Radiation Report

TMUX582F-SEP Total Ionizing Dose (TID) Report

ABSTRACT

This report covers the radiation characterization results of the TMUX582F-SEP multiplexer. The study was done to determine Total Ionizing Dose (TID) effects under high dose rate (HDR) and low dose rate (LDR) up to 30krad(Si) as a one-time characterization. The results show that all samples passed within the specified limits up to 30krad(Si). Radiation Lot Acceptance Testing (RLAT) will be performed using 5 units at a dose level of 30krad(Si) for future wafer lots. Furthermore, the TMUX582F-SEP is in a plastic package for low outgassing characteristics and is Single Event Latch-Up (SEL) immune up to 43MeV-cm2/mg, which makes the device an option for low earth orbit space applications. The device is a fault protected CMOS multiplexer flexible enough to handle a diversity of applications, from system monitoring, to power-up sequencing protection, to high precision front end data acquisition.

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Trademarks

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1 Device Information

The TMUX582F-SEP is a modern 8:1 multiplexer suitable for single ended operation. This latch-up immune device offers robust overvoltage protection up to +60V making it optimal for harsh space environments. Additionally, this protection operates in powered-on, powered-off, and floating supply conditions.

During a fault such as an overvoltage event, the offending channel turns OFF and the Sx pin becomes high impedance. If this fault channel is selected, the drain (D) is pulled to the fault rail that is exceeded (Vfp or Vfn). All other Sx pins which are not under fault continue to operate normally. During normal operation, when the source (Sx) does not exceed Vfp or Vfn, the switch operates with low leakage, low capacitance and an ultra-flat on-resistance. This provides high performance signal integrity with minimal distortion.

1.1 Device Details

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

Table 1-1. Device and Exposure Details

TID HDR/LDR Details: up to 30krad(Si)	
TI Device Number	TMUX582F-SEP
Package	20-pin PW (TSSOP)
Technology	LBCSOI2
Die Lot Number	3027068
A/T Lot Number and Date Code	3766864ML3 / 3AA6XJK
Quantity Tested	20 irradiated devices + 4 control
Lot Accept or Reject	Devices passed 30 krad(Si)
HDR Radiation Facility	Texas Instruments CLAB in Dallas, Texas
LDR Radiation Facility	VPT in Chelmsford, Massachusetts
HDR Dose Level	10krad(Si), 20krad(Si), 30krad(Si)
HDR Dose Rate	191.178rad(Si)/s ionizing radiation
LDR Dose Level	10krad(Si), 20krad(Si), 30krad(Si)
LDR Dose Rate	9.94e-03rad(Si)/s ionizing radiation
HDR Radiation Source	Gammacell 220 Excel (GC-220E) Co-60
LDR Radiation Source	Broad Beam facility consisting of a 16’ x 12’ radiation vault housing a cobalt-60 gamma beam irradiator
Irradiation Temperature	Ambient, room temperature

2 Total Dose Test Setup

2.1 Test Overview

The TMUX582F-SEP samples were irradiated at a high dose rate of 191.178rad(Si)/s up to 30krad(Si) and then put through full electrical parametric testing on the production Automated Test Equipment (ATE). Additionally, other TMUX582F-SEP samples were irradiated at a low dose rate of 9.94e-03rad(Si)/s up to 30krad(Si) and then put through full electrical parametric testing on the production Automated Test Equipment (ATE). Both sample sets were functional and passed all electrical parametric tests with readings within data sheet electrical specification limits.

The TMUX582F-SEP LBCSOI2 process technology contains Bipolar and CMOS components. Both LDR and HDR were performed. Results showed that worst case values post-irradiation were still within pre-radiation specification limits for both HDR and LDR, hence no ELDRS effects were exhibited. Thus, HDR will be performed on each wafer lot for future RLAT testing.

In addition to the standard HDR and LDR characterization, other bias schemes were tested to verify max recommended operating voltages. Two different bias schemes were tested, one with the S1 pin set to a voltage of 22V and the second with the S1 pin set to a voltage of 60V to stress under a fault scenario. These extra bias schemes were radiated at 30krad under HDR conditions and the results show passing values for all parameters. For future RLAT requests, the 22V S1 pin bias plan will be used.

2.2 Test Description and Facilities

The TMUX582F-SEP LDR exposure was performed on biased and unbiased devices in a Co-60 gamma cell at VPT testing facilities in Chelmsford, Massachusetts. The un-attenuated dose rate of this cell is 9.94e-03 rad(Si)/s. After exposure, the devices were shipped back to Texas Instruments and full post radiation electrical evaluation using Texas Instruments ATE was conducted and shipped back to VPT within a 72 hour window. ATE test limits are set per data sheet electrical limits based on qualification and characterization data.

The TMUX582F-SEP HDR exposure was performed on biased devices in a Co-60 gamma cell at a TI facility in Dallas, Texas. The un-attenuated dose rate of this cell is 191.178rad(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 Diagrams

Figure 2-1 shows the bias conditions for each pin during the standard HDR and LDR characterization. Figure 2-2 shows the bias conditions for each pin during the 22V RLAT characterization at 30krad. Figure 2-3 shows the bias conditions for each pin during a 60V fault condition.

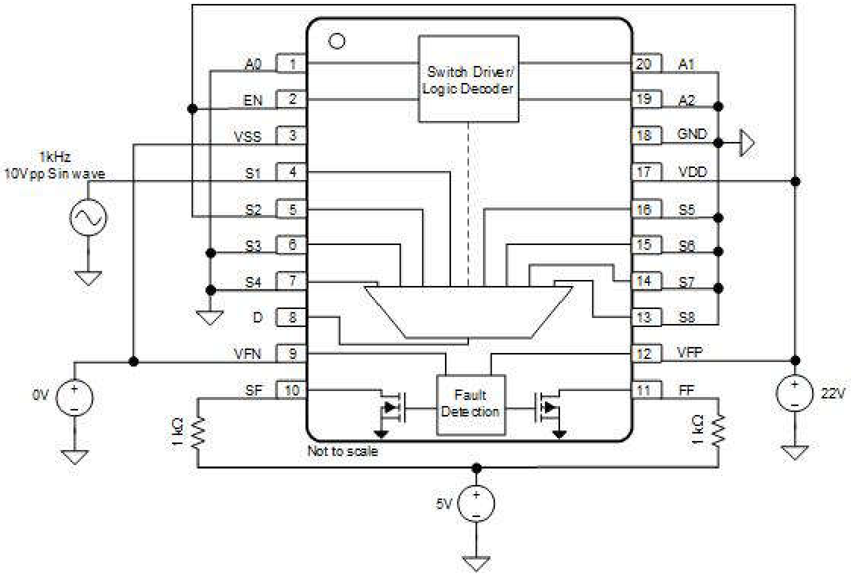


Figure 2-1. TMUX582F-SEP Biased Diagram for Main HDR/LDR Characterization

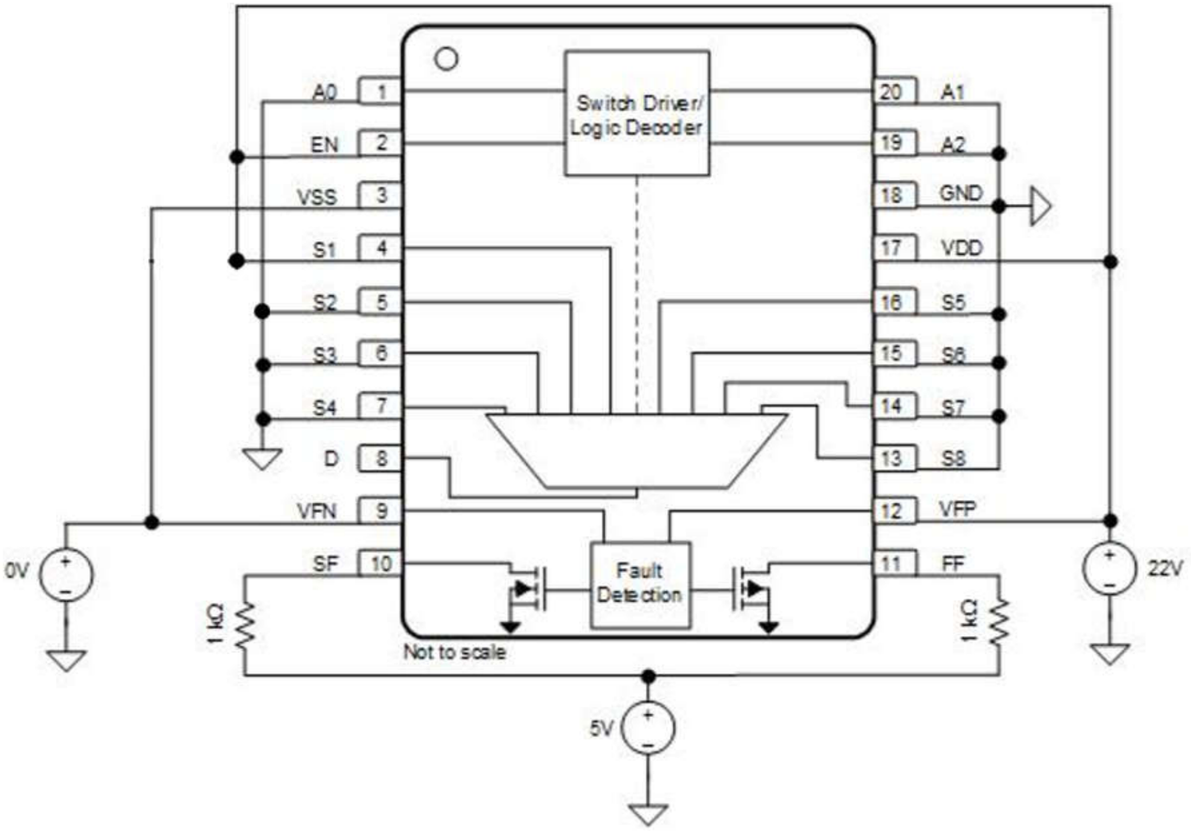


Figure 2-2. TMUX582F-SEP Biased Diagram for 22V S1 Pin Stress [RLAT]

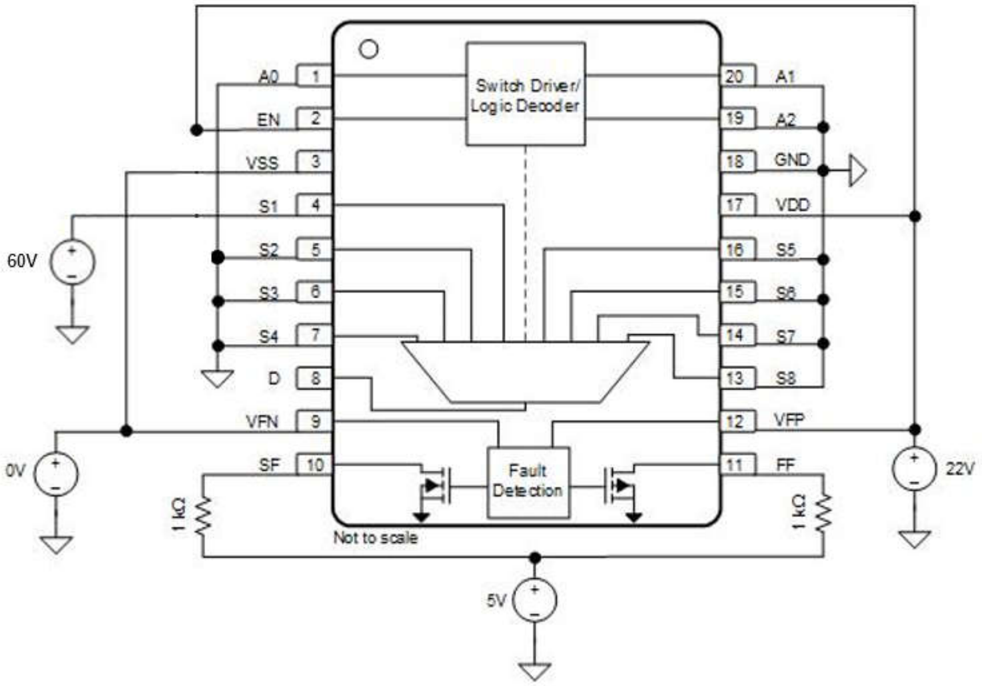


Figure 2-3. TMUX582F-SEP Biased Diagram for 60V S1 Pin Stress

2.4 Test Configuration and Condition

The main HDR and LDR irradiation characterization was performed at 10krad, 20krad and 30krad. The units that were irradiated to 30krad(Si) were annealed at 25ºC for 72 hours. ATE parametric testing was completed before and after the anneal.

The extra 22V S1 pin HDR stress was performed at 30krad without the need for anneal and will be the RLAT specification bias for each wafer lot going forward. The extra 60V S1 pin HDR stress was also performed at 30krad without the need for anneal. This extra case was added to test the device under a fault scenario.

Table 2-1. HDR Characterization Device Information

Control Group	**HDR = 191.178 rad(Si)/s**			
Total Samples: 4	**Total Samples: 5 Biased / TID Level**			
	Exposure Levels			
0krad(Si)	10krad(Si)	20krad(Si)	30krad(Si)	
Biased	Biased	Biased	Biased	Biased + 72 hour anneal
1 - 4	5 - 9	10 - 14	15 - 19	20 - 24

Table 2-2. LDR Characterization Device Information

Control Group	**LDR = 9.94e-03 rad(Si)/s**		
Total Samples: 4	**Total Samples: 5 Biased**		
	Exposure Levels		
0krad(Si)	10krad(Si)	20krad(Si)	30krad(Si)
Biased	Biased	Biased	Biased
1 - 4	5 - 9	10 - 14	15 - 19

3 TID Characterization Test Results

3.1 TID Characterization Summary Results

The parametric data for the TMUX582F-SEP passes up to 30 krad(Si) HDR and LDR TID irradiation. The drifts of the electrical parameters through HDR and LDR were within the data sheet limits.

Overall, the TMUX582F-SEP showed a strong degree of hardness to HDR and LDR 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. In accordance with MIL-STD-883K section 3.13.1.1 this device does not exhibit ELDRS effects due to every spec parameter post irradiation remaining below the pre-irradiation electrical specification limits at a low dose rate. For the data sheet electrical parameters and associated tests, see TMUX582F-SEP Datasheet.

See Section 6 for full HDR characterization report up to 30krad(Si) with a dynamic S1 pin input.

See Section 7 for ELDRS report at 30krad(Si) comparing the LDR and HDR data of the dynamic S1 pin bias scheme.

See Section 8 for HDR report of the S1=22V case at 30krad(Si) which will be used for RLATs going forward.

See Section 9 for HDR report of the S1=60V case at 30krad(Si) which was added to show the device fault performance.

3.2 Specification Compliance Matrix

Table 3-1. Electrical Parameters Table

All test conditions measured at T_A = -55°C to 125°C unless otherwise noted.

Description		Test Conditions	MIN	MAX	Unit	Test Name
V_{IH}	High-level input voltage	EN, Ax pins [PASS = 1, FAIL = 0]	1	1	P/F	VIH
V_{IL}	Low-level input voltage	EN, Ax pins [PASS = 1, FAIL = 0]	1	1	P/F	VIL
R_{ON}	On-resistance	V_S = 0V to 7.8V, I_S = –1mA	0	400	Ω	RON
ΔR_{ON}	On-resistance mismatch between channels	V_S = 0V to 7.8V, I_S = –1mA	0	13	Ω	RON_DELTA
R_{FLAT}	On-resistance flatness	V_S = 0V to 7.8V, I_S = –1mA	0	80	Ω	RON_FLAT_SPEC
$I_{S(OFF)}$	Source off leakage current	Switch state is off, V_S = 1V/ 10V, V_D = 10V/ 1V, V_{DD} = 13.2V	-4.5	4.5	nA	ISOFF
$I_{D(OFF)}$	Drain off leakage current	Switch state is off, V_S = 1V/ 10V, V_D = 10V/ 1V, V_{DD} = 13.2V	-15	15	nA	IDOFF
$I_{S(ON)}$	Channel on leakage current	Switch state is on, V_S = floating, V_D = 1V/10V, V_{DD} = 13.2V	-23	23	nA	ISON
$I_{D(ON)}$	Channel on leakage current	Switch state is on, V_S = floating, V_D = 1V/10V, V_{DD} = 13.2V	-23	23	nA	IDON
$I_{D(FA)}$	Output leakage current during overvoltage	V_S = 60V, GND = 0V, V_{DD} = V_{FP} = 13.2V, V_{SS} = V_{FN} = 0V	-100	100	nA	IDFA
	Output leakage current during overvoltage with grounded supplies	V_S = 60V, GND = 0V, V_{DD} = V_{SS} = V_{FP} = V_{FN} = 0V, V_{EN} = V_{Ax} = 0V or floating	-550	550	nA	IDFA_GND
I_{IH}	High-level input current	V_{EN} = V_{Ax} = V_{DD}	-2.5	2.5	µA	IIH
I_{IL}	Low-level input current	V_{EN} = V_{Ax} = 0V	-1.5	1.5	µA	IIL
I_{DD}	V_{DD} supply current	VDD = VFP = 13.2V, VSS = VFN = 0V, VEN/VAx = 0V, 5V, or VDD, VS = 6V	-0.6	0.6	mA	IDD
I_{SS}	V_{SS} supply current	VDD = VFP = 13.2V, VSS = VFN = 0V, VEN/VAx = 0V, 5V, or VDD, VS = 6V	-0.5	0.5	mA	ISS
$I_{DD(FA)}$	V_{DD} supply current under fault	V_S = 60V, V_{DD} = V_{FP} = 13.2V, V_{SS} = V_{FN} = 0V, V_{EN}/ V_{Ax} = 0V, 5V, or V_{DD}	-1.25	1.25	mA	IDD_FAULT
$I_{SS(FA)}$	V_{SS} supply current under fault	V_S = 60V, V_{DD} = V_{FP} = 13.2V, V_{SS} = V_{FN} = 0V, V_{EN}/ V_{Ax} = 0V, 5V, or V_{DD}	-0.75	0.75	mA	ISS_FAULT
$I_{DD(DISABLE)}$	V_{DD} supply current (disable mode)	V_{DD} = V_{FP} = 13.2V, V_{SS} = V_{FN} = 0V, V_{Ax} = 0V, 5V, or V_{DD}, V_{EN} = 0V, V_S = 0V	-0.6	0.6	mA	IDD_DIS
$I_{SS(DISABLE)}$	V_{SS} supply current (disable mode)	V_{DD} = V_{FP} = 13.2V, V_{SS} = V_{FN} = 0V, V_{Ax} = 0V, 5V, or V_{DD}, V_{EN} = 0V, V_S = 0V	-0.5	0.5	mA	ISS_DIS

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 on the DLA website.

5 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision * (June 2024) to Revision A (November 2024)	**Page**
• Added HDR 22V data	12
• Added the HDR 60V data	13

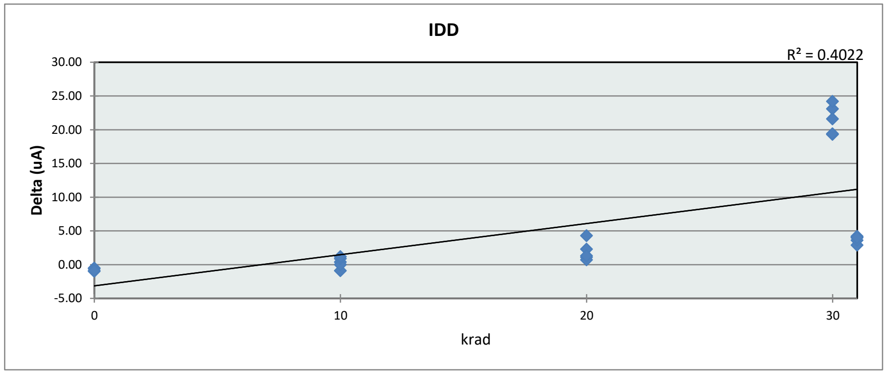
6 Appendix A: HDR TID Report Data

This appendix provides the TMUX582F-SEP TID HDR Characterization report. The report shows the variation for each parameter up to 30krad(Si). Data at 31krad(Si) represents the 30krad(Si) post 72 hr anneal data.

TID Report
TMUX582F-SEP

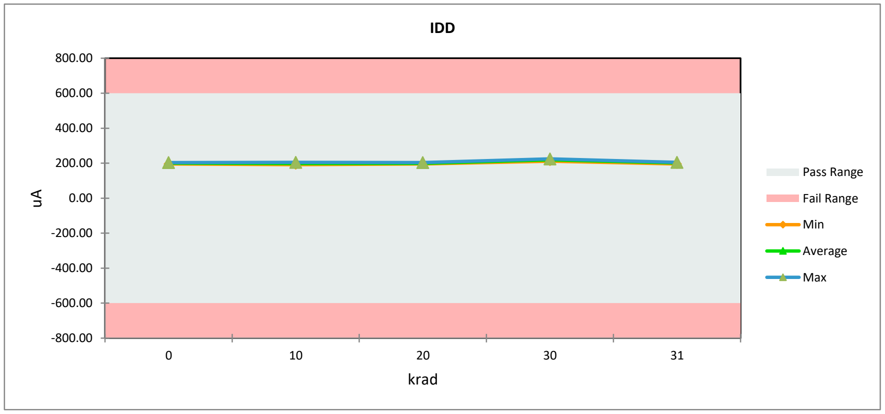
	IDD
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	195.500	195.000	-0.50	-0.26%	0.04%
0	2	200.500	199.900	-0.60	-0.30%	0.05%
0	3	203.600	202.600	-1.00	-0.49%	0.08%
0	4	204.300	203.400	-0.90	-0.44%	0.08%
10	5	198.600	199.000	0.40	0.20%	0.03%
10	6	199.100	198.200	-0.90	-0.45%	0.08%
10	7	205.000	205.000	0.00	0.00%	0.00%
10	8	190.600	191.500	0.90	0.47%	0.08%
10	9	195.100	196.300	1.20	0.62%	0.10%
20	10	198.600	199.700	1.10	0.55%	0.09%
20	11	197.700	198.400	0.70	0.35%	0.06%
20	12	193.100	195.400	2.30	1.19%	0.19%
20	13	199.800	204.100	4.30	2.15%	0.36%
20	14	195.800	197.100	1.30	0.66%	0.11%
30	15	201.700	224.800	23.10	11.45%	1.93%
30	16	198.100	217.400	19.30	9.74%	1.61%
30	17	199.200	223.400	24.20	12.15%	2.02%
30	18	197.400	219.000	21.60	10.94%	1.80%
30	19	192.000	211.400	19.40	10.10%	1.62%
31	20	201.700	204.600	2.90	1.44%	0.24%
31	21	198.100	202.300	4.20	2.12%	0.35%
31	22	199.200	203.300	4.10	2.06%	0.34%
31	23	197.400	201.000	3.60	1.82%	0.30%
31	24	192.000	196.000	4.00	2.08%	0.33%
	Max	205.000	224.800	19.80	12.15%	2.02%
	Average	198.088	203.700	5.61	2.84%	0.49%
	Min	190.600	191.500	0.90	-0.49%	0.00%
	Std Dev	3.803	9.064	5.26	4.32%	0.69%



	IDD
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

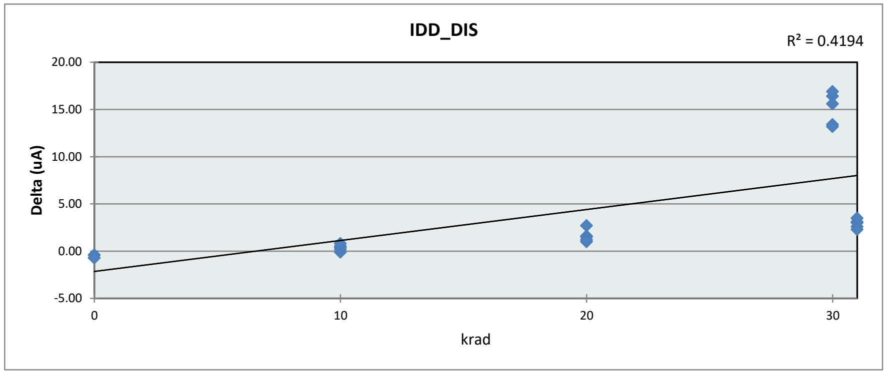
krad	0	10	20	30	31
LL	-600.00	-600.00	-600.00	-600.00	-600.00
Min	195.00	191.50	195.40	211.40	196.00
Average	200.23	198.00	198.94	219.20	201.44
Max	203.40	205.00	204.10	224.80	204.60
UL	600.00	600.00	600.00	600.00	600.00



TID Report
TMUX582F-SEP

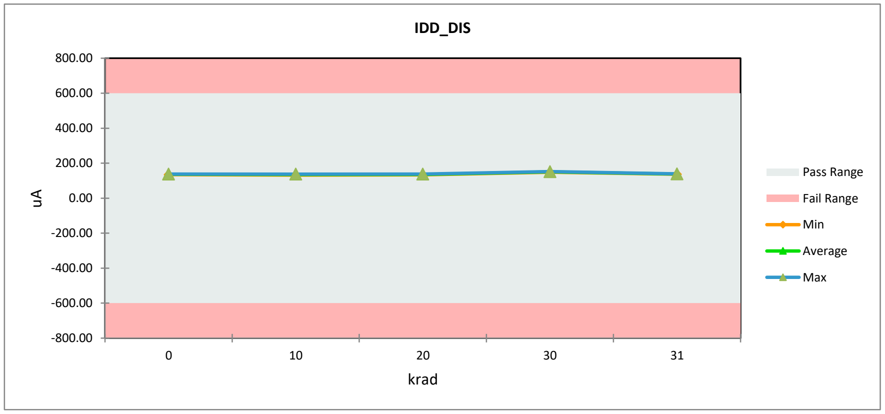
	IDD_DIS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	134.900	134.500	-0.40	-0.30%	0.03%
0	2	137.000	136.600	-0.40	-0.29%	0.03%
0	3	138.100	137.400	-0.70	-0.51%	0.06%
0	4	138.500	137.800	-0.70	-0.51%	0.06%
10	5	135.300	135.700	0.40	0.30%	0.03%
10	6	135.800	135.700	-0.10	-0.07%	0.01%
10	7	137.300	137.500	0.20	0.15%	0.02%
10	8	131.300	131.800	0.50	0.38%	0.04%
10	9	133.600	134.400	0.80	0.60%	0.07%
20	10	135.400	136.400	1.00	0.74%	0.08%
20	11	135.800	137.400	1.60	1.18%	0.13%
20	12	133.300	134.800	1.50	1.13%	0.13%
20	13	135.300	138.000	2.70	2.00%	0.22%
20	14	132.500	133.700	1.20	0.91%	0.10%
30	15	135.700	152.100	16.40	12.09%	1.37%
30	16	135.700	149.100	13.40	9.87%	1.12%
30	17	134.700	150.300	15.60	11.58%	1.30%
30	18	135.100	152.000	16.90	12.51%	1.41%
30	19	135.000	148.200	13.20	9.78%	1.10%
31	20	135.700	138.300	2.60	1.92%	0.22%
31	21	135.700	138.700	3.00	2.21%	0.25%
31	22	134.700	137.800	3.10	2.30%	0.26%
31	23	135.100	138.600	3.50	2.59%	0.29%
31	24	135.000	137.300	2.30	1.70%	0.19%
	Max	138.500	152.100	13.60	12.51%	1.41%
	Average	135.271	139.338	4.07	3.01%	0.35%
	Min	131.300	131.800	0.50	-0.51%	0.01%
	Std Dev	1.588	6.045	4.46	4.40%	0.48%



	IDD_DIS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

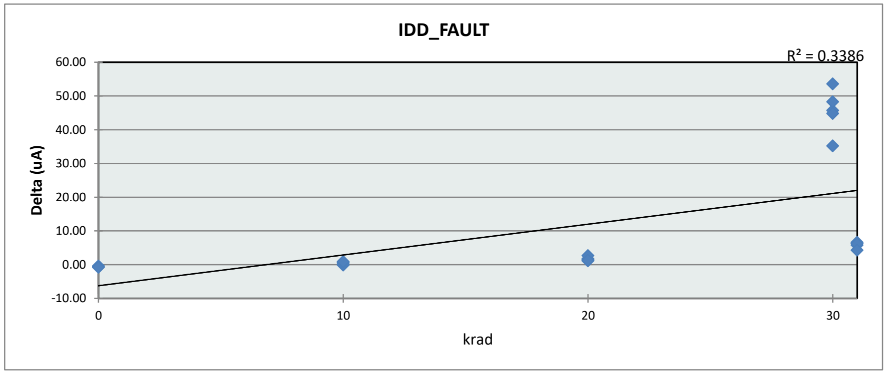
krad	0	10	20	30	31
LL	-600.00	-600.00	-600.00	-600.00	-600.00
Min	134.50	131.80	133.70	148.20	137.30
Average	136.58	135.02	136.06	150.34	138.14
Max	137.80	137.50	138.00	152.10	138.70
UL	600.00	600.00	600.00	600.00	600.00



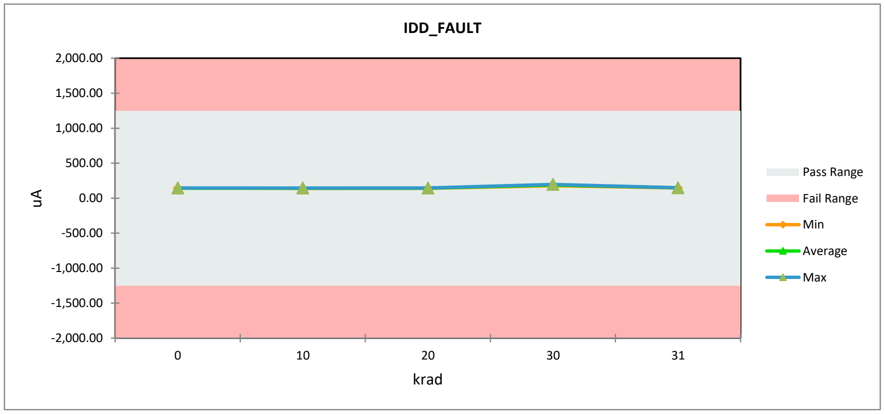
TID Report
TMUX582F-SEP

	IDD_FAULT
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	1250
Min Limit	-1250

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	142.400	142.000	-0.40	-0.28%	0.02%
0	2	144.600	144.200	-0.40	-0.28%	0.02%
0	3	145.700	145.000	-0.70	-0.48%	0.03%
0	4	146.300	145.500	-0.80	-0.55%	0.03%
10	5	142.600	143.100	0.50	0.35%	0.02%
10	6	143.100	143.000	-0.10	-0.07%	0.00%
10	7	144.900	144.900	0.00	0.00%	0.00%
10	8	138.400	139.100	0.70	0.51%	0.03%
10	9	140.900	141.800	0.90	0.64%	0.04%
20	10	142.900	144.000	1.10	0.77%	0.04%
20	11	143.200	144.900	1.70	1.19%	0.07%
20	12	140.700	142.300	1.60	1.14%	0.06%
20	13	142.700	145.400	2.70	1.89%	0.11%
20	14	139.800	141.100	1.30	0.93%	0.05%
30	15	143.200	196.800	53.60	37.43%	2.14%
30	16	143.300	189.000	45.70	31.89%	1.83%
30	17	142.100	190.400	48.30	33.99%	1.93%
30	18	142.500	187.300	44.80	31.44%	1.79%
30	19	142.200	177.400	35.20	24.75%	1.41%
31	20	143.200	149.800	6.60	4.61%	0.26%
31	21	143.300	149.100	5.80	4.05%	0.23%
31	22	142.100	148.400	6.30	4.43%	0.25%
31	23	142.500	148.700	6.20	4.35%	0.25%
31	24	142.200	146.500	4.30	3.02%	0.17%
	Max	146.300	196.800	50.50	37.43%	2.14%
	Average	142.700	153.738	11.04	7.74%	0.45%
	Min	138.400	139.100	0.70	-0.55%	0.00%
	Std Dev	1.715	18.464	16.75	12.91%	0.73%



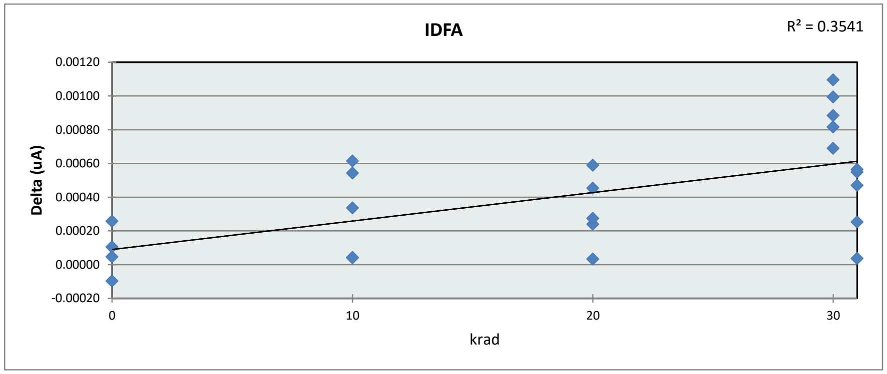
	IDD_FAULT				
Test Site	Junkins				
Tester	FETS36411				
Test Number	EB3233CH00				
Units	uA				
Max Limit	1250				
Min Limit	-1250				
krad	0	10	20	30	31
LL	-1250.00	-1250.00	-1250.00	-1250.00	-1250.00
Min	142.00	139.10	141.10	177.40	146.50
Average	144.18	142.38	143.54	188.18	148.50
Max	145.50	144.90	145.40	196.80	149.80
UL	1250.00	1250.00	1250.00	1250.00	1250.00



TID Report
TMUX582F-SEP

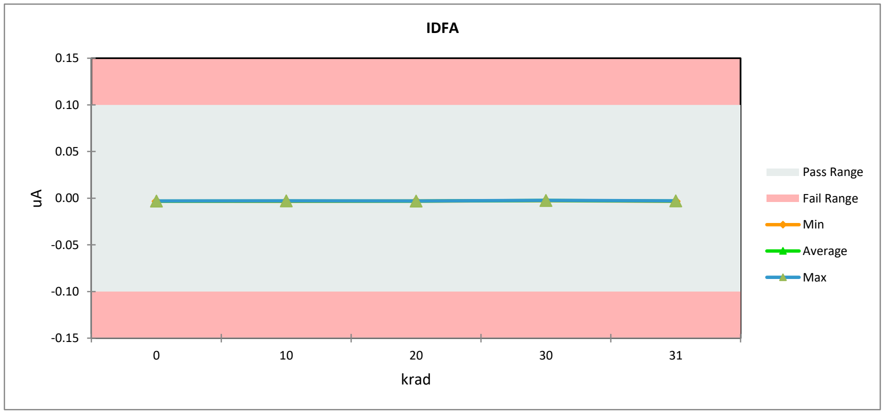
	IDFA
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-0.00307	-0.00317	-0.00010	3.16%	0.05%
0	2	-0.00333	-0.00322	0.00011	-3.16%	0.05%
0	3	-0.00328	-0.00302	0.00026	-7.88%	0.13%
0	4	-0.00319	-0.00315	0.00005	-1.47%	0.02%
10	5	-0.00341	-0.00308	0.00034	-9.85%	0.17%
10	6	-0.00315	-0.00310	0.00004	-1.37%	0.02%
10	7	-0.00374	-0.00313	0.00061	-16.40%	0.31%
10	8	-0.00343	-0.00289	0.00054	-15.82%	0.27%
10	9	-0.00344	-0.00340	0.00004	-1.16%	0.02%
20	10	-0.00369	-0.00310	0.00059	-15.97%	0.29%
20	11	-0.00347	-0.00302	0.00045	-13.08%	0.23%
20	12	-0.00331	-0.00307	0.00024	-7.26%	0.12%
20	13	-0.00309	-0.00305	0.00003	-1.07%	0.02%
20	14	-0.00334	-0.00306	0.00028	-8.24%	0.14%
30	15	-0.00336	-0.00237	0.00099	-29.58%	0.50%
30	16	-0.00351	-0.00242	0.00110	-31.21%	0.55%
30	17	-0.00317	-0.00235	0.00082	-25.75%	0.41%
30	18	-0.00336	-0.00248	0.00088	-26.31%	0.44%
30	19	-0.00340	-0.00271	0.00069	-20.31%	0.35%
31	20	-0.00336	-0.00281	0.00055	-16.34%	0.27%
31	21	-0.00351	-0.00326	0.00025	-7.20%	0.13%
31	22	-0.00317	-0.00313	0.00004	-1.17%	0.02%
31	23	-0.00336	-0.00289	0.00047	-13.99%	0.24%
31	24	-0.00340	-0.00283	0.00056	-16.60%	0.28%
	Max	-0.00307	-0.00235	0.00072	3.16%	0.55%
	Average	-0.00336	-0.00295	0.00041	-12.00%	0.21%
	Min	-0.00374	-0.00340	0.00034	-31.21%	0.02%
	Std Dev	0.00017	0.00029	0.00012	9.79%	0.16%



	IDFA
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	0.1
Min Limit	-0.1

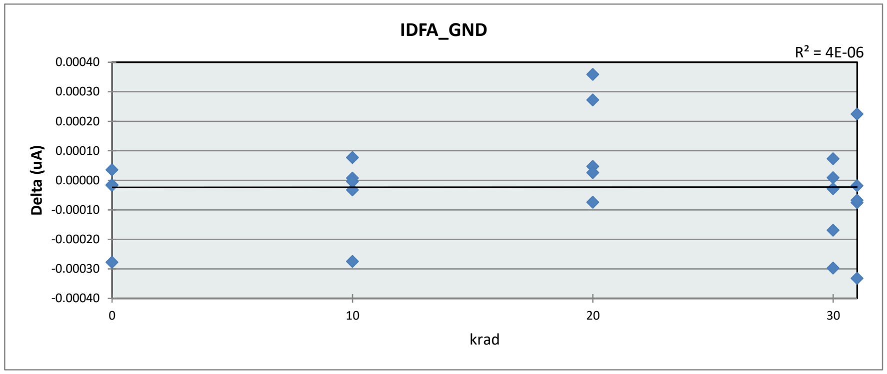
krad	0	10	20	30	31
LL	-0.10	-0.10	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00	0.00	0.00
Average	0.00	0.00	0.00	0.00	0.00
Max	0.00	0.00	0.00	0.00	0.00
UL	0.10	0.10	0.10	0.10	0.10



TID Report
TMUX582F-SEP

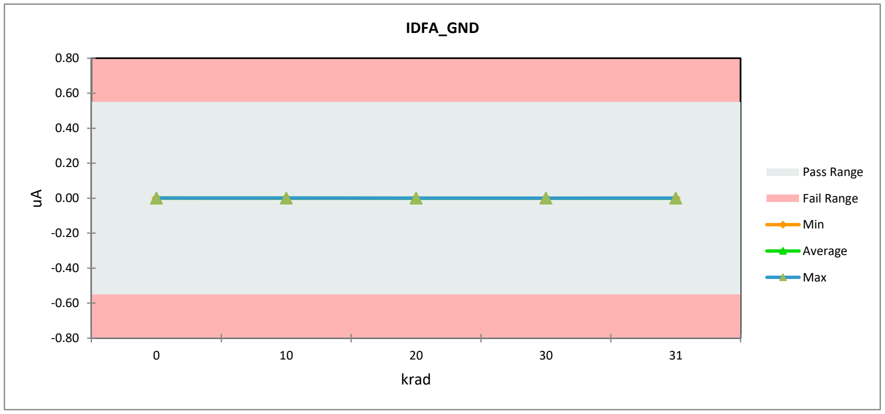
	IDFA_GND
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	0.55
Min Limit	-0.55

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.00032	0.00031	-0.00002	-5.22%	0.00%
0	2	0.00033	0.00032	-0.00002	-4.73%	0.00%
0	3	0.00046	0.00019	-0.00028	-59.91%	0.03%
0	4	0.00026	0.00030	0.00004	13.40%	0.00%
10	5	0.00023	0.00030	0.00008	33.80%	0.01%
10	6	0.00035	0.00036	0.00001	2.24%	0.00%
10	7	0.00020	0.00016	-0.00003	-16.51%	0.00%
10	8	0.00024	0.00024	0.00000	-1.60%	0.00%
10	9	0.00045	0.00017	-0.00028	-61.79%	0.03%
20	10	0.00003	0.00039	0.00036	1121.14%	0.03%
20	11	0.00038	0.00043	0.00005	12.38%	0.00%
20	12	0.00017	0.00020	0.00003	15.00%	0.00%
20	13	0.00021	0.00049	0.00027	126.99%	0.02%
20	14	0.00020	0.00013	-0.00007	-37.13%	0.01%
30	15	0.00025	0.00026	0.00001	3.64%	0.00%
30	16	0.00027	0.00010	-0.00017	-62.33%	0.02%
30	17	0.00053	0.00024	-0.00030	-55.68%	0.03%
30	18	0.00011	0.00008	-0.00003	-26.35%	0.00%
30	19	0.00010	0.00017	0.00007	72.11%	0.01%
31	20	0.00025	0.00017	-0.00008	-30.32%	0.01%
31	21	0.00027	0.00020	-0.00007	-24.94%	0.01%
31	22	0.00053	0.00020	-0.00033	-62.27%	0.03%
31	23	0.00011	0.00033	0.00022	205.88%	0.02%
31	24	0.00010	0.00008	-0.00002	-18.09%	0.00%
	Max	0.00053	0.00049	-0.00005	1121.14%	0.03%
	Average	0.00027	0.00024	-0.00002	47.49%	0.01%
	Min	0.00003	0.00008	0.00005	-62.33%	0.00%
	Std Dev	0.00014	0.00011	-0.00003	236.90%	0.01%



	IDFA_GND
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	0.55
Min Limit	-0.55

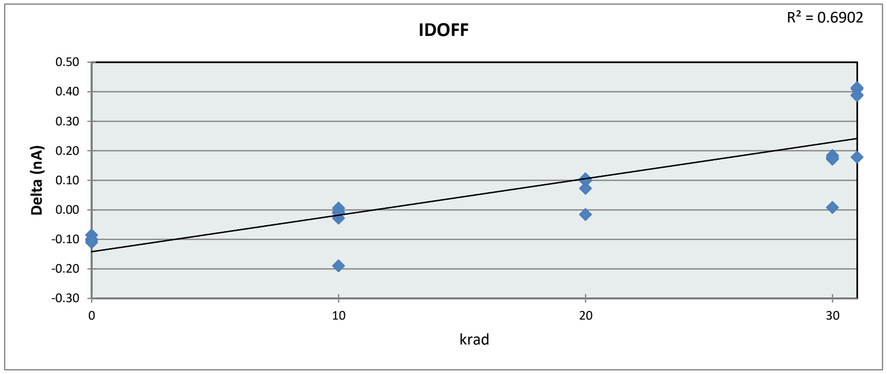
krad	0	10	20	30	31
LL	-0.55	-0.55	-0.55	-0.55	-0.55
Min	0.00	0.00	0.00	0.00	0.00
Average	0.00	0.00	0.00	0.00	0.00
Max	0.00	0.00	0.00	0.00	0.00
UL	0.55	0.55	0.55	0.55	0.55



TID Report
TMUX582F-SEP

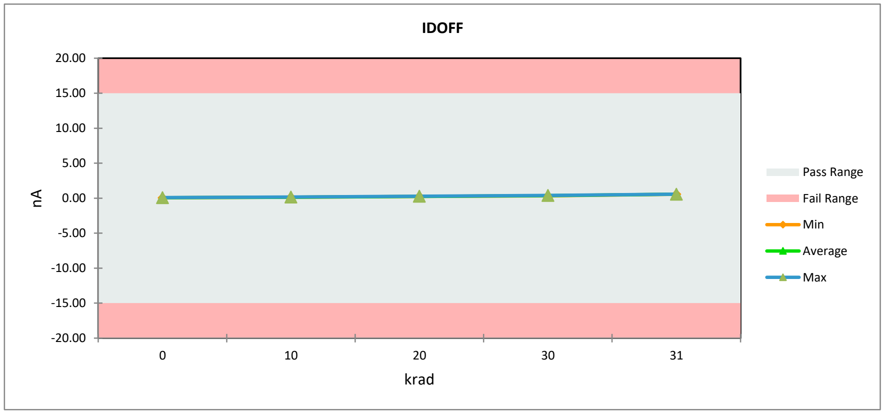
	IDOFF
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	15
Min Limit	-15

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.171	0.086	-0.09	-49.84%	0.28%
0	2	0.175	0.071	-0.10	-59.16%	0.34%
0	3	0.171	0.072	-0.10	-58.25%	0.33%
0	4	0.173	0.062	-0.11	-64.04%	0.37%
10	5	0.134	0.140	0.01	4.54%	0.02%
10	6	0.145	0.138	-0.01	-4.77%	0.02%
10	7	0.343	0.154	-0.19	-55.24%	0.63%
10	8	0.185	0.157	-0.03	-15.23%	0.09%
10	9	0.162	0.151	-0.01	-6.98%	0.04%
20	10	0.273	0.257	-0.02	-5.76%	0.05%
20	11	0.196	0.269	0.07	36.97%	0.24%
20	12	0.167	0.265	0.10	59.12%	0.33%
20	13	0.165	0.264	0.10	60.57%	0.33%
20	14	0.165	0.270	0.10	63.22%	0.35%
30	15	0.161	0.339	0.18	110.77%	0.59%
30	16	0.162	0.346	0.18	113.71%	0.61%
30	17	0.175	0.349	0.17	100.17%	0.58%
30	18	0.175	0.347	0.17	97.77%	0.57%
30	19	0.379	0.387	0.01	2.06%	0.03%
31	20	0.161	0.570	0.41	254.95%	1.37%
31	21	0.162	0.576	0.41	255.59%	1.38%
31	22	0.175	0.564	0.39	223.15%	1.30%
31	23	0.175	0.562	0.39	220.89%	1.29%
31	24	0.379	0.558	0.18	47.11%	0.60%
	Max	0.379	0.576	0.20	255.59%	1.38%
	Average	0.197	0.290	0.09	55.47%	0.49%
	Min	0.134	0.062	-0.07	-64.04%	0.02%
	Std Dev	0.070	0.174	0.10	100.32%	0.44%



	IDOFF
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	15
Min Limit	-15

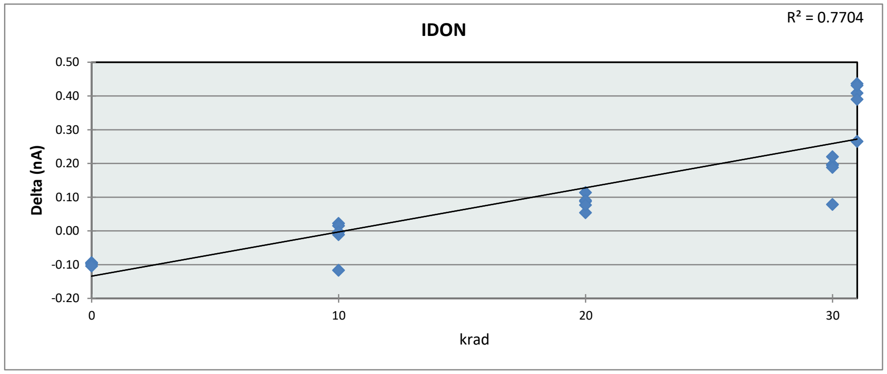
krad	0	10	20	30	31
LL	-15.00	-15.00	-15.00	-15.00	-15.00
Min	0.06	0.14	0.26	0.34	0.56
Average	0.07	0.15	0.27	0.35	0.57
Max	0.09	0.16	0.27	0.39	0.58
UL	15.00	15.00	15.00	15.00	15.00



TID Report
TMUX582F-SEP

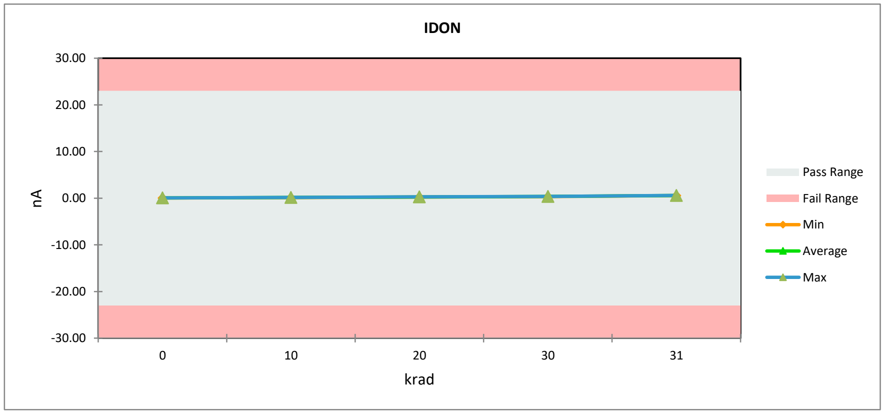
	IDON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.151	0.056	-0.10	-63.10%	0.21%
0	2	0.149	0.054	-0.09	-63.40%	0.20%
0	3	0.154	0.056	-0.10	-63.75%	0.21%
0	4	0.145	0.040	-0.10	-72.10%	0.23%
10	5	0.116	0.138	0.02	19.27%	0.05%
10	6	0.124	0.140	0.02	12.39%	0.03%
10	7	0.271	0.154	-0.12	-43.15%	0.25%
10	8	0.158	0.147	-0.01	-7.04%	0.02%
10	9	0.148	0.145	0.00	-2.16%	0.01%
20	10	0.232	0.286	0.05	23.35%	0.12%
20	11	0.166	0.253	0.09	52.66%	0.19%
20	12	0.154	0.267	0.11	74.09%	0.25%
20	13	0.149	0.239	0.09	60.69%	0.20%
20	14	0.174	0.250	0.08	43.85%	0.17%
30	15	0.168	0.363	0.19	115.96%	0.42%
30	16	0.151	0.348	0.20	129.99%	0.43%
30	17	0.144	0.363	0.22	152.71%	0.48%
30	18	0.172	0.359	0.19	109.56%	0.41%
30	19	0.300	0.379	0.08	26.12%	0.17%
31	20	0.168	0.576	0.41	243.30%	0.89%
31	21	0.151	0.588	0.44	288.11%	0.95%
31	22	0.144	0.575	0.43	299.79%	0.94%
31	23	0.172	0.562	0.39	227.41%	0.85%
31	24	0.300	0.565	0.27	88.34%	0.58%
	Max	0.300	0.588	0.29	299.79%	0.95%
	Average	0.173	0.288	0.11	68.87%	0.34%
	Min	0.116	0.040	-0.08	-72.10%	0.01%
	Std Dev	0.050	0.183	0.13	109.99%	0.29%



	IDON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

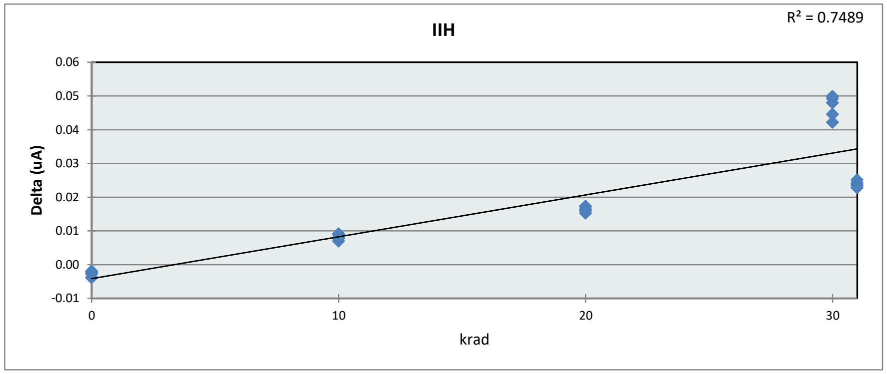
krad	0	10	20	30	31
LL	-23.00	-23.00	-23.00	-23.00	-23.00
Min	0.04	0.14	0.24	0.35	0.56
Average	0.05	0.14	0.26	0.36	0.57
Max	0.06	0.15	0.29	0.38	0.59
UL	23.00	23.00	23.00	23.00	23.00



TID Report
TMUX582F-SEP

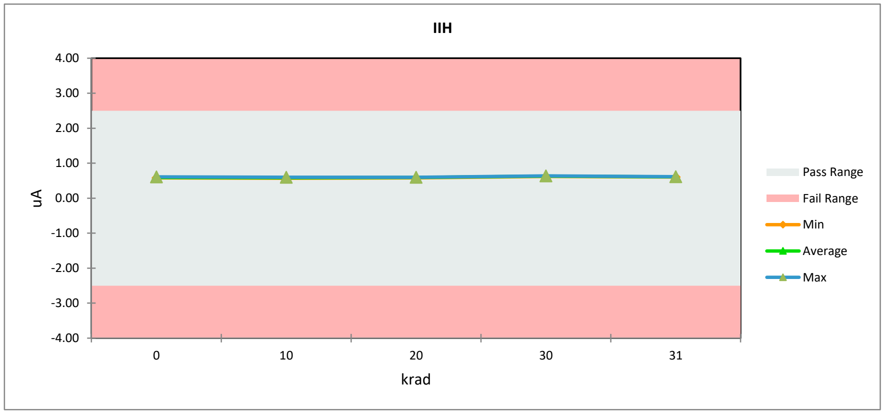
	IIH
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	2.5
Min Limit	-2.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.582	0.580	0.00	-0.33%	0.04%
0	2	0.589	0.587	0.00	-0.39%	0.05%
0	3	0.588	0.585	0.00	-0.48%	0.06%
0	4	0.612	0.608	0.00	-0.64%	0.08%
10	5	0.591	0.599	0.01	1.34%	0.16%
10	6	0.573	0.582	0.01	1.55%	0.18%
10	7	0.588	0.597	0.01	1.55%	0.18%
10	8	0.568	0.575	0.01	1.23%	0.14%
10	9	0.561	0.569	0.01	1.39%	0.16%
20	10	0.581	0.597	0.02	2.83%	0.33%
20	11	0.582	0.597	0.02	2.63%	0.31%
20	12	0.582	0.599	0.02	2.97%	0.35%
20	13	0.574	0.591	0.02	3.00%	0.34%
20	14	0.565	0.581	0.02	2.83%	0.32%
30	15	0.587	0.636	0.05	8.38%	0.98%
30	16	0.583	0.631	0.05	8.23%	0.96%
30	17	0.588	0.638	0.05	8.49%	1.00%
30	18	0.579	0.621	0.04	7.29%	0.84%
30	19	0.584	0.629	0.04	7.64%	0.89%
31	20	0.587	0.611	0.02	4.12%	0.48%
31	21	0.583	0.606	0.02	4.03%	0.47%
31	22	0.588	0.613	0.03	4.27%	0.50%
31	23	0.579	0.602	0.02	4.06%	0.47%
31	24	0.584	0.607	0.02	3.90%	0.46%
	Max	0.612	0.638	0.03	8.49%	1.00%
	Average	0.582	0.602	0.02	3.33%	0.41%
	Min	0.561	0.569	0.01	-0.64%	0.04%
	Std Dev	0.010	0.019	0.01	2.88%	0.31%



	IIH
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	2.5
Min Limit	-2.5

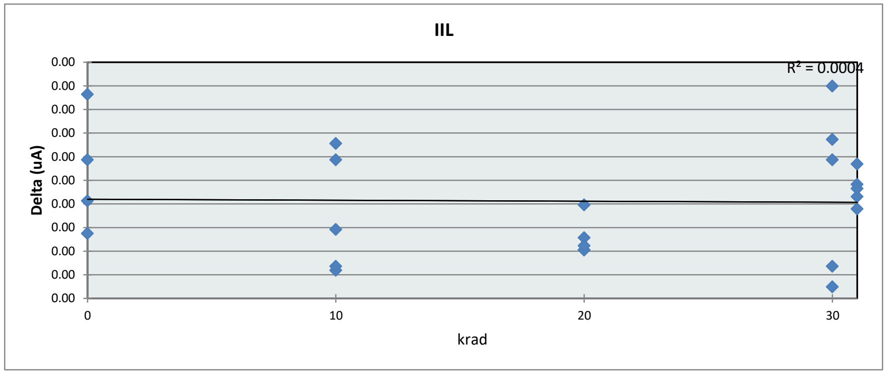
krad	0	10	20	30	31
LL	-2.50	-2.50	-2.50	-2.50	-2.50
Min	0.58	0.57	0.58	0.62	0.60
Average	0.59	0.58	0.59	0.63	0.61
Max	0.61	0.60	0.60	0.64	0.61
UL	2.50	2.50	2.50	2.50	2.50



TID Report
TMUX582F-SEP

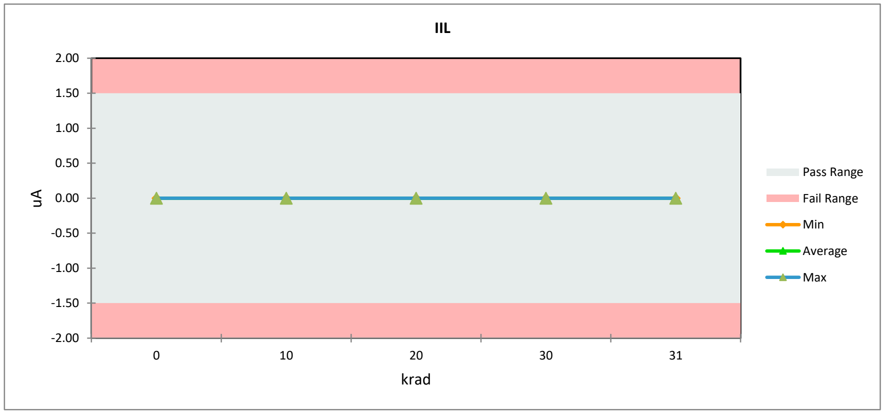
	IIL
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	1.5
Min Limit	-1.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-0.001	-0.001	0.00	-5.28%	0.00%
0	2	-0.001	-0.001	0.00	6.20%	0.00%
0	3	-0.001	-0.001	0.00	21.11%	0.00%
0	4	-0.001	0.000	0.00	-29.75%	0.01%
10	5	-0.001	-0.001	0.00	-12.23%	0.00%
10	6	-0.001	-0.001	0.00	34.60%	0.01%
10	7	-0.001	-0.001	0.00	30.64%	0.01%
10	8	-0.001	-0.001	0.00	-7.28%	0.00%
10	9	-0.001	-0.001	0.00	16.31%	0.00%
20	10	-0.001	-0.001	0.00	27.59%	0.00%
20	11	-0.001	-0.001	0.00	24.08%	0.00%
20	12	-0.001	-0.001	0.00	21.04%	0.00%
20	13	-0.001	-0.001	0.00	8.27%	0.00%
20	14	-0.001	-0.001	0.00	24.03%	0.00%
30	15	-0.001	-0.001	0.00	37.37%	0.01%
30	16	-0.001	-0.001	0.00	28.93%	0.01%
30	17	-0.001	-0.001	0.00	-13.06%	0.00%
30	18	-0.001	-0.001	0.00	-25.68%	0.01%
30	19	-0.001	-0.001	0.00	-5.78%	0.00%
31	20	-0.001	-0.001	0.00	10.06%	0.00%
31	21	-0.001	-0.001	0.00	1.38%	0.00%
31	22	-0.001	-0.001	0.00	5.23%	0.00%
31	23	-0.001	-0.001	0.00	-4.47%	0.00%
31	24	-0.001	-0.001	0.00	2.31%	0.00%
	Max	-0.001	0.000	0.00	37.37%	0.01%
	Average	-0.001	-0.001	0.00	8.15%	0.00%
	Min	-0.001	-0.001	0.00	-29.75%	0.00%
	Std Dev	0.000	0.000	0.00	18.75%	0.00%



	IIL
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	1.5
Min Limit	-1.5

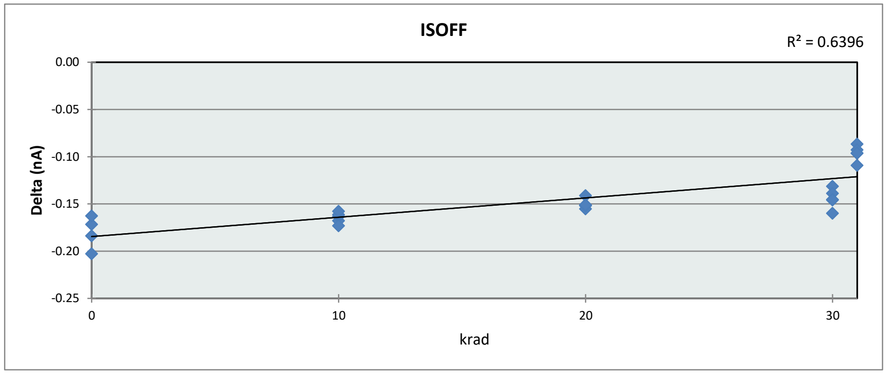
krad	0	10	20	30	31
LL	-1.50	-1.50	-1.50	-1.50	-1.50
Min	0.00	0.00	0.00	0.00	0.00
Average	0.00	0.00	0.00	0.00	0.00
Max	0.00	0.00	0.00	0.00	0.00
UL	1.50	1.50	1.50	1.50	1.50



TID Report
TMUX582F-SEP

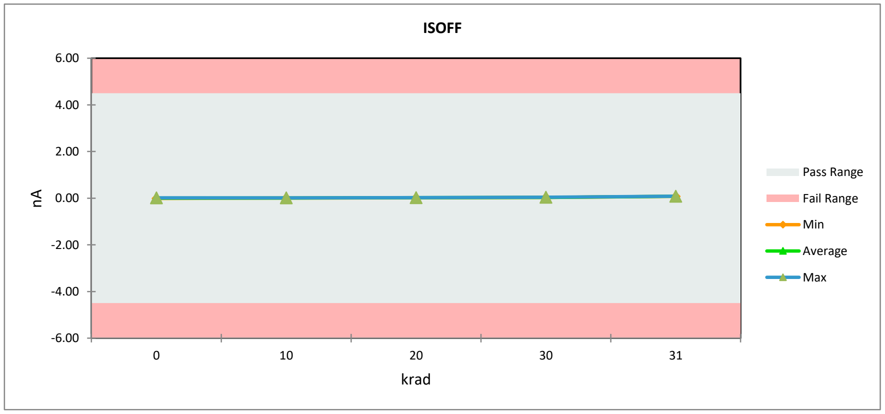
	ISOFF
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	4.5
Min Limit	-4.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.182	0.010	-0.17	-94.62%	1.91%
0	2	0.179	0.016	-0.16	-90.85%	1.81%
0	3	0.178	-0.006	-0.18	-103.36%	2.04%
0	4	0.190	-0.013	-0.20	-106.70%	2.25%
10	5	0.172	0.004	-0.17	-97.73%	1.86%
10	6	0.176	0.012	-0.16	-92.91%	1.81%
10	7	0.179	0.005	-0.17	-96.96%	1.92%
10	8	0.170	0.008	-0.16	-95.16%	1.79%
10	9	0.171	0.014	-0.16	-92.02%	1.75%
20	10	0.171	0.015	-0.16	-91.03%	1.73%
20	11	0.172	0.020	-0.15	-88.15%	1.68%
20	12	0.174	0.022	-0.15	-87.38%	1.69%
20	13	0.169	0.027	-0.14	-83.83%	1.57%
20	14	0.172	0.021	-0.15	-87.72%	1.68%
30	15	0.188	0.028	-0.16	-85.01%	1.78%
30	16	0.168	0.037	-0.13	-78.23%	1.46%
30	17	0.177	0.031	-0.15	-82.65%	1.62%
30	18	0.178	0.039	-0.14	-78.19%	1.54%
30	19	0.176	0.031	-0.15	-82.50%	1.62%
31	20	0.188	0.079	-0.11	-57.99%	1.21%
31	21	0.168	0.081	-0.09	-51.56%	0.96%
31	22	0.177	0.080	-0.10	-54.67%	1.07%
31	23	0.178	0.085	-0.09	-52.29%	1.03%
31	24	0.176	0.080	-0.10	-54.50%	1.07%
	Max	0.190	0.085	-0.11	-51.56%	2.25%
	Average	0.176	0.030	-0.15	-82.75%	1.62%
	Min	0.168	-0.013	-0.18	-106.70%	0.96%
	Std Dev	0.006	0.029	0.02	16.51%	0.33%



	ISOFF
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	4.5
Min Limit	-4.5

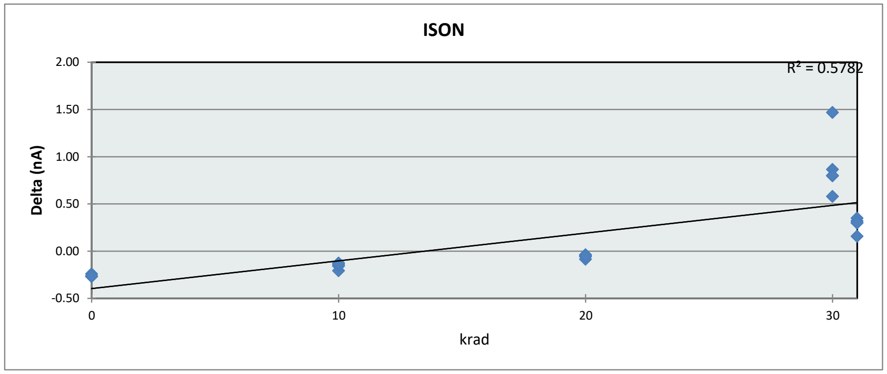
krad	0	10	20	30	31
LL	-4.50	-4.50	-4.50	-4.50	-4.50
Min	-0.01	0.00	0.02	0.03	0.08
Average	0.00	0.01	0.02	0.03	0.08
Max	0.02	0.01	0.03	0.04	0.08
UL	4.50	4.50	4.50	4.50	4.50



TID Report
TMUX582F-SEP

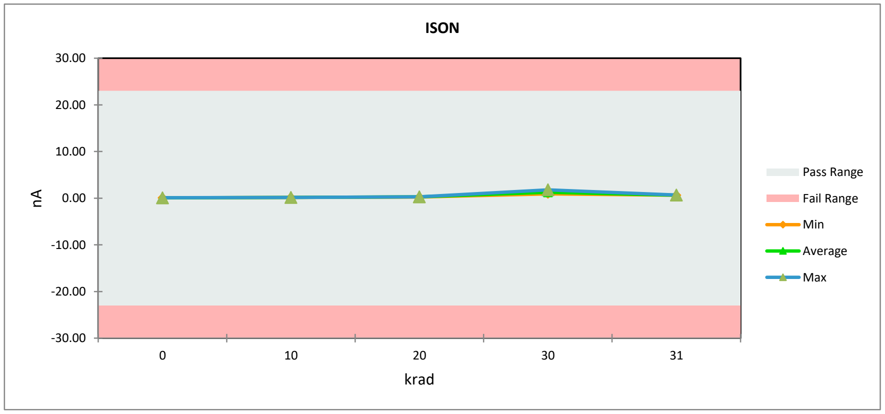
	ISON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	0.335	0.095	-0.24	-71.73%	0.52%
0	2	0.347	0.080	-0.27	-76.88%	0.58%
0	3	0.336	0.067	-0.27	-80.01%	0.58%
0	4	0.332	0.069	-0.26	-79.15%	0.57%
10	5	0.299	0.174	-0.13	-41.78%	0.27%
10	6	0.308	0.162	-0.15	-47.45%	0.32%
10	7	0.377	0.170	-0.21	-55.03%	0.45%
10	8	0.321	0.162	-0.16	-49.42%	0.35%
10	9	0.309	0.174	-0.14	-43.69%	0.29%
20	10	0.353	0.267	-0.09	-24.30%	0.19%
20	11	0.340	0.281	-0.06	-17.31%	0.13%
20	12	0.322	0.282	-0.04	-12.19%	0.09%
20	13	0.324	0.283	-0.04	-12.61%	0.09%
20	14	0.333	0.281	-0.05	-15.58%	0.11%
30	15	0.317	1.784	1.47	463.49%	3.19%
30	16	0.333	1.197	0.86	259.89%	1.88%
30	17	0.338	1.135	0.80	236.20%	1.73%
30	18	0.337	0.917	0.58	172.33%	1.26%
30	19	0.468	1.270	0.80	171.48%	1.74%
31	20	0.317	0.667	0.35	110.52%	0.76%
31	21	0.333	0.653	0.32	96.21%	0.70%
31	22	0.338	0.640	0.30	89.66%	0.66%
31	23	0.337	0.634	0.30	88.36%	0.65%
31	24	0.468	0.625	0.16	33.52%	0.34%
	Max	0.468	1.784	1.32	463.49%	3.19%
	Average	0.342	0.503	0.16	45.61%	0.73%
	Min	0.299	0.067	-0.23	-80.01%	0.09%
	Std Dev	0.042	0.462	0.42	135.51%	0.74%



	ISON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

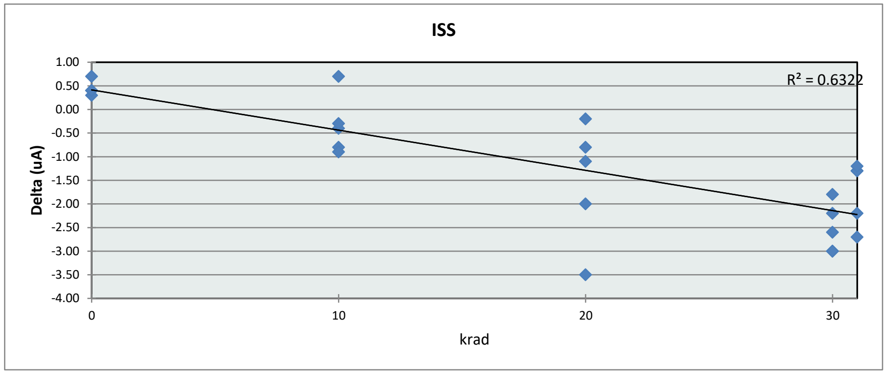
krad	0	10	20	30	31
LL	-23.00	-23.00	-23.00	-23.00	-23.00
Min	0.07	0.16	0.27	0.92	0.62
Average	0.08	0.17	0.28	1.26	0.64
Max	0.09	0.17	0.28	1.78	0.67
UL	23.00	23.00	23.00	23.00	23.00



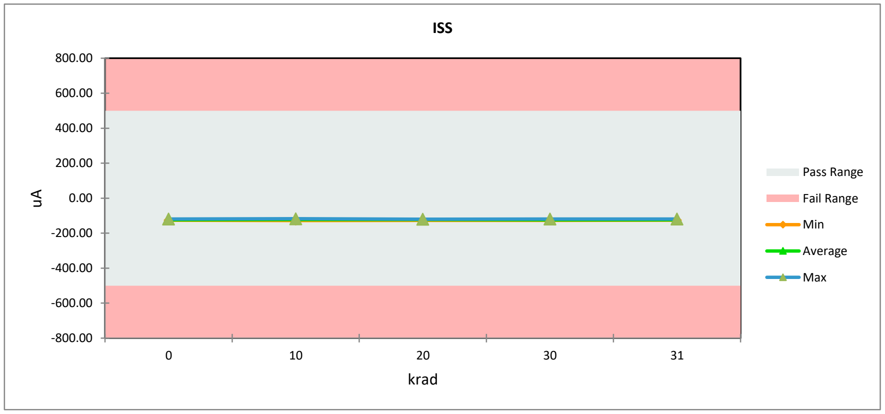
TID Report
TMUX582F-SEP

	ISS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-119.400	-119.100	0.30	-0.25%	0.03%
0	2	-123.500	-123.100	0.40	-0.32%	0.04%
0	3	-126.000	-125.600	0.40	-0.32%	0.04%
0	4	-126.800	-126.100	0.70	-0.55%	0.07%
10	5	-122.500	-122.900	-0.40	0.33%	0.04%
10	6	-122.500	-121.800	0.70	-0.57%	0.07%
10	7	-127.600	-127.900	-0.30	0.24%	0.03%
10	8	-116.500	-117.300	-0.80	0.69%	0.08%
10	9	-119.800	-120.700	-0.90	0.75%	0.09%
20	10	-122.600	-123.400	-0.80	0.65%	0.08%
20	11	-121.400	-121.600	-0.20	0.16%	0.02%
20	12	-118.100	-120.100	-2.00	1.69%	0.20%
20	13	-123.900	-127.400	-3.50	2.82%	0.35%
20	14	-121.500	-122.600	-1.10	0.91%	0.11%
30	15	-125.000	-126.800	-1.80	1.44%	0.18%
30	16	-121.600	-124.600	-3.00	2.47%	0.30%
30	17	-123.200	-125.800	-2.60	2.11%	0.26%
30	18	-121.300	-123.500	-2.20	1.81%	0.22%
30	19	-116.100	-119.100	-3.00	2.58%	0.30%
31	20	-125.000	-126.300	-1.30	1.04%	0.13%
31	21	-121.600	-123.800	-2.20	1.81%	0.22%
31	22	-123.200	-124.500	-1.30	1.06%	0.13%
31	23	-121.300	-122.500	-1.20	0.99%	0.12%
31	24	-116.100	-118.800	-2.70	2.33%	0.27%
	Max	-116.100	-117.300	-1.20	2.82%	0.35%
	Average	-121.938	-123.138	-1.20	0.99%	0.14%
	Min	-127.600	-127.900	-0.30	-0.57%	0.02%
	Std Dev	3.138	2.922	-0.22	1.04%	0.10%



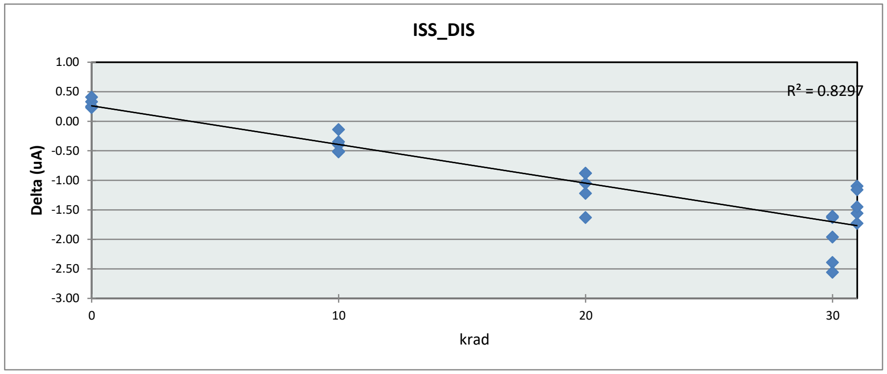
	ISS				
Test Site	Junkins				
Tester	FETS36411				
Test Number	EB3233CH00				
Units	uA				
Max Limit	500				
Min Limit	-500				
krad	0	10	20	30	31
LL	-500.00	-500.00	-500.00	-500.00	-500.00
Min	-126.10	-127.90	-127.40	-126.80	-126.30
Average	-123.48	-122.12	-123.02	-123.96	-123.18
Max	-119.10	-117.30	-120.10	-119.10	-118.80
UL	500.00	500.00	500.00	500.00	500.00



TID Report
TMUX582F-SEP

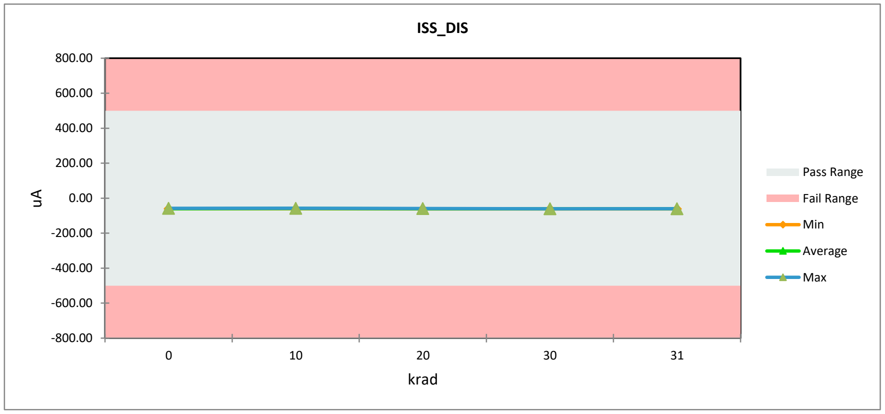
	ISS_DIS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-58.670	-58.440	0.23	-0.39%	0.02%
0	2	-60.010	-59.760	0.25	-0.42%	0.03%
0	3	-60.580	-60.250	0.33	-0.54%	0.03%
0	4	-60.840	-60.430	0.41	-0.67%	0.04%
10	5	-59.140	-59.540	-0.40	0.68%	0.04%
10	6	-59.060	-59.200	-0.14	0.24%	0.01%
10	7	-59.860	-60.210	-0.35	0.58%	0.04%
10	8	-57.030	-57.550	-0.52	0.91%	0.05%
10	9	-58.250	-58.760	-0.51	0.88%	0.05%
20	10	-59.340	-60.220	-0.88	1.48%	0.09%
20	11	-59.440	-60.660	-1.22	2.05%	0.12%
20	12	-58.310	-59.360	-1.05	1.80%	0.11%
20	13	-59.470	-61.100	-1.63	2.74%	0.16%
20	14	-58.070	-58.950	-0.88	1.52%	0.09%
30	15	-59.140	-60.770	-1.63	2.76%	0.16%
30	16	-59.100	-61.490	-2.39	4.04%	0.24%
30	17	-58.710	-61.270	-2.56	4.36%	0.26%
30	18	-58.900	-60.860	-1.96	3.33%	0.20%
30	19	-59.020	-60.630	-1.61	2.73%	0.16%
31	20	-59.140	-60.240	-1.10	1.86%	0.11%
31	21	-59.100	-60.830	-1.73	2.93%	0.17%
31	22	-58.710	-60.270	-1.56	2.66%	0.16%
31	23	-58.900	-60.350	-1.45	2.46%	0.15%
31	24	-59.020	-60.180	-1.16	1.97%	0.12%
	Max	-57.030	-57.550	-0.52	4.36%	0.26%
	Average	-59.075	-60.055	-0.98	1.66%	0.11%
	Min	-60.840	-61.490	-0.65	-0.67%	0.01%
	Std Dev	0.786	0.952	0.17	1.43%	0.07%



	ISS_DIS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

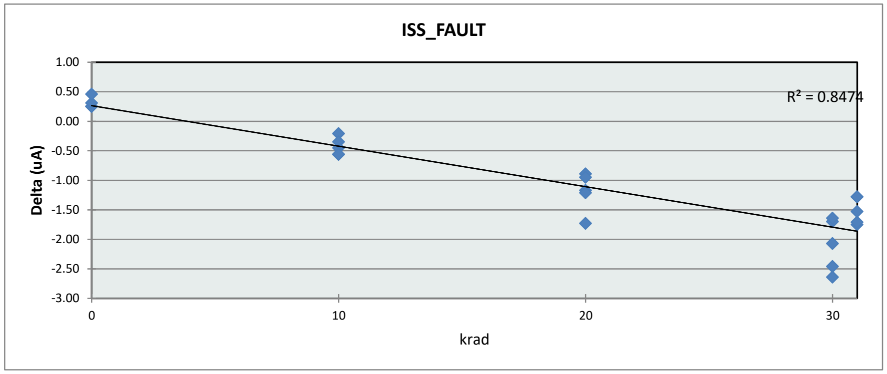
krad	0	10	20	30	31
LL	-500.00	-500.00	-500.00	-500.00	-500.00
Min	-60.43	-60.21	-61.10	-61.49	-60.83
Average	-59.72	-59.05	-60.06	-61.00	-60.37
Max	-58.44	-57.55	-58.95	-60.63	-60.18
UL	500.00	500.00	500.00	500.00	500.00



TID Report
TMUX582F-SEP

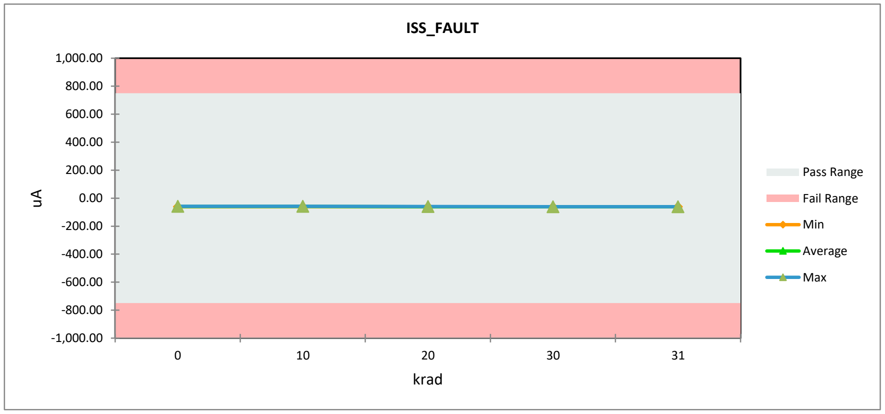
	ISS_FAULT
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	750
Min Limit	-750

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	-58.760	-58.510	0.25	-0.43%	0.02%
0	2	-60.100	-59.850	0.25	-0.42%	0.02%
0	3	-60.680	-60.370	0.31	-0.51%	0.02%
0	4	-60.970	-60.510	0.46	-0.75%	0.03%
10	5	-59.180	-59.630	-0.45	0.76%	0.03%
10	6	-59.100	-59.310	-0.21	0.36%	0.01%
10	7	-59.930	-60.280	-0.35	0.58%	0.02%
10	8	-57.140	-57.700	-0.56	0.98%	0.04%
10	9	-58.320	-58.880	-0.56	0.96%	0.04%
20	10	-59.460	-60.350	-0.89	1.50%	0.06%
20	11	-59.550	-60.720	-1.17	1.96%	0.08%
20	12	-58.370	-59.580	-1.21	2.07%	0.08%
20	13	-59.500	-61.230	-1.73	2.91%	0.12%
20	14	-58.110	-59.060	-0.95	1.63%	0.06%
30	15	-59.190	-60.890	-1.70	2.87%	0.11%
30	16	-59.180	-61.640	-2.46	4.16%	0.16%
30	17	-58.790	-61.430	-2.64	4.49%	0.18%
30	18	-59.000	-61.070	-2.07	3.51%	0.14%
30	19	-59.120	-60.760	-1.64	2.77%	0.11%
31	20	-59.190	-60.470	-1.28	2.16%	0.09%
31	21	-59.180	-60.930	-1.75	2.96%	0.12%
31	22	-58.790	-60.500	-1.71	2.91%	0.11%
31	23	-59.000	-60.530	-1.53	2.59%	0.10%
31	24	-59.120	-60.400	-1.28	2.17%	0.09%
	Max	-57.140	-57.700	-0.56	4.49%	0.18%
	Average	-59.155	-60.192	-1.04	1.76%	0.08%
	Min	-60.970	-61.640	-0.67	-0.75%	0.01%
	Std Dev	0.792	0.961	0.17	1.48%	0.05%



	ISS_FAULT
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	750
Min Limit	-750

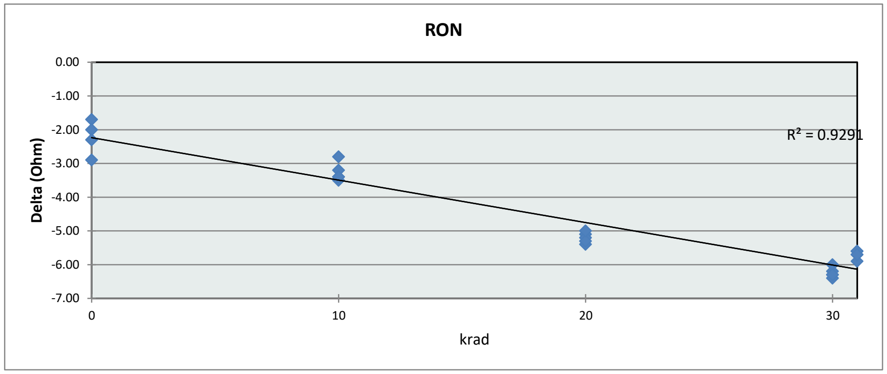
krad	0	10	20	30	31
LL	-750.00	-750.00	-750.00	-750.00	-750.00
Min	-60.51	-60.28	-61.23	-61.64	-60.93
Average	-59.81	-59.16	-60.19	-61.16	-60.57
Max	-58.51	-57.70	-59.06	-60.76	-60.40
UL	750.00	750.00	750.00	750.00	750.00



TID Report
TMUX582F-SEP

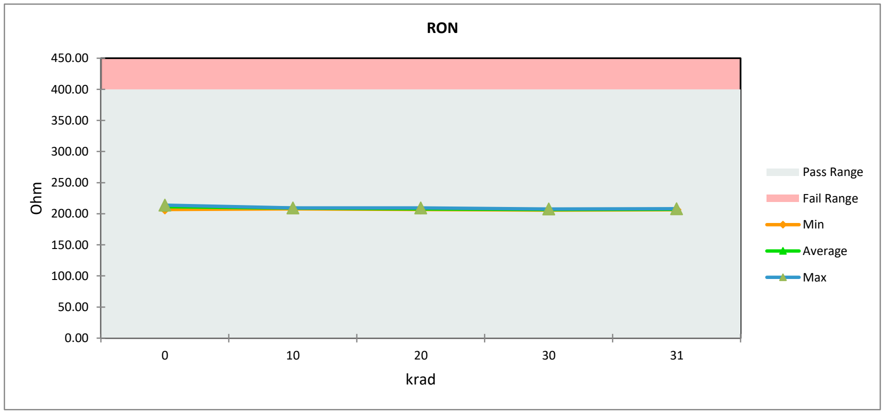
	RON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	400
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	215.500	213.800	-1.70	-0.79%	0.42%
0	2	215.000	213.000	-2.00	-0.93%	0.50%
0	3	213.600	211.300	-2.30	-1.08%	0.57%
0	4	209.700	206.800	-2.90	-1.38%	0.72%
10	5	210.600	207.800	-2.80	-1.33%	0.70%
10	6	211.900	208.700	-3.20	-1.51%	0.80%
10	7	212.700	209.300	-3.40	-1.60%	0.85%
10	8	212.900	209.400	-3.50	-1.64%	0.88%
10	9	212.900	209.500	-3.40	-1.60%	0.85%
20	10	212.400	207.300	-5.10	-2.40%	1.28%
20	11	212.500	207.300	-5.20	-2.45%	1.30%
20	12	212.200	206.800	-5.40	-2.54%	1.35%
20	13	213.200	207.900	-5.30	-2.49%	1.33%
20	14	214.500	209.500	-5.00	-2.33%	1.25%
30	15	213.500	207.300	-6.20	-2.90%	1.55%
30	16	214.000	207.600	-6.40	-2.99%	1.60%
30	17	212.100	205.800	-6.30	-2.97%	1.58%
30	18	212.300	206.300	-6.00	-2.83%	1.50%
30	19	212.400	206.100	-6.30	-2.97%	1.58%
31	20	213.500	207.900	-5.60	-2.62%	1.40%
31	21	214.000	208.100	-5.90	-2.76%	1.48%
31	22	212.100	206.400	-5.70	-2.69%	1.43%
31	23	212.300	206.700	-5.60	-2.64%	1.40%
31	24	212.400	206.700	-5.70	-2.68%	1.43%
	Max	215.500	213.800	-1.70	-0.79%	1.60%
	Average	212.842	208.221	-4.62	-2.17%	1.16%
	Min	209.700	205.800	-3.90	-2.99%	0.42%
	Std Dev	1.274	2.073	0.80	0.72%	0.38%



	RON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	400
Min Limit	0

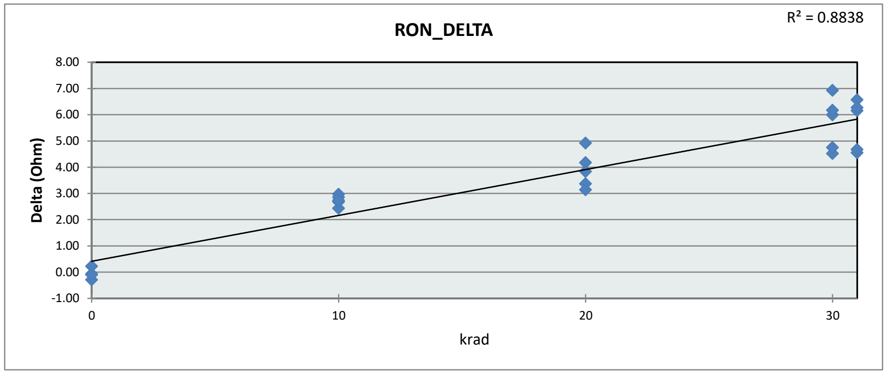
krad	0	10	20	30	31
LL	0.00	0.00	0.00	0.00	0.00
Min	206.80	207.80	206.80	205.80	206.40
Average	211.23	208.94	207.76	206.62	207.16
Max	213.80	209.50	209.50	207.60	208.10
UL	400.00	400.00	400.00	400.00	400.00



TID Report
TMUX582F-SEP

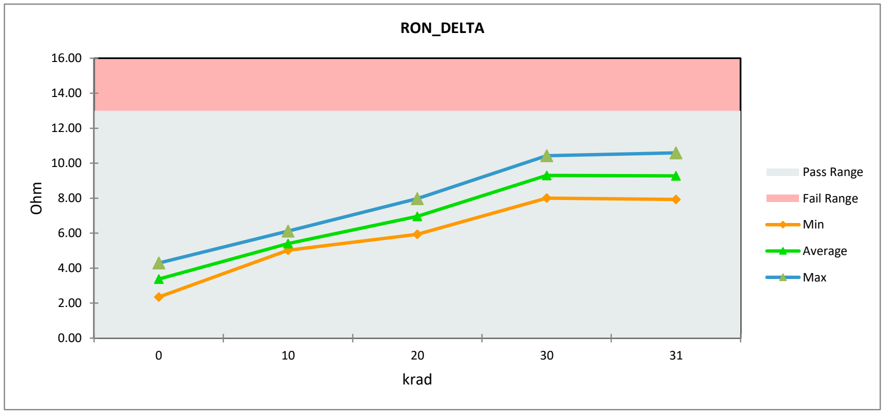
	RON_DELTA
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	13
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	4.362	4.293	-0.07	-1.58%	0.53%
0	2	2.127	2.349	0.22	10.44%	1.71%
0	3	3.196	2.903	-0.29	-9.17%	2.25%
0	4	4.060	3.959	-0.10	-2.49%	0.78%
10	5	2.860	5.290	2.43	84.97%	18.69%
10	6	3.447	6.124	2.68	77.66%	20.59%
10	7	2.051	5.021	2.97	144.81%	22.85%
10	8	2.578	5.433	2.86	110.74%	21.96%
10	9	2.393	5.124	2.73	114.12%	21.01%
20	10	2.565	5.932	3.37	131.27%	25.90%
20	11	3.233	7.409	4.18	129.17%	32.12%
20	12	2.517	6.355	3.84	152.48%	29.52%
20	13	3.994	7.132	3.14	78.57%	24.14%
20	14	3.055	7.978	4.92	161.15%	37.87%
30	15	2.768	9.701	6.93	250.47%	53.33%
30	16	4.434	10.430	6.00	135.23%	46.12%
30	17	4.701	9.222	4.52	96.17%	34.78%
30	18	2.983	9.153	6.17	206.84%	47.46%
30	19	3.253	8.003	4.75	146.02%	36.54%
31	20	2.768	9.335	6.57	237.25%	50.52%
31	21	4.434	10.590	6.16	138.84%	47.35%
31	22	4.701	9.253	4.55	96.83%	35.02%
31	23	2.983	9.255	6.27	210.26%	48.25%
31	24	3.253	7.928	4.68	143.71%	35.96%
	Max	4.701	10.590	5.89	250.47%	53.33%
	Average	3.280	7.007	3.73	118.49%	28.97%
	Min	2.051	2.349	0.30	-9.17%	0.53%
	Std Dev	0.812	2.380	1.57	71.09%	16.27%



	RON_DELTA
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	13
Min Limit	0

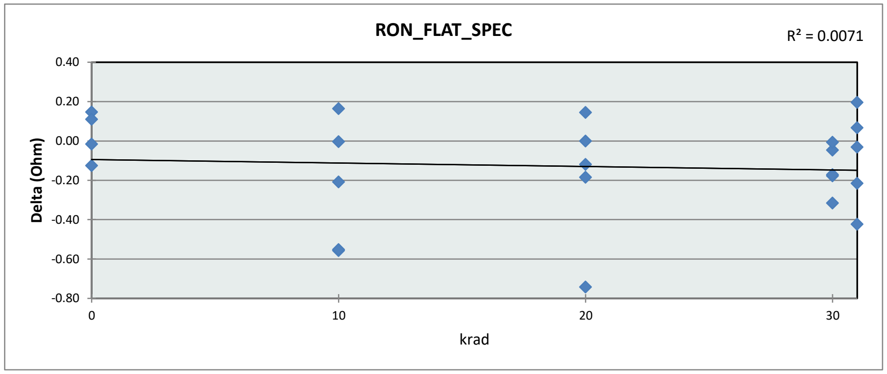
krad	0	10	20	30	31
LL	0.00	0.00	0.00	0.00	0.00
Min	2.35	5.02	5.93	8.00	7.93
Average	3.38	5.40	6.96	9.30	9.27
Max	4.29	6.12	7.98	10.43	10.59
UL	13.00	13.00	13.00	13.00	13.00



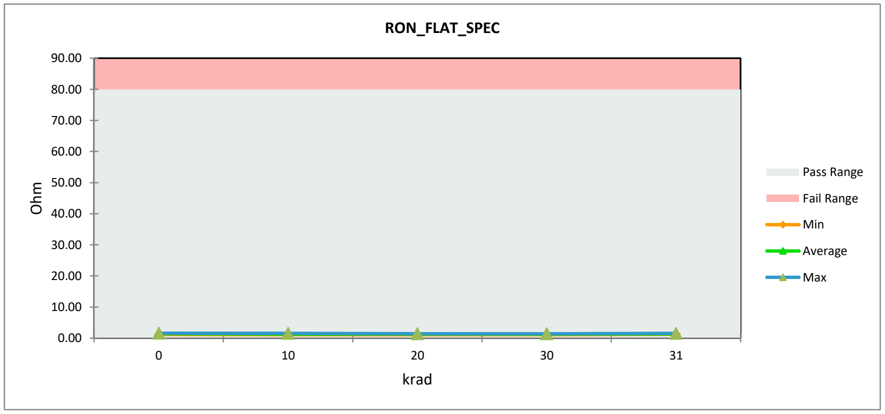
TID Report
TMUX582F-SEP

	RON_FLAT_SPEC
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	80
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta	Delta %	% of Limit Range
0	1	1.404	1.551	0.15	10.47%	0.18%
0	2	1.173	1.157	-0.02	-1.36%	0.02%
0	3	1.326	1.436	0.11	8.30%	0.14%
0	4	1.725	1.600	-0.13	-7.25%	0.16%
10	5	1.645	1.088	-0.56	-33.86%	0.70%
10	6	1.368	1.532	0.16	11.99%	0.21%
10	7	1.547	1.339	-0.21	-13.45%	0.26%
10	8	1.295	1.291	0.00	-0.31%	0.01%
10	9	1.832	1.280	-0.55	-30.13%	0.69%
20	10	1.246	1.391	0.15	11.64%	0.18%
20	11	1.315	1.314	0.00	-0.08%	0.00%
20	12	1.355	1.170	-0.19	-13.65%	0.23%
20	13	1.818	1.076	-0.74	-40.81%	0.93%
20	14	1.555	1.436	-0.12	-7.65%	0.15%
30	15	1.674	1.358	-0.32	-18.88%	0.40%
30	16	1.335	1.157	-0.18	-13.33%	0.22%
30	17	1.449	1.402	-0.05	-3.24%	0.06%
30	18	1.285	1.114	-0.17	-13.31%	0.21%
30	19	1.336	1.329	-0.01	-0.52%	0.01%
31	20	1.674	1.251	-0.42	-25.27%	0.53%
31	21	1.335	1.531	0.20	14.68%	0.25%
31	22	1.449	1.234	-0.22	-14.84%	0.27%
31	23	1.285	1.254	-0.03	-2.41%	0.04%
31	24	1.336	1.403	0.07	5.01%	0.08%
	Max	1.832	1.600	-0.23	14.68%	0.93%
	Average	1.448	1.321	-0.13	-7.43%	0.25%
	Min	1.173	1.076	-0.10	-40.81%	0.00%
	Std Dev	0.188	0.150	-0.04	14.98%	0.24%



	RON_FLAT_SPEC				
Test Site	Junkins				
Tester	FETS36411				
Test Number	EB3233CH00				
Units	Ohm				
Max Limit	80				
Min Limit	0				
krad	0	10	20	30	31
LL	0.00	0.00	0.00	0.00	0.00
Min	1.16	1.09	1.08	1.11	1.23
Average	1.44	1.31	1.28	1.27	1.33
Max	1.60	1.53	1.44	1.40	1.53
UL	80.00	80.00	80.00	80.00	80.00



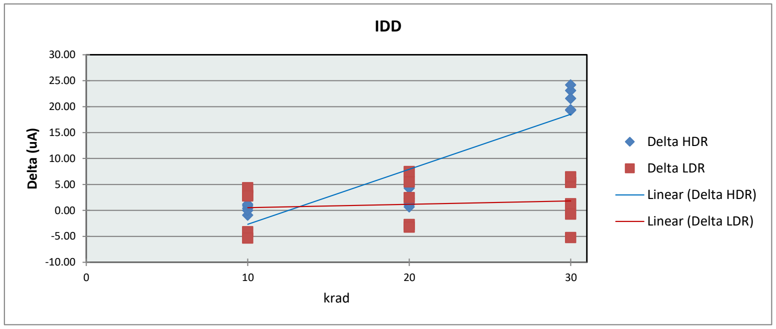
7 Appendix B: ELDRS Characterization TID Report Data

This appendix provides the TMUX582F-SEP ELDRS characterization report. The report shows the comparison between LDR and HDR parameter data up to 30krad(Si). Both LDR and HDR post-irradiated values for all parameters fall within the pre-radiation specification limits which means this device is ELDRS free per MIL-STD-883K.

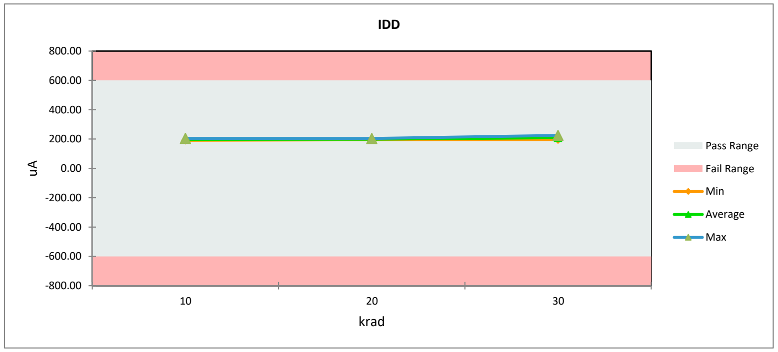
ELDRS Report
TMUX582F-SEP

	IDD
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	198.600	199.000	194.500	0.40	-4.10	0.20%	-2.06%
10	6	199.100	198.200	202.100	-0.90	3.00	-0.45%	1.51%
10	7	205.000	205.000	199.700	0.00	-5.30	0.00%	-2.59%
10	8	190.600	191.500	195.000	0.90	4.40	0.47%	2.31%
10	9	195.100	196.300	197.900	1.20	2.80	0.62%	1.44%
20	10	198.600	199.700	195.900	1.10	-2.70	0.55%	-1.36%
20	11	197.700	198.400	203.200	0.70	5.50	0.35%	2.78%
20	12	193.100	195.400	200.600	2.30	7.50	1.19%	3.88%
20	13	199.800	204.100	196.600	4.30	-3.20	2.15%	-1.60%
20	14	195.800	197.100	198.300	1.30	2.50	0.66%	1.28%
30	15	201.700	224.800	196.500	23.10	-5.20	11.45%	-2.58%
30	16	198.100	217.400	203.500	19.30	5.40	9.74%	2.73%
30	17	199.200	223.400	200.500	24.20	1.30	12.15%	0.65%
30	18	197.400	219.000	196.700	21.60	-0.70	10.94%	-0.35%
30	19	192.000	211.400	198.500	19.40	6.50	10.10%	3.39%
	Max	205.000	224.800	203.500	19.80	-1.50	12.15%	3.88%
	Average	197.453	205.380	198.633	7.93	1.18	4.01%	0.63%
	Min	190.600	191.500	194.500	0.90	3.90	-0.45%	-2.59%
	Std Dev	3.716	10.975	2.877	7.26	-0.84	5.09%	2.23%



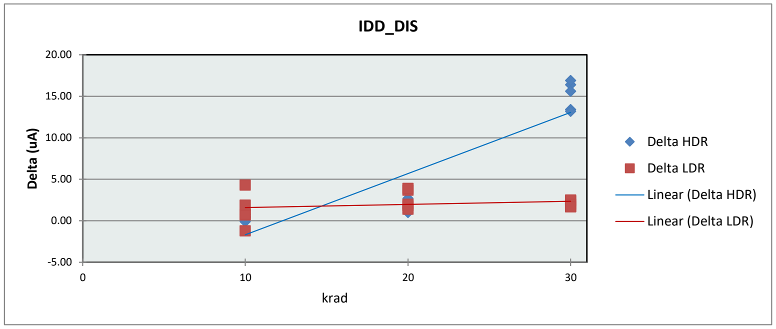
	IDD		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	600		
Min Limit	-600		
krad	10	20	30
LL	-600.00	-600.00	-600.00
Min	191.50	195.40	196.50
Average	197.92	198.93	209.17
Max	205.00	204.10	224.80
UL	600.00	600.00	600.00



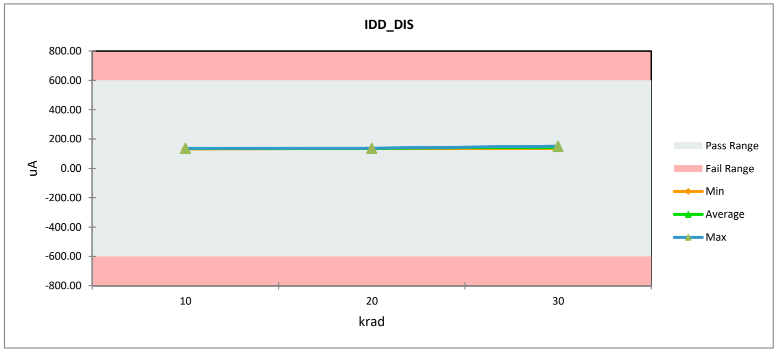
ELDRS Report
TMUX582F-SEP

	IDD_DIS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	135.300	135.700	136.000	0.40	0.70	0.30%	0.52%
10	6	135.800	135.700	136.600	-0.10	0.80	-0.07%	0.59%
10	7	137.300	137.500	136.100	0.20	-1.20	0.15%	-0.87%
10	8	131.300	131.800	135.600	0.50	4.30	0.38%	3.27%
10	9	133.600	134.400	135.500	0.80	1.90	0.60%	1.42%
20	10	135.400	136.400	137.200	1.00	1.80	0.74%	1.33%
20	11	135.800	137.400	137.800	1.60	2.00	1.18%	1.47%
20	12	133.300	134.800	137.000	1.50	3.70	1.13%	2.78%
20	13	135.300	138.000	136.700	2.70	1.40	2.00%	1.03%
20	14	132.500	133.700	136.400	1.20	3.90	0.91%	2.94%
30	15	135.700	152.100	137.400	16.40	1.70	12.09%	1.25%
30	16	135.700	149.100	138.100	13.40	2.40	9.87%	1.77%
30	17	134.700	150.300	137.200	15.60	2.50	11.58%	1.86%
30	18	135.100	152.000	137.100	16.90	2.00	12.51%	1.48%
30	19	135.000	148.200	136.700	13.20	1.70	9.78%	1.26%
	Max	137.300	152.100	138.100	14.80	0.80	12.51%	3.27%
	Average	134.787	140.473	136.760	5.69	1.97	4.21%	1.47%
	Min	131.300	131.800	135.500	0.50	4.20	-0.07%	-0.87%
	Std Dev	1.514	7.442	0.754	5.93	-0.76	5.16%	1.03%



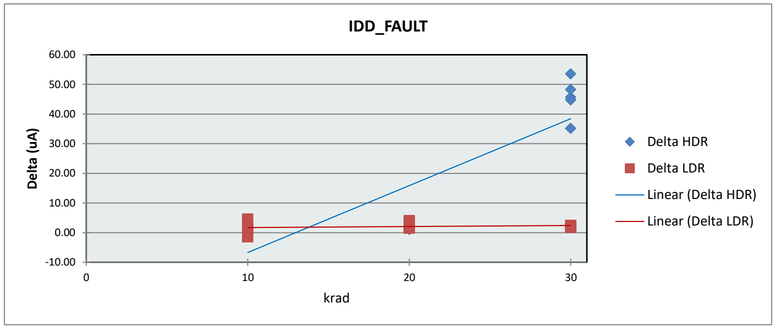
	IDD_DIS		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	600		
Min Limit	-600		
krad	10	20	30
LL	-600.00	-600.00	-600.00
Min	131.80	133.70	136.70
Average	135.49	136.54	143.82
Max	137.50	138.00	152.10
UL	600.00	600.00	600.00



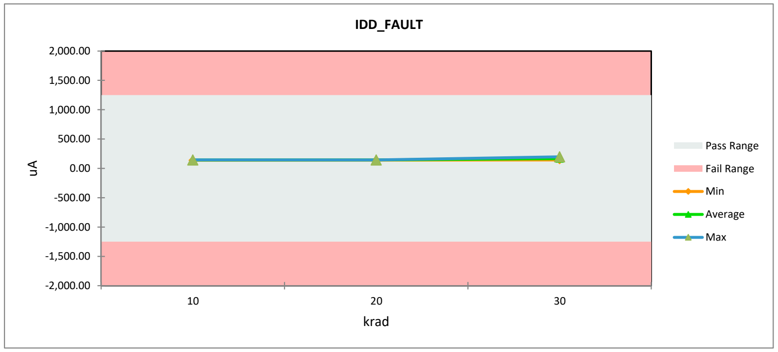
ELDRS Report
TMUX582F-SEP

	IDD_FAULT
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	1250
Min Limit	-1250

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	142.600	143.100	143.600	0.50	1.00	0.35%	0.70%
10	6	143.100	143.000	144.000	-0.10	0.90	-0.07%	0.63%
10	7	144.900	144.900	143.500	0.00	-1.40	0.00%	-0.97%
10	8	138.400	139.100	143.000	0.70	4.60	0.51%	3.32%
10	9	140.900	141.800	142.900	0.90	2.00	0.64%	1.42%
20	10	142.900	144.000	144.700	1.10	1.80	0.77%	1.26%
20	11	143.200	144.900	145.200	1.70	2.00	1.19%	1.40%
20	12	140.700	142.300	144.500	1.60	3.80	1.14%	2.70%
20	13	142.700	145.400	144.200	2.70	1.50	1.89%	1.05%
20	14	139.800	141.100	143.900	1.30	4.10	0.93%	2.93%
30	15	143.200	196.800	145.000	53.60	1.80	37.43%	1.26%
30	16	143.300	189.000	145.600	45.70	2.30	31.89%	1.61%
30	17	142.100	190.400	144.600	48.30	2.50	33.99%	1.76%
30	18	142.500	187.300	144.600	44.80	2.10	31.44%	1.47%
30	19	142.200	177.400	144.100	35.20	1.90	24.75%	1.34%
	Max	144.900	196.800	145.600	51.90	0.70	37.43%	3.32%
	Average	142.167	158.033	144.227	15.87	2.06	11.12%	1.46%
	Min	138.400	139.100	142.900	0.70	4.50	-0.07%	-0.97%
	Std Dev	1.613	22.437	0.773	20.82	-0.84	15.42%	1.03%



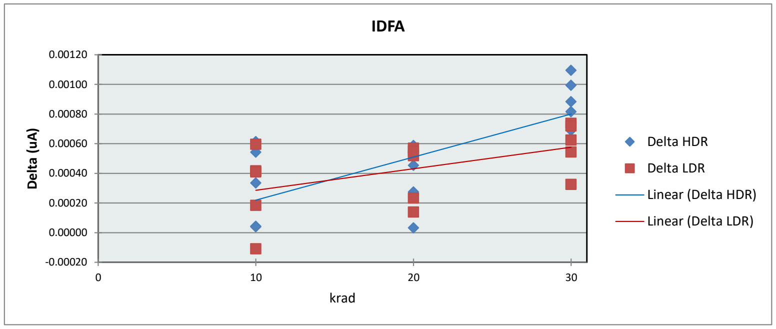
	IDD_FAULT		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	1250		
Min Limit	-1250		
krad	10	20	30
LL	-1250.00	-1250.00	-1250.00
Min	139.10	141.10	144.10
Average	142.89	144.02	166.48
Max	144.90	145.40	196.80
UL	1250.00	1250.00	1250.00



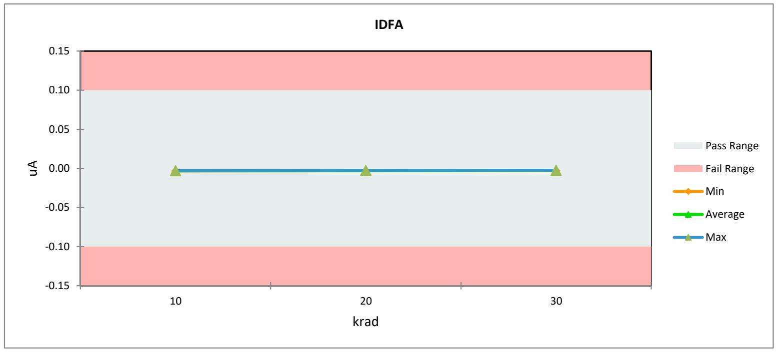
ELDRS Report
TMUX582F-SEP

	IDFA
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	-0.00341	-0.00308	-0.00300	0.00034	0.00042	-9.85%	-12.22%
10	6	-0.00315	-0.00310	-0.00325	0.00004	-0.00011	-1.37%	3.43%
10	7	-0.00374	-0.00313	-0.00315	0.00061	0.00060	-16.40%	-15.95%
10	8	-0.00343	-0.00289	-0.00302	0.00054	0.00041	-15.82%	-11.94%
10	9	-0.00344	-0.00340	-0.00326	0.00004	0.00019	-1.16%	-5.38%
20	10	-0.00369	-0.00310	-0.00312	0.00059	0.00057	-15.97%	-15.48%
20	11	-0.00347	-0.00302	-0.00295	0.00045	0.00052	-13.08%	-14.98%
20	12	-0.00331	-0.00307	-0.00307	0.00024	0.00023	-7.26%	-7.05%
20	13	-0.00309	-0.00305	-0.00295	0.00003	0.00014	-1.07%	-4.54%
20	14	-0.00334	-0.00306	-0.00279	0.00028	0.00055	-8.24%	-16.44%
30	15	-0.00336	-0.00237	-0.00274	0.00099	0.00063	-29.58%	-18.60%
30	16	-0.00351	-0.00242	-0.00277	0.00110	0.00074	-31.21%	-21.01%
30	17	-0.00317	-0.00235	-0.00284	0.00082	0.00033	-25.75%	-10.29%
30	18	-0.00336	-0.00248	-0.00282	0.00088	0.00054	-26.31%	-16.19%
30	19	-0.00340	-0.00271	-0.00268	0.00069	0.00072	-20.31%	-21.20%
	Max	-0.00309	-0.00235	-0.00268	0.00073	0.00041	-1.07%	3.43%
	Average	-0.00339	-0.00288	-0.00296	0.00051	0.00043	-14.89%	-12.52%
	Min	-0.00374	-0.00340	-0.00326	0.00034	0.00049	-31.21%	-21.20%
	Std Dev	0.00018	0.00033	0.00019	0.00015	0.00000	10.20%	6.78%



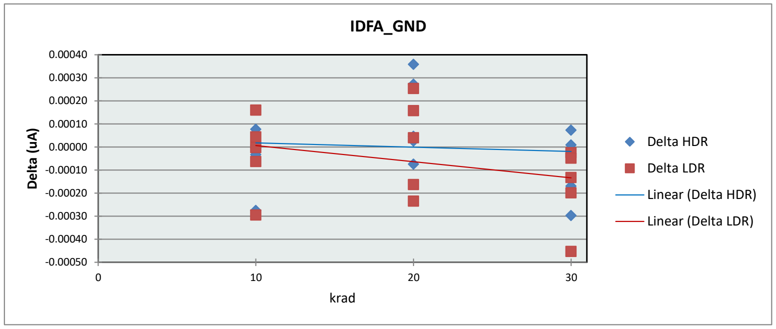
	IDFA		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	0.1		
Min Limit	-0.1		
krad	10	20	30
LL	-0.10	-0.10	-0.10
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.10	0.10	0.10



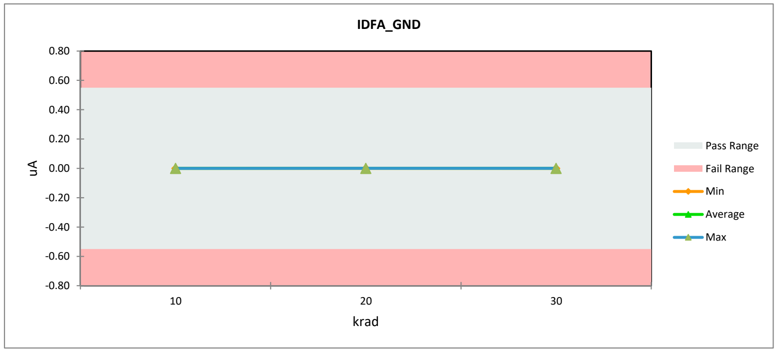
ELDRS Report
TMUX582F-SEP

	IDFA_GND
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	0.55
Min Limit	-0.55

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	0.00023	0.00030	0.00039	0.00008	0.00016	33.80%	70.46%
10	6	0.00035	0.00036	0.00035	0.00001	0.00000	2.24%	-0.75%
10	7	0.00020	0.00016	0.00024	-0.00003	0.00004	-16.51%	22.43%
10	8	0.00024	0.00024	0.00018	0.00000	-0.00006	-1.60%	-25.71%
10	9	0.00045	0.00017	0.00015	-0.00028	-0.00029	-61.79%	-66.17%
20	10	0.00003	0.00039	0.00007	0.00036	0.00004	1121.14%	126.40%
20	11	0.00038	0.00043	0.00022	0.00005	-0.00016	12.38%	-43.02%
20	12	0.00017	0.00020	0.00043	0.00003	0.00025	15.00%	146.09%
20	13	0.00021	0.00049	0.00037	0.00027	0.00016	126.99%	73.52%
20	14	0.00020	0.00013	-0.00003	-0.00007	-0.00023	-37.13%	-117.25%
30	15	0.00025	0.00026	0.00012	0.00001	-0.00013	3.64%	-52.74%
30	16	0.00027	0.00010	0.00007	-0.00017	-0.00020	-62.33%	-72.89%
30	17	0.00053	0.00024	0.00008	-0.00030	-0.00045	-55.68%	-84.73%
30	18	0.00011	0.00008	0.00008	-0.00003	-0.00002	-26.35%	-22.76%
30	19	0.00010	0.00017	0.00005	0.00007	-0.00005	72.11%	-47.74%
	Max	0.00053	0.00049	0.00043	-0.00005	-0.00011	1121.14%	146.09%
	Average	0.00025	0.00025	0.00018	0.00000	-0.00006	75.06%	-6.32%
	Min	0.00003	0.00008	-0.00003	0.00005	-0.00007	-62.33%	-117.25%
	Std Dev	0.00013	0.00012	0.00014	-0.00001	0.00001	293.80%	78.51%



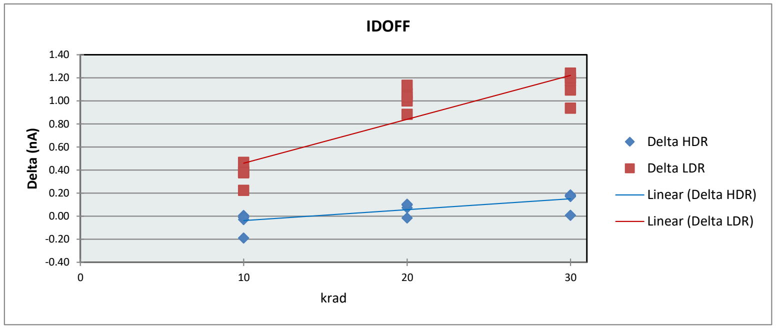
	IDFA_GND		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	0.55		
Min Limit	-0.55		
krad	10	20	30
LL	-0.55	-0.55	-0.55
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	0.55	0.55	0.55



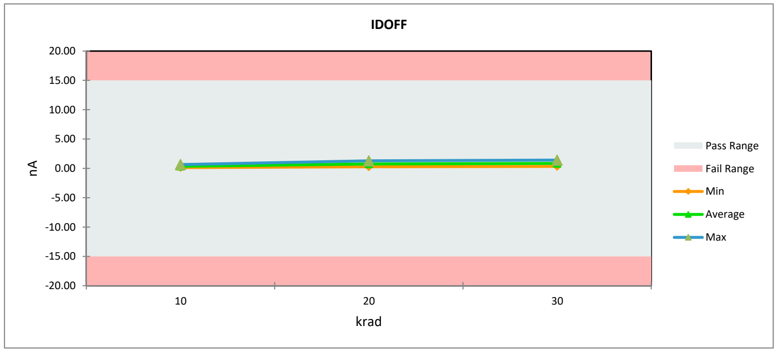
ELDRS Report
TMUX582F-SEP

	IDOFF
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	15
Min Limit	-15

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	0.134	0.140	0.512	0.01	0.38	4.54%	281.24%
10	6	0.145	0.138	0.535	-0.01	0.39	-4.77%	269.45%
10	7	0.343	0.154	0.568	-0.19	0.23	-55.24%	65.62%
10	8	0.185	0.157	0.653	-0.03	0.47	-15.23%	252.43%
10	9	0.162	0.151	0.540	-0.01	0.38	-6.98%	233.72%
20	10	0.273	0.257	1.157	-0.02	0.88	-5.76%	324.28%
20	11	0.196	0.269	1.197	0.07	1.00	36.97%	509.47%
20	12	0.167	0.265	1.231	0.10	1.06	59.12%	638.90%
20	13	0.165	0.264	1.300	0.10	1.14	60.57%	689.79%
20	14	0.165	0.270	1.201	0.10	1.04	63.22%	626.56%
30	15	0.161	0.339	1.255	0.18	1.09	110.77%	680.96%
30	16	0.162	0.346	1.337	0.18	1.18	113.71%	725.82%
30	17	0.175	0.349	1.374	0.17	1.20	100.17%	687.39%
30	18	0.175	0.347	1.416	0.17	1.24	97.77%	708.22%
30	19	0.379	0.387	1.317	0.01	0.94	2.06%	247.22%
	Max	0.379	0.387	1.416	0.01	1.04	113.71%	725.82%
	Average	0.199	0.255	1.040	0.06	0.84	37.39%	462.74%
	Min	0.134	0.138	0.512	0.00	0.38	-55.24%	65.62%
	Std Dev	0.073	0.088	0.357	0.01	0.28	53.29%	228.27%



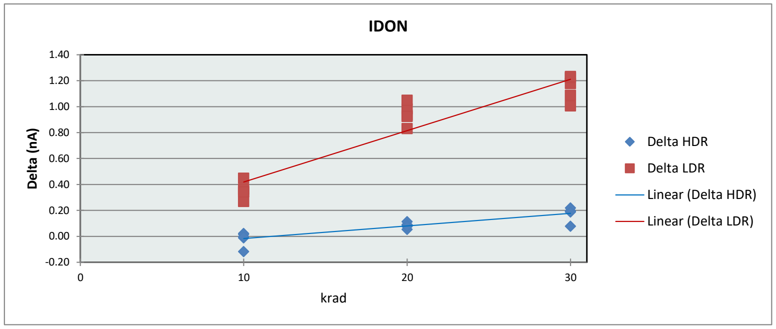
	IDOFF		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	nA		
Max Limit	15		
Min Limit	-15		
krad	10	20	30
LL	-15.00	-15.00	-15.00
Min	0.14	0.26	0.34
Average	0.35	0.74	0.85
Max	0.65	1.30	1.42
UL	15.00	15.00	15.00



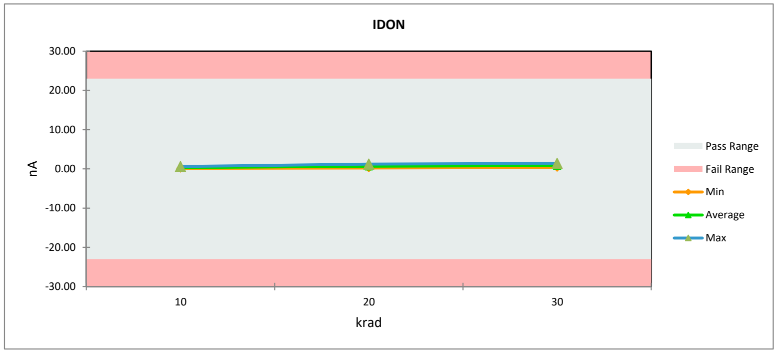
ELDRS Report
TMUX582F-SEP

	IDON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	0.116	0.138	0.464	0.02	0.35	19.27%	300.78%
10	6	0.124	0.140	0.487	0.02	0.36	12.39%	292.04%
10	7	0.271	0.154	0.540	-0.12	0.27	-43.15%	99.63%
10	8	0.158	0.147	0.606	-0.01	0.45	-7.04%	284.52%
10	9	0.148	0.145	0.491	0.00	0.34	-2.16%	231.40%
20	10	0.232	0.286	1.063	0.05	0.83	23.35%	357.99%
20	11	0.166	0.253	1.100	0.09	0.93	52.66%	564.25%
20	12	0.154	0.267	1.137	0.11	0.98	74.09%	640.23%
20	13	0.149	0.239	1.198	0.09	1.05	60.69%	705.11%
20	14	0.174	0.250	1.099	0.08	0.93	43.85%	531.61%
30	15	0.168	0.363	1.256	0.19	1.09	115.96%	648.06%
30	16	0.151	0.348	1.330	0.20	1.18	129.99%	778.47%
30	17	0.144	0.363	1.368	0.22	1.22	152.71%	851.32%
30	18	0.172	0.359	1.405	0.19	1.23	109.56%	719.24%
30	19	0.300	0.379	1.307	0.08	1.01	26.12%	335.38%
	Max	0.300	0.379	1.405	0.08	1.10	152.71%	851.32%
	Average	0.175	0.255	0.990	0.08	0.82	51.22%	489.34%
	Min	0.116	0.138	0.464	0.02	0.35	-43.15%	99.63%
	Std Dev	0.052	0.093	0.361	0.04	0.31	55.97%	230.71%



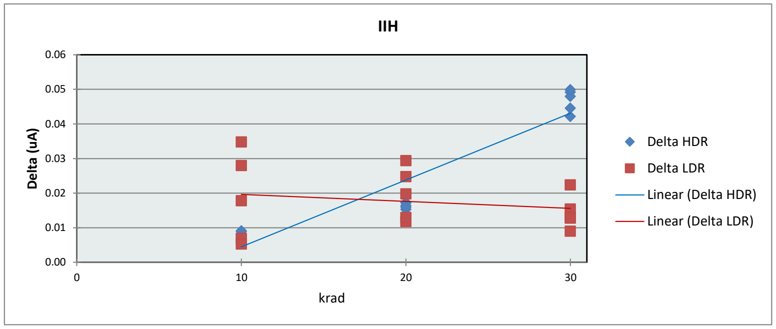
	IDON		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	nA		
Max Limit	23		
Min Limit	-23		
krad	10	20	30
LL	-23.00	-23.00	-23.00
Min	0.14	0.24	0.35
Average	0.33	0.69	0.85
Max	0.61	1.20	1.41
UL	23.00	23.00	23.00



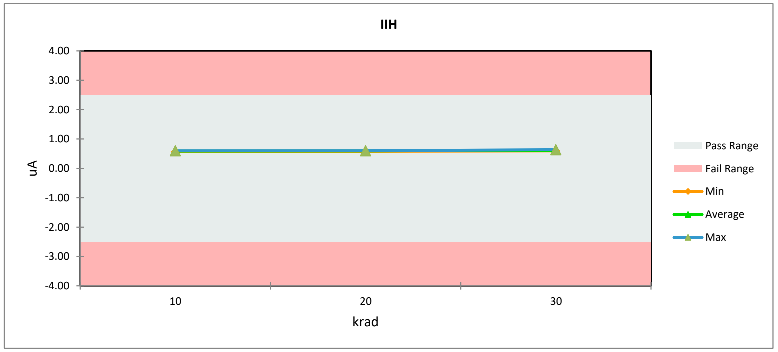
ELDRS Report
TMUX582F-SEP

	IIH
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	2.5
Min Limit	-2.5

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	0.591	0.599	0.598	0.01	0.01	1.34%	1.17%
10	6	0.573	0.582	0.591	0.01	0.02	1.55%	3.11%
10	7	0.588	0.597	0.593	0.01	0.01	1.55%	0.90%
10	8	0.568	0.575	0.596	0.01	0.03	1.23%	4.93%
10	9	0.561	0.569	0.596	0.01	0.03	1.39%	6.20%
20	10	0.581	0.597	0.600	0.02	0.02	2.83%	3.41%
20	11	0.582	0.597	0.594	0.02	0.01	2.63%	2.03%
20	12	0.582	0.599	0.595	0.02	0.01	2.97%	2.24%
20	13	0.574	0.591	0.598	0.02	0.02	3.00%	4.32%
20	14	0.565	0.581	0.595	0.02	0.03	2.83%	5.20%
30	15	0.587	0.636	0.603	0.05	0.02	8.38%	2.62%
30	16	0.583	0.631	0.596	0.05	0.01	8.23%	2.23%
30	17	0.588	0.638	0.597	0.05	0.01	8.49%	1.53%
30	18	0.579	0.621	0.601	0.04	0.02	7.29%	3.87%
30	19	0.584	0.629	0.597	0.04	0.01	7.64%	2.19%
	Max	0.591	0.638	0.603	0.05	0.01	8.49%	6.20%
	Average	0.579	0.603	0.597	0.02	0.02	4.09%	3.06%
	Min	0.561	0.569	0.591	0.01	0.03	1.23%	0.90%
	Std Dev	0.009	0.023	0.003	0.01	-0.01	2.95%	1.56%



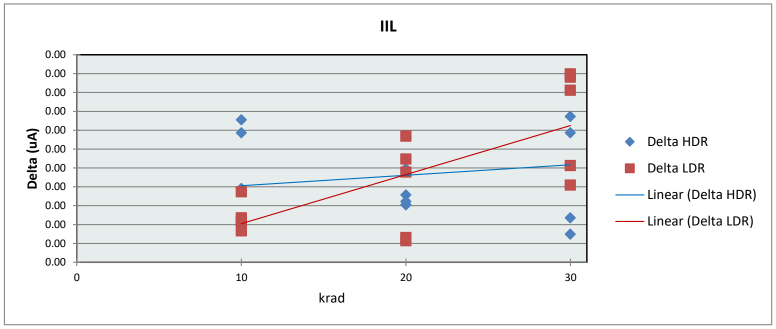
	IIH		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	2.5		
Min Limit	-2.5		
krad	10	20	30
LL	-2.50	-2.50	-2.50
Min	0.57	0.58	0.60
Average	0.59	0.59	0.61
Max	0.60	0.60	0.64
UL	2.50	2.50	2.50



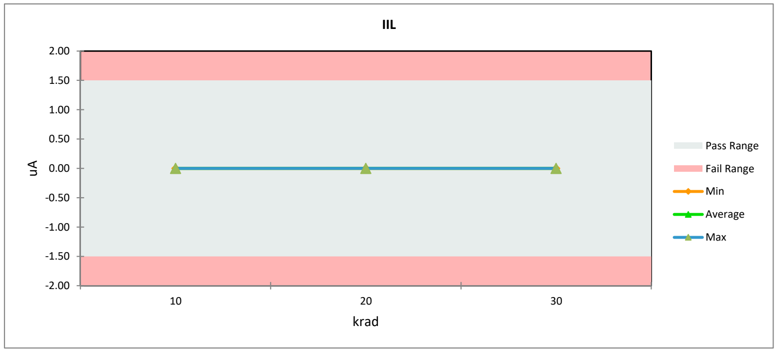
ELDRS Report
TMUX582F-SEP

	IIL
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	1.5
Min Limit	-1.5

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	-0.001	-0.001	-0.001	0.00	0.00	-12.23%	29.90%
10	6	-0.001	-0.001	-0.001	0.00	0.00	34.60%	39.32%
10	7	-0.001	-0.001	-0.001	0.00	0.00	30.64%	18.96%
10	8	-0.001	-0.001	-0.001	0.00	0.00	-7.28%	32.08%
10	9	-0.001	-0.001	-0.001	0.00	0.00	16.31%	28.54%
20	10	-0.001	-0.001	-0.001	0.00	0.00	27.59%	11.35%
20	11	-0.001	-0.001	-0.001	0.00	0.00	24.08%	39.67%
20	12	-0.001	-0.001	-0.001	0.00	0.00	21.04%	4.51%
20	13	-0.001	-0.001	-0.001	0.00	0.00	8.27%	37.20%
20	14	-0.001	-0.001	-0.001	0.00	0.00	24.03%	-6.01%
30	15	-0.001	-0.001	-0.001	0.00	0.00	37.37%	15.82%
30	16	-0.001	-0.001	-0.001	0.00	0.00	28.93%	6.90%
30	17	-0.001	-0.001	-0.001	0.00	0.00	-13.06%	-23.50%
30	18	-0.001	-0.001	-0.001	0.00	0.00	-25.68%	-24.56%
30	19	-0.001	-0.001	-0.001	0.00	0.00	-5.78%	-26.57%
	Max	-0.001	-0.001	-0.001	0.00	0.00	37.37%	39.67%
	Average	-0.001	-0.001	-0.001	0.00	0.00	12.59%	12.24%
	Min	-0.001	-0.001	-0.001	0.00	0.00	-25.68%	-26.57%
	Std Dev	0.000	0.000	0.000	0.00	0.00	20.27%	23.45%



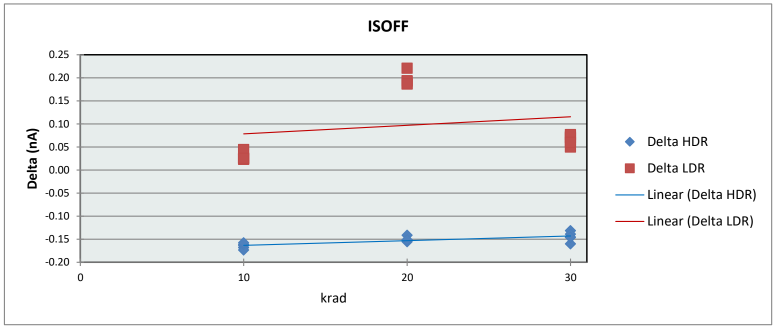
	IIL		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	1.5		
Min Limit	-1.5		
krad	10	20	30
LL	-1.50	-1.50	-1.50
Min	0.00	0.00	0.00
Average	0.00	0.00	0.00
Max	0.00	0.00	0.00
UL	1.50	1.50	1.50



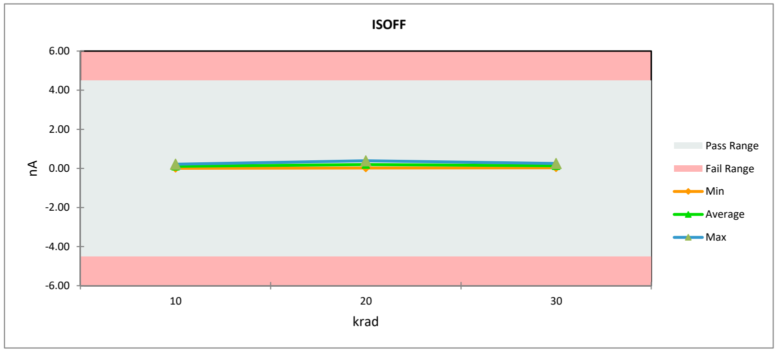
ELDRS Report
TMUX582F-SEP

	ISOFF
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	4.5
Min Limit	-4.5

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	0.172	0.004	0.196	-0.17	0.02	-97.73%	14.27%
10	6	0.176	0.012	0.199	-0.16	0.02	-92.91%	13.25%
10	7	0.179	0.005	0.205	-0.17	0.03	-96.96%	14.85%
10	8	0.170	0.008	0.214	-0.16	0.04	-95.16%	26.36%
10	9	0.171	0.014	0.197	-0.16	0.03	-92.02%	14.88%
20	10	0.171	0.015	0.363	-0.16	0.19	-91.03%	112.84%
20	11	0.172	0.020	0.366	-0.15	0.19	-88.15%	112.73%
20	12	0.174	0.022	0.361	-0.15	0.19	-87.38%	107.36%
20	13	0.169	0.027	0.390	-0.14	0.22	-83.83%	131.22%
20	14	0.172	0.021	0.359	-0.15	0.19	-87.72%	108.65%
30	15	0.188	0.028	0.238	-0.16	0.05	-85.01%	26.51%
30	16	0.168	0.037	0.238	-0.13	0.07	-78.23%	41.81%
30	17	0.177	0.031	0.249	-0.15	0.07	-82.65%	41.02%
30	18	0.178	0.039	0.255	-0.14	0.08	-78.19%	43.36%
30	19	0.176	0.031	0.237	-0.15	0.06	-82.50%	34.18%
	Max	0.188	0.039	0.390	-0.15	0.20	-78.19%	131.22%
	Average	0.174	0.021	0.271	-0.15	0.10	-87.96%	56.22%
	Min	0.168	0.004	0.196	-0.16	0.03	-97.73%	13.25%
	Std Dev	0.005	0.011	0.073	0.01	0.07	6.29%	44.14%



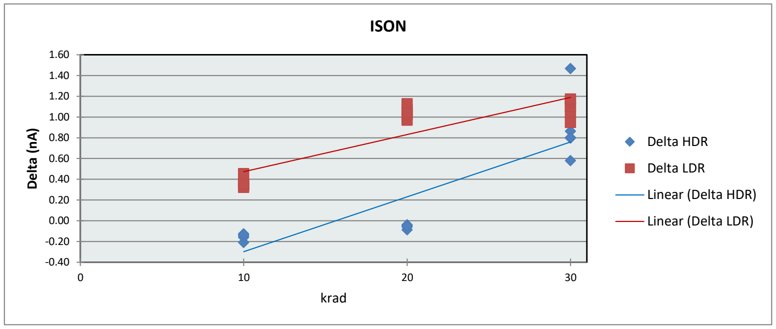
	ISOFF		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	nA		
Max Limit	4.5		
Min Limit	-4.5		
krad	10	20	30
LL	-4.50	-4.50	-4.50
Min	0.00	0.02	0.03
Average	0.11	0.19	0.14
Max	0.21	0.39	0.25
UL	4.50	4.50	4.50



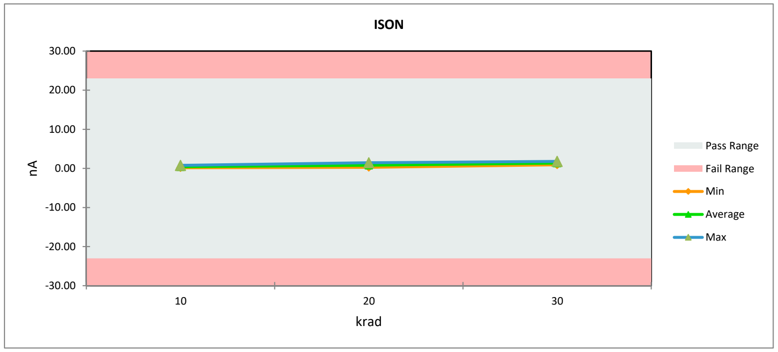
ELDRS Report
TMUX582F-SEP

	ISON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	0.299	0.174	0.639	-0.13	0.34	-41.78%	113.47%
10	6	0.308	0.162	0.663	-0.15	0.35	-47.45%	115.05%
10	7	0.377	0.170	0.701	-0.21	0.32	-55.03%	85.67%
10	8	0.321	0.162	0.777	-0.16	0.46	-49.42%	141.92%
10	9	0.309	0.174	0.662	-0.14	0.35	-43.69%	114.04%
20	10	0.353	0.267	1.323	-0.09	0.97	-24.30%	274.68%
20	11	0.340	0.281	1.363	-0.06	1.02	-17.31%	301.24%
20	12	0.322	0.282	1.392	-0.04	1.07	-12.19%	332.84%
20	13	0.324	0.283	1.452	-0.04	1.13	-12.61%	347.73%
20	14	0.333	0.281	1.375	-0.05	1.04	-15.58%	312.67%
30	15	0.317	1.784	1.353	1.47	1.04	463.49%	327.35%
30	16	0.333	1.197	1.433	0.86	1.10	259.89%	330.85%
30	17	0.338	1.135	1.484	0.80	1.15	236.20%	339.57%
30	18	0.337	0.917	1.511	0.58	1.17	172.33%	348.63%
30	19	0.468	1.270	1.416	0.80	0.95	171.48%	202.69%
	Max	0.468	1.784	1.511	1.32	1.04	463.49%	348.63%
	Average	0.339	0.569	1.170	0.23	0.83	65.60%	245.89%
	Min	0.299	0.162	0.639	-0.14	0.34	-55.03%	85.67%
	Std Dev	0.041	0.536	0.357	0.50	0.32	157.10%	103.46%



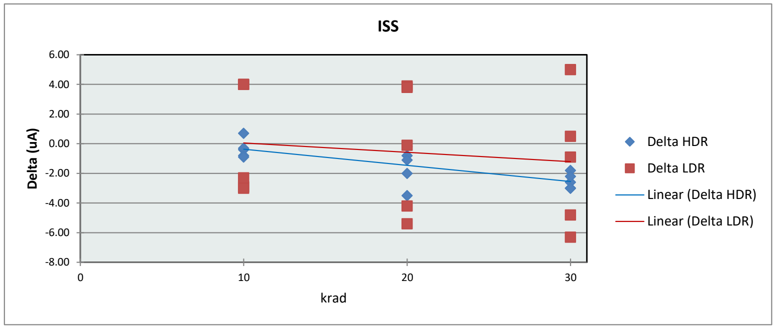
	ISON		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	nA		
Max Limit	23		
Min Limit	-23		
krad	10	20	30
LL	-23.00	-23.00	-23.00
Min	0.16	0.27	0.92
Average	0.43	0.83	1.35
Max	0.78	1.45	1.78
UL	23.00	23.00	23.00



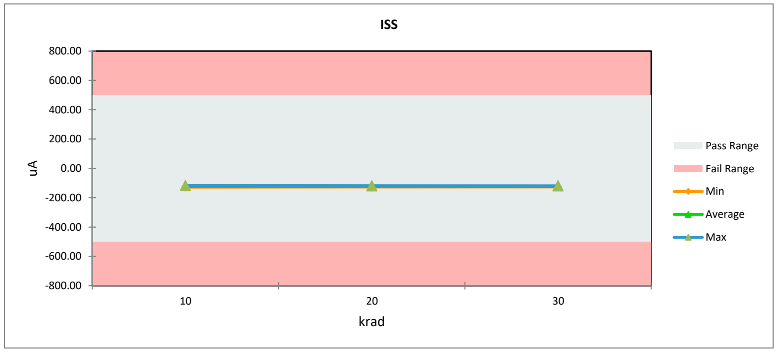
ELDRS Report
TMUX582F-SEP

	ISS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	-122.500	-122.900	-118.500	-0.40	4.00	0.33%	-3.27%
10	6	-122.500	-121.800	-125.400	0.70	-2.90	-0.57%	2.37%
10	7	-127.600	-127.900	-123.600	-0.30	4.00	0.24%	-3.13%
10	8	-116.500	-117.300	-119.500	-0.80	-3.00	0.69%	2.58%
10	9	-119.800	-120.700	-122.100	-0.90	-2.30	0.75%	1.92%
20	10	-122.600	-123.400	-118.700	-0.80	3.90	0.65%	-3.18%
20	11	-121.400	-121.600	-125.600	-0.20	-4.20	0.16%	3.46%
20	12	-118.100	-120.100	-123.500	-2.00	-5.40	1.69%	4.57%
20	13	-123.900	-127.400	-120.100	-3.50	3.80	2.82%	-3.07%
20	14	-121.500	-122.600	-121.600	-1.10	-0.10	0.91%	0.08%
30	15	-125.000	-126.800	-120.000	-1.80	5.00	1.44%	-4.00%
30	16	-121.600	-124.600	-126.400	-3.00	-4.80	2.47%	3.95%
30	17	-123.200	-125.800	-124.100	-2.60	-0.90	2.11%	0.73%
30	18	-121.300	-123.500	-120.800	-2.20	0.50	1.81%	-0.41%
30	19	-116.100	-119.100	-122.400	-3.00	-6.30	2.58%	5.43%
	Max	-116.100	-117.300	-118.500	-1.20	-2.40	2.82%	5.43%
	Average	-121.573	-123.033	-122.153	-1.46	-0.58	1.21%	0.53%
	Min	-127.600	-127.900	-126.400	-0.30	1.20	-0.57%	-4.00%
	Std Dev	3.046	3.089	2.557	0.04	-0.49	1.01%	3.23%



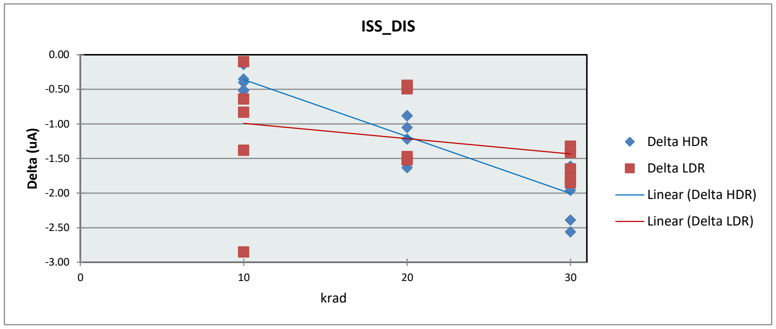
	ISS		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	500		
Min Limit	-500		
krad	10	20	30
LL	-500.00	-500.00	-500.00
Min	-127.90	-127.40	-126.80
Average	-121.97	-122.46	-123.35
Max	-117.30	-118.70	-119.10
UL	500.00	500.00	500.00



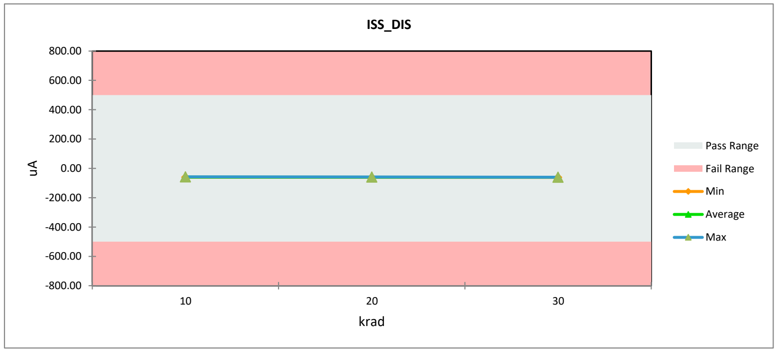
ELDRS Report
TMUX582F-SEP

	ISS_DIS
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	-59.140	-59.540	-59.780	-0.40	-0.64	0.68%	1.08%
10	6	-59.060	-59.200	-59.890	-0.14	-0.83	0.24%	1.41%
10	7	-59.860	-60.210	-59.960	-0.35	-0.10	0.58%	0.17%
10	8	-57.030	-57.550	-59.880	-0.52	-2.85	0.91%	5.00%
10	9	-58.250	-58.760	-59.630	-0.51	-1.38	0.88%	2.37%
20	10	-59.340	-60.220	-59.830	-0.88	-0.49	1.48%	0.83%
20	11	-59.440	-60.660	-59.900	-1.22	-0.46	2.05%	0.77%
20	12	-58.310	-59.360	-59.830	-1.05	-1.52	1.80%	2.61%
20	13	-59.470	-61.100	-59.910	-1.63	-0.44	2.74%	0.74%
20	14	-58.070	-58.950	-59.540	-0.88	-1.47	1.52%	2.53%
30	15	-59.140	-60.770	-60.550	-1.63	-1.41	2.76%	2.38%
30	16	-59.100	-61.490	-60.750	-2.39	-1.65	4.04%	2.79%
30	17	-58.710	-61.270	-60.490	-2.56	-1.78	4.36%	3.03%
30	18	-58.900	-60.860	-60.750	-1.96	-1.85	3.33%	3.14%
30	19	-59.020	-60.630	-60.340	-1.61	-1.32	2.73%	2.24%
	Max	-57.030	-57.550	-59.540	-0.52	-2.51	4.36%	5.00%
	Average	-58.856	-60.038	-60.069	-1.18	-1.21	2.01%	2.07%
	Min	-59.860	-61.490	-60.750	-1.63	-0.89	0.24%	0.17%
	Std Dev	0.702	1.108	0.398	0.41	-0.30	1.28%	1.25%



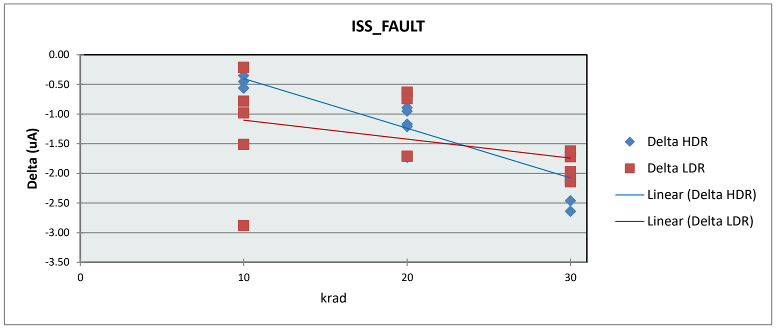
	ISS_DIS		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	500		
Min Limit	-500		
krad	10	20	30
LL	-500.00	-500.00	-500.00
Min	-60.21	-61.10	-61.49
Average	-59.44	-59.93	-60.79
Max	-57.55	-58.95	-60.34
UL	500.00	500.00	500.00



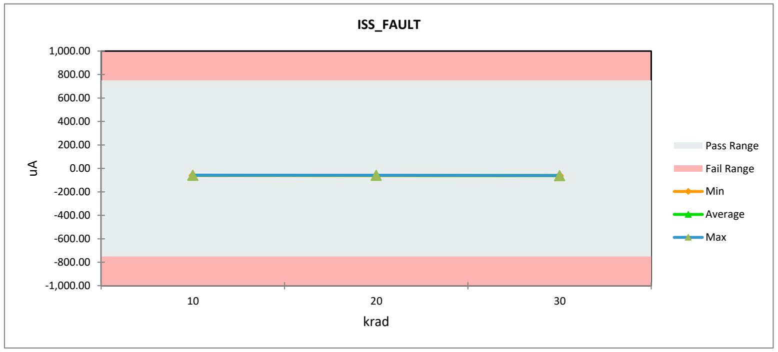
ELDRS Report
TMUX582F-SEP

	ISS_FAULT
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	uA
Max Limit	750
Min Limit	-750

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	-59.180	-59.630	-59.960	-0.45	-0.78	0.76%	1.32%
10	6	-59.100	-59.310	-60.080	-0.21	-0.98	0.36%	1.66%
10	7	-59.930	-60.280	-60.140	-0.35	-0.21	0.58%	0.35%
10	8	-57.140	-57.700	-60.020	-0.56	-2.88	0.98%	5.04%
10	9	-58.320	-58.880	-59.830	-0.56	-1.51	0.96%	2.59%
20	10	-59.460	-60.350	-60.090	-0.89	-0.63	1.50%	1.06%
20	11	-59.550	-60.720	-60.180	-1.17	-0.63	1.96%	1.06%
20	12	-58.370	-59.580	-60.080	-1.21	-1.71	2.07%	2.93%
20	13	-59.500	-61.230	-60.240	-1.73	-0.74	2.91%	1.24%
20	14	-58.110	-59.060	-59.820	-0.95	-1.71	1.63%	2.94%
30	15	-59.190	-60.890	-60.910	-1.70	-1.72	2.87%	2.91%
30	16	-59.180	-61.640	-61.150	-2.46	-1.97	4.16%	3.33%
30	17	-58.790	-61.430	-60.900	-2.64	-2.11	4.49%	3.59%
30	18	-59.000	-61.070	-61.140	-2.07	-2.14	3.51%	3.63%
30	19	-59.120	-60.760	-60.740	-1.64	-1.62	2.77%	2.74%
	Max	-57.140	-57.700	-59.820	-0.56	-2.68	4.49%	5.04%
	Average	-58.929	-60.169	-60.352	-1.24	-1.42	2.10%	2.43%
	Min	-59.930	-61.640	-61.150	-1.71	-1.22	0.36%	0.35%
	Std Dev	0.699	1.111	0.474	0.41	-0.22	1.31%	1.27%



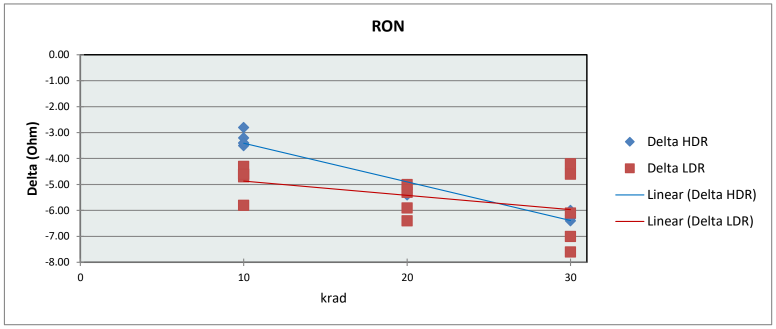
	ISS_FAULT		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	uA		
Max Limit	750		
Min Limit	-750		
krad	10	20	30
LL	-750.00	-750.00	-750.00
Min	-60.28	-61.23	-61.64
Average	-59.58	-60.14	-61.06
Max	-57.70	-59.06	-60.74
UL	750.00	750.00	750.00



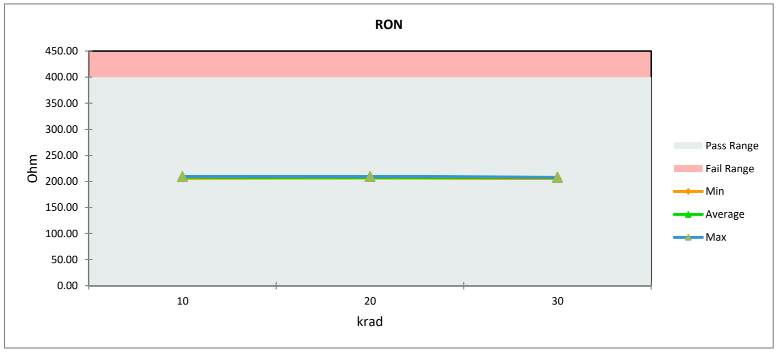
ELDRS Report
TMUX582F-SEP

	RON
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	400
Min Limit	0

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	210.600	207.800	206.300	-2.80	-4.30	-1.33%	-2.04%
10	6	211.900	208.700	207.200	-3.20	-4.70	-1.51%	-2.22%
10	7	212.700	209.300	206.900	-3.40	-5.80	-1.60%	-2.73%
10	8	212.900	209.400	208.300	-3.50	-4.60	-1.64%	-2.16%
10	9	212.900	209.500	208.300	-3.40	-4.60	-1.60%	-2.16%
20	10	212.400	207.300	206.500	-5.10	-5.90	-2.40%	-2.78%
20	11	212.500	207.300	207.200	-5.20	-5.30	-2.45%	-2.49%
20	12	212.200	206.800	207.200	-5.40	-5.00	-2.54%	-2.36%
20	13	213.200	207.900	208.000	-5.30	-5.20	-2.49%	-2.44%
20	14	214.500	209.500	208.100	-5.00	-6.40	-2.33%	-2.98%
30	15	213.500	207.300	205.900	-6.20	-7.60	-2.90%	-3.56%
30	16	214.000	207.600	207.000	-6.40	-7.00	-2.99%	-3.27%
30	17	212.100	205.800	206.000	-6.30	-6.10	-2.97%	-2.88%
30	18	212.300	206.300	208.100	-6.00	-4.20	-2.83%	-1.98%
30	19	212.400	206.100	207.800	-6.30	-4.60	-2.97%	-2.17%
	Max	214.500	209.500	208.300	-5.00	-6.20	-1.33%	-1.98%
	Average	212.673	207.773	207.253	-4.90	-5.42	-2.30%	-2.55%
	Min	210.600	205.800	205.900	-4.80	-4.70	-2.99%	-3.56%
	Std Dev	0.923	1.263	0.826	0.34	-0.10	0.60%	0.47%



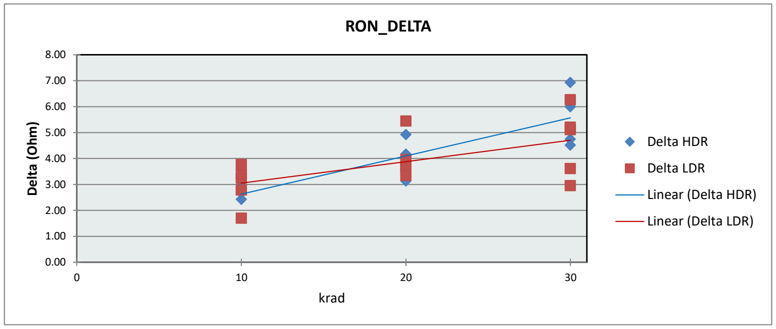
	RON		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	Ohm		
Max Limit	400		
Min Limit	0		
krad	10	20	30
LL	0.00	0.00	0.00
Min	206.30	206.50	205.80
Average	208.17	207.58	206.79
Max	209.50	209.50	208.10
UL	400.00	400.00	400.00



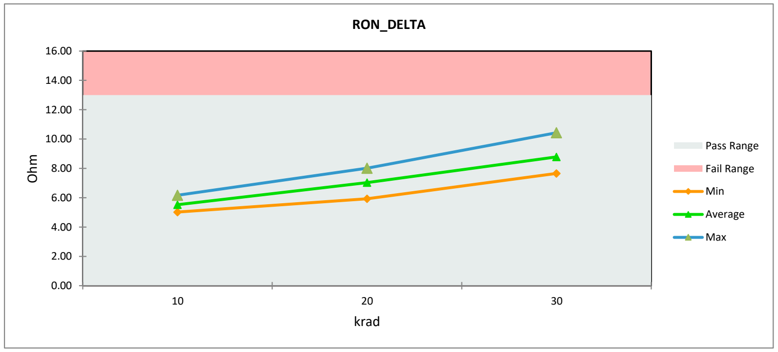
ELDRS Report
TMUX582F-SEP

	RON_DELTA
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	13
Min Limit	0

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	2.860	5.290	6.106	2.43	3.25	84.97%	113.50%
10	6	3.447	6.124	5.153	2.68	1.71	77.66%	49.49%
10	7	2.051	5.021	5.441	2.97	3.39	144.81%	165.29%
10	8	2.578	5.433	5.370	2.86	2.79	110.74%	108.30%
10	9	2.393	5.124	6.167	2.73	3.77	114.12%	157.71%
20	10	2.565	5.932	8.011	3.37	5.45	131.27%	212.32%
20	11	3.233	7.409	6.925	4.18	3.69	129.17%	114.20%
20	12	2.517	6.355	6.174	3.84	3.66	152.48%	145.29%
20	13	3.994	7.132	7.343	3.14	3.35	78.57%	83.85%
20	14	3.055	7.978	7.018	4.92	3.96	161.15%	129.72%
30	15	2.768	9.701	9.039	6.93	6.27	250.47%	226.55%
30	16	4.434	10.430	8.053	6.00	3.62	135.23%	81.62%
30	17	4.701	9.222	7.657	4.52	2.96	96.17%	62.88%
30	18	2.983	9.153	8.100	6.17	5.12	206.84%	171.54%
30	19	3.253	8.003	8.462	4.75	5.21	146.02%	160.13%
	Max	4.701	10.430	9.039	5.73	4.34	250.47%	226.55%
	Average	3.122	7.220	7.001	4.10	3.88	134.64%	132.16%
	Min	2.051	5.021	5.153	2.97	3.10	77.66%	49.49%
	Std Dev	0.755	1.797	1.221	1.04	0.47	47.25%	51.66%



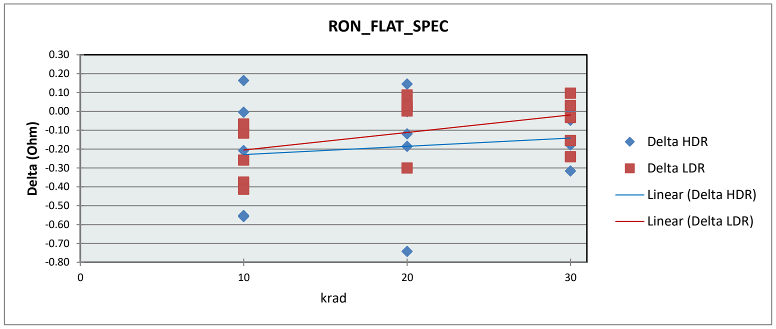
	RON_DELTA		
Test Site	Junkins		
Tester	FETS36411		
Test Number	EB3233CH00		
Units	Ohm		
Max Limit	13		
Min Limit	0		
krad	10	20	30
LL	0.00	0.00	0.00
Min	5.02	5.93	7.66
Average	5.52	7.03	8.78
Max	6.17	8.01	10.43
UL	13.00	13.00	13.00



ELDRS Report
TMUX582F-SEP

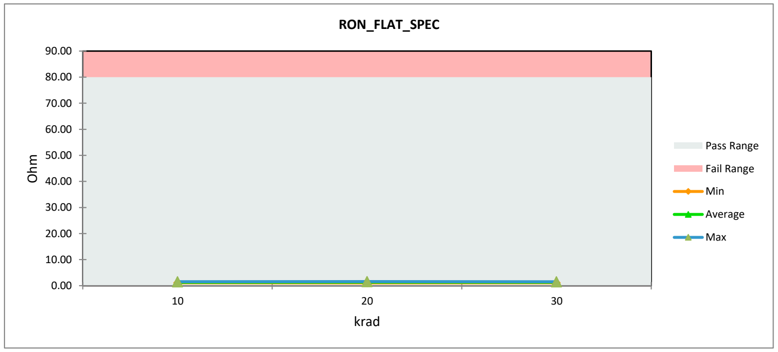
	RON_FLAT_SPEC
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	80
Min Limit	0

krad	Serial #	PreTest	PostTestHDR	PostTestLDR	Delta HDR	Delta LDR	Delta % HDR	Delta % LDR
10	5	1.645	1.088	1.270	-0.56	-0.38	-33.86%	-22.80%
10	6	1.368	1.532	1.253	0.16	-0.12	11.99%	-8.41%
10	7	1.547	1.339	1.289	-0.21	-0.26	-13.45%	-16.68%
10	8	1.295	1.291	1.228	0.00	-0.07	-0.31%	-5.17%
10	9	1.832	1.280	1.419	-0.55	-0.41	-30.13%	-22.54%
20	10	1.246	1.391	1.333	0.15	0.09	11.64%	6.98%
20	11	1.315	1.314	1.345	0.00	0.03	-0.08%	2.28%
20	12	1.355	1.170	1.357	-0.19	0.00	-13.65%	0.15%
20	13	1.818	1.076	1.518	-0.74	-0.30	-40.81%	-16.50%
20	14	1.555	1.436	1.584	-0.12	0.03	-7.65%	1.86%
30	15	1.674	1.358	1.434	-0.32	-0.24	-18.88%	-14.34%
30	16	1.335	1.157	1.181	-0.18	-0.15	-13.33%	-11.54%
30	17	1.449	1.402	1.546	-0.05	0.10	-3.24%	6.69%
30	18	1.285	1.114	1.253	-0.17	-0.03	-13.31%	-2.49%
30	19	1.336	1.329	1.367	-0.01	0.03	-0.52%	2.32%
	Max	1.832	1.532	1.584	-0.30	-0.25	11.99%	6.98%
	Average	1.470	1.285	1.358	-0.19	-0.11	-11.04%	-6.68%
	Min	1.246	1.076	1.181	-0.17	-0.06	-40.81%	-22.80%
	Std Dev	0.196	0.137	0.121	-0.06	-0.07	15.40%	10.21%



	RON_FLAT_SPEC
Test Site	Junkins
Tester	FETS36411
Test Number	EB3233CH00
Units	Ohm
Max Limit	80
Min Limit	0

krad	10	20	30
LL	0.00	0.00	0.00
Min	1.09	1.08	1.11
Average	1.30	1.35	1.31
Max	1.53	1.58	1.55
UL	80.00	80.00	80.00



8 Appendix C: HDR 22V

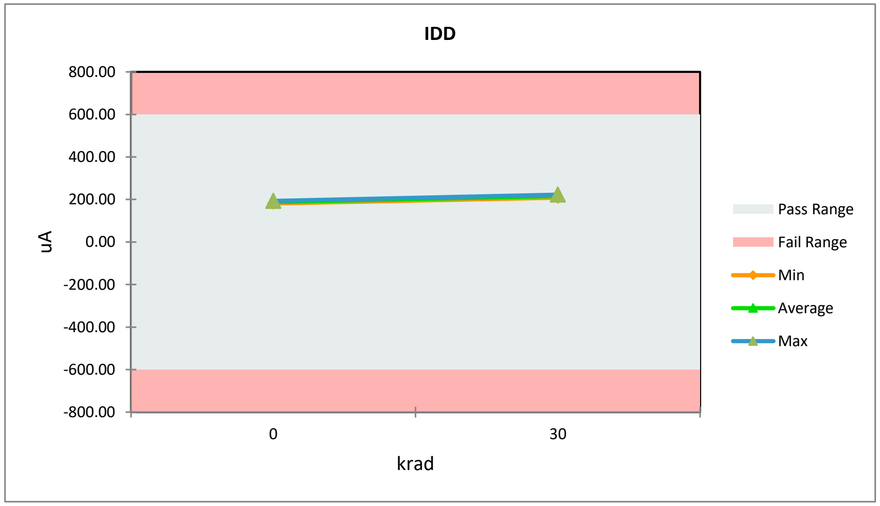
This appendix provides the HDR 22V characterization report for RLAT purposes.

HDR S1=22V Report
TMUX582F-SEP

	IDD
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	181.300	181.100	-0.20	-0.11%
0	2	193.300	193.100	-0.20	-0.10%
0	3	188.300	188.100	-0.20	-0.11%
30	4	201.700	215.200	13.50	6.69%
30	5	197.200	218.700	21.50	10.90%
30	6	200.600	222.600	22.00	10.97%
30	7	195.800	215.200	19.40	9.91%
30	8	189.100	208.400	19.30	10.21%
	Max	201.700	222.600	20.90	10.97%
	Average	196.880	216.020	19.14	9.74%
	Min	189.100	208.400	19.30	6.69%
	Std Dev	4.972	5.241	0.27	1.76%

	IDD	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	600	
Min Limit	-600	
krad	0	30
LL	-600.00	-600.00
Min	181.10	208.40
Average	187.43	216.02
Max	193.10	222.60
UL	600.00	600.00

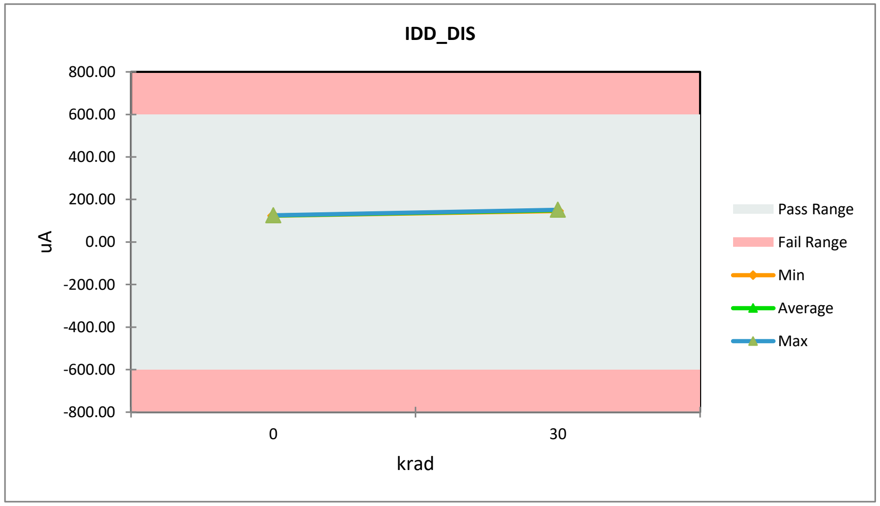


HDR S1=22V Report
TMUX582F-SEP

	IDD_DIS
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	123.700	123.600	-0.10	-0.08%
0	2	125.600	125.500	-0.10	-0.08%
0	3	123.700	123.500	-0.20	-0.16%
30	4	139.300	150.400	11.10	7.97%
30	5	134.500	148.900	14.40	10.71%
30	6	136.400	151.400	15.00	11.00%
30	7	135.300	149.500	14.20	10.50%
30	8	131.800	145.400	13.60	10.32%
	Max	139.300	151.400	12.10	11.00%
	Average	135.460	149.120	13.66	10.10%
	Min	131.800	145.400	13.60	7.97%
	Std Dev	2.737	2.284	-0.45	1.22%

	IDD_DIS	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	600	
Min Limit	-600	
krad	0	30
LL	-600.00	-600.00
Min	123.50	145.40
Average	124.20	149.12
Max	125.50	151.40
UL	600.00	600.00

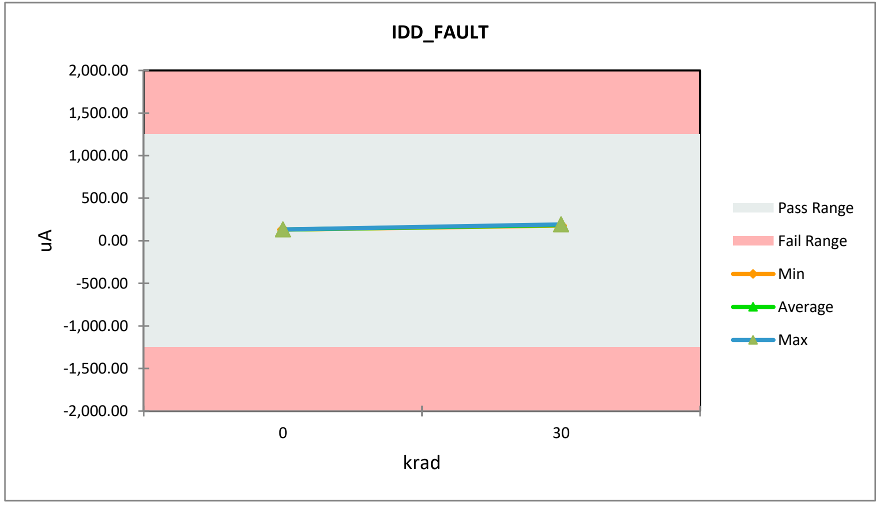


HDR S1=22V Report
TMUX582F-SEP

	IDD_FAULT
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	1250
Min Limit	-1250

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	130.300	130.300	0.00	0.00%
0	2	132.400	132.300	-0.10	-0.08%
0	3	130.200	130.100	-0.10	-0.08%
30	4	147.000	178.200	31.20	21.22%
30	5	141.800	192.000	50.20	35.40%
30	6	144.000	184.100	40.10	27.85%
30	7	143.100	189.600	46.50	32.49%
30	8	139.000	178.500	39.50	28.42%
	Max	147.000	192.000	45.00	35.40%
	Average	142.980	184.480	41.50	29.08%
	Min	139.000	178.200	39.20	21.22%
	Std Dev	2.935	6.287	3.35	5.37%

	IDD_FAULT	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	1250	
Min Limit	-1250	
krad	0	30
LL	-1250.00	-1250.00
Min	130.10	178.20
Average	130.90	184.48
Max	132.30	192.00
UL	1250.00	1250.00

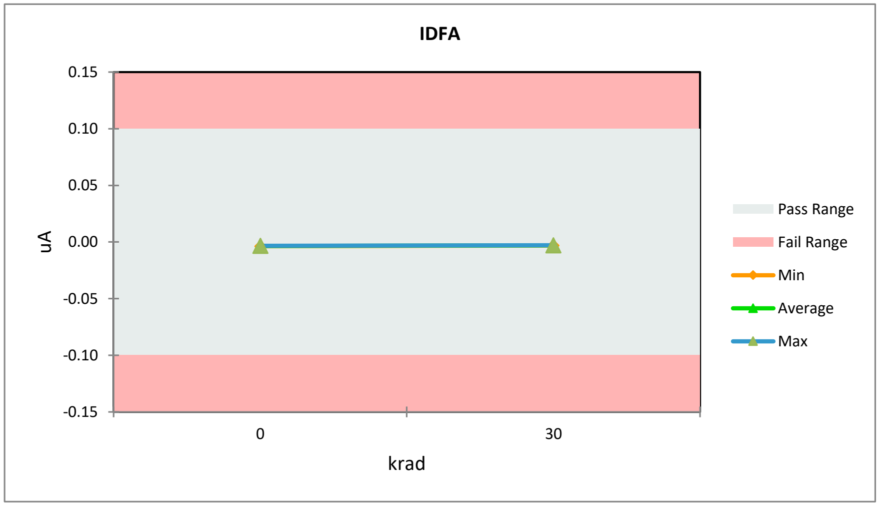


HDR S1=22V Report
TMUX582F-SEP

	IDFA
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-0.00357	-0.00372	-0.00015	4.11%
0	2	-0.00353	-0.00337	0.00016	-4.40%
0	3	-0.00354	-0.00350	0.00004	-1.13%
30	4	-0.00347	-0.00287	0.00059	-17.11%
30	5	-0.00322	-0.00291	0.00031	-9.69%
30	6	-0.00314	-0.00303	0.00011	-3.35%
30	7	-0.00348	-0.00311	0.00038	-10.80%
30	8	-0.00357	-0.00293	0.00064	-17.91%
	Max	-0.00314	-0.00287	0.00026	-3.35%
	Average	-0.00338	-0.00297	0.00041	-11.77%
	Min	-0.00357	-0.00311	0.00047	-17.91%
	Std Dev	0.00019	0.00010	-0.00009	5.97%

	IDFA	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	0.1	
Min Limit	-0.1	
krad	0	30
LL	-0.10000	-0.10000
Min	-0.00372	-0.00311
Average	-0.00353	-0.00297
Max	-0.00337	-0.00287
UL	0.10000	0.10000

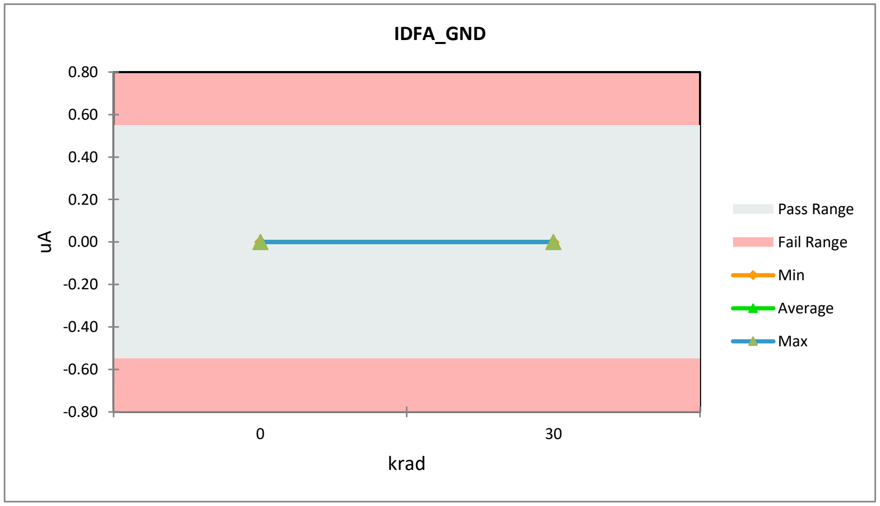


HDR S1=22V Report
TMUX582F-SEP

	IDFA_GND
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	0.55
Min Limit	-0.55

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.00004	-0.00006	-0.00010	-272.47%
0	2	0.00002	-0.00002	-0.00004	-198.14%
0	3	0.00006	-0.00001	-0.00008	-116.87%
30	4	-0.00011	-0.00026	-0.00015	137.56%
30	5	-0.00006	-0.00030	-0.00024	416.98%
30	6	-0.00004	-0.00029	-0.00024	580.76%
30	7	-0.00005	-0.00037	-0.00031	580.11%
30	8	0.00009	-0.00016	-0.00025	-275.35%
	Max	0.00009	-0.00016	-0.00025	580.76%
	Average	-0.00003	-0.00027	-0.00024	288.01%
	Min	-0.00011	-0.00037	-0.00026	-275.35%
	Std Dev	0.00007	0.00008	0.00000	363.20%

	IDFA_GND	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	0.55	
Min Limit	-0.55	
krad	0	30
LL	-0.55000	-0.55000
Min	-0.00006	-0.00037
Average	-0.00003	-0.00027
Max	-0.00001	-0.00016
UL	0.55000	0.55000

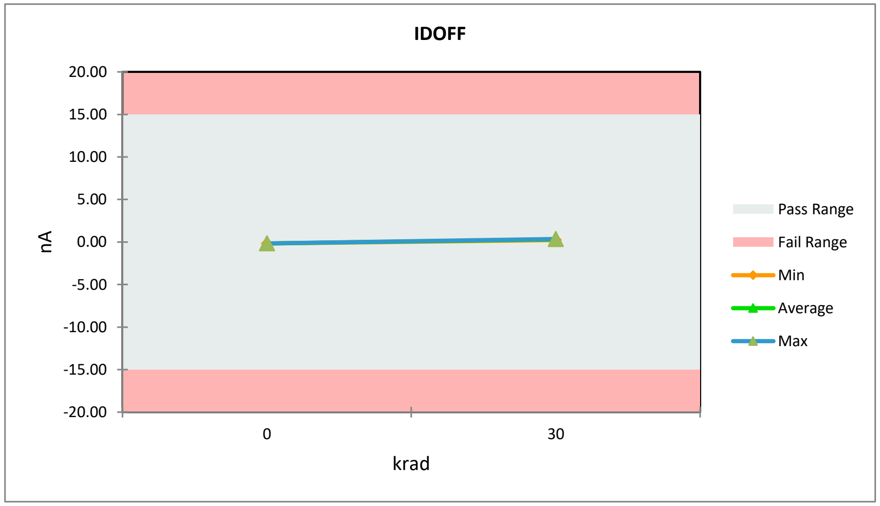


HDR S1=22V Report
TMUX582F-SEP

	IDOFF
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	15
Min Limit	-15

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-0.165	-0.172	-0.01	4.06%
0	2	-0.164	-0.173	-0.01	5.30%
0	3	-0.177	-0.166	0.01	-6.06%
30	4	0.178	0.326	0.15	83.41%
30	5	0.177	0.352	0.17	98.53%
30	6	0.180	0.295	0.12	63.96%
30	7	0.184	0.324	0.14	76.50%
30	8	0.186	0.225	0.04	20.82%
	Max	0.186	0.352	0.17	98.53%
	Average	0.181	0.305	0.12	68.64%
	Min	0.177	0.225	0.05	20.82%
	Std Dev	0.004	0.049	0.04	29.51%

	IDOFF	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	15	
Min Limit	-15	
krad	0	30
LL	-15.00	-15.00
Min	-0.17	0.23
Average	-0.17	0.30
Max	-0.17	0.35
UL	15.00	15.00

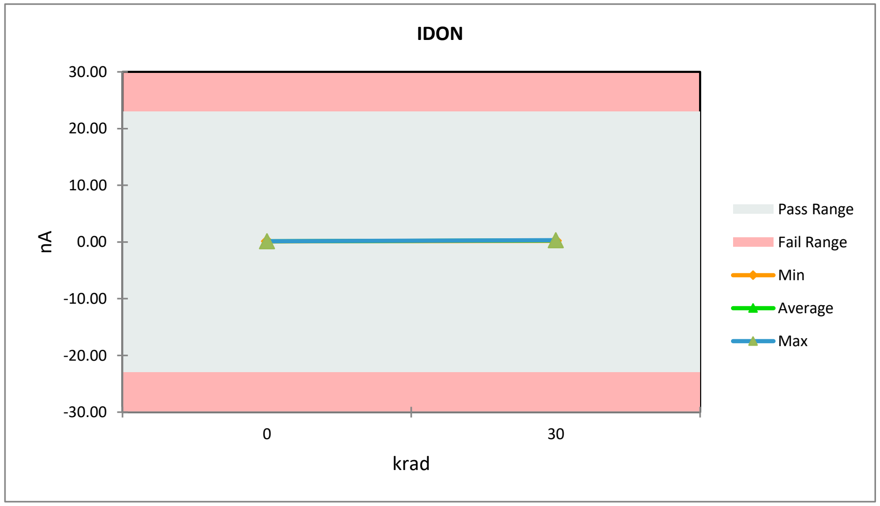


HDR S1=22V Report
TMUX582F-SEP

	IDON
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.116	0.113	0.00	-2.33%
0	2	0.126	0.128	0.00	2.15%
0	3	0.130	0.134	0.00	3.54%
30	4	0.148	0.307	0.16	107.80%
30	5	0.144	0.320	0.18	121.79%
30	6	0.129	0.284	0.16	120.59%
30	7	0.146	0.300	0.15	105.62%
30	8	0.149	0.201	0.05	35.02%
	Max	0.149	0.320	0.17	121.79%
	Average	0.143	0.282	0.14	98.16%
	Min	0.129	0.201	0.07	35.02%
	Std Dev	0.008	0.047	0.04	36.05%

	IDON	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	23	
Min Limit	-23	
krad	0	30
LL	-23.00	-23.00
Min	0.11	0.20
Average	0.13	0.28
Max	0.13	0.32
UL	23.00	23.00

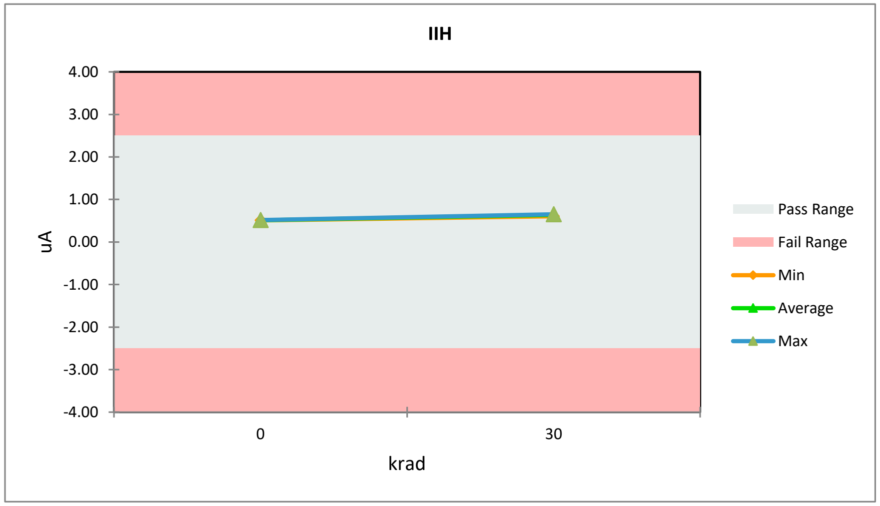


HDR S1=22V Report
TMUX582F-SEP

	IIH
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	2.5
Min Limit	-2.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.509	0.508	0.00	-0.10%
0	2	0.517	0.516	0.00	-0.15%
0	3	0.512	0.512	0.00	-0.12%
30	4	0.602	0.645	0.04	7.21%
30	5	0.591	0.644	0.05	8.88%
30	6	0.601	0.647	0.05	7.62%
30	7	0.600	0.652	0.05	8.67%
30	8	0.560	0.604	0.04	7.78%
	Max	0.602	0.652	0.05	8.88%
	Average	0.591	0.638	0.05	8.03%
	Min	0.560	0.604	0.04	7.21%
	Std Dev	0.018	0.019	0.00	0.71%

	IIH	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	2.5	
Min Limit	-2.5	
krad	0	30
LL	-2.50	-2.50
Min	0.51	0.60
Average	0.51	0.64
Max	0.52	0.65
UL	2.50	2.50

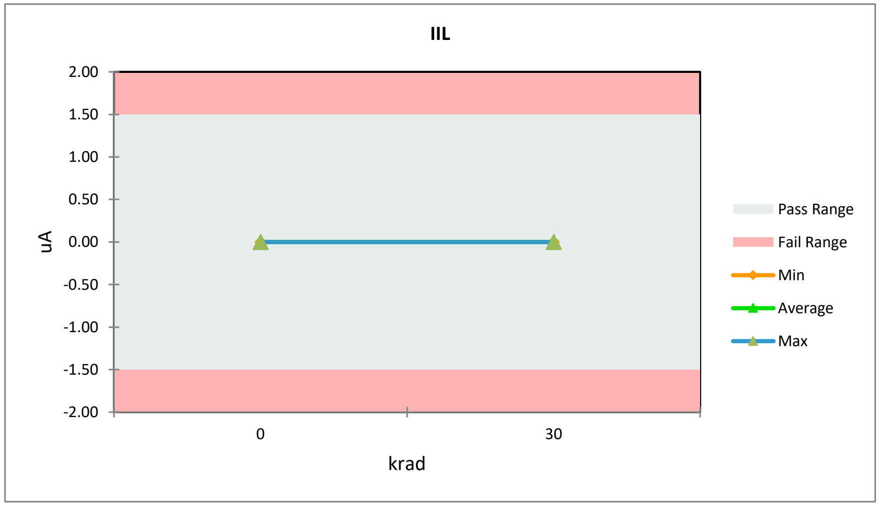


HDR S1=22V Report
TMUX582F-SEP

	IIL
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	1.5
Min Limit	-1.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-0.001	-0.001	0.00	28.32%
0	2	-0.001	-0.001	0.00	23.32%
0	3	-0.001	-0.001	0.00	3.23%
30	4	-0.001	-0.001	0.00	-1.76%
30	5	-0.001	-0.001	0.00	26.82%
30	6	-0.001	-0.001	0.00	-20.40%
30	7	-0.001	-0.001	0.00	-9.82%
30	8	-0.001	-0.001	0.00	31.53%
	Max	-0.001	-0.001	0.00	31.53%
	Average	-0.001	-0.001	0.00	5.27%
	Min	-0.001	-0.001	0.00	-20.40%
	Std Dev	0.000	0.000	0.00	22.86%

	IIL	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	1.5	
Min Limit	-1.5	
krad	0	30
LL	-1.50	-1.50
Min	0.00	0.00
Average	0.00	0.00
Max	0.00	0.00
UL	1.50	1.50

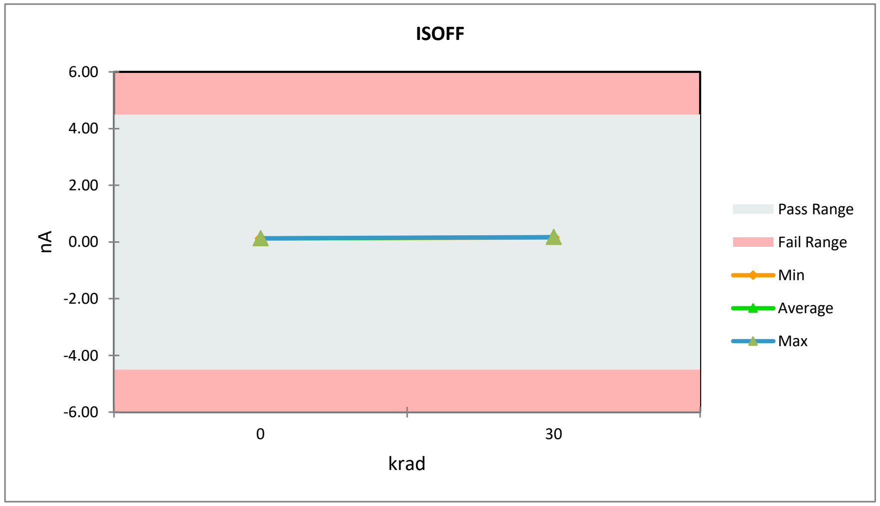


HDR S1=22V Report
TMUX582F-SEP

	ISOFF
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	4.5
Min Limit	-4.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.130	0.134	0.00	2.53%
0	2	0.121	0.121	0.00	0.00%
0	3	0.120	0.122	0.00	2.00%
30	4	0.138	0.160	0.02	15.57%
30	5	0.127	0.174	0.05	36.48%
30	6	0.122	0.173	0.05	41.41%
30	7	0.121	0.169	0.05	39.78%
30	8	0.127	0.158	0.03	24.15%
	Max	0.138	0.174	0.04	41.41%
	Average	0.127	0.167	0.04	31.48%
	Min	0.121	0.158	0.04	15.57%
	Std Dev	0.007	0.007	0.00	11.17%

	ISOFF	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	4.5	
Min Limit	-4.5	
krad	0	30
LL	-4.50	-4.50
Min	0.12	0.16
Average	0.13	0.17
Max	0.13	0.17
UL	4.50	4.50

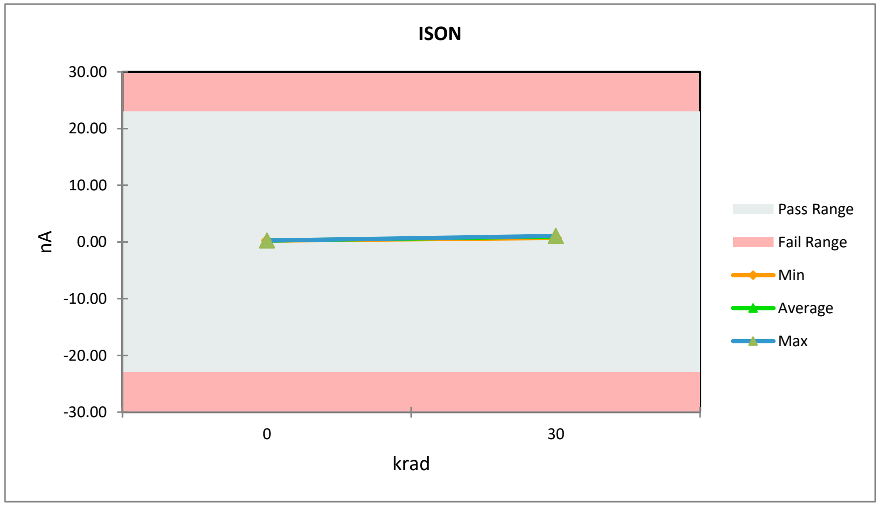


HDR S1=22V Report
TMUX582F-SEP

	ISON
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.235	0.260	0.02	10.33%
0	2	0.242	0.256	0.01	5.88%
0	3	0.252	0.240	-0.01	-4.65%
30	4	0.280	0.702	0.42	150.95%
30	5	0.276	1.050	0.77	280.71%
30	6	0.273	0.954	0.68	249.05%
30	7	0.274	1.068	0.79	290.49%
30	8	0.280	1.031	0.75	267.82%
	Max	0.280	1.068	0.79	290.49%
	Average	0.277	0.961	0.68	247.80%
	Min	0.273	0.702	0.43	150.95%
	Std Dev	0.003	0.151	0.15	56.32%

	ISON	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	23	
Min Limit	-23	
krad	0	30
LL	-23.00	-23.00
Min	0.24	0.70
Average	0.25	0.96
Max	0.26	1.07
UL	23.00	23.00

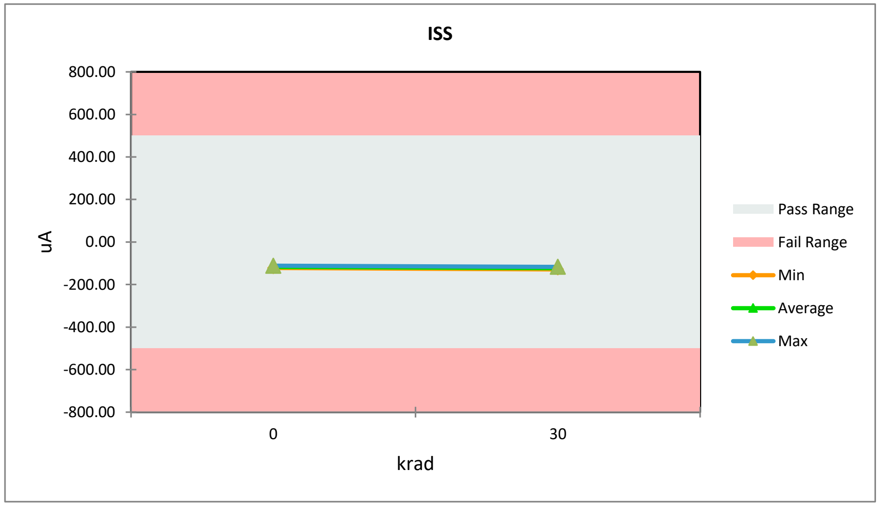


HDR S1=22V Report
TMUX582F-SEP

	ISS
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-111.400	-111.400	0.00	0.00%
0	2	-122.300	-122.300	0.00	0.00%
0	3	-118.000	-117.900	0.10	-0.08%
30	4	-123.800	-125.400	-1.60	1.29%
30	5	-121.700	-124.900	-3.20	2.63%
30	6	-124.400	-129.000	-4.60	3.70%
30	7	-119.700	-120.600	-0.90	0.75%
30	8	-114.600	-117.000	-2.40	2.09%
	Max	-114.600	-117.000	-2.40	3.70%
	Average	-120.840	-123.380	-2.54	2.09%
	Min	-124.400	-129.000	-4.60	0.75%
	Std Dev	3.950	4.648	0.70	1.15%

	ISS	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	500	
Min Limit	-500	
krad	0	30
LL	-500.00	-500.00
Min	-122.30	-129.00
Average	-117.20	-123.38
Max	-111.40	-117.00
UL	500.00	500.00

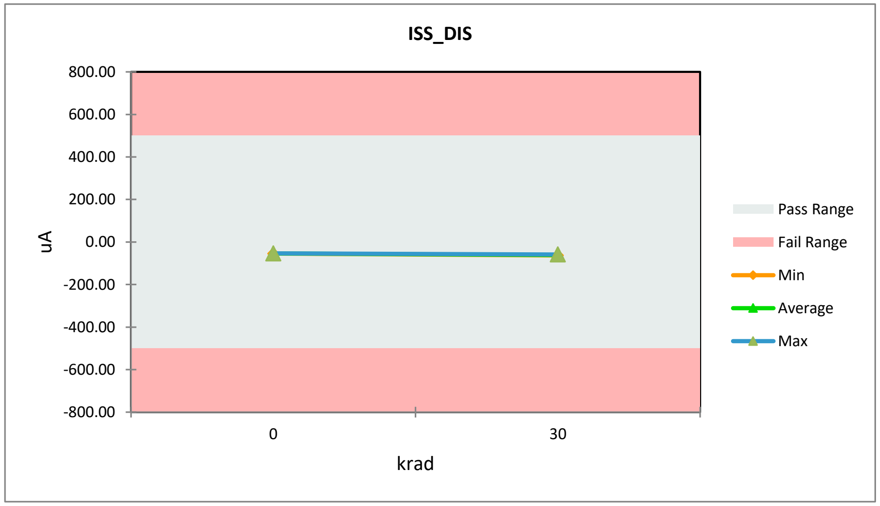


HDR S1=22V Report
TMUX582F-SEP

	ISS_DIS
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-53.710	-53.690	0.02	-0.04%
0	2	-54.570	-54.530	0.04	-0.07%
0	3	-53.430	-53.330	0.10	-0.19%
30	4	-61.130	-63.150	-2.02	3.30%
30	5	-59.020	-61.540	-2.52	4.27%
30	6	-60.030	-62.600	-2.57	4.28%
30	7	-59.030	-61.040	-2.01	3.41%
30	8	-57.170	-58.810	-1.64	2.87%
	Max	-57.170	-58.810	-1.64	4.28%
	Average	-59.276	-61.428	-2.15	3.63%
	Min	-61.130	-63.150	-2.02	2.87%
	Std Dev	1.463	1.685	0.22	0.63%

	ISS_DIS	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	500	
Min Limit	-500	
krad	0	30
LL	-500.00	-500.00
Min	-54.53	-63.15
Average	-53.85	-61.43
Max	-53.33	-58.81
UL	500.00	500.00

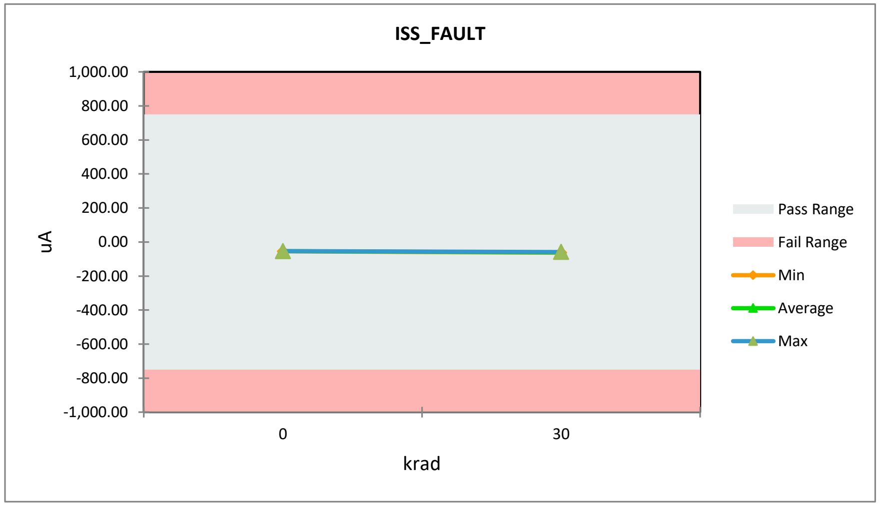


HDR S1=22V Report
TMUX582F-SEP

	ISS_FAULT
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	750
Min Limit	-750

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-53.850	-53.730	0.12	-0.22%
0	2	-54.700	-54.640	0.06	-0.11%
0	3	-53.410	-53.380	0.03	-0.06%
30	4	-61.170	-63.280	-2.11	3.45%
30	5	-59.090	-61.640	-2.55	4.32%
30	6	-60.050	-62.700	-2.65	4.41%
30	7	-59.070	-61.190	-2.12	3.59%
30	8	-57.190	-58.880	-1.69	2.96%
	Max	-57.190	-58.880	-1.69	4.41%
	Average	-59.314	-61.538	-2.22	3.74%
	Min	-61.170	-63.280	-2.11	2.96%
	Std Dev	1.467	1.702	0.23	0.61%

	ISS_FAULT	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	750	
Min Limit	-750	
krad	0	30
LL	-750.00	-750.00
Min	-54.64	-63.28
Average	-53.92	-61.54
Max	-53.38	-58.88
UL	750.00	750.00

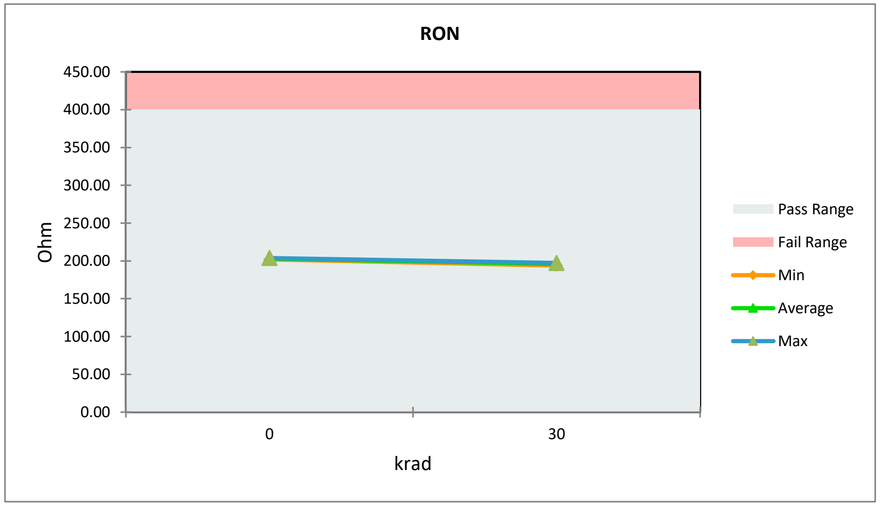


HDR S1=22V Report
TMUX582F-SEP

	RON
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	Ohm
Max Limit	400
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	204.400	203.800	-0.60	-0.29%
0	2	204.100	203.400	-0.70	-0.34%
0	3	202.400	201.900	-0.50	-0.25%
30	4	204.500	197.300	-7.20	-3.52%
30	5	202.700	193.800	-8.90	-4.39%
30	6	203.100	195.200	-7.90	-3.89%
30	7	204.600	196.500	-8.10	-3.96%
30	8	204.800	196.200	-8.60	-4.20%
	Max	204.800	197.300	-7.50	-3.52%
	Average	203.940	195.800	-8.14	-3.99%
	Min	202.700	193.800	-8.90	-4.39%
	Std Dev	0.966	1.347	0.38	0.33%

	RON	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	Ohm	
Max Limit	400	
Min Limit	0	
krad	0	30
LL	0.00	0.00
Min	201.90	193.80
Average	203.03	195.80
Max	203.80	197.30
UL	400.00	400.00

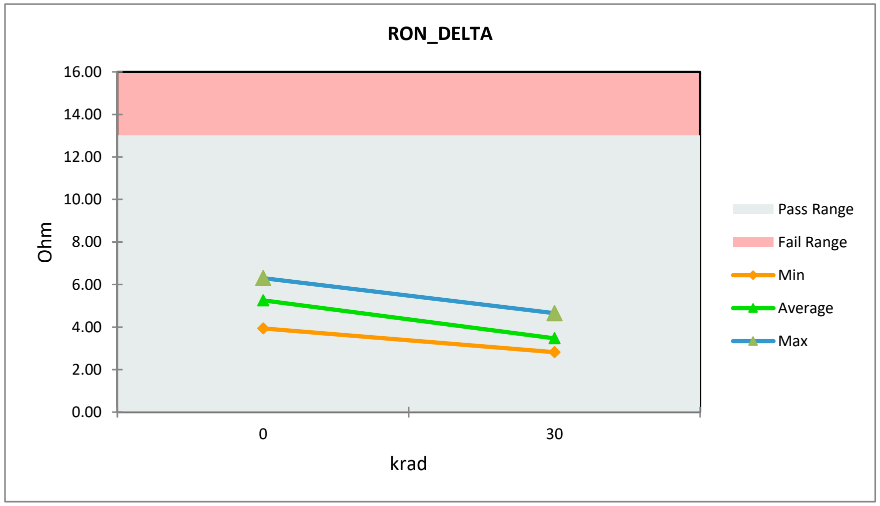


HDR S1=22V Report
TMUX582F-SEP

	RON_DELTA
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	Ohm
Max Limit	13
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	6.364	6.301	-0.06	-0.99%
0	2	5.628	5.536	-0.09	-1.63%
0	3	4.072	3.937	-0.14	-3.32%
30	4	3.783	4.654	0.87	23.02%
30	5	2.478	3.059	0.58	23.45%
30	6	1.280	2.820	1.54	120.31%
30	7	2.518	3.352	0.83	33.12%
30	8	2.530	3.464	0.93	36.92%
	Max	3.783	4.654	0.87	120.31%
	Average	2.518	3.470	0.95	47.36%
	Min	1.280	2.820	1.54	23.02%
	Std Dev	0.885	0.708	-0.18	41.22%

	RON_DELTA	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	Ohm	
Max Limit	13	
Min Limit	0	
krad	0	30
LL	0.00	0.00
Min	3.94	2.82
Average	5.26	3.47
Max	6.30	4.65
UL	13.00	13.00

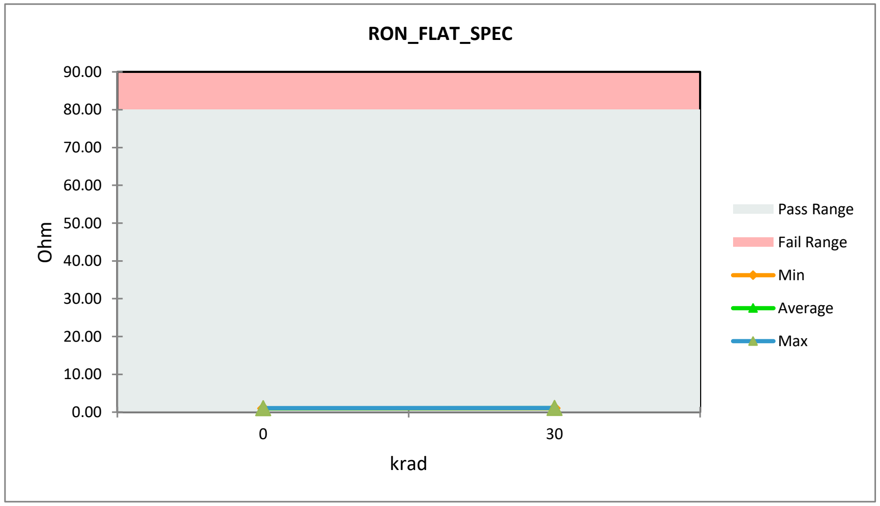


HDR S1=22V Report
TMUX582F-SEP

	RON_FLAT_SPEC
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	Ohm
Max Limit	80
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	1.027	1.013	-0.01	-1.36%
0	2	1.067	0.994	-0.07	-6.84%
0	3	1.082	1.064	-0.02	-1.66%
30	4	1.061	1.102	0.04	3.86%
30	5	1.051	1.013	-0.04	-3.62%
30	6	1.138	1.097	-0.04	-3.60%
30	7	1.041	1.062	0.02	2.02%
30	8	1.092	1.055	-0.04	-3.39%
	Max	1.138	1.102	-0.04	3.86%
	Average	1.077	1.066	-0.01	-0.95%
	Min	1.041	1.013	-0.03	-3.62%
	Std Dev	0.039	0.036	0.00	3.61%

	RON_FLAT_SPEC	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	Ohm	
Max Limit	80	
Min Limit	0	
krad	0	30
LL	0.00	0.00
Min	0.99	1.01
Average	1.02	1.07
Max	1.06	1.10
UL	80.00	80.00



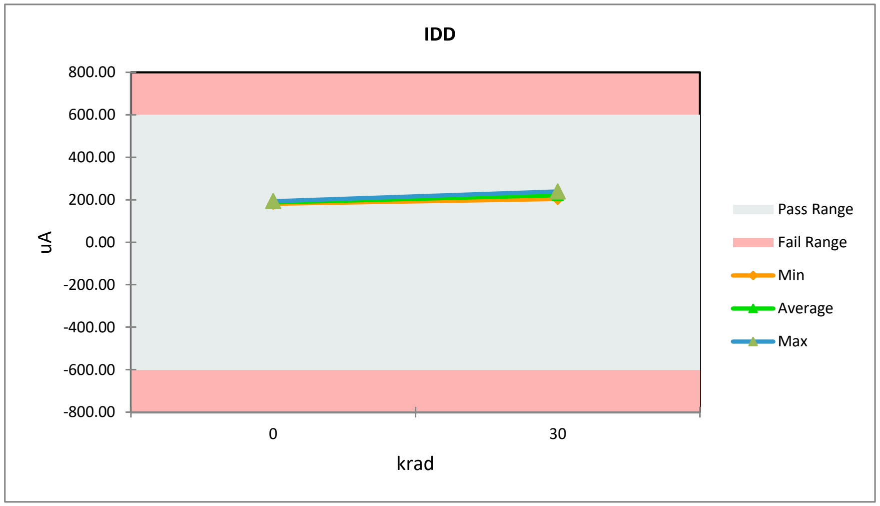
9 Appendix D: HDR 60V

This appendix provides the HDR 60V characterization report for fault case purposes.

HDR S1=60V Report
TMUX582F-SEP

	IDD
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	181.300	181.100	-0.20	-0.11%
0	2	193.300	193.100	-0.20	-0.10%
0	3	188.300	188.100	-0.20	-0.11%
30	4	186.200	239.200	53.00	28.46%
30	5	184.300	225.600	41.30	22.41%
30	6	186.000	220.900	34.90	18.76%
30	7	188.300	217.700	29.40	15.61%
30	8	188.400	203.500	15.10	8.01%
Max		193.300	239.200	45.90	28.46%
Average		187.013	208.650	21.64	11.62%
Min		181.300	181.100	-0.20	-0.11%
Std Dev		3.514	20.362	16.85	11.29%



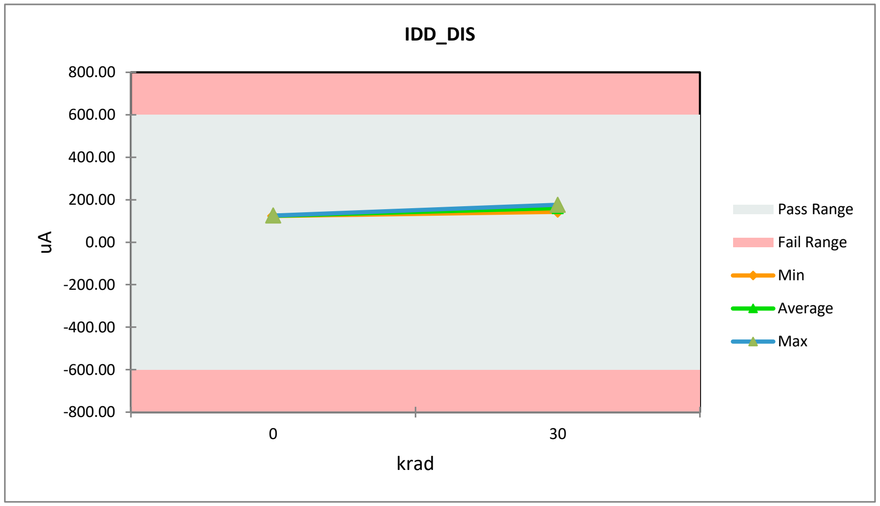
	IDD	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	600	
Min Limit	-600	
krad	0	30
LL	-600.00	-600.00
Min	181.10	203.50
Average	187.43	221.38
Max	193.10	239.20
UL	600.00	600.00

HDR S1=60V Report
TMUX582F-SEP

	IDD_DIS
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	600
Min Limit	-600

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	123.700	123.600	-0.10	-0.08%
0	2	125.600	125.500	-0.10	-0.08%
0	3	123.700	123.500	-0.20	-0.16%
30	4	129.900	176.300	46.40	35.72%
30	5	129.100	167.500	38.40	29.74%
30	6	130.300	160.400	30.10	23.10%
30	7	130.200	156.100	25.90	19.89%
30	8	130.300	143.100	12.80	9.82%
	Max	130.300	176.300	46.00	35.72%
	Average	127.850	147.000	19.15	14.74%
	Min	123.700	123.500	-0.20	-0.16%
	Std Dev	2.995	21.106	18.11	14.38%

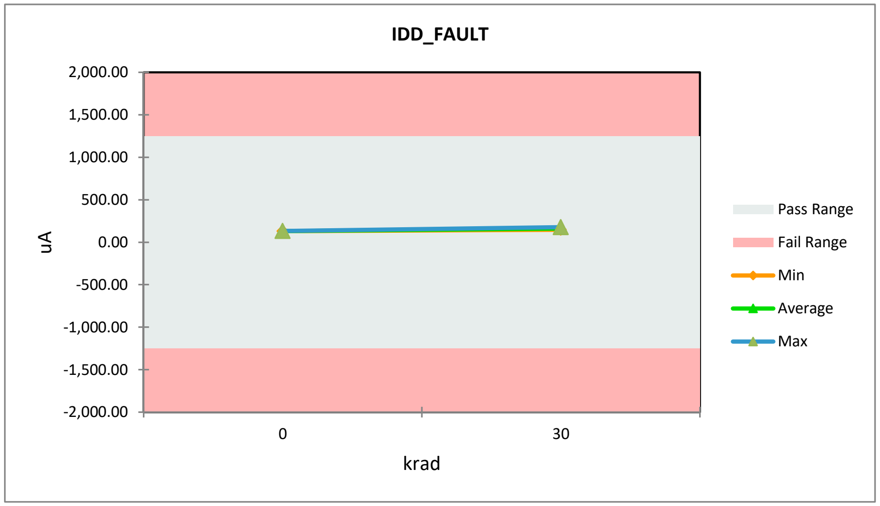
	IDD_DIS	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	600	
Min Limit	-600	
krad	0	30
LL	-600.00	-600.00
Min	123.50	143.10
Average	124.20	160.68
Max	125.50	176.30
UL	600.00	600.00



HDR S1=60V Report
TMUX582F-SEP

	IDD_FAULT
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	1250
Min Limit	-1250

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	130.300	130.300	0.00	0.00%
0	2	132.400	132.300	-0.10	-0.08%
0	3	130.200	130.100	-0.10	-0.08%
30	4	136.900	177.300	40.40	29.51%
30	5	136.200	166.100	29.90	21.95%
30	6	137.500	159.400	21.90	15.93%
30	7	137.400	153.100	15.70	11.43%
30	8	137.400	146.400	9.00	6.55%
	Max	137.500	177.300	39.80	29.51%
	Average	134.788	149.375	14.59	10.65%
	Min	130.200	130.100	-0.10	-0.08%
	Std Dev	3.259	17.767	14.51	11.16%



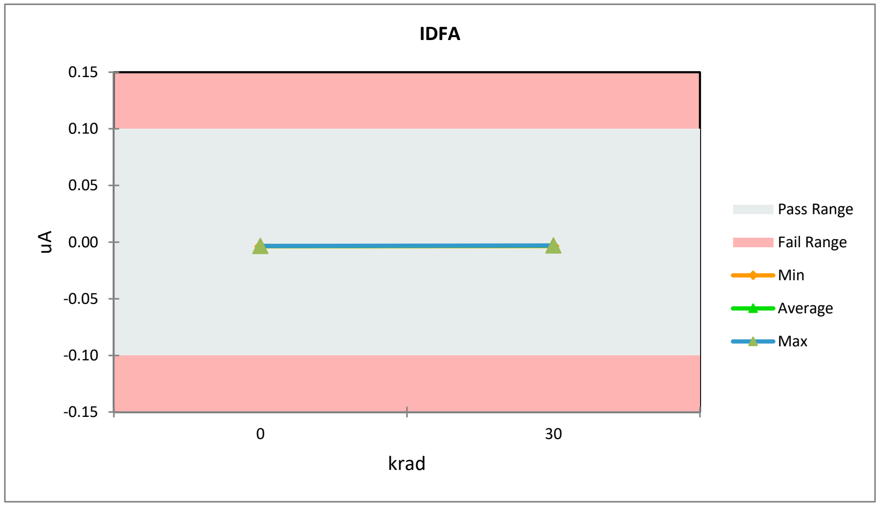
	IDD_FAULT	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	1250	
Min Limit	-1250	
krad	0	30
LL	-1250.00	-1250.00
Min	130.10	146.40
Average	130.90	160.46
Max	132.30	177.30
UL	1250.00	1250.00

HDR S1=60V Report
TMUX582F-SEP

	IDFA
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	0.1
Min Limit	-0.1

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-0.00357	-0.00372	-0.00015	4.11%
0	2	-0.00353	-0.00337	0.00016	-4.40%
0	3	-0.00354	-0.00350	0.00004	-1.13%
30	4	-0.00354	-0.00305	0.00048	-13.68%
30	5	-0.00348	-0.00295	0.00052	-14.99%
30	6	-0.00366	-0.00310	0.00055	-15.10%
30	7	-0.00351	-0.00331	0.00019	-5.53%
30	8	-0.00356	-0.00354	0.00002	-0.56%
	Max	-0.00348	-0.00295	0.00052	-0.56%
	Average	-0.00355	-0.00319	0.00035	-9.97%
	Min	-0.00366	-0.00354	0.00011	-15.10%
	Std Dev	0.00007	0.00023	0.00017	6.59%

	IDFA	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	0.1	
Min Limit	-0.1	
krad	0	30
LL	-0.10000	-0.10000
Min	-0.00372	-0.00354
Average	-0.00353	-0.00319
Max	-0.00337	-0.00295
UL	0.10000	0.10000

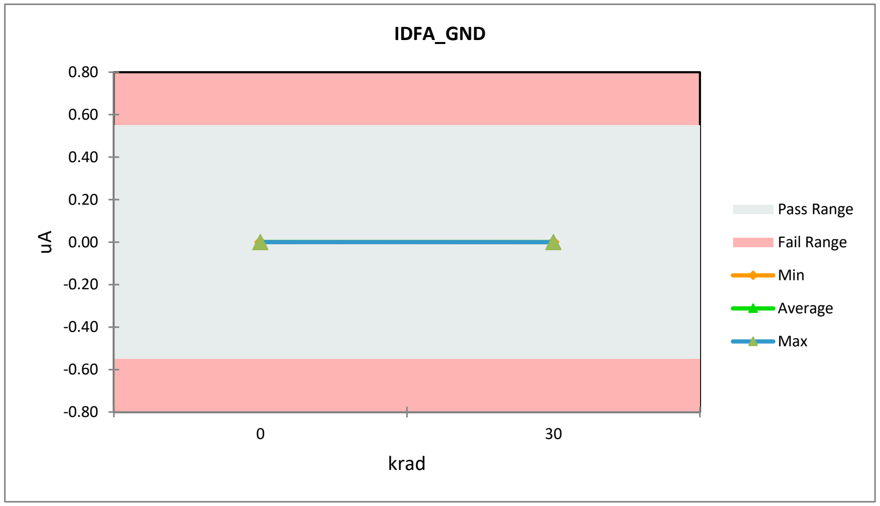


HDR S1=60V Report
TMUX582F-SEP

	IDFA_GND
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	0.55
Min Limit	-0.55

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.00004	-0.00006	-0.00010	-272.47%
0	2	0.00002	-0.00002	-0.00004	-198.14%
0	3	0.00006	-0.00001	-0.00008	-116.87%
30	4	0.00004	-0.00035	-0.00039	-976.22%
30	5	0.00000	-0.00035	-0.00035	-43182.96%
30	6	0.00001	-0.00033	-0.00034	-4584.83%
30	7	-0.00009	-0.00022	-0.00013	141.54%
30	8	-0.00002	-0.00017	-0.00015	720.57%
	Max	0.00004	-0.00017	-0.00021	720.57%
	Average	-0.00001	-0.00029	-0.00027	-9576.38%
	Min	-0.00009	-0.00035	-0.00026	-43182.96%
	Std Dev	0.00005	0.00008	0.00003	18899.37%

	IDFA_GND	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	0.55	
Min Limit	-0.55	
krad	0	30
LL	-0.55000	-0.55000
Min	-0.00006	-0.00035
Average	-0.00003	-0.00029
Max	-0.00001	-0.00017
UL	0.55000	0.55000

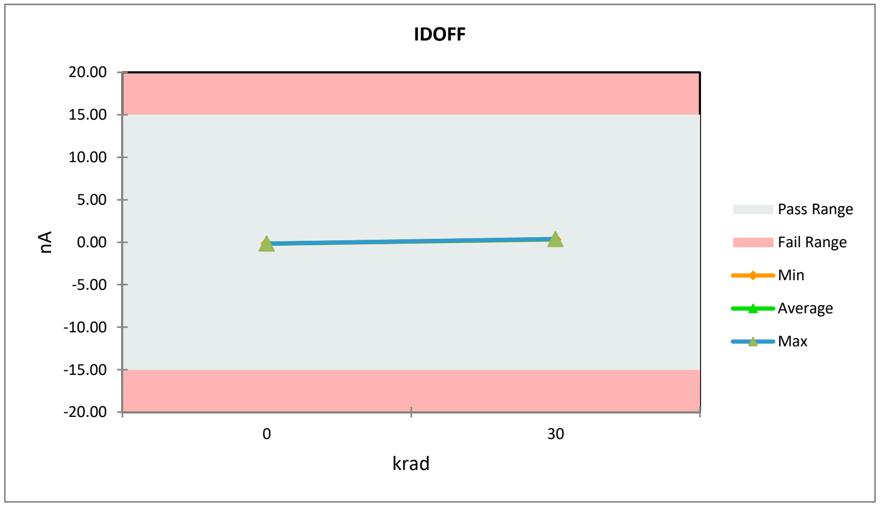


HDR S1=60V Report
TMUX582F-SEP

	IDOFF
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	15
Min Limit	-15

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-0.165	-0.172	-0.01	4.06%
0	2	-0.164	-0.173	-0.01	5.30%
0	3	-0.177	-0.166	0.01	-6.06%
30	4	0.162	0.326	0.16	101.48%
30	5	0.163	0.319	0.16	96.31%
30	6	0.154	0.385	0.23	150.55%
30	7	0.164	0.368	0.20	124.94%
30	8	0.158	0.371	0.21	135.28%
	Max	0.164	0.385	0.22	150.55%
	Average	0.037	0.157	0.12	76.48%
	Min	-0.177	-0.173	0.00	-6.06%
	Std Dev	0.170	0.272	0.10	64.85%

	IDOFF	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	15	
Min Limit	-15	
krad	0	30
LL	-15.00	-15.00
Min	-0.17	0.32
Average	-0.17	0.35
Max	-0.17	0.39
UL	15.00	15.00

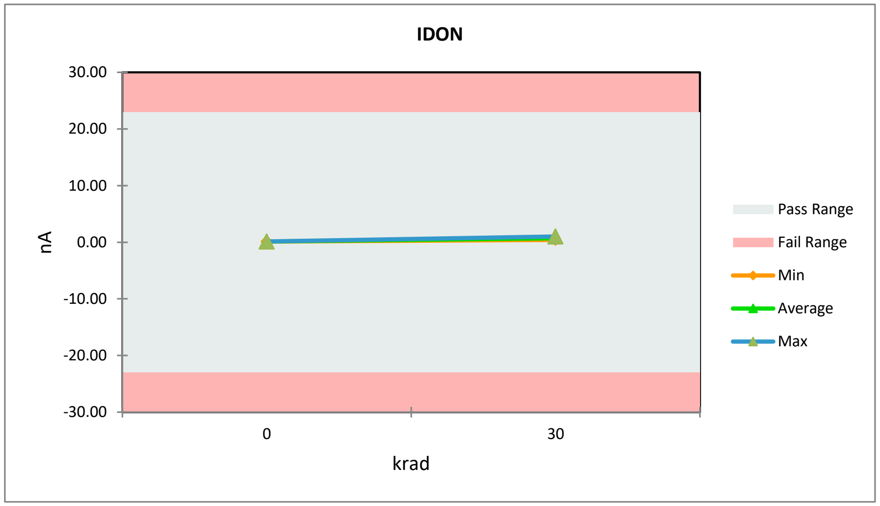


HDR S1=60V Report
TMUX582F-SEP

	IDON
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.116	0.113	0.00	-2.33%
0	2	0.126	0.128	0.00	2.15%
0	3	0.130	0.134	0.00	3.54%
30	4	0.131	0.852	0.72	549.66%
30	5	0.128	1.014	0.89	693.43%
30	6	0.124	0.695	0.57	460.08%
30	7	0.131	0.529	0.40	303.66%
30	8	0.127	0.411	0.28	223.60%
	Max	0.131	1.014	0.88	693.43%
	Average	0.127	0.485	0.36	279.22%
	Min	0.116	0.113	0.00	-2.33%
	Std Dev	0.005	0.349	0.34	270.75%

	IDON	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	23	
Min Limit	-23	
krad	0	30
LL	-23.00	-23.00
Min	0.11	0.41
Average	0.13	0.70
Max	0.13	1.01
UL	23.00	23.00

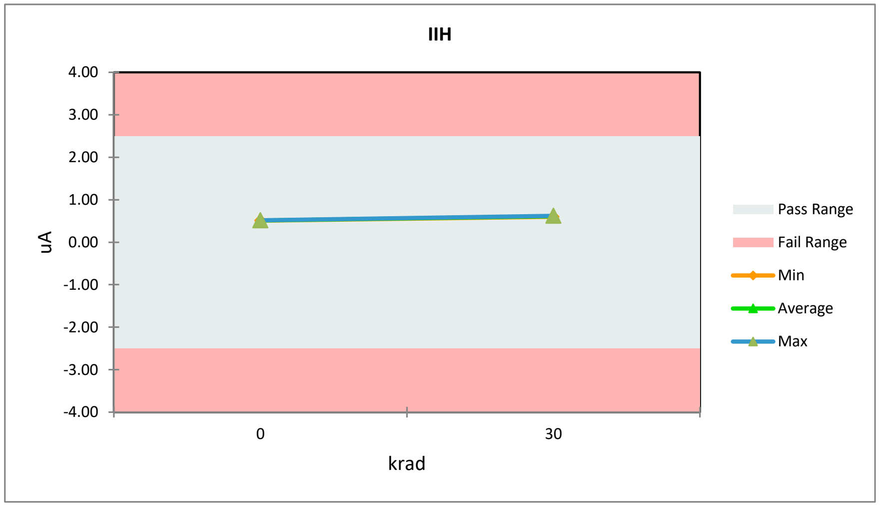


HDR S1=60V Report
TMUX582F-SEP

	IIH
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	2.5
Min Limit	-2.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.509	0.508	0.00	-0.10%
0	2	0.517	0.516	0.00	-0.15%
0	3	0.512	0.512	0.00	-0.12%
30	4	0.558	0.615	0.06	10.20%
30	5	0.559	0.610	0.05	9.12%
30	6	0.565	0.612	0.05	8.30%
30	7	0.569	0.621	0.05	9.22%
30	8	0.566	0.599	0.03	5.81%
	Max	0.569	0.621	0.05	10.20%
	Average	0.544	0.574	0.03	5.28%
	Min	0.509	0.508	0.00	-0.15%
	Std Dev	0.027	0.052	0.03	4.65%

	IIH	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	2.5	
Min Limit	-2.5	
krad	0	30
LL	-2.50	-2.50
Min	0.51	0.60
Average	0.51	0.61
Max	0.52	0.62
UL	2.50	2.50

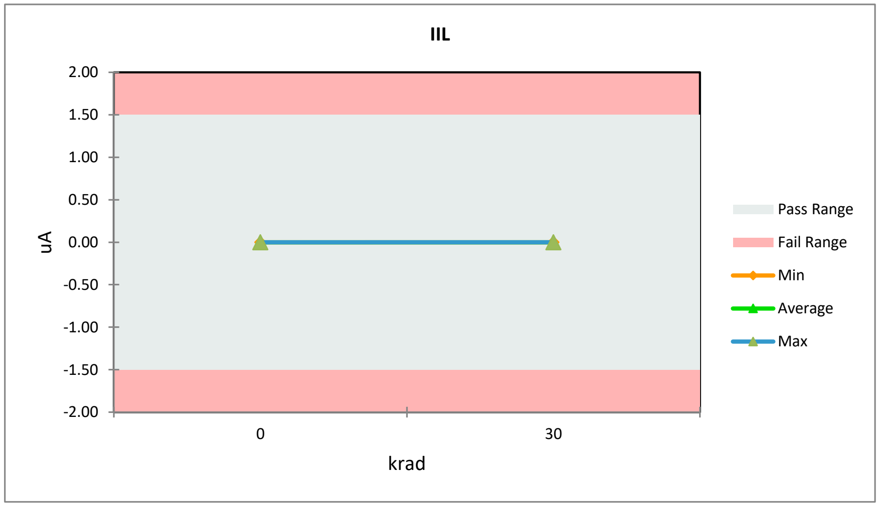


HDR S1=60V Report
TMUX582F-SEP

	IIL
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	1.5
Min Limit	-1.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-0.001	-0.001	0.00	28.32%
0	2	-0.001	-0.001	0.00	23.32%
0	3	-0.001	-0.001	0.00	3.23%
30	4	-0.001	-0.001	0.00	-5.68%
30	5	-0.001	-0.001	0.00	4.72%
30	6	-0.001	-0.001	0.00	34.35%
30	7	-0.001	-0.001	0.00	6.97%
30	8	-0.001	-0.001	0.00	3.45%
	Max	-0.001	-0.001	0.00	34.35%
	Average	-0.001	-0.001	0.00	12.34%
	Min	-0.001	-0.001	0.00	-5.68%
	Std Dev	0.000	0.000	0.00	14.31%

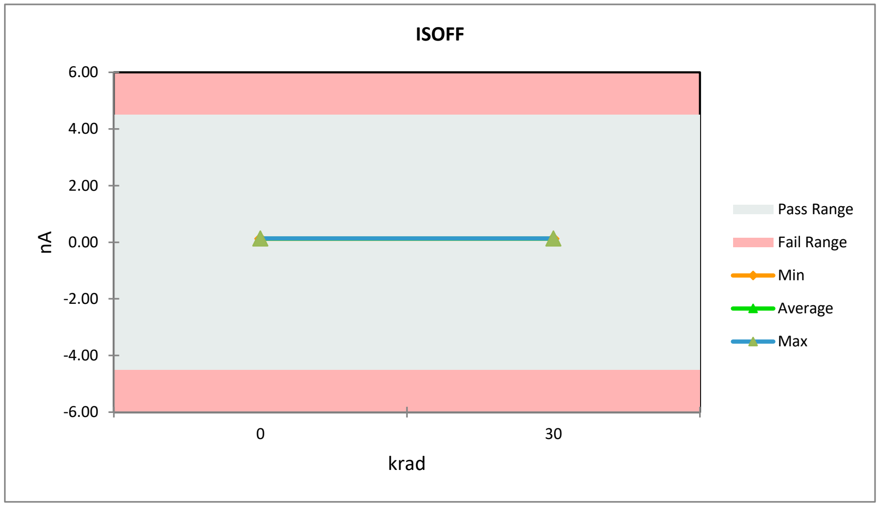
	IIL	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	1.5	
Min Limit	-1.5	
krad	0	30
LL	-1.50	-1.50
Min	0.00	0.00
Average	0.00	0.00
Max	0.00	0.00
UL	1.50	1.50



HDR S1=60V Report
TMUX582F-SEP

	ISOFF
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	4.5
Min Limit	-4.5

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.130	0.134	0.00	2.53%
0	2	0.121	0.121	0.00	0.00%
0	3	0.120	0.122	0.00	2.00%
30	4	0.119	0.124	0.00	3.86%
30	5	0.114	0.125	0.01	9.29%
30	6	0.110	0.126	0.02	14.92%
30	7	0.113	0.126	0.01	11.49%
30	8	0.113	0.134	0.02	17.93%
	Max	0.130	0.134	0.00	17.93%
	Average	0.118	0.126	0.01	7.75%
	Min	0.110	0.121	0.01	0.00%
	Std Dev	0.006	0.005	0.00	6.62%



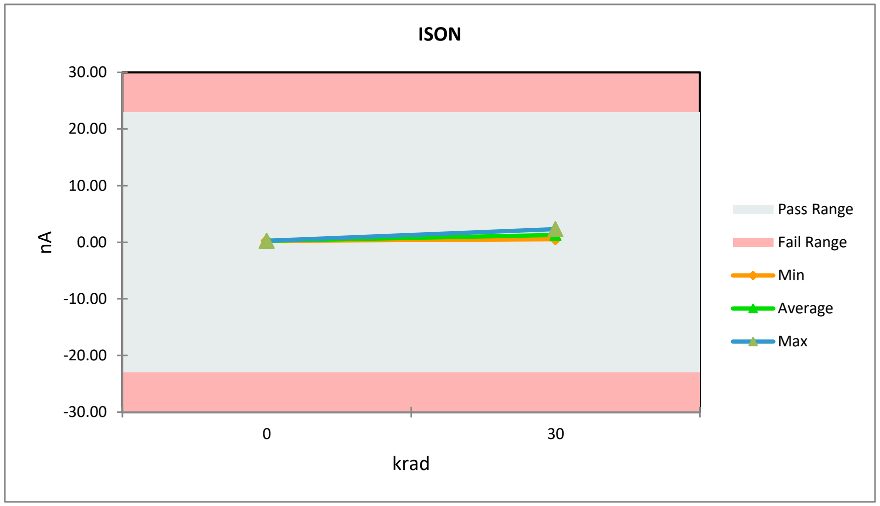
	ISOFF	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	4.5	
Min Limit	-4.5	
krad	0	30
LL	-4.50	-4.50
Min	0.12	0.12
Average	0.13	0.13
Max	0.13	0.13
UL	4.50	4.50

HDR S1=60V Report
TMUX582F-SEP

	ISON
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	nA
Max Limit	23
Min Limit	-23

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	0.235	0.260	0.02	10.33%
0	2	0.242	0.256	0.01	5.88%
0	3	0.252	0.240	-0.01	-4.65%
30	4	0.255	2.316	2.06	806.81%
30	5	0.246	1.694	1.45	588.90%
30	6	0.254	1.039	0.78	308.41%
30	7	0.253	0.832	0.58	228.57%
30	8	0.260	0.526	0.27	102.46%
	Max	0.260	2.316	2.06	806.81%
	Average	0.250	0.895	0.65	255.84%
	Min	0.235	0.240	0.00	-4.65%
	Std Dev	0.008	0.762	0.75	300.51%

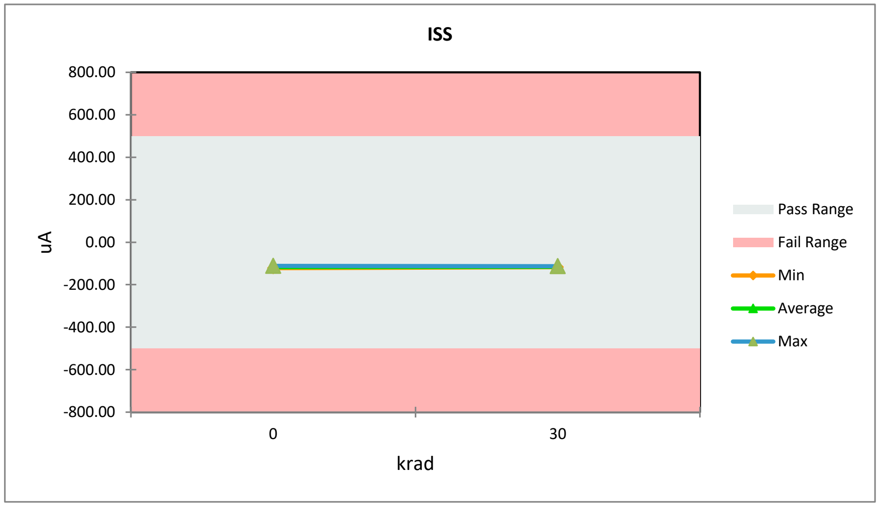
	ISON	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	nA	
Max Limit	23	
Min Limit	-23	
krad	0	30
LL	-23.00	-23.00
Min	0.24	0.53
Average	0.25	1.28
Max	0.26	2.32
UL	23.00	23.00



HDR S1=60V Report
TMUX582F-SEP

	ISS
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-111.400	-111.400	0.00	0.00%
0	2	-122.300	-122.300	0.00	0.00%
0	3	-118.000	-117.900	0.10	-0.08%
30	4	-112.700	-116.900	-4.20	3.73%
30	5	-111.300	-113.000	-1.70	1.53%
30	6	-112.500	-114.800	-2.30	2.04%
30	7	-115.100	-117.400	-2.30	2.00%
30	8	-114.900	-117.200	-2.30	2.00%
	Max	-111.300	-111.400	-0.10	3.73%
	Average	-114.775	-116.363	-1.59	1.40%
	Min	-122.300	-122.300	0.00	-0.08%
	Std Dev	3.781	3.339	-0.44	1.35%



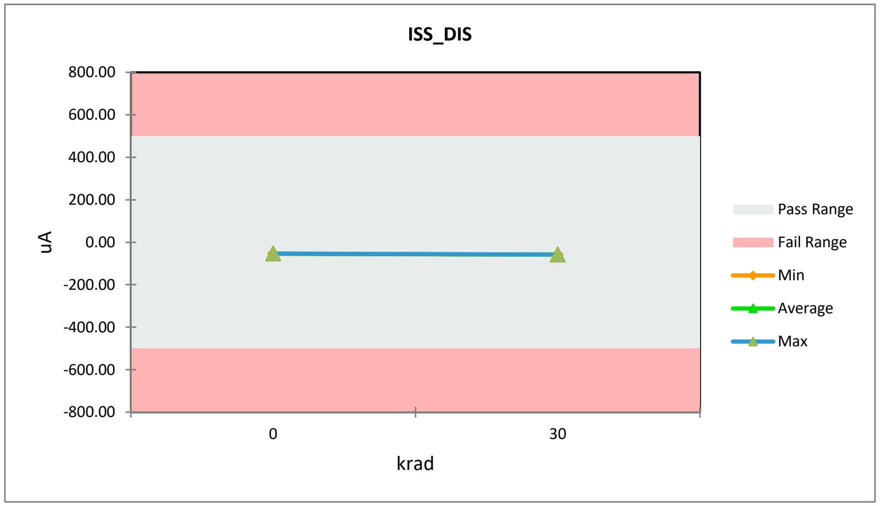
	ISS	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	500	
Min Limit	-500	
krad	0	30
LL	-500.00	-500.00
Min	-122.30	-117.40
Average	-117.20	-115.86
Max	-111.40	-113.00
UL	500.00	500.00

HDR S1=60V Report
TMUX582F-SEP

	ISS_DIS
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	500
Min Limit	-500

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-53.710	-53.690	0.02	-0.04%
0	2	-54.570	-54.530	0.04	-0.07%
0	3	-53.430	-53.330	0.10	-0.19%
30	4	-56.380	-58.630	-2.25	3.99%
30	5	-56.120	-58.220	-2.10	3.74%
30	6	-56.620	-58.560	-1.94	3.43%
30	7	-56.750	-58.520	-1.77	3.12%
30	8	-56.700	-58.400	-1.70	3.00%
	Max	-53.430	-53.330	0.10	3.99%
	Average	-55.535	-56.735	-1.20	2.12%
	Min	-56.750	-58.630	-1.88	-0.19%
	Std Dev	1.402	2.415	1.01	1.87%

	ISS_DIS	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	500	
Min Limit	-500	
krad	0	30
LL	-500.00	-500.00
Min	-54.53	-58.63
Average	-53.85	-58.47
Max	-53.33	-58.22
UL	500.00	500.00

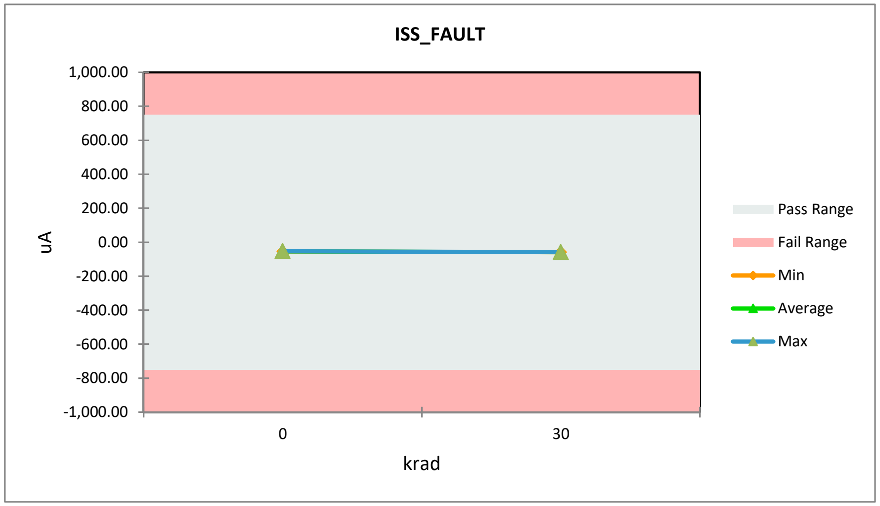


HDR S1=60V Report
TMUX582F-SEP

	ISS_FAULT
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	uA
Max Limit	750
Min Limit	-750

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	-53.850	-53.730	0.12	-0.22%
0	2	-54.700	-54.640	0.06	-0.11%
0	3	-53.410	-53.380	0.03	-0.06%
30	4	-56.440	-58.770	-2.33	4.13%
30	5	-56.110	-58.380	-2.27	4.05%
30	6	-56.680	-58.750	-2.07	3.65%
30	7	-56.880	-58.760	-1.88	3.31%
30	8	-56.730	-58.610	-1.88	3.31%
	Max	-53.410	-53.380	0.03	4.13%
	Average	-55.600	-56.878	-1.28	2.26%
	Min	-56.880	-58.770	-1.89	-0.22%
	Std Dev	1.400	2.480	1.08	2.00%

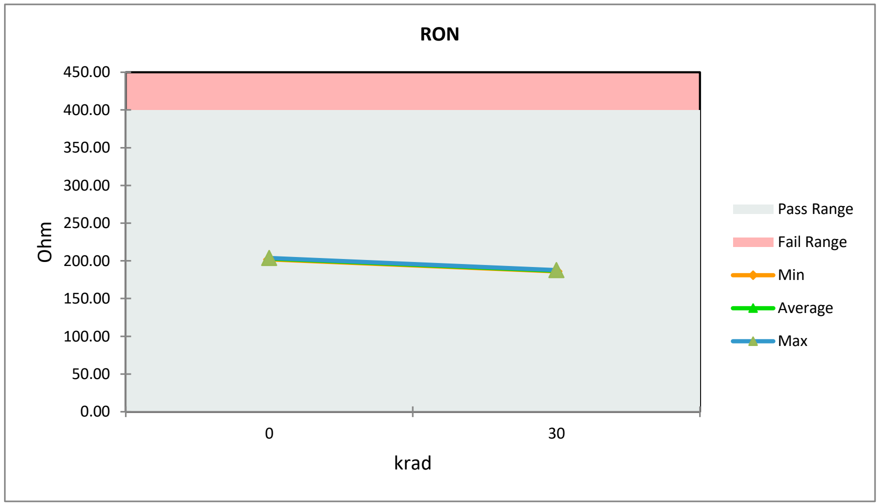
	ISS_FAULT	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	uA	
Max Limit	750	
Min Limit	-750	
krad	0	30
LL	-750.00	-750.00
Min	-54.64	-58.77
Average	-53.92	-58.65
Max	-53.38	-58.38
UL	750.00	750.00



HDR S1=60V Report
TMUX582F-SEP

	RON
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	Ohm
Max Limit	400
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	204.400	203.800	-0.60	-0.29%
0	2	204.100	203.400	-0.70	-0.34%
0	3	202.400	201.900	-0.50	-0.25%
30	4	195.000	186.000	-9.00	-4.62%
30	5	194.700	186.100	-8.60	-4.42%
30	6	195.800	187.000	-8.80	-4.49%
30	7	196.200	187.300	-8.90	-4.54%
30	8	196.500	187.700	-8.80	-4.48%
	Max	204.400	203.800	-0.60	-0.25%
	Average	198.638	192.900	-5.74	-2.93%
	Min	194.700	186.000	-8.70	-4.62%
	Std Dev	4.217	8.427	4.21	2.18%

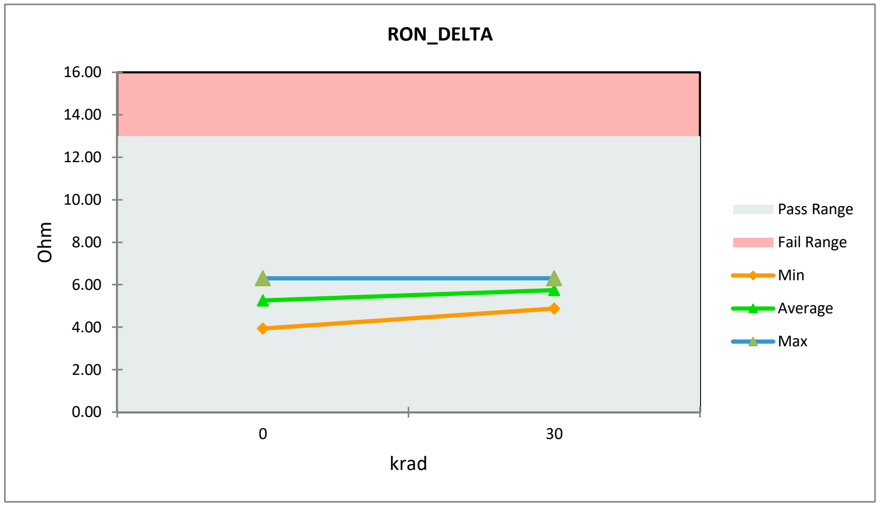


	RON	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	Ohm	
Max Limit	400	
Min Limit	0	
krad	0	30
LL	0.00	0.00
Min	201.90	186.00
Average	203.03	186.82
Max	203.80	187.70
UL	400.00	400.00

HDR S1=60V Report
TMUX582F-SEP

	RON_DELTA
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	Ohm
Max Limit	13
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	6.364	6.301	-0.06	-0.99%
0	2	5.628	5.536	-0.09	-1.63%
0	3	4.072	3.937	-0.14	-3.32%
30	4	2.641	6.302	3.66	138.62%
30	5	2.327	6.265	3.94	169.23%
30	6	2.127	4.879	2.75	129.38%
30	7	1.605	5.813	4.21	262.18%
30	8	1.862	5.470	3.61	193.77%
	Max	6.364	6.302	-0.06	262.18%
	Average	3.328	5.563	2.23	110.91%
	Min	1.605	3.937	2.33	-3.32%
	Std Dev	1.816	0.825	-0.99	101.77%


RON_DELTA

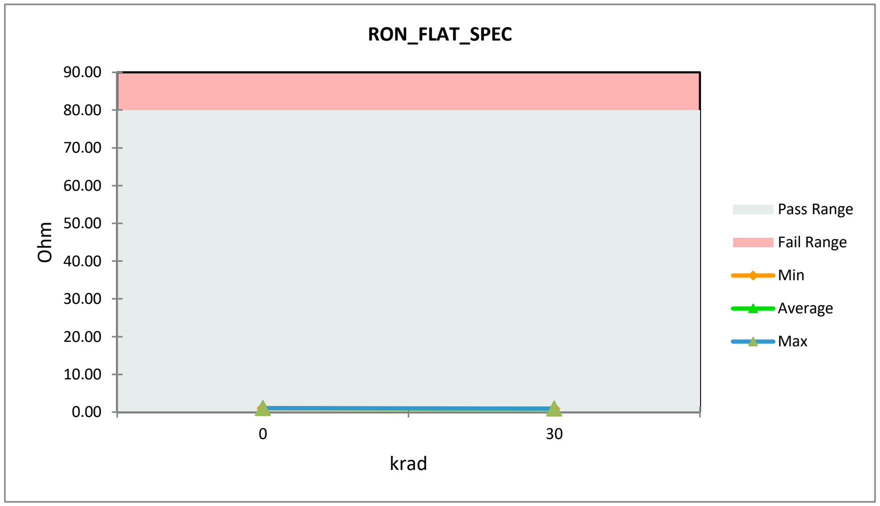
	RON_DELTA	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	Ohm	
Max Limit	13	
Min Limit	0	
krad	0	30
LL	0.00	0.00
Min	3.94	4.88
Average	5.26	5.75
Max	6.30	6.30
UL	13.00	13.00

HDR S1=60V Report
TMUX582F-SEP

	RON_FLAT_SPEC
Test Site	Junkins
Tester	FETS36405
Test Number	EB3233CH00
Units	Ohm
Max Limit	80
Min Limit	0

krad	Serial #	PreTestHDR	PostTestHDR	Delta HDR	Delta % HDR
0	1	1.027	1.013	-0.01	-1.36%
0	2	1.067	0.994	-0.07	-6.84%
0	3	1.082	1.064	-0.02	-1.66%
30	4	0.942	0.905	-0.04	-3.95%
30	5	0.975	0.910	-0.07	-6.68%
30	6	1.028	0.908	-0.12	-11.65%
30	7	1.008	0.942	-0.07	-6.51%
30	8	0.995	0.906	-0.09	-8.92%
	Max	1.082	1.064	-0.02	-1.36%
	Average	1.015	0.955	-0.06	-5.95%
	Min	0.942	0.905	-0.04	-11.65%
	Std Dev	0.046	0.061	0.01	3.51%

	RON_FLAT_SPEC	
Test Site	Junkins	
Tester	FETS36405	
Test Number	EB3233CH00	
Units	Ohm	
Max Limit	80	
Min Limit	0	
krad	0	30
LL	0.00	0.00
Min	0.99	0.91
Average	1.02	0.91
Max	1.06	0.94
UL	80.00	80.00



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