Radiation Report

SN55LVTA4-SEP Total Ionizing Dose (TID) Report

ABSTRACT

This report covers the radiation characterization results of the SN55LVTA4-SEP, radiation tolerant high-speed differential line driver. The study was done to determine Total Ionizing Dose (TID) effects under high dose rate (HDR) and low dose rate (LDR) up to 30krad(Si) as a one time characterization. The results show that all samples passed within the specified limits up to 30krad(Si). It was determined that the device did not exhibit Enhanced Low Dose Radiation Sensitivity (ELDRS). The data shows that HDR produces the worst-case parametric shifts and therefore will be used for Radiation Lot Acceptance Testing (RLAT). RLAT will be performed using 5 units at a dose level of 30krad(Si) for future wafer lots per MIL-STD-883 TM 1019. All future wafer lots will be tested under the same conditions. HDR TID response is the worst case. TID HDR characterization was performed per TM 1019.

The SN55LVTA4-SEP is packaged in a space enhanced plastic package for low outgassing characteristics and is Single Event Latch-Up (SEL) immune up to 50MeV-cm^2/mg, which makes the device an option for low Earth orbit space applications. Single Event Transient (SET) data is also provided in the Single Event Effects Radiation Report.

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Trademarks

1 Device Information

The SN55LVTA4-SEP device is a differential line driver that implements the electrical characteristics of low voltage differential signaling (LVDS) with a 3.3V supply. This driver delivers a minimum differential output voltage magnitude of 247mV into a 100Ω load when enabled.

1.1 Device Details

Table 1-1 lists the device information used for TID HDR and LDR characterization and qualification.

Table 1-1. Device and Exposure Details

TID HDR/LDR Details: Up To 30krad(Si)	
TI Device Number	SN55LVTA4-SEP
VID Number	V62/25605
Package	16-pin D(SOIC)
Technology	LIN3B
Die Lot Number	4045683FFB
A/T Lot Number and Date Code	4892754ML4 / 4CC3E9K
Quantity Tested	20 irradiated devices + 2 control
Lot Accept or Reject	Devices passed 30krad(Si)
HDR Radiation Facility	Texas Instruments CLAB in Dallas, Texas
LDR Radiation Facility	VPT in Chelmsford, Massachusetts
HDR Dose Level	10krad(Si), 20krad(Si), 30krad(Si)
HDR Dose Rate	169.21rad(Si)/s ionizing radiation
LDR Dose Level	10krad(Si), 20krad(Si), 30krad(Si)
LDR Dose Rate	8.21mrad(Si)/s ionizing radiation
HDR Radiation Source	Gammacell 220 Excel (GC-220E) Co-60
LDR Radiation Source	Broad Beam facility consisting of a 16' x 12' radiation vault housing a cobalt-60 gamma beam irradiator
Irradiation Temperature	Ambient, room temperature

2 Total Dose Test Setup

2.1 Test Overview

The SN55LVTA4-SEP samples were irradiated at a high dose rate of 169.21rad(Si)/s up to 30krad(Si) and then put through full electrical parametric testing on the production Automated Test Equipment (ATE). Additionally, other SN55LVTA4-SEP samples were irradiated at a low dose rate of 8.21mrad(Si)/s up to 30krad(Si) and then put through full electrical parametric testing on the production Automated Test Equipment (ATE). The samples were functional and passed all electrical parametric tests with readings within data sheet electrical specification limits.

2.2 Test Description and Facilities

The SN55LVTA4-SEP LDR exposure was performed on biased devices in a Co-60 gamma cell at VPT testing facilities in Chelmsford, Massachusetts. The un-attenuated dose rate of this cell is 8.21mrad(Si)/s. After exposure, the devices were shipped to Texas Instruments and full post radiation electrical evaluation using Texas Instruments ATE was conducted and the devices were shipped back to VPT within a 72 hour window. ATE test limits are set per data sheet electrical limits based on qualification and characterization data.

The SN55LVTA4-SEP HDR exposure was performed on biased devices in a Co-60 gamma cell at TI facility in Dallas, Texas. The un-attenuated dose rate of this cell is 169.21rads(Si)/s. After exposure, the devices were packed in dry ice (per MIL-STD-883 Method 1019.9 section 3.10) and full post radiation electrical evaluation using Texas Instruments ATE was conducted. ATE test limits are set per data sheet electrical limits based on qualification and characterization data. Post radiation measurements were taken within 30 minutes of removing the devices from the dry ice container. The devices were allowed to reach room temperature prior to electrical post radiation measurements.

2.3 Test Setup Details

The devices were tested in biased conditions as described in the following sections.

2.3.1 Bias Diagram

Figure 2-1 shows the bias conditions for each pin during irradiation.

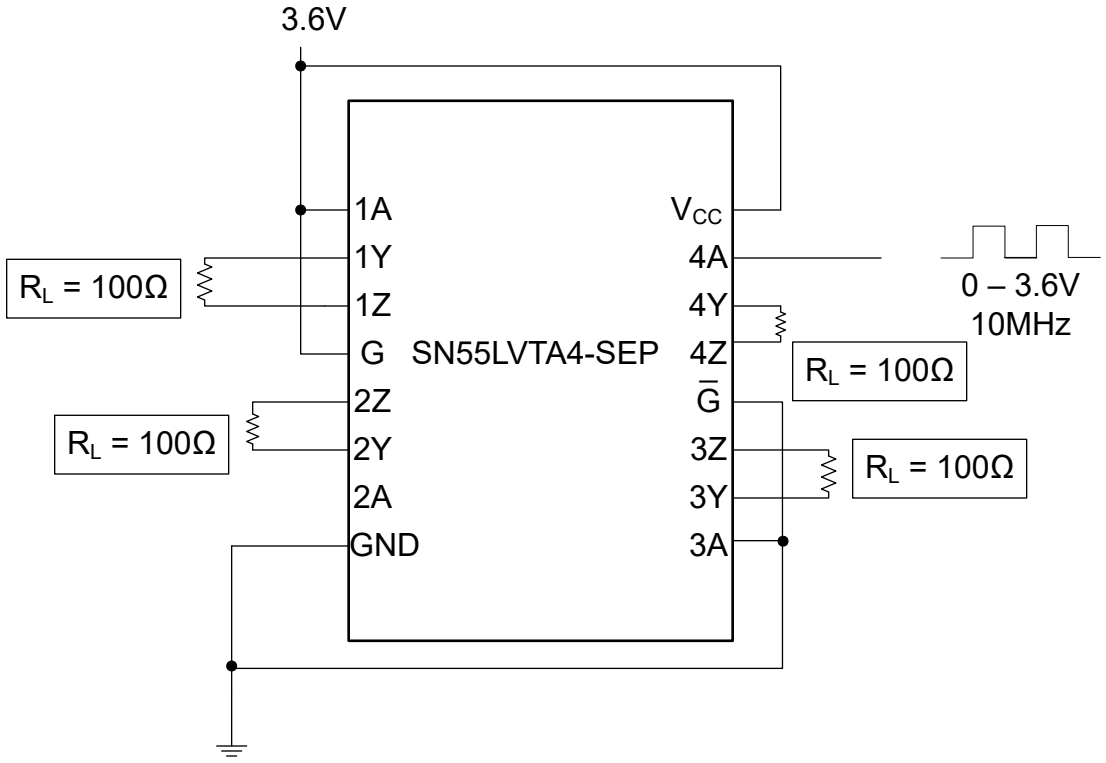


Figure 2-1. SN55LVTA4-SEP Bias Diagram

2.4 Test Configuration and Condition

A step stress (10k, 20k, and 30k) test method was used to determine the TID hardness level. That is, after a predetermined TID level was reached, an electrical test was performed on a given sample of parts to verify that the units are within specified data sheet electrical test limits. The HDR RLAT units were irradiated to 30krad(Si), and parametrically tested on ATE. The units that were irradiated to 30krad(Si) and the data is shown in Appendix B.

Table 2-1 and Table 2-1 list the serialized samples used for TID characterization.

Table 2-1. HDR Device Information

Control Group	HDR Dose Rate = 169.21rad(Si)/s		
Total Samples: 2	Total Samples: 15 Biased		
	Exposure Levels		
0krad (Si)	10krad (Si)	20krad(Si)	30krad(Si)
Biased	Biased	Biased	Biased
1 - 2	3 - 7	8 - 12	13- 17

Table 2-2. LDR Device Information

Control Group	LDR Dose Rate = 8.21mrad(Si)/s		
Total Samples: 2	Total Samples: 5 Biased		
	Exposure Levels		
0krad (Si)	10krad (Si)	20krad(Si)	30krad(Si)
Biased	Biased	Biased	Biased
1 - 2	18 - 22	18 - 22	18- 22

3 TID Characterization Test Results

3.1 TID Characterization Summary Results

The parametric data for the SN55LVTA4-SEP passes up to 30krad(Si) HDR and LDR TID irradiation. The drifts of the electrical parameters through HDR and LDR were within the data sheet limits.

Overall, the SN55LVTA4-SEP showed a strong degree of hardness to HDR and LDR TID irradiation up to 30krad(Si). The measurements taken post-irradiation for each sample set showed a marginal shift for most parameters at each dose level. The parameters that did show a greater degree of change between pre- and post-irradiation were still within the electrical performance characteristics specified in the data sheet electrical parameters. For the data sheet electrical parameters and associated tests, see *SN55LVTA4-SEP Radiation Tolerant Quad Channel High-Speed Differential Line Driver*.

See Appendix B for HDR report up to 30krad(Si).

See Appendix C for LDR report up to 30krad(Si).

An ELDRS study was conducted on the HDR and LDR data and the data is provided in Appendix A of this report.

3.2 Specification Compliance Matrix

Table 3-1. Electrical Parameters Table

Parameter	Test Conditions	V_{CC}	T_A = -55°C to +125°C			Unit	Test Name
			MIN	TYP	MAX		
V_{OD}	Driver differential output voltage, VOC = 1.175V, 1.2V, 1.375V, RL=100Ω	3.0V	257	340	454	mV	VOD
		3.3V	257	340	454		
		3.6V	257	340	454		
$\Delta\|V_{OD}\|$	Change in differential output voltage between logic states, RL = 100Ω	3.0V	-50		50	mV	DVOD_DVOC
		3.3V	-50		50		
		3.6V	-50		50		
$V_{OC(SS)}$	Steady-state common-mode output voltage, RL = 100Ω	3.0V	1.175	1.2	1.375	V	VOC
		3.3V	1.175	1.2	1.375		
		3.6V	1.175	1.2	1.375		
$\Delta V_{OC(SS)}$	Change in steady-state common-mode output voltage, RL = 100Ω	3.0V	-50		50	V	DVOD_DVOC
		3.3V	-50		50		
		3.6V	-50		50		
$I_{O(OFF)}$	Output current with power off, VO = 2.4V	0V	-4		4	µA	IOFF
I_{OZ}	High impedance state output current, VO = 0 or 2.4V, G = 0.8V and $\overline{G}$ = 2V	3.0V	-1		1	µA	IOZ
		3.3V	-1		1		
		3.6V	-1		1		
I_{OS}	Short-circuit output current, Y or Z, VO = 0V	3.0V		-4	24	mA	IOS
		3.3V		-4	24		
		3.6V		-4	24		
I_{OS}	Short-circuit output current, Y and Z, VOD = 0V	3.0V	-12		12	mA	IOS_VOD_0
		3.3V	-12		12		
		3.6V	-12		12		
V_{IH}	High level input voltage (G, $\overline{G}$, A)	3.0V	2			V	VIH_VCC_3p0
		3.3V	2				VIH_VCC_3p3
		3.6V	2				VIH_VCC_3p6
V_{IL}	Low level input voltage (G, $\overline{G}$, A)	3.0V			0.8	V	VIL_VCC_3p0
		3.3V			0.8		VIL_VCC_3p3
		3.6V			0.8		VIL_VCC_3p6
I_{IH}	High level input (G, $\overline{G}$, A), VIH = 3.6V	3.0V		4	20	µA	IIH
		3.3V		4	20		
		3.6V		4	20		
I_{IL}	Low level input (G, $\overline{G}$, A), VIL = 0V	3.0V		0.1	10	µA	IIL
		3.3V		0.1	10		
		3.6V		0.1	10		
I_{CC}	Supply current, VI = VCC or GND, No load, enabled	3.0V		9	20	mA	ICC_No_Load
		3.3V		9	20		
		3.6V		9	20		

Table 3-1. Electrical Parameters Table (continued)

Parameter	Test Conditions	V_{CC}	T_A = -55°C to +125°C			Unit	Test Name
			MIN	TYP	MAX		
I_{CC}	Supply current, VI = VCC or GND, No load, disabled Supply current, VI = VCC or GND, RL = 100Ω, enabled	3.0V		25	35	mA	ICC_RL_100
		3.3V		25	35		
		3.6V		25	35		
I_{CC}	Supply current, VI = VCC or GND, No load, disabled	3.0V		0.25	1	mA	ICC_Disabled
		3.3V		0.25	1		
		3.6V		0.25	1		

4 Reference Documents

Texas Instruments total ionizing dose radiation (total dose) test procedure follows the standards put forth in MIL-STD-883 TM 1019. The document can be found at the DLA website.

Appendix A: ELDRS Data

This appendix provides the SN55LVTA4-SEP ELDRS summary. The report shows the comparison of each parameter in HDR and LDR.

The ELDRS calculation done using the standard defined in MIL-STD-883J TM 1019.9. Excerpt from this standard is below:

> Calculate the ratio of the median Δpara at low dose rate to the median Δpara at high dose rate for each irradiation bias group at each total dose level. If this ratio exceeds 1.5 for any of the most sensitive parameters then the part is considered to be ELDRS susceptible. This test does not apply to parameters which exhibit changes that are within experimental error or values are below the pre-irradiation electrical specification limits at low dose rate at the specification dose.

Based on the standard defined in MIL-STD-883J TM 1019.9, the device is determined to be ELDRS free, as all parameters stayed within the pre-irradiation electrical specification limits at low dose rate at the specification dose of 30krad(Si). Refer to Appendix C for LDR report up to 30krad(Si).

				ΔMEDIAN HDR			ΔMEDIAN LDR			ΔMEDIAN LDR TO ΔMEDIAN HDR RATIO			Experimental Error = Median LDR % DELTA FROM LIMIT RANGE			Results
Parameter	Units	Lower Limit	Upper Limit	10krad	20krad	30krad	10krad	20krad	30krad	10krad	20krad	30krad	10krad	20krad	30krad	
DVOD_DVOC	mV	-50.000	50.000	0.000	-0.001	0.000	-0.002	0.001	0.002	#DIV/0!	1.000	#DIV/0!	0.00%	0.00%	0.00%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
ICC_Disabled	mA	0.010	1.000	-0.028	-0.025	-0.002	-0.078	-0.028	-0.029	2.786	1.120	14.500	7.88%	2.83%	2.93%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
ICC_No_Load	mA	0.100	20.000	-0.030	-0.050	-0.020	0.380	0.380	0.370	12.667	7.600	18.500	1.91%	1.91%	1.86%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
ICC_RL_100	mA	2.000	35.000	0.060	0.050	0.080	0.460	0.450	0.360	7.667	9.000	4.500	1.39%	1.36%	1.09%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
IIH	µA	-0.100	20.000	0.004	0.036	0.086	0.003	0.007	0.015	0.750	0.194	0.174	0.01%	0.03%	0.07%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
IIL	µA	-0.100	10.000	0.000	0.001	0.023	0.003	0.003	0.002	#DIV/0!	3.000	0.087	0.03%	0.03%	0.02%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
IOFF	µA	-4.000	4.000	0.001	0.002	2.035	-0.003	0.003	-0.006	3.000	1.500	0.003	0.04%	0.04%	0.08%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
IOS	mA	-24.000	24.000	0.005	0.012	0.003	-0.039	-0.035	-0.031	7.800	2.917	10.333	0.08%	0.07%	0.06%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
IOS_VOD_0	mA	-12.000	12.000	-0.001	-0.007	-0.005	0.028	0.023	0.016	28.000	3.286	3.200	0.12%	0.10%	0.07%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
IOZ	µA	-1.000	1.000	0.000	-0.008	0.001	0.000	-0.007	-0.007	0.000	0.875	7.000	0.00%	0.35%	0.35%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VIH_VCC_3p0	V	1.190	1.360	0.009	0.000	0.000	-0.010	-0.010	-0.010	1.111	#DIV/0!	#DIV/0!	5.88%	5.88%	5.88%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VIH_VCC_3p3	V	1.280	1.470	0.000	0.000	0.000	-0.010	-0.010	-0.010	#DIV/0!	#DIV/0!	#DIV/0!	5.26%	5.26%	5.26%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VIH_VCC_3p6	V	1.380	1.580	0.009	0.000	0.000	-0.010	-0.010	-0.010	1.111	#DIV/0!	#DIV/0!	5.00%	5.00%	5.00%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VIL_VCC_3p0	V	1.150	1.350	0.020	-0.010	0.010	0.000	0.000	-0.010	0.000	0.000	1.000	0.00%	0.00%	5.00%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VIL_VCC_3p3	V	1.250	1.430	-0.010	-0.010	-0.001	0.000	0.000	-0.010	0.000	0.000	10.000	0.00%	0.00%	5.56%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VIL_VCC_3p6	V	1.300	1.380	-0.010	-0.010	-0.010	0.000	0.000	-0.010	0.000	0.000	1.000	0.00%	0.00%	12.50%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VOC	V	1.130	1.380	-0.001	0.001	-0.002	0.000	0.001	0.003	0.000	1.000	1.500	0.00%	0.40%	1.20%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose
VOD	mV	257.000	454.000	-26.871	-18.282	-25.407	-21.655	-20.609	8.175	0.806	1.127	0.322	10.99%	10.46%	4.15%	No ELDRS as per MIL-STD-883J TM 1019.9, due to values below pre-irradiation spec limits at LDR at specification dose

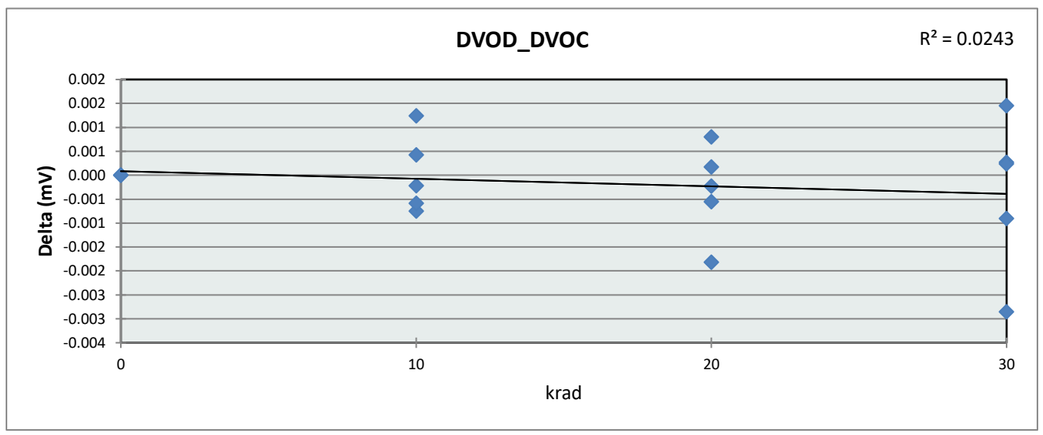
Appendix B: HDR TID Report Data

This appendix provides the SN55LVTA4-SEP TID HDR report. The report shows the variation for each parameter up to 30krad(Si).

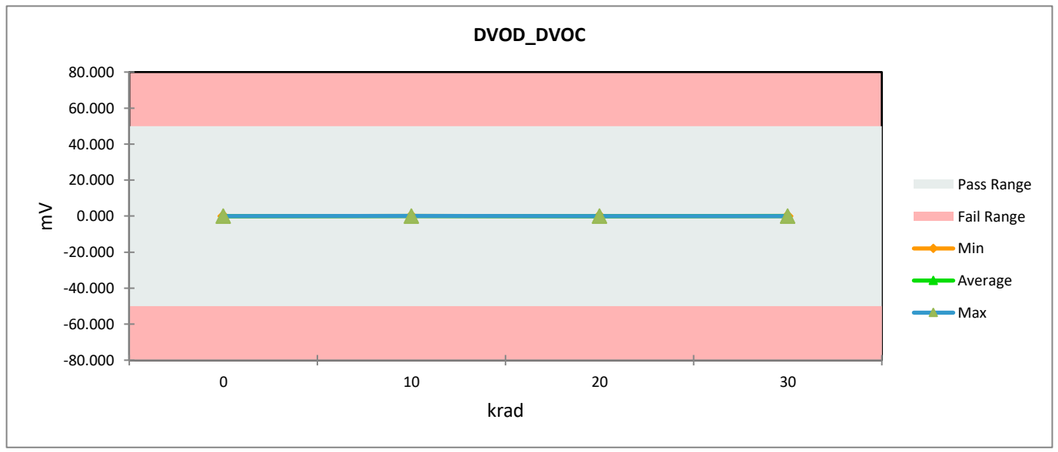
TID Report
SN55LVTA4-SEP

	DVOD_DVOC
Units	mV
Max Limit	50
Min Limit	-50

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-0.010	-0.010	0.000	0.00%	0.00%
0	2	-0.010	-0.010	0.000	0.00%	0.00%
10	3	-0.010	-0.009	0.001	-12.61%	0.00%
10	4	-0.010	-0.009	0.000	-4.43%	0.00%
10	5	-0.009	-0.009	0.000	2.57%	0.00%
10	6	-0.009	-0.010	-0.001	8.22%	0.00%
10	7	-0.009	-0.010	-0.001	6.44%	0.00%
20	8	-0.009	-0.011	-0.002	19.61%	0.00%
20	9	-0.009	-0.009	0.000	-1.90%	0.00%
20	10	-0.009	-0.010	-0.001	6.05%	0.00%
20	11	-0.009	-0.009	0.001	-8.49%	0.00%
20	12	-0.010	-0.011	0.000	2.21%	0.00%
30	13	-0.010	-0.013	-0.003	29.18%	0.00%
30	14	-0.010	-0.009	0.001	-14.42%	0.00%
30	15	-0.010	-0.009	0.000	-2.81%	0.00%
30	16	-0.009	-0.010	-0.001	9.74%	0.00%
30	17	-0.009	-0.009	0.000	-2.58%	0.00%
Max		-0.009	-0.009	0.000	29.18%	0.00%
Average		-0.009	-0.010	0.000	2.16%	0.00%
Min		-0.010	-0.013	-0.002	-14.42%	0.00%
Std Dev		0.000	0.001	0.001	10.86%	0.00%



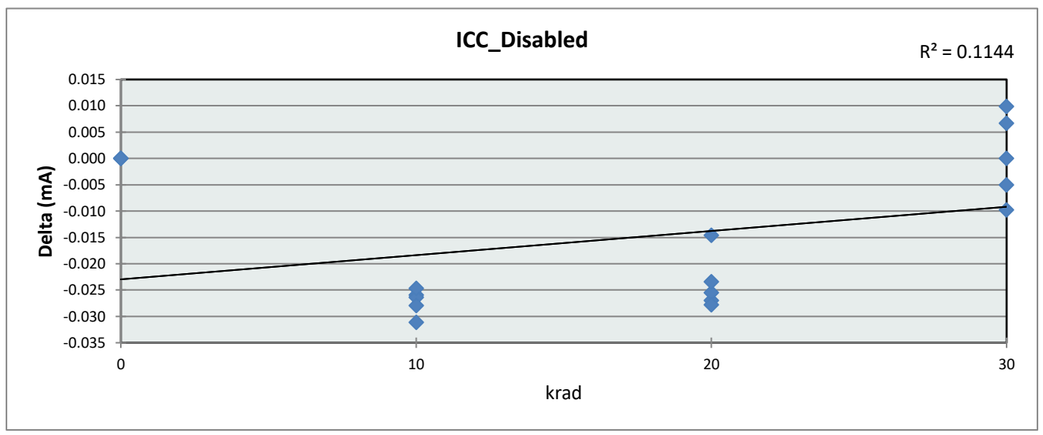
	DVOD_DVOC			
Units	mV			
Max Limit	50			
Min Limit	-50			
krad	0	10	20	30
LL	-50.000	-50.000	-50.000	-50.000
Min	-0.010	-0.011	-0.013	-0.010
Average	-0.009	-0.010	-0.010	-0.010
Max	-0.009	-0.009	-0.009	-0.009
UL	50.000	50.000	50.000	50.000



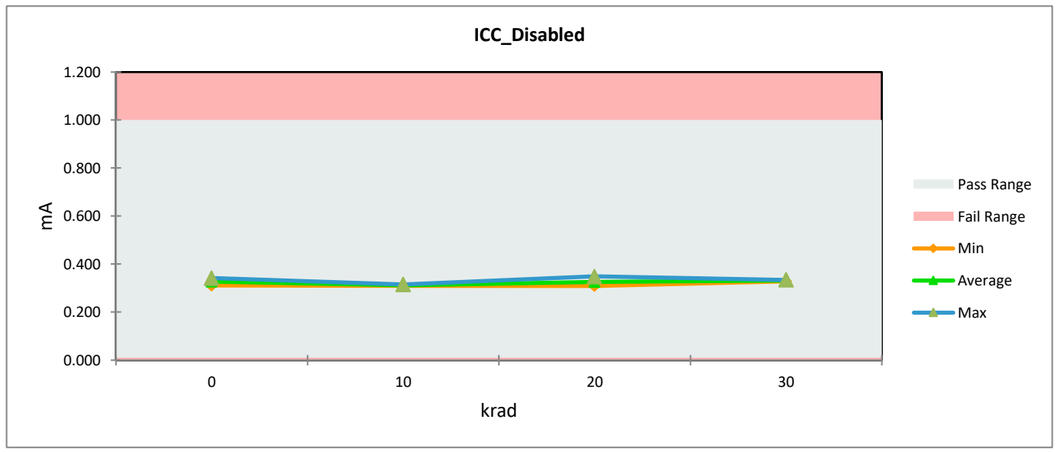
TID Report
SN55LVTA4-SEP

	ICC_Disabled
Units	mA
Max Limit	1
Min Limit	0.01

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.342	0.342	0.000	0.00%	0.00%
0	2	0.342	0.342	0.000	0.00%	0.00%
10	3	0.342	0.316	-0.026	-7.57%	2.62%
10	4	0.342	0.311	-0.031	-9.10%	3.14%
10	5	0.337	0.311	-0.026	-7.83%	2.67%
10	6	0.340	0.315	-0.025	-7.26%	2.49%
10	7	0.340	0.312	-0.028	-8.22%	2.82%
20	8	0.336	0.309	-0.027	-8.03%	2.73%
20	9	0.337	0.312	-0.026	-7.56%	2.58%
20	10	0.331	0.316	-0.015	-4.42%	1.47%
20	11	0.336	0.312	-0.023	-6.97%	2.36%
20	12	0.337	0.309	-0.028	-8.25%	2.81%
30	13	0.334	0.340	0.007	2.01%	0.68%
30	14	0.339	0.349	0.010	2.92%	1.00%
30	15	0.337	0.332	-0.005	-1.48%	0.51%
30	16	0.338	0.329	-0.010	-2.90%	0.99%
30	17	0.335	0.335	0.000	0.00%	0.00%
Max		0.342	0.349	0.007	2.92%	3.14%
Average		0.338	0.323	-0.015	-4.39%	1.70%
Min		0.331	0.309	-0.022	-9.10%	0.00%
Std Dev		0.003	0.014	0.011	4.14%	1.16%



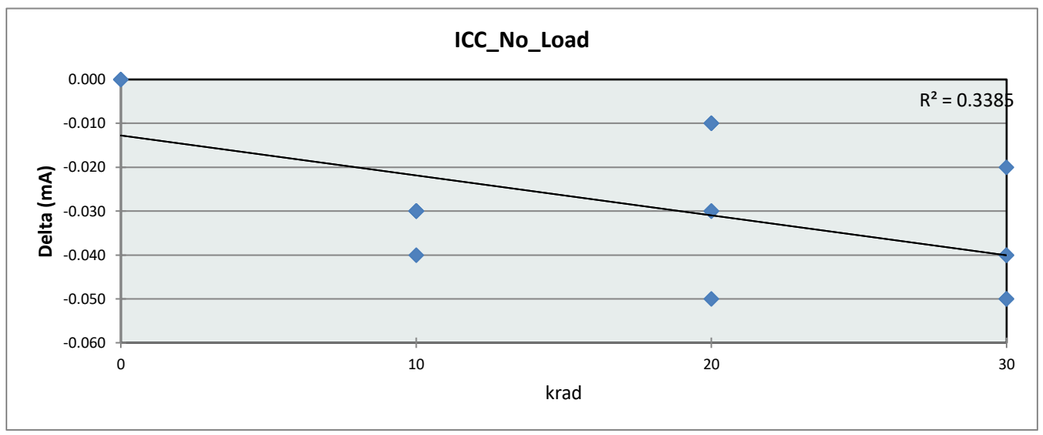
	ICC_Disabled			
Units	mA			
Max Limit	1			
Min Limit	0.01			
krad	0	10	20	30
LL	0.010	0.010	0.010	0.010
Min	0.311	0.309	0.309	0.329
Average	0.328	0.312	0.325	0.332
Max	0.342	0.315	0.349	0.335
UL	1.000	1.000	1.000	1.000



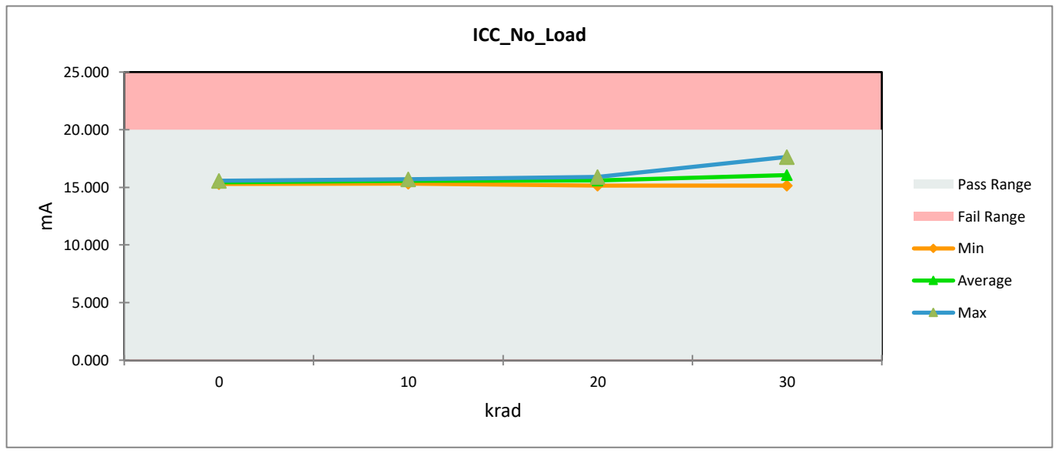
TID Report
SN55LVTA4-SEP

	ICC_No_Load
Units	mA
Max Limit	20
Min Limit	0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	15.330	15.330	0.000	0.00%	0.00%
0	2	15.570	15.570	0.000	0.00%	0.00%
10	3	15.570	15.540	-0.030	-0.19%	0.15%
10	4	15.330	15.300	-0.030	-0.20%	0.15%
10	5	15.630	15.590	-0.040	-0.26%	0.20%
10	6	15.600	15.570	-0.030	-0.19%	0.15%
10	7	15.630	15.600	-0.030	-0.19%	0.15%
20	8	15.330	15.320	-0.010	-0.07%	0.05%
20	9	15.710	15.700	-0.010	-0.06%	0.05%
20	10	15.850	15.820	-0.030	-0.19%	0.15%
20	11	15.380	15.330	-0.050	-0.33%	0.25%
20	12	15.180	15.150	-0.030	-0.20%	0.15%
30	13	15.860	15.840	-0.020	-0.13%	0.10%
30	14	15.930	15.890	-0.040	-0.25%	0.20%
30	15	15.200	15.150	-0.050	-0.33%	0.25%
30	16	15.430	15.390	-0.040	-0.26%	0.20%
30	17	17.690	17.640	-0.050	-0.28%	0.25%
Max		17.690	17.640	-0.050	0.00%	0.25%
Average		15.660	15.631	-0.029	-0.18%	0.14%
Min		15.180	15.150	-0.030	-0.33%	0.00%
Std Dev		0.570	0.565	-0.004	0.10%	0.08%



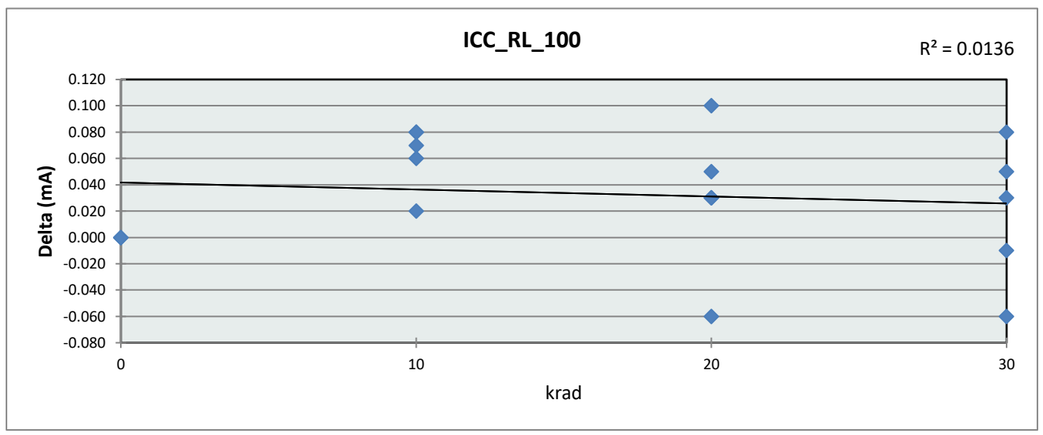
	ICC_No_Load			
Units	mA			
Max Limit	20			
Min Limit	0.1			
krad	0	10	20	30
LL	0.100	0.100	0.100	0.100
Min	15.300	15.320	15.150	15.150
Average	15.435	15.556	15.606	16.060
Max	15.570	15.700	15.890	17.640
UL	20.000	20.000	20.000	20.000



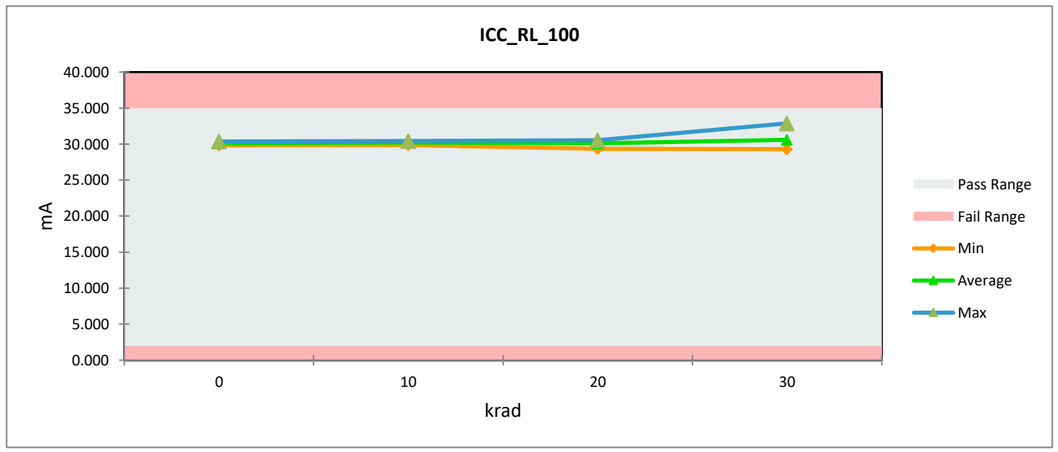
TID Report
SN55LVTA4-SEP

	ICC_RL_100
Units	mA
Max Limit	35
Min Limit	2

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	29.830	29.830	0.000	0.00%	0.00%
0	2	30.280	30.280	0.000	0.00%	0.00%
10	3	30.280	30.360	0.080	0.26%	0.24%
10	4	29.830	29.900	0.070	0.23%	0.21%
10	5	30.080	30.100	0.020	0.07%	0.06%
10	6	30.190	30.250	0.060	0.20%	0.18%
10	7	30.330	30.410	0.080	0.26%	0.24%
20	8	29.810	29.860	0.050	0.17%	0.15%
20	9	30.280	30.380	0.100	0.33%	0.30%
20	10	30.390	30.420	0.030	0.10%	0.09%
20	11	29.800	29.740	-0.060	-0.20%	0.18%
20	12	29.320	29.350	0.030	0.10%	0.09%
30	13	30.380	30.460	0.080	0.26%	0.24%
30	14	30.500	30.530	0.030	0.10%	0.09%
30	15	29.360	29.300	-0.060	-0.20%	0.18%
30	16	29.610	29.600	-0.010	-0.03%	0.03%
30	17	32.830	32.880	0.050	0.15%	0.15%
Max		32.830	32.880	0.050	0.33%	0.30%
Average		30.182	30.215	0.032	0.11%	0.14%
Min		29.320	29.300	-0.020	-0.20%	0.00%
Std Dev		0.772	0.789	0.017	0.16%	0.09%



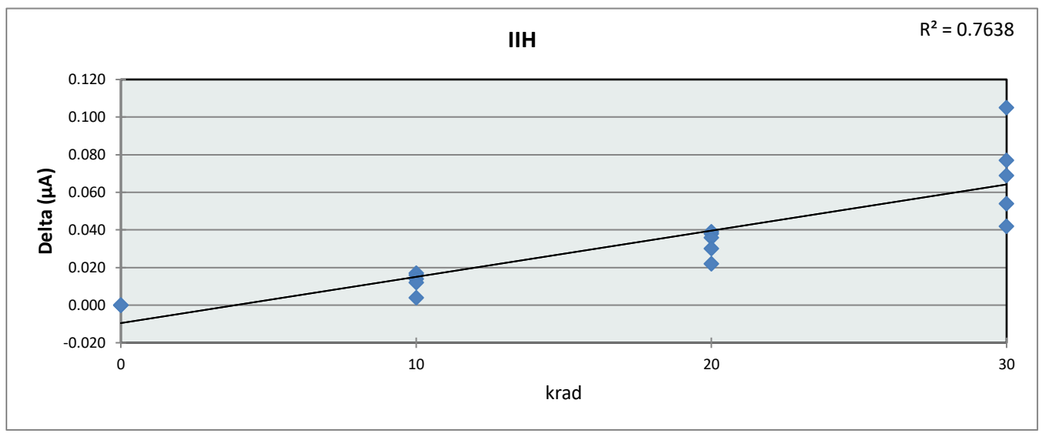
	ICC_RL_100			
Units	mA			
Max Limit	35			
Min Limit	2			
krad	0	10	20	30
LL	2.000	2.000	2.000	2.000
Min	29.830	29.860	29.350	29.300
Average	30.093	30.200	30.100	30.593
Max	30.360	30.410	30.530	32.880
UL	35.000	35.000	35.000	35.000



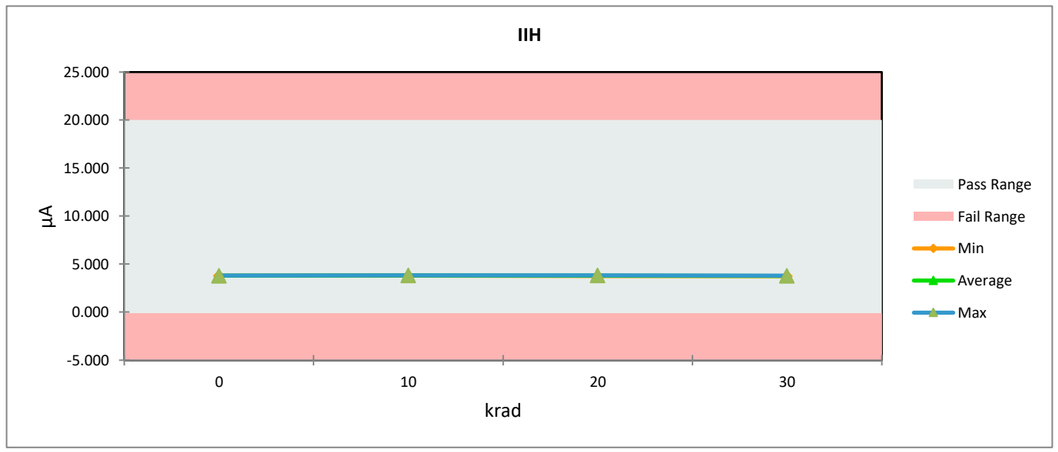
TID Report
SN55LVTA4-SEP

	IIH
Units	µA
Max Limit	20
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	3.786	3.786	0.000	0.00%	0.00%
0	2	3.809	3.809	0.000	0.00%	0.00%
10	3	3.809	3.813	0.004	0.11%	0.02%
10	4	3.786	3.803	0.017	0.45%	0.08%
10	5	3.817	3.833	0.016	0.42%	0.08%
10	6	3.812	3.826	0.014	0.37%	0.07%
10	7	3.788	3.800	0.012	0.32%	0.06%
20	8	3.794	3.832	0.038	1.00%	0.19%
20	9	3.778	3.817	0.039	1.03%	0.19%
20	10	3.758	3.794	0.036	0.96%	0.18%
20	11	3.749	3.771	0.022	0.59%	0.11%
20	12	3.731	3.761	0.030	0.80%	0.15%
30	13	3.728	3.833	0.105	2.82%	0.52%
30	14	3.750	3.827	0.077	2.05%	0.38%
30	15	3.760	3.814	0.054	1.44%	0.27%
30	16	3.717	3.759	0.042	1.13%	0.21%
30	17	3.676	3.745	0.069	1.88%	0.34%
Max		3.817	3.833	0.016	2.82%	0.52%
Average		3.768	3.801	0.034	0.90%	0.17%
Min		3.676	3.745	0.069	0.00%	0.00%
Std Dev		0.039	0.028	-0.011	0.78%	0.14%



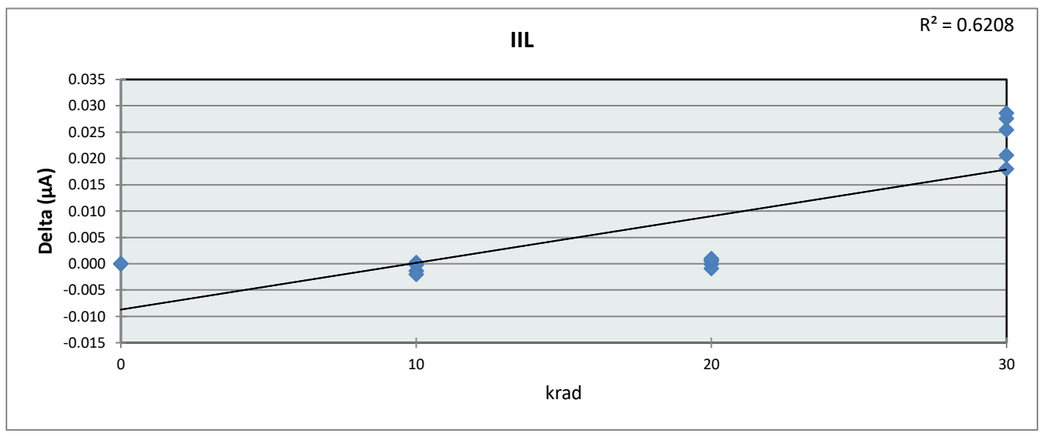
	IIH			
Units	µA			
Max Limit	20			
Min Limit	-0.1			
krad	0	10	20	30
LL	-0.100	-0.100	-0.100	-0.100
Min	3.786	3.800	3.761	3.745
Average	3.803	3.822	3.797	3.773
Max	3.813	3.833	3.833	3.814
UL	20.000	20.000	20.000	20.000



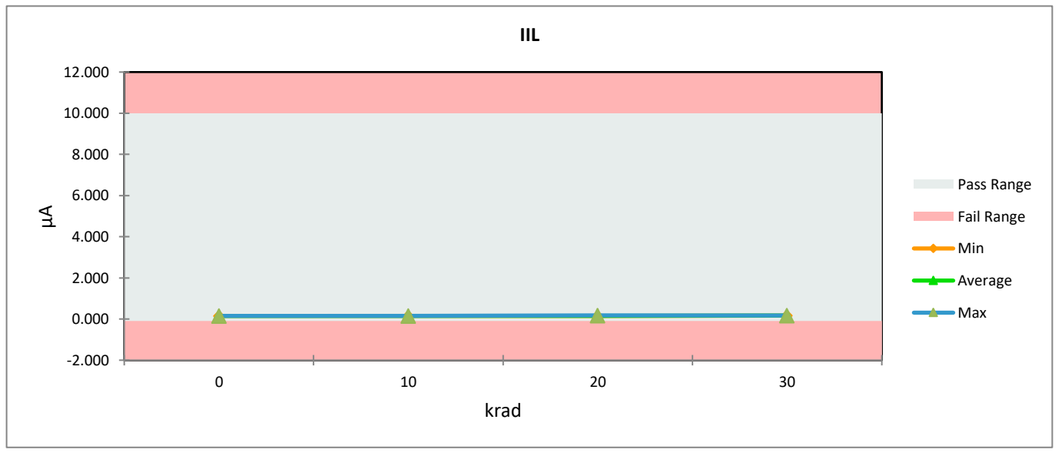
TID Report
SN55LVTA4-SEP

	IIL
Units	µA
Max Limit	10
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.152	0.152	0.000	0.00%	0.00%
0	2	0.151	0.151	0.000	0.00%	0.00%
10	3	0.151	0.151	0.000	0.13%	0.00%
10	4	0.152	0.150	-0.001	-0.86%	0.01%
10	5	0.152	0.152	0.000	-0.13%	0.00%
10	6	0.153	0.153	0.000	0.00%	0.00%
10	7	0.154	0.152	-0.002	-1.30%	0.02%
20	8	0.151	0.151	0.000	-0.07%	0.00%
20	9	0.152	0.151	-0.001	-0.59%	0.01%
20	10	0.149	0.150	0.001	0.34%	0.00%
20	11	0.148	0.148	0.001	0.47%	0.01%
20	12	0.149	0.150	0.001	0.67%	0.01%
30	13	0.149	0.174	0.025	17.09%	0.25%
30	14	0.149	0.177	0.028	18.51%	0.27%
30	15	0.151	0.172	0.021	13.62%	0.20%
30	16	0.147	0.165	0.018	12.22%	0.18%
30	17	0.143	0.171	0.029	20.03%	0.28%
Max		0.154	0.177	0.023	20.03%	0.28%
Average		0.150	0.157	0.007	4.71%	0.07%
Min		0.143	0.148	0.005	-1.30%	0.00%
Std Dev		0.003	0.010	0.007	7.89%	0.11%



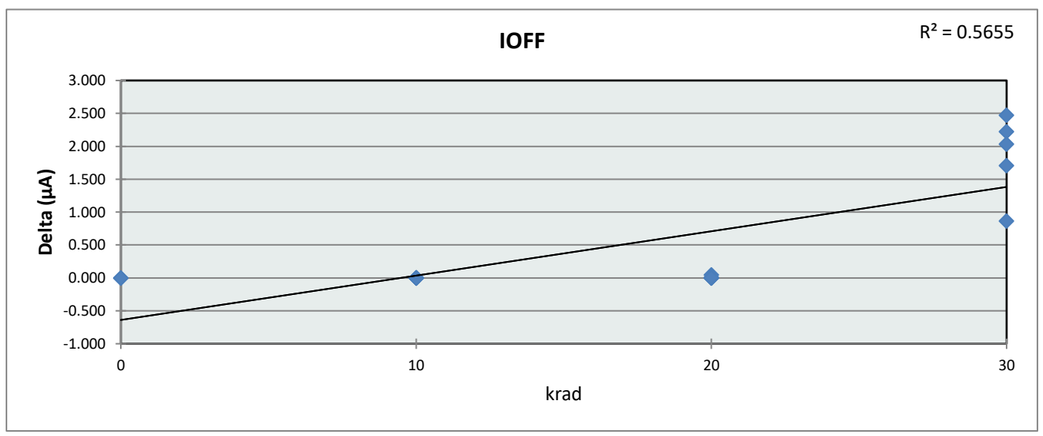
	IIL			
Units	µA			
Max Limit	10			
Min Limit	-0.1			
krad	0	10	20	30
LL	-0.100	-0.100	-0.100	-0.100
Min	0.150	0.151	0.148	0.165
Average	0.151	0.152	0.160	0.170
Max	0.152	0.153	0.177	0.172
UL	10.000	10.000	10.000	10.000



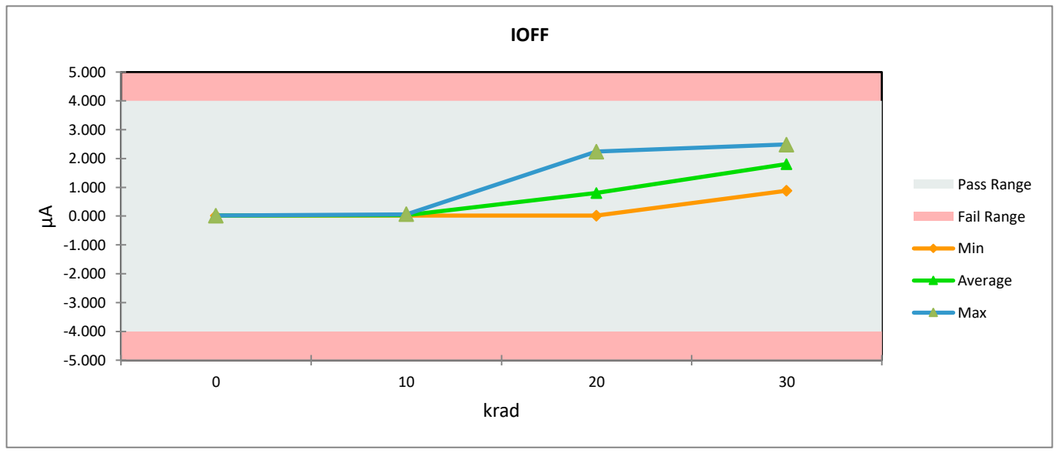
TID Report
SN55LVTA4-SEP

	IOFF
Units	µA
Max Limit	4
Min Limit	-4

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.021	0.021	0.000	0.00%	0.00%
0	2	0.017	0.017	0.000	0.00%	0.00%
10	3	0.017	0.020	0.003	14.78%	0.03%
10	4	0.021	0.021	0.001	2.71%	0.01%
10	5	0.019	0.020	0.001	5.62%	0.01%
10	6	0.020	0.021	0.001	3.43%	0.01%
10	7	0.019	0.020	0.001	6.77%	0.02%
20	8	0.020	0.067	0.047	238.74%	0.59%
20	9	0.020	0.020	0.000	0.60%	0.00%
20	10	0.019	0.022	0.003	15.06%	0.04%
20	11	0.019	0.020	0.001	5.85%	0.01%
20	12	0.020	0.022	0.002	10.29%	0.03%
30	13	0.021	1.729	1.708	7971.90%	21.34%
30	14	0.021	2.242	2.221	10617.02%	27.76%
30	15	0.019	2.055	2.036	10580.87%	25.45%
30	16	0.019	0.882	0.863	4456.82%	10.79%
30	17	0.020	2.489	2.469	12611.95%	30.87%
Max		0.021	2.489	2.468	12611.95%	30.87%
Average		0.020	0.570	0.550	2737.79%	6.88%
Min		0.017	0.017	0.000	0.00%	0.00%
Std Dev		0.001	0.925	0.924	4608.32%	11.56%



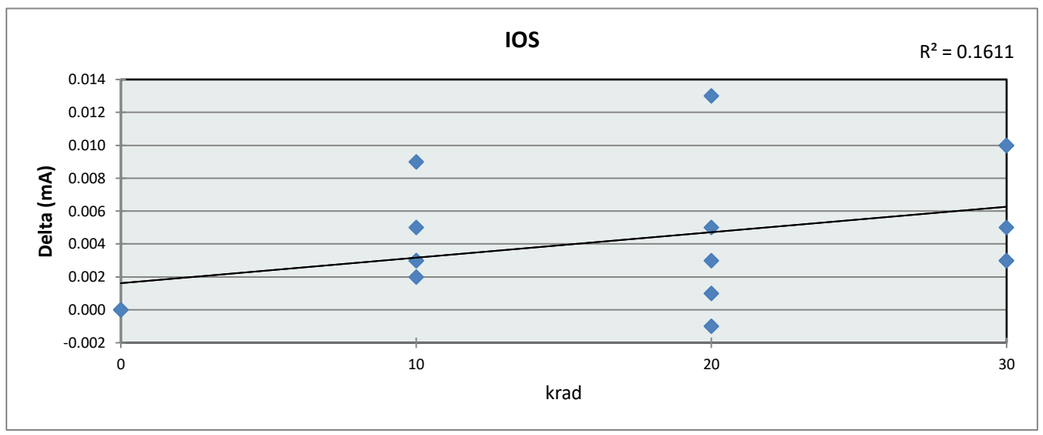
	IOFF			
Units	µA			
Max Limit	4			
Min Limit	-4			
krad	0	10	20	30
LL	-4.000	-4.000	-4.000	-4.000
Min	0.017	0.020	0.020	0.882
Average	0.020	0.029	0.807	1.809
Max	0.021	0.067	2.242	2.489
UL	4.000	4.000	4.000	4.000



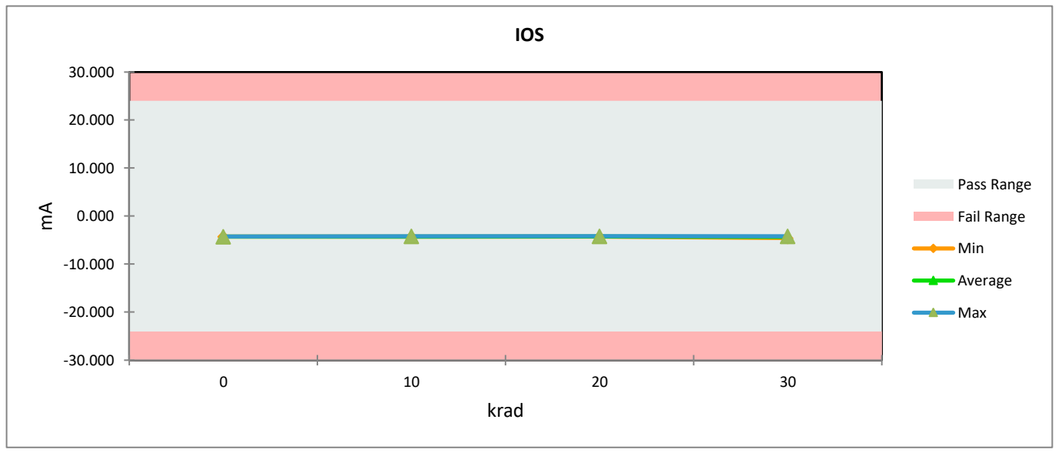
TID Report
SN55LVTA4-SEP

	IOS
Units	mA
Max Limit	24
Min Limit	-24

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-4.246	-4.246	0.000	0.00%	0.00%
0	2	-4.257	-4.257	0.000	0.00%	0.00%
10	3	-4.257	-4.254	0.003	-0.07%	0.01%
10	4	-4.246	-4.241	0.005	-0.12%	0.01%
10	5	-4.216	-4.207	0.009	-0.21%	0.02%
10	6	-4.287	-4.285	0.002	-0.05%	0.00%
10	7	-4.238	-4.235	0.003	-0.07%	0.01%
20	8	-4.243	-4.240	0.003	-0.07%	0.01%
20	9	-4.266	-4.267	-0.001	0.02%	0.00%
20	10	-4.286	-4.281	0.005	-0.12%	0.01%
20	11	-4.267	-4.254	0.013	-0.30%	0.03%
20	12	-4.169	-4.168	0.001	-0.02%	0.00%
30	13	-4.226	-4.221	0.005	-0.12%	0.01%
30	14	-4.294	-4.291	0.003	-0.07%	0.01%
30	15	-4.203	-4.193	0.010	-0.24%	0.02%
30	16	-4.237	-4.234	0.003	-0.07%	0.01%
30	17	-4.577	-4.567	0.010	-0.22%	0.02%
Max		-4.169	-4.168	0.001	0.02%	0.03%
Average		-4.266	-4.261	0.004	-0.10%	0.01%
Min		-4.577	-4.567	0.010	-0.30%	0.00%
Std Dev		0.086	0.085	-0.001	0.09%	0.01%



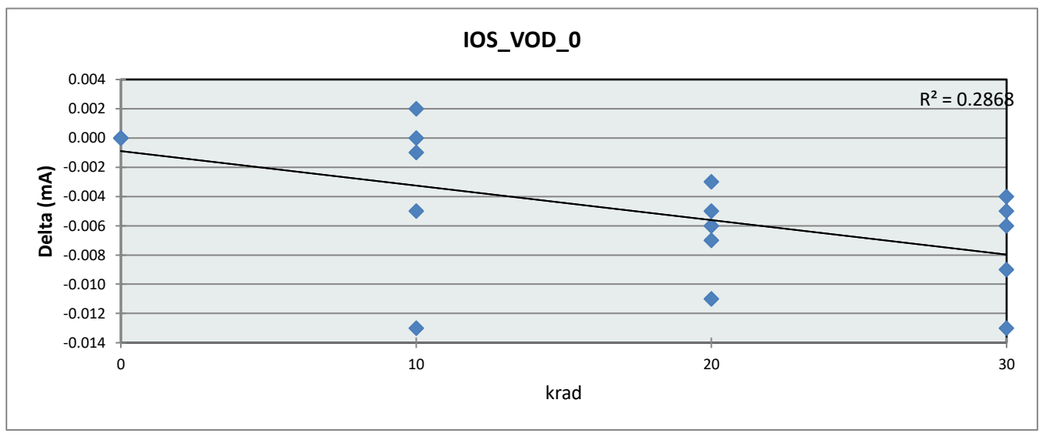
	IOS			
Units	mA			
Max Limit	24			
Min Limit	-24			
krad	0	10	20	30
LL	-24.000	-24.000	-24.000	-24.000
Min	-4.257	-4.285	-4.291	-4.567
Average	-4.250	-4.247	-4.243	-4.331
Max	-4.241	-4.207	-4.168	-4.193
UL	24.000	24.000	24.000	24.000



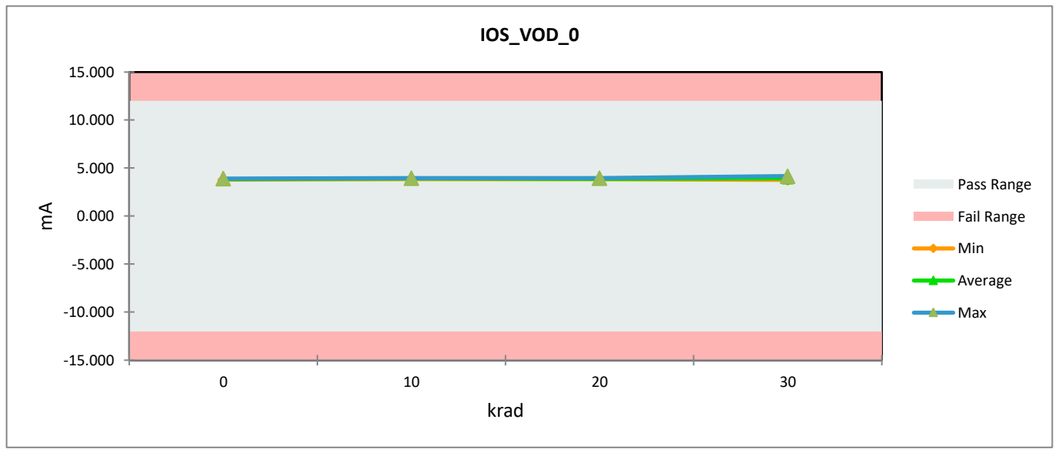
TID Report
SN55LVTA4-SEP

	IOS_VOD_0
Units	mA
Max Limit	12
Min Limit	-12

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	3.796	3.796	0.000	0.00%	0.00%
0	2	3.905	3.905	0.000	0.00%	0.00%
10	3	3.905	3.907	0.002	0.05%	0.01%
10	4	3.796	3.791	-0.005	-0.13%	0.02%
10	5	3.866	3.853	-0.013	-0.34%	0.05%
10	6	3.958	3.958	0.000	0.00%	0.00%
10	7	3.899	3.898	-0.001	-0.03%	0.00%
20	8	3.916	3.909	-0.007	-0.18%	0.03%
20	9	3.946	3.941	-0.005	-0.13%	0.02%
20	10	3.944	3.938	-0.006	-0.15%	0.02%
20	11	3.840	3.829	-0.011	-0.29%	0.05%
20	12	3.824	3.821	-0.003	-0.08%	0.01%
30	13	3.960	3.951	-0.009	-0.23%	0.04%
30	14	3.947	3.942	-0.005	-0.13%	0.02%
30	15	3.789	3.776	-0.013	-0.34%	0.05%
30	16	3.865	3.859	-0.006	-0.16%	0.02%
30	17	4.177	4.173	-0.004	-0.10%	0.02%
Max		4.177	4.173	-0.004	0.05%	0.05%
Average		3.902	3.897	-0.005	-0.13%	0.02%
Min		3.789	3.776	-0.013	-0.34%	0.00%
Std Dev		0.092	0.093	0.001	0.12%	0.02%



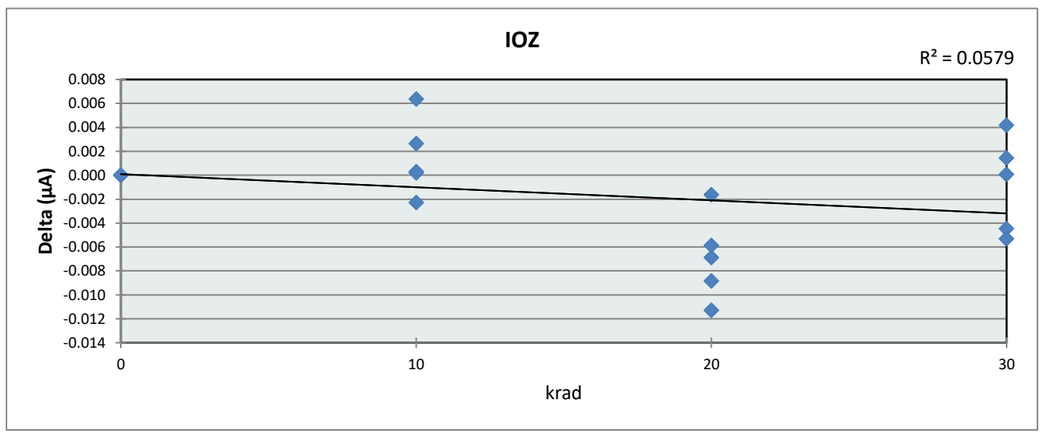
	IOS_VOD_0			
Units	mA			
Max Limit	12			
Min Limit	-12			
krad	0	10	20	30
LL	-12.000	-12.000	-12.000	-12.000
Min	3.791	3.853	3.821	3.776
Average	3.850	3.912	3.896	3.936
Max	3.907	3.958	3.951	4.173
UL	12.000	12.000	12.000	12.000



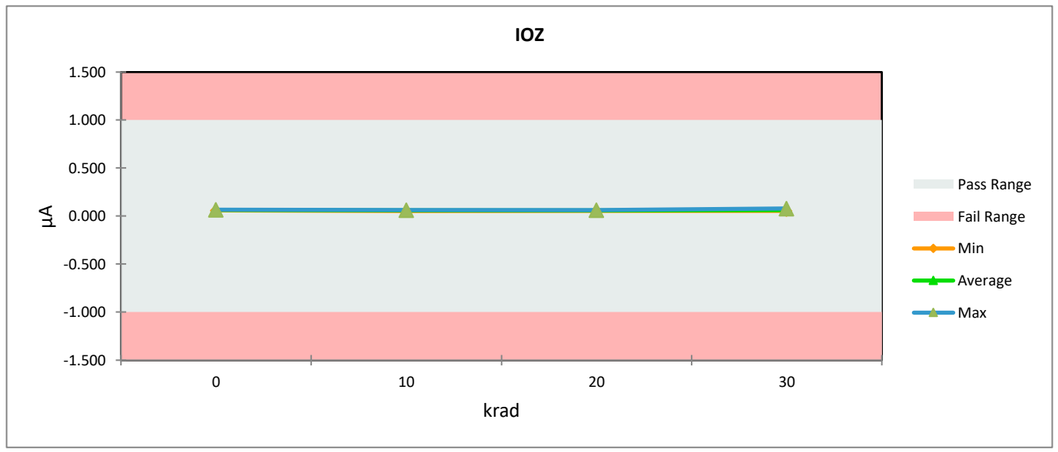
TID Report
SN55LVTA4-SEP

	IOZ
Units	µA
Max Limit	1
Min Limit	-1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.060	0.060	0.000	0.00%	0.00%
0	2	0.065	0.065	0.000	0.00%	0.00%
10	3	0.065	0.067	0.003	4.10%	0.13%
10	4	0.060	0.066	0.006	10.60%	0.32%
10	5	0.062	0.062	0.000	0.48%	0.02%
10	6	0.064	0.062	-0.002	-3.58%	0.11%
10	7	0.063	0.063	0.000	0.32%	0.01%
20	8	0.064	0.053	-0.011	-17.57%	0.56%
20	9	0.065	0.058	-0.007	-10.67%	0.34%
20	10	0.063	0.057	-0.006	-9.36%	0.29%
20	11	0.065	0.056	-0.009	-13.57%	0.44%
20	12	0.060	0.058	-0.002	-2.70%	0.08%
30	13	0.062	0.063	0.001	2.31%	0.07%
30	14	0.064	0.064	0.000	0.13%	0.00%
30	15	0.062	0.058	-0.004	-7.15%	0.22%
30	16	0.060	0.055	-0.005	-8.81%	0.27%
30	17	0.075	0.080	0.004	5.56%	0.21%
Max		0.075	0.080	0.004	10.60%	0.56%
Average		0.063	0.062	-0.002	-2.94%	0.18%
Min		0.060	0.053	-0.007	-17.57%	0.00%
Std Dev		0.004	0.006	0.003	7.34%	0.17%



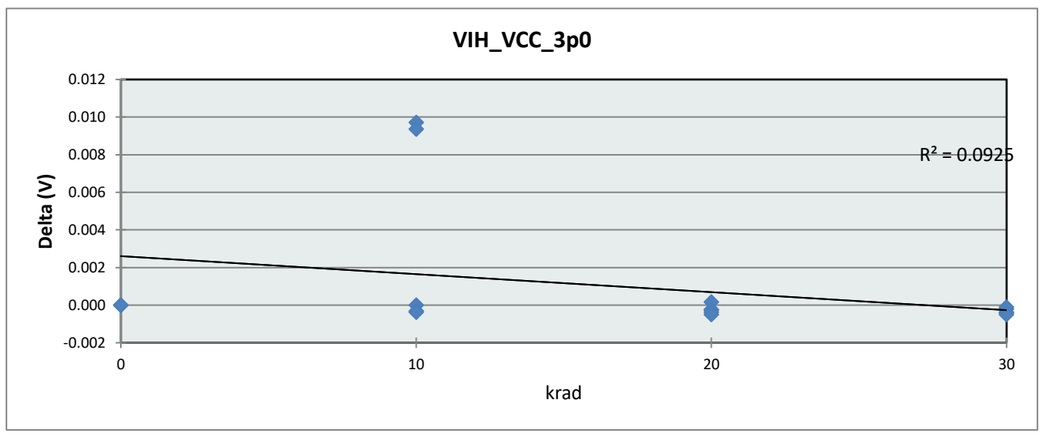
	IOZ			
Units	µA			
Max Limit	1			
Min Limit	-1			
krad	0	10	20	30
LL	-1.000	-1.000	-1.000	-1.000
Min	0.060	0.053	0.056	0.055
Average	0.065	0.060	0.060	0.064
Max	0.067	0.063	0.064	0.080
UL	1.000	1.000	1.000	1.000



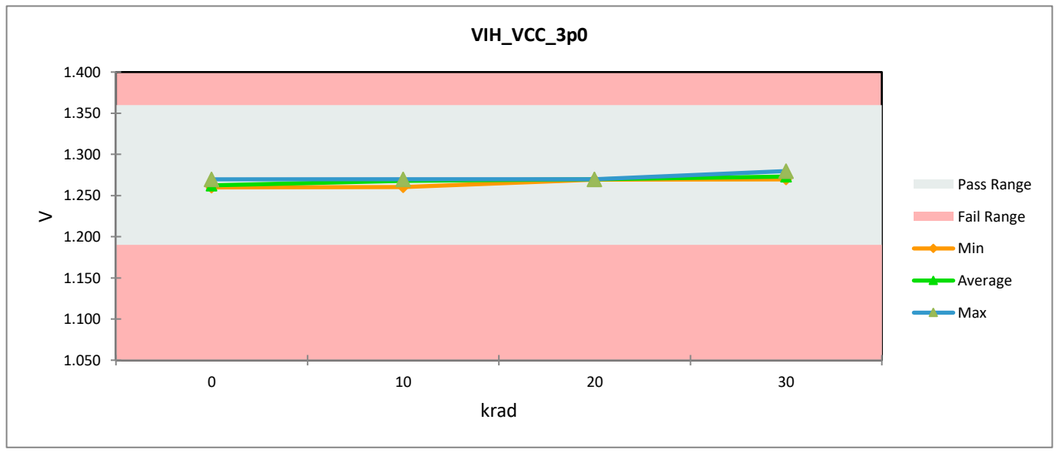
TID Report
SN55LVTA4-SEP

	VIH_VCC_3p0
Units	V
Max Limit	1.36
Min Limit	1.19

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.260	1.260	0.000	0.00%	0.00%
0	2	1.260	1.260	0.000	0.00%	0.00%
10	3	1.260	1.270	0.010	0.77%	5.71%
10	4	1.260	1.260	0.000	0.00%	0.00%
10	5	1.270	1.270	0.000	-0.02%	0.19%
10	6	1.260	1.269	0.009	0.74%	5.51%
10	7	1.270	1.270	0.000	-0.03%	0.22%
20	8	1.270	1.270	0.000	-0.02%	0.16%
20	9	1.260	1.260	0.000	0.01%	0.09%
20	10	1.270	1.270	0.000	-0.02%	0.14%
20	11	1.270	1.270	0.000	-0.03%	0.22%
20	12	1.270	1.270	0.000	-0.04%	0.29%
30	13	1.270	1.270	0.000	-0.03%	0.22%
30	14	1.270	1.270	0.000	-0.03%	0.24%
30	15	1.270	1.270	0.000	-0.02%	0.12%
30	16	1.270	1.270	0.000	-0.01%	0.07%
30	17	1.280	1.280	0.000	-0.04%	0.29%
Max		1.280	1.280	0.000	0.77%	5.71%
Average		1.267	1.268	0.001	0.07%	0.79%
Min		1.260	1.260	0.000	-0.04%	0.00%
Std Dev		0.006	0.005	-0.001	0.26%	1.82%



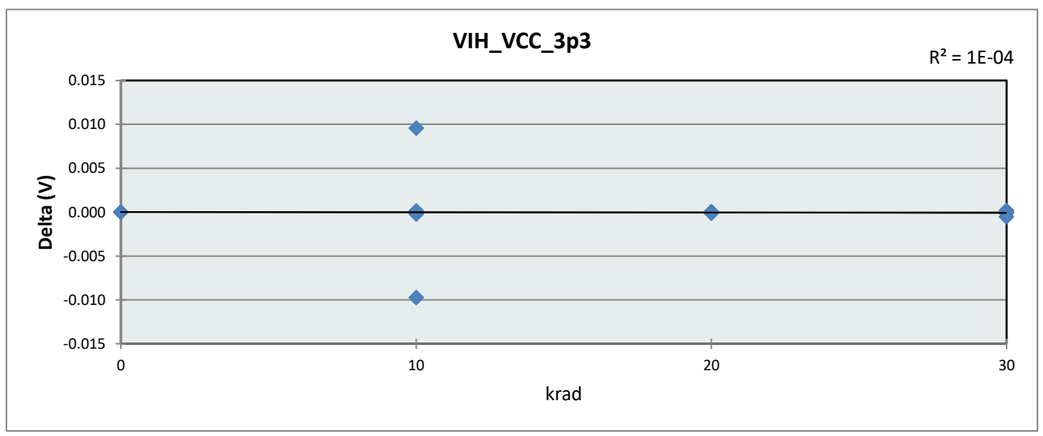
	VIH_VCC_3p0			
Units	V			
Max Limit	1.36			
Min Limit	1.19			
krad	0	10	20	30
LL	1.190	1.190	1.190	1.190
Min	1.260	1.260	1.270	1.270
Average	1.262	1.268	1.270	1.273
Max	1.270	1.270	1.270	1.280
UL	1.360	1.360	1.360	1.360



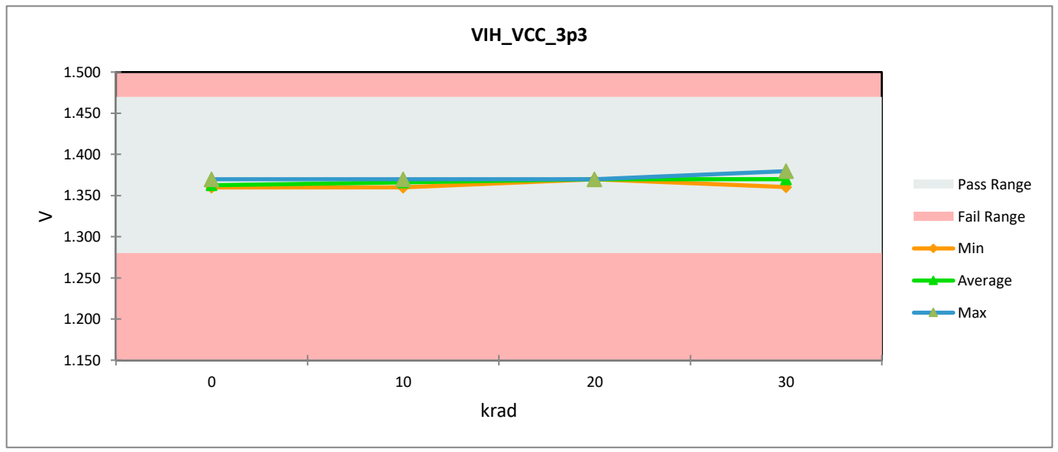
TID Report
SN55LVTA4-SEP

	VIH_VCC_3p3
Units	V
Max Limit	1.47
Min Limit	1.28

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.370	1.370	0.000	0.00%	0.00%
0	2	1.360	1.360	0.000	0.00%	0.00%
10	3	1.360	1.360	0.000	0.00%	0.03%
10	4	1.370	1.360	-0.010	-0.71%	5.13%
10	5	1.370	1.370	0.000	-0.02%	0.11%
10	6	1.360	1.370	0.010	0.71%	5.05%
10	7	1.370	1.370	0.000	0.01%	0.07%
20	8	1.360	1.360	0.000	0.00%	0.00%
20	9	1.360	1.360	0.000	0.00%	0.03%
20	10	1.370	1.370	0.000	-0.01%	0.06%
20	11	1.370	1.370	0.000	0.00%	0.01%
20	12	1.370	1.370	0.000	0.00%	0.03%
30	13	1.370	1.370	0.000	0.00%	0.00%
30	14	1.370	1.370	0.000	-0.01%	0.04%
30	15	1.360	1.360	0.000	0.01%	0.10%
30	16	1.370	1.370	0.000	-0.01%	0.05%
30	17	1.380	1.380	-0.001	-0.04%	0.29%
Max		1.380	1.380	-0.001	0.71%	5.13%
Average		1.367	1.367	0.000	0.00%	0.65%
Min		1.360	1.360	0.000	-0.71%	0.00%
Std Dev		0.006	0.006	0.000	0.25%	1.67%



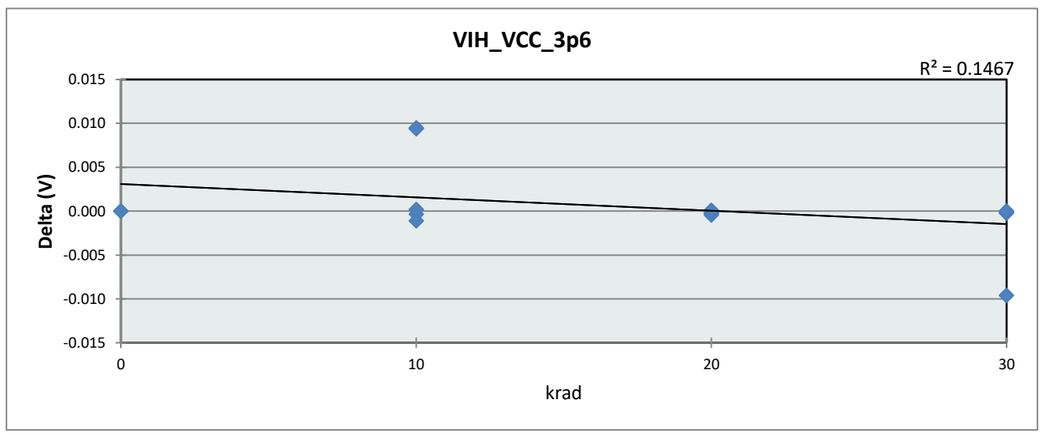
	VIH_VCC_3p3			
Units	V			
Max Limit	1.47			
Min Limit	1.28			
krad	0	10	20	30
LL	1.280	1.280	1.280	1.280
Min	1.360	1.360	1.370	1.360
Average	1.362	1.366	1.370	1.370
Max	1.370	1.370	1.370	1.380
UL	1.470	1.470	1.470	1.470



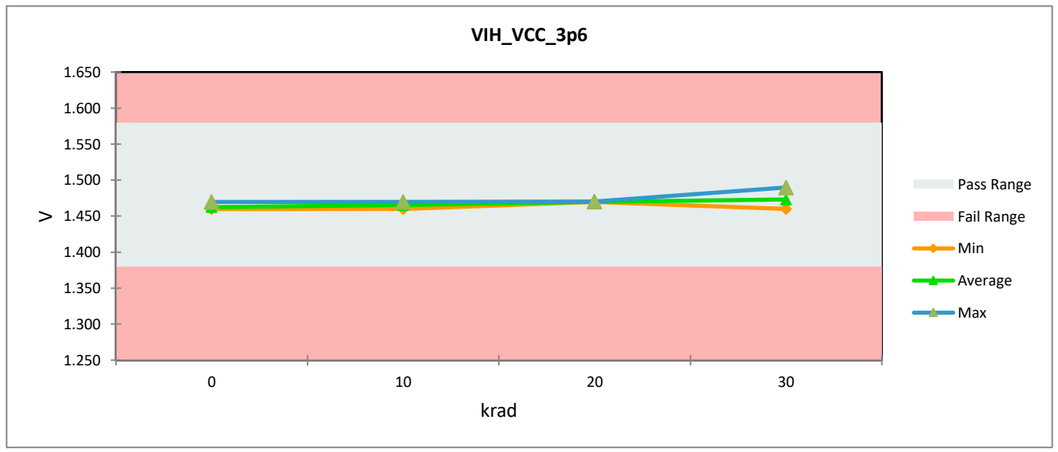
TID Report
SN55LVTA4-SEP

	VIH_VCC_3p6
Units	V
Max Limit	1.58
Min Limit	1.38

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.460	1.460	0.000	0.00%	0.00%
0	2	1.460	1.460	0.000	0.00%	0.00%
10	3	1.460	1.470	0.009	0.65%	4.74%
10	4	1.460	1.460	0.000	-0.02%	0.18%
10	5	1.470	1.468	-0.001	-0.07%	0.54%
10	6	1.460	1.470	0.009	0.64%	4.69%
10	7	1.470	1.470	0.000	0.01%	0.09%
20	8	1.460	1.460	0.000	-0.03%	0.21%
20	9	1.460	1.460	0.000	-0.02%	0.13%
20	10	1.470	1.470	0.000	-0.01%	0.11%
20	11	1.470	1.470	0.000	0.00%	0.01%
20	12	1.470	1.470	0.000	0.01%	0.05%
30	13	1.470	1.470	0.000	0.00%	0.01%
30	14	1.470	1.470	0.000	-0.01%	0.07%
30	15	1.470	1.460	-0.010	-0.65%	4.81%
30	16	1.470	1.470	0.000	-0.01%	0.10%
30	17	1.490	1.490	0.000	0.00%	0.01%
Max		1.490	1.490	0.000	0.65%	4.81%
Average		1.467	1.467	0.000	0.03%	0.93%
Min		1.460	1.460	0.000	-0.65%	0.00%
Std Dev		0.008	0.007	0.000	0.28%	1.83%



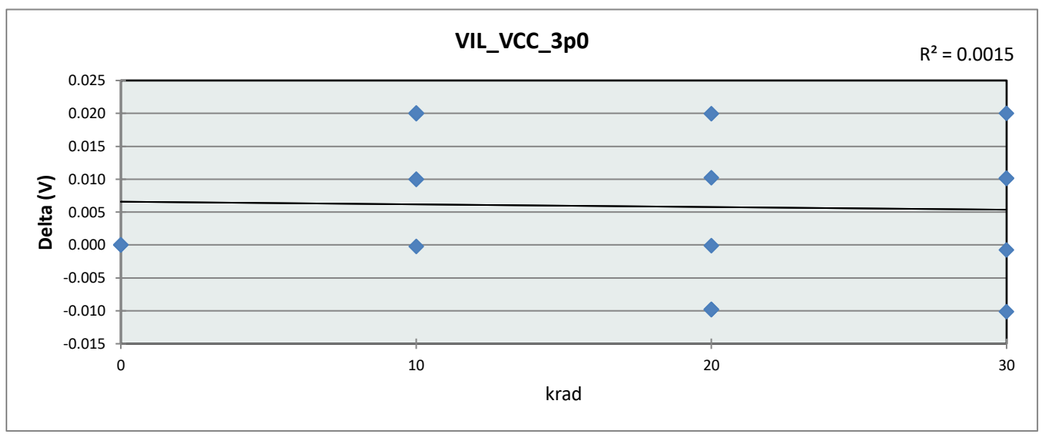
	VIH_VCC_3p6			
Units	V			
Max Limit	1.58			
Min Limit	1.38			
krad	0	10	20	30
LL	1.380	1.380	1.380	1.380
Min	1.460	1.460	1.470	1.460
Average	1.462	1.466	1.470	1.473
Max	1.470	1.470	1.470	1.490
UL	1.580	1.580	1.580	1.580



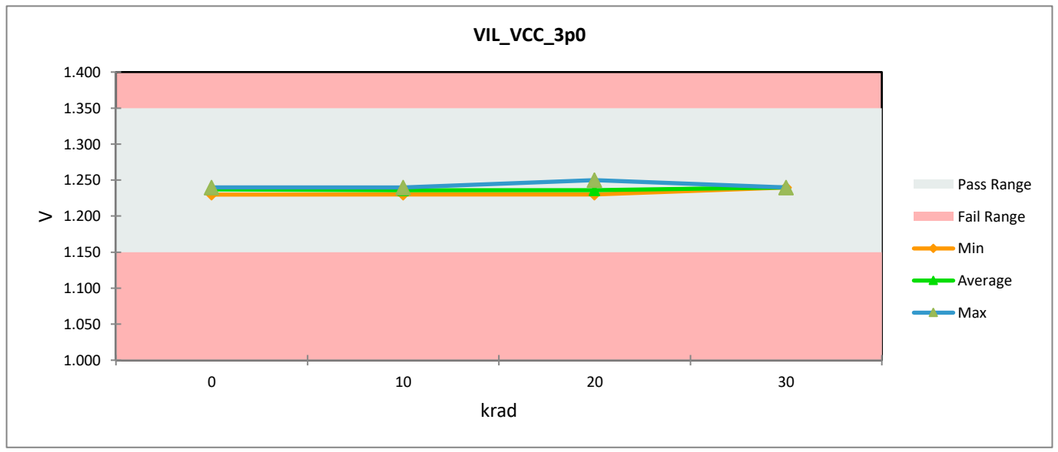
TID Report
SN55LVTA4-SEP

	VIL_VCC_3p0
Units	V
Max Limit	1.35
Min Limit	1.15

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.240	1.240	0.000	0.00%	0.00%
0	2	1.230	1.230	0.000	0.00%	0.00%
10	3	1.230	1.240	0.010	0.81%	5.00%
10	4	1.240	1.240	0.000	-0.02%	0.12%
10	5	1.220	1.240	0.020	1.64%	9.98%
10	6	1.220	1.240	0.020	1.64%	10.03%
10	7	1.220	1.230	0.010	0.82%	5.01%
20	8	1.240	1.230	-0.010	-0.79%	4.91%
20	9	1.220	1.240	0.020	1.64%	9.98%
20	10	1.220	1.230	0.010	0.84%	5.10%
20	11	1.250	1.250	0.000	-0.01%	0.03%
20	12	1.240	1.230	-0.010	-0.79%	4.89%
30	13	1.220	1.230	0.010	0.83%	5.09%
30	14	1.220	1.240	0.020	1.64%	10.00%
30	15	1.250	1.240	-0.010	-0.81%	5.05%
30	16	1.241	1.240	-0.001	-0.06%	0.38%
30	17	1.230	1.240	0.010	0.82%	5.06%
Max		1.250	1.250	0.000	1.64%	10.03%
Average		1.231	1.237	0.006	0.48%	4.74%
Min		1.220	1.230	0.010	-0.81%	0.00%
Std Dev		0.011	0.006	-0.005	0.87%	3.70%



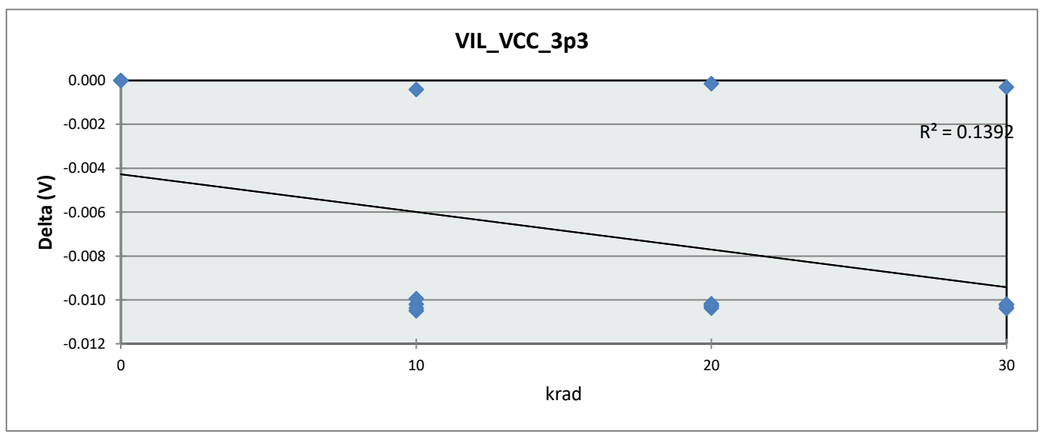
	VIL_VCC_3p0			
Units	V			
Max Limit	1.35			
Min Limit	1.15			
krad	0	10	20	30
LL	1.150	1.150	1.150	1.150
Min	1.230	1.230	1.230	1.240
Average	1.237	1.236	1.236	1.240
Max	1.240	1.240	1.250	1.240
UL	1.350	1.350	1.350	1.350



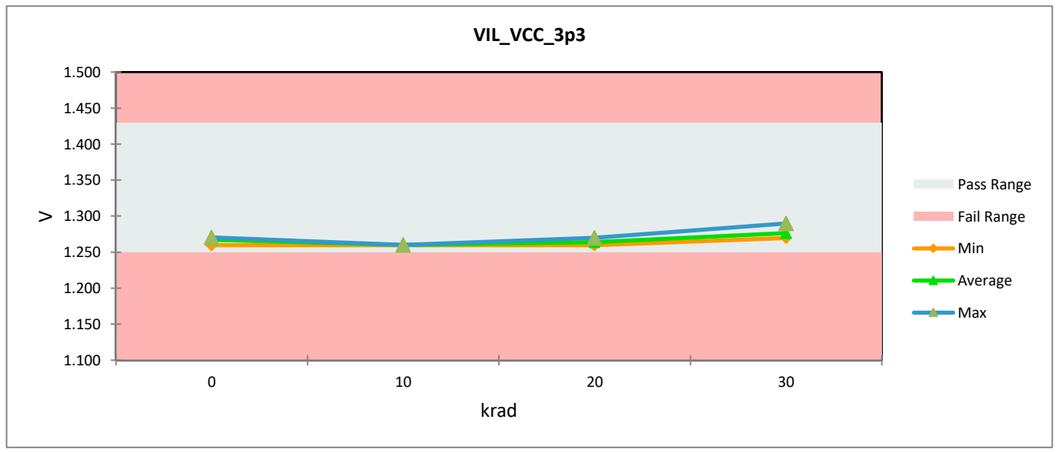
TID Report
SN55LVTA4-SEP

	VIL_VCC_3p3
Units	V
Max Limit	1.43
Min Limit	1.25

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.270	1.270	0.000	0.00%	0.00%
0	2	1.270	1.270	0.000	0.00%	0.00%
10	3	1.270	1.270	0.000	-0.03%	0.22%
10	4	1.270	1.260	-0.011	-0.83%	5.84%
10	5	1.270	1.260	-0.010	-0.80%	5.66%
10	6	1.270	1.260	-0.010	-0.82%	5.77%
10	7	1.270	1.260	-0.010	-0.78%	5.53%
20	8	1.270	1.260	-0.010	-0.82%	5.77%
20	9	1.270	1.260	-0.010	-0.81%	5.70%
20	10	1.270	1.260	-0.010	-0.81%	5.72%
20	11	1.280	1.270	-0.010	-0.79%	5.65%
20	12	1.270	1.270	0.000	-0.01%	0.08%
30	13	1.270	1.260	-0.010	-0.81%	5.75%
30	14	1.270	1.260	-0.010	-0.81%	5.68%
30	15	1.270	1.270	0.000	-0.02%	0.17%
30	16	1.280	1.270	-0.010	-0.81%	5.77%
30	17	1.300	1.290	-0.010	-0.78%	5.67%
Max		1.300	1.290	-0.010	0.00%	5.84%
Average		1.273	1.266	-0.007	-0.57%	4.06%
Min		1.270	1.260	-0.010	-0.83%	0.00%
Std Dev		0.008	0.008	0.000	0.37%	2.64%



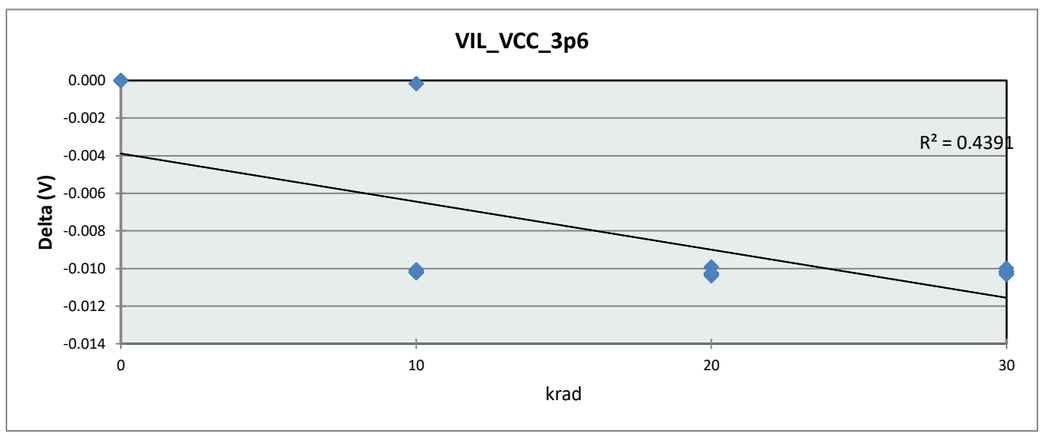
	VIL_VCC_3p3			
Units	V			
Max Limit	1.43			
Min Limit	1.25			
krad	0	10	20	30
LL	1.250	1.250	1.250	1.250
Min	1.260	1.260	1.260	1.270
Average	1.267	1.260	1.264	1.276
Max	1.270	1.260	1.270	1.290
UL	1.430	1.430	1.430	1.430



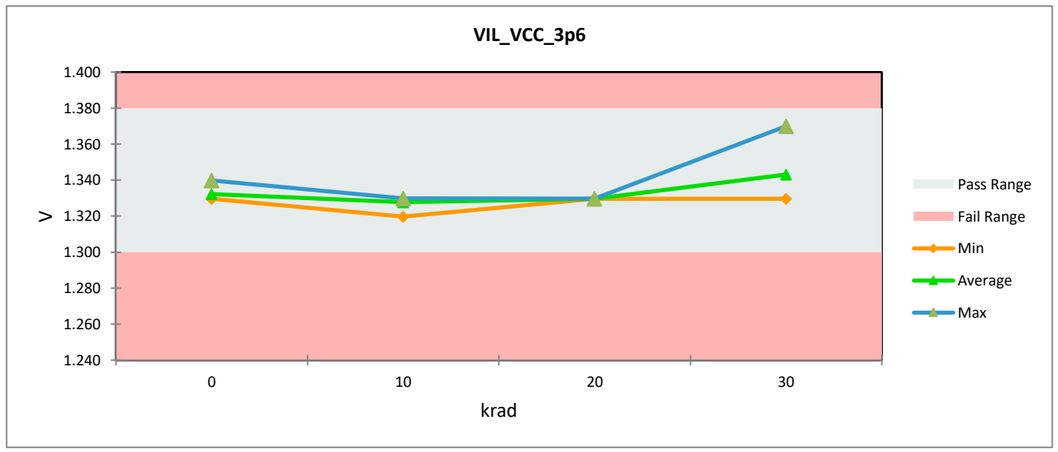
TID Report
SN55LVTA4-SEP

	VIL_VCC_3p6
Units	V
Max Limit	1.38
Min Limit	1.3

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.330	1.330	0.000	0.00%	0.00%
0	2	1.340	1.340	0.000	0.00%	0.00%
10	3	1.340	1.330	-0.010	-0.76%	12.77%
10	4	1.330	1.330	0.000	-0.01%	0.20%
10	5	1.340	1.330	-0.010	-0.76%	12.77%
10	6	1.340	1.330	-0.010	-0.76%	12.70%
10	7	1.340	1.330	-0.010	-0.75%	12.58%
20	8	1.330	1.320	-0.010	-0.75%	12.41%
20	9	1.340	1.330	-0.010	-0.77%	12.85%
20	10	1.340	1.330	-0.010	-0.77%	12.85%
20	11	1.340	1.330	-0.010	-0.77%	12.97%
20	12	1.340	1.330	-0.010	-0.77%	12.81%
30	13	1.340	1.330	-0.010	-0.76%	12.77%
30	14	1.340	1.330	-0.010	-0.76%	12.70%
30	15	1.340	1.330	-0.010	-0.76%	12.70%
30	16	1.340	1.330	-0.010	-0.77%	12.89%
30	17	1.380	1.370	-0.010	-0.72%	12.48%
Max		1.380	1.370	-0.010	0.00%	12.97%
Average		1.340	1.332	-0.008	-0.63%	10.50%
Min		1.330	1.320	-0.010	-0.77%	0.00%
Std Dev		0.011	0.010	-0.001	0.30%	4.98%



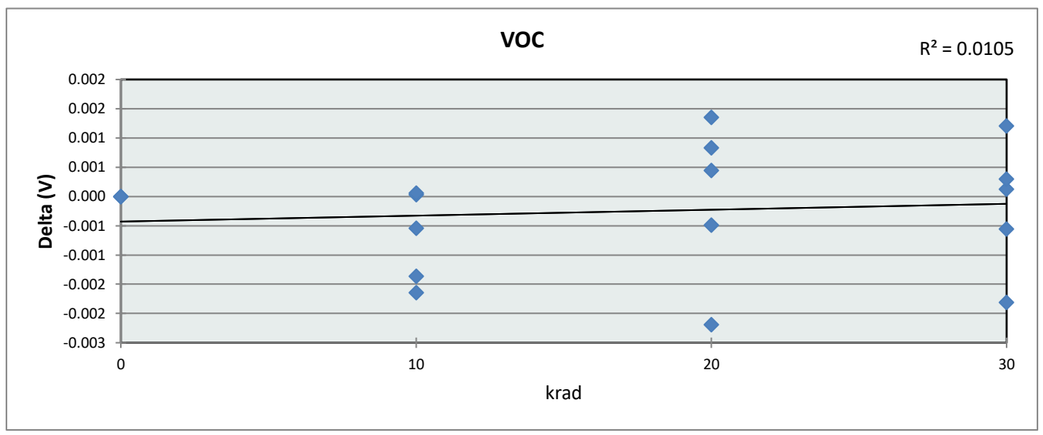
	VIL_VCC_3p6			
Units	V			
Max Limit	1.38			
Min Limit	1.3			
krad	0	10	20	30
LL	1.300	1.300	1.300	1.300
Min	1.330	1.320	1.330	1.330
Average	1.332	1.328	1.330	1.343
Max	1.340	1.330	1.330	1.370
UL	1.380	1.380	1.380	1.380



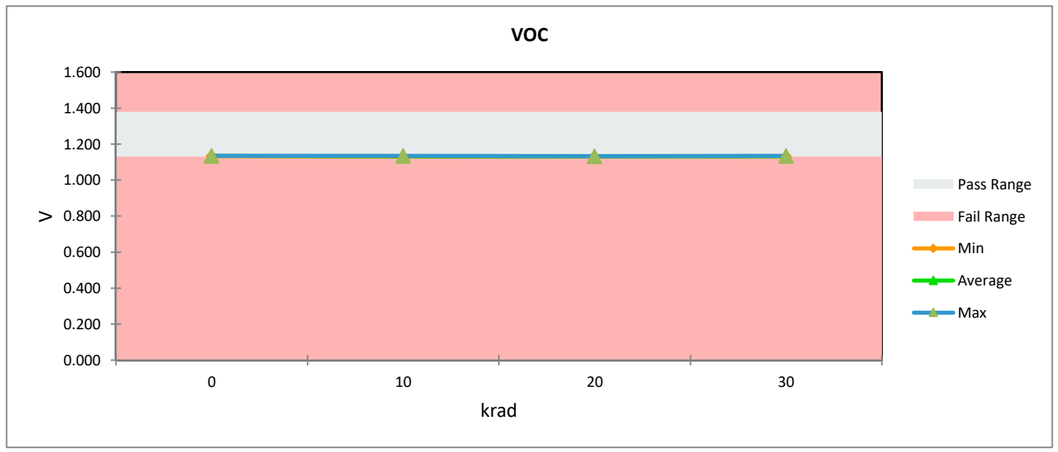
TID Report
SN55LVTA4-SEP

	VOC
Units	V
Max Limit	1.38
Min Limit	1.13

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.134	1.134	0.000	0.00%	0.00%
0	2	1.135	1.135	0.000	0.00%	0.00%
10	3	1.135	1.134	-0.001	-0.12%	0.54%
10	4	1.134	1.134	-0.001	-0.05%	0.22%
10	5	1.135	1.133	-0.002	-0.14%	0.66%
10	6	1.132	1.132	0.000	0.00%	0.01%
10	7	1.134	1.134	0.000	0.00%	0.02%
20	8	1.132	1.133	0.001	0.12%	0.54%
20	9	1.134	1.132	-0.002	-0.19%	0.88%
20	10	1.131	1.131	0.000	0.04%	0.18%
20	11	1.134	1.133	0.000	-0.04%	0.20%
20	12	1.132	1.133	0.001	0.07%	0.33%
30	13	1.132	1.132	-0.001	-0.05%	0.22%
30	14	1.132	1.132	0.000	0.01%	0.05%
30	15	1.134	1.134	0.000	0.03%	0.12%
30	16	1.134	1.132	-0.002	-0.16%	0.73%
30	17	1.134	1.135	0.001	0.11%	0.48%
Max		1.135	1.135	0.000	0.12%	0.88%
Average		1.133	1.133	0.000	-0.02%	0.30%
Min		1.131	1.131	0.000	-0.19%	0.00%
Std Dev		0.001	0.001	0.000	0.09%	0.28%



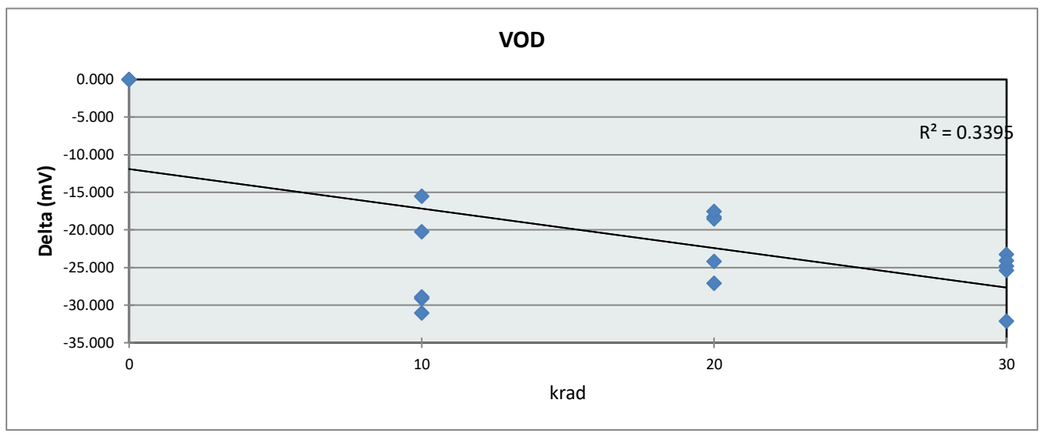
	VOC			
Units	V			
Max Limit	1.38			
Min Limit	1.13			
krad	0	10	20	30
LL	1.130	1.130	1.130	1.130
Min	1.134	1.132	1.131	1.132
Average	1.134	1.133	1.132	1.134
Max	1.135	1.134	1.133	1.135
UL	1.380	1.380	1.380	1.380



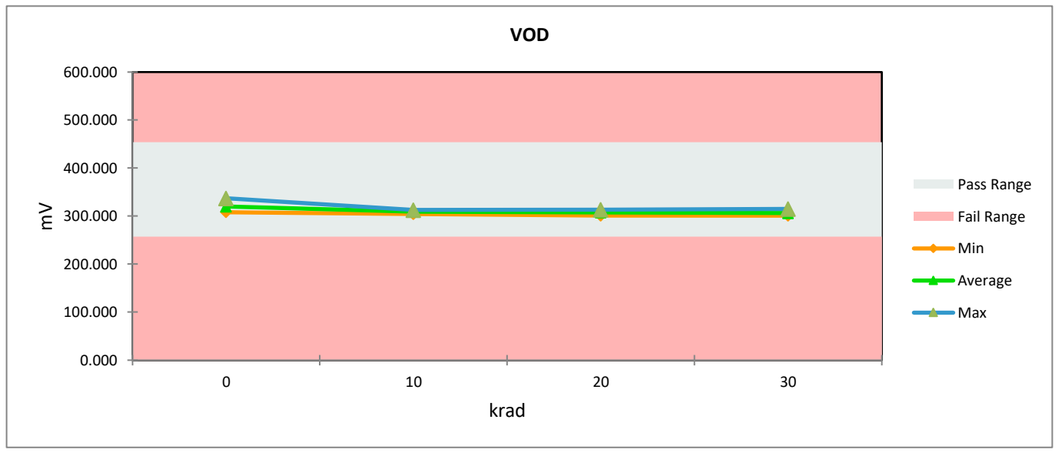
TID Report
SN55LVTA4-SEP

	VOD
Units	mV
Max Limit	454
Min Limit	257

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	325.221	325.221	0.000	0.00%	0.00%
0	2	337.217	337.217	0.000	0.00%	0.00%
10	3	337.217	308.074	-29.143	-8.64%	14.79%
10	4	325.221	309.719	-15.501	-4.77%	7.87%
10	5	335.669	304.636	-31.033	-9.25%	15.75%
10	6	333.111	312.882	-20.229	-6.07%	10.27%
10	7	334.945	306.056	-28.889	-8.63%	14.66%
20	8	328.253	309.997	-18.257	-5.56%	9.27%
20	9	336.344	312.147	-24.196	-7.19%	12.28%
20	10	332.087	313.568	-18.519	-5.58%	9.40%
20	11	328.279	301.199	-27.080	-8.25%	13.75%
20	12	323.485	305.959	-17.526	-5.42%	8.90%
30	13	333.397	307.990	-25.407	-7.62%	12.90%
30	14	333.847	310.582	-23.265	-6.97%	11.81%
30	15	325.807	300.999	-24.808	-7.61%	12.59%
30	16	327.430	303.341	-24.089	-7.36%	12.23%
30	17	346.971	314.849	-32.122	-9.26%	16.31%
Max		346.971	337.217	-9.754	0.00%	16.31%
Average		332.029	310.849	-21.180	-6.36%	10.75%
Min		323.485	300.999	-22.485	-9.26%	0.00%
Std Dev		6.009	8.948	2.939	2.76%	4.73%



	VOD			
Units	mV			
Max Limit	454			
Min Limit	257			
krad	0	10	20	30
LL	257.000	257.000	257.000	257.000
Min	308.074	304.636	301.199	300.999
Average	320.058	309.144	307.860	306.397
Max	337.217	312.882	313.568	314.849
UL	454.000	454.000	454.000	454.000



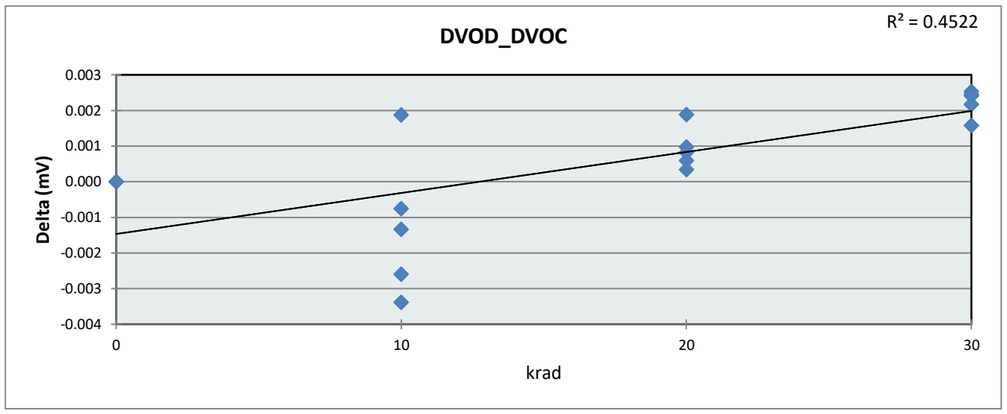
Appendix C: LDR TID Report Data

This appendix provides the SN55LVTA4-SEP TID LDR report. The report shows the variation for each parameter up to 30krad(Si).

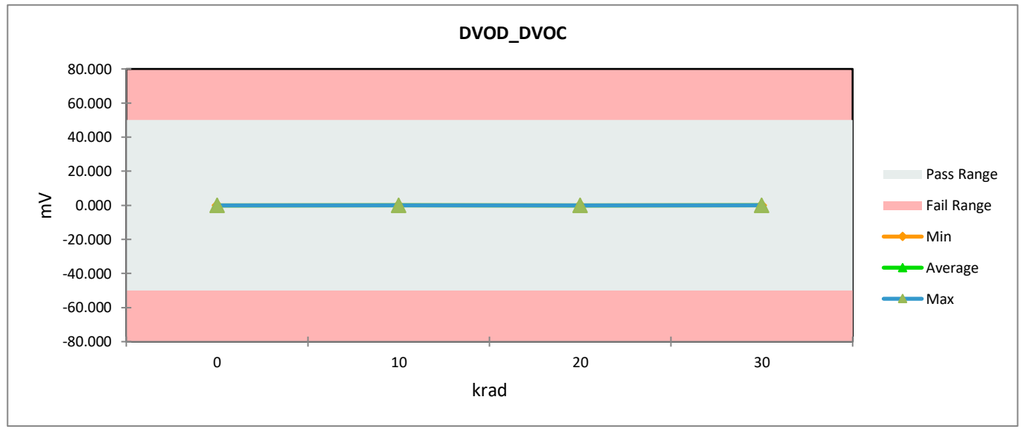
TID Report
SN55LVTA4-SEP

	DVOD_DVOC
Units	mV
Max Limit	50
Min Limit	-50

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	-0.010	-0.010	0.000	0.00%	0.00%
0	2	-0.010	-0.010	0.000	0.00%	0.00%
10	18	-0.010	-0.012	-0.001	12.78%	0.00%
10	19	-0.011	-0.009	0.002	-17.19%	0.00%
10	20	-0.009	-0.010	-0.001	8.67%	0.00%
10	21	-0.010	-0.013	-0.003	33.92%	0.00%
10	22	-0.009	-0.012	-0.003	28.45%	0.00%
20	18	-0.010	-0.010	0.001	-5.65%	0.00%
20	19	-0.011	-0.010	0.001	-7.59%	0.00%
20	20	-0.009	-0.008	0.001	-11.13%	0.00%
20	21	-0.010	-0.008	0.002	-18.95%	0.00%
20	22	-0.009	-0.009	0.000	-3.73%	0.00%
30	18	-0.010	-0.008	0.002	-23.02%	0.00%
30	19	-0.011	-0.008	0.003	-23.24%	0.00%
30	20	-0.009	-0.007	0.002	-24.87%	0.00%
30	21	-0.010	-0.008	0.002	-15.79%	0.00%
30	22	-0.009	-0.007	0.002	-26.94%	0.00%
Max		-0.009	-0.007	0.002	33.92%	0.00%
Average		-0.010	-0.009	0.001	-5.55%	0.00%
Min		-0.011	-0.013	-0.002	-26.94%	0.00%
Std Dev		0.001	0.002	0.001	18.07%	0.00%



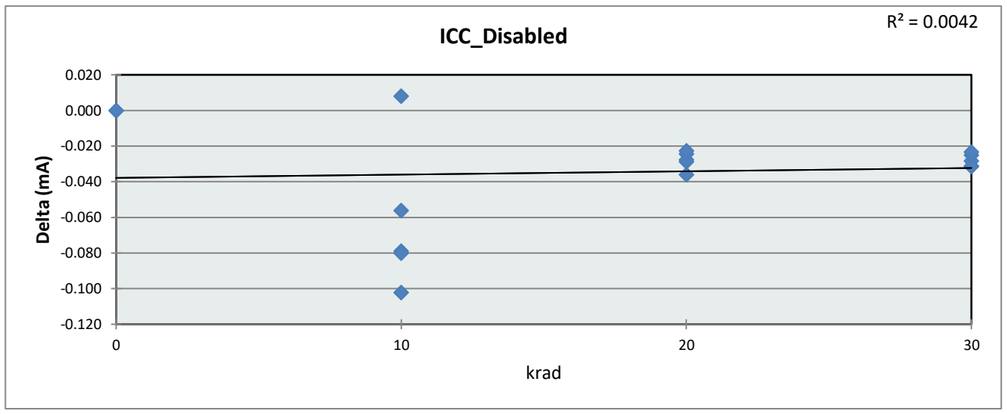
	DVOD_DVOC			
Units	mV			
Max Limit	50			
Min Limit	-50			
krad	0	10	20	30
LL	-50.000	-50.000	-50.000	-50.000
Min	-0.012	-0.013	-0.009	-0.008
Average	-0.010	-0.011	-0.008	-0.007
Max	-0.009	-0.010	-0.008	-0.007
UL	50.000	50.000	50.000	50.000



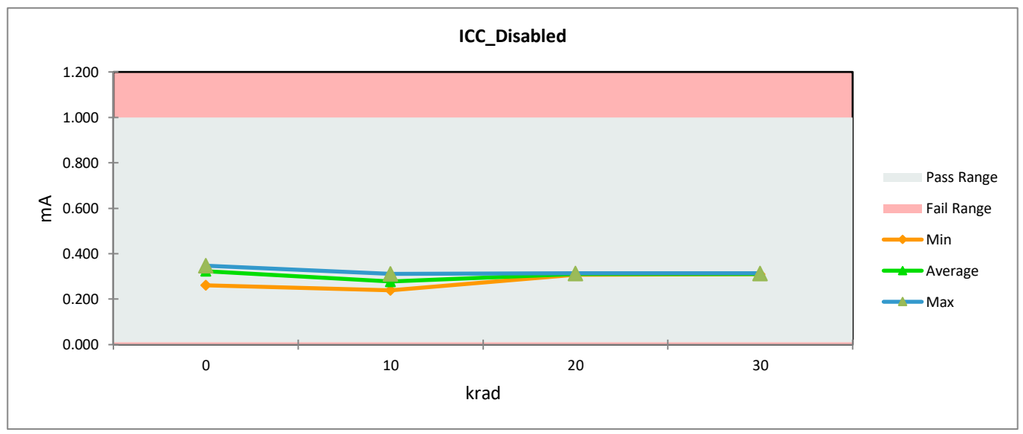
TID Report
SN55LVTA4-SEP

	ICC_Disabled
Units	mA
Max Limit	1
Min Limit	0.01

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	0.342	0.342	0.000	0.00%	0.00%
0	2	0.342	0.342	0.000	0.00%	0.00%
10	18	0.340	0.261	-0.079	-23.22%	7.98%
10	19	0.339	0.347	0.008	2.39%	0.82%
10	20	0.341	0.239	-0.102	-29.93%	10.31%
10	21	0.335	0.279	-0.056	-16.77%	5.68%
10	22	0.337	0.257	-0.080	-23.78%	8.09%
20	18	0.340	0.311	-0.029	-8.50%	2.92%
20	19	0.339	0.303	-0.036	-10.61%	3.64%
20	20	0.341	0.314	-0.028	-8.09%	2.79%
20	21	0.335	0.311	-0.024	-7.28%	2.46%
20	22	0.337	0.314	-0.023	-6.71%	2.28%
30	18	0.340	0.312	-0.028	-8.32%	2.86%
30	19	0.339	0.308	-0.032	-9.29%	3.18%
30	20	0.341	0.310	-0.031	-9.15%	3.15%
30	21	0.335	0.310	-0.025	-7.46%	2.53%
30	22	0.337	0.314	-0.023	-6.95%	2.36%
Max		0.342	0.347	0.005	2.39%	10.31%
Average		0.339	0.304	-0.035	-10.21%	3.59%
Min		0.335	0.239	-0.096	-29.93%	0.00%
Std Dev		0.002	0.030	0.027	8.68%	2.85%



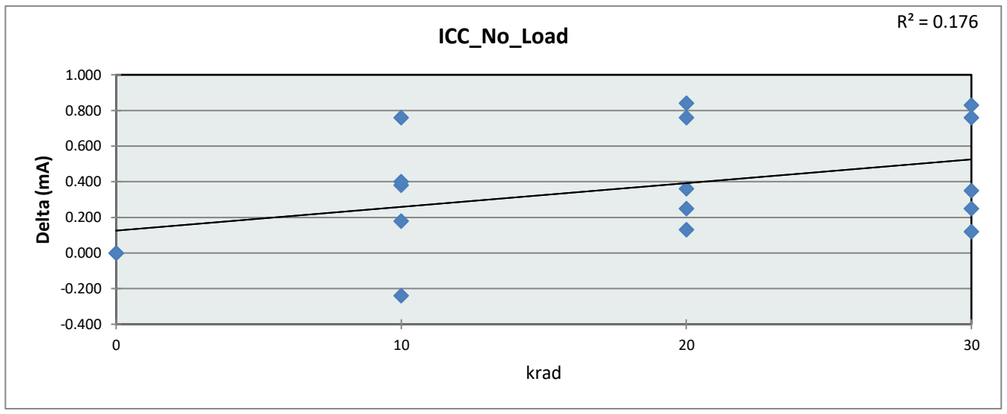
	ICC_Disabled			
Units	mA			
Max Limit	1			
Min Limit	0.01			
krad	0	10	20	30
LL	0.010	0.010	0.010	0.010
Min	0.261	0.239	0.308	0.310
Average	0.323	0.278	0.312	0.311
Max	0.347	0.311	0.314	0.314
UL	1.000	1.000	1.000	1.000



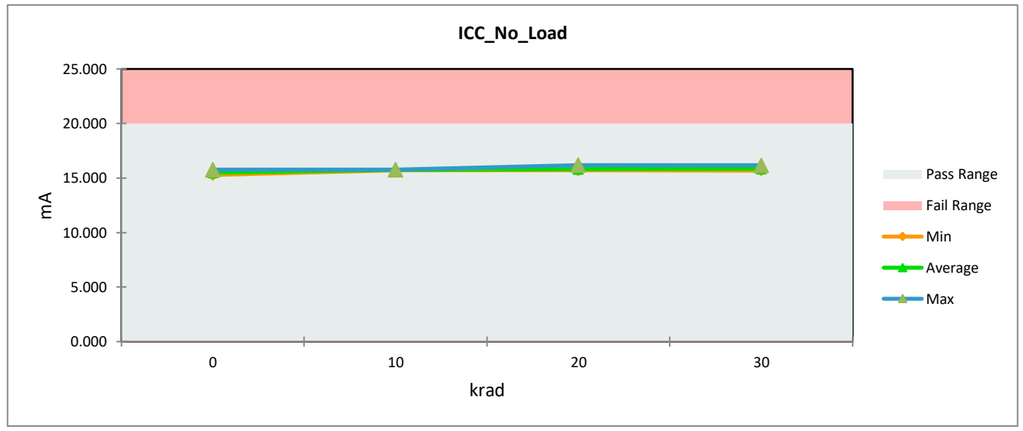
TID Report
SN55LVTA4-SEP

	ICC_No_Load
Units	mA
Max Limit	20
Min Limit	0.1

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	15.330	15.330	0.000	0.00%	0.00%
0	2	15.570	15.570	0.000	0.00%	0.00%
10	18	15.520	15.280	-0.240	-1.55%	1.21%
10	19	15.590	15.770	0.180	1.15%	0.90%
10	20	15.340	15.720	0.380	2.48%	1.91%
10	21	14.950	15.710	0.760	5.08%	3.82%
10	22	15.340	15.740	0.400	2.61%	2.01%
20	18	15.520	15.770	0.250	1.61%	1.26%
20	19	15.590	15.720	0.130	0.83%	0.65%
20	20	15.340	15.700	0.360	2.35%	1.81%
20	21	14.950	15.710	0.760	5.08%	3.82%
20	22	15.340	16.180	0.840	5.48%	4.22%
30	18	15.520	15.770	0.250	1.61%	1.26%
30	19	15.590	15.710	0.120	0.77%	0.60%
30	20	15.340	15.690	0.350	2.28%	1.76%
30	21	14.950	15.710	0.760	5.08%	3.82%
30	22	15.340	16.170	0.830	5.41%	4.17%
Max		15.590	16.180	0.590	5.48%	4.22%
Average		15.360	15.721	0.361	2.37%	1.95%
Min		14.950	15.280	0.330	-1.55%	0.00%
Std Dev		0.222	0.222	0.001	2.17%	1.47%



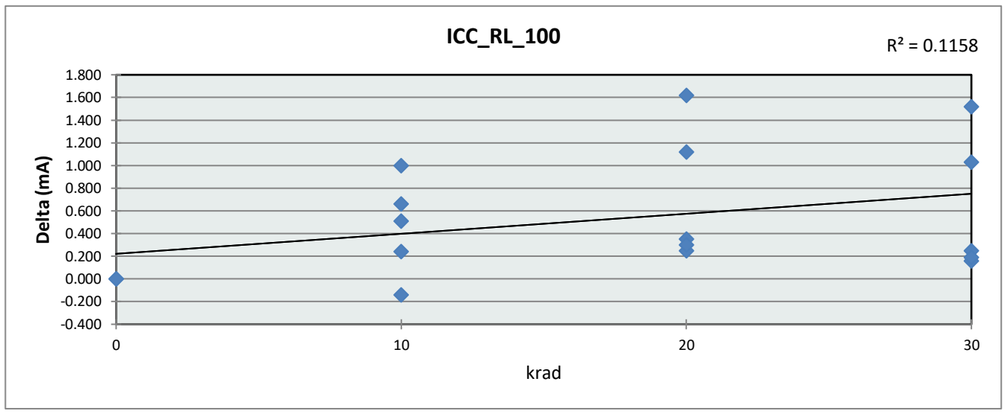
	ICC_No_Load			
Units	mA			
Max Limit	20			
Min Limit	0.1			
krad	0	10	20	30
LL	0.100	0.100	0.100	0.100
Min	15.280	15.710	15.700	15.690
Average	15.488	15.732	15.814	15.857
Max	15.770	15.770	16.180	16.170
UL	20.000	20.000	20.000	20.000



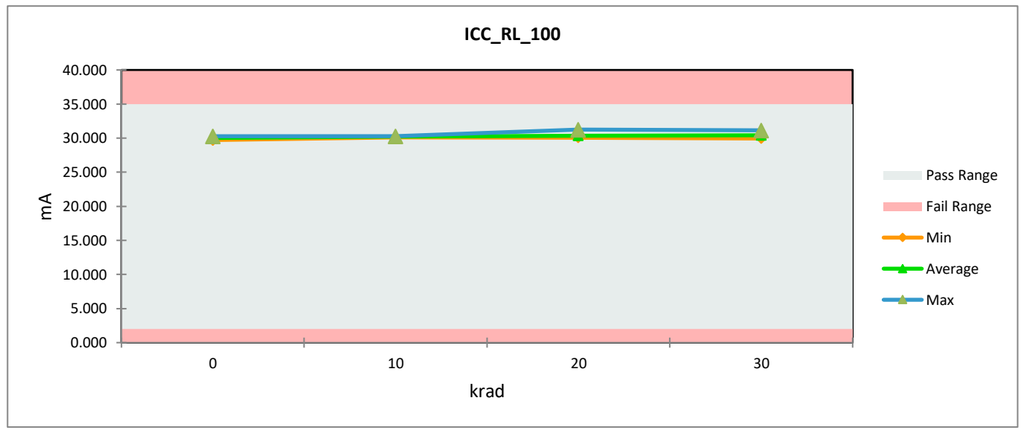
TID Report
SN55LVTA4-SEP

	ICC_RL_100
Units	mA
Max Limit	35
Min Limit	2

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	29.830	29.830	0.000	0.00%	0.00%
0	2	30.280	30.280	0.000	0.00%	0.00%
10	18	29.860	29.720	-0.140	-0.47%	0.42%
10	19	30.000	30.240	0.240	0.80%	0.73%
10	20	29.780	30.290	0.510	1.71%	1.55%
10	21	29.110	30.110	1.000	3.44%	3.03%
10	22	29.630	30.290	0.660	2.23%	2.00%
20	18	29.860	30.210	0.350	1.17%	1.06%
20	19	30.000	30.250	0.250	0.83%	0.76%
20	20	29.780	30.080	0.300	1.01%	0.91%
20	21	29.110	30.230	1.120	3.85%	3.39%
20	22	29.630	31.250	1.620	5.47%	4.91%
30	18	29.860	30.110	0.250	0.84%	0.76%
30	19	30.000	30.160	0.160	0.53%	0.48%
30	20	29.780	29.970	0.190	0.64%	0.58%
30	21	29.110	30.140	1.030	3.54%	3.12%
30	22	29.630	31.150	1.520	5.13%	4.61%
Max		30.280	31.250	0.970	5.47%	4.91%
Average		29.721	30.254	0.533	1.81%	1.66%
Min		29.110	29.720	0.610	-0.47%	0.00%
Std Dev		0.333	0.391	0.058	1.82%	1.57%



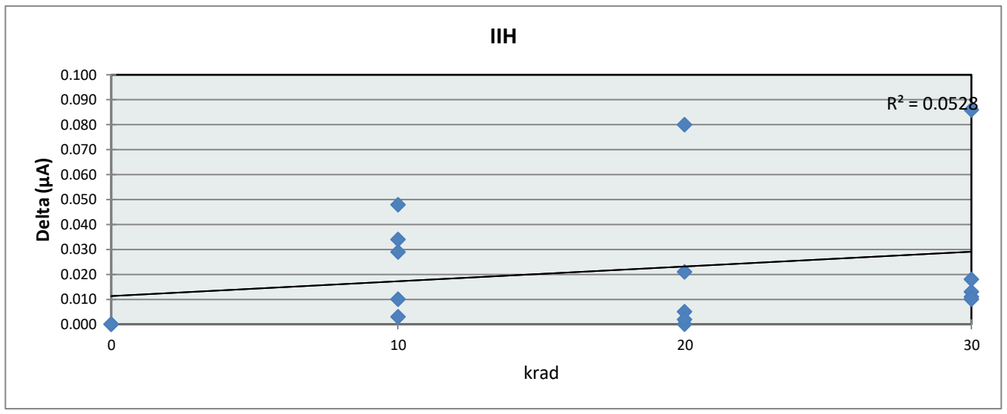
	ICC_RL_100			
Units	mA			
Max Limit	35			
Min Limit	2			
krad	0	10	20	30
LL	2.000	2.000	2.000	2.000
Min	29.720	30.110	30.080	29.970
Average	30.018	30.230	30.366	30.420
Max	30.280	30.290	31.250	31.150
UL	35.000	35.000	35.000	35.000



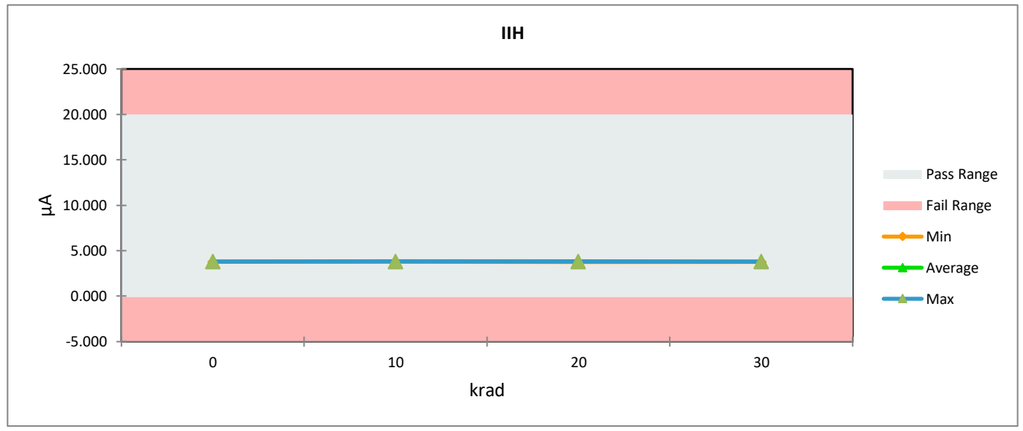
TID Report
SN55LVTA4-SEP

	IIH
Units	µA
Max Limit	20
Min Limit	-0.1

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	3.786	3.786	0.000	0.00%	0.00%
0	2	3.809	3.809	0.000	0.00%	0.00%
10	18	3.797	3.800	0.003	0.08%	0.01%
10	19	3.756	3.790	0.034	0.91%	0.17%
10	20	3.808	3.837	0.029	0.76%	0.14%
10	21	3.802	3.812	0.010	0.26%	0.05%
10	22	3.749	3.797	0.048	1.28%	0.24%
20	18	3.797	3.797	0.000	0.00%	0.00%
20	19	3.756	3.836	0.080	2.13%	0.40%
20	20	3.808	3.813	0.005	0.13%	0.02%
20	21	3.802	3.804	0.002	0.05%	0.01%
20	22	3.749	3.770	0.021	0.56%	0.10%
30	18	3.797	3.810	0.013	0.34%	0.06%
30	19	3.756	3.842	0.086	2.29%	0.43%
30	20	3.808	3.819	0.011	0.29%	0.05%
30	21	3.802	3.812	0.010	0.26%	0.05%
30	22	3.749	3.767	0.018	0.48%	0.09%
Max		3.809	3.842	0.033	2.29%	0.43%
Average		3.784	3.806	0.022	0.58%	0.11%
Min		3.749	3.767	0.018	0.00%	0.00%
Std Dev		0.025	0.021	-0.004	0.71%	0.13%



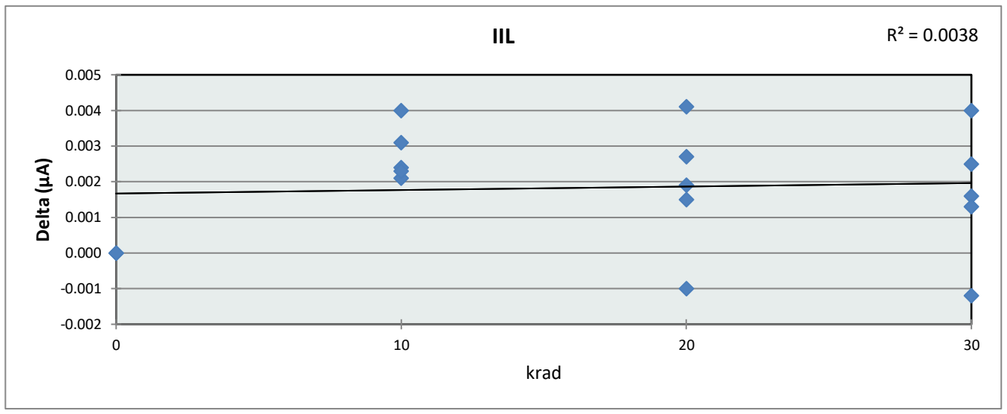
	IIH			
Units	µA			
Max Limit	20			
Min Limit	-0.1			
krad	0	10	20	30
LL	-0.100	-0.100	-0.100	-0.100
Min	3.786	3.797	3.770	3.767
Average	3.796	3.816	3.808	3.799
Max	3.809	3.837	3.842	3.819
UL	20.000	20.000	20.000	20.000



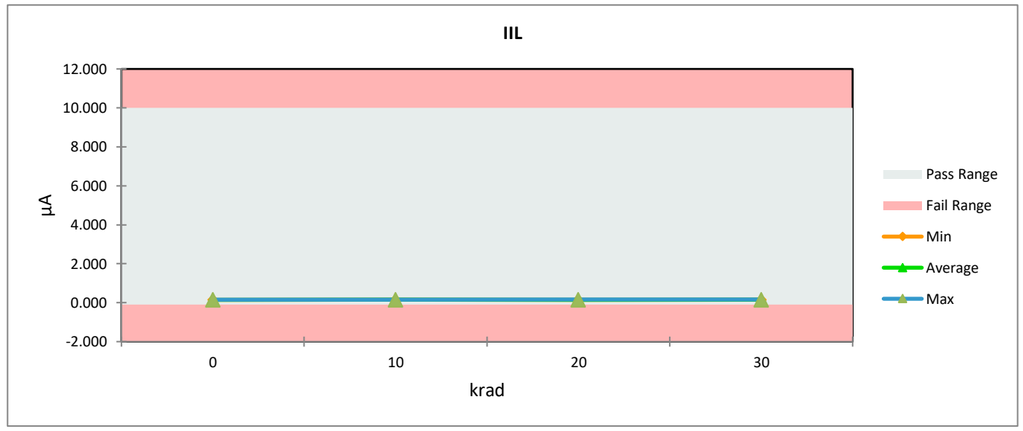
TID Report
SN55LVTA4-SEP

	IIL
Units	µA
Max Limit	10
Min Limit	-0.1

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	0.152	0.152	0.000	0.00%	0.00%
0	2	0.151	0.151	0.000	0.00%	0.00%
10	18	0.150	0.152	0.002	1.60%	0.02%
10	19	0.150	0.152	0.002	1.40%	0.02%
10	20	0.151	0.154	0.003	2.05%	0.03%
10	21	0.151	0.153	0.002	1.52%	0.02%
10	22	0.149	0.153	0.004	2.68%	0.04%
20	18	0.150	0.152	0.002	1.00%	0.01%
20	19	0.150	0.154	0.004	2.74%	0.04%
20	20	0.151	0.154	0.003	1.79%	0.03%
20	21	0.151	0.153	0.002	1.26%	0.02%
20	22	0.149	0.148	-0.001	-0.67%	0.01%
30	18	0.150	0.152	0.002	1.07%	0.02%
30	19	0.150	0.154	0.004	2.67%	0.04%
30	20	0.151	0.152	0.001	0.86%	0.01%
30	21	0.151	0.154	0.003	1.66%	0.02%
30	22	0.149	0.148	-0.001	-0.80%	0.01%
Max		0.152	0.154	0.003	2.74%	0.04%
Average		0.150	0.152	0.002	1.22%	0.02%
Min		0.149	0.148	-0.001	-0.80%	0.00%
Std Dev		0.001	0.002	0.001	1.09%	0.01%



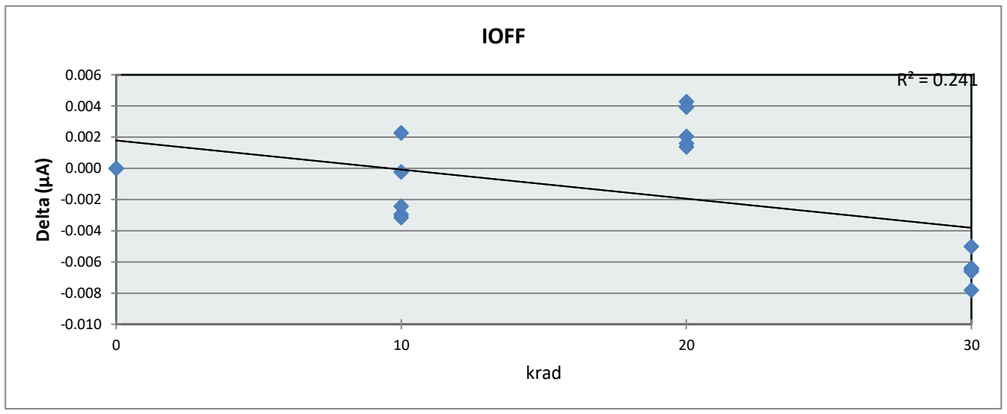
	IIL			
Units	µA			
Max Limit	10			
Min Limit	-0.1			
krad	0	10	20	30
LL	-0.100	-0.100	-0.100	-0.100
Min	0.151	0.152	0.148	0.148
Average	0.152	0.153	0.152	0.151
Max	0.152	0.154	0.154	0.154
UL	10.000	10.000	10.000	10.000



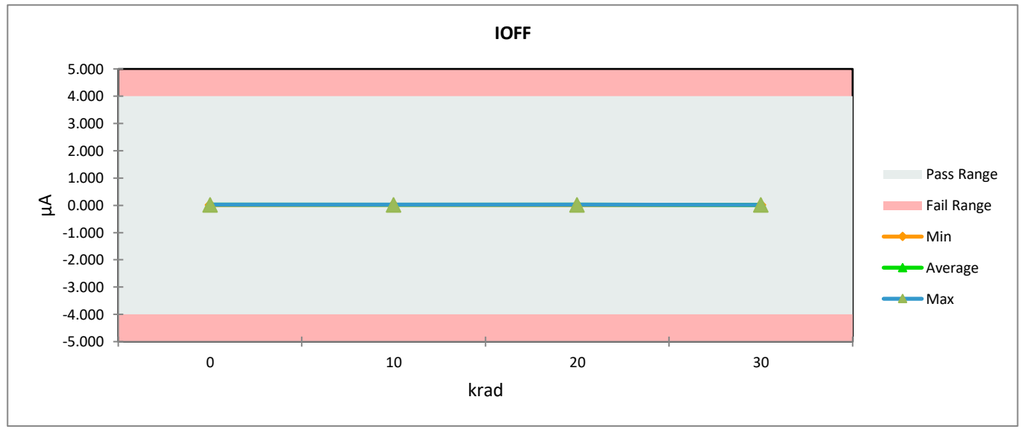
TID Report
SN55LVTA4-SEP

	IOFF
Units	µA
Max Limit	4
Min Limit	-4

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	0.021	0.021	0.000	0.00%	0.00%
0	2	0.017	0.017	0.000	0.00%	0.00%
10	18	0.018	0.015	-0.003	-16.17%	0.04%
10	19	0.020	0.017	-0.003	-16.07%	0.04%
10	20	0.020	0.020	0.000	-1.10%	0.00%
10	21	0.021	0.023	0.002	10.80%	0.03%
10	22	0.019	0.016	-0.002	-13.13%	0.03%
20	18	0.018	0.023	0.004	23.41%	0.05%
20	19	0.020	0.022	0.002	10.47%	0.03%
20	20	0.020	0.022	0.002	7.97%	0.02%
20	21	0.021	0.022	0.001	6.52%	0.02%
20	22	0.019	0.023	0.004	21.15%	0.05%
30	18	0.018	0.013	-0.005	-27.41%	0.06%
30	19	0.020	0.013	-0.006	-32.99%	0.08%
30	20	0.020	0.014	-0.006	-32.03%	0.08%
30	21	0.021	0.013	-0.008	-37.16%	0.10%
30	22	0.019	0.012	-0.007	-35.63%	0.08%
Max		0.021	0.023	0.002	23.41%	0.10%
Average		0.019	0.018	-0.002	-7.73%	0.04%
Min		0.017	0.012	-0.006	-37.16%	0.00%
Std Dev		0.001	0.004	0.003	20.19%	0.03%



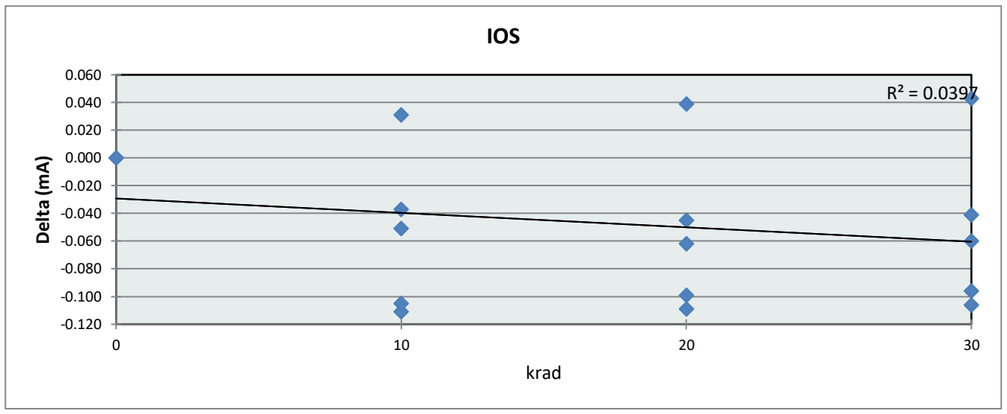
	IOFF			
Units	µA			
Max Limit	4			
Min Limit	-4			
krad	0	10	20	30
LL	-4.000	-4.000	-4.000	-4.000
Min	0.015	0.016	0.013	0.012
Average	0.017	0.021	0.019	0.013
Max	0.021	0.023	0.023	0.014
UL	4.000	4.000	4.000	4.000



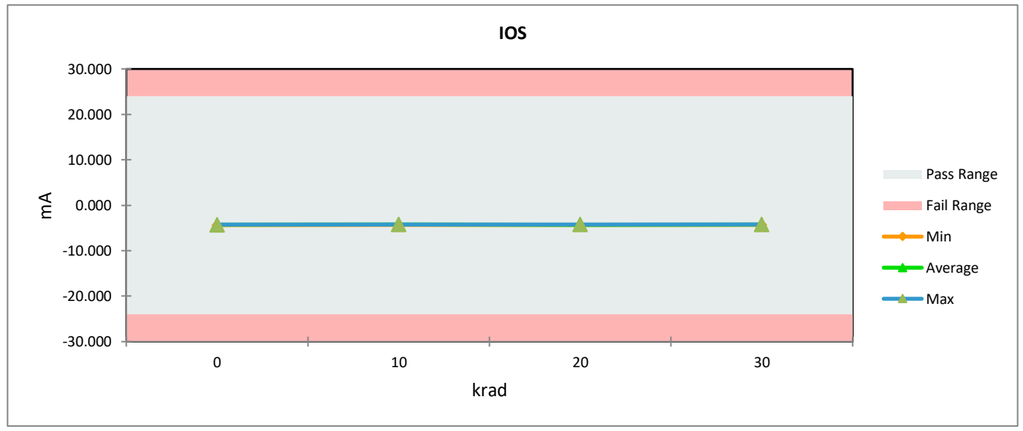
TID Report
SN55LVTA4-SEP

	IOS
Units	mA
Max Limit	24
Min Limit	-24

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	-4.246	-4.246	0.000	0.00%	0.00%
0	2	-4.257	-4.257	0.000	0.00%	0.00%
10	18	-4.242	-4.293	-0.051	1.20%	0.11%
10	19	-4.316	-4.353	-0.037	0.86%	0.08%
10	20	-4.170	-4.281	-0.111	2.66%	0.23%
10	21	-4.168	-4.273	-0.105	2.52%	0.22%
10	22	-4.252	-4.221	0.031	-0.73%	0.06%
20	18	-4.242	-4.351	-0.109	2.57%	0.23%
20	19	-4.316	-4.277	0.039	-0.90%	0.08%
20	20	-4.170	-4.269	-0.099	2.37%	0.21%
20	21	-4.168	-4.213	-0.045	1.08%	0.09%
20	22	-4.252	-4.314	-0.062	1.46%	0.13%
30	18	-4.242	-4.348	-0.106	2.50%	0.22%
30	19	-4.316	-4.273	0.043	-1.00%	0.09%
30	20	-4.170	-4.266	-0.096	2.30%	0.20%
30	21	-4.168	-4.209	-0.041	0.98%	0.09%
30	22	-4.252	-4.312	-0.060	1.41%	0.13%
Max		-4.168	-4.209	-0.041	2.66%	0.23%
Average		-4.232	-4.280	-0.048	1.13%	0.13%
Min		-4.316	-4.353	-0.037	-1.00%	0.00%
Std Dev		0.054	0.045	-0.009	1.28%	0.08%



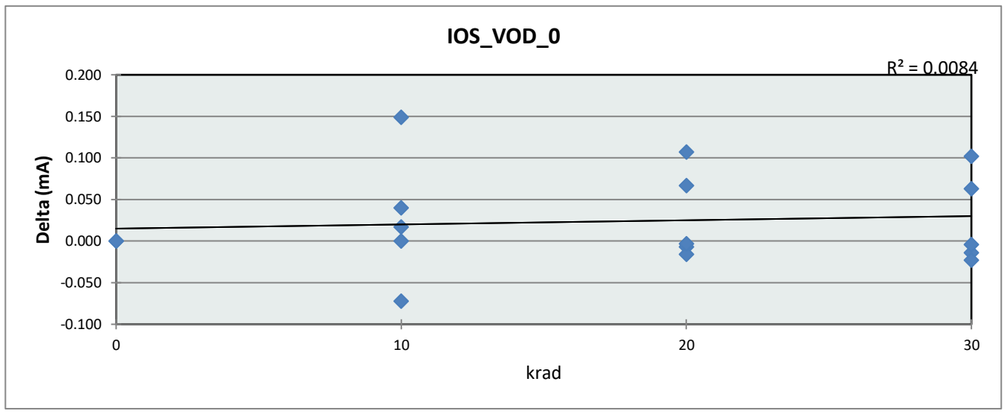
	IOS			
Units	mA			
Max Limit	24			
Min Limit	-24			
krad	0	10	20	30
LL	-24.000	-24.000	-24.000	-24.000
Min	-4.353	-4.351	-4.348	-4.312
Average	-4.287	-4.281	-4.283	-4.262
Max	-4.246	-4.221	-4.213	-4.209
UL	24.000	24.000	24.000	24.000



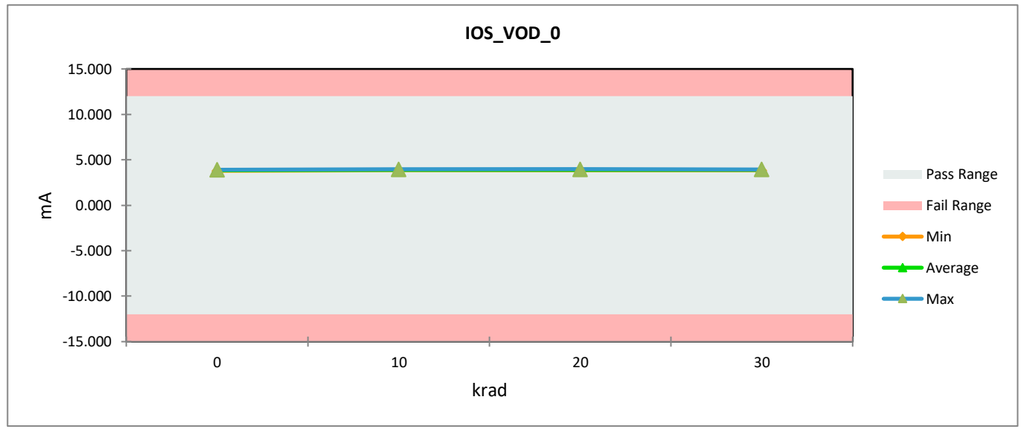
TID Report
SN55LVTA4-SEP

	IOS_VOD_0
Units	mA
Max Limit	12
Min Limit	-12

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	3.796	3.796	0.000	0.00%	0.00%
0	2	3.905	3.905	0.000	0.00%	0.00%
10	18	3.885	3.813	-0.072	-1.85%	0.30%
10	19	3.883	3.883	0.000	0.00%	0.00%
10	20	3.855	3.872	0.017	0.44%	0.07%
10	21	3.817	3.966	0.149	3.90%	0.62%
10	22	3.852	3.892	0.040	1.04%	0.17%
20	18	3.885	3.878	-0.007	-0.18%	0.03%
20	19	3.883	3.867	-0.016	-0.41%	0.07%
20	20	3.855	3.962	0.107	2.78%	0.45%
20	21	3.817	3.884	0.067	1.76%	0.28%
20	22	3.852	3.849	-0.003	-0.08%	0.01%
30	18	3.885	3.871	-0.014	-0.36%	0.06%
30	19	3.883	3.860	-0.023	-0.59%	0.10%
30	20	3.855	3.957	0.102	2.65%	0.42%
30	21	3.817	3.880	0.063	1.65%	0.26%
30	22	3.852	3.848	-0.004	-0.10%	0.02%
Max		3.905	3.966	0.061	3.90%	0.62%
Average		3.857	3.881	0.024	0.63%	0.17%
Min		3.796	3.796	0.000	-1.85%	0.00%
Std Dev		0.031	0.047	0.016	1.47%	0.19%



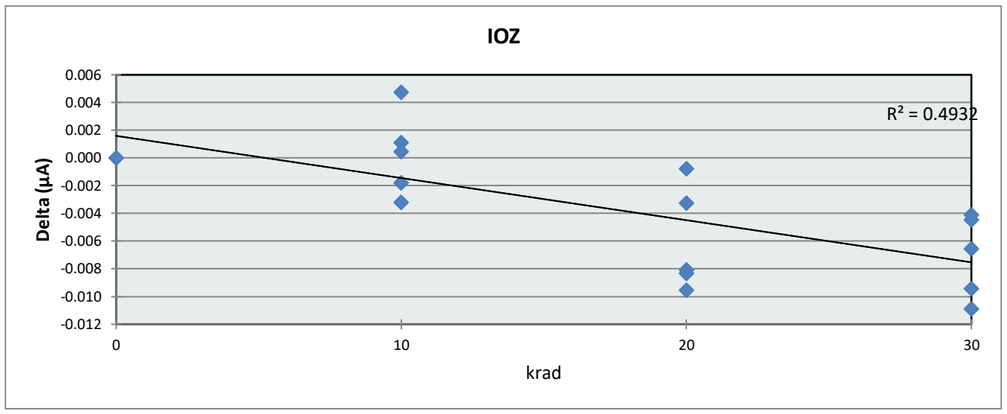
	IOS_VOD_0			
Units	mA			
Max Limit	12			
Min Limit	-12			
krad	0	10	20	30
LL	-12.000	-12.000	-12.000	-12.000
Min	3.796	3.867	3.849	3.848
Average	3.849	3.895	3.885	3.895
Max	3.905	3.966	3.962	3.957
UL	12.000	12.000	12.000	12.000



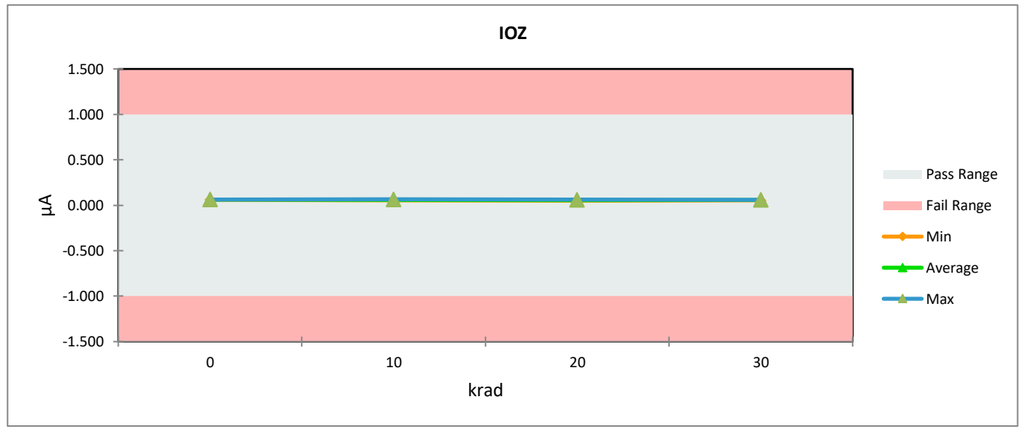
TID Report
SN55LVTA4-SEP

	IOZ
Units	µA
Max Limit	1
Min Limit	-1

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	0.060	0.060	0.000	0.00%	0.00%
0	2	0.065	0.065	0.000	0.00%	0.00%
10	18	0.064	0.062	-0.002	-2.80%	0.09%
10	19	0.062	0.063	0.001	1.80%	0.06%
10	20	0.061	0.061	0.000	0.74%	0.02%
10	21	0.062	0.066	0.005	7.70%	0.24%
10	22	0.064	0.061	-0.003	-5.02%	0.16%
20	18	0.064	0.054	-0.010	-14.92%	0.48%
20	19	0.062	0.054	-0.008	-13.07%	0.40%
20	20	0.061	0.058	-0.003	-5.36%	0.16%
20	21	0.062	0.053	-0.008	-13.53%	0.42%
20	22	0.064	0.063	-0.001	-1.21%	0.04%
30	18	0.064	0.055	-0.009	-14.76%	0.47%
30	19	0.062	0.051	-0.011	-17.62%	0.54%
30	20	0.061	0.054	-0.007	-10.73%	0.33%
30	21	0.062	0.057	-0.004	-7.28%	0.22%
30	22	0.064	0.060	-0.004	-6.45%	0.21%
Max		0.065	0.066	0.002	7.70%	0.54%
Average		0.062	0.059	-0.004	-6.03%	0.23%
Min		0.060	0.051	-0.009	-17.62%	0.00%
Std Dev		0.001	0.005	0.003	7.17%	0.18%



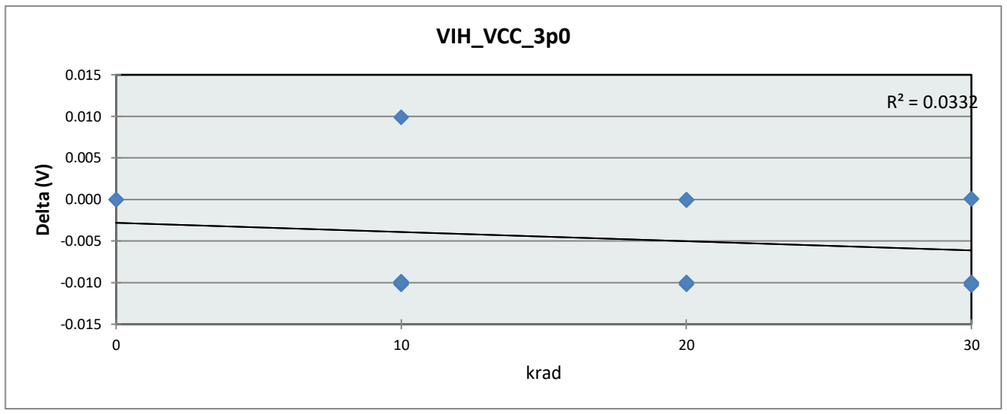
	IOZ			
Units	µA			
Max Limit	1			
Min Limit	-1			
krad	0	10	20	30
LL	-1.000	-1.000	-1.000	-1.000
Min	0.060	0.054	0.051	0.054
Average	0.062	0.059	0.056	0.057
Max	0.065	0.066	0.063	0.060
UL	1.000	1.000	1.000	1.000



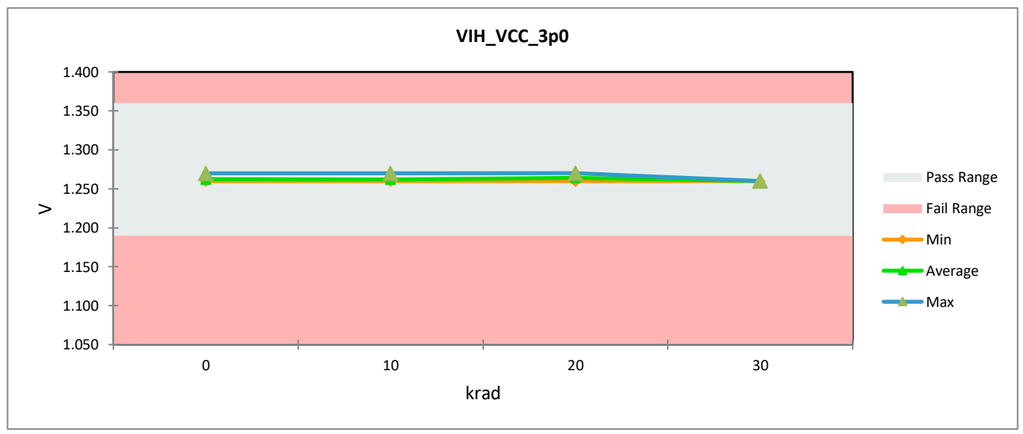
TID Report
SN55LVTA4-SEP

	VIH_VCC_3p0
Units	V
Max Limit	1.36
Min Limit	1.19

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.260	1.260	0.000	0.00%	0.00%
0	2	1.260	1.260	0.000	0.00%	0.00%
10	18	1.270	1.260	-0.010	-0.80%	5.94%
10	19	1.260	1.270	0.010	0.78%	5.81%
10	20	1.270	1.260	-0.010	-0.80%	6.00%
10	21	1.270	1.260	-0.010	-0.78%	5.80%
10	22	1.270	1.260	-0.010	-0.79%	5.90%
20	18	1.270	1.270	0.000	-0.01%	0.04%
20	19	1.260	1.260	0.000	0.00%	0.02%
20	20	1.270	1.260	-0.010	-0.80%	6.00%
20	21	1.270	1.260	-0.010	-0.78%	5.85%
20	22	1.270	1.270	0.000	0.00%	0.03%
30	18	1.270	1.270	0.000	0.01%	0.06%
30	19	1.260	1.260	0.000	0.01%	0.05%
30	20	1.270	1.260	-0.010	-0.81%	6.04%
30	21	1.270	1.260	-0.010	-0.78%	5.86%
30	22	1.270	1.260	-0.010	-0.80%	5.94%
Max		1.270	1.270	0.000	0.78%	6.04%
Average		1.267	1.262	-0.005	-0.37%	3.49%
Min		1.260	1.260	0.000	-0.81%	0.00%
Std Dev		0.005	0.004	0.000	0.49%	2.99%



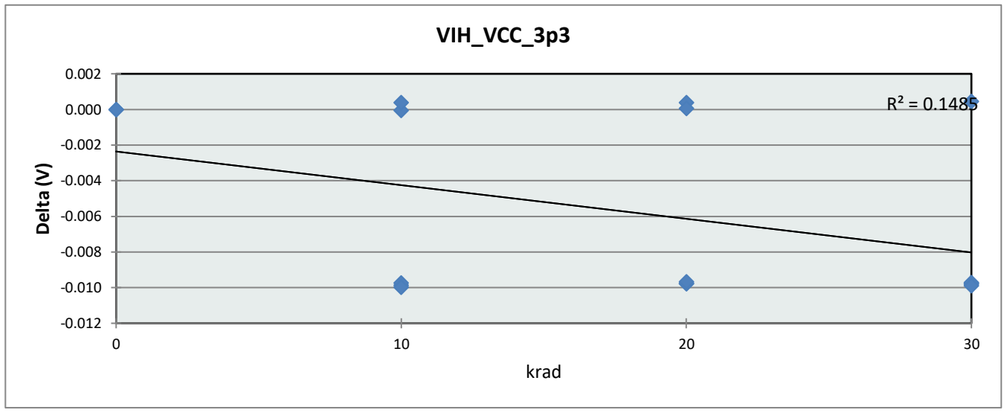
	VIH_VCC_3p0			
Units	V			
Max Limit	1.36			
Min Limit	1.19			
krad	0	10	20	30
LL	1.190	1.190	1.190	1.190
Min	1.260	1.260	1.260	1.260
Average	1.262	1.262	1.264	1.260
Max	1.270	1.270	1.270	1.260
UL	1.360	1.360	1.360	1.360



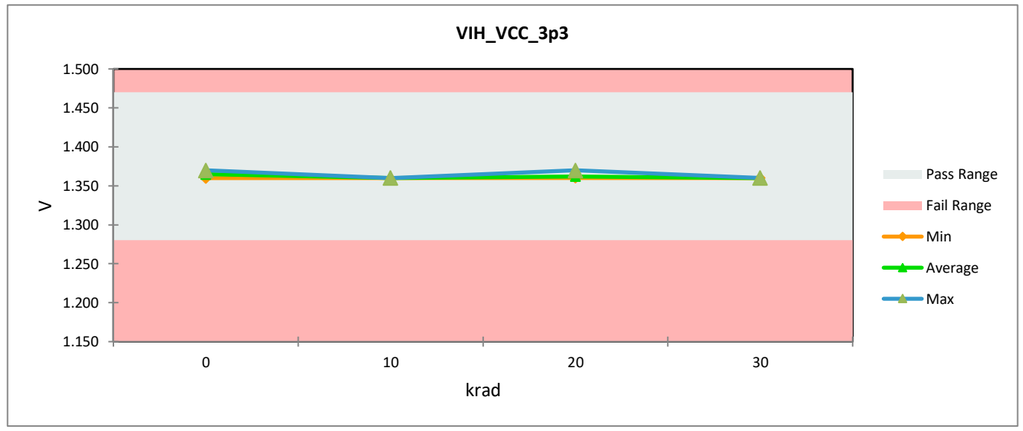
TID Report
SN55LVTA4-SEP

	VIH_VCC_3p3
Units	V
Max Limit	1.47
Min Limit	1.28

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.370	1.370	0.000	0.00%	0.00%
0	2	1.360	1.360	0.000	0.00%	0.00%
10	18	1.370	1.360	-0.010	-0.72%	5.20%
10	19	1.370	1.370	0.000	0.00%	0.03%
10	20	1.370	1.360	-0.010	-0.71%	5.13%
10	21	1.360	1.360	0.000	0.03%	0.20%
10	22	1.370	1.360	-0.010	-0.73%	5.25%
20	18	1.370	1.360	-0.010	-0.71%	5.15%
20	19	1.370	1.360	-0.010	-0.71%	5.13%
20	20	1.370	1.360	-0.010	-0.71%	5.09%
20	21	1.360	1.360	0.000	0.03%	0.20%
20	22	1.370	1.370	0.000	0.00%	0.03%
30	18	1.370	1.360	-0.010	-0.71%	5.14%
30	19	1.370	1.360	-0.010	-0.72%	5.16%
30	20	1.370	1.360	-0.010	-0.71%	5.12%
30	21	1.360	1.360	0.000	0.03%	0.24%
30	22	1.370	1.360	-0.010	-0.72%	5.20%
Max		1.370	1.370	0.000	0.03%	5.25%
Average		1.367	1.362	-0.006	-0.42%	3.07%
Min		1.360	1.360	0.000	-0.73%	0.00%
Std Dev		0.004	0.004	-0.001	0.37%	2.57%



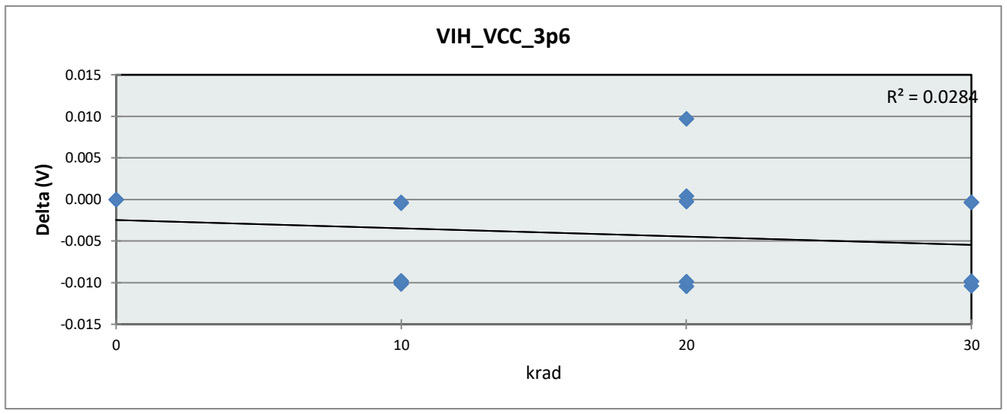
	VIH_VCC_3p3			
Units	V			
Max Limit	1.47			
Min Limit	1.28			
krad	0	10	20	30
LL	1.280	1.280	1.280	1.280
Min	1.360	1.360	1.360	1.360
Average	1.365	1.360	1.362	1.360
Max	1.370	1.360	1.370	1.360
UL	1.470	1.470	1.470	1.470



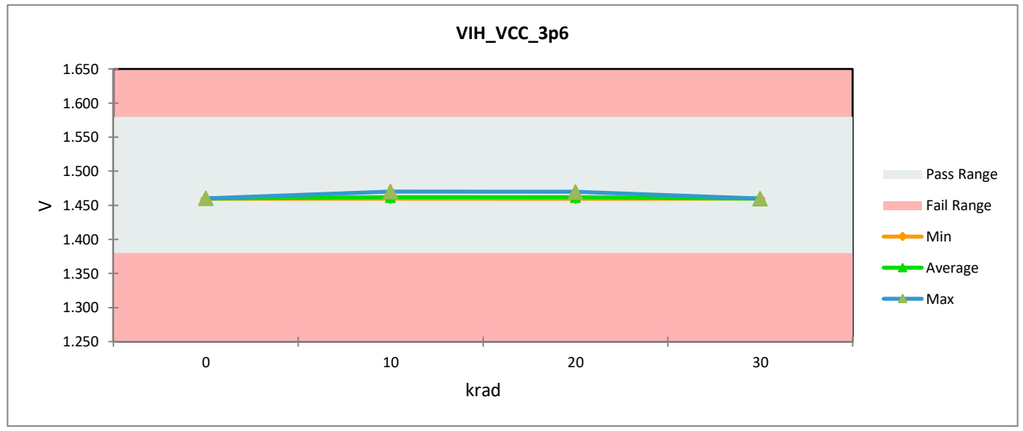
TID Report
SN55LVTA4-SEP

	VIH_VCC_3p6
Units	V
Max Limit	1.58
Min Limit	1.38

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.460	1.460	0.000	0.00%	0.00%
0	2	1.460	1.460	0.000	0.00%	0.00%
10	18	1.470	1.460	-0.010	-0.67%	4.96%
10	19	1.470	1.460	-0.010	-0.69%	5.08%
10	20	1.470	1.460	-0.010	-0.66%	4.89%
10	21	1.460	1.460	0.000	-0.03%	0.21%
10	22	1.460	1.460	0.000	-0.02%	0.18%
20	18	1.470	1.470	0.000	0.03%	0.20%
20	19	1.470	1.460	-0.010	-0.71%	5.21%
20	20	1.470	1.460	-0.010	-0.67%	4.93%
20	21	1.460	1.460	0.000	-0.02%	0.12%
20	22	1.460	1.470	0.010	0.66%	4.85%
30	18	1.470	1.460	-0.010	-0.67%	4.91%
30	19	1.470	1.460	-0.010	-0.71%	5.20%
30	20	1.470	1.460	-0.010	-0.67%	4.92%
30	21	1.460	1.460	0.000	-0.02%	0.17%
30	22	1.460	1.460	0.000	-0.02%	0.17%
Max		1.470	1.470	0.000	0.66%	5.21%
Average		1.465	1.461	-0.004	-0.29%	2.71%
Min		1.460	1.460	0.000	-0.71%	0.00%
Std Dev		0.005	0.003	-0.002	0.42%	2.51%



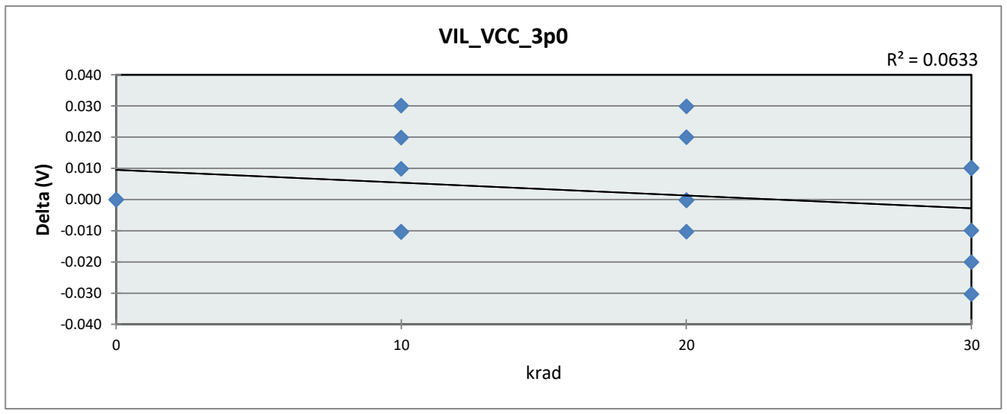
	VIH_VCC_3p6			
Units	V			
Max Limit	1.58			
Min Limit	1.38			
krad	0	10	20	30
LL	1.380	1.380	1.380	1.380
Min	1.460	1.460	1.460	1.460
Average	1.460	1.462	1.462	1.460
Max	1.460	1.470	1.470	1.460
UL	1.580	1.580	1.580	1.580



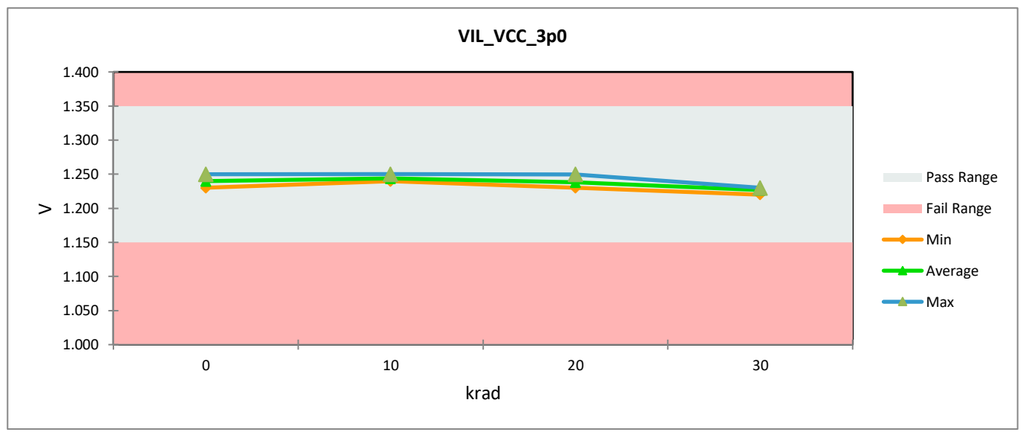
TID Report
SN55LVTA4-SEP

	VIL_VCC_3p0
Units	V
Max Limit	1.35
Min Limit	1.15

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.240	1.240	0.000	0.00%	0.00%
0	2	1.230	1.230	0.000	0.00%	0.00%
10	18	1.220	1.240	0.020	1.63%	9.92%
10	19	1.220	1.250	0.030	2.47%	15.06%
10	20	1.250	1.240	-0.010	-0.82%	5.13%
10	21	1.240	1.250	0.010	0.80%	4.95%
10	22	1.250	1.240	-0.010	-0.84%	5.22%
20	18	1.220	1.250	0.030	2.45%	14.95%
20	19	1.220	1.240	0.020	1.64%	10.01%
20	20	1.250	1.250	0.000	-0.02%	0.13%
20	21	1.240	1.240	0.000	-0.02%	0.10%
20	22	1.250	1.240	-0.010	-0.82%	5.13%
30	18	1.220	1.230	0.010	0.82%	5.01%
30	19	1.220	1.230	0.010	0.83%	5.09%
30	20	1.250	1.230	-0.020	-1.60%	9.99%
30	21	1.240	1.230	-0.010	-0.80%	4.94%
30	22	1.250	1.220	-0.030	-2.42%	15.14%
Max		1.250	1.250	0.000	2.47%	15.14%
Average		1.236	1.238	0.002	0.19%	6.52%
Min		1.220	1.220	0.000	-2.42%	0.00%
Std Dev		0.013	0.009	-0.005	1.37%	5.22%



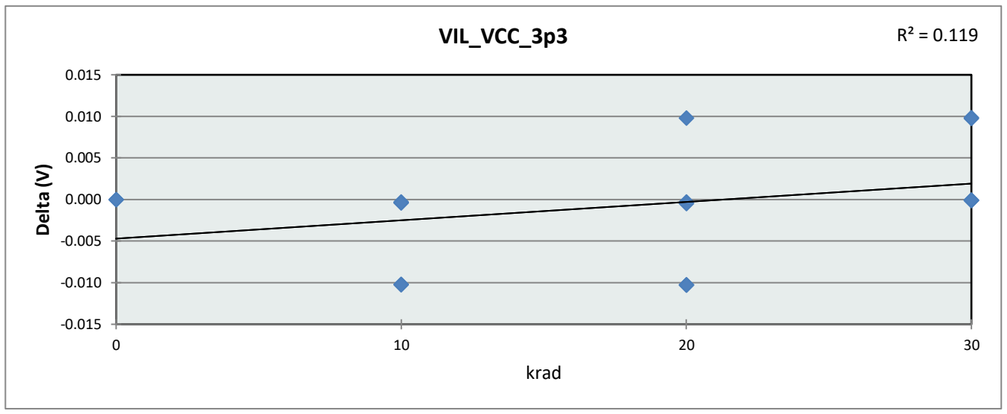
	VIL_VCC_3p0			
Units	V			
Max Limit	1.35			
Min Limit	1.15			
krad	0	10	20	30
LL	1.150	1.150	1.150	1.150
Min	1.230	1.240	1.230	1.220
Average	1.240	1.244	1.238	1.227
Max	1.250	1.250	1.250	1.230
UL	1.350	1.350	1.350	1.350



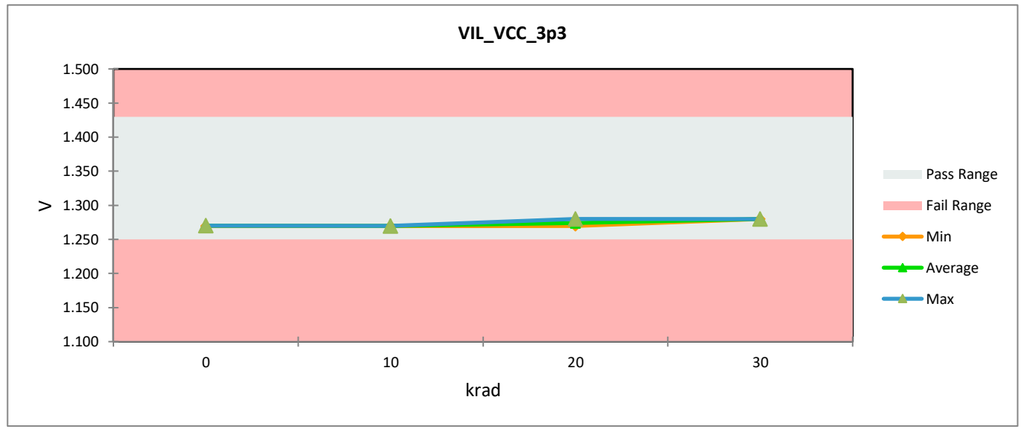
TID Report
SN55LVTA4-SEP

	VIL_VCC_3p3
Units	V
Max Limit	1.43
Min Limit	1.25

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.270	1.270	0.000	0.00%	0.00%
0	2	1.270	1.270	0.000	0.00%	0.00%
10	18	1.270	1.270	0.000	-0.03%	0.22%
10	19	1.270	1.270	0.000	-0.02%	0.17%
10	20	1.270	1.270	0.000	-0.03%	0.22%
10	21	1.280	1.270	-0.010	-0.80%	5.67%
10	22	1.280	1.270	-0.010	-0.80%	5.69%
20	18	1.270	1.270	0.000	-0.02%	0.17%
20	19	1.270	1.270	0.000	-0.04%	0.26%
20	20	1.270	1.280	0.010	0.77%	5.44%
20	21	1.280	1.270	-0.010	-0.80%	5.69%
20	22	1.280	1.270	-0.010	-0.80%	5.71%
30	18	1.270	1.280	0.010	0.77%	5.47%
30	19	1.270	1.270	0.000	-0.01%	0.06%
30	20	1.270	1.280	0.010	0.77%	5.41%
30	21	1.280	1.280	0.000	-0.01%	0.07%
30	22	1.280	1.280	0.000	0.00%	0.03%
Max		1.280	1.280	0.000	0.77%	5.71%
Average		1.274	1.273	-0.001	-0.06%	2.37%
Min		1.270	1.270	0.000	-0.80%	0.00%
Std Dev		0.005	0.005	0.000	0.52%	2.77%



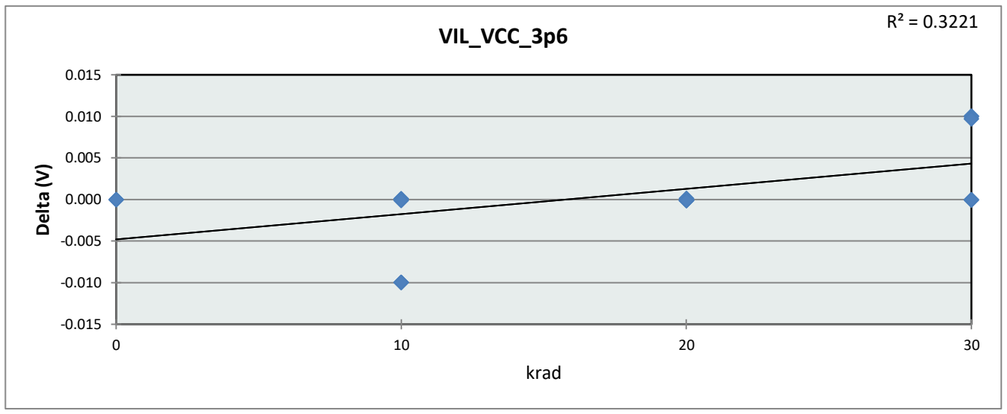
	VIL_VCC_3p3			
Units	V			
Max Limit	1.43			
Min Limit	1.25			
krad	0	10	20	30
LL	1.250	1.250	1.250	1.250
Min	1.270	1.270	1.270	1.280
Average	1.270	1.270	1.274	1.280
Max	1.270	1.270	1.280	1.280
UL	1.430	1.430	1.430	1.430



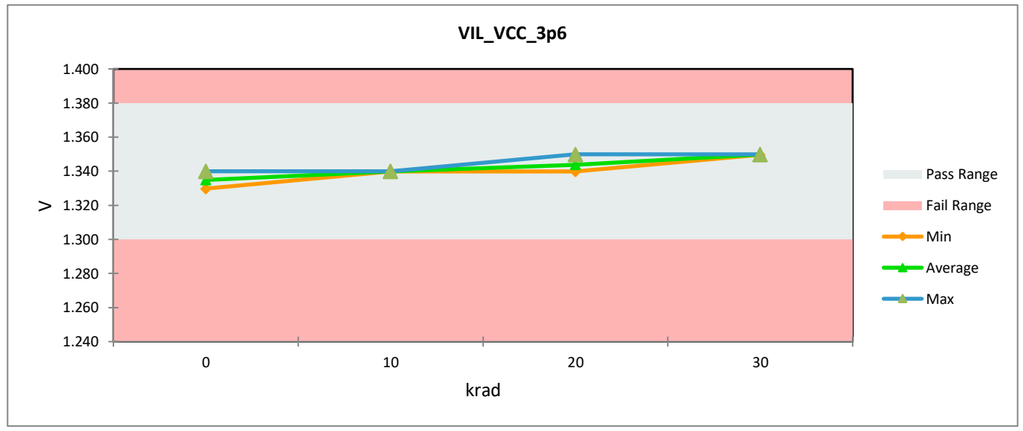
TID Report
SN55LVTA4-SEP

	VIL_VCC_3p6
Units	V
Max Limit	1.38
Min Limit	1.3

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.330	1.330	0.000	0.00%	0.00%
0	2	1.340	1.340	0.000	0.00%	0.00%
10	18	1.340	1.330	-0.010	-0.74%	12.46%
10	19	1.340	1.340	0.000	0.01%	0.13%
10	20	1.340	1.340	0.000	0.01%	0.09%
10	21	1.340	1.340	0.000	-0.01%	0.10%
10	22	1.350	1.340	-0.010	-0.74%	12.47%
20	18	1.340	1.340	0.000	0.01%	0.17%
20	19	1.340	1.340	0.000	0.00%	0.02%
20	20	1.340	1.340	0.000	-0.01%	0.14%
20	21	1.340	1.340	0.000	-0.01%	0.10%
20	22	1.350	1.350	0.000	-0.01%	0.15%
30	18	1.340	1.350	0.010	0.75%	12.55%
30	19	1.340	1.340	0.000	0.00%	0.05%
30	20	1.340	1.350	0.010	0.75%	12.51%
30	21	1.340	1.350	0.010	0.73%	12.15%
30	22	1.350	1.350	0.000	0.00%	0.02%
Max		1.350	1.350	0.000	0.75%	12.55%
Average		1.341	1.342	0.001	0.04%	3.71%
Min		1.330	1.330	0.000	-0.74%	0.00%
Std Dev		0.005	0.006	0.001	0.41%	5.80%



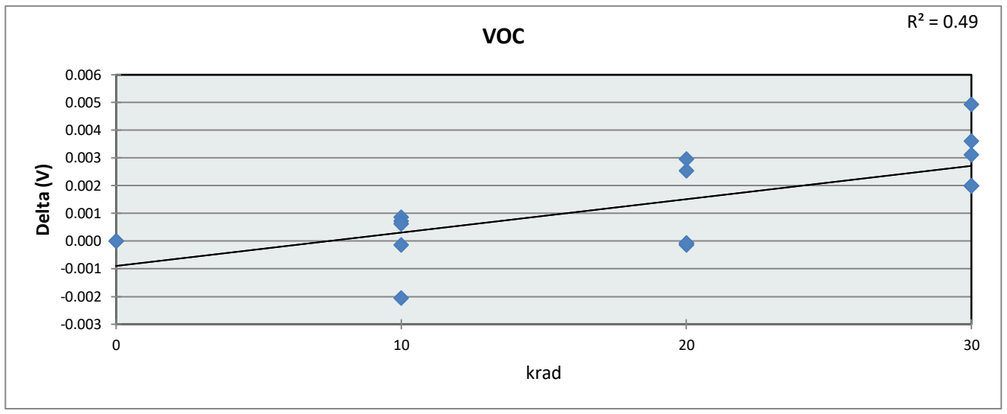
	VIL_VCC_3p6			
Units	V			
Max Limit	1.38			
Min Limit	1.3			
krad	0	10	20	30
LL	1.300	1.300	1.300	1.300
Min	1.330	1.340	1.340	1.350
Average	1.335	1.340	1.344	1.350
Max	1.340	1.340	1.350	1.350
UL	1.380	1.380	1.380	1.380



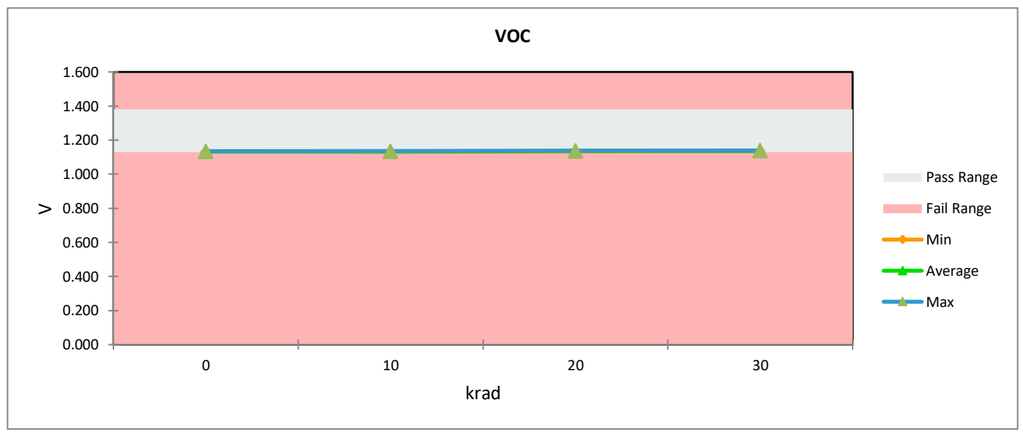
TID Report
SN55LVTA4-SEP

	VOC
Units	V
Max Limit	1.38
Min Limit	1.13

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	1.134	1.134	0.000	0.00%	0.00%
0	2	1.135	1.135	0.000	0.00%	0.00%
10	18	1.133	1.134	0.001	0.08%	0.35%
10	19	1.134	1.135	0.001	0.06%	0.29%
10	20	1.133	1.134	0.001	0.05%	0.25%
10	21	1.133	1.131	-0.002	-0.18%	0.82%
10	22	1.134	1.134	0.000	-0.01%	0.05%
20	18	1.133	1.135	0.003	0.22%	1.01%
20	19	1.134	1.134	0.000	-0.01%	0.05%
20	20	1.133	1.133	0.000	-0.01%	0.03%
20	21	1.133	1.133	0.000	-0.01%	0.03%
20	22	1.134	1.137	0.003	0.26%	1.19%
30	18	1.133	1.136	0.004	0.32%	1.44%
30	19	1.134	1.136	0.002	0.18%	0.80%
30	20	1.133	1.135	0.002	0.18%	0.80%
30	21	1.133	1.136	0.003	0.27%	1.25%
30	22	1.134	1.139	0.005	0.43%	1.97%
Max		1.135	1.139	0.004	0.43%	1.97%
Average		1.134	1.135	0.001	0.11%	0.61%
Min		1.133	1.131	-0.002	-0.18%	0.00%
Std Dev		0.001	0.002	0.001	0.16%	0.61%



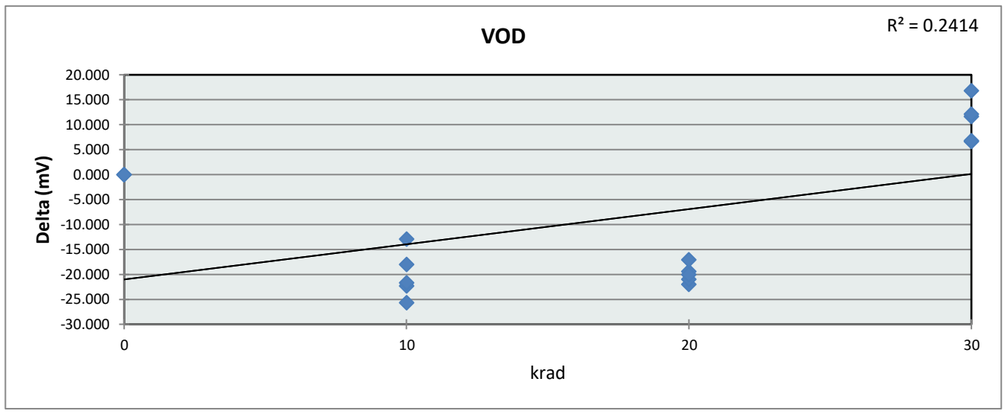
	VOC			
Units	V			
Max Limit	1.38			
Min Limit	1.13			
krad	0	10	20	30
LL	1.130	1.130	1.130	1.130
Min	1.134	1.131	1.133	1.135
Average	1.135	1.134	1.135	1.137
Max	1.135	1.135	1.137	1.139
UL	1.380	1.380	1.380	1.380



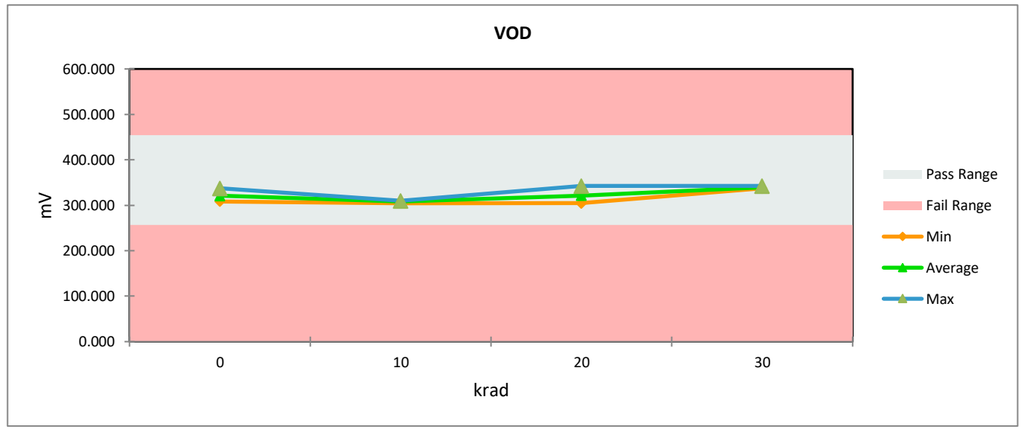
TID Report
SN55LVTA4-SEP

	VOD
Units	mV
Max Limit	454
Min Limit	257

krad	Serial #	PreTestLDR	PostTestLDR	Delta	Delta %	% of Limit Range
0	1	325.221	325.221	0.000	0.00%	0.00%
0	2	337.217	337.217	0.000	0.00%	0.00%
10	18	330.913	308.635	-22.278	-6.73%	11.31%
10	19	330.988	313.007	-17.982	-5.43%	9.13%
10	20	330.601	308.946	-21.655	-6.55%	10.99%
10	21	321.937	309.021	-12.916	-4.01%	6.56%
10	22	330.139	304.462	-25.677	-7.78%	13.03%
20	18	330.913	308.947	-21.966	-6.64%	11.15%
20	19	330.988	309.993	-20.995	-6.34%	10.66%
20	20	330.601	311.226	-19.376	-5.86%	9.84%
20	21	321.937	304.898	-17.039	-5.29%	8.65%
20	22	330.139	310.118	-20.021	-6.06%	10.16%
30	18	330.913	337.548	6.635	2.00%	3.37%
30	19	330.988	342.662	11.674	3.53%	5.93%
30	20	330.601	337.384	6.783	2.05%	3.44%
30	21	321.937	338.776	16.839	5.23%	8.55%
30	22	330.139	342.224	12.085	3.66%	6.13%
Max		337.217	342.662	5.444	5.23%	13.03%
Average		329.187	320.605	-8.582	-2.60%	7.58%
Min		321.937	304.462	-17.475	-7.78%	0.00%
Std Dev		4.072	14.948	10.876	4.50%	3.95%



	VOD			
Units	mV			
Max Limit	454			
Min Limit	257			
krad	0	10	20	30
LL	257.000	257.000	257.000	257.000
Min	308.635	304.462	304.898	337.384
Average	321.020	308.274	321.290	339.461
Max	337.217	309.993	342.662	342.224
UL	454.000	454.000	454.000	454.000



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