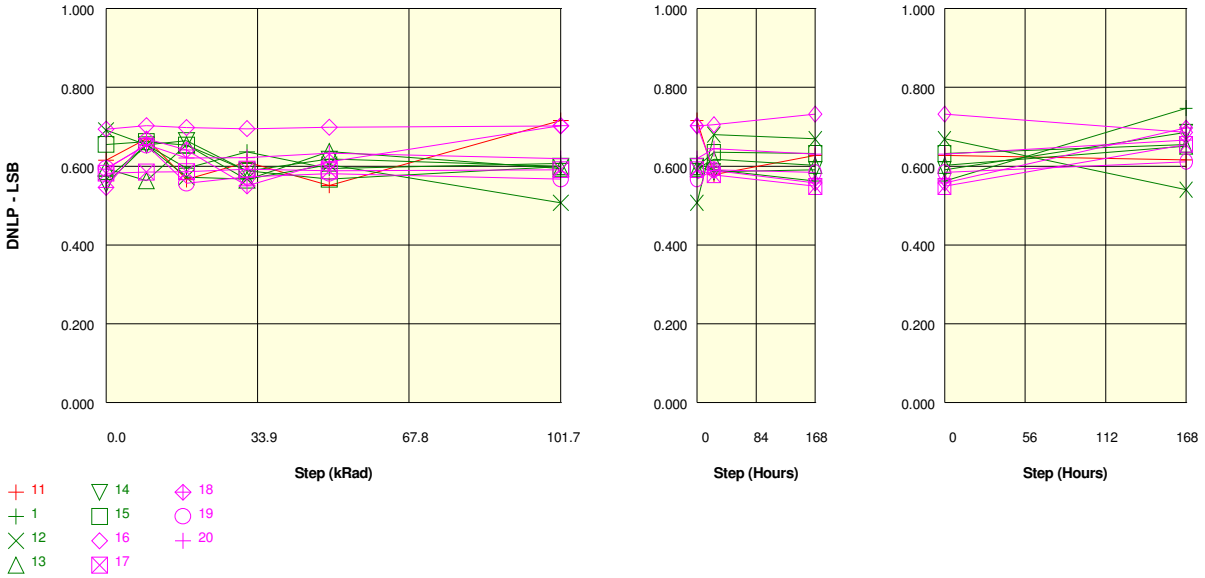
Measurements

GE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-0.184	-0.209	-0.205	-0.240	-0.208	-0.243	-0.227	-0.245	-0.219
OFF samples									
16	-0.173	-0.167	-0.170	-0.166	-0.165	-0.164	-0.186	-0.120	-0.169
17	-0.306	-0.299	-0.300	-0.302	-0.300	-0.302	-0.251	-0.251	-0.310
18	-0.335	-0.394	-0.367	-0.435	-0.402	-0.446	-0.416	-0.401	-0.338
19	-0.487	-0.505	-0.507	-0.478	-0.425	-0.430	-0.407	-0.427	-0.429
20	-0.179	-0.136	-0.179	-0.202	-0.156	-0.243	-0.252	-0.428	-0.444
Statistics									
Min	-0.487	-0.505	-0.507	-0.478	-0.425	-0.446	-0.416	-0.428	-0.444
Max	-0.173	-0.136	-0.170	-0.166	-0.156	-0.164	-0.186	-0.120	-0.169
Average	-0.296	-0.300	-0.305	-0.316	-0.289	-0.317	-0.302	-0.326	-0.338
Sigma	0.115	0.138	0.125	0.124	0.114	0.108	0.092	0.122	0.099

Drift Calculation

GE	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	5.5E-03	2.6E-03	7.2E-03	8.2E-03	8.5E-03	-12.9E-03	52.6E-03	3.5E-03
17	-	6.6E-03	5.7E-03	4.2E-03	5.8E-03	3.5E-03	54.6E-03	54.6E-03	-4.1E-03
18	-	-59.4E-03	-31.7E-03	-100.3E-03	-67.3E-03	-111.1E-03	-81.0E-03	-65.7E-03	-3.3E-03
19	-	-18.2E-03	-20.6E-03	8.6E-03	61.9E-03	56.6E-03	79.5E-03	59.6E-03	57.6E-03
20	-	43.8E-03	244.1E-06	-22.1E-03	23.7E-03	-63.6E-03	-72.6E-03	-249.0E-03	-264.9E-03
Average	-	-4.4E-03	-8.8E-03	-20.5E-03	6.5E-03	-21.2E-03	-6.5E-03	-29.6E-03	-42.2E-03
Sigma	-	33.9E-03	14.7E-03	41.5E-03	42.0E-03	59.0E-03	64.9E-03	119.4E-03	113.7E-03

Parameter : Differential non linearity : DNLP
Test conditions : Fs = 20Msps. Fin = 15MHz
Unit : LSB
No spec limit specified.



Measurements

DNLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	0.615	0.669	0.566	0.610	0.551	0.716	0.579	0.627	0.616
ON samples									
1	0.566	0.654	0.595	0.636	0.594	0.607	0.591	0.562	0.747
12	0.691	0.654	0.572	0.567	0.604	0.507	0.680	0.669	0.540
13	0.594	0.563	0.654	0.565	0.637	0.594	0.617	0.602	0.651
14	0.555	0.654	0.665	0.587	0.618	0.600	0.586	0.591	0.686
15	0.655	0.662	0.653	0.588	0.567	0.599	0.635	0.632	0.655
Statistics									
Min	0.555	0.563	0.572	0.565	0.567	0.507	0.586	0.562	0.540
Max	0.691	0.662	0.665	0.636	0.637	0.607	0.680	0.669	0.747
Average	0.612	0.637	0.628	0.589	0.604	0.581	0.622	0.611	0.656
Sigma	0.052	0.037	0.037	0.026	0.023	0.037	0.034	0.037	0.067

Drift Calculation

DNLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	88.0E-03	29.0E-03	70.0E-03	28.0E-03	41.0E-03	25.0E-03	-4.0E-03	181.0E-03
12	-	-37.0E-03	-119.0E-03	-124.0E-03	-87.0E-03	-184.0E-03	-11.0E-03	-22.0E-03	-151.0E-03
13	-	-31.0E-03	60.0E-03	-29.0E-03	43.0E-03	0.0E+00	23.0E-03	8.0E-03	57.0E-03
14	-	99.0E-03	110.0E-03	32.0E-03	63.0E-03	45.0E-03	31.0E-03	36.0E-03	131.0E-03
15	-	7.0E-03	-2.0E-03	-67.0E-03	-88.0E-03	-56.0E-03	-20.0E-03	-23.0E-03	0.0E+00
Average	-	25.2E-03	15.6E-03	-23.6E-03	-8.2E-03	-30.8E-03	9.6E-03	-1000.0E-06	43.6E-03
Sigma	-	57.9E-03	76.8E-03	69.1E-03	65.7E-03	84.8E-03	20.9E-03	21.8E-03	115.3E-03

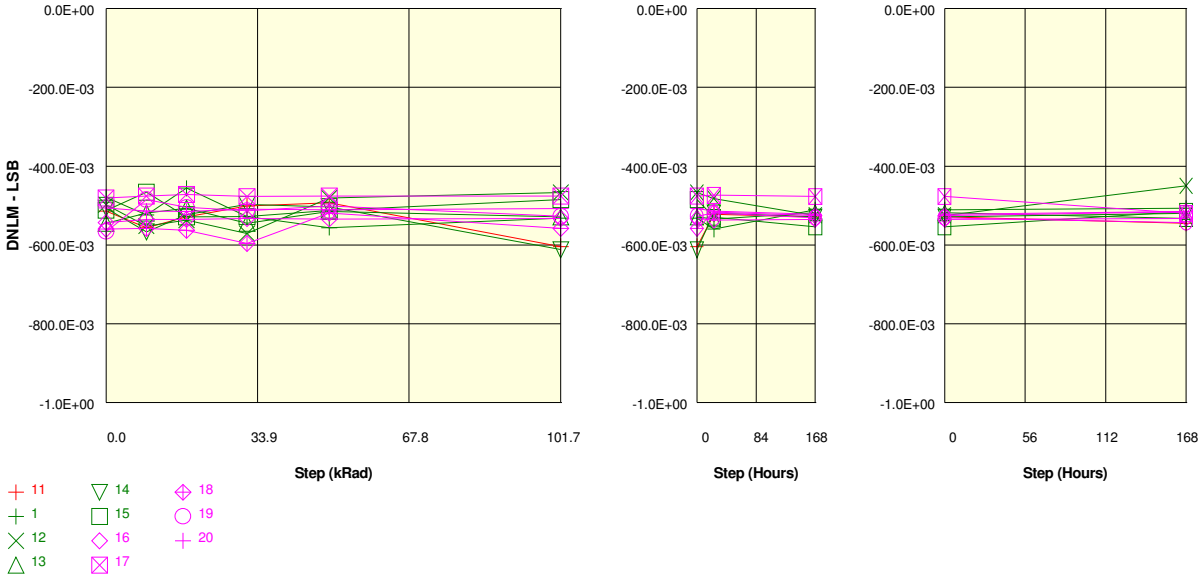
Measurements

DNLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	0.615	0.669	0.566	0.610	0.551	0.716	0.579	0.627	0.616
OFF samples									
16	0.694	0.703	0.698	0.695	0.699	0.702	0.705	0.732	0.686
17	0.582	0.585	0.586	0.592	0.588	0.591	0.578	0.549	0.655
18	0.546	0.669	0.641	0.550	0.611	0.703	0.589	0.557	0.697
19	0.594	0.653	0.556	0.573	0.581	0.567	0.591	0.584	0.611
20	0.592	0.655	0.621	0.622	0.633	0.619	0.644	0.631	0.666
Statistics									
Min	0.546	0.585	0.556	0.550	0.581	0.567	0.578	0.549	0.611
Max	0.694	0.703	0.698	0.695	0.699	0.703	0.705	0.732	0.697
Average	0.602	0.653	0.620	0.606	0.622	0.636	0.621	0.611	0.663
Sigma	0.049	0.038	0.049	0.050	0.042	0.056	0.048	0.067	0.030

Drift Calculation

DNLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	9.0E-03	4.0E-03	1.0E-03	5.0E-03	8.0E-03	11.0E-03	38.0E-03	-8.0E-03
17	-	3.0E-03	4.0E-03	10.0E-03	6.0E-03	9.0E-03	-4.0E-03	-33.4E-03	73.0E-03
18	-	123.0E-03	95.0E-03	4.0E-03	65.0E-03	157.0E-03	43.0E-03	11.0E-03	151.0E-03
19	-	59.0E-03	-38.0E-03	-21.0E-03	-13.0E-03	-27.0E-03	-3.0E-03	-10.0E-03	17.0E-03
20	-	63.0E-03	29.0E-03	30.0E-03	41.0E-03	27.0E-03	52.0E-03	39.0E-03	74.0E-03
Average	-	51.4E-03	18.8E-03	4.8E-03	20.8E-03	34.8E-03	19.8E-03	8.9E-03	61.4E-03
Sigma	-	43.5E-03	43.8E-03	16.4E-03	28.2E-03	63.6E-03	23.4E-03	27.9E-03	55.0E-03

Parameter : Differential non linearity : DNLM
Test conditions : Fs = 20Msps. Fin = 15MHz
Unit : LSB
No spec limit specified.



Measurements

DNLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-514.0E-03	-557.0E-03	-529.0E-03	-501.0E-03	-493.0E-03	-604.0E-03	-522.0E-03	-529.0E-03	-545.0E-03
ON samples									
1	-479.0E-03	-524.0E-03	-456.0E-03	-528.0E-03	-556.0E-03	-532.0E-03	-560.0E-03	-511.0E-03	-507.0E-03
12	-498.0E-03	-552.0E-03	-537.0E-03	-571.0E-03	-481.0E-03	-467.0E-03	-482.0E-03	-525.0E-03	-450.0E-03
13	-545.0E-03	-519.0E-03	-507.0E-03	-545.0E-03	-515.0E-03	-529.0E-03	-534.0E-03	-518.0E-03	-533.0E-03
14	-507.0E-03	-567.0E-03	-523.0E-03	-497.0E-03	-503.0E-03	-612.0E-03	-519.0E-03	-529.0E-03	-520.0E-03
15	-512.0E-03	-466.0E-03	-529.0E-03	-528.0E-03	-512.0E-03	-485.0E-03	-530.0E-03	-554.0E-03	-515.0E-03
Statistics									
Min	-545.0E-03	-567.0E-03	-537.0E-03	-571.0E-03	-556.0E-03	-612.0E-03	-560.0E-03	-554.0E-03	-533.0E-03
Max	-479.0E-03	-466.0E-03	-456.0E-03	-497.0E-03	-481.0E-03	-467.0E-03	-482.0E-03	-511.0E-03	-450.0E-03
Average	-508.2E-03	-525.6E-03	-510.4E-03	-533.8E-03	-513.4E-03	-525.0E-03	-525.0E-03	-527.4E-03	-505.0E-03
Sigma	21.6E-03	34.7E-03	28.9E-03	24.2E-03	24.4E-03	50.2E-03	25.4E-03	14.7E-03	28.8E-03

Drift Calculation

DNLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-45.0E-03	23.0E-03	-49.0E-03	-77.0E-03	-53.0E-03	-81.0E-03	-32.0E-03	-28.0E-03
12	-	-54.0E-03	-39.0E-03	-73.0E-03	17.0E-03	31.0E-03	16.0E-03	-27.0E-03	48.0E-03
13	-	26.0E-03	38.0E-03	0.0E+00	30.0E-03	16.0E-03	11.0E-03	27.0E-03	12.0E-03
14	-	-60.0E-03	-16.0E-03	10.0E-03	4.0E-03	-105.0E-03	-12.0E-03	-22.0E-03	-13.0E-03
15	-	46.0E-03	-17.0E-03	-16.0E-03	0.0E+00	27.0E-03	-18.0E-03	-42.0E-03	-3.0E-03
Average	-	-17.4E-03	-2.2E-03	-25.6E-03	-5.2E-03	-16.8E-03	-16.8E-03	-19.2E-03	3.2E-03
Sigma	-	44.3E-03	28.3E-03	31.0E-03	37.4E-03	53.6E-03	34.6E-03	24.0E-03	25.9E-03

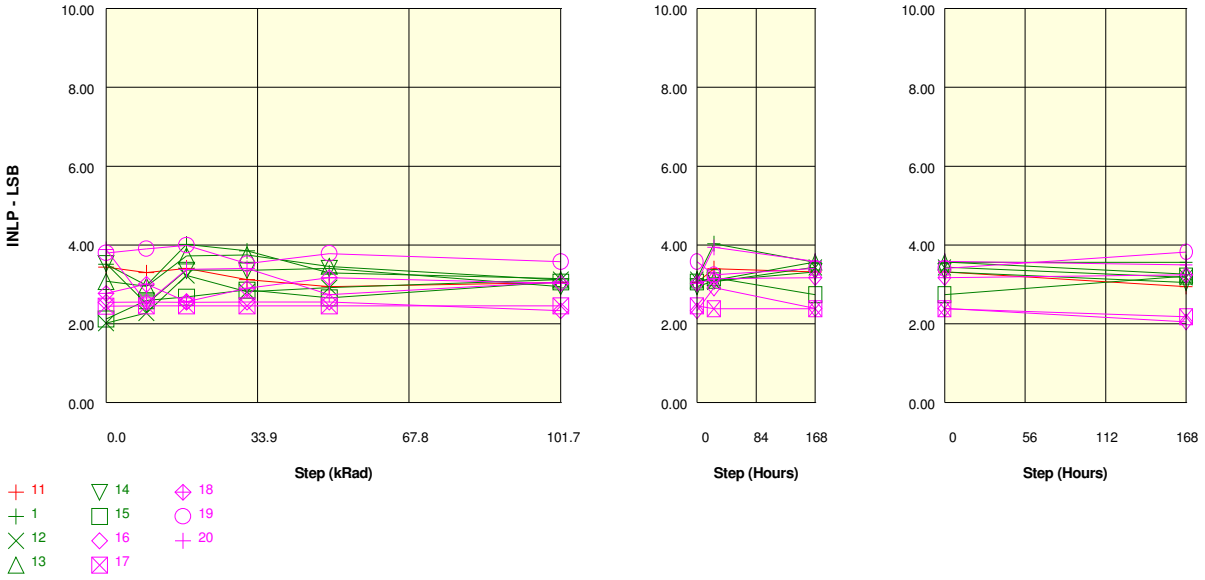
Measurements

DNLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-514.0E-03	-557.0E-03	-529.0E-03	-501.0E-03	-493.0E-03	-604.0E-03	-522.0E-03	-529.0E-03	-545.0E-03
OFF samples									
16	-543.0E-03	-535.0E-03	-535.0E-03	-533.0E-03	-534.0E-03	-533.0E-03	-537.0E-03	-535.0E-03	-533.0E-03
17	-481.0E-03	-476.0E-03	-472.0E-03	-477.0E-03	-476.0E-03	-476.0E-03	-474.0E-03	-477.0E-03	-520.0E-03
18	-560.0E-03	-558.0E-03	-563.0E-03	-596.0E-03	-519.0E-03	-558.0E-03	-517.0E-03	-526.0E-03	-516.0E-03
19	-566.0E-03	-485.0E-03	-505.0E-03	-513.0E-03	-501.0E-03	-527.0E-03	-519.0E-03	-531.0E-03	-543.0E-03
20	-506.0E-03	-514.0E-03	-515.0E-03	-509.0E-03	-511.0E-03	-508.0E-03	-514.0E-03	-522.0E-03	-515.0E-03
Statistics									
Min	-566.0E-03	-558.0E-03	-563.0E-03	-596.0E-03	-534.0E-03	-558.0E-03	-537.0E-03	-535.0E-03	-543.0E-03
Max	-481.0E-03	-476.0E-03	-472.0E-03	-477.0E-03	-476.0E-03	-476.0E-03	-474.0E-03	-477.0E-03	-515.0E-03
Average	-531.2E-03	-513.6E-03	-518.0E-03	-525.6E-03	-508.2E-03	-520.4E-03	-512.2E-03	-518.2E-03	-525.4E-03
Sigma	32.7E-03	30.5E-03	30.4E-03	39.5E-03	19.4E-03	27.4E-03	20.7E-03	21.1E-03	10.9E-03

Drift Calculation

DNLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	8.0E-03	8.0E-03	10.0E-03	9.0E-03	10.0E-03	6.0E-03	8.0E-03	10.0E-03
17	-	5.0E-03	9.0E-03	4.0E-03	5.0E-03	5.0E-03	7.0E-03	4.0E-03	-39.0E-03
18	-	2.0E-03	-3.0E-03	-36.0E-03	41.0E-03	2.0E-03	43.0E-03	34.0E-03	44.0E-03
19	-	81.0E-03	61.0E-03	53.0E-03	65.0E-03	39.0E-03	47.0E-03	35.0E-03	23.0E-03
20	-	-8.0E-03	-9.0E-03	-3.0E-03	-5.0E-03	-2.0E-03	-8.0E-03	-16.0E-03	-9.0E-03
Average	-	17.6E-03	13.2E-03	5.6E-03	23.0E-03	10.8E-03	19.0E-03	13.0E-03	5.8E-03
Sigma	-	32.2E-03	24.8E-03	28.5E-03	26.0E-03	14.6E-03	21.9E-03	19.3E-03	28.3E-03

Parameter : Integral non linearity : INLP
Test conditions : Fs = 20Msps. Fin = 15MHz
Unit : LSB
No spec limit specified.



Measurements

INLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	3.44	3.30	3.41	3.12	2.94	3.05	3.40	3.31	2.95
ON samples									
1	3.51	2.98	4.02	3.85	3.29	3.14	4.03	3.56	3.56
12	2.02	2.28	3.22	2.81	2.92	3.12	3.06	3.43	3.18
13	3.08	2.95	3.72	3.75	3.46	3.11	3.10	3.56	3.26
14	3.52	2.50	3.36	3.35	3.41	2.94	3.09	3.32	3.05
15	2.12	2.59	2.68	2.86	2.66	3.06	3.17	2.74	3.21
Statistics									
Min	2.02	2.28	2.68	2.81	2.66	2.94	3.06	2.74	3.05
Max	3.52	2.98	4.02	3.85	3.46	3.14	4.03	3.56	3.56
Average	2.85	2.66	3.40	3.32	3.14	3.08	3.29	3.32	3.25
Sigma	0.66	0.27	0.46	0.43	0.31	0.07	0.37	0.31	0.17

Drift Calculation

INLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-536.0E-03	504.0E-03	334.0E-03	-222.0E-03	-371.0E-03	519.0E-03	43.0E-03	41.0E-03
12	-	262.0E-03	1.2E+00	795.0E-03	900.0E-03	1.1E+00	1.0E+00	1.4E+00	1.2E+00
13	-	-122.0E-03	647.0E-03	673.0E-03	380.0E-03	38.0E-03	27.0E-03	489.0E-03	185.0E-03
14	-	-1.0E+00	-165.0E-03	-171.0E-03	-118.0E-03	-584.0E-03	-437.0E-03	-203.0E-03	-477.0E-03
15	-	466.0E-03	556.0E-03	734.0E-03	534.0E-03	939.0E-03	1.0E+00	618.0E-03	1.1E+00
Average	-	-190.4E-03	549.8E-03	473.0E-03	294.8E-03	225.8E-03	440.0E-03	472.8E-03	400.2E-03
Sigma	-	538.7E-03	436.9E-03	359.4E-03	416.7E-03	683.0E-03	579.5E-03	557.5E-03	632.7E-03

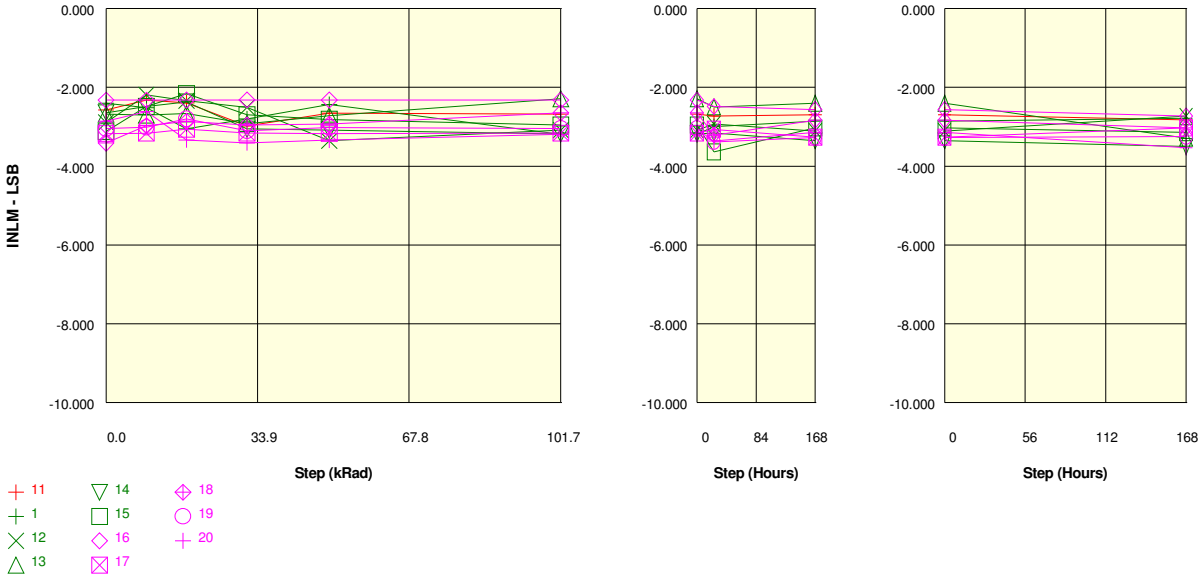
Measurements

INLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	3.44	3.30	3.41	3.12	2.94	3.05	3.40	3.31	2.95
OFF samples									
16	2.55	2.55	2.55	2.55	2.55	2.33	2.91	2.39	2.05
17	2.45	2.46	2.46	2.45	2.46	2.45	2.38	2.38	2.18
18	2.77	3.00	2.56	2.90	3.17	3.02	3.15	3.17	3.24
19	3.80	3.90	3.99	3.52	3.78	3.58	3.24	3.41	3.82
20	3.88	2.52	3.38	3.40	2.74	3.06	3.94	3.59	3.49
Statistics									
Min	2.45	2.46	2.46	2.45	2.46	2.33	2.38	2.38	2.05
Max	3.88	3.90	3.99	3.52	3.78	3.58	3.94	3.59	3.82
Average	3.09	2.89	2.99	2.97	2.94	2.89	3.12	2.99	2.96
Sigma	0.62	0.54	0.60	0.43	0.49	0.45	0.50	0.51	0.71

Drift Calculation

INLP	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	8.0E-03	1000.0E-06	8.0E-03	5.0E-03	-214.0E-03	367.0E-03	-159.0E-03	-498.0E-03
17	-	9.0E-03	9.0E-03	8.0E-03	9.0E-03	6.0E-03	-64.0E-03	-64.0E-03	-267.0E-03
18	-	234.0E-03	-210.0E-03	130.0E-03	404.0E-03	254.0E-03	378.0E-03	404.0E-03	471.0E-03
19	-	107.0E-03	195.0E-03	-276.0E-03	-14.0E-03	-222.0E-03	-554.0E-03	-390.0E-03	23.0E-03
20	-	-1.4E+00	-505.0E-03	-478.0E-03	-1.1E+00	-822.0E-03	55.0E-03	-295.0E-03	-389.0E-03
Average	-	-200.2E-03	-102.0E-03	-121.6E-03	-147.4E-03	-199.6E-03	36.4E-03	-100.8E-03	-132.0E-03
Sigma	-	585.3E-03	238.8E-03	222.6E-03	520.9E-03	356.7E-03	342.0E-03	276.0E-03	348.1E-03

Parameter : Integral non linearity : INLM
Test conditions : Fs = 20Msps. Fin = 15MHz
Unit : LSB
No spec limit specified.



Measurements

INLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-2.576	-2.320	-2.393	-2.978	-2.650	-2.679	-2.727	-2.698	-2.827
ON samples									
1	-2.404	-2.522	-3.058	-2.803	-2.435	-3.186	-2.995	-2.861	-2.783
12	-2.889	-2.191	-2.339	-2.508	-3.356	-3.084	-2.933	-3.109	-2.726
13	-2.680	-2.702	-2.669	-2.919	-2.720	-2.290	-2.497	-2.403	-3.289
14	-2.646	-2.487	-2.372	-3.057	-3.086	-3.184	-3.162	-3.358	-3.498
15	-3.119	-2.485	-2.161	-2.694	-2.814	-2.954	-3.637	-3.030	-3.148
Statistics									
Min	-3.119	-2.702	-3.058	-3.057	-3.356	-3.186	-3.637	-3.358	-3.498
Max	-2.404	-2.191	-2.161	-2.508	-2.435	-2.290	-2.497	-2.403	-2.726
Average	-2.748	-2.477	-2.520	-2.796	-2.882	-2.940	-3.045	-2.952	-3.089
Sigma	0.241	0.164	0.315	0.188	0.315	0.336	0.369	0.318	0.295

Drift Calculation

INLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-118.0E-03	-654.0E-03	-399.0E-03	-31.0E-03	-782.0E-03	-591.0E-03	-457.0E-03	-379.0E-03
12	-	698.0E-03	550.0E-03	381.0E-03	-467.0E-03	-195.0E-03	-44.0E-03	-220.0E-03	163.0E-03
13	-	-22.0E-03	11.0E-03	-239.0E-03	-40.0E-03	390.0E-03	183.0E-03	277.0E-03	-609.0E-03
14	-	159.0E-03	274.0E-03	-411.0E-03	-440.0E-03	-538.0E-03	-516.0E-03	-712.0E-03	-852.0E-03
15	-	634.0E-03	958.0E-03	425.0E-03	305.0E-03	165.0E-03	-518.0E-03	89.0E-03	-29.0E-03
Average	-	270.2E-03	227.8E-03	-48.6E-03	-134.6E-03	-192.0E-03	-297.2E-03	-204.6E-03	-341.2E-03
Sigma	-	335.8E-03	541.1E-03	374.0E-03	288.7E-03	432.2E-03	309.1E-03	357.6E-03	370.3E-03

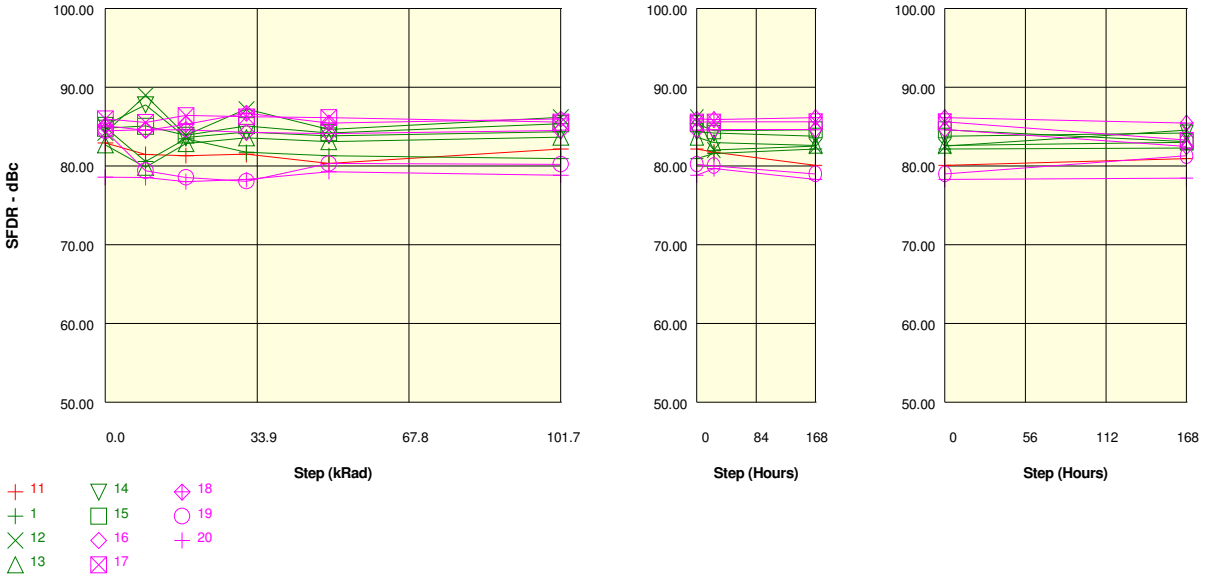
Measurements

INLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-2.576	-2.320	-2.393	-2.978	-2.650	-2.679	-2.727	-2.698	-2.827
OFF samples									
16	-2.328	-2.326	-2.321	-2.320	-2.323	-2.323	-2.489	-2.561	-2.726
17	-3.172	-3.166	-3.062	-3.159	-3.171	-3.163	-3.065	-3.265	-3.028
18	-3.414	-2.974	-2.869	-2.956	-2.936	-2.647	-3.212	-2.834	-3.028
19	-3.046	-3.016	-2.800	-3.105	-3.017	-3.048	-3.385	-3.275	-3.250
20	-2.864	-2.614	-3.332	-3.408	-3.337	-3.185	-3.362	-3.140	-3.527
Statistics									
Min	-3.414	-3.166	-3.332	-3.408	-3.337	-3.185	-3.385	-3.275	-3.527
Max	-2.328	-2.326	-2.321	-2.320	-2.323	-2.323	-2.489	-2.561	-2.726
Average	-2.965	-2.819	-2.877	-2.990	-2.957	-2.873	-3.103	-3.015	-3.112
Sigma	0.365	0.306	0.334	0.365	0.345	0.336	0.328	0.277	0.266

Drift Calculation

INLM	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	2.0E-03	7.0E-03	8.0E-03	5.0E-03	5.0E-03	-161.0E-03	-233.0E-03	-398.0E-03
17	-	6.0E-03	110.0E-03	13.0E-03	1.0E-03	9.0E-03	107.0E-03	-93.0E-03	144.0E-03
18	-	440.0E-03	545.0E-03	458.0E-03	478.0E-03	767.0E-03	202.0E-03	580.0E-03	386.0E-03
19	-	30.0E-03	246.0E-03	-59.0E-03	29.0E-03	-2.0E-03	-339.0E-03	-229.0E-03	-204.0E-03
20	-	250.0E-03	-468.0E-03	-544.0E-03	-473.0E-03	-321.0E-03	-498.0E-03	-276.0E-03	-663.0E-03
Average	-	145.6E-03	88.0E-03	-24.8E-03	8.0E-03	91.6E-03	-137.8E-03	-50.2E-03	-147.0E-03
Sigma	-	173.8E-03	331.7E-03	318.2E-03	300.9E-03	360.4E-03	263.1E-03	321.0E-03	374.5E-03

Parameter : Spurious free dynamic range : SFDR
Test conditions : Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS
Unit : dBc
No spec limit specified.



Measurements

SFDR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	82.91	81.47	81.33	81.49	80.34	82.19	81.77	80.08	80.95
ON samples									
1	84.95	80.59	83.47	81.73	81.30	80.94	81.60	82.16	82.29
12	84.24	88.97	83.91	87.22	84.62	86.21	82.03	82.51	84.59
13	82.70	79.86	82.86	83.58	83.10	83.66	82.96	82.63	83.03
14	85.18	87.77	83.62	84.31	83.84	84.36	84.18	83.79	84.21
15	84.79	85.07	83.93	85.11	84.22	85.38	84.46	84.60	83.11
Statistics									
Min	82.70	79.86	82.86	81.73	81.30	80.94	81.60	82.16	82.29
Max	85.18	88.97	83.93	87.22	84.62	86.21	84.46	84.60	84.59
Average	84.37	84.45	83.56	84.39	83.42	84.11	83.05	83.14	83.44
Sigma	0.89	3.68	0.39	1.80	1.17	1.81	1.13	0.92	0.84

Drift Calculation

SFDR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-4.4E+00	-1.5E+00	-3.2E+00	-3.6E+00	-4.0E+00	-3.3E+00	-2.8E+00	-2.7E+00
12	-	4.7E+00	-334.0E-03	3.0E+00	383.0E-03	2.0E+00	-2.2E+00	-1.7E+00	345.0E-03
13	-	-2.8E+00	163.0E-03	885.0E-03	401.0E-03	966.0E-03	266.0E-03	-65.0E-03	337.0E-03
14	-	2.6E+00	-1.6E+00	-874.0E-03	-1.3E+00	-821.0E-03	-997.0E-03	-1.4E+00	-971.0E-03
15	-	279.0E-03	-861.0E-03	319.0E-03	-574.0E-03	591.0E-03	-332.0E-03	-187.0E-03	-1.7E+00
Average	-	78.0E-03	-812.6E-03	18.4E-03	-956.0E-03	-261.2E-03	-1.3E+00	-1.2E+00	-927.0E-03
Sigma	-	3.4E+00	659.5E-03	2.0E+00	1.5E+00	2.1E+00	1.3E+00	1.0E+00	1.2E+00

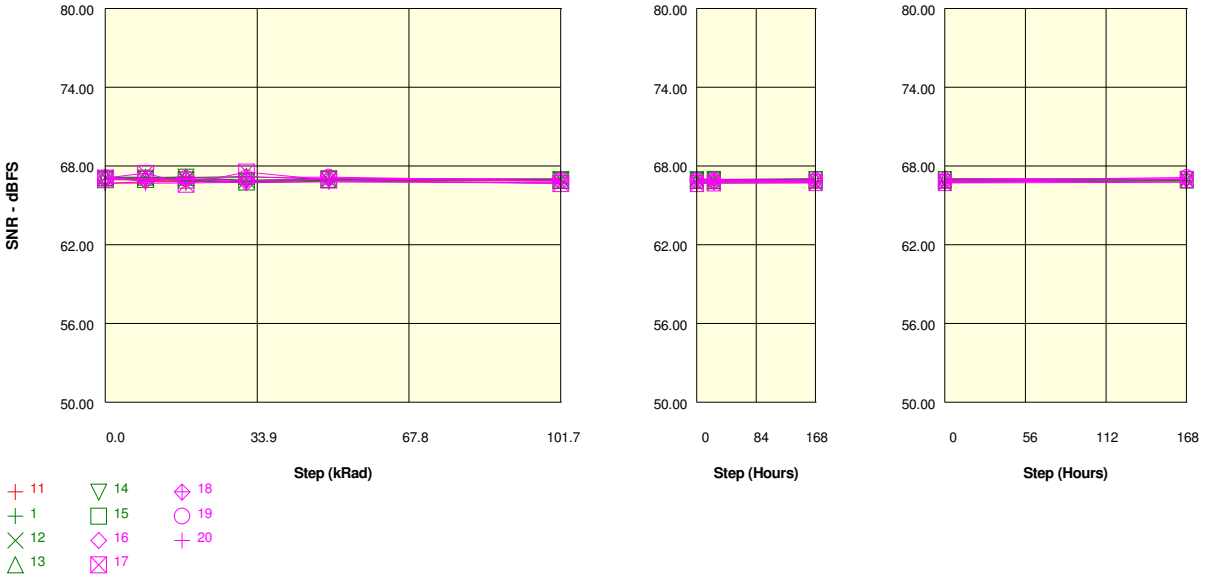
Measurements

SFDR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	82.91	81.47	81.33	81.49	80.34	82.19	81.77	80.08	80.95
OFF samples									
16	84.48	84.60	84.59	84.28	84.11	84.53	84.62	84.64	82.46
17	85.99	85.54	86.41	86.24	86.16	85.57	85.60	85.62	83.28
18	85.12	84.53	85.30	86.70	85.46	85.97	85.91	86.14	85.46
19	84.49	79.39	78.56	78.06	80.31	80.21	80.04	79.00	81.28
20	78.58	78.55	78.01	78.28	79.30	78.85	79.69	78.29	78.46
Statistics									
Min	78.58	78.55	78.01	78.06	79.30	78.85	79.69	78.29	78.46
Max	85.99	85.54	86.41	86.70	86.16	85.97	85.91	86.14	85.46
Average	83.73	82.52	82.57	82.71	83.07	83.03	83.17	82.74	82.19
Sigma	2.64	2.93	3.55	3.80	2.76	2.92	2.74	3.38	2.31

Drift Calculation

SFDR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	113.0E-03	109.0E-03	-201.0E-03	-376.0E-03	43.0E-03	140.0E-03	161.0E-03	-2.0E+00
17	-	-447.0E-03	423.0E-03	259.0E-03	176.0E-03	-413.0E-03	-385.0E-03	-365.0E-03	-2.7E+00
18	-	-583.0E-03	185.0E-03	1.6E+00	342.0E-03	853.0E-03	795.0E-03	1.0E+00	341.0E-03
19	-	-5.1E+00	-5.9E+00	-6.4E+00	-4.2E+00	-4.3E+00	-4.5E+00	-5.5E+00	-3.2E+00
20	-	-25.0E-03	-565.0E-03	-294.0E-03	723.0E-03	273.0E-03	1.1E+00	-286.0E-03	-116.0E-03
Average	-	-1.2E+00	-1.2E+00	-1.0E+00	-663.8E-03	-704.2E-03	-557.4E-03	-992.4E-03	-1.5E+00
Sigma	-	2.0E+00	2.4E+00	2.8E+00	1.8E+00	1.8E+00	2.0E+00	2.3E+00	1.4E+00

Parameter : Signal to noise ratio : SNR
Test conditions : Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS
Unit : dBFS
No spec limit specified.



Measurements

SNR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	66.68	66.80	66.81	66.82	66.90	66.87	66.86	66.86	66.88
ON samples									
1	66.97	66.97	66.91	66.73	66.85	66.71	66.77	66.78	66.85
12	67.14	67.12	67.00	66.94	66.93	67.00	66.91	66.75	66.97
13	67.13	67.15	67.14	67.20	66.99	66.91	66.90	66.93	66.94
14	67.00	67.08	67.16	66.87	67.04	66.97	66.98	66.96	66.96
15	66.95	66.98	66.93	66.79	66.99	66.93	66.88	66.95	66.98
Statistics									
Min	66.95	66.97	66.91	66.73	66.85	66.71	66.77	66.75	66.85
Max	67.14	67.15	67.16	67.20	67.04	67.00	66.98	66.96	66.98
Average	67.04	67.06	67.03	66.90	66.96	66.90	66.89	66.87	66.94
Sigma	0.08	0.07	0.11	0.16	0.06	0.10	0.07	0.09	0.05

Drift Calculation

SNR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-5.0E-03	-67.0E-03	-244.0E-03	-119.0E-03	-265.0E-03	-201.0E-03	-188.0E-03	-124.0E-03
12	-	-24.0E-03	-141.0E-03	-202.0E-03	-208.0E-03	-142.0E-03	-228.0E-03	-393.0E-03	-169.0E-03
13	-	17.0E-03	11.0E-03	69.0E-03	-140.0E-03	-220.0E-03	-227.0E-03	-203.0E-03	-189.0E-03
14	-	75.0E-03	158.0E-03	-127.0E-03	38.0E-03	-34.0E-03	-22.0E-03	-44.0E-03	-39.0E-03
15	-	27.0E-03	-24.0E-03	-169.0E-03	33.0E-03	-29.0E-03	-70.0E-03	-8.0E-03	25.0E-03
Average	-	18.0E-03	-12.6E-03	-134.6E-03	-79.2E-03	-138.0E-03	-149.6E-03	-167.2E-03	-99.2E-03
Sigma	-	33.5E-03	99.2E-03	108.8E-03	98.2E-03	95.5E-03	86.5E-03	136.5E-03	80.7E-03

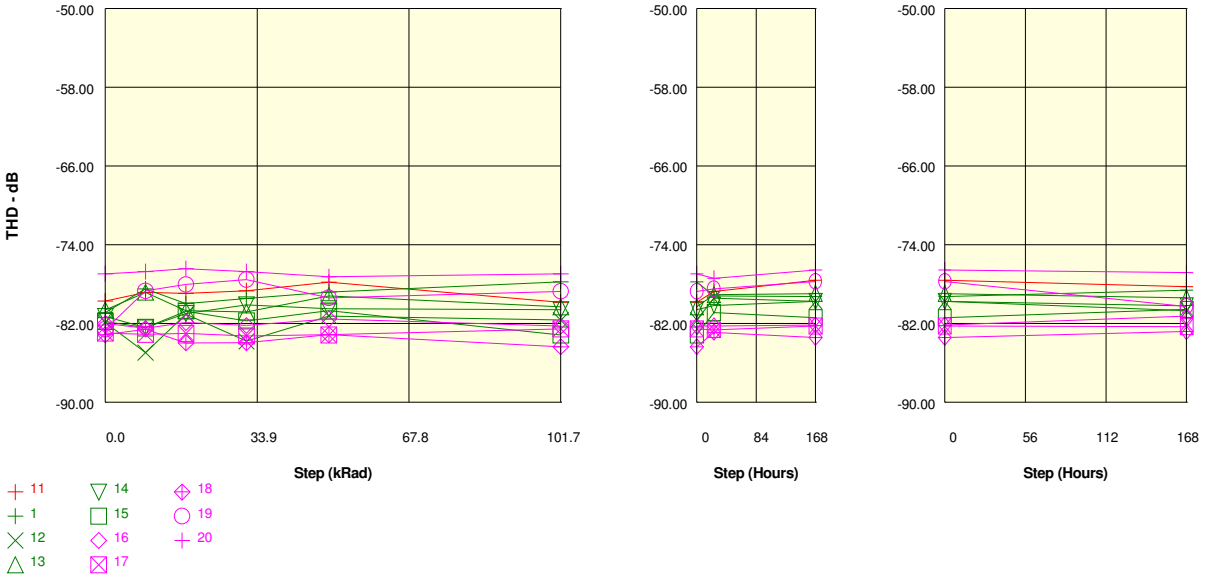
Measurements

SNR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	66.68	66.80	66.81	66.82	66.90	66.87	66.86	66.86	66.88
OFF samples									
16	67.08	66.85	67.03	66.72	67.02	66.84	66.80	66.84	66.98
17	67.08	67.46	66.62	67.54	66.93	66.67	66.69	66.74	66.98
18	66.98	66.95	66.97	66.88	67.05	67.04	66.99	67.05	67.02
19	67.11	67.06	67.07	67.12	67.16	66.89	66.90	66.91	67.14
20	66.73	66.70	66.70	66.76	66.79	66.73	66.71	66.73	66.77
Statistics									
Min	66.73	66.70	66.62	66.72	66.79	66.67	66.69	66.73	66.77
Max	67.11	67.46	67.07	67.54	67.16	67.04	66.99	67.05	67.14
Average	67.00	67.00	66.88	67.01	66.99	66.83	66.82	66.85	66.98
Sigma	0.14	0.26	0.18	0.30	0.12	0.13	0.11	0.12	0.12

Drift Calculation

SNR	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-230.0E-03	-55.0E-03	-357.0E-03	-66.0E-03	-239.0E-03	-280.0E-03	-245.0E-03	-102.0E-03
17	-	380.0E-03	-467.0E-03	461.0E-03	-153.0E-03	-416.0E-03	-393.0E-03	-343.0E-03	-104.0E-03
18	-	-27.0E-03	-7.0E-03	-93.0E-03	77.0E-03	61.0E-03	16.0E-03	69.0E-03	47.0E-03
19	-	-48.0E-03	-42.0E-03	7.0E-03	47.0E-03	-221.0E-03	-208.0E-03	-195.0E-03	32.0E-03
20	-	-33.0E-03	-31.0E-03	29.0E-03	56.0E-03	-5.0E-03	-19.0E-03	-2.0E-03	39.0E-03
Average	-	8.4E-03	-120.4E-03	9.4E-03	-7.8E-03	-164.0E-03	-176.8E-03	-143.2E-03	-17.6E-03
Sigma	-	200.5E-03	174.0E-03	264.2E-03	88.0E-03	172.2E-03	155.2E-03	153.6E-03	69.9E-03

Parameter : Total harmonics distortion : THD
Test conditions : Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS
Unit : dB
No spec limit specified.



Measurements

THD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-79.71	-78.84	-78.93	-78.66	-77.80	-79.85	-78.74	-77.62	-78.26
ON samples									
1	-80.89	-78.46	-79.99	-79.44	-78.80	-77.75	-79.21	-79.28	-78.61
12	-81.87	-84.96	-81.05	-83.80	-81.23	-81.65	-79.42	-79.74	-80.68
13	-80.62	-78.83	-80.68	-80.83	-79.21	-80.30	-79.07	-78.95	-79.37
14	-81.28	-82.40	-80.98	-80.11	-80.49	-80.59	-80.15	-79.74	-80.19
15	-81.79	-82.43	-80.74	-81.74	-80.71	-83.17	-80.89	-81.40	-80.57
Statistics									
Min	-81.87	-84.96	-81.05	-83.80	-81.23	-83.17	-80.89	-81.40	-80.68
Max	-80.62	-78.46	-79.99	-79.44	-78.80	-77.75	-79.07	-78.95	-78.61
Average	-81.29	-81.42	-80.69	-81.18	-80.09	-80.69	-79.75	-79.82	-79.88
Sigma	0.49	2.45	0.38	1.52	0.93	1.78	0.68	0.85	0.78

Drift Calculation

THD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	2.4E+00	899.0E-03	1.4E+00	2.1E+00	3.1E+00	1.7E+00	1.6E+00	2.3E+00
12	-	-3.1E+00	825.0E-03	-1.9E+00	646.0E-03	219.0E-03	2.4E+00	2.1E+00	1.2E+00
13	-	1.8E+00	-62.0E-03	-217.0E-03	1.4E+00	320.0E-03	1.6E+00	1.7E+00	1.2E+00
14	-	-1.1E+00	295.0E-03	1.2E+00	786.0E-03	689.0E-03	1.1E+00	1.5E+00	1.1E+00
15	-	-642.0E-03	1.1E+00	54.0E-03	1.1E+00	-1.4E+00	902.0E-03	386.0E-03	1.2E+00
Average	-	-127.4E-03	602.0E-03	105.4E-03	1.2E+00	597.4E-03	1.5E+00	1.5E+00	1.4E+00
Sigma	-	2.0E+00	418.7E-03	1.2E+00	514.4E-03	1.5E+00	532.4E-03	580.3E-03	437.6E-03

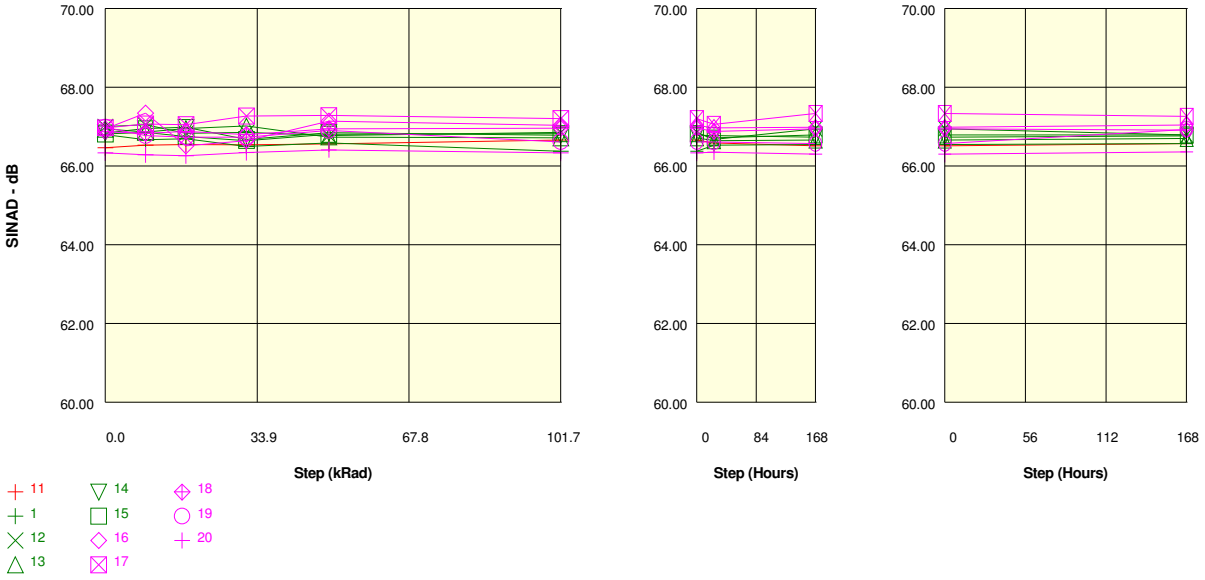
Measurements

THD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	-79.71	-78.84	-78.93	-78.66	-77.80	-79.85	-78.74	-77.62	-78.26
OFF samples									
16	-82.01	-82.49	-81.89	-82.20	-81.52	-82.25	-82.24	-82.14	-81.26
17	-82.96	-83.11	-83.01	-83.25	-83.15	-82.53	-82.63	-82.24	-82.31
18	-83.13	-82.57	-83.96	-83.93	-83.13	-84.35	-82.88	-83.41	-82.81
19	-82.58	-78.69	-78.04	-77.53	-79.39	-78.73	-78.47	-77.73	-80.25
20	-76.93	-76.73	-76.43	-76.73	-77.25	-76.94	-77.39	-76.56	-76.83
Statistics									
Min	-83.13	-83.11	-83.96	-83.93	-83.15	-84.35	-82.88	-83.41	-82.81
Max	-76.93	-76.73	-76.43	-76.73	-77.25	-76.94	-77.39	-76.56	-76.83
Average	-81.52	-80.72	-80.66	-80.73	-80.89	-80.96	-80.72	-80.41	-80.69
Sigma	2.33	2.54	2.92	3.00	2.28	2.71	2.31	2.73	2.12

Drift Calculation

THD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	-484.0E-03	121.0E-03	-190.0E-03	486.0E-03	-239.0E-03	-232.0E-03	-136.0E-03	750.0E-03
17	-	-145.0E-03	-47.0E-03	-288.0E-03	-184.0E-03	430.0E-03	332.0E-03	723.0E-03	649.0E-03
18	-	561.0E-03	-828.0E-03	-804.0E-03	-2.0E-03	-1.2E+00	246.0E-03	-278.0E-03	321.0E-03
19	-	3.9E+00	4.5E+00	5.1E+00	3.2E+00	3.8E+00	4.1E+00	4.9E+00	2.3E+00
20	-	194.0E-03	496.0E-03	195.0E-03	-320.0E-03	-14.0E-03	-466.0E-03	370.0E-03	97.0E-03
Average	-	803.4E-03	857.6E-03	793.2E-03	634.8E-03	560.2E-03	798.0E-03	1.1E+00	830.2E-03
Sigma	-	1.6E+00	1.9E+00	2.2E+00	1.3E+00	1.7E+00	1.7E+00	1.9E+00	787.1E-03

Parameter : Signal to noise and distortion ratio : SINAD
Test conditions : Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS
Unit : dB
No spec limit specified.



Measurements

SINAD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	66.47	66.53	66.55	66.54	66.56	66.66	66.59	66.51	66.57
ON samples									
1	66.80	66.67	66.70	66.50	66.58	66.38	66.53	66.55	66.57
12	67.00	67.05	66.83	66.85	66.77	66.85	66.68	66.95	66.79
13	66.94	66.86	66.95	67.01	66.74	66.71	66.65	66.66	66.70
14	66.84	66.95	66.98	66.67	66.85	66.78	66.77	66.73	66.76
15	66.81	66.86	66.75	66.65	66.81	66.82	66.71	66.79	66.79
Statistics									
Min	66.80	66.67	66.70	66.50	66.58	66.38	66.53	66.55	66.57
Max	67.00	67.05	66.98	67.01	66.85	66.85	66.77	66.95	66.79
Average	66.88	66.88	66.84	66.74	66.75	66.71	66.67	66.74	66.72
Sigma	0.08	0.12	0.11	0.18	0.09	0.17	0.08	0.13	0.08

Drift Calculation

SINAD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-129.5E-03	-102.6E-03	-297.8E-03	-215.1E-03	-421.2E-03	-268.8E-03	-253.2E-03	-231.3E-03
12	-	48.8E-03	-165.0E-03	-146.9E-03	-223.0E-03	-144.5E-03	-321.3E-03	-50.6E-03	-206.6E-03
13	-	-77.9E-03	13.2E-03	75.2E-03	-202.9E-03	-224.3E-03	-292.8E-03	-277.2E-03	-240.2E-03
14	-	108.6E-03	140.8E-03	-169.3E-03	5.5E-03	-59.4E-03	-67.3E-03	-107.9E-03	-81.6E-03
15	-	45.3E-03	-60.8E-03	-165.4E-03	-7.3E-03	9.4E-03	-99.1E-03	-20.5E-03	-20.5E-03
Average	-	-928.6E-06	-34.9E-03	-140.8E-03	-128.6E-03	-168.0E-03	-209.9E-03	-141.9E-03	-156.1E-03
Sigma	-	88.4E-03	105.3E-03	120.6E-03	104.5E-03	149.1E-03	105.2E-03	104.8E-03	88.5E-03

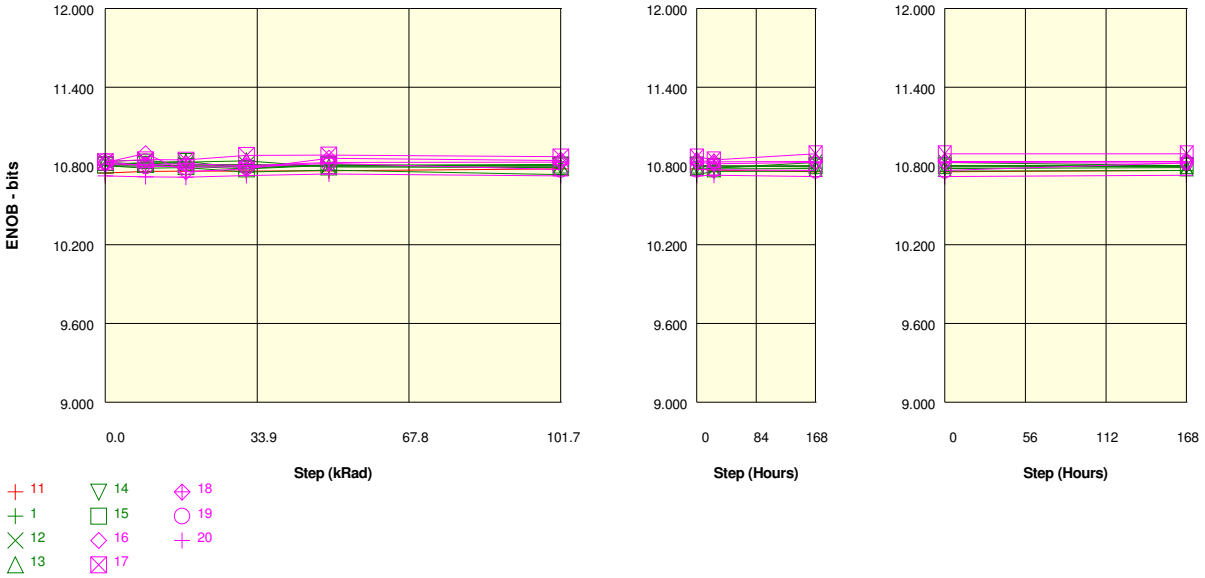
Measurements

SINAD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	66.47	66.53	66.55	66.54	66.56	66.66	66.59	66.51	66.57
OFF samples									
16	66.94	67.34	66.51	66.64	67.14	67.03	66.97	66.98	67.04
17	66.97	67.07	67.05	67.27	67.28	67.20	67.06	67.33	67.26
18	66.87	66.83	66.88	66.80	66.95	66.96	66.88	66.95	66.91
19	66.99	66.77	66.73	66.74	66.90	66.61	66.61	66.57	66.93
20	66.33	66.29	66.26	66.34	66.41	66.33	66.35	66.30	66.36
Statistics									
Min	66.33	66.29	66.26	66.34	66.41	66.33	66.35	66.30	66.36
Max	66.99	67.34	67.05	67.27	67.28	67.20	67.06	67.33	67.26
Average	66.82	66.86	66.69	66.76	66.94	66.83	66.78	66.83	66.90
Sigma	0.25	0.35	0.28	0.30	0.30	0.31	0.26	0.36	0.30

Drift Calculation

SINAD	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	399.2E-03	-431.7E-03	-299.7E-03	193.7E-03	91.4E-03	31.1E-03	40.1E-03	99.7E-03
17	-	95.3E-03	76.5E-03	296.1E-03	308.9E-03	229.7E-03	88.7E-03	361.6E-03	288.7E-03
18	-	-40.4E-03	11.0E-03	-73.8E-03	75.2E-03	85.3E-03	9.6E-03	73.8E-03	37.9E-03
19	-	-215.1E-03	-254.7E-03	-249.4E-03	-83.8E-03	-374.6E-03	-378.9E-03	-419.4E-03	-53.8E-03
20	-	-47.3E-03	-73.6E-03	9.0E-03	78.4E-03	-3.3E-03	21.2E-03	-35.4E-03	27.0E-03
Average	-	38.3E-03	-134.5E-03	-63.6E-03	114.5E-03	5.7E-03	-45.6E-03	4.1E-03	79.9E-03
Sigma	-	205.5E-03	185.6E-03	212.1E-03	131.3E-03	204.2E-03	168.8E-03	251.0E-03	115.3E-03

Parameter : Effective number of bits : ENOB
Test conditions : Fs = 20Msps. Fin = 15MHz. Vin = -1dBFS
Unit : bits
No spec limit specified.



Measurements

ENOB	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	10.749	10.759	10.762	10.761	10.765	10.780	10.769	10.756	10.766
ON samples									
1	10.804	10.782	10.787	10.754	10.768	10.734	10.759	10.762	10.765
12	10.837	10.845	10.809	10.812	10.800	10.813	10.783	10.828	10.802
13	10.827	10.814	10.829	10.840	10.793	10.790	10.778	10.781	10.787
14	10.811	10.829	10.834	10.783	10.812	10.801	10.800	10.793	10.797
15	10.806	10.814	10.796	10.779	10.805	10.808	10.790	10.803	10.803
Statistics									
Min	10.804	10.782	10.787	10.754	10.768	10.734	10.759	10.762	10.765
Max	10.837	10.845	10.834	10.840	10.812	10.813	10.800	10.828	10.803
Average	10.817	10.817	10.811	10.794	10.796	10.789	10.782	10.793	10.791
Sigma	0.013	0.021	0.018	0.029	0.015	0.029	0.013	0.022	0.014

Drift Calculation

ENOB	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
ON samples									
1	-	-21.5E-03	-17.1E-03	-49.5E-03	-35.7E-03	-70.0E-03	-44.7E-03	-42.1E-03	-38.4E-03
12	-	8.1E-03	-27.4E-03	-24.4E-03	-37.0E-03	-24.0E-03	-53.4E-03	-8.4E-03	-34.3E-03
13	-	-12.9E-03	2.2E-03	12.5E-03	-33.7E-03	-37.3E-03	-48.6E-03	-46.0E-03	-39.9E-03
14	-	18.0E-03	23.4E-03	-28.1E-03	907.0E-06	-9.9E-03	-11.2E-03	-17.9E-03	-13.6E-03
15	-	7.5E-03	-10.1E-03	-27.5E-03	-1.2E-03	1.6E-03	-16.5E-03	-3.4E-03	-3.4E-03
Average	-	-154.4E-06	-5.8E-03	-23.4E-03	-21.4E-03	-27.9E-03	-34.9E-03	-23.6E-03	-25.9E-03
Sigma	-	14.7E-03	17.5E-03	20.0E-03	17.4E-03	24.8E-03	17.5E-03	17.4E-03	14.7E-03

Measurements

ENOB	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
11_REF	10.749	10.759	10.762	10.761	10.765	10.780	10.769	10.756	10.766
OFF samples									
16	10.828	10.894	10.756	10.778	10.860	10.843	10.833	10.834	10.834
17	10.833	10.848	10.845	10.882	10.884	10.871	10.847	10.893	10.893
18	10.816	10.809	10.818	10.804	10.829	10.830	10.818	10.828	10.822
19	10.835	10.799	10.793	10.794	10.821	10.773	10.772	10.765	10.826
20	10.727	10.719	10.714	10.728	10.740	10.726	10.730	10.721	10.731
Statistics									
Min	10.727	10.719	10.714	10.728	10.740	10.726	10.730	10.721	10.731
Max	10.835	10.894	10.845	10.882	10.884	10.871	10.847	10.893	10.893
Average	10.808	10.814	10.785	10.797	10.827	10.809	10.800	10.808	10.821
Sigma	0.041	0.058	0.046	0.050	0.049	0.052	0.043	0.060	0.052

Drift Calculation

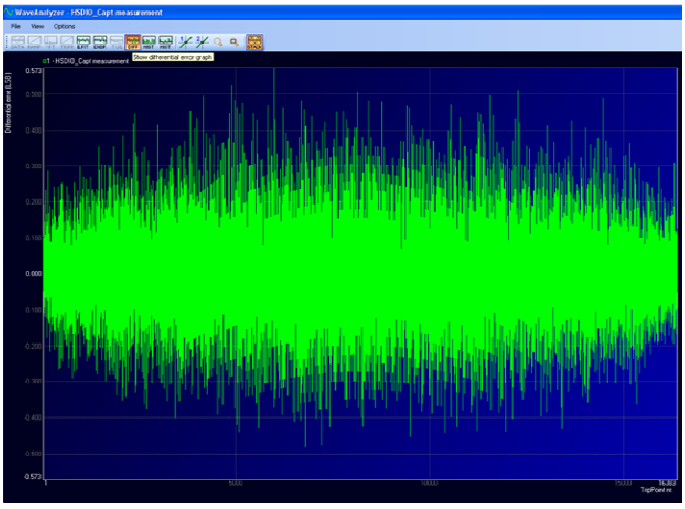
ENOB	0 kRad	9 kRad	18 kRad	31.5 kRad	49.9 kRad	101.7 kRad	24 Hours	168 Hours	168 Hours
OFF samples									
16	-	66.3E-03	-71.7E-03	-49.8E-03	32.2E-03	15.2E-03	5.2E-03	6.7E-03	6.7E-03
17	-	15.8E-03	12.7E-03	49.2E-03	51.3E-03	38.2E-03	14.7E-03	60.1E-03	60.1E-03
18	-	-6.7E-03	1.8E-03	-12.3E-03	12.5E-03	14.2E-03	1.6E-03	12.3E-03	6.3E-03
19	-	-35.7E-03	-42.3E-03	-41.4E-03	-13.9E-03	-62.2E-03	-62.9E-03	-69.7E-03	-8.9E-03
20	-	-7.9E-03	-12.2E-03	1.5E-03	13.0E-03	-556.0E-06	3.5E-03	-5.9E-03	4.5E-03
Average	-	6.4E-03	-22.3E-03	-10.6E-03	19.0E-03	942.8E-06	-7.6E-03	687.8E-06	13.7E-03
Sigma	-	34.1E-03	30.8E-03	35.2E-03	21.8E-03	33.9E-03	28.0E-03	41.7E-03	23.9E-03

Appendix 1: Plots Comparison

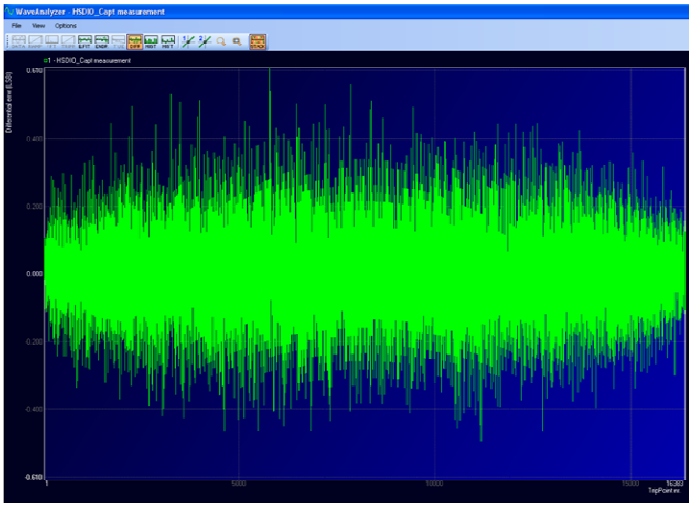
DNL SN1 part plots comparison for the following steps:

- Initial measurement
- Last radiation step: 100 kRad
- After 168h annealing @ Room temperature
- After 168h annealing @ 100 °C temperature

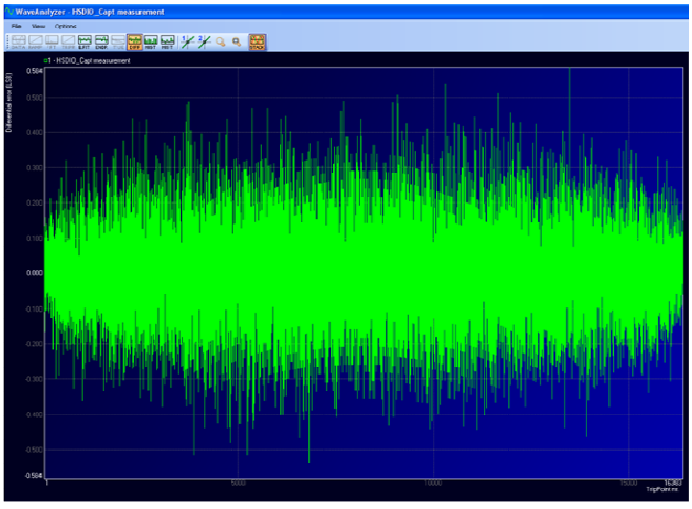
DNL – SN1 - Init



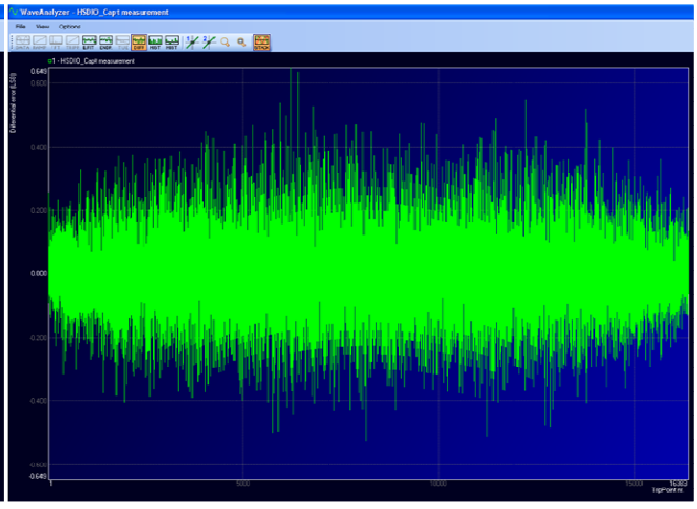
DNL – SN1 – 100 kRad



DNL – SN1 – Annealing 168h Room



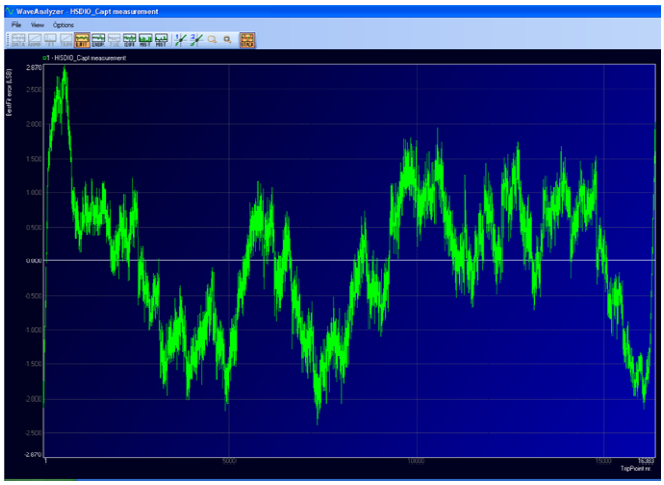
DNL – SN1 – Annealing 168h 100°C



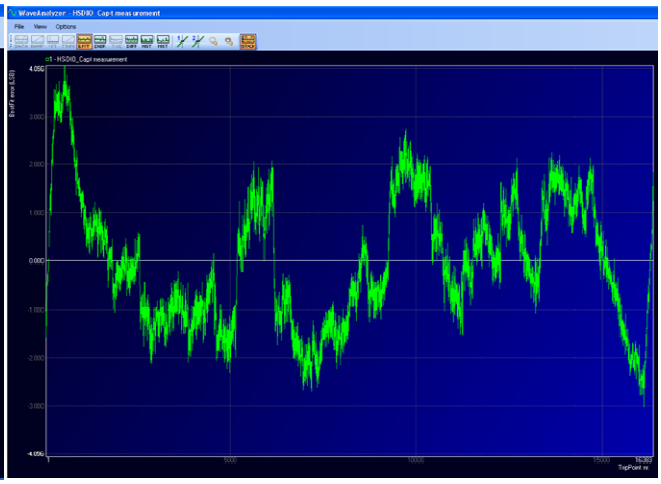
INL SN1 part plots comparison for the following steps:

- Initial measurement
- Last radiation step: 100 kRad
- After 168h annealing @ Room temperature
- After 168h annealing @ 100 °C temperature

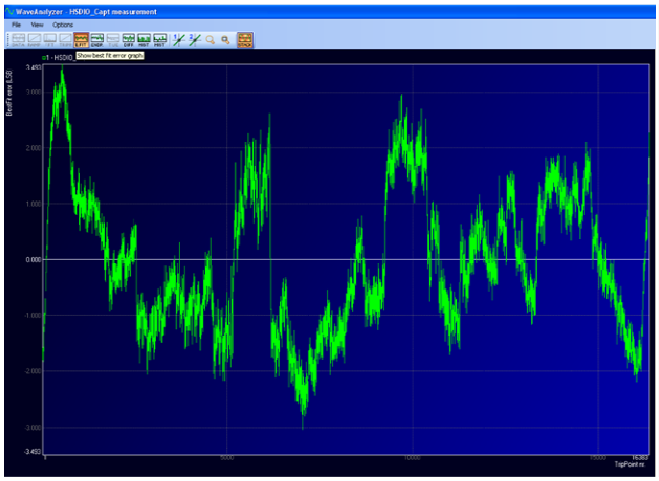
INL – SN1 - Init



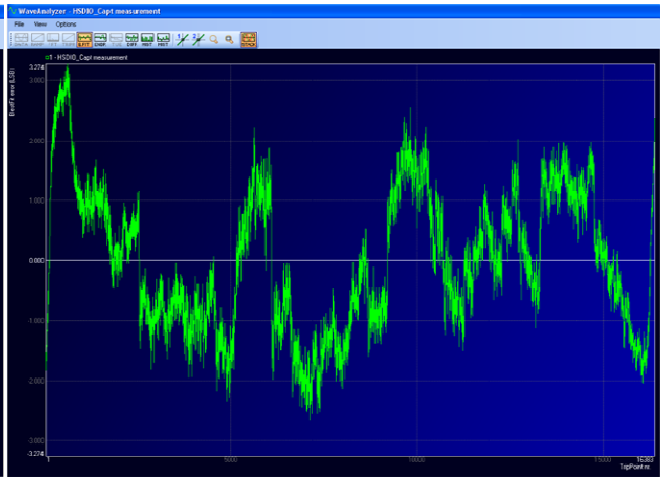
INL – SN1 – 100 kRad



INL – SN1 – Annealing 168h Room



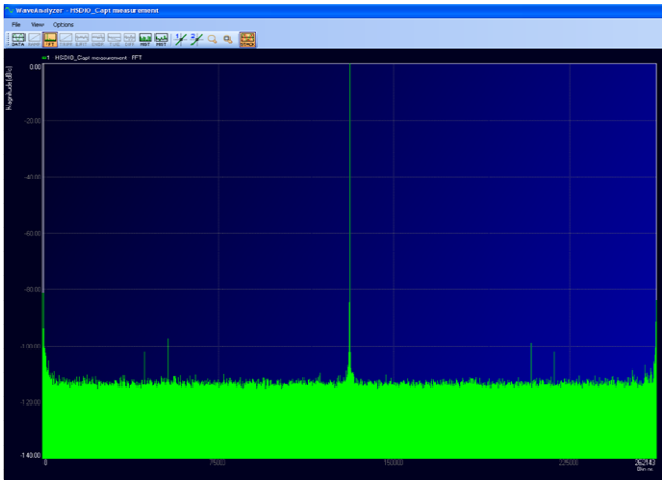
INL – SN1 – Annealing 168h 100°C



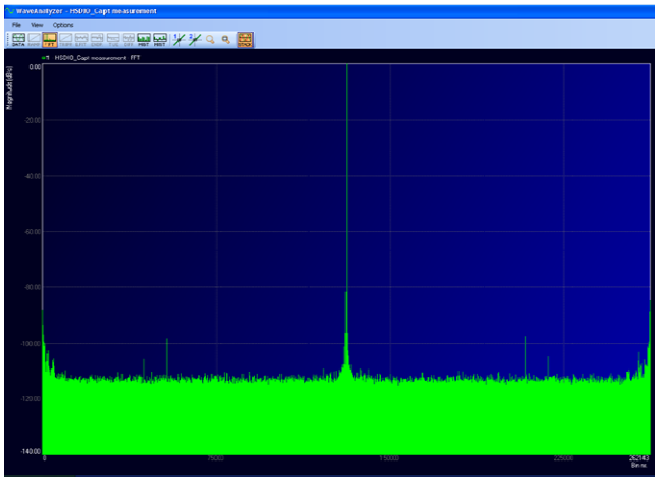
Dynamic tests SN1 part plots comparison for the following steps (SINAD, THD, SFDR, SNR etc.):

- Initial measurement
- Last radiation step: 100 kRad
- After 168h annealing @ Room temperature
- After 168h annealing @ 100 °C temperature

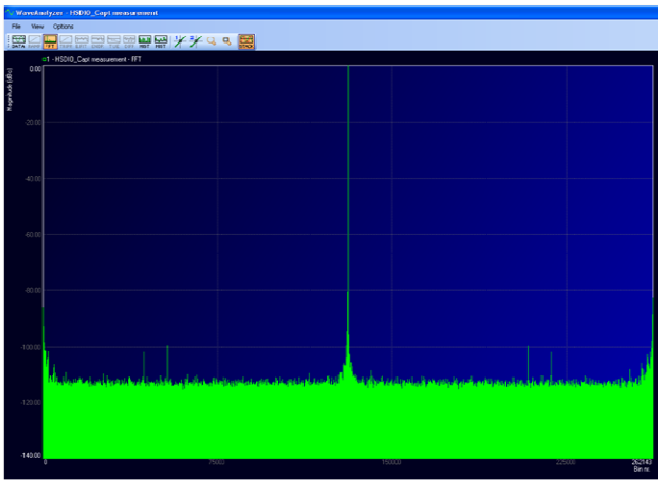
Dynamic Tests – SN1 - Init



Dynamic Tests – SN1 – 100 kRad



Dynamic Tests – SN1 – Annealing 168h Room



Dynamic Tests – SN1 – Annealing 168h 100°C