

TPS7H1302-SP Total Lookahead Ionizing Dose (TID) Report



Abstract

This report discusses the total ionizing dose (TID) parametric results for the Texas Instruments TPS71302-SP, 3V to 6.3V input, 400mA, -6V to -0.6V radiation hardened switched capacitor voltage inverter with integrated low dropout regulator. The study was done to determine the TID effects under high dose rate (HDR) up to 100krad(Si). The results show that all samples passed within the specified limits up to 100krad(Si).

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1 Device Information

1.1 Product Description

The TPS7H1302-SP is a charge pump positive-to-negative voltage inverters with an integrated negative low dropout regulator (LDO). The device accepts a positive input supply voltage range of 3V to 6.3V and deliver up to 400mA of output current, with integrated enable and power-good functionality.

The TPS7H1302 delivers a fixed -1.8V output voltage with a 1MHz (typical) charge pump switching frequency. By eliminating the need for external feedback resistors, the TPS7H1302 reduces both external component count and overall design size.

The TPS7H1302-SP is packaged in a 14-pin HBL ceramic flat package. A standard microcircuit drawing (SMD) is 5962R2421502VXC.

1.2 Device Details

[Table 1-1](#) lists the device information used in this TID HDR characterization.

Table 1-1. Device and Exposure Details

TID Exposure Details	
TI Device	TPS7H1302-SP
TI Part Name	5962R2421502VXC
Package	14-pin HBL (CFP)
Technology	LBC7
Quantity Tested	12
Lot Accept/Reject	Passed up to 100krad(Si)
HDR Radiation Facility	Texas Instruments, Dallas, TX
HDR Dose Level	50krad(Si) and 100krad(Si)
HDR Dose Rate	145.47rads(Si)/s
HDR Radiation Source	Gammacell® (Hopewell, GR420) Co-60
Irradiation Temperature	Ambient room temperature

2 Total Dose Test Setup

2.1 Test Overview

The TPS7H1302-SP was tested according to MIL-STD-883, Test Method 1019.9. For this testing, condition A was used. The product was irradiated up to the target radiation level, and then put through full electrical parametric testing on the production automated test equipment (ATE). All devices remained functional passing all parametric test limits.

2.2 Test Description and Facilities

The TPS7H1302-SP HDR exposure was performed on biased and unbiased devices in a Co-60 gamma cell at the TI facility in Dallas, Texas. The unattenuated dose rate of this cell is 145.47rads(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 datasheet 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 under HDR exposure were tested in two conditions (biased and unbiased) as described in the following sections.

2.3.1 Unbiased

For the unbiased HDR conditions, the exposure was performed with all pins grounded.

2.3.2 Biased

Figure 2-1 shows the diagram for HDR exposure with biased condition.

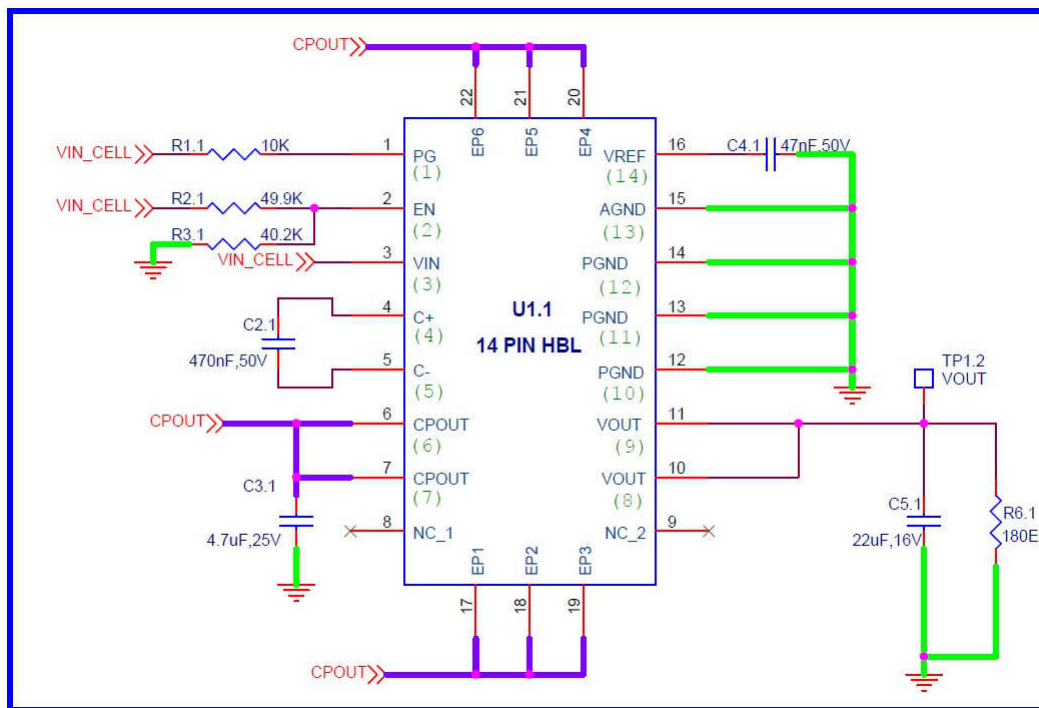


Figure 2-1. Bias Diagram Used in TID Exposure

2.4 Test Configuration and Condition

HDR devices were stressed at 30krad(Si), 50krad(Si) and 100krad(Si) for biased and unbiased conditions.

Table 2-1. HDR: 50krad (Si) and 100krad (Si) Biased Device Information

Total Samples: 6	
Exposure Levels	
50krad(Si)	100krad(Si)
10, 11, 12	16, 17, 18

Table 2-2. HDR: 50krad (Si) and 100krad (Si) Unbiased Device Information

Total Samples: 6	
Exposure Levels	
50krad(Si)	50krad(Si)
7, 8, 9	13, 14, 15

3 TID Characterization Test Results

3.1 TID Characterization Summary Results

The parametric data for the TPS7H1302-SP passes up to 100krad(Si) HDR TID irradiation. The drifts of the electrical parameters through HDR were within the data sheet limits.

Overall, the TPS7H1302-SP showed a strong degree of hardness to HDR TID irradiation up to 100krad(Si) for both biased and unbiased exposure conditions. The measurements taken post-irradiation for each sample set showed a marginal shift for most parameters at each dose level for both biased and unbiased. The parameters that showed a greater degree of change between pre- and post-irradiation were still within the electrical performance characteristics specified in the data sheet electrical parameters. See [TPS7H130X-SP 3V to 6.3V Input, 400mA, -6V to -0.6V Radiation Hardened Switched Capacitor Voltage Inverter with Integrated Low Dropout Regulator](#) for the data sheet electrical parameters and associated tests.

See [Appendix A](#) for the HDR report up to 100krad(Si).

Over $3V \leq V_{IN} \leq 6.3V$, $V_{OUT(SET)} = -1.8V$, $I_{OUT} = 10mA$, $C_{REF} = 47nF$, over operating temperature range ($T_A = -55^\circ C$ to $125^\circ C$); unless otherwise specified in the Test Conditions column. Typical values are at $T_A = 25^\circ C$, unless otherwise noted; includes RLAT at $T_A = 25^\circ C$.

Table 3-1. Specification Compliance Matrix

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT	Test No
POWER SUPPLIES and CURRENTS								
V _{UVLOR}	Input supply UVLO rising			2.7			V	60.2
V _{UVLOF}	Input supply UVLO falling			2.53			V	60.3
V _{UVLO(HYS)}	Input supply UVLO Hysteresis			220			mV	60.4
I _Q	Quiescent Current	I _{OUT} = 0A, V _{EN} = 7V		12	45		mA	31.3, 31.5, 205.2, 205.4
I _{SHDN}	Shutdown Current	V _{EN} = 0V, I _{OUT} = 0A		0.8	1.5		mA	31.2, 31.4, 205.1, 205.3
I _{FB}	Feedback leakage current	V _{FB} = -0.6V		25	100		nA	31.1
ENABLE								
V _{EN(rising)}	Enable rising threshold (turn-on)			0.57	0.6	0.625	V	65.2, 65.6
V _{EN(falling)}	Enable falling threshold (turn-off)			0.445	0.5	0.555	V	65.3, 65.7
t _{EN(delay)}	EN propagation delay,	EN high to PG high at V _{IN} = 5V, V _{OUT} = -1.8V		14	18		ms	65.4, 65.8
I _{EN(LKG)}	Enable leakage current	V _{EN} = 7V		25	330		nA	65.1, 65.5
POWER GOOD								
V _{PG(rise)}	Power good rising threshold as a percent of V _{OUT}	SR V _{OUT} = 10V/s		91.8%	94.8%	98.05%		71.3, 71.6
V _{PG(fall)}	Power good falling threshold as a percent of V _{OUT}	SR V _{OUT} = 10V/s		86.25%	90%	94.1%		71.4, 71.7
V _{PG(OL)}	Power good output low	I _{PG(SINK)} = 2mA		90	190		mV	70.3, 70.4
V _{IN(MIN_PG)}	Minimum V _{IN} for valid PG (V _{PG} < 0.5V)	I _{PG(sink)} = 0.5mA		0.8	1		V	71.1, 71.2

Table 3-1. Specification Compliance Matrix (continued)

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT	Test No
I _{PG(LKG)}	Power good leakage	V _{PG} = 7V, V _{OUT} = -1.8V		0.05	2		μA	70.1, 70.2
CHARGE PUMP								
R _{DISCHARGE}	CPOUT discharge resistance	C _{CPOUT} = 10μF	V _{CPOUT} = -0.3V	75			Ω	75.2, 75.4
t _{DISCHARGE}	CPOUT discharge time (CPOUT > -0.3V) to GND			6.5			ms	75.1, 75.3
f _{SW}	Switching frequency			800	1000	1200	kHz	35.1 to 35.6
R _{DS(ON1)}	Switch array MOSFET1 drain source resistance	I _{RDS(ON)} = 100mA V _{IN} = 5V		300	480		mΩ	40.2
R _{DS(ON2)}	Switch array MOSFET2 drain source resistance			175	345		mΩ	40.5
R _{DS(ON3)}	Switch array MOSFET3 drain source resistance			235	300		mΩ	40.3
R _{DS(ON4)}	Switch array MOSFET4 drain source resistance			220	370		mΩ	40.6
DROPOUT								
I _{DO}	Dropout current	V _{OUT(set)} = -1.8V I _{OUT(meas.)} = 98% × V _{OUT(NOM)}	V _{IN} = 3V	75	125		mA	44.1
			V _{IN} = 3.3V	100	150			44.2
ACCURACY								
V _{ACC}	Output voltage accuracy	-5V ≤ V _{OUT} ≤ V _{CP(OUT)} - V _{DO} 1mA ≤ I _{OUT} ≤ 250mA		-1.5%		1.5%		50.1 to 50.7
		400mA		-1.5%		-2%		
ΔV _{OUT} /ΔV _{IN}	Line regulation	3.3V ≤ V _{IN} ≤ 6.3V	ΔV = 3V I _{OUT} = 150mA	100	1300		μV/V	55.1, 55.2
ΔV _{OUT} /ΔI _{OUT}	Load regulation	10mA ≤ I _{OUT} ≤ 400mA V _{IN} = 5V, V _{OUT} = -1.8V		24	90		mV/A	55.3
V _{REF}				-0.610	-0.6	-0.593	V	30.1, 30.2, 30.3

4 Applicable and Reference Documents

4.1 Applicable Documents

- Texas Instruments, [TPS7H130X-SP 3V to 6.3V Input, 400mA, -6V to -0.6V Radiation Hardend Switched Capacitor Voltage Inverter with Integrated Low Dropout Regulator](#) datasheet

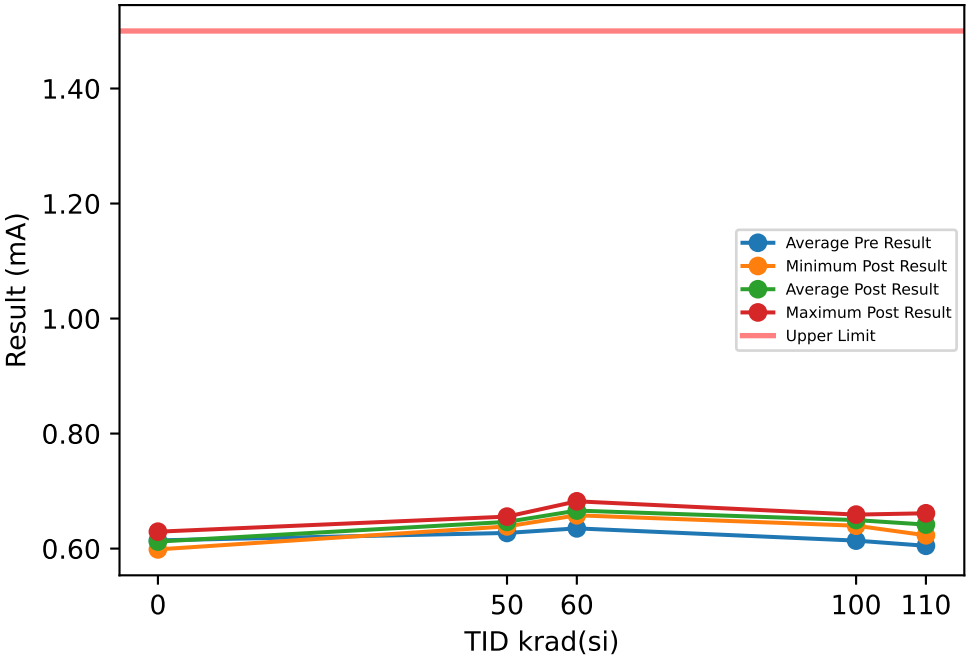
4.2 Reference Documents

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

A Appendix: HDR TID Report Data

This appendix contains the HDR TID report data.

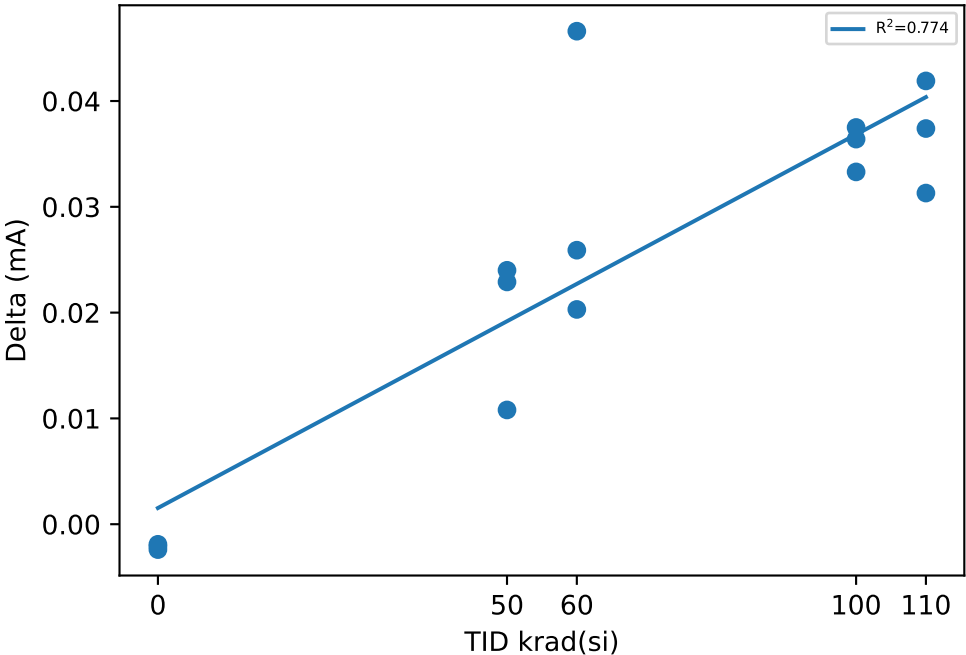
TID vs Result Stats



Test Results (Upper Limit = 1.5 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.6315	0.6294	-0.0021
2	0	CU2	0.601	0.5986	-0.0024
3	0	CU3	0.6104	0.6085	-0.0019
7	50	50krad Unbiased	0.6146	0.6386	0.024
8	50	50krad Unbiased	0.6343	0.6451	0.0108
9	50	50krad Unbiased	0.6327	0.6556	0.0229
10	60	50krad Biased	0.6619	0.6822	0.0203
11	60	50krad Biased	0.632	0.6579	0.0259
12	60	50krad Biased	0.6116	0.6582	0.0466
13	100	100krad Unbiased	0.6227	0.6591	0.0364
14	100	100krad Unbiased	0.6124	0.6499	0.0375
15	100	100krad Unbiased	0.6065	0.6398	0.0333
16	110	100krad Biased	0.6033	0.6407	0.0374
17	110	100krad Biased	0.6301	0.6614	0.0313
18	110	100krad Biased	0.5812	0.6231	0.0419

TID vs Post - Pre Exposure Delta

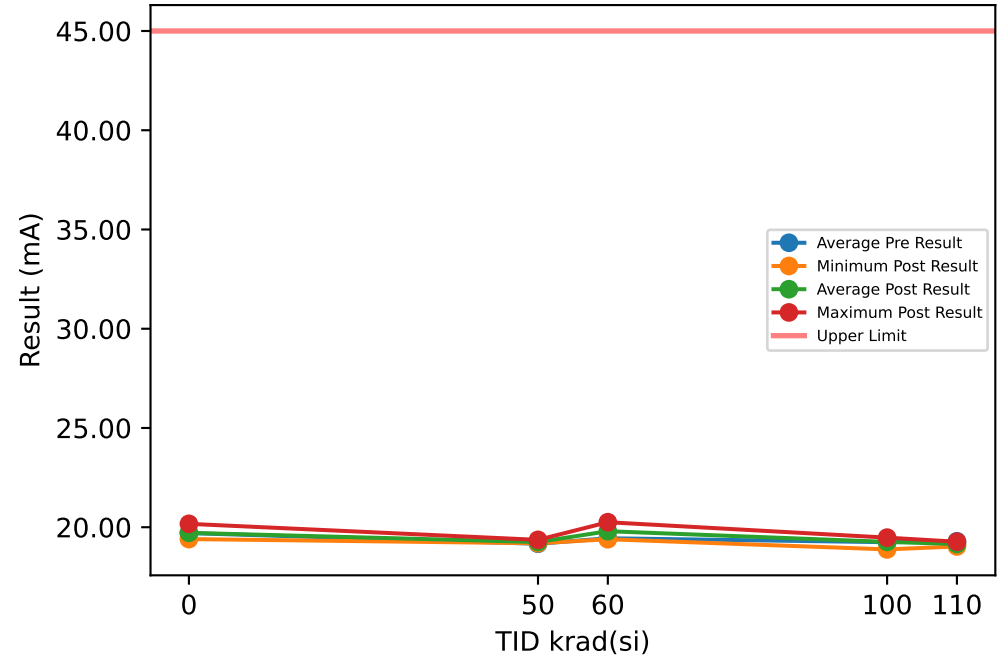


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.601	0.6143	0.6315	0.01562	0.5986	0.61217	0.6294	0.015724	-0.0024	-0.0021333	-0.0019	0.00025166
50	0.6146	0.6272	0.6343	0.010941	0.6386	0.64643	0.6556	0.0085781	0.0108	0.019233	0.024	0.0073242
60	0.6116	0.63517	0.6619	0.025299	0.6579	0.6661	0.6822	0.013944	0.0203	0.030933	0.0466	0.013854
100	0.6065	0.61387	0.6227	0.008199	0.6398	0.6496	0.6591	0.0096535	0.0333	0.035733	0.0375	0.0021779
110	0.5812	0.60487	0.6301	0.024488	0.6231	0.64173	0.6614	0.019171	0.0313	0.036867	0.0419	0.0053201

Device Test: 205.2 SUPPLY_CURRENT|POST/VIN/QUIESCENT///3/@IQ_VIN_1302

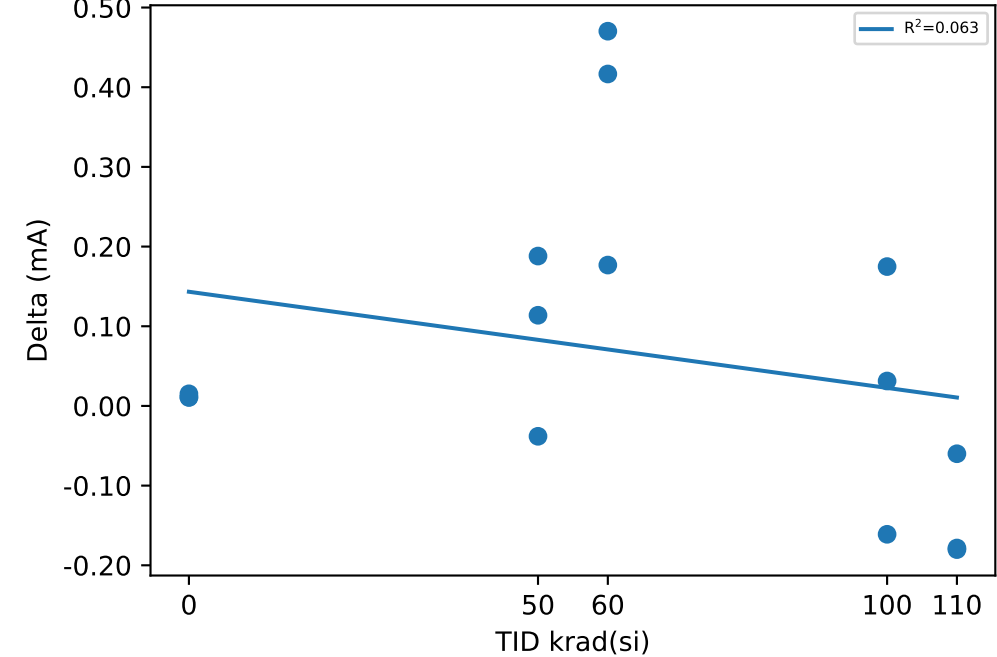
TID vs Result Stats



Test Results (Upper Limit = 45.0 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	20.159	20.171	0.0112
2	0	CU2	19.387	19.402	0.0152
3	0	CU3	19.567	19.578	0.0106
7	50	50krad Unbiased	19.078	19.192	0.1138
8	50	50krad Unbiased	19.176	19.364	0.1881
9	50	50krad Unbiased	19.245	19.207	-0.0381
10	60	50krad Biased	18.925	19.395	0.4703
11	60	50krad Biased	19.573	19.75	0.1768
12	60	50krad Biased	19.836	20.252	0.4166
13	100	100krad Unbiased	19.3	19.475	0.1749
14	100	100krad Unbiased	18.852	18.883	0.0313
15	100	100krad Unbiased	19.585	19.424	-0.1611
16	110	100krad Biased	19.34	19.159	-0.1803
17	110	100krad Biased	19.447	19.269	-0.1783
18	110	100krad Biased	19.091	19.031	-0.06

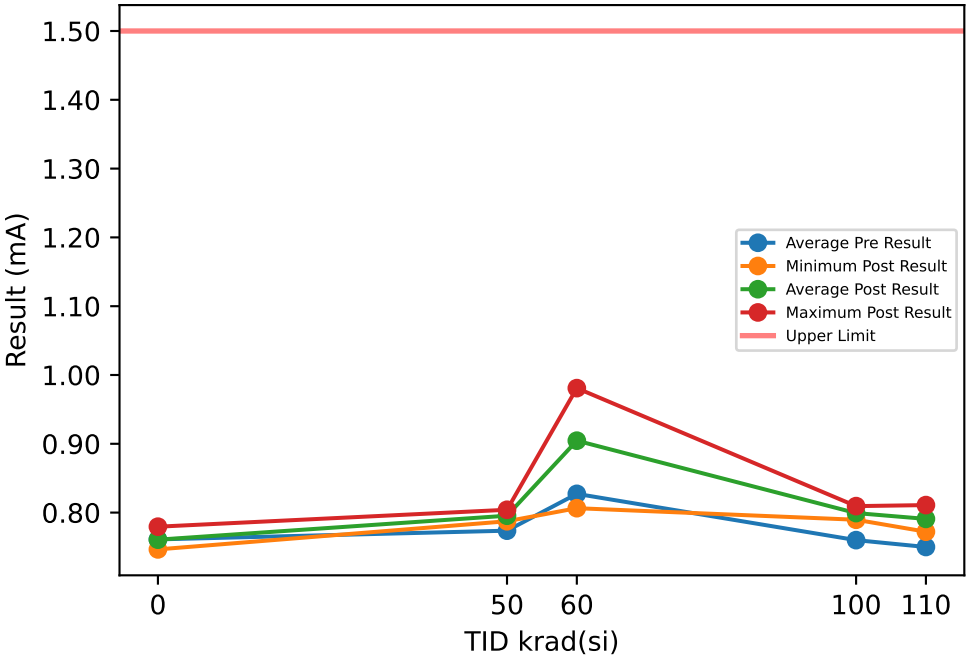
TID vs Post - Pre Exposure Delta



Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	19.387	19.704	20.159	0.40401	19.402	19.717	20.171	0.40255	0.0106	0.012333	0.0152	0.0025007
50	19.078	19.166	19.245	0.083813	19.192	19.254	19.364	0.095352	-0.0381	0.087933	0.1881	0.1153
60	18.925	19.444	19.836	0.46897	19.395	19.799	20.252	0.43081	0.1768	0.35457	0.4703	0.15627
100	18.852	19.246	19.585	0.36987	18.883	19.261	19.475	0.3282	-0.1611	0.015033	0.1749	0.16859
110	19.091	19.293	19.447	0.1828	19.031	19.153	19.269	0.11917	-0.1803	-0.13953	-0.06	0.068885

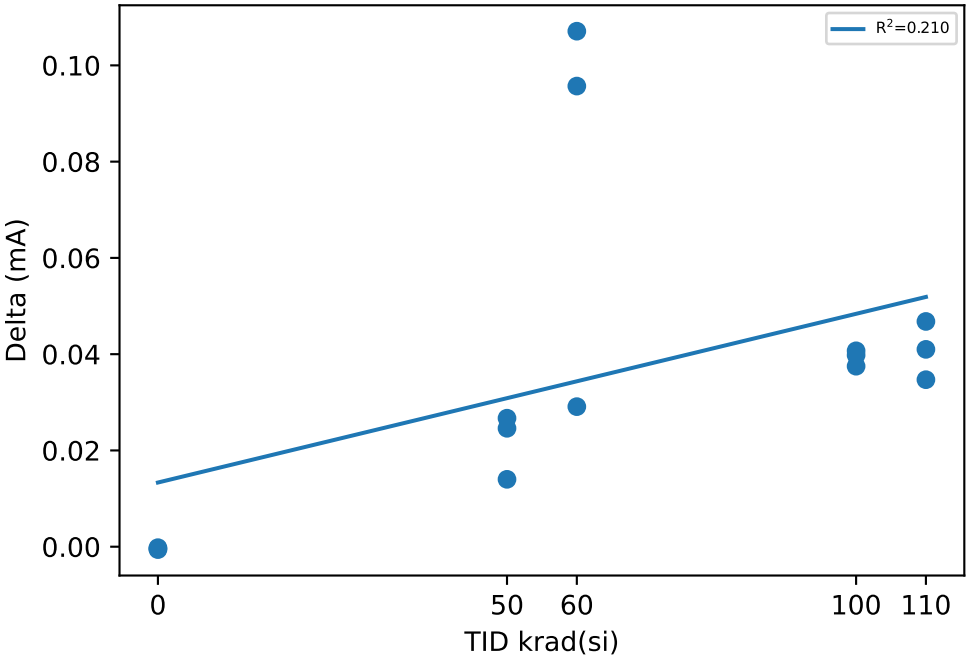
TID vs Result Stats



Test Results (Upper Limit = 1.5 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.7797	0.7795	-0.0002
2	0	CU2	0.7469	0.7465	-0.0004
3	0	CU3	0.7565	0.7559	-0.0006
7	50	50krad Unbiased	0.7607	0.7874	0.0267
8	50	50krad Unbiased	0.7809	0.7949	0.014
9	50	50krad Unbiased	0.7795	0.8041	0.0246
10	60	50krad Biased	0.8306	0.9263	0.0957
11	60	50krad Biased	0.7773	0.8064	0.0291
12	60	50krad Biased	0.8738	0.9809	0.1071
13	100	100krad Unbiased	0.7696	0.8094	0.0398
14	100	100krad Unbiased	0.7582	0.7989	0.0407
15	100	100krad Unbiased	0.7521	0.7896	0.0375
16	110	100krad Biased	0.7484	0.7894	0.041
17	110	100krad Biased	0.7762	0.8109	0.0347
18	110	100krad Biased	0.7254	0.7722	0.0468

TID vs Post - Pre Exposure Delta

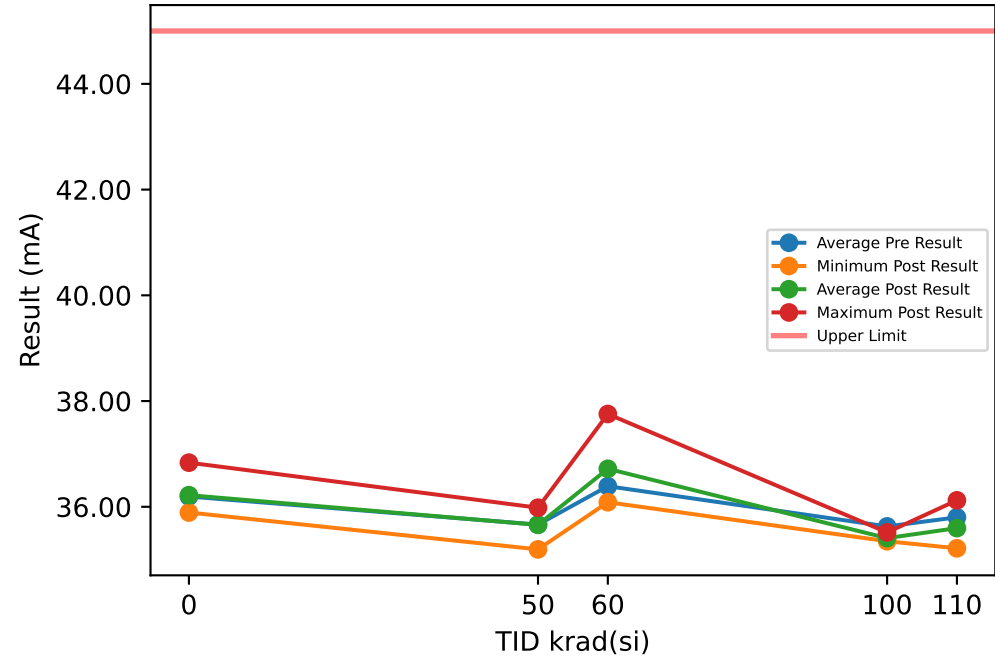


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.7469	0.76103	0.7797	0.016863	0.7465	0.76063	0.7795	0.017002	-0.0006	-0.0004	-0.0002	0.0002
50	0.7607	0.7737	0.7809	0.01128	0.7874	0.79547	0.8041	0.0083644	0.014	0.021767	0.0267	0.0068076
60	0.7773	0.82723	0.8738	0.048338	0.8064	0.90453	0.9809	0.089263	0.0291	0.0773	0.1071	0.04213
100	0.7521	0.75997	0.7696	0.0088828	0.7896	0.7993	0.8094	0.0099061	0.0375	0.039333	0.0407	0.0016503
110	0.7254	0.75	0.7762	0.025438	0.7722	0.79083	0.8109	0.01939	0.0347	0.040833	0.0468	0.0060517

Device Test: 205.4 SUPPLY_CURRENT|POST/VIN/QUIESCENT///6.3/@IQ_VIN_1302

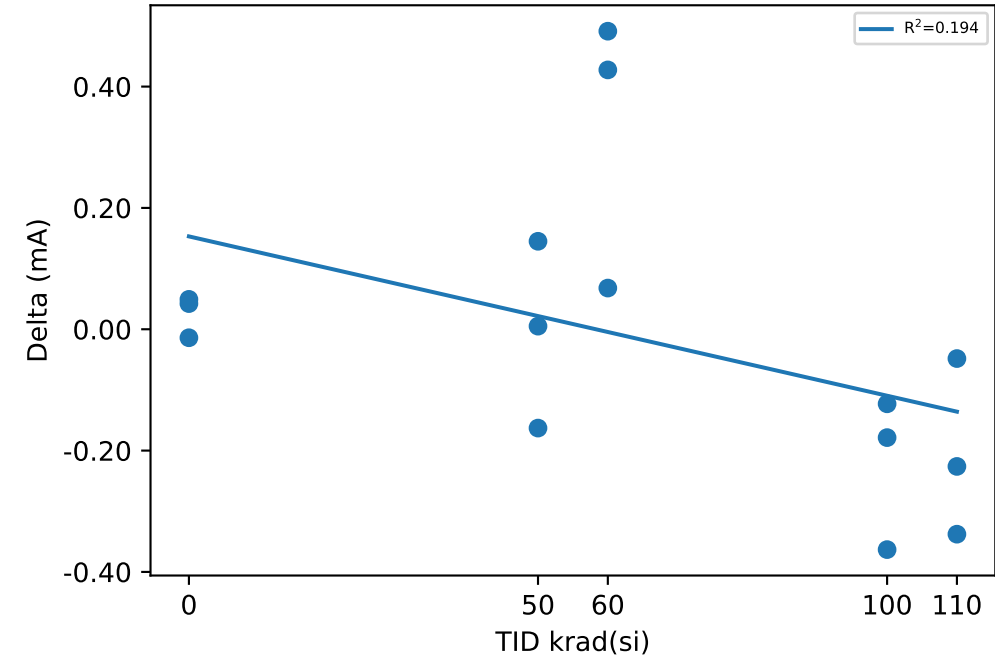
TID vs Result Stats



Test Results (Upper Limit = 45.0 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	36.793	36.835	0.0423
2	0	CU2	35.947	35.934	-0.014
3	0	CU3	35.842	35.892	0.0493
7	50	50krad Unbiased	35.189	35.194	0.0051
8	50	50krad Unbiased	35.838	35.983	0.145
9	50	50krad Unbiased	35.961	35.798	-0.1629
10	60	50krad Biased	35.886	36.314	0.4275
11	60	50krad Biased	36.018	36.086	0.0679
12	60	50krad Biased	37.264	37.755	0.4913
13	100	100krad Unbiased	35.694	35.515	-0.1786
14	100	100krad Unbiased	35.471	35.348	-0.1229
15	100	100krad Unbiased	35.721	35.358	-0.3632
16	110	100krad Biased	35.791	35.453	-0.3378
17	110	100krad Biased	36.348	36.122	-0.2261
18	110	100krad Biased	35.263	35.215	-0.0483

TID vs Post - Pre Exposure Delta

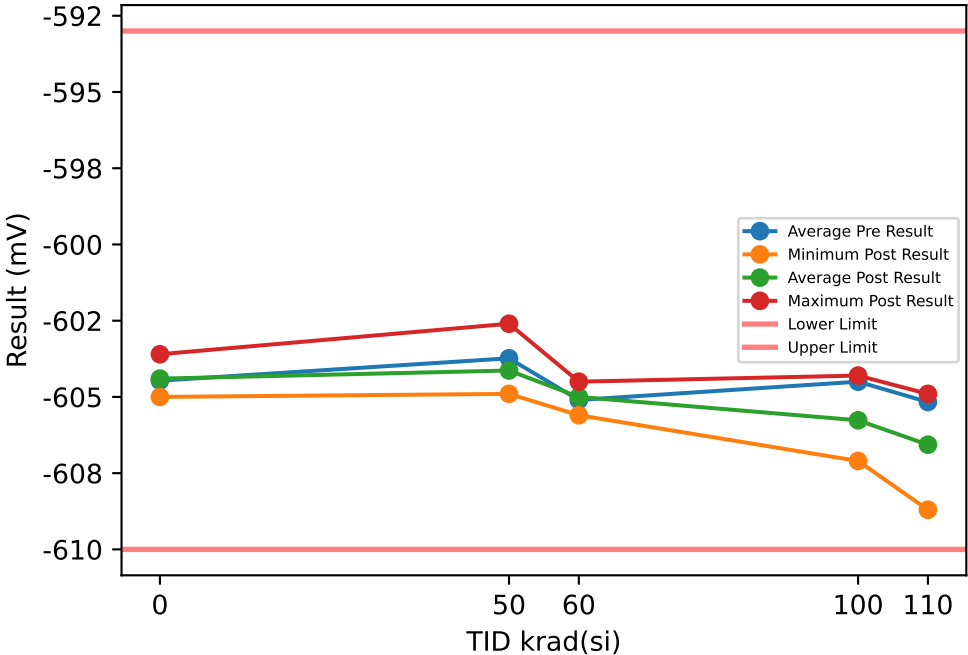


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	35.842	36.194	36.793	0.52092	35.892	36.22	36.835	0.5329	-0.014	0.025867	0.0493	0.034702
50	35.189	35.663	35.961	0.41489	35.194	35.658	35.983	0.41258	-0.1629	-0.0042667	0.145	0.15416
60	35.886	36.389	37.264	0.75998	36.086	36.718	37.755	0.90494	0.0679	0.3289	0.4913	0.22827
100	35.471	35.629	35.721	0.13716	35.348	35.407	35.515	0.093801	-0.3632	-0.22157	-0.1229	0.12578
110	35.263	35.801	36.348	0.54277	35.215	35.597	36.122	0.47052	-0.3378	-0.20407	-0.0483	0.146

Device Test: 30.1 VREF|VREF//1N8V//3/@VREF

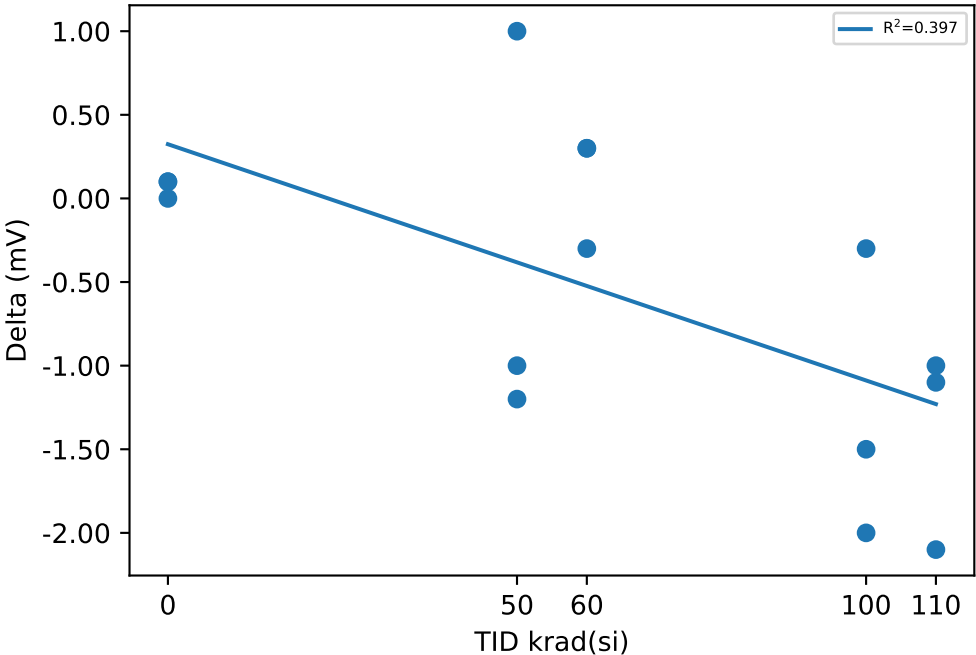
TID vs Result Stats



Test Results (Lower Limit = -610.0, Upper Limit = -593.0 (mV))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-603.7	-603.6	0.1
2	0	CU2	-605	-605	0
3	0	CU3	-604.7	-604.6	0.1
7	50	50krad Unbiased	-603.7	-604.9	-1.2
8	50	50krad Unbiased	-603.9	-604.9	-1
9	50	50krad Unbiased	-603.6	-602.6	1
10	60	50krad Biased	-605.2	-604.9	0.3
11	60	50krad Biased	-604.2	-604.5	-0.3
12	60	50krad Biased	-605.9	-605.6	0.3
13	100	100krad Unbiased	-604	-604.3	-0.3
14	100	100krad Unbiased	-604.4	-605.9	-1.5
15	100	100krad Unbiased	-605.1	-607.1	-2
16	110	100krad Biased	-605	-606.1	-1.1
17	110	100krad Biased	-606.6	-608.7	-2.1
18	110	100krad Biased	-603.9	-604.9	-1

TID vs Post - Pre Exposure Delta

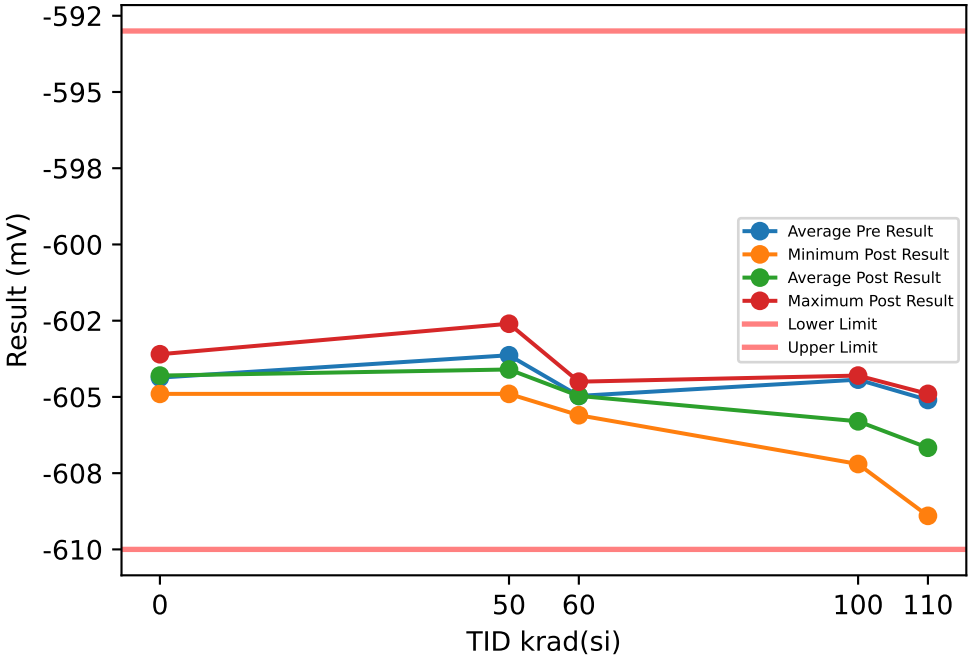


Test Statistics (mV)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-605	-604.47	-603.7	0.68069	-605	-604.4	-603.6	0.72111	0	0.066667	0.1	0.057735
50	-603.9	-603.73	-603.6	0.15275	-604.9	-604.13	-602.6	1.3279	-1.2	-0.4	1	1.2166
60	-605.9	-605.1	-604.2	0.8544	-605.6	-605	-604.5	0.55678	-0.3	0.1	0.3	0.34641
100	-605.1	-604.5	-604	0.55678	-607.1	-605.77	-604.3	1.4048	-2	-1.2667	-0.3	0.87369
110	-606.6	-605.17	-603.9	1.3577	-608.7	-606.57	-604.9	1.9425	-2.1	-1.4	-1	0.60828

Device Test: 30.2 VREF|VREF//1N8V//5/@VREF

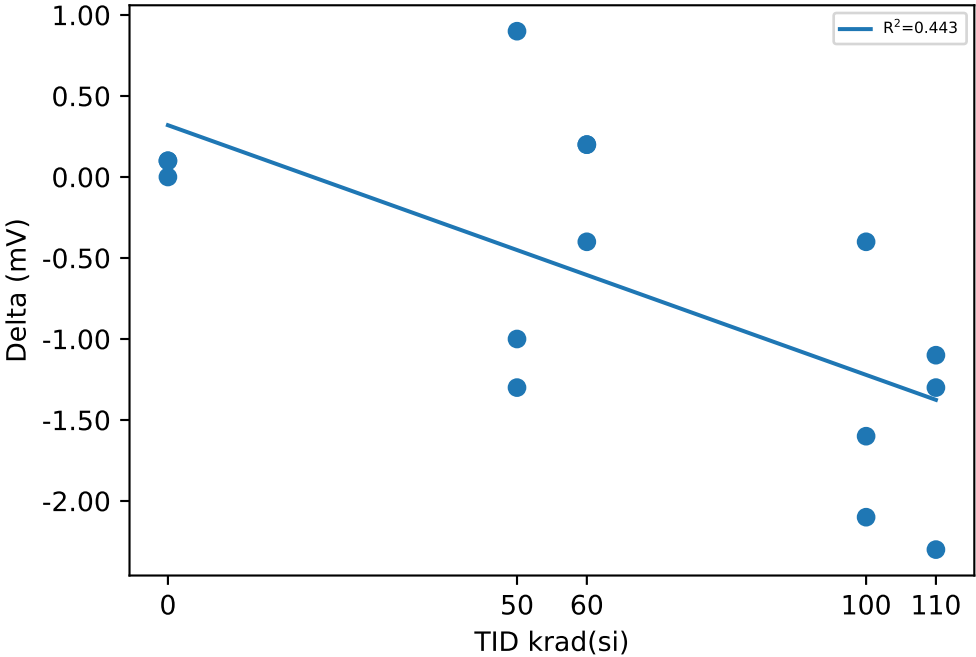
TID vs Result Stats



Test Results (Lower Limit = -610.0, Upper Limit = -593.0 (mV))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-603.6	-603.6	0
2	0	CU2	-605	-604.9	0.1
3	0	CU3	-604.5	-604.4	0.1
7	50	50krad Unbiased	-603.5	-604.8	-1.3
8	50	50krad Unbiased	-603.9	-604.9	-1
9	50	50krad Unbiased	-603.5	-602.6	0.9
10	60	50krad Biased	-605	-604.8	0.2
11	60	50krad Biased	-604.1	-604.5	-0.4
12	60	50krad Biased	-605.8	-605.6	0.2
13	100	100krad Unbiased	-603.9	-604.3	-0.4
14	100	100krad Unbiased	-604.3	-605.9	-1.6
15	100	100krad Unbiased	-605.1	-607.2	-2.1
16	110	100krad Biased	-604.9	-606.2	-1.3
17	110	100krad Biased	-606.6	-608.9	-2.3
18	110	100krad Biased	-603.8	-604.9	-1.1

TID vs Post - Pre Exposure Delta

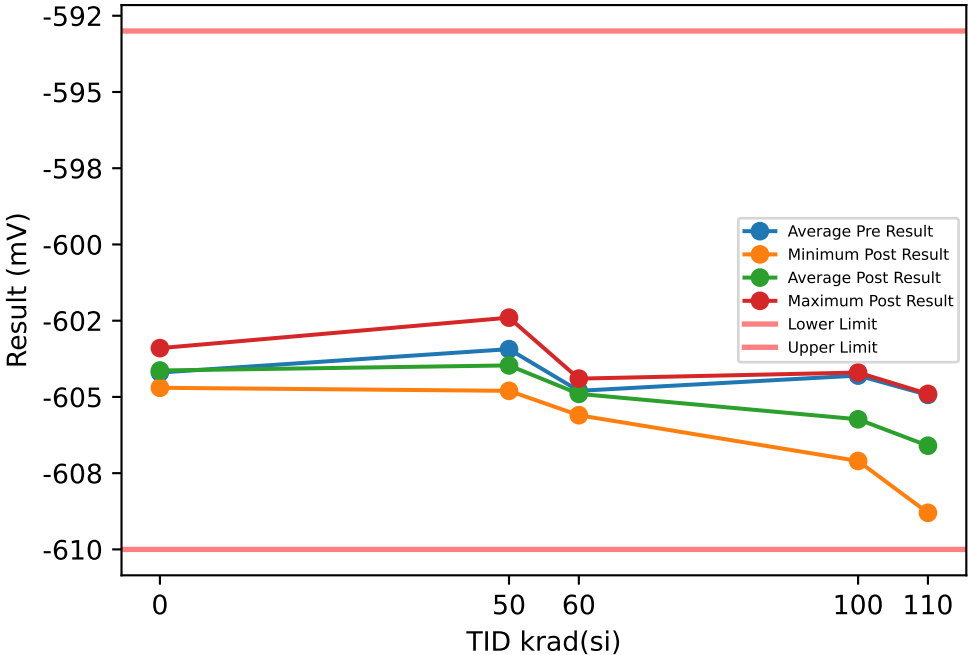


Test Statistics (mV)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-605	-604.37	-603.6	0.70946	-604.9	-604.3	-603.6	0.65574	0	0.06667	0.1	0.057735
50	-603.9	-603.63	-603.5	0.23094	-604.9	-604.1	-602.6	1.3	-1.3	-0.46667	0.9	1.193
60	-605.8	-604.97	-604.1	0.85049	-605.6	-604.97	-604.5	0.56862	-0.4	0	0.2	0.34641
100	-605.1	-604.43	-603.9	0.61101	-607.2	-605.8	-604.3	1.4526	-2.1	-1.3667	-0.4	0.87369
110	-606.6	-605.1	-603.8	1.4107	-608.9	-606.67	-604.9	2.0404	-2.3	-1.5667	-1.1	0.64291

Device Test: 30.3 VREF|/VREF//1N8V//6.3/@VREF

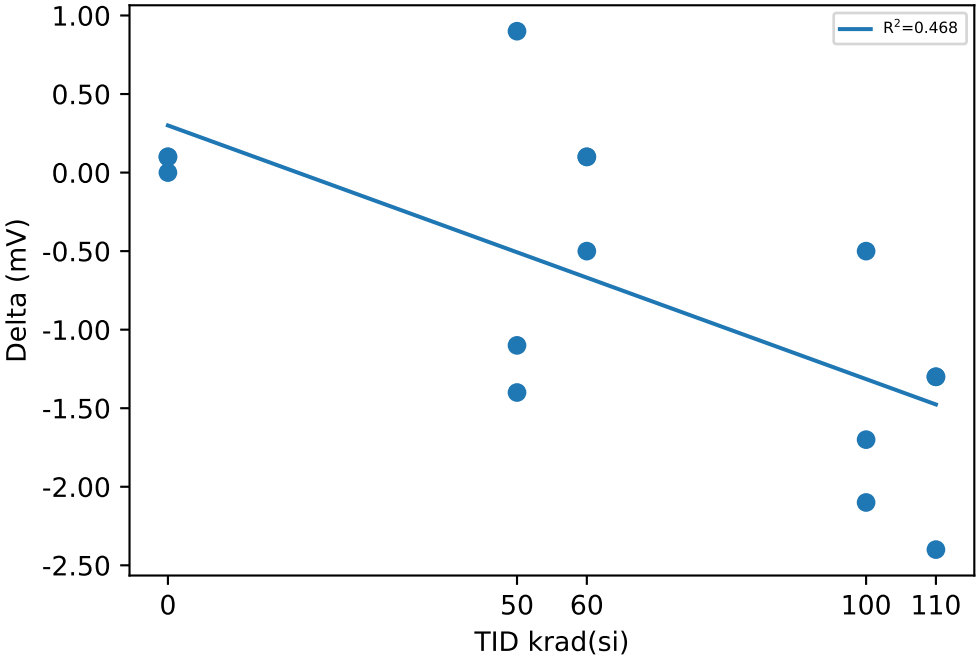
TID vs Result Stats



Test Results (Lower Limit = -610.0, Upper Limit = -593.0 (mV))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-603.5	-603.4	0.1
2	0	CU2	-604.8	-604.7	0.1
3	0	CU3	-604.3	-604.3	0
7	50	50krad Unbiased	-603.3	-604.7	-1.4
8	50	50krad Unbiased	-603.7	-604.8	-1.1
9	50	50krad Unbiased	-603.3	-602.4	0.9
10	60	50krad Biased	-604.8	-604.7	0.1
11	60	50krad Biased	-603.9	-604.4	-0.5
12	60	50krad Biased	-605.7	-605.6	0.1
13	100	100krad Unbiased	-603.7	-604.2	-0.5
14	100	100krad Unbiased	-604.2	-605.9	-1.7
15	100	100krad Unbiased	-605	-607.1	-2.1
16	110	100krad Biased	-604.8	-606.1	-1.3
17	110	100krad Biased	-606.4	-608.8	-2.4
18	110	100krad Biased	-603.6	-604.9	-1.3

TID vs Post - Pre Exposure Delta

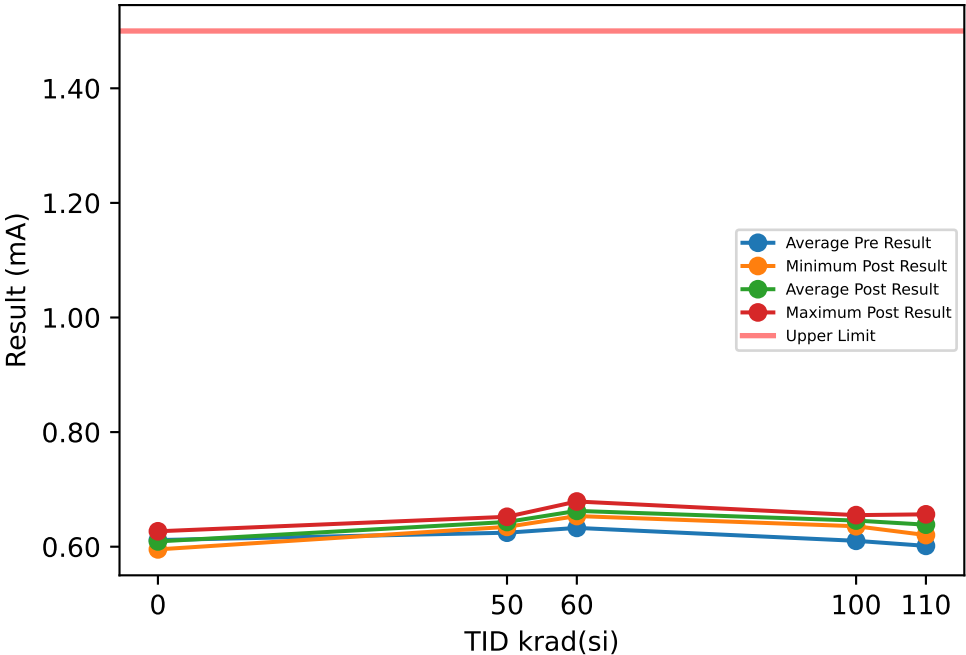


Test Statistics (mV)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-604.8	-604.2	-603.5	0.65574	-604.7	-604.13	-603.4	0.66583	0	0.066667	0.1	0.057735
50	-603.7	-603.43	-603.3	0.23094	-604.8	-603.97	-602.4	1.3577	-1.4	-0.53333	0.9	1.2503
60	-605.7	-604.8	-603.9	0.9	-605.6	-604.9	-604.4	0.6245	-0.5	-0.1	0.1	0.34641
100	-605	-604.3	-603.7	0.65574	-607.1	-605.73	-604.2	1.4572	-2.1	-1.4333	-0.5	0.83267
110	-606.4	-604.93	-603.6	1.4048	-608.8	-606.6	-604.9	1.9975	-2.4	-1.6667	-1.3	0.63509

Device Test: 31.1 SUPPLY_CURRENT|PRE/VIN/SHUTDOWN///3/@I_SHDN

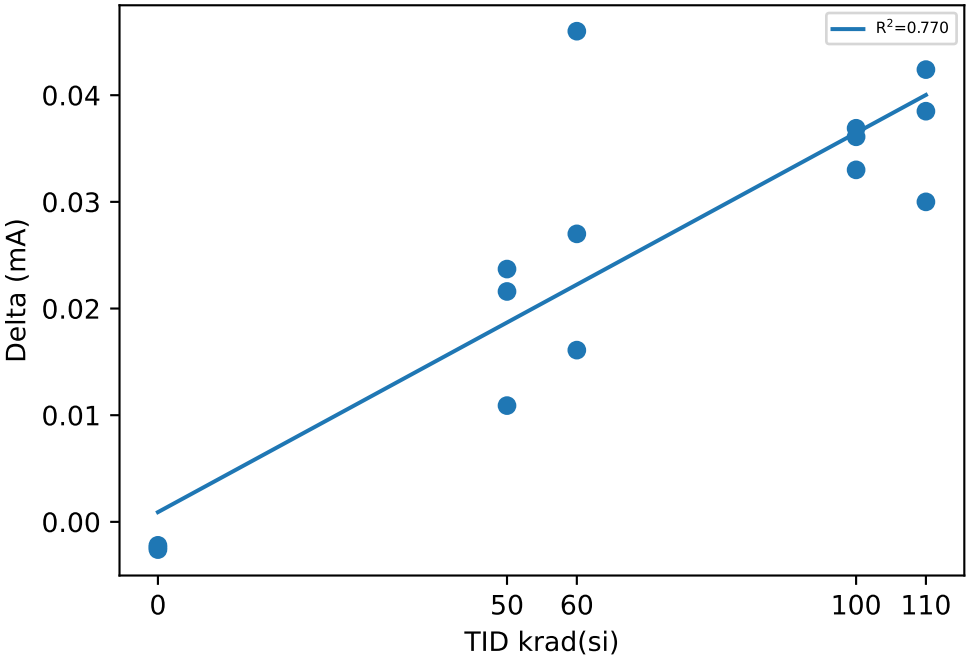
TID vs Result Stats



Test Results (Upper Limit = 1.5 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.6291	0.6269	-0.0022
2	0	CU2	0.5979	0.5953	-0.0026
3	0	CU3	0.6078	0.6054	-0.0024
7	50	50krad Unbiased	0.6109	0.6346	0.0237
8	50	50krad Unbiased	0.6318	0.6427	0.0109
9	50	50krad Unbiased	0.6306	0.6522	0.0216
10	60	50krad Biased	0.6628	0.6789	0.0161
11	60	50krad Biased	0.6282	0.6552	0.027
12	60	50krad Biased	0.6075	0.6535	0.046
13	100	100krad Unbiased	0.619	0.6551	0.0361
14	100	100krad Unbiased	0.6091	0.646	0.0369
15	100	100krad Unbiased	0.6027	0.6357	0.033
16	110	100krad Biased	0.6	0.6385	0.0385
17	110	100krad Biased	0.6265	0.6565	0.03
18	110	100krad Biased	0.5779	0.6203	0.0424

TID vs Post - Pre Exposure Delta

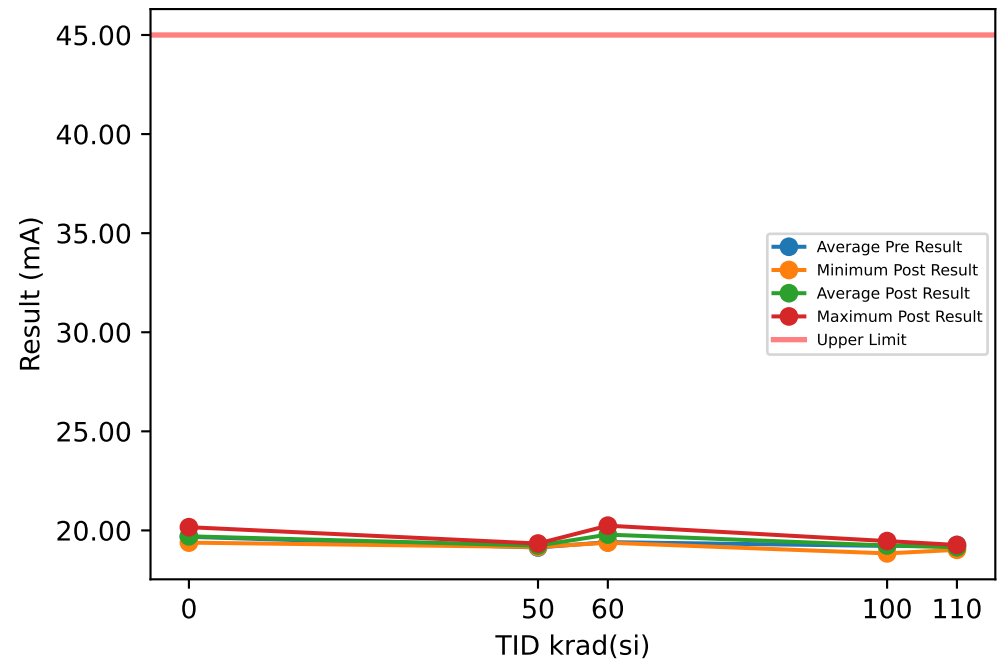


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.5979	0.6116	0.6291	0.015943	0.5953	0.6092	0.6269	0.016139	-0.0026	-0.0024	-0.0022	0.0002
50	0.6109	0.62443	0.6318	0.011736	0.6346	0.64317	0.6522	0.0088093	0.0109	0.018733	0.0237	0.0068646
60	0.6075	0.63283	0.6628	0.02794	0.6535	0.66253	0.6789	0.014199	0.0161	0.0297	0.046	0.015132
100	0.6027	0.61027	0.619	0.0082124	0.6357	0.6456	0.6551	0.0097062	0.033	0.035333	0.0369	0.0020599
110	0.5779	0.60147	0.6265	0.024333	0.6203	0.63843	0.6565	0.0181	0.03	0.036967	0.0424	0.0063406

Device Test: 31.2 SUPPLY_CURRENT|PRE/VIN/QUIESCENT///3/@IQ_VIN_1302

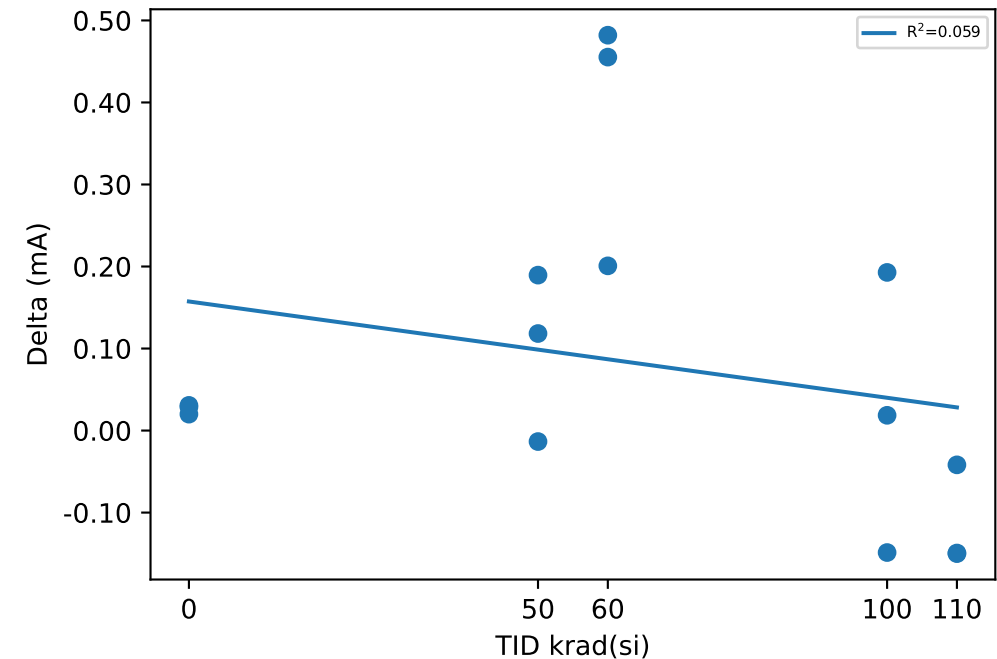
TID vs Result Stats



Test Results (Upper Limit = 45.0 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	20.133	20.163	0.0307
2	0	CU2	19.355	19.384	0.0287
3	0	CU3	19.542	19.562	0.02
7	50	50krad Unbiased	19.045	19.163	0.1183
8	50	50krad Unbiased	19.149	19.339	0.1895
9	50	50krad Unbiased	19.218	19.204	-0.0134
10	60	50krad Biased	18.898	19.38	0.482
11	60	50krad Biased	19.545	19.746	0.2008
12	60	50krad Biased	19.785	20.24	0.4553
13	100	100krad Unbiased	19.27	19.463	0.1928
14	100	100krad Unbiased	18.822	18.84	0.0186
15	100	100krad Unbiased	19.56	19.412	-0.1487
16	110	100krad Biased	19.308	19.159	-0.1493
17	110	100krad Biased	19.415	19.265	-0.15
18	110	100krad Biased	19.062	19.02	-0.0418

TID vs Post - Pre Exposure Delta

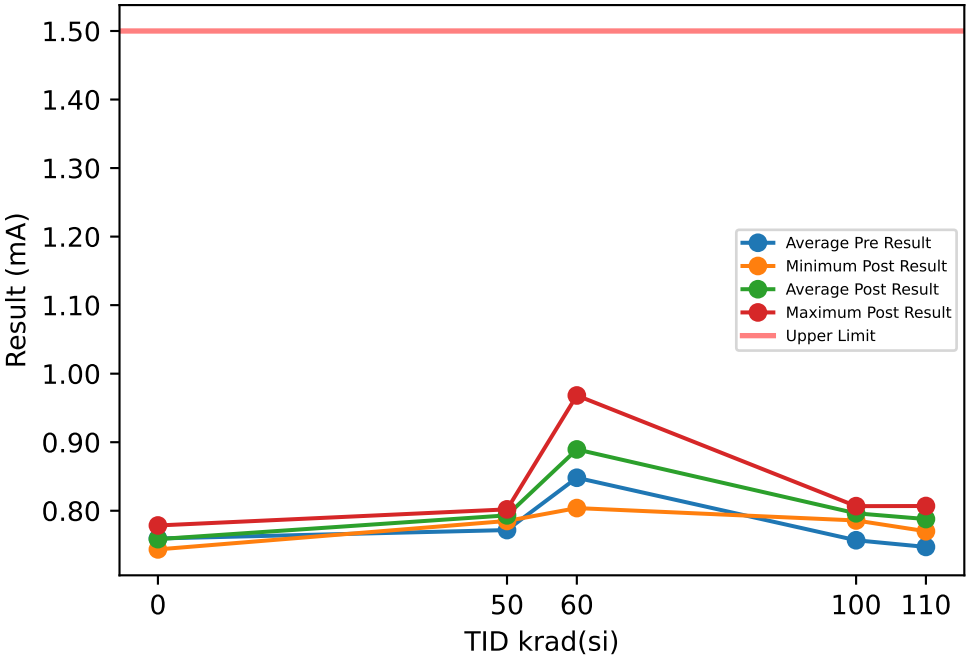


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	19.355	19.677	20.133	0.4059	19.384	19.703	20.163	0.4085	0.02	0.026467	0.0307	0.0056889
50	19.045	19.137	19.218	0.087268	19.163	19.235	19.339	0.091875	-0.0134	0.098133	0.1895	0.10294
60	18.898	19.409	19.785	0.45858	19.38	19.789	20.24	0.43156	0.2008	0.37937	0.482	0.15522
100	18.822	19.217	19.56	0.37205	18.84	19.238	19.463	0.34548	-0.1487	0.0209	0.1928	0.17076
110	19.062	19.262	19.415	0.18087	19.02	19.148	19.265	0.12264	-0.15	-0.1137	-0.0418	0.062268

Device Test: 31.3 SUPPLY_CURRENT|PRE/VIN/SHUTDOWN///6.3/@I_SHDN

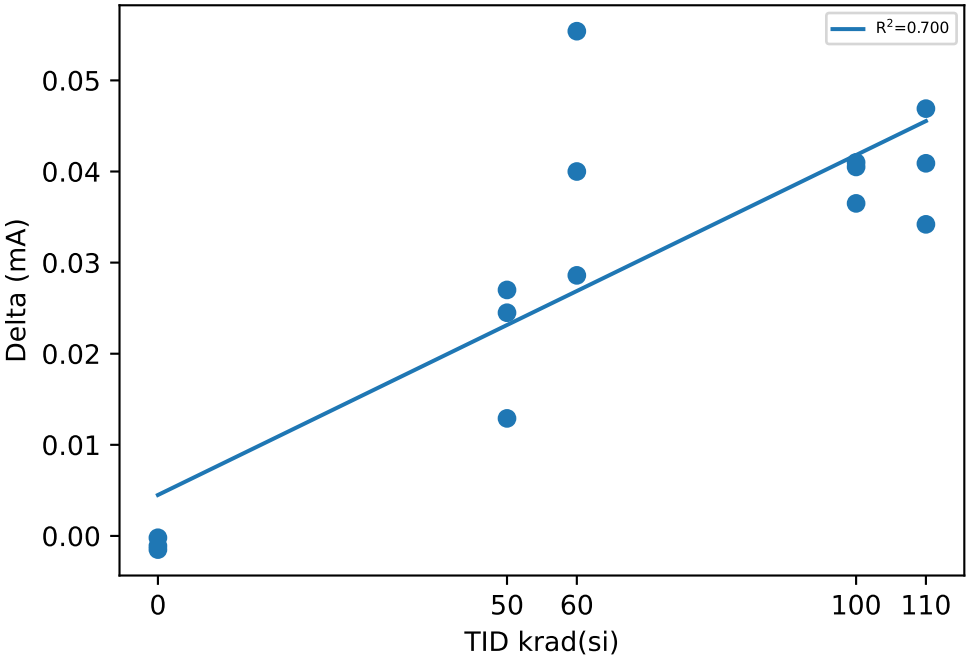
TID vs Result Stats



Test Results (Upper Limit = 1.5 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.7787	0.7785	-0.0002
2	0	CU2	0.7451	0.7436	-0.0015
3	0	CU3	0.7547	0.7536	-0.0011
7	50	50krad Unbiased	0.7581	0.7851	0.027
8	50	50krad Unbiased	0.7798	0.7927	0.0129
9	50	50krad Unbiased	0.7775	0.802	0.0245
10	60	50krad Biased	0.8409	0.8963	0.0554
11	60	50krad Biased	0.7753	0.8039	0.0286
12	60	50krad Biased	0.9282	0.9682	0.04
13	100	100krad Unbiased	0.7662	0.8067	0.0405
14	100	100krad Unbiased	0.7553	0.7963	0.041
15	100	100krad Unbiased	0.7493	0.7858	0.0365
16	110	100krad Biased	0.7457	0.7866	0.0409
17	110	100krad Biased	0.7727	0.8069	0.0342
18	110	100krad Biased	0.7232	0.7701	0.0469

TID vs Post - Pre Exposure Delta

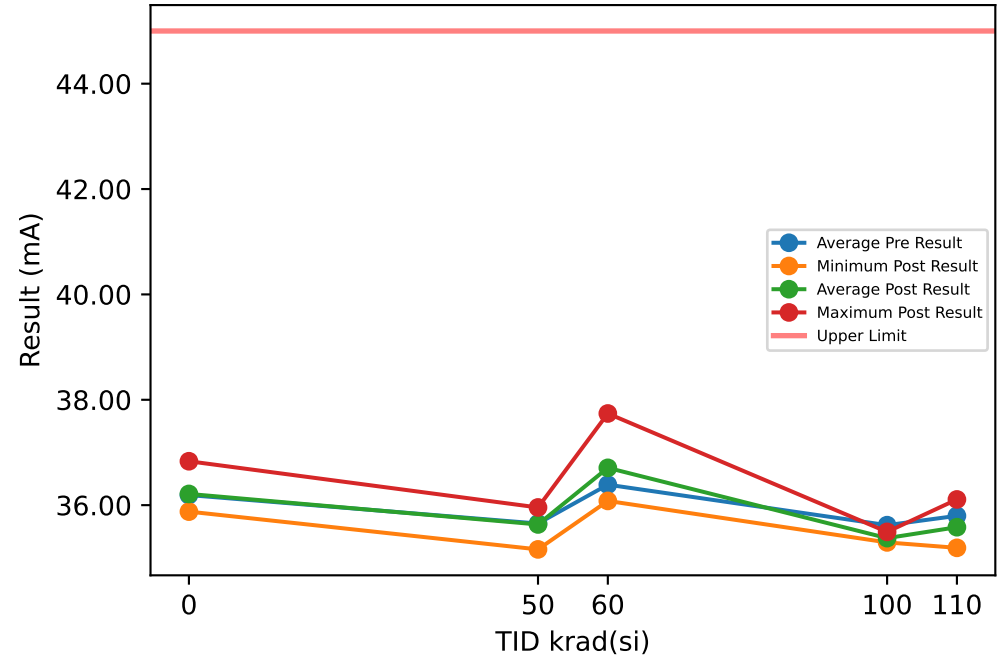


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.7451	0.7595	0.7787	0.017307	0.7436	0.75857	0.7785	0.017972	-0.0015	-0.00093333	-0.0002	0.00066583
50	0.7581	0.7718	0.7798	0.01192	0.7851	0.79327	0.802	0.0084642	0.0129	0.021467	0.027	0.0075235
60	0.7753	0.84813	0.9282	0.076706	0.8039	0.88947	0.9682	0.082363	0.0286	0.041333	0.0554	0.01345
100	0.7493	0.75693	0.7662	0.0085676	0.7858	0.79627	0.8067	0.01045	0.0365	0.039333	0.041	0.0024664
110	0.7232	0.7472	0.7727	0.024784	0.7701	0.78787	0.8069	0.018433	0.0342	0.040667	0.0469	0.0063532

Device Test: 31.4 SUPPLY_CURRENT|PRE/VIN/QUIESCENT///6.3/@IQ_VIN_1302

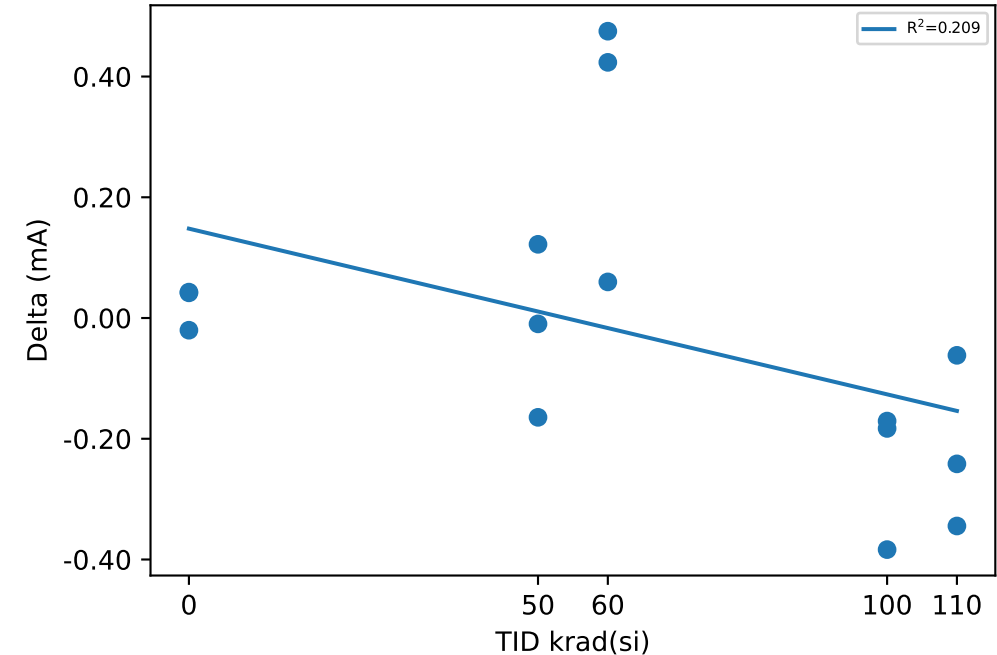
TID vs Result Stats



Test Results (Upper Limit = 45.0 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	36.79	36.833	0.0429
2	0	CU2	35.948	35.928	-0.0202
3	0	CU3	35.835	35.877	0.0417
7	50	50krad Unbiased	35.17	35.16	-0.0097
8	50	50krad Unbiased	35.834	35.956	0.1221
9	50	50krad Unbiased	35.949	35.785	-0.1645
10	60	50krad Biased	35.881	36.304	0.4235
11	60	50krad Biased	36.02	36.08	0.0598
12	60	50krad Biased	37.265	37.74	0.4751
13	100	100krad Unbiased	35.676	35.493	-0.1829
14	100	100krad Unbiased	35.464	35.293	-0.1707
15	100	100krad Unbiased	35.721	35.337	-0.3836
16	110	100krad Biased	35.79	35.446	-0.3445
17	110	100krad Biased	36.35	36.108	-0.2416
18	110	100krad Biased	35.252	35.19	-0.0618

TID vs Post - Pre Exposure Delta

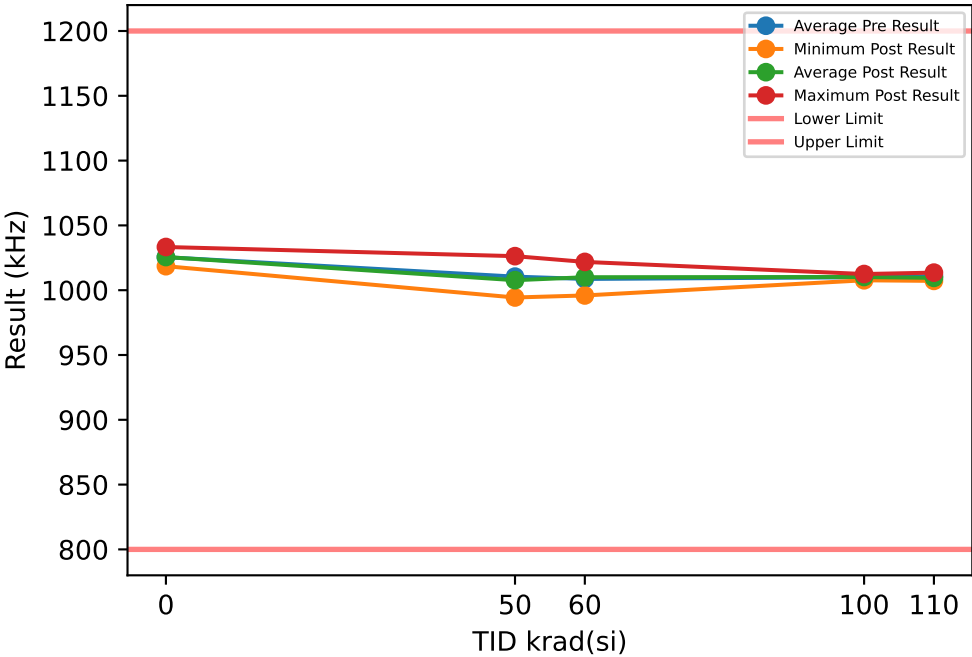


Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	35.835	36.191	36.79	0.52188	35.877	36.213	36.833	0.53799	-0.0202	0.021467	0.0429	0.036089
50	35.17	35.651	35.949	0.4207	35.16	35.634	35.956	0.41901	-0.1645	-0.017367	0.1221	0.14345
60	35.881	36.389	37.265	0.76205	36.08	36.708	37.74	0.90061	0.0598	0.31947	0.4751	0.22635
100	35.464	35.62	35.721	0.13745	35.293	35.374	35.493	0.10493	-0.3836	-0.24573	-0.1707	0.11955
110	35.252	35.797	36.35	0.54928	35.19	35.581	36.108	0.47409	-0.3445	-0.21597	-0.0618	0.14308

Device Test: 35.1 SWITCHING_FREQ|/CFLYP|///0mA/3|/@F_SW_1302

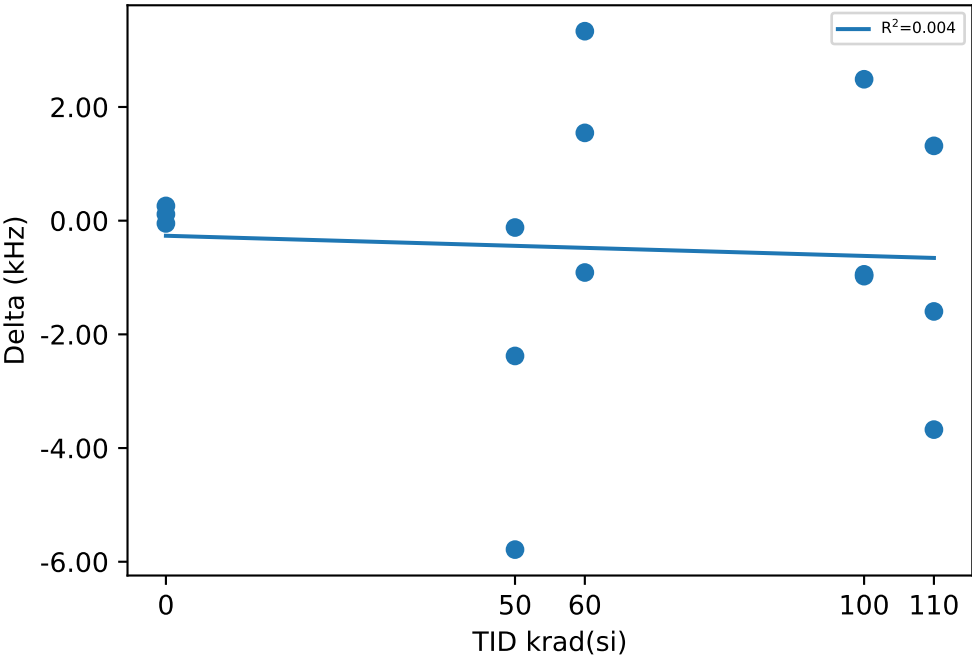
TID vs Result Stats



Test Results (Lower Limit = 800.0, Upper Limit = 1200.0 (kHz))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1033.4	1033.3	-0.0486
2	0	CU2	1024.6	1024.9	0.2594
3	0	CU3	1018.4	1018.5	0.1135
7	50	50krad Unbiased	996.75	994.37	-2.3798
8	50	50krad Unbiased	1026.4	1026.3	-0.1206
9	50	50krad Unbiased	1008.3	1002.5	-5.7863
10	60	50krad Biased	992.61	995.94	3.3331
11	60	50krad Biased	1013.2	1012.3	-0.9119
12	60	50krad Biased	1020.3	1021.8	1.5444
13	100	100krad Unbiased	1011.4	1010.4	-0.9439
14	100	100krad Unbiased	1013.5	1012.5	-0.9763
15	100	100krad Unbiased	1005.2	1007.6	2.4876
16	110	100krad Biased	1008.8	1007.2	-1.5967
17	110	100krad Biased	1017.2	1013.6	-3.6756
18	110	100krad Biased	1006.5	1007.8	1.3161

TID vs Post - Pre Exposure Delta

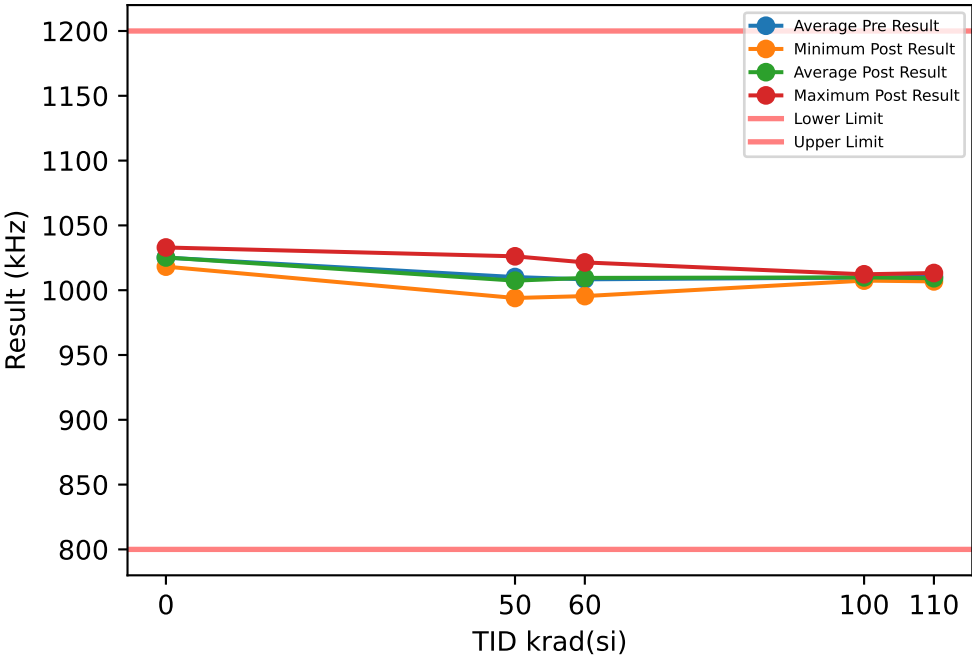


Test Statistics (kHz)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1018.4	1025.5	1033.4	7.5204	1018.5	1025.6	1033.3	7.4279	-0.0486	0.1081	0.2594	0.15407
50	996.75	1010.5	1026.4	14.94	994.37	1007.7	1026.3	16.575	-5.7863	-2.7622	-0.1206	2.8521
60	992.61	1008.7	1020.3	14.371	995.94	1010	1021.8	13.088	-0.9119	1.3219	3.3331	2.1312
100	1005.2	1010	1013.5	4.319	1007.6	1010.2	1012.5	2.427	-0.9763	0.18913	2.4876	1.9906
110	1006.5	1010.8	1017.2	5.6506	1007.2	1009.5	1013.6	3.5078	-3.6756	-1.3187	1.3161	2.5074

Device Test: 35.2 SWITCHING_FREQ|/CFLYP///10mA/3/@F_SW_1302

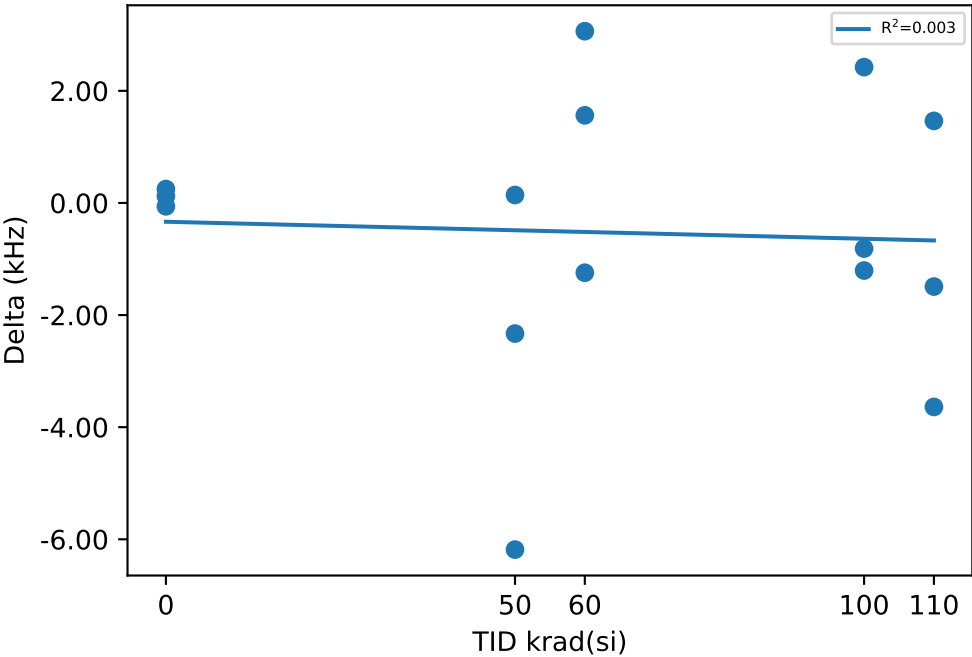
TID vs Result Stats



Test Results (Lower Limit = 800.0, Upper Limit = 1200.0 (kHz))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1033	1033	-0.0598
2	0	CU2	1024.4	1024.6	0.2483
3	0	CU3	1018.1	1018.2	0.1216
7	50	50krad Unbiased	996.32	993.99	-2.3297
8	50	50krad Unbiased	1026	1026.1	0.1417
9	50	50krad Unbiased	1008.1	1001.9	-6.1837
10	60	50krad Biased	992.38	995.45	3.0639
11	60	50krad Biased	1012.9	1011.6	-1.2448
12	60	50krad Biased	1019.9	1021.4	1.5629
13	100	100krad Unbiased	1011.2	1010	-1.2051
14	100	100krad Unbiased	1013.1	1012.3	-0.8142
15	100	100krad Unbiased	1005	1007.4	2.423
16	110	100krad Biased	1008.3	1006.8	-1.4914
17	110	100krad Biased	1016.9	1013.3	-3.6389
18	110	100krad Biased	1006.2	1007.6	1.4638

TID vs Post - Pre Exposure Delta

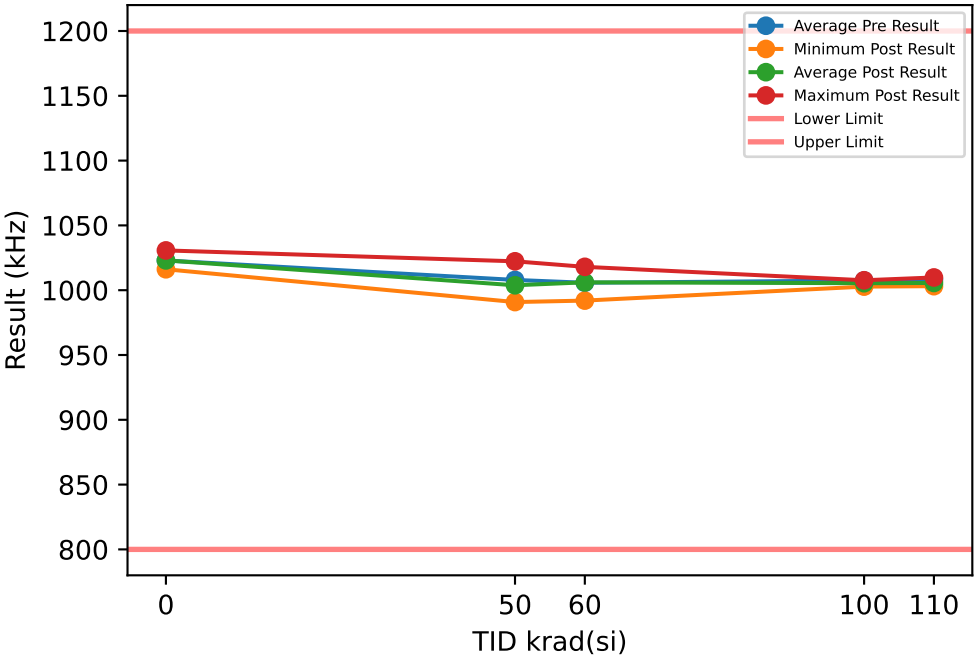


Test Statistics (kHz)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1018.1	1025.2	1033	7.5113	1018.2	1025.3	1033	7.4106	-0.0598	0.10337	0.2483	0.15486
50	996.32	1010.1	1026	14.946	993.99	1007.4	1026.1	16.75	-6.1837	-2.7906	0.1417	3.1878
60	992.38	1008.4	1019.9	14.284	995.45	1009.5	1021.4	13.123	-1.2448	1.1273	3.0639	2.1871
100	1005	1009.8	1013.1	4.2475	1007.4	1009.9	1012.3	2.4413	-1.2051	0.13457	2.423	1.9915
110	1006.2	1010.4	1016.9	5.6857	1006.8	1009.2	1013.3	3.5184	-3.6389	-1.2222	1.4638	2.562

Device Test: 35.3 SWITCHING_FREQ|/CFLYP///150mA/3/@F_SW_1302

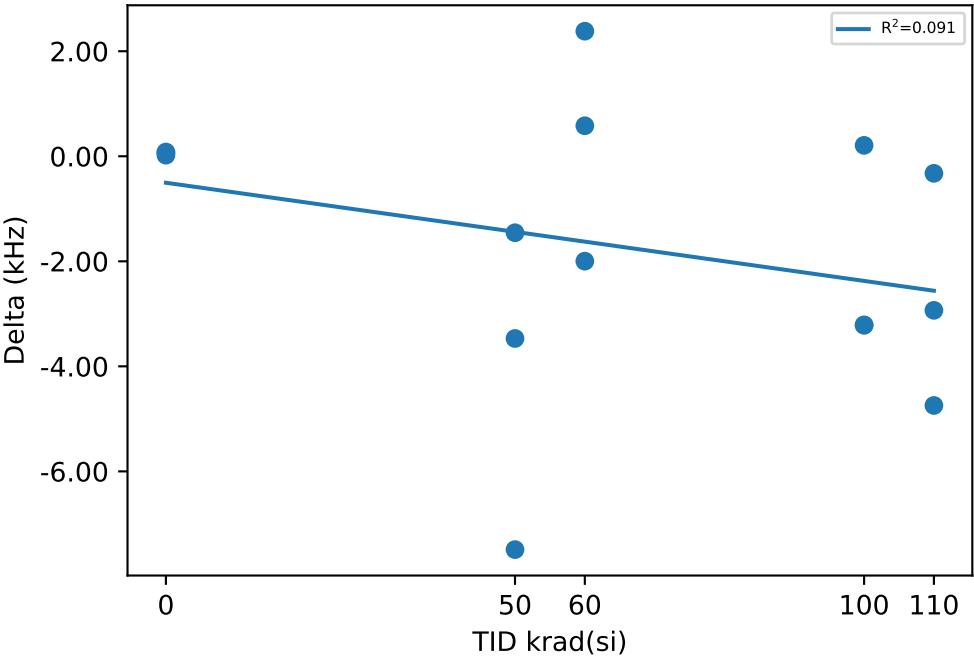
TID vs Result Stats



Test Results (Lower Limit = 800.0, Upper Limit = 1200.0 (kHz))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1030.6	1030.7	0.0666
2	0	CU2	1022.1	1022.1	0.0208
3	0	CU3	1016.1	1016.2	0.0805
7	50	50krad Unbiased	994.32	990.85	-3.4696
8	50	50krad Unbiased	1023.8	1022.3	-1.4559
9	50	50krad Unbiased	1005.7	998.24	-7.4893
10	60	50krad Biased	989.59	991.98	2.3814
11	60	50krad Biased	1010.2	1008.2	-1.9974
12	60	50krad Biased	1017.4	1018	0.5809
13	100	100krad Unbiased	1009	1005.8	-3.2108
14	100	100krad Unbiased	1010.9	1007.7	-3.218
15	100	100krad Unbiased	1002.6	1002.8	0.2078
16	110	100krad Biased	1006	1003.1	-2.9337
17	110	100krad Biased	1014.6	1009.8	-4.7448
18	110	100krad Biased	1004.2	1003.8	-0.3249

TID vs Post - Pre Exposure Delta

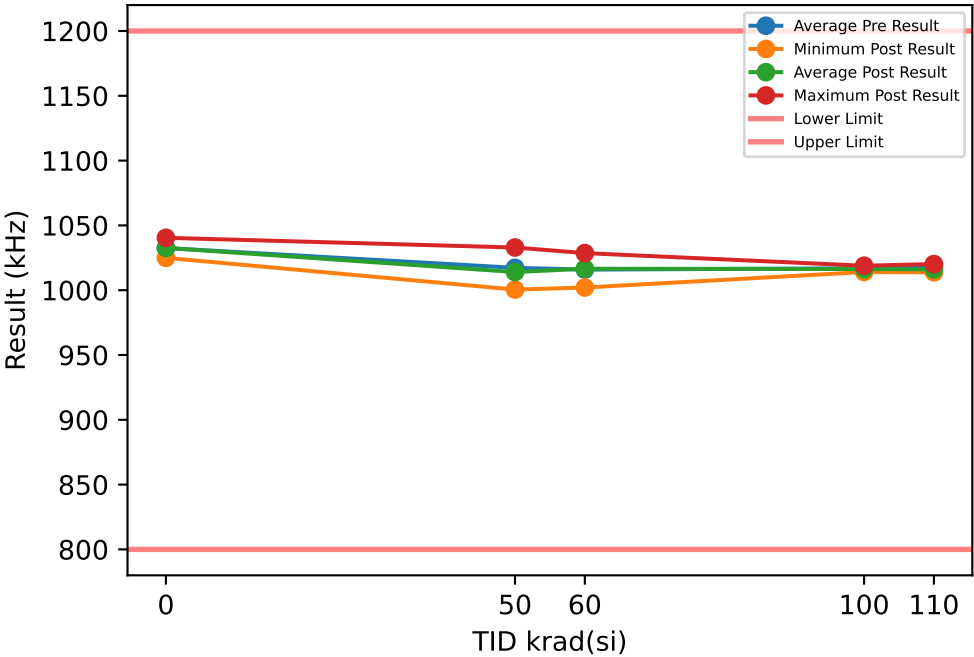


Test Statistics (kHz)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1016.1	1022.9	1030.6	7.3106	1016.2	1023	1030.7	7.3067	0.0208	0.055967	0.0805	0.031238
50	994.32	1007.9	1023.8	14.84	990.85	1003.8	1022.3	16.443	-7.4893	-4.1383	-1.4559	3.0718
60	989.59	1005.7	1017.4	14.45	991.98	1006.1	1018	13.155	-1.9974	0.32163	2.3814	2.2009
100	1002.6	1007.5	1010.9	4.364	1002.8	1005.4	1007.7	2.4718	-3.218	-2.0737	0.2078	1.9758
110	1004.2	1008.3	1014.6	5.5456	1003.1	1005.6	1009.8	3.6852	-4.7448	-2.6678	-0.3249	2.2219

Device Test: 35.4 SWITCHING_FREQ|/CFLYP|///0mA/6.3/@F_SW_1302

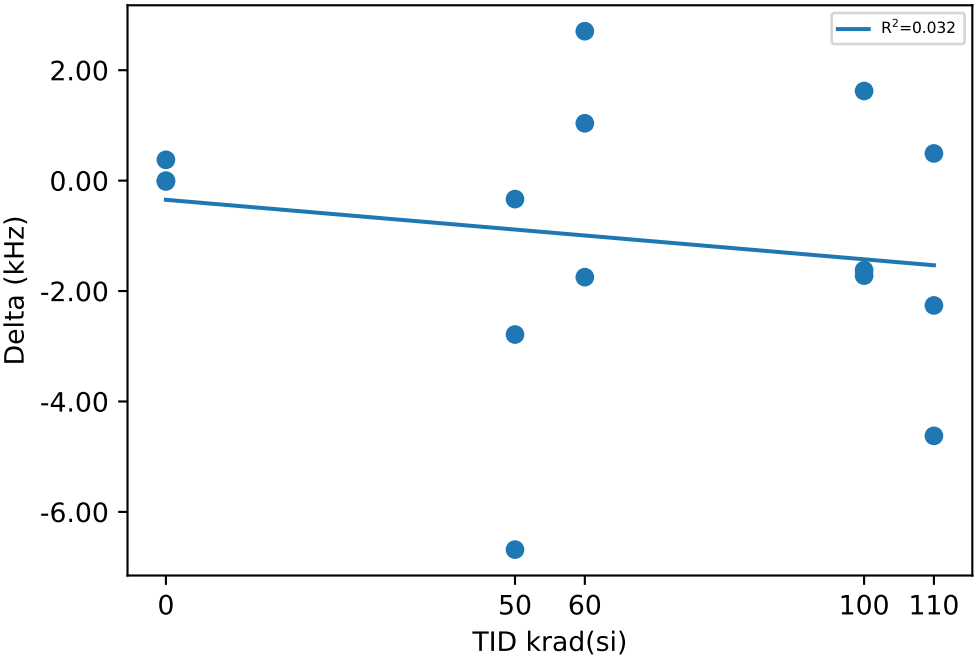
TID vs Result Stats



Test Results (Lower Limit = 800.0, Upper Limit = 1200.0 (kHz))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1040.5	1040.4	-0.0156
2	0	CU2	1032.2	1032.6	0.377
3	0	CU3	1025	1025	-0.0001
7	50	50krad Unbiased	1003.3	1000.5	-2.7874
8	50	50krad Unbiased	1033.3	1032.9	-0.3344
9	50	50krad Unbiased	1015.3	1008.6	-6.6827
10	60	50krad Biased	999.34	1002	2.7063
11	60	50krad Biased	1020.7	1019	-1.7487
12	60	50krad Biased	1027.6	1028.6	1.0383
13	100	100krad Unbiased	1017.8	1016.1	-1.7206
14	100	100krad Unbiased	1020.5	1018.9	-1.6204
15	100	100krad Unbiased	1012.4	1014	1.6234
16	110	100krad Biased	1016.1	1013.8	-2.2605
17	110	100krad Biased	1024.8	1020.2	-4.6227
18	110	100krad Biased	1013.5	1014	0.492

TID vs Post - Pre Exposure Delta

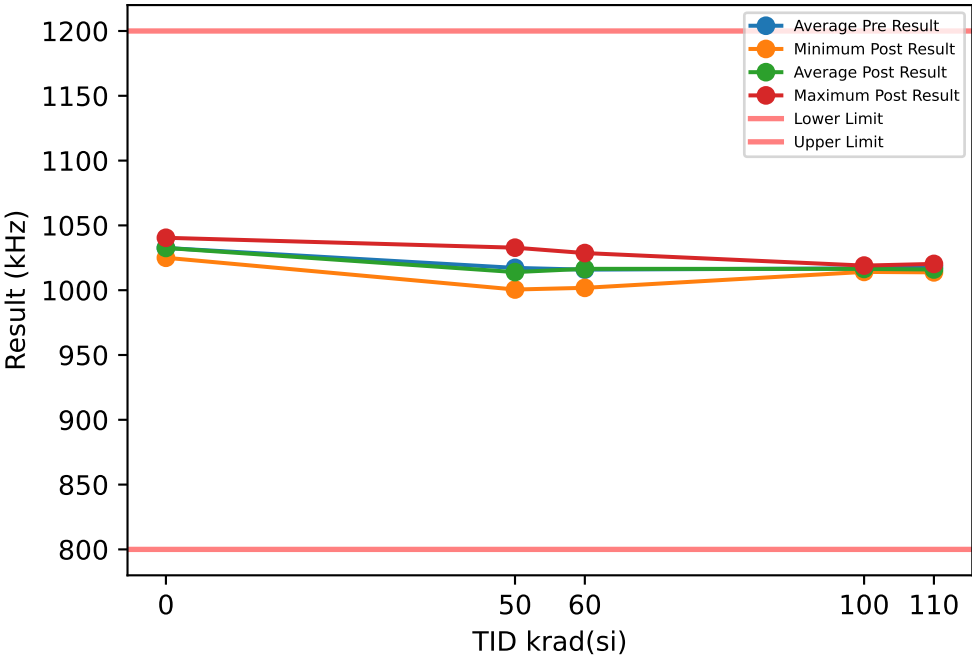


Test Statistics (kHz)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1025	1032.5	1040.5	7.7481	1025	1032.7	1040.4	7.7353	-0.0156	0.12043	0.377	0.22233
50	1003.3	1017.3	1033.3	15.099	1000.5	1014	1032.9	16.886	-6.6827	-3.2682	-0.3344	3.2013
60	999.34	1015.9	1027.6	14.731	1002	1016.5	1028.6	13.454	-1.7487	0.6653	2.7063	2.2508
100	1012.4	1016.9	1020.5	4.131	1014	1016.3	1018.9	2.4371	-1.7206	-0.57253	1.6234	1.9024
110	1013.5	1018.1	1024.8	5.93	1013.8	1016	1020.2	3.6302	-4.6227	-2.1304	0.492	2.5598

Device Test: 35.5 SWITCHING_FREQ|/CFLYP|///10mA/6.3/@F_SW_1302

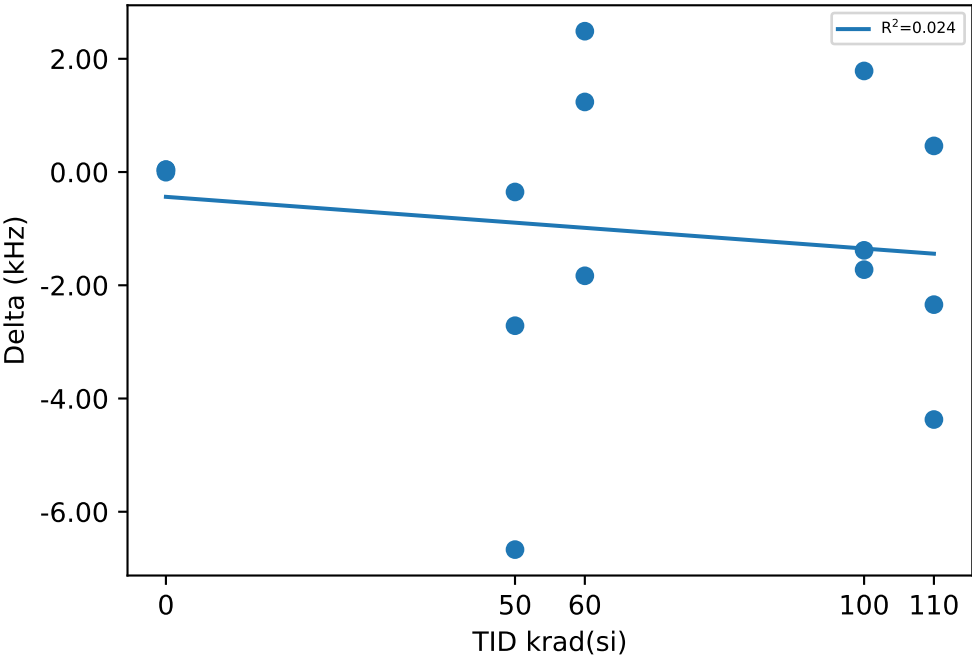
TID vs Result Stats



Test Results (Lower Limit = 800.0, Upper Limit = 1200.0 (kHz))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1040.4	1040.4	0.0433
2	0	CU2	1032.4	1032.4	0.039
3	0	CU3	1025	1025	-0.0029
7	50	50krad Unbiased	1003.2	1000.5	-2.7142
8	50	50krad Unbiased	1033.2	1032.8	-0.3521
9	50	50krad Unbiased	1015.3	1008.6	-6.6685
10	60	50krad Biased	999.33	1001.8	2.4875
11	60	50krad Biased	1020.8	1019	-1.8326
12	60	50krad Biased	1027.4	1028.7	1.2379
13	100	100krad Unbiased	1017.9	1016.1	-1.7241
14	100	100krad Unbiased	1020.4	1019	-1.3829
15	100	100krad Unbiased	1012.3	1014.1	1.7853
16	110	100krad Biased	1016.1	1013.8	-2.342
17	110	100krad Biased	1024.6	1020.3	-4.3712
18	110	100krad Biased	1013.4	1013.9	0.4616

TID vs Post - Pre Exposure Delta

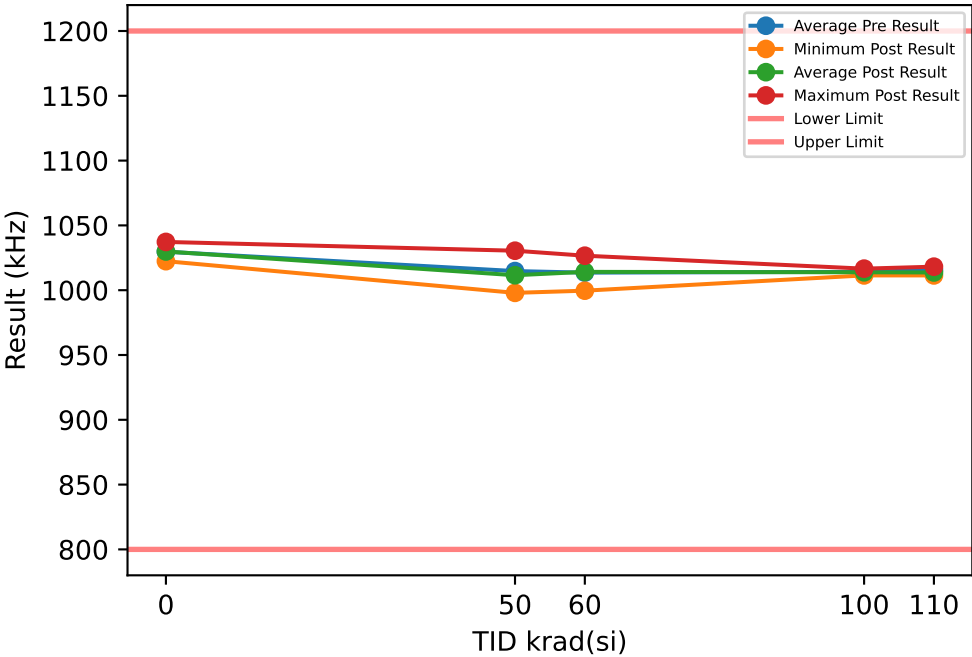


Test Statistics (kHz)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1025	1032.6	1040.4	7.6891	1025	1032.6	1040.4	7.7119	-0.0029	0.026467	0.0433	0.025523
50	1003.2	1017.2	1033.2	15.055	1000.5	1014	1032.8	16.8	-6.6685	-3.2449	-0.3521	3.1915
60	999.33	1015.9	1027.4	14.688	1001.8	1016.5	1028.7	13.594	-1.8326	0.63093	2.4875	2.2231
100	1012.3	1016.9	1020.4	4.122	1014.1	1016.4	1019	2.4538	-1.7241	-0.44057	1.7853	1.9352
110	1013.4	1018.1	1024.6	5.8564	1013.8	1016	1020.3	3.7224	-4.3712	-2.0839	0.4616	2.4267

Device Test: 35.6 SWITCHING_FREQ|/CFLYP///400mA/6.3/@F_SW_1302

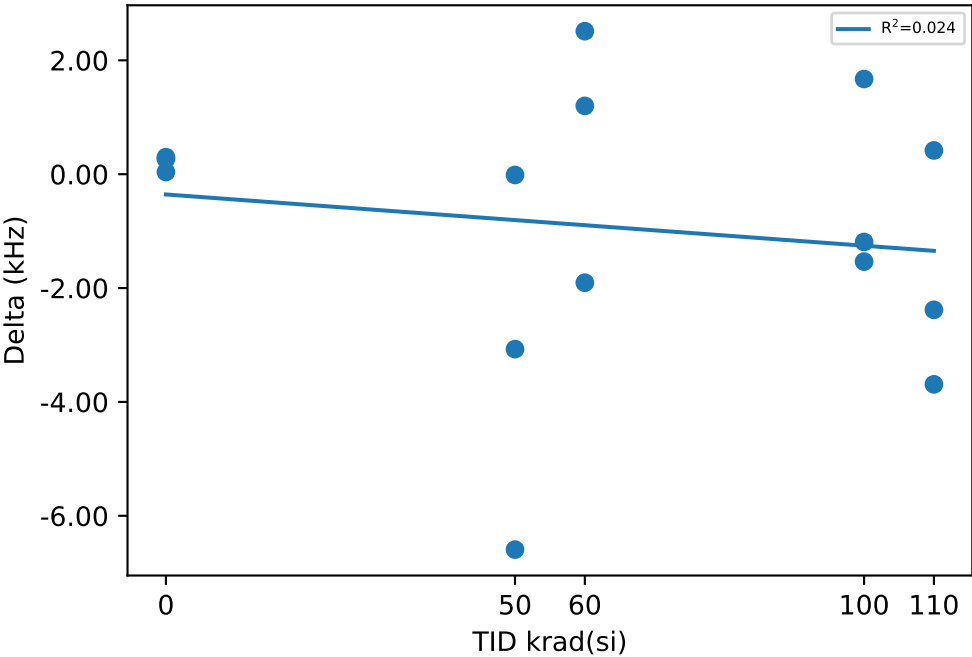
TID vs Result Stats



Test Results (Lower Limit = 800.0, Upper Limit = 1200.0 (kHz))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1037	1037.2	0.2677
2	0	CU2	1029.7	1030	0.299
3	0	CU3	1022.4	1022.4	0.0386
7	50	50krad Unbiased	1001	997.95	-3.0728
8	50	50krad Unbiased	1030.5	1030.5	-0.014
9	50	50krad Unbiased	1012.8	1006.2	-6.5939
10	60	50krad Biased	997.12	999.63	2.5119
11	60	50krad Biased	1018.1	1016.2	-1.9059
12	60	50krad Biased	1025.4	1026.6	1.2003
13	100	100krad Unbiased	1014.9	1013.4	-1.5352
14	100	100krad Unbiased	1017.8	1016.6	-1.1903
15	100	100krad Unbiased	1009.7	1011.4	1.6721
16	110	100krad Biased	1013.9	1011.5	-2.3823
17	110	100krad Biased	1021.8	1018.2	-3.6913
18	110	100krad Biased	1011	1011.4	0.4171

TID vs Post - Pre Exposure Delta

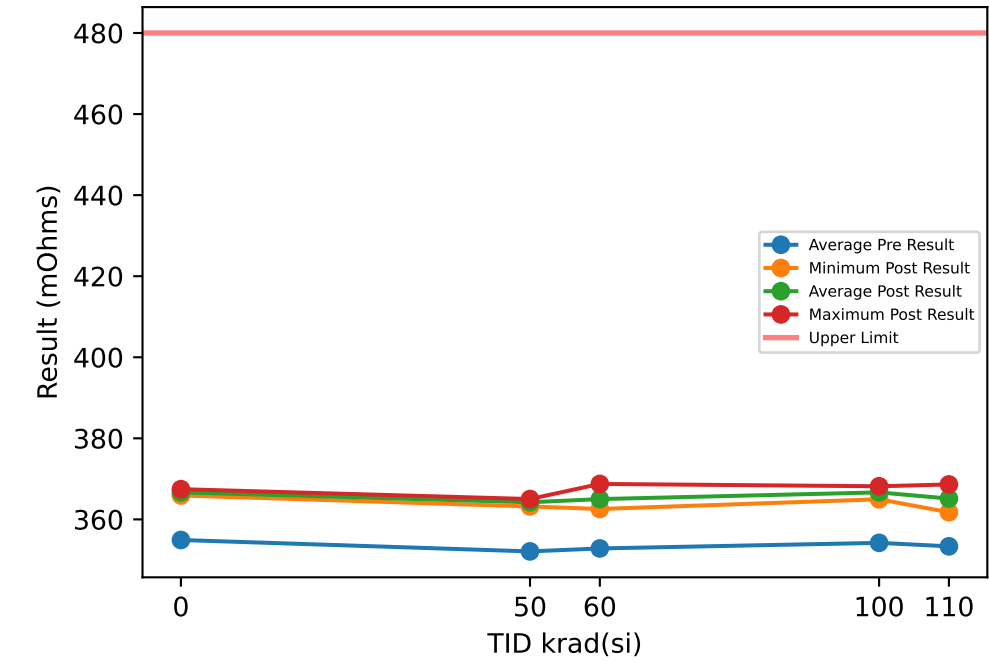


Test Statistics (kHz)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1022.4	1029.7	1037	7.3074	1022.4	1029.9	1037.2	7.4227	0.0386	0.20177	0.299	0.14217
50	1001	1014.8	1030.5	14.829	997.95	1011.5	1030.5	16.906	-6.5939	-3.2269	-0.014	3.2927
60	997.12	1013.6	1025.4	14.692	999.63	1014.2	1026.6	13.611	-1.9059	0.6021	2.5119	2.2688
100	1009.7	1014.2	1017.8	4.1005	1011.4	1013.8	1016.6	2.6372	-1.5352	-0.35113	1.6721	1.7606
110	1011	1015.6	1021.8	5.6224	1011.4	1013.7	1018.2	3.8677	-3.6913	-1.8855	0.4171	2.0988

Device Test: 40.2 RDSON|//SW1///5/@SW1_RDSON

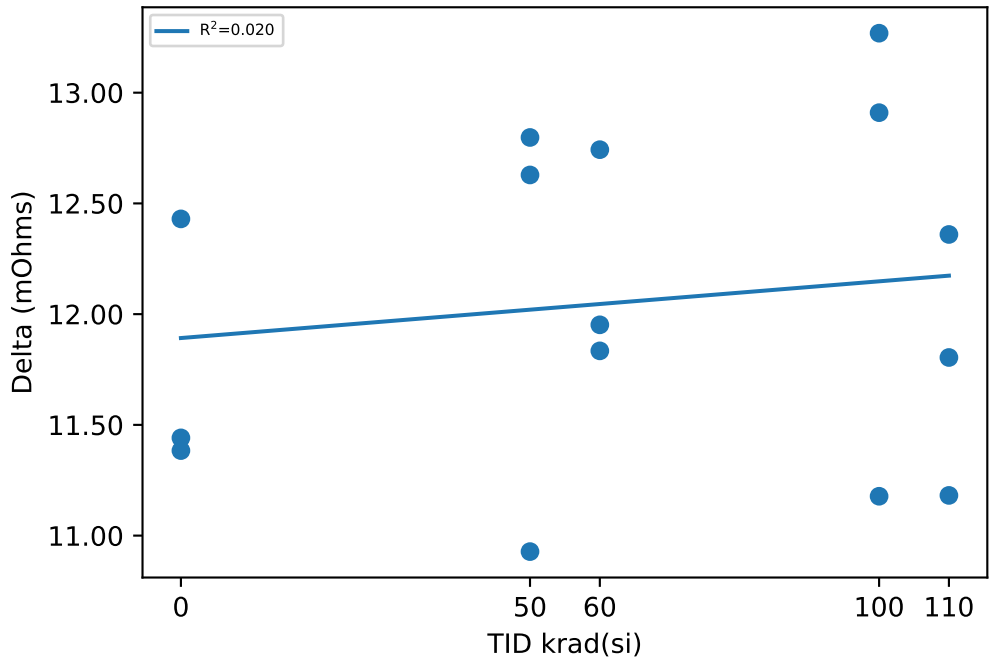
TID vs Result Stats



Test Results (Upper Limit = 480.0 (mOhms))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	355.21	366.65	11.441
2	0	CU2	356.08	367.46	11.384
3	0	CU3	353.47	365.9	12.43
7	50	50krad Unbiased	352.26	363.19	10.928
8	50	50krad Unbiased	351.66	364.46	12.798
9	50	50krad Unbiased	352.39	365.02	12.628
10	60	50krad Biased	350.74	362.57	11.834
11	60	50krad Biased	351.76	363.71	11.952
12	60	50krad Biased	356.01	368.75	12.743
13	100	100krad Unbiased	354.9	368.17	13.269
14	100	100krad Unbiased	352.06	364.96	12.91
15	100	100krad Unbiased	355.68	366.86	11.178
16	110	100krad Biased	356.82	368.62	11.804
17	110	100krad Biased	350.59	361.77	11.182
18	110	100krad Biased	352.66	365.02	12.36

TID vs Post - Pre Exposure Delta

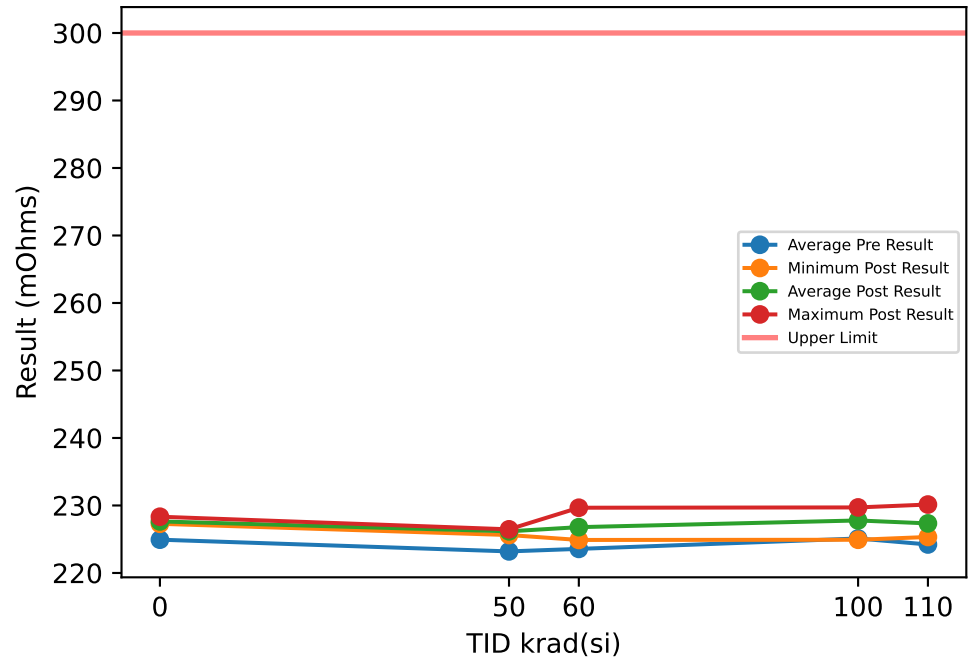


Test Statistics (mOhms)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	353.47	354.92	356.08	1.3243	365.9	366.67	367.46	0.77797	11.384	11.752	12.43	0.58815
50	351.66	352.11	352.39	0.3909	363.19	364.22	365.02	0.93703	10.928	12.118	12.798	1.0342
60	350.74	352.83	356.01	2.7943	362.57	365.01	368.75	3.2875	11.834	12.176	12.743	0.49409
100	352.06	354.21	355.68	1.9078	364.96	366.66	368.17	1.6125	11.178	12.452	13.269	1.1181
110	350.59	353.35	356.82	3.1754	361.77	365.14	368.62	3.4303	11.182	11.782	12.36	0.58947

Device Test: 40.3 RDSON|//SW3///5/@SW3_RDSON

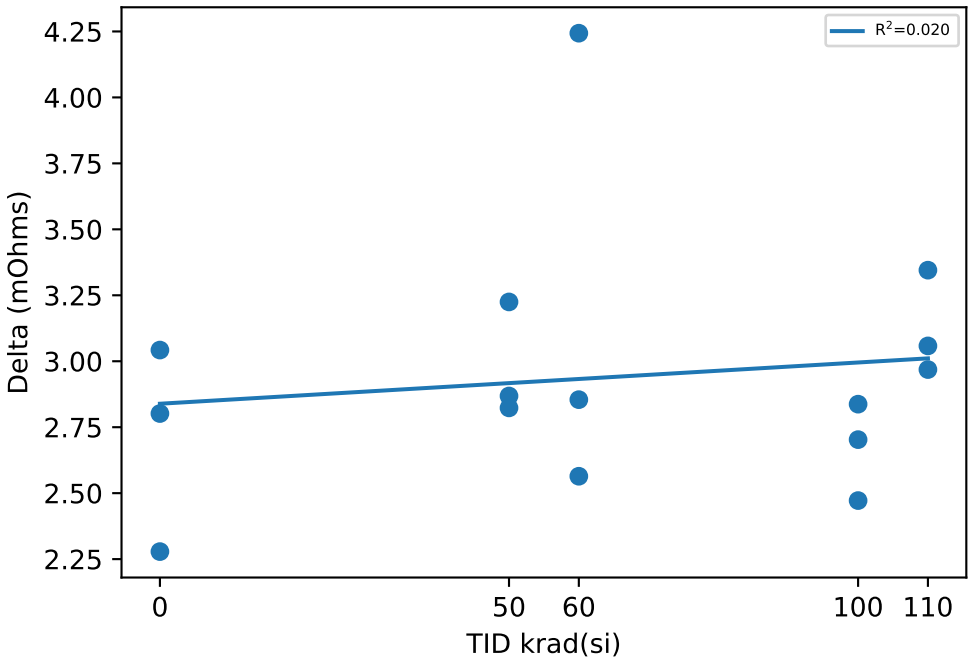
TID vs Result Stats



Test Results (Upper Limit = 300.0 (mOhms))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	224.5	227.3	2.8018
2	0	CU2	225.29	228.34	3.0424
3	0	CU3	225.01	227.29	2.2785
7	50	50krad Unbiased	223.55	226.42	2.8683
8	50	50krad Unbiased	222.4	225.62	3.2248
9	50	50krad Unbiased	223.64	226.47	2.8232
10	60	50krad Biased	221.56	225.81	4.2434
11	60	50krad Biased	222.33	224.89	2.5641
12	60	50krad Biased	226.81	229.67	2.8544
13	100	100krad Unbiased	226.87	229.71	2.8373
14	100	100krad Unbiased	222.45	224.92	2.4719
15	100	100krad Unbiased	226.01	228.71	2.7029
16	110	100krad Biased	227.08	230.14	3.0581
17	110	100krad Biased	221.99	225.33	3.3452
18	110	100krad Biased	223.6	226.56	2.9685

TID vs Post - Pre Exposure Delta

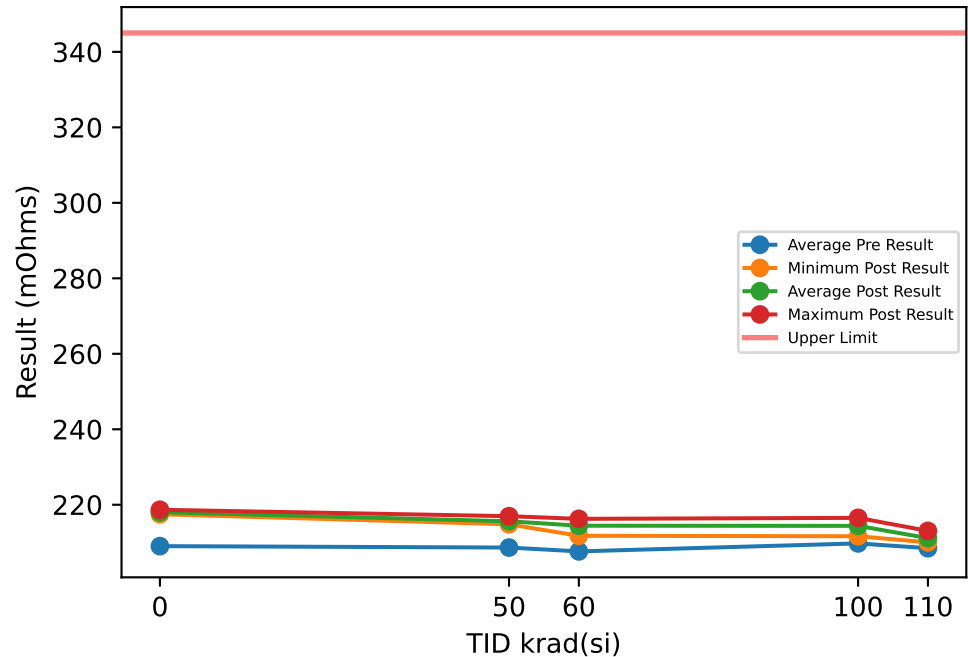


Test Statistics (mOhms)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	224.5	224.93	225.29	0.40347	227.29	227.64	228.34	0.60235	2.2785	2.7076	3.0424	0.39057
50	222.4	223.2	223.64	0.69538	225.62	226.17	226.47	0.47557	2.8232	2.9721	3.2248	0.22
60	221.56	223.57	226.81	2.8357	224.89	226.79	229.67	2.5343	2.5641	3.2206	4.2434	0.89756
100	222.45	225.11	226.87	2.3466	224.92	227.78	229.71	2.5284	2.4719	2.6707	2.8373	0.18482
110	221.99	224.22	227.08	2.6036	225.33	227.35	230.14	2.4965	2.9685	3.1239	3.3452	0.19679

Device Test: 40.5 RDSON|//SW2///5/@SW2_RDSON

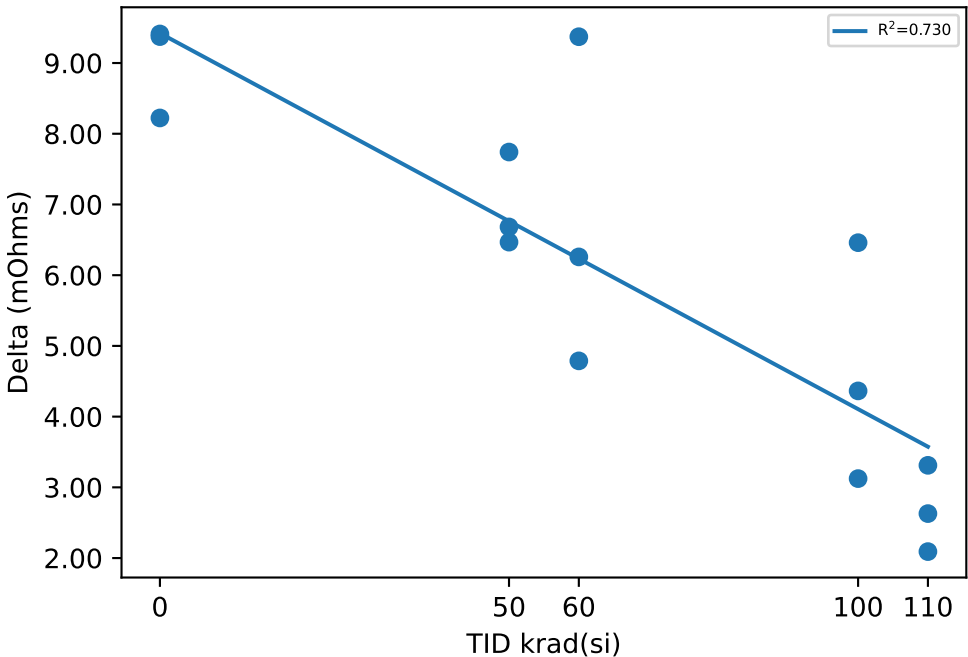
TID vs Result Stats



Test Results (Upper Limit = 345.0 (mOhms))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	209.3	218.68	9.3736
2	0	CU2	209.73	217.95	8.2233
3	0	CU3	208.08	217.49	9.4109
7	50	50krad Unbiased	208.61	215.08	6.4673
8	50	50krad Unbiased	207.08	214.82	7.7414
9	50	50krad Unbiased	210.29	216.97	6.6823
10	60	50krad Biased	206.89	216.27	9.372
11	60	50krad Biased	205.52	211.78	6.2585
12	60	50krad Biased	210.51	215.3	4.7884
13	100	100krad Unbiased	210.07	216.53	6.4597
14	100	100krad Unbiased	208.53	211.65	3.1237
15	100	100krad Unbiased	210.68	215.04	4.3638
16	110	100krad Biased	209.76	213.07	3.3114
17	110	100krad Biased	207.4	210.03	2.6289
18	110	100krad Biased	208.3	210.39	2.0915

TID vs Post - Pre Exposure Delta

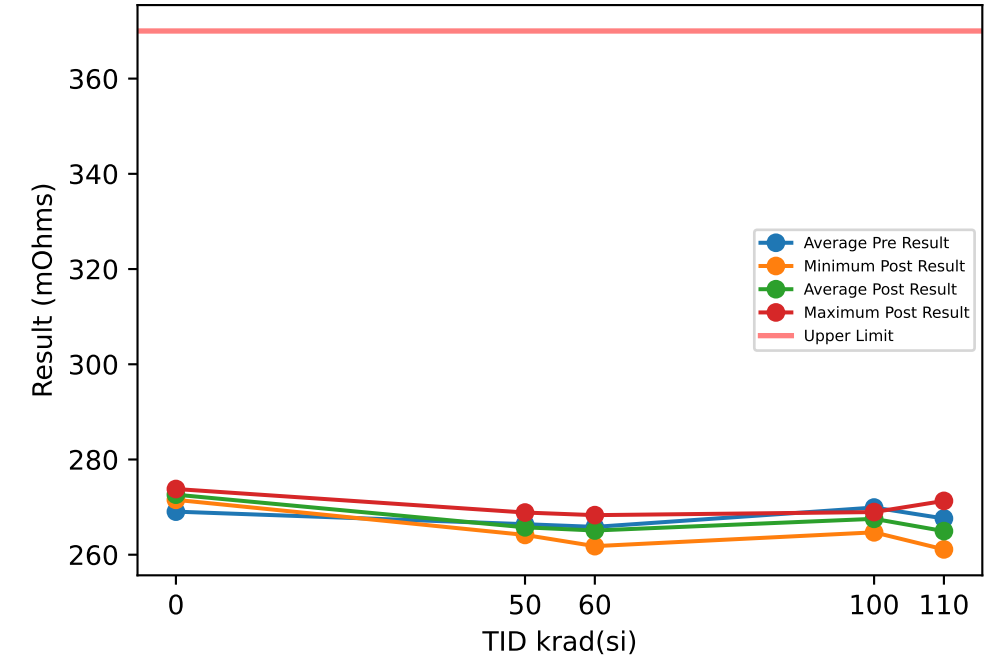


Test Statistics (mOhms)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	208.08	209.04	209.73	0.85688	217.49	218.04	218.68	0.59854	8.2233	9.0026	9.4109	0.67515
50	207.08	208.66	210.29	1.6052	214.82	215.62	216.97	1.1745	6.4673	6.9637	7.7414	0.68206
60	205.52	207.64	210.51	2.5765	211.78	214.45	216.27	2.3605	4.7884	6.8063	9.372	2.3404
100	208.53	209.76	210.68	1.1072	211.65	214.41	216.53	2.4981	3.1237	4.6491	6.4597	1.6862
110	207.4	208.49	209.76	1.1909	210.03	211.17	213.07	1.6622	2.0915	2.6773	3.3114	0.61139

Device Test: 40.6 RDSON|//SW4///5/@SW4_RDSON

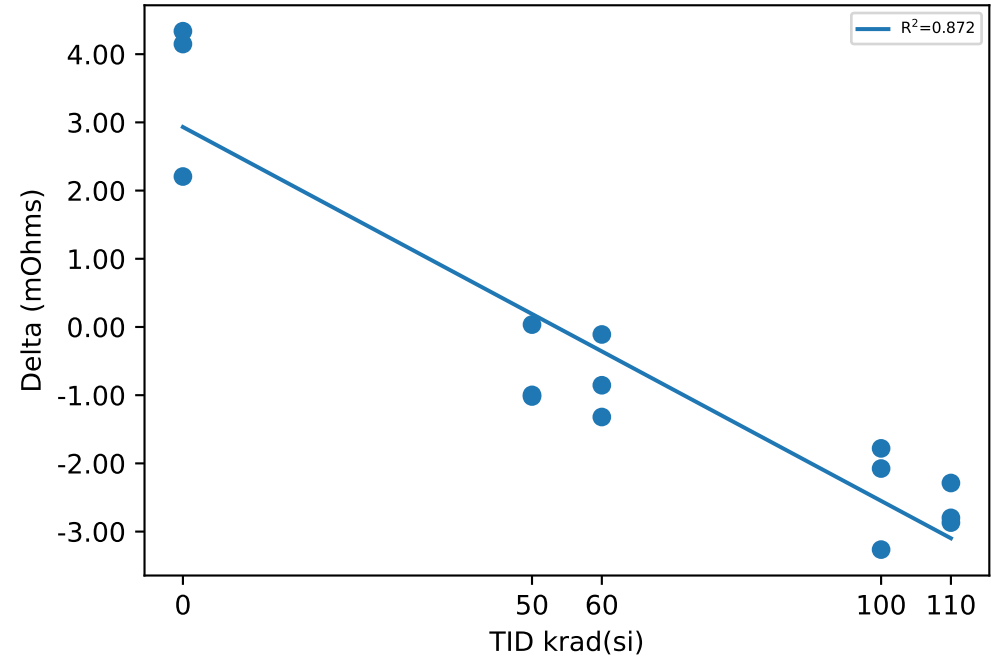
TID vs Result Stats



Test Results (Upper Limit = 370.0 (mOhms))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	267.38	271.53	4.1483
2	0	CU2	271.59	273.8	2.2061
3	0	CU3	268.17	272.51	4.3369
7	50	50krad Unbiased	265.15	264.16	-0.9957
8	50	50krad Unbiased	264.21	264.24	0.0348
9	50	50krad Unbiased	269.88	268.86	-1.0195
10	60	50krad Biased	265.25	265.14	-0.1097
11	60	50krad Biased	263.12	261.8	-1.32
12	60	50krad Biased	269.16	268.31	-0.8544
13	100	100krad Unbiased	270.73	268.95	-1.7799
14	100	100krad Unbiased	266.78	264.7	-2.0756
15	100	100krad Unbiased	272.22	268.96	-3.2641
16	110	100krad Biased	274.17	271.3	-2.8683
17	110	100krad Biased	263.92	261.12	-2.7987
18	110	100krad Biased	264.75	262.46	-2.2876

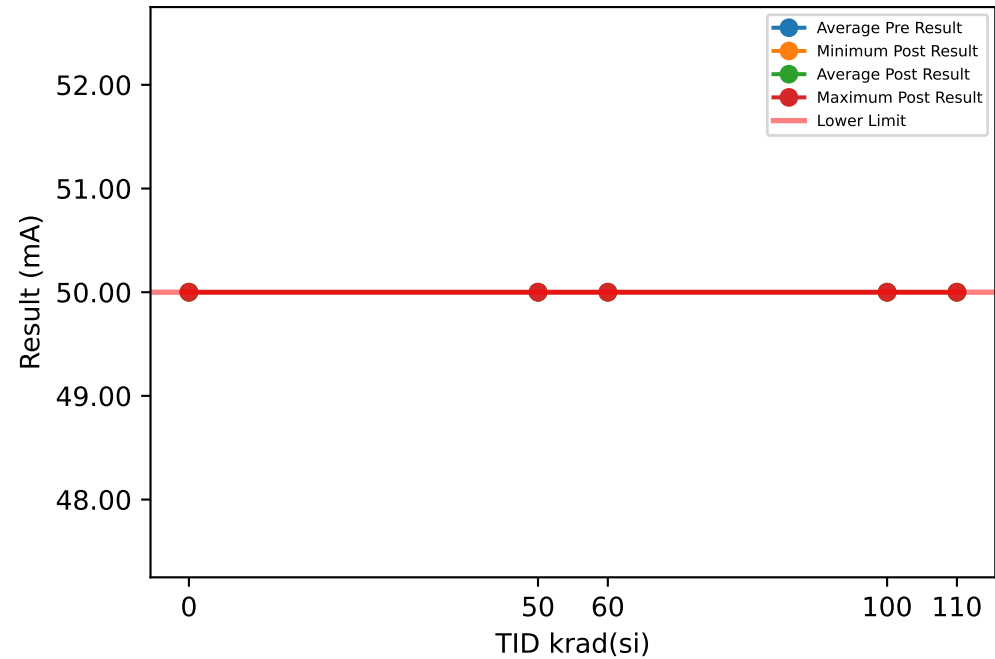
TID vs Post - Pre Exposure Delta



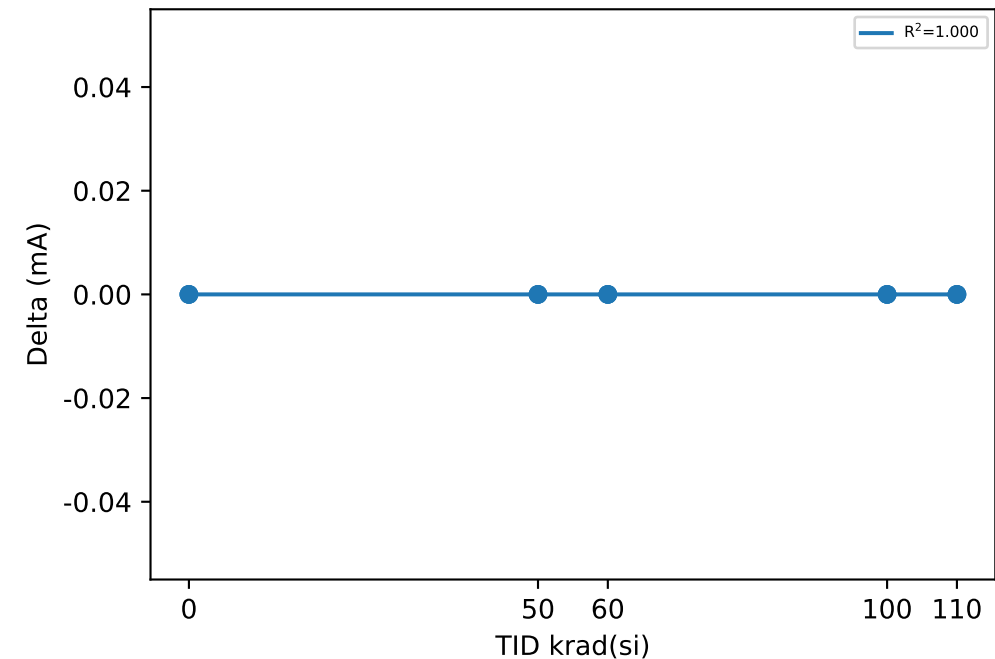
Test Statistics (mOhms)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	267.38	269.05	271.59	2.2403	271.53	272.61	273.8	1.1408	2.2061	3.5638	4.3369	1.1795
50	264.21	266.41	269.88	3.0395	264.16	265.75	268.86	2.6919	-1.0195	-0.66013	0.0348	0.60195
60	263.12	265.84	269.16	3.0663	261.8	265.08	268.31	3.2559	-1.32	-0.76137	-0.1097	0.61049
100	266.78	269.91	272.22	2.8145	264.7	267.54	268.96	2.4563	-3.2641	-2.3732	-1.7799	0.78558
110	263.92	267.61	274.17	5.6965	261.12	264.96	271.3	5.5344	-2.8683	-2.6515	-2.2876	0.31709

TID vs Result Stats



TID vs Post - Pre Exposure Delta



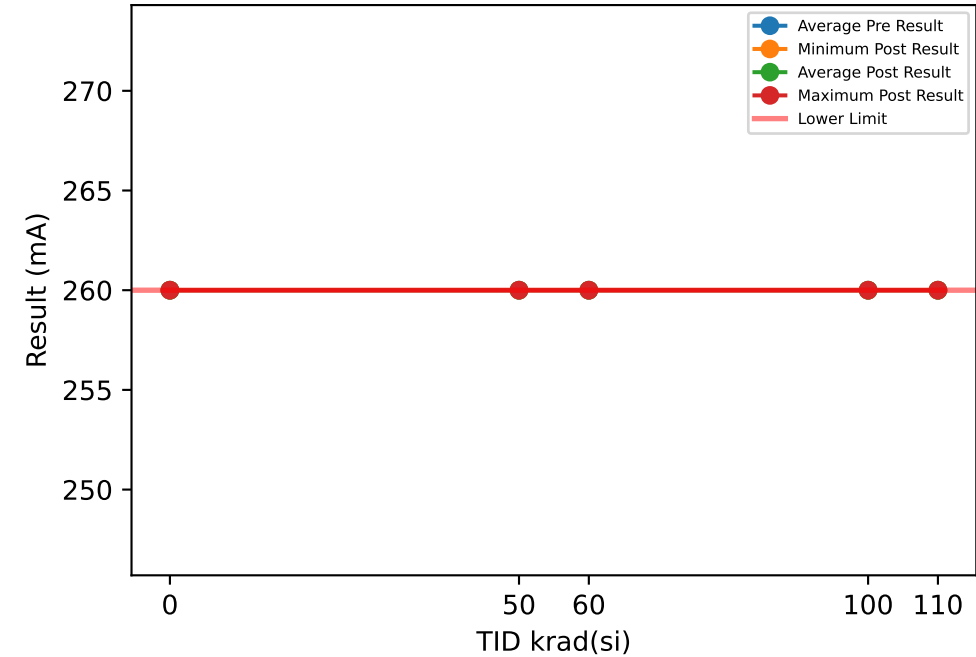
Test Results (Lower Limit = 50.0 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	50	50	0
2	0	CU2	50	50	0
3	0	CU3	50	50	0
7	50	50krad Unbiased	50	50	0
8	50	50krad Unbiased	50	50	0
9	50	50krad Unbiased	50	50	0
10	60	50krad Biased	50	50	0
11	60	50krad Biased	50	50	0
12	60	50krad Biased	50	50	0
13	100	100krad Unbiased	50	50	0
14	100	100krad Unbiased	50	50	0
15	100	100krad Unbiased	50	50	0
16	110	100krad Biased	50	50	0
17	110	100krad Biased	50	50	0
18	110	100krad Biased	50	50	0

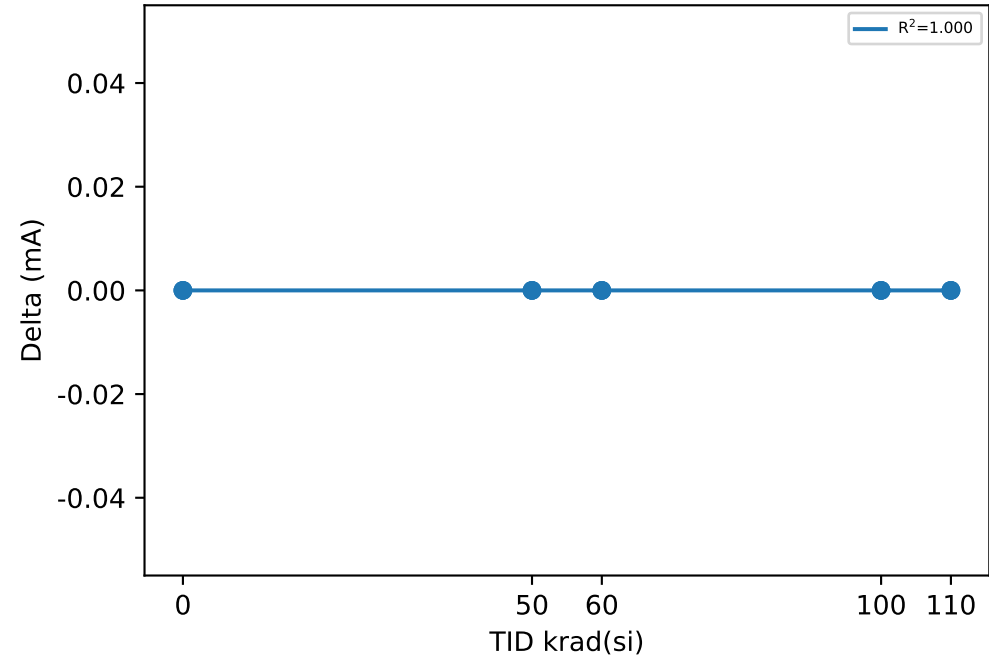
Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	50	50	50	0	50	50	50	0	0	0	0	0
50	50	50	50	0	50	50	50	0	0	0	0	0
60	50	50	50	0	50	50	50	0	0	0	0	0
100	50	50	50	0	50	50	50	0	0	0	0	0
110	50	50	50	0	50	50	50	0	0	0	0	0

TID vs Result Stats



TID vs Post - Pre Exposure Delta



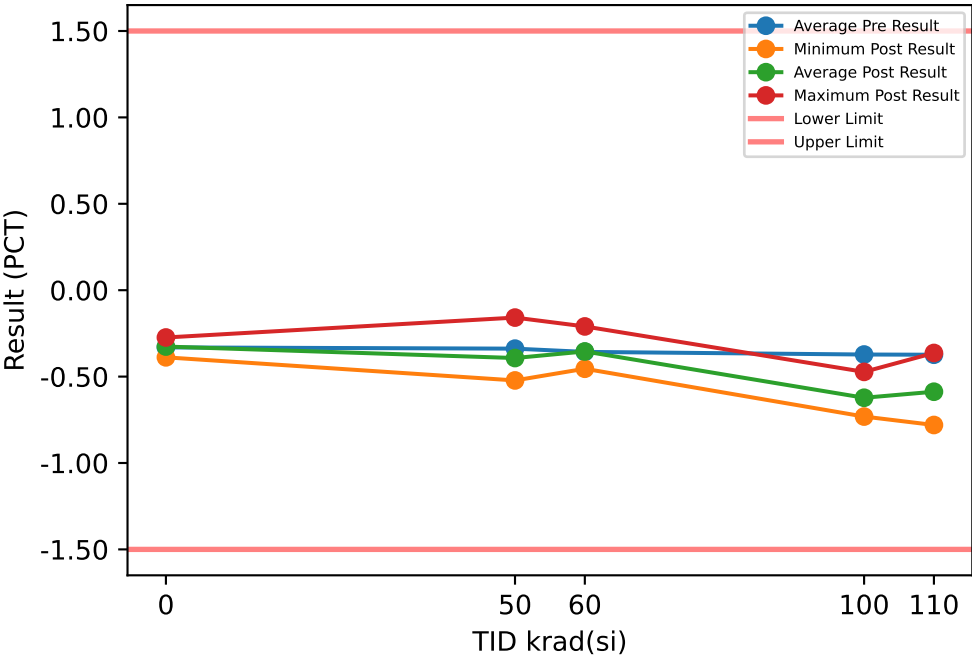
Test Results (Lower Limit = 260.0 (mA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	260	260	0
2	0	CU2	260	260	0
3	0	CU3	260	260	0
7	50	50krad Unbiased	260	260	0
8	50	50krad Unbiased	260	260	0
9	50	50krad Unbiased	260	260	0
10	60	50krad Biased	260	260	0
11	60	50krad Biased	260	260	0
12	60	50krad Biased	260	260	0
13	100	100krad Unbiased	260	260	0
14	100	100krad Unbiased	260	260	0
15	100	100krad Unbiased	260	260	0
16	110	100krad Biased	260	260	0
17	110	100krad Biased	260	260	0
18	110	100krad Biased	260	260	0

Test Statistics (mA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	260	260	260	0	260	260	260	0	0	0	0	0
50	260	260	260	0	260	260	260	0	0	0	0	0
60	260	260	260	0	260	260	260	0	0	0	0	0
100	260	260	260	0	260	260	260	0	0	0	0	0
110	260	260	260	0	260	260	260	0	0	0	0	0

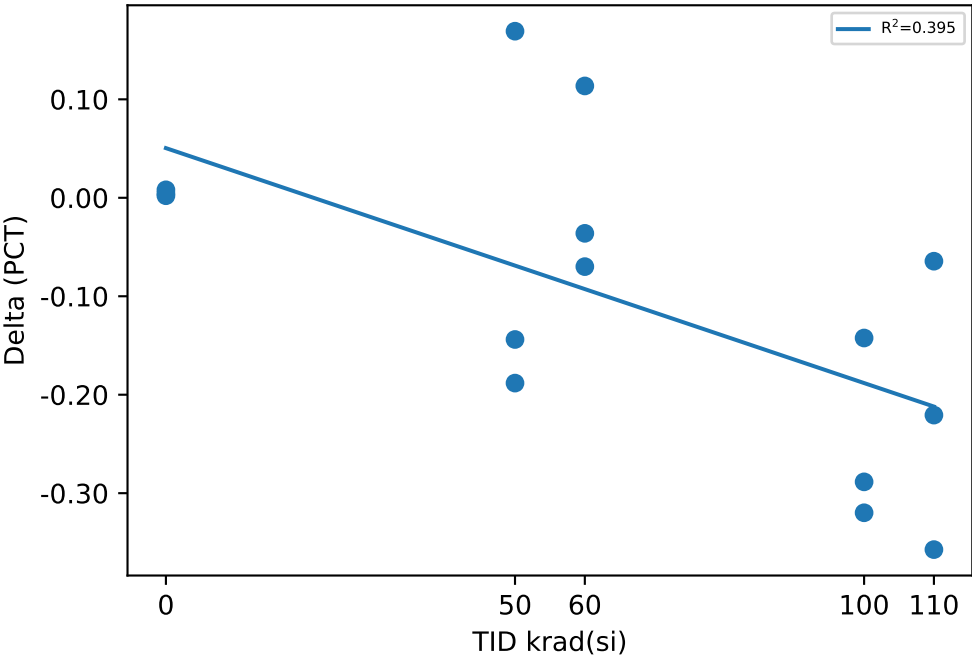
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 1.5 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-0.2758	-0.2737	0.0021
2	0	CU2	-0.3966	-0.3885	0.0081
3	0	CU3	-0.3206	-0.3162	0.0044
7	50	50krad Unbiased	-0.3087	-0.4969	-0.1882
8	50	50krad Unbiased	-0.3783	-0.5222	-0.1439
9	50	50krad Unbiased	-0.3277	-0.1585	0.1692
10	60	50krad Biased	-0.3233	-0.2097	0.1136
11	60	50krad Biased	-0.3292	-0.3991	-0.0699
12	60	50krad Biased	-0.4185	-0.4546	-0.0361
13	100	100krad Unbiased	-0.3303	-0.4727	-0.1424
14	100	100krad Unbiased	-0.3749	-0.6634	-0.2885
15	100	100krad Unbiased	-0.4114	-0.7313	-0.3199
16	110	100krad Biased	-0.3986	-0.6193	-0.2207
17	110	100krad Biased	-0.4228	-0.7801	-0.3573
18	110	100krad Biased	-0.2989	-0.3633	-0.0644

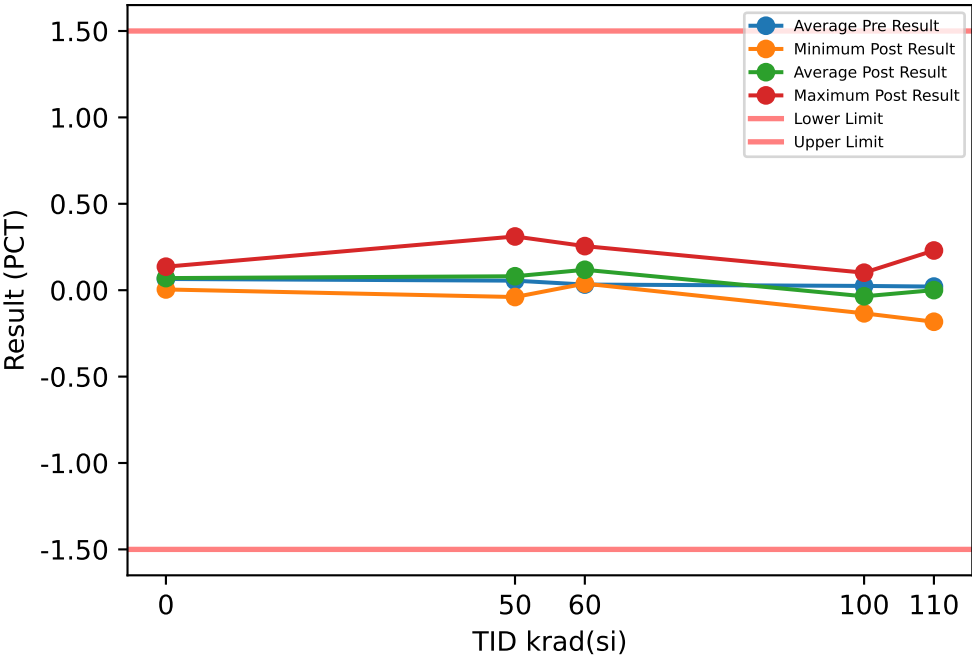
TID vs Post - Pre Exposure Delta



Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-0.3966	-0.331	-0.2758	0.061068	-0.3885	-0.32613	-0.2737	0.058041	0.0021	0.0048667	0.0081	0.0030271
50	-0.3783	-0.33823	-0.3087	0.035976	-0.5222	-0.39253	-0.1585	0.20307	-0.1882	-0.0543	0.1692	0.19482
60	-0.4185	-0.357	-0.3233	0.053342	-0.4546	-0.35447	-0.2097	0.12841	-0.0699	0.0025333	0.1136	0.09766
100	-0.4114	-0.3722	-0.3303	0.040617	-0.7313	-0.62247	-0.4727	0.13407	-0.3199	-0.25027	-0.1424	0.094725
110	-0.4228	-0.37343	-0.2989	0.065672	-0.7801	-0.58757	-0.3633	0.2102	-0.3573	-0.21413	-0.0644	0.14656

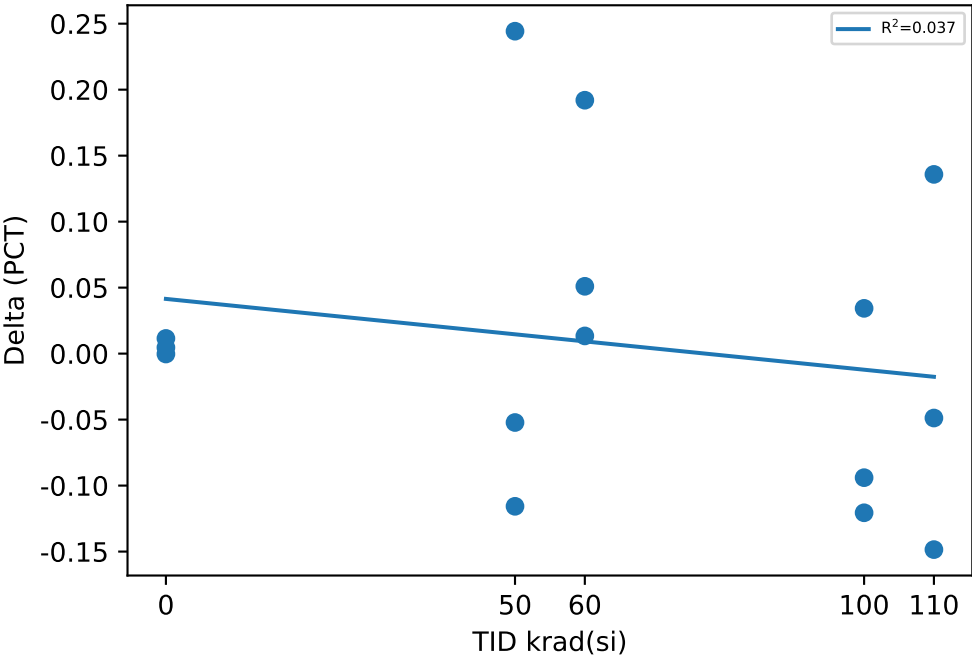
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 1.5 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.1314	0.136	0.0046
2	0	CU2	-0.0072	0.0043	0.0115
3	0	CU3	0.0703	0.07	-0.0003
7	50	50krad Unbiased	0.0864	-0.0293	-0.1157
8	50	50krad Unbiased	0.0126	-0.0396	-0.0522
9	50	50krad Unbiased	0.0666	0.3109	0.2443
10	60	50krad Biased	0.0631	0.2551	0.192
11	60	50krad Biased	0.0479	0.0613	0.0134
12	60	50krad Biased	-0.013	0.038	0.051
13	100	100krad Unbiased	0.067	0.1013	0.0343
14	100	100krad Unbiased	0.0204	-0.0736	-0.094
15	100	100krad Unbiased	-0.0133	-0.1339	-0.1206
16	110	100krad Biased	0.0029	-0.0459	-0.0488
17	110	100krad Biased	-0.0341	-0.1826	-0.1485
18	110	100krad Biased	0.094	0.2298	0.1358

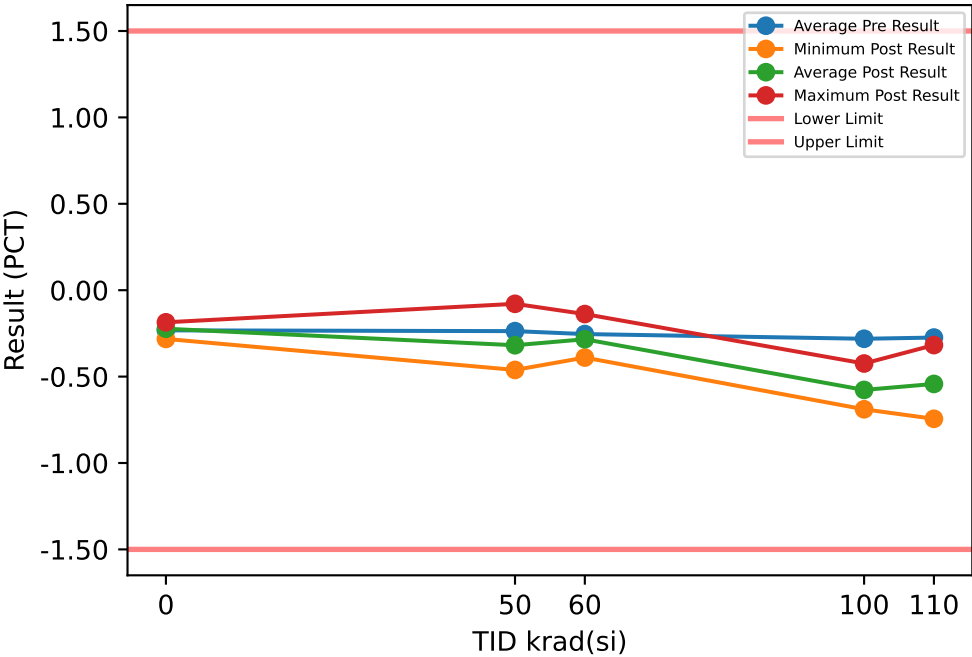
TID vs Post - Pre Exposure Delta



Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-0.0072	0.064833	0.1314	0.069462	0.0043	0.0701	0.136	0.06585	-0.0003	0.0052667	0.0115	0.0059282
50	0.0126	0.0552	0.0864	0.038198	-0.0396	0.080667	0.3109	0.19945	-0.1157	0.025467	0.2443	0.19216
60	-0.013	0.032667	0.0631	0.040272	0.038	0.11813	0.2551	0.11919	0.0134	0.085467	0.192	0.094157
100	-0.0133	0.0247	0.067	0.040322	-0.1339	-0.0354	0.1013	0.12216	-0.1206	-0.0601	0.0343	0.082828
110	-0.0341	0.020933	0.094	0.065926	-0.1826	0.00043333	0.2298	0.21007	-0.1485	-0.0205	0.1358	0.14425

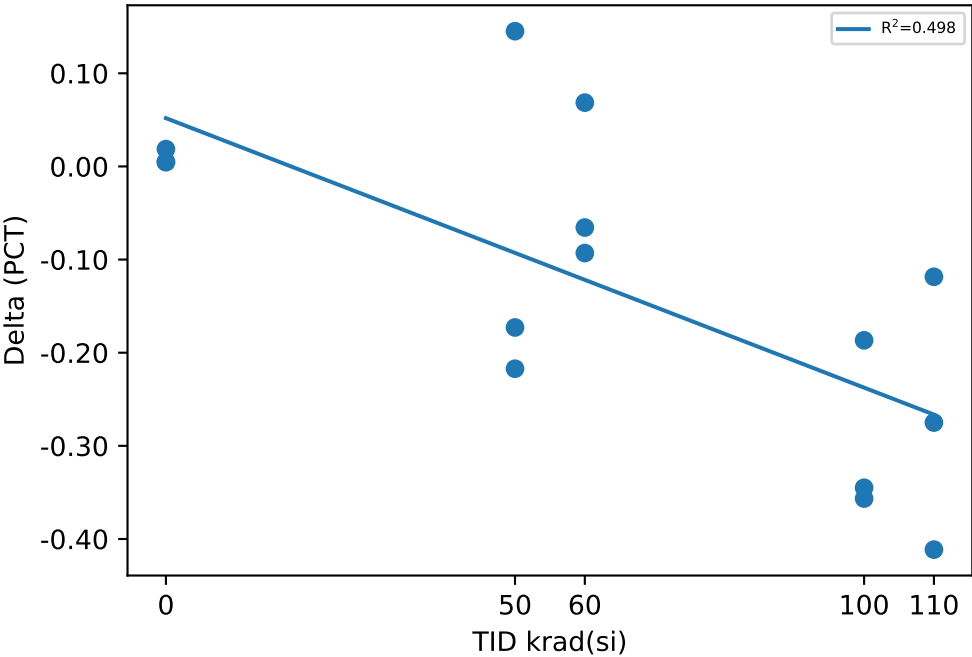
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 1.5 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-0.1904	-0.1858	0.0046
2	0	CU2	-0.3006	-0.282	0.0186
3	0	CU3	-0.206	-0.2011	0.0049
7	50	50krad Unbiased	-0.1979	-0.4151	-0.2172
8	50	50krad Unbiased	-0.2886	-0.4615	-0.1729
9	50	50krad Unbiased	-0.2241	-0.0789	0.1452
10	60	50krad Biased	-0.2066	-0.1381	0.0685
11	60	50krad Biased	-0.2308	-0.3238	-0.093
12	60	50krad Biased	-0.3243	-0.3899	-0.0656
13	100	100krad Unbiased	-0.2375	-0.4242	-0.1867
14	100	100krad Unbiased	-0.2731	-0.6181	-0.345
15	100	100krad Unbiased	-0.3326	-0.6892	-0.3566
16	110	100krad Biased	-0.2905	-0.5655	-0.275
17	110	100krad Biased	-0.3329	-0.7443	-0.4114
18	110	100krad Biased	-0.1991	-0.3176	-0.1185

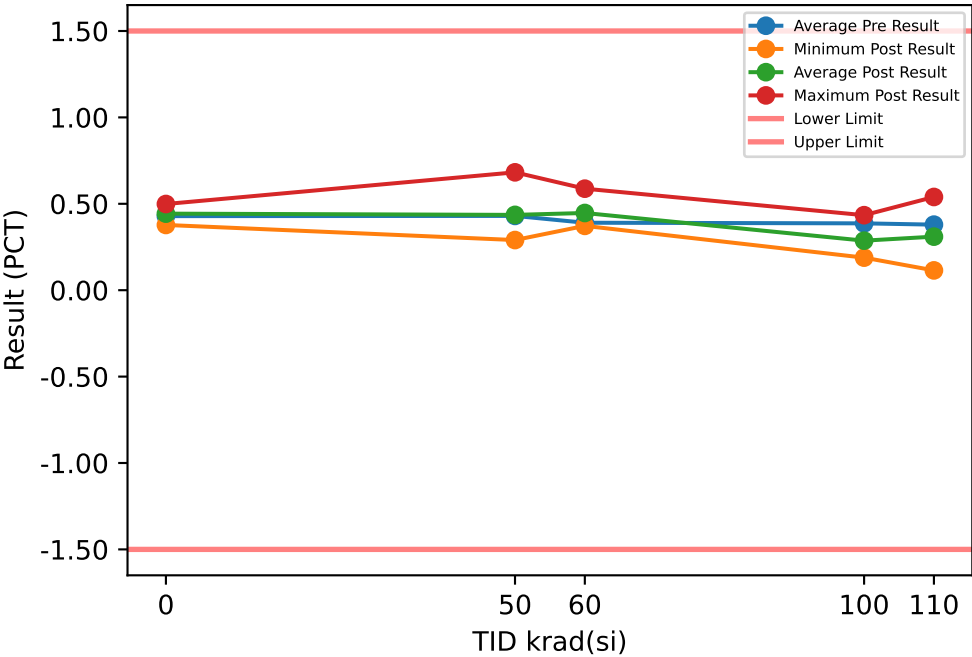
TID vs Post - Pre Exposure Delta



Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-0.3006	-0.23233	-0.1904	0.059633	-0.282	-0.22297	-0.1858	0.051694	0.0046	0.0093667	0.0186	0.0079977
50	-0.2886	-0.23687	-0.1979	0.046678	-0.4615	-0.3185	-0.0789	0.20879	-0.2172	-0.081633	0.1452	0.19769
60	-0.3243	-0.2539	-0.2066	0.062157	-0.3899	-0.28393	-0.1381	0.13055	-0.093	-0.030033	0.0685	0.086425
100	-0.3326	-0.28107	-0.2375	0.048048	-0.6892	-0.57717	-0.4242	0.13716	-0.3566	-0.2961	-0.1867	0.094921
110	-0.3329	-0.27417	-0.1991	0.068379	-0.7443	-0.54247	-0.3176	0.21428	-0.4114	-0.2683	-0.1185	0.14656

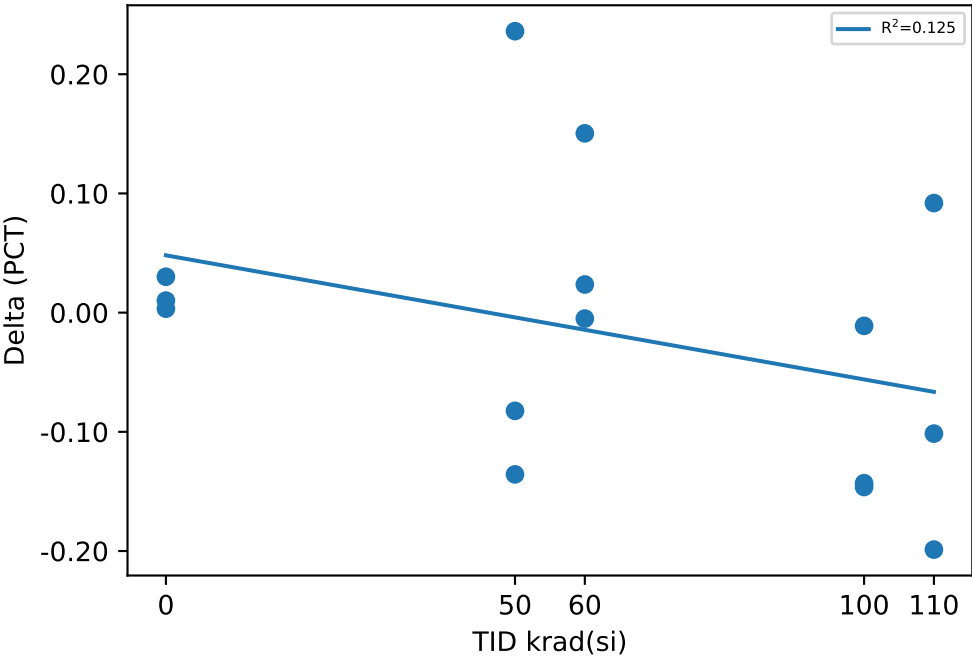
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 1.5 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.4887	0.4988	0.0101
2	0	CU2	0.3475	0.3776	0.0301
3	0	CU3	0.4495	0.4528	0.0033
7	50	50krad Unbiased	0.471	0.3353	-0.1357
8	50	50krad Unbiased	0.3726	0.2902	-0.0824
9	50	50krad Unbiased	0.446	0.6821	0.2361
10	60	50krad Biased	0.4371	0.5875	0.1504
11	60	50krad Biased	0.3856	0.3806	-0.005
12	60	50krad Biased	0.3487	0.3723	0.0236
13	100	100krad Unbiased	0.4452	0.4341	-0.0111
14	100	100krad Unbiased	0.3838	0.2375	-0.1463
15	100	100krad Unbiased	0.3315	0.1884	-0.1431
16	110	100krad Biased	0.3771	0.2756	-0.1015
17	110	100krad Biased	0.3134	0.1146	-0.1988
18	110	100krad Biased	0.4476	0.5395	0.0919

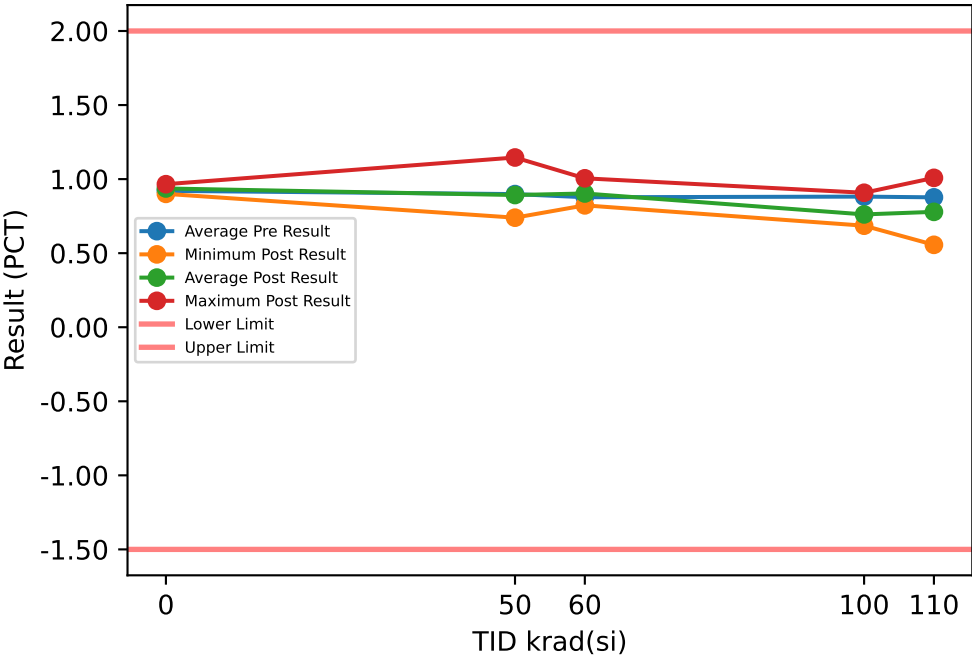
TID vs Post - Pre Exposure Delta



Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.3475	0.42857	0.4887	0.07289	0.3776	0.44307	0.4988	0.061183	0.0033	0.0145	0.0301	0.013931
50	0.3726	0.42987	0.471	0.051145	0.2902	0.43587	0.6821	0.21443	-0.1357	0.006	0.2361	0.20105
60	0.3487	0.39047	0.4371	0.0444	0.3723	0.4468	0.5875	0.12192	-0.005	0.056333	0.1504	0.08271
100	0.3315	0.38683	0.4452	0.056911	0.1884	0.28667	0.4341	0.13002	-0.1463	-0.10017	-0.0111	0.077151
110	0.3134	0.37937	0.4476	0.067129	0.1146	0.3099	0.5395	0.21452	-0.1988	-0.069467	0.0919	0.14797

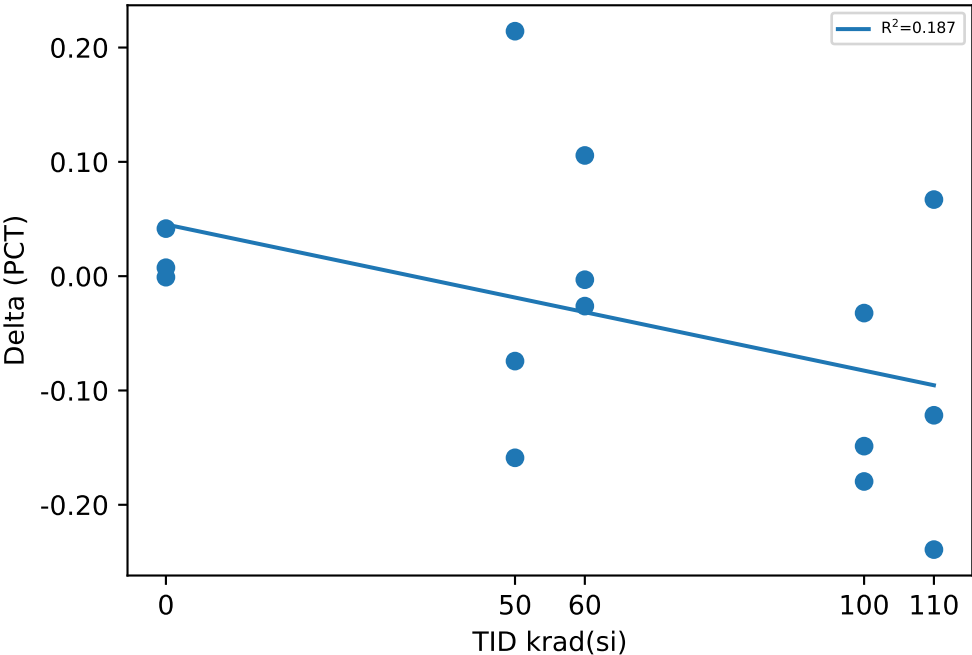
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 2.0 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.9582	0.9656	0.0074
2	0	CU2	0.8588	0.9004	0.0416
3	0	CU3	0.9456	0.9447	-0.0009
7	50	50krad Unbiased	0.9511	0.7922	-0.1589
8	50	50krad Unbiased	0.8139	0.7396	-0.0743
9	50	50krad Unbiased	0.9316	1.1459	0.2143
10	60	50krad Biased	0.8998	1.0054	0.1056
11	60	50krad Biased	0.849	0.8228	-0.0262
12	60	50krad Biased	0.884	0.8809	-0.0031
13	100	100krad Unbiased	0.9401	0.9078	-0.0323
14	100	100krad Unbiased	0.8712	0.6916	-0.1796
15	100	100krad Unbiased	0.8342	0.6855	-0.1487
16	110	100krad Biased	0.8938	0.7721	-0.1217
17	110	100krad Biased	0.7955	0.5563	-0.2392
18	110	100krad Biased	0.9414	1.0084	0.067

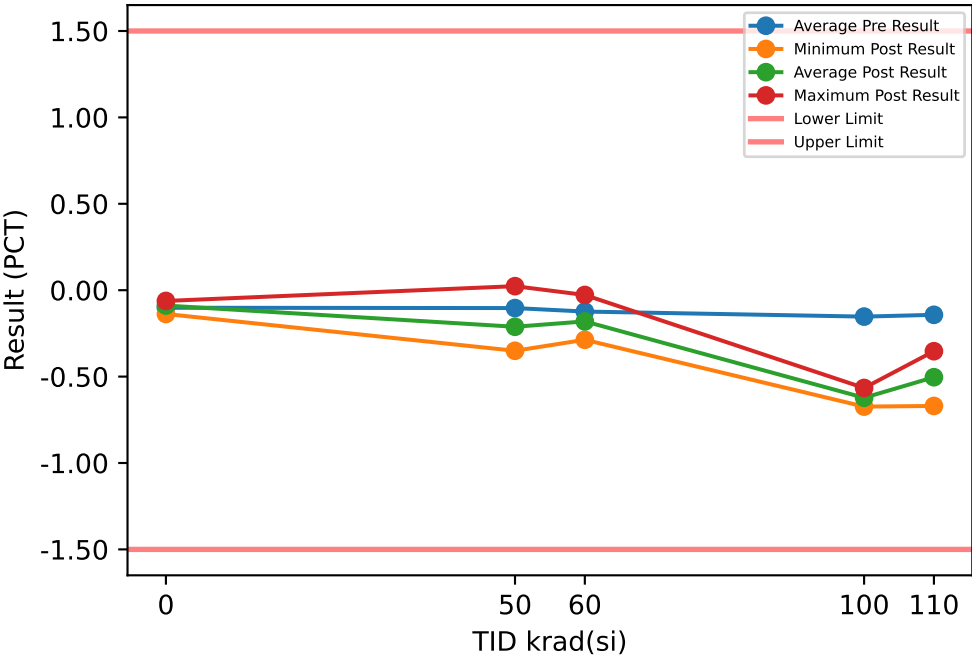
TID vs Post - Pre Exposure Delta



Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.8588	0.92087	0.9582	0.054119	0.9004	0.9369	0.9656	0.033292	-0.0009	0.016033	0.0416	0.022527
50	0.8139	0.89887	0.9511	0.074226	0.7396	0.89257	1.1459	0.22096	-0.1589	-0.0063	0.2143	0.19567
60	0.849	0.8776	0.8998	0.025998	0.8228	0.90303	1.0054	0.09329	-0.0262	0.025433	0.1056	0.070381
100	0.8342	0.88183	0.9401	0.053745	0.6855	0.76163	0.9078	0.12662	-0.1796	-0.1202	-0.0323	0.077676
110	0.7955	0.8769	0.9414	0.074404	0.5563	0.77893	1.0084	0.22613	-0.2392	-0.097967	0.067	0.15447

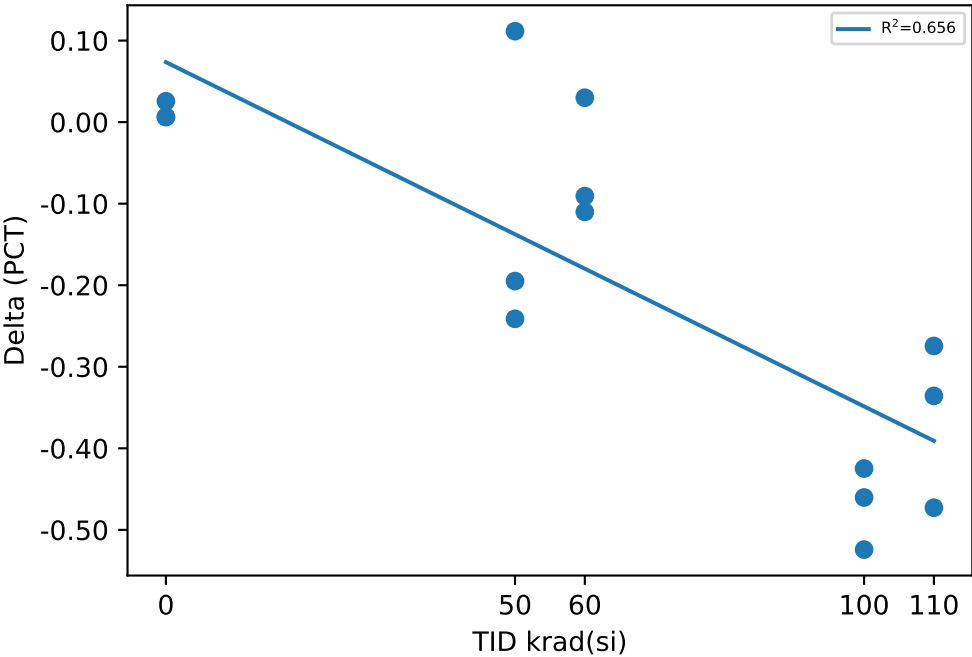
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 1.5 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-0.0684	-0.0622	0.0062
2	0	CU2	-0.1633	-0.1377	0.0256
3	0	CU3	-0.073	-0.0665	0.0065
7	50	50krad Unbiased	-0.0664	-0.3076	-0.2412
8	50	50krad Unbiased	-0.1557	-0.3506	-0.1949
9	50	50krad Unbiased	-0.0882	0.0233	0.1115
10	60	50krad Biased	-0.0575	-0.0276	0.0299
11	60	50krad Biased	-0.117	-0.2271	-0.1101
12	60	50krad Biased	-0.1963	-0.287	-0.0907
13	100	100krad Unbiased	-0.1042	-0.6284	-0.5242
14	100	100krad Unbiased	-0.141	-0.5658	-0.4248
15	100	100krad Unbiased	-0.2133	-0.6736	-0.4603
16	110	100krad Biased	-0.152	-0.4877	-0.3357
17	110	100krad Biased	-0.197	-0.6699	-0.4729
18	110	100krad Biased	-0.0786	-0.3531	-0.2745

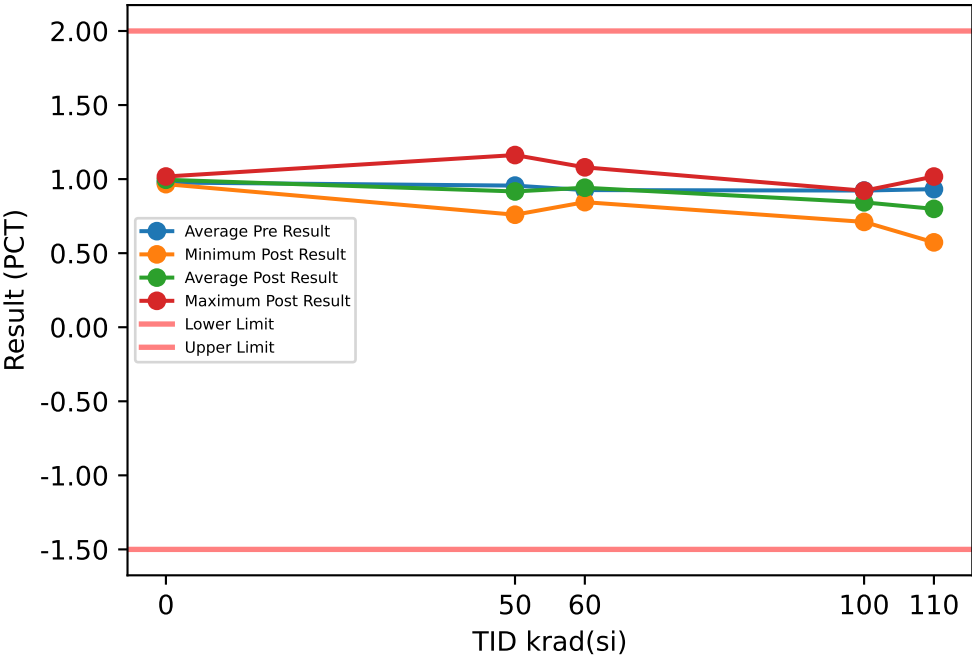
TID vs Post - Pre Exposure Delta



Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-0.1633	-0.10157	-0.0684	0.053512	-0.1377	-0.0888	-0.0622	0.042403	0.0062	0.012767	0.0256	0.011115
50	-0.1557	-0.10343	-0.0664	0.046558	-0.3506	-0.21163	0.0233	0.20459	-0.2412	-0.1082	0.1115	0.19167
60	-0.1963	-0.1236	-0.0575	0.069635	-0.287	-0.18057	-0.0276	0.13582	-0.1101	-0.056967	0.0299	0.075852
100	-0.2133	-0.15283	-0.1042	0.055504	-0.6736	-0.6226	-0.5658	0.054134	-0.5242	-0.46977	-0.4248	0.050372
110	-0.197	-0.14253	-0.0786	0.059765	-0.6699	-0.50357	-0.3531	0.15899	-0.4729	-0.36103	-0.2745	0.1016

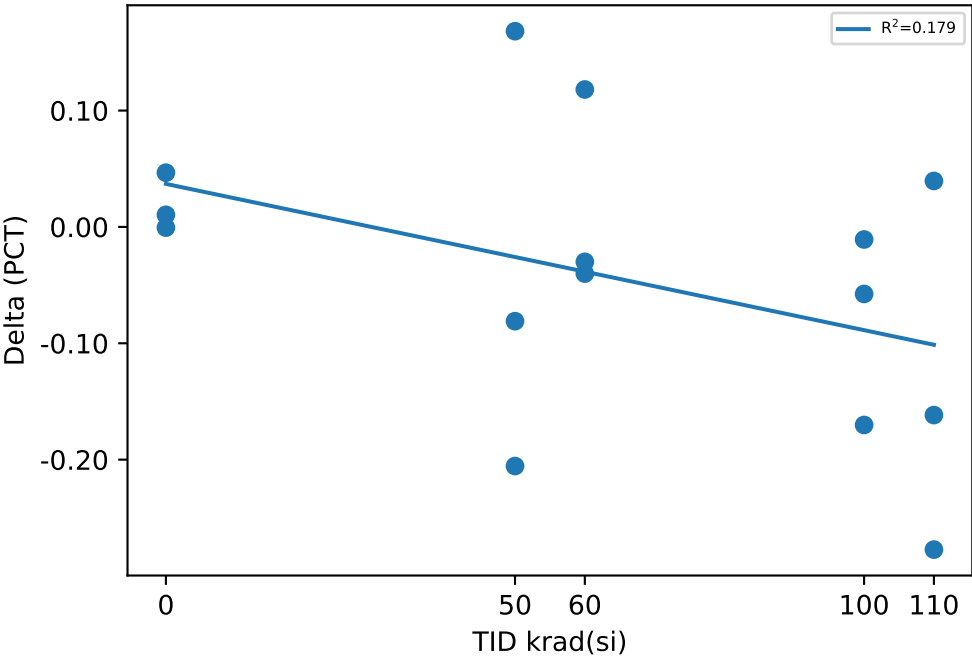
TID vs Result Stats



Test Results (Lower Limit = -1.5, Upper Limit = 2.0 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.9932	1.0036	0.0104
2	0	CU2	0.9194	0.966	0.0466
3	0	CU3	1.0181	1.0175	-0.0006
7	50	50krad Unbiased	1.0338	0.8283	-0.2055
8	50	50krad Unbiased	0.8405	0.7595	-0.081
9	50	50krad Unbiased	0.9942	1.1624	0.1682
10	60	50krad Biased	0.9615	1.0796	0.1181
11	60	50krad Biased	0.8845	0.8444	-0.0401
12	60	50krad Biased	0.9315	0.9015	-0.03
13	100	100krad Unbiased	0.9792	0.9216	-0.0576
14	100	100krad Unbiased	0.9077	0.8969	-0.0108
15	100	100krad Unbiased	0.8813	0.7111	-0.1702
16	110	100krad Biased	0.9686	0.8069	-0.1617
17	110	100krad Biased	0.8503	0.573	-0.2773
18	110	100krad Biased	0.9778	1.0173	0.0395

TID vs Post - Pre Exposure Delta

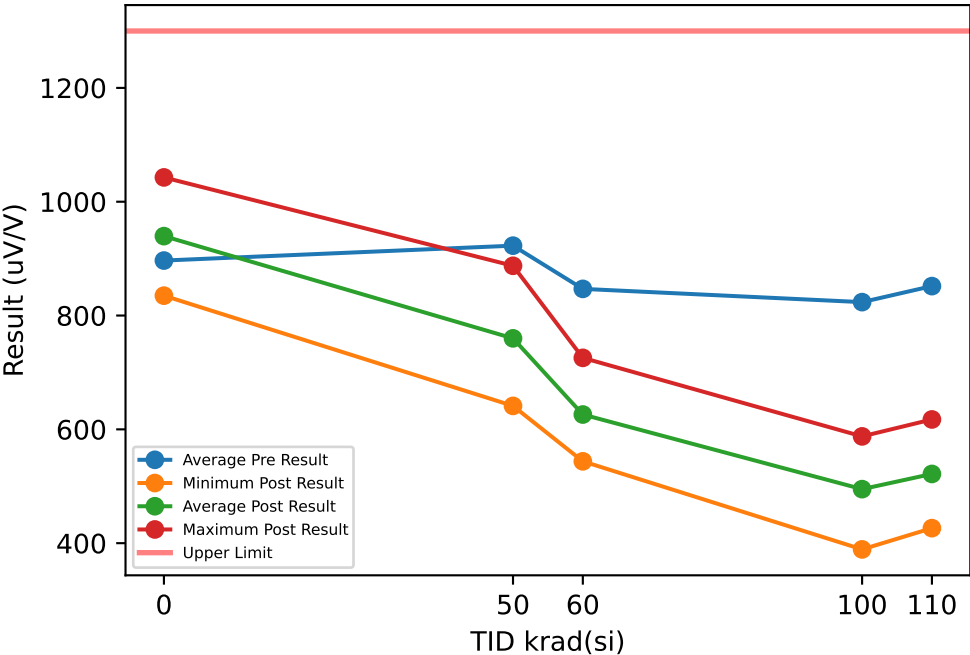


Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.9194	0.9769	1.0181	0.051329	0.966	0.9957	1.0175	0.026643	-0.0006	0.0188	0.0466	0.024696
50	0.8405	0.95617	1.0338	0.10211	0.7595	0.91673	1.1624	0.21552	-0.2055	-0.039433	0.1682	0.19029
60	0.8845	0.92583	0.9615	0.038812	0.8444	0.94183	1.0796	0.12268	-0.0401	0.016	0.1181	0.088565
100	0.8813	0.92273	0.9792	0.050652	0.7111	0.8432	0.9216	0.11507	-0.1702	-0.079533	-0.0108	0.081932
110	0.8503	0.93223	0.9778	0.071105	0.573	0.79907	1.0173	0.22225	-0.2773	-0.13317	0.0395	0.16032

Device Test: 55.1 ACCURACY|//LINE_REGULATION_DN/1N8V/150mA//@LINE_REG

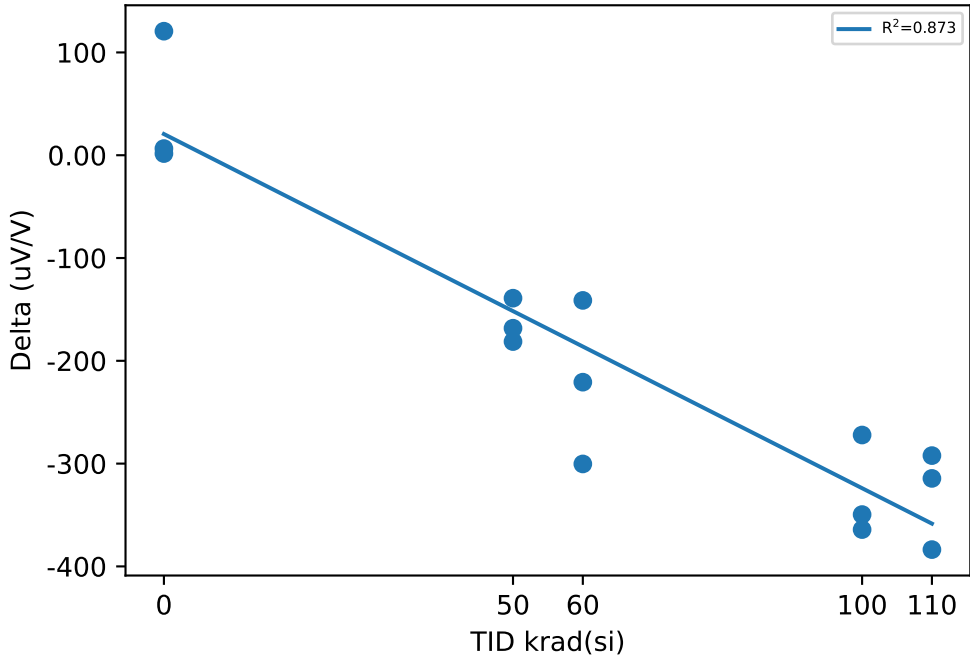
TID vs Result Stats



Test Results (Upper Limit = 1300.0 (uV/V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	833.31	834.93	1.6154
2	0	CU2	820.33	940.99	120.66
3	0	CU3	1036.2	1042.7	6.4835
7	50	50krad Unbiased	1026.5	887.42	-139.07
8	50	50krad Unbiased	822.49	641.21	-181.28
9	50	50krad Unbiased	919.35	751.06	-168.29
10	60	50krad Biased	1026	725.63	-300.32
11	60	50krad Biased	749.98	608.75	-141.24
12	60	50krad Biased	764.59	543.81	-220.78
13	100	100krad Unbiased	937.21	587.64	-349.56
14	100	100krad Unbiased	872.27	508.1	-364.17
15	100	100krad Unbiased	661.24	389.06	-272.18
16	110	100krad Biased	909.61	617.4	-292.21
17	110	100krad Biased	810.05	426.39	-383.65
18	110	100krad Biased	835.48	521.09	-314.39

TID vs Post - Pre Exposure Delta

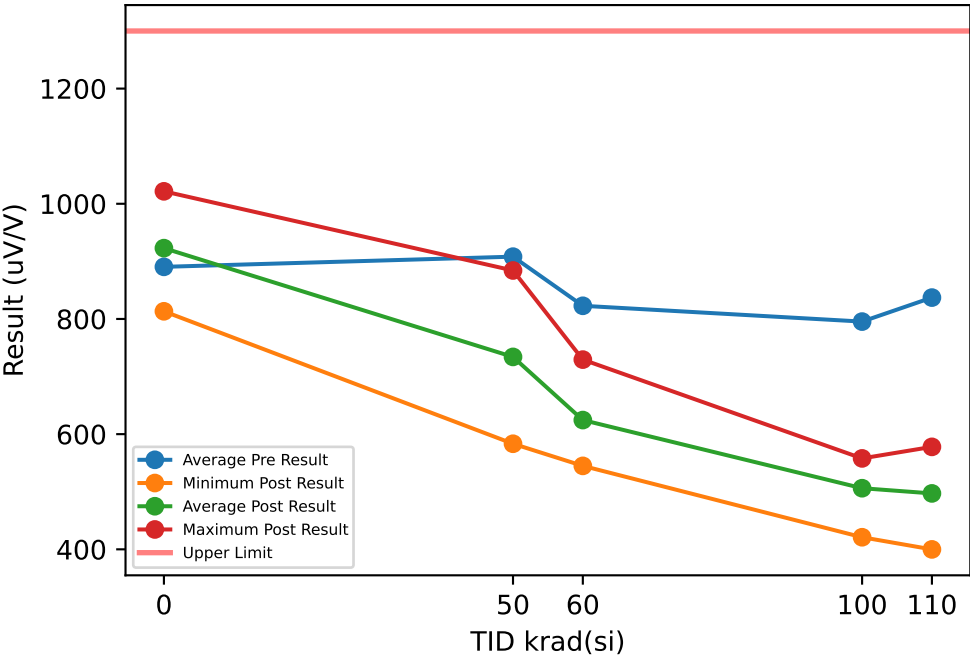


Test Statistics (uV/V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	820.33	896.62	1036.2	121.08	834.93	939.54	1042.7	103.9	1.6154	42.919	120.66	67.369
50	822.49	922.78	1026.5	102.04	641.21	759.9	887.42	123.34	-181.28	-162.88	-139.07	21.616
60	749.98	846.84	1026	155.28	543.81	626.06	725.63	92.135	-300.32	-220.78	-141.24	79.544
100	661.24	823.57	937.21	144.29	389.06	494.93	587.64	99.946	-364.17	-328.64	-272.18	49.436
110	810.05	851.71	909.61	51.729	426.39	521.63	617.4	95.507	-383.65	-330.08	-292.21	47.7

Device Test: 55.2 ACCURACY|//LINE_REGULATION_UP/1N8V/150mA//@LINE_REG

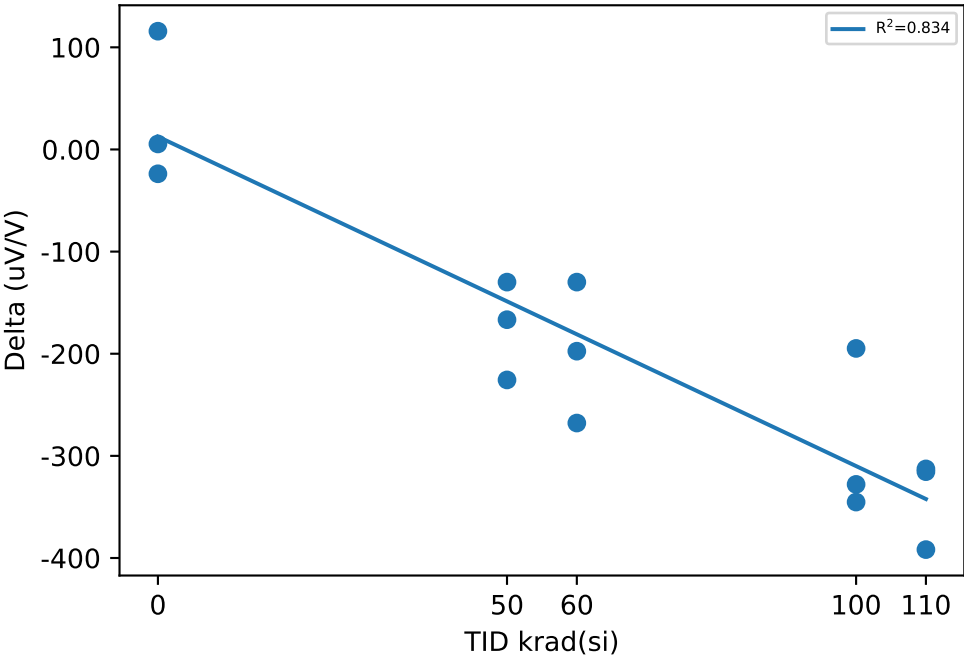
TID vs Result Stats



Test Results (Upper Limit = 1300.0 (uV/V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	807.88	813.29	5.4034
2	0	CU2	818.16	933.95	115.79
3	0	CU3	1045.4	1021.6	-23.819
7	50	50krad Unbiased	1014	884.17	-129.88
8	50	50krad Unbiased	808.96	583.31	-225.65
9	50	50krad Unbiased	901.49	734.82	-166.67
10	60	50krad Biased	997.27	729.41	-267.86
11	60	50krad Biased	728.88	599.01	-129.87
12	60	50krad Biased	742.41	544.9	-197.51
13	100	100krad Unbiased	903.12	557.88	-345.24
14	100	100krad Unbiased	867.4	539.48	-327.92
15	100	100krad Unbiased	615.79	420.98	-194.8
16	110	100krad Biased	893.38	577.9	-315.47
17	110	100krad Biased	791.65	399.88	-391.77
18	110	100krad Biased	826.28	513.51	-312.77

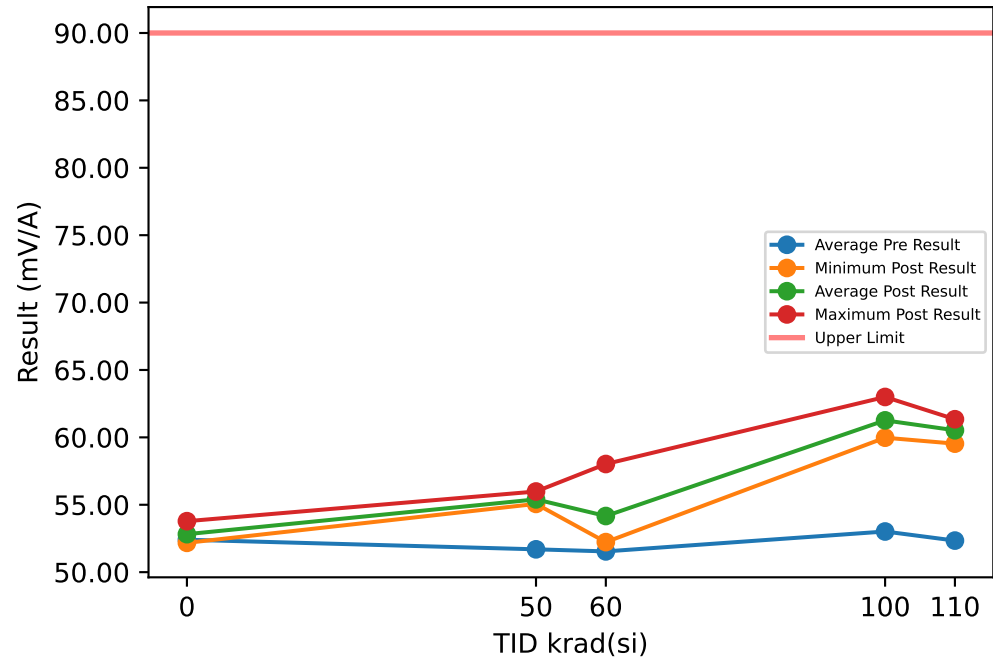
TID vs Post - Pre Exposure Delta



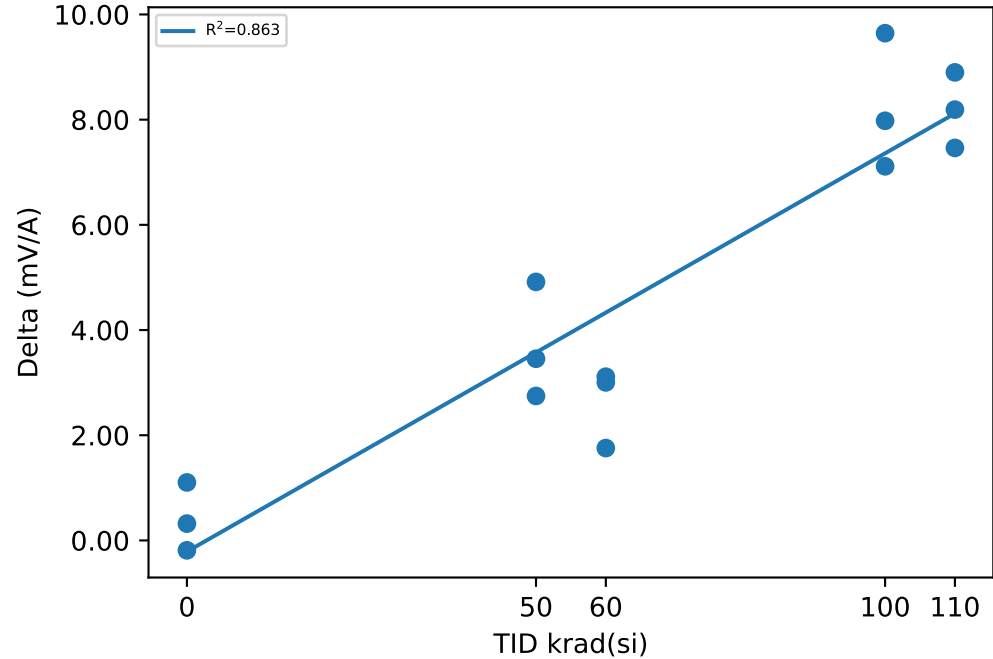
Test Statistics (uV/V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	807.88	890.49	1045.4	134.28	813.29	922.95	1021.6	104.6	-23.819	32.458	115.79	73.631
50	808.96	908.17	1014	102.7	583.31	734.1	884.17	150.43	-225.65	-174.07	-129.88	48.313
60	728.88	822.85	997.27	151.2	544.9	624.44	729.41	94.852	-267.86	-198.41	-129.87	68.997
100	615.79	795.44	903.12	156.6	420.98	506.12	557.88	74.3	-345.24	-289.32	-194.8	82.309
110	791.65	837.1	893.38	51.721	399.88	497.1	577.9	90.14	-391.77	-340	-312.77	44.851

TID vs Result Stats



TID vs Post - Pre Exposure Delta



Test Results (Upper Limit = 90.0 (mV/A))

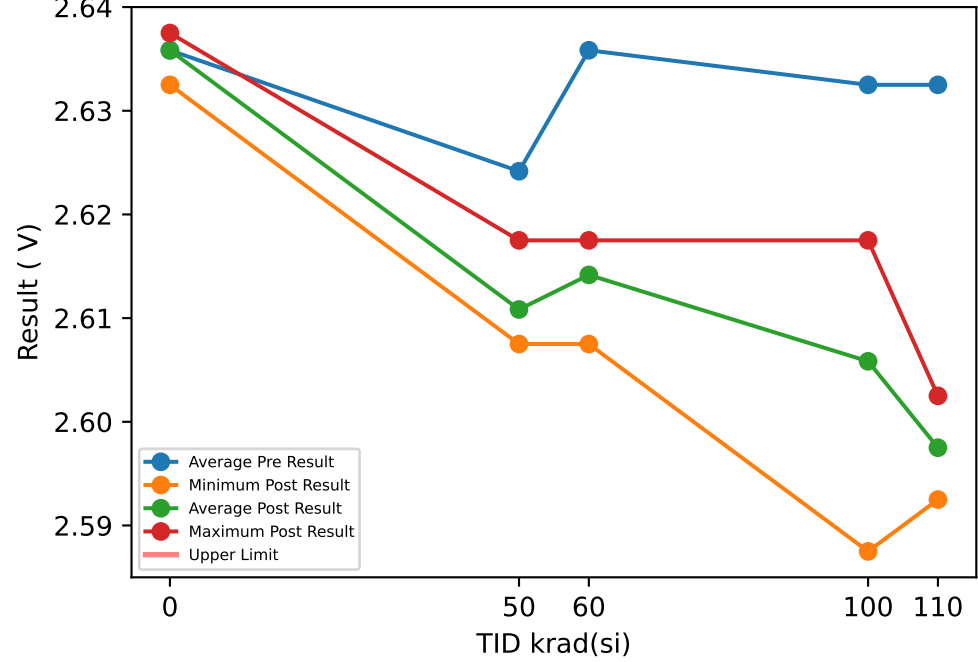
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	52.176	52.496	0.32
2	0	CU2	52.679	53.782	1.1026
3	0	CU3	52.363	52.175	-0.1878
7	50	50krad Unbiased	52.405	55.151	2.7467
8	50	50krad Unbiased	50.149	55.064	4.9153
9	50	50krad Unbiased	52.53	55.984	3.4543
10	60	50krad Biased	50.473	52.229	1.756
11	60	50krad Biased	49.129	52.242	3.113
12	60	50krad Biased	55.019	58.023	3.0047
13	100	100krad Unbiased	53.699	60.812	7.113
14	100	100krad Unbiased	51.997	59.976	7.9788
15	100	100krad Unbiased	53.354	62.997	9.6437
16	110	100krad Biased	53.882	61.345	7.4626
17	110	100krad Biased	51.343	59.534	8.1911
18	110	100krad Biased	51.801	60.7	8.8986

Test Statistics (mV/A)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	52.176	52.406	52.679	0.25454	52.175	52.818	53.782	0.85034	-0.1878	0.4116	1.1026	0.65006
50	50.149	51.694	52.53	1.34	55.064	55.4	55.984	0.50776	2.7467	3.7054	4.9153	1.1059
60	49.129	51.54	55.019	3.0865	52.229	54.165	58.023	3.3416	1.756	2.6246	3.113	0.75415
100	51.997	53.017	53.699	0.8999	59.976	61.262	62.997	1.5603	7.113	8.2452	9.6437	1.2862
110	51.343	52.342	53.882	1.3533	59.534	60.526	61.345	0.91767	7.4626	8.1841	8.8986	0.71803

Device Test: 60.2 UVLO|//RISE////@VUVLO_RISE

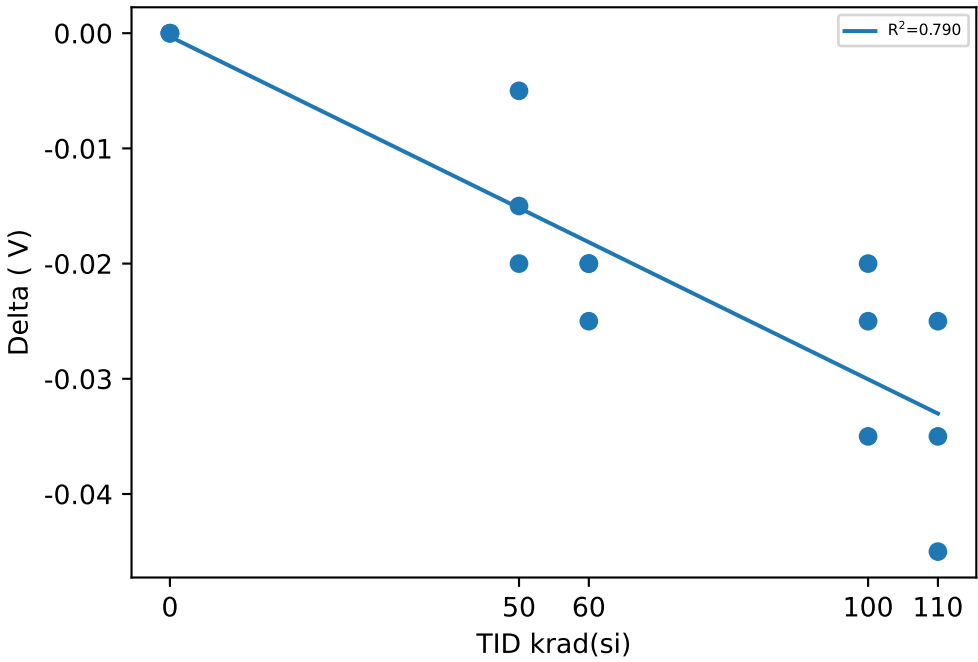
TID vs Result Stats



Test Results (No Limits Specified (V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	2.6375	2.6375	0
2	0	CU2	2.6375	2.6375	0
3	0	CU3	2.6325	2.6325	0
7	50	50krad Unbiased	2.6225	2.6075	-0.015
8	50	50krad Unbiased	2.6225	2.6175	-0.005
9	50	50krad Unbiased	2.6275	2.6075	-0.02
10	60	50krad Biased	2.6375	2.6175	-0.02
11	60	50krad Biased	2.6275	2.6075	-0.02
12	60	50krad Biased	2.6425	2.6175	-0.025
13	100	100krad Unbiased	2.6325	2.6125	-0.02
14	100	100krad Unbiased	2.6425	2.6175	-0.025
15	100	100krad Unbiased	2.6225	2.5875	-0.035
16	110	100krad Biased	2.6475	2.6025	-0.045
17	110	100krad Biased	2.6325	2.5975	-0.035
18	110	100krad Biased	2.6175	2.5925	-0.025

TID vs Post - Pre Exposure Delta

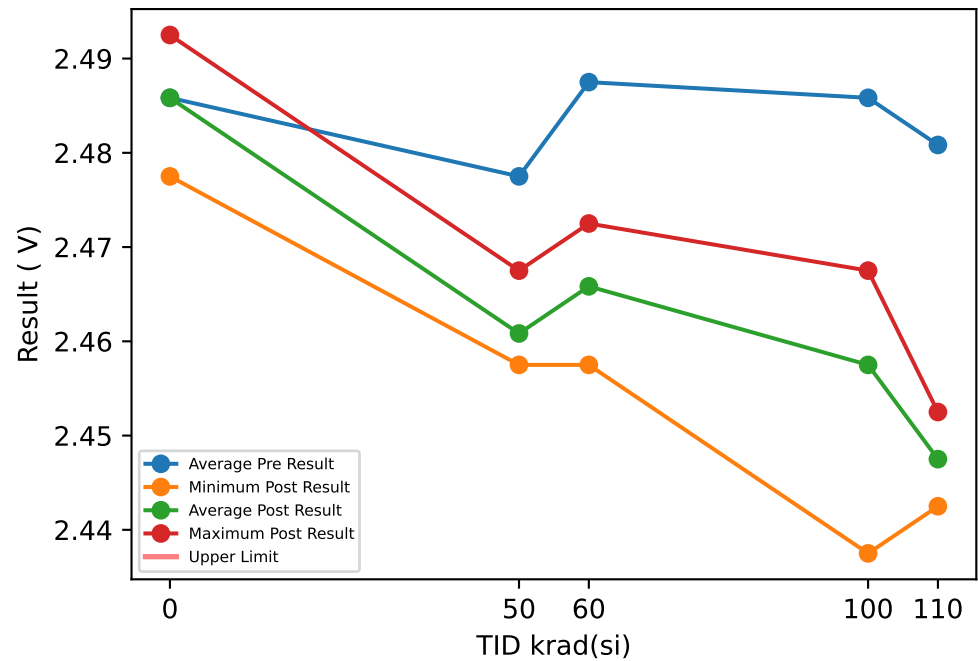


Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	2.6325	2.6358	2.6375	0.0028868	2.6325	2.6358	2.6375	0.0028868	0	0	0	0
50	2.6225	2.6242	2.6275	0.0028868	2.6075	2.6108	2.6175	0.0057735	-0.02	-0.013333	-0.005	0.0076376
60	2.6275	2.6358	2.6425	0.0076376	2.6075	2.6142	2.6175	0.0057735	-0.025	-0.021667	-0.02	0.0028868
100	2.6225	2.6325	2.6425	0.01	2.5875	2.6058	2.6175	0.016073	-0.035	-0.026667	-0.02	0.0076376
110	2.6175	2.6325	2.6475	0.015	2.5925	2.5975	2.6025	0.005	-0.045	-0.035	-0.025	0.01

Device Test: 60.3 UVLO|//FALL////@VUVLO_FALL

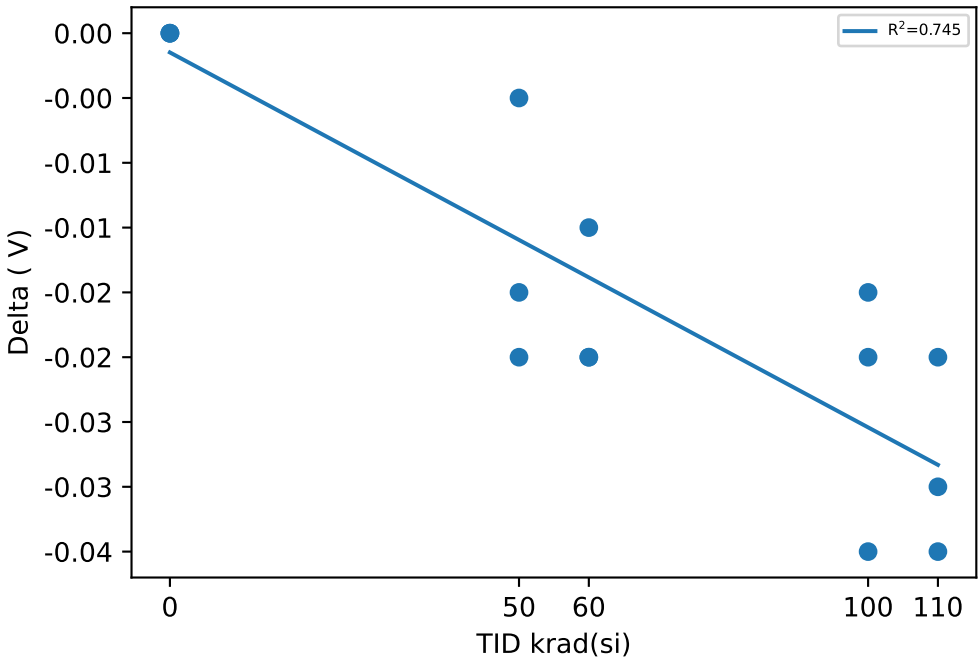
TID vs Result Stats



Test Results (No Limits Specified (V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	2.4875	2.4875	0
2	0	CU2	2.4925	2.4925	0
3	0	CU3	2.4775	2.4775	0
7	50	50krad Unbiased	2.4825	2.4575	-0.025
8	50	50krad Unbiased	2.4725	2.4675	-0.005
9	50	50krad Unbiased	2.4775	2.4575	-0.02
10	60	50krad Biased	2.4875	2.4725	-0.015
11	60	50krad Biased	2.4825	2.4575	-0.025
12	60	50krad Biased	2.4925	2.4675	-0.025
13	100	100krad Unbiased	2.4875	2.4675	-0.02
14	100	100krad Unbiased	2.4925	2.4675	-0.025
15	100	100krad Unbiased	2.4775	2.4375	-0.04
16	110	100krad Biased	2.4925	2.4525	-0.04
17	110	100krad Biased	2.4825	2.4475	-0.035
18	110	100krad Biased	2.4675	2.4425	-0.025

TID vs Post - Pre Exposure Delta

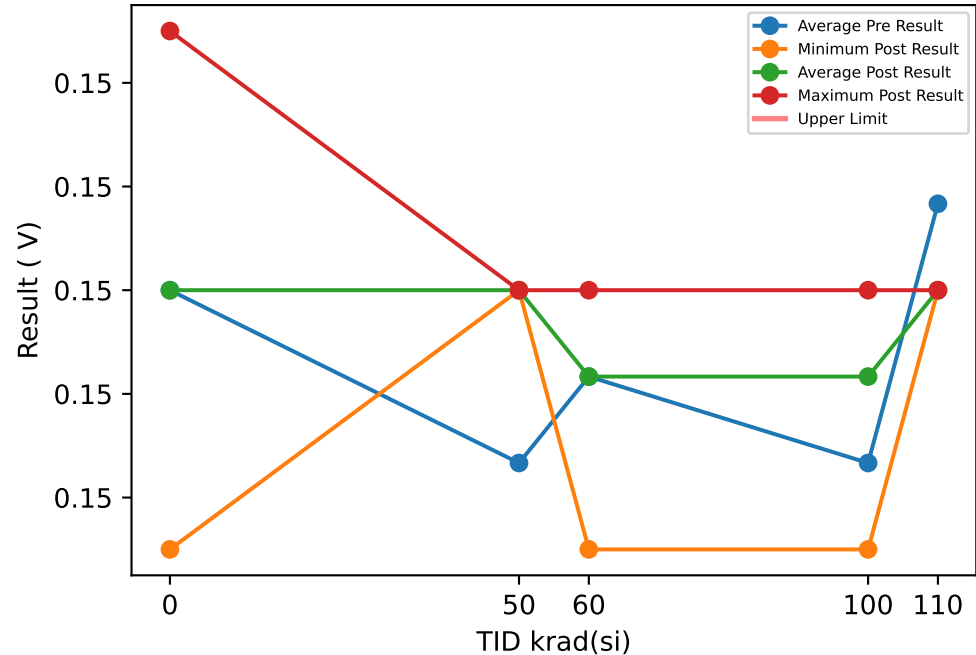


Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	2.4775	2.4858	2.4925	0.0076376	2.4775	2.4858	2.4925	0.0076376	0	0	0	0
50	2.4725	2.4775	2.4825	0.005	2.4575	2.4608	2.4675	0.0057735	-0.025	-0.016667	-0.005	0.010408
60	2.4825	2.4875	2.4925	0.005	2.4575	2.4658	2.4725	0.0076376	-0.025	-0.021667	-0.015	0.0057735
100	2.4775	2.4858	2.4925	0.0076376	2.4375	2.4575	2.4675	0.017321	-0.04	-0.028333	-0.02	0.010408
110	2.4675	2.4808	2.4925	0.012583	2.4425	2.4475	2.4525	0.005	-0.04	-0.033333	-0.025	0.0076376

Device Test: 60.4 UVLO|//HYSTERESIS|///@VUVLO_HYS

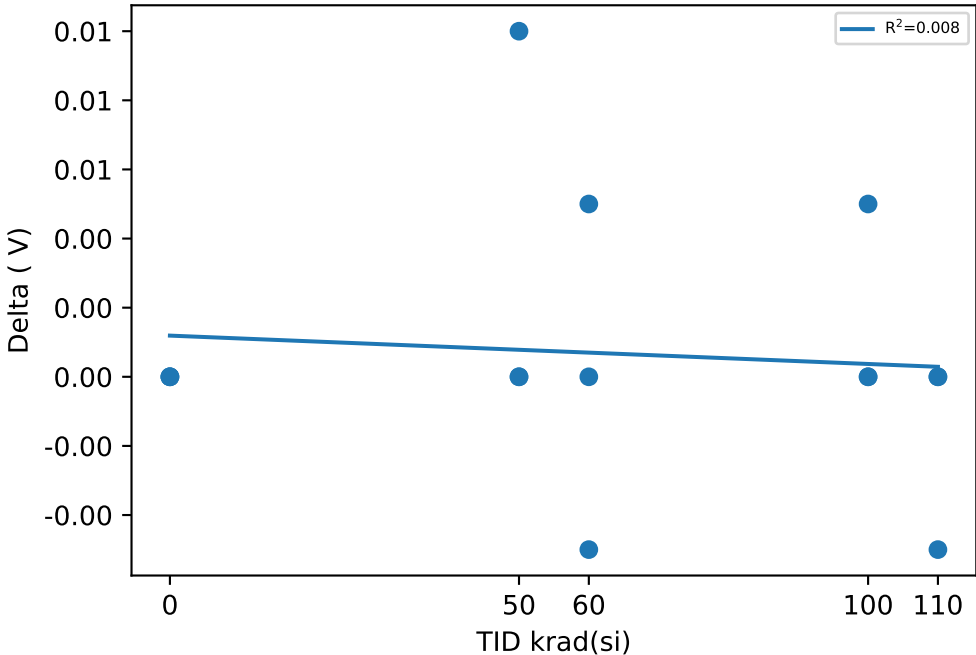
TID vs Result Stats



Test Results (No Limits Specified (V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.15	0.15	0
2	0	CU2	0.145	0.145	0
3	0	CU3	0.155	0.155	0
7	50	50krad Unbiased	0.14	0.15	0.01
8	50	50krad Unbiased	0.15	0.15	0
9	50	50krad Unbiased	0.15	0.15	0
10	60	50krad Biased	0.15	0.145	-0.005
11	60	50krad Biased	0.145	0.15	0.005
12	60	50krad Biased	0.15	0.15	0
13	100	100krad Unbiased	0.145	0.145	0
14	100	100krad Unbiased	0.15	0.15	0
15	100	100krad Unbiased	0.145	0.15	0.005
16	110	100krad Biased	0.155	0.15	-0.005
17	110	100krad Biased	0.15	0.15	0
18	110	100krad Biased	0.15	0.15	0

TID vs Post - Pre Exposure Delta

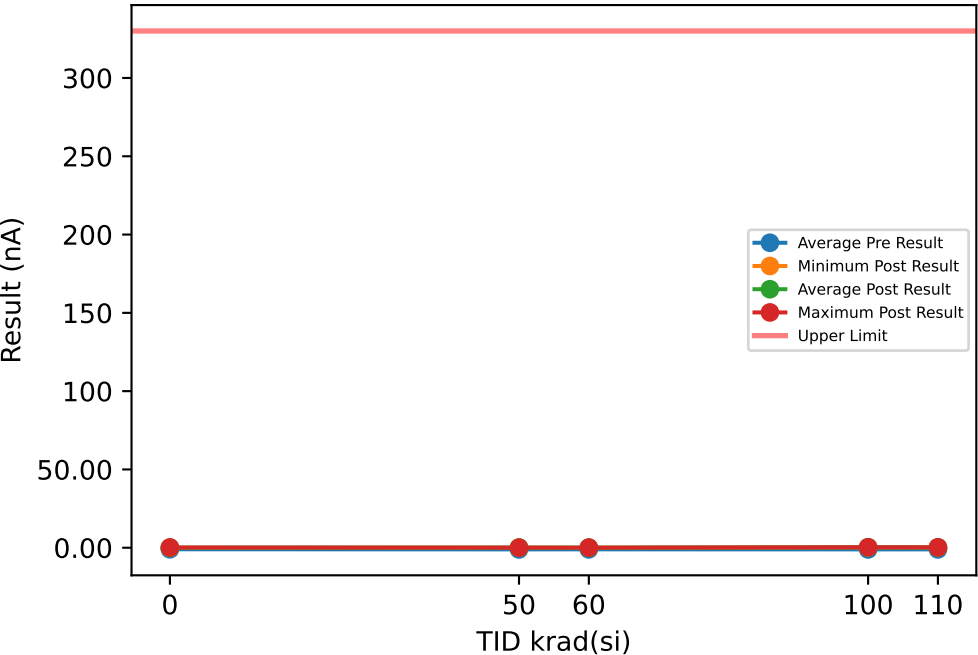


Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.145	0.15	0.155	0.005	0.145	0.15	0.155	0.005	0	0	0	0
50	0.14	0.14667	0.15	0.0057735	0.15	0.15	0.15	0	0	0.0033333	0.01	0.0057735
60	0.145	0.14833	0.15	0.0028868	0.145	0.14833	0.15	0.0028868	-0.005	0	0.005	0.005
100	0.145	0.14667	0.15	0.0028868	0.145	0.14833	0.15	0.0028868	0	0.0016667	0.005	0.0028868
110	0.15	0.15167	0.155	0.0028868	0.15	0.15	0.15	0	-0.005	-0.0016667	0	0.0028868

Device Test: 65.1 LEAK|/EN/CURRENT///3/@I_EN_LKG

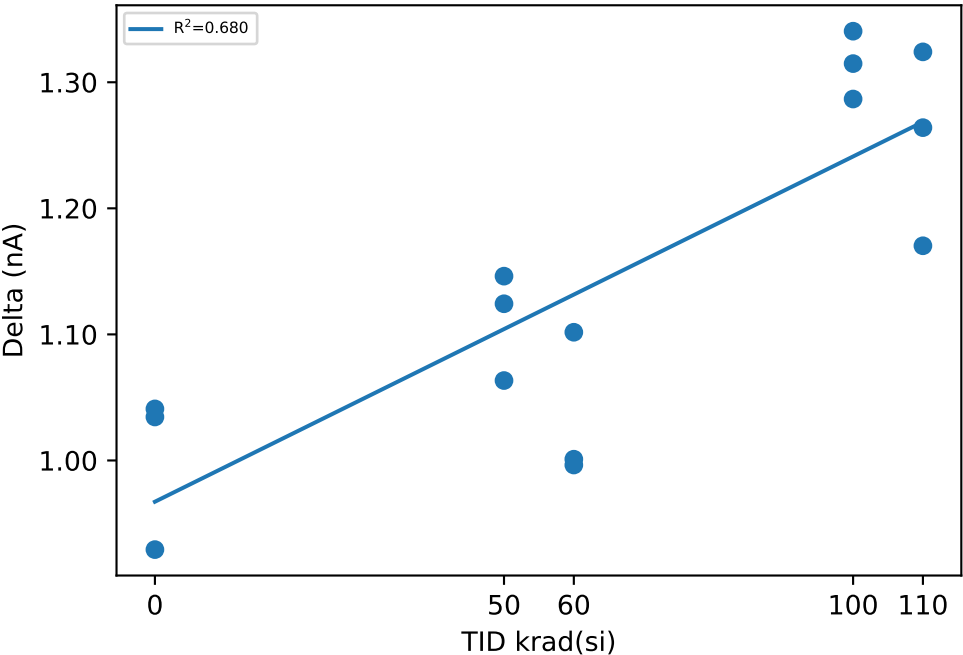
TID vs Result Stats



Test Results (Upper Limit = 330.0 (nA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-0.8981	0.1428	1.0409
2	0	CU2	-0.973	-0.0437	0.9293
3	0	CU3	-1.0697	-0.0352	1.0345
7	50	50krad Unbiased	-0.9995	0.0639	1.0634
8	50	50krad Unbiased	-1.0994	0.0249	1.1243
9	50	50krad Unbiased	-1.0877	0.0585	1.1462
10	60	50krad Biased	-1.005	-0.0086	0.9964
11	60	50krad Biased	-1.0346	-0.0336	1.001
12	60	50krad Biased	-1.0432	0.0585	1.1017
13	100	100krad Unbiased	-1.0534	0.2333	1.2867
14	100	100krad Unbiased	-1.0643	0.2505	1.3148
15	100	100krad Unbiased	-1.0612	0.2793	1.3405
16	110	100krad Biased	-1.0346	0.1357	1.1703
17	110	100krad Biased	-1.0331	0.2309	1.264
18	110	100krad Biased	-1.0854	0.2387	1.3241

TID vs Post - Pre Exposure Delta

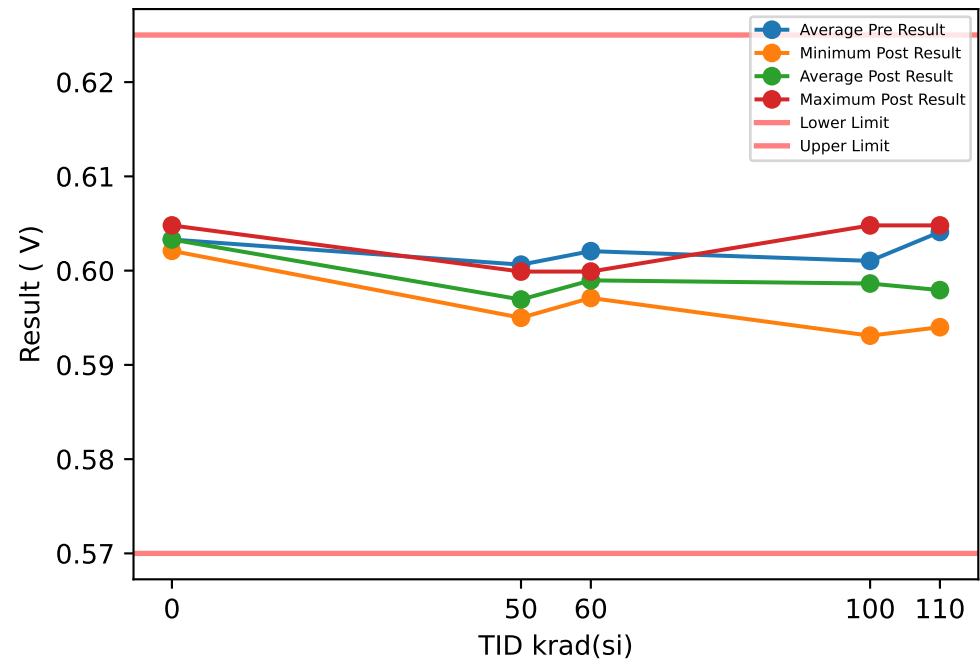


Test Statistics (nA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-1.0697	-0.98027	-0.8981	0.08603	-0.0437	0.0213	0.1428	0.10531	0.9293	1.0016	1.0409	0.062667
50	-1.0994	-1.0622	-0.9995	0.054614	0.0249	0.0491	0.0639	0.021131	1.0634	1.1113	1.1462	0.042903
60	-1.0432	-1.0276	-1.005	0.020039	-0.0336	0.0054333	0.0585	0.047627	0.9964	1.033	1.1017	0.059512
100	-1.0643	-1.0596	-1.0534	0.0056163	0.2333	0.25437	0.2793	0.023242	1.2867	1.314	1.3405	0.026909
110	-1.0854	-1.051	-1.0331	0.029772	0.1357	0.20177	0.2387	0.057348	1.1703	1.2528	1.3241	0.077509

Device Test: 65.2 ENABLE|/EN/RISE///3/@V_EN_RISING

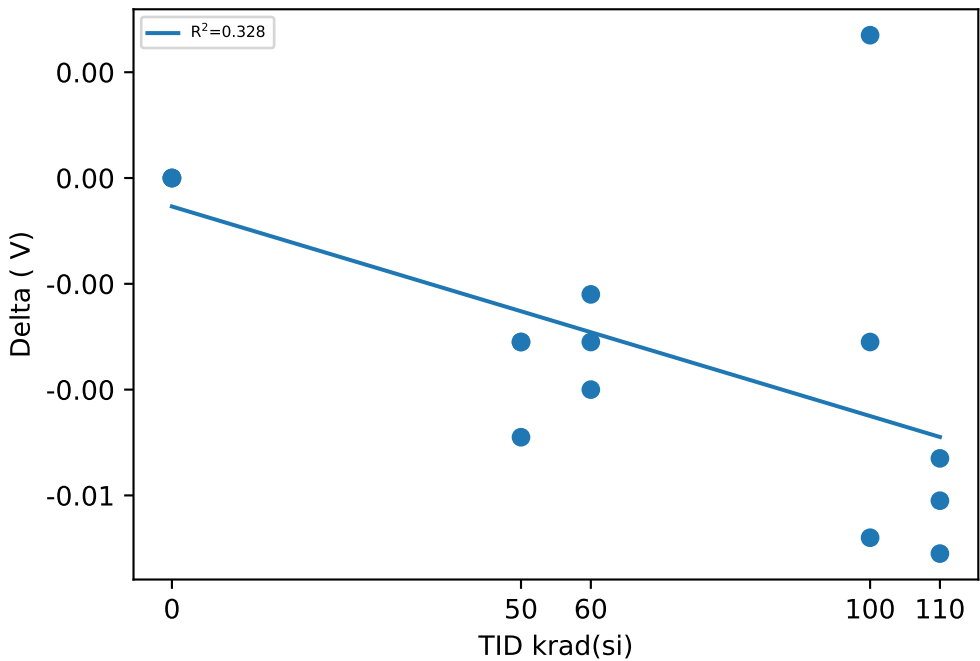
TID vs Result Stats



Test Results (Lower Limit = 0.57, Upper Limit = 0.625 (V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.6021	0.6021	0
2	0	CU2	0.6048	0.6048	0
3	0	CU3	0.603	0.603	0
7	50	50krad Unbiased	0.603	0.5999	-0.0031
8	50	50krad Unbiased	0.599	0.5959	-0.0031
9	50	50krad Unbiased	0.5999	0.595	-0.0049
10	60	50krad Biased	0.603	0.5999	-0.0031
11	60	50krad Biased	0.6011	0.5971	-0.004
12	60	50krad Biased	0.6021	0.5999	-0.0022
13	100	100krad Unbiased	0.6011	0.598	-0.0031
14	100	100krad Unbiased	0.6021	0.6048	0.0027
15	100	100krad Unbiased	0.5999	0.5931	-0.0068
16	110	100krad Biased	0.6101	0.6048	-0.0053
17	110	100krad Biased	0.6011	0.594	-0.0071
18	110	100krad Biased	0.6011	0.595	-0.0061

TID vs Post - Pre Exposure Delta

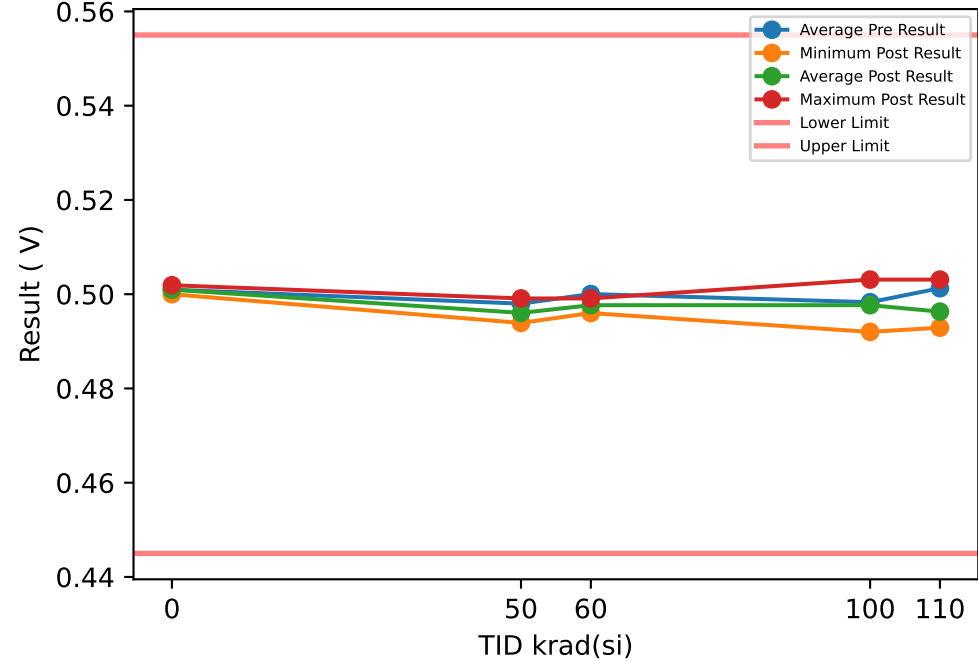


Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.6021	0.6033	0.6048	0.0013748	0.6021	0.6033	0.6048	0.0013748	0	0	0	0
50	0.599	0.60063	0.603	0.0020984	0.595	0.59693	0.5999	0.0026083	-0.0049	-0.0037	-0.0031	0.0010392
60	0.6011	0.60207	0.603	0.00095044	0.5971	0.59897	0.5999	0.0016166	-0.004	-0.0031	-0.0022	0.0009
100	0.5999	0.60103	0.6021	0.0011015	0.5931	0.59863	0.6048	0.0058757	-0.0068	-0.0024	0.0027	0.0047885
110	0.6011	0.6041	0.6101	0.0051962	0.594	0.59793	0.6048	0.0059677	-0.0071	-0.0061667	-0.0053	0.00090185

Device Test: 65.3 ENABLE|/EN/FALL///3/@V_EN_FALLING

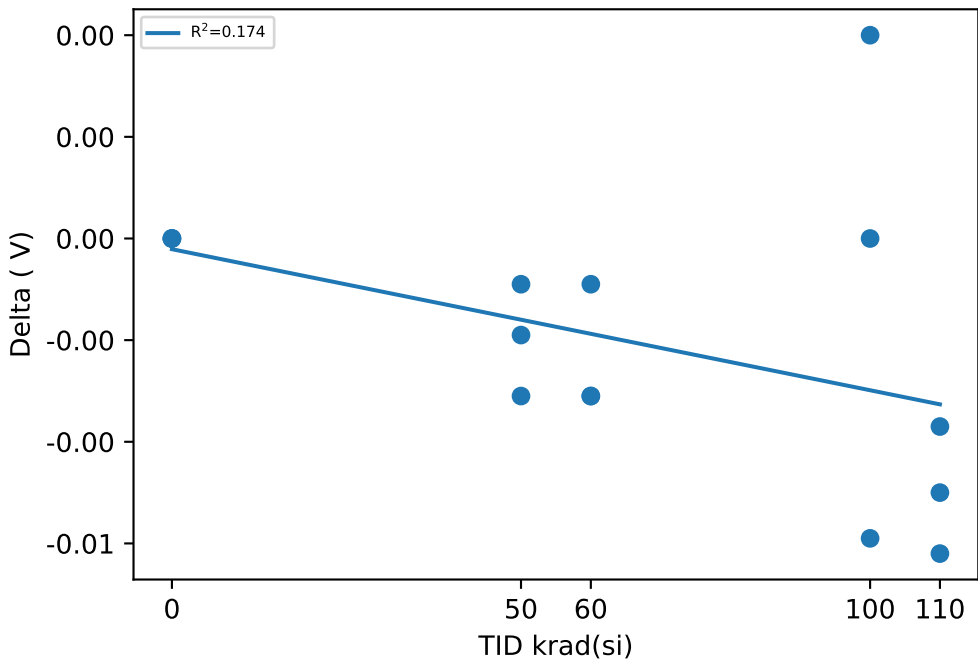
TID vs Result Stats



Test Results (Lower Limit = 0.445, Upper Limit = 0.555 (V))

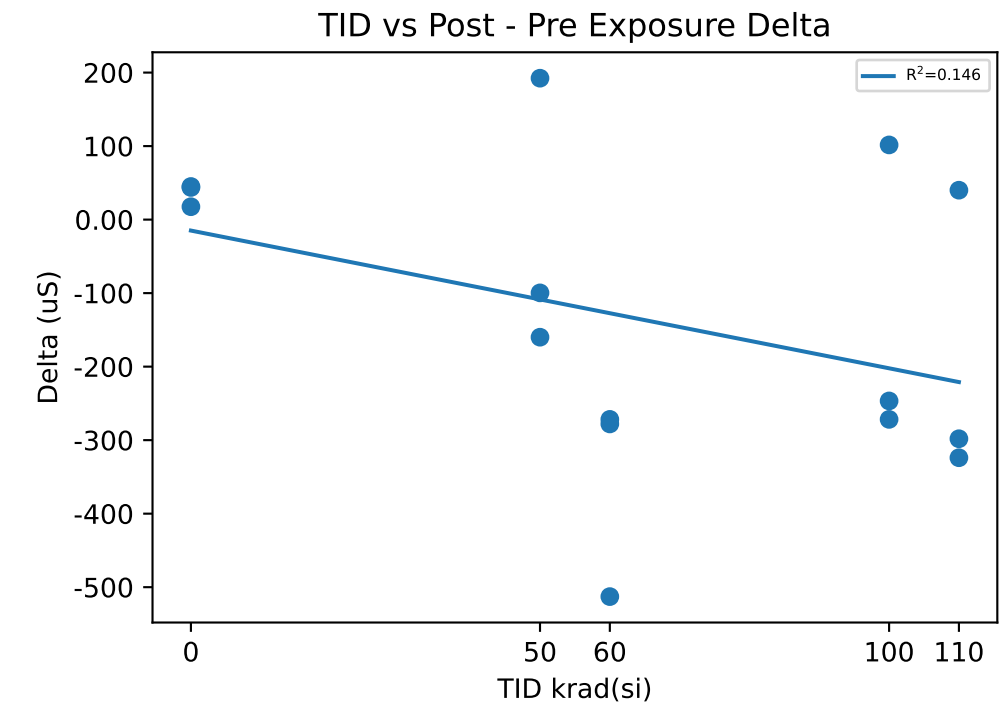
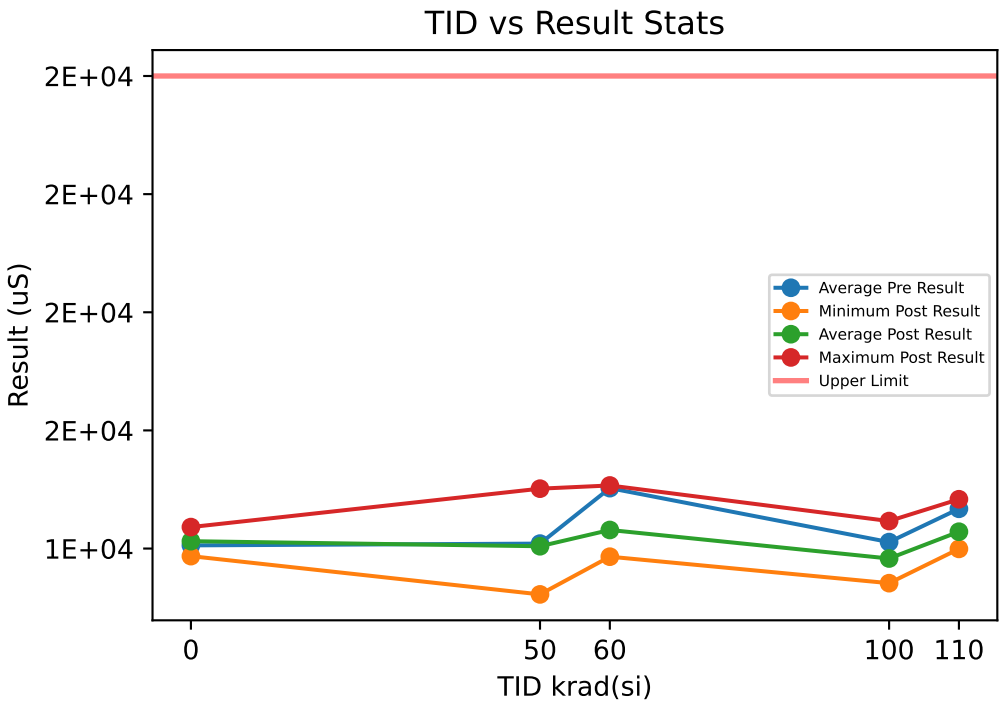
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.5	0.5	0
2	0	CU2	0.5019	0.5019	0
3	0	CU3	0.501	0.501	0
7	50	50krad Unbiased	0.5	0.4991	-0.0009
8	50	50krad Unbiased	0.497	0.4951	-0.0019
9	50	50krad Unbiased	0.497	0.4939	-0.0031
10	60	50krad Biased	0.501	0.4979	-0.0031
11	60	50krad Biased	0.4991	0.496	-0.0031
12	60	50krad Biased	0.5	0.4991	-0.0009
13	100	100krad Unbiased	0.4979	0.4979	0
14	100	100krad Unbiased	0.4991	0.5031	0.004
15	100	100krad Unbiased	0.4979	0.492	-0.0059
16	110	100krad Biased	0.5068	0.5031	-0.0037
17	110	100krad Biased	0.4991	0.4929	-0.0062
18	110	100krad Biased	0.4979	0.4929	-0.005

TID vs Post - Pre Exposure Delta



Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.5	0.50097	0.5019	0.00095044	0.5	0.50097	0.5019	0.00095044	0	0	0	0
50	0.497	0.498	0.5	0.0017321	0.4939	0.49603	0.4991	0.0027227	-0.0031	-0.0019667	-0.0009	0.0011015
60	0.4991	0.50003	0.501	0.00095044	0.496	0.49767	0.4991	0.0015631	-0.0031	-0.0023667	-0.0009	0.0012702
100	0.4979	0.4983	0.4991	0.00069282	0.492	0.49767	0.5031	0.0055537	-0.0059	-0.00063333	0.004	0.0049803
110	0.4979	0.50127	0.5068	0.0048294	0.4929	0.4963	0.5031	0.005889	-0.0062	-0.0049667	-0.0037	0.0012503



Test Results (Upper Limit = 18000.0 (uS))

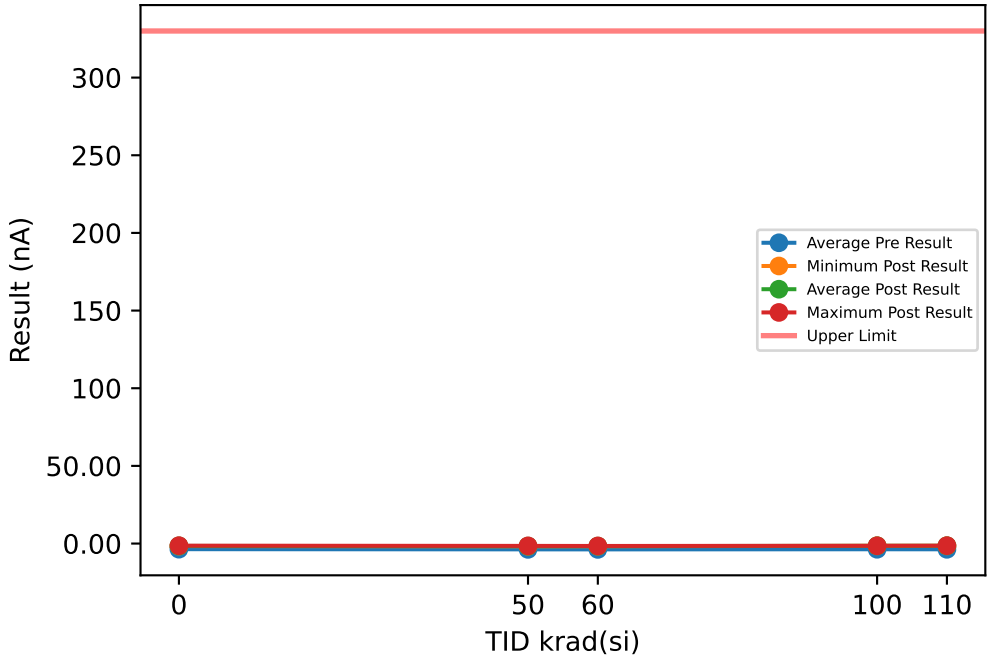
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1.39e+04	1.39e+04	17.537
2	0	CU2	1.41e+04	1.42e+04	45.048
3	0	CU3	1.4e+04	1.41e+04	43.742
7	50	50krad Unbiased	1.43e+04	1.45e+04	192.36
8	50	50krad Unbiased	1.4e+04	1.39e+04	-99.664
9	50	50krad Unbiased	1.38e+04	1.36e+04	-159.96
10	60	50krad Biased	1.48e+04	1.45e+04	-277.94
11	60	50krad Biased	1.42e+04	1.39e+04	-271.73
12	60	50krad Biased	1.45e+04	1.4e+04	-512.82
13	100	100krad Unbiased	1.4e+04	1.37e+04	-246.66
14	100	100krad Unbiased	1.45e+04	1.42e+04	-271.75
15	100	100krad Unbiased	1.37e+04	1.38e+04	101.6
16	110	100krad Biased	1.4e+04	1.4e+04	40.016
17	110	100krad Biased	1.47e+04	1.44e+04	-323.92
18	110	100krad Biased	1.43e+04	1.4e+04	-298.09

Test Statistics (uS)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1.39e+04	1.4e+04	1.41e+04	109.13	1.39e+04	1.41e+04	1.42e+04	123.03	17.537	35.442	45.048	15.52
50	1.38e+04	1.4e+04	1.43e+04	271.34	1.36e+04	1.4e+04	1.45e+04	452.81	-159.96	-22.421	192.36	188.43
60	1.42e+04	1.45e+04	1.48e+04	304.63	1.39e+04	1.42e+04	1.45e+04	328.48	-512.82	-354.16	-271.73	137.43
100	1.37e+04	1.41e+04	1.45e+04	408.73	1.37e+04	1.39e+04	1.42e+04	279.08	-271.75	-138.94	101.6	208.69
110	1.4e+04	1.43e+04	1.47e+04	385.77	1.4e+04	1.41e+04	1.44e+04	238.16	-323.92	-194	40.016	203.07

Device Test: 65.5 LEAK|/EN/CURRENT///5/@I_EN_LKG

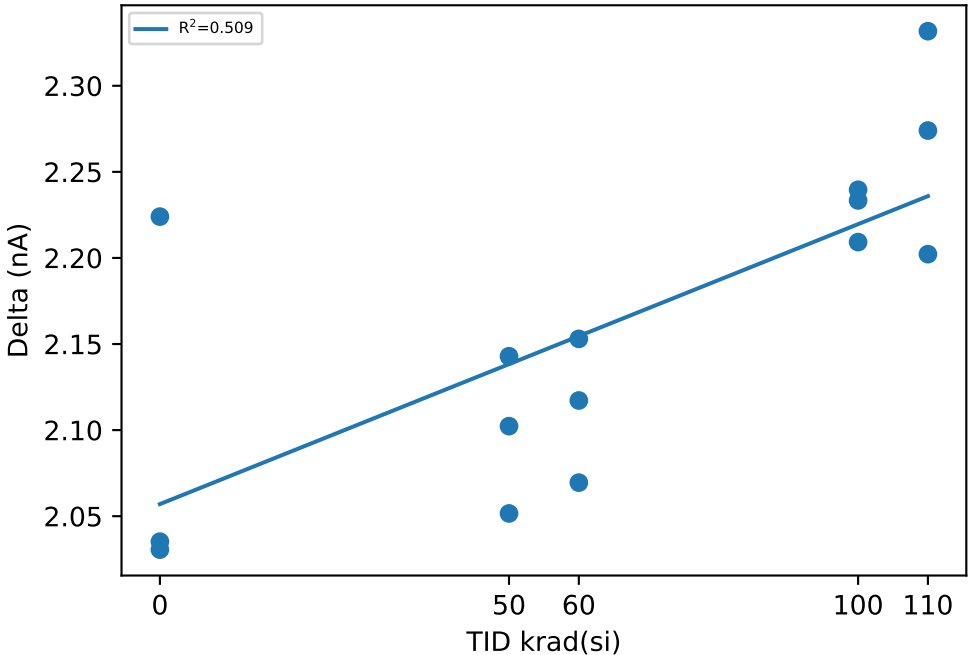
TID vs Result Stats



Test Results (Upper Limit = 330.0 (nA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	-3.5866	-1.3626	2.224
2	0	CU2	-3.6093	-1.5787	2.0306
3	0	CU3	-3.6701	-1.6349	2.0352
7	50	50krad Unbiased	-3.5523	-1.5007	2.0516
8	50	50krad Unbiased	-3.8637	-1.7614	2.1023
9	50	50krad Unbiased	-3.8137	-1.6708	2.1429
10	60	50krad Biased	-3.8403	-1.7231	2.1172
11	60	50krad Biased	-3.6163	-1.5468	2.0695
12	60	50krad Biased	-3.8246	-1.6716	2.153
13	100	100krad Unbiased	-3.6381	-1.4289	2.2092
14	100	100krad Unbiased	-3.6779	-1.4445	2.2334
15	100	100krad Unbiased	-3.7138	-1.4742	2.2396
16	110	100krad Biased	-3.7318	-1.4578	2.274
17	110	100krad Biased	-3.8223	-1.4906	2.3317
18	110	100krad Biased	-3.5609	-1.3587	2.2022

TID vs Post - Pre Exposure Delta

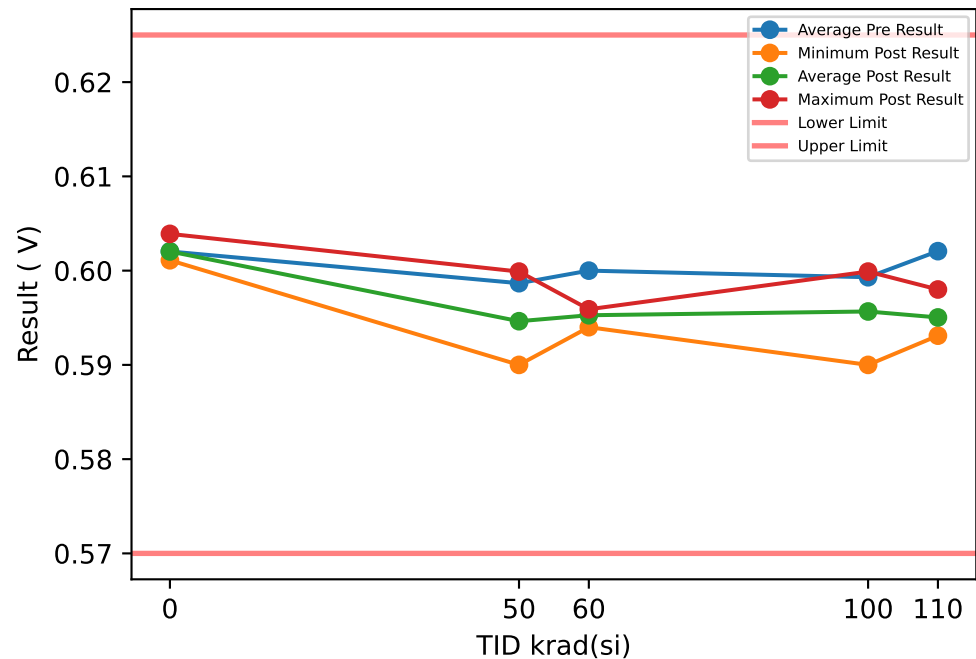


Test Statistics (nA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	-3.6701	-3.622	-3.5866	0.043174	-1.6349	-1.5254	-1.3626	0.14376	2.0306	2.0966	2.224	0.11036
50	-3.8637	-3.7432	-3.5523	0.16723	-1.7614	-1.6443	-1.5007	0.13235	2.0516	2.0989	2.1429	0.045743
60	-3.8403	-3.7604	-3.6163	0.12504	-1.7231	-1.6472	-1.5468	0.090654	2.0695	2.1132	2.153	0.041891
100	-3.7138	-3.6766	-3.6381	0.037867	-1.4742	-1.4492	-1.4289	0.023013	2.2092	2.2274	2.2396	0.016064
110	-3.8223	-3.705	-3.5609	0.13274	-1.4906	-1.4357	-1.3587	0.068671	2.2022	2.2693	2.3317	0.064878

Device Test: 65.6 ENABLE|/EN/RISE///5/@V_EN_RISING

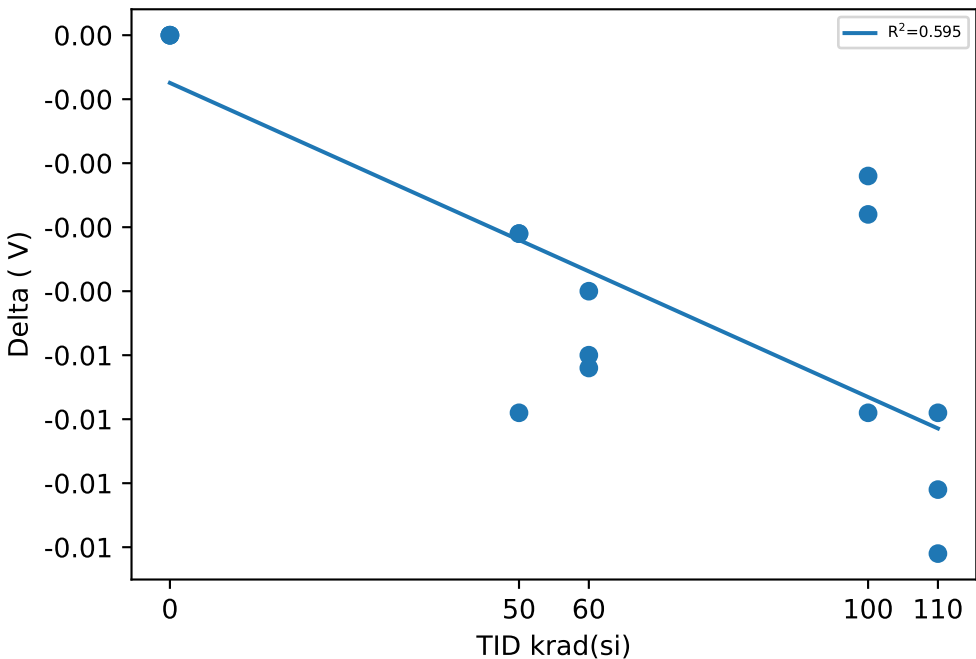
TID vs Result Stats



Test Results (Lower Limit = 0.57, Upper Limit = 0.625 (V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.6011	0.6011	0
2	0	CU2	0.6039	0.6039	0
3	0	CU3	0.6011	0.6011	0
7	50	50krad Unbiased	0.603	0.5999	-0.0031
8	50	50krad Unbiased	0.5971	0.594	-0.0031
9	50	50krad Unbiased	0.5959	0.59	-0.0059
10	60	50krad Biased	0.6011	0.5959	-0.0052
11	60	50krad Biased	0.5999	0.5959	-0.004
12	60	50krad Biased	0.599	0.594	-0.005
13	100	100krad Unbiased	0.5999	0.5971	-0.0028
14	100	100krad Unbiased	0.6021	0.5999	-0.0022
15	100	100krad Unbiased	0.5959	0.59	-0.0059
16	110	100krad Biased	0.6061	0.598	-0.0081
17	110	100krad Biased	0.6011	0.594	-0.0071
18	110	100krad Biased	0.599	0.5931	-0.0059

TID vs Post - Pre Exposure Delta

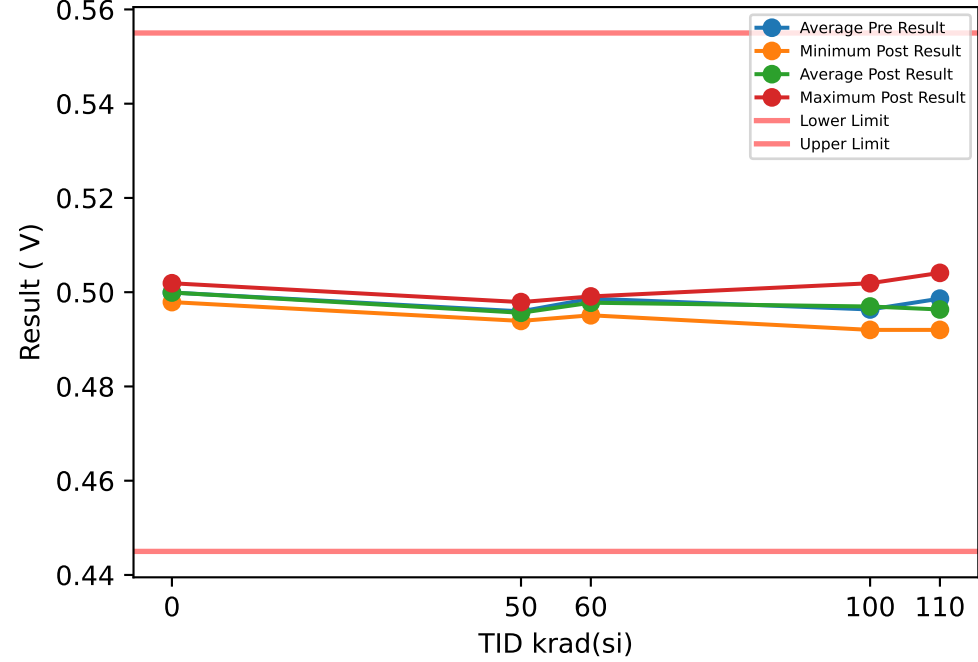


Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.6011	0.60203	0.6039	0.0016166	0.6011	0.60203	0.6039	0.0016166	0	0	0	0
50	0.5959	0.59867	0.603	0.0038004	0.59	0.59463	0.5999	0.0049803	-0.0059	-0.0040333	-0.0031	0.0016166
60	0.599	0.6	0.6011	0.0010536	0.594	0.59527	0.5959	0.001097	-0.0052	-0.0047333	-0.004	0.00064291
100	0.5959	0.5993	0.6021	0.0031432	0.59	0.59567	0.5999	0.0051033	-0.0059	-0.0036333	-0.0022	0.0019858
110	0.599	0.60207	0.6061	0.0036474	0.5931	0.59503	0.598	0.0026083	-0.0081	-0.0070333	-0.0059	0.0011015

Device Test: 65.7 ENABLE|/EN/FALL///5/@V_EN_FALLING

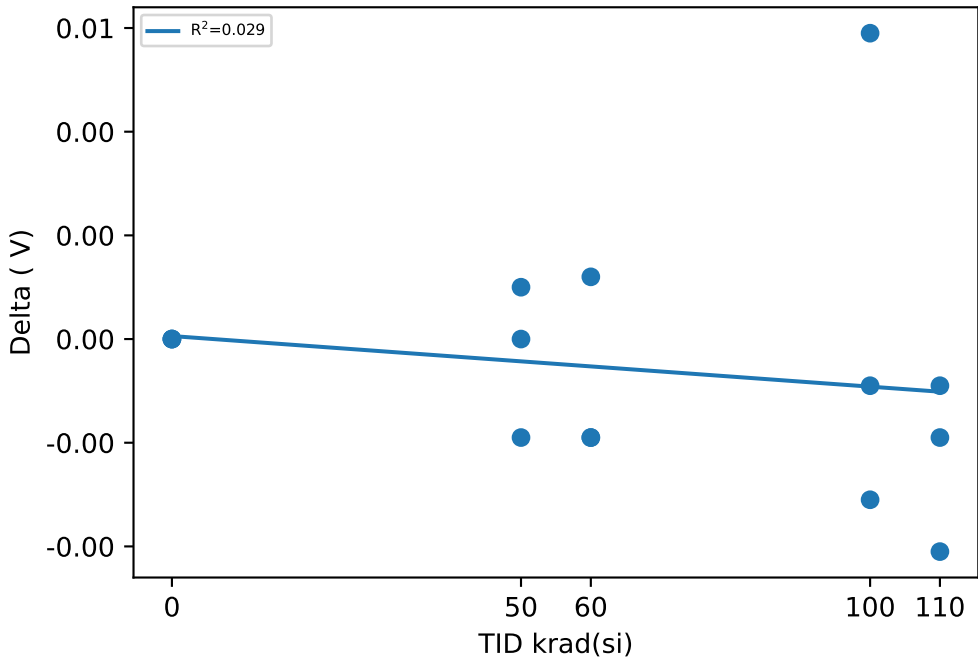
TID vs Result Stats



Test Results (Lower Limit = 0.445, Upper Limit = 0.555 (V))

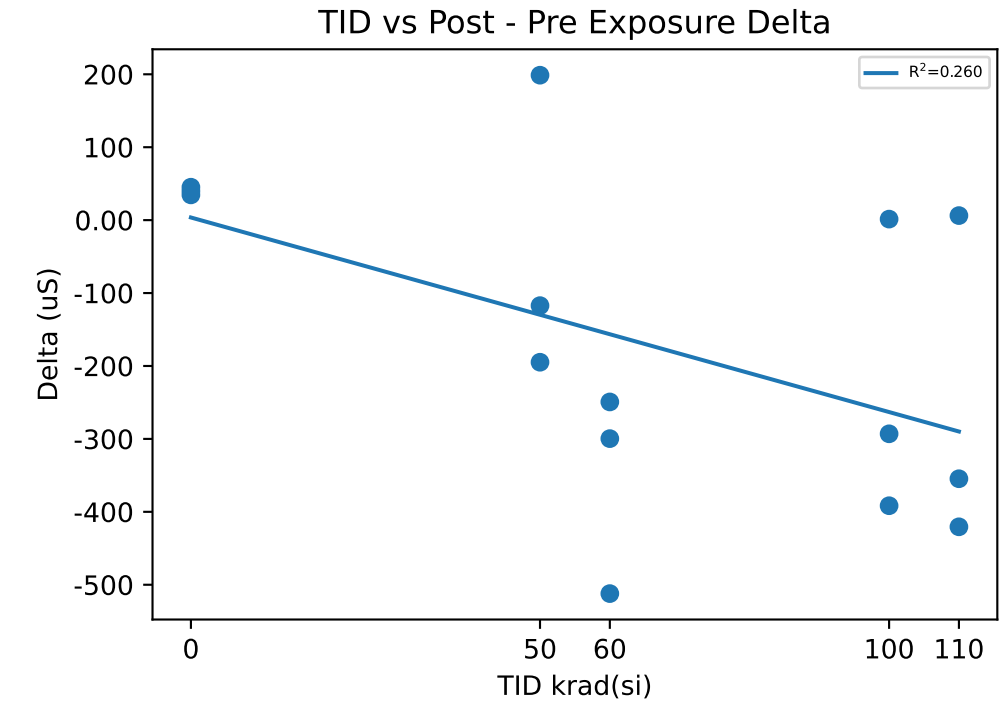
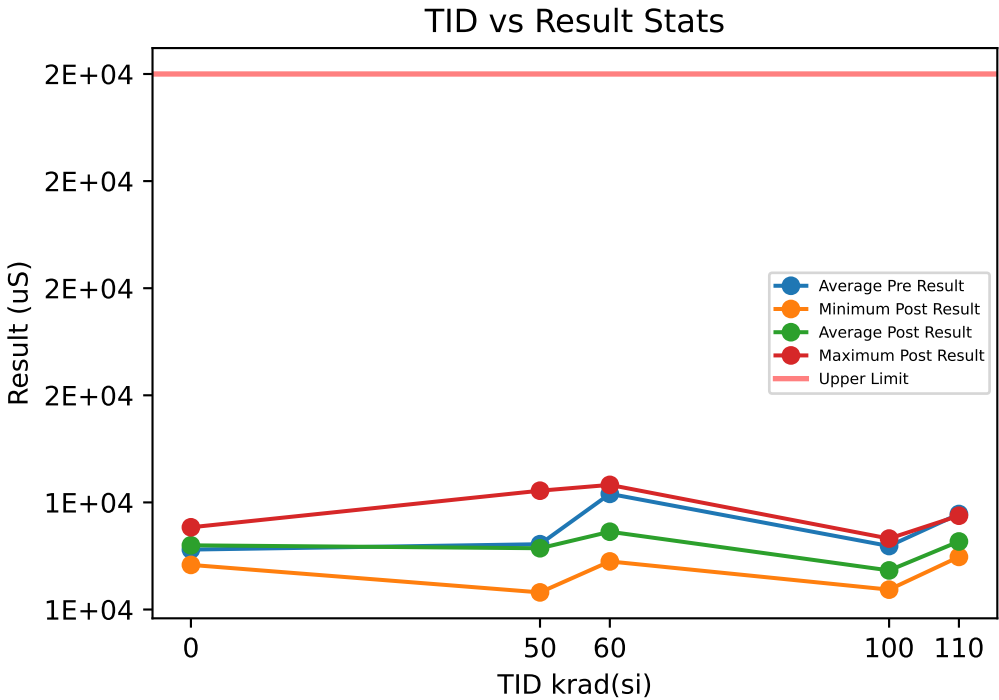
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.5019	0.5019	0
2	0	CU2	0.5	0.5	0
3	0	CU3	0.4979	0.4979	0
7	50	50krad Unbiased	0.4979	0.4979	0
8	50	50krad Unbiased	0.4929	0.4939	0.001
9	50	50krad Unbiased	0.497	0.4951	-0.0019
10	60	50krad Biased	0.501	0.4991	-0.0019
11	60	50krad Biased	0.497	0.4951	-0.0019
12	60	50krad Biased	0.4979	0.4991	0.0012
13	100	100krad Unbiased	0.4979	0.497	-0.0009
14	100	100krad Unbiased	0.496	0.5019	0.0059
15	100	100krad Unbiased	0.4951	0.492	-0.0031
16	110	100krad Biased	0.505	0.5041	-0.0009
17	110	100krad Biased	0.497	0.4929	-0.0041
18	110	100krad Biased	0.4939	0.492	-0.0019

TID vs Post - Pre Exposure Delta



Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.4979	0.49993	0.5019	0.0020008	0.4979	0.49993	0.5019	0.0020008	0	0	0	0
50	0.4929	0.49593	0.4979	0.0026652	0.4939	0.49563	0.4979	0.0020526	-0.0019	-0.0003	0.001	0.0014731
60	0.497	0.49863	0.501	0.0020984	0.4951	0.49777	0.4991	0.0023094	-0.0019	-0.00086667	0.0012	0.0017898
100	0.4951	0.49633	0.4979	0.0014295	0.492	0.49697	0.5019	0.0049501	-0.0031	0.00063333	0.0059	0.0046918
110	0.4939	0.49863	0.505	0.0057274	0.492	0.49633	0.5041	0.0067412	-0.0041	-0.0023	-0.0009	0.0016371

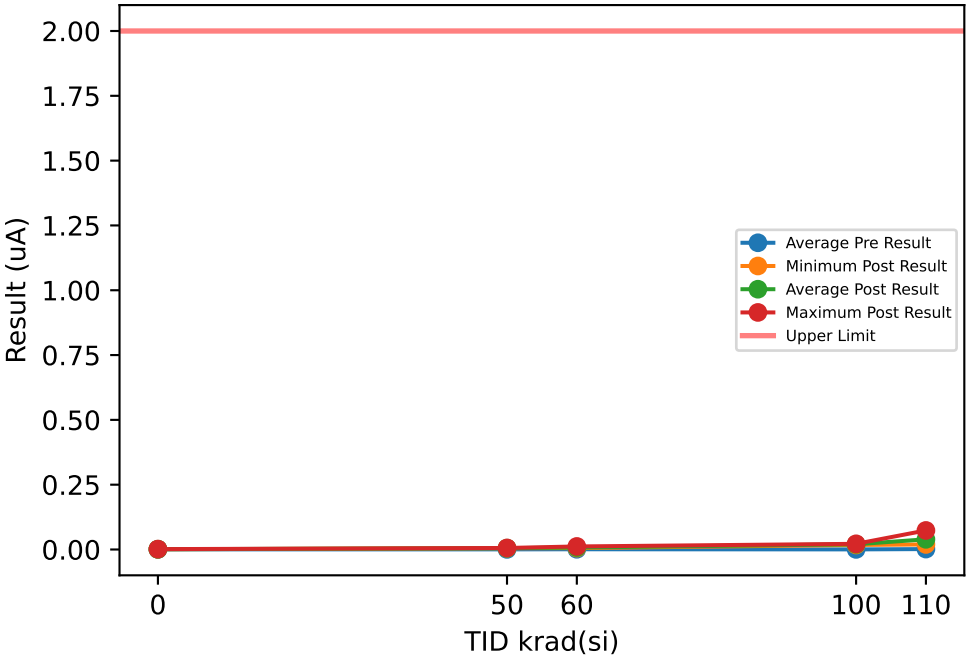


Test Results (Upper Limit = 18000.0 (uS))					
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	1.34e+04	1.34e+04	39.85
2	0	CU2	1.37e+04	1.38e+04	34.622
3	0	CU3	1.36e+04	1.36e+04	45.154
7	50	50krad Unbiased	1.39e+04	1.41e+04	198.75
8	50	50krad Unbiased	1.36e+04	1.34e+04	-117.24
9	50	50krad Unbiased	1.34e+04	1.32e+04	-194.86
10	60	50krad Biased	1.44e+04	1.42e+04	-249.32
11	60	50krad Biased	1.37e+04	1.34e+04	-299.62
12	60	50krad Biased	1.41e+04	1.36e+04	-512.14
13	100	100krad Unbiased	1.35e+04	1.32e+04	-293.01
14	100	100krad Unbiased	1.41e+04	1.37e+04	-391.63
15	100	100krad Unbiased	1.32e+04	1.32e+04	1.412
16	110	100krad Biased	1.35e+04	1.35e+04	6.2442
17	110	100krad Biased	1.43e+04	1.39e+04	-420.55
18	110	100krad Biased	1.38e+04	1.35e+04	-354.64

Test Statistics (uS)												
krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1.34e+04	1.36e+04	1.37e+04	178.32	1.34e+04	1.36e+04	1.38e+04	175.98	34.622	39.876	45.154	5.2659
50	1.34e+04	1.36e+04	1.39e+04	280.75	1.32e+04	1.36e+04	1.41e+04	486.96	-194.86	-37.785	198.75	208.49
60	1.37e+04	1.41e+04	1.44e+04	332.14	1.34e+04	1.37e+04	1.42e+04	383.27	-512.14	-353.69	-249.32	139.5
100	1.32e+04	1.36e+04	1.41e+04	416.09	1.32e+04	1.34e+04	1.37e+04	259.37	-391.63	-227.74	1.412	204.49
110	1.35e+04	1.39e+04	1.43e+04	384.16	1.35e+04	1.36e+04	1.39e+04	209.8	-420.55	-256.31	6.2442	229.76

Device Test: 70.1 LEAK|/PG/CURRENT/1N8V//3/@PWRGD_OUTPUT_HIGH_LEAK

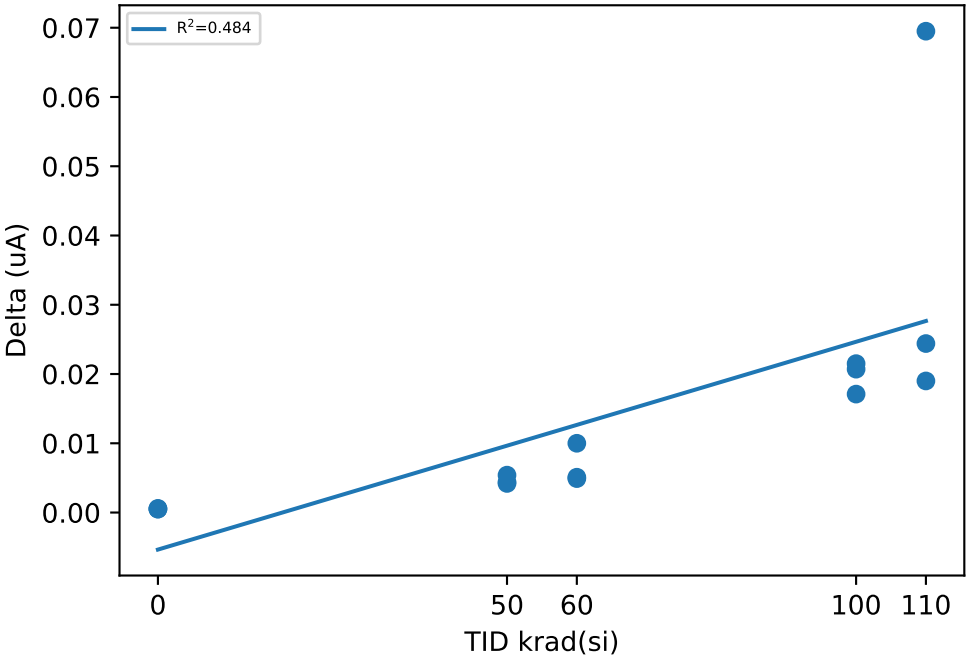
TID vs Result Stats



Test Results (Upper Limit = 2.0 (uA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.001	0.0015	0.0005
2	0	CU2	0.0003	0.0009	0.0006
3	0	CU3	0.0004	0.0009	0.0005
7	50	50krad Unbiased	0.0004	0.0048	0.0044
8	50	50krad Unbiased	0.0005	0.0047	0.0042
9	50	50krad Unbiased	0.0005	0.0059	0.0054
10	60	50krad Biased	0.0018	0.0118	0.01
11	60	50krad Biased	0.0005	0.0054	0.0049
12	60	50krad Biased	0.0005	0.0056	0.0051
13	100	100krad Unbiased	0.0004	0.0175	0.0171
14	100	100krad Unbiased	0.0004	0.0211	0.0207
15	100	100krad Unbiased	0.0004	0.0219	0.0215
16	110	100krad Biased	0.0005	0.0195	0.019
17	110	100krad Biased	0.004	0.0735	0.0695
18	110	100krad Biased	0.0004	0.0248	0.0244

TID vs Post - Pre Exposure Delta

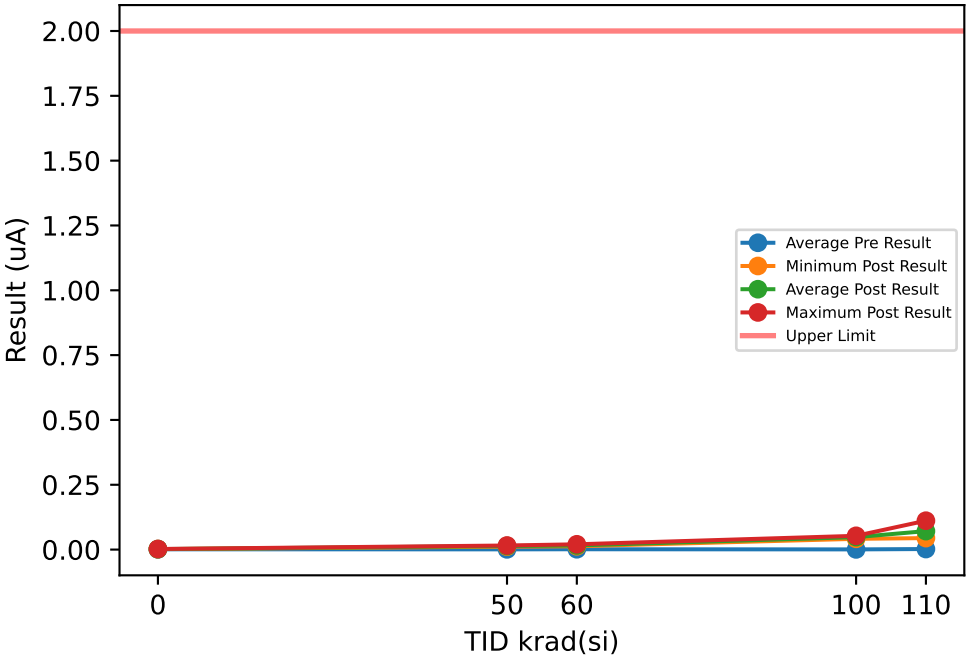


Test Statistics (uA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.0003	0.00056667	0.001	0.00037859	0.0009	0.0011	0.0015	0.00034641	0.0005	0.00053333	0.0006	5.7735e-05
50	0.0004	0.00046667	0.0005	5.7735e-05	0.0047	0.0051333	0.0059	0.00066583	0.0042	0.0046667	0.0054	0.00064291
60	0.0005	0.00093333	0.0018	0.00075056	0.0054	0.0076	0.0118	0.0036387	0.0049	0.0066667	0.01	0.0028885
100	0.0004	0.0004	0.0004	0	0.0175	0.020167	0.0219	0.0023438	0.0171	0.019767	0.0215	0.0023438
110	0.0004	0.0016333	0.004	0.0020502	0.0195	0.039267	0.0735	0.029765	0.019	0.037633	0.0695	0.027729

Device Test: 70.2 LEAK|/PG/CURRENT/1N8V//6.3/@PWRGD_OUTPUT_HIGH_LEAK

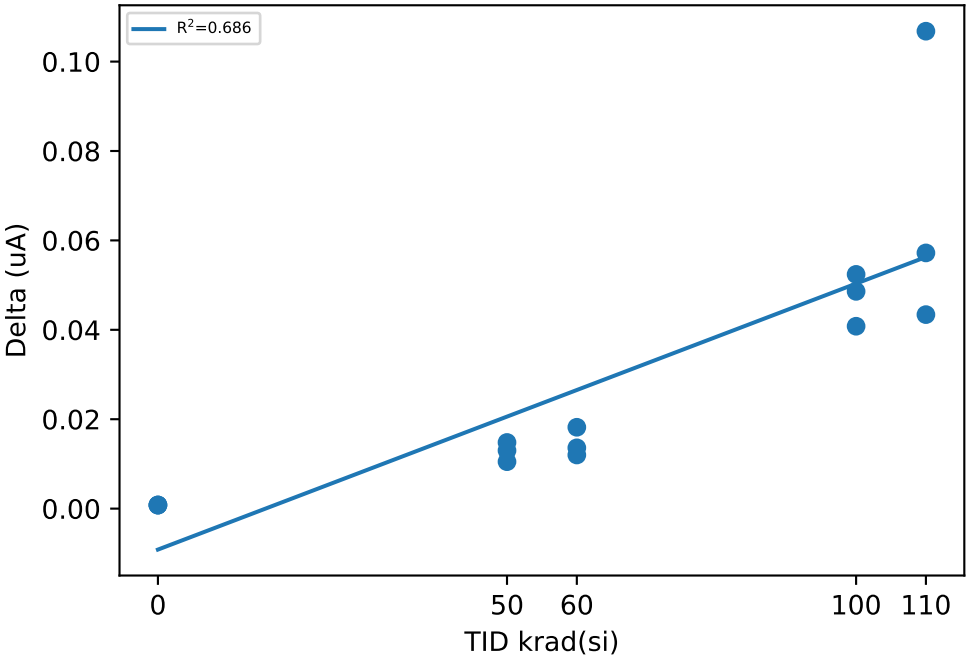
TID vs Result Stats



Test Results (Upper Limit = 2.0 (uA))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.0015	0.0023	0.0008
2	0	CU2	0.0009	0.0017	0.0008
3	0	CU3	0.0009	0.0017	0.0008
7	50	50krad Unbiased	0.0007	0.0112	0.0105
8	50	50krad Unbiased	0.001	0.014	0.013
9	50	50krad Unbiased	0.001	0.0158	0.0148
10	60	50krad Biased	0.0022	0.0204	0.0182
11	60	50krad Biased	0.0008	0.0128	0.012
12	60	50krad Biased	0.0009	0.0145	0.0136
13	100	100krad Unbiased	0.0007	0.0415	0.0408
14	100	100krad Unbiased	0.0007	0.0531	0.0524
15	100	100krad Unbiased	0.0008	0.0494	0.0486
16	110	100krad Biased	0.0009	0.0443	0.0434
17	110	100krad Biased	0.0046	0.1114	0.1068
18	110	100krad Biased	0.0009	0.0581	0.0572

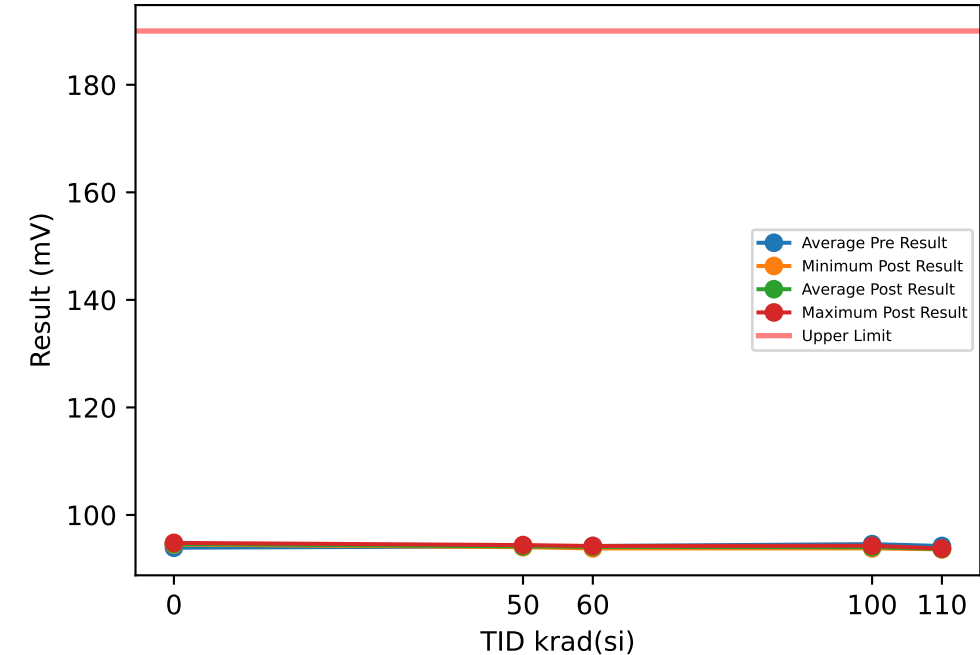
TID vs Post - Pre Exposure Delta



Test Statistics (uA)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.0009	0.0011	0.0015	0.00034641	0.0017	0.0019	0.0023	0.00034641	0.0008	0.0008	0.0008	0
50	0.0007	0.0009	0.001	0.00017321	0.0112	0.013667	0.0158	0.002318	0.0105	0.012767	0.0148	0.0021595
60	0.0008	0.0013	0.0022	0.00078102	0.0128	0.0159	0.0204	0.0039887	0.012	0.0146	0.0182	0.0032187
100	0.0007	0.00073333	0.0008	5.7735e-05	0.0415	0.048	0.0531	0.0059254	0.0408	0.047267	0.0524	0.0059138
110	0.0009	0.0021333	0.0046	0.0021362	0.0443	0.071267	0.1114	0.035435	0.0434	0.069133	0.1068	0.033342

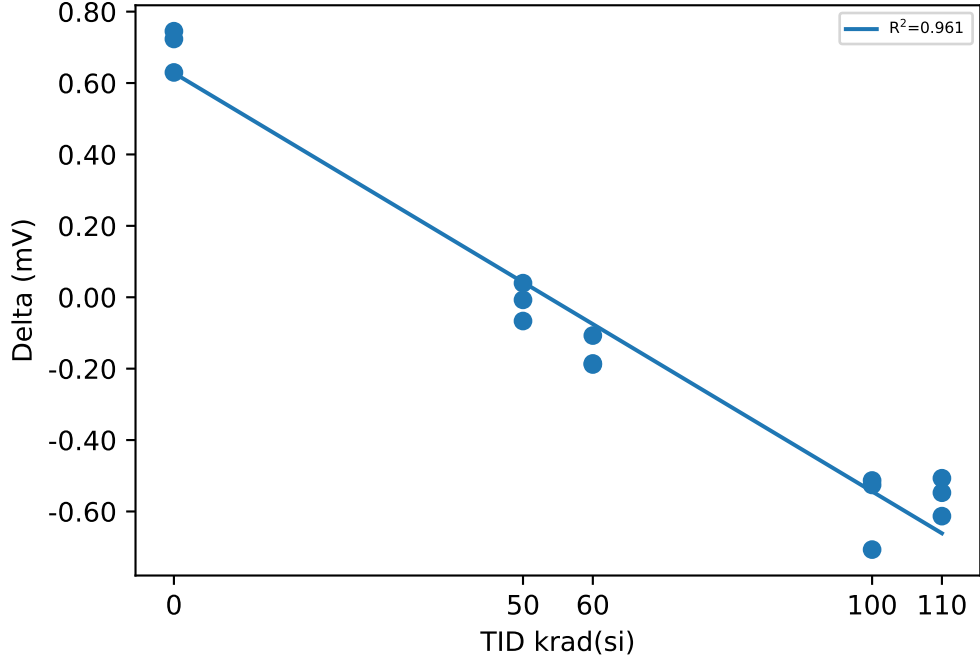
TID vs Result Stats



Test Results (Upper Limit = 190.0 (mV))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	94.083	94.806	0.7234
2	0	CU2	93.78	94.525	0.7452
3	0	CU3	93.868	94.497	0.6297
7	50	50krad Unbiased	94.411	94.404	-0.0073
8	50	50krad Unbiased	93.955	93.994	0.0395
9	50	50krad Unbiased	94.117	94.051	-0.0666
10	60	50krad Biased	93.958	93.773	-0.1854
11	60	50krad Biased	94.308	94.201	-0.1073
12	60	50krad Biased	94.423	94.235	-0.1884
13	100	100krad Unbiased	94.792	94.279	-0.5132
14	100	100krad Unbiased	94.489	93.782	-0.7068
15	100	100krad Unbiased	94.458	93.932	-0.5257
16	110	100krad Biased	94.105	93.598	-0.5069
17	110	100krad Biased	94.295	93.682	-0.6131
18	110	100krad Biased	94.311	93.763	-0.5475

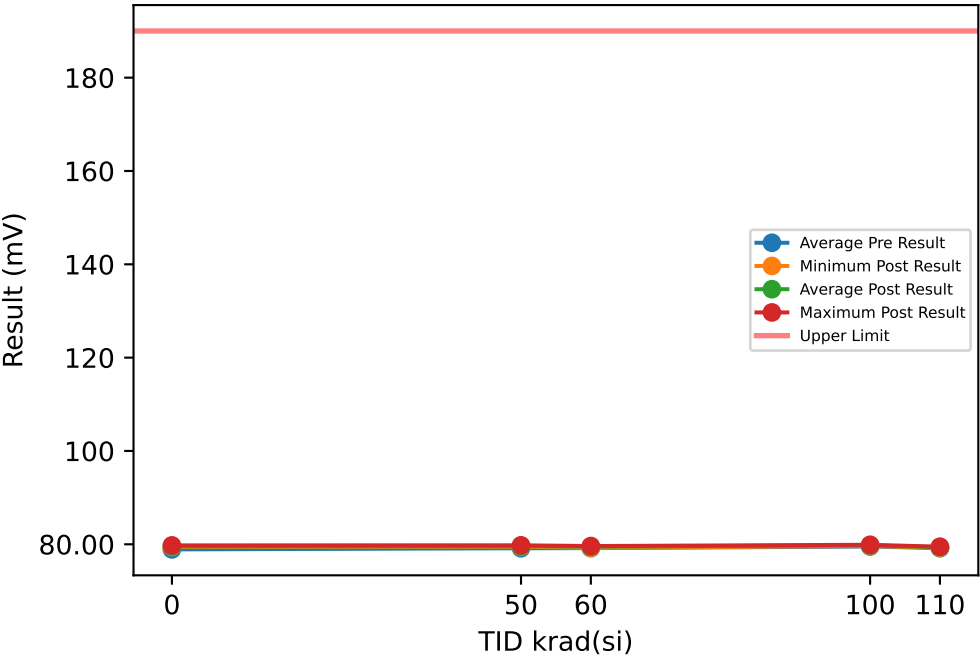
TID vs Post - Pre Exposure Delta



Test Statistics (mV)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	93.78	93.91	94.083	0.1559	94.497	94.61	94.806	0.17098	0.6297	0.69943	0.7452	0.061367
50	93.955	94.161	94.411	0.23107	93.994	94.15	94.404	0.22174	-0.0666	-0.011467	0.0395	0.053173
60	93.958	94.23	94.423	0.24223	93.773	94.069	94.235	0.2575	-0.1884	-0.16037	-0.1073	0.045982
100	94.458	94.58	94.792	0.18455	93.782	93.998	94.279	0.25466	-0.7068	-0.5819	-0.5132	0.10835
110	94.105	94.237	94.311	0.11475	93.598	93.681	93.763	0.082755	-0.6131	-0.55583	-0.5069	0.053588

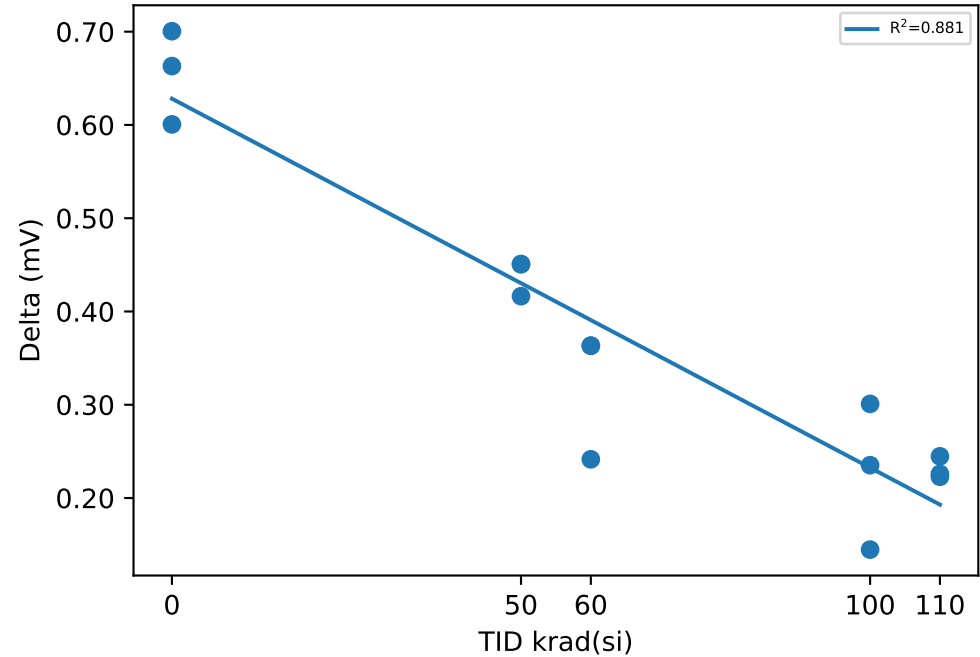
TID vs Result Stats



Test Results (Upper Limit = 190.0 (mV))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	79.101	79.764	0.6631
2	0	CU2	78.726	79.427	0.7005
3	0	CU3	78.886	79.486	0.6006
7	50	50krad Unbiased	79.363	79.78	0.4164
8	50	50krad Unbiased	79.011	79.461	0.4507
9	50	50krad Unbiased	79.076	79.527	0.4508
10	60	50krad Biased	79.014	79.255	0.2415
11	60	50krad Biased	79.26	79.624	0.3633
12	60	50krad Biased	79.254	79.617	0.3633
13	100	100krad Unbiased	79.66	79.895	0.2352
14	100	100krad Unbiased	79.482	79.627	0.1447
15	100	100krad Unbiased	79.451	79.752	0.3009
16	110	100krad Biased	79.051	79.277	0.2258
17	110	100krad Biased	79.22	79.443	0.2228
18	110	100krad Biased	79.229	79.474	0.2447

TID vs Post - Pre Exposure Delta

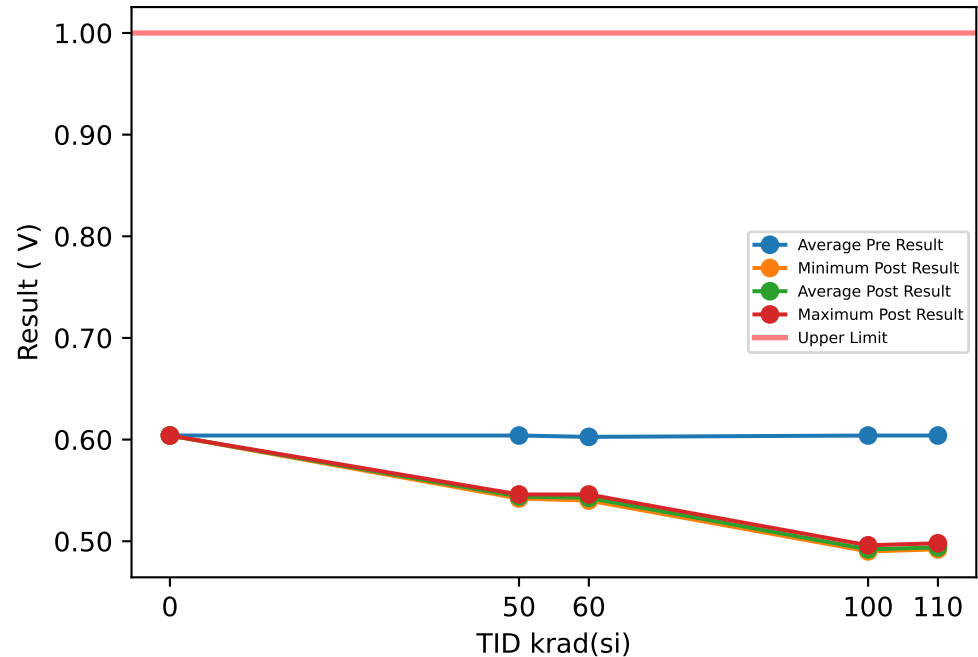


Test Statistics (mV)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	78.726	78.904	79.101	0.18805	79.427	79.559	79.764	0.18006	0.6006	0.65473	0.7005	0.050473
50	79.011	79.15	79.363	0.18766	79.461	79.589	79.78	0.16818	0.4164	0.4393	0.4508	0.019832
60	79.014	79.176	79.26	0.14065	79.255	79.499	79.624	0.21096	0.2415	0.3227	0.3633	0.070321
100	79.451	79.531	79.66	0.11289	79.627	79.758	79.895	0.13436	0.1447	0.22693	0.3009	0.078427
110	79.051	79.167	79.229	0.10013	79.277	79.398	79.474	0.10577	0.2228	0.2311	0.2447	0.011873

Device Test: 71.1 POWER_GOOD|//MIN_VIN_PG/1N8V|//@MIN_VIN_FOR_PWRGD_OUTPUT

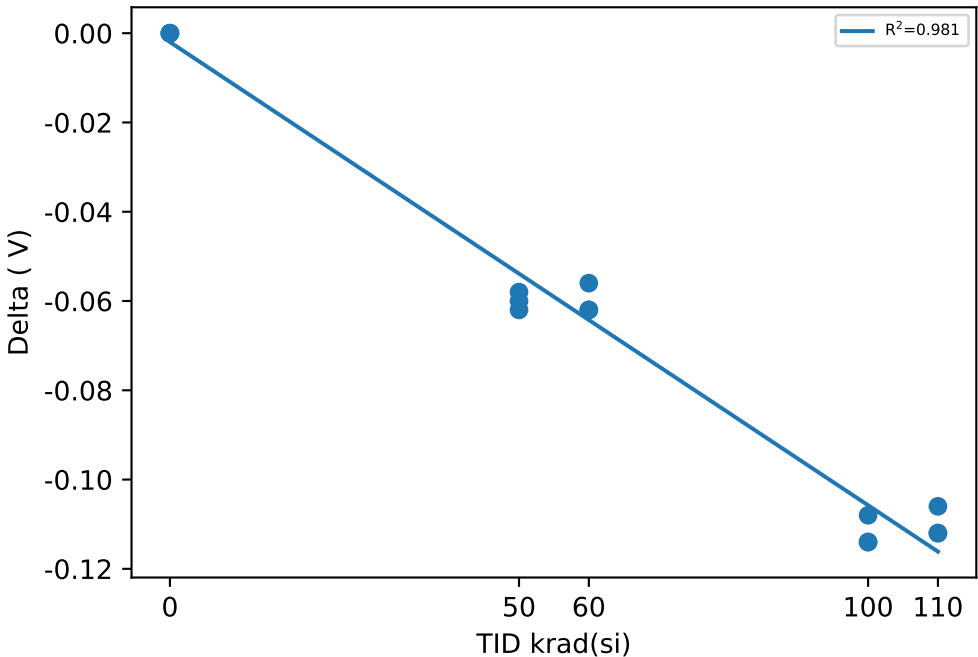
TID vs Result Stats



Test Results (Upper Limit = 1.0 (V))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	0.604	0.604	0
2	0	CU2	0.604	0.604	0
3	0	CU3	0.604	0.604	0
7	50	50krad Unbiased	0.604	0.546	-0.058
8	50	50krad Unbiased	0.604	0.544	-0.06
9	50	50krad Unbiased	0.604	0.542	-0.062
10	60	50krad Biased	0.602	0.546	-0.056
11	60	50krad Biased	0.604	0.542	-0.062
12	60	50krad Biased	0.602	0.54	-0.062
13	100	100krad Unbiased	0.604	0.496	-0.108
14	100	100krad Unbiased	0.604	0.49	-0.114
15	100	100krad Unbiased	0.604	0.49	-0.114
16	110	100krad Biased	0.604	0.498	-0.106
17	110	100krad Biased	0.604	0.492	-0.112
18	110	100krad Biased	0.604	0.492	-0.112

TID vs Post - Pre Exposure Delta

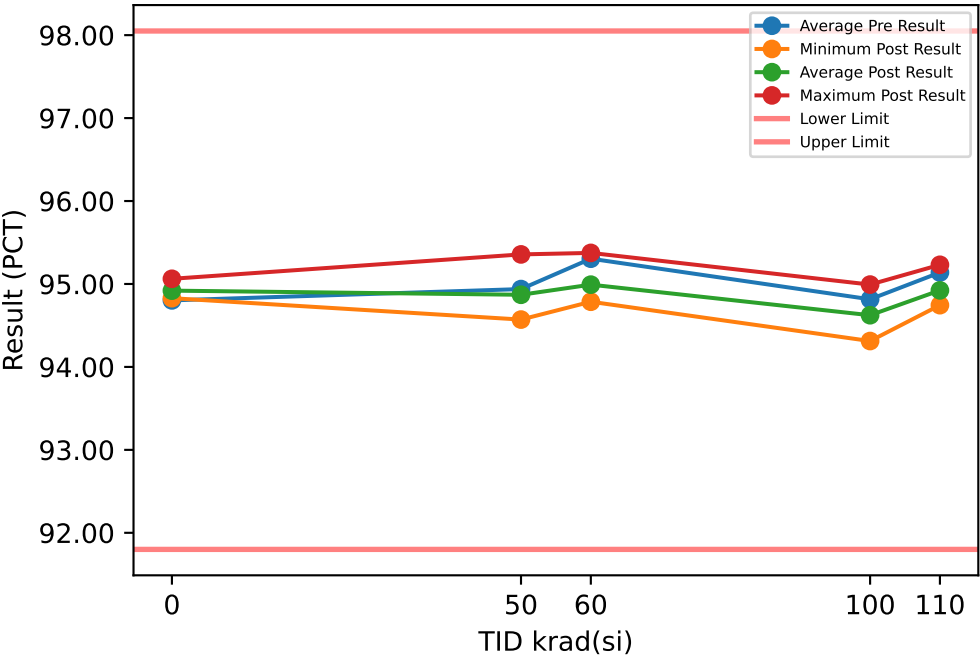


Test Statistics (V)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	0.604	0.604	0.604	0	0.604	0.604	0.604	0	0	0	0	0
50	0.604	0.604	0.604	0	0.542	0.544	0.546	0.002	-0.062	-0.06	-0.058	0.002
60	0.602	0.60267	0.604	0.0011547	0.54	0.54267	0.546	0.0030551	-0.062	-0.06	-0.056	0.0034641
100	0.604	0.604	0.604	0	0.49	0.492	0.496	0.0034641	-0.114	-0.112	-0.108	0.0034641
110	0.604	0.604	0.604	0	0.492	0.494	0.498	0.0034641	-0.112	-0.11	-0.106	0.0034641

Device Test: 71.3 POWER_GOOD|//RISE_THRESHOLD/1N8V//3/@V_PG_RISE

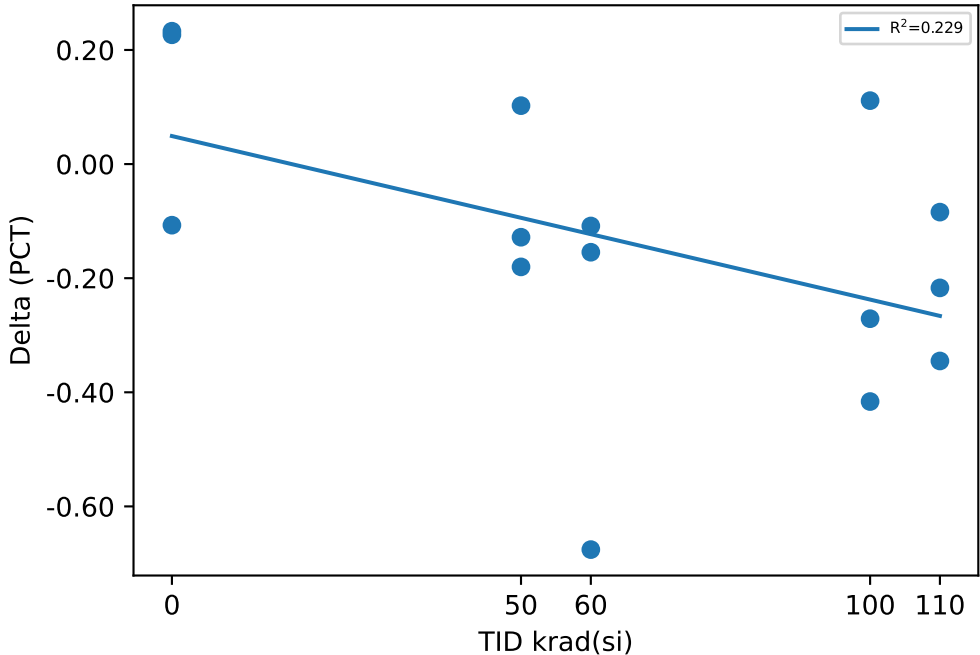
TID vs Result Stats



Test Results (Lower Limit = 91.8, Upper Limit = 98.05 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	94.602	94.829	0.2266
2	0	CU2	94.975	94.868	-0.1071
3	0	CU3	94.83	95.062	0.2329
7	50	50krad Unbiased	95.254	95.356	0.1024
8	50	50krad Unbiased	94.862	94.682	-0.1802
9	50	50krad Unbiased	94.699	94.571	-0.1282
10	60	50krad Biased	95.529	95.375	-0.1545
11	60	50krad Biased	94.894	94.786	-0.1085
12	60	50krad Biased	95.49	94.815	-0.6757
13	100	100krad Unbiased	94.728	94.312	-0.4162
14	100	100krad Unbiased	95.264	94.993	-0.271
15	100	100krad Unbiased	94.454	94.565	0.1112
16	110	100krad Biased	94.829	94.745	-0.0842
17	110	100krad Biased	95.576	95.231	-0.3451
18	110	100krad Biased	95.01	94.793	-0.217

TID vs Post - Pre Exposure Delta

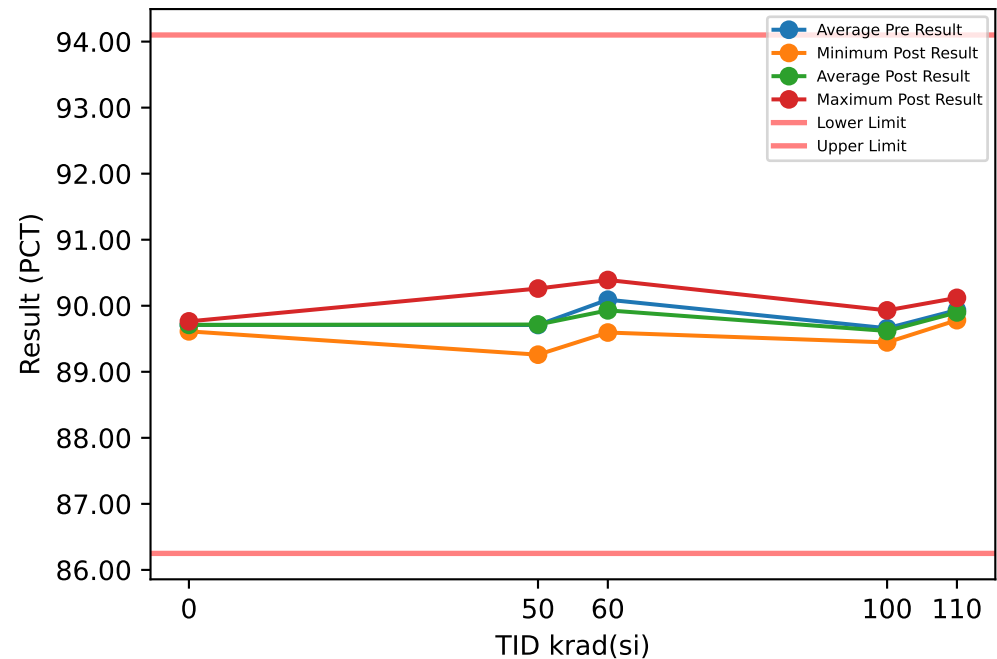


Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	94.602	94.802	94.975	0.18803	94.829	94.92	95.062	0.12511	-0.1071	0.11747	0.2329	0.19451
50	94.699	94.938	95.254	0.28527	94.571	94.87	95.356	0.42513	-0.1802	-0.068667	0.1024	0.15041
60	94.894	95.305	95.529	0.35588	94.786	94.992	95.375	0.33189	-0.6757	-0.3129	-0.1085	0.31503
100	94.454	94.815	95.264	0.41186	94.312	94.623	94.993	0.34406	-0.4162	-0.192	0.1112	0.27243
110	94.829	95.138	95.576	0.38992	94.745	94.923	95.231	0.26802	-0.3451	-0.21543	-0.0842	0.13046

Device Test: 71.4 POWER_GOOD|//FALL_THRESHOLD/1N8V//3/@V_PG_FALL

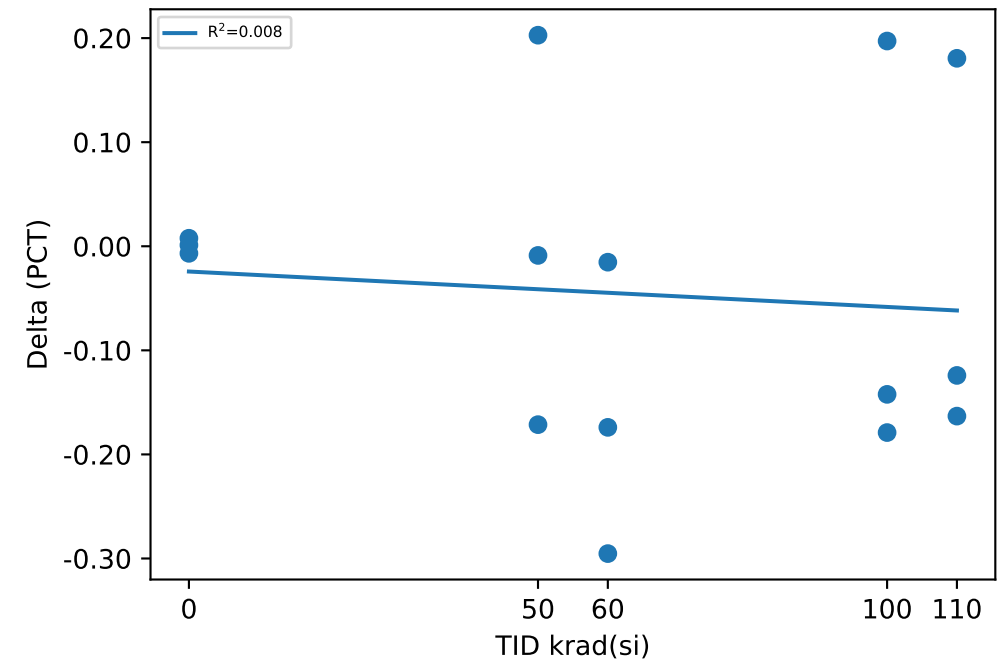
TID vs Result Stats



Test Results (Lower Limit = 86.25, Upper Limit = 94.10000000000001 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	89.605	89.612	0.0077
2	0	CU2	89.762	89.763	0.0011
3	0	CU3	89.762	89.755	-0.0068
7	50	50krad Unbiased	90.058	90.261	0.2028
8	50	50krad Unbiased	89.637	89.628	-0.0088
9	50	50krad Unbiased	89.431	89.259	-0.1714
10	60	50krad Biased	90.405	90.39	-0.0153
11	60	50krad Biased	89.769	89.595	-0.174
12	60	50krad Biased	90.102	89.806	-0.2953
13	100	100krad Unbiased	89.624	89.445	-0.179
14	100	100krad Unbiased	90.072	89.93	-0.1423
15	100	100krad Unbiased	89.282	89.48	0.1972
16	110	100krad Biased	89.601	89.781	0.1806
17	110	100krad Biased	90.244	90.12	-0.1241
18	110	100krad Biased	89.959	89.796	-0.1632

TID vs Post - Pre Exposure Delta

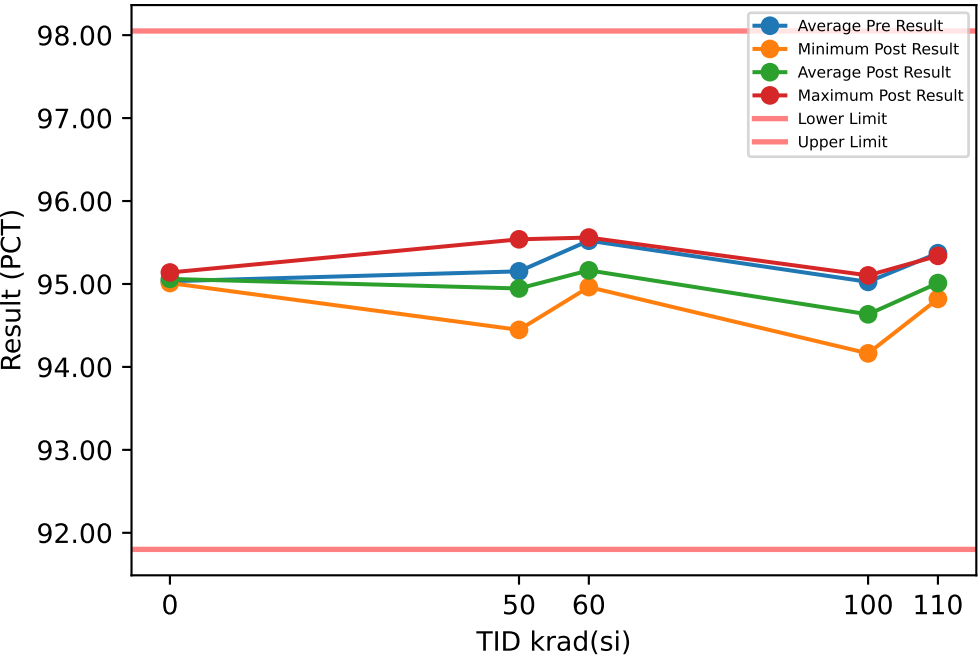


Test Statistics (PCT)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	89.605	89.71	89.762	0.090875	89.612	89.71	89.763	0.08489	-0.0068	0.00066667	0.0077	0.0072597
50	89.431	89.708	90.058	0.31974	89.259	89.716	90.261	0.50652	-0.1714	0.0075333	0.2028	0.18763
60	89.769	90.092	90.405	0.31846	89.595	89.93	90.39	0.41196	-0.2953	-0.16153	-0.0153	0.14042
100	89.282	89.659	90.072	0.39616	89.445	89.618	89.93	0.27064	-0.179	-0.041367	0.1972	0.20742
110	89.601	89.934	90.244	0.32219	89.781	89.899	90.12	0.19138	-0.1632	-0.035567	0.1806	0.18822

Device Test: 71.6 POWER_GOOD|//RISE_THRESHOLD/1N8V//6.3/@V_PG_RISE

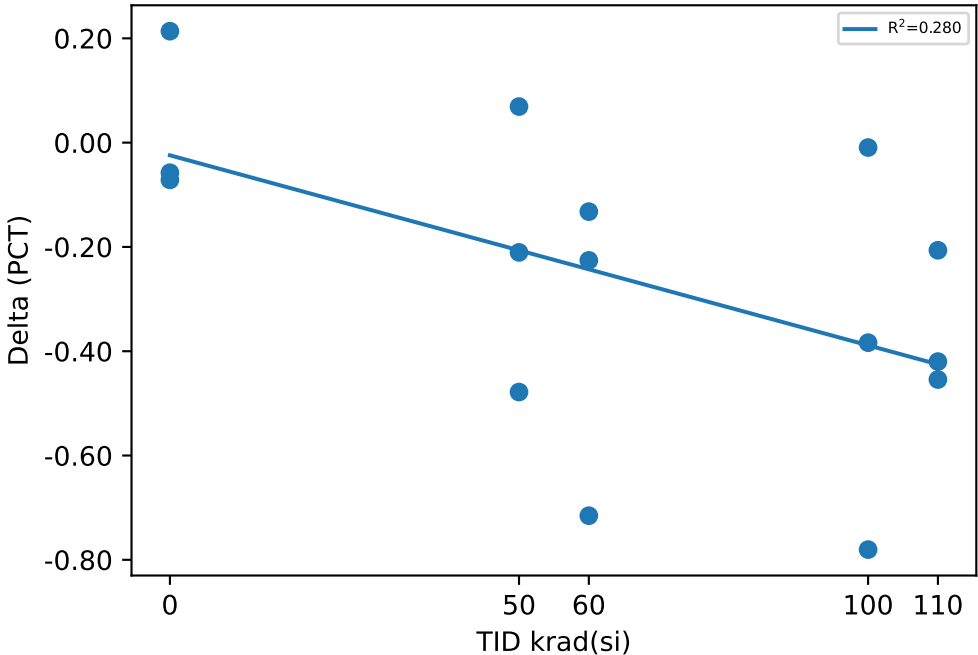
TID vs Result Stats



Test Results (Lower Limit = 91.8, Upper Limit = 98.05 (PCT))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	94.82	95.034	0.2137
2	0	CU2	95.196	95.138	-0.0577
3	0	CU3	95.083	95.011	-0.0714
7	50	50krad Unbiased	95.469	95.538	0.0692
8	50	50krad Unbiased	95.063	94.852	-0.2105
9	50	50krad Unbiased	94.925	94.447	-0.4783
10	60	50krad Biased	95.785	95.56	-0.2258
11	60	50krad Biased	95.095	94.962	-0.1323
12	60	50krad Biased	95.685	94.97	-0.7154
13	100	100krad Unbiased	94.944	94.163	-0.7804
14	100	100krad Unbiased	95.487	95.104	-0.3836
15	100	100krad Unbiased	94.645	94.635	-0.0094
16	110	100krad Biased	95.08	94.874	-0.2064
17	110	100krad Biased	95.794	95.339	-0.4543
18	110	100krad Biased	95.239	94.82	-0.4199

TID vs Post - Pre Exposure Delta

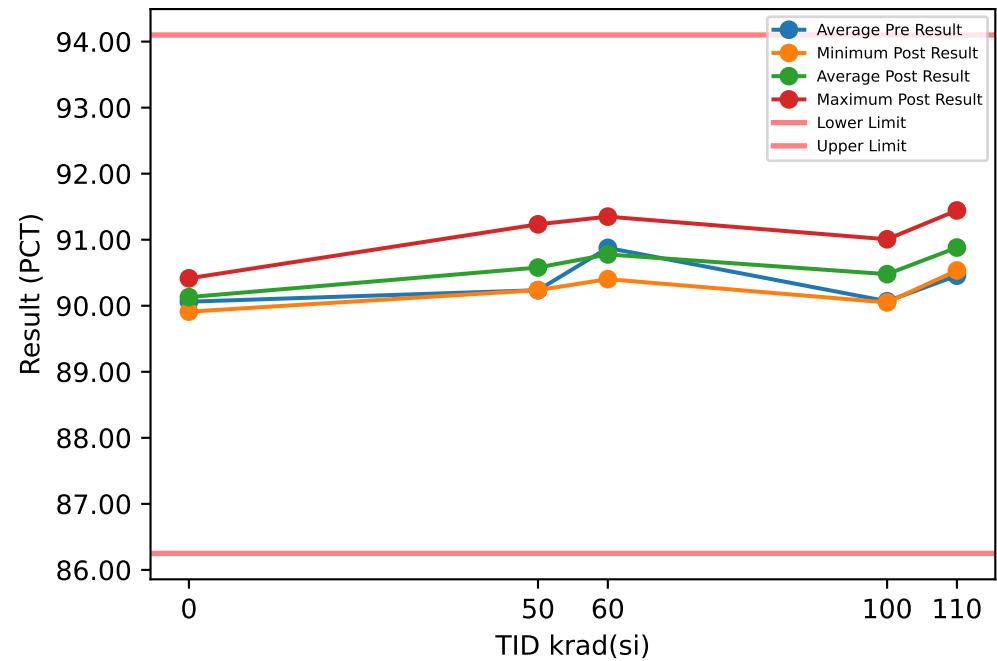


Test Statistics (PCT)

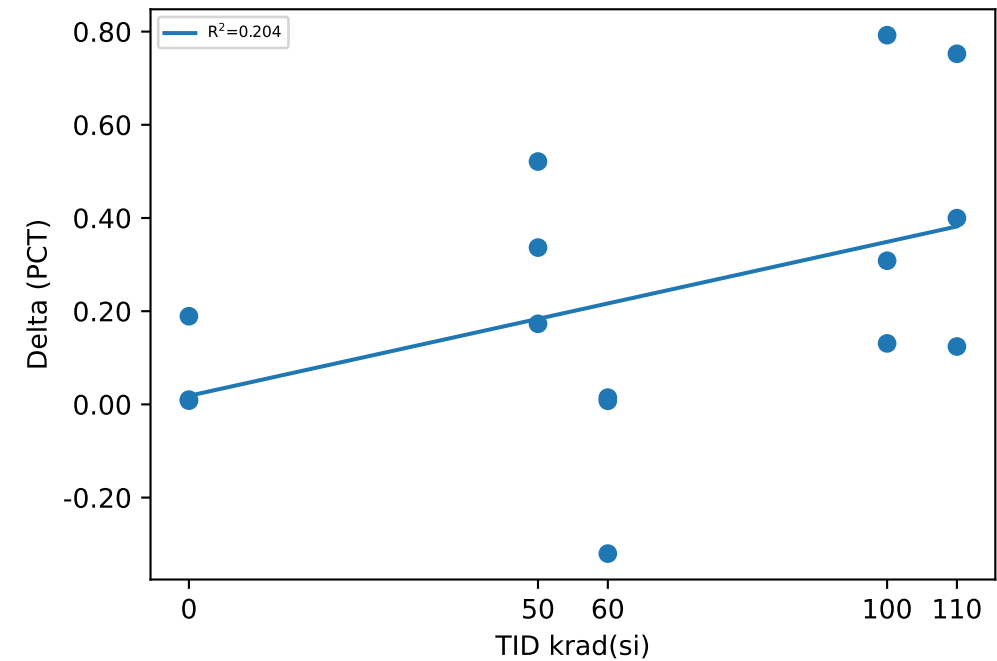
krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	94.82	95.033	95.196	0.19298	95.011	95.061	95.138	0.067866	-0.0714	0.0282	0.2137	0.16079
50	94.925	95.152	95.469	0.28301	94.447	94.946	95.538	0.55191	-0.4783	-0.20653	0.0692	0.27377
60	95.095	95.522	95.785	0.37321	94.962	95.164	95.56	0.34271	-0.7154	-0.35783	-0.1323	0.31317
100	94.645	95.025	95.487	0.42697	94.163	94.634	95.104	0.47005	-0.7804	-0.39113	-0.0094	0.38556
110	95.08	95.371	95.794	0.37433	94.82	95.011	95.339	0.28559	-0.4543	-0.3602	-0.2064	0.1343

Device Test: 71.7 POWER_GOOD|//FALL_THRESHOLD/1N8V//6.3/@V_PG_FALL

TID vs Result Stats



TID vs Post - Pre Exposure Delta



Test Results (Lower Limit = 86.25, Upper Limit = 94.10000000000001 (PCT))

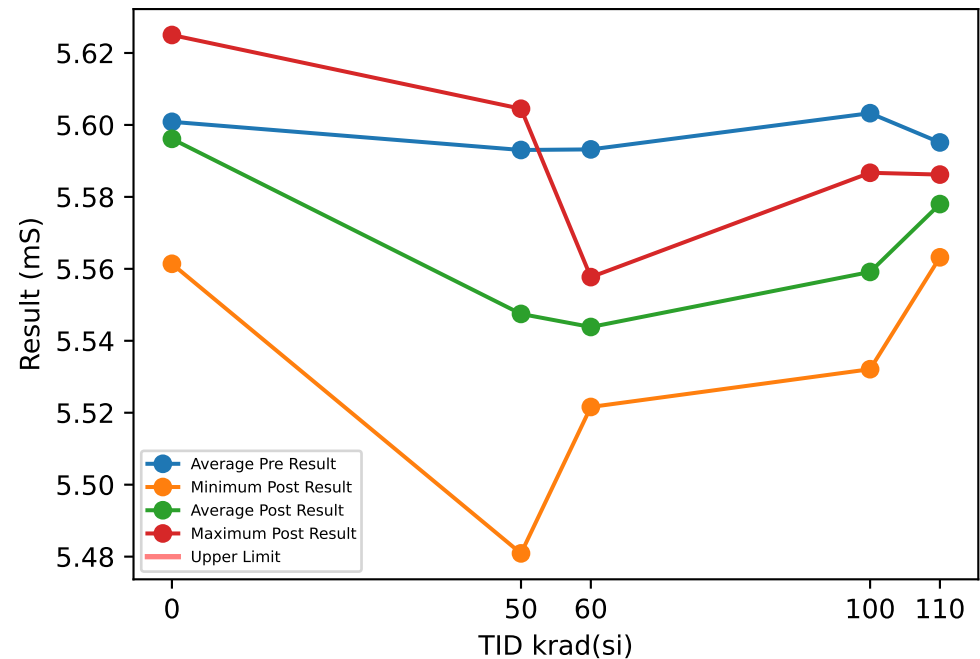
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	89.9	89.911	0.0102
2	0	CU2	90.226	90.415	0.1892
3	0	CU3	90.058	90.066	0.008
7	50	50krad Unbiased	90.712	91.233	0.5212
8	50	50krad Unbiased	90.094	90.267	0.1729
9	50	50krad Unbiased	89.9	90.237	0.3365
10	60	50krad Biased	91.335	91.35	0.0145
11	60	50krad Biased	90.395	90.403	0.0077
12	60	50krad Biased	90.898	90.578	-0.3202
13	100	100krad Unbiased	89.919	90.05	0.1309
14	100	100krad Unbiased	90.698	91.007	0.3083
15	100	100krad Unbiased	89.587	90.379	0.7923
16	110	100krad Biased	89.914	90.666	0.7524
17	110	100krad Biased	91.043	91.443	0.3997
18	110	100krad Biased	90.41	90.535	0.1242

Test Statistics (PCT)

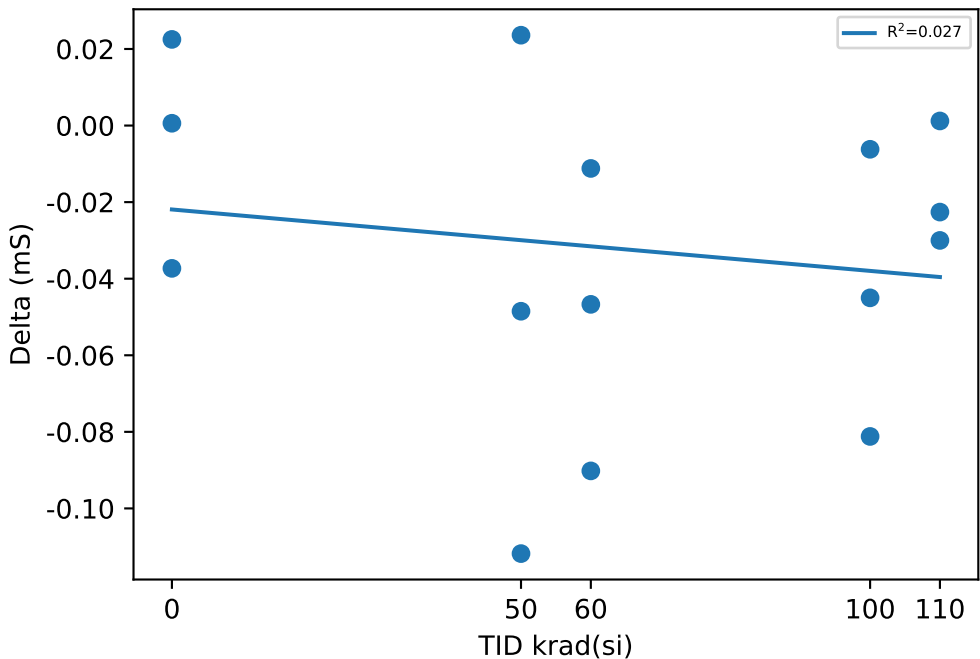
krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	89.9	90.062	90.226	0.16298	89.911	90.131	90.415	0.25854	0.008	0.069133	0.1892	0.10399
50	89.9	90.235	90.712	0.42403	90.237	90.579	91.233	0.56687	0.1729	0.34353	0.5212	0.17426
60	90.395	90.876	91.335	0.47044	90.403	90.777	91.35	0.50377	-0.3202	-0.099333	0.0145	0.19131
100	89.587	90.068	90.698	0.57044	90.05	90.479	91.007	0.48597	0.1309	0.4105	0.7923	0.34234
110	89.914	90.456	91.043	0.56617	90.535	90.881	91.443	0.491	0.1242	0.42543	0.7524	0.31489

Device Test: 75.1 CPOUT|//DISCHARGE_TIME///3/@I_CP_DISCHARGE

TID vs Result Stats



TID vs Post - Pre Exposure Delta



Test Results (No Limits Specified (mS))

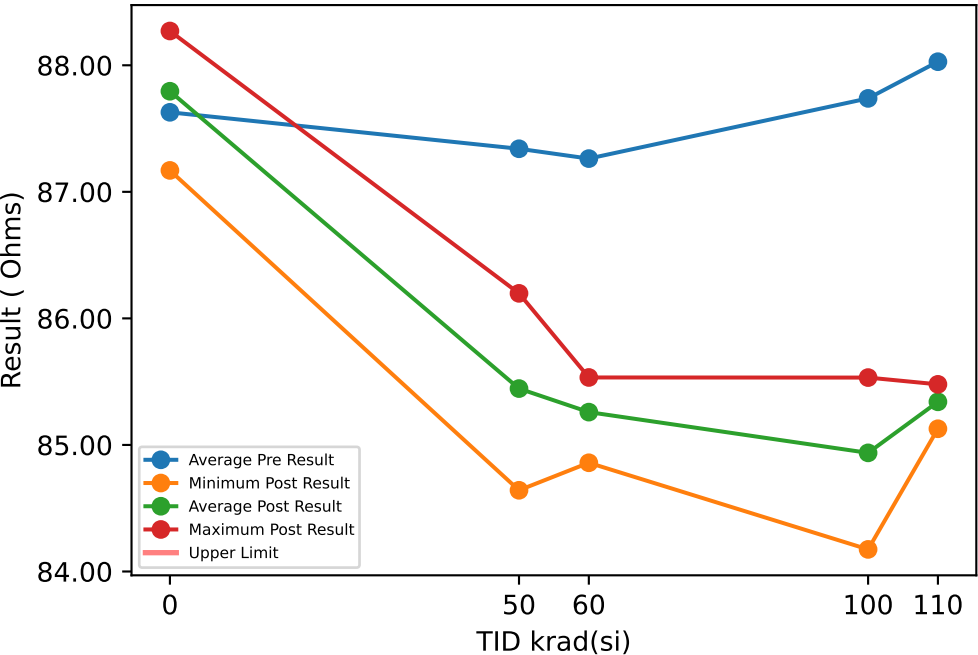
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	5.6014	5.602	0.0006
2	0	CU2	5.6025	5.625	0.0225
3	0	CU3	5.5987	5.5614	-0.0373
7	50	50krad Unbiased	5.5809	5.6045	0.0236
8	50	50krad Unbiased	5.5927	5.4809	-0.1118
9	50	50krad Unbiased	5.6055	5.557	-0.0485
10	60	50krad Biased	5.6118	5.5216	-0.0902
11	60	50krad Biased	5.5989	5.5522	-0.0467
12	60	50krad Biased	5.5689	5.5577	-0.0112
13	100	100krad Unbiased	5.5929	5.5867	-0.0062
14	100	100krad Unbiased	5.6133	5.5321	-0.0812
15	100	100krad Unbiased	5.6036	5.5586	-0.045
16	110	100krad Biased	5.6072	5.5846	-0.0226
17	110	100krad Biased	5.585	5.5862	0.0012
18	110	100krad Biased	5.5932	5.5632	-0.03

Test Statistics (mS)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	5.5987	5.6009	5.6025	0.0019553	5.5614	5.5961	5.625	0.032203	-0.0373	-0.0047333	0.0225	0.030255
50	5.5809	5.593	5.6055	0.012303	5.4809	5.5475	5.6045	0.062349	-0.1118	-0.045567	0.0236	0.067748
60	5.5689	5.5932	5.6118	0.022011	5.5216	5.5438	5.5577	0.01945	-0.0902	-0.049367	-0.0112	0.039567
100	5.5929	5.6033	5.6133	0.010204	5.5321	5.5591	5.5867	0.027304	-0.0812	-0.044133	-0.0062	0.037508
110	5.585	5.5951	5.6072	0.011226	5.5632	5.578	5.5862	0.012842	-0.03	-0.017133	0.0012	0.016303

Device Test: 75.2 CPOUT|//DISCHARGE_RESISTANCE///3/@R_CP_DISCHARGE

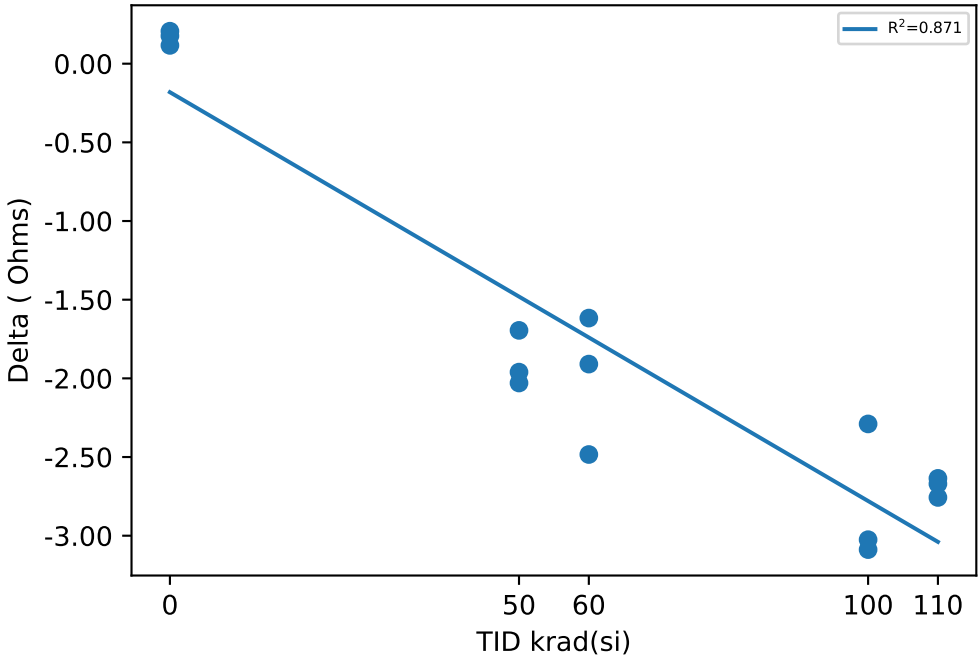
TID vs Result Stats



Test Results (No Limits Specified (Ohms))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	86.993	87.169	0.1765
2	0	CU2	88.064	88.271	0.2065
3	0	CU3	87.828	87.944	0.1163
7	50	50krad Unbiased	88.227	86.198	-2.0295
8	50	50krad Unbiased	86.337	84.642	-1.695
9	50	50krad Unbiased	87.457	85.497	-1.9603
10	60	50krad Biased	86.768	84.859	-1.9093
11	60	50krad Biased	87.002	85.386	-1.6168
12	60	50krad Biased	88.017	85.533	-2.4839
13	100	100krad Unbiased	88.13	85.105	-3.0253
14	100	100krad Unbiased	87.263	84.175	-3.0883
15	100	100krad Unbiased	87.822	85.532	-2.2896
16	110	100krad Biased	88.149	85.479	-2.6703
17	110	100krad Biased	87.763	85.128	-2.6356
18	110	100krad Biased	88.172	85.415	-2.7568

TID vs Post - Pre Exposure Delta

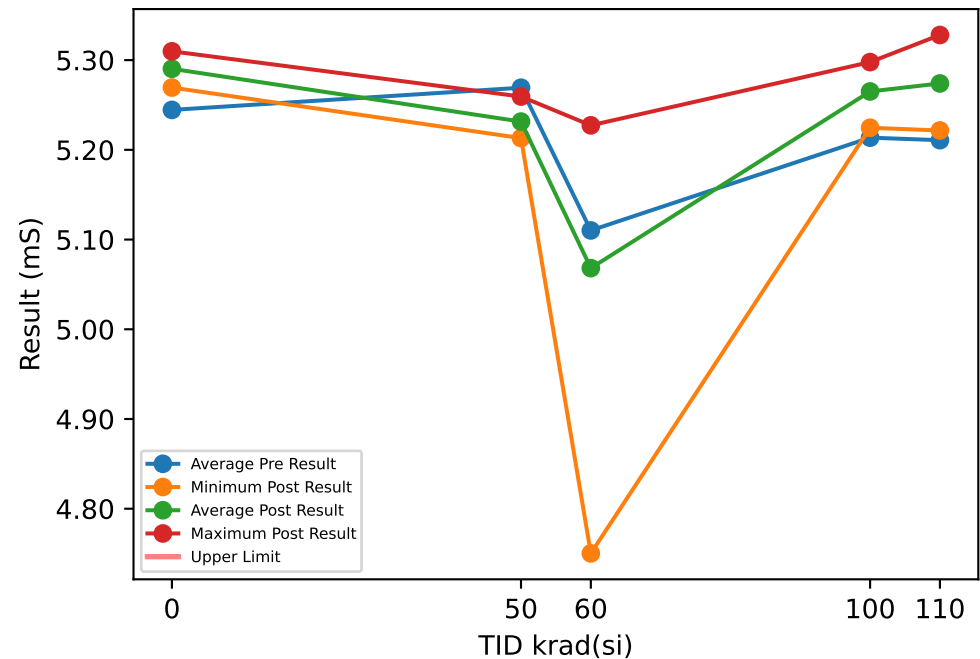


Test Statistics (Ohms)

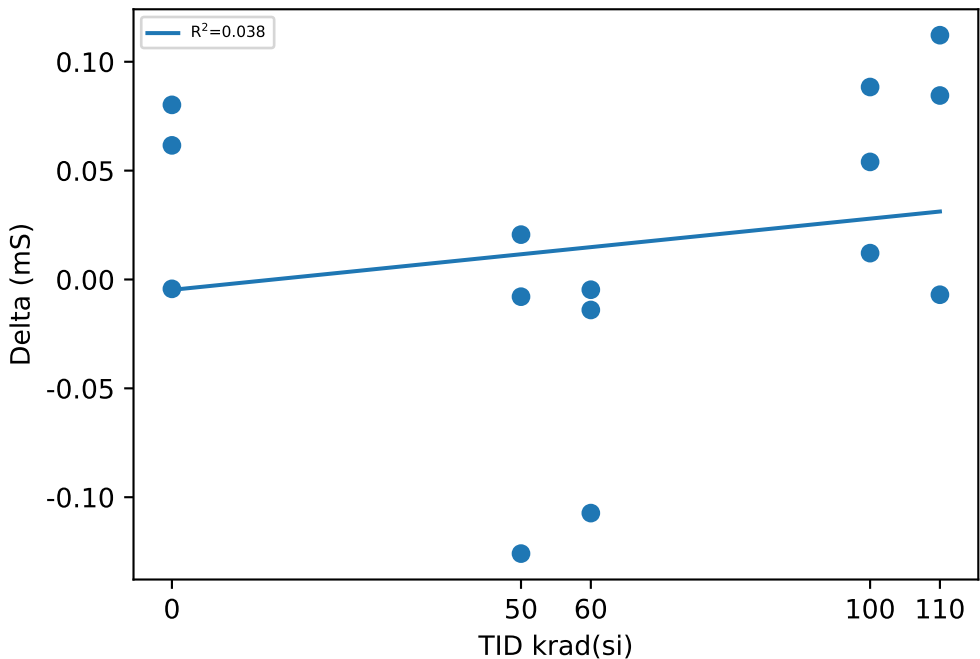
krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	86.993	87.628	88.064	0.56301	87.169	87.795	88.271	0.56582	0.1163	0.16643	0.2065	0.045935
50	86.337	87.34	88.227	0.95068	84.642	85.445	86.198	0.77932	-2.0295	-1.8949	-1.695	0.17657
60	86.768	87.263	88.017	0.66376	84.859	85.259	85.533	0.35437	-2.4839	-2.0033	-1.6168	0.44113
100	87.263	87.738	88.13	0.43978	84.175	84.937	85.532	0.69424	-3.0883	-2.8011	-2.2896	0.44406
110	87.763	88.028	88.172	0.22959	85.128	85.341	85.479	0.187	-2.7568	-2.6876	-2.6356	0.062418

Device Test: 75.3 CPOUT|//DISCHARGE_TIME///6.3/@I_CP_DISCHARGE

TID vs Result Stats



TID vs Post - Pre Exposure Delta



Test Results (No Limits Specified (mS))

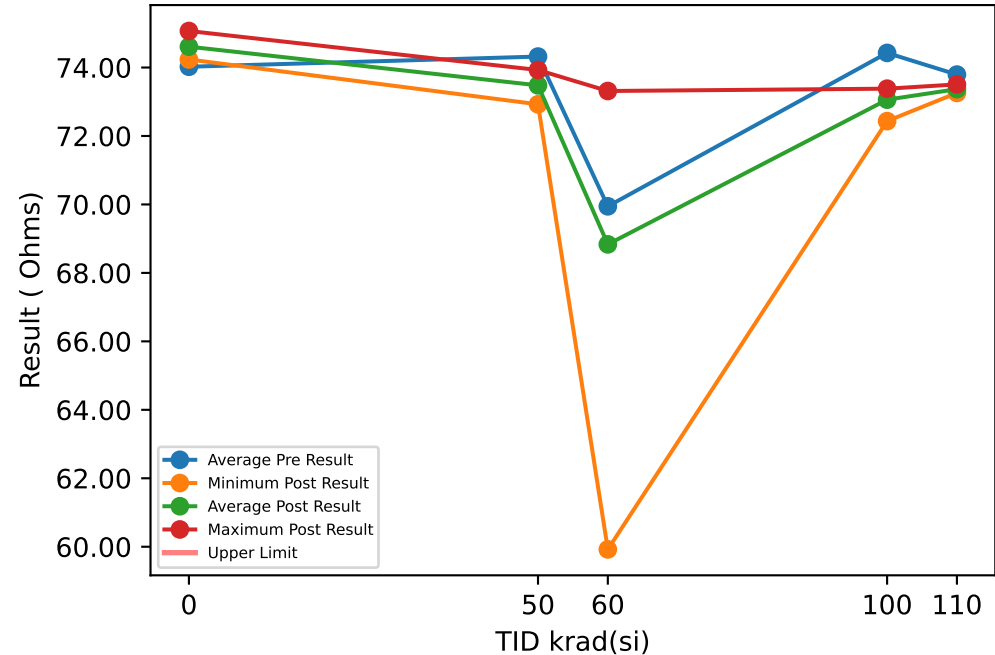
Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	5.2302	5.2918	0.0616
2	0	CU2	5.1892	5.2694	0.0802
3	0	CU3	5.3141	5.3098	-0.0043
7	50	50krad Unbiased	5.339	5.2131	-0.1259
8	50	50krad Unbiased	5.2299	5.222	-0.0079
9	50	50krad Unbiased	5.2388	5.2594	0.0206
10	60	50krad Biased	5.241	5.227	-0.014
11	60	50krad Biased	5.232	5.2273	-0.0047
12	60	50krad Biased	4.8575	4.7502	-0.1073
13	100	100krad Unbiased	5.2188	5.2728	0.054
14	100	100krad Unbiased	5.2125	5.2246	0.0121
15	100	100krad Unbiased	5.2094	5.2978	0.0884
16	110	100krad Biased	5.1879	5.2724	0.0845
17	110	100krad Biased	5.2158	5.328	0.1122
18	110	100krad Biased	5.2286	5.2216	-0.007

Test Statistics (mS)

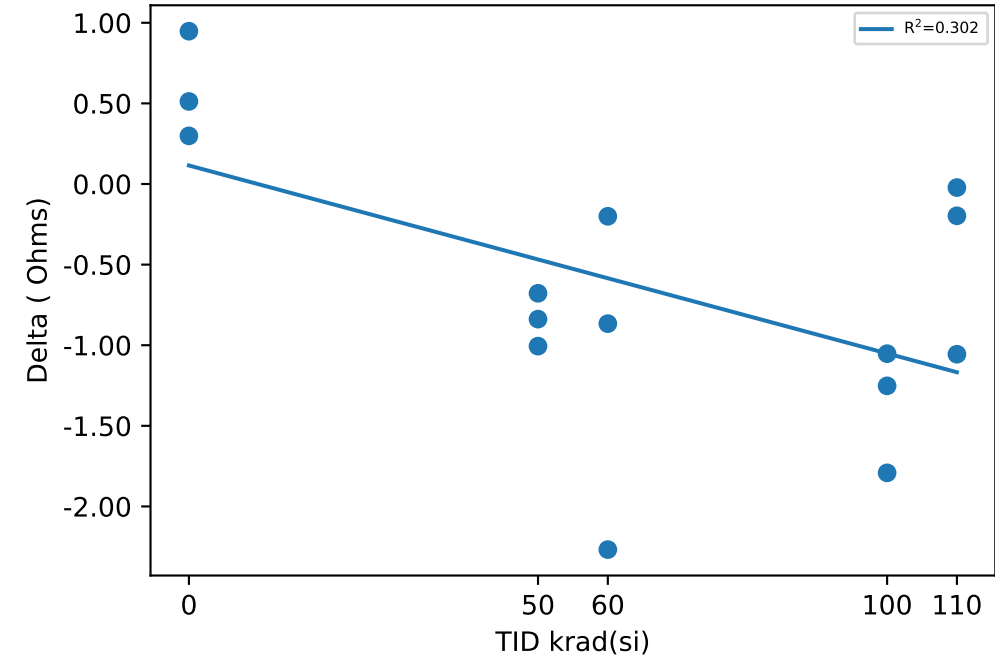
krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	5.1892	5.2445	5.3141	0.063666	5.2694	5.2903	5.3098	0.02024	-0.0043	0.045833	0.0802	0.044402
50	5.2299	5.2692	5.339	0.060583	5.2131	5.2315	5.2594	0.024568	-0.1259	-0.037733	0.0206	0.077673
60	4.8575	5.1102	5.241	0.21886	4.7502	5.0682	5.2273	0.27537	-0.1073	-0.042	-0.0047	0.056742
100	5.2094	5.2136	5.2188	0.0047899	5.2246	5.2651	5.2978	0.037208	0.0121	0.0515	0.0884	0.038211
110	5.1879	5.2108	5.2286	0.020812	5.2216	5.274	5.328	0.053218	-0.007	0.063233	0.1122	0.062381

Device Test: 75.4 CPOUT|//DISCHARGE_RESISTANCE///6.3/@R_CP_DISCHARGE

TID vs Result Stats



TID vs Post - Pre Exposure Delta



Test Results (No Limits Specified (Ohms))

Serial #	krad(si)	Exposure Conditions	Pre Result	Post Result	Delta
1	0	CU1	74.013	74.525	0.512
2	0	CU2	73.287	74.235	0.9478
3	0	CU3	74.769	75.067	0.2986
7	50	50krad Unbiased	74.933	73.928	-1.0057
8	50	50krad Unbiased	73.603	72.925	-0.6779
9	50	50krad Unbiased	74.423	73.585	-0.8382
10	60	50krad Biased	74.18	73.314	-0.8661
11	60	50krad Biased	73.465	73.265	-0.2002
12	60	50krad Biased	62.19	59.922	-2.2677
13	100	100krad Unbiased	75.173	73.382	-1.7916
14	100	100krad Unbiased	73.686	72.434	-1.252
15	100	100krad Unbiased	74.42	73.368	-1.0525
16	110	100krad Biased	73.455	73.258	-0.1972
17	110	100krad Biased	73.362	73.34	-0.0221
18	110	100krad Biased	74.563	73.507	-1.0558

Test Statistics (Ohms)

krad(si)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	73.287	74.023	74.769	0.7406	74.235	74.609	75.067	0.42231	0.2986	0.58613	0.9478	0.33089
50	73.603	74.32	74.933	0.67106	72.925	73.479	73.928	0.50946	-1.0057	-0.8406	-0.6779	0.16391
60	62.19	69.945	74.18	6.7257	59.922	68.834	73.314	7.7176	-2.2677	-1.1113	-0.2002	1.0553
100	73.686	74.427	75.173	0.74352	72.434	73.061	73.382	0.54304	-1.7916	-1.3654	-1.0525	0.38237
110	73.362	73.793	74.563	0.66801	73.258	73.368	73.507	0.12687	-1.0558	-0.42503	-0.0221	0.55323

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