

# SN54SC4T02-SEP Total Ionizing Dose (TID) Report

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## ABSTRACT

This report covers the Radiation Lot Acceptance Testing (RLAT) results of the SN54SC4T02-SEP radiation tolerant, quadruple 2-input positive-NOR gates. The study was done to determine Total Ionizing Dose (TID) effects under high dose rate (HDR) to 30 krad(Si). Radiation Lot Acceptance Testing (RLAT) was performed using 5 units at a dose level of 30 krad(Si) per MIL-STD-883 TM 1019, and all future wafer lots will be tested to the same conditions.

The SN54SC4T02-SEP is packaged in a space enhanced plastic for low outgassing characteristics and is Single Event Latch-Up (SEL) immune up to 43 MeV-cm<sup>2</sup>/mg, which makes the device an option for low Earth orbit space applications.

For full total ionizing dose characterization results, see [SN54SC4T125-SEP Total Ionizing Dose \(TID\) Report](#).

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## 1 Device Information

The SN54SC4T02-SEP contains four independent 2-input NOR Gates with extended voltage operation to allow for level translation. Each gate performs the Boolean function  $Y = \overline{A + B}$  in positive logic. The output level is referenced to the supply voltage ( $V_{CC}$ ) and supports 1.2-V, 1.8-V, 2.5-V, 3.3-V, and 5-V CMOS levels.

The input is designed with a lower threshold circuit to support up translation for lower voltage CMOS inputs (for example 1.2 V input to 1.8 V output or 1.8 V input to 3.3 V output). Additionally, the 5-V tolerant input pins enable down translation (for example 3.3 V to 2.5 V output).

### 1.1 Device Details

[Table 1-1](#) lists the device information used for TID HDR Radiation Lot Acceptance Testing (RLAT).

**Table 1-1. Device and Exposure Details**

TID HDR Details: up to 30 krad(Si)	
TI Device Number	SN54SC4T02-SEP
Package	14-pin PW (TSSOP)
Technology	LBC9
Die Lot Number	3059494RFB
A/T Lot Number and Date Code	3620065ML3 / 36AGQ3K
Quantity Tested	12 irradiated devices + 4 control
Lot Accept or Reject	Devices passed 30 krad(Si)
HDR Radiation Facility	Texas Instruments CLAB in Dallas, Texas
HDR Dose Level	30 krad(Si)
HDR Dose Rate	197.2 -rad(Si)/s ionizing radiation
HDR Radiation Source	Gammacell 220 Excel (GC-220E) Co-60
Irradiation Temperature	Ambient, room temperature

## 2 Total Dose Test Setup

### 2.1 Test Overview

The SN54SC4T02-SEP samples were irradiated at a high dose rate of 197.2 rad(Si)/s to 30 krad(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 SN54SC4T02-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 197.2 rads(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.

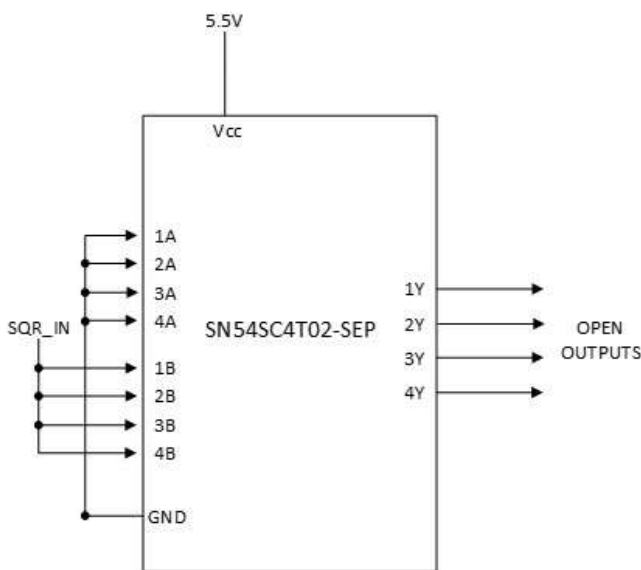


Figure 2-1. SN54SC4T02-SEP Bias Diagram

## 2.4 Test Configuration and Condition

The RLAT units were irradiated to 30 krad(Si), parametrically tested on ATE, and then were annealed at 25°C for 50 hours. The units were then put through parametric testing once more on the ATE. An additional six units were irradiated to 30 krad(Si) without anneal, for reference.

[Table 2-1](#) lists the serialized samples used for TID Radiation Lot Acceptance Testing (RLAT).

**Table 2-1. HDR Device Information**

<b>Control Group</b>	<b>HDR = 197.2 rad(Si)/s</b>	
<b>Total Samples: 4</b>	<b>Total Samples: 12</b>	
	<b>Exposure Levels</b>	
0 krad (Si)	30 krad(Si)	
Biased	Biased	Biased + 50 hour anneal
1 - 4	5 - 10	11 - 16

### 3 TID Characterization Test Results

#### 3.1 TID Characterization Summary Results

The parametric data for the SN54SC4T02-SEP passes to 30 krad(Si) HDR TID irradiation. The drifts of the electrical parameters through HDR were within the data sheet limits.

Overall, the SN54SC4T02-SEP showed a strong degree of hardness to HDR TID irradiation up to 30 krad(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.

See [Section 5](#) for HDR report to 30 krad(Si).

#### 3.2 Specification Compliance Matrix

**Table 3-1. Electrical Parameters Table**

Parameter	Test Conditions	V <sub>CC</sub>	T <sub>A</sub> = -55°C to +125°C			Unit	Test Name
			MIN	TYP	MAX		
V <sub>T+</sub> 1	Positive-going input threshold voltage	1.2 V to 1.3 V	0.31	0.655	1.1	V	VTP_1P2V
		1.65 V to 2 V	0.39	0.915	1.32		VTP_1P65V, VTP_2V
		2.25 V to 2.75 V	0.51	1.09	1.51		VTP_2P25V, VTP_2P75V
		3 V to 3.6 V	0.65	1.2	1.7		VTP_3V, VTP_3P6V
		4.5 V to 5.5 V	0.87	1.51	2.16		VTP_4P5V, VTP_5P5V
V <sub>T-</sub> 1	Negative-going input threshold voltage	1.2 V to 1.3 V	0.11	0.349	0.622	V	VTN_1P2V
		1.65 V to 2 V	0.18	0.455	0.666		VTN_1P65V, VTN_2V
		2.25 V to 2.75 V	0.25	0.545	0.74		VTN_2P25V, VTN_2P75V
		3 V to 3.6 V	0.33	0.635	0.85		VTN_3V, VTN_3P6V
		4.5 V to 5.5 V	0.45	0.755	1.14		VTN_4P5V, VTN_5P5V
ΔV <sub>T</sub> 1	Hysteresis (V <sub>T+</sub> – V <sub>T-</sub> )	1.2 V to 1.3 V	0.081	0.29	0.77	V	DELTAVT_1P2V
		1.65 V to 2 V	0.21	0.43	0.88		DELTAVT_1P65V, DELTAVT_2V
		2.25 V to 2.75 V	0.25	0.54	0.91		DELTAVT_2P25V, DELTAVT_2P75V
		3 V to 3.6 V	0.31	0.63	0.91		DELTAVT_3V, DELTAVT_3P6V
		4.5 V to 5.5 V	0.43	0.75	1.1		DELTAVT_4P5V, DELTAVT_5P5V
V <sub>IH</sub>	High-level input voltage	1.2 V to 1.3 V	0.78			V	VIH_1P2V, VIH_1P3V
		1.65 V to 2 V	1.1				VIH_1P65V, VIH_2V
		2.25 V to 2.75 V	1.28				VIH_2P25V, VIH_2P75V
		3 V to 3.6 V	1.45				VIH_3V, VIH_3P6V
		4.5 V to 5.5 V	2				VIH_4P5V, VIH_5P5V
V <sub>IL</sub>	Low-Level input voltage	1.2 V to 1.3 V			0.18	V	VIL_1P2V, VIL_1P3V
		1.65 V to 2 V			0.51		VIL_1P65V, VIL_2V
		2.25 V to 2.75 V			0.65		VIL_2P25V, VIL_2P75V
		3 V to 3.6 V			0.75		VIL_3V, VIL_3P6V
		4.5 V to 5.5 V			0.80		VIL_4P5V, VIL_5P5V
V <sub>OH</sub> 2	I <sub>OH</sub> = -50 μA	1.2 V to 5.5 V	V <sub>CC</sub> -0.2			V	VOH_N50UA_1P65V, VOH_N50UA_2V, VOH_N50UA_2P75V, VOH_N50UA_3P6V, VOH_N50UA_4P5V, VOH_N50UA_5P5V
	I <sub>OH</sub> = -1 mA	1.2 V	0.8				VOH_N1MA_1P2V
	I <sub>OH</sub> = -2 mA	1.65 V to 2 V	1.21				VOH_N2MA_1P65V, VOH_N2MA_2V
	I <sub>OH</sub> = -3 mA	2.25 V to 2.75 V	1.93				VOH_N3MA_2P25V, VOH_N3MA_2P75V
	I <sub>OH</sub> = -5.5 mA	3 V to 3.6 V	2.49				VOH_N5P5MA_3V, VOH_N5P5MA_3P6V
	I <sub>OH</sub> = -8 mA	4.5 V to 5.5 V	3.95				VOH_N8MA_4P5V, VOH_N8MA_5P5V
	I <sub>OH</sub> = -24 mA	4.5 V to 5.5 V	3.15				VOH_N24MA_4P5V, VOH_N24MA_5P5V

**Table 3-1. Electrical Parameters Table (continued)**

Parameter	Test Conditions	V <sub>CC</sub>	T <sub>A</sub> = -55°C to +125°C			Unit	Test Name
			MIN	TYP	MAX		
V <sub>OL</sub>	I <sub>OL</sub> = 50 μA	1.2 V to 5.5 V			0.1	V	VOL_50UA_1P65V, VOL_50UA_2V, VOL_50UA_2P75V,VOL_50UA_3P6V, VOL_50UA_4P5V, VOL_50UA_5P5V
	I <sub>OL</sub> = 1 mA	1.2 V			0.2		VOL_1MA_1P2V
	I <sub>OL</sub> = 2 mA	1.65 V to 2 V			0.25		VOL_2MA_1P65V, VOL_2MA_2V
	I <sub>OL</sub> = 3 mA	2.25 V to 2.75 V			0.2		VOL_3MA_2P25V, VOL_3MA_2P75V
	I <sub>OL</sub> = 5.5 mA	3 V to 3.6 V			0.25		VOL_5P5MA_3V, VOL_5P5MA_3P6V
	I <sub>OL</sub> = 8 mA	4.5 V to 5.5 V			0.35		VOL_8MA_4P5V, VOL_8MA_5P5V
	I <sub>OL</sub> = 24 mA	4.5 V to 5.5 V			0.75		VOL_24MA_4P5V, VOL_24MA_5P5V
I <sub>CC</sub>	V <sub>I</sub> = V <sub>CC</sub> or GND, I <sub>O</sub> = 0	1.2 V to 5.5 V		2	93	μA	ICCH_5P5V, ICCL_5P5V
ΔI <sub>CC</sub>	One input at 0.3 V or 3.4 V, other inputs at V <sub>CC</sub> or GND	5.5 V			1.5	mA	DELTAICC_5P5V
	One input at 0.3 V or 1.1 V, other inputs at V <sub>CC</sub> or GND	1.8 V			68	μA	DELTAICC_1P8V
I <sub>OZ</sub> 3	V <sub>O</sub> = V <sub>CC</sub> or GND	5.5 V			±2.5	μA	IOZ
I <sub>I</sub>	V <sub>I</sub> = 0 V to V <sub>CC</sub>	V <sub>I</sub> = 0 V to V <sub>CC</sub>			±1	μA	IIH_5P5V, IIL_5P5V

- Schmitt-trigger input devices only.
- Push-pull output devices only.
- 3-State output devices only.

## 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.

## **5 Appendix: HDR TID Report Data**

This appendix provides the SN54SC4T02-SEP TID HDR report. The report shows the variation for each parameter to 30 krad(Si).



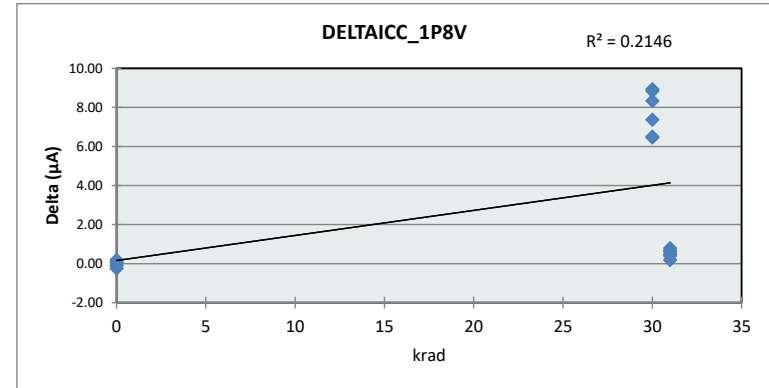
# TID Report

## SN54SC4T02-SEP

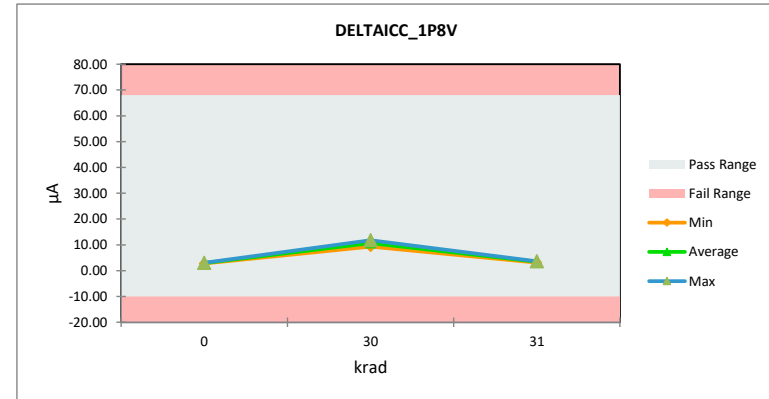
### DELTAICC\_1P8V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	µA
Max Limit	68
Min Limit	-10

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	2.963	3.025	0.06	2.09%	0.08%
0	2	2.994	2.900	-0.09	-3.14%	0.12%
0	3	3.025	2.775	-0.25	-8.26%	0.32%
0	4	2.807	2.994	0.19	6.66%	0.24%
30	5	2.838	11.770	8.93	314.73%	11.45%
30	6	2.775	10.150	7.38	265.77%	9.46%
30	7	2.869	11.710	8.84	308.16%	11.33%
30	8	3.056	11.390	8.33	272.71%	10.68%
30	9	2.838	9.303	6.47	227.80%	8.29%
30	10	3.088	9.584	6.50	210.36%	8.33%
31	11	2.924	3.549	0.63	21.37%	0.80%
31	12	2.986	3.486	0.50	16.74%	0.64%
31	13	2.830	3.611	0.78	27.60%	1.00%
31	14	2.924	3.580	0.66	22.44%	0.84%
31	15	2.705	3.112	0.41	15.05%	0.52%
31	16	2.955	3.143	0.19	6.36%	0.24%
Max		3.088	11.770	8.68	314.73%	11.45%
Average		2.911	6.005	3.09	106.65%	4.02%
Min		2.705	2.775	0.07	-8.26%	0.08%
Std Dev		0.108	3.779	3.67	130.53%	4.80%



DELTAICC_1P8V			
krad	0	30	31
LL	-10.00	-10.00	-10.00
Min	2.78	9.30	3.11
Average	2.92	10.65	3.41
Max	3.03	11.77	3.61
UL	68.00	68.00	68.00



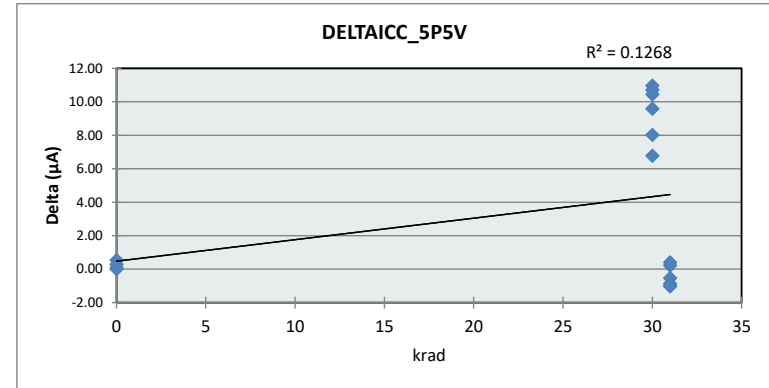
# TID Report

## SN54SC4T02-SEP

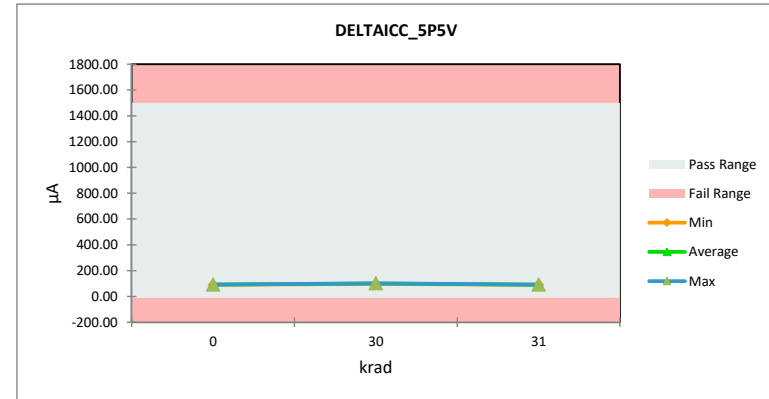
### DELTAICC\_5P5V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	µA
Max Limit	1500
Min Limit	-10

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	91.410	91.500	0.09	0.10%	0.01%
0	2	90.750	90.750	0.00	0.00%	0.00%
0	3	91.090	91.630	0.54	0.59%	0.04%
0	4	91.090	91.380	0.29	0.32%	0.02%
30	5	90.530	101.500	10.97	12.12%	0.73%
30	6	90.310	99.900	9.59	10.62%	0.64%
30	7	90.750	101.200	10.45	11.52%	0.69%
30	8	90.780	101.500	10.72	11.81%	0.71%
30	9	90.720	97.500	6.78	7.47%	0.45%
30	10	90.690	98.710	8.02	8.84%	0.53%
31	11	91.390	90.860	-0.53	-0.58%	0.04%
31	12	91.790	90.920	-0.87	-0.95%	0.06%
31	13	90.860	91.080	0.22	0.24%	0.01%
31	14	91.010	91.420	0.41	0.45%	0.03%
31	15	91.170	90.170	-1.00	-1.10%	0.07%
31	16	91.110	90.080	-1.03	-1.13%	0.07%
	Max	91.790	101.500	9.71	12.12%	0.73%
	Average	90.966	94.381	3.42	3.77%	0.25%
	Min	90.310	90.080	-0.23	-1.13%	0.00%
	Std Dev	0.369	4.656	4.29	5.43%	0.30%



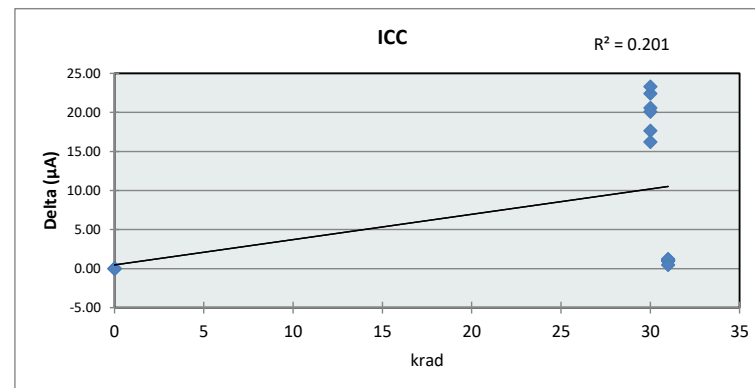
DELTAICC_5P5V			
krad	0	30	31
LL	-10.00	-10.00	-10.00
Min	90.75	97.50	90.08
Average	91.32	100.05	90.76
Max	91.63	101.50	91.42
UL	1500.00	1500.00	1500.00



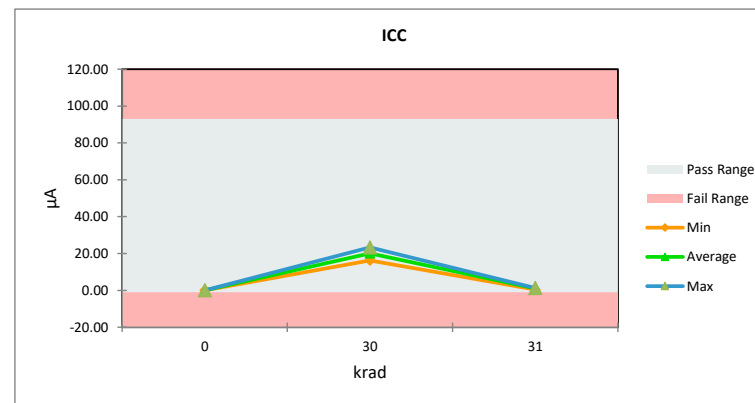
# TID Report SN54SC4T02-SEP

ICC	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	µA
Max Limit	93
Min Limit	-1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.014	0.019	0.01	37.93%	0.01%
0	2	0.045	0.018	-0.03	-58.81%	0.03%
0	3	0.019	0.018	0.00	-6.71%	0.00%
0	4	0.017	0.019	0.00	11.18%	0.00%
30	5	0.017	20.610	20.59	124131.46%	21.91%
30	6	0.013	17.680	17.67	134553.47%	18.79%
30	7	0.015	22.440	22.42	146279.65%	23.86%
30	8	0.014	23.320	23.31	165525.00%	24.79%
30	9	0.018	20.100	20.08	112505.04%	21.36%
30	10	0.022	16.240	16.22	73953.81%	17.25%
31	11	0.011	1.059	1.05	9624.52%	1.12%
31	12	0.010	0.982	0.97	9466.28%	1.03%
31	13	0.010	1.016	1.01	10116.19%	1.07%
31	14	0.011	1.245	1.23	11016.07%	1.31%
31	15	0.009	1.174	1.16	12501.98%	1.24%
31	16	0.014	0.475	0.46	3362.10%	0.49%
	Max	0.045	23.320	23.28	165525.00%	24.79%
	Average	0.016	7.901	7.88	50813.70%	8.39%
	Min	0.009	0.018	0.01	-58.81%	0.00%
	Std Dev	0.008	9.866	9.86	63085.71%	10.49%



ICC				
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	µA			
Max Limit	93			
Min Limit	-1			
	krad	0	30	31
LL		-1.00	-1.00	-1.00
Min		0.02	16.24	0.48
Average		0.02	20.07	0.99
Max		0.02	23.32	1.25
UL		93.00	93.00	93.00

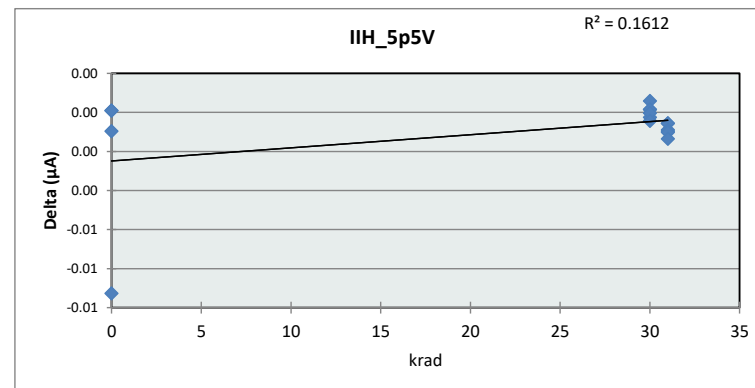


# TID Report

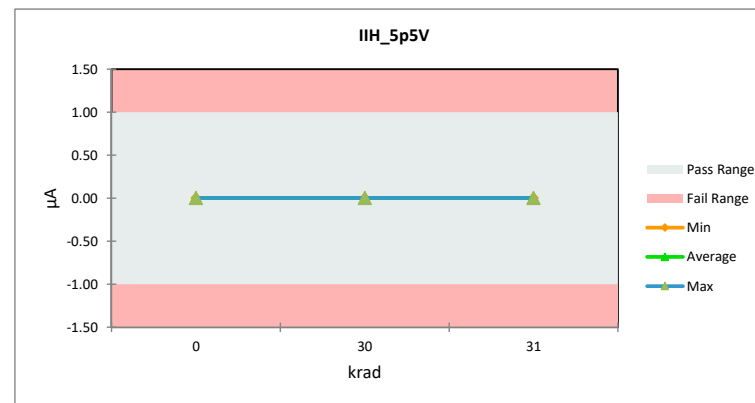
## SN54SC4T02-SEP

IIH_5p5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	µA
Max Limit	1
Min Limit	-1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.003	0.003	0.00	3.27%	0.00%
0	2	0.013	0.003	-0.01	-73.68%	0.46%
0	3	0.003	0.003	0.00	3.31%	0.00%
0	4	0.004	0.003	0.00	-25.78%	0.05%
30	5	0.003	0.003	0.00	-7.55%	0.01%
30	6	0.003	0.003	0.00	5.20%	0.01%
30	7	0.003	0.003	0.00	21.25%	0.03%
30	8	0.003	0.003	0.00	5.19%	0.01%
30	9	0.003	0.003	0.00	-1.09%	0.00%
30	10	0.003	0.003	0.00	-13.85%	0.02%
31	11	0.004	0.003	0.00	-15.53%	0.03%
31	12	0.004	0.003	0.00	-15.41%	0.03%
31	13	0.004	0.003	0.00	-25.15%	0.04%
31	14	0.004	0.003	0.00	-25.15%	0.05%
31	15	0.004	0.003	0.00	-25.72%	0.05%
31	16	0.004	0.003	0.00	-31.16%	0.07%
Max		0.013	0.003	-0.01	21.25%	0.46%
Average		0.004	0.003	0.00	-13.87%	0.05%
Min		0.003	0.003	0.00	-73.68%	0.00%
Std Dev		0.002	0.000	0.00	21.86%	0.11%



IIH_5p5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	µA		
Max Limit	1		
Min Limit	-1		
krad	0	30	31
LL	-1.00	-1.00	-1.00
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	1.00	1.00	1.00

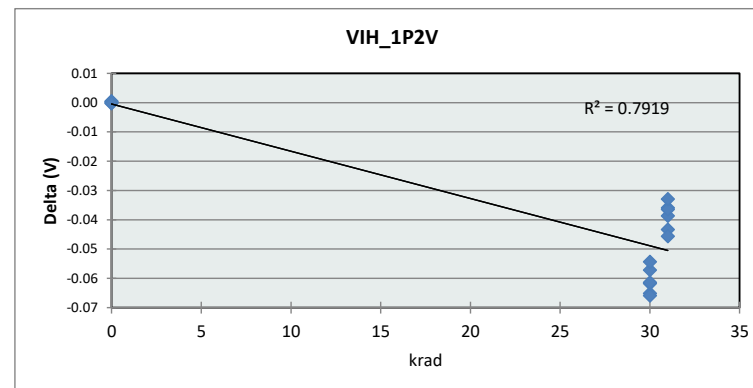




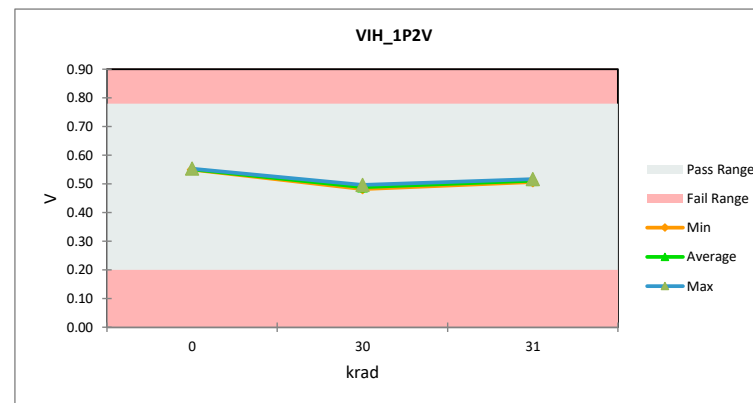
# TID Report SN54SC4T02-SEP

VIH_1P2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.78
Min Limit	0.2

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.552	0.553	0.00	0.09%	0.09%
0	2	0.550	0.550	0.00	0.00%	0.00%
0	3	0.550	0.550	0.00	0.05%	0.05%
0	4	0.551	0.551	0.00	-0.05%	0.04%
30	5	0.549	0.484	-0.07	-11.87%	11.23%
30	6	0.548	0.482	-0.07	-12.03%	11.36%
30	7	0.551	0.489	-0.06	-11.21%	10.65%
30	8	0.549	0.488	-0.06	-11.17%	10.58%
30	9	0.550	0.493	-0.06	-10.40%	9.86%
30	10	0.551	0.496	-0.05	-9.86%	9.37%
31	11	0.549	0.506	-0.04	-7.88%	7.47%
31	12	0.552	0.506	-0.05	-8.26%	7.87%
31	13	0.551	0.512	-0.04	-7.01%	6.66%
31	14	0.548	0.512	-0.04	-6.55%	6.19%
31	15	0.550	0.514	-0.04	-6.63%	6.29%
31	16	0.550	0.517	-0.03	-5.99%	5.67%
Max		0.552	0.553	0.00	0.09%	11.36%
Average		0.550	0.513	-0.04	-6.80%	6.46%
Min		0.548	0.482	-0.07	-12.03%	0.00%
Std Dev		0.001	0.025	0.02	4.50%	4.24%



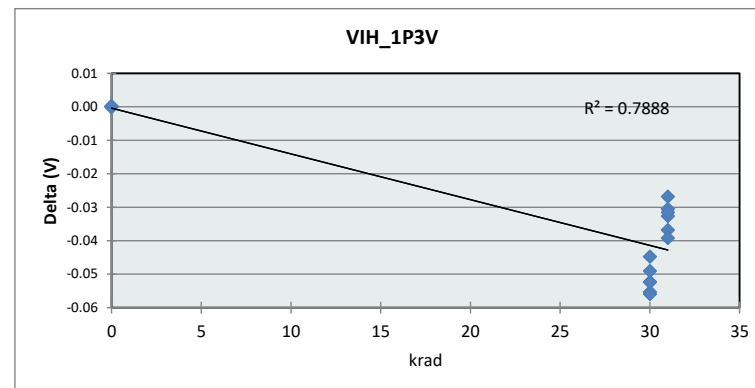
VIH_1P2V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	0.78			
Min Limit	0.2			
LL		0.20	0.20	0.20
Min		0.55	0.48	0.51
Average		0.55	0.49	0.51
Max		0.55	0.50	0.52
UL		0.78	0.78	0.78



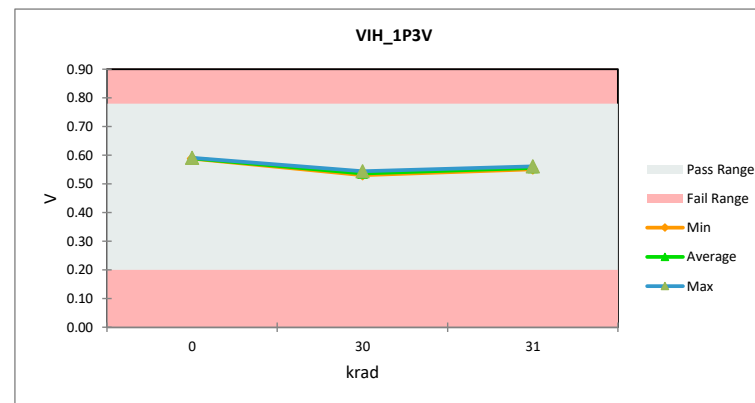
# TID Report SN54SC4T02-SEP

VIH_1P3V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.78
Min Limit	0.2

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.591	0.591	0.00	-0.01%	0.01%
0	2	0.588	0.588	0.00	0.03%	0.03%
0	3	0.588	0.588	0.00	0.01%	0.01%
0	4	0.589	0.589	0.00	0.04%	0.04%
30	5	0.587	0.532	-0.06	-9.42%	9.53%
30	6	0.586	0.530	-0.06	-9.54%	9.64%
30	7	0.589	0.537	-0.05	-8.89%	9.03%
30	8	0.587	0.535	-0.05	-8.90%	9.02%
30	9	0.588	0.539	-0.05	-8.33%	8.45%
30	10	0.589	0.544	-0.04	-7.60%	7.71%
31	11	0.588	0.551	-0.04	-6.26%	6.34%
31	12	0.591	0.552	-0.04	-6.63%	6.75%
31	13	0.589	0.556	-0.03	-5.54%	5.63%
31	14	0.586	0.556	-0.03	-5.20%	5.26%
31	15	0.588	0.557	-0.03	-5.35%	5.43%
31	16	0.588	0.561	-0.03	-4.56%	4.62%
Max		0.591	0.591	0.00	0.04%	9.64%
Average		0.588	0.557	-0.03	-5.38%	5.47%
Min		0.586	0.530	-0.06	-9.54%	0.01%
Std Dev		0.001	0.021	0.02	3.57%	3.60%



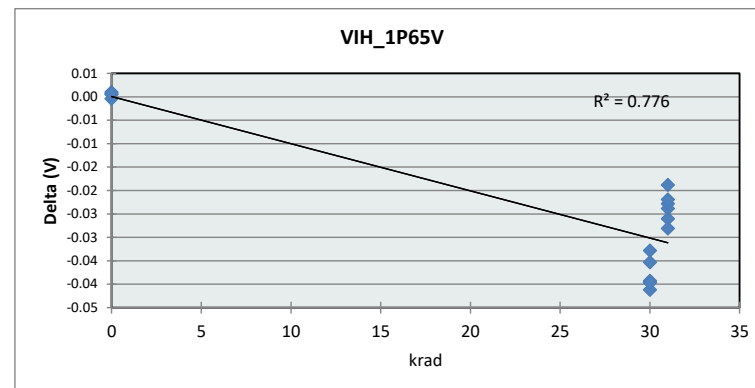
VIH_1P3V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	0.78			
Min Limit	0.2			
LL		0.20	0.20	0.20
Min		0.59	0.53	0.55
Average		0.59	0.54	0.56
Max		0.59	0.54	0.56
UL		0.78	0.78	0.78



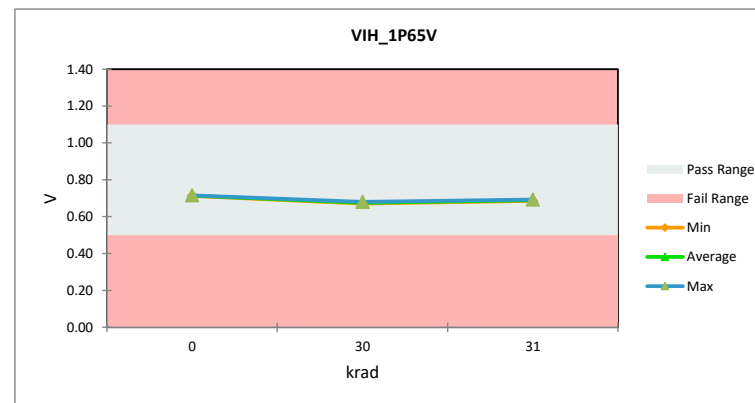
# TID Report SN54SC4T02-SEP

VIH_1P65V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.1
Min Limit	0.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.715	0.716	0.00	0.14%	0.17%
0	2	0.713	0.712	0.00	-0.06%	0.07%
0	3	0.713	0.714	0.00	0.07%	0.09%
0	4	0.714	0.714	0.00	0.09%	0.11%
30	5	0.711	0.672	-0.04	-5.52%	6.55%
30	6	0.712	0.671	-0.04	-5.78%	6.86%
30	7	0.714	0.675	-0.04	-5.55%	6.60%
30	8	0.713	0.673	-0.04	-5.56%	6.61%
30	9	0.713	0.677	-0.04	-4.95%	5.88%
30	10	0.713	0.680	-0.03	-4.60%	5.47%
31	11	0.712	0.686	-0.03	-3.66%	4.34%
31	12	0.716	0.688	-0.03	-3.92%	4.68%
31	13	0.713	0.689	-0.02	-3.34%	3.97%
31	14	0.710	0.688	-0.02	-3.21%	3.80%
31	15	0.712	0.690	-0.02	-3.08%	3.65%
31	16	0.711	0.692	-0.02	-2.64%	3.13%
Max		0.716	0.716	0.00	0.14%	6.86%
Average		0.713	0.690	-0.02	-3.22%	3.87%
Min		0.710	0.671	-0.04	-5.78%	0.07%
Std Dev		0.001	0.016	0.01	2.19%	2.53%



VIH_1P65V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	1.1			
Min Limit	0.5			
LL		0.50	0.50	0.50
Min		0.71	0.67	0.69
Average		0.71	0.67	0.69
Max		0.72	0.68	0.69
UL		1.10	1.10	1.10





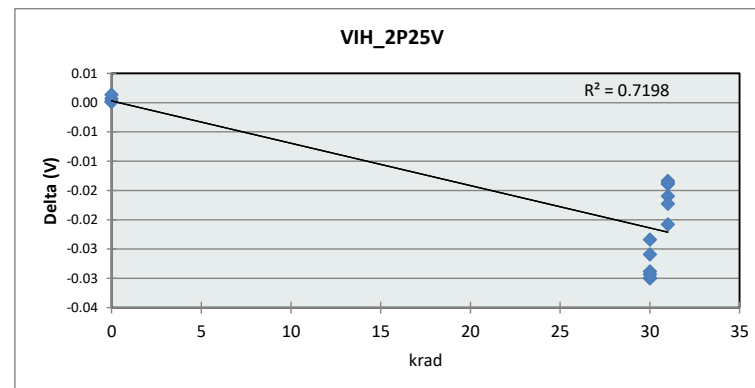
# TID Report

## SN54SC4T02-SEP

### VIH\_2P25V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.28
Min Limit	0.65

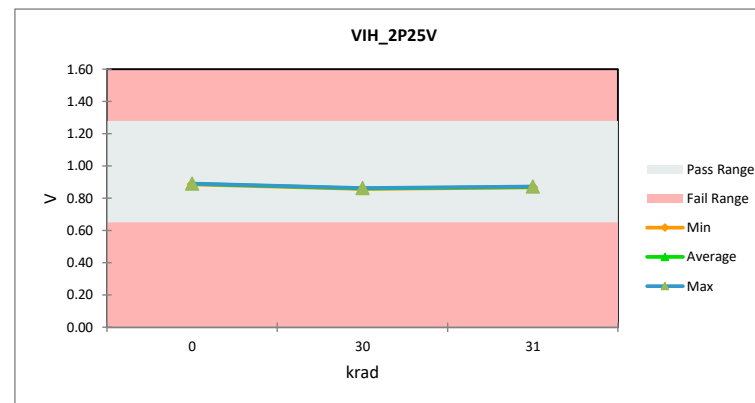
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.890	0.890	0.00	0.03%	0.04%
0	2	0.886	0.886	0.00	0.01%	0.02%
0	3	0.889	0.890	0.00	0.08%	0.11%
0	4	0.889	0.891	0.00	0.15%	0.22%
30	5	0.888	0.859	-0.03	-3.24%	4.57%
30	6	0.887	0.857	-0.03	-3.38%	4.76%
30	7	0.890	0.860	-0.03	-3.36%	4.75%
30	8	0.888	0.859	-0.03	-3.30%	4.65%
30	9	0.886	0.863	-0.02	-2.64%	3.71%
30	10	0.889	0.863	-0.03	-2.92%	4.11%
31	11	0.884	0.870	-0.01	-1.57%	2.20%
31	12	0.888	0.867	-0.02	-2.34%	3.30%
31	13	0.888	0.872	-0.02	-1.80%	2.53%
31	14	0.883	0.870	-0.01	-1.51%	2.12%
31	15	0.888	0.870	-0.02	-1.94%	2.74%
31	16	0.884	0.870	-0.01	-1.55%	2.18%
Max		0.890	0.891	0.00	0.15%	4.76%
Average		0.887	0.871	-0.02	-1.83%	2.63%
Min		0.883	0.857	-0.03	-3.38%	0.02%
Std Dev		0.002	0.012	0.01	1.31%	1.77%



### VIH\_2P25V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.28
Min Limit	0.65

	0	30	31
LL	0.65	0.65	0.65
Min	0.89	0.86	0.87
Average	0.89	0.86	0.87
Max	0.89	0.86	0.87
UL	1.28	1.28	1.28



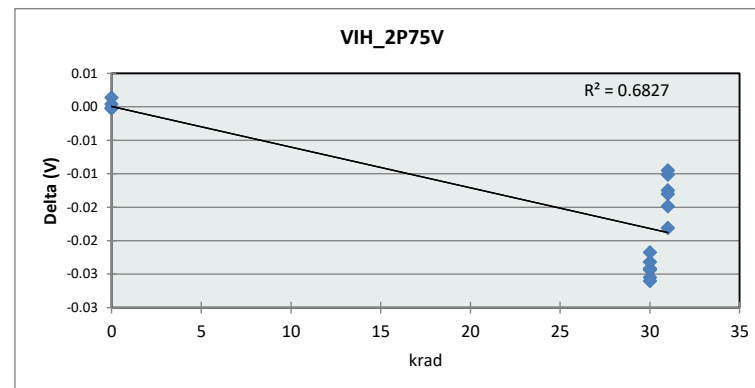
# TID Report

## SN54SC4T02-SEP

### VIH\_2P75V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.28
Min Limit	0.65

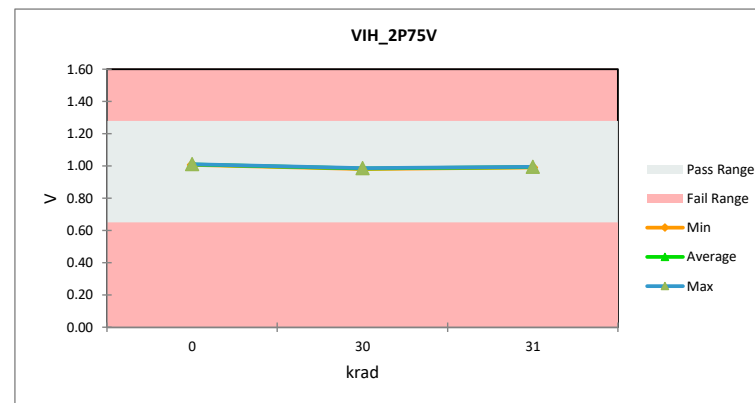
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.010	1.010	0.00	-0.02%	0.04%
0	2	1.006	1.007	0.00	0.04%	0.06%
0	3	1.010	1.009	0.00	-0.02%	0.02%
0	4	1.009	1.011	0.00	0.14%	0.22%
30	5	1.009	0.984	-0.02	-2.42%	3.87%
30	6	1.007	0.981	-0.03	-2.58%	4.13%
30	7	1.010	0.984	-0.03	-2.52%	4.05%
30	8	1.008	0.984	-0.02	-2.40%	3.83%
30	9	1.010	0.986	-0.02	-2.29%	3.68%
30	10	1.007	0.985	-0.02	-2.16%	3.45%
31	11	1.005	0.992	-0.01	-1.24%	1.98%
31	12	1.008	0.990	-0.02	-1.79%	2.87%
31	13	1.008	0.995	-0.01	-1.29%	2.06%
31	14	1.004	0.994	-0.01	-1.01%	1.61%
31	15	1.007	0.992	-0.01	-1.47%	2.35%
31	16	1.005	0.995	-0.01	-0.94%	1.50%
	Max	1.010	1.011	0.00	0.14%	4.13%
	Average	1.008	0.994	-0.01	-1.37%	2.23%
	Min	1.004	0.981	-0.02	-2.58%	0.02%
	Std Dev	0.002	0.010	0.01	1.00%	1.54%



### VIH\_2P75V

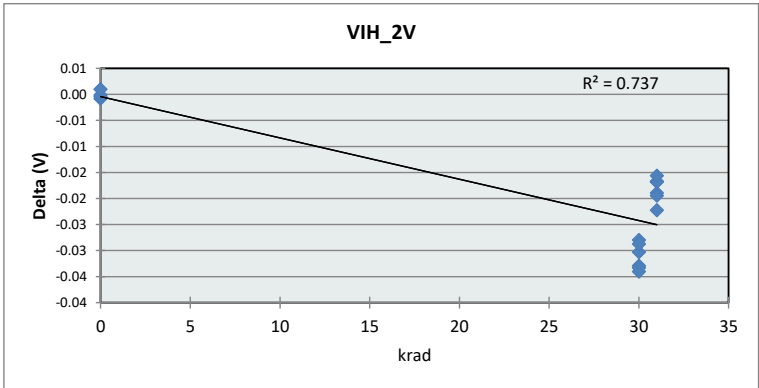
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.28
Min Limit	0.65

krad	0	30	31
LL	0.65	0.65	0.65
Min	1.01	0.98	0.99
Average	1.01	0.98	0.99
Max	1.01	0.99	1.00
UL	1.28	1.28	1.28

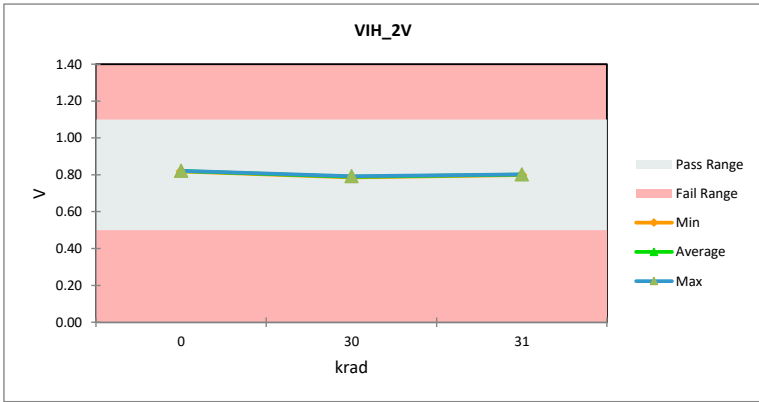


# TID Report SN54SC4T02-SEP

		VIH_2V					
Test Site		CLAB					
Tester		ETS88-01					
Test Number		EQ774601					
Units		V					
Max Limit		1.1					
Min Limit		0.5					
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range	
0	1	0.822	0.821	0.00	-0.10%	0.14%	
0	2	0.819	0.818	0.00	-0.05%	0.07%	
0	3	0.821	0.821	0.00	-0.01%	0.02%	
0	4	0.821	0.822	0.00	0.12%	0.17%	
30	5	0.820	0.787	-0.03	-4.01%	5.49%	
30	6	0.819	0.786	-0.03	-4.06%	5.55%	
30	7	0.823	0.789	-0.03	-4.13%	5.67%	
30	8	0.819	0.789	-0.03	-3.70%	5.05%	
30	9	0.820	0.792	-0.03	-3.41%	4.66%	
30	10	0.821	0.792	-0.03	-3.50%	4.79%	
31	11	0.818	0.799	-0.02	-2.31%	3.16%	
31	12	0.821	0.799	-0.02	-2.71%	3.71%	
31	13	0.821	0.801	-0.02	-2.37%	3.24%	
31	14	0.817	0.800	-0.02	-2.04%	2.78%	
31	15	0.819	0.802	-0.02	-2.05%	2.80%	
31	16	0.817	0.802	-0.02	-1.91%	2.60%	
Max		0.823	0.822	0.00	0.12%	5.67%	
Average		0.820	0.801	-0.02	-2.27%	3.12%	
Min		0.817	0.786	-0.03	-4.13%	0.02%	
Std Dev		0.002	0.013	0.01	1.54%	2.07%	

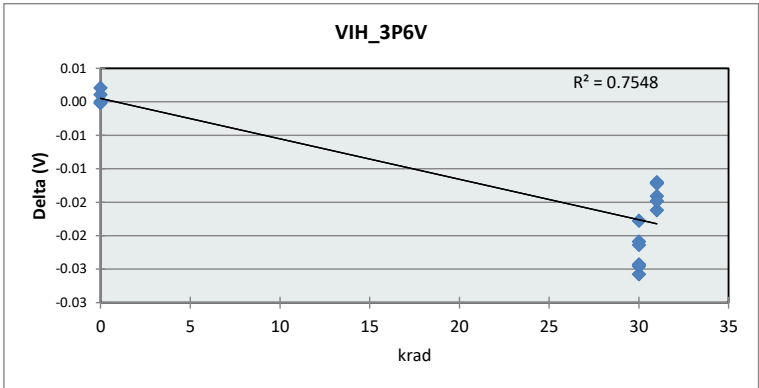


		VIH_2V		
Test Site		CLAB		
Tester		ETS88-01		
Test Number		EQ774601		
Units		V		
Max Limit		1.1		
Min Limit		0.5		
krad	0	30	31	
LL	0.50	0.50	0.50	
Min	0.82	0.79	0.80	
Average	0.82	0.79	0.80	
Max	0.82	0.79	0.80	
UL	1.10	1.10	1.10	

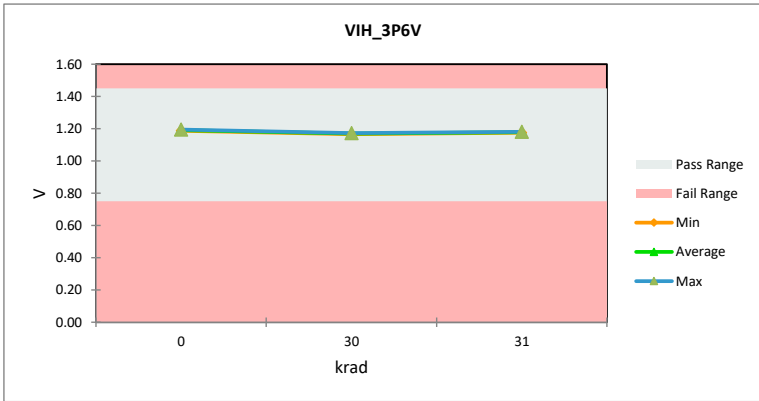


# TID Report SN54SC4T02-SEP

VIH_3P6V							
Test Site	CLAB						
Tester	ETS88-01						
Test Number	EQ774601						
Units	V						
Max Limit	1.45						
Min Limit	0.75						
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range	
0	1	1.190	1.190	0.00	0.00%	0.00%	
0	2	1.186	1.187	0.00	0.09%	0.16%	
0	3	1.190	1.192	0.00	0.17%	0.30%	
0	4	1.195	1.195	0.00	-0.02%	0.03%	
30	5	1.193	1.172	-0.02	-1.75%	2.98%	
30	6	1.193	1.167	-0.03	-2.16%	3.68%	
30	7	1.190	1.166	-0.02	-2.06%	3.51%	
30	8	1.193	1.168	-0.02	-2.04%	3.47%	
30	9	1.194	1.173	-0.02	-1.79%	3.05%	
30	10	1.189	1.171	-0.02	-1.49%	2.54%	
31	11	1.192	1.180	-0.01	-1.01%	1.72%	
31	12	1.192	1.175	-0.02	-1.36%	2.31%	
31	13	1.191	1.177	-0.01	-1.18%	2.01%	
31	14	1.190	1.178	-0.01	-1.02%	1.74%	
31	15	1.191	1.177	-0.01	-1.24%	2.11%	
31	16	1.192	1.180	-0.01	-1.02%	1.74%	
Max	1.195	1.195	0.00	0.17%	3.68%		
Average	1.191	1.178	-0.01	-1.12%	1.96%		
Min	1.186	1.166	-0.02	-2.16%	0.00%		
Std Dev	0.002	0.009	0.01	0.80%	1.27%		



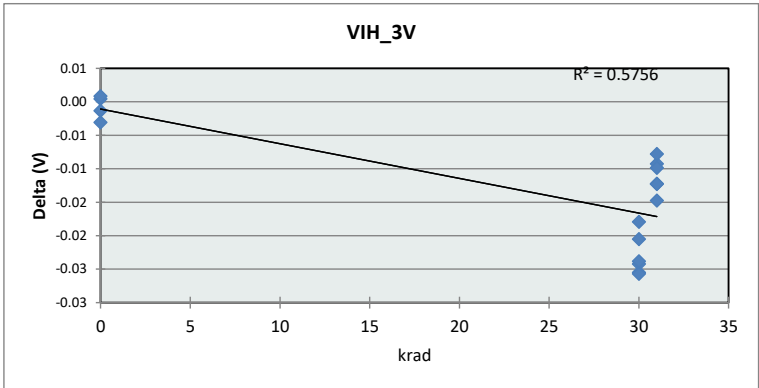
VIH_3P6V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1.45		
Min Limit	0.75		
krad	0	30	31
LL	0.75	0.75	0.75
Min	1.19	1.17	1.18
Average	1.19	1.17	1.18
Max	1.19	1.17	1.18
UL	1.45	1.45	1.45



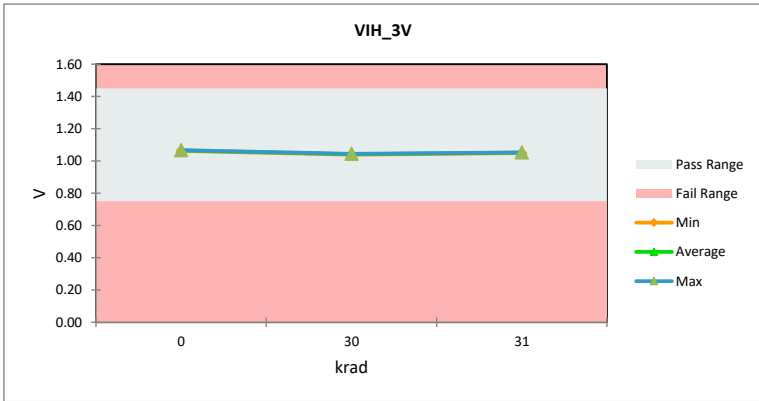
# TID Report

## SN54SC4T02-SEP

		VIH_3V					
Test Site		CLAB					
Tester		ETS88-01					
Test Number		EQ774601					
Units		V					
Max Limit		1.45					
Min Limit		0.75					
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range	
0	1	1.064	1.065	0.00	0.04%	0.06%	
0	2	1.065	1.062	0.00	-0.29%	0.44%	
0	3	1.066	1.067	0.00	0.08%	0.12%	
0	4	1.068	1.066	0.00	-0.12%	0.19%	
30	5	1.067	1.043	-0.02	-2.27%	3.46%	
30	6	1.064	1.038	-0.03	-2.40%	3.64%	
30	7	1.065	1.040	-0.03	-2.41%	3.67%	
30	8	1.067	1.043	-0.02	-2.23%	3.40%	
30	9	1.065	1.044	-0.02	-1.93%	2.93%	
30	10	1.062	1.044	-0.02	-1.69%	2.56%	
31	11	1.062	1.052	-0.01	-0.87%	1.32%	
31	12	1.063	1.051	-0.01	-1.15%	1.75%	
31	13	1.064	1.049	-0.01	-1.39%	2.11%	
31	14	1.059	1.052	-0.01	-0.74%	1.11%	
31	15	1.064	1.052	-0.01	-1.15%	1.75%	
31	16	1.062	1.052	-0.01	-0.93%	1.41%	
Max		1.068	1.067	0.00	0.08%	3.67%	
Average		1.064	1.051	-0.01	-1.21%	1.87%	
Min		1.059	1.038	-0.02	-2.41%	0.06%	
Std Dev		0.002	0.009	0.01	0.87%	1.30%	



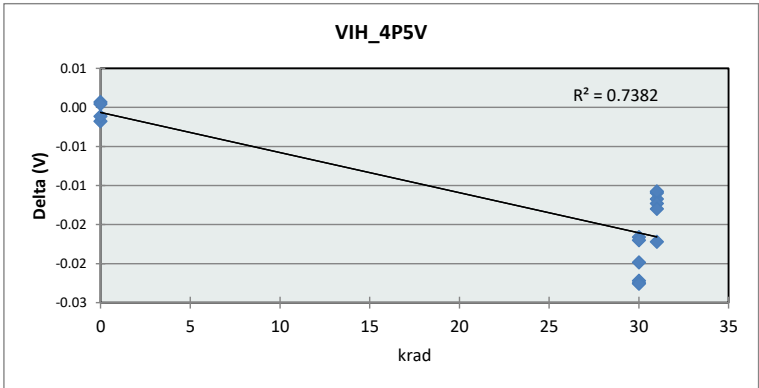
		VIH_3V		
Test Site		CLAB		
Tester		ETS88-01		
Test Number		EQ774601		
Units		V		
Max Limit		1.45		
Min Limit		0.75		
krad		0	30	31
LL		0.75	0.75	0.75
Min		1.06	1.04	1.05
Average		1.07	1.04	1.05
Max		1.07	1.04	1.05
UL		1.45	1.45	1.45



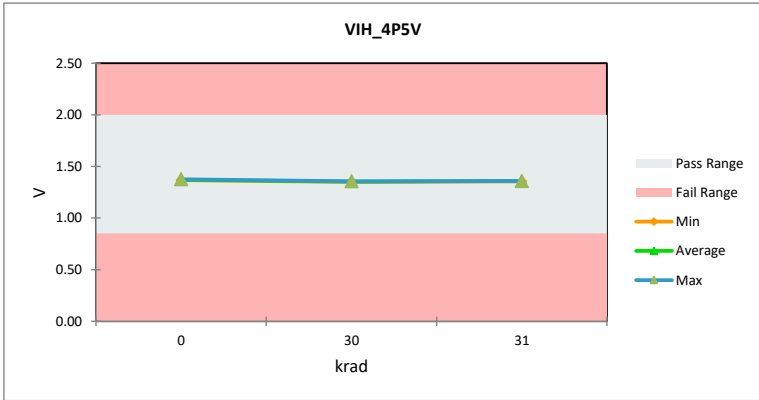
# TID Report SN54SC4T02-SEP

VIH_4P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	2
Min Limit	0.85

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.369	1.367	0.00	-0.13%	0.15%
0	2	1.366	1.367	0.00	0.05%	0.06%
0	3	1.373	1.372	0.00	-0.08%	0.10%
0	4	1.375	1.375	0.00	0.03%	0.04%
30	5	1.375	1.353	-0.02	-1.64%	1.96%
30	6	1.371	1.351	-0.02	-1.45%	1.72%
30	7	1.372	1.350	-0.02	-1.62%	1.93%
30	8	1.373	1.350	-0.02	-1.64%	1.96%
30	9	1.372	1.356	-0.02	-1.21%	1.44%
30	10	1.370	1.353	-0.02	-1.24%	1.48%
31	11	1.371	1.359	-0.01	-0.86%	1.02%
31	12	1.372	1.355	-0.02	-1.25%	1.50%
31	13	1.370	1.359	-0.01	-0.80%	0.95%
31	14	1.369	1.358	-0.01	-0.79%	0.94%
31	15	1.371	1.359	-0.01	-0.90%	1.07%
31	16	1.372	1.359	-0.01	-0.95%	1.13%
Max		1.375	1.375	0.00	0.05%	1.96%
Average		1.371	1.359	-0.01	-0.90%	1.09%
Min		1.366	1.350	-0.02	-1.64%	0.04%
Std Dev		0.002	0.008	0.01	0.59%	0.69%



VIH_4P5V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	2			
Min Limit	0.85			
LL		0.85	0.85	0.85
Min		1.37	1.35	1.35
Average		1.37	1.35	1.36
Max		1.38	1.36	1.36
UL		2.00	2.00	2.00

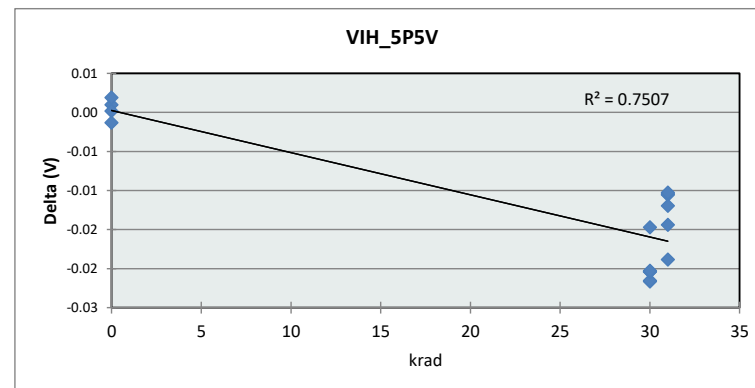


# TID Report

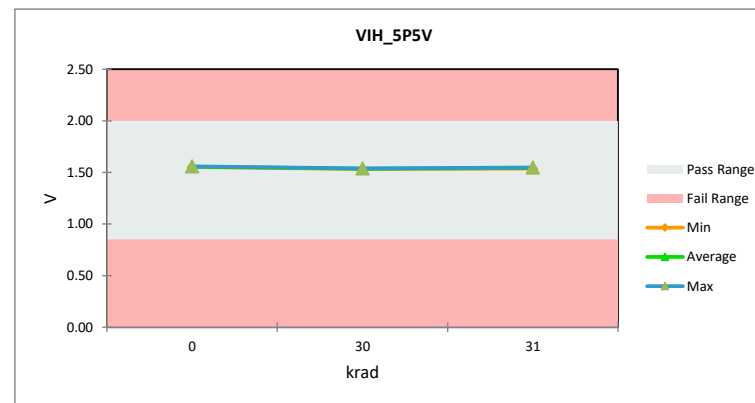
## SN54SC4T02-SEP

VIH_5P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	2
Min Limit	0.85

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.553	1.554	0.00	0.06%	0.09%
0	2	1.552	1.552	0.00	0.01%	0.01%
0	3	1.558	1.557	0.00	-0.08%	0.11%
0	4	1.557	1.558	0.00	0.12%	0.17%
30	5	1.561	1.539	-0.02	-1.39%	1.88%
30	6	1.554	1.533	-0.02	-1.31%	1.77%
30	7	1.558	1.537	-0.02	-1.38%	1.87%
30	8	1.553	1.533	-0.02	-1.31%	1.77%
30	9	1.554	1.534	-0.02	-1.30%	1.76%
30	10	1.552	1.537	-0.01	-0.95%	1.28%
31	11	1.558	1.547	-0.01	-0.67%	0.91%
31	12	1.557	1.538	-0.02	-1.21%	1.64%
31	13	1.555	1.545	-0.01	-0.68%	0.92%
31	14	1.554	1.542	-0.01	-0.77%	1.04%
31	15	1.553	1.543	-0.01	-0.66%	0.89%
31	16	1.557	1.542	-0.01	-0.93%	1.25%
Max		1.561	1.558	0.00	0.12%	1.88%
Average		1.555	1.543	-0.01	-0.78%	1.09%
Min		1.552	1.533	-0.02	-1.39%	0.01%
Std Dev		0.003	0.008	0.01	0.55%	0.69%



VIH_5P5V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	2			
Min Limit	0.85			
LL		0.85	0.85	0.85
Min		1.55	1.53	1.54
Average		1.56	1.54	1.54
Max		1.56	1.54	1.55
UL		2.00	2.00	2.00

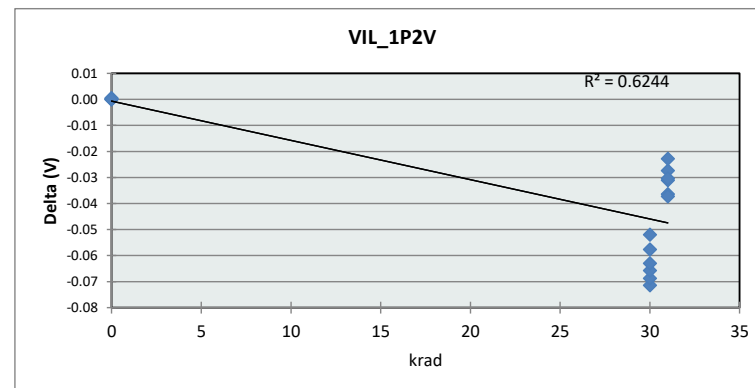


# TID Report

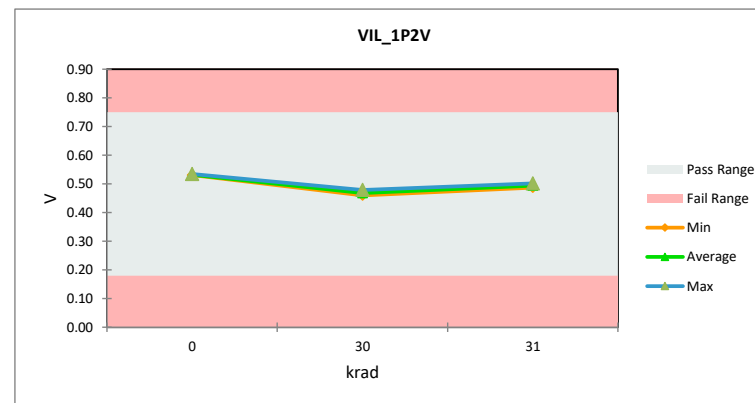
## SN54SC4T02-SEP

VIL_1P2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.75
Min Limit	0.18

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.534	0.534	0.00	0.03%	0.03%
0	2	0.531	0.531	0.00	-0.02%	0.02%
0	3	0.530	0.531	0.00	0.10%	0.09%
0	4	0.531	0.531	0.00	0.01%	0.01%
30	5	0.533	0.462	-0.07	-13.40%	12.53%
30	6	0.528	0.460	-0.07	-13.00%	12.05%
30	7	0.533	0.468	-0.07	-12.33%	11.54%
30	8	0.531	0.468	-0.06	-11.87%	11.05%
30	9	0.530	0.472	-0.06	-10.88%	10.11%
30	10	0.531	0.479	-0.05	-9.79%	9.11%
31	11	0.523	0.487	-0.04	-6.96%	6.39%
31	12	0.527	0.490	-0.04	-7.06%	6.53%
31	13	0.525	0.494	-0.03	-5.91%	5.45%
31	14	0.524	0.496	-0.03	-5.23%	4.80%
31	15	0.524	0.494	-0.03	-5.79%	5.32%
31	16	0.524	0.501	-0.02	-4.34%	4.00%
Max		0.534	0.534	0.00	0.10%	12.53%
Average		0.529	0.494	-0.04	-6.65%	6.19%
Min		0.523	0.460	-0.06	-13.40%	0.01%
Std Dev		0.004	0.026	0.02	4.90%	4.55%



VIL_1P2V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	0.75			
Min Limit	0.18			
LL		0.18	0.18	0.18
Min		0.53	0.46	0.49
Average		0.53	0.47	0.49
Max		0.53	0.48	0.50
UL		0.75	0.75	0.75

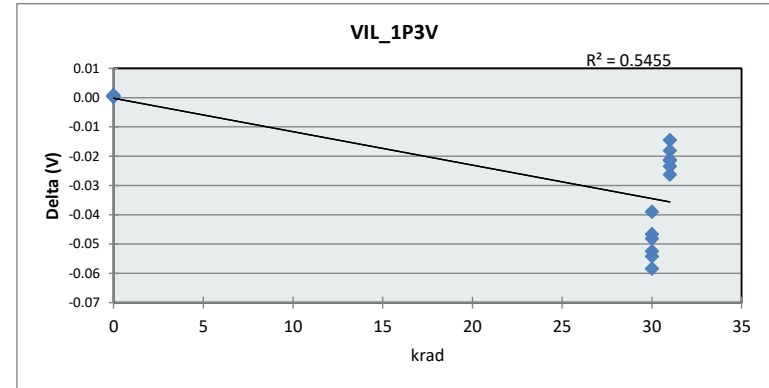




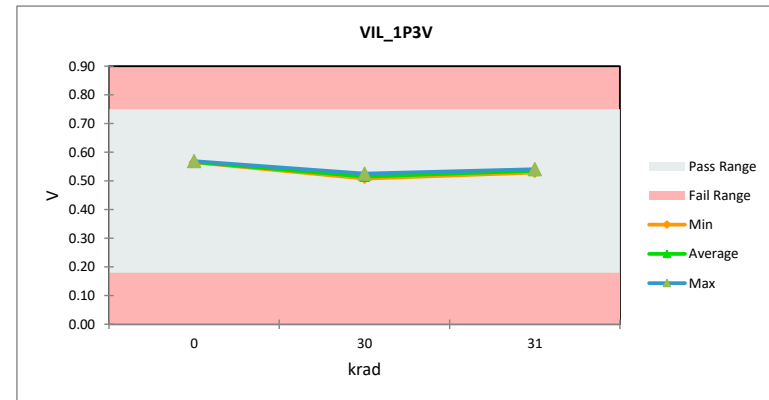
# TID Report SN54SC4T02-SEP

VIL_1P3V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.75
Min Limit	0.18

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.568	0.569	0.00	0.10%	0.10%
0	2	0.565	0.565	0.00	0.06%	0.06%
0	3	0.564	0.565	0.00	0.15%	0.15%
0	4	0.565	0.566	0.00	0.07%	0.07%
30	5	0.566	0.508	-0.06	-10.31%	10.24%
30	6	0.563	0.510	-0.05	-9.32%	9.20%
30	7	0.568	0.514	-0.05	-9.53%	9.50%
30	8	0.565	0.516	-0.05	-8.53%	8.44%
30	9	0.563	0.517	-0.05	-8.26%	8.17%
30	10	0.564	0.525	-0.04	-6.90%	6.83%
31	11	0.555	0.529	-0.03	-4.73%	4.61%
31	12	0.559	0.535	-0.02	-4.19%	4.11%
31	13	0.556	0.535	-0.02	-3.81%	3.72%
31	14	0.555	0.537	-0.02	-3.26%	3.17%
31	15	0.556	0.535	-0.02	-3.85%	3.76%
31	16	0.555	0.541	-0.01	-2.60%	2.54%
Max		0.568	0.569	0.00	0.15%	10.24%
Average		0.562	0.535	-0.03	-4.68%	4.67%
Min		0.555	0.508	-0.05	-10.31%	0.06%
Std Dev		0.005	0.021	0.02	3.73%	3.64%



VIL_1P3V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.75		
Min Limit	0.18		
krad	0	30	31
LL	0.18	0.18	0.18
Min	0.56	0.51	0.53
Average	0.57	0.52	0.54
Max	0.57	0.53	0.54
UL	0.75	0.75	0.75

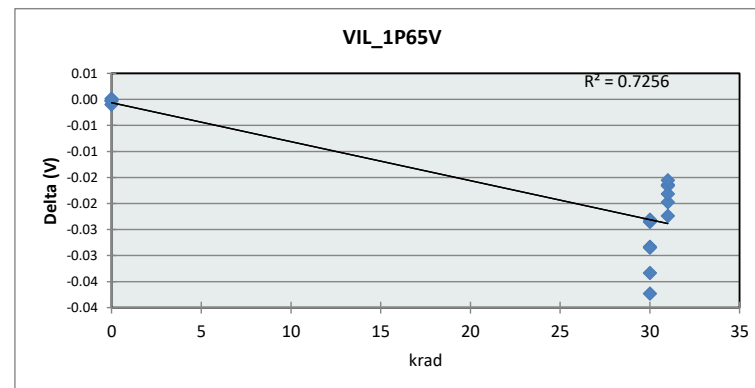


# TID Report

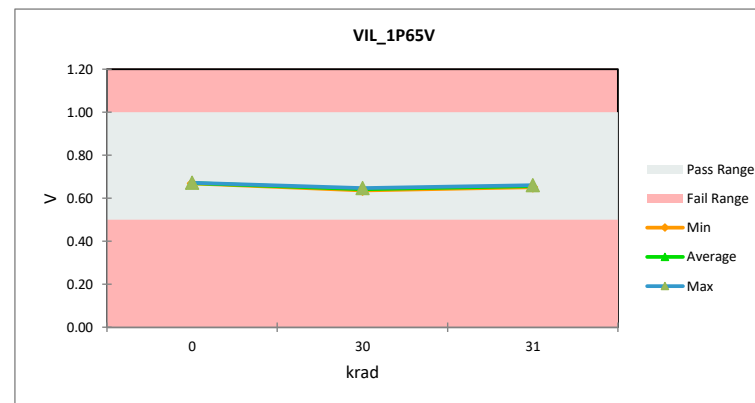
## SN54SC4T02-SEP

VIL_1P65V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1
Min Limit	0.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.672	0.672	0.00	-0.04%	0.06%
0	2	0.670	0.669	0.00	-0.15%	0.19%
0	3	0.670	0.670	0.00	0.02%	0.03%
0	4	0.671	0.671	0.00	-0.04%	0.05%
30	5	0.673	0.636	-0.04	-5.54%	7.46%
30	6	0.668	0.645	-0.02	-3.52%	4.71%
30	7	0.673	0.639	-0.03	-4.96%	6.67%
30	8	0.670	0.642	-0.03	-4.22%	5.66%
30	9	0.670	0.642	-0.03	-4.25%	5.70%
30	10	0.670	0.647	-0.02	-3.45%	4.62%
31	11	0.674	0.651	-0.02	-3.32%	4.47%
31	12	0.677	0.660	-0.02	-2.42%	3.28%
31	13	0.675	0.655	-0.02	-2.92%	3.95%
31	14	0.674	0.657	-0.02	-2.47%	3.32%
31	15	0.674	0.656	-0.02	-2.69%	3.63%
31	16	0.673	0.658	-0.02	-2.31%	3.10%
Max		0.677	0.672	0.00	0.02%	7.46%
Average		0.672	0.654	-0.02	-2.64%	3.56%
Min		0.668	0.636	-0.03	-5.54%	0.03%
Std Dev		0.002	0.012	0.01	1.79%	2.39%



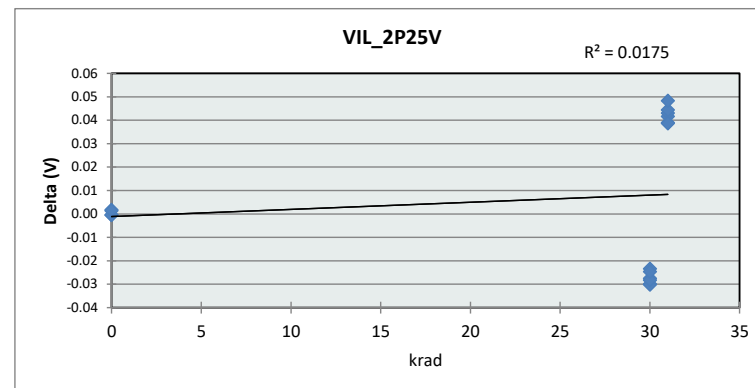
VIL_1P65V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1		
Min Limit	0.5		
krad	0	30	31
LL	0.50	0.50	0.50
Min	0.67	0.64	0.65
Average	0.67	0.64	0.66
Max	0.67	0.65	0.66
UL	1.00	1.00	1.00



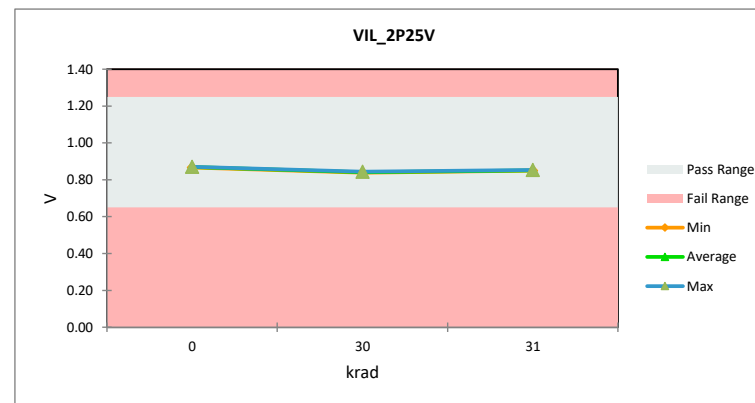
# TID Report SN54SC4T02-SEP

VIL_2P25V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.25
Min Limit	0.65

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.870	0.870	0.00	-0.05%	0.08%
0	2	0.867	0.866	0.00	-0.04%	0.06%
0	3	0.869	0.870	0.00	0.21%	0.30%
0	4	0.869	0.870	0.00	0.16%	0.23%
30	5	0.868	0.838	-0.03	-3.44%	4.97%
30	6	0.869	0.839	-0.03	-3.47%	5.02%
30	7	0.869	0.841	-0.03	-3.16%	4.58%
30	8	0.867	0.839	-0.03	-3.26%	4.72%
30	9	0.867	0.844	-0.02	-2.70%	3.90%
30	10	0.869	0.844	-0.02	-2.84%	4.11%
31	11	0.809	0.850	0.04	5.15%	6.94%
31	12	0.811	0.850	0.04	4.81%	6.50%
31	13	0.807	0.850	0.04	5.33%	7.17%
31	14	0.811	0.849	0.04	4.77%	6.45%
31	15	0.809	0.853	0.04	5.49%	7.40%
31	16	0.804	0.853	0.05	6.01%	8.06%
Max		0.870	0.870	0.00	6.01%	8.06%
Average		0.846	0.852	0.01	0.81%	4.41%
Min		0.804	0.838	0.03	-3.47%	0.06%
Std Dev		0.030	0.012	-0.02	3.80%	2.80%



VIL_2P25V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	1.25			
Min Limit	0.65			
LL		0.65	0.65	0.65
Min		0.87	0.84	0.85
Average		0.87	0.84	0.85
Max		0.87	0.84	0.85
UL		1.25	1.25	1.25

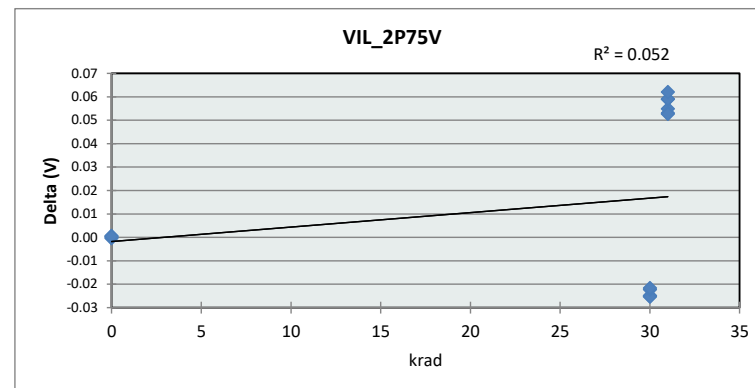


# TID Report

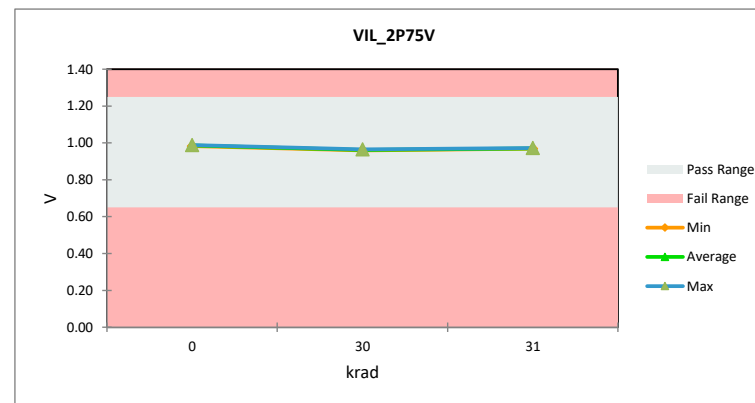
## SN54SC4T02-SEP

VIL_2P75V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.25
Min Limit	0.65

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.987	0.987	0.00	0.01%	0.01%
0	2	0.983	0.983	0.00	-0.04%	0.07%
0	3	0.986	0.987	0.00	0.06%	0.11%
0	4	0.988	0.988	0.00	0.04%	0.07%
30	5	0.985	0.959	-0.03	-2.55%	4.18%
30	6	0.985	0.960	-0.03	-2.54%	4.18%
30	7	0.986	0.961	-0.02	-2.52%	4.15%
30	8	0.985	0.959	-0.03	-2.58%	4.23%
30	9	0.987	0.965	-0.02	-2.25%	3.71%
30	10	0.987	0.965	-0.02	-2.19%	3.60%
31	11	0.914	0.969	0.05	6.01%	9.15%
31	12	0.917	0.970	0.05	5.79%	8.85%
31	13	0.911	0.970	0.06	6.48%	9.84%
31	14	0.916	0.969	0.05	5.76%	8.79%
31	15	0.913	0.972	0.06	6.47%	9.85%
31	16	0.910	0.972	0.06	6.82%	10.34%
Max		0.988	0.988	0.00	6.82%	10.34%
Average		0.959	0.971	0.01	1.42%	5.07%
Min		0.910	0.959	0.05	-2.58%	0.01%
Std Dev		0.036	0.010	-0.03	3.97%	3.88%



VIL_2P75V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1.25		
Min Limit	0.65		
	0	30	31
LL	0.65	0.65	0.65
Min	0.98	0.96	0.97
Average	0.99	0.96	0.97
Max	0.99	0.97	0.97
UL	1.25	1.25	1.25

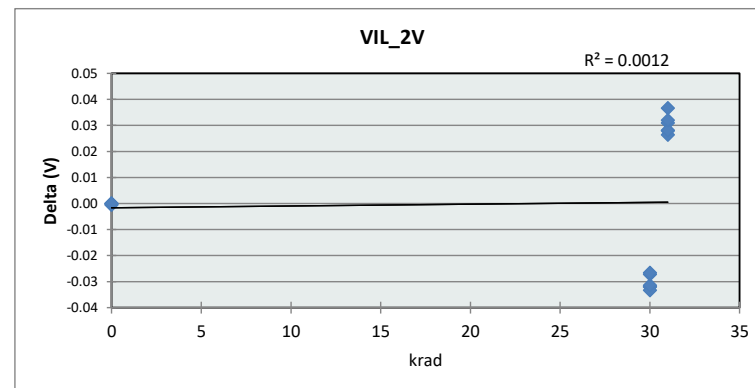


# TID Report

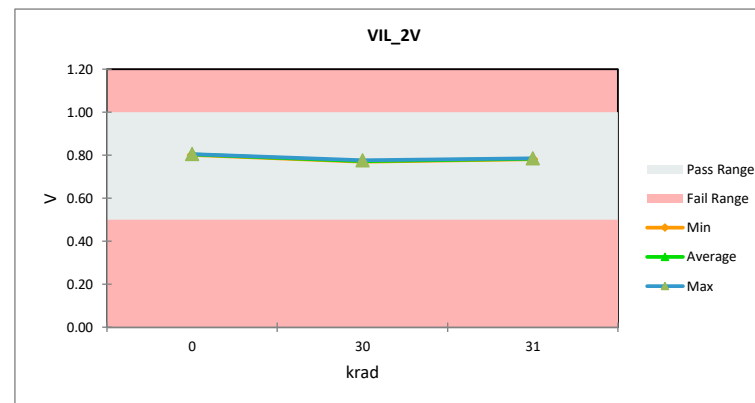
## SN54SC4T02-SEP

VIL_2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1
Min Limit	0.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.805	0.805	0.00	-0.02%	0.03%
0	2	0.802	0.801	0.00	-0.07%	0.11%
0	3	0.803	0.803	0.00	0.01%	0.01%
0	4	0.805	0.805	0.00	0.00%	0.00%
30	5	0.802	0.770	-0.03	-3.98%	6.39%
30	6	0.803	0.771	-0.03	-3.99%	6.40%
30	7	0.804	0.771	-0.03	-4.14%	6.67%
30	8	0.802	0.771	-0.03	-3.91%	6.28%
30	9	0.802	0.774	-0.03	-3.39%	5.44%
30	10	0.803	0.776	-0.03	-3.32%	5.32%
31	11	0.753	0.781	0.03	3.72%	5.60%
31	12	0.755	0.782	0.03	3.50%	5.28%
31	13	0.752	0.783	0.03	4.12%	6.20%
31	14	0.755	0.783	0.03	3.73%	5.63%
31	15	0.754	0.786	0.03	4.24%	6.40%
31	16	0.749	0.786	0.04	4.89%	7.33%
Max		0.805	0.805	0.00	4.89%	7.33%
Average		0.784	0.784	0.00	0.09%	4.57%
Min		0.749	0.770	0.02	-4.14%	0.00%
Std Dev		0.025	0.013	-0.01	3.52%	2.75%



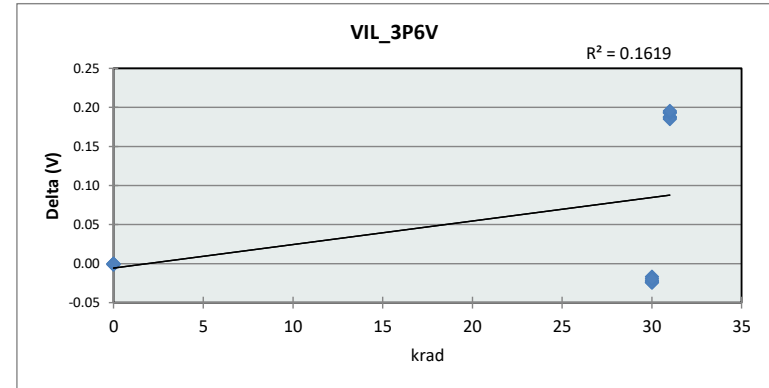
VIL_2V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	1			
Min Limit	0.5			
LL		0.50	0.50	0.50
Min		0.80	0.77	0.78
Average		0.80	0.77	0.78
Max		0.81	0.78	0.79
UL		1.00	1.00	1.00



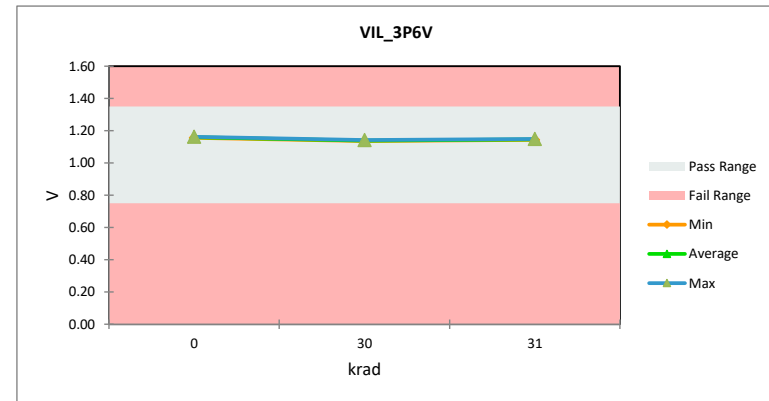
# TID Report

## SN54SC4T02-SEP

		VIL_3P6V				
Test Site		CLAB				
Tester		ETS88-01				
Test Number		EQ774601				
Units		V				
Max Limit		1.35				
Min Limit		0.75				
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.159	1.159	0.00	0.00%	0.01%
0	2	1.157	1.156	0.00	-0.07%	0.14%
0	3	1.162	1.161	0.00	-0.12%	0.22%
0	4	1.162	1.162	0.00	-0.02%	0.03%
30	5	1.160	1.138	-0.02	-1.88%	3.63%
30	6	1.160	1.136	-0.02	-2.10%	4.06%
30	7	1.161	1.138	-0.02	-2.01%	3.89%
30	8	1.160	1.136	-0.02	-2.06%	3.97%
30	9	1.159	1.142	-0.02	-1.45%	2.80%
30	10	1.160	1.140	-0.02	-1.67%	3.23%
31	11	0.958	1.145	0.19	19.52%	31.16%
31	12	0.956	1.144	0.19	19.68%	31.35%
31	13	0.953	1.147	0.19	20.32%	32.28%
31	14	0.959	1.145	0.19	19.30%	30.86%
31	15	0.955	1.148	0.19	20.20%	32.16%
31	16	0.952	1.148	0.20	20.55%	32.60%
Max		1.162	1.162	0.00	20.55%	32.60%
Average		1.083	1.147	0.06	6.76%	13.27%
Min		0.952	1.136	0.18	-2.10%	0.01%
Std Dev		0.102	0.009	-0.09	10.56%	14.84%



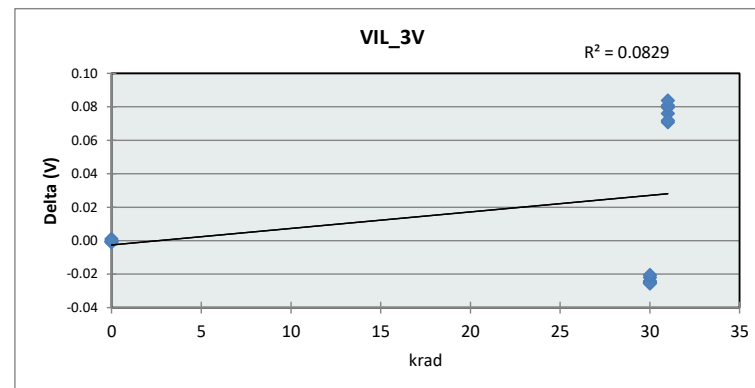
		VIL_3P6V		
Test Site		CLAB		
Tester		ETS88-01		
Test Number		EQ774601		
Units		V		
Max Limit		1.35		
Min Limit		0.75		
krad	0	30	31	
LL	0.75	0.75	0.75	
Min	1.16	1.14	1.14	
Average	1.16	1.14	1.15	
Max	1.16	1.14	1.15	
UL	1.35	1.35	1.35	



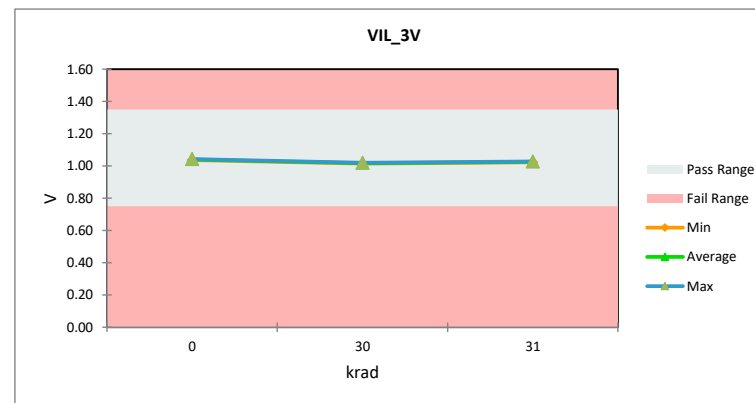
# TID Report SN54SC4T02-SEP

VIL_3V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.35
Min Limit	0.75

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.040	1.040	0.00	-0.09%	0.15%
0	2	1.037	1.037	0.00	-0.04%	0.06%
0	3	1.042	1.043	0.00	0.10%	0.18%
0	4	1.041	1.041	0.00	-0.02%	0.03%
30	5	1.039	1.015	-0.02	-2.32%	4.01%
30	6	1.040	1.015	-0.03	-2.41%	4.18%
30	7	1.041	1.015	-0.03	-2.45%	4.25%
30	8	1.040	1.014	-0.03	-2.41%	4.18%
30	9	1.042	1.020	-0.02	-2.11%	3.66%
30	10	1.040	1.020	-0.02	-1.96%	3.41%
31	11	0.949	1.025	0.08	8.02%	12.68%
31	12	0.952	1.023	0.07	7.44%	11.80%
31	13	0.945	1.025	0.08	8.43%	13.27%
31	14	0.951	1.023	0.07	7.56%	11.99%
31	15	0.947	1.028	0.08	8.53%	13.47%
31	16	0.944	1.027	0.08	8.89%	13.98%
Max		1.042	1.043	0.00	8.89%	13.98%
Average		1.006	1.026	0.02	2.20%	6.33%
Min		0.944	1.014	0.07	-2.45%	0.03%
Std Dev		0.046	0.010	-0.04	4.86%	5.47%



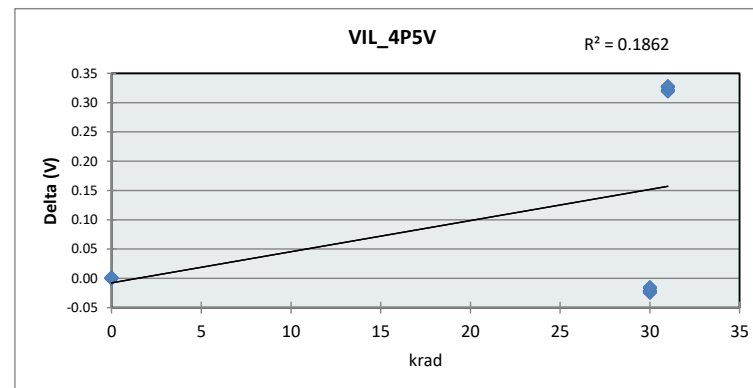
VIL_3V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1.35		
Min Limit	0.75		
krad	0	30	31
LL	0.75	0.75	0.75
Min	1.04	1.01	1.02
Average	1.04	1.02	1.03
Max	1.04	1.02	1.03
UL	1.35	1.35	1.35



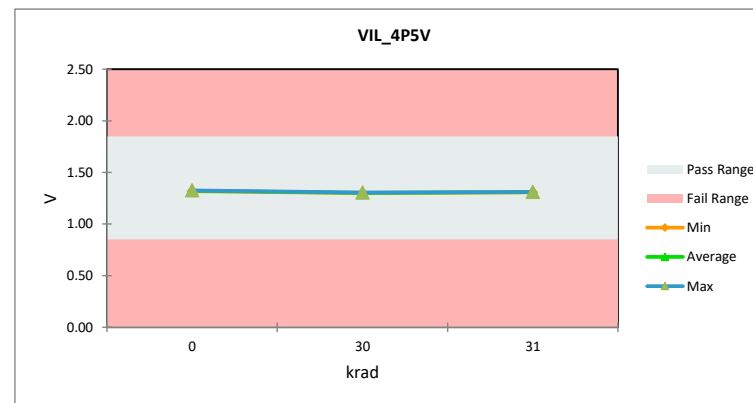
# TID Report SN54SC4T02-SEP

VIL_4P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.85
Min Limit	0.85

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.320	1.320	0.00	0.00%	0.00%
0	2	1.317	1.318	0.00	0.08%	0.11%
0	3	1.324	1.323	0.00	-0.02%	0.03%
0	4	1.323	1.325	0.00	0.13%	0.17%
30	5	1.322	1.300	-0.02	-1.71%	2.26%
30	6	1.324	1.299	-0.02	-1.85%	2.45%
30	7	1.323	1.300	-0.02	-1.80%	2.38%
30	8	1.322	1.301	-0.02	-1.55%	2.05%
30	9	1.322	1.305	-0.02	-1.24%	1.64%
30	10	1.319	1.304	-0.01	-1.14%	1.50%
31	11	0.987	1.307	0.32	32.37%	31.97%
31	12	0.982	1.309	0.33	33.22%	32.64%
31	13	0.986	1.308	0.32	32.65%	32.20%
31	14	0.988	1.307	0.32	32.34%	31.94%
31	15	0.985	1.312	0.33	33.26%	32.75%
31	16	0.982	1.310	0.33	33.40%	32.81%
Max		1.324	1.325	0.00	33.40%	32.81%
Average		1.195	1.309	0.11	11.76%	12.93%
Min		0.982	1.299	0.32	-1.85%	0.00%
Std Dev		0.168	0.008	-0.16	16.91%	15.59%



VIL_4P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1.85		
Min Limit	0.85		
krad	0	30	31
LL	0.85	0.85	0.85
Min	1.32	1.30	1.31
Average	1.32	1.30	1.31
Max	1.33	1.31	1.31
UL	1.85	1.85	1.85



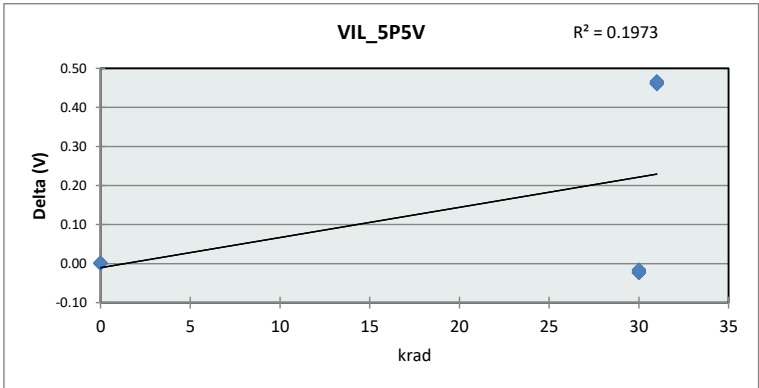


# TID Report

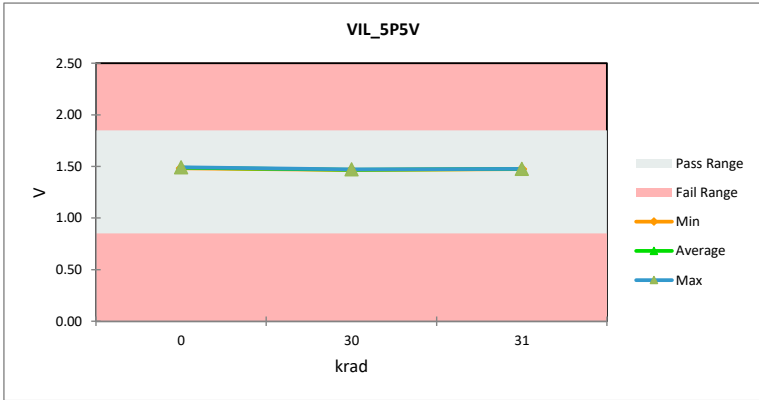
## SN54SC4T02-SEP

VIL_5P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.85
Min Limit	0.85

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.485	1.485	0.00	0.00%	0.00%
0	2	1.482	1.482	0.00	0.01%	0.01%
0	3	1.489	1.490	0.00	0.10%	0.14%
0	4	1.489	1.492	0.00	0.18%	0.28%
30	5	1.489	1.465	-0.02	-1.60%	2.38%
30	6	1.488	1.465	-0.02	-1.54%	2.29%
30	7	1.489	1.466	-0.02	-1.49%	2.21%
30	8	1.488	1.467	-0.02	-1.41%	2.10%
30	9	1.489	1.471	-0.02	-1.17%	1.75%
30	10	1.486	1.470	-0.02	-1.03%	1.52%
31	11	1.011	1.473	0.46	45.72%	46.23%
31	12	1.013	1.475	0.46	45.60%	46.20%
31	13	1.013	1.475	0.46	45.58%	46.18%
31	14	1.014	1.475	0.46	45.35%	46.00%
31	15	1.010	1.476	0.47	46.15%	46.60%
31	16	1.010	1.477	0.47	46.23%	46.68%
Max		1.489	1.492	0.00	46.23%	46.68%
Average		1.309	1.475	0.17	16.67%	18.16%
Min		1.010	1.465	0.46	-1.60%	0.00%
Std Dev		0.238	0.008	-0.23	23.29%	22.54%



VIL_5P5V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	1.85			
Min Limit	0.85			
LL		0.85	0.85	0.85
Min		1.48	1.47	1.47
Average		1.49	1.47	1.48
Max		1.49	1.47	1.48
UL		1.85	1.85	1.85

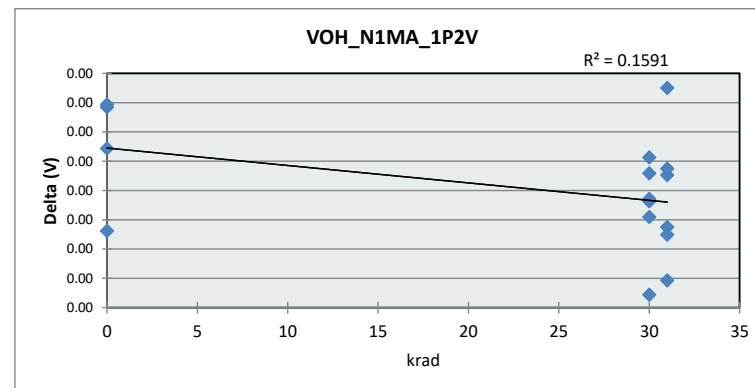


# TID Report

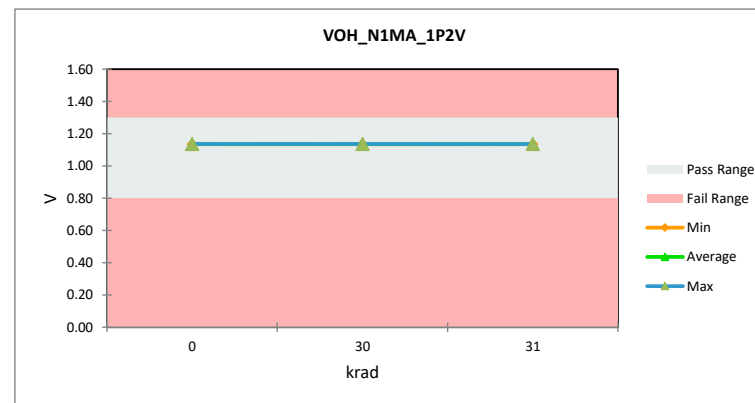
## SN54SC4T02-SEP

VOH_N1MA_1P2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.3
Min Limit	0.8

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.137	1.136	0.00	-0.03%	0.06%
0	2	1.136	1.136	0.00	0.00%	0.01%
0	3	1.136	1.136	0.00	0.00%	0.00%
0	4	1.136	1.135	0.00	-0.08%	0.17%
30	5	1.136	1.136	0.00	-0.03%	0.07%
30	6	1.136	1.136	0.00	-0.07%	0.16%
30	7	1.136	1.136	0.00	-0.06%	0.13%
30	8	1.136	1.135	0.00	-0.04%	0.10%
30	9	1.136	1.135	0.00	-0.06%	0.13%
30	10	1.136	1.135	0.00	-0.12%	0.26%
31	11	1.136	1.136	0.00	-0.04%	0.10%
31	12	1.136	1.136	0.00	0.01%	0.02%
31	13	1.136	1.136	0.00	-0.04%	0.09%
31	14	1.136	1.135	0.00	-0.07%	0.17%
31	15	1.136	1.135	0.00	-0.08%	0.18%
31	16	1.136	1.135	0.00	-0.11%	0.24%
Max		1.137	1.136	0.00	0.01%	0.26%
Average		1.136	1.136	0.00	-0.05%	0.12%
Min		1.136	1.135	0.00	-0.12%	0.00%
Std Dev		0.000	0.000	0.00	0.04%	0.08%



VOH_N1MA_1P2V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	1.3			
Min Limit	0.8			
LL		0.80	0.80	0.80
Min		1.14	1.13	1.14
Average		1.14	1.14	1.14
Max		1.14	1.14	1.14
UL		1.30	1.30	1.30

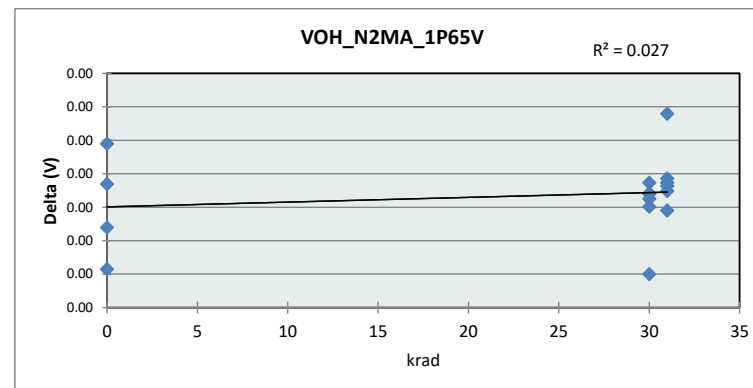


# TID Report

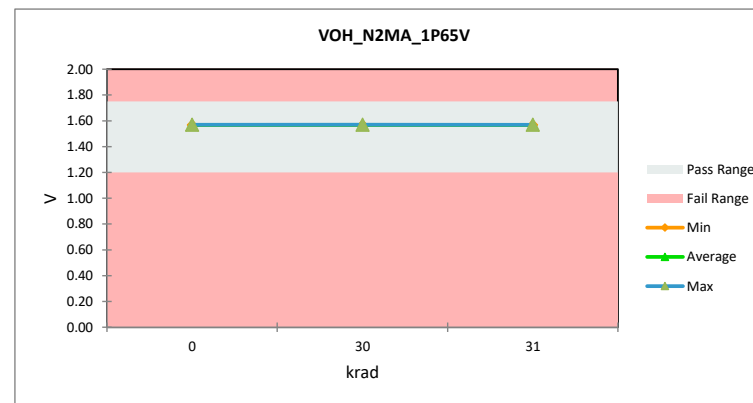
## SN54SC4T02-SEP

VOH_N2MA_1P65V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.75
Min Limit	1.2

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.570	1.569	0.00	-0.05%	0.15%
0	2	1.568	1.568	0.00	0.03%	0.08%
0	3	1.570	1.569	0.00	-0.01%	0.03%
0	4	1.569	1.567	0.00	-0.09%	0.26%
30	5	1.569	1.569	0.00	-0.02%	0.05%
30	6	1.569	1.569	0.00	-0.02%	0.05%
30	7	1.569	1.569	0.00	-0.03%	0.09%
30	8	1.569	1.569	0.00	-0.01%	0.02%
30	9	1.569	1.569	0.00	-0.02%	0.07%
30	10	1.569	1.567	0.00	-0.10%	0.27%
31	11	1.569	1.569	0.00	0.00%	0.01%
31	12	1.568	1.569	0.00	0.06%	0.16%
31	13	1.569	1.569	0.00	-0.01%	0.03%
31	14	1.569	1.568	0.00	-0.02%	0.05%
31	15	1.569	1.569	0.00	-0.01%	0.02%
31	16	1.569	1.568	0.00	-0.03%	0.10%
Max		1.570	1.569	0.00	0.06%	0.27%
Average		1.569	1.569	0.00	-0.02%	0.09%
Min		1.568	1.567	0.00	-0.10%	0.27%
Std Dev		0.001	0.001	0.00	0.04%	0.08%



VOH_N2MA_1P65V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1.75		
Min Limit	1.2		
krad	0	30	31
LL	1.20	1.20	1.20
Min	1.57	1.57	1.57
Average	1.57	1.57	1.57
Max	1.57	1.57	1.57
UL	1.75	1.75	1.75

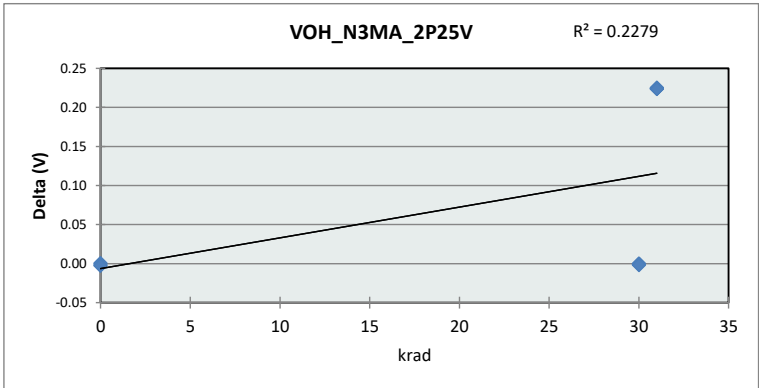


# TID Report SN54SC4T02-SEP

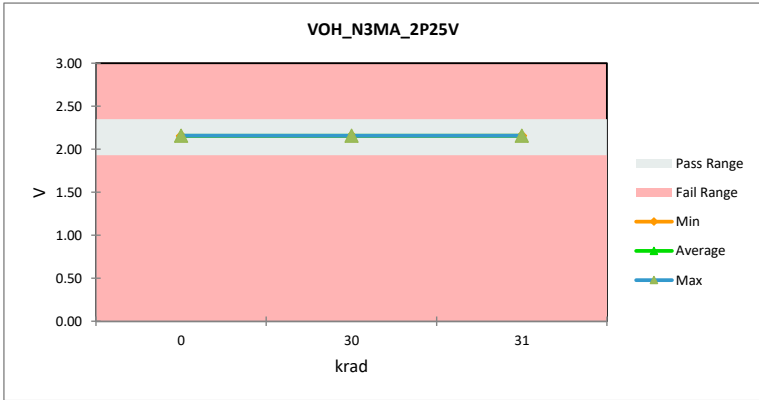
## VOH\_N3MA\_2P25V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	2.35
Min Limit	1.93

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	2.158	2.157	0.00	-0.08%	0.41%
0	2	2.156	2.156	0.00	0.03%	0.16%
0	3	2.158	2.158	0.00	-0.01%	0.07%
0	4	2.157	2.154	0.00	-0.12%	0.63%
30	5	2.158	2.157	0.00	-0.01%	0.04%
30	6	2.158	2.157	0.00	-0.03%	0.16%
30	7	2.158	2.157	0.00	-0.02%	0.12%
30	8	2.157	2.157	0.00	-0.02%	0.09%
30	9	2.157	2.157	0.00	-0.01%	0.06%
30	10	2.157	2.155	0.00	-0.09%	0.45%
31	11	1.933	2.157	0.22	11.64%	53.55%
31	12	1.932	2.157	0.23	11.67%	53.67%
31	13	1.933	2.157	0.22	11.60%	53.37%
31	14	1.933	2.156	0.22	11.59%	53.33%
31	15	1.933	2.157	0.22	11.60%	53.39%
31	16	1.933	2.156	0.22	11.57%	53.24%
Max		2.158	2.158	0.00	11.67%	53.67%
Average		2.073	2.157	0.08	4.33%	20.17%
Min		1.932	2.154	0.22	-0.12%	0.04%
Std Dev		0.112	0.001	-0.11	5.82%	26.60%



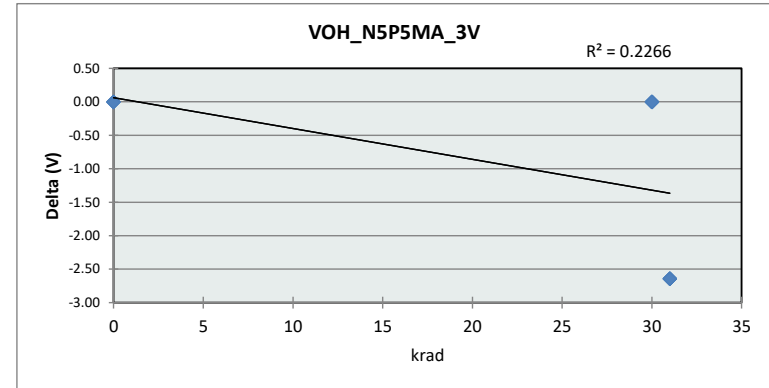
VOH_N3MA_2P25V			
krad	0	30	31
LL	1.93	1.93	1.93
Min	2.15	2.15	2.16
Average	2.16	2.16	2.16
Max	2.16	2.16	2.16
UL	2.35	2.35	2.35



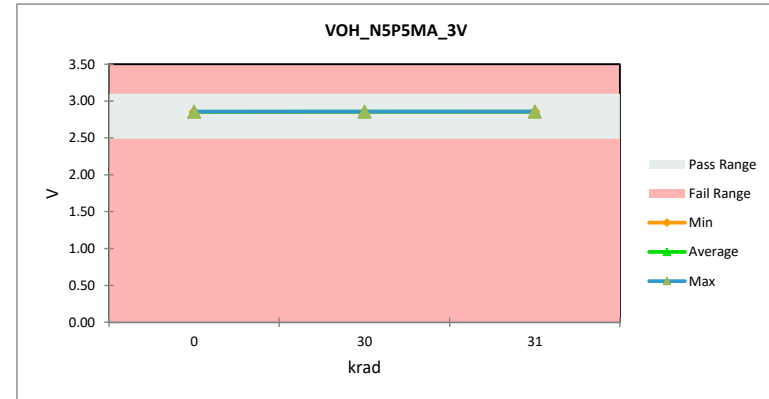
# TID Report SN54SC4T02-SEP

VOH_N5P5MA_3V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	3.1
Min Limit	2.49

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	2.859	2.856	0.00	-0.11%	0.52%
0	2	2.854	2.855	0.00	0.03%	0.16%
0	3	2.858	2.857	0.00	-0.01%	0.05%
0	4	2.856	2.851	0.00	-0.17%	0.81%
30	5	2.857	2.857	0.00	0.00%	0.01%
30	6	2.857	2.856	0.00	-0.04%	0.19%
30	7	2.857	2.857	0.00	-0.01%	0.06%
30	8	2.857	2.856	0.00	-0.01%	0.04%
30	9	2.857	2.856	0.00	-0.03%	0.14%
30	10	2.856	2.852	0.00	-0.12%	0.57%
31	11	5.498	2.857	-2.64	-48.03%	432.94%
31	12	5.498	2.857	-2.64	-48.05%	433.09%
31	13	5.498	2.857	-2.64	-48.04%	433.03%
31	14	5.498	2.855	-2.64	-48.07%	433.24%
31	15	5.498	2.856	-2.64	-48.06%	433.18%
31	16	5.498	2.856	-2.64	-48.06%	433.24%
Max		5.498	2.857	-2.64	0.03%	433.24%
Average		3.847	2.856	-0.99	-18.05%	162.58%
Min		2.854	2.851	0.00	-48.07%	0.01%
Std Dev		1.321	0.002	-1.32	24.00%	216.43%



VOH_N5P5MA_3V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	3.1		
Min Limit	2.49		
krad	0	30	31
LL	2.49	2.49	2.49
Min	2.85	2.85	2.86
Average	2.85	2.86	2.86
Max	2.86	2.86	2.86
UL	3.10	3.10	3.10

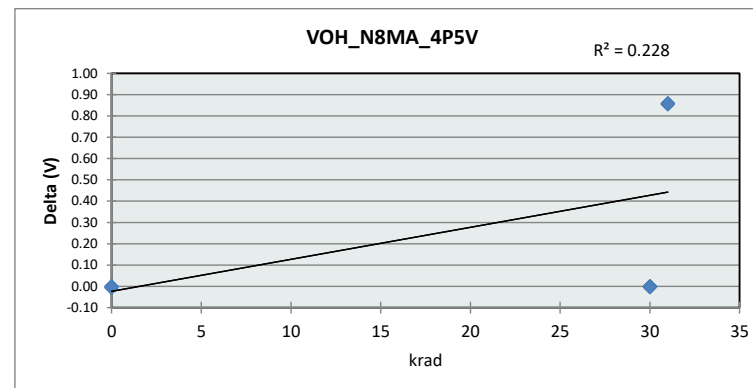


# TID Report

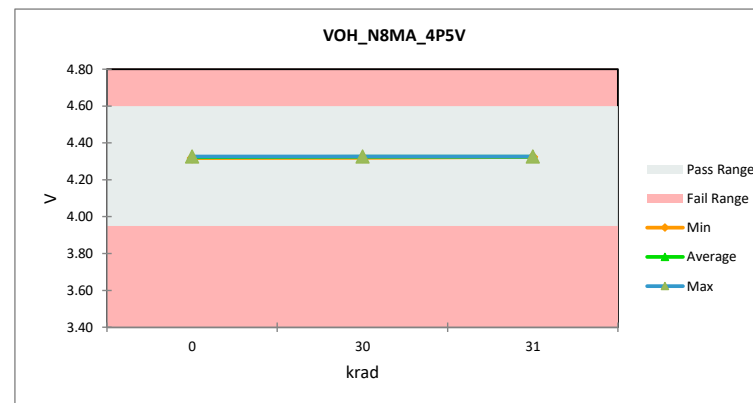
## SN54SC4T02-SEP

VOH_N8MA_4P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	4.6
Min Limit	3.95

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	4.328	4.323	0.00	-0.11%	0.74%
0	2	4.321	4.323	0.00	0.03%	0.20%
0	3	4.327	4.326	0.00	-0.01%	0.09%
0	4	4.325	4.318	-0.01	-0.16%	1.08%
30	5	4.326	4.326	0.00	0.01%	0.05%
30	6	4.326	4.325	0.00	-0.03%	0.21%
30	7	4.327	4.326	0.00	-0.01%	0.07%
30	8	4.326	4.325	0.00	-0.01%	0.09%
30	9	4.326	4.325	0.00	-0.03%	0.17%
30	10	4.324	4.319	0.00	-0.11%	0.76%
31	11	3.468	4.326	0.86	24.75%	132.03%
31	12	3.466	4.326	0.86	24.81%	132.30%
31	13	3.469	4.325	0.86	24.69%	131.75%
31	14	3.468	4.324	0.86	24.69%	131.75%
31	15	3.468	4.325	0.86	24.71%	131.84%
31	16	3.469	4.324	0.86	24.66%	131.63%
Max		4.328	4.326	0.00	24.81%	132.30%
Average		4.004	4.324	0.32	9.24%	49.67%
Min		3.466	4.318	0.85	-0.16%	0.05%
Std Dev		0.429	0.003	-0.43	12.38%	65.77%



VOH_N8MA_4P5V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	4.6			
Min Limit	3.95			
krad		0	30	31
LL		3.95	3.95	3.95
Min		4.32	4.32	4.32
Average		4.32	4.32	4.33
Max		4.33	4.33	4.33
UL		4.60	4.60	4.60

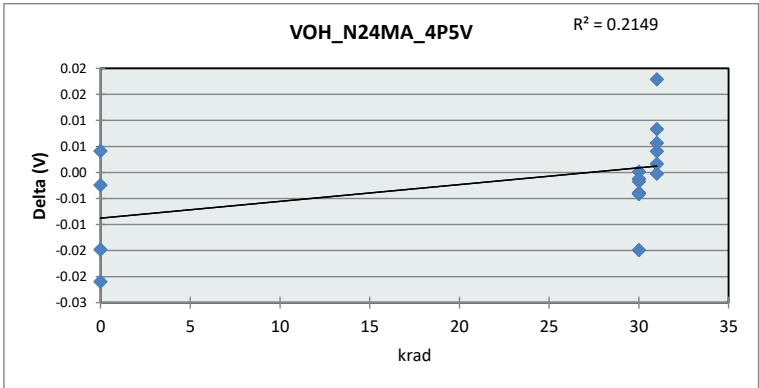


# TID Report SN54SC4T02-SEP

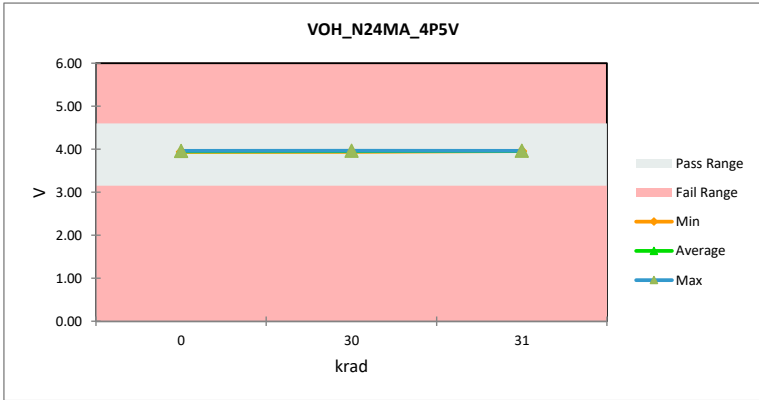
## VOH\_N24MA\_4P5V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	4.6
Min Limit	3.15

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	3.968	3.953	-0.01	-0.37%	1.02%
0	2	3.947	3.951	0.00	0.10%	0.28%
0	3	3.964	3.962	0.00	-0.06%	0.17%
0	4	3.957	3.936	-0.02	-0.53%	1.45%
30	5	3.962	3.962	0.00	0.00%	0.01%
30	6	3.961	3.957	0.00	-0.10%	0.29%
30	7	3.963	3.961	0.00	-0.04%	0.12%
30	8	3.959	3.958	0.00	-0.03%	0.08%
30	9	3.961	3.957	0.00	-0.10%	0.27%
30	10	3.955	3.940	-0.01	-0.38%	1.03%
31	11	3.954	3.962	0.01	0.21%	0.57%
31	12	3.942	3.960	0.02	0.45%	1.23%
31	13	3.957	3.959	0.00	0.04%	0.12%
31	14	3.951	3.956	0.00	0.10%	0.28%
31	15	3.951	3.956	0.01	0.14%	0.39%
31	16	3.956	3.956	0.00	-0.01%	0.02%
Max		3.968	3.962	-0.01	0.45%	1.45%
Average		3.957	3.955	0.00	-0.04%	0.46%
Min		3.942	3.936	-0.01	-0.53%	0.01%
Std Dev		0.007	0.007	0.00	0.24%	0.46%



VOH_N24MA_4P5V			
krad	0	30	31
LL	3.15	3.15	3.15
Min	3.94	3.94	3.96
Average	3.95	3.96	3.96
Max	3.96	3.96	3.96
UL	4.60	4.60	4.60

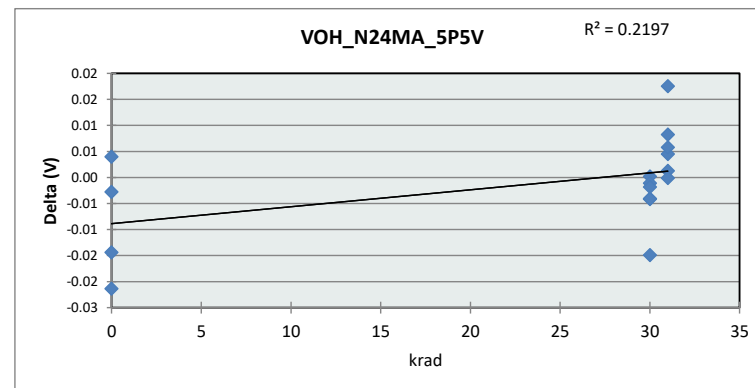


# TID Report

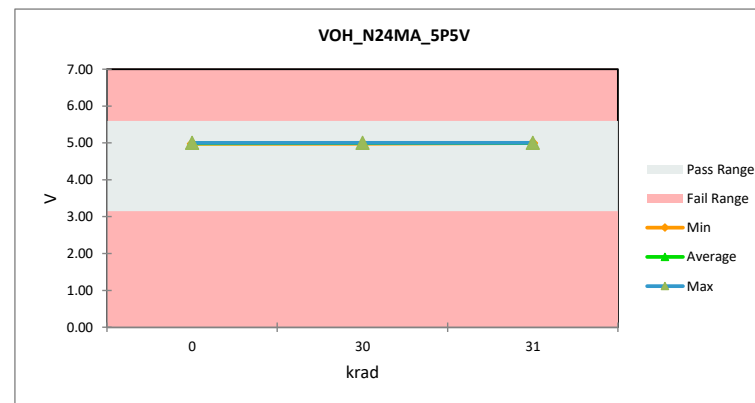
## SN54SC4T02-SEP

VOH_N24MA_5P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	5.6
Min Limit	3.15

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	5.007	4.992	-0.01	-0.29%	0.59%
0	2	4.986	4.990	0.00	0.08%	0.16%
0	3	5.004	5.001	0.00	-0.05%	0.11%
0	4	4.997	4.975	-0.02	-0.43%	0.87%
30	5	5.001	5.001	0.00	0.00%	0.01%
30	6	5.001	4.997	0.00	-0.08%	0.17%
30	7	5.002	5.001	0.00	-0.02%	0.04%
30	8	5.000	4.998	0.00	-0.04%	0.07%
30	9	5.001	4.997	0.00	-0.08%	0.16%
30	10	4.994	4.980	-0.01	-0.30%	0.61%
31	11	4.994	5.002	0.01	0.17%	0.34%
31	12	4.982	5.000	0.02	0.35%	0.72%
31	13	4.997	4.999	0.00	0.03%	0.05%
31	14	4.991	4.996	0.00	0.09%	0.18%
31	15	4.990	4.996	0.01	0.12%	0.24%
31	16	4.996	4.996	0.00	0.00%	0.00%
Max		5.007	5.002	0.00	0.35%	0.87%
Average		4.996	4.995	0.00	-0.03%	0.27%
Min		4.982	4.975	-0.01	-0.43%	0.00%
Std Dev		0.007	0.008	0.00	0.19%	0.27%



VOH_N24MA_5P5V		0	30	31
Test Site	CLAB			
Tester	ETS88-01			
Test Number	EQ774601			
Units	V			
Max Limit	5.6			
Min Limit	3.15			
krad		0	30	31
LL		3.15	3.15	3.15
Min		4.98	4.98	5.00
Average		4.99	5.00	5.00
Max		5.00	5.00	5.00
UL		5.60	5.60	5.60



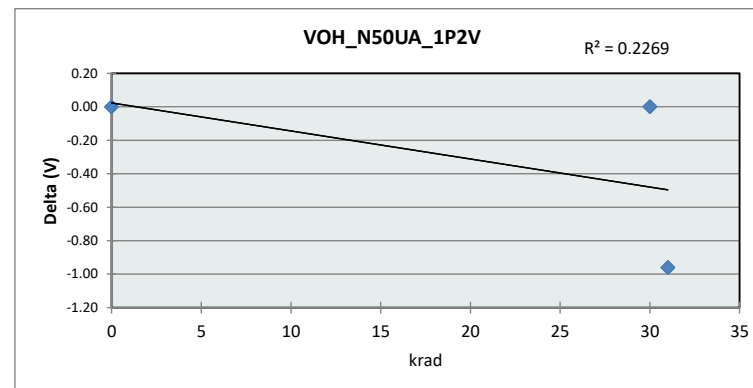


# TID Report

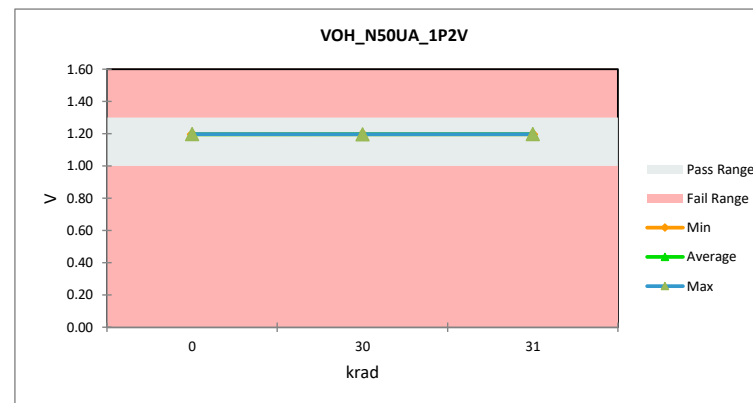
## SN54SC4T02-SEP

VOH_N50UA_1P2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.3
Min Limit	1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.197	1.197	0.00	0.03%	0.10%
0	2	1.197	1.197	0.00	-0.01%	0.05%
0	3	1.196	1.197	0.00	0.02%	0.08%
0	4	1.196	1.197	0.00	0.01%	0.03%
30	5	1.197	1.197	0.00	0.00%	0.01%
30	6	1.196	1.197	0.00	0.02%	0.08%
30	7	1.197	1.197	0.00	0.00%	0.00%
30	8	1.197	1.197	0.00	0.01%	0.02%
30	9	1.197	1.197	0.00	0.01%	0.03%
30	10	1.197	1.197	0.00	0.00%	0.01%
31	11	2.157	1.197	-0.96	-44.51%	320.01%
31	12	2.156	1.197	-0.96	-44.49%	319.69%
31	13	2.157	1.197	-0.96	-44.53%	320.21%
31	14	2.157	1.197	-0.96	-44.52%	320.08%
31	15	2.157	1.197	-0.96	-44.51%	320.01%
31	16	2.157	1.197	-0.96	-44.53%	320.25%
Max		2.157	1.197	-0.96	0.03%	320.25%
Average		1.557	1.197	-0.36	-16.69%	120.04%
Min		1.196	1.197	0.00	-44.53%	0.00%
Std Dev		0.480	0.000	-0.48	22.26%	160.00%



VOH_N50UA_1P2V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	1.3		
Min Limit	1		
krad	0	30	31
LL	1.00	1.00	1.00
Min	1.20	1.20	1.20
Average	1.20	1.20	1.20
Max	1.20	1.20	1.20
UL	1.30	1.30	1.30



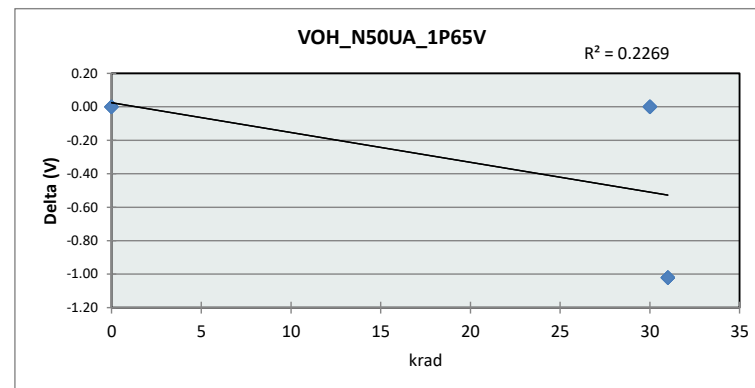
# TID Report

## SN54SC4T02-SEP

### VOH\_N50UA\_1P65V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.75
Min Limit	1.55

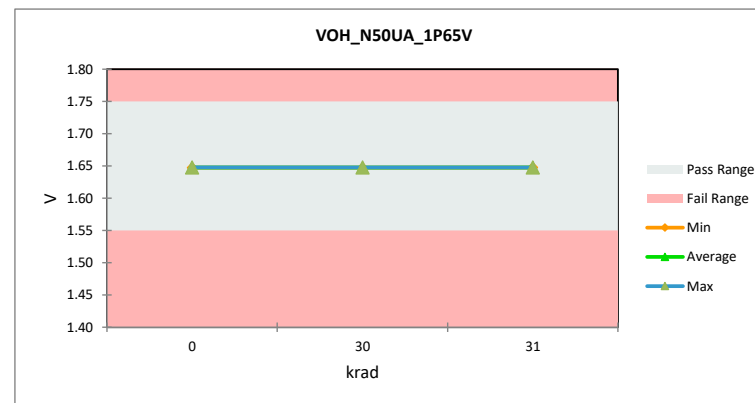
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.647	1.648	0.00	0.02%	0.13%
0	2	1.647	1.647	0.00	0.00%	0.00%
0	3	1.648	1.648	0.00	0.01%	0.09%
0	4	1.648	1.648	0.00	-0.01%	0.07%
30	5	1.648	1.647	0.00	-0.02%	0.15%
30	6	1.648	1.647	0.00	0.00%	0.02%
30	7	1.648	1.648	0.00	0.01%	0.05%
30	8	1.648	1.648	0.00	0.00%	0.01%
30	9	1.647	1.648	0.00	0.01%	0.11%
30	10	1.648	1.648	0.00	-0.01%	0.06%
31	11	2.669	1.648	-1.02	-38.26%	510.50%
31	12	2.667	1.647	-1.02	-38.23%	509.90%
31	13	2.669	1.648	-1.02	-38.26%	510.61%
31	14	2.668	1.647	-1.02	-38.26%	510.52%
31	15	2.668	1.648	-1.02	-38.26%	510.39%
31	16	2.669	1.648	-1.02	-38.27%	510.69%
Max		2.669	1.648	-1.02	0.02%	510.69%
Average		2.030	1.648	-0.38	-14.35%	191.46%
Min		1.647	1.647	0.00	-38.27%	0.00%
Std Dev		0.510	0.000	-0.51	19.13%	255.18%



### VOH\_N50UA\_1P65V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	1.75
Min Limit	1.55

krad	0	30	31
LL	1.55	1.55	1.55
Min	1.65	1.65	1.65
Average	1.65	1.65	1.65
Max	1.65	1.65	1.65
UL	1.75	1.75	1.75



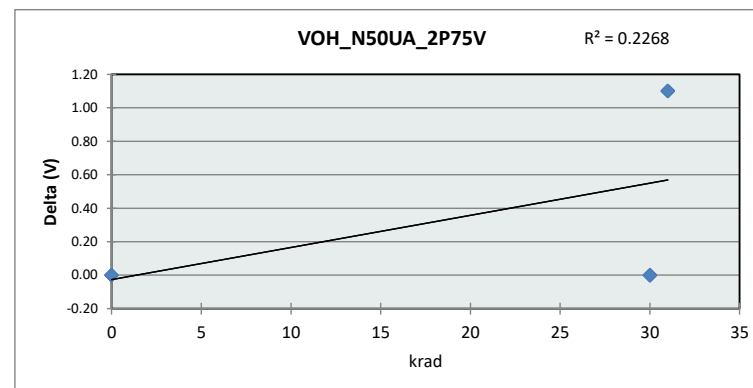
# TID Report

## SN54SC4T02-SEP

### VOH\_N50UA\_2P75V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	2.85
Min Limit	2.65

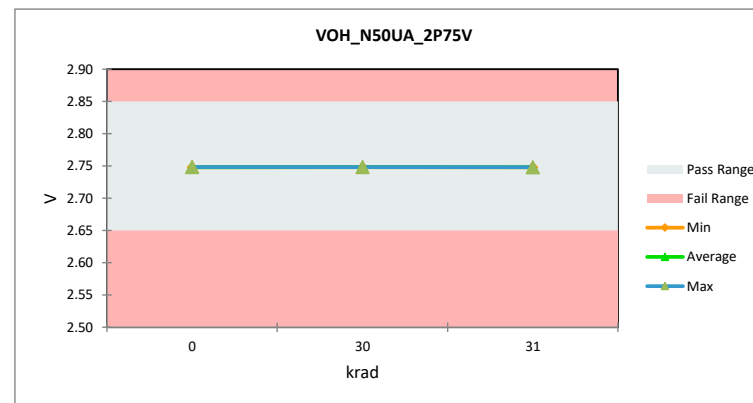
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	2.748	2.748	0.00	0.00%	0.06%
0	2	2.748	2.748	0.00	0.00%	0.01%
0	3	2.748	2.748	0.00	0.00%	0.04%
0	4	2.748	2.748	0.00	0.00%	0.06%
30	5	2.748	2.748	0.00	0.00%	0.06%
30	6	2.748	2.748	0.00	0.01%	0.09%
30	7	2.748	2.748	0.00	0.00%	0.02%
30	8	2.748	2.748	0.00	0.00%	0.05%
30	9	2.748	2.748	0.00	0.00%	0.00%
30	10	2.748	2.748	0.00	0.00%	0.02%
31	11	1.647	2.748	1.10	66.83%	550.38%
31	12	1.647	2.748	1.10	66.81%	550.32%
31	13	1.647	2.748	1.10	66.82%	550.40%
31	14	1.647	2.748	1.10	66.83%	550.43%
31	15	1.647	2.748	1.10	66.84%	550.46%
31	16	1.647	2.748	1.10	66.82%	550.39%
Max		2.748	2.748	0.00	66.84%	550.46%
Average		2.335	2.748	0.41	25.06%	206.42%
Min		1.647	2.748	1.10	0.00%	0.00%
Std Dev		0.550	0.000	-0.55	33.41%	275.18%



### VOH\_N50UA\_2P75V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	2.85
Min Limit	2.65

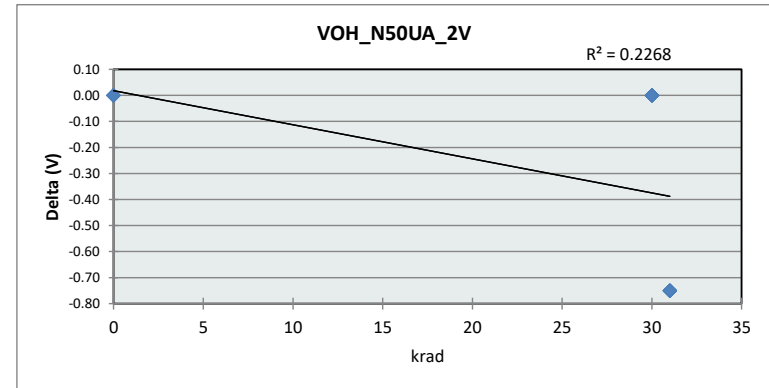
krad	0	30	31
LL	2.65	2.65	2.65
Min	2.75	2.75	2.75
Average	2.75	2.75	2.75
Max	2.75	2.75	2.75
UL	2.85	2.85	2.85



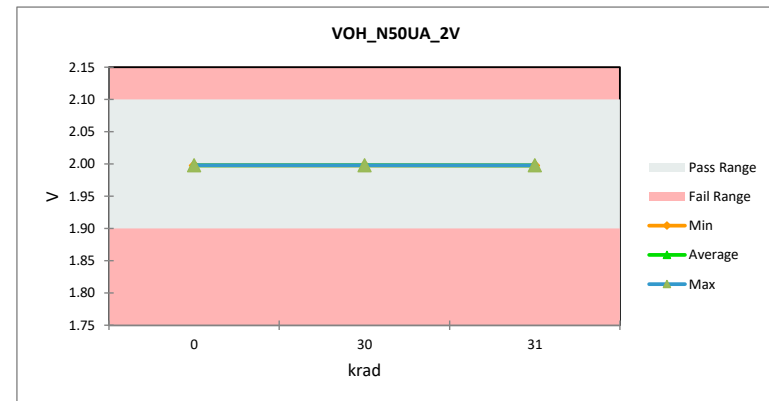
# TID Report SN54SC4T02-SEP

VOH_N50UA_2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	2.1
Min Limit	1.9

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.998	1.998	0.00	0.00%	0.02%
0	2	1.998	1.998	0.00	0.00%	0.05%
0	3	1.998	1.998	0.00	-0.01%	0.05%
0	4	1.998	1.998	0.00	0.00%	0.02%
30	5	1.998	1.998	0.00	0.00%	0.02%
30	6	1.998	1.998	0.00	0.00%	0.04%
30	7	1.998	1.998	0.00	0.00%	0.04%
30	8	1.998	1.998	0.00	0.00%	0.05%
30	9	1.998	1.998	0.00	0.01%	0.07%
30	10	1.998	1.998	0.00	0.00%	0.04%
31	11	2.748	1.998	-0.75	-27.30%	375.17%
31	12	2.748	1.998	-0.75	-27.31%	375.26%
31	13	2.748	1.998	-0.75	-27.30%	375.19%
31	14	2.748	1.998	-0.75	-27.31%	375.30%
31	15	2.748	1.998	-0.75	-27.31%	375.21%
31	16	2.748	1.998	-0.75	-27.31%	375.26%
Max		2.748	1.998	-0.75	0.01%	375.30%
Average		2.279	1.998	-0.28	-10.24%	140.74%
Min		1.998	1.998	0.00	-27.31%	0.02%
Std Dev		0.375	0.000	-0.38	13.65%	187.60%



VOH_N50UA_2V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	2.1		
Min Limit	1.9		
krad	0	30	31
LL	1.90	1.90	1.90
Min	2.00	2.00	2.00
Average	2.00	2.00	2.00
Max	2.00	2.00	2.00
UL	2.10	2.10	2.10



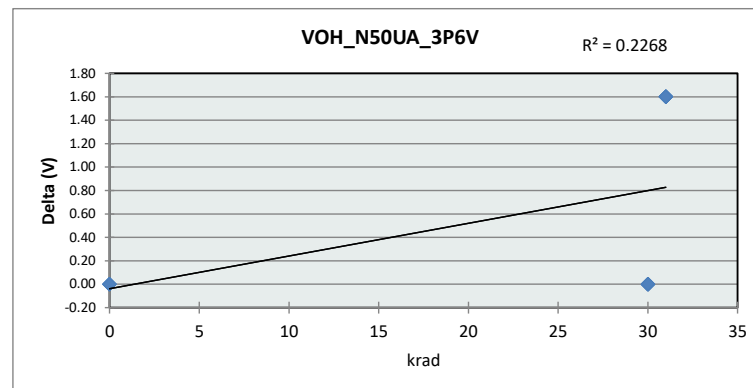
# TID Report

## SN54SC4T02-SEP

### VOH\_N50UA\_3P6V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	3.7
Min Limit	3.5

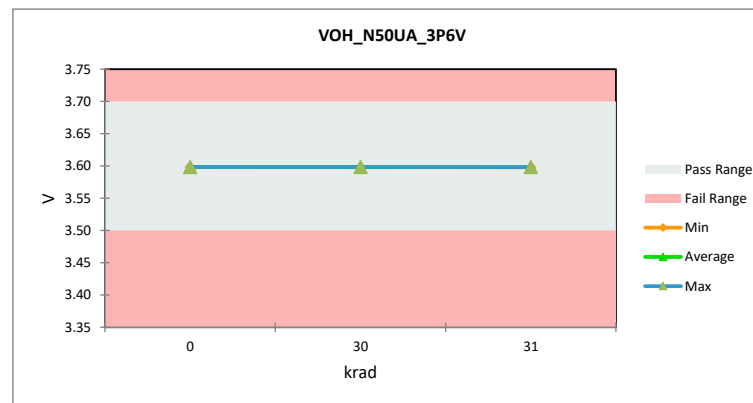
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	3.598	3.598	0.00	0.00%	0.05%
0	2	3.598	3.598	0.00	0.00%	0.00%
0	3	3.598	3.598	0.00	0.00%	0.08%
0	4	3.598	3.598	0.00	0.00%	0.03%
30	5	3.598	3.598	0.00	0.01%	0.11%
30	6	3.598	3.598	0.00	0.00%	0.08%
30	7	3.598	3.598	0.00	0.01%	0.11%
30	8	3.598	3.598	0.00	0.00%	0.01%
30	9	3.598	3.598	0.00	0.00%	0.05%
30	10	3.598	3.598	0.00	0.00%	0.05%
31	11	1.998	3.598	1.60	80.12%	800.24%
31	12	1.998	3.598	1.60	80.10%	800.14%
31	13	1.998	3.598	1.60	80.10%	800.12%
31	14	1.998	3.598	1.60	80.10%	800.13%
31	15	1.998	3.598	1.60	80.12%	800.26%
31	16	1.998	3.598	1.60	80.11%	800.18%
Max		3.598	3.598	0.00	80.12%	800.26%
Average		2.998	3.598	0.60	30.04%	300.10%
Min		1.998	3.598	1.60	0.00%	0.00%
Std Dev		0.800	0.000	-0.80	40.05%	400.06%



### VOH\_N50UA\_3P6V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	3.7
Min Limit	3.5

krad	0	30	31
LL	3.50	3.50	3.50
Min	3.60	3.60	3.60
Average	3.60	3.60	3.60
Max	3.60	3.60	3.60
UL	3.70	3.70	3.70

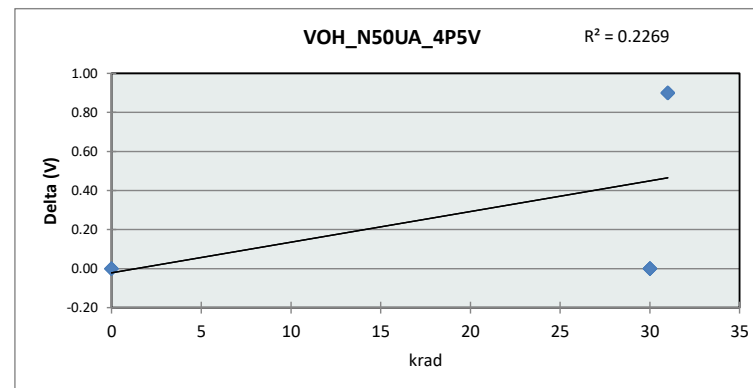


# TID Report

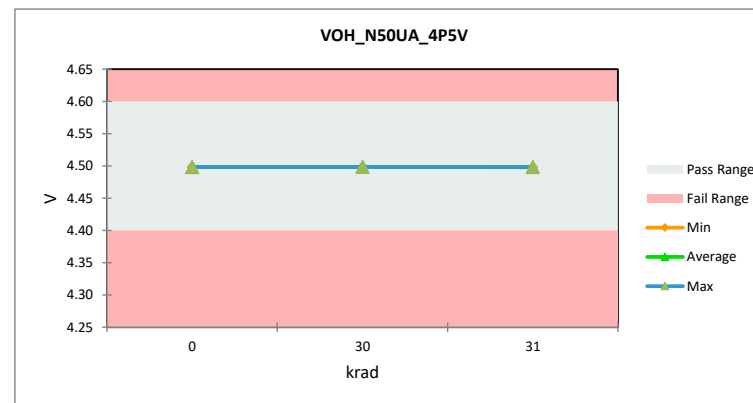
## SN54SC4T02-SEP

VOH_N50UA_4P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	4.6
Min Limit	4.4

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	4.498	4.498	0.00	0.00%	0.08%
0	2	4.498	4.498	0.00	0.00%	0.04%
0	3	4.498	4.498	0.00	0.00%	0.04%
0	4	4.498	4.498	0.00	0.00%	0.02%
30	5	4.498	4.498	0.00	0.00%	0.01%
30	6	4.498	4.499	0.00	0.01%	0.11%
30	7	4.498	4.498	0.00	0.00%	0.02%
30	8	4.498	4.498	0.00	0.00%	0.05%
30	9	4.498	4.498	0.00	0.00%	0.04%
30	10	4.498	4.498	0.00	0.00%	0.01%
31	11	3.598	4.498	0.90	25.01%	450.00%
31	12	3.599	4.498	0.90	25.00%	449.81%
31	13	3.599	4.498	0.90	25.00%	449.83%
31	14	3.598	4.498	0.90	25.00%	449.80%
31	15	3.598	4.498	0.90	25.01%	449.89%
31	16	3.598	4.498	0.90	25.00%	449.78%
Max		4.498	4.499	0.00	25.01%	450.00%
Average		4.161	4.498	0.34	9.38%	168.72%
Min		3.598	4.498	0.90	0.00%	0.01%
Std Dev		0.450	0.000	-0.45	12.50%	224.90%



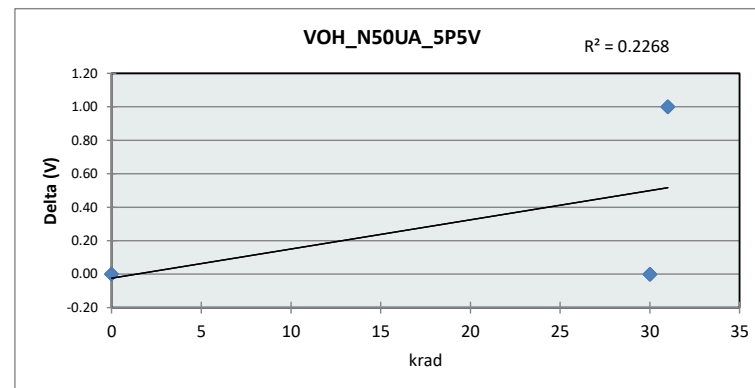
VOH_N50UA_4P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	4.6		
Min Limit	4.4		
krad	0	30	31
LL	4.40	4.40	4.40
Min	4.50	4.50	4.50
Average	4.50	4.50	4.50
Max	4.50	4.50	4.50
UL	4.60	4.60	4.60



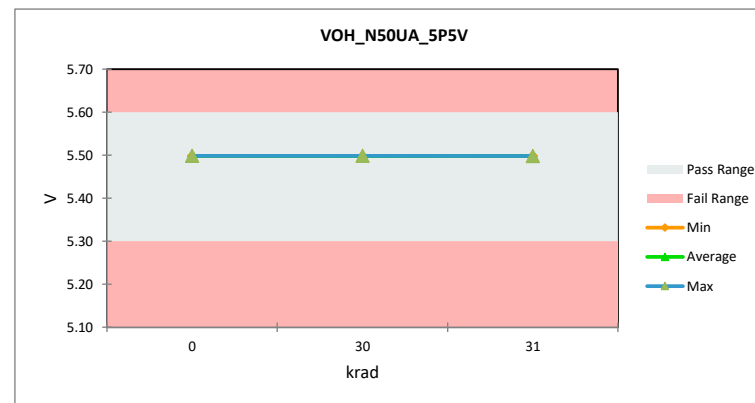
# TID Report SN54SC4T02-SEP

VOH_N50UA_5P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	5.6
Min Limit	5.3

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	5.498	5.498	0.00	0.00%	0.00%
0	2	5.498	5.498	0.00	0.00%	0.00%
0	3	5.498	5.498	0.00	0.00%	0.06%
0	4	5.498	5.498	0.00	0.00%	0.06%
30	5	5.498	5.498	0.00	0.00%	0.05%
30	6	5.498	5.498	0.00	0.00%	0.01%
30	7	5.498	5.498	0.00	0.00%	0.00%
30	8	5.498	5.498	0.00	0.00%	0.03%
30	9	5.498	5.498	0.00	0.00%	0.04%
30	10	5.498	5.498	0.00	0.00%	0.05%
31	11	4.498	5.498	1.00	22.23%	333.33%
31	12	4.498	5.498	1.00	22.23%	333.32%
31	13	4.498	5.498	1.00	22.23%	333.29%
31	14	4.498	5.498	1.00	22.22%	333.21%
31	15	4.498	5.498	1.00	22.23%	333.32%
31	16	4.498	5.498	1.00	22.22%	333.21%
Max		5.498	5.498	0.00	22.23%	333.33%
Average		5.123	5.498	0.37	8.34%	125.00%
Min		4.498	5.498	1.00	0.00%	0.00%
Std Dev		0.500	0.000	-0.50	11.11%	166.63%



VOH_N50UA_5P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	5.6		
Min Limit	5.3		
krad	0	30	31
LL	5.30	5.30	5.30
Min	5.50	5.50	5.50
Average	5.50	5.50	5.50
Max	5.50	5.50	5.50
UL	5.60	5.60	5.60

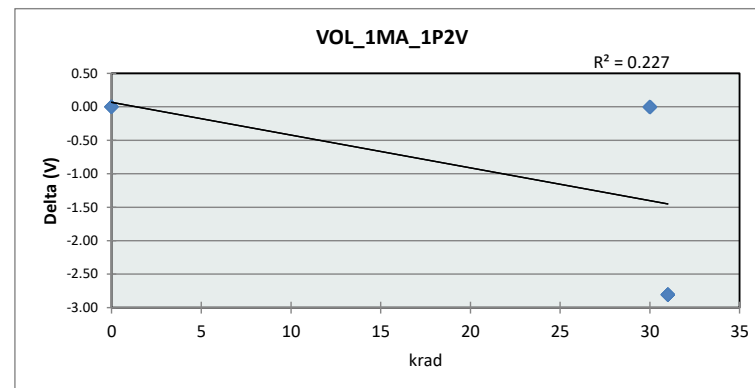


# TID Report

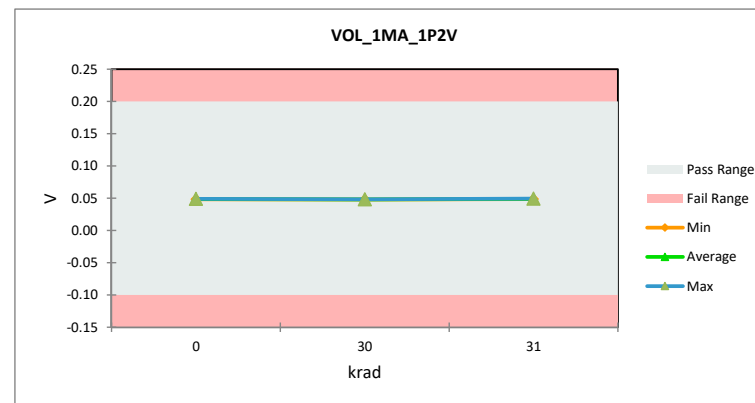
## SN54SC4T02-SEP

VOL_1MA_1P2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.2
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.048	0.048	0.00	0.19%	0.03%
0	2	0.049	0.049	0.00	-0.13%	0.02%
0	3	0.049	0.049	0.00	0.06%	0.01%
0	4	0.049	0.049	0.00	0.06%	0.01%
30	5	0.049	0.048	0.00	-1.47%	0.24%
30	6	0.049	0.048	0.00	-1.53%	0.25%
30	7	0.049	0.048	0.00	-1.22%	0.20%
30	8	0.049	0.048	0.00	-1.35%	0.22%
30	9	0.049	0.048	0.00	-1.66%	0.27%
30	10	0.049	0.048	0.00	-1.41%	0.23%
31	11	2.856	0.049	-2.81	-98.30%	935.79%
31	12	2.854	0.049	-2.80	-98.27%	934.71%
31	13	2.857	0.049	-2.81	-98.29%	935.93%
31	14	2.855	0.049	-2.81	-98.28%	935.47%
31	15	2.855	0.049	-2.81	-98.29%	935.50%
31	16	2.857	0.049	-2.81	-98.29%	935.88%
Max		2.857	0.049	-2.81	0.19%	935.93%
Average		1.101	0.049	-1.05	-37.39%	350.92%
Min		0.048	0.048	0.00	-98.30%	0.01%
Std Dev		1.403	0.000	-1.40	48.72%	467.70%



VOL_1MA_1P2V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.2		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.05	0.05	0.05
Average	0.05	0.05	0.05
Max	0.05	0.05	0.05
UL	0.20	0.20	0.20



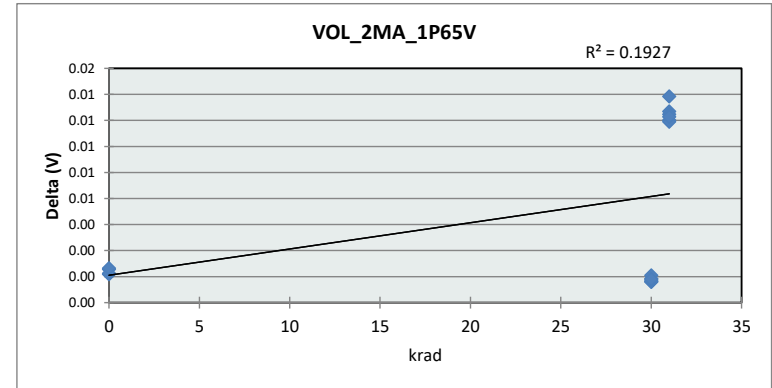


# TID Report

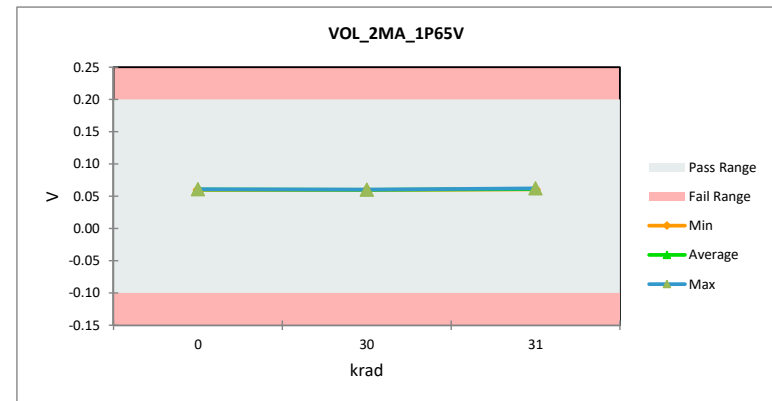
## SN54SC4T02-SEP

VOL_2MA_1P65V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.2
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.060	0.060	0.00	0.32%	0.06%
0	2	0.060	0.061	0.00	0.94%	0.19%
0	3	0.060	0.060	0.00	0.42%	0.08%
0	4	0.060	0.061	0.00	1.08%	0.22%
30	5	0.060	0.060	0.00	-0.64%	0.13%
30	6	0.060	0.060	0.00	-0.26%	0.05%
30	7	0.060	0.060	0.00	-0.68%	0.14%
30	8	0.060	0.060	0.00	0.16%	0.03%
30	9	0.061	0.060	0.00	-0.51%	0.10%
30	10	0.060	0.060	0.00	-0.31%	0.06%
31	11	0.049	0.061	0.01	24.72%	4.01%
31	12	0.048	0.062	0.01	28.66%	4.61%
31	13	0.049	0.061	0.01	24.46%	3.97%
31	14	0.049	0.061	0.01	26.09%	4.23%
31	15	0.048	0.061	0.01	25.83%	4.16%
31	16	0.049	0.061	0.01	25.21%	4.09%
Max		0.061	0.062	0.00	28.66%	4.61%
Average		0.056	0.060	0.00	9.72%	1.63%
Min		0.048	0.060	0.01	-0.68%	0.03%
Std Dev		0.006	0.001	-0.01	12.93%	2.04%



VOL_2MA_1P65V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.2		
Min Limit	-0.1		
	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.06	0.06	0.06
Average	0.06	0.06	0.06
Max	0.06	0.06	0.06
UL	0.20	0.20	0.20

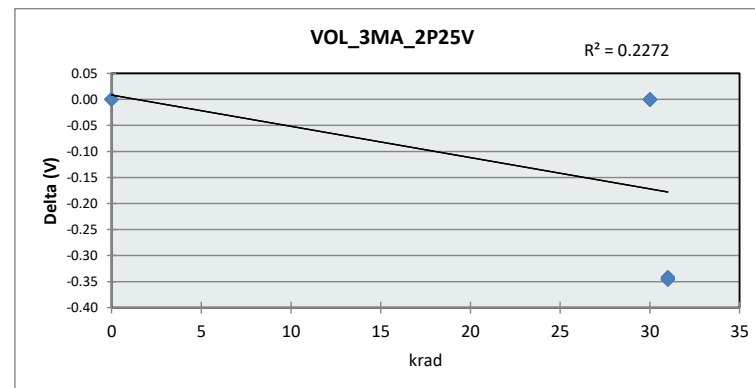


# TID Report

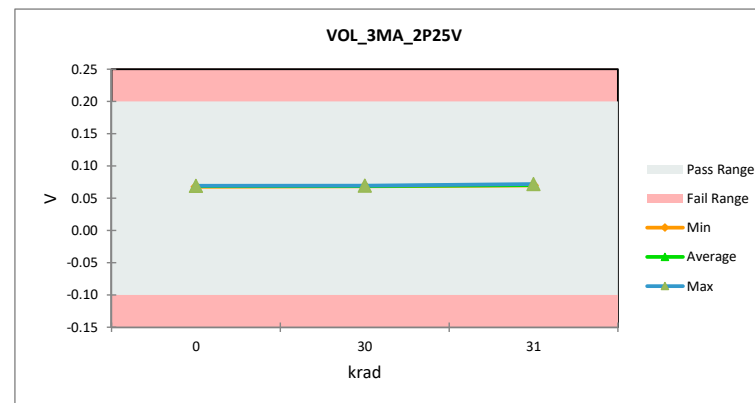
## SN54SC4T02-SEP

VOL_3MA_2P25V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.2
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.068	0.068	0.00	-0.09%	0.02%
0	2	0.069	0.069	0.00	-0.27%	0.06%
0	3	0.069	0.069	0.00	0.45%	0.10%
0	4	0.069	0.069	0.00	0.00%	0.00%
30	5	0.069	0.069	0.00	-0.77%	0.18%
30	6	0.069	0.069	0.00	-0.27%	0.06%
30	7	0.069	0.069	0.00	-0.31%	0.07%
30	8	0.069	0.069	0.00	-0.05%	0.01%
30	9	0.069	0.069	0.00	0.09%	0.02%
30	10	0.069	0.069	0.00	0.05%	0.01%
31	11	0.416	0.070	-0.35	-83.24%	115.46%
31	12	0.415	0.072	-0.34	-82.65%	114.25%
31	13	0.415	0.070	-0.35	-83.20%	115.13%
31	14	0.416	0.070	-0.35	-83.06%	115.05%
31	15	0.411	0.070	-0.34	-82.95%	113.69%
31	16	0.414	0.070	-0.34	-83.08%	114.70%
Max		0.416	0.072	-0.34	0.45%	115.46%
Average		0.199	0.069	-0.13	-31.21%	43.05%
Min		0.068	0.068	0.00	-83.24%	0.00%
Std Dev		0.173	0.001	-0.17	41.46%	57.33%



VOL_3MA_2P25V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.2		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.07	0.07	0.07
Average	0.07	0.07	0.07
Max	0.07	0.07	0.07
UL	0.20	0.20	0.20



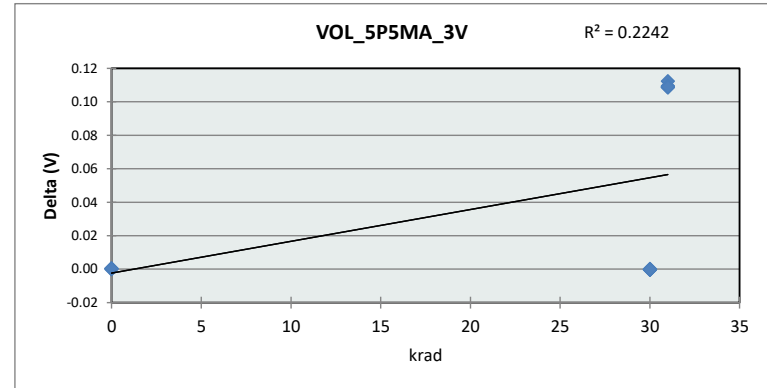
# TID Report

## SN54SC4T02-SEP

### VOL\_5P5MA\_3V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.25
Min Limit	-0.1

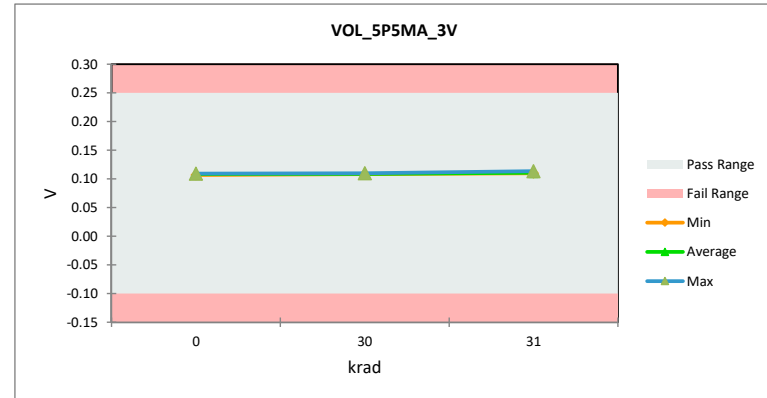
krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.107	0.107	0.00	-0.03%	0.01%
0	2	0.108	0.109	0.00	0.26%	0.08%
0	3	0.109	0.109	0.00	0.46%	0.14%
0	4	0.109	0.109	0.00	0.40%	0.12%
30	5	0.109	0.108	0.00	-0.33%	0.10%
30	6	0.108	0.108	0.00	-0.17%	0.05%
30	7	0.109	0.109	0.00	-0.03%	0.01%
30	8	0.109	0.108	0.00	-0.29%	0.09%
30	9	0.109	0.110	0.00	0.23%	0.07%
30	10	0.109	0.108	0.00	-0.16%	0.05%
31	11	0.001	0.110	0.11	9238.62%	31.06%
31	12	0.001	0.113	0.11	10149.67%	32.10%
31	13	0.001	0.110	0.11	9228.01%	31.03%
31	14	0.001	0.111	0.11	9565.25%	31.31%
31	15	0.001	0.110	0.11	10259.99%	31.15%
31	16	0.001	0.110	0.11	9515.38%	31.14%
Max		0.109	0.113	0.00	10259.99%	32.10%
Average		0.068	0.109	0.04	3622.33%	11.78%
Min		0.001	0.107	0.11	-0.33%	0.01%
Std Dev		0.054	0.001	-0.05	4836.58%	15.61%



### VOL\_5P5MA\_3V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.25
Min Limit	-0.1

krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.11	0.11	0.11
Average	0.11	0.11	0.11
Max	0.11	0.11	0.11
UL	0.25	0.25	0.25

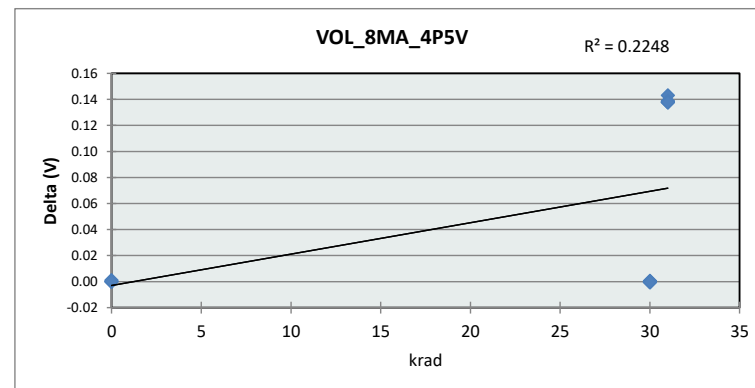


# TID Report

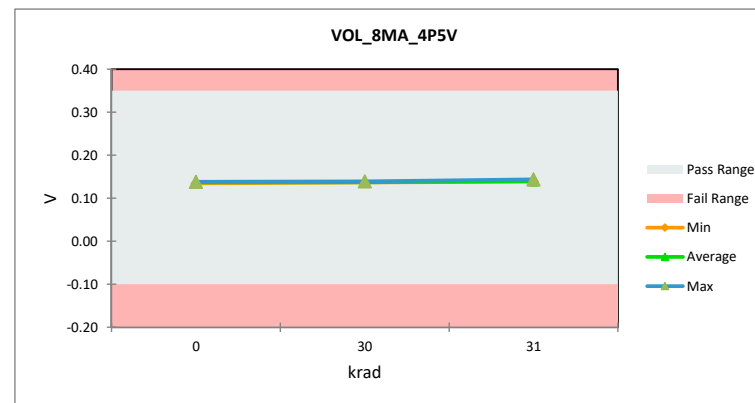
## SN54SC4T02-SEP

VOL_8MA_4P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.35
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.135	0.134	0.00	-0.14%	0.04%
0	2	0.137	0.137	0.00	0.21%	0.06%
0	3	0.137	0.138	0.00	0.89%	0.27%
0	4	0.138	0.138	0.00	0.11%	0.03%
30	5	0.137	0.136	0.00	-0.46%	0.14%
30	6	0.137	0.137	0.00	-0.16%	0.05%
30	7	0.137	0.138	0.00	0.18%	0.05%
30	8	0.137	0.137	0.00	0.00%	0.00%
30	9	0.138	0.139	0.00	0.41%	0.12%
30	10	0.137	0.137	0.00	-0.15%	0.05%
31	11	0.001	0.139	0.14	16701.85%	30.64%
31	12	0.001	0.144	0.14	19911.87%	31.79%
31	13	0.001	0.139	0.14	16690.50%	30.62%
31	14	0.001	0.140	0.14	18971.67%	30.85%
31	15	0.001	0.139	0.14	18894.77%	30.72%
31	16	0.001	0.139	0.14	17645.14%	30.63%
Max		0.138	0.144	0.01	19911.87%	31.79%
Average		0.086	0.138	0.05	6801.04%	11.63%
Min		0.001	0.134	0.13	-0.46%	0.00%
Std Dev		0.068	0.002	-0.07	9100.29%	15.40%



VOL_8MA_4P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.35		
Min Limit	-0.1		
	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.13	0.14	0.14
Average	0.14	0.14	0.14
Max	0.14	0.14	0.14
UL	0.35	0.35	0.35

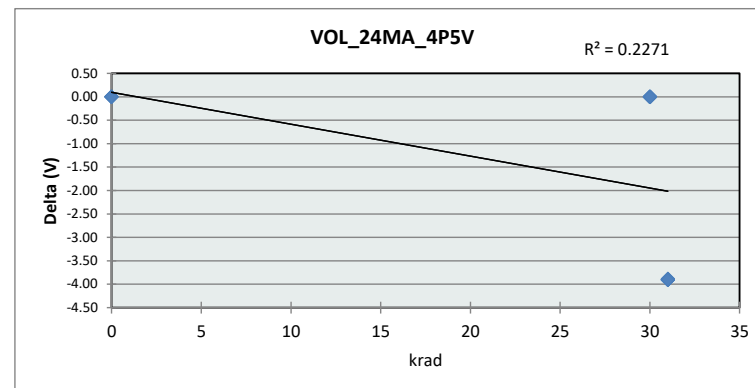


# TID Report SN54SC4T02-SEP

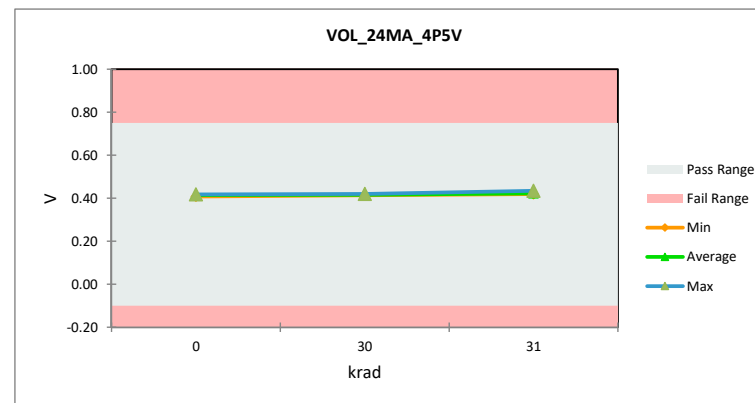
## VOL\_24MA\_4P5V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.75
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.408	0.408	0.00	-0.02%	0.01%
0	2	0.415	0.415	0.00	0.21%	0.10%
0	3	0.414	0.418	0.00	0.84%	0.41%
0	4	0.416	0.417	0.00	0.26%	0.13%
30	5	0.414	0.413	0.00	-0.31%	0.15%
30	6	0.415	0.415	0.00	-0.01%	0.00%
30	7	0.416	0.416	0.00	-0.07%	0.04%
30	8	0.415	0.415	0.00	-0.07%	0.03%
30	9	0.419	0.420	0.00	0.33%	0.16%
30	10	0.415	0.415	0.00	0.13%	0.07%
31	11	4.324	0.420	-3.90	-90.30%	459.32%
31	12	4.320	0.434	-3.89	-89.94%	457.12%
31	13	4.325	0.419	-3.91	-90.31%	459.53%
31	14	4.323	0.423	-3.90	-90.22%	458.89%
31	15	4.323	0.420	-3.90	-90.28%	459.12%
31	16	4.324	0.419	-3.91	-90.30%	459.43%
	Max	4.325	0.434	-3.89	0.84%	459.53%
	Average	1.880	0.418	-1.46	-33.75%	172.16%
	Min	0.408	0.408	0.00	-90.31%	0.00%
	Std Dev	1.954	0.006	-1.95	45.18%	229.40%



VOL_24MA_4P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.75		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.41	0.41	0.42
Average	0.41	0.42	0.42
Max	0.42	0.42	0.43
UL	0.75	0.75	0.75



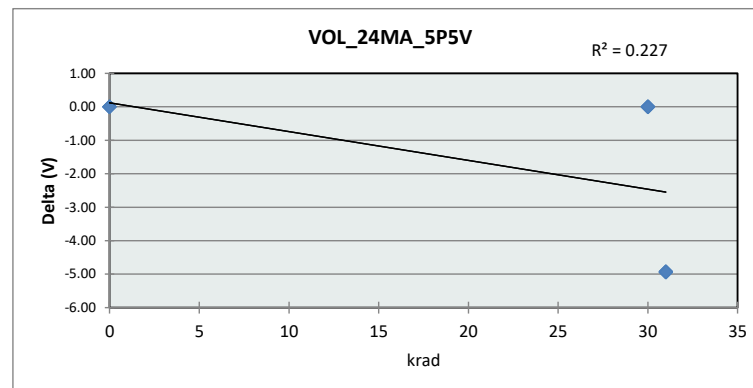
# TID Report

## SN54SC4T02-SEP

### VOL\_24MA\_5P5V

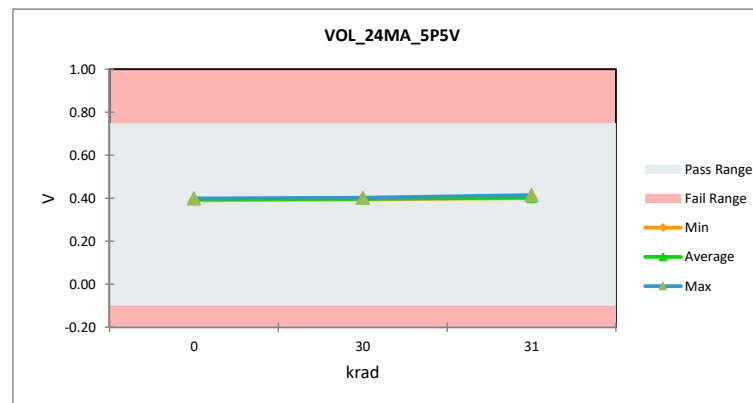
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.75
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.390	0.390	0.00	-0.06%	0.03%
0	2	0.396	0.397	0.00	0.16%	0.07%
0	3	0.396	0.399	0.00	0.78%	0.36%
0	4	0.398	0.399	0.00	0.13%	0.06%
30	5	0.396	0.395	0.00	-0.26%	0.12%
30	6	0.396	0.396	0.00	0.00%	0.00%
30	7	0.398	0.398	0.00	-0.02%	0.01%
30	8	0.397	0.397	0.00	-0.03%	0.01%
30	9	0.400	0.402	0.00	0.40%	0.19%
30	10	0.396	0.397	0.00	0.12%	0.05%
31	11	5.335	0.401	-4.93	-92.49%	580.47%
31	12	5.331	0.415	-4.92	-92.22%	578.35%
31	13	5.336	0.401	-4.94	-92.49%	580.62%
31	14	5.334	0.404	-4.93	-92.43%	580.02%
31	15	5.334	0.401	-4.93	-92.47%	580.26%
31	16	5.335	0.400	-4.94	-92.50%	580.60%
	Max	5.336	0.415	-4.92	0.78%	580.62%
	Average	2.248	0.399	-1.85	-34.59%	217.58%
	Min	0.390	0.390	0.00	-92.50%	0.00%
	Std Dev	2.469	0.005	-2.46	46.28%	289.98%



Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.75
Min Limit	-0.1

krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.39	0.39	0.40
Average	0.40	0.40	0.40
Max	0.40	0.40	0.41
UL	0.75	0.75	0.75

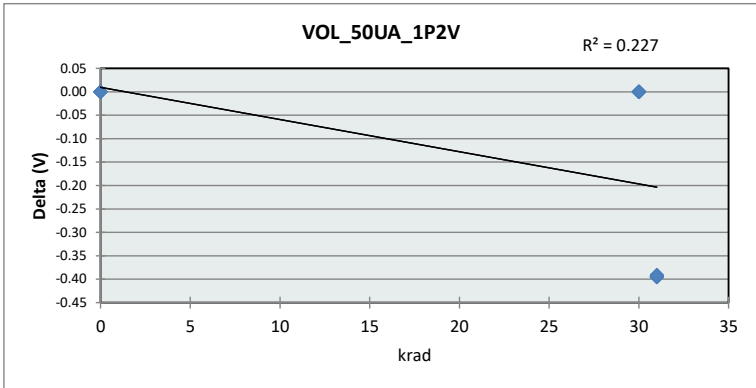


# TID Report SN54SC4T02-SEP

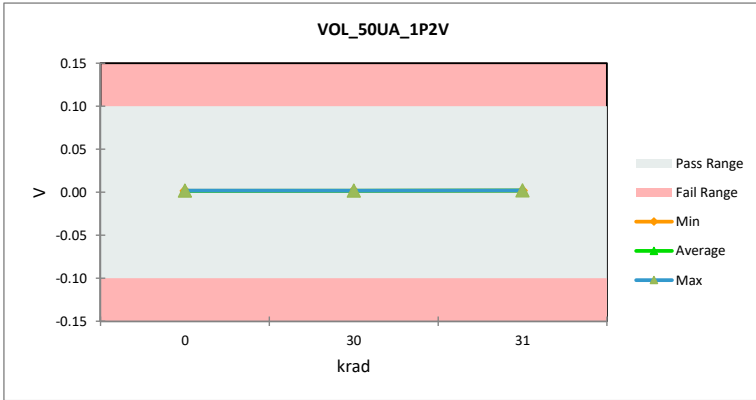
## VOL\_50UA\_1P2V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.002	0.002	0.00	0.00%	0.00%
0	2	0.002	0.002	0.00	5.01%	0.04%
0	3	0.002	0.002	0.00	3.80%	0.03%
0	4	0.002	0.002	0.00	-1.81%	0.02%
30	5	0.002	0.002	0.00	-6.95%	0.06%
30	6	0.002	0.002	0.00	-10.24%	0.09%
30	7	0.002	0.002	0.00	5.93%	0.05%
30	8	0.002	0.002	0.00	6.03%	0.05%
30	9	0.002	0.002	0.00	-1.39%	0.01%
30	10	0.002	0.002	0.00	-5.23%	0.05%
31	11	0.398	0.002	-0.40	-99.51%	197.83%
31	12	0.396	0.002	-0.39	-99.52%	197.09%
31	13	0.396	0.002	-0.39	-99.51%	197.20%
31	14	0.397	0.002	-0.40	-99.53%	197.52%
31	15	0.393	0.002	-0.39	-99.49%	195.31%
31	16	0.395	0.002	-0.39	-99.52%	196.69%
	Max	0.398	0.002	-0.40	6.03%	197.83%
	Average	0.150	0.002	-0.15	-37.62%	73.88%
	Min	0.002	0.002	0.00	-99.53%	0.00%
	Std Dev	0.197	0.000	-0.20	49.71%	98.45%



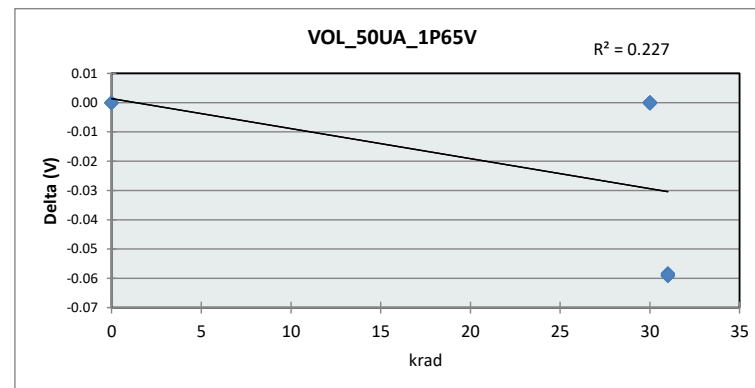
VOL_50UA_1P2V			
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10



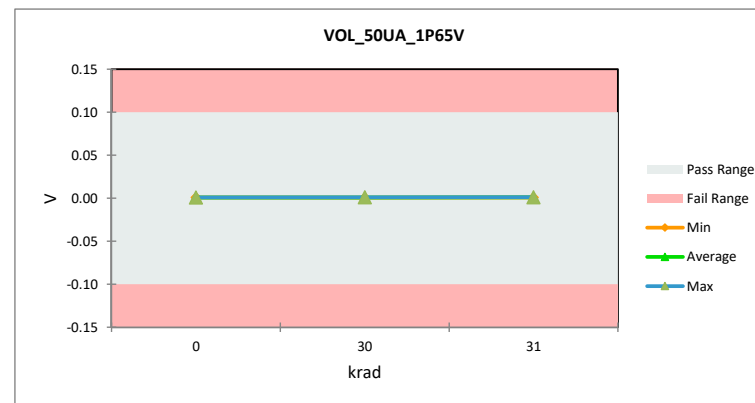
# TID Report SN54SC4T02-SEP

VOL_50UA_1P65V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.001	0.001	0.00	-3.76%	0.02%
0	2	0.001	0.001	0.00	-20.29%	0.09%
0	3	0.001	0.001	0.00	7.53%	0.03%
0	4	0.001	0.001	0.00	4.07%	0.02%
30	5	0.001	0.001	0.00	-15.05%	0.06%
30	6	0.001	0.001	0.00	-6.54%	0.03%
30	7	0.001	0.001	0.00	-24.50%	0.11%
30	8	0.001	0.001	0.00	-3.50%	0.02%
30	9	0.001	0.001	0.00	3.38%	0.02%
30	10	0.001	0.001	0.00	17.72%	0.06%
31	11	0.060	0.001	-0.06	-98.31%	29.54%
31	12	0.059	0.001	-0.06	-98.03%	29.16%
31	13	0.060	0.001	-0.06	-98.67%	29.58%
31	14	0.060	0.001	-0.06	-98.25%	29.41%
31	15	0.060	0.001	-0.06	-98.03%	29.18%
31	16	0.060	0.001	-0.06	-98.46%	29.47%
Max	0.060	0.001	-0.06	17.72%	29.58%	
Average	0.023	0.001	-0.02	-39.42%	11.05%	
Min	0.001	0.001	0.00	-98.67%	0.02%	
Std Dev	0.029	0.000	-0.03	48.18%	14.67%	



VOL_50UA_1P65V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.1		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10

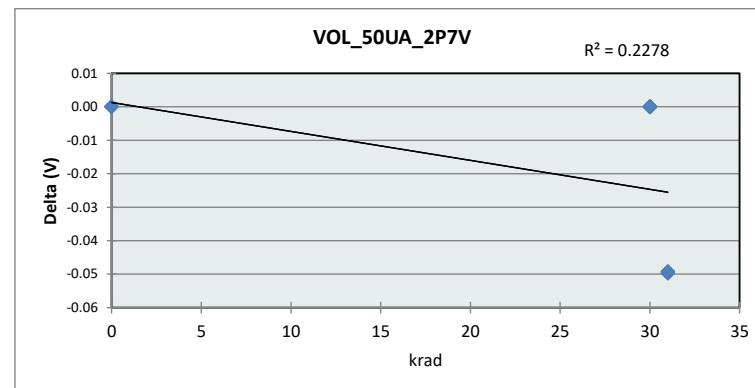




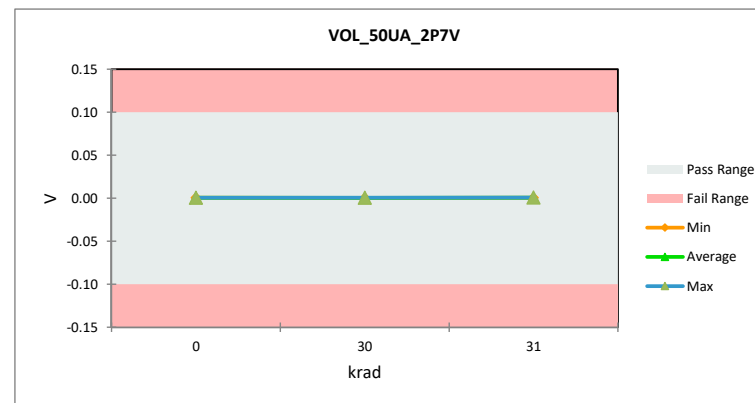
# TID Report SN54SC4T02-SEP

VOL_50UA_2P7V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.000	0.001	0.00	68.59%	0.11%
0	2	0.000	0.000	0.00	26.43%	0.05%
0	3	0.000	0.000	0.00	-3.45%	0.01%
0	4	0.000	0.001	0.00	29.47%	0.06%
30	5	0.000	0.000	0.00	-5.44%	0.01%
30	6	0.000	0.000	0.00	-16.36%	0.03%
30	7	0.000	0.000	0.00	26.07%	0.05%
30	8	0.000	0.000	0.00	-24.62%	0.06%
30	9	0.000	0.001	0.00	75.67%	0.12%
30	10	0.000	0.000	0.00	17.90%	0.04%
31	11	0.050	0.001	-0.05	-98.91%	24.89%
31	12	0.050	0.001	-0.05	-98.53%	24.59%
31	13	0.050	0.001	-0.05	-98.70%	24.78%
31	14	0.050	0.001	-0.05	-98.57%	24.68%
31	15	0.050	0.001	-0.05	-98.90%	24.58%
31	16	0.050	0.001	-0.05	-98.84%	24.67%
Max	0.050	0.001	-0.05	75.67%	24.89%	
Average	0.019	0.001	-0.02	-24.89%	9.30%	
Min	0.000	0.000	0.00	-98.91%	0.01%	
Std Dev	0.025	0.000	-0.02	64.55%	12.32%	



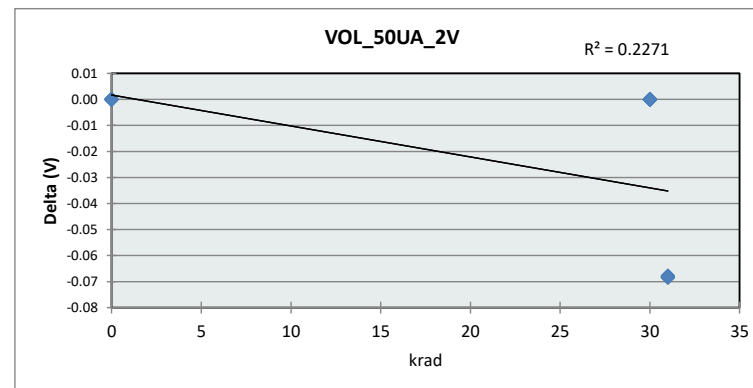
VOL_50UA_2P7V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.1		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10



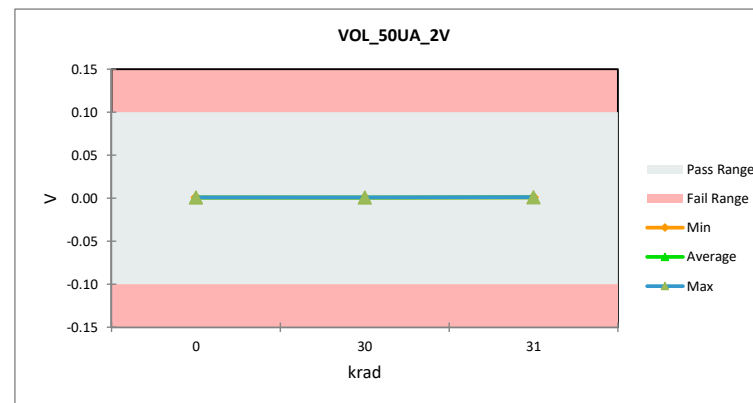
# TID Report SN54SC4T02-SEP

VOL_50UA_2V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.001	0.001	0.00	-23.67%	0.11%
0	2	0.001	0.001	0.00	43.75%	0.14%
0	3	0.001	0.001	0.00	7.25%	0.03%
0	4	0.001	0.001	0.00	0.00%	0.00%
30	5	0.001	0.001	0.00	0.00%	0.00%
30	6	0.001	0.001	0.00	20.35%	0.08%
30	7	0.001	0.001	0.00	-18.13%	0.08%
30	8	0.001	0.001	0.00	13.29%	0.05%
30	9	0.001	0.001	0.00	11.73%	0.05%
30	10	0.001	0.001	0.00	-18.82%	0.08%
31	11	0.069	0.001	-0.07	-98.63%	34.24%
31	12	0.069	0.001	-0.07	-98.30%	33.93%
31	13	0.069	0.001	-0.07	-98.49%	34.15%
31	14	0.069	0.001	-0.07	-98.53%	34.13%
31	15	0.069	0.001	-0.07	-98.57%	33.84%
31	16	0.069	0.001	-0.07	-98.44%	34.02%
Max		0.069	0.001	-0.07	43.75%	34.24%
Average		0.026	0.001	-0.03	-34.70%	12.81%
Min		0.001	0.001	0.00	-98.63%	0.00%
Std Dev		0.034	0.000	-0.03	53.47%	17.00%



VOL_50UA_2V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.1		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10

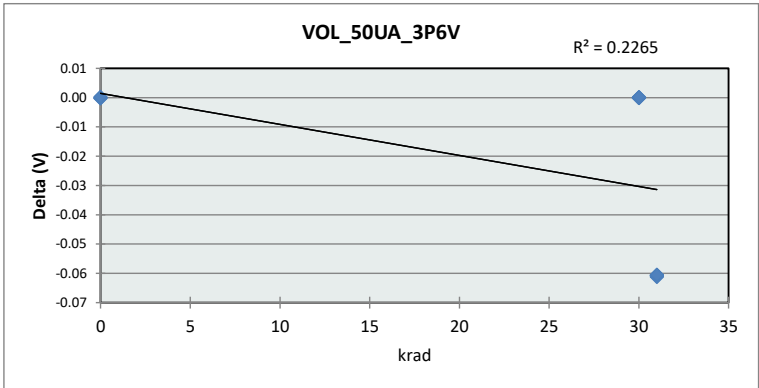


# TID Report SN54SC4T02-SEP

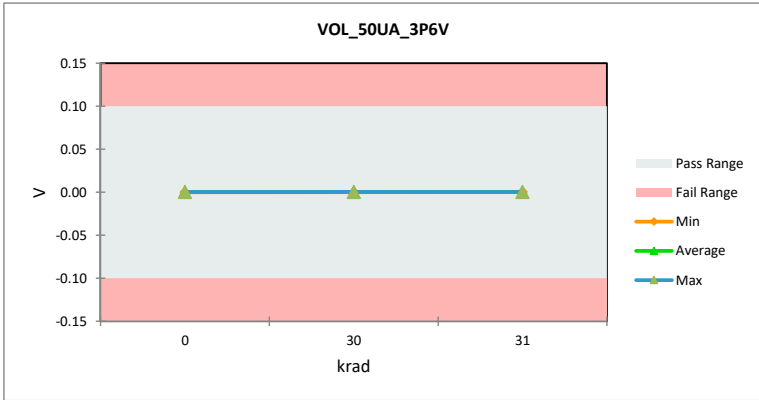
## VOL\_50UA\_3P6V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.000	0.000	0.00	0.00%	0.00%
0	2	0.000	0.000	0.00	-26.41%	0.03%
0	3	0.000	0.000	0.00	-125.61%	0.11%
0	4	0.000	0.000	0.00	524.42%	0.13%
30	5	0.000	0.000	0.00	-46.66%	0.06%
30	6	0.000	0.000	0.00	41.49%	0.03%
30	7	0.000	0.000	0.00	-39.62%	0.05%
30	8	0.000	0.000	0.00	55.98%	0.03%
30	9	0.000	0.000	0.00	0.00%	0.00%
30	10	0.000	0.000	0.00	125.61%	0.11%
31	11	0.062	0.000	-0.06	-99.50%	30.62%
31	12	0.061	0.000	-0.06	-99.46%	30.36%
31	13	0.061	0.000	-0.06	-99.41%	30.35%
31	14	0.061	0.000	-0.06	-99.57%	30.46%
31	15	0.061	0.000	-0.06	-99.51%	30.21%
31	16	0.061	0.000	-0.06	-99.41%	30.29%
	Max	0.062	0.000	-0.06	524.42%	30.62%
	Average	0.023	0.000	-0.02	-5.48%	11.43%
	Min	0.000	0.000	0.00	-125.61%	0.00%
	Std Dev	0.030	0.000	-0.03	158.06%	15.16%



VOL_50UA_3P6V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.1		
Min Limit	-0.1		
krad	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10

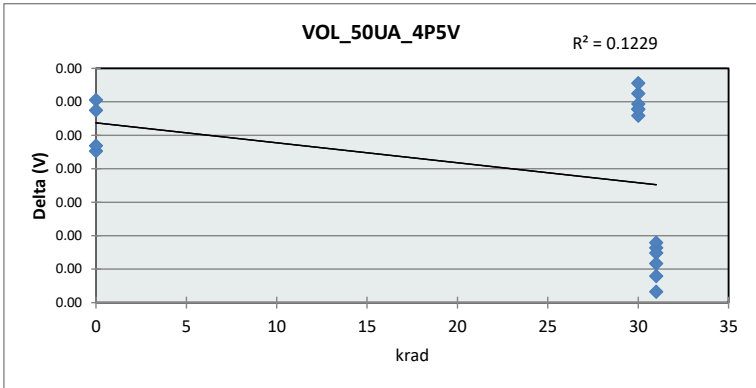


# TID Report SN54SC4T02-SEP

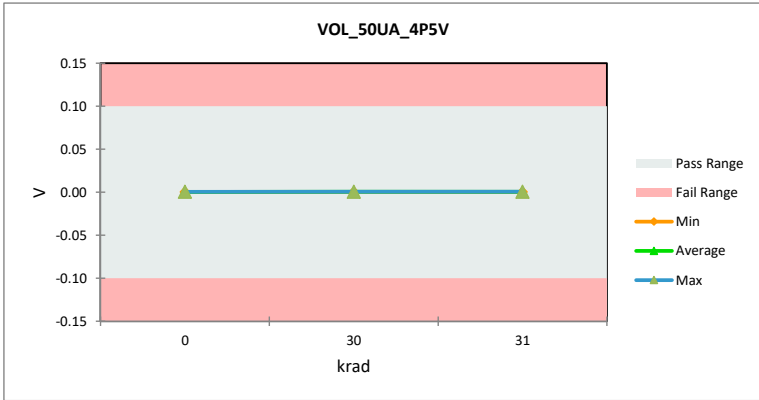
## VOL\_50UA\_4P5V

Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.000	0.000	0.00	-25.92%	0.05%
0	2	0.000	0.000	0.00	148.27%	0.11%
0	3	0.000	0.000	0.00	-15.91%	0.03%
0	4	0.000	0.000	0.00	49.94%	0.07%
30	5	0.000	0.000	0.00	52.23%	0.08%
30	6	0.000	0.000	0.00	174.95%	0.12%
30	7	0.000	0.000	0.00	179.44%	0.16%
30	8	0.000	0.000	0.00	79.23%	0.09%
30	9	0.000	0.000	0.00	35.75%	0.06%
30	10	0.000	0.000	0.00	58.32%	0.08%
31	11	0.001	0.000	0.00	-65.00%	0.42%
31	12	0.001	0.001	0.00	-55.14%	0.34%
31	13	0.001	0.001	0.00	-53.96%	0.32%
31	14	0.001	0.001	0.00	-56.26%	0.35%
31	15	0.001	0.001	0.00	-55.70%	0.38%
31	16	0.001	0.000	0.00	-72.23%	0.47%
	Max	0.001	0.001	0.00	179.44%	0.47%
	Average	0.001	0.000	0.00	23.63%	0.20%
	Min	0.000	0.000	0.00	-72.23%	0.03%
	Std Dev	0.001	0.000	0.00	87.42%	0.15%



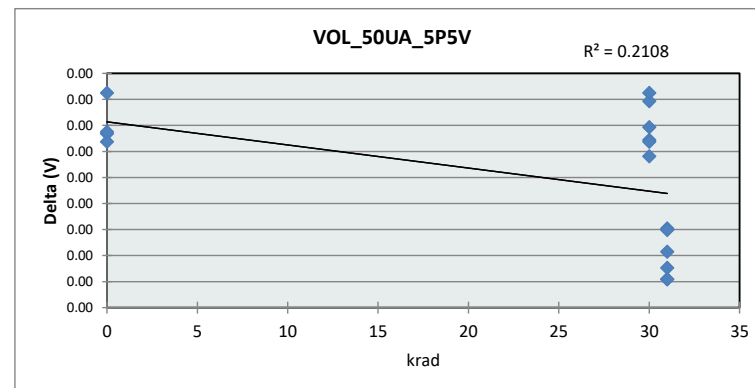
VOL_50UA_4P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.1		
Min Limit	-0.1		
	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10



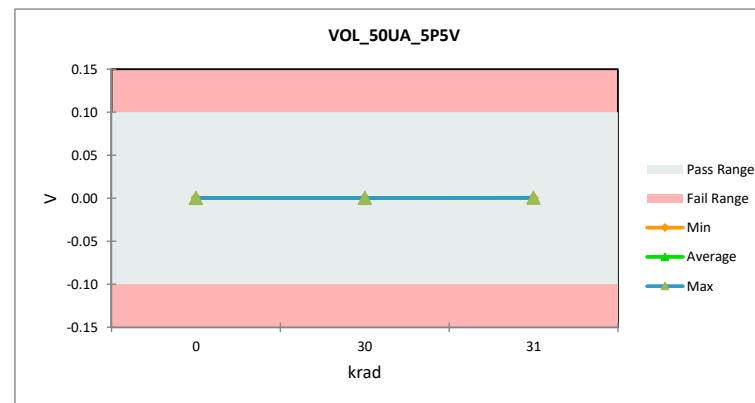
# TID Report SN54SC4T02-SEP

VOL_50UA_5P5V	
Test Site	CLAB
Tester	ETS88-01
Test Number	EQ774601
Units	V
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.000	0.000	0.00	-9.46%	0.02%
0	2	0.000	0.000	0.00	-20.89%	0.03%
0	3	0.000	0.000	0.00	-7.53%	0.01%
0	4	0.000	0.000	0.00	52.82%	0.06%
30	5	0.000	0.000	0.00	-21.31%	0.03%
30	6	0.000	0.000	0.00	45.64%	0.05%
30	7	0.000	0.000	0.00	-30.43%	0.03%
30	8	0.000	0.000	0.00	-28.31%	0.06%
30	9	0.000	0.000	0.00	46.66%	0.06%
30	10	0.000	0.000	0.00	-1.90%	0.00%
31	11	0.001	0.000	0.00	-44.22%	0.20%
31	12	0.001	0.000	0.00	-58.35%	0.30%
31	13	0.001	0.000	0.00	-58.35%	0.30%
31	14	0.001	0.000	0.00	-49.40%	0.24%
31	15	0.001	0.000	0.00	-46.87%	0.20%
31	16	0.001	0.000	0.00	-60.33%	0.27%
Max	0.001	0.000	0.00	0.00	52.82%	0.30%
Average	0.001	0.000	0.00	0.00	-18.26%	0.12%
Min	0.000	0.000	0.00	0.00	-60.33%	0.00%
Std Dev	0.000	0.000	0.00	0.00	37.88%	0.11%



VOL_50UA_5P5V			
Test Site	CLAB		
Tester	ETS88-01		
Test Number	EQ774601		
Units	V		
Max Limit	0.1		
Min Limit	-0.1		
	0	30	31
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10



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