Radiation Report
OPA4H199-SP Neutron Displacement Damage (NDD) Characterization Report

TEXAS INSTRUMENTS

ABSTRACT

This report presents the effect of neutron displacement damage (NDD) on the Texas Instruments OPA4H199-SP. The OPA4H199-SP showed a strong degree of hardness to neutron irradiation up to fluence level 1×10^{13} n/cm^2.

The neutron irradiation test is a destructive test. Test procedure follows MIL-STD-883 method 1017 as guidance. The purpose of this test is to determine the device susceptibility to non-ionizing energy loss (NIEL) degradation. Objectives of the test are to detect and measure the degradation of critical device parameters as a function of neutron fluence and to determine if these parameters are within specified limits after exposure to a specified level of neutron fluence.

The OPA4H199-SP was subjected to a one-time characterization to determine the effects of Neutron Displacement Damage (NDD) to the device parameters. A sample size of twelve units was exposed to radiation testing per MIL-STD-883 (Method 1017 for Neutron Irradiation). The samples were dosed to exposure levels of 1×10^{12} n/cm^2, 5×10^{12} n/cm^2, and 1×10^{13} n/cm^2, with four samples evaluated per exposure level. Electrical testing was performed at Texas Instruments before and after neutron irradiation using the production test program for the device.

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1 Device Information

1.1 Product Description

The OPA4H199-SP is a high voltage (40V) general purpose operational amplifiers for space application. The device offers exceptional DC precision and AC performance, including rail-to-rail input and output, low offset (±125µV, typ), low offset drift (±0.3µV/°C, typ), low noise (10.8nV/√Hz and 1.8µVPP), and 4.5MHz bandwidth.

Unique features such as differential and common mode input-voltage range to the supply rail, high output current (±75mA), high slew rate (21V/µs), and high capacitive load drive (1nF) make the OPA4H199-SP a robust, high-performance operational amplifier for high-voltage space applications.

The OPA4H199-SP is available in a small-sized, radiation-hardened plastic, 14-pin SOT-23 (DYY) package. The SOT-23 (DYY) package has a body size that is less than 1/5th of the size of traditional 14-pin ceramic packages. The OPA4H199-SP is specified from –55°C to 125°C.

1.2 Device Details

Table 1-1 lists the device information used in the initial NDD characterization.

Table 1-1. Device and Exposure Details

NDD Exposure Details	
TI Device	OPA4H199-SP
TI Part Name	5962R2321401PXE
Package	14-pin SOT-23 (DYY)
Technology	Linear BiCMOS (LBC9)
Lot Number / Date Code	4007710 / 44AZ
Sample Quantity	12 +1 control unit
Exposure Facility	VPT Rad, Chelmsford, MA
Neutron Fluence (1-MeV equivalent) Level	1×10^{12}, 5×10^{12}, 1×10^{13} n/cm^2
Irradiation Temperature	Ambient room temperature (25ºC)

Figure 1-1. OPA4H199-SP Device

2 Total Dose Test Setup

2.1 Test Overview

General test procedures adhere to MIL-STD-883, Method 1017 as a guide for neutron irradiation. The OPA4H199-SP was electrically tested using the production automated test equipment (ATE) program at an ambient room temperature of 25°C before and after neutron irradiation.

2.2 Test Facility

The utilized test facility is the Fast Neutron Irradiation (FNI) Facility of University of Massachusetts Lowell Research Reactor. The neutron fluence for this irradiation was measured utilizing ASTM E-265 "Measuring Reaction Rates and Fast Neutron Fluence by Radioactivation of Sulfur-32" and correlated to the measured reactor power level. All irradiation conditions required under ASTM 722 were met, this includes: neutron fluence, distribution and uncertainty. The Average Integrated Neutron Fluence, 1-MeV(Si) equivalent, reflects these factors. Detailed information of the radiation facility is available at the following link:

UNIVERSITY OF MASSACHUSETTS LOWELL RESEARCH REACTOR

2.3 Test Setup Details

Devices were irradiated at three fluence levels in unbiased conditions: 1.0×10^{12} n/cm^2, 5.0×10^{12} n/cm^2 and 1.0×10^{13} n/cm^2. See the details in Table 2-1.

2.4 Test Configuration and Condition

Table 2-1. Neutron Irradiation Conditions

GROUP	SAMPLE QTY	NEUTRON FLUENCE (n/cm^2)	BIAS
A	4	1.0×10^{12}	Unbias
B	4	5.0×10^{12}	Unbias
C	4	1.0×10^{13}	Unbias
Control Units	1	N/A	N/A

3 NDD Characterization Test Results

3.1 NDD Characterization Summary

The results show that all devices were fully functional and within specification limits. A sample size of twelve units was exposed for neutron irradiation and an additional unirradiated control unit was used as correlation. Overall, the OPA4H199-SP showed a strong degree of hardness to Neutron irradiation up to fluence level 1 $\times 10^{13}$n/cm^2. The measurements taken post-irradiation for each sample set showed a marginal shift for most parameters at each fluence level.

The parameters that did show a greater degree of change between pre- and post-irradiation were still within the electrical performance characteristics specified in the data sheet electrical parameters. Electrical testing is done for pre- and post- neutron irradiation by ATE. ATE electrical test is done at an ambient room temperature of 25°C.

See Appendix A for NDD report up to 1 $\times 10^{13}$ n/cm^2.

3.2 Electrical Characteristics

For $V_S = (V+) - (V-) = 2.7V$ to $40V$ ($\pm1.35V$ to $\pm20V$) at $T_A = 25°C$, $R_L = 10k\Omega$ connected to $V_S / 2$, $V_{CM} = V_S / 2$, and $V_{OUT} = V_S / 2$, unless otherwise noted.

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT
OFFSET VOLTAGE							
V_{OS}	Input offset voltage	$V_{CM} = V-$			±125	±895	μV
			$T_A = -55°C$ to $125°C$			±925	
dV_{OS}/dT	Input offset voltage drift		$T_A = -55°C$ to $125°C$		±0.3		μV/°C
PSRR	Input offset voltage versus power supply	$V_{CM} = V-$, $V_S = 4V$ to $40V$	$T_A = -55°C$ to $125°C$		±0.3	±1	μV/V
		$V_{CM} = V-$, $V_S = 2.7V$ to $40V$			±1	±5	
	Channel separation	$f = 0Hz$			5		μV/V
INPUT BIAS CURRENT							
I_B	Input bias current				±10		pA
I_{OS}	Input offset current				±10		pA
NOISE							
E_N	Input voltage noise	$f = 0.1Hz$ to $10Hz$			1.8		μV_{PP}
					0.3		μV_{RMS}
e_N	Input voltage noise density	$f = 1kHz$			10.8		nV/√Hz
		$f = 10kHz$			9.4		
i_N	Input current noise	$f = 1kHz$			82		fA/√Hz
INPUT VOLTAGE RANGE							
V_{CM}	Common-mode voltage range			$(V-) - 0.1$		$(V+) + 0.1$	V
CMRR	Common-mode rejection ratio	$V_S = 40V$, $(V-) - 0.1V < V_{CM} < (V+) - 2V$ (Main input pair)	$T_A = -55°C$ to $125°C$	107	130		dB
		$V_S = 4V$, $(V-) - 0.1V < V_{CM} < (V+) - 2V$ (Main input pair)		82	100		
		$V_S = 2.7V$, $(V-) - 0.1V < V_{CM} < (V+) - 2V$ (Main input pair)		75	95		
		$V_S = 2.7V$ to $40V$, $(V+) - 1V < V_{CM} < (V+) + 0.1V$ (Aux input pair)			85		
INPUT CAPACITANCE							
Z_{ID}	Differential				100 || 9		MΩ || pF
Z_{ICM}	Common-mode				6 || 1		TΩ || pF
OPEN-LOOP GAIN							
A_{OL}	Open-loop voltage gain	$V_S = 40V$, $V_{CM} = V-$ $(V-) + 0.1V < V_O < (V+) - 0.1V$		120	145		dB
			$T_A = -55°C$ to $125°C$		142		
		$V_S = 4V$, $V_{CM} = V-$ $(V-) + 0.1V < V_O < (V+) - 0.1V$		104	130		
			$T_A = -55°C$ to $125°C$		125		
		$V_S = 2.7V$, $V_{CM} = V-$ $(V-) + 0.1V < V_O < (V+) - 0.1V$		101	120		
			$T_A = -55°C$ to $125°C$		118		

For V_S = (V+) – (V–) = 2.7V to 40V (±1.35V to ±20V) at T_A = 25°C, R_L = 10kΩ connected to V_S / 2, V_{CM} = V_S / 2, and V_{OUT} = V_S / 2, unless otherwise noted.

	PARAMETER	TEST CONDITIONS		MIN	TYP	MAX	UNIT
FREQUENCY RESPONSE							
GBW	Gain-bandwidth product				4.5		MHz
SR	Slew rate	V_S = 40V, G = +1, C_L = 20pF			21		V/µs
t_S	Settling time	To 0.01%, V_S = 40V, V_{STEP} = 10V , G = +1, C_L = 20pF			2.5		µs
		To 0.01%, V_S = 40V, V_{STEP} = 2V , G = +1, C_L = 20pF			1.5		
		To 0.1%, V_S = 40V, V_{STEP} = 10V , G = +1, C_L = 20pF			2		
		To 0.1%, V_S = 40V, V_{STEP} = 2V , G = +1, C_L = 20pF			1		
	Phase margin	G = +1, R_L = 10kΩ, C_L = 20pF			60		°
	Overload recovery time	V_{IN} × gain > V_S			400		ns
THD+N	Total harmonic distortion + noise [1]	V_S = 40V, V_O = 3V_{RMS}, G = 1, f = 1kHz			0.00021%		
OUTPUT							
	Voltage output swing from rail	Positive and negative rail headroom	V_S = 40V, R_L = no load		5	10	mV
			V_S = 40V, R_L = 10kΩ		50	70	
			V_S = 40V, R_L = 2kΩ		300	350	
			V_S = 2.7V, R_L = no load		1	6	
			V_S = 2.7V, R_L = 10kΩ		5	12	
			V_S = 2.7V, R_L = 2kΩ		25	40	
I_{SC}	Short-circuit current				±75		mA
C_{LOAD}	Capacitive load drive				1000		pF
Z_O	Open-loop output impedance	f = 1MHz, I_O = 0A			525		Ω
POWER SUPPLY							
I_Q	Quiescent current per amplifier	V_{CM} = V–, I_O = 0A			560	685	µA
			T_A = −55°C to 125°C			750	

(1)   Third-order filter; bandwidth = 80kHz at –3dB.

4 Applicable and Reference Documents

4.1 Applicable Documents

- Texas Instruments, *OPA4H199-SP 40V, Radiation Hardened, Rail-to-Rail Input/Output, Low Offset Voltage, Low Noise Op Amp*, data sheet.
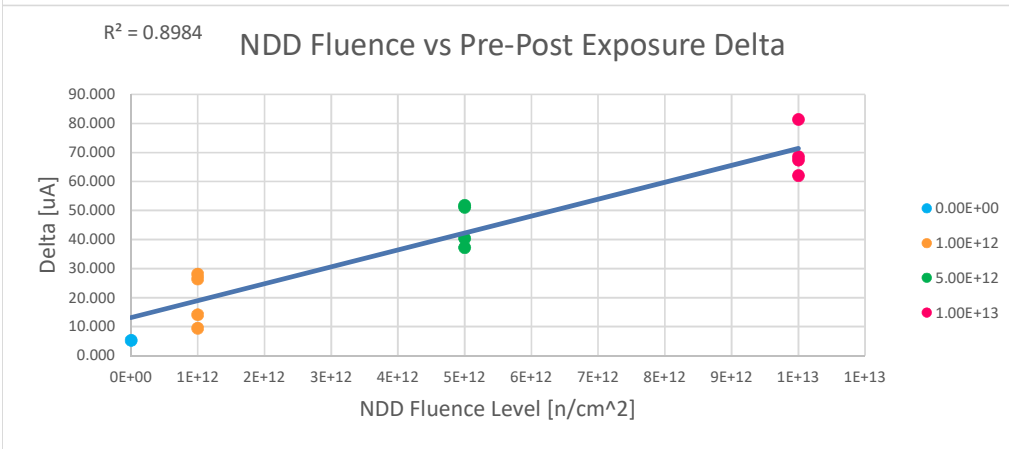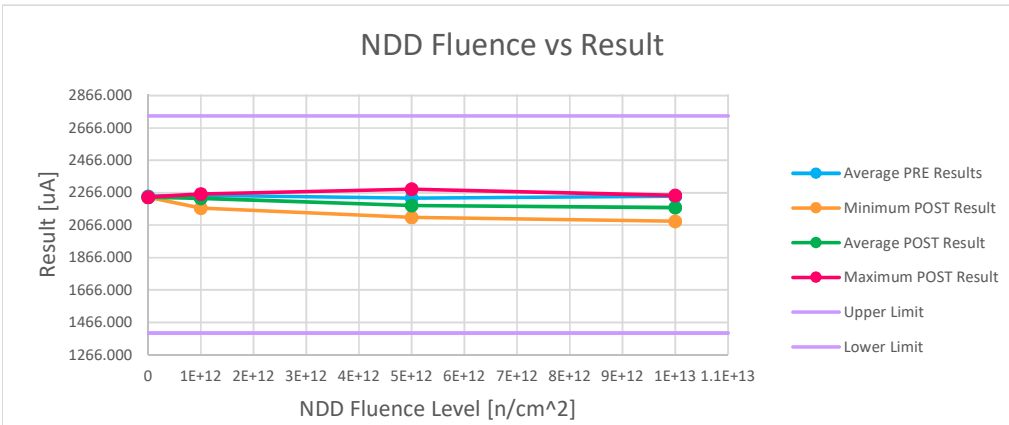
4.2 Reference Documents

Texas Instruments neutron irradiation test follow the guideline from MIL-STD-883 TM 1017. The document is available in Defense Logistic Agency's website.

A Appendix: NDD Report Data

This appendix contains the NDD report data.

DEVICE TEST: 2.1 ICC1_VCCP [uA]

NDD Fluence vs Result

R² = 0.8984

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = 1400 | UPPER LIMIT = 2740) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	2255.338	2245.862	9.476
2	1E+12	NDD	2197.571	2171.137	26.434
3	1E+12	NDD	2262.425	2248.283	14.143
4	1E+12	NDD	2286.536	2258.453	28.083
5	5E+12	NDD	2279.156	2228.040	51.116
6	5E+12	NDD	2339.508	2287.675	51.833
7	5E+12	NDD	2156.144	2118.920	37.224
8	5E+12	NDD	2154.622	2114.235	40.387
9	1E+13	NDD	2244.015	2181.971	62.044
10	1E+13	NDD	2158.331	2089.776	68.555
11	1E+13	NDD	2255.534	2174.124	81.410
12	1E+13	NDD	2317.010	2249.591	67.420
13	0E+00	CONTROL	2244.347	2239.089	5.259

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	2244.347	2244.347	2244.347	-	2239.089	2239.089	2239.089	-	5.259	5.259	5.259	-
1E+12	2197.571	2250.468	2286.536	37.708	2171.137	2230.934	2258.453	40.236	9.476	19.534	28.083	9.145
5E+12	2154.622	2232.357	2339.508	92.236	2114.235	2187.217	2287.675	85.145	37.224	45.140	51.833	7.433
1E+13	2158.331	2243.723	2317.010	65.326	2089.776	2173.865	2249.591	65.501	62.044	69.857	81.410	8.209

DEVICE TEST: 2.2 ICC1_VCCN [uA]
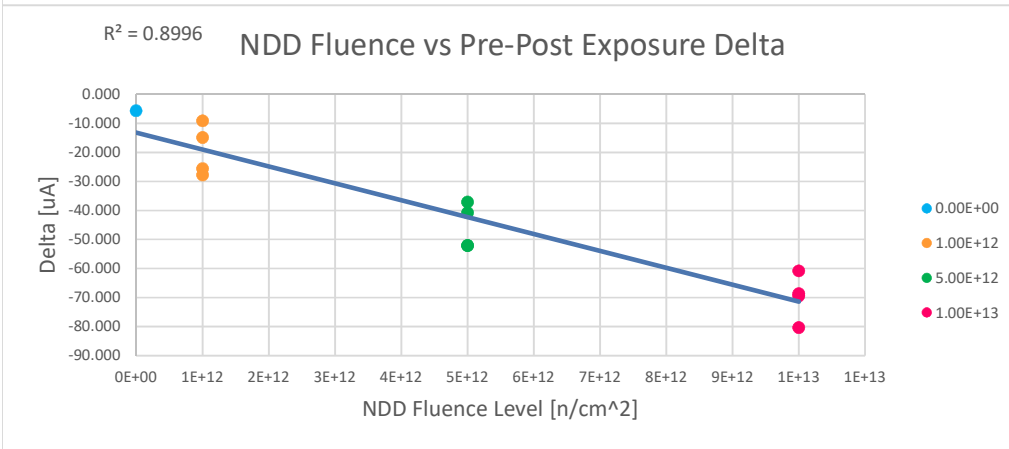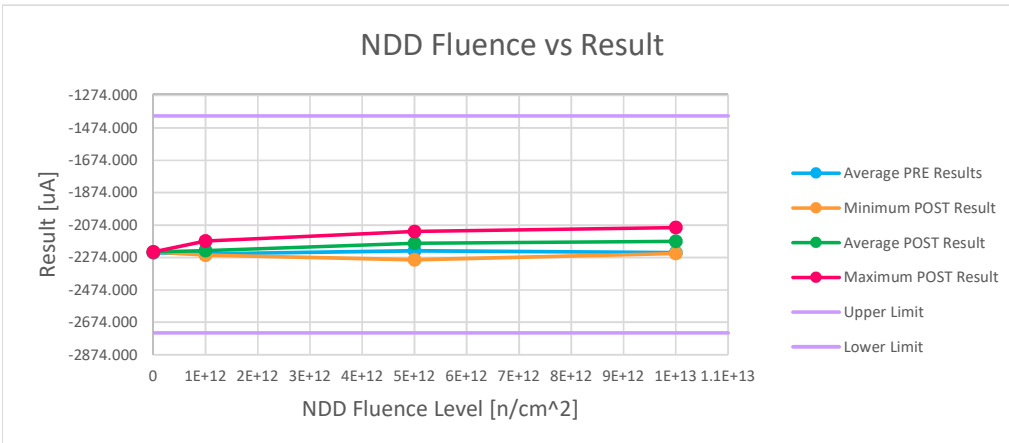
NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.8996

TEST RESULTS (LOWER LIMIT = -2740 | UPPER LIMIT = -1400) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-2255.600	-2246.526	-9.074
2	1E+12	NDD	-2197.770	-2172.201	-25.569
3	1E+12	NDD	-2262.841	-2247.990	-14.851
4	1E+12	NDD	-2286.907	-2259.194	-27.713
5	5E+12	NDD	-2280.075	-2228.023	-52.052
6	5E+12	NDD	-2339.951	-2287.944	-52.007
7	5E+12	NDD	-2155.964	-2118.858	-37.106
8	5E+12	NDD	-2154.851	-2114.154	-40.697
9	1E+13	NDD	-2243.129	-2182.331	-60.798
10	1E+13	NDD	-2158.891	-2089.503	-69.389
11	1E+13	NDD	-2255.581	-2175.246	-80.335
12	1E+13	NDD	-2317.471	-2248.907	-68.564
13	0E+00	CONTROL	-2245.354	-2239.695	-5.659

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	-2245.354	-2245.354	-2245.354	-	-2239.695	-2239.695	-2239.695	-	-5.659	-5.659	-5.659	-
1E+12	-2286.907	-2250.780	-2197.770	37.788	-2259.194	-2231.478	-2172.201	39.921	-27.713	-19.302	-9.074	8.840
5E+12	-2339.951	-2232.710	-2154.851	92.549	-2287.944	-2187.245	-2114.154	85.288	-52.052	-45.466	-37.106	7.720
1E+13	-2317.471	-2243.768	-2158.891	65.259	-2248.907	-2173.997	-2089.503	65.376	-80.335	-69.771	-60.798	8.036

DEVICE TEST: 3.1 ICC1_VCCP_2p7V [uA]

NDD Fluence vs Result

- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

R² = 0.9064

NDD Fluence vs Pre-Post Exposure Delta

- 0.00E+00
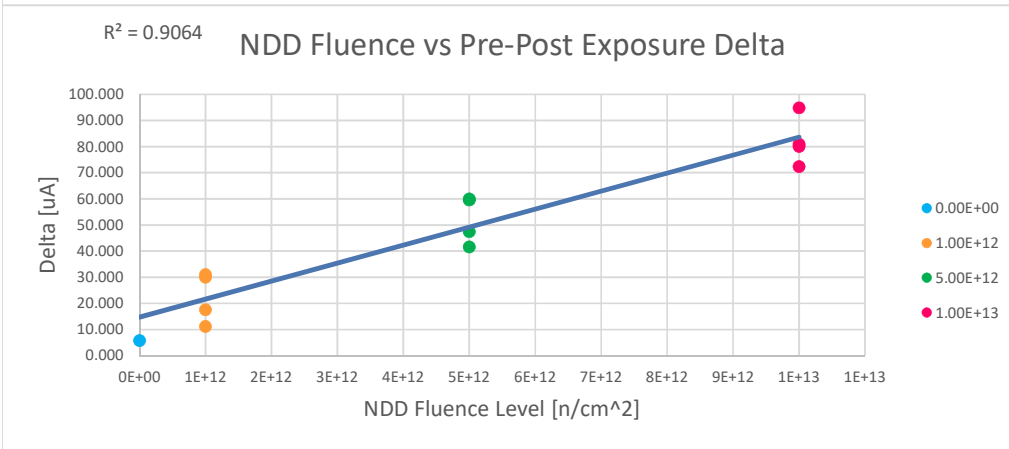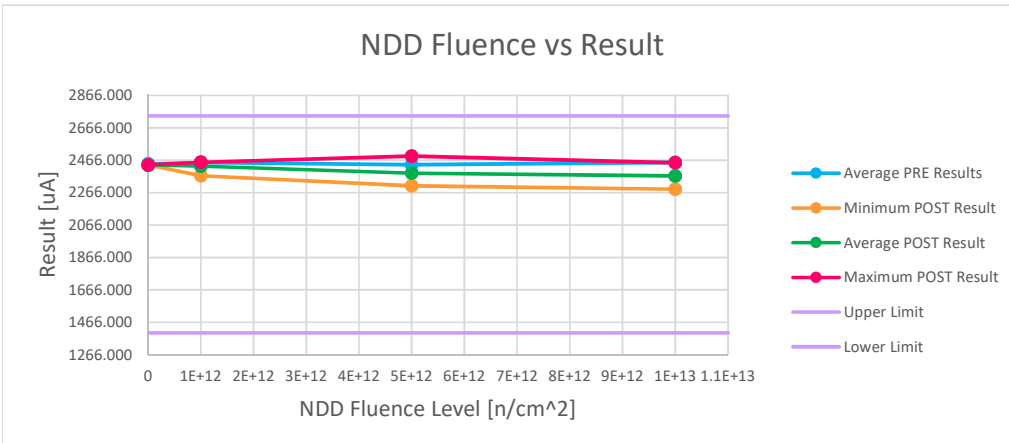- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = 1400 | UPPER LIMIT = 2740) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	2456.733	2445.557	11.176
2	1E+12	NDD	2401.328	2371.301	30.027
3	1E+12	NDD	2466.046	2448.427	17.619
4	1E+12	NDD	2484.455	2453.405	31.051
5	5E+12	NDD	2494.744	2435.133	59.610
6	5E+12	NDD	2551.687	2491.684	60.003
7	5E+12	NDD	2350.023	2308.425	41.598
8	5E+12	NDD	2357.285	2309.850	47.435
9	1E+13	NDD	2451.911	2379.617	72.294
10	1E+13	NDD	2368.745	2287.753	80.992
11	1E+13	NDD	2455.328	2360.506	94.821
12	1E+13	NDD	2530.646	2450.613	80.033
13	0E+00	CONTROL	2442.755	2436.968	5.787

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	2442.755	2442.755	2442.755	-	2436.968	2436.968	2436.968	-	5.787	5.787	5.787	-
1E+12	2401.328	2452.141	2484.455	35.780	2371.301	2429.672	2453.405	39.049	11.176	22.468	31.051	9.692
5E+12	2350.023	2438.435	2551.687	100.662	2308.425	2386.273	2491.684	92.014	41.598	52.161	60.003	9.145
1E+13	2368.745	2451.657	2530.646	66.149	2287.753	2369.622	2450.613	66.945	72.294	82.035	94.821	9.371

DEVICE TEST: 3.2 ICC1_VCCN_2p7V [uA]

NDD Fluence vs Result

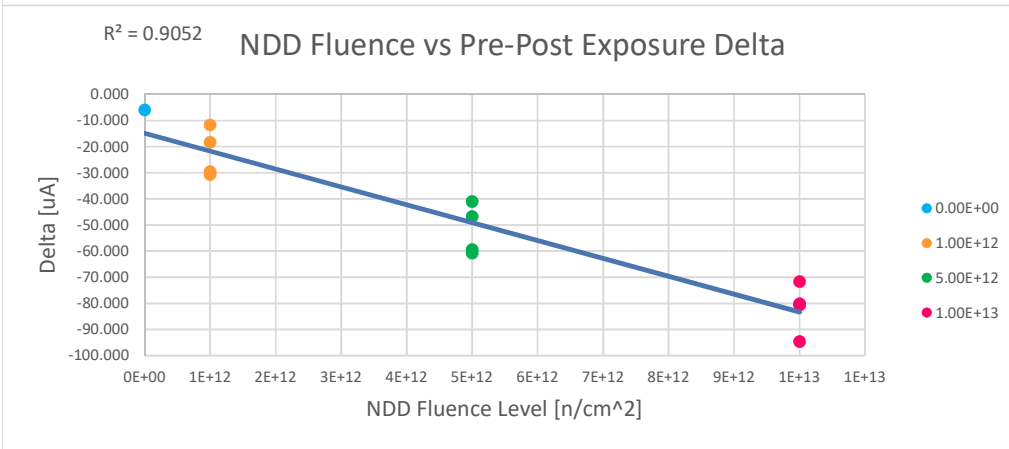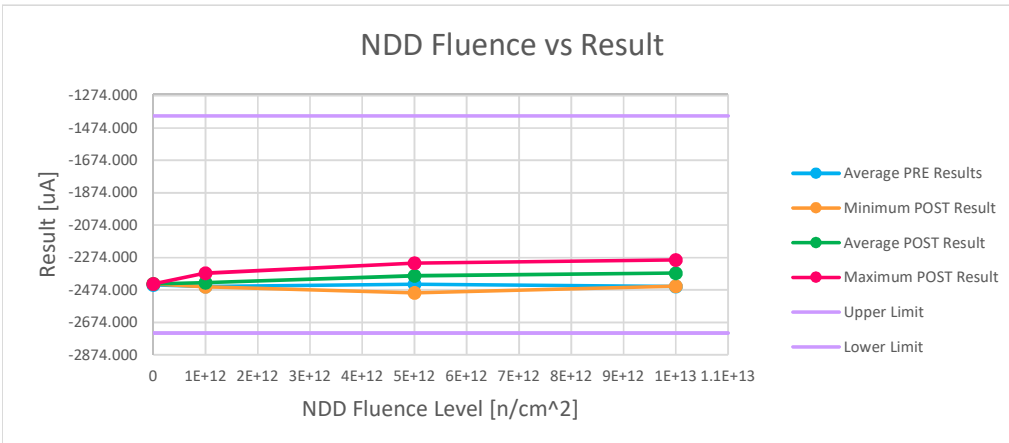## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.9052

TEST RESULTS (LOWER LIMIT = -2740 | UPPER LIMIT = -1400) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-2457.177	-2445.475	-11.702
2	1E+12	NDD	-2401.221	-2370.623	-30.597
3	1E+12	NDD	-2466.526	-2448.227	-18.299
4	1E+12	NDD	-2483.916	-2454.356	-29.560
5	5E+12	NDD	-2494.905	-2435.443	-59.462
6	5E+12	NDD	-2552.438	-2491.656	-60.782
7	5E+12	NDD	-2349.792	-2308.770	-41.022
8	5E+12	NDD	-2356.877	-2310.136	-46.741
9	1E+13	NDD	-2452.025	-2380.363	-71.662
10	1E+13	NDD	-2368.724	-2288.159	-80.565
11	1E+13	NDD	-2455.714	-2361.137	-94.577
12	1E+13	NDD	-2531.325	-2451.155	-80.169
13	0E+00	CONTROL	-2443.183	-2437.200	-5.984

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	-2443.183	-2443.183	-2443.183	-	-2437.200	-2437.200	-2437.200	-	-5.984	-5.984	-5.984	-
1E+12	-2483.916	-2452.210	-2401.221	35.753	-2454.356	-2429.670	-2370.623	39.540	-30.597	-22.540	-11.702	9.122
5E+12	-2552.438	-2438.503	-2349.792	101.151	-2491.656	-2386.501	-2308.770	91.881	-60.782	-52.002	-41.022	9.678
1E+13	-2531.325	-2451.947	-2368.724	66.436	-2451.155	-2370.203	-2288.159	67.007	-94.577	-81.743	-71.662	9.490

DEVICE TEST: 3.3 Iq_pos_DIFF [uA]

NDD Fluence vs Result

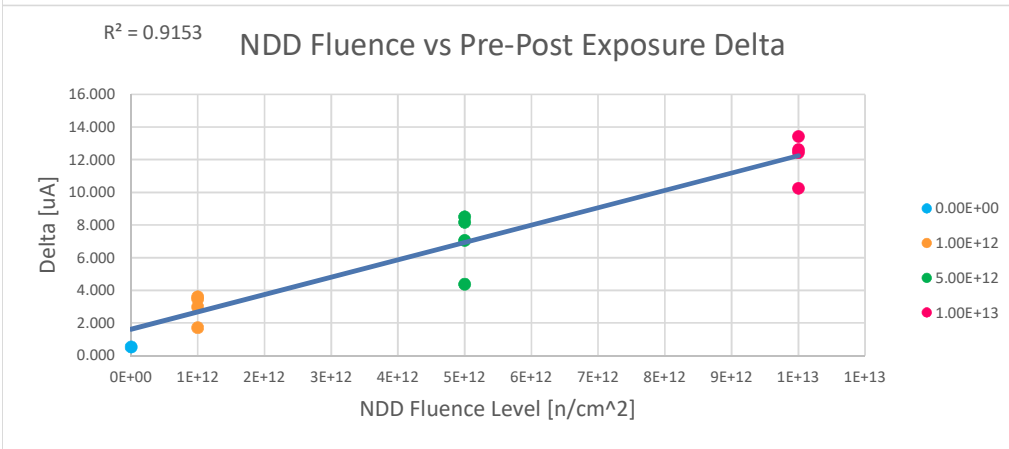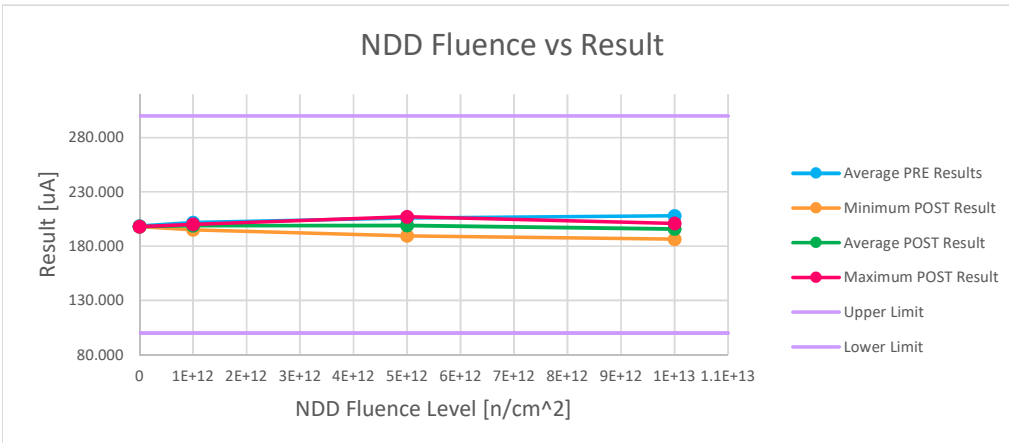## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.9153

TEST RESULTS (LOWER LIMIT = 100 | UPPER LIMIT = 300) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	201.395	199.695	1.700
2	1E+12	NDD	203.757	200.164	3.593
3	1E+12	NDD	203.620	200.144	3.476
4	1E+12	NDD	197.920	194.952	2.968
5	5E+12	NDD	215.588	207.094	8.494
6	5E+12	NDD	212.179	204.009	8.170
7	5E+12	NDD	193.879	189.506	4.373
8	5E+12	NDD	202.664	195.615	7.048
9	1E+13	NDD	207.896	197.646	10.250
10	1E+13	NDD	210.414	197.977	12.437
11	1E+13	NDD	199.794	186.382	13.412
12	1E+13	NDD	213.636	201.023	12.613
13	0E+00	CONTROL	198.408	197.880	0.528

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	198.408	198.408	198.408	-	197.880	197.880	197.880	-	0.528	0.528	0.528	-
1E+12	197.920	201.673	203.757	2.726	194.952	198.739	200.164	2.534	1.700	2.934	3.593	0.867
5E+12	193.879	206.077	215.588	9.800	189.506	199.056	207.094	8.004	4.373	7.021	8.494	1.871
1E+13	199.794	207.935	213.636	5.914	186.382	195.757	201.023	6.432	10.250	12.178	13.412	1.353

DEVICE TEST: 3.4 Iq_neg_DIFF [uA]

NDD Fluence vs Result

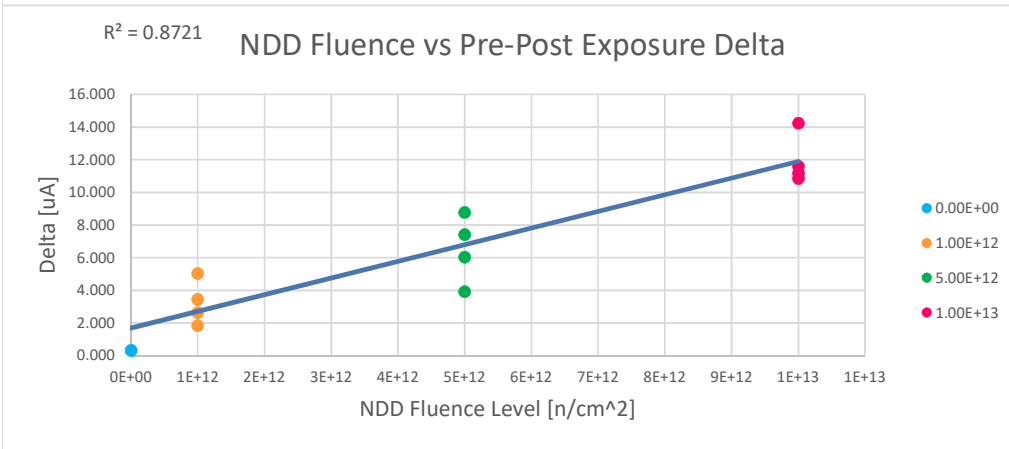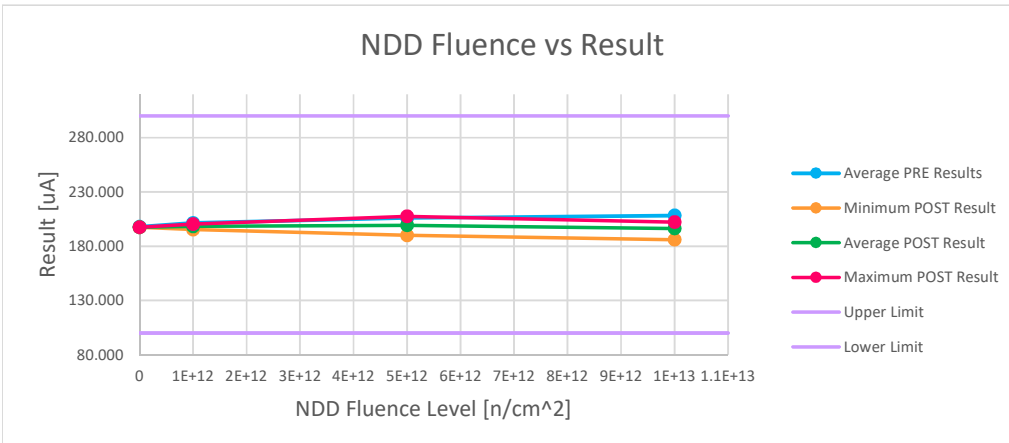## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.8721

TEST RESULTS (LOWER LIMIT = 100 | UPPER LIMIT = 300) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	201.577	198.949	2.628
2	1E+12	NDD	203.451	198.422	5.029
3	1E+12	NDD	203.685	200.237	3.448
4	1E+12	NDD	197.010	195.163	1.847
5	5E+12	NDD	214.829	207.420	7.409
6	5E+12	NDD	212.487	203.712	8.775
7	5E+12	NDD	193.828	189.912	3.916
8	5E+12	NDD	202.026	195.982	6.044
9	1E+13	NDD	208.896	198.032	10.864
10	1E+13	NDD	209.833	198.656	11.177
11	1E+13	NDD	200.133	185.891	14.241
12	1E+13	NDD	213.854	202.248	11.606
13	0E+00	CONTROL	197.830	197.505	0.325

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	197.830	197.830	197.830	-	197.505	197.505	197.505	-	0.325	0.325	0.325	-
1E+12	197.010	201.431	203.685	3.094	195.163	198.193	200.237	2.159	1.847	3.238	5.029	1.361
5E+12	193.828	205.793	214.829	9.726	189.912	199.256	207.420	7.843	3.916	6.536	8.775	2.072
1E+13	200.133	208.179	213.854	5.779	185.891	196.207	202.248	7.123	10.864	11.972	14.241	1.543

DEVICE TEST: 4.1 SWING_2K_2.7_H_AMP1 [mV]
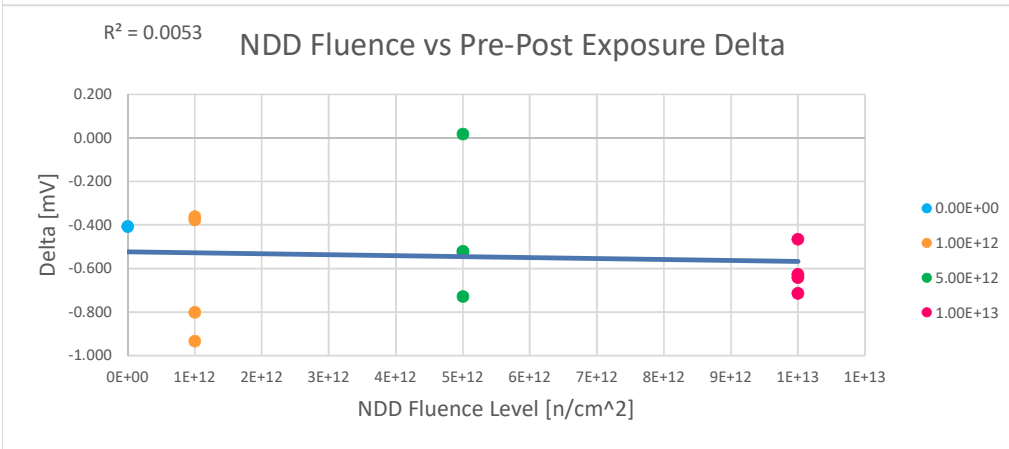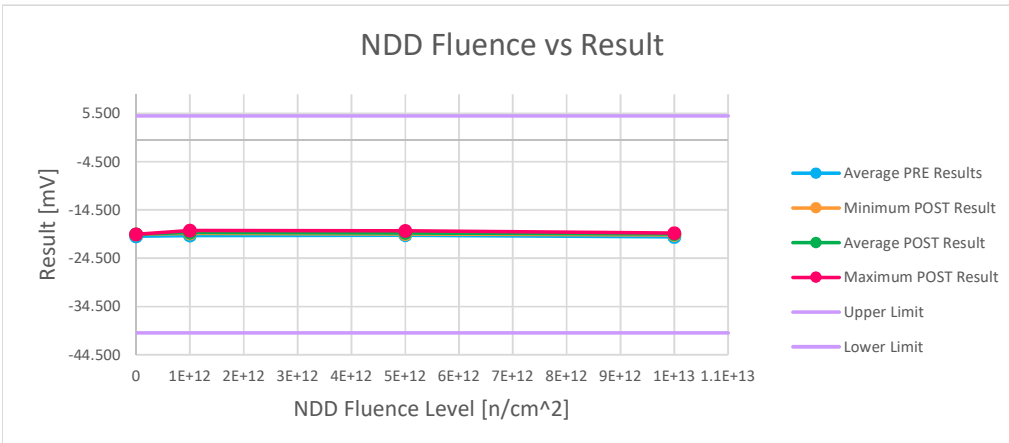
NDD Fluence vs Result

R² = 0.0053

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -40 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-19.734	-19.371	-0.363
2	1E+12	NDD	-19.705	-18.771	-0.934
3	1E+12	NDD	-19.968	-19.166	-0.802
4	1E+12	NDD	-19.719	-19.342	-0.378
5	5E+12	NDD	-19.471	-19.488	0.018
6	5E+12	NDD	-19.995	-19.473	-0.522
7	5E+12	NDD	-19.529	-18.800	-0.729
8	5E+12	NDD	-19.866	-19.342	-0.524
9	1E+13	NDD	-19.939	-19.313	-0.626
10	1E+13	NDD	-20.232	-19.591	-0.641
11	1E+13	NDD	-20.027	-19.313	-0.714
12	1E+13	NDD	-20.144	-19.678	-0.465
13	0E+00	CONTROL	-19.953	-19.547	-0.407

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-19.953	-19.953	-19.953	-	-19.547	-19.547	-19.547	-	-0.407	-0.407	-0.407	-
1E+12	-19.968	-19.782	-19.705	0.125	-19.371	-19.162	-18.771	0.276	-0.934	-0.619	-0.363	0.292
5E+12	-19.995	-19.715	-19.471	0.255	-19.488	-19.276	-18.800	0.324	-0.729	-0.439	0.018	0.320
1E+13	-20.232	-20.085	-19.939	0.129	-19.678	-19.473	-19.313	0.189	-0.714	-0.612	-0.465	0.105

DEVICE TEST: 4.2 SWING_2K_2.7_H_AMP2 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0521

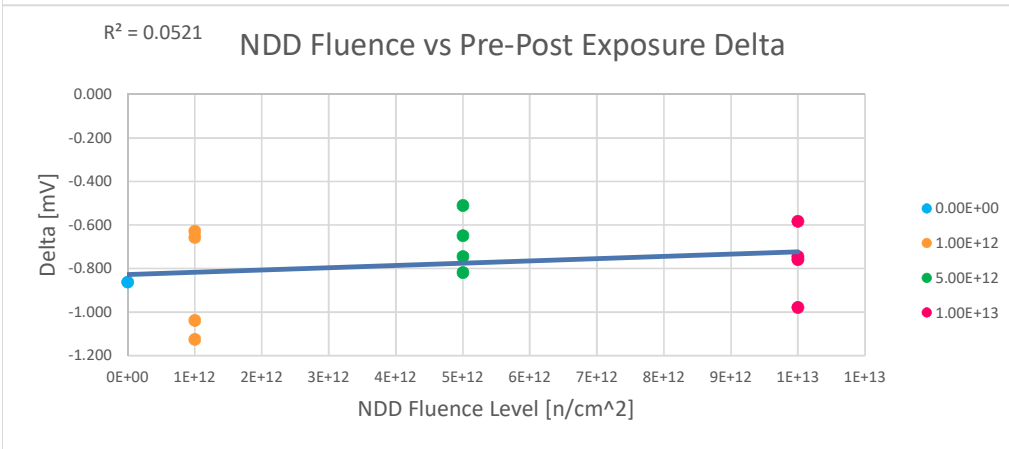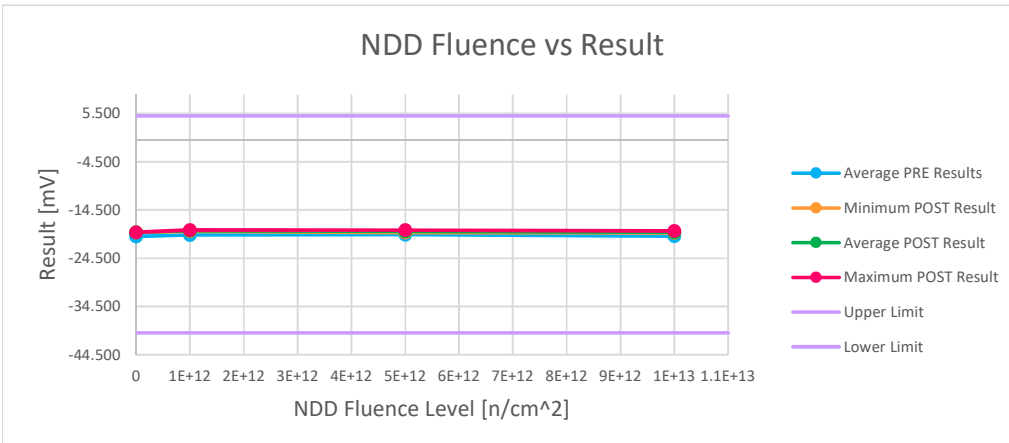### TEST RESULTS (LOWER LIMIT = -40 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-19.556	-18.929	-0.627
2	1E+12	NDD	-19.688	-18.650	-1.037
3	1E+12	NDD	-19.951	-18.826	-1.125
4	1E+12	NDD	-19.483	-18.826	-0.657
5	5E+12	NDD	-19.673	-18.929	-0.744
6	5E+12	NDD	-19.665	-19.016	-0.649
7	5E+12	NDD	-19.483	-18.665	-0.818
8	5E+12	NDD	-19.717	-19.207	-0.510
9	1E+13	NDD	-19.849	-18.870	-0.978
10	1E+13	NDD	-19.936	-19.192	-0.744
11	1E+13	NDD	-19.878	-19.295	-0.583
12	1E+13	NDD	-19.922	-19.163	-0.759
13	0E+00	CONTROL	-19.980	-19.119	-0.861

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-19.980	-19.980	-19.980	-	-19.119	-19.119	-19.119	-	-0.861	-0.861	-0.861	-
1E+12	-19.951	-19.669	-19.483	0.206	-18.929	-18.808	-18.650	0.116	-1.125	-0.861	-0.627	0.256
5E+12	-19.717	-19.634	-19.483	0.104	-19.207	-18.954	-18.665	0.225	-0.818	-0.680	-0.510	0.133
1E+13	-19.936	-19.896	-19.849	0.040	-19.295	-19.130	-18.870	0.182	-0.978	-0.766	-0.583	0.162

DEVICE TEST: 4.3 SWING_2K_2.7_H_AMP3 [mV]

NDD Fluence vs Result

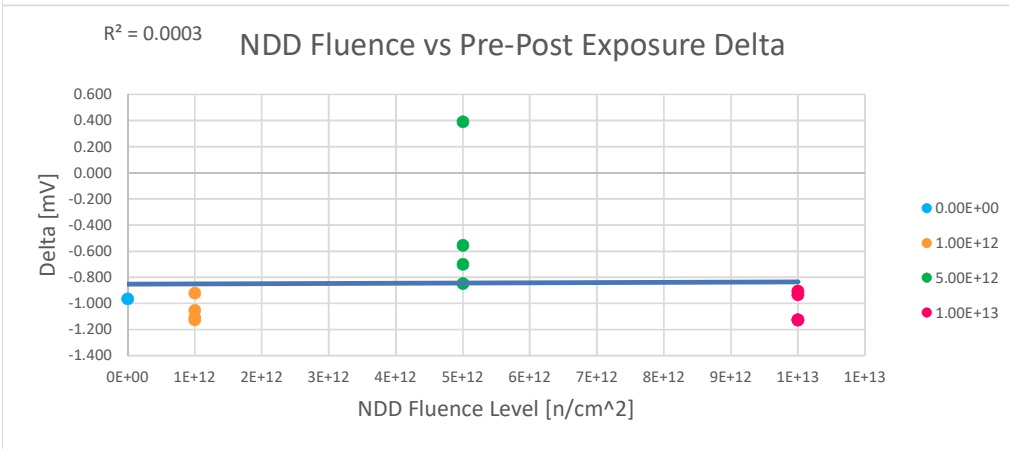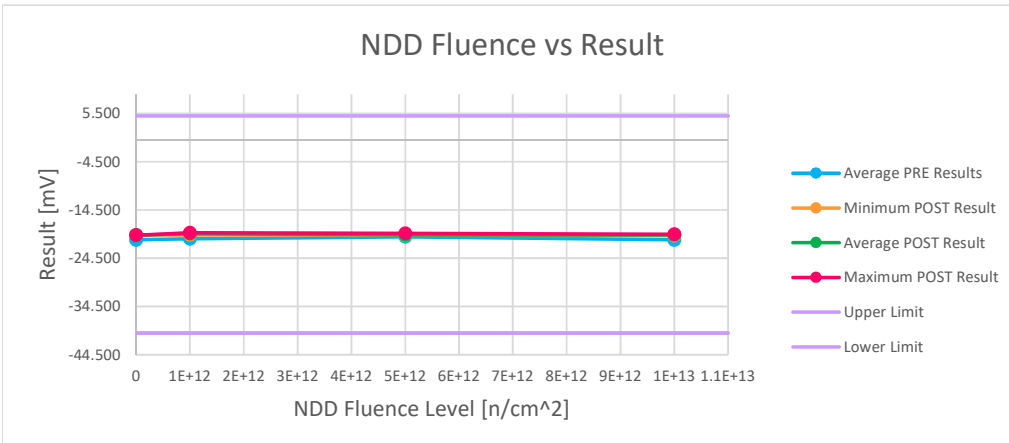## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0003

TEST RESULTS (LOWER LIMIT = -40 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-20.335	-19.210	-1.125
2	1E+12	NDD	-20.350	-19.239	-1.110
3	1E+12	NDD	-20.613	-19.561	-1.052
4	1E+12	NDD	-20.584	-19.664	-0.920
5	5E+12	NDD	-20.408	-19.708	-0.701
6	5E+12	NDD	-19.330	-19.722	0.392
7	5E+12	NDD	-20.218	-19.371	-0.847
8	5E+12	NDD	-20.321	-19.766	-0.554
9	1E+13	NDD	-20.657	-19.532	-1.125
10	1E+13	NDD	-20.731	-19.605	-1.125
11	1E+13	NDD	-20.628	-19.693	-0.935
12	1E+13	NDD	-20.731	-19.825	-0.906
13	0E+00	CONTROL	-20.687	-19.722	-0.964

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-20.687	-20.687	-20.687	-	-19.722	-19.722	-19.722	-	-0.964	-0.964	-0.964	-
1E+12	-20.613	-20.471	-20.335	0.149	-19.664	-19.419	-19.210	0.228	-1.125	-1.052	-0.920	0.093
5E+12	-20.408	-20.069	-19.330	0.499	-19.766	-19.642	-19.371	0.182	-0.847	-0.427	0.392	0.559
1E+13	-20.731	-20.687	-20.628	0.052	-19.825	-19.664	-19.532	0.126	-1.125	-1.023	-0.906	0.119

DEVICE TEST: 4.4 SWING_2K_2.7_H_AMP4 [mV]

NDD Fluence vs Result

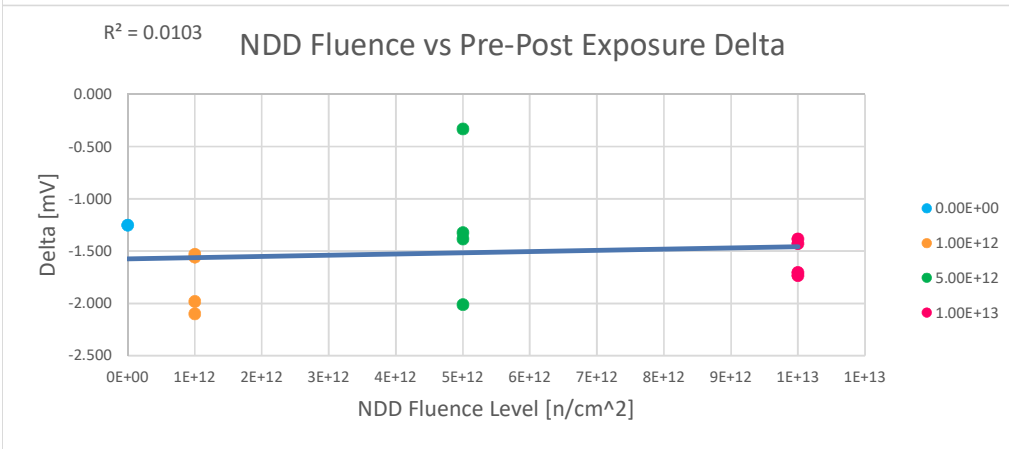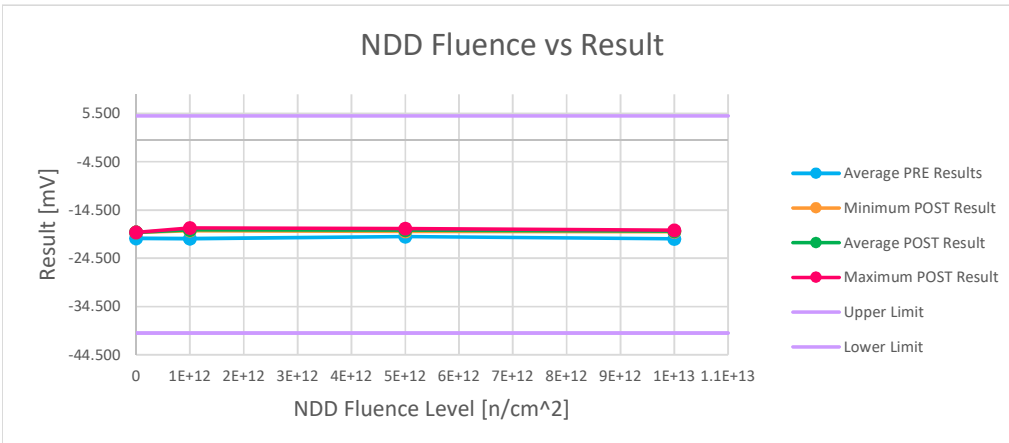## NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 0.0103$

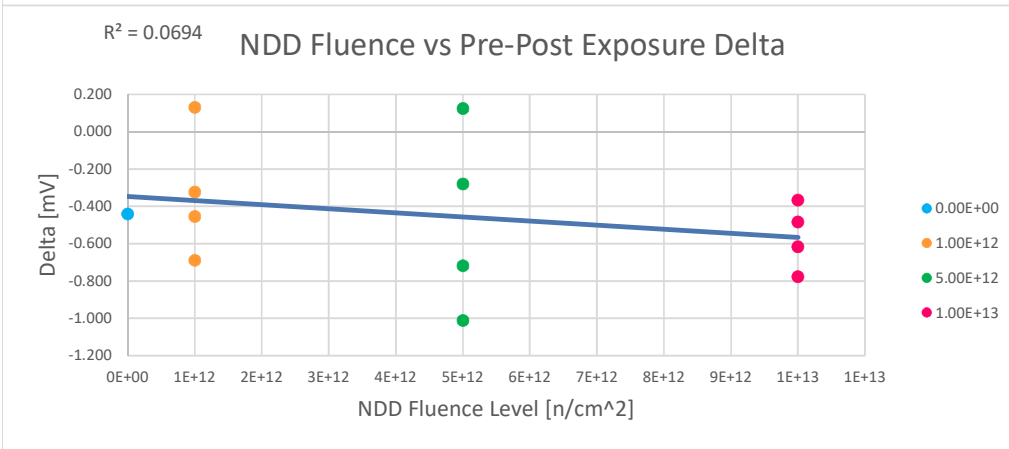### TEST RESULTS (LOWER LIMIT = -40 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-20.341	-18.783	-1.558
2	1E+12	NDD	-20.341	-18.241	-2.100
3	1E+12	NDD	-20.677	-18.695	-1.983
4	1E+12	NDD	-20.282	-18.753	-1.529
5	5E+12	NDD	-20.209	-18.827	-1.382
6	5E+12	NDD	-19.128	-18.797	-0.331
7	5E+12	NDD	-20.370	-18.358	-2.012
8	5E+12	NDD	-20.267	-18.944	-1.324
9	1E+13	NDD	-20.385	-18.680	-1.704
10	1E+13	NDD	-20.663	-18.929	-1.734
11	1E+13	NDD	-20.414	-19.031	-1.382
12	1E+13	NDD	-20.414	-18.988	-1.426
13	0E+00	CONTROL	-20.385	-19.134	-1.251

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-20.385	-20.385	-20.385	-	-19.134	-19.134	-19.134	-	-1.251	-1.251	-1.251	-
1E+12	-20.677	-20.410	-20.282	0.180	-18.783	-18.618	-18.241	0.254	-2.100	-1.792	-1.529	0.292
5E+12	-20.370	-19.994	-19.128	0.581	-18.944	-18.731	-18.358	0.257	-2.012	-1.262	-0.331	0.695
1E+13	-20.663	-20.469	-20.385	0.130	-19.031	-18.907	-18.680	0.157	-1.734	-1.562	-1.382	0.183

DEVICE TEST: 5.1 SWING_2K_2.7_L_AMP1 [mV]

NDD Fluence vs Result
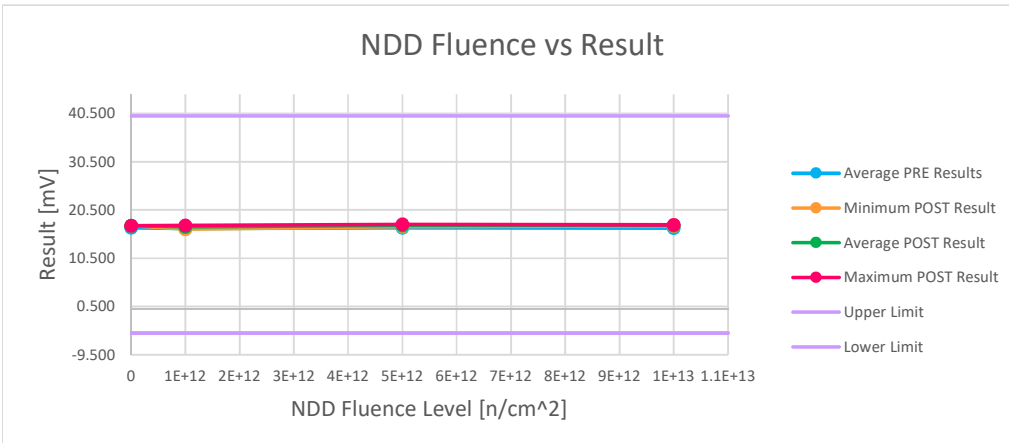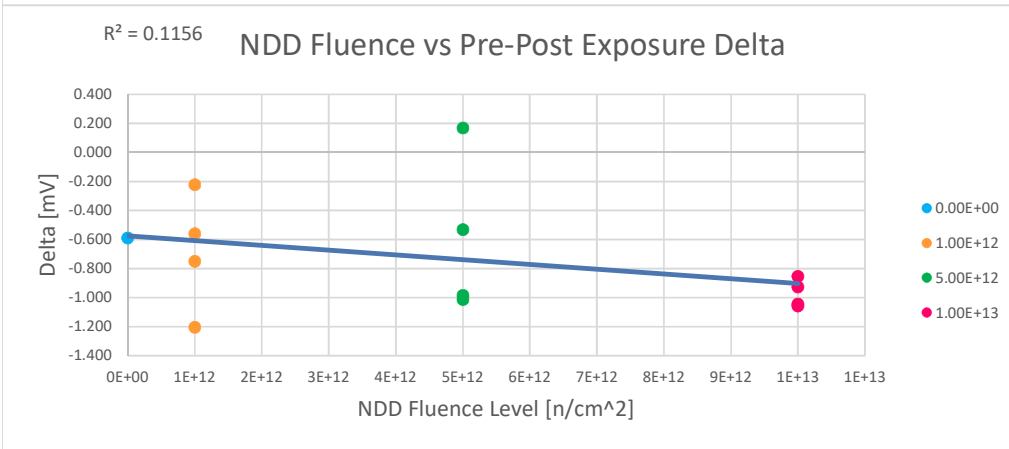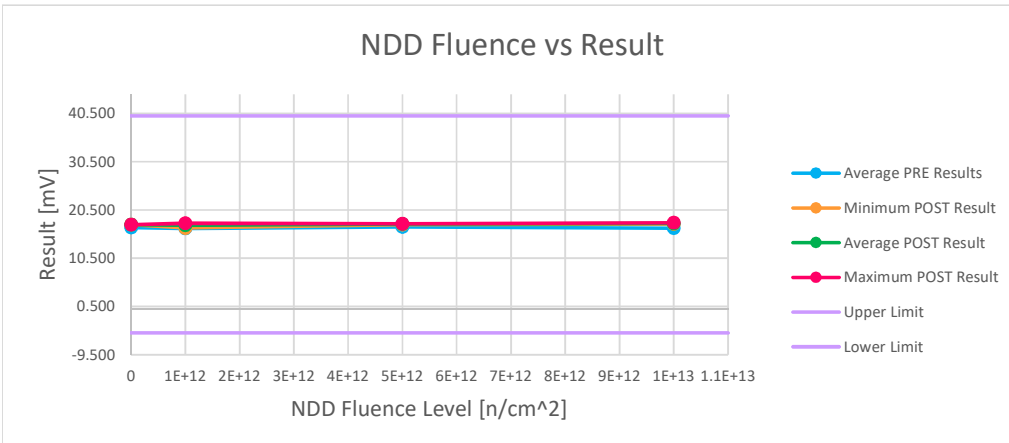

R² = 0.0694

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 40) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	16.652	16.522	0.130
2	1E+12	NDD	16.652	16.976	-0.324
3	1E+12	NDD	16.579	17.268	-0.690
4	1E+12	NDD	16.696	17.151	-0.455
5	5E+12	NDD	16.754	17.034	-0.280
6	5E+12	NDD	17.334	17.210	0.124
7	5E+12	NDD	16.623	17.342	-0.719
8	5E+12	NDD	16.491	17.503	-1.012
9	1E+13	NDD	16.784	17.151	-0.368
10	1E+13	NDD	16.798	17.283	-0.485
11	1E+13	NDD	16.564	17.342	-0.777
12	1E+13	NDD	16.798	17.415	-0.616
13	0E+00	CONTROL	16.784	17.224	-0.441

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	16.784	16.784	16.784	-	17.224	17.224	17.224	-	-0.441	-0.441	-0.441	-
1E+12	16.579	16.645	16.696	0.049	16.522	16.979	17.268	0.328	-0.690	-0.335	0.130	0.345
5E+12	16.491	16.801	17.334	0.372	17.034	17.272	17.503	0.199	-1.012	-0.472	0.124	0.498
1E+13	16.564	16.736	16.798	0.115	17.151	17.298	17.415	0.111	-0.777	-0.562	-0.368	0.176

DEVICE TEST: 5.2 SWING_2K_2.7_L_AMP2 [mV]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

R² = 0.1156

NDD Fluence vs Pre-Post Exposure Delta
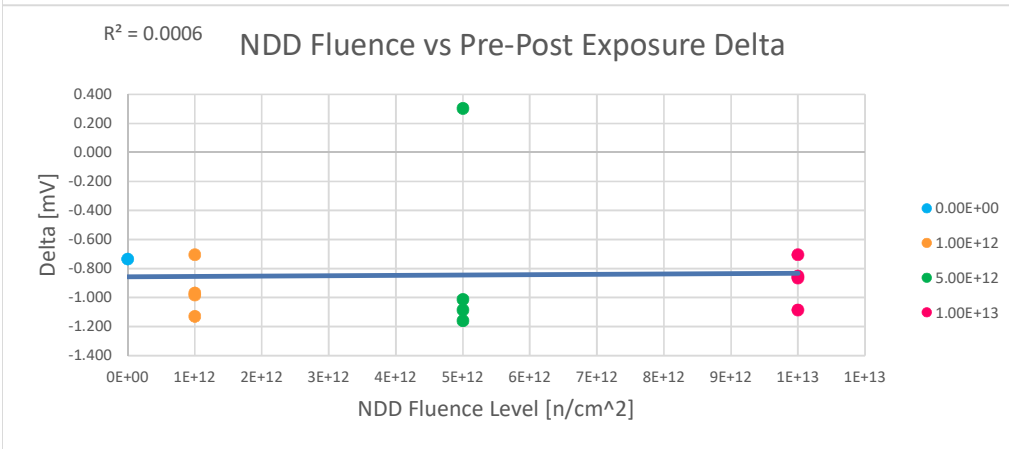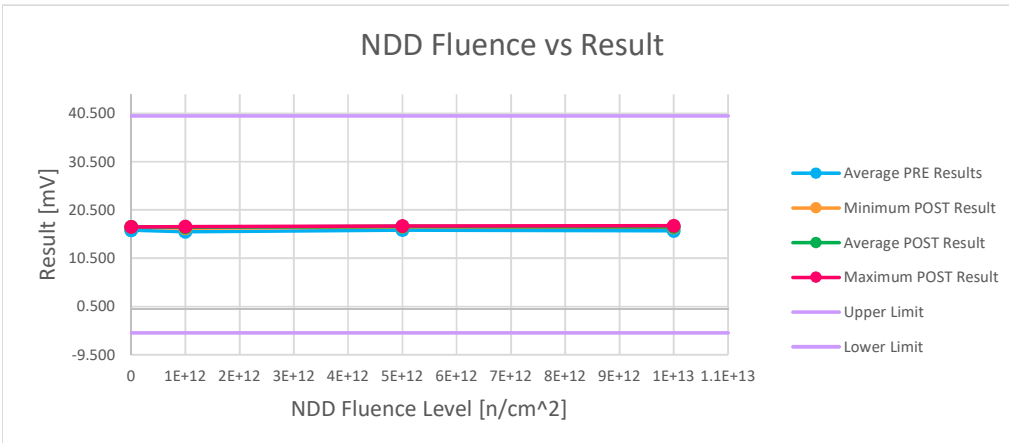
Legend:
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 40) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	16.533	16.756	-0.223
2	1E+12	NDD	16.621	17.371	-0.751
3	1E+12	NDD	16.562	17.766	-1.204
4	1E+12	NDD	16.913	17.474	-0.561
5	5E+12	NDD	16.635	17.620	-0.985
6	5E+12	NDD	17.745	17.576	0.169
7	5E+12	NDD	16.913	17.444	-0.531
8	5E+12	NDD	16.591	17.605	-1.014
9	1E+13	NDD	16.665	17.591	-0.926
10	1E+13	NDD	16.562	17.605	-1.043
11	1E+13	NDD	16.679	17.737	-1.058
12	1E+13	NDD	16.986	17.840	-0.853
13	0E+00	CONTROL	16.869	17.459	-0.590

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	16.869	16.869	16.869	-	17.459	17.459	17.459	-	-0.590	-0.590	-0.590	-
1E+12	16.533	16.657	16.913	0.174	16.756	17.342	17.766	0.425	-1.204	-0.685	-0.223	0.409
5E+12	16.591	16.971	17.745	0.535	17.444	17.562	17.620	0.080	-1.014	-0.590	0.169	0.552
1E+13	16.562	16.723	16.986	0.183	17.591	17.693	17.840	0.118	-1.058	-0.970	-0.853	0.098

DEVICE TEST: 5.3 SWING_2K_2.7_L_AMP3 [mV]

NDD Fluence vs Result
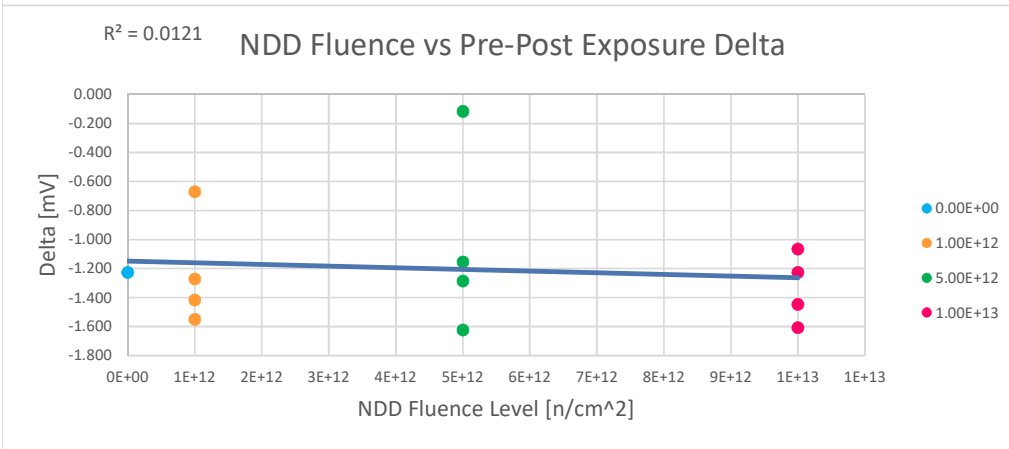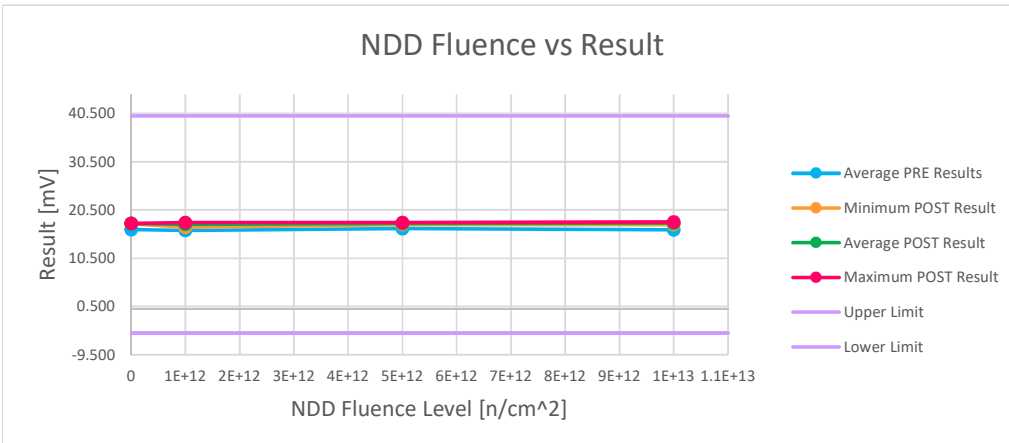

R² = 0.0006

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 40) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	16.013	16.718	-0.705
2	1E+12	NDD	15.822	16.806	-0.983
3	1E+12	NDD	15.954	17.084	-1.130
4	1E+12	NDD	16.086	17.054	-0.969
5	5E+12	NDD	15.983	17.069	-1.086
6	5E+12	NDD	17.283	16.981	0.302
7	5E+12	NDD	16.013	17.025	-1.013
8	5E+12	NDD	16.056	17.215	-1.159
9	1E+13	NDD	16.188	16.893	-0.705
10	1E+13	NDD	16.159	17.010	-0.852
11	1E+13	NDD	16.100	16.967	-0.866
12	1E+13	NDD	16.174	17.259	-1.086
13	0E+00	CONTROL	16.261	16.996	-0.734

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	16.261	16.261	16.261	-	16.996	16.996	16.996	-	-0.734	-0.734	-0.734	-
1E+12	15.822	15.969	16.086	0.112	16.718	16.915	17.084	0.181	-1.130	-0.947	-0.705	0.177
5E+12	15.983	16.334	17.283	0.634	16.981	17.073	17.215	0.102	-1.159	-0.739	0.302	0.696
1E+13	16.100	16.155	16.188	0.039	16.893	17.032	17.259	0.159	-1.086	-0.877	-0.705	0.157

DEVICE TEST: 5.4 SWING_2K_2.7_L_AMP4 [mV]

NDD Fluence vs Result
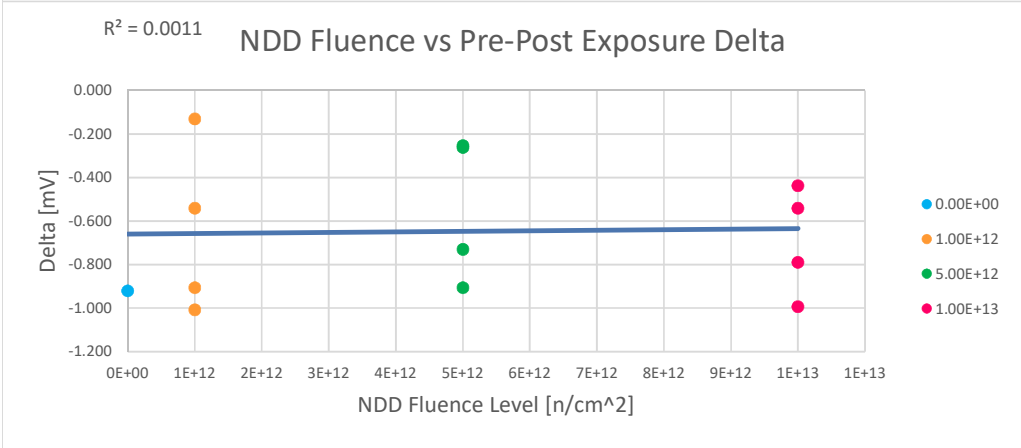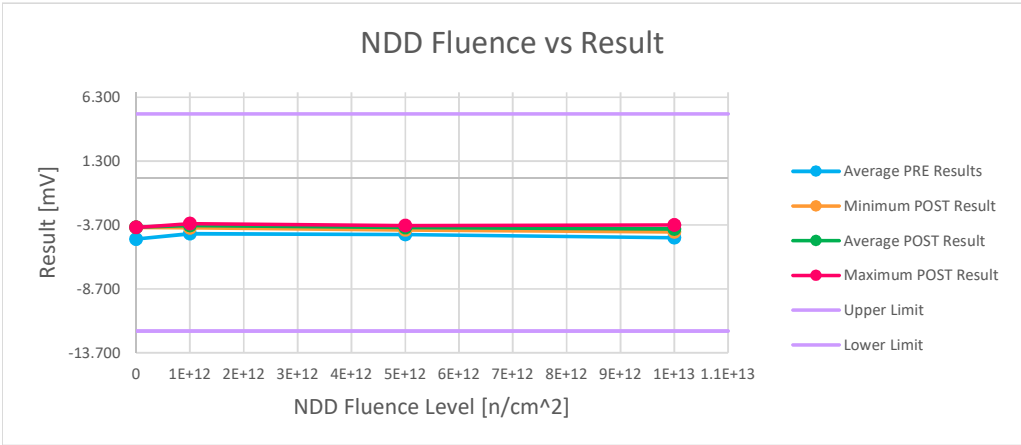

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0121

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 40) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	16.236	16.908	-0.672
2	1E+12	NDD	16.265	17.537	-1.272
3	1E+12	NDD	16.338	17.888	-1.550
4	1E+12	NDD	16.251	17.669	-1.418
5	5E+12	NDD	16.397	17.683	-1.287
6	5E+12	NDD	17.375	17.493	-0.118
7	5E+12	NDD	16.573	17.727	-1.155
8	5E+12	NDD	16.265	17.888	-1.623
9	1E+13	NDD	16.426	17.493	-1.067
10	1E+13	NDD	16.412	17.859	-1.448
11	1E+13	NDD	16.426	17.654	-1.228
12	1E+13	NDD	16.397	18.005	-1.609
13	0E+00	CONTROL	16.455	17.683	-1.228

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	16.455	16.455	16.455	-	17.683	17.683	17.683	-	-1.228	-1.228	-1.228	-
1E+12	16.236	16.272	16.338	0.046	16.908	17.501	17.888	0.421	-1.550	-1.228	-0.672	0.388
5E+12	16.265	16.652	17.375	0.498	17.493	17.698	17.888	0.163	-1.623	-1.046	-0.118	0.649
1E+13	16.397	16.415	16.426	0.014	17.493	17.753	18.005	0.225	-1.609	-1.338	-1.067	0.239

DEVICE TEST: 6.1 SWING_10K_2.7_H_AMP1 [mV]

NDD Fluence vs Result

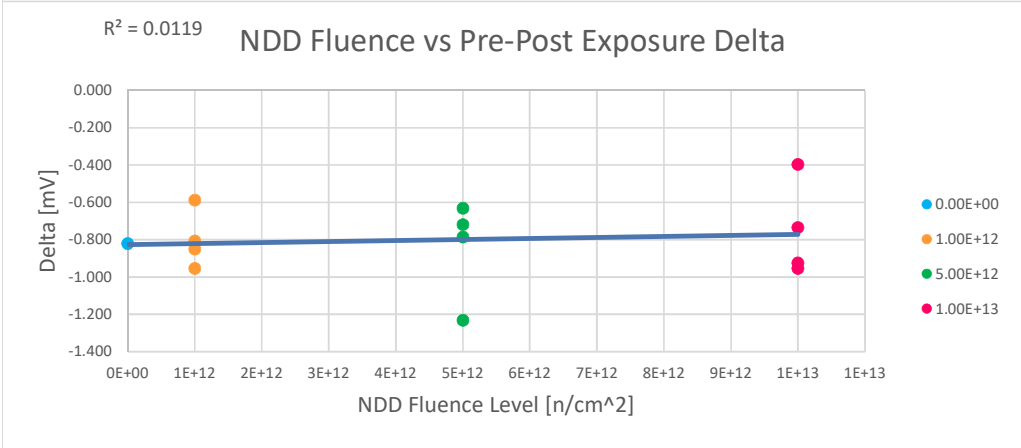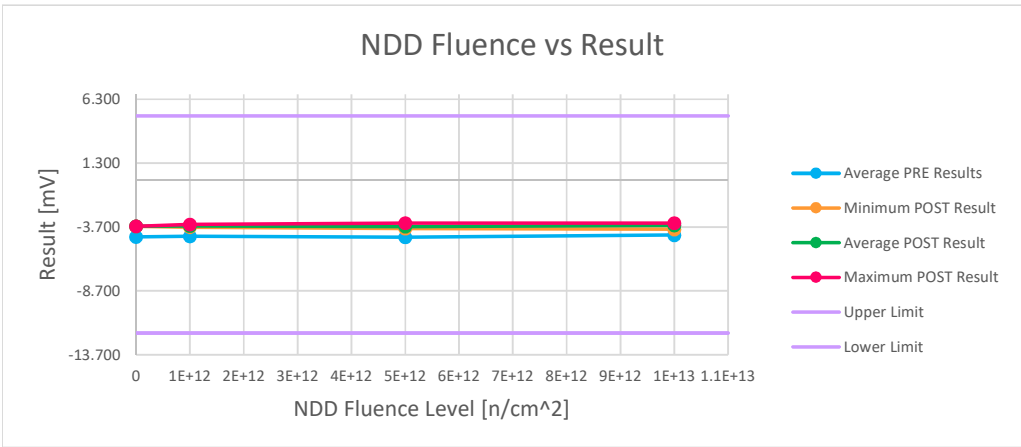### NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0011

TEST RESULTS (LOWER LIMIT = -12 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-4.734	-3.726	-1.008
2	1E+12	NDD	-4.046	-3.916	-0.130
3	1E+12	NDD	-4.266	-3.726	-0.540
4	1E+12	NDD	-4.500	-3.594	-0.906
5	5E+12	NDD	-4.280	-4.018	-0.262
6	5E+12	NDD	-4.345	-4.092	-0.253
7	5E+12	NDD	-4.500	-3.770	-0.730
8	5E+12	NDD	-4.646	-3.740	-0.906
9	1E+13	NDD	-4.793	-4.004	-0.789
10	1E+13	NDD	-4.617	-4.077	-0.540
11	1E+13	NDD	-4.705	-3.711	-0.994
12	1E+13	NDD	-4.675	-4.238	-0.437
13	0E+00	CONTROL	-4.807	-3.887	-0.920

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-4.807	-4.807	-4.807	-	-3.887	-3.887	-3.887	-	-0.920	-0.920	-0.920	-
1E+12	-4.734	-4.386	-4.046	0.297	-3.916	-3.740	-3.594	0.133	-1.008	-0.646	-0.130	0.398
5E+12	-4.646	-4.443	-4.280	0.164	-4.092	-3.905	-3.740	0.176	-0.906	-0.538	-0.253	0.331
1E+13	-4.793	-4.697	-4.617	0.073	-4.238	-4.007	-3.711	0.220	-0.994	-0.690	-0.437	0.250

DEVICE TEST: 6.2 SWING_10K_2.7_H_AMP2 [mV]

NDD Fluence vs Result

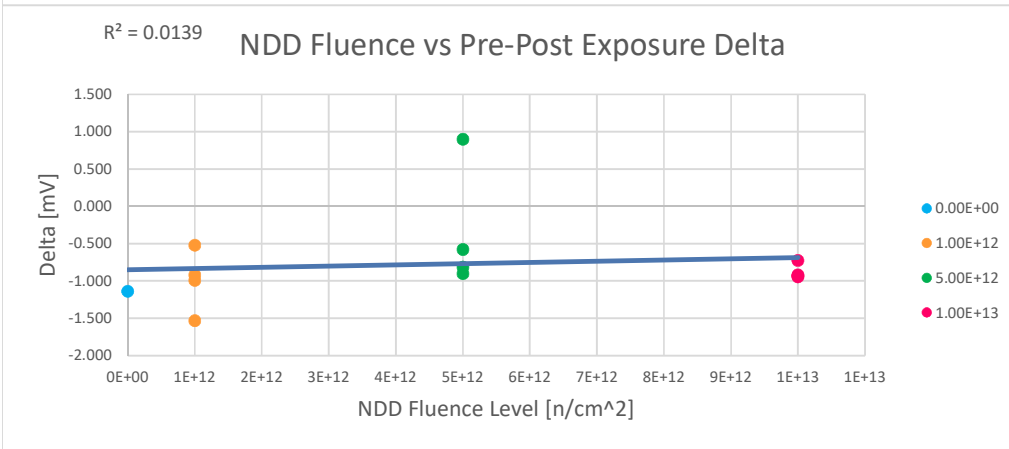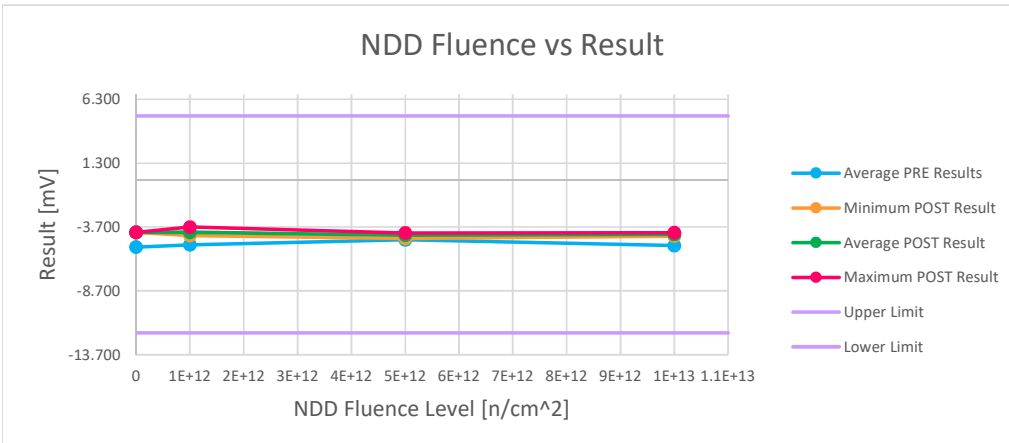

NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 0.0119$

TEST RESULTS (LOWER LIMIT = -12 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-4.525	-3.718	-0.807
2	1E+12	NDD	-4.233	-3.645	-0.588
3	1E+12	NDD	-4.452	-3.499	-0.953
4	1E+12	NDD	-4.467	-3.616	-0.851
5	5E+12	NDD	-4.379	-3.660	-0.719
6	5E+12	NDD	-4.606	-3.821	-0.785
7	5E+12	NDD	-4.408	-3.777	-0.631
8	5E+12	NDD	-4.628	-3.396	-1.231
9	1E+13	NDD	-4.525	-3.572	-0.953
10	1E+13	NDD	-4.379	-3.455	-0.924
11	1E+13	NDD	-4.130	-3.396	-0.734
12	1E+13	NDD	-4.277	-3.879	-0.397
13	0E+00	CONTROL	-4.467	-3.645	-0.821

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-4.467	-4.467	-4.467	-	-3.645	-3.645	-3.645	-	-0.821	-0.821	-0.821	-
1E+12	-4.525	-4.419	-4.233	0.128	-3.718	-3.619	-3.499	0.091	-0.953	-0.800	-0.588	0.154
5E+12	-4.628	-4.505	-4.379	0.130	-3.821	-3.664	-3.396	0.191	-1.231	-0.842	-0.631	0.267
1E+13	-4.525	-4.328	-4.130	0.166	-3.879	-3.576	-3.396	0.215	-0.953	-0.752	-0.397	0.256

DEVICE TEST: 6.3 SWING_10K_2.7_H_AMP3 [mV]

NDD Fluence vs Result
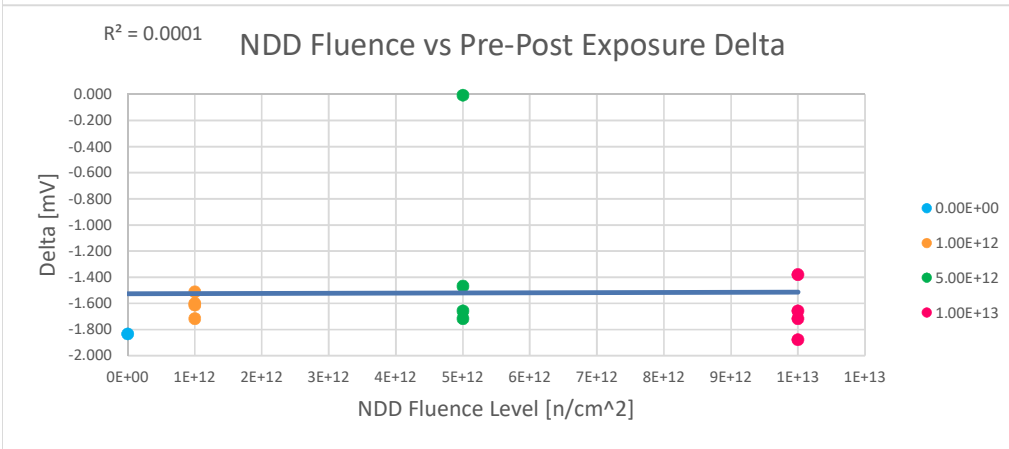
R² = 0.0139

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -12 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-5.238	-3.707	-1.531
2	1E+12	NDD	-4.901	-4.381	-0.520
3	1E+12	NDD	-5.092	-4.176	-0.916
4	1E+12	NDD	-5.179	-4.191	-0.989
5	5E+12	NDD	-5.077	-4.176	-0.901
6	5E+12	NDD	-3.702	-4.600	0.898
7	5E+12	NDD	-4.931	-4.352	-0.579
8	5E+12	NDD	-5.092	-4.278	-0.813
9	1E+13	NDD	-5.194	-4.278	-0.916
10	1E+13	NDD	-5.209	-4.264	-0.945
11	1E+13	NDD	-5.077	-4.147	-0.930
12	1E+13	NDD	-5.136	-4.410	-0.725
13	0E+00	CONTROL	-5.267	-4.132	-1.135

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-5.267	-5.267	-5.267	-	-4.132	-4.132	-4.132	-	-1.135	-1.135	-1.135	-
1E+12	-5.238	-5.103	-4.901	0.147	-4.381	-4.114	-3.707	0.287	-1.531	-0.989	-0.520	0.416
5E+12	-5.092	-4.700	-3.702	0.669	-4.600	-4.352	-4.176	0.181	-0.901	-0.349	0.898	0.842
1E+13	-5.209	-5.154	-5.077	0.060	-4.410	-4.275	-4.147	0.108	-0.945	-0.879	-0.725	0.103

DEVICE TEST: 6.4 SWING_10K_2.7_H_AMP4 [mV]

NDD Fluence vs Result

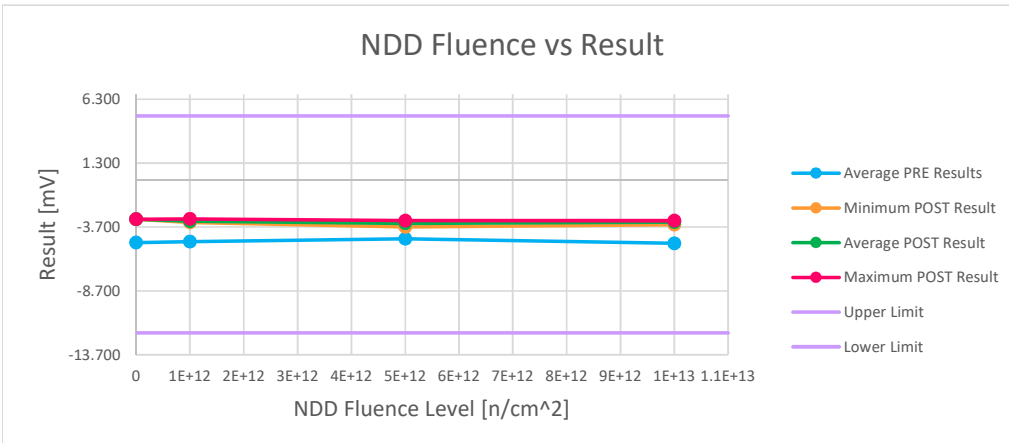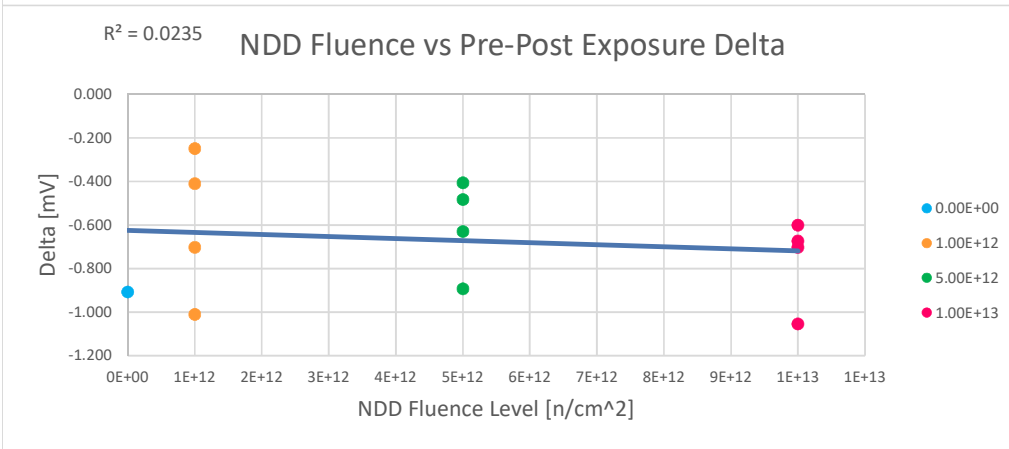## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0001

TEST RESULTS (LOWER LIMIT = -12 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-4.883	-3.283	-1.600
2	1E+12	NDD	-4.854	-3.342	-1.512
3	1E+12	NDD	-4.883	-3.269	-1.614
4	1E+12	NDD	-4.795	-3.079	-1.717
5	5E+12	NDD	-5.000	-3.283	-1.717
6	5E+12	NDD	-3.699	-3.693	-0.006
7	5E+12	NDD	-4.971	-3.503	-1.468
8	5E+12	NDD	-4.854	-3.196	-1.658
9	1E+13	NDD	-5.161	-3.283	-1.878
10	1E+13	NDD	-4.927	-3.210	-1.717
11	1E+13	NDD	-4.927	-3.269	-1.658
12	1E+13	NDD	-4.898	-3.518	-1.380
13	0E+00	CONTROL	-4.927	-3.093	-1.834

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-4.927	-4.927	-4.927	-	-3.093	-3.093	-3.093	-	-1.834	-1.834	-1.834	-
1E+12	-4.883	-4.854	-4.795	0.041	-3.342	-3.243	-3.079	0.114	-1.717	-1.611	-1.512	0.084
5E+12	-5.000	-4.631	-3.699	0.624	-3.693	-3.419	-3.196	0.224	-1.717	-1.212	-0.006	0.811
1E+13	-5.161	-4.978	-4.898	0.123	-3.518	-3.320	-3.210	0.135	-1.878	-1.658	-1.380	0.207

DEVICE TEST: 7.1 SWING_10k_2.7_L_AMP1 [mV]

NDD Fluence vs Result

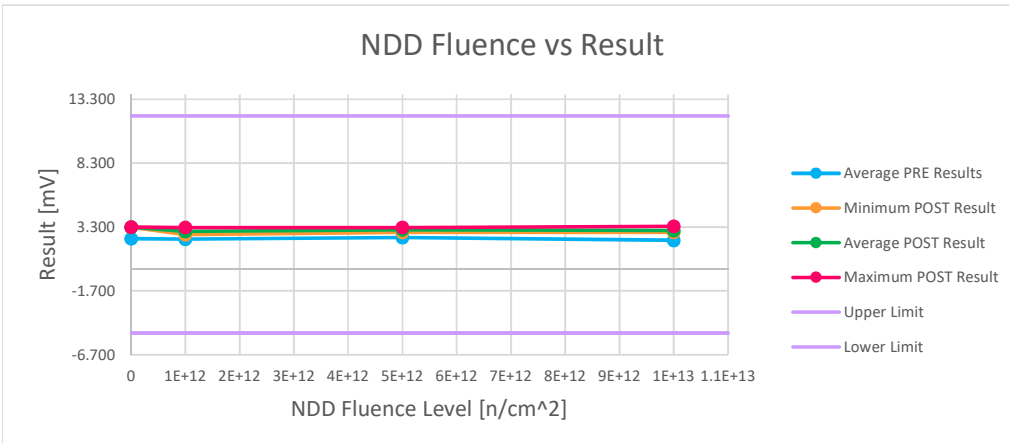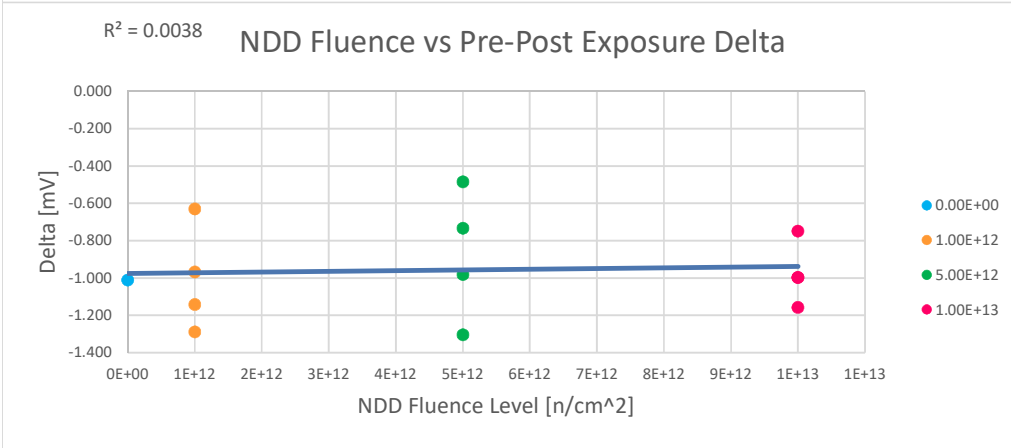## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0235

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 12) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	2.296	2.706	-0.410
2	1E+12	NDD	2.311	3.013	-0.703
3	1E+12	NDD	2.559	2.809	-0.249
4	1E+12	NDD	2.252	3.262	-1.010
5	5E+12	NDD	2.354	2.984	-0.630
6	5E+12	NDD	2.856	3.262	-0.406
7	5E+12	NDD	2.413	2.896	-0.483
8	5E+12	NDD	2.311	3.204	-0.893
9	1E+13	NDD	2.208	2.911	-0.703
10	1E+13	NDD	2.208	2.882	-0.674
11	1E+13	NDD	2.340	2.940	-0.600
12	1E+13	NDD	2.296	3.350	-1.054
13	0E+00	CONTROL	2.384	3.292	-0.908

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	2.384	2.384	2.384	-	3.292	3.292	3.292	-	-0.908	-0.908	-0.908	-
1E+12	2.252	2.354	2.559	0.139	2.706	2.948	3.262	0.246	-1.010	-0.593	-0.249	0.336
5E+12	2.311	2.484	2.856	0.252	2.896	3.087	3.262	0.174	-0.893	-0.603	-0.406	0.214
1E+13	2.208	2.263	2.340	0.066	2.882	3.021	3.350	0.221	-1.054	-0.758	-0.600	0.202

DEVICE TEST: 7.2 SWING_10k_2.7_L_AMP2 [mV]

NDD Fluence vs Result

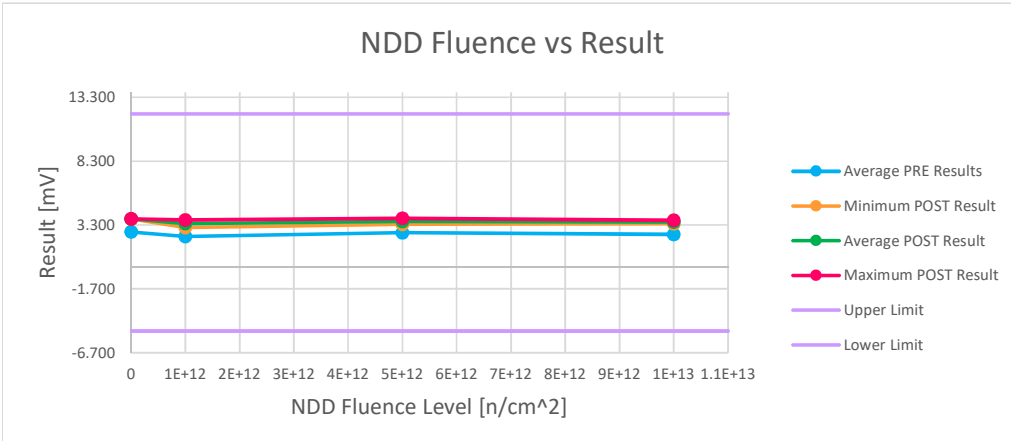### NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0038

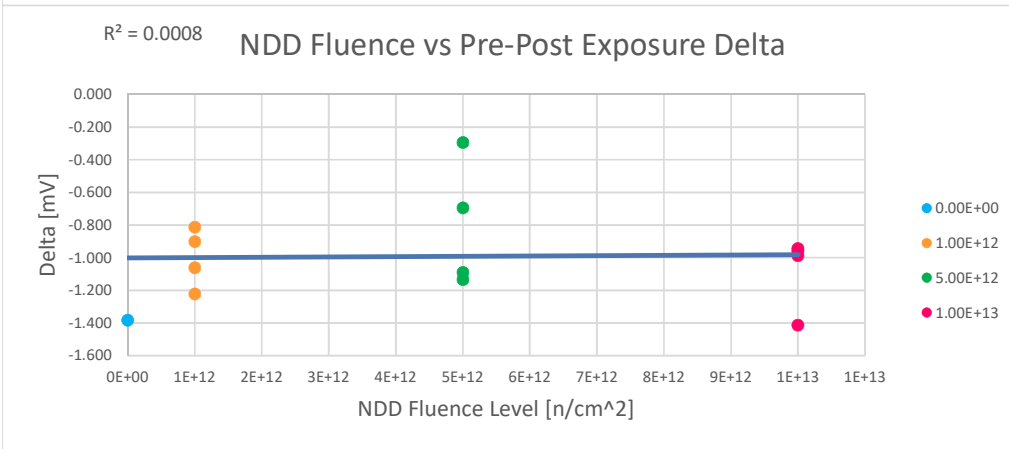## TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 12) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	2.467	3.098	-0.631
2	1E+12	NDD	2.394	3.684	-1.290
3	1E+12	NDD	2.482	3.449	-0.968
4	1E+12	NDD	2.277	3.420	-1.143
5	5E+12	NDD	2.511	3.493	-0.982
6	5E+12	NDD	3.126	3.610	-0.484
7	5E+12	NDD	2.628	3.361	-0.734
8	5E+12	NDD	2.511	3.815	-1.304
9	1E+13	NDD	2.409	3.405	-0.997
10	1E+13	NDD	2.526	3.523	-0.997
11	1E+13	NDD	2.818	3.566	-0.748
12	1E+13	NDD	2.511	3.669	-1.158
13	0E+00	CONTROL	2.760	3.771	-1.012

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	2.760	2.760	2.760	-	3.771	3.771	3.771	-	-1.012	-1.012	-1.012	-
1E+12	2.277	2.405	2.482	0.094	3.098	3.413	3.684	0.241	-1.290	-1.008	-0.631	0.284
5E+12	2.511	2.694	3.126	0.293	3.361	3.570	3.815	0.193	-1.304	-0.876	-0.484	0.350
1E+13	2.409	2.566	2.818	0.176	3.405	3.541	3.669	0.109	-1.158	-0.975	-0.748	0.169

DEVICE TEST: 7.3 SWING_10k_2.7_L_AMP3 [mV]

NDD Fluence vs Result
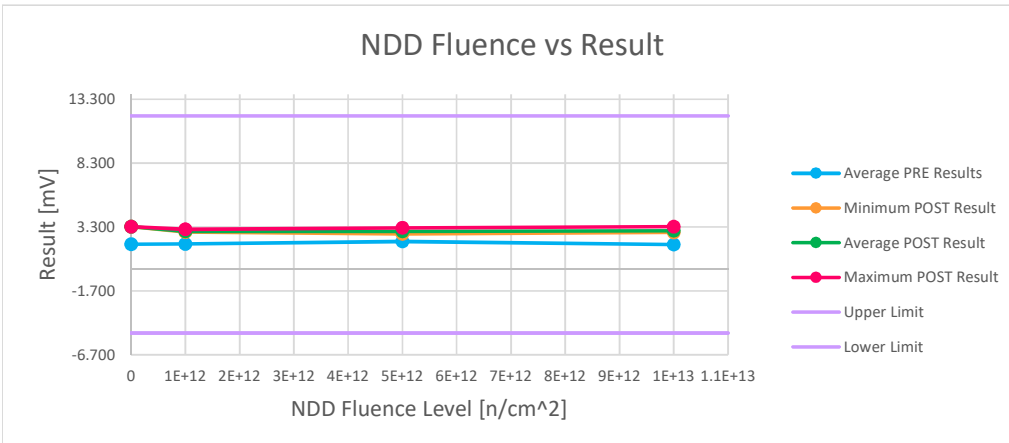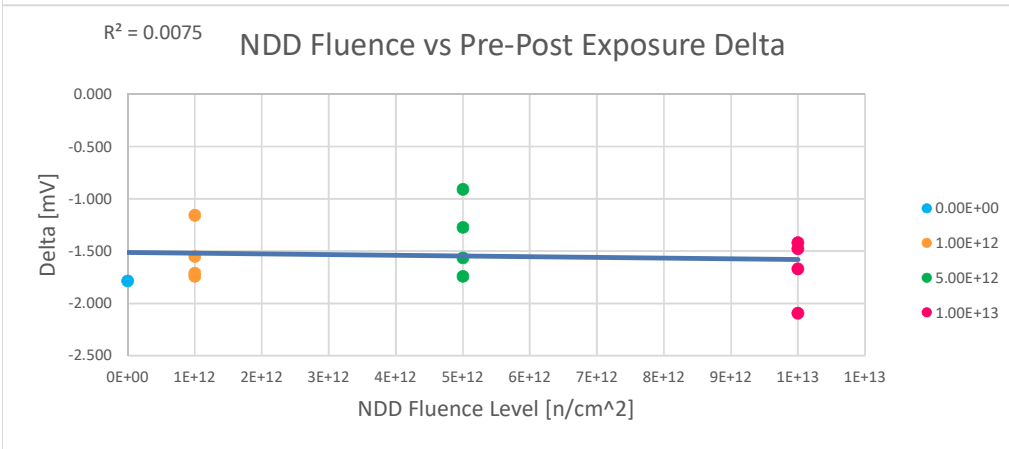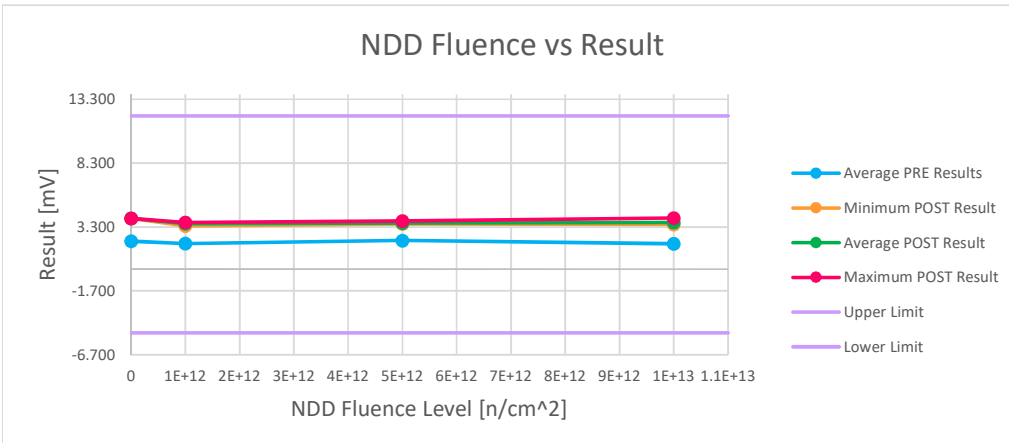

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0008

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 12) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	1.999	2.899	-0.900
2	1E+12	NDD	1.882	2.943	-1.061
3	1E+12	NDD	2.087	2.899	-0.812
4	1E+12	NDD	1.896	3.118	-1.222
5	5E+12	NDD	1.765	2.899	-1.134
6	5E+12	NDD	2.942	3.235	-0.293
7	5E+12	NDD	2.058	2.752	-0.695
8	5E+12	NDD	1.896	2.986	-1.090
9	1E+13	NDD	1.926	2.869	-0.944
10	1E+13	NDD	1.911	2.899	-0.987
11	1E+13	NDD	1.984	2.943	-0.958
12	1E+13	NDD	1.911	3.323	-1.412
13	0E+00	CONTROL	1.940	3.323	-1.383

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	1.940	1.940	1.940	-	3.323	3.323	3.323	-	-1.383	-1.383	-1.383	-
1E+12	1.882	1.966	2.087	0.096	2.899	2.965	3.118	0.104	-1.222	-0.999	-0.812	0.181
5E+12	1.765	2.165	2.942	0.532	2.752	2.968	3.235	0.203	-1.134	-0.803	-0.293	0.393
1E+13	1.911	1.933	1.984	0.035	2.869	3.008	3.323	0.212	-1.412	-1.075	-0.944	0.225

DEVICE TEST: 7.4 SWING_10k_2.7_L_AMP4 [mV]

NDD Fluence vs Result

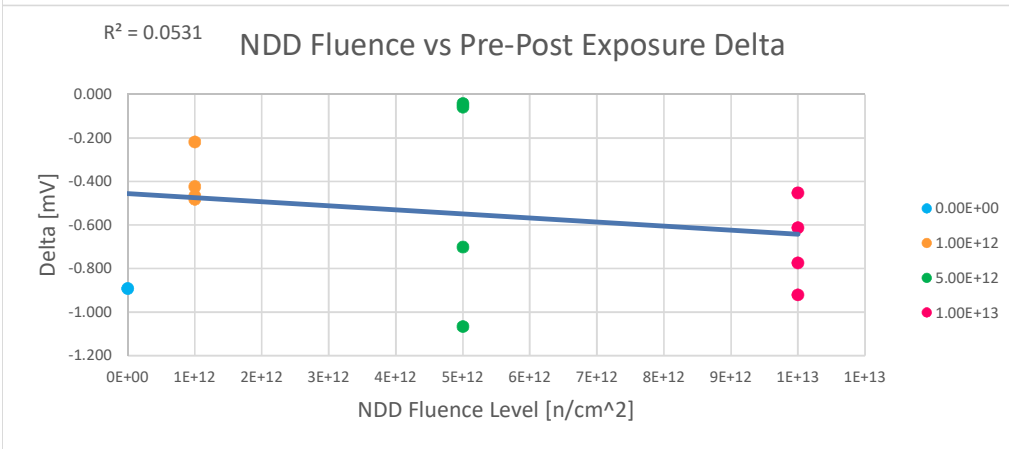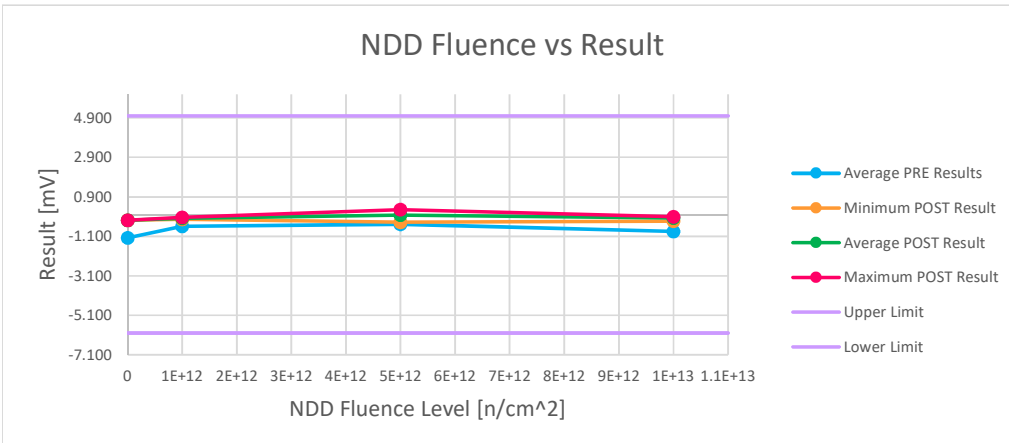R² = 0.0075

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 12) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	1.905	3.648	-1.743
2	1E+12	NDD	1.979	3.531	-1.552
3	1E+12	NDD	2.227	3.384	-1.157
4	1E+12	NDD	1.949	3.662	-1.713
5	5E+12	NDD	1.993	3.560	-1.567
6	5E+12	NDD	2.854	3.765	-0.911
7	5E+12	NDD	2.257	3.531	-1.274
8	5E+12	NDD	1.861	3.604	-1.742
9	1E+13	NDD	1.935	3.604	-1.669
10	1E+13	NDD	2.008	3.487	-1.479
11	1E+13	NDD	2.110	3.531	-1.420
12	1E+13	NDD	1.905	3.999	-2.094
13	0E+00	CONTROL	2.184	3.970	-1.786

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	2.184	2.184	2.184	-	3.970	3.970	3.970	-	-1.786	-1.786	-1.786	-
1E+12	1.905	2.015	2.227	0.145	3.384	3.556	3.662	0.129	-1.743	-1.541	-1.157	0.270
5E+12	1.861	2.241	2.854	0.440	3.531	3.615	3.765	0.104	-1.742	-1.374	-0.911	0.364
1E+13	1.905	1.990	2.110	0.091	3.487	3.655	3.999	0.234	-2.094	-1.666	-1.420	0.305

DEVICE TEST: 61.1 SWING_NoLoad_2.7_H_AMP1 [mV]

NDD Fluence vs Result
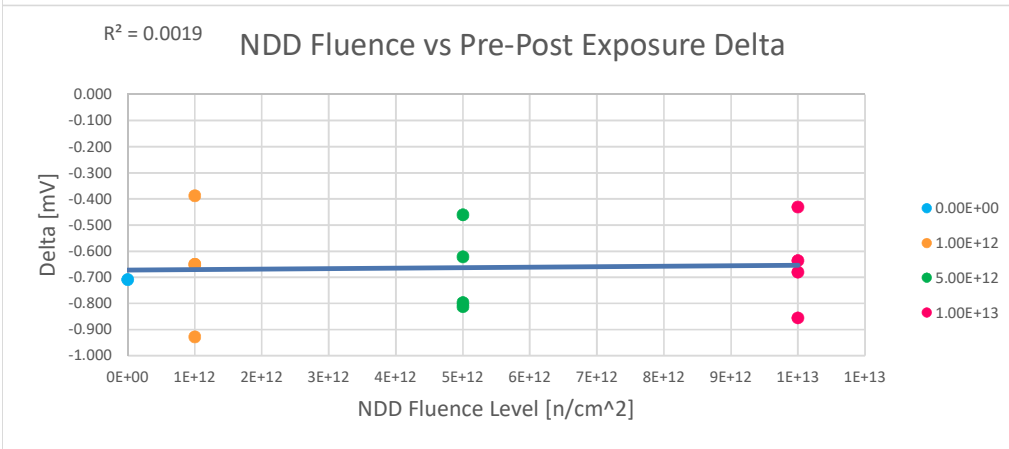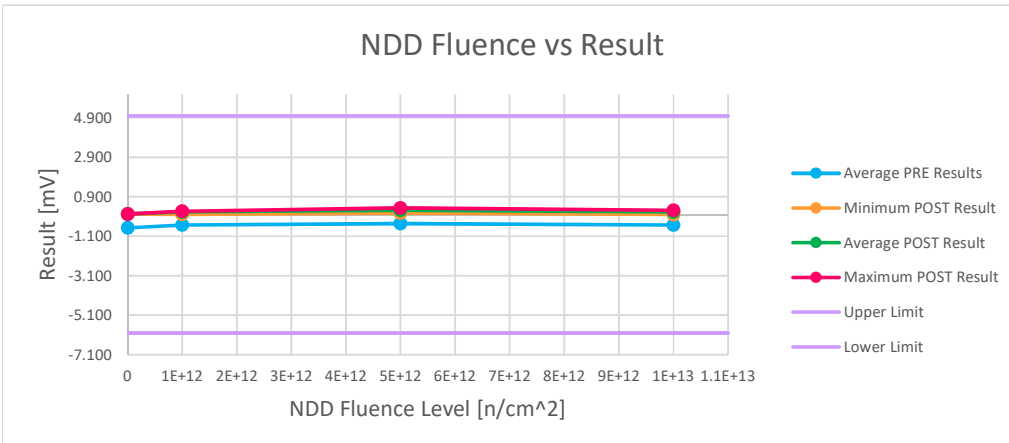
R² = 0.0531

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -6 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.461	-0.242	-0.219
2	1E+12	NDD	-0.636	-0.155	-0.482
3	1E+12	NDD	-0.563	-0.140	-0.423
4	1E+12	NDD	-0.695	-0.228	-0.467
5	5E+12	NDD	-0.432	-0.389	-0.043
6	5E+12	NDD	-0.228	-0.169	-0.059
7	5E+12	NDD	-0.446	0.255	-0.701
8	5E+12	NDD	-0.856	0.211	-1.067
9	1E+13	NDD	-0.783	-0.330	-0.452
10	1E+13	NDD	-1.032	-0.111	-0.921
11	1E+13	NDD	-0.724	-0.111	-0.613
12	1E+13	NDD	-0.915	-0.140	-0.774
13	0E+00	CONTROL	-1.178	-0.286	-0.892

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.178	-1.178	-1.178	-	-0.286	-0.286	-0.286	-	-0.892	-0.892	-0.892	-
1E+12	-0.695	-0.589	-0.461	0.101	-0.242	-0.191	-0.140	0.051	-0.482	-0.398	-0.219	0.122
5E+12	-0.856	-0.490	-0.228	0.263	-0.389	-0.023	0.255	0.310	-1.067	-0.467	-0.043	0.504
1E+13	-1.032	-0.863	-0.724	0.138	-0.330	-0.173	-0.111	0.106	-0.921	-0.690	-0.452	0.202

DEVICE TEST: 61.2 SWING_NoLoad_2.7_H_AMP2 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0019

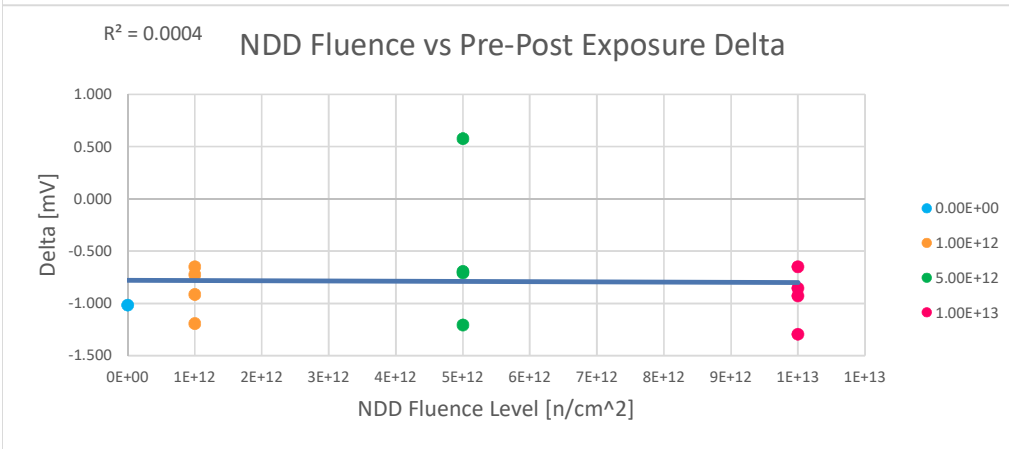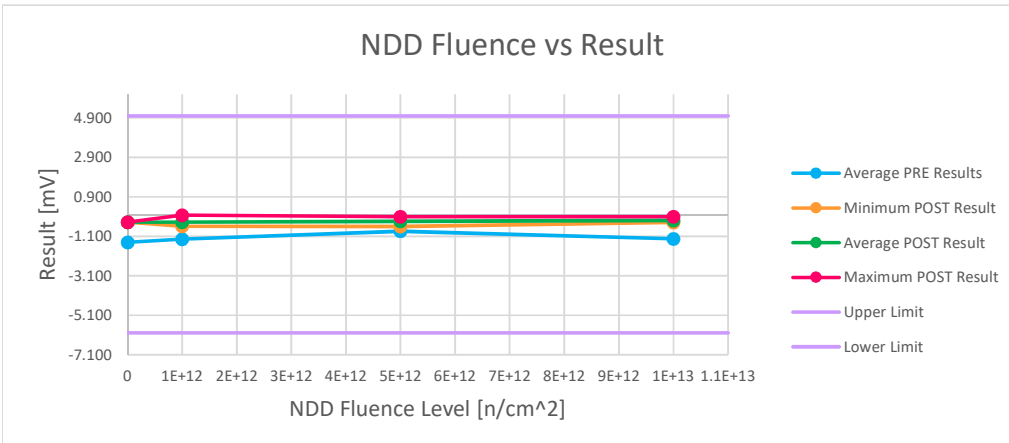## TEST RESULTS (LOWER LIMIT = -6 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.373	0.015	-0.388
2	1E+12	NDD	-0.490	0.161	-0.651
3	1E+12	NDD	-0.504	0.146	-0.651
4	1E+12	NDD	-0.753	0.176	-0.928
5	5E+12	NDD	-0.285	0.176	-0.461
6	5E+12	NDD	-0.548	0.073	-0.621
7	5E+12	NDD	-0.519	0.278	-0.797
8	5E+12	NDD	-0.475	0.337	-0.812
9	1E+13	NDD	-0.460	0.220	-0.680
10	1E+13	NDD	-0.446	0.190	-0.636
11	1E+13	NDD	-0.431	0.000	-0.431
12	1E+13	NDD	-0.753	0.102	-0.855
13	0E+00	CONTROL	-0.680	0.029	-0.709

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-0.680	-0.680	-0.680	-	0.029	0.029	0.029	-	-0.709	-0.709	-0.709	-
1E+12	-0.753	-0.530	-0.373	0.160	0.015	0.124	0.176	0.074	-0.928	-0.654	-0.388	0.221
5E+12	-0.548	-0.457	-0.285	0.118	0.073	0.216	0.337	0.116	-0.812	-0.673	-0.461	0.166
1E+13	-0.753	-0.523	-0.431	0.154	0.000	0.128	0.220	0.099	-0.855	-0.651	-0.431	0.174

DEVICE TEST: 61.3 SWING_NoLoad_2.7_H_AMP3 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0004

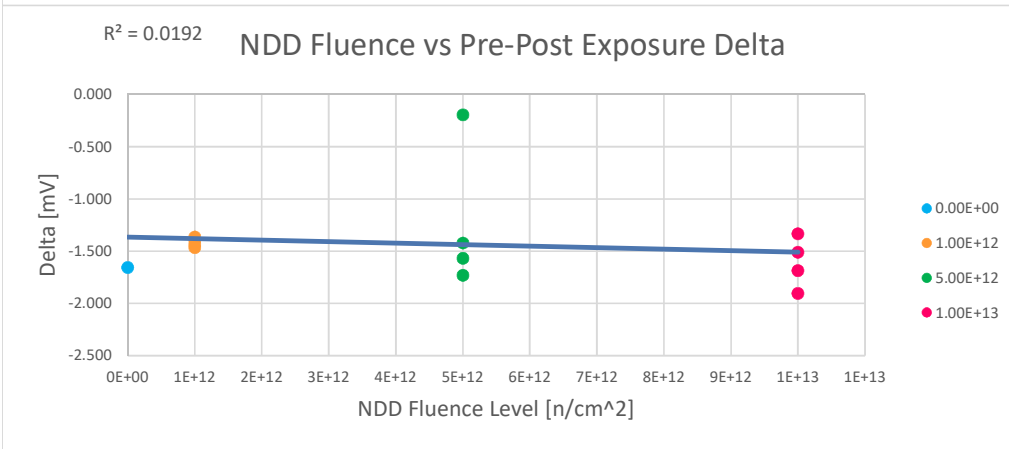## TEST RESULTS (LOWER LIMIT = -6 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.226	-0.033	-1.193
2	1E+12	NDD	-1.284	-0.560	-0.724
3	1E+12	NDD	-1.255	-0.341	-0.915
4	1E+12	NDD	-1.240	-0.589	-0.651
5	5E+12	NDD	-1.167	-0.458	-0.710
6	5E+12	NDD	-0.029	-0.604	0.575
7	5E+12	NDD	-0.801	-0.106	-0.695
8	5E+12	NDD	-1.387	-0.179	-1.207
9	1E+13	NDD	-1.211	-0.355	-0.856
10	1E+13	NDD	-1.402	-0.106	-1.295
11	1E+13	NDD	-1.050	-0.399	-0.651
12	1E+13	NDD	-1.255	-0.326	-0.929
13	0E+00	CONTROL	-1.402	-0.384	-1.017

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.402	-1.402	-1.402	-	-0.384	-0.384	-0.384	-	-1.017	-1.017	-1.017	-
1E+12	-1.284	-1.251	-1.226	0.025	-0.589	-0.381	-0.033	0.257	-1.193	-0.871	-0.651	0.242
5E+12	-1.387	-0.846	-0.029	0.596	-0.604	-0.337	-0.106	0.234	-1.207	-0.509	0.575	0.761
1E+13	-1.402	-1.229	-1.050	0.145	-0.399	-0.297	-0.106	0.130	-1.295	-0.933	-0.651	0.269

DEVICE TEST: 61.4 SWING_NoLoad_2.7_H_AMP4 [mV]

NDD Fluence vs Result
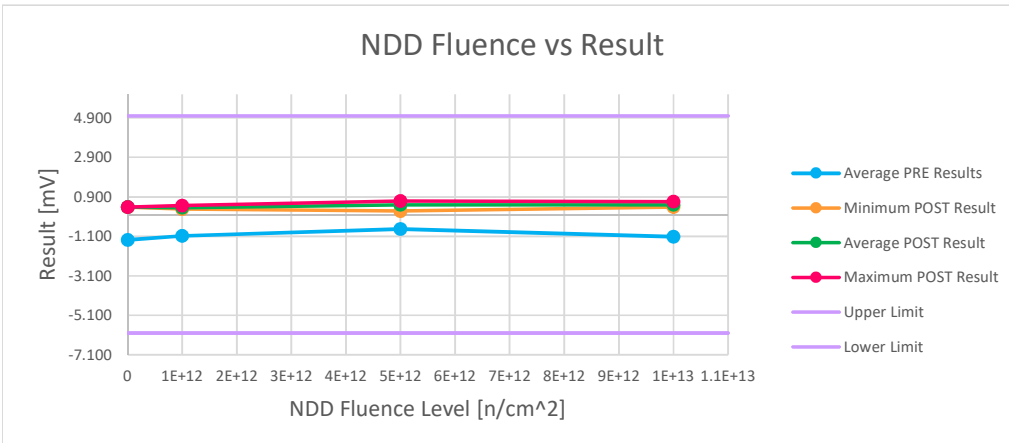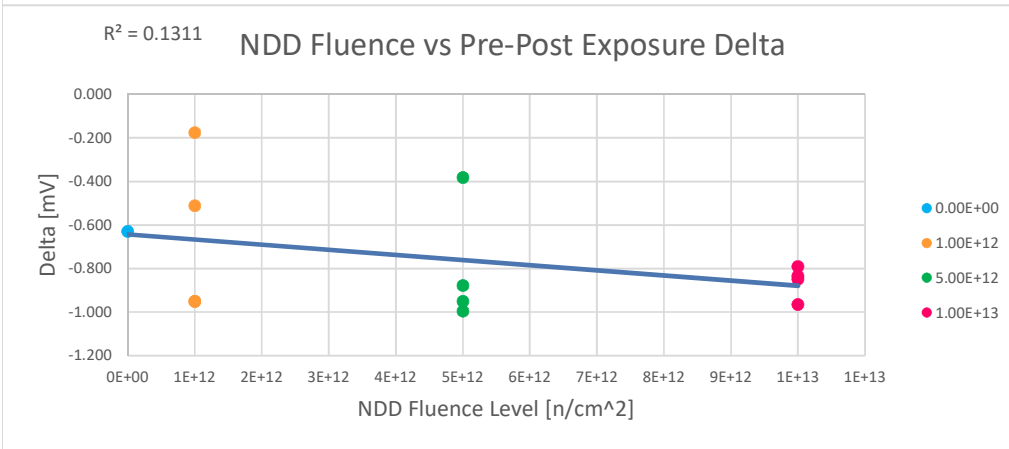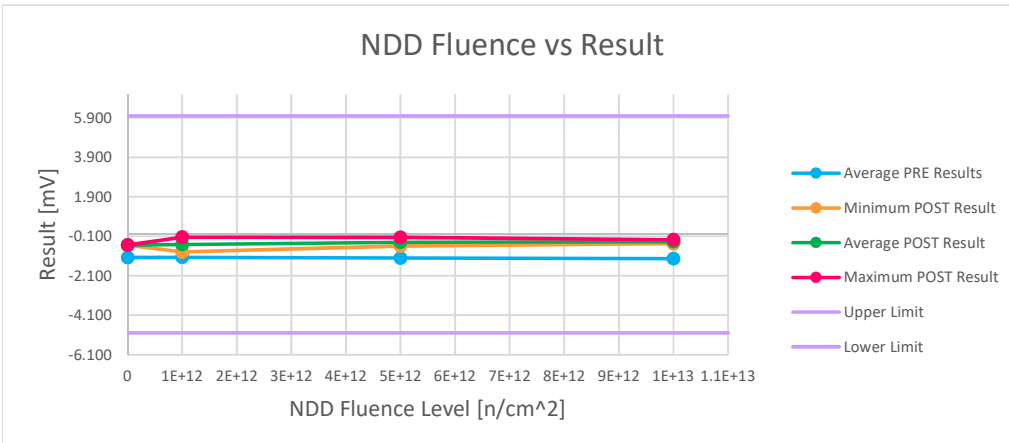

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0192

TEST RESULTS (LOWER LIMIT = -6 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.092	0.346	-1.438
2	1E+12	NDD	-1.077	0.317	-1.394
3	1E+12	NDD	-1.019	0.449	-1.467
4	1E+12	NDD	-1.092	0.273	-1.365
5	5E+12	NDD	-0.960	0.463	-1.423
6	5E+12	NDD	-0.010	0.185	-0.195
7	5E+12	NDD	-0.887	0.683	-1.570
8	5E+12	NDD	-1.077	0.654	-1.731
9	1E+13	NDD	-1.253	0.654	-1.906
10	1E+13	NDD	-1.121	0.566	-1.687
11	1E+13	NDD	-0.960	0.376	-1.336
12	1E+13	NDD	-1.121	0.390	-1.511
13	0E+00	CONTROL	-1.282	0.376	-1.658

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.282	-1.282	-1.282	-	0.376	0.376	0.376	-	-1.658	-1.658	-1.658	-
1E+12	-1.092	-1.070	-1.019	0.035	0.273	0.346	0.449	0.075	-1.467	-1.416	-1.365	0.045
5E+12	-1.077	-0.734	-0.010	0.489	0.185	0.496	0.683	0.229	-1.731	-1.230	-0.195	0.701
1E+13	-1.253	-1.114	-0.960	0.120	0.376	0.496	0.654	0.136	-1.906	-1.610	-1.336	0.244

DEVICE TEST: 71.1 SWING_NoLoad_2.7_L_AMP1 [mV]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 0.1311$

Legend:
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

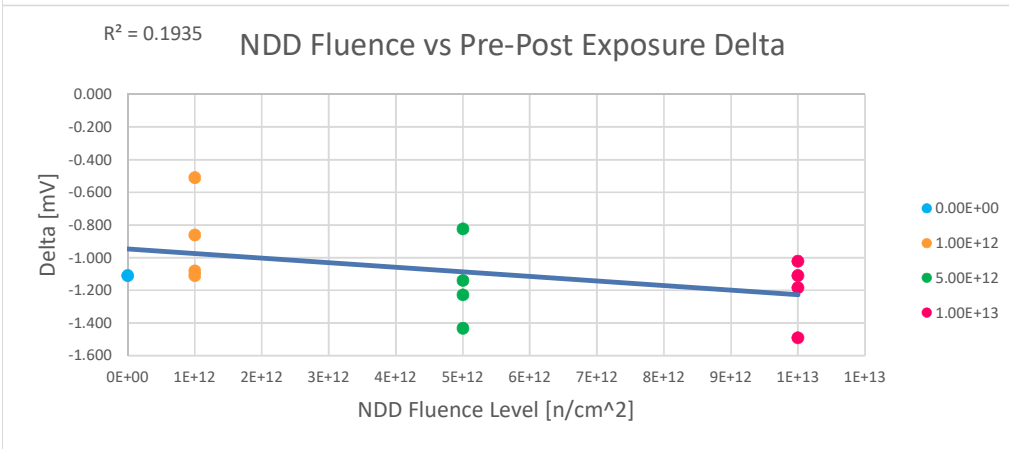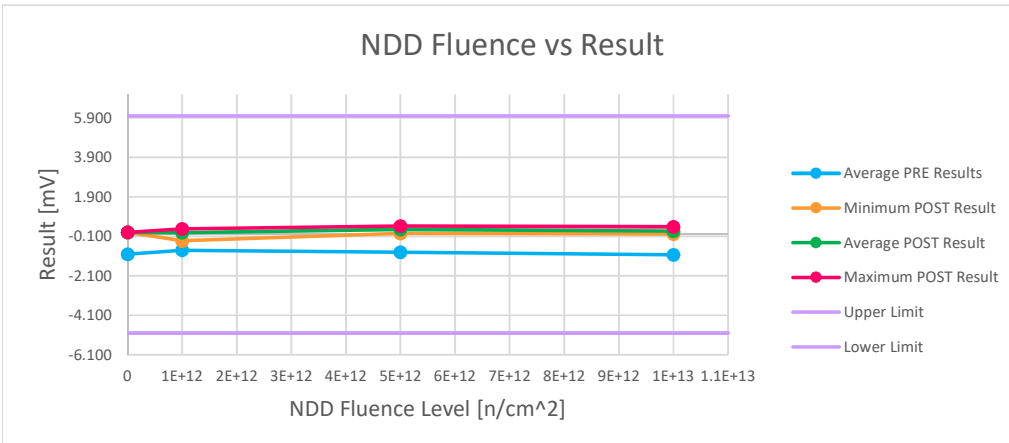## TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 6) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.070	-0.894	-0.176
2	1E+12	NDD	-1.099	-0.148	-0.951
3	1E+12	NDD	-1.128	-0.616	-0.512
4	1E+12	NDD	-1.377	-0.426	-0.951
5	5E+12	NDD	-1.114	-0.162	-0.951
6	5E+12	NDD	-0.969	-0.587	-0.382
7	5E+12	NDD	-1.363	-0.367	-0.995
8	5E+12	NDD	-1.363	-0.484	-0.878
9	1E+13	NDD	-1.216	-0.426	-0.790
10	1E+13	NDD	-1.158	-0.309	-0.849
11	1E+13	NDD	-1.304	-0.470	-0.834
12	1E+13	NDD	-1.246	-0.280	-0.966
13	0E+00	CONTROL	-1.172	-0.543	-0.629

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.172	-1.172	-1.172	-	-0.543	-0.543	-0.543	-	-0.629	-0.629	-0.629	-
1E+12	-1.377	-1.169	-1.070	0.141	-0.894	-0.521	-0.148	0.314	-0.951	-0.648	-0.176	0.377
5E+12	-1.363	-1.202	-0.969	0.195	-0.587	-0.400	-0.162	0.182	-0.995	-0.802	-0.382	0.284
1E+13	-1.304	-1.231	-1.158	0.061	-0.470	-0.371	-0.280	0.091	-0.966	-0.860	-0.790	0.075

DEVICE TEST: 71.2 SWING_NoLoad_2.7_L_AMP2 [mV]

NDD Fluence vs Result

R² = 0.1935

NDD Fluence vs Pre-Post Exposure Delta

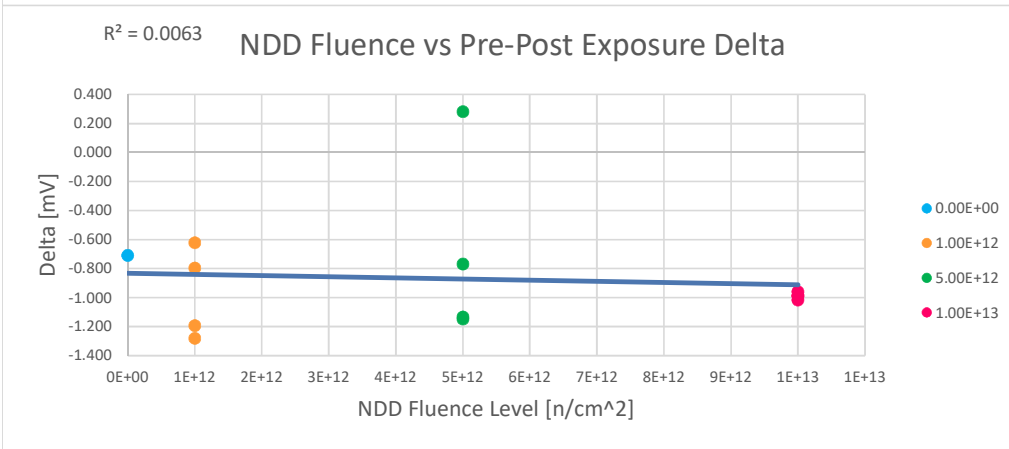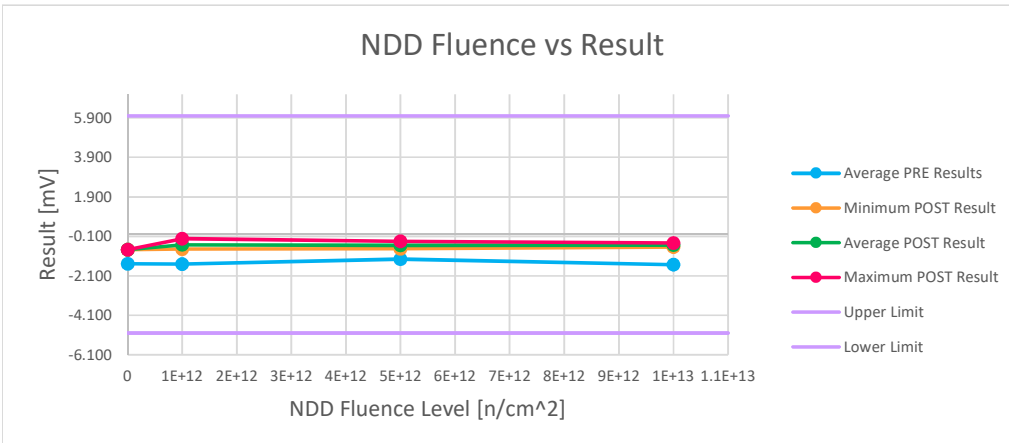### TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 6) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.837	-0.328	-0.509
2	1E+12	NDD	-0.837	0.243	-1.081
3	1E+12	NDD	-0.706	0.155	-0.861
4	1E+12	NDD	-0.837	0.273	-1.110
5	5E+12	NDD	-0.808	0.419	-1.227
6	5E+12	NDD	-0.639	0.185	-0.824
7	5E+12	NDD	-1.071	0.360	-1.432
8	5E+12	NDD	-1.101	0.038	-1.139
9	1E+13	NDD	-0.969	0.053	-1.022
10	1E+13	NDD	-0.881	0.229	-1.110
11	1E+13	NDD	-1.174	0.009	-1.183
12	1E+13	NDD	-1.115	0.375	-1.490
13	0E+00	CONTROL	-1.013	0.097	-1.110

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.013	-1.013	-1.013	-	0.097	0.097	0.097	-	-1.110	-1.110	-1.110	-
1E+12	-0.837	-0.804	-0.706	0.066	-0.328	0.086	0.273	0.280	-1.110	-0.890	-0.509	0.277
5E+12	-1.101	-0.905	-0.639	0.221	0.038	0.251	0.419	0.173	-1.432	-1.155	-0.824	0.253
1E+13	-1.174	-1.035	-0.881	0.134	0.009	0.166	0.375	0.168	-1.490	-1.201	-1.022	0.204

DEVICE TEST: 71.3 SWING_NoLoad_2.7_L_AMP3 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0063

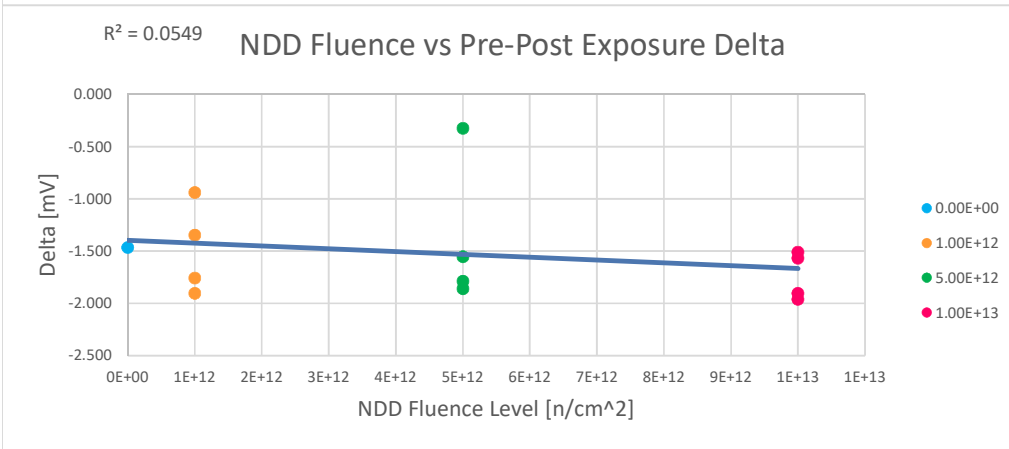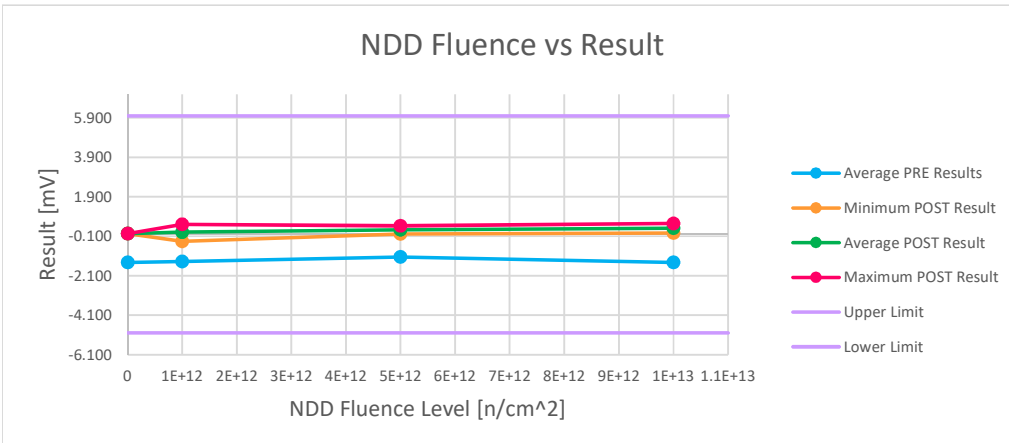## TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 6) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.369	-0.746	-0.623
2	1E+12	NDD	-1.501	-0.219	-1.281
3	1E+12	NDD	-1.501	-0.703	-0.798
4	1E+12	NDD	-1.662	-0.468	-1.193
5	5E+12	NDD	-1.501	-0.351	-1.149
6	5E+12	NDD	-0.452	-0.732	0.280
7	5E+12	NDD	-1.603	-0.468	-1.135
8	5E+12	NDD	-1.471	-0.703	-0.769
9	1E+13	NDD	-1.633	-0.644	-0.988
10	1E+13	NDD	-1.457	-0.468	-0.988
11	1E+13	NDD	-1.603	-0.644	-0.959
12	1E+13	NDD	-1.457	-0.439	-1.018
13	0E+00	CONTROL	-1.486	-0.776	-0.710

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.486	-1.486	-1.486	-	-0.776	-0.776	-0.776	-	-0.710	-0.710	-0.710	-
1E+12	-1.662	-1.508	-1.369	0.120	-0.746	-0.534	-0.219	0.243	-1.281	-0.974	-0.623	0.314
5E+12	-1.603	-1.257	-0.452	0.540	-0.732	-0.563	-0.351	0.184	-1.149	-0.693	0.280	0.672
1E+13	-1.633	-1.537	-1.457	0.094	-0.644	-0.549	-0.439	0.111	-1.018	-0.988	-0.959	0.024

DEVICE TEST: 71.4 SWING_NoLoad_2.7_L_AMP4 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0549

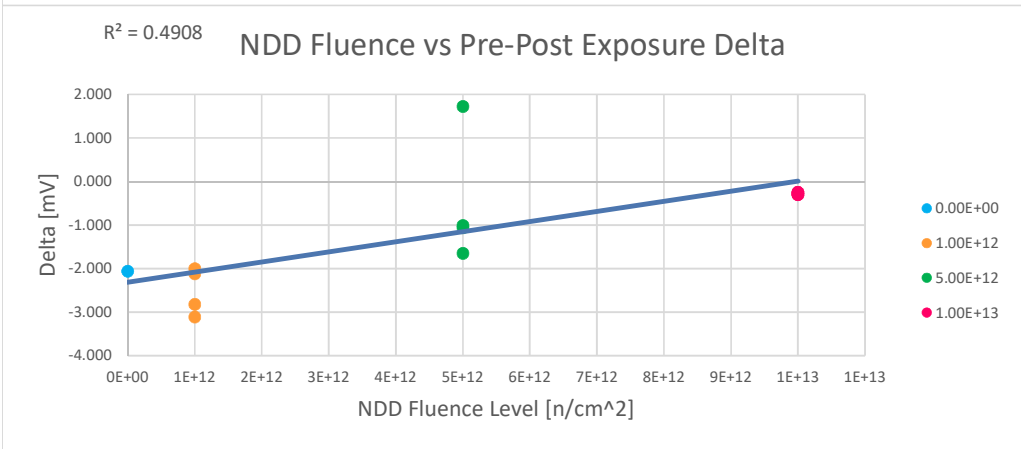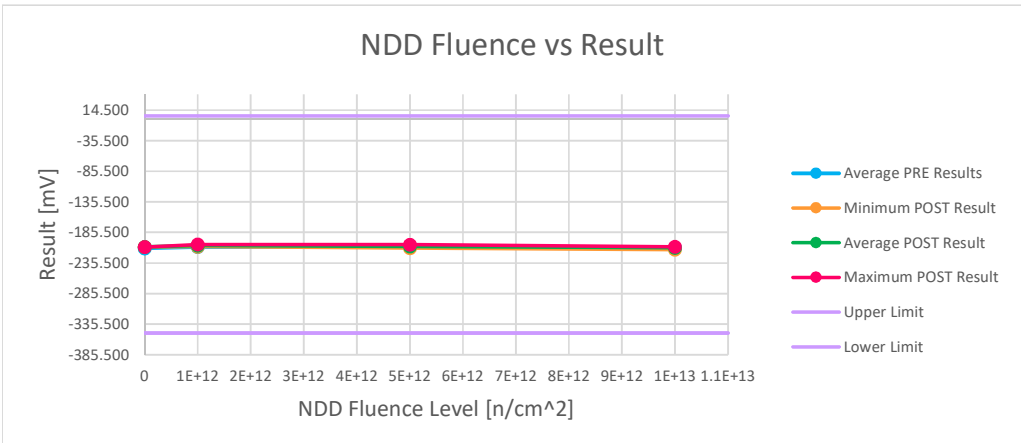### TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 6) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.300	-0.362	-0.938
2	1E+12	NDD	-1.403	0.501	-1.904
3	1E+12	NDD	-1.330	0.018	-1.348
4	1E+12	NDD	-1.505	0.252	-1.758
5	5E+12	NDD	-1.417	0.369	-1.787
6	5E+12	NDD	-0.308	0.018	-0.326
7	5E+12	NDD	-1.432	0.428	-1.860
8	5E+12	NDD	-1.447	0.106	-1.553
9	1E+13	NDD	-1.447	0.062	-1.509
10	1E+13	NDD	-1.432	0.472	-1.904
11	1E+13	NDD	-1.417	0.150	-1.567
12	1E+13	NDD	-1.417	0.545	-1.962
13	0E+00	CONTROL	-1.432	0.033	-1.465

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.432	-1.432	-1.432	-	0.033	0.033	0.033	-	-1.465	-1.465	-1.465	-
1E+12	-1.505	-1.384	-1.300	0.091	-0.362	0.102	0.501	0.367	-1.904	-1.487	-0.938	0.435
5E+12	-1.447	-1.151	-0.308	0.562	0.018	0.230	0.428	0.199	-1.860	-1.381	-0.326	0.716
1E+13	-1.447	-1.428	-1.417	0.014	0.062	0.307	0.545	0.237	-1.962	-1.736	-1.509	0.231

DEVICE TEST: 8.1 SWING_2K_40_H_AMP1 [mV]

NDD Fluence vs Result

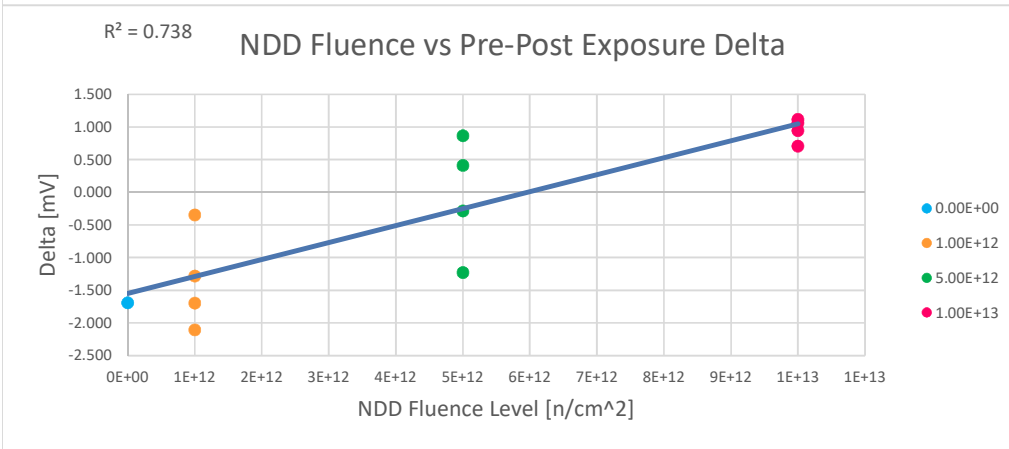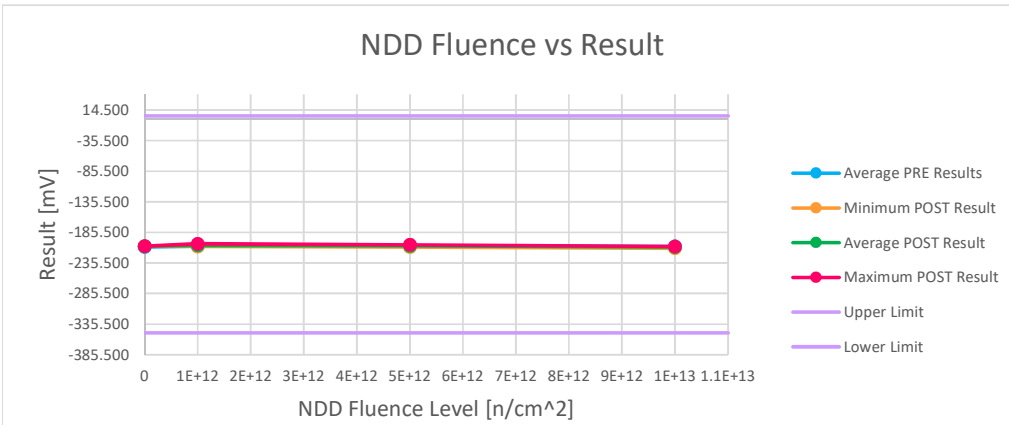## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.4908

TEST RESULTS (LOWER LIMIT = -350 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-208.315	-205.200	-3.115
2	1E+12	NDD	-209.661	-207.659	-2.002
3	1E+12	NDD	-210.773	-208.654	-2.119
4	1E+12	NDD	-208.725	-205.903	-2.822
5	5E+12	NDD	-207.261	-205.610	-1.651
6	5E+12	NDD	-207.047	-208.771	1.724
7	5E+12	NDD	-208.900	-207.835	-1.065
8	5E+12	NDD	-212.061	-211.055	-1.007
9	1E+13	NDD	-209.778	-209.474	-0.304
10	1E+13	NDD	-213.817	-213.572	-0.245
11	1E+13	NDD	-211.183	-210.879	-0.304
12	1E+13	NDD	-208.900	-208.654	-0.246
13	0E+00	CONTROL	-211.593	-209.533	-2.060

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-211.593	-211.593	-211.593	-	-209.533	-209.533	-209.533	-	-2.060	-2.060	-2.060	-
1E+12	-210.773	-209.368	-208.315	1.093	-208.654	-206.854	-205.200	1.584	-3.115	-2.514	-2.002	0.540
5E+12	-212.061	-208.817	-207.047	2.316	-211.055	-208.318	-205.610	2.255	-1.651	-0.500	1.724	1.511
1E+13	-213.817	-210.920	-208.900	2.148	-213.572	-210.645	-208.654	2.157	-0.304	-0.275	-0.245	0.034

DEVICE TEST: 8.2 SWING_2K_40_H_AMP2 [mV]

NDD Fluence vs Result

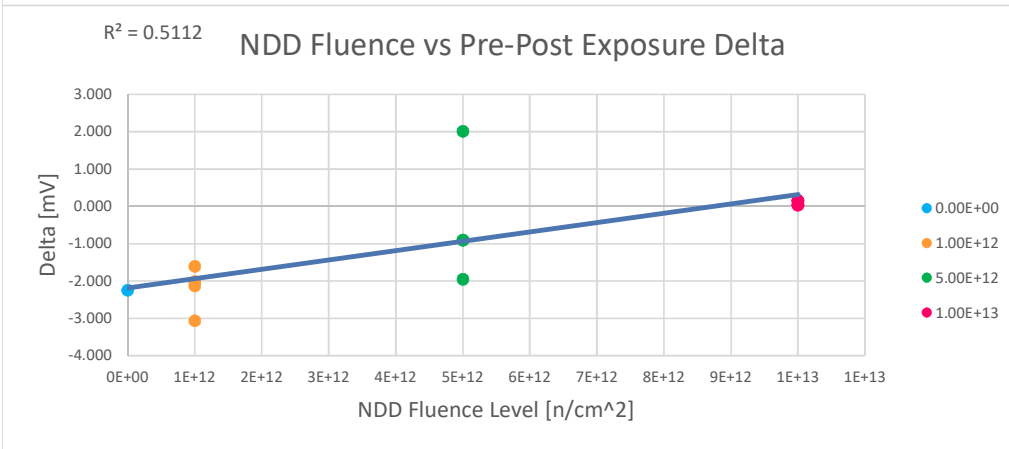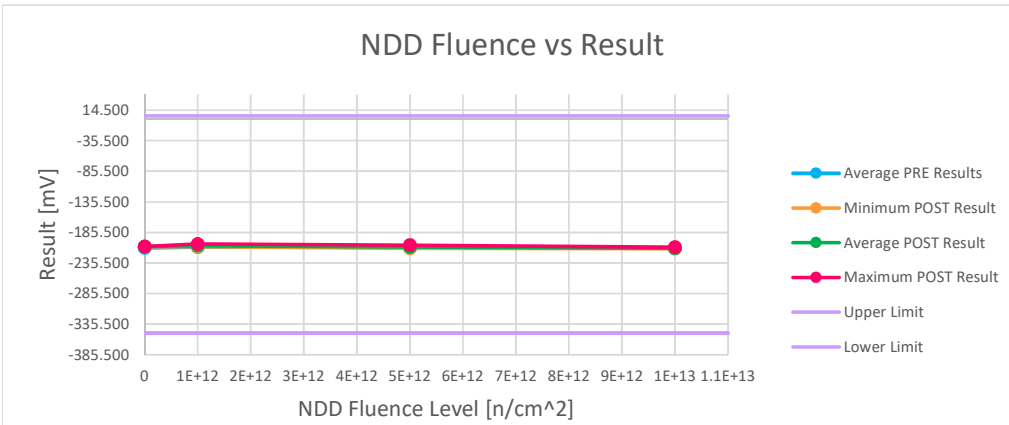## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.738

TEST RESULTS (LOWER LIMIT = -350 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-206.226	-204.121	-2.105
2	1E+12	NDD	-208.741	-208.396	-0.345
3	1E+12	NDD	-209.910	-208.630	-1.280
4	1E+12	NDD	-207.629	-205.937	-1.693
5	5E+12	NDD	-206.928	-205.702	-1.225
6	5E+12	NDD	-207.000	-207.869	0.869
7	5E+12	NDD	-207.045	-207.459	0.414
8	5E+12	NDD	-209.618	-209.333	-0.285
9	1E+13	NDD	-208.097	-208.806	0.709
10	1E+13	NDD	-210.437	-211.382	0.946
11	1E+13	NDD	-208.624	-209.684	1.060
12	1E+13	NDD	-207.337	-208.454	1.117
13	0E+00	CONTROL	-209.676	-207.986	-1.690

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-209.676	-209.676	-209.676	-	-207.986	-207.986	-207.986	-	-1.690	-1.690	-1.690	-
1E+12	-209.910	-208.127	-206.226	1.573	-208.630	-206.771	-204.121	2.146	-2.105	-1.356	-0.345	0.753
5E+12	-209.618	-207.648	-206.928	1.315	-209.333	-207.591	-205.702	1.494	-1.225	-0.057	0.869	0.912
1E+13	-210.437	-208.624	-207.337	1.319	-211.382	-209.582	-208.454	1.307	0.709	0.958	1.117	0.181

DEVICE TEST: 8.3 SWING_2K_40_H_AMP3 [mV]

NDD Fluence vs Result

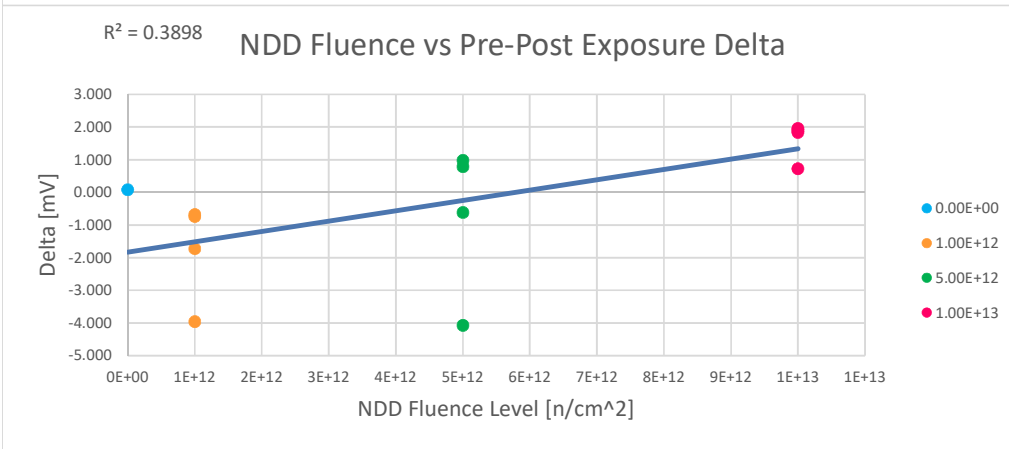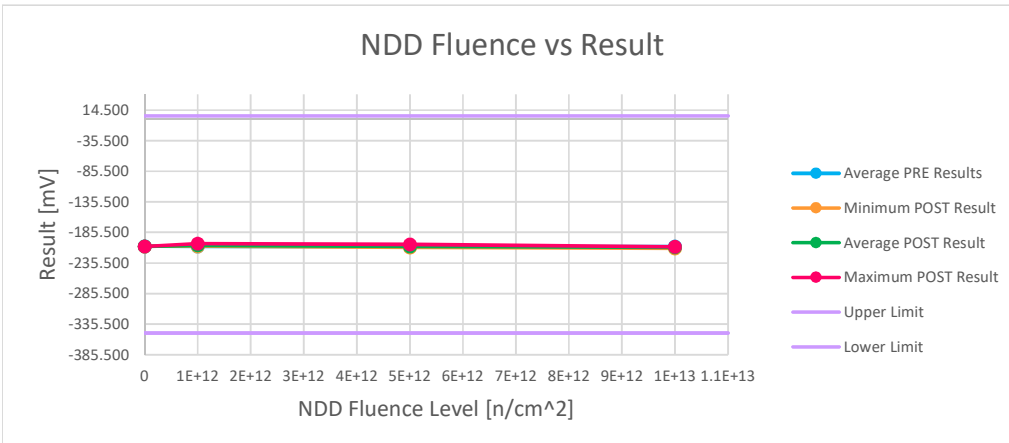## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.5112

TEST RESULTS (LOWER LIMIT = -350 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-207.478	-204.413	-3.065
2	1E+12	NDD	-209.996	-208.394	-1.602
3	1E+12	NDD	-211.519	-209.390	-2.129
4	1E+12	NDD	-209.469	-207.458	-2.011
5	5E+12	NDD	-208.239	-206.286	-1.953
6	5E+12	NDD	-208.370	-210.385	2.015
7	5E+12	NDD	-210.875	-209.975	-0.899
8	5E+12	NDD	-212.339	-211.439	-0.900
9	1E+13	NDD	-211.402	-211.556	0.154
10	1E+13	NDD	-212.163	-212.201	0.037
11	1E+13	NDD	-211.753	-211.908	0.154
12	1E+13	NDD	-209.762	-209.800	0.038
13	0E+00	CONTROL	-211.168	-208.921	-2.246

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-211.168	-211.168	-211.168	-	-208.921	-208.921	-208.921	-	-2.246	-2.246	-2.246	-
1E+12	-211.519	-209.615	-207.478	1.669	-209.390	-207.414	-204.413	2.150	-3.065	-2.202	-1.602	0.618
5E+12	-212.339	-209.956	-208.239	1.999	-211.439	-209.522	-206.286	2.243	-1.953	-0.434	2.015	1.707
1E+13	-212.163	-211.270	-209.762	1.053	-212.201	-211.366	-209.800	1.077	0.037	0.096	0.154	0.068

DEVICE TEST: 8.4 SWING_2K_40_H_AMP4 [mV]

NDD Fluence vs Result
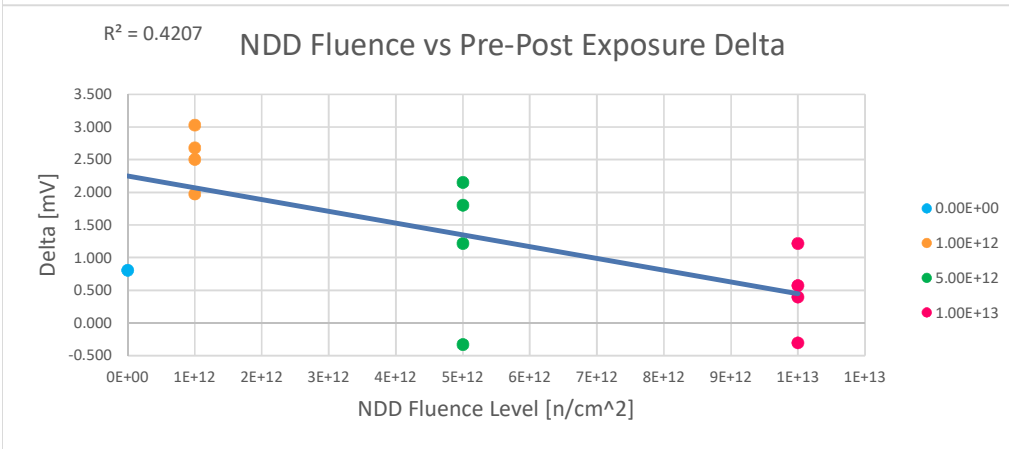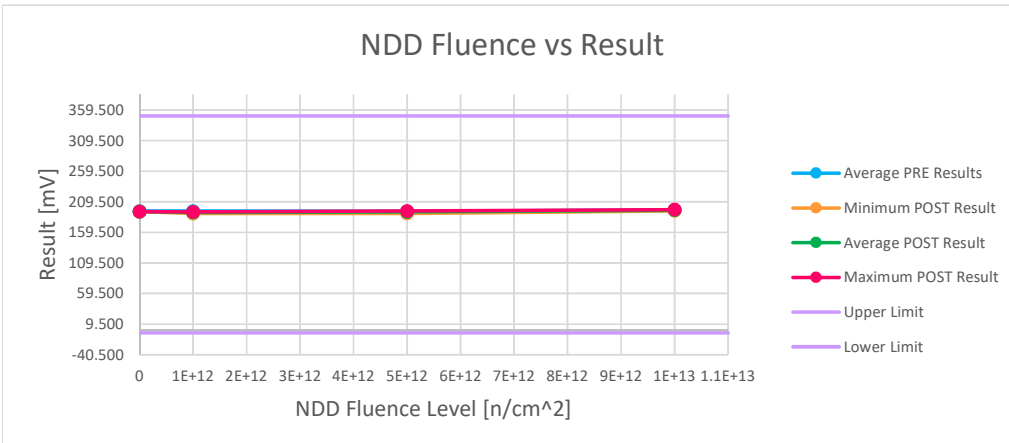
R² = 0.3898

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -350 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-207.784	-203.828	-3.956
2	1E+12	NDD	-209.892	-208.160	-1.731
3	1E+12	NDD	-208.838	-208.160	-0.677
4	1E+12	NDD	-207.140	-206.404	-0.736
5	5E+12	NDD	-205.852	-205.233	-0.618
6	5E+12	NDD	-208.877	-209.858	0.981
7	5E+12	NDD	-211.765	-207.692	-4.073
8	5E+12	NDD	-209.657	-210.444	0.786
9	1E+13	NDD	-207.491	-209.331	1.840
10	1E+13	NDD	-210.828	-211.556	0.727
11	1E+13	NDD	-207.315	-209.273	1.957
12	1E+13	NDD	-207.140	-209.039	1.899
13	0E+00	CONTROL	-208.077	-208.160	0.084

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-208.077	-208.077	-208.077	-	-208.160	-208.160	-208.160	-	0.084	0.084	0.084	-
1E+12	-209.892	-208.413	-207.140	1.209	-208.160	-206.638	-203.828	2.048	-3.956	-1.775	-0.677	1.532
5E+12	-211.765	-209.038	-205.852	2.450	-210.444	-208.307	-205.233	2.366	-4.073	-0.731	0.981	2.339
1E+13	-210.828	-208.194	-207.140	1.762	-211.556	-209.800	-209.039	1.178	0.727	1.606	1.957	0.588

DEVICE TEST: 9.1 SWING_2K_40_L_AMP1 [mV]

NDD Fluence vs Result
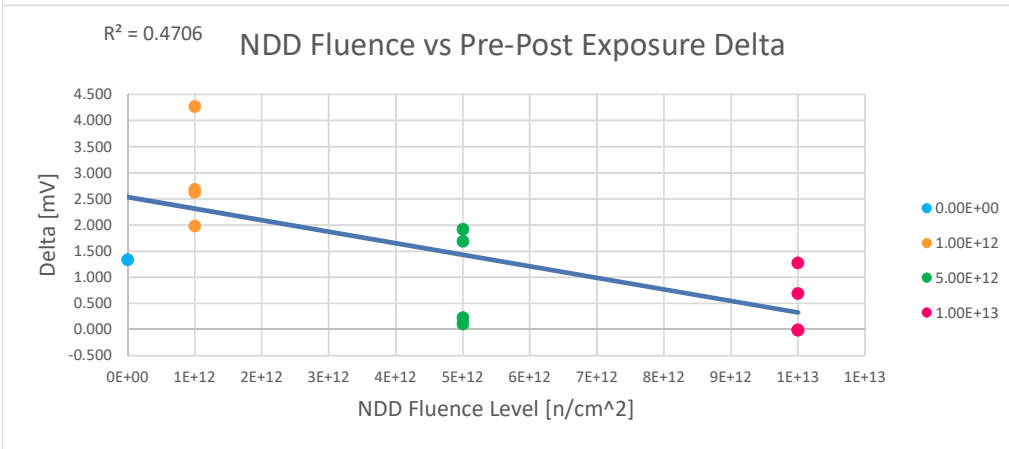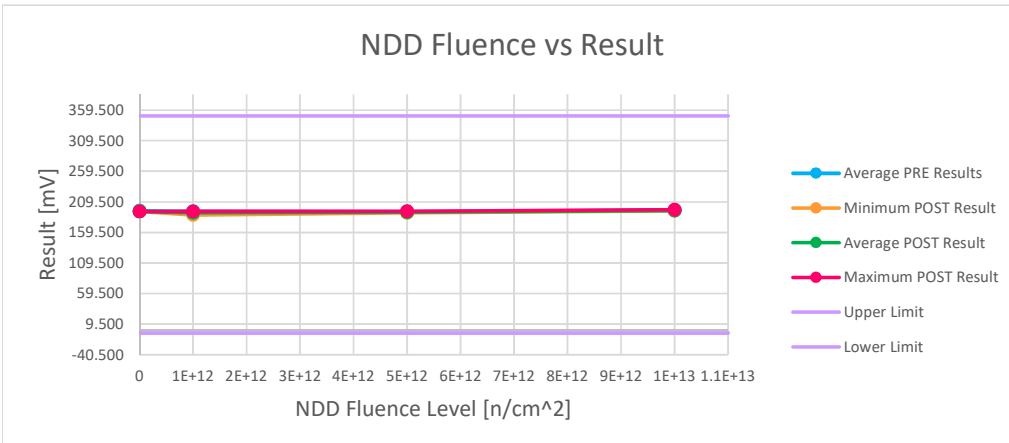
R² = 0.4207

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 350) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	193.347	190.315	3.032
2	1E+12	NDD	194.284	192.305	1.978
3	1E+12	NDD	195.806	193.125	2.681
4	1E+12	NDD	194.518	192.013	2.505
5	5E+12	NDD	192.528	190.725	1.803
6	5E+12	NDD	192.443	192.774	-0.331
7	5E+12	NDD	195.162	193.008	2.154
8	5E+12	NDD	195.689	194.471	1.217
9	1E+13	NDD	196.567	195.350	1.217
10	1E+13	NDD	196.216	195.818	0.398
11	1E+13	NDD	196.333	196.638	-0.305
12	1E+13	NDD	195.162	194.589	0.573
13	0E+00	CONTROL	194.167	193.359	0.808

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	194.167	194.167	194.167	-	193.359	193.359	193.359	-	0.808	0.808	0.808	-
1E+12	193.347	194.489	195.806	1.013	190.315	191.940	193.125	1.181	1.978	2.549	3.032	0.439
5E+12	192.443	193.955	195.689	1.711	190.725	192.745	194.471	1.542	-0.331	1.211	2.154	1.098
1E+13	195.162	196.069	196.567	0.622	194.589	195.598	196.638	0.858	-0.305	0.471	1.217	0.626

DEVICE TEST: 9.2 SWING_2K_40_L_AMP2 [mV]

NDD Fluence vs Result

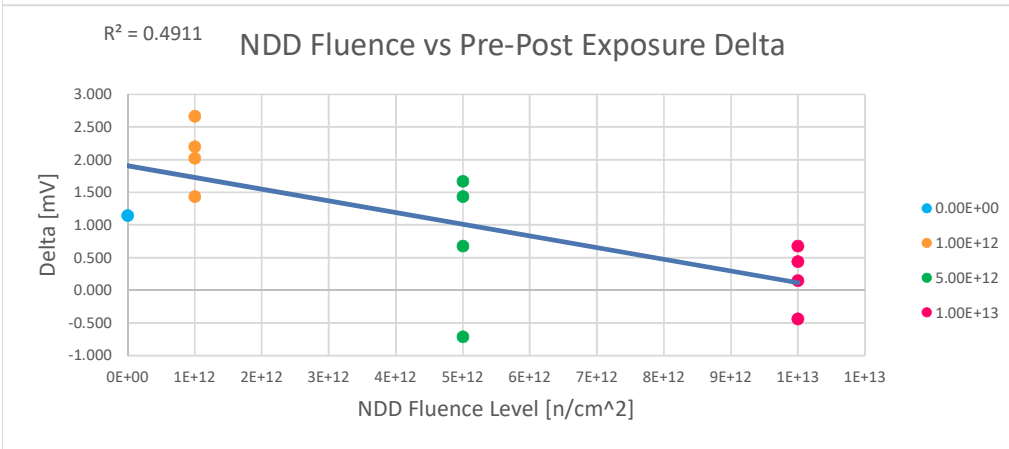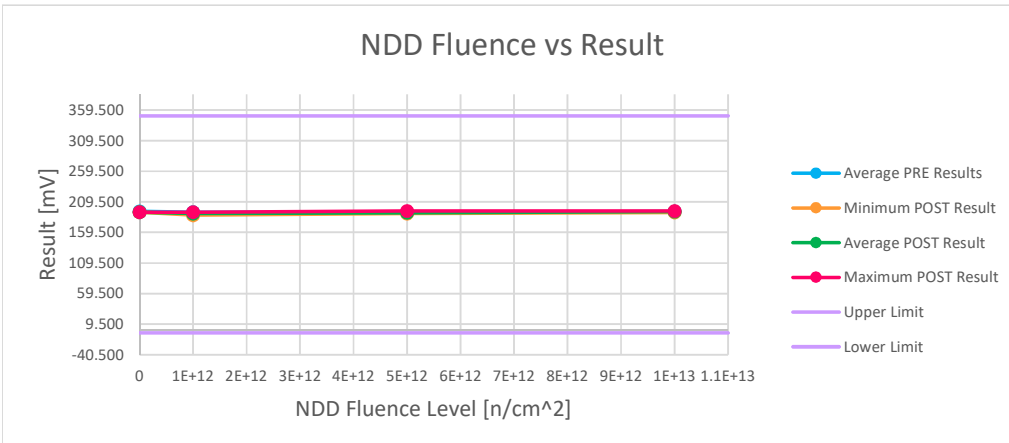## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.4706

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 350) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	192.241	187.971	4.270
2	1E+12	NDD	194.639	192.655	1.984
3	1E+12	NDD	196.452	193.768	2.684
4	1E+12	NDD	193.937	191.309	2.629
5	5E+12	NDD	193.294	191.601	1.693
6	5E+12	NDD	192.588	192.480	0.108
7	5E+12	NDD	192.124	191.894	0.230
8	5E+12	NDD	196.043	194.119	1.924
9	1E+13	NDD	196.160	194.881	1.279
10	1E+13	NDD	196.218	195.525	0.694
11	1E+13	NDD	196.569	196.579	-0.009
12	1E+13	NDD	194.581	194.588	-0.007
13	0E+00	CONTROL	195.049	193.709	1.339

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	195.049	195.049	195.049	-	193.709	193.709	193.709	-	1.339	1.339	1.339	-
1E+12	192.241	194.318	196.452	1.743	187.971	191.426	193.768	2.513	1.984	2.892	4.270	0.972
5E+12	192.124	193.512	196.043	1.754	191.601	192.524	194.119	1.125	0.108	0.989	1.924	0.952
1E+13	194.581	195.882	196.569	0.886	194.588	195.393	196.579	0.882	-0.009	0.489	1.279	0.622

DEVICE TEST: 9.3 SWING_2K_40_L_AMP3 [mV]

NDD Fluence vs Result
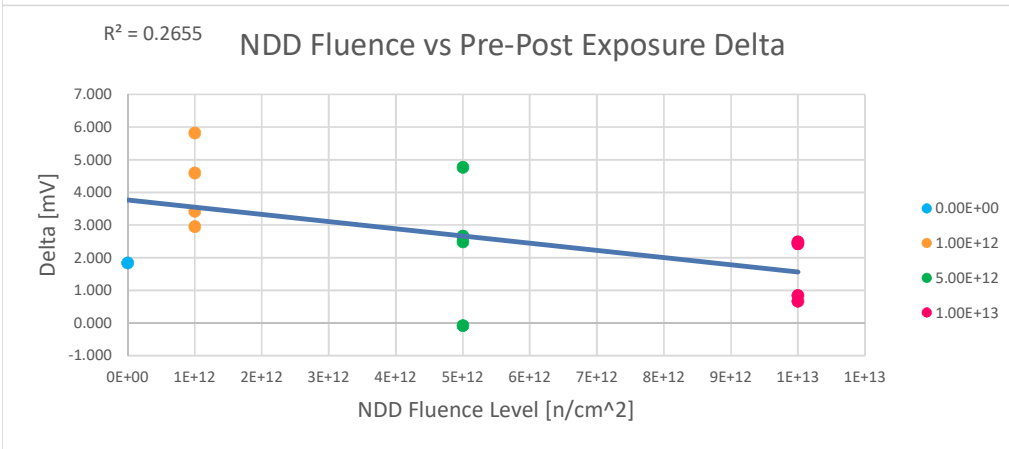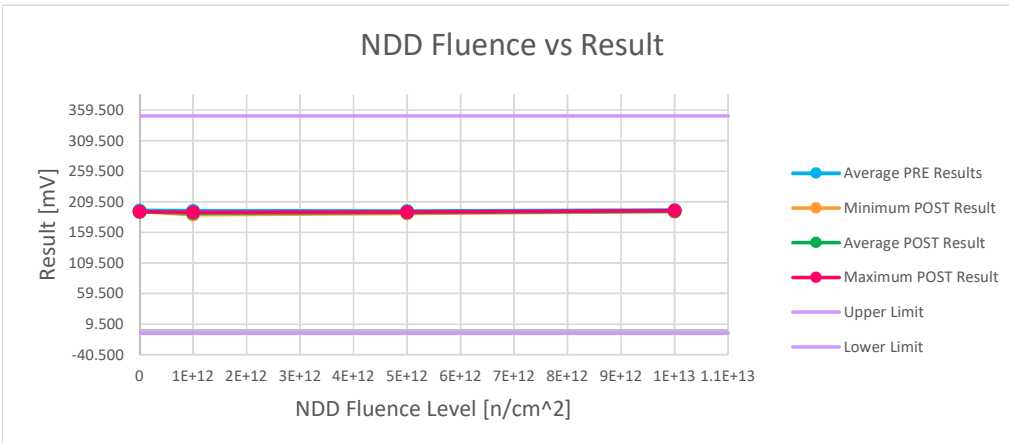
R² = 0.4911

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 350) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	190.287	187.623	2.664
2	1E+12	NDD	191.868	190.434	1.434
3	1E+12	NDD	194.621	192.600	2.021
4	1E+12	NDD	192.805	190.609	2.196
5	5E+12	NDD	192.102	190.434	1.669
6	5E+12	NDD	190.070	190.785	-0.715
7	5E+12	NDD	192.805	191.370	1.435
8	5E+12	NDD	195.090	194.415	0.674
9	1E+13	NDD	194.562	193.888	0.674
10	1E+13	NDD	193.450	193.010	0.439
11	1E+13	NDD	193.977	194.415	-0.439
12	1E+13	NDD	192.278	192.132	0.146
13	0E+00	CONTROL	193.801	192.659	1.142

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	193.801	193.801	193.801	-	192.659	192.659	192.659	-	1.142	1.142	1.142	-
1E+12	190.287	192.395	194.621	1.812	187.623	190.316	192.600	2.047	1.434	2.079	2.664	0.508
5E+12	190.070	192.517	195.090	2.070	190.434	191.751	194.415	1.818	-0.715	0.766	1.669	1.075
1E+13	192.278	193.567	194.562	0.972	192.132	193.361	194.415	1.004	-0.439	0.205	0.674	0.481

DEVICE TEST: 9.4 SWING_2K_40_L_AMP4 [mV]

NDD Fluence vs Result
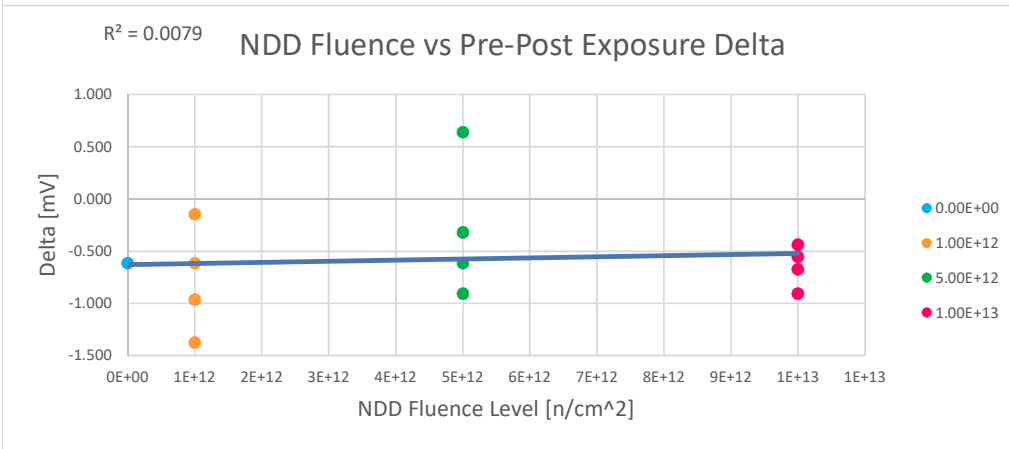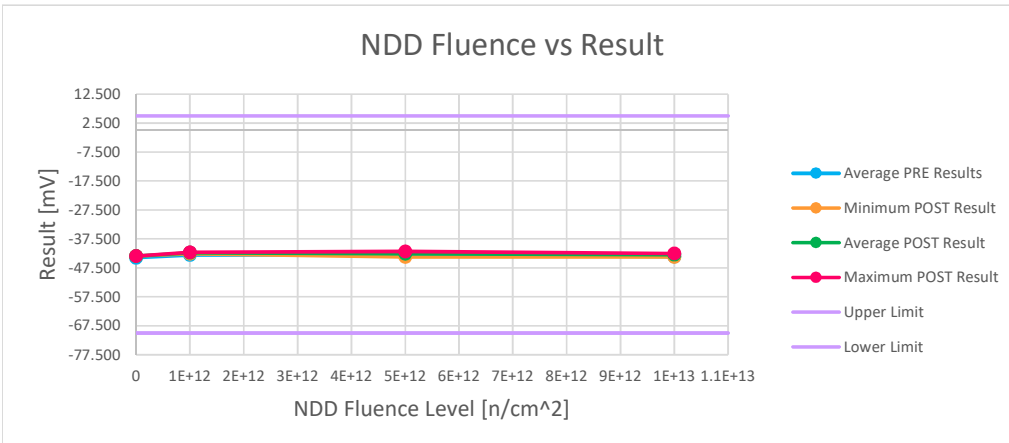

R² = 0.2655

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 350) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	194.428	188.609	5.819
2	1E+12	NDD	195.541	190.950	4.590
3	1E+12	NDD	195.950	192.531	3.419
4	1E+12	NDD	194.311	191.360	2.951
5	5E+12	NDD	193.374	190.716	2.658
6	5E+12	NDD	191.449	191.536	-0.087
7	5E+12	NDD	197.531	192.765	4.766
8	5E+12	NDD	195.365	192.882	2.483
9	1E+13	NDD	197.707	195.224	2.483
10	1E+13	NDD	197.356	194.931	2.424
11	1E+13	NDD	194.252	193.409	0.843
12	1E+13	NDD	194.604	193.936	0.668
13	0E+00	CONTROL	195.365	193.526	1.839

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	195.365	195.365	195.365	-	193.526	193.526	193.526	-	1.839	1.839	1.839	-
1E+12	194.311	195.057	195.950	0.813	188.609	190.863	192.531	1.645	2.951	4.195	5.819	1.284
5E+12	191.449	194.430	197.531	2.614	190.716	191.975	192.882	1.037	-0.087	2.455	4.766	1.987
1E+13	194.252	195.980	197.707	1.803	193.409	194.375	195.224	0.848	0.668	1.605	2.483	0.983

DEVICE TEST: 10.1 SWING_10K_40_H_AMP1 [mV]

NDD Fluence vs Result

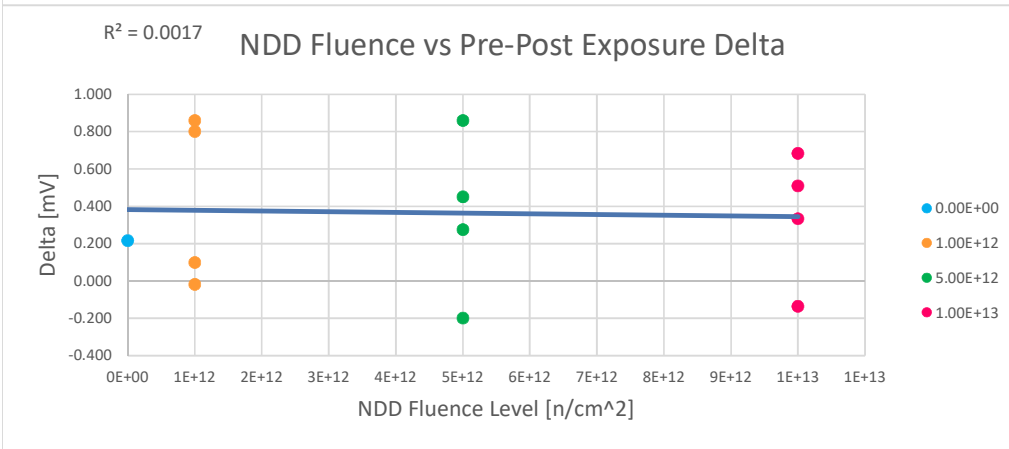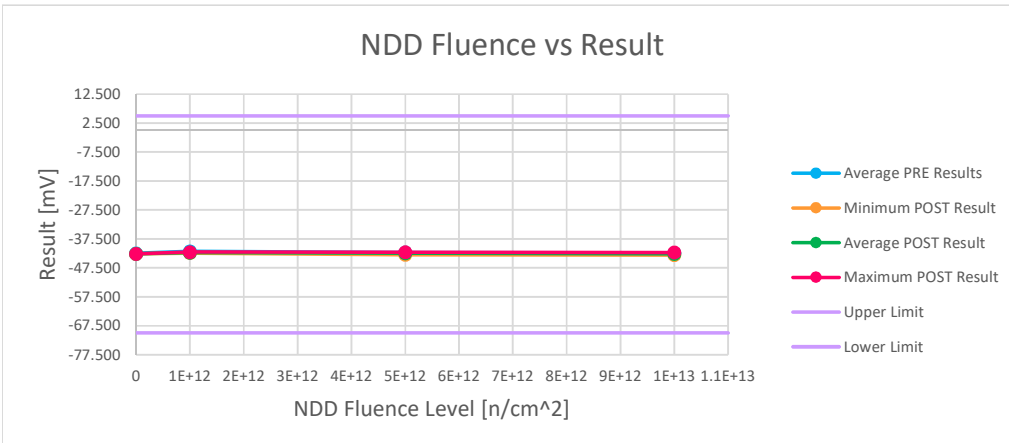## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0079

TEST RESULTS (LOWER LIMIT = -70 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-42.715	-42.102	-0.613
2	1E+12	NDD	-43.534	-42.160	-1.374
3	1E+12	NDD	-43.183	-42.219	-0.964
4	1E+12	NDD	-42.773	-42.629	-0.145
5	5E+12	NDD	-42.715	-41.809	-0.906
6	5E+12	NDD	-41.813	-42.453	0.640
7	5E+12	NDD	-43.183	-42.570	-0.613
8	5E+12	NDD	-44.003	-43.682	-0.320
9	1E+13	NDD	-43.183	-42.629	-0.555
10	1E+13	NDD	-44.178	-43.741	-0.437
11	1E+13	NDD	-43.827	-42.921	-0.906
12	1E+13	NDD	-43.242	-42.570	-0.672
13	0E+00	CONTROL	-44.003	-43.390	-0.613

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-44.003	-44.003	-44.003	-	-43.390	-43.390	-43.390	-	-0.613	-0.613	-0.613	-
1E+12	-43.534	-43.052	-42.715	0.383	-42.629	-42.277	-42.102	0.239	-1.374	-0.774	-0.145	0.522
5E+12	-44.003	-42.928	-41.813	0.914	-43.682	-42.629	-41.809	0.778	-0.906	-0.300	0.640	0.671
1E+13	-44.178	-43.608	-43.183	0.479	-43.741	-42.965	-42.570	0.539	-0.906	-0.642	-0.437	0.200

DEVICE TEST: 10.2 SWING_10K_40_H_AMP2 [mV]

NDD Fluence vs Result

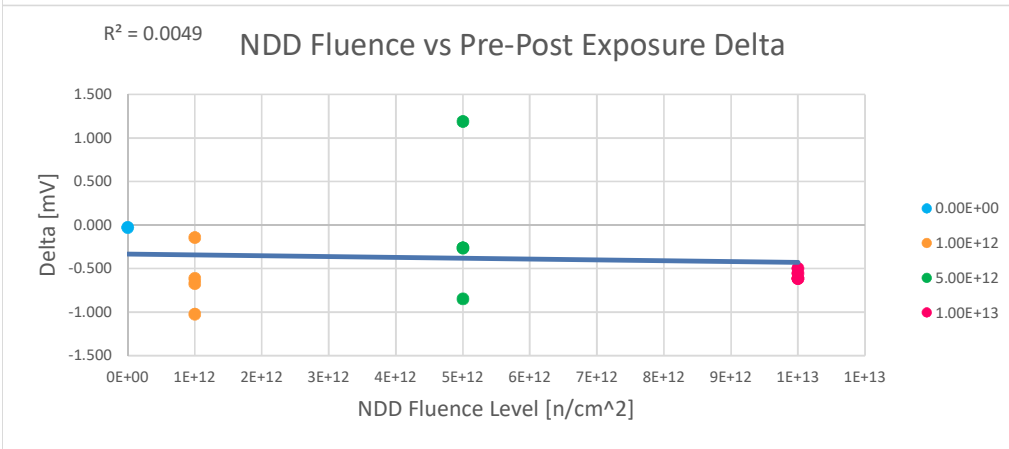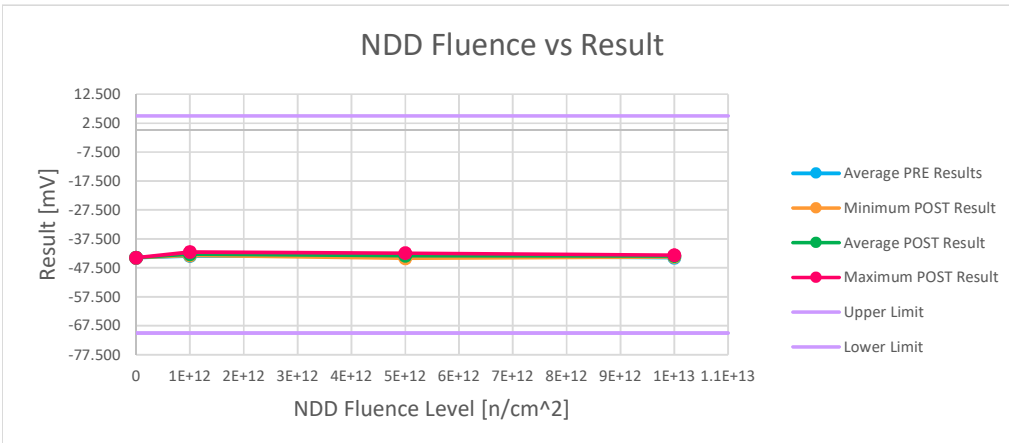## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0017

TEST RESULTS (LOWER LIMIT = -70 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-41.235	-42.035	0.800
2	1E+12	NDD	-42.288	-42.269	-0.019
3	1E+12	NDD	-42.171	-42.269	0.098
4	1E+12	NDD	-41.527	-42.386	0.859
5	5E+12	NDD	-41.235	-42.094	0.859
6	5E+12	NDD	-42.527	-42.328	-0.199
7	5E+12	NDD	-42.229	-42.503	0.274
8	5E+12	NDD	-42.522	-42.972	0.450
9	1E+13	NDD	-42.054	-42.738	0.684
10	1E+13	NDD	-42.697	-43.031	0.333
11	1E+13	NDD	-42.288	-42.796	0.509
12	1E+13	NDD	-42.288	-42.152	-0.136
13	0E+00	CONTROL	-42.463	-42.679	0.216

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-42.463	-42.463	-42.463	-	-42.679	-42.679	-42.679	-	0.216	0.216	0.216	-
1E+12	-42.288	-41.805	-41.235	0.506	-42.386	-42.240	-42.035	0.147	-0.019	0.435	0.859	0.459
5E+12	-42.527	-42.128	-41.235	0.612	-42.972	-42.474	-42.094	0.372	-0.199	0.346	0.859	0.438
1E+13	-42.697	-42.332	-42.054	0.267	-43.031	-42.679	-42.152	0.373	-0.136	0.348	0.684	0.352

DEVICE TEST: 10.3 SWING_10K_40_H_AMP3 [mV]

NDD Fluence vs Result
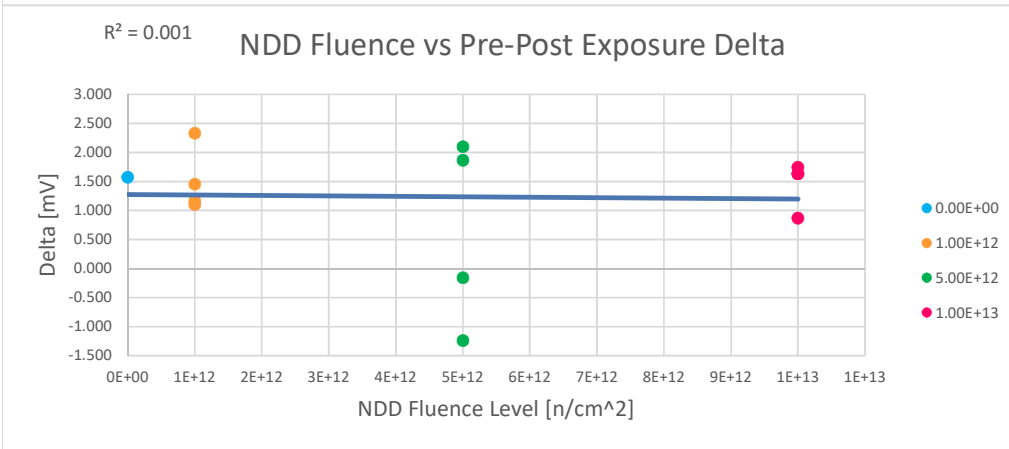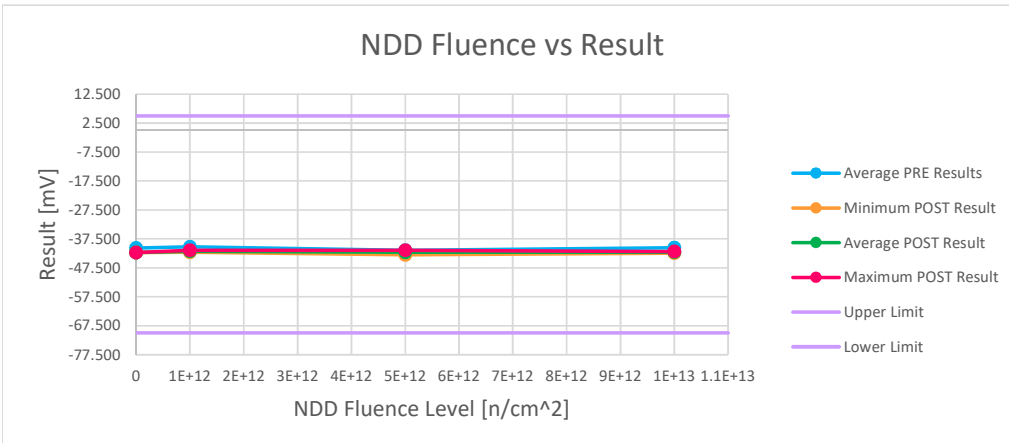
R² = 0.0049

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -70 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-43.062	-42.038	-1.024
2	1E+12	NDD	-43.765	-43.151	-0.614
3	1E+12	NDD	-43.589	-42.916	-0.673
4	1E+12	NDD	-43.179	-43.033	-0.146
5	5E+12	NDD	-43.296	-42.448	-0.849
6	5E+12	NDD	-42.021	-43.209	1.188
7	5E+12	NDD	-43.706	-43.443	-0.263
8	5E+12	NDD	-44.409	-44.146	-0.263
9	1E+13	NDD	-43.882	-43.385	-0.497
10	1E+13	NDD	-44.292	-43.678	-0.615
11	1E+13	NDD	-44.058	-43.443	-0.615
12	1E+13	NDD	-43.648	-43.092	-0.556
13	0E+00	CONTROL	-43.999	-43.970	-0.029

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-43.999	-43.999	-43.999	-	-43.970	-43.970	-43.970	-	-0.029	-0.029	-0.029	-
1E+12	-43.765	-43.399	-43.062	0.333	-43.151	-42.785	-42.038	0.507	-1.024	-0.614	-0.146	0.361
5E+12	-44.409	-43.358	-42.021	1.003	-44.146	-43.312	-42.448	0.700	-0.849	-0.047	1.188	0.868
1E+13	-44.292	-43.970	-43.648	0.273	-43.678	-43.399	-43.092	0.241	-0.615	-0.571	-0.497	0.056

DEVICE TEST: 10.4 SWING_10K_40_H_AMP4 [mV]

NDD Fluence vs Result

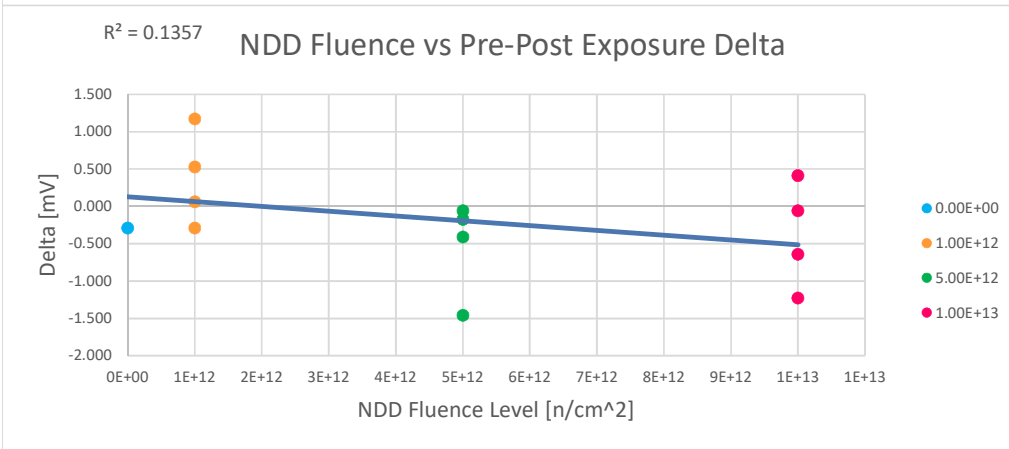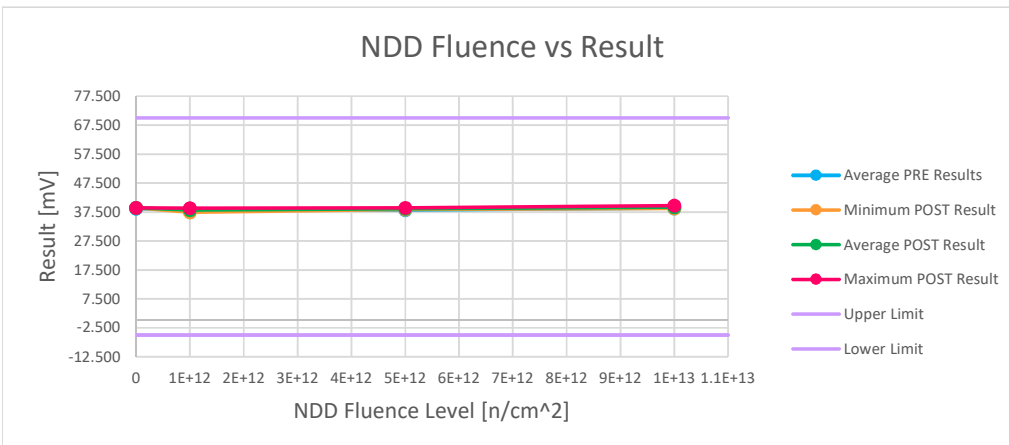
NDD Fluence vs Pre-Post Exposure Delta

R² = 0.001

TEST RESULTS (LOWER LIMIT = -70 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-40.034	-41.488	1.454
2	1E+12	NDD	-40.736	-41.840	1.103
3	1E+12	NDD	-40.327	-41.488	1.162
4	1E+12	NDD	-39.800	-42.132	2.333
5	5E+12	NDD	-39.565	-41.430	1.864
6	5E+12	NDD	-42.289	-42.132	-0.157
7	5E+12	NDD	-43.078	-41.840	-1.239
8	5E+12	NDD	-40.912	-43.010	2.098
9	1E+13	NDD	-40.209	-41.957	1.747
10	1E+13	NDD	-41.556	-42.425	0.869
11	1E+13	NDD	-40.209	-41.840	1.630
12	1E+13	NDD	-40.327	-41.957	1.630
13	0E+00	CONTROL	-40.678	-42.249	1.571

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-40.678	-40.678	-40.678	-	-42.249	-42.249	-42.249	-	1.571	1.571	1.571	-
1E+12	-40.736	-40.224	-39.800	0.404	-42.132	-41.737	-41.488	0.311	1.103	1.513	2.333	0.568
5E+12	-43.078	-41.461	-39.565	1.549	-43.010	-42.103	-41.430	0.670	-1.239	0.642	2.098	1.612
1E+13	-41.556	-40.575	-40.209	0.656	-42.425	-42.044	-41.840	0.260	0.869	1.469	1.747	0.404

DEVICE TEST: 11.1 SWING_10k_40_L_AMP1 [mV]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

R² = 0.1357

NDD Fluence vs Pre-Post Exposure Delta
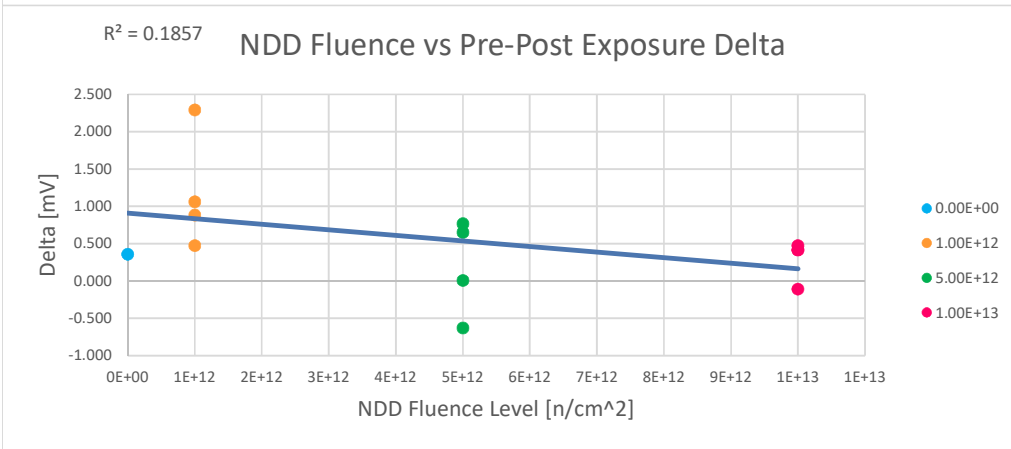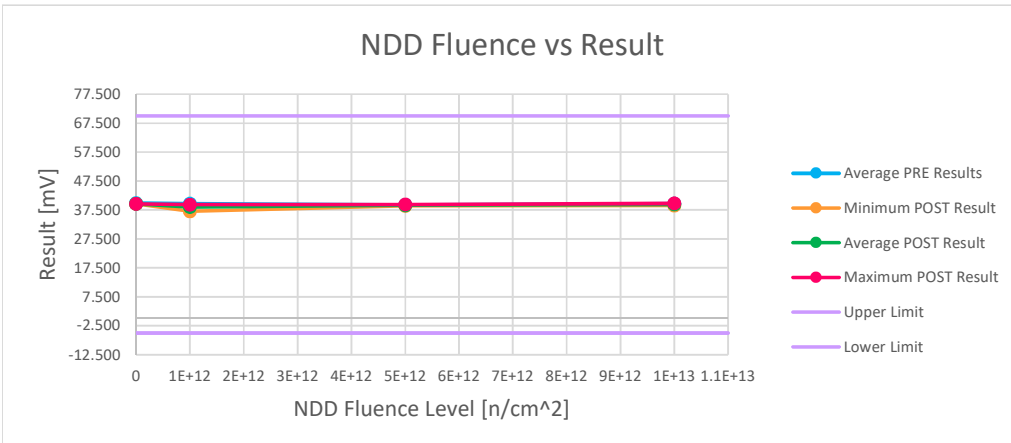
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 70) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	38.577	37.405	1.172
2	1E+12	NDD	38.167	38.459	-0.291
3	1E+12	NDD	38.870	38.810	0.060
4	1E+12	NDD	38.636	38.107	0.528
5	5E+12	NDD	38.167	38.341	-0.174
6	5E+12	NDD	37.174	38.634	-1.460
7	5E+12	NDD	38.226	38.634	-0.408
8	5E+12	NDD	38.928	38.985	-0.057
9	1E+13	NDD	39.162	38.751	0.411
10	1E+13	NDD	38.753	39.395	-0.643
11	1E+13	NDD	38.518	39.746	-1.228
12	1E+13	NDD	38.753	38.810	-0.057
13	0E+00	CONTROL	38.636	38.927	-0.291

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	38.636	38.636	38.636	-	38.927	38.927	38.927	-	-0.291	-0.291	-0.291	-
1E+12	38.167	38.562	38.870	0.292	37.405	38.195	38.810	0.600	-0.291	0.367	1.172	0.633
5E+12	37.174	38.124	38.928	0.721	38.341	38.649	38.985	0.263	-1.460	-0.525	-0.057	0.640
1E+13	38.518	38.797	39.162	0.268	38.751	39.176	39.746	0.479	-1.228	-0.379	0.411	0.711

DEVICE TEST: 11.2 SWING_10k_40_L_AMP2 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1857

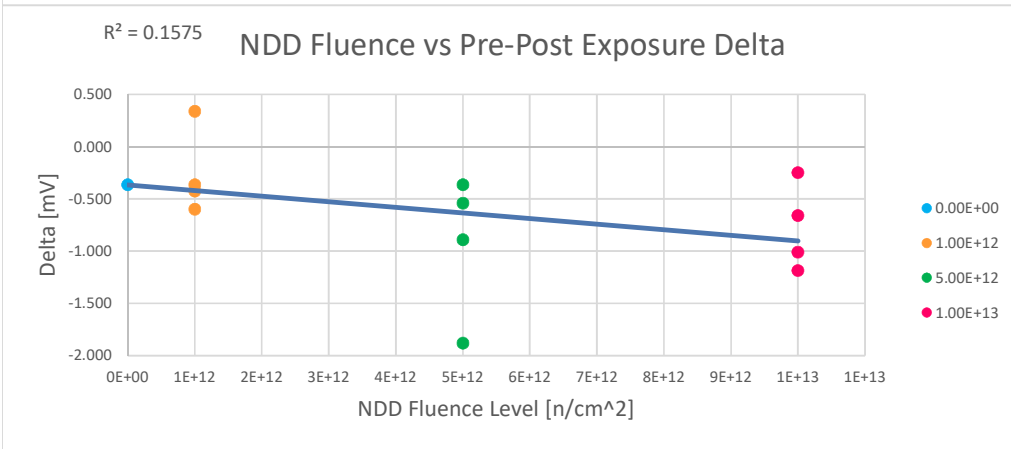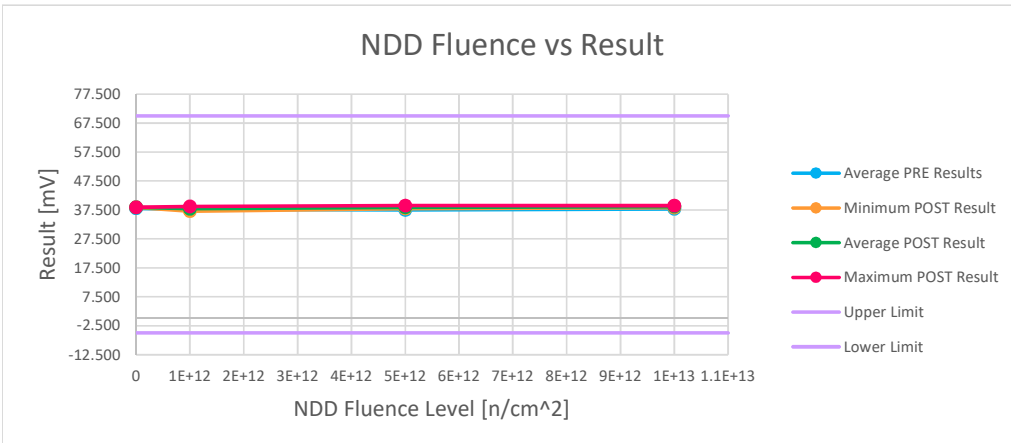### TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 70) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	39.360	37.070	2.290
2	1E+12	NDD	39.535	39.061	0.475
3	1E+12	NDD	40.237	39.353	0.884
4	1E+12	NDD	39.711	38.651	1.060
5	5E+12	NDD	39.535	38.885	0.650
6	5E+12	NDD	38.430	39.061	-0.631
7	5E+12	NDD	38.951	38.944	0.007
8	5E+12	NDD	40.179	39.412	0.767
9	1E+13	NDD	39.945	39.529	0.416
10	1E+13	NDD	39.711	39.295	0.416
11	1E+13	NDD	39.652	39.763	-0.111
12	1E+13	NDD	39.535	39.061	0.475
13	0E+00	CONTROL	39.945	39.588	0.357

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	39.945	39.945	39.945	-	39.588	39.588	39.588	-	0.357	0.357	0.357	-
1E+12	39.360	39.711	40.237	0.379	37.070	38.534	39.353	1.017	0.475	1.177	2.290	0.781
5E+12	38.430	39.274	40.179	0.754	38.885	39.075	39.412	0.236	-0.631	0.198	0.767	0.646
1E+13	39.535	39.711	39.945	0.172	39.061	39.412	39.763	0.302	-0.111	0.299	0.475	0.275

DEVICE TEST: 11.3 SWING_10k_40_L_AMP3 [mV]

NDD Fluence vs Result
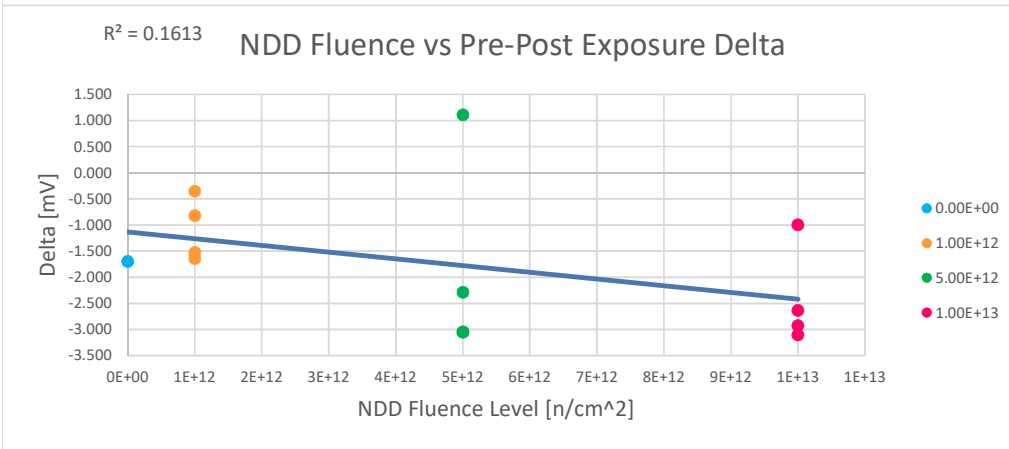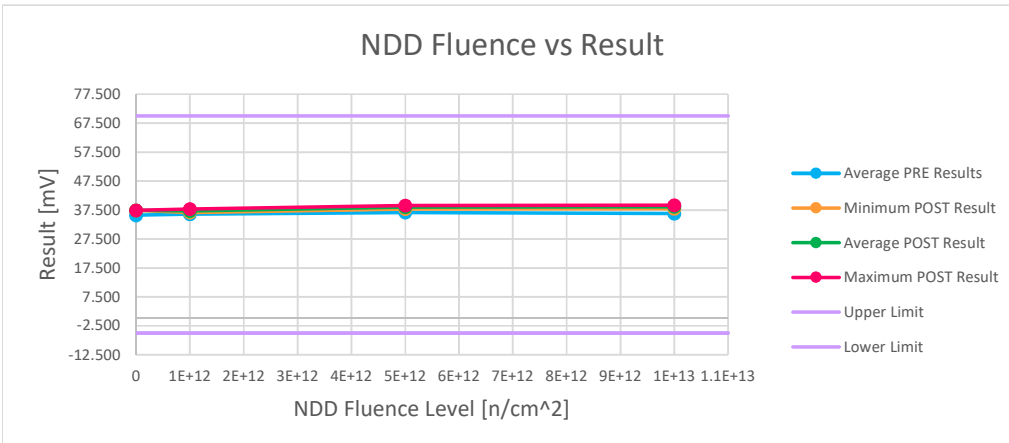
R² = 0.1575

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 70) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	37.414	37.077	0.337
2	1E+12	NDD	37.238	37.662	-0.424
3	1E+12	NDD	38.292	38.658	-0.366
4	1E+12	NDD	37.589	38.189	-0.600
5	5E+12	NDD	37.589	37.955	-0.366
6	5E+12	NDD	36.542	38.424	-1.882
7	5E+12	NDD	37.589	38.131	-0.541
8	5E+12	NDD	38.116	39.009	-0.893
9	1E+13	NDD	38.175	38.424	-0.249
10	1E+13	NDD	37.765	38.951	-1.186
11	1E+13	NDD	37.824	38.833	-1.010
12	1E+13	NDD	37.648	38.306	-0.659
13	0E+00	CONTROL	38.058	38.424	-0.366

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	38.058	38.058	38.058	-	38.424	38.424	38.424	-	-0.366	-0.366	-0.366	-
1E+12	37.238	37.633	38.292	0.462	37.077	37.897	38.658	0.681	-0.600	-0.263	0.337	0.412
5E+12	36.542	37.459	38.116	0.660	37.955	38.380	39.009	0.462	-1.882	-0.920	-0.366	0.677
1E+13	37.648	37.853	38.175	0.227	38.306	38.628	38.951	0.312	-1.186	-0.776	-0.249	0.414

DEVICE TEST: 11.4 SWING_10k_40_L_AMP4 [mV]

NDD Fluence vs Result
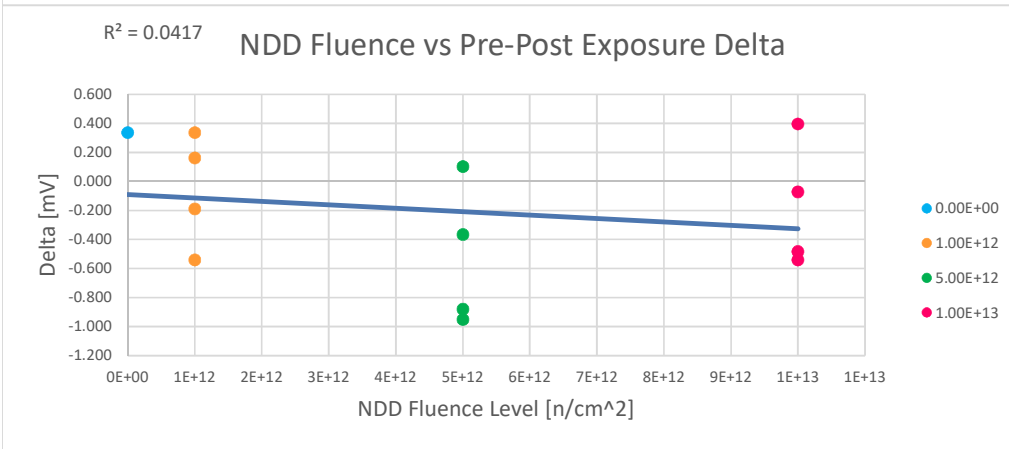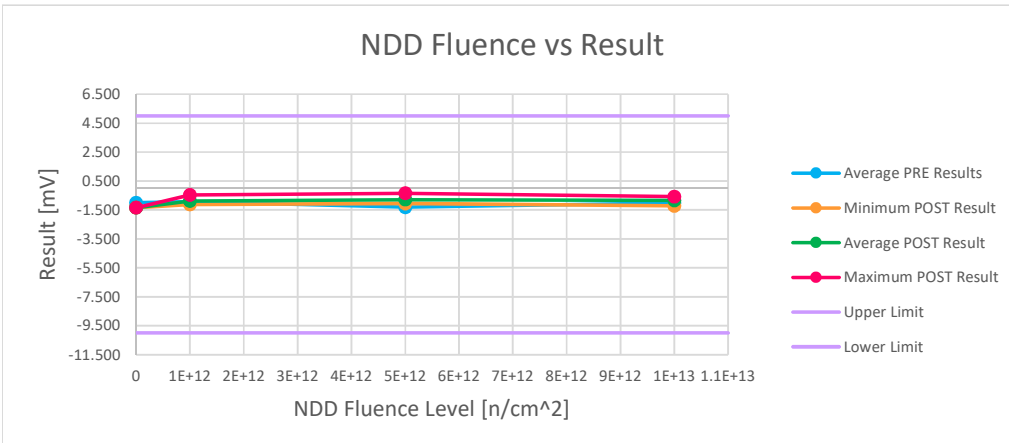
R² = 0.1613

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 70) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	35.929	36.750	-0.821
2	1E+12	NDD	36.280	36.633	-0.353
3	1E+12	NDD	36.339	37.862	-1.523
4	1E+12	NDD	35.812	37.452	-1.641
5	5E+12	NDD	36.046	38.330	-2.285
6	5E+12	NDD	35.458	38.506	-3.048
7	5E+12	NDD	38.973	37.862	1.111
8	5E+12	NDD	36.046	39.091	-3.046
9	1E+13	NDD	36.924	37.920	-0.996
10	1E+13	NDD	36.221	39.150	-2.928
11	1E+13	NDD	35.929	39.033	-3.104
12	1E+13	NDD	35.929	38.564	-2.636
13	0E+00	CONTROL	35.694	37.394	-1.699

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	35.694	35.694	35.694	-	37.394	37.394	37.394	-	-1.699	-1.699	-1.699	-
1E+12	35.812	36.090	36.339	0.259	36.633	37.174	37.862	0.584	-1.641	-1.084	-0.353	0.607
5E+12	35.458	36.631	38.973	1.586	37.862	38.447	39.091	0.508	-3.048	-1.817	1.111	1.985
1E+13	35.929	36.251	36.924	0.470	37.920	38.667	39.150	0.558	-3.104	-2.416	-0.996	0.966

DEVICE TEST: 101.1 SWING_40_H_AMP1 [mV]

NDD Fluence vs Result

- ● Average PRE Results
- ● Minimum POST Result
- ● Average POST Result
- ● Maximum POST Result
- — Upper Limit
- — Lower Limit

R² = 0.0417

NDD Fluence vs Pre-Post Exposure Delta
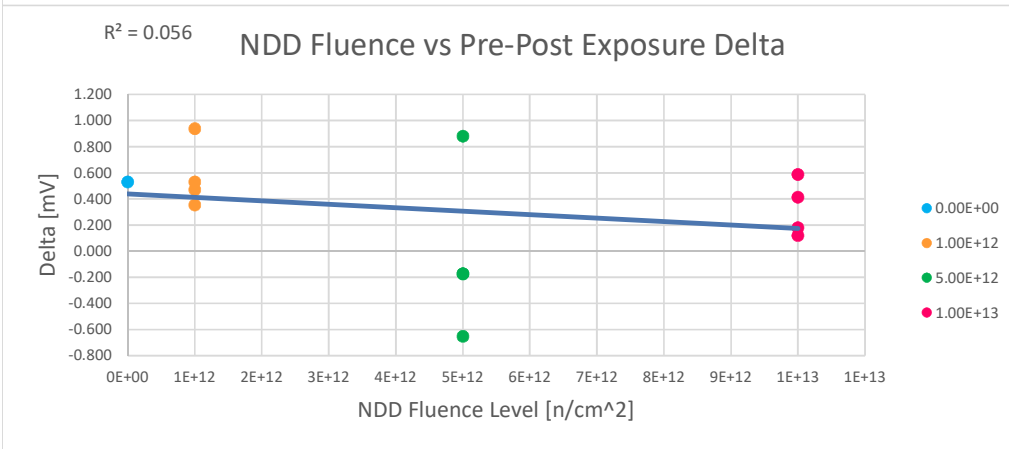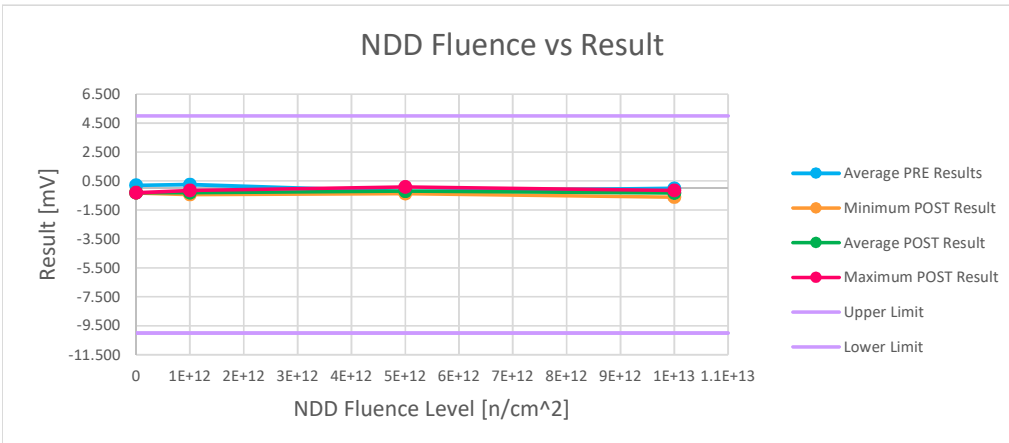
- ● 0.00E+00
- ● 1.00E+12
- ● 5.00E+12
- ● 1.00E+13

TEST RESULTS (LOWER LIMIT = -10 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.714	-1.052	0.338
2	1E+12	NDD	-0.656	-0.466	-0.189
3	1E+12	NDD	-0.948	-1.110	0.162
4	1E+12	NDD	-1.417	-0.876	-0.541
5	5E+12	NDD	-0.831	-0.935	0.103
6	5E+12	NDD	-1.931	-1.052	-0.879
7	5E+12	NDD	-1.183	-0.818	-0.365
8	5E+12	NDD	-1.300	-0.349	-0.950
9	1E+13	NDD	-0.831	-1.227	0.396
10	1E+13	NDD	-1.124	-0.583	-0.541
11	1E+13	NDD	-1.183	-0.701	-0.482
12	1E+13	NDD	-0.948	-0.876	-0.072
13	0E+00	CONTROL	-1.007	-1.345	0.338

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.007	-1.007	-1.007	-	-1.345	-1.345	-1.345	-	0.338	0.338	0.338	-
1E+12	-1.417	-0.934	-0.656	0.346	-1.110	-0.876	-0.466	0.291	-0.541	-0.058	0.338	0.389
5E+12	-1.931	-1.311	-0.831	0.459	-1.052	-0.788	-0.349	0.308	-0.950	-0.523	0.103	0.492
1E+13	-1.183	-1.022	-0.831	0.161	-1.227	-0.847	-0.583	0.281	-0.541	-0.175	0.396	0.434

DEVICE TEST: 101.2 SWING_40_H_AMP2 [mV]

NDD Fluence vs Result
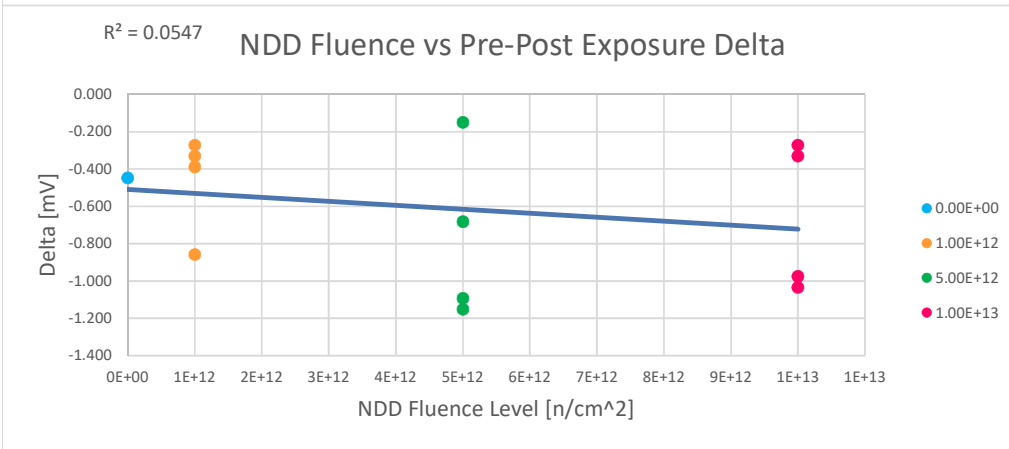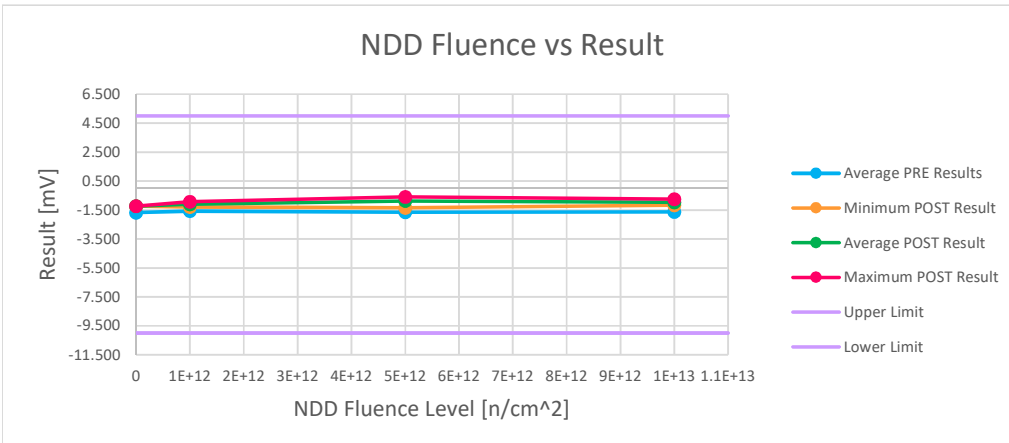

R² = 0.056

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -10 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.037	-0.435	0.472
2	1E+12	NDD	0.563	-0.376	0.940
3	1E+12	NDD	0.388	-0.142	0.530
4	1E+12	NDD	0.037	-0.318	0.355
5	5E+12	NDD	0.505	-0.376	0.881
6	5E+12	NDD	-1.028	-0.376	-0.652
7	5E+12	NDD	-0.080	0.092	-0.172
8	5E+12	NDD	-0.314	-0.142	-0.172
9	1E+13	NDD	0.154	-0.259	0.413
10	1E+13	NDD	-0.197	-0.318	0.121
11	1E+13	NDD	-0.431	-0.610	0.179
12	1E+13	NDD	0.446	-0.142	0.588
13	0E+00	CONTROL	0.212	-0.318	0.530

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	0.212	0.212	0.212	-	-0.318	-0.318	-0.318	-	0.530	0.530	0.530	-
1E+12	0.037	0.256	0.563	0.263	-0.435	-0.318	-0.142	0.127	0.355	0.574	0.940	0.254
5E+12	-1.028	-0.229	0.505	0.634	-0.376	-0.200	0.092	0.224	-0.652	-0.029	0.881	0.647
1E+13	-0.431	-0.007	0.446	0.386	-0.610	-0.332	-0.142	0.199	0.121	0.325	0.588	0.216

DEVICE TEST: 101.3 SWING_40_H_AMP3 [mV]

NDD Fluence vs Result

R² = 0.0547

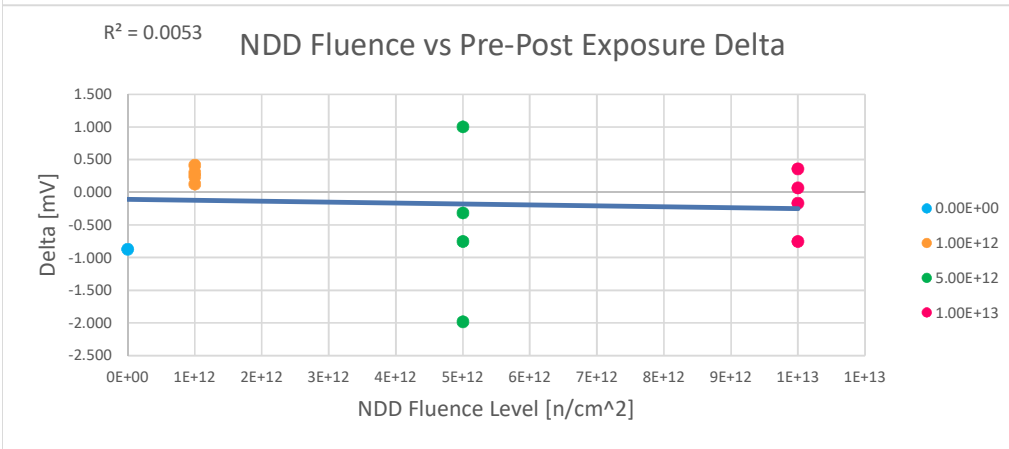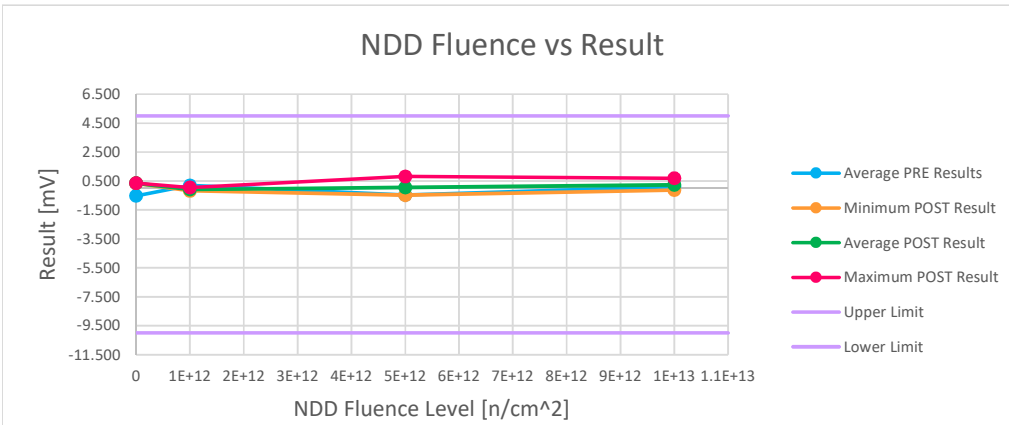**NDD Fluence vs Pre-Post Exposure Delta**

TEST RESULTS (LOWER LIMIT = -10 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.327	-0.938	-0.389
2	1E+12	NDD	-1.561	-1.289	-0.272
3	1E+12	NDD	-1.444	-1.114	-0.331
4	1E+12	NDD	-1.971	-1.114	-0.858
5	5E+12	NDD	-1.503	-0.821	-0.682
6	5E+12	NDD	-1.498	-1.348	-0.150
7	5E+12	NDD	-1.679	-0.587	-1.092
8	5E+12	NDD	-1.913	-0.762	-1.151
9	1E+13	NDD	-1.444	-1.172	-0.272
10	1E+13	NDD	-1.737	-0.762	-0.975
11	1E+13	NDD	-1.796	-0.762	-1.033
12	1E+13	NDD	-1.503	-1.172	-0.331
13	0E+00	CONTROL	-1.679	-1.231	-0.448

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.679	-1.679	-1.679	-	-1.231	-1.231	-1.231	-	-0.448	-0.448	-0.448	-
1E+12	-1.971	-1.576	-1.327	0.280	-1.289	-1.114	-0.938	0.143	-0.858	-0.462	-0.272	0.268
5E+12	-1.913	-1.648	-1.498	0.195	-1.348	-0.879	-0.587	0.328	-1.151	-0.769	-0.150	0.462
1E+13	-1.796	-1.620	-1.444	0.172	-1.172	-0.967	-0.762	0.237	-1.033	-0.653	-0.272	0.407

DEVICE TEST: 101.4 SWING_40_H_AMP4 [mV]

NDD Fluence vs Result
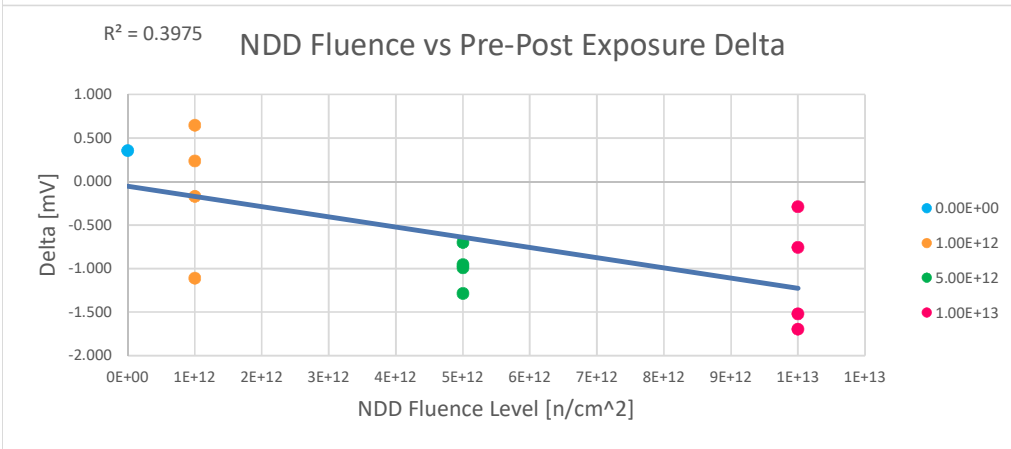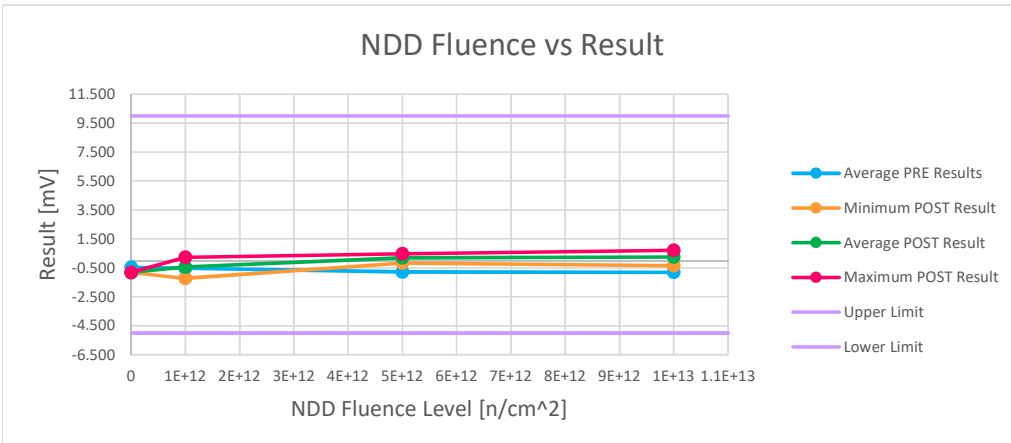
R² = 0.0053

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -10 | UPPER LIMIT = 5) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.295	-0.124	0.419
2	1E+12	NDD	0.295	0.052	0.243
3	1E+12	NDD	0.237	-0.065	0.302
4	1E+12	NDD	-0.056	-0.182	0.126
5	5E+12	NDD	0.530	-0.475	1.004
6	5E+12	NDD	-0.789	-0.475	-0.314
7	5E+12	NDD	-1.637	0.345	-1.982
8	5E+12	NDD	0.061	0.813	-0.752
9	1E+13	NDD	0.237	-0.124	0.360
10	1E+13	NDD	-0.056	0.696	-0.752
11	1E+13	NDD	-0.056	0.111	-0.167
12	1E+13	NDD	0.354	0.286	0.068
13	0E+00	CONTROL	-0.524	0.345	-0.869

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-0.524	-0.524	-0.524	-	0.345	0.345	0.345	-	-0.869	-0.869	-0.869	-
1E+12	-0.056	0.193	0.295	0.168	-0.182	-0.080	0.052	0.100	0.126	0.273	0.419	0.122
5E+12	-1.637	-0.459	0.530	0.956	-0.475	0.052	0.813	0.638	-1.982	-0.511	1.004	1.232
1E+13	-0.056	0.120	0.354	0.208	-0.124	0.242	0.696	0.346	-0.752	-0.123	0.360	0.472

DEVICE TEST: 151.1 SWING_40_L_AMP1 [mV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.3975

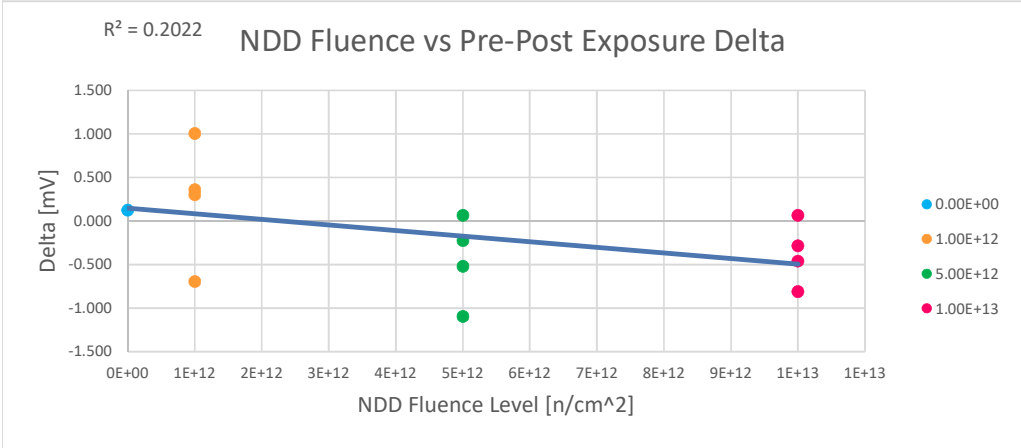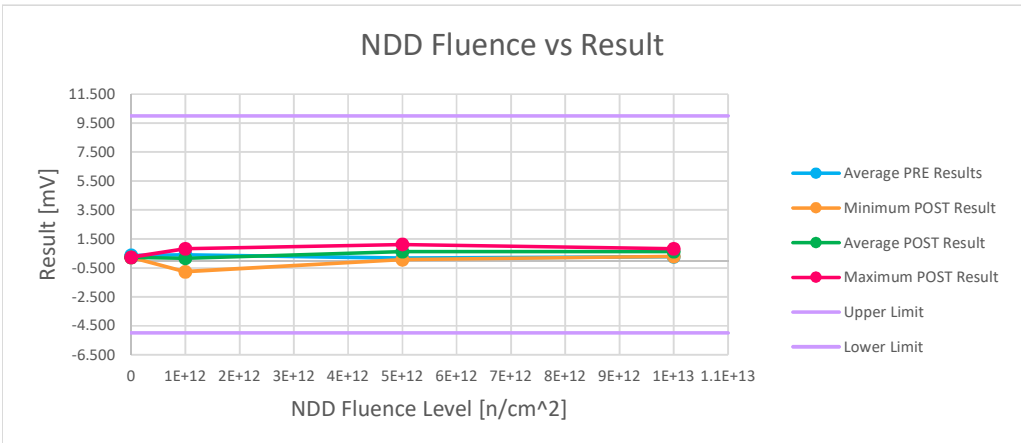## TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 10) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.576	-1.224	0.648
2	1E+12	NDD	-0.166	-0.404	0.239
3	1E+12	NDD	-0.868	0.239	-1.108
4	1E+12	NDD	-0.517	-0.346	-0.171
5	5E+12	NDD	-0.634	0.064	-0.698
6	5E+12	NDD	-0.537	0.415	-0.952
7	5E+12	NDD	-1.161	-0.170	-0.991
8	5E+12	NDD	-0.810	0.474	-1.283
9	1E+13	NDD	-0.576	0.181	-0.757
10	1E+13	NDD	-1.219	0.474	-1.693
11	1E+13	NDD	-0.634	-0.346	-0.288
12	1E+13	NDD	-0.810	0.708	-1.518
13	0E+00	CONTROL	-0.459	-0.814	0.356

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-0.459	-0.459	-0.459	-	-0.814	-0.814	-0.814	-	0.356	0.356	0.356	-
1E+12	-0.868	-0.532	-0.166	0.288	-1.224	-0.434	0.239	0.602	-1.108	-0.098	0.648	0.752
5E+12	-1.161	-0.785	-0.537	0.275	-0.170	0.196	0.474	0.304	-1.283	-0.981	-0.698	0.240
1E+13	-1.219	-0.810	-0.576	0.291	-0.346	0.254	0.708	0.454	-1.693	-1.064	-0.288	0.658

DEVICE TEST: 151.2 SWING_40_L_AMP2 [mV]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2022
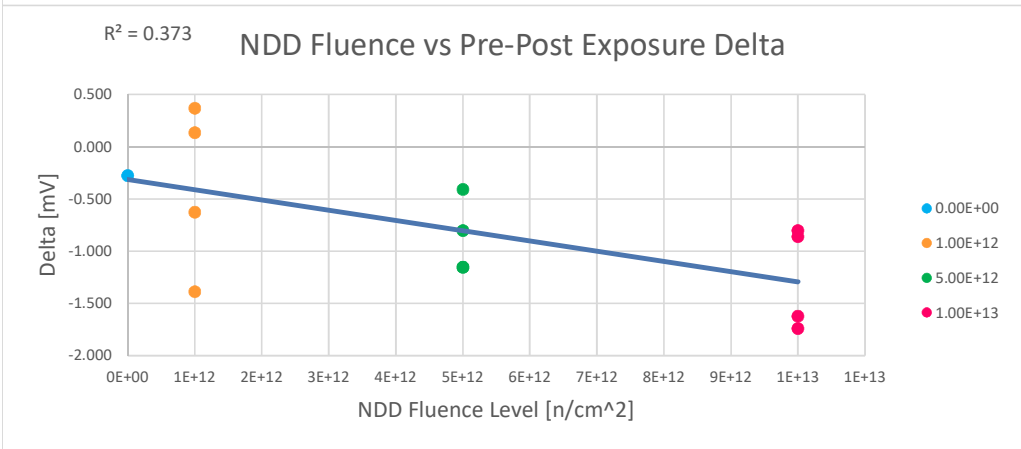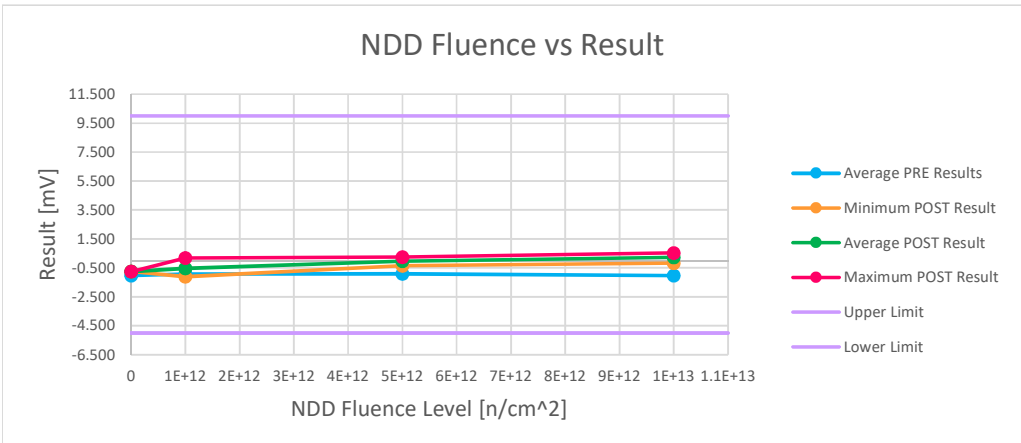

Legend:
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 10) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.242	-0.760	1.002
2	1E+12	NDD	0.593	0.236	0.357
3	1E+12	NDD	0.125	0.821	-0.696
4	1E+12	NDD	0.652	0.353	0.299
5	5E+12	NDD	0.418	0.938	-0.521
6	5E+12	NDD	0.017	1.114	-1.097
7	5E+12	NDD	0.125	0.060	0.065
8	5E+12	NDD	0.125	0.353	-0.228
9	1E+13	NDD	0.301	0.763	-0.462
10	1E+13	NDD	0.008	0.821	-0.813
11	1E+13	NDD	0.359	0.294	0.065
12	1E+13	NDD	0.359	0.646	-0.287
13	0E+00	CONTROL	0.359	0.236	0.123

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	0.359	0.359	0.359	-	0.236	0.236	0.236	-	0.123	0.123	0.123	-
1E+12	0.125	0.403	0.652	0.259	-0.760	0.163	0.821	0.665	-0.696	0.241	1.002	0.701
5E+12	0.017	0.171	0.418	0.172	0.060	0.616	1.114	0.493	-1.097	-0.445	0.065	0.496
1E+13	0.008	0.257	0.359	0.168	0.294	0.631	0.821	0.236	-0.813	-0.374	0.065	0.366

DEVICE TEST: 151.3 SWING_40_L_AMP3 [mV]

NDD Fluence vs Result

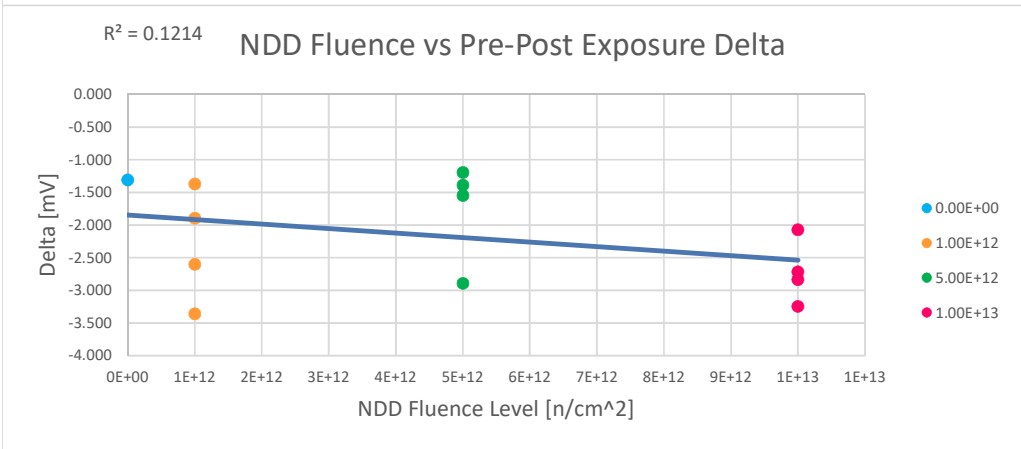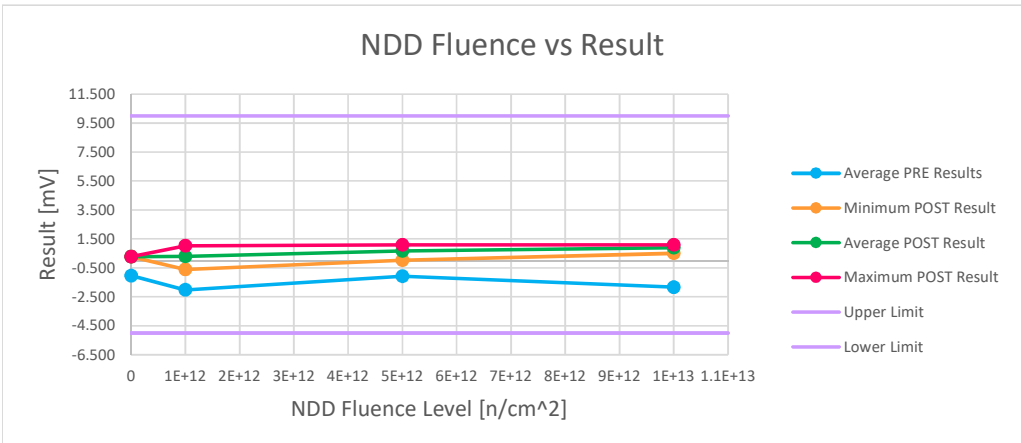
NDD Fluence vs Pre-Post Exposure Delta

R² = 0.373

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 10) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.802	-0.935	0.133
2	1E+12	NDD	-0.743	-1.110	0.367
3	1E+12	NDD	-1.212	0.178	-1.389
4	1E+12	NDD	-0.919	-0.291	-0.628
5	5E+12	NDD	-1.153	0.002	-1.155
6	5E+12	NDD	-0.175	0.236	-0.411
7	5E+12	NDD	-1.153	-0.349	-0.804
8	5E+12	NDD	-1.212	-0.056	-1.155
9	1E+13	NDD	-0.802	0.061	-0.862
10	1E+13	NDD	-1.153	0.471	-1.624
11	1E+13	NDD	-0.977	-0.174	-0.804
12	1E+13	NDD	-1.212	0.529	-1.741
13	0E+00	CONTROL	-1.036	-0.759	-0.277

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.036	-1.036	-1.036	-	-0.759	-0.759	-0.759	-	-0.277	-0.277	-0.277	-
1E+12	-1.212	-0.919	-0.743	0.208	-1.110	-0.540	0.178	0.594	-1.389	-0.379	0.367	0.796
5E+12	-1.212	-0.923	-0.175	0.500	-0.349	-0.042	0.236	0.241	-1.155	-0.881	-0.411	0.354
1E+13	-1.212	-1.036	-0.802	0.185	-0.174	0.222	0.529	0.336	-1.741	-1.258	-0.804	0.493

DEVICE TEST: 151.4 SWING_40_L_AMP4 [mV]

NDD Fluence vs Result
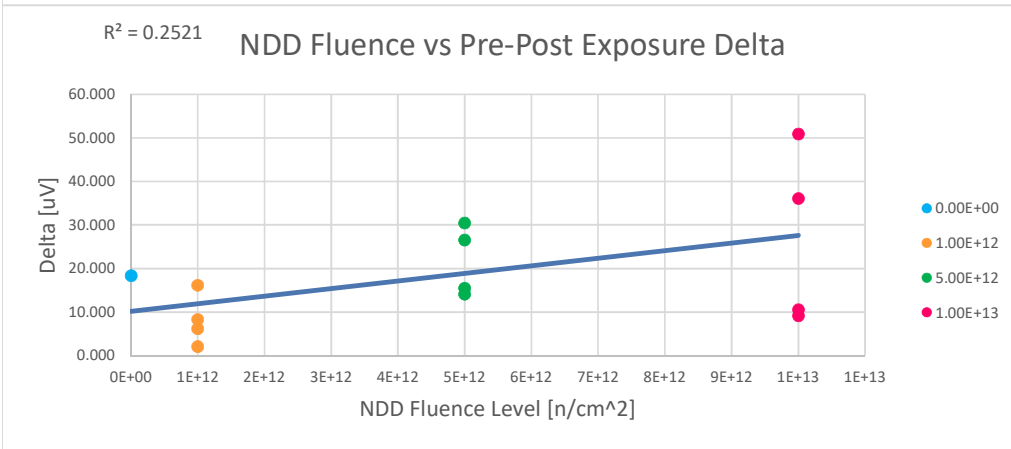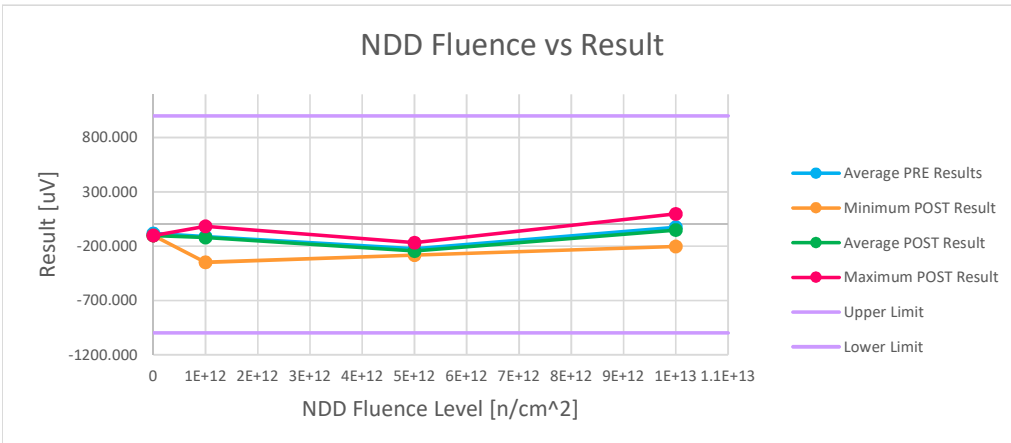

R² = 0.1214

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 10) [mV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-1.978	-0.609	-1.369
2	1E+12	NDD	-2.212	0.386	-2.598
3	1E+12	NDD	-2.329	1.030	-3.359
4	1E+12	NDD	-1.568	0.328	-1.896
5	5E+12	NDD	-1.860	1.030	-2.891
6	5E+12	NDD	-0.298	1.089	-1.387
7	5E+12	NDD	-1.158	0.035	-1.193
8	5E+12	NDD	-1.041	0.504	-1.544
9	1E+13	NDD	-1.919	0.913	-2.832
10	1E+13	NDD	-0.982	1.089	-2.071
11	1E+13	NDD	-2.212	0.504	-2.715
12	1E+13	NDD	-2.212	1.030	-3.242
13	0E+00	CONTROL	-1.041	0.269	-1.310

TEST STATISTICS [mV]

Fluence (n/cm^2)	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	-1.041	-1.041	-1.041	-	0.269	0.269	0.269	-	-1.310	-1.310	-1.310	-
1E+12	-2.329	-2.022	-1.568	0.336	-0.609	0.284	1.030	0.675	-3.359	-2.305	-1.369	0.864
5E+12	-1.860	-1.089	-0.298	0.640	0.035	0.665	1.089	0.495	-2.891	-1.754	-1.193	0.772
1E+13	-2.212	-1.831	-0.982	0.583	0.504	0.884	1.089	0.264	-3.242	-2.715	-2.071	0.485

DEVICE TEST: 12.1 CMRR_40V_VIO1_L_AMP1 [uV]

NDD Fluence vs Result

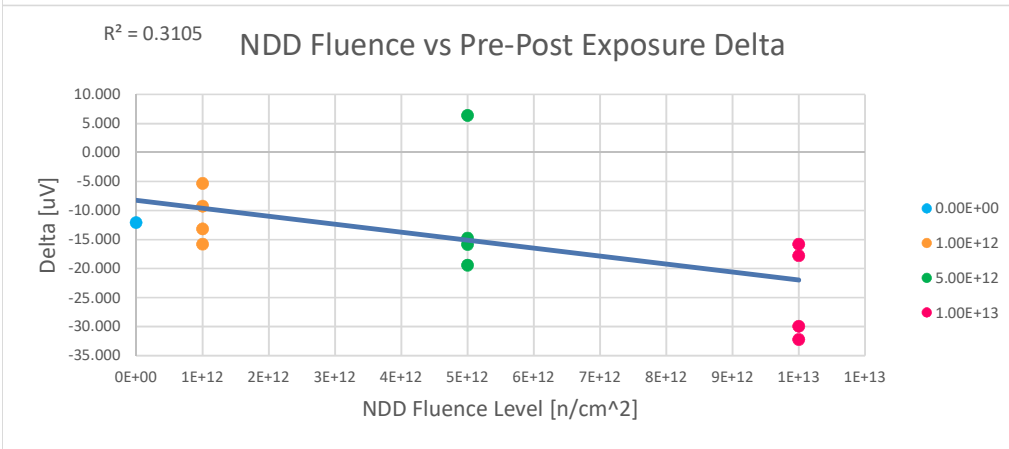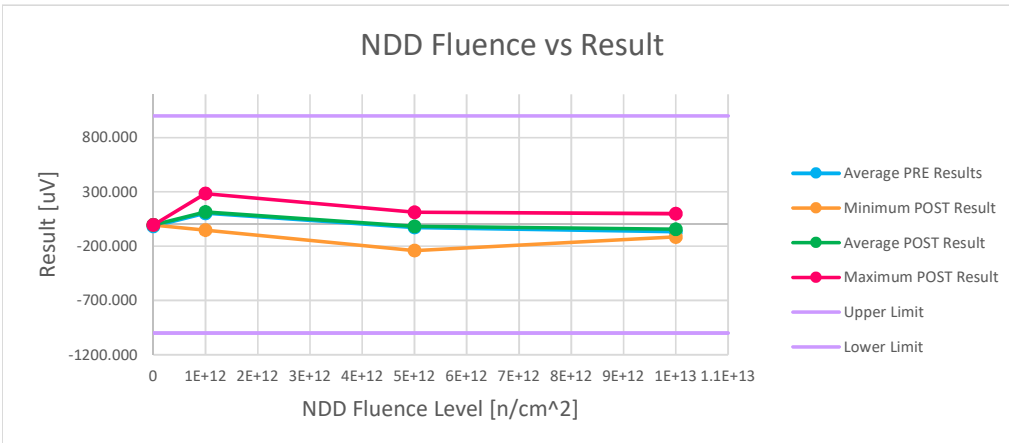## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2521

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-340.451	-348.708	8.257
2	1E+12	NDD	-76.014	-92.137	16.123
3	1E+12	NDD	-13.574	-19.734	6.160
4	1E+12	NDD	-13.340	-15.406	2.066
5	5E+12	NDD	-136.993	-167.407	30.414
6	5E+12	NDD	-254.639	-270.105	15.466
7	5E+12	NDD	-254.800	-281.334	26.534
8	5E+12	NDD	-247.784	-261.859	14.075
9	1E+13	NDD	108.676	98.171	10.506
10	1E+13	NDD	16.477	-34.355	50.832
11	1E+13	NDD	-61.573	-70.674	9.100
12	1E+13	NDD	-165.115	-201.152	36.037
13	0E+00	CONTROL	-82.270	-100.618	18.348

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-82.270	-82.270	-82.270	-	-100.618	-100.618	-100.618	-	18.348	18.348	18.348	-
1E+12	-340.451	-110.845	-13.340	155.886	-348.708	-118.996	-15.406	157.134	2.066	8.152	16.123	5.904
5E+12	-254.800	-223.554	-136.993	57.800	-281.334	-245.176	-167.407	52.457	14.075	21.622	30.414	8.089
1E+13	-165.115	-25.384	108.676	116.274	-201.152	-52.002	98.171	123.096	9.100	26.619	50.832	20.343

DEVICE TEST: 12.2 CMRR_40V_VIO2_L_AMP2 [uV]

NDD Fluence vs Result

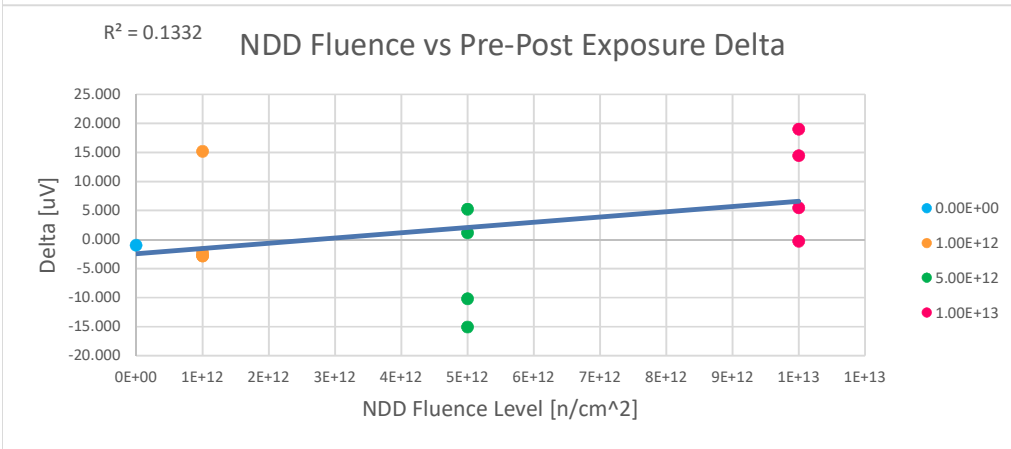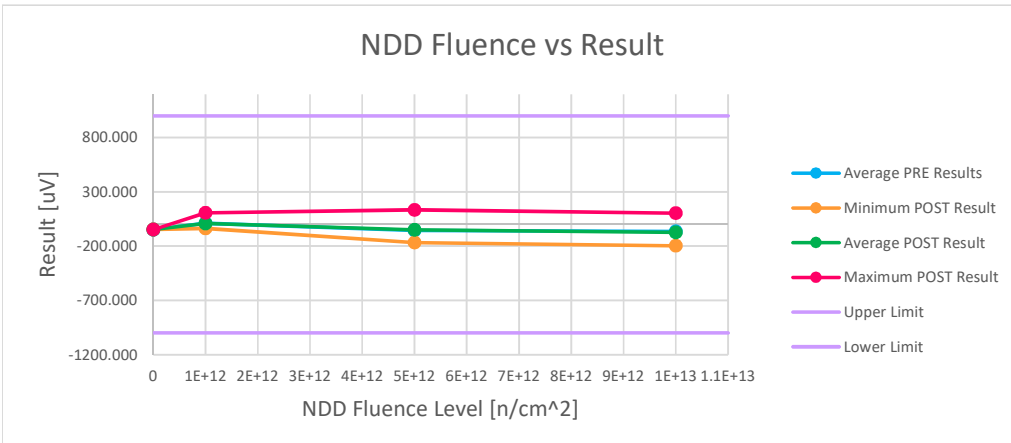### NDD Fluence vs Pre-Post Exposure Delta

R² = 0.3105

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	169.508	174.869	-5.361
2	1E+12	NDD	274.912	284.185	-9.272
3	1E+12	NDD	32.902	48.708	-15.806
4	1E+12	NDD	-63.913	-50.723	-13.190
5	5E+12	NDD	-260.116	-240.696	-19.420
6	5E+12	NDD	26.112	40.870	-14.758
7	5E+12	NDD	20.691	14.316	6.374
8	5E+12	NDD	96.531	112.402	-15.872
9	1E+13	NDD	-83.429	-65.638	-17.790
10	1E+13	NDD	-125.497	-95.526	-29.971
11	1E+13	NDD	-130.288	-114.476	-15.812
12	1E+13	NDD	66.732	98.950	-32.218
13	0E+00	CONTROL	-17.171	-5.102	-12.069

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-17.171	-17.171	-17.171	-	-5.102	-5.102	-5.102	-	-12.069	-12.069	-12.069	-
1E+12	-63.913	103.352	274.912	149.165	-50.723	114.260	284.185	146.133	-15.806	-10.907	-5.361	4.569
5E+12	-260.116	-29.196	96.531	157.775	-240.696	-18.277	112.402	153.957	-19.420	-10.919	6.374	11.699
1E+13	-130.288	-68.120	66.732	92.333	-114.476	-44.173	98.950	97.510	-32.218	-23.948	-15.812	8.342

DEVICE TEST: 12.3 CMRR_40V_VIO3_L_AMP3 [uV]

NDD Fluence vs Result

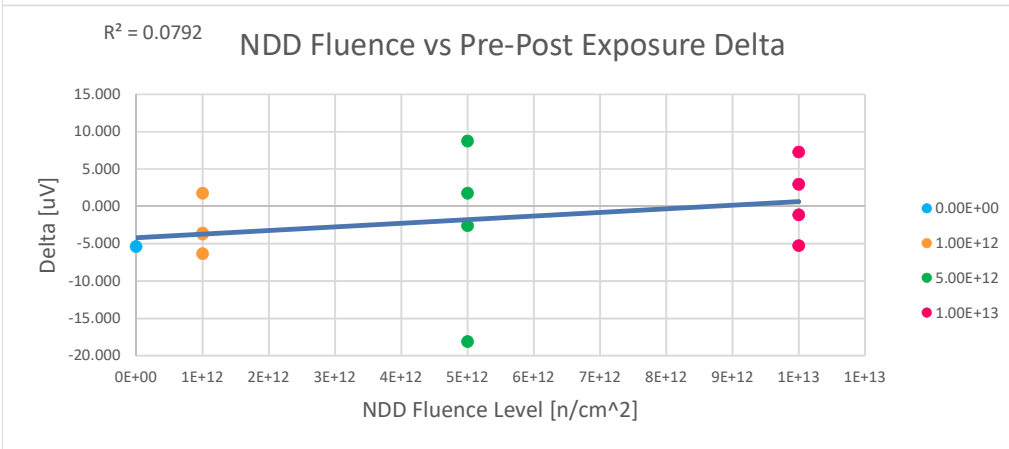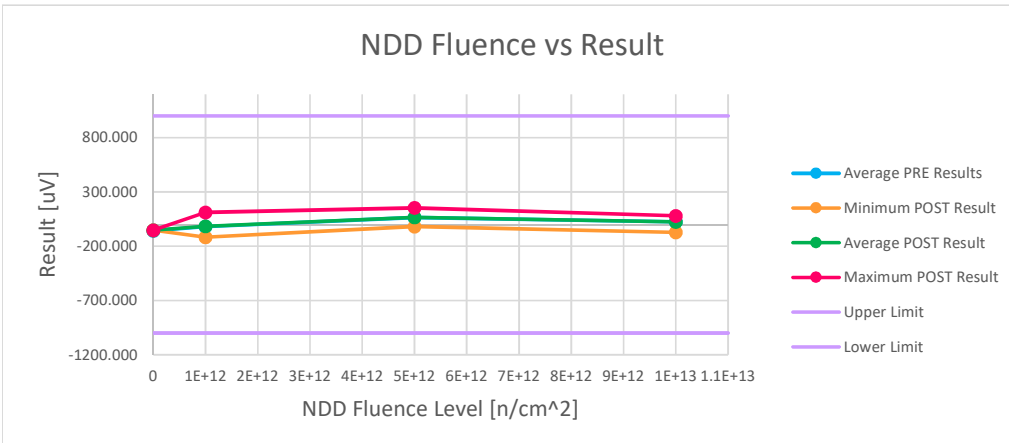## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1332

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-16.357	-14.088	-2.269
2	1E+12	NDD	122.582	107.398	15.184
3	1E+12	NDD	-22.558	-19.761	-2.796
4	1E+12	NDD	-39.640	-36.840	-2.799
5	5E+12	NDD	-48.239	-53.452	5.213
6	5E+12	NDD	119.054	134.128	-15.074
7	5E+12	NDD	-111.127	-112.293	1.166
8	5E+12	NDD	-178.344	-168.152	-10.192
9	1E+13	NDD	121.470	102.485	18.986
10	1E+13	NDD	-47.186	-46.901	-0.285
11	1E+13	NDD	-190.571	-196.052	5.482
12	1E+13	NDD	-140.260	-154.699	14.439
13	0E+00	CONTROL	-49.585	-48.597	-0.988

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-49.585	-49.585	-49.585	-	-48.597	-48.597	-48.597	-	-0.988	-0.988	-0.988	-
1E+12	-39.640	11.007	122.582	75.032	-36.840	9.177	107.398	66.191	-2.799	1.830	15.184	8.906
5E+12	-178.344	-54.664	119.054	127.415	-168.152	-49.942	134.128	131.346	-15.074	-4.722	5.213	9.495
1E+13	-190.571	-64.137	121.470	137.256	-196.052	-73.792	102.485	133.279	-0.285	9.655	18.986	8.683

DEVICE TEST: 12.4 CMRR_40V_VIO4_L_AMP4 [uV]

NDD Fluence vs Result

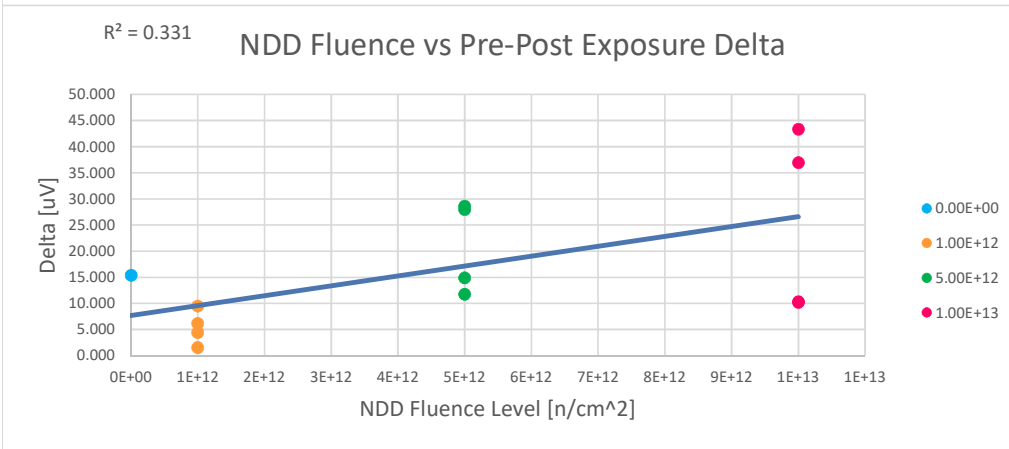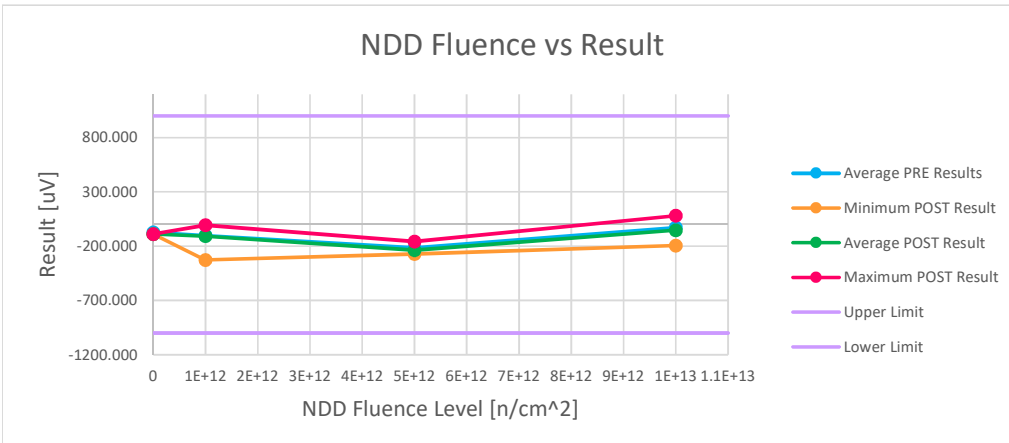## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0792

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-120.855	-117.303	-3.552
2	1E+12	NDD	-7.556	-9.332	1.776
3	1E+12	NDD	-56.163	-52.439	-3.724
4	1E+12	NDD	105.801	112.149	-6.347
5	5E+12	NDD	149.787	152.389	-2.602
6	5E+12	NDD	-9.831	-18.574	8.743
7	5E+12	NDD	50.468	48.688	1.779
8	5E+12	NDD	65.500	83.606	-18.106
9	1E+13	NDD	77.082	78.225	-1.144
10	1E+13	NDD	67.021	64.071	2.950
11	1E+13	NDD	15.957	21.199	-5.241
12	1E+13	NDD	-65.697	-72.968	7.271
13	0E+00	CONTROL	-57.742	-52.380	-5.362

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-57.742	-57.742	-57.742	-	-52.380	-52.380	-52.380	-	-5.362	-5.362	-5.362	-
1E+12	-120.855	-19.693	105.801	95.673	-117.303	-16.731	112.149	96.703	-6.347	-2.962	1.776	3.408
5E+12	-9.831	63.981	149.787	65.817	-18.574	66.527	152.389	71.237	-18.106	-2.546	8.743	11.376
1E+13	-65.697	23.591	77.082	65.264	-72.968	22.632	78.225	68.189	-5.241	0.959	7.271	5.375

DEVICE TEST: 12.5 CMRR_40V_VIO1_H_AMP1 [uV]

NDD Fluence vs Result

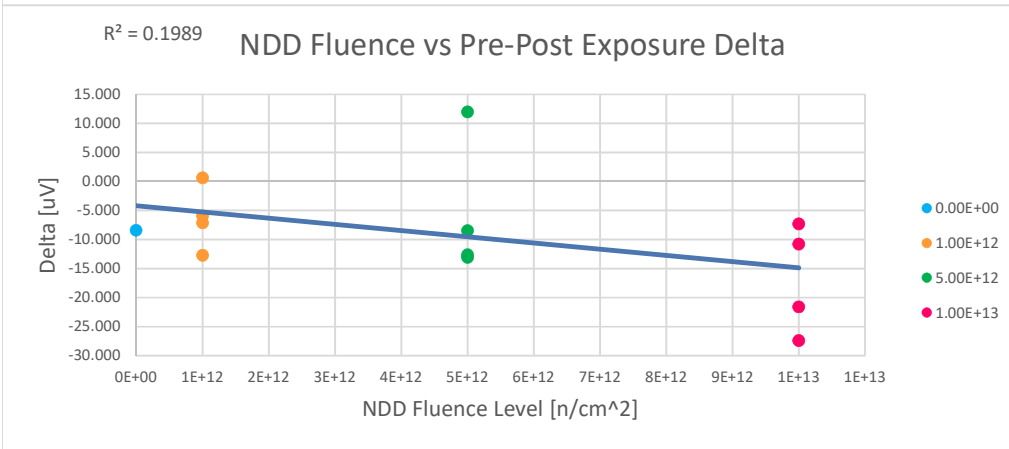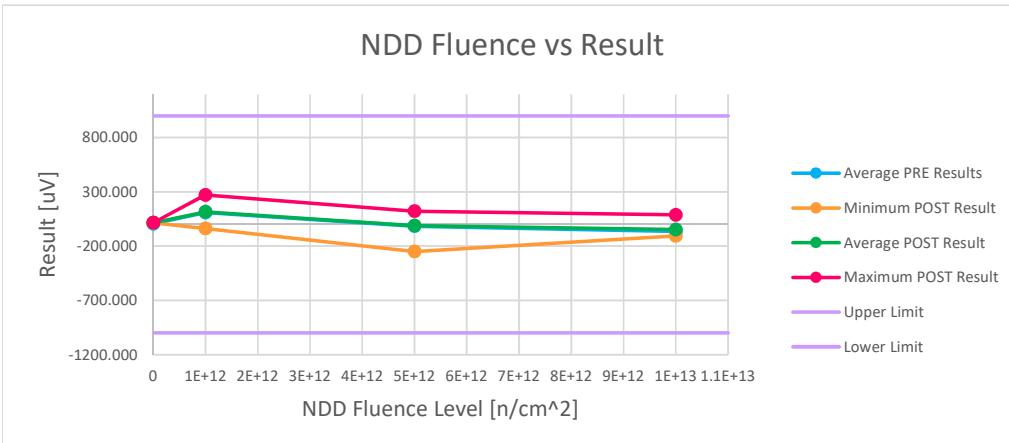## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.331

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-321.040	-327.186	6.146
2	1E+12	NDD	-67.595	-77.048	9.453
3	1E+12	NDD	-19.713	-24.120	4.408
4	1E+12	NDD	-4.570	-6.107	1.537
5	5E+12	NDD	-128.749	-157.347	28.598
6	5E+12	NDD	-256.161	-271.041	14.880
7	5E+12	NDD	-226.678	-254.607	27.929
8	5E+12	NDD	-253.572	-265.309	11.737
9	1E+13	NDD	91.312	81.035	10.277
10	1E+13	NDD	41.851	-1.487	43.338
11	1E+13	NDD	-88.584	-98.746	10.162
12	1E+13	NDD	-157.046	-193.959	36.912
13	0E+00	CONTROL	-72.857	-88.219	15.362

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-72.857	-72.857	-72.857	-	-88.219	-88.219	-88.219	-	15.362	15.362	15.362	-
1E+12	-321.040	-103.230	-4.570	147.671	-327.186	-108.615	-6.107	148.792	1.537	5.386	9.453	3.311
5E+12	-256.161	-216.290	-128.749	59.863	-271.041	-237.076	-157.347	53.587	11.737	20.786	28.598	8.733
1E+13	-157.046	-28.117	91.312	114.656	-193.959	-53.289	81.035	119.137	10.162	25.172	43.338	17.464

DEVICE TEST: 12.6 CMRR_40V_VIO2_H_AMP2 [uV]

NDD Fluence vs Result

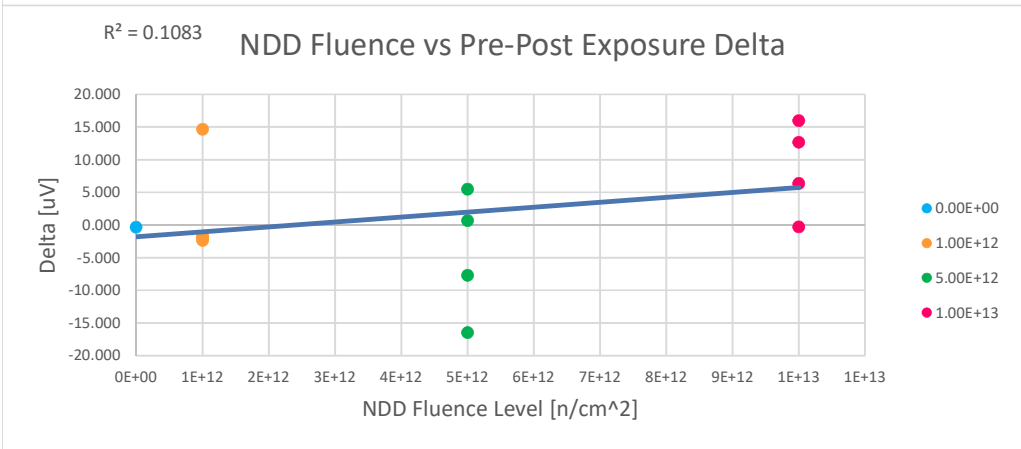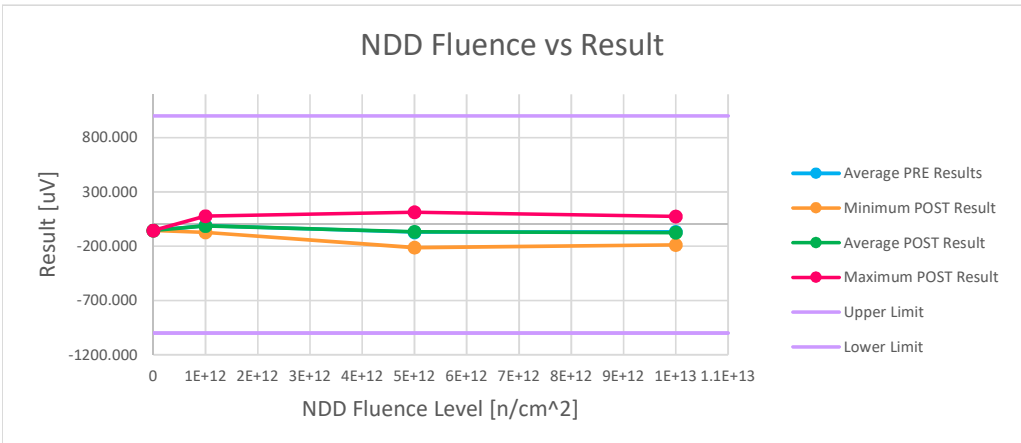## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1989

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	172.078	171.476	0.602
2	1E+12	NDD	266.031	271.960	-5.929
3	1E+12	NDD	46.049	58.768	-12.719
4	1E+12	NDD	-44.515	-37.388	-7.127
5	5E+12	NDD	-262.336	-249.703	-12.633
6	5E+12	NDD	53.967	67.015	-13.048
7	5E+12	NDD	26.884	14.901	11.983
8	5E+12	NDD	114.643	123.106	-8.463
9	1E+13	NDD	-79.163	-71.838	-7.325
10	1E+13	NDD	-121.757	-100.147	-21.611
11	1E+13	NDD	-116.440	-105.645	-10.796
12	1E+13	NDD	60.714	88.129	-27.415
13	0E+00	CONTROL	6.668	15.077	-8.409

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	6.668	6.668	6.668	-	15.077	15.077	15.077	-	-8.409	-8.409	-8.409	-
1E+12	-44.515	109.911	266.031	136.826	-37.388	116.204	271.960	134.418	-12.719	-6.293	0.602	5.467
5E+12	-262.336	-16.710	114.643	167.811	-249.703	-11.170	123.106	165.046	-13.048	-5.540	11.983	11.864
1E+13	-121.757	-64.162	60.714	85.380	-105.645	-47.375	88.129	91.542	-27.415	-16.787	-7.325	9.339

DEVICE TEST: 12.7 CMRR_40V_VIO3_H_AMP3 [uV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
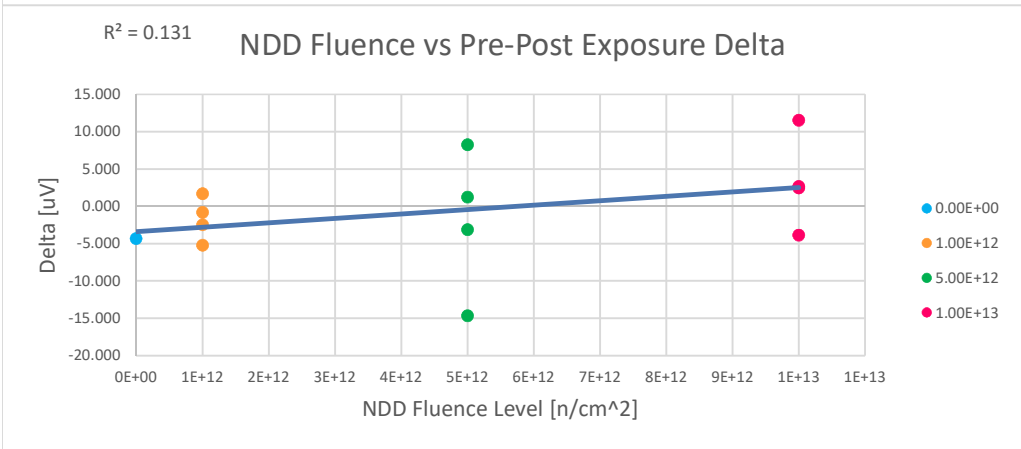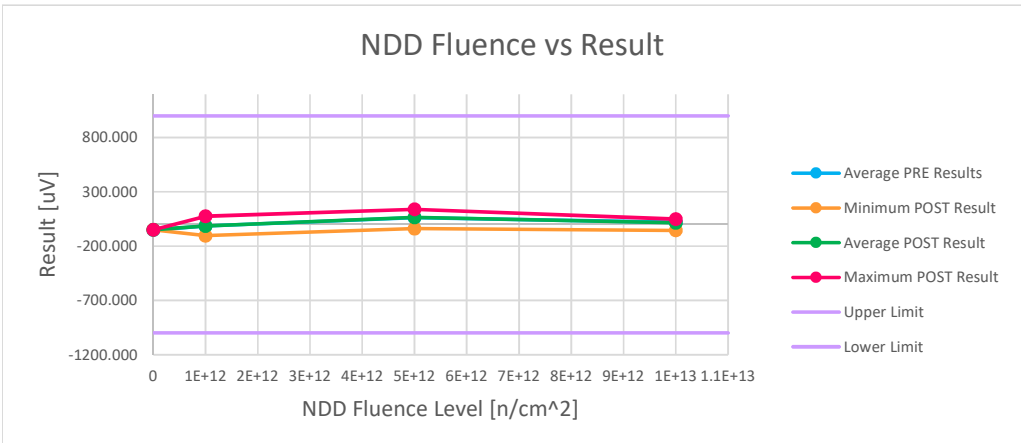
$R^2 = 0.1083$

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-22.148	-20.463	-1.685
2	1E+12	NDD	90.231	75.579	14.652
3	1E+12	NDD	-36.247	-34.267	-1.980
4	1E+12	NDD	-74.506	-72.169	-2.337
5	5E+12	NDD	-38.587	-44.093	5.507
6	5E+12	NDD	95.781	112.253	-16.472
7	5E+12	NDD	-119.727	-120.424	0.697
8	5E+12	NDD	-220.874	-213.190	-7.684
9	1E+13	NDD	88.593	72.596	15.997
10	1E+13	NDD	-47.245	-46.959	-0.285
11	1E+13	NDD	-182.556	-188.916	6.360
12	1E+13	NDD	-124.933	-137.620	12.687
13	0E+00	CONTROL	-55.727	-55.382	-0.345

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-55.727	-55.727	-55.727	-	-55.382	-55.382	-55.382	-	-0.345	-0.345	-0.345	-
1E+12	-74.506	-10.667	90.231	70.810	-72.169	-12.830	75.579	62.862	-2.337	2.163	14.652	8.331
5E+12	-220.874	-70.852	95.781	133.794	-213.190	-66.364	112.253	137.696	-16.472	-4.488	5.507	9.671
1E+13	-182.556	-66.535	88.593	117.343	-188.916	-75.225	72.596	114.701	-0.285	8.690	15.997	7.196

DEVICE TEST: 12.8 CMRR_40V_VIO4_H_AMP4 [uV]

NDD Fluence vs Result

R² = 0.131
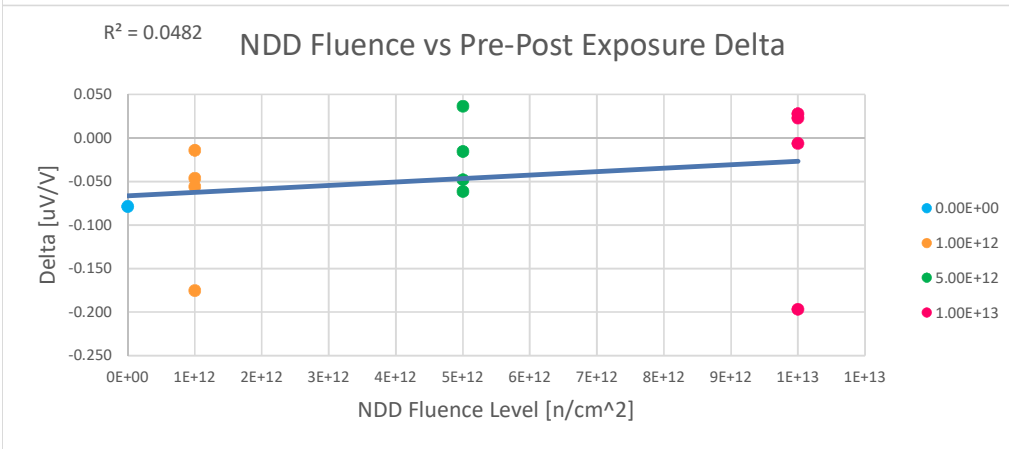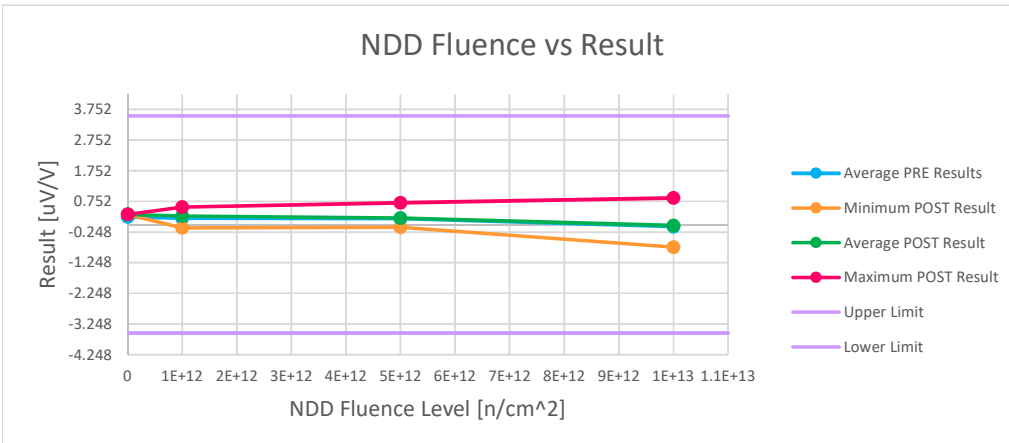
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-106.291	-103.850	-2.441
2	1E+12	NDD	29.586	27.866	1.720
3	1E+12	NDD	-58.386	-57.586	-0.800
4	1E+12	NDD	71.408	76.587	-5.180
5	5E+12	NDD	136.041	139.170	-3.129
6	5E+12	NDD	-29.544	-37.816	8.272
7	5E+12	NDD	53.217	51.964	1.253
8	5E+12	NDD	89.599	104.253	-14.654
9	1E+13	NDD	52.632	49.975	2.657
10	1E+13	NDD	33.213	30.732	2.480
11	1E+13	NDD	32.569	36.406	-3.836
12	1E+13	NDD	-43.529	-55.071	11.542
13	0E+00	CONTROL	-52.771	-48.461	-4.309

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-52.771	-52.771	-52.771	-	-48.461	-48.461	-48.461	-	-4.309	-4.309	-4.309	-
1E+12	-106.291	-15.921	71.408	80.967	-103.850	-14.245	76.587	81.509	-5.180	-1.675	1.720	2.896
5E+12	-29.544	62.328	136.041	70.002	-37.816	64.393	139.170	76.988	-14.654	-2.064	8.272	9.617
1E+13	-43.529	18.721	52.632	42.531	-55.071	15.511	49.975	47.742	-3.836	3.211	11.542	6.322

DEVICE TEST: 12.9 CMRR_40V_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

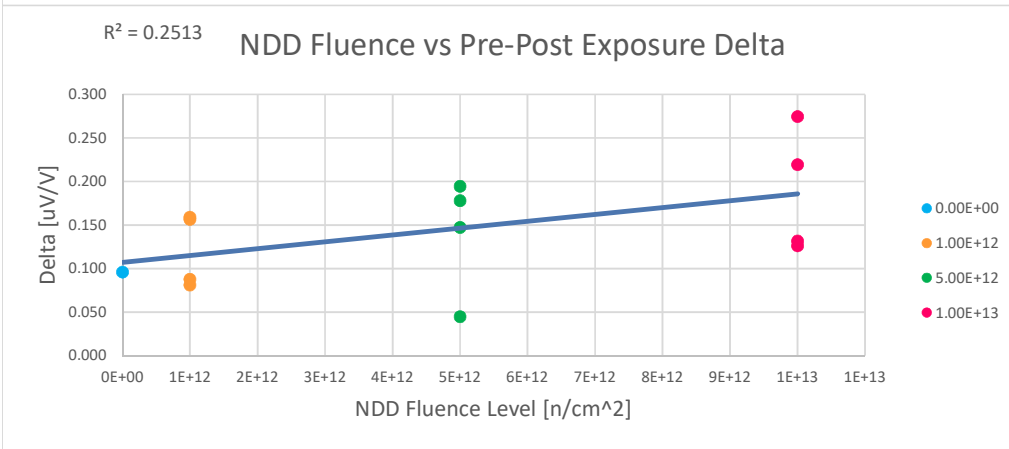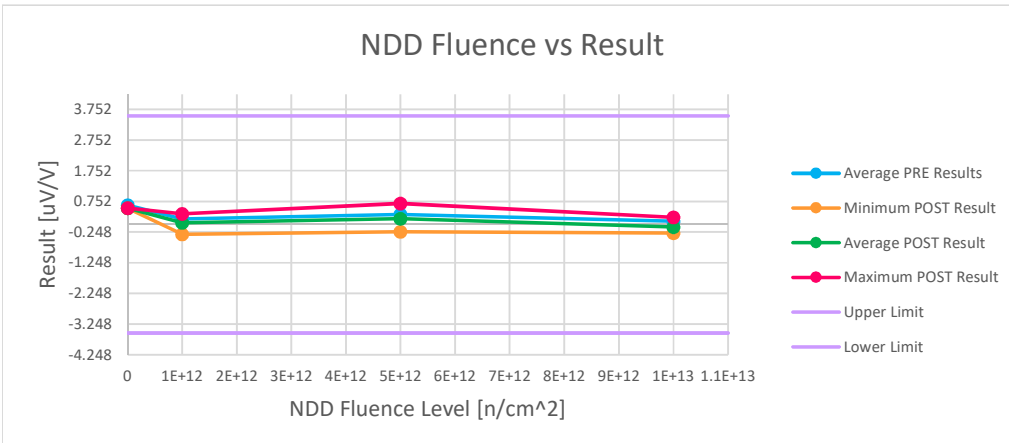NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0482

TEST RESULTS (LOWER LIMIT = -3.54 | UPPER LIMIT = 3.54) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.509	0.565	-0.056
2	1E+12	NDD	0.221	0.396	-0.175
3	1E+12	NDD	-0.161	-0.115	-0.046
4	1E+12	NDD	0.230	0.244	-0.014
5	5E+12	NDD	0.216	0.264	-0.048
6	5E+12	NDD	-0.040	-0.025	-0.015
7	5E+12	NDD	0.738	0.702	0.037
8	5E+12	NDD	-0.152	-0.091	-0.061
9	1E+13	NDD	-0.456	-0.450	-0.006
10	1E+13	NDD	0.666	0.863	-0.197
11	1E+13	NDD	-0.709	-0.737	0.028
12	1E+13	NDD	0.212	0.189	0.023
13	0E+00	CONTROL	0.247	0.325	-0.078

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.247	0.247	0.247	-	0.325	0.325	0.325	-	-0.078	-0.078	-0.078	-
1E+12	-0.161	0.200	0.509	0.275	-0.115	0.272	0.565	0.290	-0.175	-0.073	-0.014	0.071
5E+12	-0.152	0.191	0.738	0.396	-0.091	0.213	0.702	0.360	-0.061	-0.022	0.037	0.044
1E+13	-0.709	-0.072	0.666	0.627	-0.737	-0.034	0.863	0.712	-0.197	-0.038	0.028	0.107

DEVICE TEST: 12.10 CMRR_40V_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2513

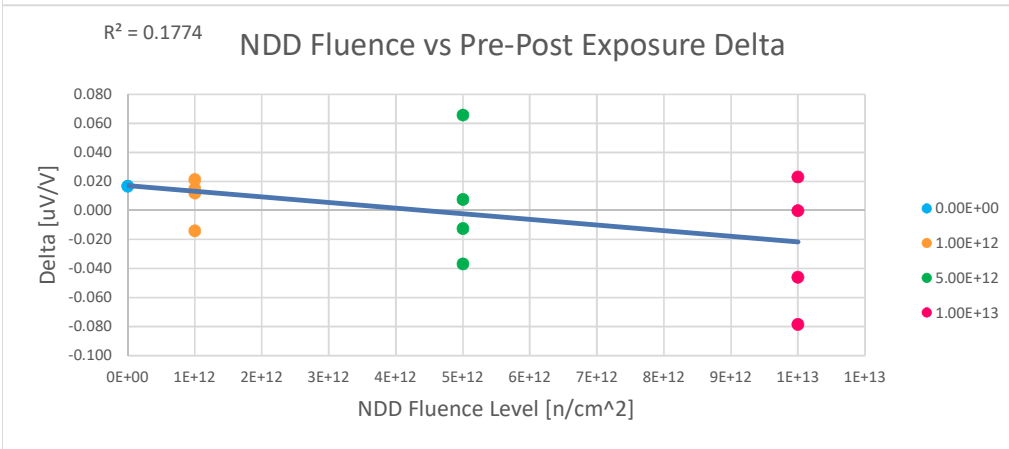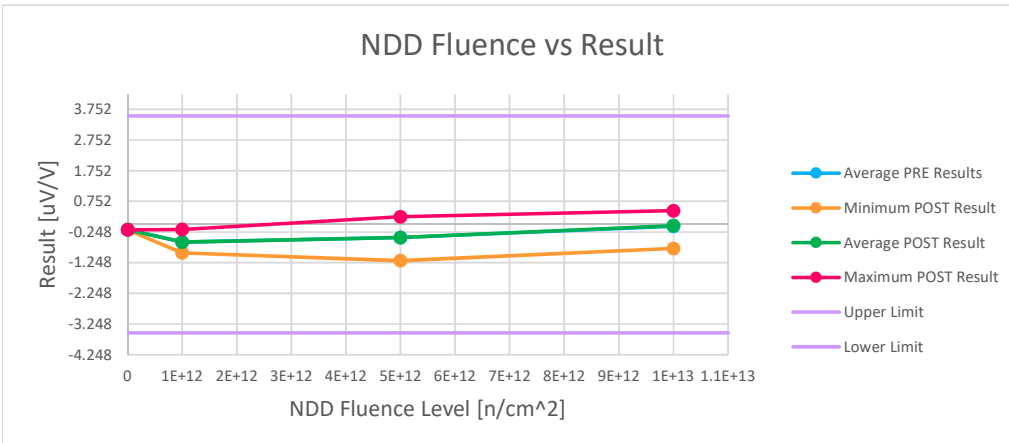## TEST RESULTS (LOWER LIMIT = -3.54 | UPPER LIMIT = 3.54) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.067	-0.089	0.156
2	1E+12	NDD	-0.233	-0.321	0.088
3	1E+12	NDD	0.345	0.264	0.081
4	1E+12	NDD	0.509	0.350	0.159
5	5E+12	NDD	-0.058	-0.236	0.178
6	5E+12	NDD	0.731	0.686	0.045
7	5E+12	NDD	0.163	0.015	0.147
8	5E+12	NDD	0.475	0.281	0.194
9	1E+13	NDD	0.112	-0.163	0.275
10	1E+13	NDD	0.098	-0.121	0.219
11	1E+13	NDD	0.363	0.232	0.132
12	1E+13	NDD	-0.158	-0.284	0.126
13	0E+00	CONTROL	0.626	0.530	0.096

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.626	0.626	0.626	-	0.530	0.530	0.530	-	0.096	0.096	0.096	-
1E+12	-0.233	0.172	0.509	0.326	-0.321	0.051	0.350	0.312	0.081	0.121	0.159	0.042
5E+12	-0.058	0.328	0.731	0.347	-0.236	0.187	0.686	0.394	0.045	0.141	0.194	0.067
1E+13	-0.158	0.104	0.363	0.213	-0.284	-0.084	0.232	0.222	0.126	0.188	0.275	0.072

DEVICE TEST: 12.11 CMRR_40V_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
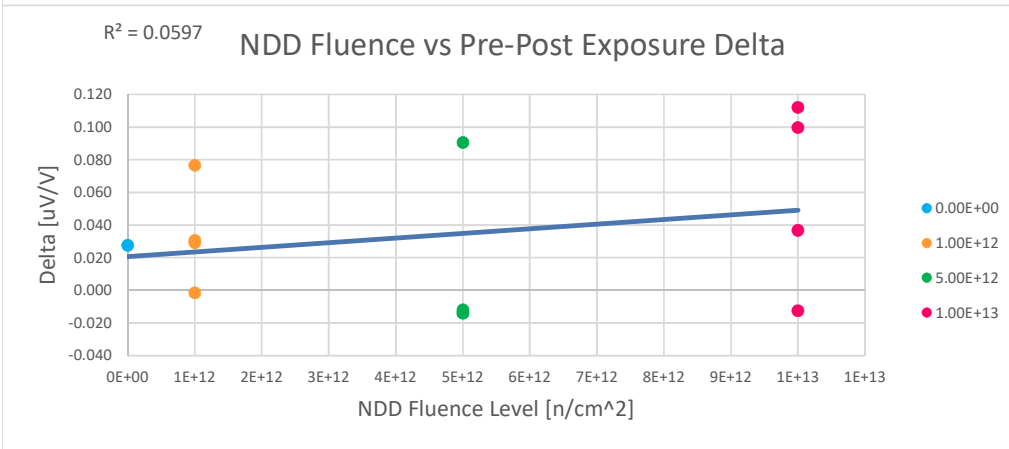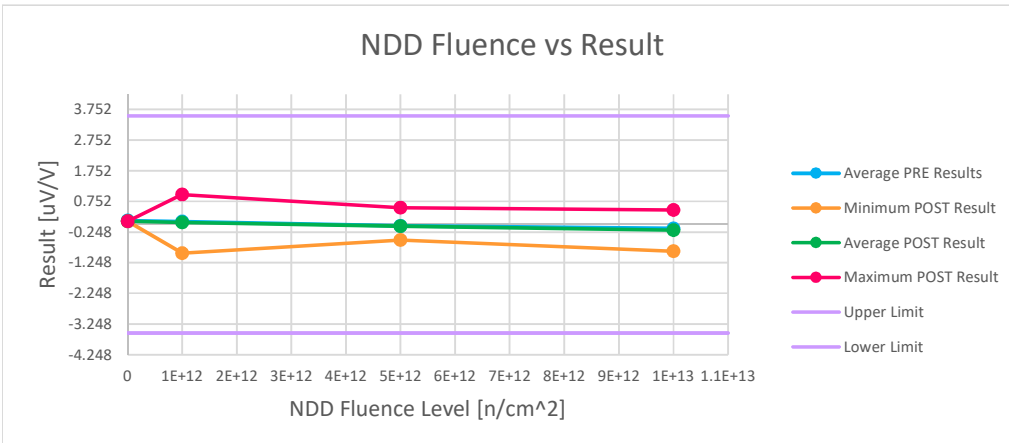
R² = 0.1774

TEST RESULTS (LOWER LIMIT = -3.54 | UPPER LIMIT = 3.54) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.152	-0.167	0.015
2	1E+12	NDD	-0.849	-0.835	-0.014
3	1E+12	NDD	-0.359	-0.381	0.021
4	1E+12	NDD	-0.915	-0.927	0.012
5	5E+12	NDD	0.253	0.246	0.008
6	5E+12	NDD	-0.611	-0.574	-0.037
7	5E+12	NDD	-0.226	-0.213	-0.012
8	5E+12	NDD	-1.116	-1.182	0.066
9	1E+13	NDD	-0.863	-0.784	-0.078
10	1E+13	NDD	-0.002	-0.002	0.000
11	1E+13	NDD	0.210	0.187	0.023
12	1E+13	NDD	0.402	0.448	-0.046
13	0E+00	CONTROL	-0.161	-0.178	0.017

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.161	-0.161	-0.161	-	-0.178	-0.178	-0.178	-	0.017	0.017	0.017	-
1E+12	-0.915	-0.569	-0.152	0.372	-0.927	-0.578	-0.167	0.363	-0.014	0.009	0.021	0.016
5E+12	-1.116	-0.425	0.253	0.581	-1.182	-0.431	0.246	0.603	-0.037	0.006	0.066	0.044
1E+13	-0.863	-0.063	0.402	0.558	-0.784	-0.038	0.448	0.531	-0.078	-0.025	0.023	0.046

DEVICE TEST: 12.12 CMRR_40V_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
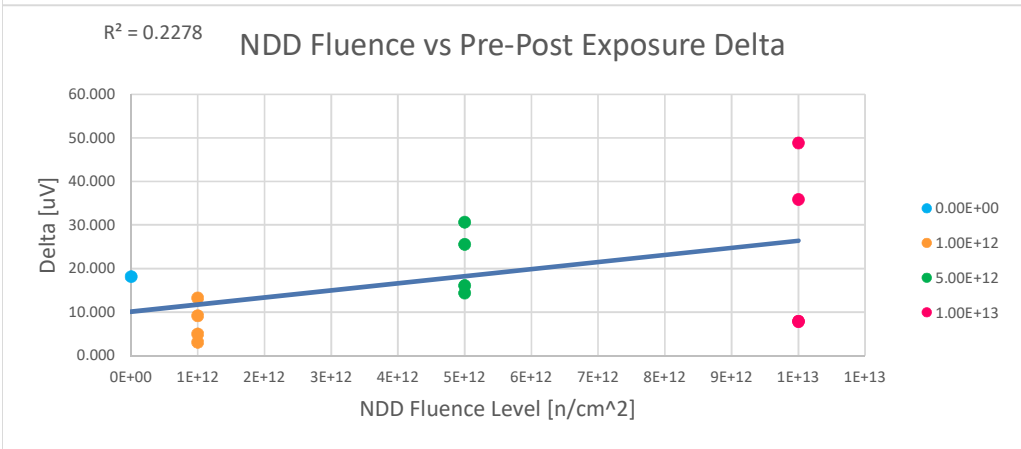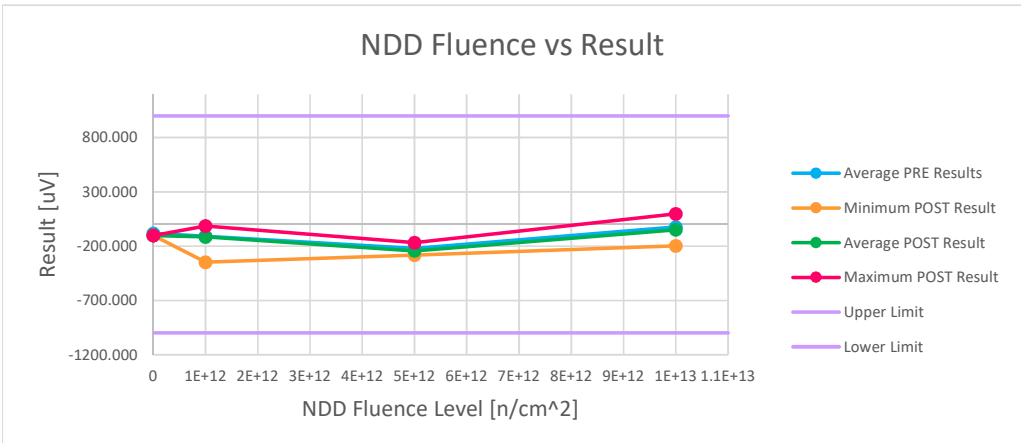
R² = 0.0597

TEST RESULTS (LOWER LIMIT = -3.54 | UPPER LIMIT = 3.54) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.382	0.353	0.029
2	1E+12	NDD	0.975	0.976	-0.001
3	1E+12	NDD	-0.058	-0.135	0.077
4	1E+12	NDD	-0.903	-0.933	0.031
5	5E+12	NDD	-0.361	-0.347	-0.014
6	5E+12	NDD	-0.517	-0.505	-0.012
7	5E+12	NDD	0.072	0.086	-0.014
8	5E+12	NDD	0.633	0.542	0.091
9	1E+13	NDD	-0.642	-0.741	0.100
10	1E+13	NDD	-0.887	-0.875	-0.012
11	1E+13	NDD	0.436	0.399	0.037
12	1E+13	NDD	0.582	0.470	0.112
13	0E+00	CONTROL	0.130	0.103	0.028

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.130	0.130	0.130	-	0.103	0.103	0.103	-	0.028	0.028	0.028	-
1E+12	-0.903	0.099	0.975	0.791	-0.933	0.065	0.976	0.806	-0.001	0.034	0.077	0.032
5E+12	-0.517	-0.043	0.633	0.515	-0.505	-0.056	0.542	0.470	-0.014	0.013	0.091	0.052
1E+13	-0.887	-0.128	0.582	0.744	-0.875	-0.187	0.470	0.720	-0.012	0.059	0.112	0.058

DEVICE TEST: 13.1 CMRR_4V_VIO1_L_AMP1 [uV]

NDD Fluence vs Result

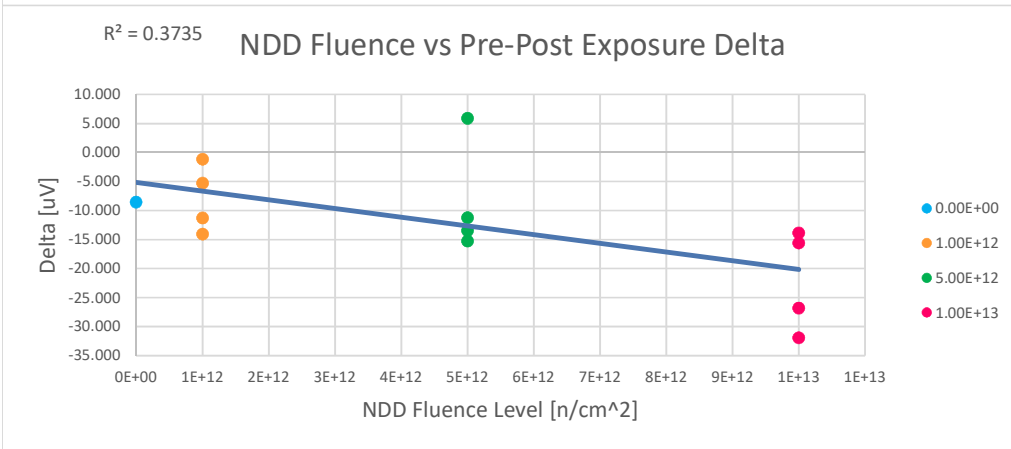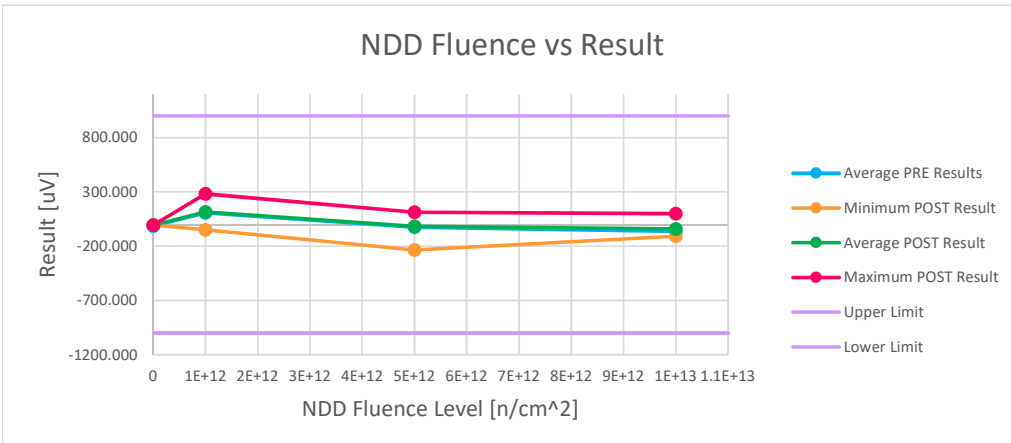NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 0.2278$

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-338.171	-347.304	9.133
2	1E+12	NDD	-73.793	-86.991	13.198
3	1E+12	NDD	-9.072	-14.061	4.989
4	1E+12	NDD	-11.761	-14.821	3.060
5	5E+12	NDD	-136.525	-167.114	30.589
6	5E+12	NDD	-253.819	-268.175	14.356
7	5E+12	NDD	-257.489	-283.030	25.541
8	5E+12	NDD	-239.306	-255.367	16.061
9	1E+13	NDD	106.630	98.756	7.874
10	1E+13	NDD	18.465	-30.319	48.784
11	1E+13	NDD	-59.235	-67.048	7.813
12	1E+13	NDD	-162.484	-198.345	35.861
13	0E+00	CONTROL	-82.270	-100.384	18.114

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-82.270	-82.270	-82.270	-	-100.384	-100.384	-100.384	-	18.114	18.114	18.114	-
1E+12	-338.171	-108.199	-9.072	156.202	-347.304	-115.794	-14.061	158.084	3.060	7.595	13.198	4.514
5E+12	-257.489	-221.785	-136.525	57.379	-283.030	-243.422	-167.114	52.112	14.356	21.637	30.589	7.735
1E+13	-162.484	-24.156	106.630	114.436	-198.345	-49.239	98.756	122.216	7.813	25.083	48.784	20.594

DEVICE TEST: 13.2 CMRR_4V_VIO2_L_AMP2 [uV]

NDD Fluence vs Result

R² = 0.3735
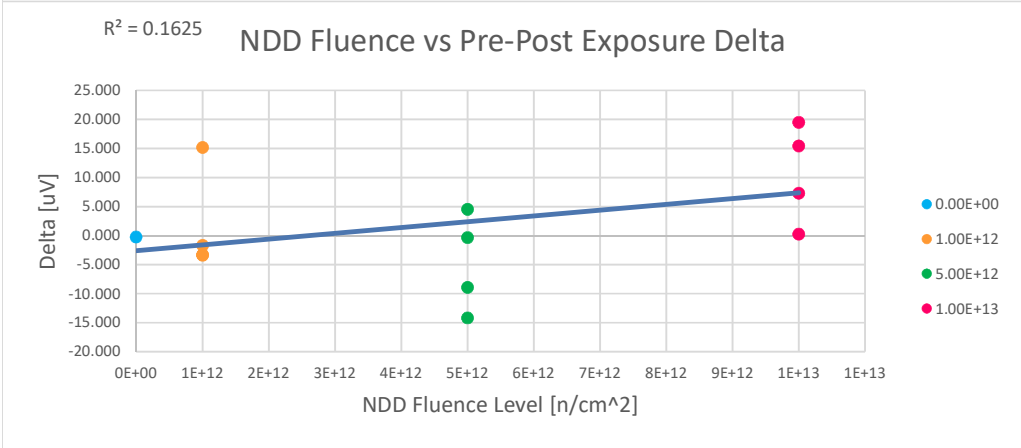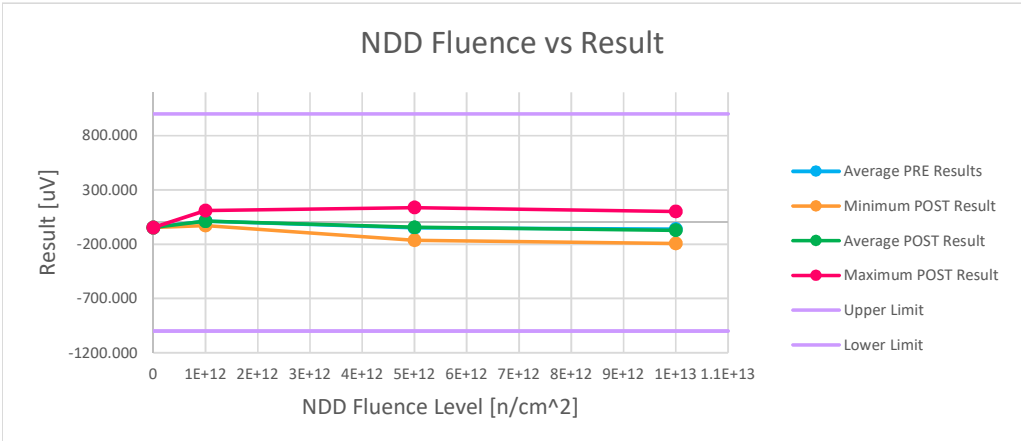
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	175.292	176.448	-1.156
2	1E+12	NDD	276.840	282.137	-5.297
3	1E+12	NDD	38.511	52.568	-14.057
4	1E+12	NDD	-61.518	-50.197	-11.321
5	5E+12	NDD	-250.767	-235.490	-15.277
6	5E+12	NDD	27.692	41.163	-13.471
7	5E+12	NDD	20.457	14.609	5.848
8	5E+12	NDD	102.198	113.455	-11.257
9	1E+13	NDD	-77.819	-62.187	-15.632
10	1E+13	NDD	-118.602	-91.783	-26.820
11	1E+13	NDD	-121.874	-107.984	-13.890
12	1E+13	NDD	68.427	100.354	-31.927
13	0E+00	CONTROL	-14.191	-5.628	-8.563

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-14.191	-14.191	-14.191	-	-5.628	-5.628	-5.628	-	-8.563	-8.563	-8.563	-
1E+12	-61.518	107.281	276.840	148.995	-50.197	115.239	282.137	144.797	-14.057	-7.958	-1.156	5.827
5E+12	-250.767	-25.105	102.198	154.912	-235.490	-16.566	113.455	151.809	-15.277	-8.539	5.848	9.731
1E+13	-121.874	-62.467	68.427	89.534	-107.984	-40.400	100.354	95.732	-31.927	-22.067	-13.890	8.719

DEVICE TEST: 13.3 CMRR_4V_VIO3_L_AMP3 [uV]

NDD Fluence vs Result

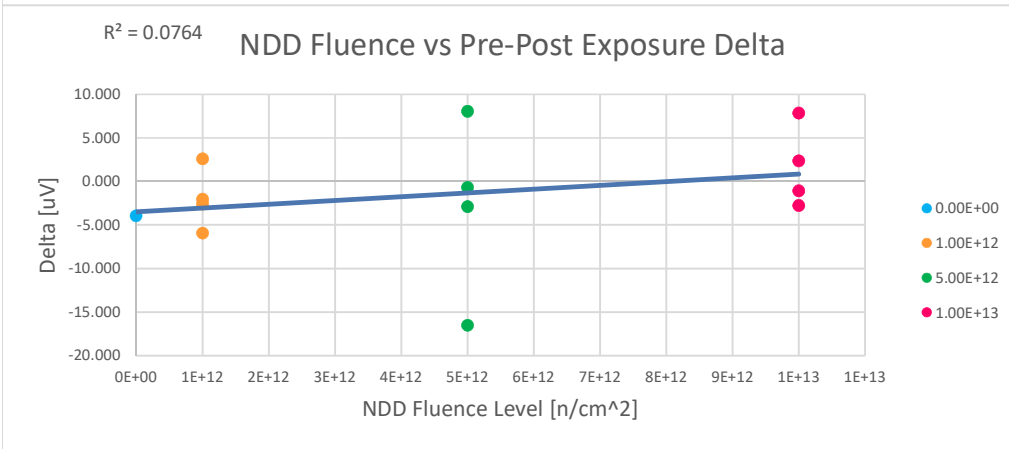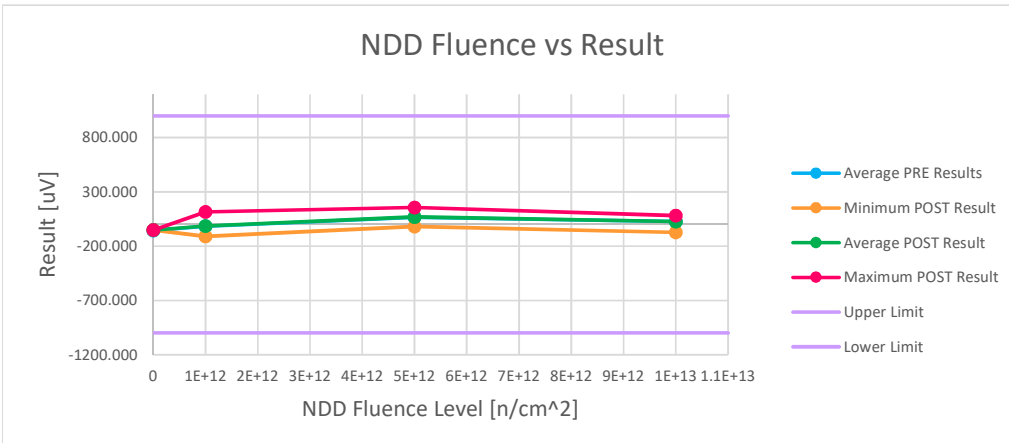## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1625

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-17.936	-16.252	-1.684
2	1E+12	NDD	125.273	110.088	15.184
3	1E+12	NDD	-21.388	-18.006	-3.381
4	1E+12	NDD	-33.322	-29.997	-3.325
5	5E+12	NDD	-42.038	-46.550	4.512
6	5E+12	NDD	123.030	137.228	-14.198
7	5E+12	NDD	-107.676	-107.322	-0.354
8	5E+12	NDD	-172.494	-163.590	-8.904
9	1E+13	NDD	121.061	101.549	19.512
10	1E+13	NDD	-45.665	-45.906	0.241
11	1E+13	NDD	-186.651	-193.947	7.295
12	1E+13	NDD	-136.107	-151.541	15.434
13	0E+00	CONTROL	-47.537	-47.310	-0.227

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-47.537	-47.537	-47.537	-	-47.310	-47.310	-47.310	-	-0.227	-0.227	-0.227	-
1E+12	-33.322	13.157	125.273	75.034	-29.997	11.458	110.088	66.036	-3.381	1.699	15.184	9.025
5E+12	-172.494	-49.794	123.030	126.930	-163.590	-45.058	137.228	130.585	-14.198	-4.736	4.512	8.399
1E+13	-186.651	-61.841	121.061	135.164	-193.947	-72.461	101.549	131.652	0.241	10.621	19.512	8.583

DEVICE TEST: 13.4 CMRR_4V_VIO4_L_AMP4 [uV]

NDD Fluence vs Result

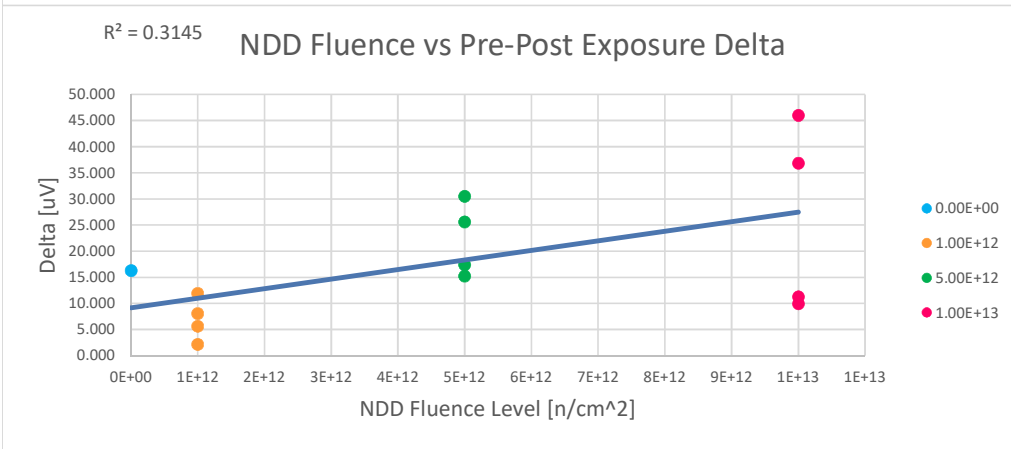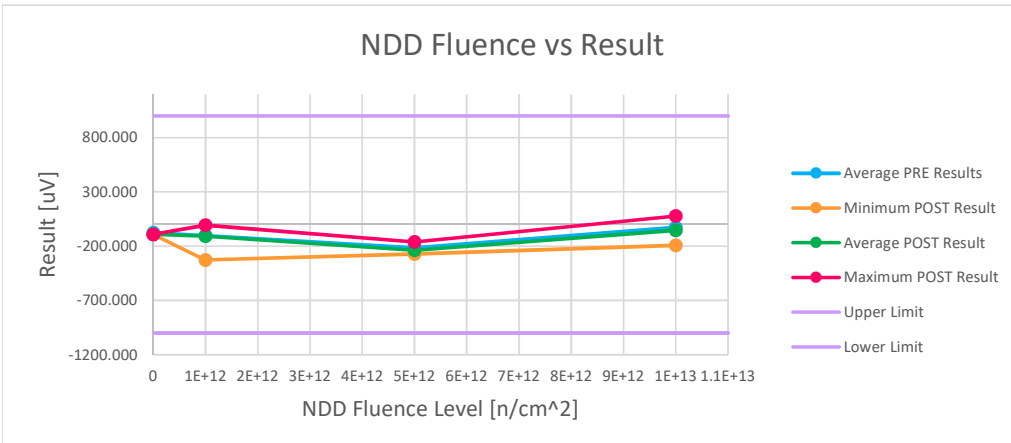## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0764

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-113.017	-110.401	-2.616
2	1E+12	NDD	-4.456	-7.051	2.595
3	1E+12	NDD	-55.286	-53.257	-2.028
4	1E+12	NDD	109.252	115.190	-5.938
5	5E+12	NDD	153.121	156.015	-2.894
6	5E+12	NDD	-11.059	-19.100	8.041
7	5E+12	NDD	53.275	53.952	-0.677
8	5E+12	NDD	69.712	86.238	-16.526
9	1E+13	NDD	80.942	82.027	-1.085
10	1E+13	NDD	66.670	64.305	2.365
11	1E+13	NDD	20.227	23.012	-2.784
12	1E+13	NDD	-63.416	-71.272	7.856
13	0E+00	CONTROL	-55.929	-51.971	-3.958

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-55.929	-55.929	-55.929	-	-51.971	-51.971	-51.971	-	-3.958	-3.958	-3.958	-
1E+12	-113.017	-15.877	109.252	94.476	-110.401	-13.880	115.190	95.869	-5.938	-1.997	2.595	3.512
5E+12	-11.059	66.262	153.121	67.586	-19.100	69.276	156.015	72.701	-16.526	-3.014	8.041	10.170
1E+13	-63.416	26.106	80.942	65.067	-71.272	24.518	82.027	68.479	-2.784	1.588	7.856	4.696

DEVICE TEST: 13.5 CMRR_4V_VIO1_H_AMP1 [uV]

NDD Fluence vs Result

R² = 0.3145
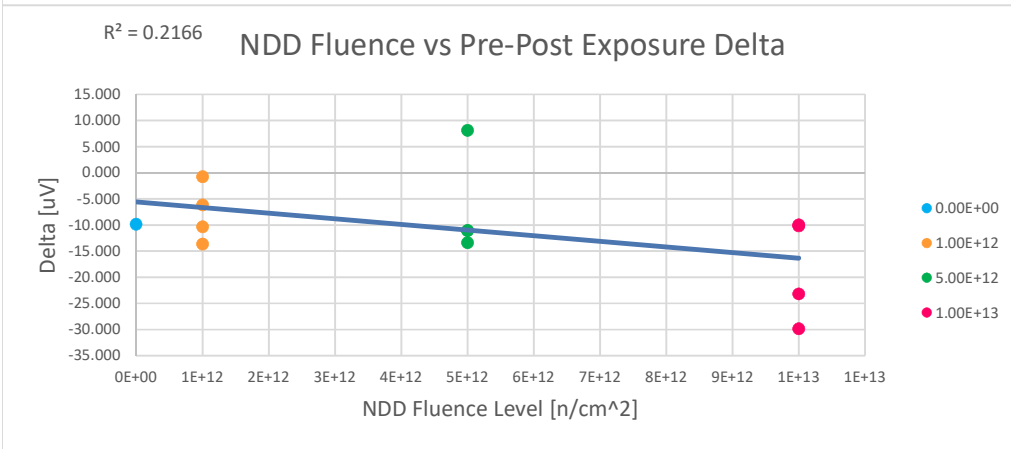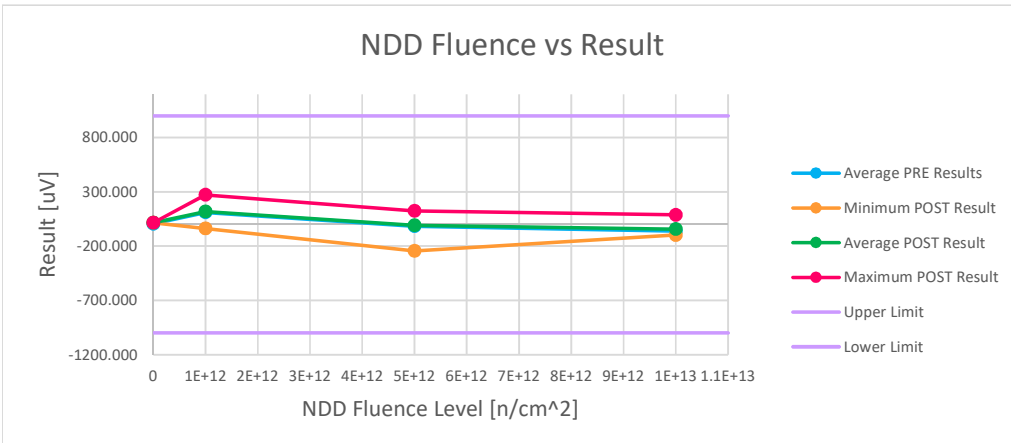
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-319.345	-327.361	8.016
2	1E+12	NDD	-65.315	-77.224	11.909
3	1E+12	NDD	-16.088	-21.722	5.634
4	1E+12	NDD	-5.330	-7.452	2.122
5	5E+12	NDD	-131.439	-161.909	30.470
6	5E+12	NDD	-255.107	-272.444	17.337
7	5E+12	NDD	-231.414	-257.005	25.591
8	5E+12	NDD	-244.685	-259.870	15.185
9	1E+13	NDD	89.500	78.286	11.214
10	1E+13	NDD	43.488	-2.481	45.969
11	1E+13	NDD	-87.649	-97.576	9.928
12	1E+13	NDD	-156.169	-192.964	36.795
13	0E+00	CONTROL	-75.488	-91.728	16.240

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-75.488	-75.488	-75.488	-	-91.728	-91.728	-91.728	-	16.240	16.240	16.240	-
1E+12	-319.345	-101.519	-5.330	147.546	-327.361	-108.440	-7.452	149.018	2.122	6.920	11.909	4.114
5E+12	-255.107	-215.661	-131.439	56.979	-272.444	-237.807	-161.909	51.041	15.185	22.146	30.470	7.135
1E+13	-156.169	-27.708	89.500	113.874	-192.964	-53.684	78.286	117.421	9.928	25.976	45.969	18.186

DEVICE TEST: 13.6 CMRR_4V_VIO2_H_AMP2 [uV]

NDD Fluence vs Result

R² = 0.2166
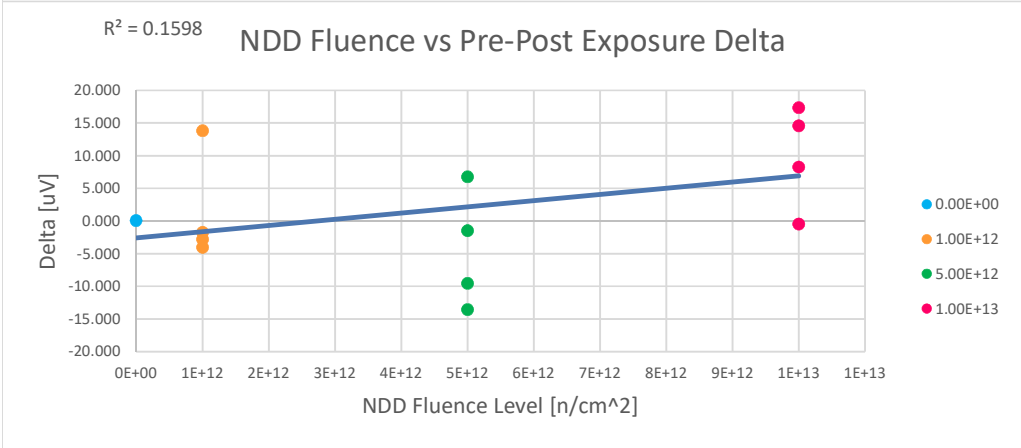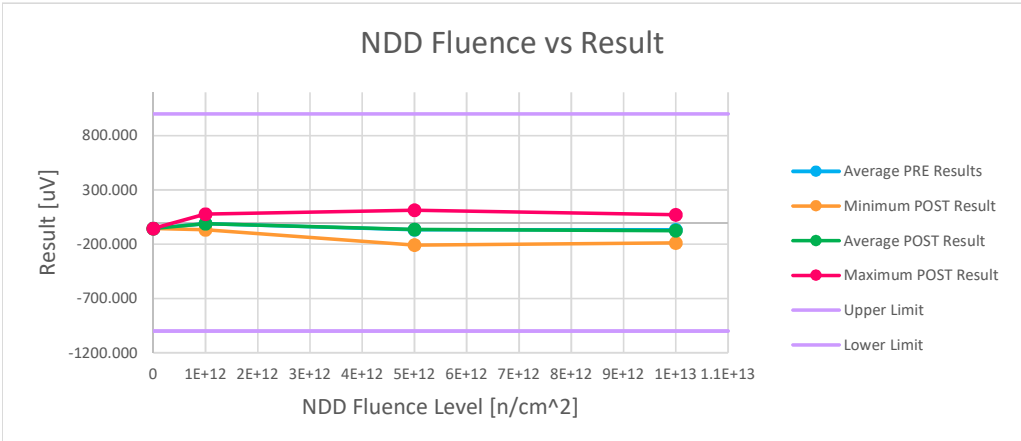
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	176.052	176.799	-0.747
2	1E+12	NDD	266.206	272.370	-6.163
3	1E+12	NDD	48.210	61.868	-13.658
4	1E+12	NDD	-47.320	-36.978	-10.341
5	5E+12	NDD	-258.129	-244.731	-13.398
6	5E+12	NDD	56.015	67.073	-11.058
7	5E+12	NDD	24.372	16.247	8.125
8	5E+12	NDD	114.877	125.913	-11.036
9	1E+13	NDD	-76.476	-66.515	-9.960
10	1E+13	NDD	-118.661	-95.467	-23.193
11	1E+13	NDD	-109.137	-98.977	-10.160
12	1E+13	NDD	58.319	88.188	-29.869
13	0E+00	CONTROL	5.207	15.077	-9.870

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	5.207	5.207	5.207	-	15.077	15.077	15.077	-	-9.870	-9.870	-9.870	-
1E+12	-47.320	110.787	266.206	138.237	-36.978	118.515	272.370	134.729	-13.658	-7.727	-0.747	5.573
5E+12	-258.129	-15.716	114.877	165.903	-244.731	-8.874	125.913	163.499	-13.398	-6.842	8.125	10.039
1E+13	-118.661	-61.489	58.319	81.889	-98.977	-43.193	88.188	88.787	-29.869	-18.296	-9.960	9.893

DEVICE TEST: 13.7 CMRR_4V_VIO3_H_AMP3 [uV]

NDD Fluence vs Result

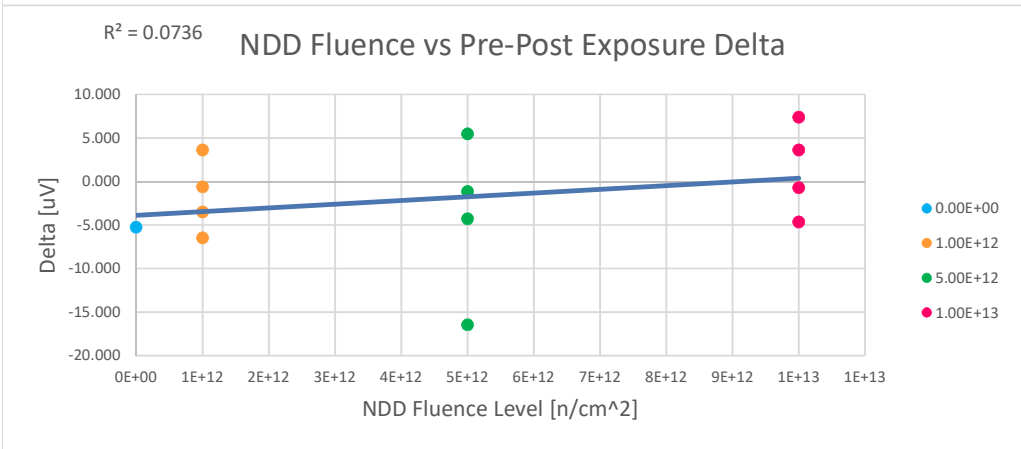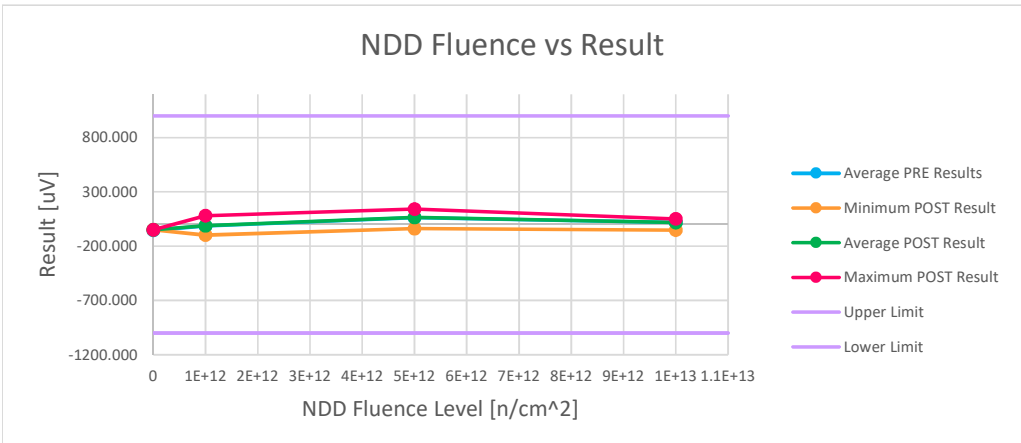## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1598

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-25.073	-23.329	-1.744
2	1E+12	NDD	90.933	77.100	13.833
3	1E+12	NDD	-35.837	-33.039	-2.799
4	1E+12	NDD	-70.645	-66.612	-4.033
5	5E+12	NDD	-35.018	-41.812	6.794
6	5E+12	NDD	99.348	112.896	-13.548
7	5E+12	NDD	-118.615	-117.148	-1.467
8	5E+12	NDD	-218.124	-208.569	-9.555
9	1E+13	NDD	88.067	70.724	17.342
10	1E+13	NDD	-48.122	-47.661	-0.461
11	1E+13	NDD	-180.392	-188.682	8.291
12	1E+13	NDD	-124.348	-138.907	14.559
13	0E+00	CONTROL	-55.142	-55.206	0.064

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-55.142	-55.142	-55.142	-	-55.206	-55.206	-55.206	-	0.064	0.064	0.064	-
1E+12	-70.645	-10.156	90.933	70.143	-66.612	-11.470	77.100	61.890	-4.033	1.315	13.833	8.398
5E+12	-218.124	-68.102	99.348	134.403	-208.569	-63.658	112.896	136.026	-13.548	-4.444	6.794	9.021
1E+13	-180.392	-66.199	88.067	116.255	-188.682	-76.132	70.724	113.996	-0.461	9.933	17.342	7.896

DEVICE TEST: 13.8 CMRR_4V_VIO4_H_AMP4 [uV]

NDD Fluence vs Result

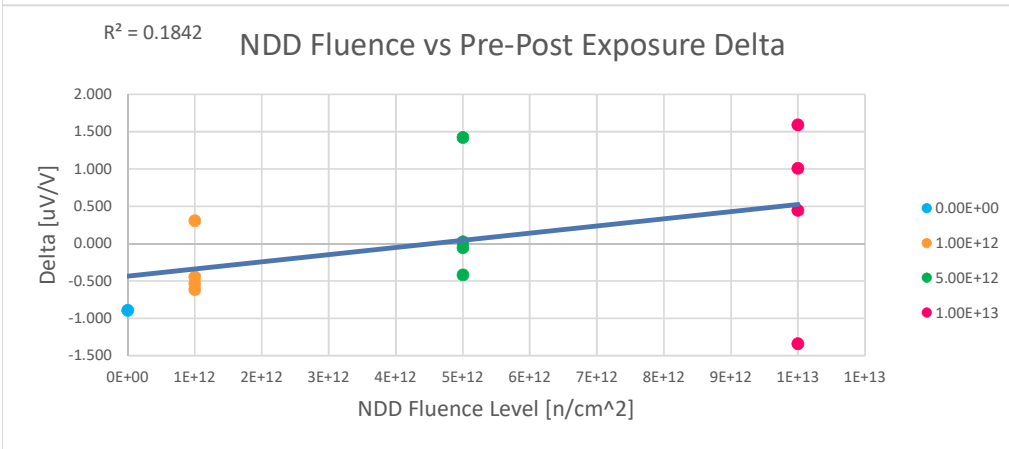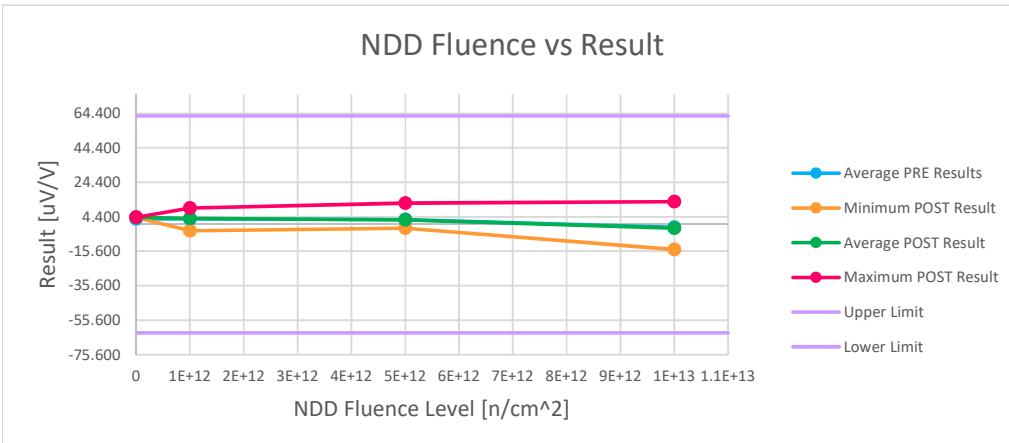NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0736

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-101.728	-98.235	-3.493
2	1E+12	NDD	30.288	26.697	3.591
3	1E+12	NDD	-60.784	-60.159	-0.625
4	1E+12	NDD	73.280	79.746	-6.466
5	5E+12	NDD	137.387	141.685	-4.299
6	5E+12	NDD	-32.528	-37.992	5.464
7	5E+12	NDD	52.924	54.069	-1.145
8	5E+12	NDD	89.189	105.656	-16.467
9	1E+13	NDD	55.030	51.437	3.593
10	1E+13	NDD	29.645	30.381	-0.737
11	1E+13	NDD	33.388	38.043	-4.655
12	1E+13	NDD	-45.225	-52.614	7.389
13	0E+00	CONTROL	-53.706	-48.461	-5.245

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-53.706	-53.706	-53.706	-	-48.461	-48.461	-48.461	-	-5.245	-5.245	-5.245	-
1E+12	-101.728	-14.736	73.280	80.544	-98.235	-12.988	79.746	80.966	-6.466	-1.748	3.591	4.285
5E+12	-32.528	61.743	137.387	71.740	-37.992	65.855	141.685	78.012	-16.467	-4.112	5.464	9.187
1E+13	-45.225	18.209	55.030	43.745	-52.614	16.812	51.437	47.095	-4.655	1.397	7.389	5.225

DEVICE TEST: 13.9 CMRR_4V_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1842

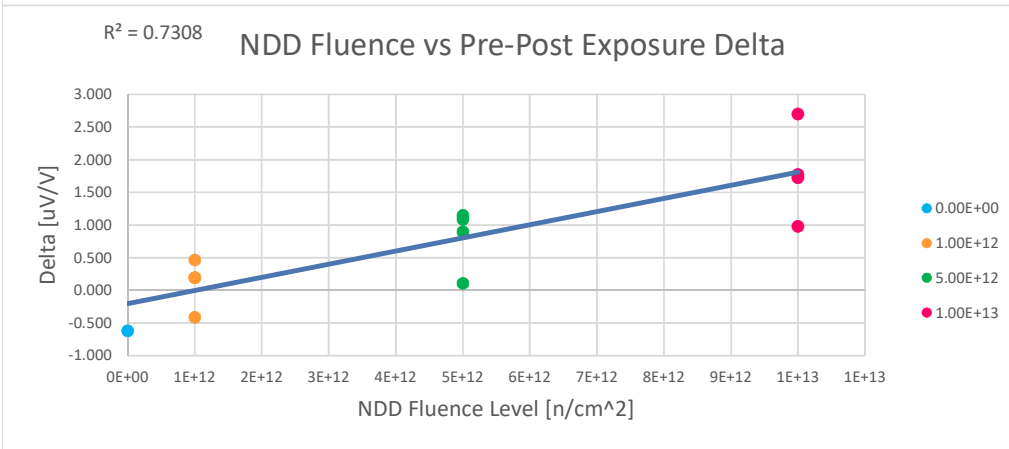## TEST RESULTS (LOWER LIMIT = -63 | UPPER LIMIT = 63) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	8.965	9.497	-0.532
2	1E+12	NDD	4.037	4.651	-0.614
3	1E+12	NDD	-3.341	-3.648	0.307
4	1E+12	NDD	3.062	3.509	-0.447
5	5E+12	NDD	2.422	2.479	-0.057
6	5E+12	NDD	-0.613	-2.033	1.420
7	5E+12	NDD	12.417	12.393	0.024
8	5E+12	NDD	-2.561	-2.144	-0.417
9	1E+13	NDD	-8.157	-9.747	1.590
10	1E+13	NDD	11.916	13.256	-1.341
11	1E+13	NDD	-13.530	-14.538	1.007
12	1E+13	NDD	3.007	2.562	0.445
13	0E+00	CONTROL	3.229	4.122	-0.892

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	3.229	3.229	3.229	-	4.122	4.122	4.122	-	-0.892	-0.892	-0.892	-
1E+12	-3.341	3.181	8.965	5.057	-3.648	3.502	9.497	5.428	-0.614	-0.321	0.307	0.425
5E+12	-2.561	2.916	12.417	6.657	-2.144	2.674	12.393	6.828	-0.417	0.243	1.420	0.808
1E+13	-13.530	-1.691	11.916	11.390	-14.538	-2.117	13.256	12.526	-1.341	0.425	1.590	1.267

DEVICE TEST: 13.10 CMRR_4V_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result
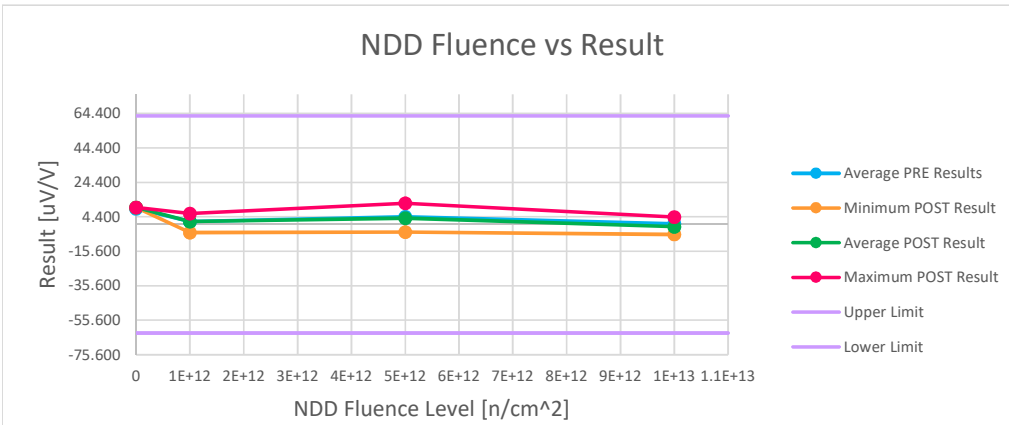

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.7308

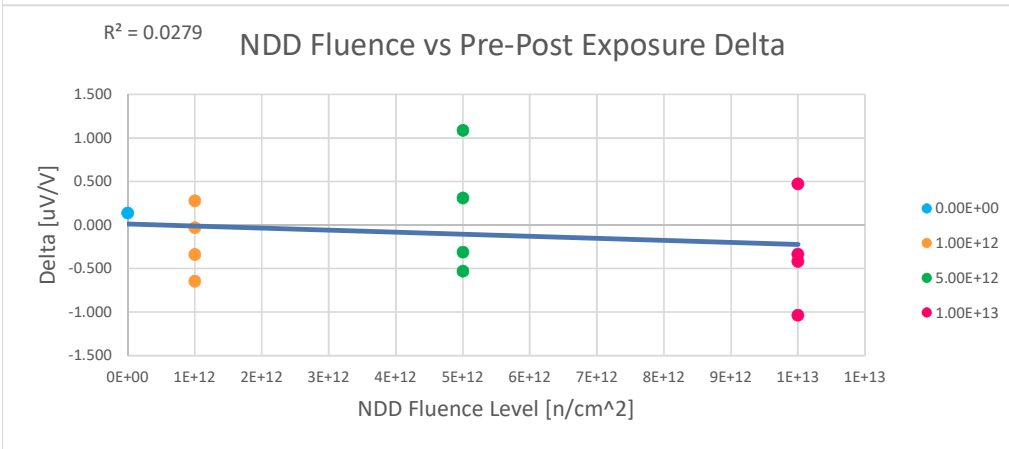## TEST RESULTS (LOWER LIMIT = -63 | UPPER LIMIT = 63) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.362	0.167	0.195
2	1E+12	NDD	-5.064	-4.651	-0.413
3	1E+12	NDD	4.619	4.428	0.190
4	1E+12	NDD	6.761	6.295	0.466
5	5E+12	NDD	-3.506	-4.401	0.895
6	5E+12	NDD	13.487	12.338	1.149
7	5E+12	NDD	1.864	0.780	1.084
8	5E+12	NDD	6.038	5.932	0.105
9	1E+13	NDD	0.640	-2.061	2.701
10	1E+13	NDD	-0.028	-1.755	1.727
11	1E+13	NDD	6.065	4.289	1.776
12	1E+13	NDD	-4.813	-5.793	0.980
13	0E+00	CONTROL	9.237	9.860	-0.622

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	9.237	9.237	9.237	-	9.860	9.860	9.860	-	-0.622	-0.622	-0.622	-
1E+12	-5.064	1.669	6.761	5.218	-4.651	1.560	6.295	4.870	-0.413	0.110	0.466	0.371
5E+12	-3.506	4.471	13.487	7.169	-4.401	3.663	12.338	7.159	0.105	0.808	1.149	0.481
1E+13	-4.813	0.466	6.065	4.453	-5.793	-1.330	4.289	4.172	0.980	1.796	2.701	0.705

DEVICE TEST: 13.11 CMRR_4V_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result
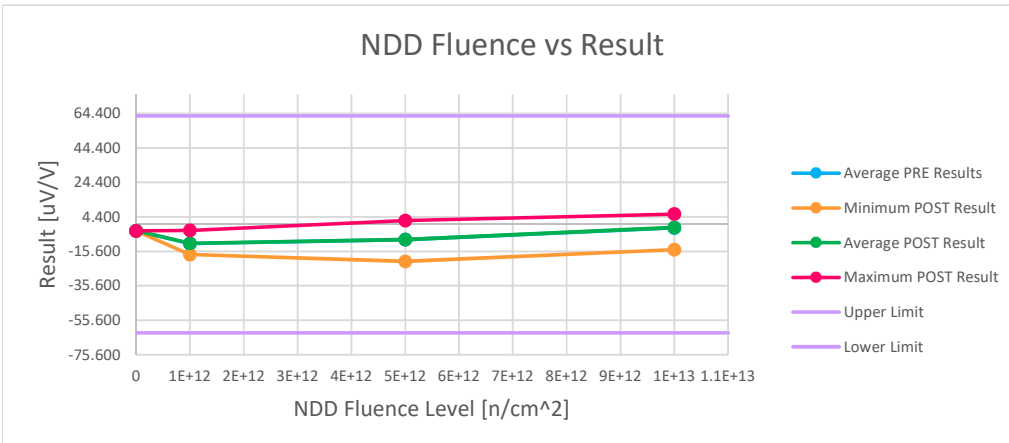

NDD Fluence vs Pre-Post Exposure Delta
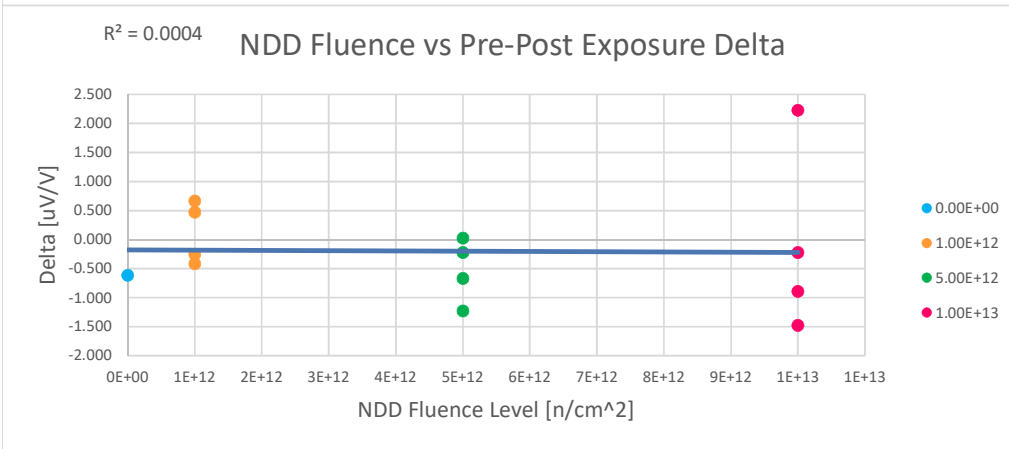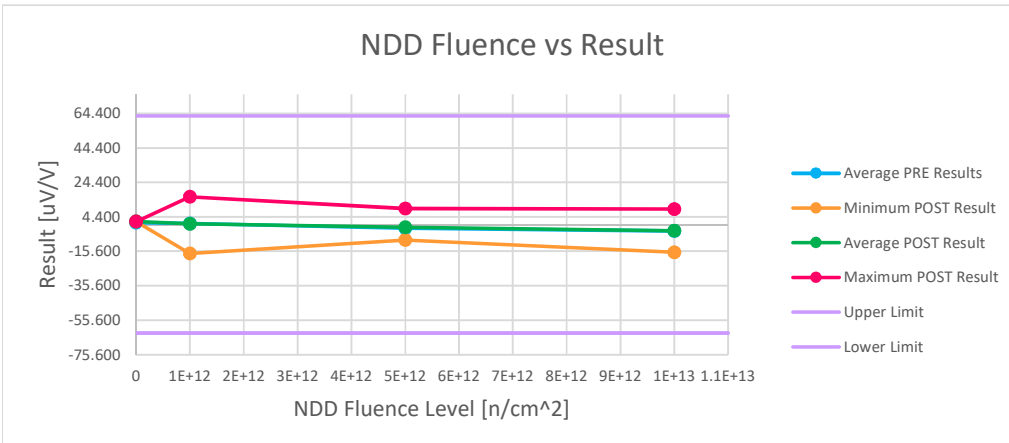
R² = 0.0279

TEST RESULTS (LOWER LIMIT = -63 | UPPER LIMIT = 63) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-3.399	-3.370	-0.029
2	1E+12	NDD	-16.352	-15.709	-0.643
3	1E+12	NDD	-6.881	-7.158	0.277
4	1E+12	NDD	-17.773	-17.436	-0.337
5	5E+12	NDD	3.343	2.256	1.087
6	5E+12	NDD	-11.277	-11.587	0.310
7	5E+12	NDD	-5.209	-4.679	-0.530
8	5E+12	NDD	-21.729	-21.419	-0.310
9	1E+13	NDD	-15.712	-14.678	-1.033
10	1E+13	NDD	-1.170	-0.836	-0.334
11	1E+13	NDD	2.981	2.507	0.474
12	1E+13	NDD	5.599	6.016	-0.417
13	0E+00	CONTROL	-3.621	-3.760	0.139

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-3.621	-3.621	-3.621	-	-3.760	-3.760	-3.760	-	0.139	0.139	0.139	-
1E+12	-17.773	-11.101	-3.399	7.053	-17.436	-10.918	-3.370	6.746	-0.643	-0.183	0.277	0.396
5E+12	-21.729	-8.718	3.343	10.545	-21.419	-8.857	2.256	10.103	-0.530	0.139	1.087	0.725
1E+13	-15.712	-2.075	5.599	9.508	-14.678	-1.748	6.016	9.063	-1.033	-0.328	0.474	0.619

DEVICE TEST: 13.12 CMRR_4V_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0004

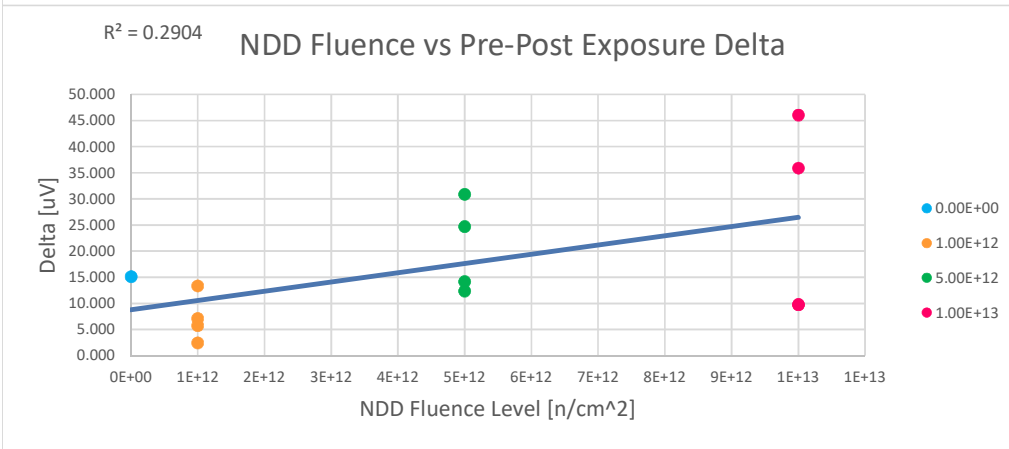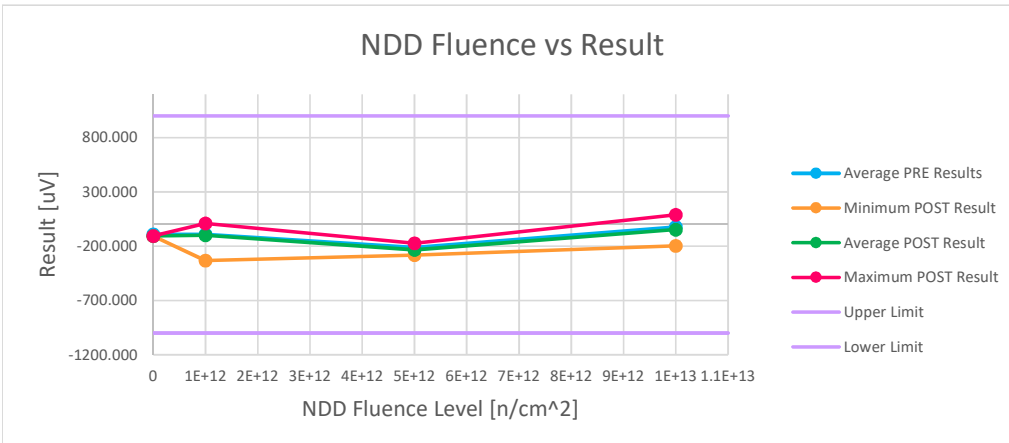### TEST RESULTS (LOWER LIMIT = -63 | UPPER LIMIT = 63) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	5.376	5.793	-0.417
2	1E+12	NDD	16.545	16.070	0.474
3	1E+12	NDD	-2.618	-3.287	0.668
4	1E+12	NDD	-17.130	-16.878	-0.252
5	5E+12	NDD	-7.493	-6.824	-0.669
6	5E+12	NDD	-10.223	-8.996	-1.227
7	5E+12	NDD	-0.167	0.056	-0.223
8	5E+12	NDD	9.275	9.247	0.028
9	1E+13	NDD	-12.339	-14.566	2.227
10	1E+13	NDD	-17.631	-16.154	-1.477
11	1E+13	NDD	6.267	7.158	-0.891
12	1E+13	NDD	8.662	8.885	-0.222
13	0E+00	CONTROL	1.058	1.671	-0.613

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	1.058	1.058	1.058	-	1.671	1.671	1.671	-	-0.613	-0.613	-0.613	-
1E+12	-17.130	0.543	16.545	14.163	-16.878	0.425	16.070	13.985	-0.417	0.118	0.668	0.533
5E+12	-10.223	-2.152	9.275	8.721	-8.996	-1.629	9.247	8.213	-1.227	-0.523	0.028	0.551
1E+13	-17.631	-3.760	8.662	13.177	-16.154	-3.669	8.885	13.533	-1.477	-0.091	2.227	1.628

DEVICE TEST: 131.1 CMRR3_2p7V_VIO1_L_AMP1 [uV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
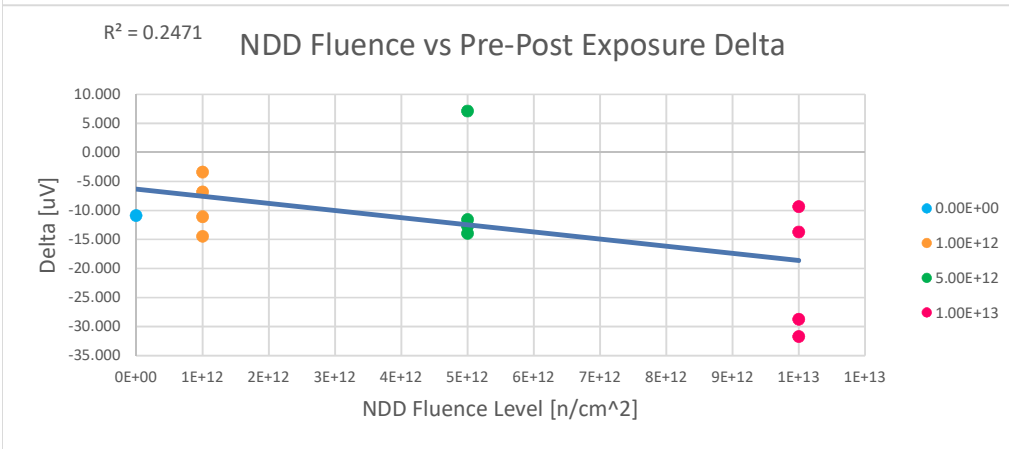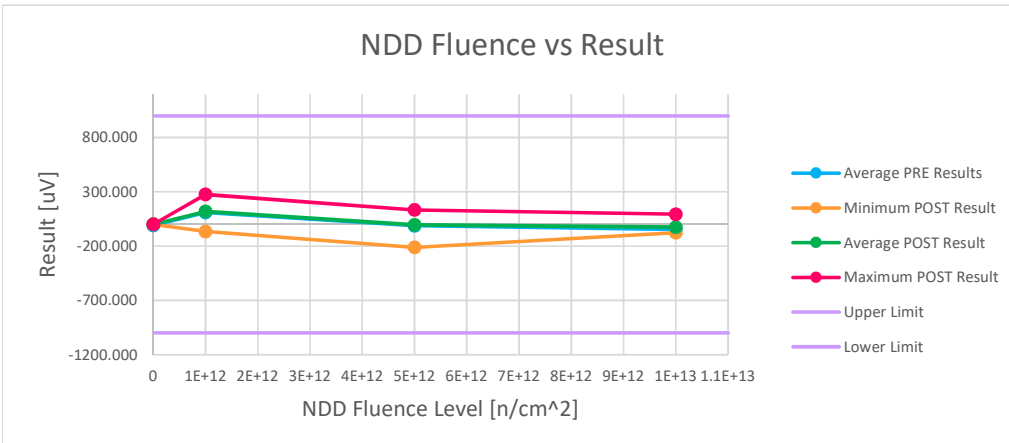
R² = 0.2904

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-325.425	-332.566	7.141
2	1E+12	NDD	-53.798	-67.164	13.367
3	1E+12	NDD	15.483	9.742	5.741
4	1E+12	NDD	-4.395	-6.809	2.414
5	5E+12	NDD	-141.787	-172.670	30.883
6	5E+12	NDD	-263.594	-275.954	12.360
7	5E+12	NDD	-256.846	-281.568	24.722
8	5E+12	NDD	-191.599	-205.772	14.173
9	1E+13	NDD	99.088	89.340	9.749
10	1E+13	NDD	37.057	-8.973	46.029
11	1E+13	NDD	-65.315	-75.060	9.745
12	1E+13	NDD	-160.145	-196.064	35.919
13	0E+00	CONTROL	-91.683	-106.817	15.134

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-91.683	-91.683	-91.683	-	-106.817	-106.817	-106.817	-	15.134	15.134	15.134	-
1E+12	-325.425	-92.034	15.483	158.297	-332.566	-99.199	9.742	159.050	2.414	7.166	13.367	4.585
5E+12	-263.594	-213.457	-141.787	57.766	-281.568	-233.991	-172.670	53.482	12.360	20.534	30.883	8.793
1E+13	-160.145	-22.329	99.088	114.178	-196.064	-47.689	89.340	119.778	9.745	25.360	46.029	18.496

DEVICE TEST: 131.2 CMRR3_2p7V_VIO2_L_AMP2 [uV]

NDD Fluence vs Result

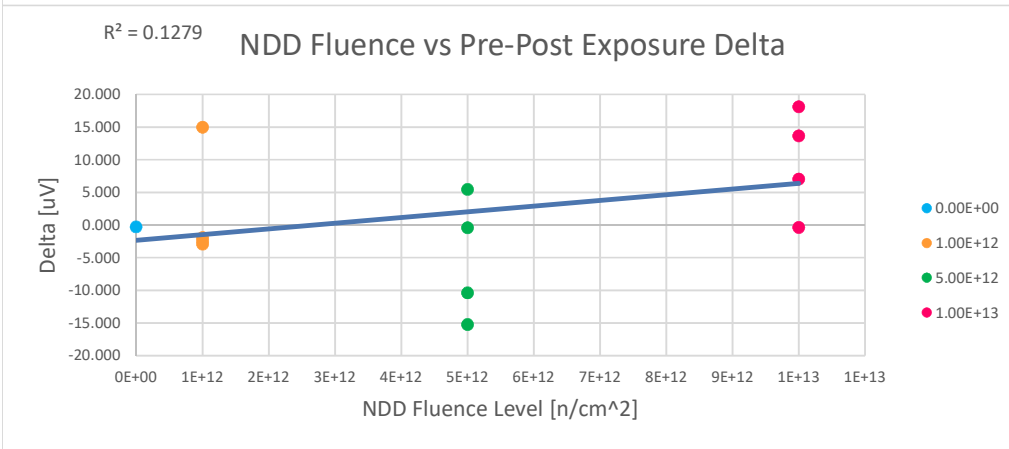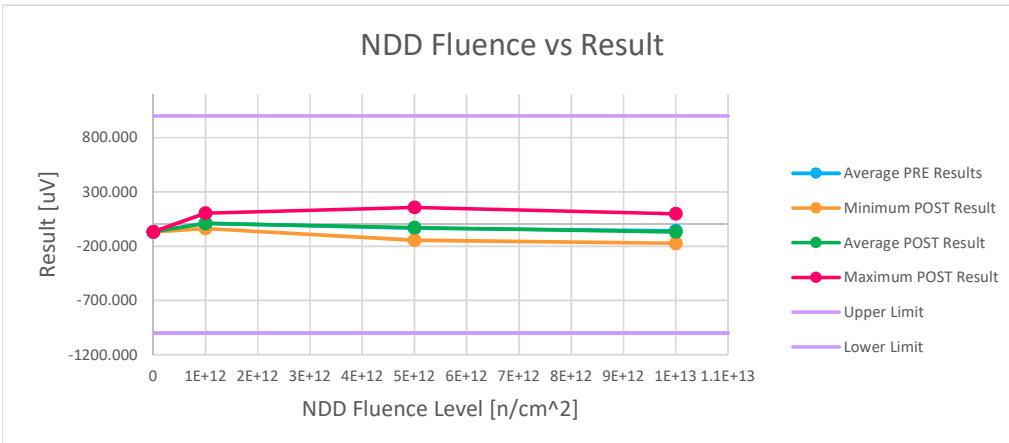NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2471

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	190.659	194.053	-3.394
2	1E+12	NDD	269.478	276.289	-6.810
3	1E+12	NDD	57.910	72.337	-14.428
4	1E+12	NDD	-75.541	-64.468	-11.072
5	5E+12	NDD	-224.065	-211.393	-12.673
6	5E+12	NDD	34.890	48.825	-13.935
7	5E+12	NDD	14.673	7.532	7.141
8	5E+12	NDD	122.356	133.926	-11.570
9	1E+13	NDD	-58.421	-44.757	-13.664
10	1E+13	NDD	-103.937	-75.230	-28.707
11	1E+13	NDD	-80.624	-71.311	-9.312
12	1E+13	NDD	61.181	92.867	-31.686
13	0E+00	CONTROL	-10.744	0.104	-10.847

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-10.744	-10.744	-10.744	-	0.104	0.104	0.104	-	-10.847	-10.847	-10.847	-
1E+12	-75.541	110.626	269.478	151.741	-64.468	119.553	276.289	148.559	-14.428	-8.926	-3.394	4.829
5E+12	-224.065	-13.037	122.356	148.244	-211.393	-5.277	133.926	147.142	-13.935	-7.759	7.141	9.980
1E+13	-103.937	-45.450	61.181	73.477	-75.230	-24.608	92.867	79.478	-31.686	-20.842	-9.312	11.014

DEVICE TEST: 131.3 CMRR3_2p7V_VIO3_L_AMP3 [uV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
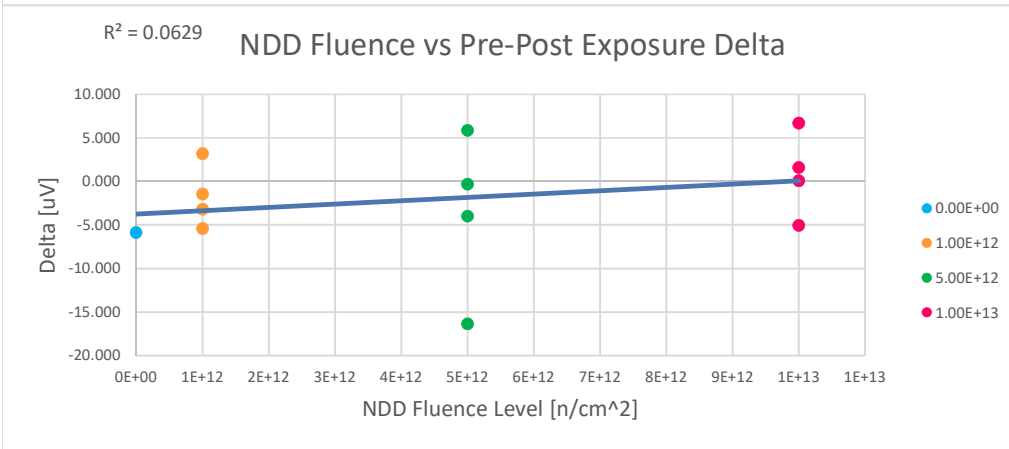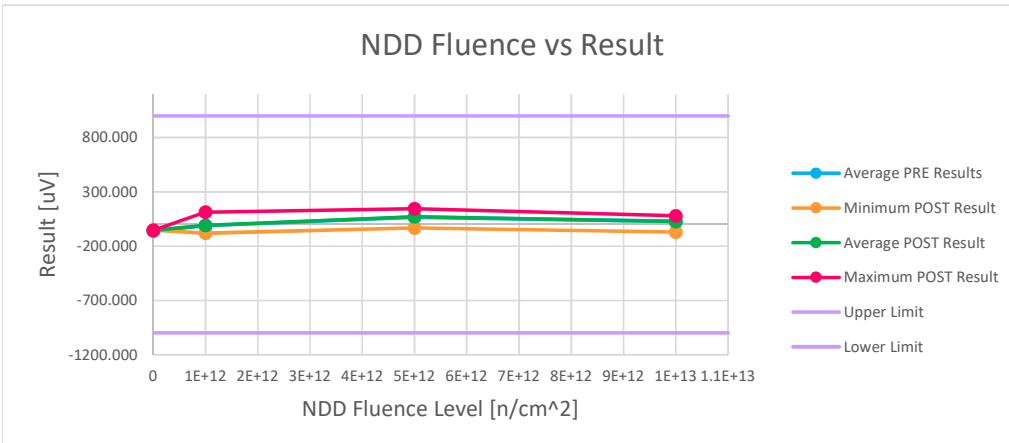
R² = 0.1279

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-38.879	-36.957	-1.922
2	1E+12	NDD	117.668	102.660	15.008
3	1E+12	NDD	-16.591	-14.146	-2.445
4	1E+12	NDD	-17.761	-14.848	-2.913
5	5E+12	NDD	-17.878	-23.329	5.451
6	5E+12	NDD	140.864	156.062	-15.198
7	5E+12	NDD	-105.511	-105.099	-0.412
8	5E+12	NDD	-157.225	-146.861	-10.364
9	1E+13	NDD	117.375	99.268	18.108
10	1E+13	NDD	-55.376	-55.031	-0.345
11	1E+13	NDD	-166.527	-173.592	7.065
12	1E+13	NDD	-127.507	-141.188	13.681
13	0E+00	CONTROL	-68.188	-67.899	-0.289

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-68.188	-68.188	-68.188	-	-67.899	-67.899	-67.899	-	-0.289	-0.289	-0.289	-
1E+12	-38.879	11.109	117.668	71.773	-36.957	9.177	102.660	63.215	-2.913	1.932	15.008	8.726
5E+12	-157.225	-34.938	140.864	130.553	-146.861	-29.807	156.062	134.114	-15.198	-5.131	5.451	9.363
1E+13	-166.527	-58.009	117.375	125.662	-173.592	-67.636	99.268	122.000	-0.345	9.627	18.108	8.049

DEVICE TEST: 131.4 CMRR3_2p7V_VIO4_L_AMP4 [uV]

NDD Fluence vs Result

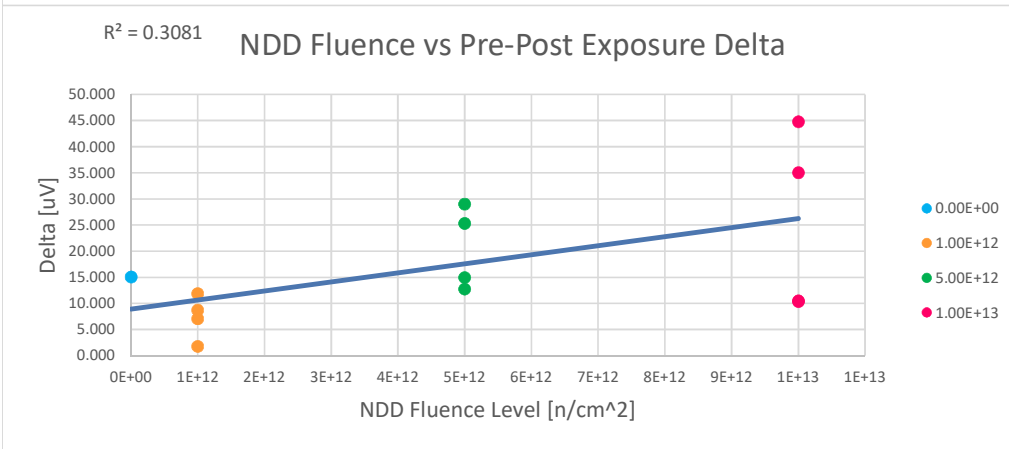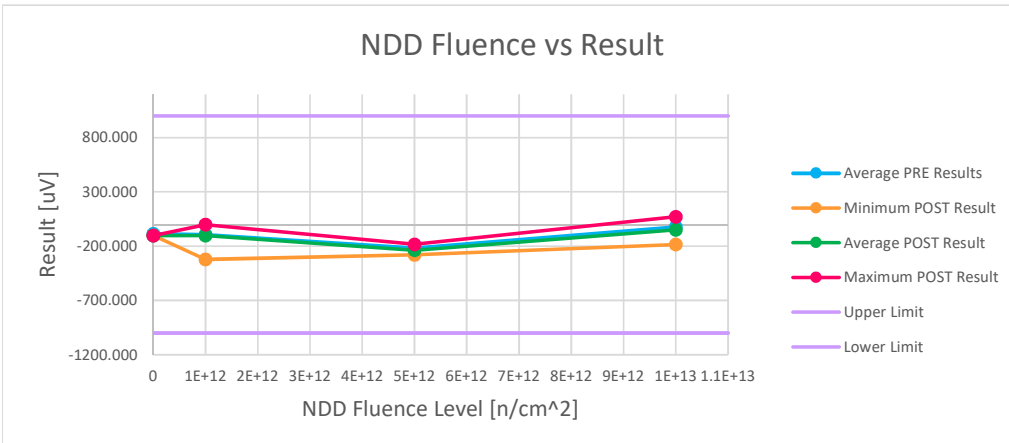## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0629

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-83.888	-80.689	-3.199
2	1E+12	NDD	6.950	3.769	3.181
3	1E+12	NDD	-72.599	-71.155	-1.444
4	1E+12	NDD	108.492	113.903	-5.411
5	5E+12	NDD	141.247	145.253	-4.006
6	5E+12	NDD	-26.444	-32.318	5.874
7	5E+12	NDD	65.559	65.884	-0.325
8	5E+12	NDD	87.142	103.492	-16.350
9	1E+13	NDD	79.363	79.278	0.085
10	1E+13	NDD	42.922	41.319	1.604
11	1E+13	NDD	50.526	55.590	-5.064
12	1E+13	NDD	-62.890	-69.576	6.686
13	0E+00	CONTROL	-60.199	-54.310	-5.889

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-60.199	-60.199	-60.199	-	-54.310	-54.310	-54.310	-	-5.889	-5.889	-5.889	-
1E+12	-83.888	-10.262	108.492	88.892	-80.689	-8.543	113.903	89.944	-5.411	-1.719	3.181	3.647
5E+12	-26.444	66.876	141.247	69.886	-32.318	70.578	145.253	75.871	-16.350	-3.702	5.874	9.366
1E+13	-62.890	27.480	79.363	62.258	-69.576	26.653	79.278	66.035	-5.064	0.828	6.686	4.837

DEVICE TEST: 131.5 CMRR3_2p7V_VIO1_H_AMP1 [uV]

NDD Fluence vs Result

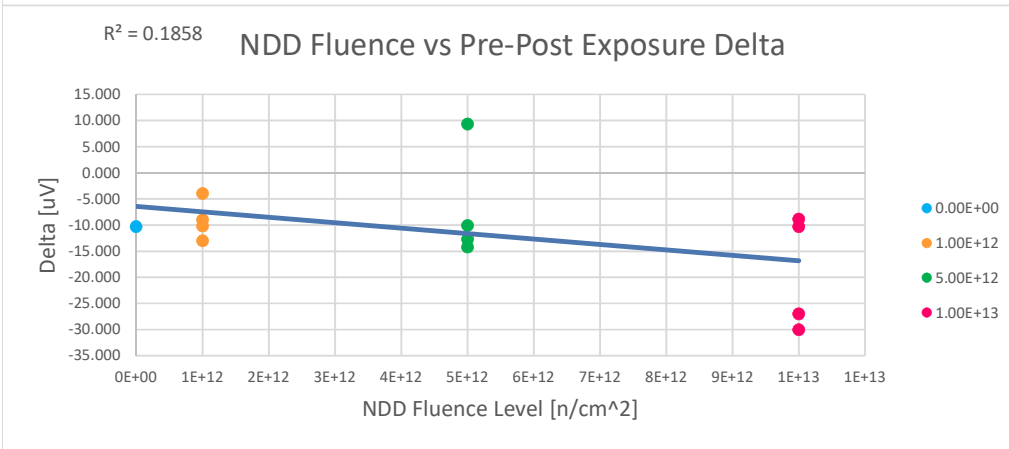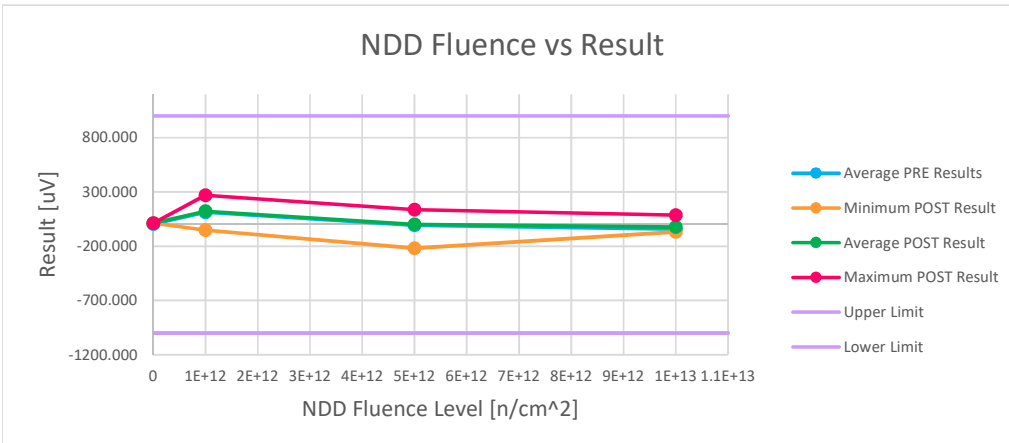NDD Fluence vs Pre-Post Exposure Delta

R² = 0.3081

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-313.206	-321.922	8.716
2	1E+12	NDD	-57.188	-69.036	11.848
3	1E+12	NDD	6.714	-0.317	7.031
4	1E+12	NDD	-10.884	-12.657	1.773
5	5E+12	NDD	-154.299	-183.256	28.957
6	5E+12	NDD	-265.350	-280.281	14.931
7	5E+12	NDD	-246.498	-271.801	25.303
8	5E+12	NDD	-205.105	-217.820	12.716
9	1E+13	NDD	80.672	70.215	10.456
10	1E+13	NDD	49.568	4.830	44.739
11	1E+13	NDD	-76.950	-87.283	10.333
12	1E+13	NDD	-148.803	-183.782	34.979
13	0E+00	CONTROL	-86.830	-101.846	15.016

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-86.830	-86.830	-86.830	-	-101.846	-101.846	-101.846	-	15.016	15.016	15.016	-
1E+12	-313.206	-93.641	6.714	148.837	-321.922	-100.983	-0.317	150.299	1.773	7.342	11.848	4.215
5E+12	-265.350	-217.813	-154.299	49.255	-280.281	-238.290	-183.256	45.949	12.716	20.477	28.957	7.878
1E+13	-148.803	-23.878	80.672	107.623	-183.782	-49.005	70.215	110.667	10.333	25.127	44.739	17.471

DEVICE TEST: 131.6 CMRR3_2p7V_VIO2_H_AMP2 [uV]

NDD Fluence vs Result

R² = 0.1858

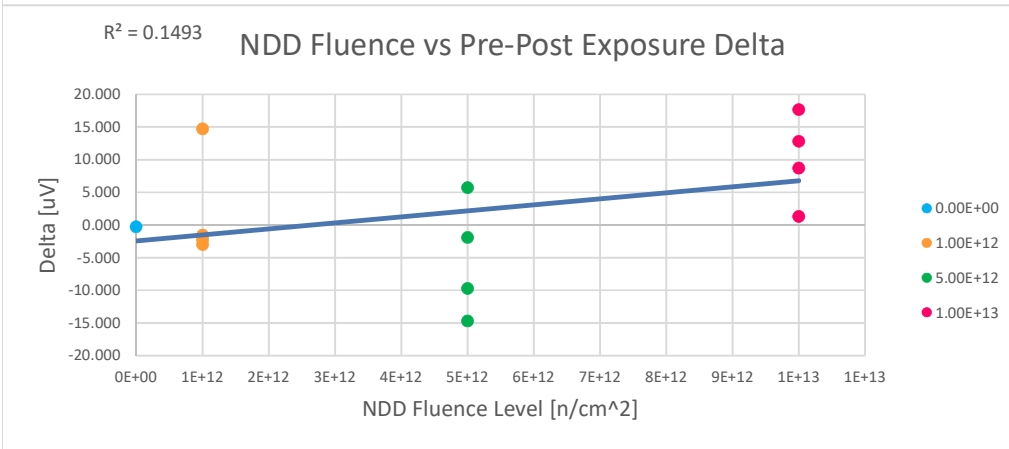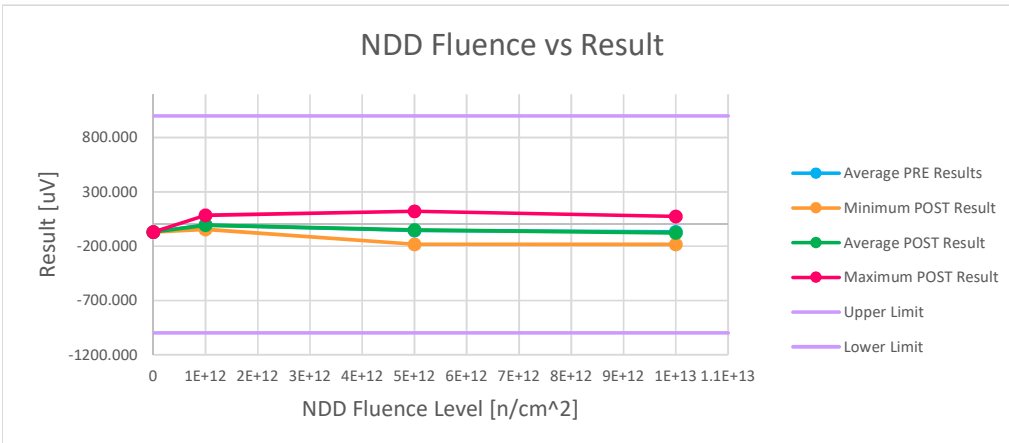## NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	192.820	196.744	-3.924
2	1E+12	NDD	260.422	269.387	-8.965
3	1E+12	NDD	58.319	71.285	-12.966
4	1E+12	NDD	-62.336	-52.186	-10.150
5	5E+12	NDD	-233.355	-219.172	-14.184
6	5E+12	NDD	57.127	69.822	-12.695
7	5E+12	NDD	22.502	13.147	9.355
8	5E+12	NDD	125.686	135.740	-10.053
9	1E+13	NDD	-53.513	-44.641	-8.873
10	1E+13	NDD	-96.516	-69.557	-26.960
11	1E+13	NDD	-79.923	-69.615	-10.307
12	1E+13	NDD	55.280	85.322	-30.042
13	0E+00	CONTROL	1.702	11.977	-10.275

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	1.702	1.702	1.702	-	11.977	11.977	11.977	-	-10.275	-10.275	-10.275	-
1E+12	-62.336	112.306	260.422	143.568	-52.186	121.307	269.387	141.681	-12.966	-9.001	-3.924	3.778
5E+12	-233.355	-7.010	125.686	156.871	-219.172	-0.116	135.740	154.391	-14.184	-6.894	9.355	10.967
1E+13	-96.516	-43.668	55.280	68.301	-69.615	-24.623	85.322	74.234	-30.042	-19.045	-8.873	11.006

DEVICE TEST: 131.7 CMRR3_2p7V_VIO3_H_AMP3 [uV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
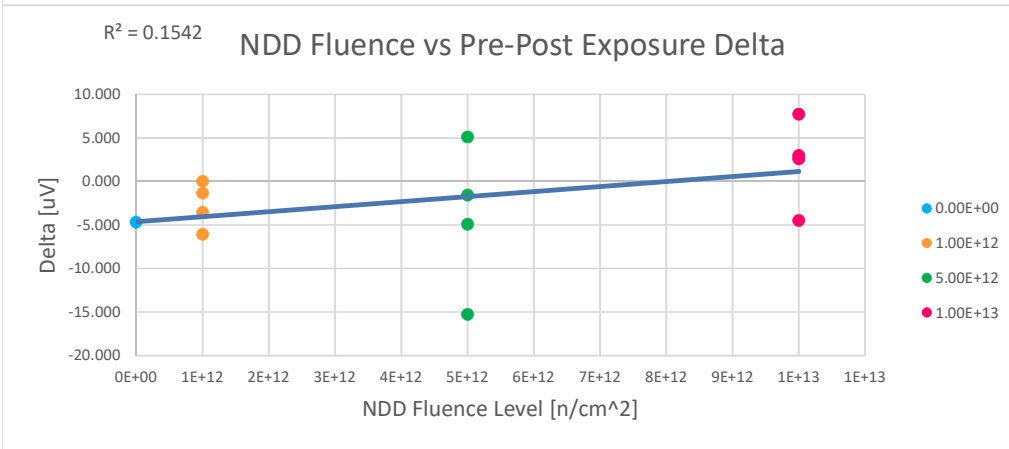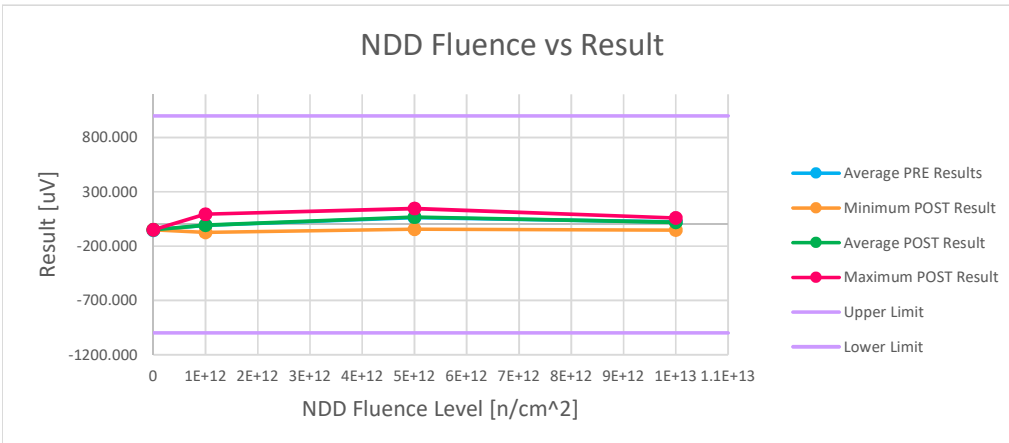
R² = 0.1493

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-41.219	-39.648	-1.571
2	1E+12	NDD	98.831	84.118	14.712
3	1E+12	NDD	-28.934	-26.722	-2.213
4	1E+12	NDD	-48.239	-45.205	-3.035
5	5E+12	NDD	-18.638	-24.323	5.685
6	5E+12	NDD	105.487	120.207	-14.720
7	5E+12	NDD	-115.105	-113.171	-1.934
8	5E+12	NDD	-192.560	-182.833	-9.726
9	1E+13	NDD	91.284	73.649	17.635
10	1E+13	NDD	-59.062	-60.354	1.292
11	1E+13	NDD	-173.898	-182.599	8.701
12	1E+13	NDD	-127.566	-140.369	12.803
13	0E+00	CONTROL	-70.586	-70.297	-0.289

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-70.586	-70.586	-70.586	-	-70.297	-70.297	-70.297	-	-0.289	-0.289	-0.289	-
1E+12	-48.239	-4.891	98.831	69.606	-45.205	-6.864	84.118	61.147	-3.035	1.973	14.712	8.514
5E+12	-192.560	-55.204	105.487	128.599	-182.833	-50.030	120.207	130.722	-14.720	-5.174	5.685	8.949
1E+13	-173.898	-67.310	91.284	115.775	-182.599	-77.418	73.649	112.751	1.292	10.108	17.635	6.919

DEVICE TEST: 131.8 CMRR3_2p7V_VIO4_H_AMP4 [uV]

NDD Fluence vs Result

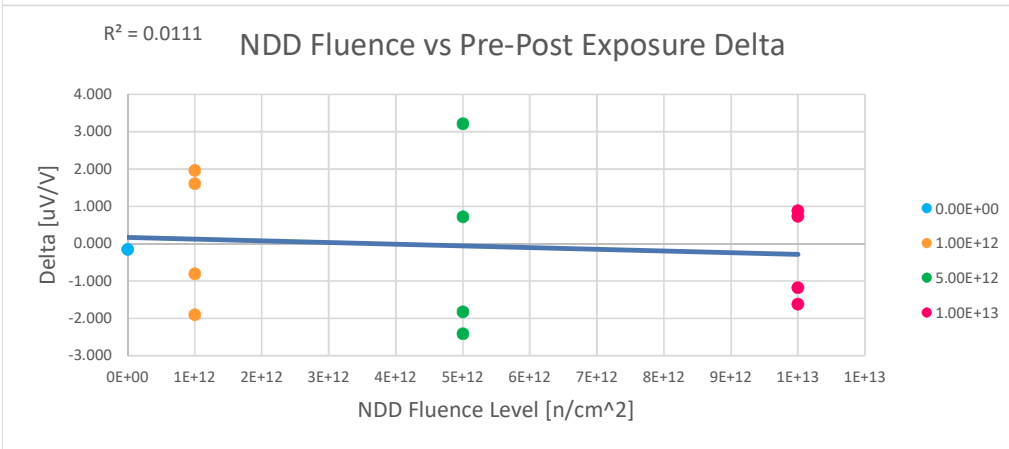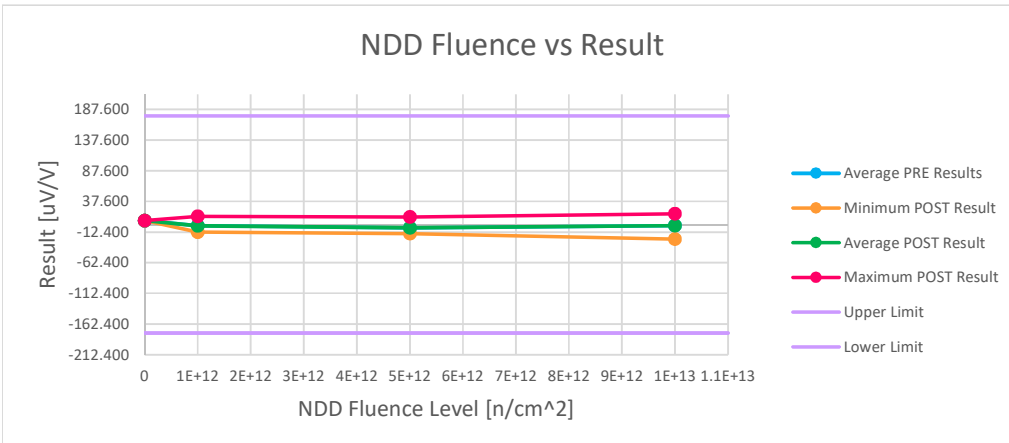NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1542

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-71.371	-67.821	-3.550
2	1E+12	NDD	25.316	25.293	0.023
3	1E+12	NDD	-75.173	-73.845	-1.327
4	1E+12	NDD	86.733	92.789	-6.056
5	5E+12	NDD	141.013	145.896	-4.883
6	5E+12	NDD	-38.787	-43.899	5.112
7	5E+12	NDD	55.907	57.462	-1.554
8	5E+12	NDD	93.459	108.698	-15.238
9	1E+13	NDD	61.113	58.105	3.008
10	1E+13	NDD	17.712	15.116	2.596
11	1E+13	NDD	50.643	55.122	-4.479
12	1E+13	NDD	-43.704	-51.444	7.740
13	0E+00	CONTROL	-53.531	-48.871	-4.660

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-53.531	-53.531	-53.531	-	-48.871	-48.871	-48.871	-	-4.660	-4.660	-4.660	-
1E+12	-75.173	-8.624	86.733	78.763	-73.845	-5.896	92.789	79.923	-6.056	-2.728	0.023	2.664
5E+12	-38.787	62.898	141.013	76.212	-43.899	67.039	145.896	82.367	-15.238	-4.141	5.112	8.486
1E+13	-43.704	21.441	61.113	47.203	-51.444	19.225	58.105	51.027	-4.479	2.216	7.740	5.037

DEVICE TEST: 131.9 CMRR3_2p7V_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

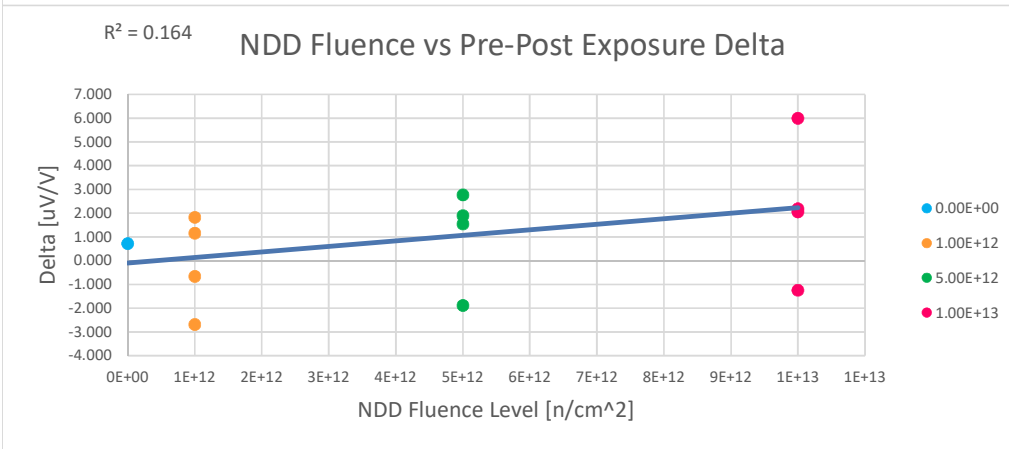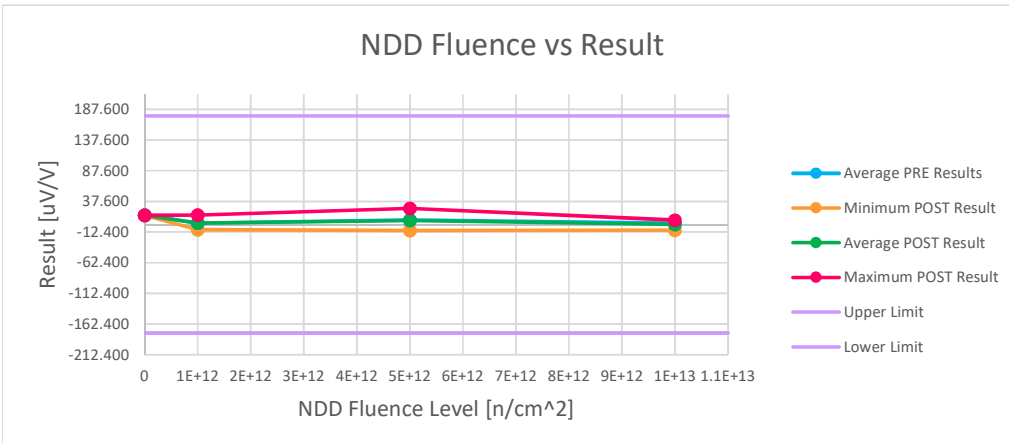R² = 0.0111

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -177 | UPPER LIMIT = 177) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	15.274	13.305	1.969
2	1E+12	NDD	-4.239	-2.339	-1.899
3	1E+12	NDD	-10.962	-12.574	1.612
4	1E+12	NDD	-8.112	-7.311	-0.801
5	5E+12	NDD	-15.639	-13.232	-2.407
6	5E+12	NDD	-2.195	-5.410	3.215
7	5E+12	NDD	12.935	12.209	0.727
8	5E+12	NDD	-16.882	-15.060	-1.822
9	1E+13	NDD	-23.021	-23.905	0.885
10	1E+13	NDD	15.639	17.253	-1.614
11	1E+13	NDD	-14.543	-15.279	0.736
12	1E+13	NDD	14.178	15.352	-1.174
13	0E+00	CONTROL	6.066	6.214	-0.148

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	6.066	6.066	6.066	-	6.214	6.214	6.214	-	-0.148	-0.148	-0.148	-
1E+12	-10.962	-2.010	15.274	11.847	-12.574	-2.230	13.305	11.168	-1.899	0.220	1.969	1.874
5E+12	-16.882	-5.445	12.935	13.942	-15.060	-5.373	12.209	12.446	-2.407	-0.072	3.215	2.579
1E+13	-23.021	-1.937	15.639	19.766	-23.905	-1.645	17.253	21.035	-1.614	-0.292	0.885	1.287

DEVICE TEST: 131.10 CMRR_2p7V_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
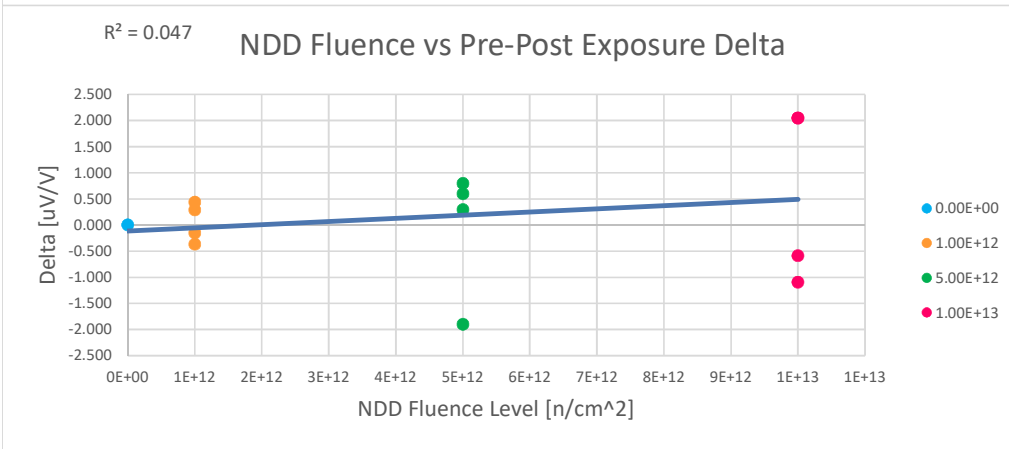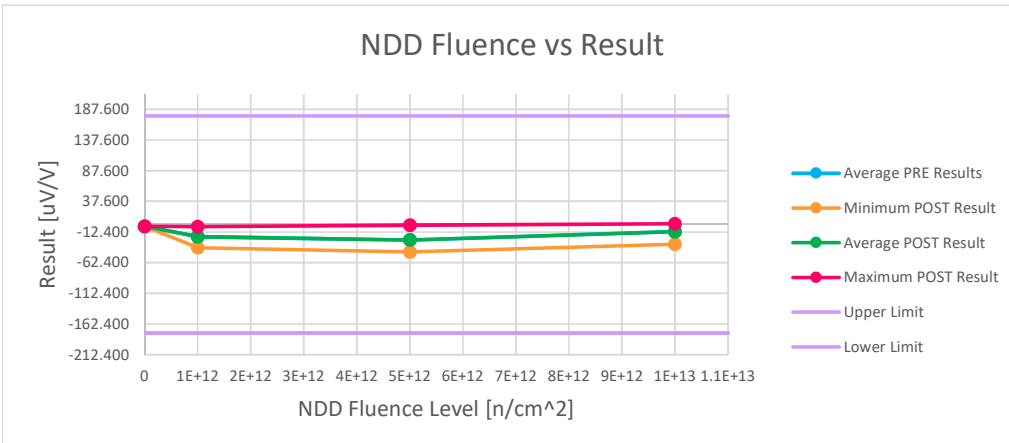
R² = 0.164

TEST RESULTS (LOWER LIMIT = -177 | UPPER LIMIT = 177) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	2.702	3.363	-0.661
2	1E+12	NDD	-11.320	-8.627	-2.693
3	1E+12	NDD	0.511	-1.316	1.827
4	1E+12	NDD	16.506	15.353	1.153
5	5E+12	NDD	-11.613	-9.724	-1.889
6	5E+12	NDD	27.796	26.247	1.549
7	5E+12	NDD	9.787	7.019	2.768
8	5E+12	NDD	4.163	2.266	1.897
9	1E+13	NDD	6.135	0.146	5.989
10	1E+13	NDD	9.275	7.092	2.184
11	1E+13	NDD	0.876	2.120	-1.244
12	1E+13	NDD	-7.377	-9.431	2.055
13	0E+00	CONTROL	15.557	14.842	0.715

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	15.557	15.557	15.557	-	14.842	14.842	14.842	-	0.715	0.715	0.715	-
1E+12	-11.320	2.100	16.506	11.409	-8.627	2.193	15.353	10.066	-2.693	-0.094	1.827	2.027
5E+12	-11.613	7.533	27.796	16.264	-9.724	6.452	26.247	14.959	-1.889	1.081	2.768	2.045
1E+13	-7.377	2.228	9.275	7.280	-9.431	-0.018	7.092	6.922	-1.244	2.246	5.989	2.957

DEVICE TEST: 131.11 CMRR_2p7V_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
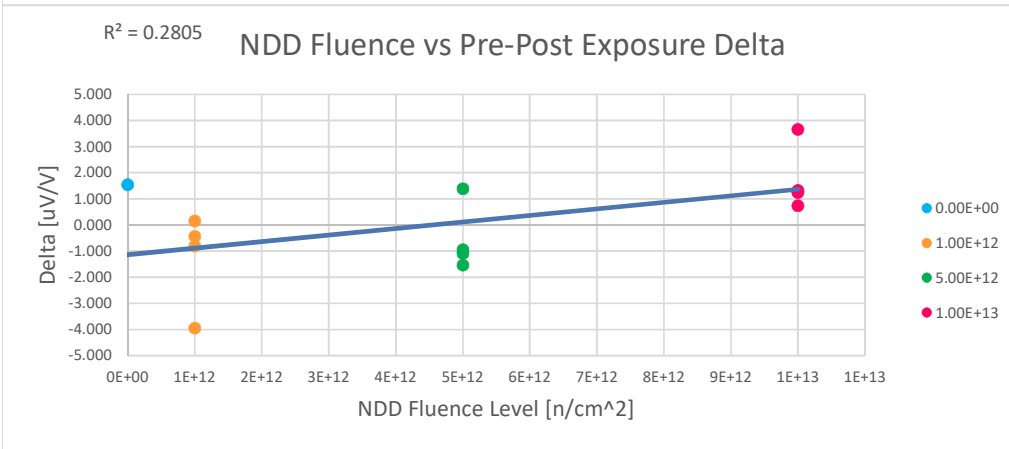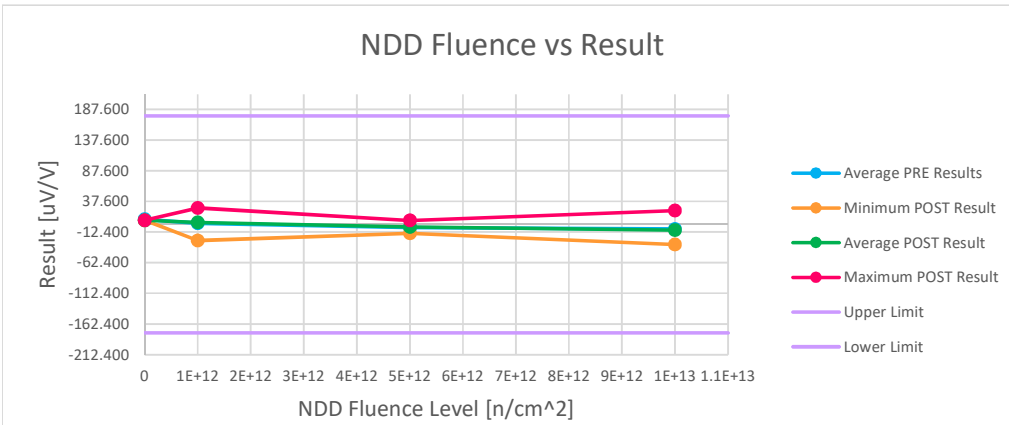
R² = 0.047

TEST RESULTS (LOWER LIMIT = -177 | UPPER LIMIT = 177) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-2.925	-3.363	0.438
2	1E+12	NDD	-23.546	-23.177	-0.369
3	1E+12	NDD	-15.429	-15.719	0.290
4	1E+12	NDD	-38.098	-37.946	-0.152
5	5E+12	NDD	-0.951	-1.243	0.292
6	5E+12	NDD	-44.221	-44.819	0.598
7	5E+12	NDD	-11.993	-10.090	-1.903
8	5E+12	NDD	-44.168	-44.965	0.797
9	1E+13	NDD	-32.614	-32.024	-0.590
10	1E+13	NDD	-4.607	-6.653	2.046
11	1E+13	NDD	-9.214	-11.259	2.046
12	1E+13	NDD	-0.073	1.024	-1.097
13	0E+00	CONTROL	-2.998	-2.998	0.000

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-2.998	-2.998	-2.998	-	-2.998	-2.998	-2.998	-	0.000	0.000	0.000	-
1E+12	-38.098	-20.000	-2.925	14.749	-37.946	-20.051	-3.363	14.460	-0.369	0.051	0.438	0.376
5E+12	-44.221	-25.333	-0.951	22.241	-44.965	-25.279	-1.243	22.933	-1.903	-0.054	0.797	1.250
1E+13	-32.614	-11.627	-0.073	14.480	-32.024	-12.228	1.024	14.136	-1.097	0.601	2.046	1.681

DEVICE TEST: 131.12 CMRR_2p7V_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
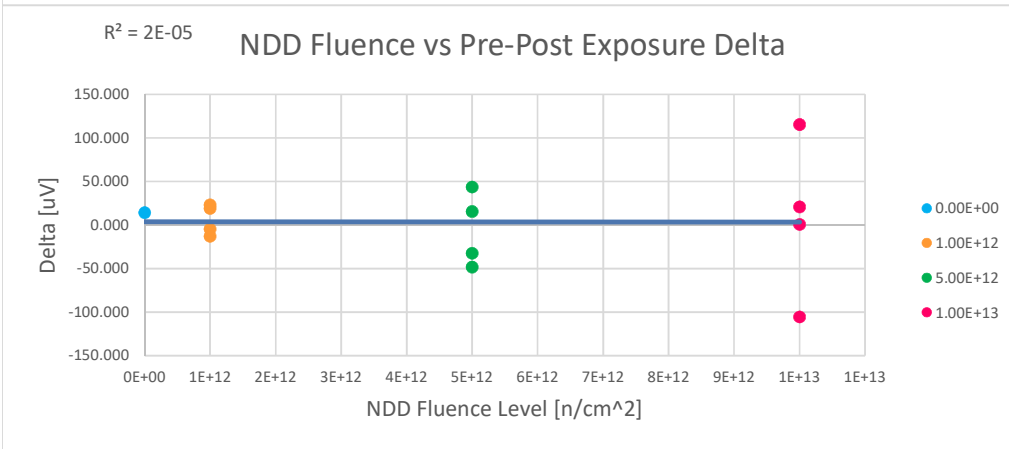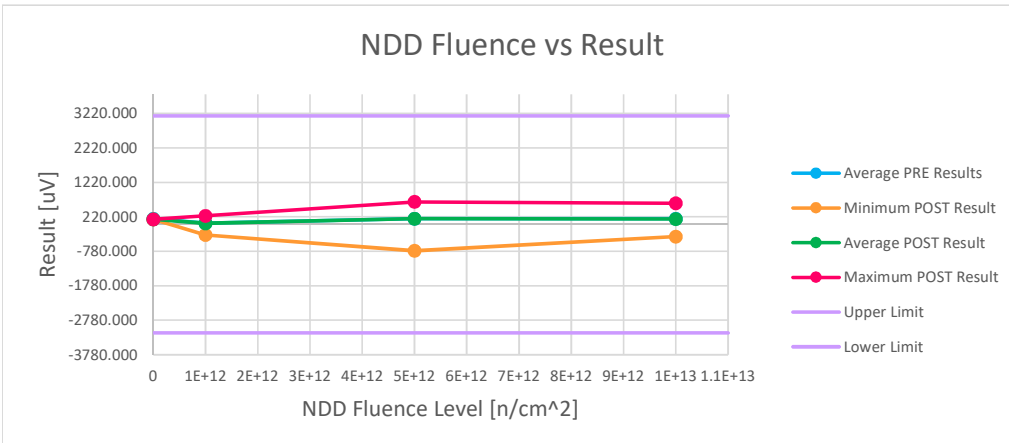
R² = 0.2805

TEST RESULTS (LOWER LIMIT = -177 | UPPER LIMIT = 177) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	15.647	16.084	-0.437
2	1E+12	NDD	22.958	26.905	-3.947
3	1E+12	NDD	-3.217	-3.363	0.146
4	1E+12	NDD	-27.199	-26.393	-0.806
5	5E+12	NDD	-0.292	0.804	-1.097
6	5E+12	NDD	-15.429	-14.476	-0.953
7	5E+12	NDD	-12.064	-10.528	-1.536
8	5E+12	NDD	7.896	6.507	1.390
9	1E+13	NDD	-22.812	-26.466	3.654
10	1E+13	NDD	-31.513	-32.754	1.241
11	1E+13	NDD	0.146	-0.585	0.731
12	1E+13	NDD	23.982	22.664	1.317
13	0E+00	CONTROL	8.335	6.799	1.536

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	8.335	8.335	8.335	-	6.799	6.799	6.799	-	1.536	1.536	1.536	-
1E+12	-27.199	2.047	22.958	22.400	-26.393	3.308	26.905	23.429	-3.947	-1.261	0.146	1.833
5E+12	-15.429	-4.972	7.896	10.757	-14.476	-4.423	6.507	9.749	-1.536	-0.549	1.390	1.316
1E+13	-31.513	-7.549	23.982	24.904	-32.754	-9.285	22.664	25.446	0.731	1.736	3.654	1.305

DEVICE TEST: 117.1 VIO_4V_NMOS_AMP1 [uV]

NDD Fluence vs Result

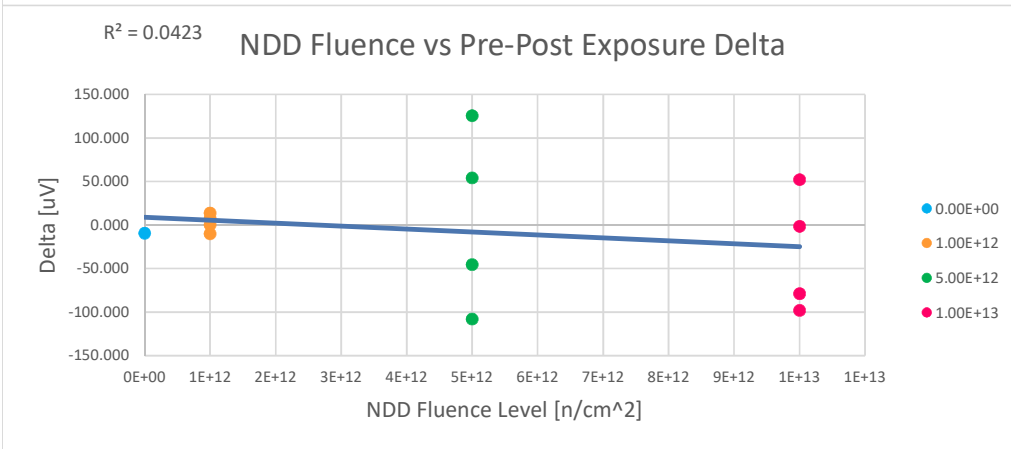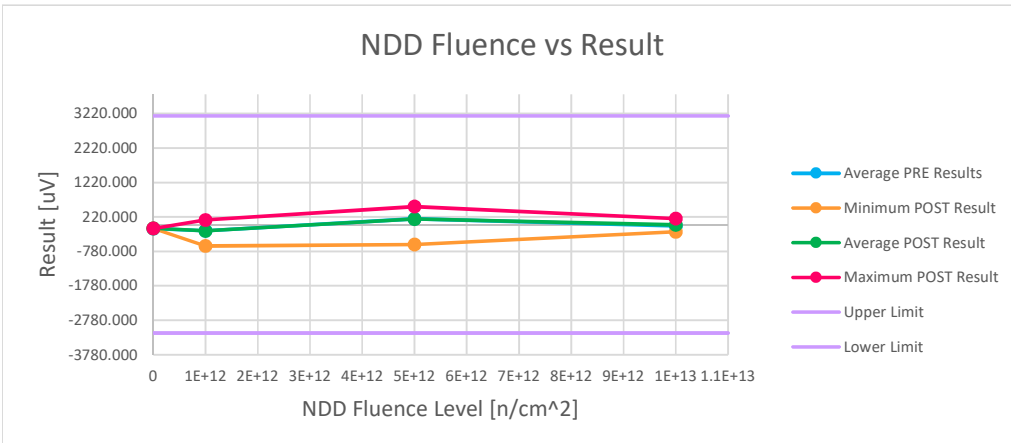## NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 2E-05$

TEST RESULTS (LOWER LIMIT = -3150 | UPPER LIMIT = 3150) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-315.311	-302.330	-12.981
2	1E+12	NDD	129.081	133.963	-4.883
3	1E+12	NDD	270.799	251.692	19.107
4	1E+12	NDD	69.914	46.880	23.034
5	5E+12	NDD	621.881	654.415	-32.534
6	5E+12	NDD	226.853	183.558	43.295
7	5E+12	NDD	-750.172	-765.643	15.470
8	5E+12	NDD	546.403	594.820	-48.417
9	1E+13	NDD	590.076	589.556	0.520
10	1E+13	NDD	511.908	617.570	-105.662
11	1E+13	NDD	-212.822	-233.552	20.730
12	1E+13	NDD	-240.125	-355.258	115.133
13	0E+00	CONTROL	164.569	150.514	14.055

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	164.569	164.569	164.569	-	150.514	150.514	150.514	-	14.055	14.055	14.055	-
1E+12	-315.311	38.621	270.799	250.557	-302.330	32.551	251.692	238.508	-12.981	6.070	23.034	17.707
5E+12	-750.172	161.241	621.881	631.273	-765.643	166.787	654.415	655.922	-48.417	-5.546	43.295	42.401
1E+13	-240.125	162.259	590.076	450.141	-355.258	154.579	617.570	520.943	-105.662	7.681	115.133	90.580

DEVICE TEST: 117.2 VIO_4V_NMOS_AMP2 [uV]

NDD Fluence vs Result

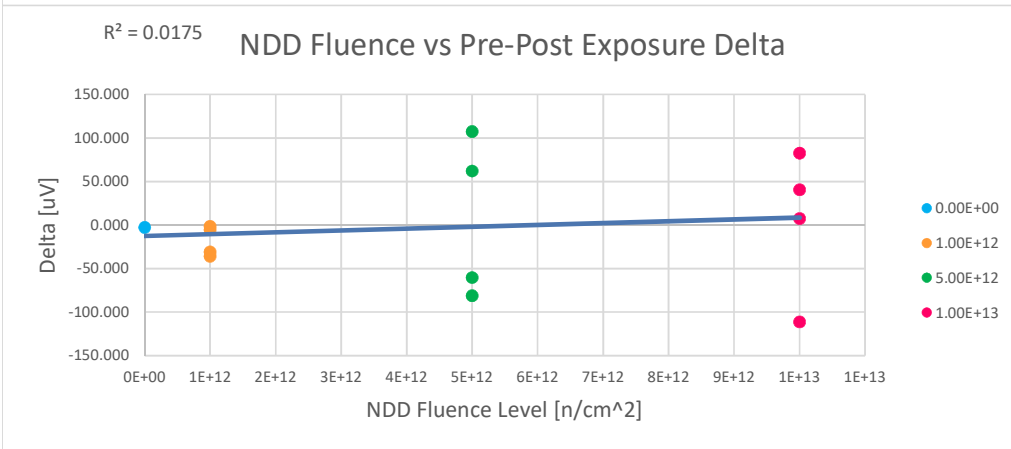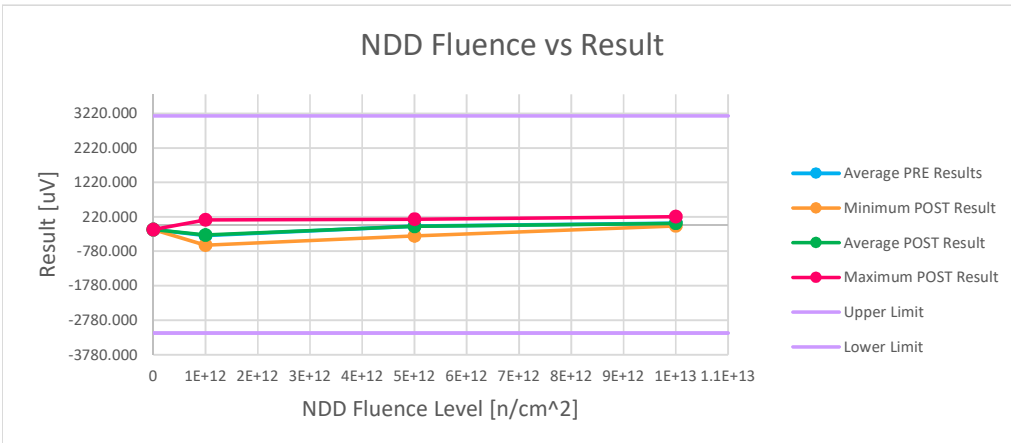## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0423

TEST RESULTS (LOWER LIMIT = -3150 | UPPER LIMIT = 3150) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	98.342	84.854	13.488
2	1E+12	NDD	-322.166	-329.423	7.257
3	1E+12	NDD	119.960	130.008	-10.047
4	1E+12	NDD	-625.877	-626.079	0.203
5	5E+12	NDD	558.348	504.279	54.069
6	5E+12	NDD	142.506	188.029	-45.523
7	5E+12	NDD	-456.201	-581.628	125.427
8	5E+12	NDD	410.232	518.316	-108.084
9	1E+13	NDD	48.736	50.170	-1.434
10	1E+13	NDD	-145.538	-47.331	-98.207
11	1E+13	NDD	89.870	168.727	-78.858
12	1E+13	NDD	-162.248	-214.200	51.952
13	0E+00	CONTROL	-124.796	-115.295	-9.501

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-124.796	-124.796	-124.796	-	-115.295	-115.295	-115.295	-	-9.501	-9.501	-9.501	-
1E+12	-625.877	-182.435	119.960	358.908	-626.079	-185.160	130.008	359.379	-10.047	2.725	13.488	10.097
5E+12	-456.201	163.721	558.348	447.680	-581.628	157.249	518.316	515.650	-108.084	6.472	125.427	103.670
1E+13	-162.248	-42.295	89.870	130.131	-214.200	-10.658	168.727	161.919	-98.207	-31.637	51.952	69.667

DEVICE TEST: 117.3 VIO_4V_NMOS_AMP3 [uV]

NDD Fluence vs Result

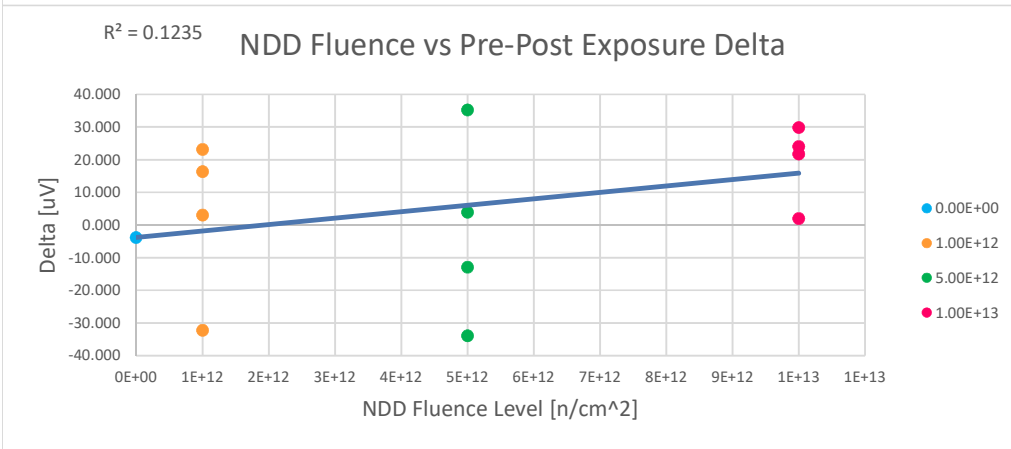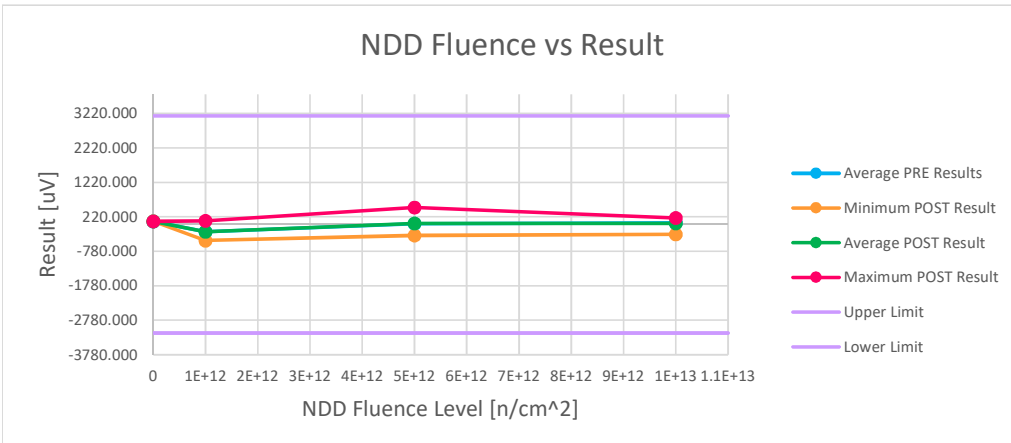## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0175

TEST RESULTS (LOWER LIMIT = -3150 | UPPER LIMIT = 3150) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-599.897	-598.469	-1.428
2	1E+12	NDD	-348.872	-313.092	-35.780
3	1E+12	NDD	-471.138	-440.485	-30.653
4	1E+12	NDD	130.070	135.298	-5.228
5	5E+12	NDD	-16.240	64.875	-81.115
6	5E+12	NDD	217.583	155.302	62.281
7	5E+12	NDD	-395.614	-335.494	-60.120
8	5E+12	NDD	1.837	-105.509	107.346
9	1E+13	NDD	268.540	228.006	40.534
10	1E+13	NDD	-138.096	-27.072	-111.023
11	1E+13	NDD	-25.658	-33.097	7.439
12	1E+13	NDD	40.564	-42.105	82.669
13	0E+00	CONTROL	-152.136	-149.611	-2.525

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-152.136	-152.136	-152.136	-	-149.611	-149.611	-149.611	-	-2.525	-2.525	-2.525	-
1E+12	-599.897	-322.460	130.070	318.621	-598.469	-304.187	135.298	315.386	-35.780	-18.272	-1.428	17.452
5E+12	-395.614	-48.108	217.583	254.861	-335.494	-55.206	155.302	215.889	-81.115	7.098	107.346	92.005
1E+13	-138.096	36.338	268.540	171.470	-42.105	31.433	228.006	131.194	-111.023	4.905	82.669	83.191

DEVICE TEST: 117.4 VIO_4V_NMOS_AMP4 [uV]

NDD Fluence vs Result

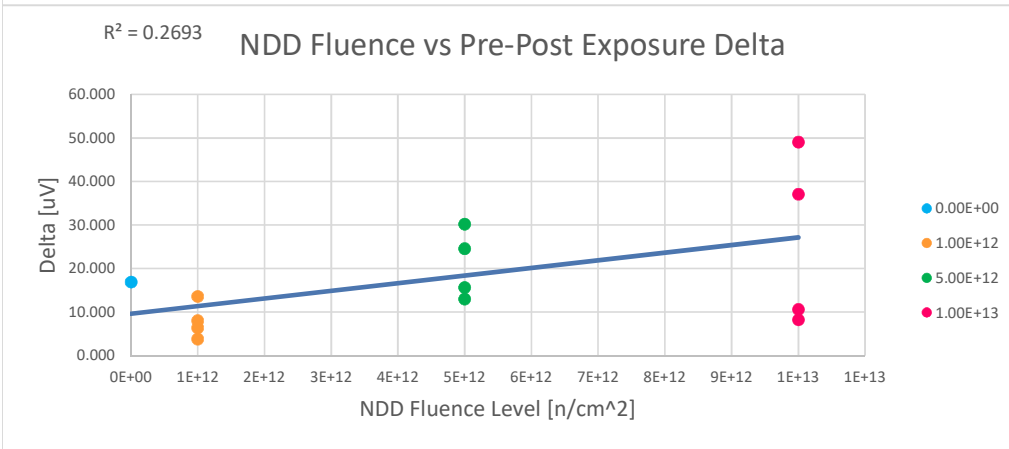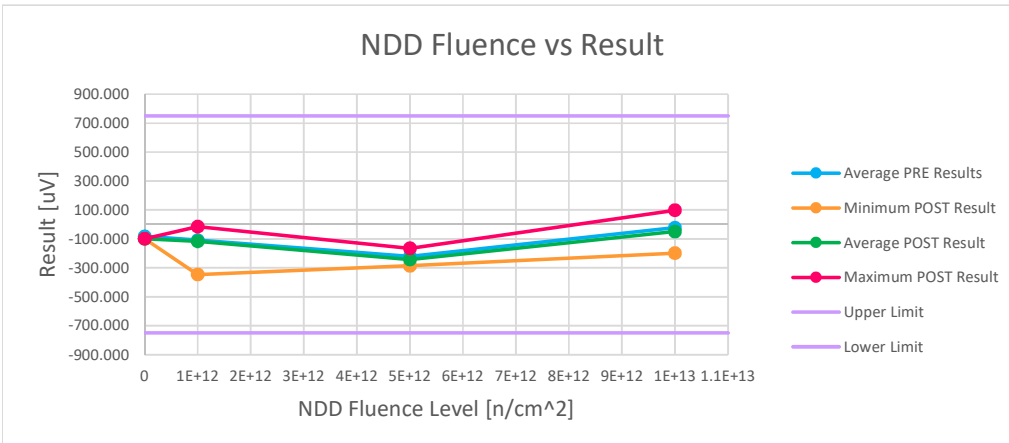## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1235

TEST RESULTS (LOWER LIMIT = -3150 | UPPER LIMIT = 3150) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-449.755	-466.129	16.374
2	1E+12	NDD	-26.742	-49.865	23.123
3	1E+12	NDD	106.269	103.258	3.011
4	1E+12	NDD	-465.957	-433.726	-32.231
5	5E+12	NDD	-287.557	-291.482	3.925
6	5E+12	NDD	-281.844	-317.100	35.256
7	5E+12	NDD	457.045	490.921	-33.876
8	5E+12	NDD	222.200	235.092	-12.892
9	1E+13	NDD	181.899	152.038	29.861
10	1E+13	NDD	84.452	60.386	24.065
11	1E+13	NDD	189.094	187.131	1.963
12	1E+13	NDD	-262.756	-284.522	21.765
13	0E+00	CONTROL	85.270	89.104	-3.834

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	85.270	85.270	85.270	-	89.104	89.104	89.104	-	-3.834	-3.834	-3.834	-
1E+12	-465.957	-209.046	106.269	292.462	-466.129	-211.616	103.258	282.500	-32.231	2.569	23.123	24.660
5E+12	-287.557	27.461	457.045	372.993	-317.100	29.358	490.921	399.307	-33.876	-1.897	35.256	29.199
1E+13	-262.756	48.172	189.094	212.708	-284.522	28.758	187.131	215.580	1.963	19.414	29.861	12.122

DEVICE TEST: 14.1 VIO1_4_AMP1 [uV]

NDD Fluence vs Result

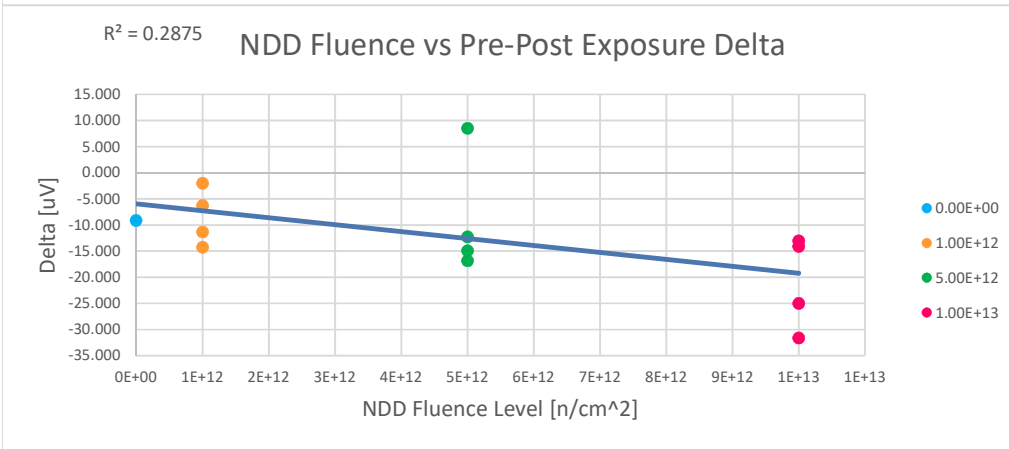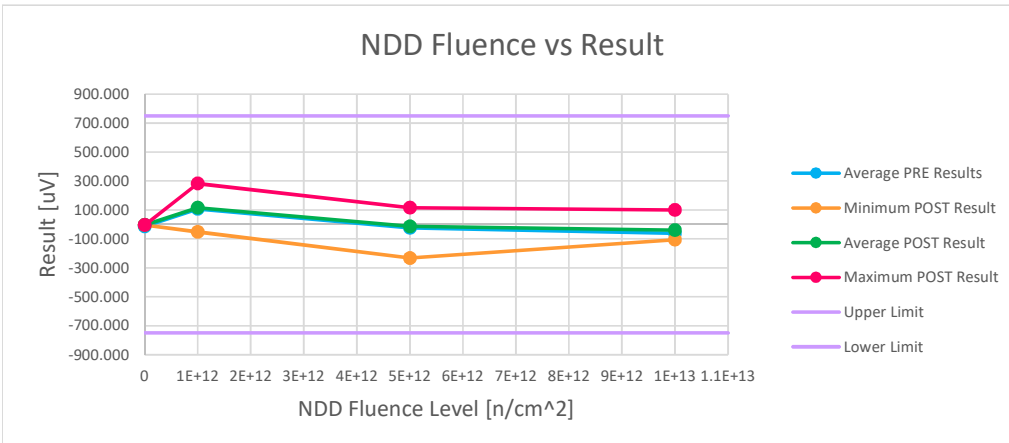## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2693

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-338.346	-346.427	8.081
2	1E+12	NDD	-73.851	-87.459	13.608
3	1E+12	NDD	-8.487	-14.880	6.392
4	1E+12	NDD	-14.334	-18.155	3.821
5	5E+12	NDD	-134.888	-165.067	30.179
6	5E+12	NDD	-253.761	-266.772	13.011
7	5E+12	NDD	-260.705	-285.311	24.606
8	5E+12	NDD	-237.553	-253.203	15.651
9	1E+13	NDD	108.267	97.644	10.623
10	1E+13	NDD	20.277	-28.740	49.018
11	1E+13	NDD	-57.890	-66.112	8.222
12	1E+13	NDD	-161.256	-198.345	37.089
13	0E+00	CONTROL	-82.387	-99.272	16.886

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-82.387	-82.387	-82.387	-	-99.272	-99.272	-99.272	-	16.886	16.886	16.886	-
1E+12	-338.346	-108.754	-8.487	155.884	-346.427	-116.730	-14.880	156.746	3.821	7.975	13.608	4.143
5E+12	-260.705	-221.727	-134.888	58.699	-285.311	-242.588	-165.067	53.330	13.011	20.862	30.179	7.951
1E+13	-161.256	-22.650	108.267	114.652	-198.345	-48.888	97.644	121.808	8.222	26.238	49.018	20.042

DEVICE TEST: 14.2 VIO1_4_AMP2 [uV]

NDD Fluence vs Result

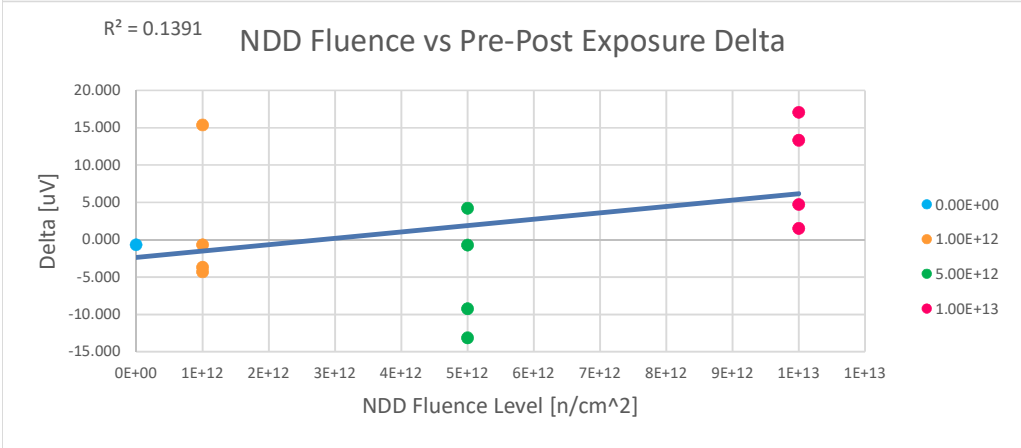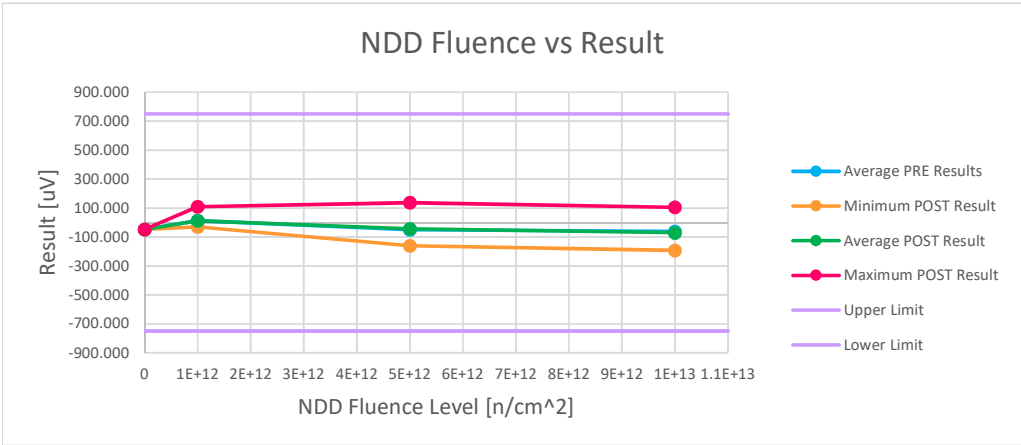## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2875

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	176.986	179.021	-2.035
2	1E+12	NDD	275.789	282.079	-6.290
3	1E+12	NDD	37.985	52.217	-14.232
4	1E+12	NDD	-62.979	-51.659	-11.319
5	5E+12	NDD	-248.605	-231.747	-16.858
6	5E+12	NDD	29.213	44.146	-14.933
7	5E+12	NDD	21.392	12.913	8.479
8	5E+12	NDD	103.133	115.385	-12.252
9	1E+13	NDD	-76.008	-61.895	-14.113
10	1E+13	NDD	-117.317	-92.309	-25.008
11	1E+13	NDD	-119.011	-105.937	-13.074
12	1E+13	NDD	68.310	99.944	-31.635
13	0E+00	CONTROL	-13.840	-4.693	-9.148

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-13.840	-13.840	-13.840	-	-4.693	-4.693	-4.693	-	-9.148	-9.148	-9.148	-
1E+12	-62.979	106.945	275.789	149.492	-51.659	115.415	282.079	145.751	-14.232	-8.469	-2.035	5.400
5E+12	-248.605	-23.717	103.133	154.383	-231.747	-14.826	115.385	150.838	-16.858	-8.891	8.479	11.733
1E+13	-119.011	-61.007	68.310	88.474	-105.937	-40.049	99.944	95.127	-31.635	-20.958	-13.074	8.933

DEVICE TEST: 14.3 VIO1_4_AMP3 [uV]

NDD Fluence vs Result

R² = 0.1391

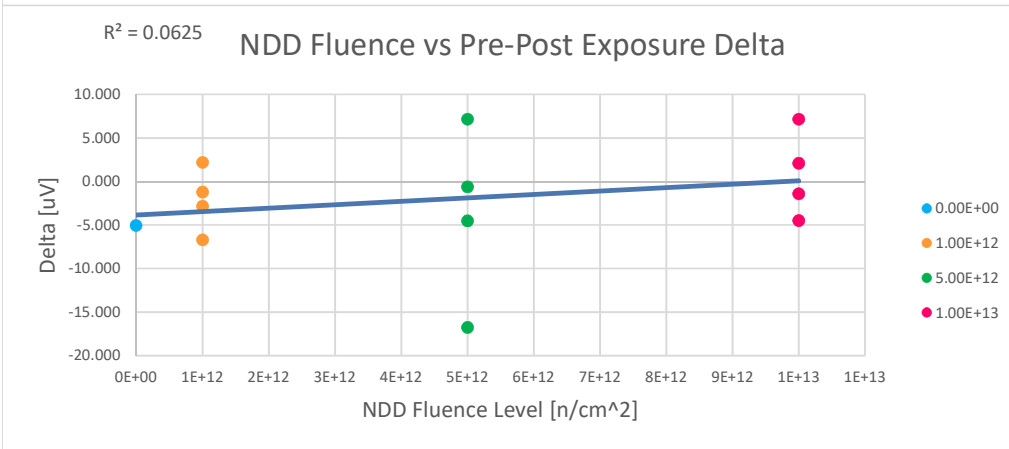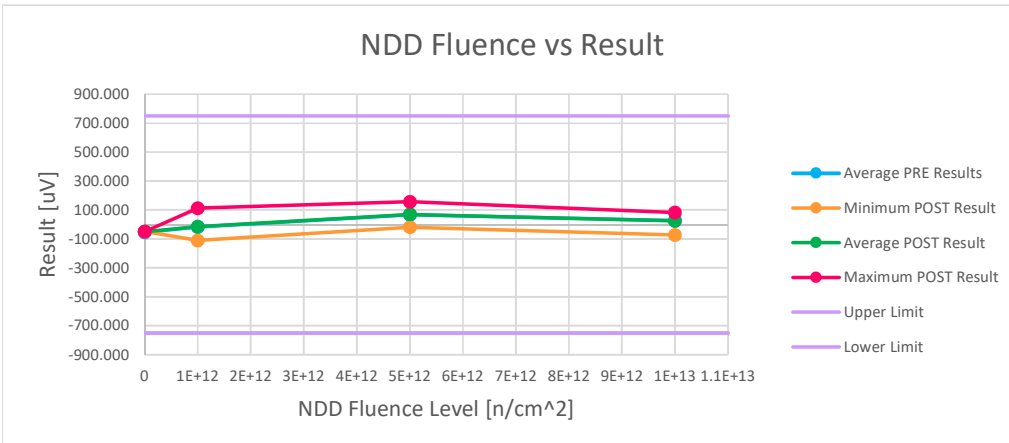NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-19.867	-19.176	-0.691
2	1E+12	NDD	124.980	109.620	15.360
3	1E+12	NDD	-20.627	-16.310	-4.317
4	1E+12	NDD	-33.790	-30.114	-3.676
5	5E+12	NDD	-41.512	-45.731	4.219
6	5E+12	NDD	123.030	136.175	-13.145
7	5E+12	NDD	-107.910	-107.205	-0.705
8	5E+12	NDD	-171.733	-162.479	-9.255
9	1E+13	NDD	121.178	104.122	17.055
10	1E+13	NDD	-44.495	-46.023	1.528
11	1E+13	NDD	-188.114	-192.835	4.722
12	1E+13	NDD	-136.399	-149.728	13.328
13	0E+00	CONTROL	-47.830	-47.135	-0.695

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-47.830	-47.830	-47.830	-	-47.135	-47.135	-47.135	-	-0.695	-0.695	-0.695	-
1E+12	-33.790	12.674	124.980	75.143	-30.114	11.005	109.620	66.012	-4.317	1.669	15.360	9.263
5E+12	-171.733	-49.531	123.030	126.732	-162.479	-44.810	136.175	129.738	-13.145	-4.721	4.219	7.907
1E+13	-188.114	-61.958	121.178	135.770	-192.835	-71.116	104.122	132.078	1.528	9.158	17.055	7.249

DEVICE TEST: 14.4 VIO1_4_AMP4 [uV]

NDD Fluence vs Result

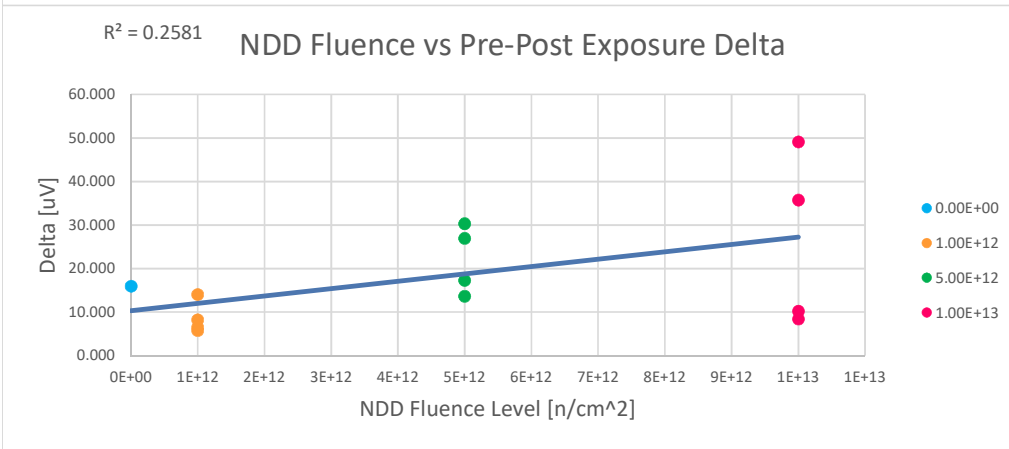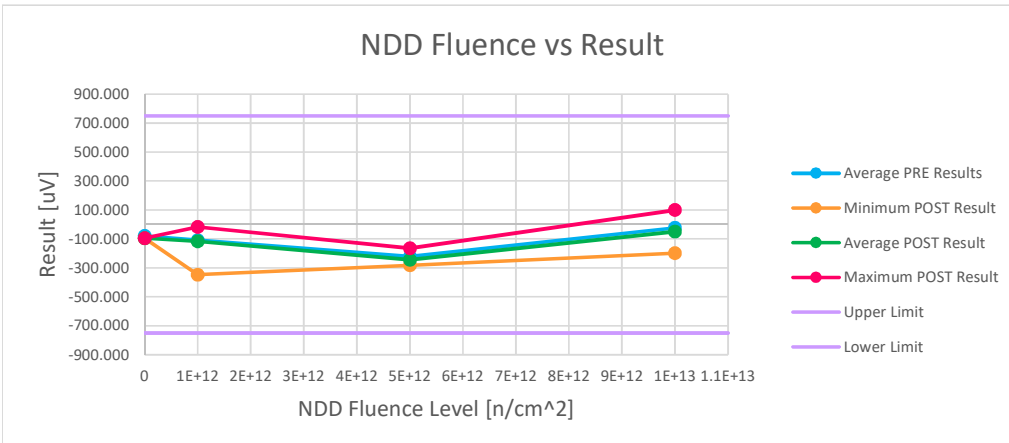## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0625

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-113.544	-110.693	-2.851
2	1E+12	NDD	-4.339	-6.525	2.186
3	1E+12	NDD	-53.297	-52.088	-1.209
4	1E+12	NDD	106.444	113.143	-6.698
5	5E+12	NDD	152.361	156.892	-4.532
6	5E+12	NDD	-12.054	-19.217	7.163
7	5E+12	NDD	53.860	54.479	-0.618
8	5E+12	NDD	70.179	86.940	-16.760
9	1E+13	NDD	81.644	83.080	-1.436
10	1E+13	NDD	67.957	65.884	2.073
11	1E+13	NDD	18.824	23.304	-4.481
12	1E+13	NDD	-65.054	-72.208	7.154
13	0E+00	CONTROL	-54.818	-49.748	-5.070

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-54.818	-54.818	-54.818	-	-49.748	-49.748	-49.748	-	-5.070	-5.070	-5.070	-
1E+12	-113.544	-16.184	106.444	93.156	-110.693	-14.041	113.143	94.906	-6.698	-2.143	2.186	3.691
5E+12	-12.054	66.087	152.361	67.615	-19.217	69.773	156.892	73.115	-16.760	-3.687	7.163	9.979
1E+13	-65.054	25.843	81.644	66.330	-72.208	25.015	83.080	69.515	-4.481	0.828	7.154	4.996

DEVICE TEST: 14.5 VIO2_40_AMP1' [uV]

NDD Fluence vs Result

R² = 0.2581

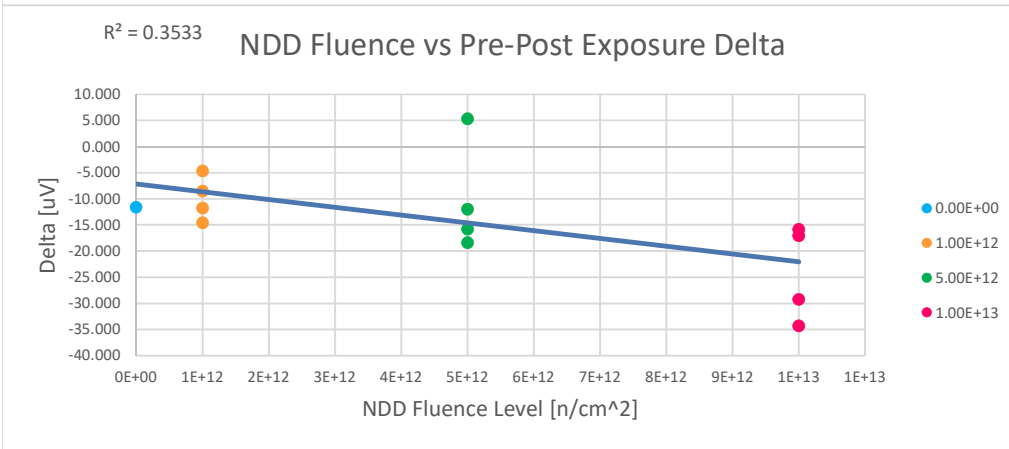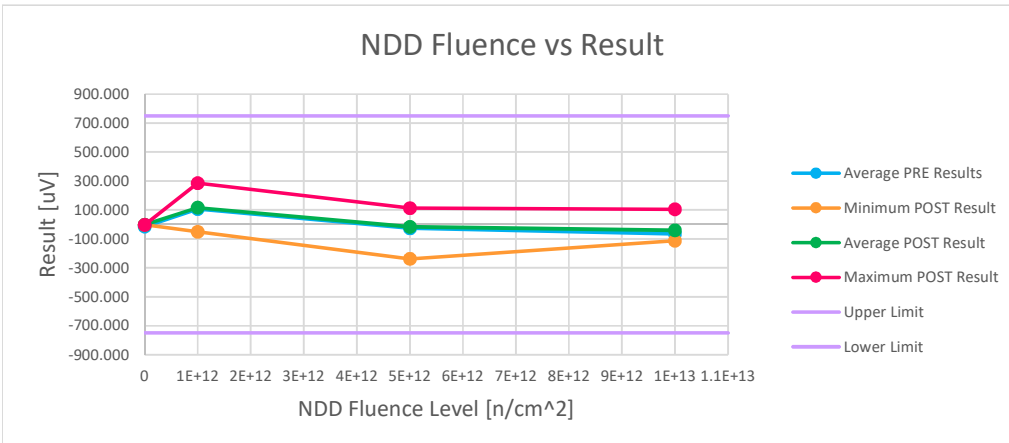NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-339.223	-347.421	8.198
2	1E+12	NDD	-74.962	-89.038	14.076
3	1E+12	NDD	-11.644	-18.155	6.510
4	1E+12	NDD	-11.294	-17.043	5.750
5	5E+12	NDD	-133.836	-164.190	30.354
6	5E+12	NDD	-253.819	-267.473	13.654
7	5E+12	NDD	-254.449	-281.393	26.944
8	5E+12	NDD	-245.270	-262.561	17.291
9	1E+13	NDD	109.144	98.931	10.213
10	1E+13	NDD	18.582	-30.553	49.135
11	1E+13	NDD	-58.884	-67.340	8.456
12	1E+13	NDD	-163.127	-198.871	35.744
13	0E+00	CONTROL	-79.931	-95.880	15.949

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-79.931	-79.931	-79.931	-	-95.880	-95.880	-95.880	-	15.949	15.949	15.949	-
1E+12	-339.223	-109.281	-11.294	156.190	-347.421	-117.914	-17.043	156.667	5.750	8.634	14.076	3.770
5E+12	-254.449	-221.843	-133.836	58.821	-281.393	-243.904	-164.190	53.738	13.654	22.061	30.354	7.875
1E+13	-163.127	-23.571	109.144	115.633	-198.871	-49.458	98.931	122.503	8.456	25.887	49.135	19.893

DEVICE TEST: 14.6 VIO2_40_AMP2' [uV]

NDD Fluence vs Result
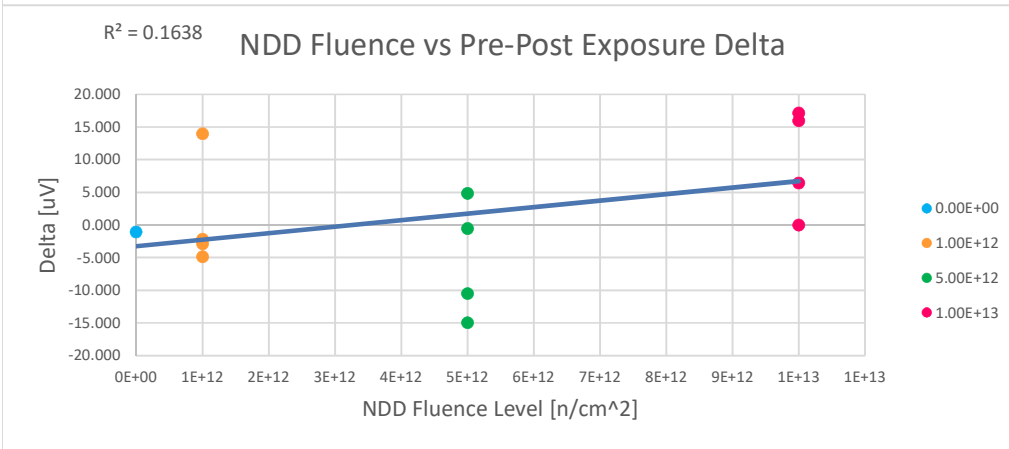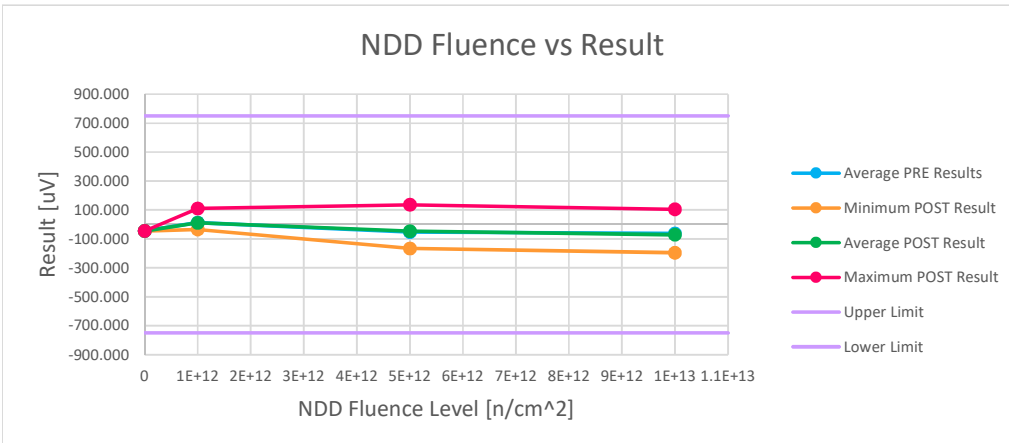
R² = 0.3533

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	173.305	177.969	-4.664
2	1E+12	NDD	277.658	286.173	-8.515
3	1E+12	NDD	35.006	49.585	-14.580
4	1E+12	NDD	-61.109	-49.320	-11.789
5	5E+12	NDD	-256.668	-238.298	-18.371
6	5E+12	NDD	28.511	44.321	-15.810
7	5E+12	NDD	23.554	18.235	5.319
8	5E+12	NDD	100.854	112.870	-12.016
9	1E+13	NDD	-81.033	-63.942	-17.091
10	1E+13	NDD	-121.524	-92.251	-29.273
11	1E+13	NDD	-126.899	-111.026	-15.874
12	1E+13	NDD	69.595	103.922	-34.326
13	0E+00	CONTROL	-13.899	-2.294	-11.604

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-13.899	-13.899	-13.899	-	-2.294	-2.294	-2.294	-	-11.604	-11.604	-11.604	-
1E+12	-61.109	106.215	277.658	149.401	-49.320	116.102	286.173	146.675	-14.580	-9.887	-4.664	4.274
5E+12	-256.668	-25.937	100.854	157.826	-238.298	-15.718	112.870	153.660	-18.371	-10.220	5.319	10.683
1E+13	-126.899	-64.965	69.595	92.013	-111.026	-40.824	103.922	98.419	-34.326	-24.141	-15.874	9.095

DEVICE TEST: 14.7 VIO2_40_AMP3' [uV]

NDD Fluence vs Result

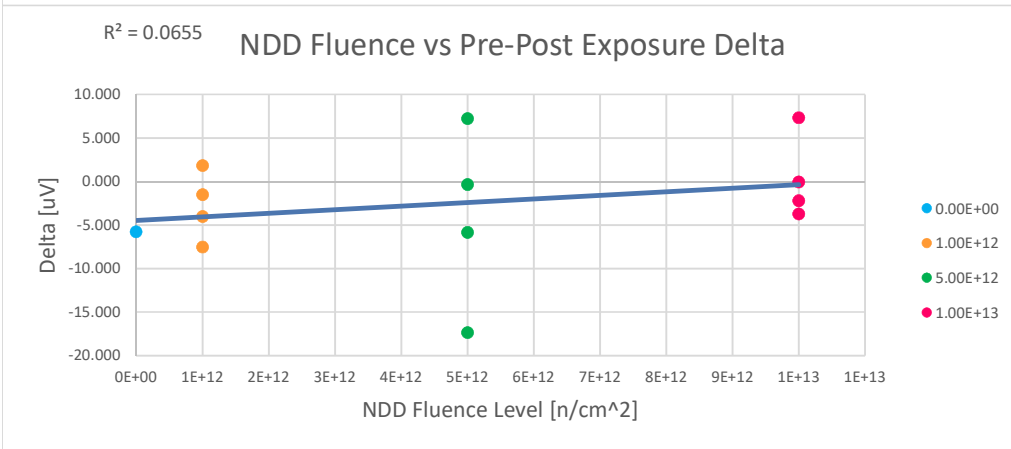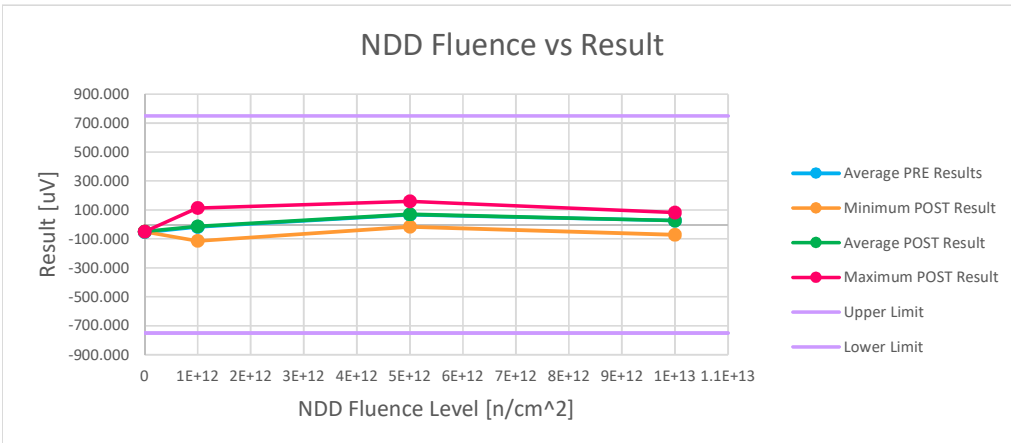## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1638

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-15.655	-13.503	-2.152
2	1E+12	NDD	125.097	111.141	13.956
3	1E+12	NDD	-19.867	-17.012	-2.855
4	1E+12	NDD	-39.406	-34.559	-4.846
5	5E+12	NDD	-45.782	-50.644	4.862
6	5E+12	NDD	120.340	135.298	-14.958
7	5E+12	NDD	-108.963	-108.433	-0.530
8	5E+12	NDD	-176.355	-165.871	-10.484
9	1E+13	NDD	121.470	104.298	17.172
10	1E+13	NDD	-44.203	-44.210	0.008
11	1E+13	NDD	-188.874	-195.292	6.418
12	1E+13	NDD	-136.165	-152.126	15.960
13	0E+00	CONTROL	-45.782	-44.737	-1.046

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-45.782	-45.782	-45.782	-	-44.737	-44.737	-44.737	-	-1.046	-1.046	-1.046	-
1E+12	-39.406	12.543	125.097	75.747	-34.559	11.517	111.141	67.052	-4.846	1.026	13.956	8.695
5E+12	-176.355	-52.690	120.340	127.078	-165.871	-47.413	135.298	130.575	-14.958	-5.277	4.862	9.059
1E+13	-188.874	-61.943	121.470	136.107	-195.292	-71.832	104.298	133.509	0.008	9.890	17.172	8.157

DEVICE TEST: 14.8 VIO2_40_AMP4' [uV]

NDD Fluence vs Result

R² = 0.0655

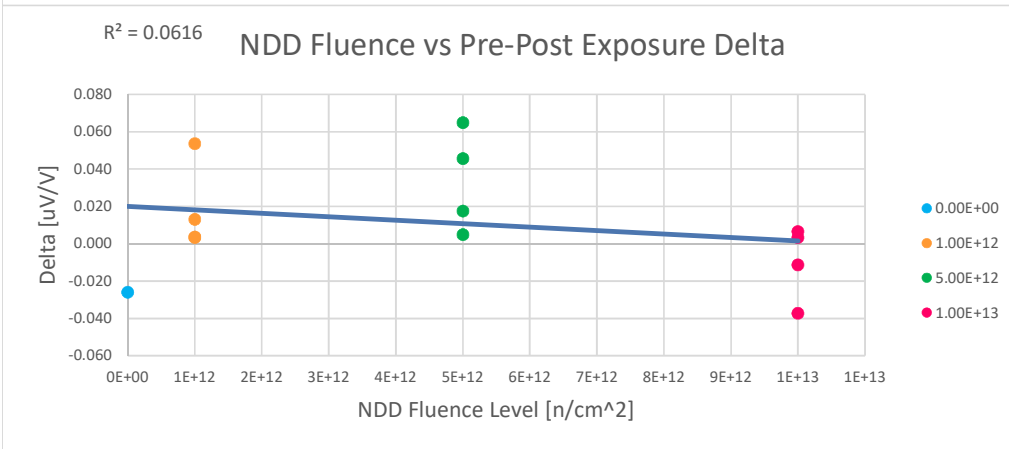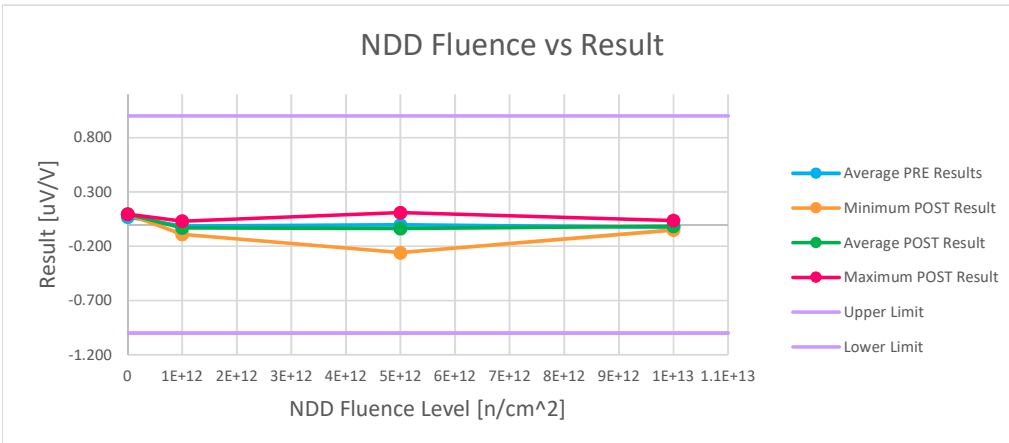NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -750 | UPPER LIMIT = 750) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-117.697	-113.676	-4.021
2	1E+12	NDD	-5.334	-7.168	1.835
3	1E+12	NDD	-52.010	-50.508	-1.502
4	1E+12	NDD	107.205	114.722	-7.517
5	5E+12	NDD	153.004	158.822	-5.818
6	5E+12	NDD	-8.778	-16.000	7.222
7	5E+12	NDD	52.164	52.490	-0.326
8	5E+12	NDD	68.074	85.419	-17.345
9	1E+13	NDD	78.895	81.091	-2.196
10	1E+13	NDD	69.595	69.627	-0.033
11	1E+13	NDD	18.122	21.842	-3.720
12	1E+13	NDD	-63.416	-70.746	7.330
13	0E+00	CONTROL	-54.408	-48.637	-5.771

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-54.408	-54.408	-54.408	-	-48.637	-48.637	-48.637	-	-5.771	-5.771	-5.771	-
1E+12	-117.697	-16.959	107.205	94.743	-113.676	-14.158	114.722	96.409	-7.517	-2.801	1.835	3.954
5E+12	-8.778	66.116	153.004	66.726	-16.000	70.183	158.822	72.640	-17.345	-4.067	7.222	10.341
1E+13	-63.416	25.799	78.895	65.206	-70.746	25.454	81.091	69.075	-3.720	0.345	7.330	4.896

DEVICE TEST: 14.9 PSRR1_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

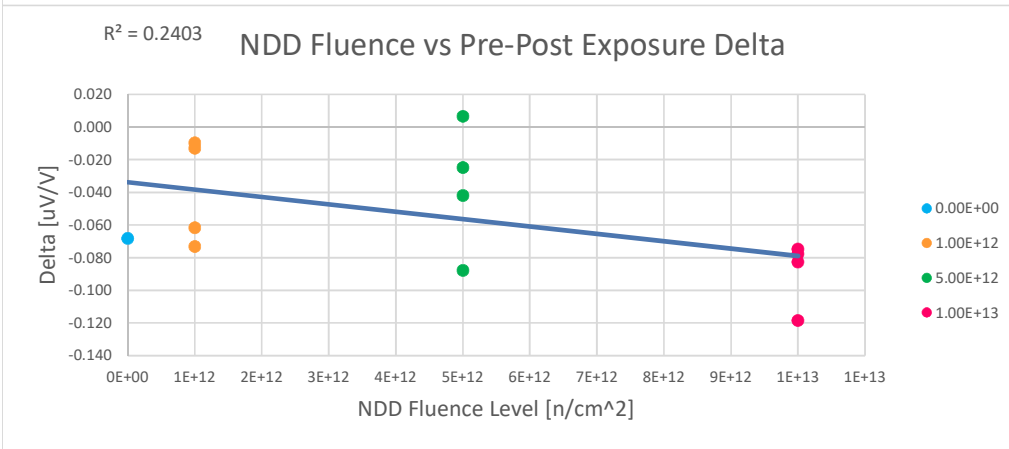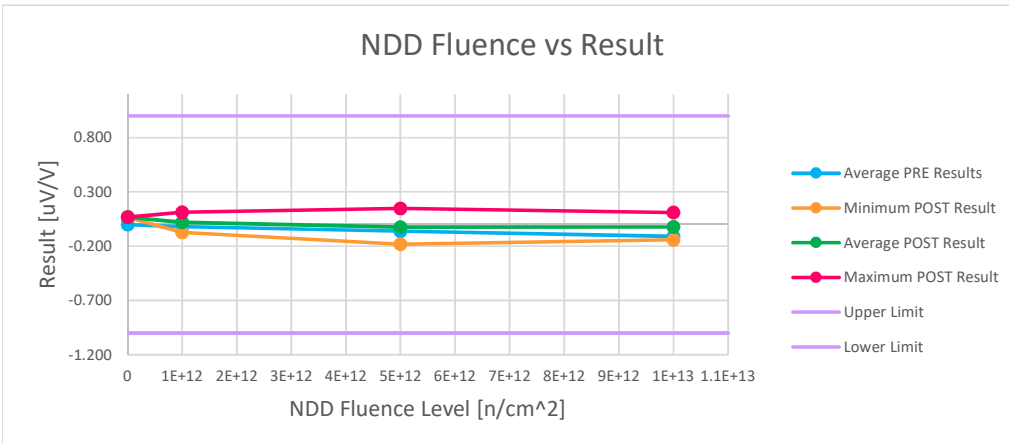## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0616

TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.024	-0.028	0.004
2	1E+12	NDD	-0.031	-0.044	0.013
3	1E+12	NDD	-0.088	-0.091	0.003
4	1E+12	NDD	0.084	0.031	0.054
5	5E+12	NDD	0.029	0.024	0.005
6	5E+12	NDD	-0.002	-0.019	0.017
7	5E+12	NDD	0.174	0.109	0.065
8	5E+12	NDD	-0.214	-0.260	0.046
9	1E+13	NDD	0.024	0.036	-0.011
10	1E+13	NDD	-0.047	-0.050	0.003
11	1E+13	NDD	-0.028	-0.034	0.007
12	1E+13	NDD	-0.052	-0.015	-0.037
13	0E+00	CONTROL	0.068	0.094	-0.026

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.068	0.068	0.068	-	0.094	0.094	0.094	-	-0.026	-0.026	-0.026	-
1E+12	-0.088	-0.015	0.084	0.072	-0.091	-0.033	0.031	0.050	0.003	0.018	0.054	0.024
5E+12	-0.214	-0.003	0.174	0.160	-0.260	-0.037	0.109	0.158	0.005	0.033	0.065	0.027
1E+13	-0.052	-0.026	0.024	0.035	-0.050	-0.016	0.036	0.037	-0.037	-0.010	0.007	0.020

DEVICE TEST: 14.10 PSRR1_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result
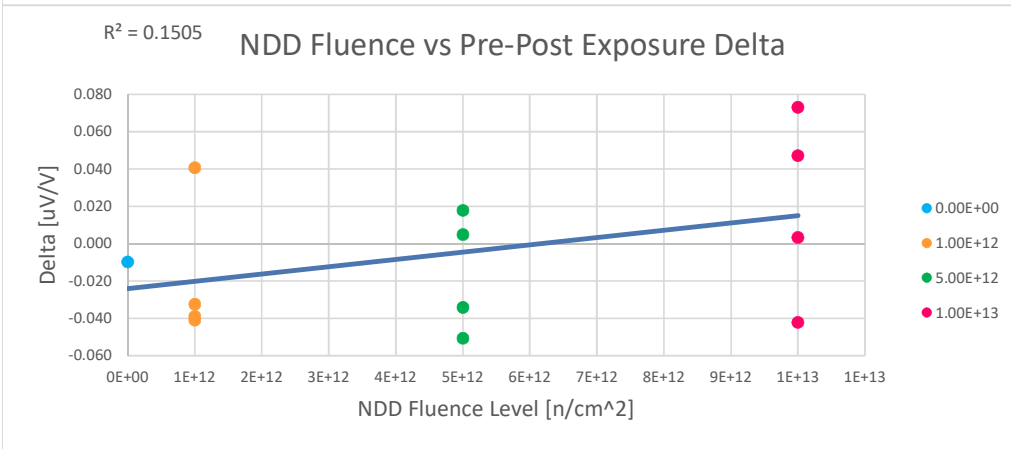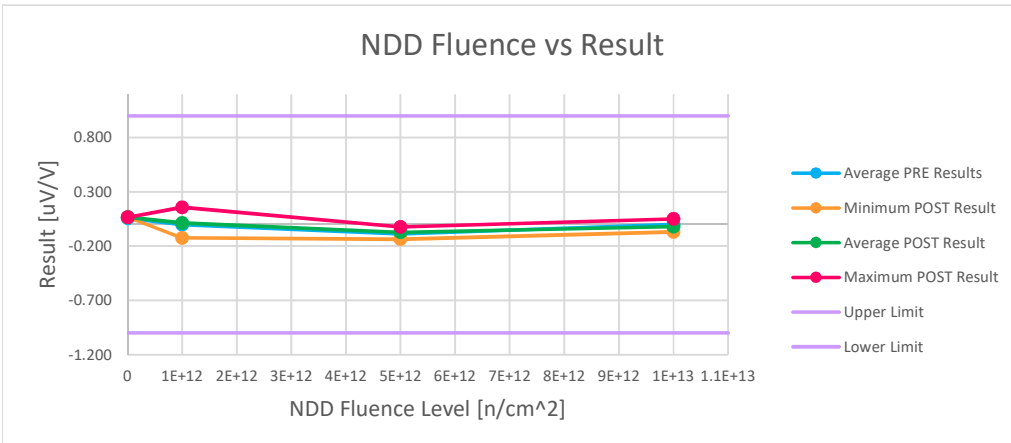
R² = 0.2403

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.102	-0.029	-0.073
2	1E+12	NDD	0.052	0.114	-0.062
3	1E+12	NDD	-0.083	-0.073	-0.010
4	1E+12	NDD	0.052	0.065	-0.013
5	5E+12	NDD	-0.224	-0.182	-0.042
6	5E+12	NDD	-0.020	0.005	-0.025
7	5E+12	NDD	0.060	0.148	-0.088
8	5E+12	NDD	-0.063	-0.070	0.007
9	1E+13	NDD	-0.140	-0.057	-0.083
10	1E+13	NDD	-0.117	0.002	-0.118
11	1E+13	NDD	-0.219	-0.141	-0.078
12	1E+13	NDD	0.036	0.110	-0.075
13	0E+00	CONTROL	-0.002	0.067	-0.068

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.002	-0.002	-0.002	-	0.067	0.067	0.067	-	-0.068	-0.068	-0.068	-
1E+12	-0.102	-0.020	0.052	0.084	-0.073	0.019	0.114	0.085	-0.073	-0.039	-0.010	0.033
5E+12	-0.224	-0.062	0.060	0.120	-0.182	-0.025	0.148	0.138	-0.088	-0.037	0.007	0.039
1E+13	-0.219	-0.110	0.036	0.107	-0.141	-0.022	0.110	0.106	-0.118	-0.088	-0.075	0.020

DEVICE TEST: 14.11 PSRR1_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 0.1505$

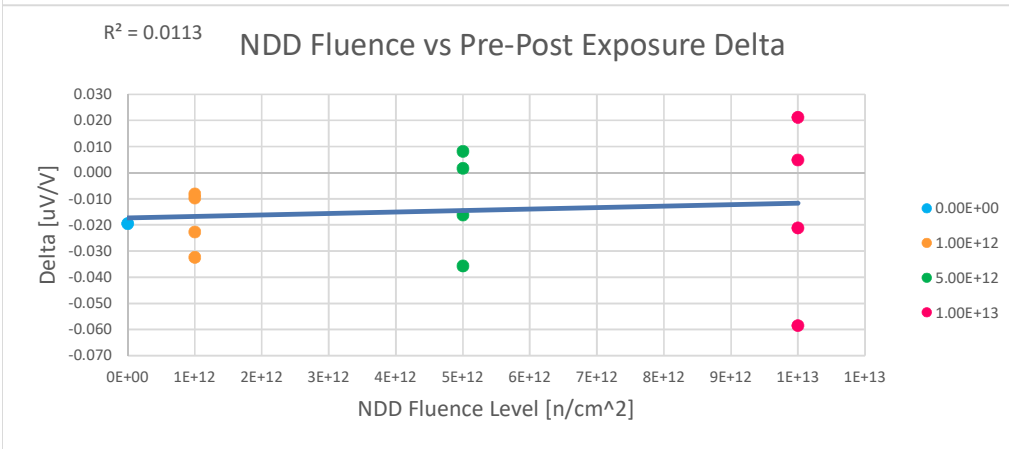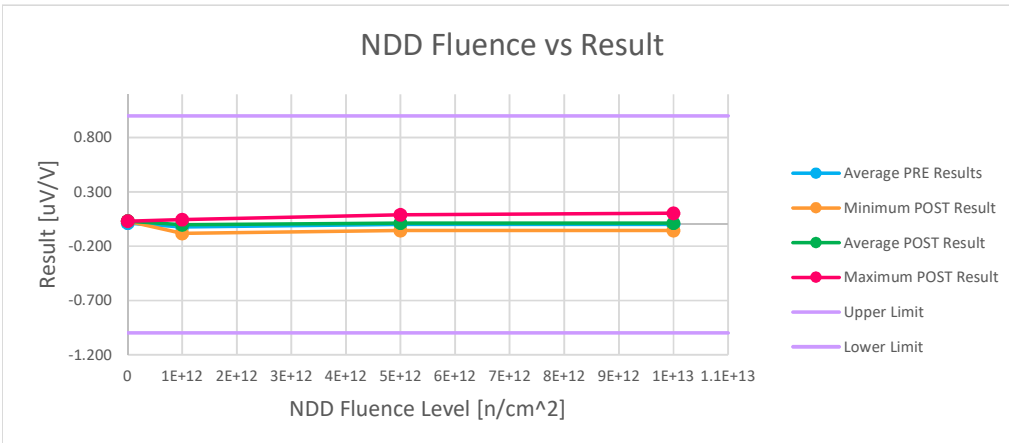## TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.117	0.158	-0.041
2	1E+12	NDD	0.003	0.042	-0.039
3	1E+12	NDD	0.021	-0.019	0.041
4	1E+12	NDD	-0.156	-0.123	-0.033
5	5E+12	NDD	-0.119	-0.136	0.018
6	5E+12	NDD	-0.075	-0.024	-0.051
7	5E+12	NDD	-0.029	-0.034	0.005
8	5E+12	NDD	-0.128	-0.094	-0.034
9	1E+13	NDD	0.008	0.005	0.003
10	1E+13	NDD	0.008	0.050	-0.042
11	1E+13	NDD	-0.021	-0.068	0.047
12	1E+13	NDD	0.007	-0.067	0.073
13	0E+00	CONTROL	0.057	0.067	-0.010

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.057	0.057	0.057	-	0.067	0.067	0.067	-	-0.010	-0.010	-0.010	-
1E+12	-0.156	-0.004	0.117	0.113	-0.123	0.014	0.158	0.118	-0.041	-0.018	0.041	0.039
5E+12	-0.128	-0.088	-0.029	0.045	-0.136	-0.072	-0.024	0.053	-0.051	-0.016	0.018	0.032
1E+13	-0.021	0.000	0.008	0.014	-0.068	-0.020	0.050	0.058	-0.042	0.020	0.073	0.051

DEVICE TEST: 14.12 PSRR1_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0113

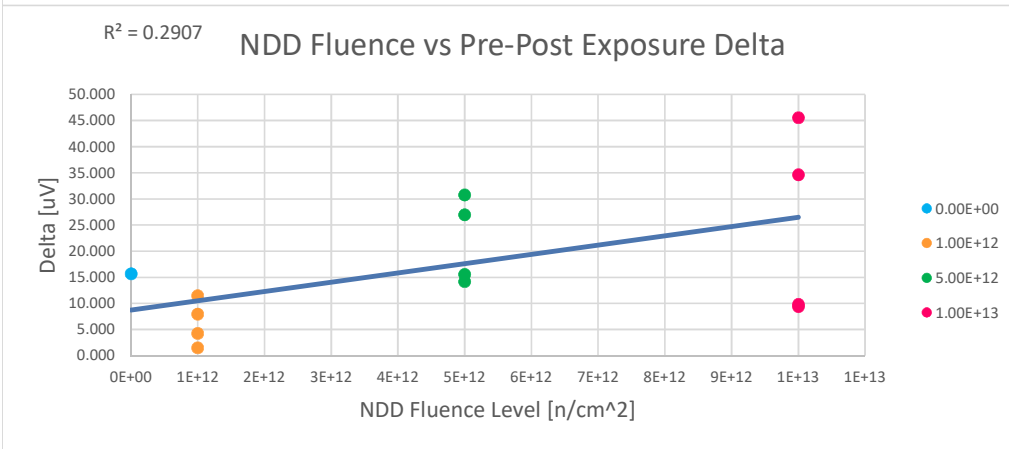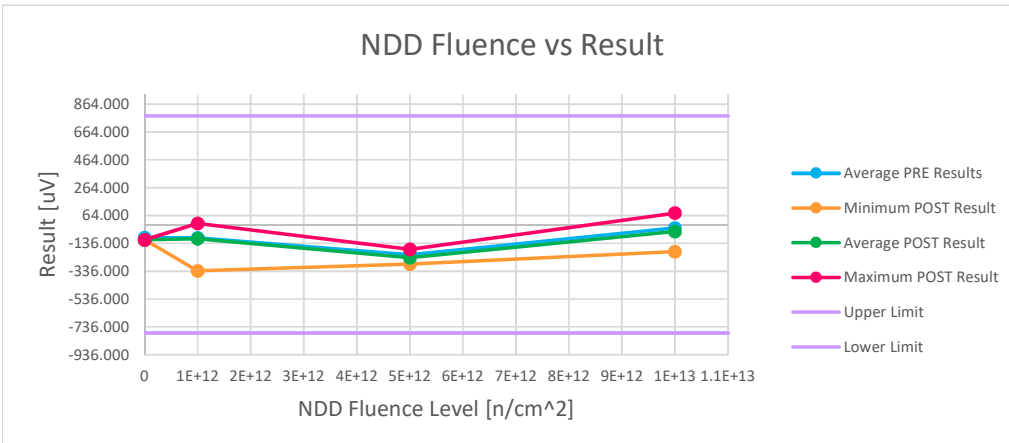### TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.115	-0.083	-0.032
2	1E+12	NDD	-0.028	-0.018	-0.010
3	1E+12	NDD	0.036	0.044	-0.008
4	1E+12	NDD	0.021	0.044	-0.023
5	5E+12	NDD	0.018	0.054	-0.036
6	5E+12	NDD	0.091	0.089	0.002
7	5E+12	NDD	-0.047	-0.055	0.008
8	5E+12	NDD	-0.058	-0.042	-0.016
9	1E+13	NDD	-0.076	-0.055	-0.021
10	1E+13	NDD	0.045	0.104	-0.058
11	1E+13	NDD	-0.019	-0.041	0.021
12	1E+13	NDD	0.045	0.041	0.005
13	0E+00	CONTROL	0.011	0.031	-0.019

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.011	0.011	0.011	-	0.031	0.031	0.031	-	-0.019	-0.019	-0.019	-
1E+12	-0.115	-0.022	0.036	0.068	-0.083	-0.003	0.044	0.061	-0.032	-0.018	-0.008	0.011
5E+12	-0.058	0.001	0.091	0.069	-0.055	0.011	0.089	0.071	-0.036	-0.011	0.008	0.020
1E+13	-0.076	-0.001	0.045	0.059	-0.055	0.012	0.104	0.074	-0.058	-0.013	0.021	0.035

DEVICE TEST: 141.1 VIO2_2p7_AMP1 [uV]

NDD Fluence vs Result

R² = 0.2907

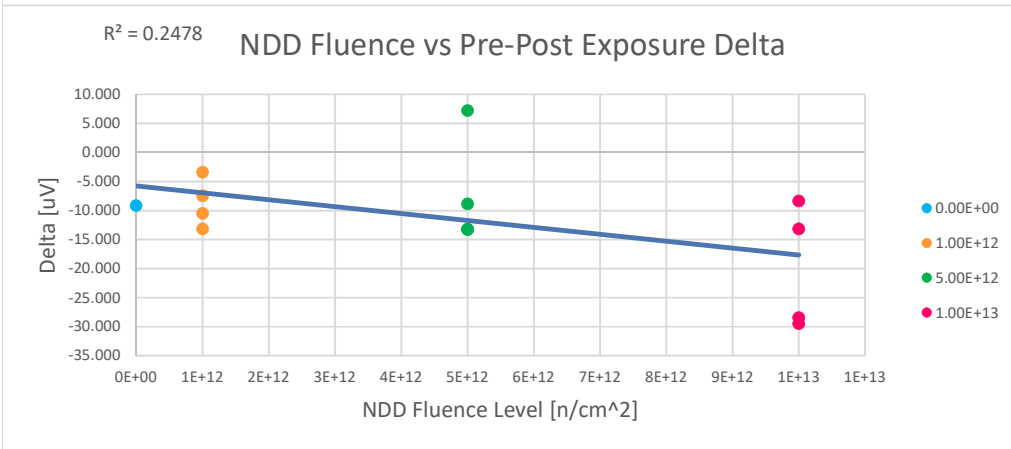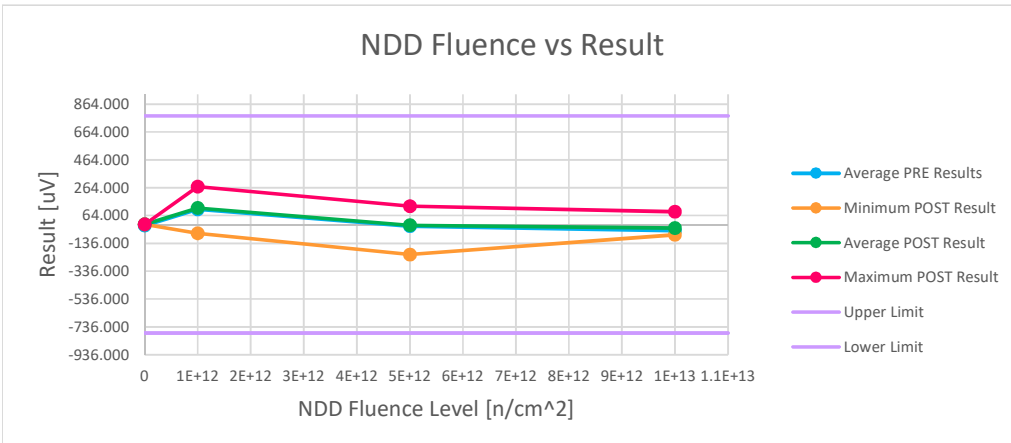NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-325.893	-333.795	7.902
2	1E+12	NDD	-59.176	-70.615	11.439
3	1E+12	NDD	12.092	7.871	4.221
4	1E+12	NDD	-11.294	-12.774	1.481
5	5E+12	NDD	-147.517	-178.285	30.768
6	5E+12	NDD	-266.814	-282.328	15.514
7	5E+12	NDD	-258.366	-285.311	26.945
8	5E+12	NDD	-197.972	-212.147	14.175
9	1E+13	NDD	90.903	81.093	9.810
10	1E+13	NDD	37.057	-8.446	45.503
11	1E+13	NDD	-69.700	-79.037	9.337
12	1E+13	NDD	-160.496	-195.128	34.632
13	0E+00	CONTROL	-94.138	-109.800	15.661

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-94.138	-94.138	-94.138	-	-109.800	-109.800	-109.800	-	15.661	15.661	15.661	-
1E+12	-325.893	-96.068	12.092	156.062	-333.795	-102.328	7.871	157.846	1.481	6.261	11.439	4.340
5E+12	-266.814	-217.667	-147.517	55.919	-285.311	-239.518	-178.285	53.004	14.175	21.851	30.768	8.257
1E+13	-160.496	-25.559	90.903	112.013	-195.128	-50.379	81.093	116.643	9.337	24.821	45.503	18.158

DEVICE TEST: 141.2 VIO2_2p7_AMP2 [uV]

NDD Fluence vs Result

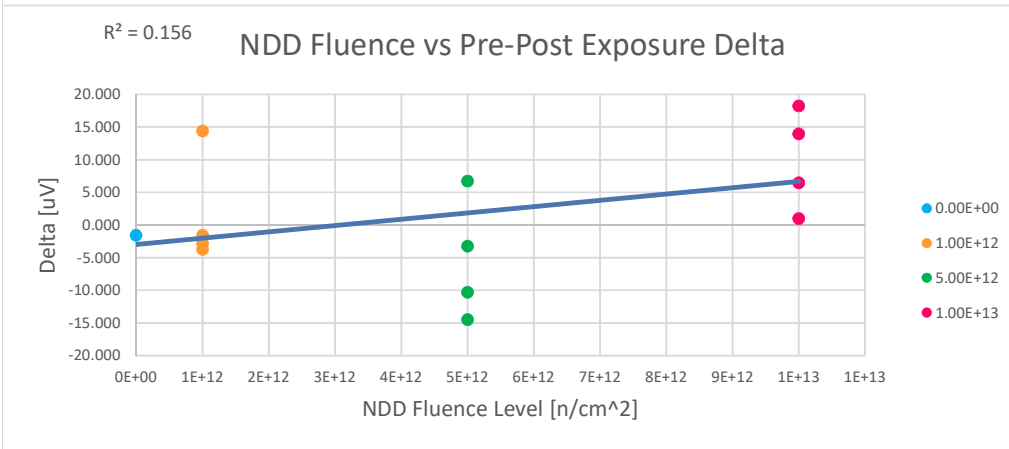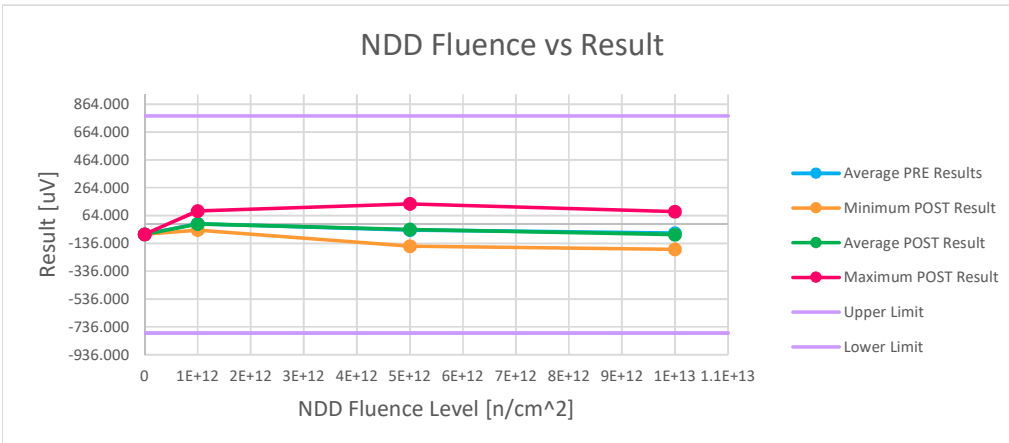## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2478

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	190.951	194.345	-3.394
2	1E+12	NDD	264.979	272.428	-7.449
3	1E+12	NDD	53.586	66.723	-13.137
4	1E+12	NDD	-73.963	-63.474	-10.489
5	5E+12	NDD	-229.558	-216.364	-13.193
6	5E+12	NDD	40.449	53.679	-13.230
7	5E+12	NDD	14.088	6.830	7.259
8	5E+12	NDD	122.414	131.236	-8.822
9	1E+13	NDD	-60.641	-47.506	-13.135
10	1E+13	NDD	-102.184	-73.768	-28.416
11	1E+13	NDD	-82.727	-74.411	-8.316
12	1E+13	NDD	61.474	90.937	-29.463
13	0E+00	CONTROL	-8.290	0.864	-9.154

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-8.290	-8.290	-8.290	-	0.864	0.864	0.864	-	-9.154	-9.154	-9.154	-
1E+12	-73.963	108.888	264.979	150.102	-63.474	117.505	272.428	147.465	-13.137	-8.617	-3.394	4.186
5E+12	-229.558	-13.151	122.414	151.465	-216.364	-6.155	131.236	149.235	-13.230	-6.997	7.259	9.726
1E+13	-102.184	-46.020	61.474	73.644	-74.411	-26.187	90.937	79.082	-29.463	-19.833	-8.316	10.707

DEVICE TEST: 141.3 VIO2_2p7_AMP3 [uV]

NDD Fluence vs Result

R² = 0.156

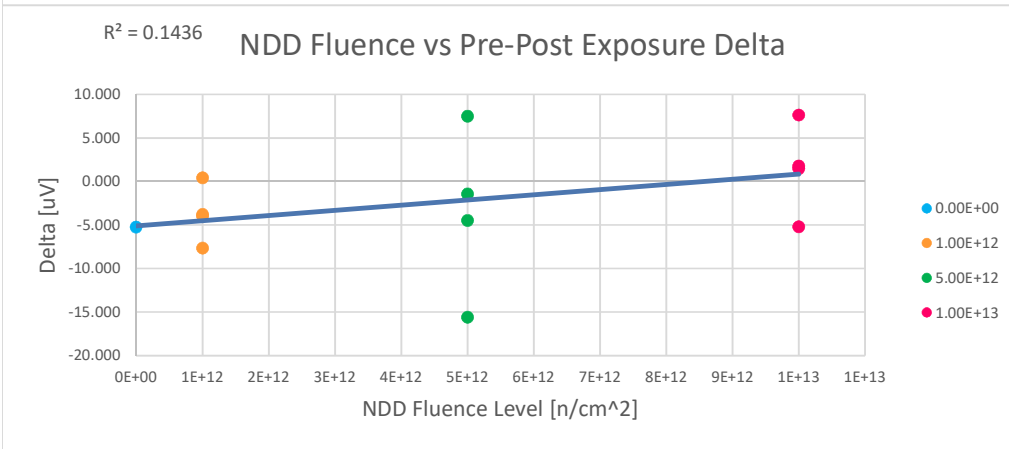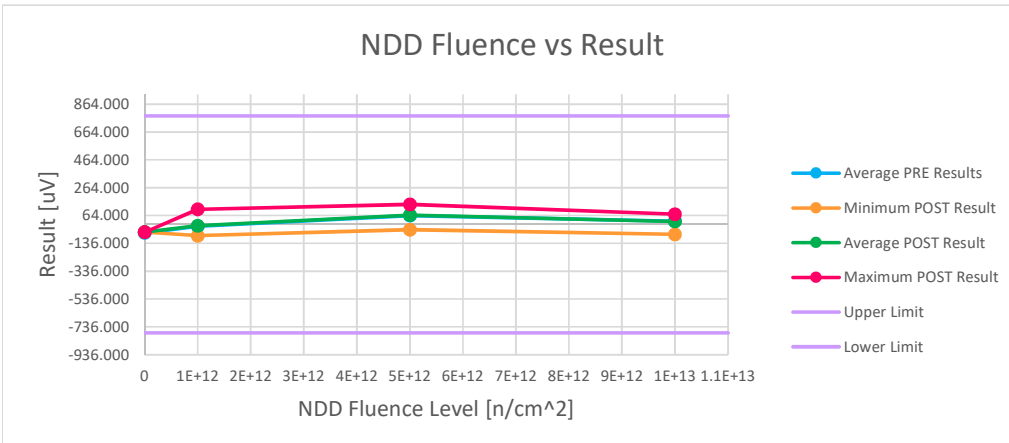NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-42.097	-40.525	-1.572
2	1E+12	NDD	110.765	96.343	14.422
3	1E+12	NDD	-20.042	-17.188	-2.855
4	1E+12	NDD	-27.530	-23.797	-3.733
5	5E+12	NDD	-20.569	-27.306	6.738
6	5E+12	NDD	133.146	147.639	-14.493
7	5E+12	NDD	-109.431	-106.210	-3.220
8	5E+12	NDD	-165.883	-155.577	-10.307
9	1E+13	NDD	111.935	93.711	18.224
10	1E+13	NDD	-58.886	-59.886	0.999
11	1E+13	NDD	-171.967	-178.446	6.479
12	1E+13	NDD	-130.549	-144.522	13.973
13	0E+00	CONTROL	-71.581	-70.005	-1.576

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-71.581	-71.581	-71.581	-	-70.005	-70.005	-70.005	-	-1.576	-1.576	-1.576	-
1E+12	-42.097	5.274	110.765	70.921	-40.525	3.708	96.343	62.533	-3.733	1.566	14.422	8.617
5E+12	-165.883	-40.684	133.146	130.413	-155.577	-35.364	147.639	132.948	-14.493	-5.321	6.738	9.288
1E+13	-171.967	-62.367	111.935	125.239	-178.446	-72.286	93.711	121.377	0.999	9.919	18.224	7.677

DEVICE TEST: 141.4 VIO2_2p7_AMP4 [uV]

NDD Fluence vs Result

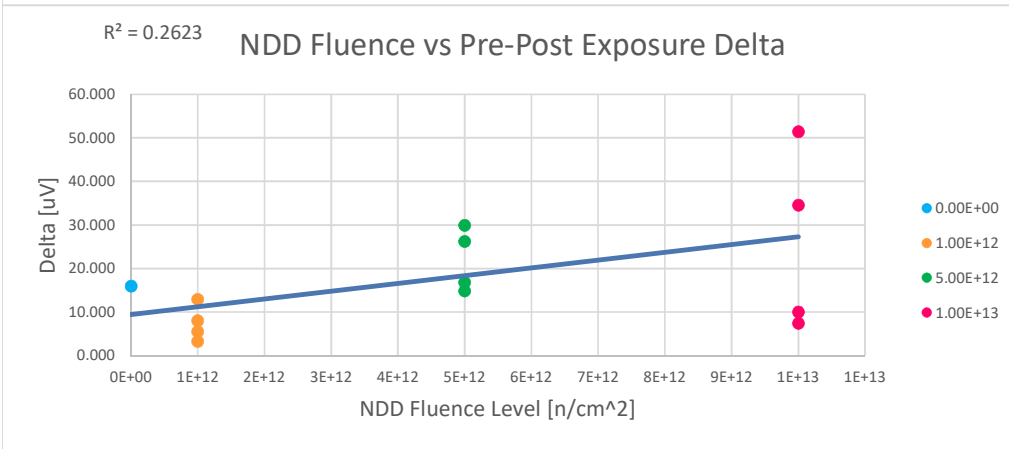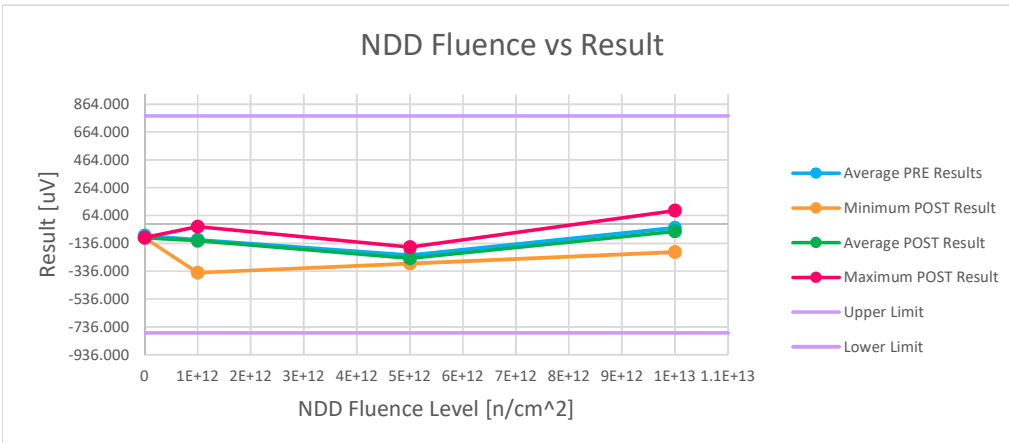## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1436

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-84.766	-80.981	-3.785
2	1E+12	NDD	8.003	7.571	0.432
3	1E+12	NDD	-76.694	-72.734	-3.960
4	1E+12	NDD	100.537	108.171	-7.634
5	5E+12	NDD	139.317	143.791	-4.474
6	5E+12	NDD	-30.363	-37.875	7.512
7	5E+12	NDD	59.125	60.562	-1.437
8	5E+12	NDD	86.206	101.796	-15.590
9	1E+13	NDD	74.917	73.429	1.488
10	1E+13	NDD	37.424	35.645	1.779
11	1E+13	NDD	45.847	51.028	-5.181
12	1E+13	NDD	-64.527	-72.149	7.622
13	0E+00	CONTROL	-60.550	-55.305	-5.245

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-60.550	-60.550	-60.550	-	-55.305	-55.305	-55.305	-	-5.245	-5.245	-5.245	-
1E+12	-84.766	-13.230	100.537	86.677	-80.981	-9.493	108.171	88.027	-7.634	-3.737	0.432	3.298
5E+12	-30.363	63.571	139.317	70.930	-37.875	67.068	143.791	77.777	-15.590	-3.497	7.512	9.533
1E+13	-64.527	23.415	74.917	60.789	-72.149	21.988	73.429	64.647	-5.181	1.427	7.622	5.234

DEVICE TEST: 141.5 VIO2_40_AMP1 [uV]

NDD Fluence vs Result

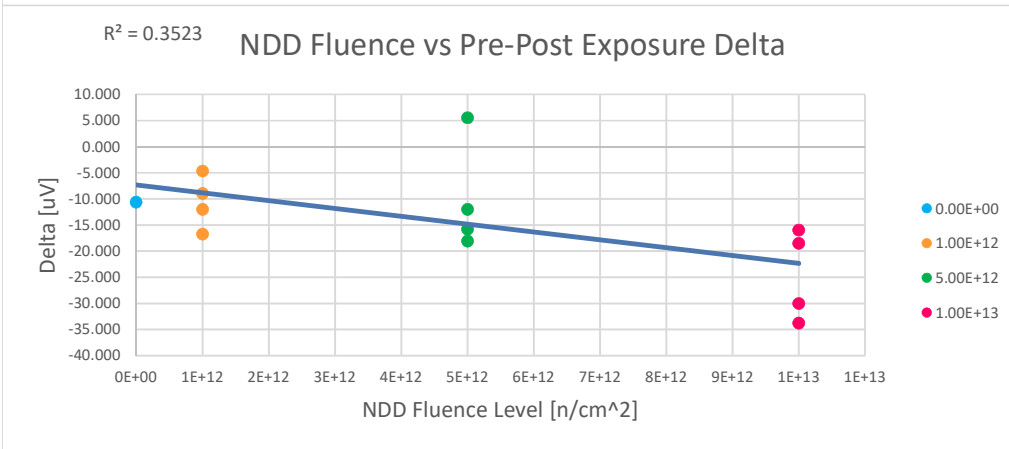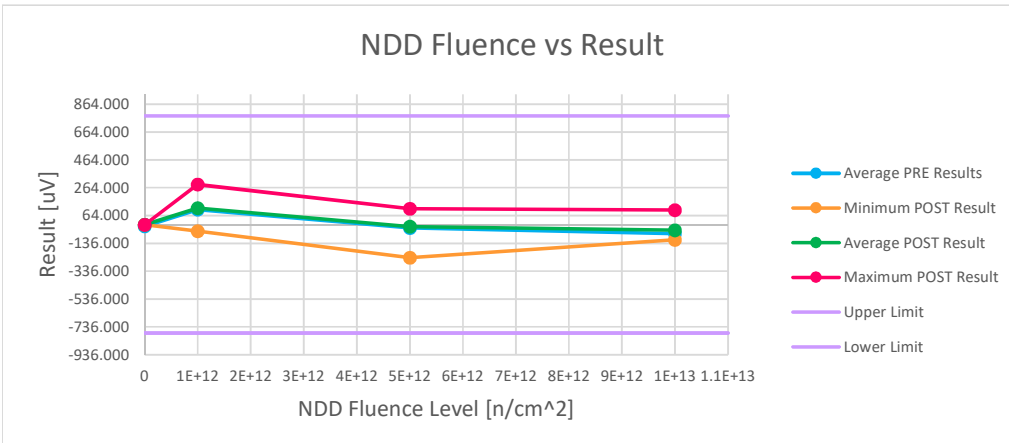## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2623

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-339.340	-347.363	8.023
2	1E+12	NDD	-75.546	-88.453	12.906
3	1E+12	NDD	-12.404	-17.921	5.516
4	1E+12	NDD	-12.287	-15.523	3.235
5	5E+12	NDD	-133.134	-163.020	29.886
6	5E+12	NDD	-252.824	-267.649	14.825
7	5E+12	NDD	-254.215	-280.457	26.242
8	5E+12	NDD	-245.913	-262.736	16.823
9	1E+13	NDD	108.852	98.873	9.979
10	1E+13	NDD	19.693	-31.723	51.416
11	1E+13	NDD	-60.170	-67.632	7.462
12	1E+13	NDD	-163.419	-197.994	34.575
13	0E+00	CONTROL	-80.048	-95.997	15.949

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-80.048	-80.048	-80.048	-	-95.997	-95.997	-95.997	-	15.949	15.949	15.949	-
1E+12	-339.340	-109.895	-12.287	155.838	-347.363	-117.315	-15.523	157.052	3.235	7.420	12.906	4.147
5E+12	-254.215	-221.522	-133.134	59.037	-280.457	-243.465	-163.020	54.148	14.825	21.944	29.886	7.268
1E+13	-163.419	-23.761	108.852	115.909	-197.994	-49.619	98.873	122.079	7.462	25.858	51.416	20.974

DEVICE TEST: 141.6 VIO2_40_AMP2 [uV]

NDD Fluence vs Result

Legend: Average PRE Results, Minimum POST Result, Average POST Result, Maximum POST Result, Upper Limit, Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.3523
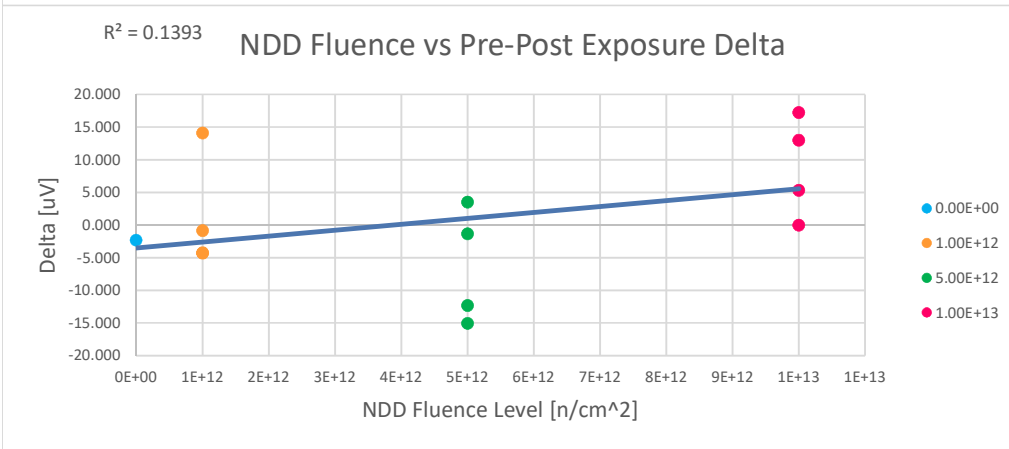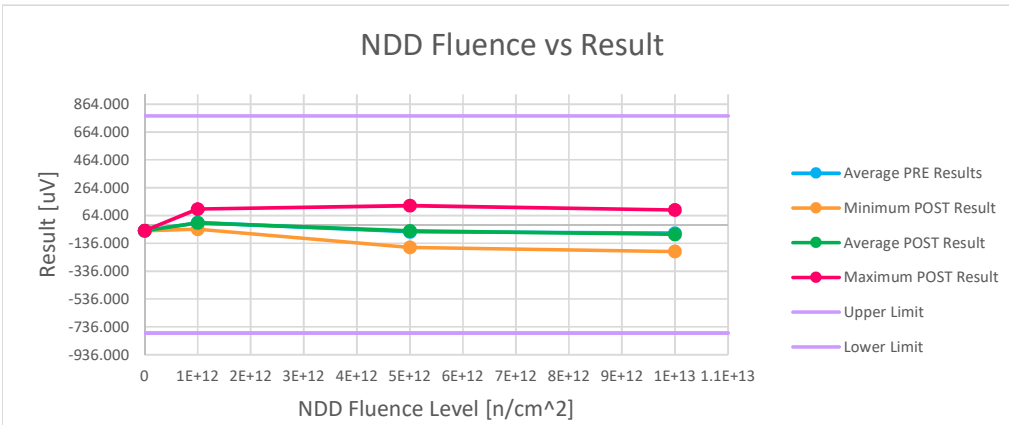

Legend: 0.00E+00, 1.00E+12, 5.00E+12, 1.00E+13

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	173.890	178.553	-4.663
2	1E+12	NDD	277.834	286.817	-8.983
3	1E+12	NDD	34.655	51.398	-16.743
4	1E+12	NDD	-60.525	-48.559	-11.965
5	5E+12	NDD	-256.727	-238.648	-18.078
6	5E+12	NDD	28.570	44.380	-15.810
7	5E+12	NDD	24.255	18.703	5.552
8	5E+12	NDD	101.380	113.397	-12.017
9	1E+13	NDD	-82.435	-63.942	-18.493
10	1E+13	NDD	-122.225	-92.192	-30.033
11	1E+13	NDD	-126.490	-110.558	-15.933
12	1E+13	NDD	69.361	103.103	-33.741
13	0E+00	CONTROL	-13.256	-2.645	-10.611

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-13.256	-13.256	-13.256	-	-2.645	-2.645	-2.645	-	-10.611	-10.611	-10.611	-
1E+12	-60.525	106.463	277.834	149.394	-48.559	117.052	286.817	146.447	-16.743	-10.589	-4.663	5.081
5E+12	-256.727	-25.630	101.380	158.075	-238.648	-15.542	113.397	154.018	-18.078	-10.088	5.552	10.722
1E+13	-126.490	-65.447	69.361	92.036	-110.558	-40.897	103.103	97.896	-33.741	-24.550	-15.933	8.670

DEVICE TEST: 141.7 VIO2_40_AMP3 [uV]

NDD Fluence vs Result

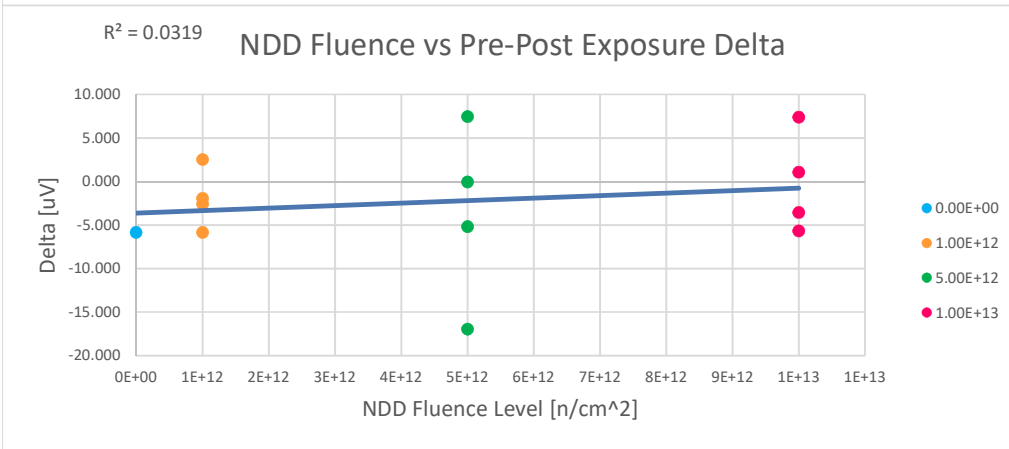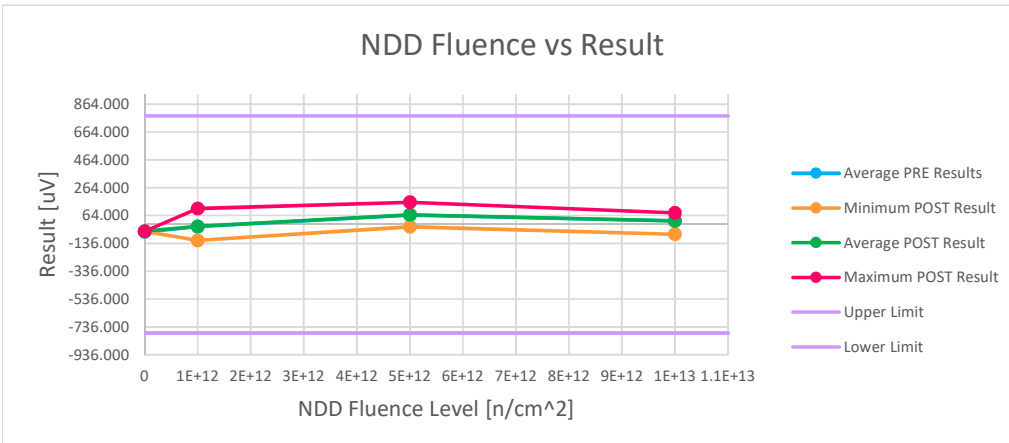## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1393

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-14.251	-13.386	-0.865
2	1E+12	NDD	125.156	111.083	14.073
3	1E+12	NDD	-20.686	-16.427	-4.258
4	1E+12	NDD	-38.470	-34.150	-4.320
5	5E+12	NDD	-46.367	-49.884	3.517
6	5E+12	NDD	120.106	135.181	-15.075
7	5E+12	NDD	-109.255	-107.907	-1.348
8	5E+12	NDD	-176.998	-164.643	-12.356
9	1E+13	NDD	121.061	103.830	17.231
10	1E+13	NDD	-43.325	-43.274	-0.051
11	1E+13	NDD	-189.108	-194.414	5.306
12	1E+13	NDD	-137.452	-150.429	12.977
13	0E+00	CONTROL	-46.250	-43.918	-2.332

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-46.250	-46.250	-46.250	-	-43.918	-43.918	-43.918	-	-2.332	-2.332	-2.332	-
1E+12	-38.470	12.937	125.156	75.510	-34.150	11.780	111.083	66.832	-4.320	1.158	14.073	8.760
5E+12	-176.998	-53.129	120.106	127.214	-164.643	-46.813	135.181	130.061	-15.075	-6.316	3.517	8.842
1E+13	-189.108	-62.206	121.061	136.271	-194.414	-71.072	103.830	132.758	-0.051	8.866	17.231	7.726

DEVICE TEST: 141.8 VIO2_40_AMP4 [uV]

NDD Fluence vs Result

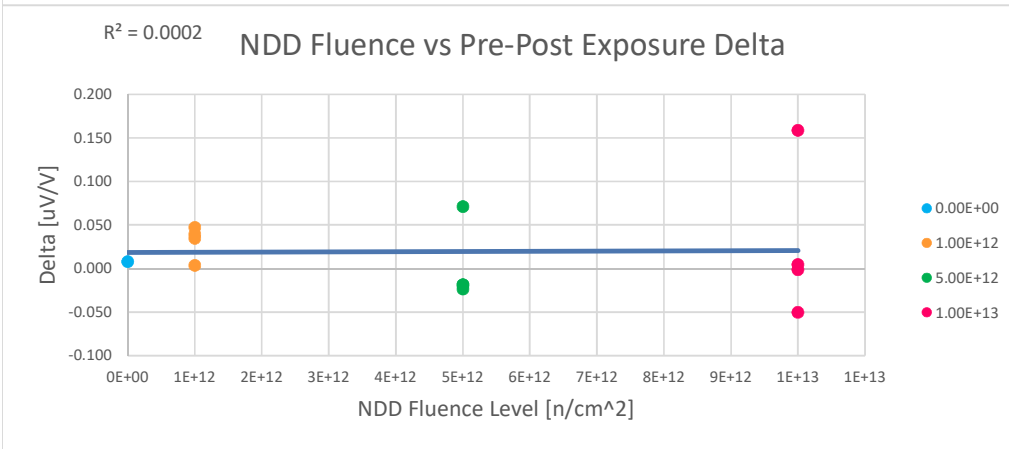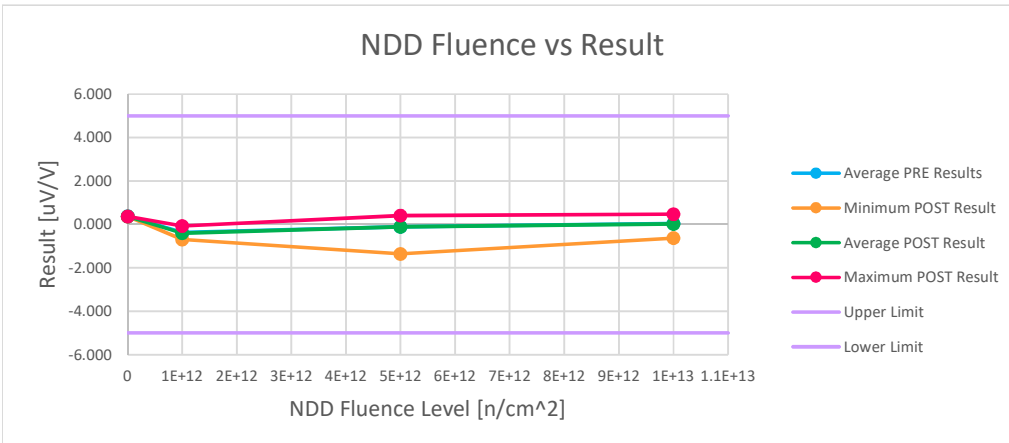## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0319

TEST RESULTS (LOWER LIMIT = -780 | UPPER LIMIT = 780) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-117.463	-114.904	-2.559
2	1E+12	NDD	-4.807	-7.344	2.537
3	1E+12	NDD	-50.899	-48.988	-1.911
4	1E+12	NDD	108.901	114.722	-5.821
5	5E+12	NDD	153.647	158.822	-5.175
6	5E+12	NDD	-9.363	-16.819	7.456
7	5E+12	NDD	52.573	52.607	-0.034
8	5E+12	NDD	68.249	85.185	-16.936
9	1E+13	NDD	78.602	82.144	-3.541
10	1E+13	NDD	70.179	69.101	1.079
11	1E+13	NDD	16.367	22.017	-5.651
12	1E+13	NDD	-61.837	-69.225	7.388
13	0E+00	CONTROL	-54.350	-48.520	-5.830

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-54.350	-54.350	-54.350	-	-48.520	-48.520	-48.520	-	-5.830	-5.830	-5.830	-
1E+12	-117.463	-16.067	108.901	95.286	-114.904	-14.128	114.722	96.643	-5.821	-1.938	2.537	3.439
5E+12	-9.363	66.277	153.647	67.198	-16.819	69.949	158.822	72.938	-16.936	-3.672	7.456	10.251
1E+13	-61.837	25.828	78.602	64.619	-69.225	26.009	82.144	68.541	-5.651	-0.181	7.388	5.776

DEVICE TEST: 141.9 PSRR2_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

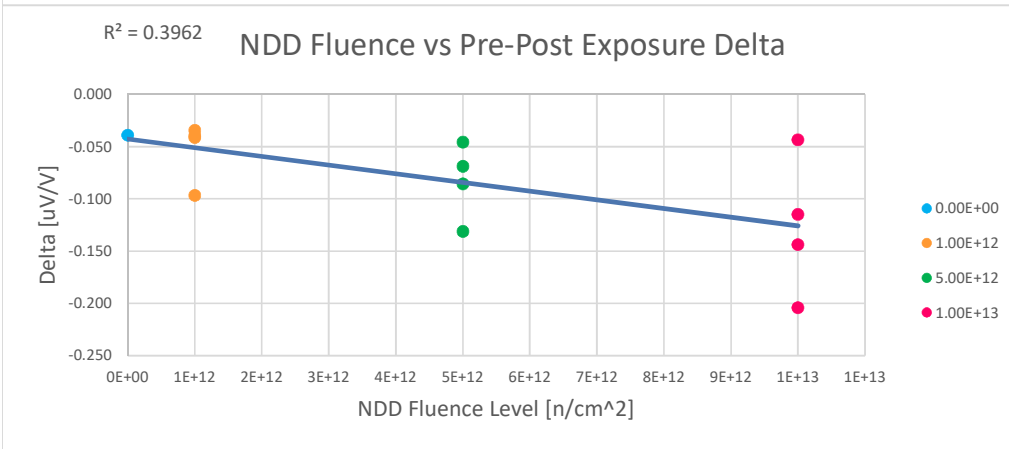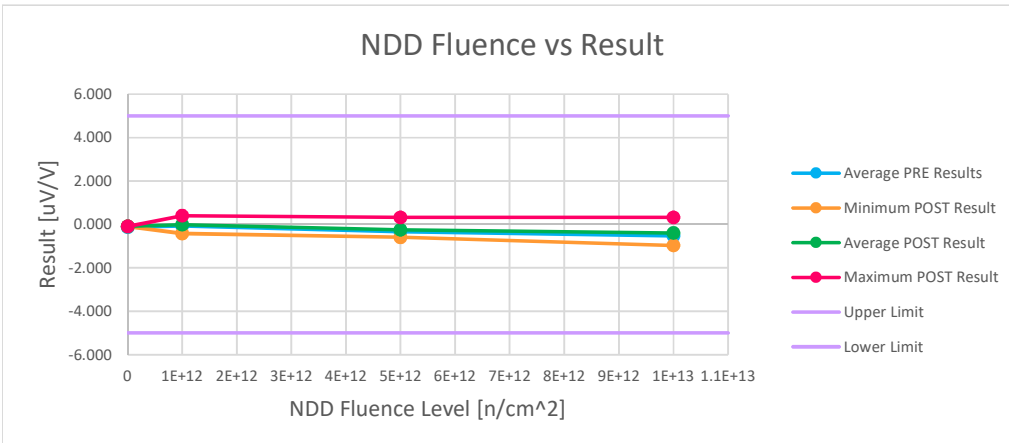## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0002

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 5) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.361	-0.364	0.003
2	1E+12	NDD	-0.439	-0.478	0.039
3	1E+12	NDD	-0.657	-0.691	0.035
4	1E+12	NDD	-0.027	-0.074	0.047
5	5E+12	NDD	0.386	0.409	-0.024
6	5E+12	NDD	0.375	0.394	-0.019
7	5E+12	NDD	0.111	0.130	-0.019
8	5E+12	NDD	-1.285	-1.356	0.071
9	1E+13	NDD	0.481	0.477	0.005
10	1E+13	NDD	-0.466	-0.624	0.159
11	1E+13	NDD	0.255	0.306	-0.050
12	1E+13	NDD	-0.078	-0.077	-0.002
13	0E+00	CONTROL	0.378	0.370	0.008

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.378	0.378	0.378	-	0.370	0.370	0.370	-	0.008	0.008	0.008	-
1E+12	-0.657	-0.371	-0.027	0.261	-0.691	-0.402	-0.074	0.257	0.003	0.031	0.047	0.019
5E+12	-1.285	-0.103	0.386	0.798	-1.356	-0.106	0.409	0.843	-0.024	0.002	0.071	0.046
1E+13	-0.466	0.048	0.481	0.412	-0.624	0.020	0.477	0.488	-0.050	0.028	0.159	0.091

DEVICE TEST: 141.10 PSRR2_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result
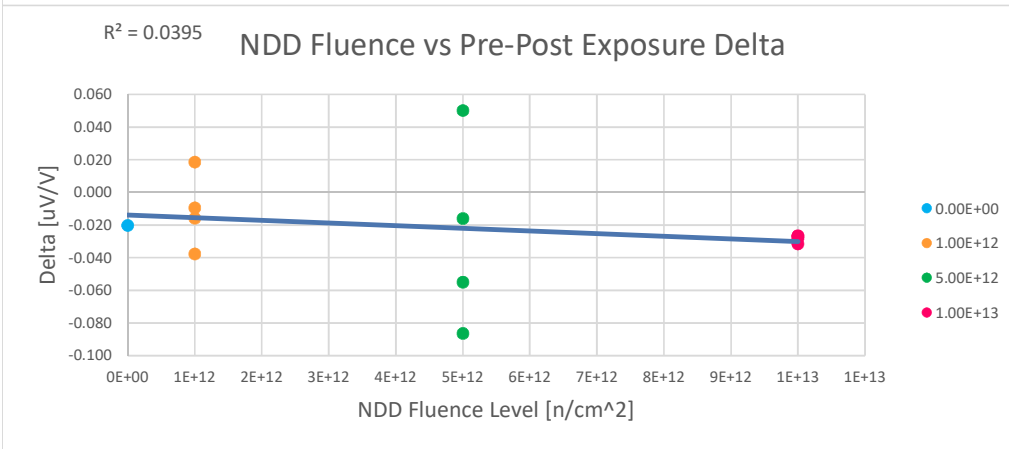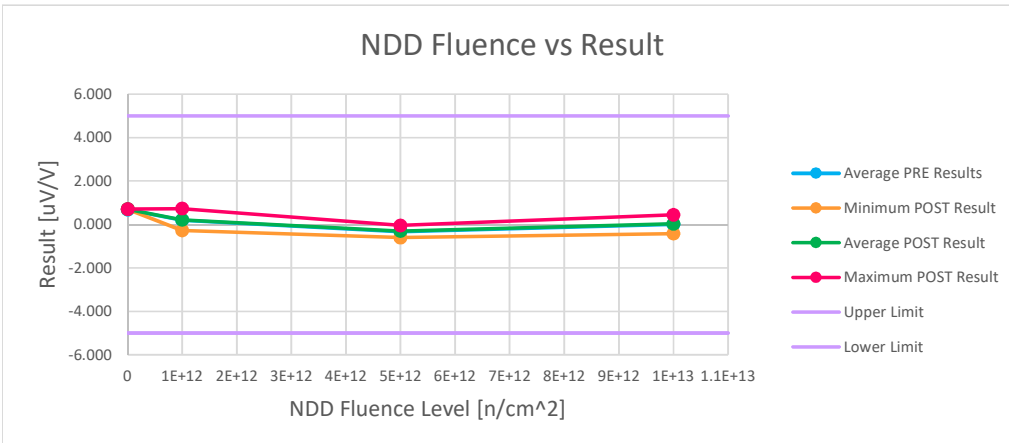

R² = 0.3962

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 5) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.457	-0.423	-0.034
2	1E+12	NDD	0.345	0.386	-0.041
3	1E+12	NDD	-0.508	-0.411	-0.097
4	1E+12	NDD	0.360	0.400	-0.040
5	5E+12	NDD	-0.728	-0.597	-0.131
6	5E+12	NDD	-0.318	-0.249	-0.069
7	5E+12	NDD	0.273	0.318	-0.046
8	5E+12	NDD	-0.564	-0.478	-0.086
9	1E+13	NDD	-0.584	-0.441	-0.144
10	1E+13	NDD	-0.537	-0.494	-0.043
11	1E+13	NDD	-1.173	-0.969	-0.204
12	1E+13	NDD	0.211	0.326	-0.115
13	0E+00	CONTROL	-0.133	-0.094	-0.039

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.133	-0.133	-0.133	-	-0.094	-0.094	-0.094	-	-0.039	-0.039	-0.039	-
1E+12	-0.508	-0.065	0.360	0.483	-0.423	-0.012	0.400	0.468	-0.097	-0.053	-0.034	0.029
5E+12	-0.728	-0.334	0.273	0.438	-0.597	-0.252	0.318	0.407	-0.131	-0.083	-0.046	0.036
1E+13	-1.173	-0.521	0.211	0.568	-0.969	-0.394	0.326	0.536	-0.204	-0.126	-0.043	0.067

DEVICE TEST: 141.11 PSRR2_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

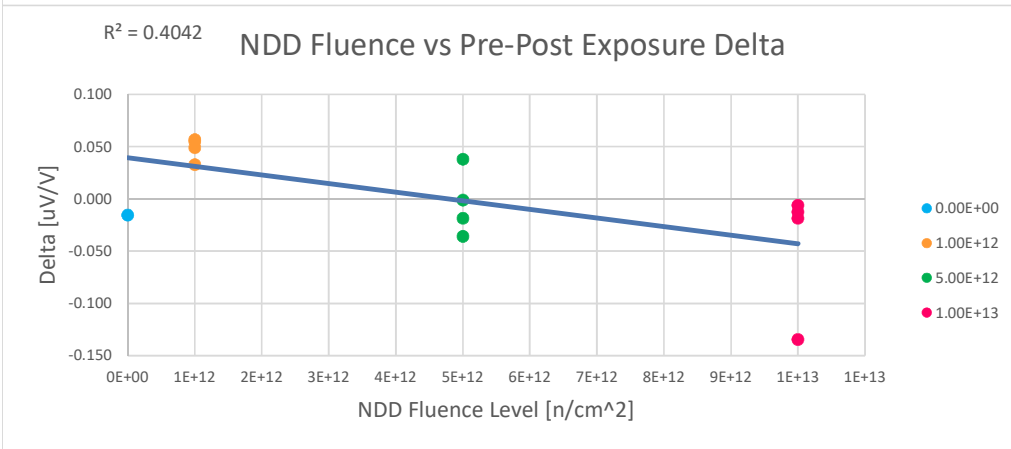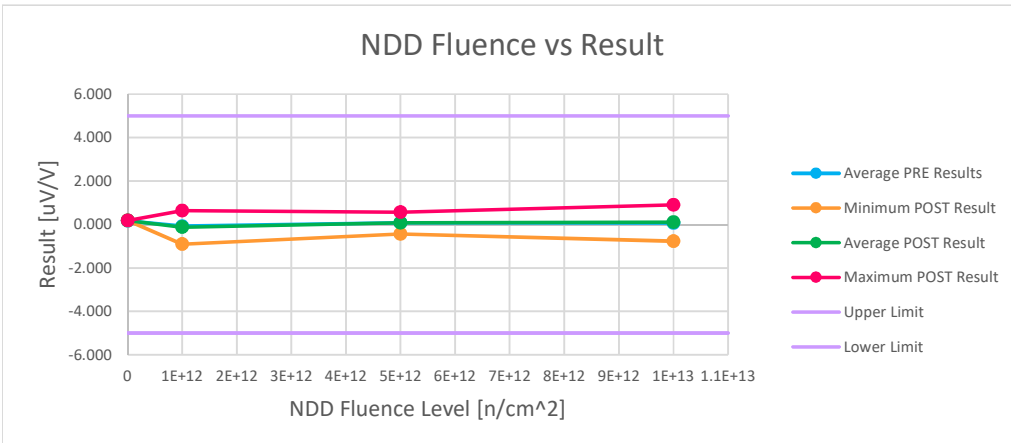## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0395

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 5) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	0.747	0.728	0.019
2	1E+12	NDD	0.386	0.395	-0.009
3	1E+12	NDD	-0.017	0.020	-0.038
4	1E+12	NDD	-0.293	-0.278	-0.016
5	5E+12	NDD	-0.692	-0.605	-0.086
6	5E+12	NDD	-0.350	-0.334	-0.016
7	5E+12	NDD	0.005	-0.045	0.050
8	5E+12	NDD	-0.298	-0.243	-0.055
9	1E+13	NDD	0.245	0.271	-0.027
10	1E+13	NDD	0.417	0.445	-0.028
11	1E+13	NDD	-0.460	-0.428	-0.031
12	1E+13	NDD	-0.185	-0.158	-0.027
13	0E+00	CONTROL	0.679	0.699	-0.020

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.679	0.679	0.679	-	0.699	0.699	0.699	-	-0.020	-0.020	-0.020	-
1E+12	-0.293	0.205	0.747	0.456	-0.278	0.216	0.728	0.438	-0.038	-0.011	0.019	0.023
5E+12	-0.692	-0.334	0.005	0.285	-0.605	-0.307	-0.045	0.233	-0.086	-0.027	0.050	0.059
1E+13	-0.460	0.004	0.417	0.400	-0.428	0.033	0.445	0.398	-0.031	-0.028	-0.027	0.002

DEVICE TEST: 141.12 PSRR2_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

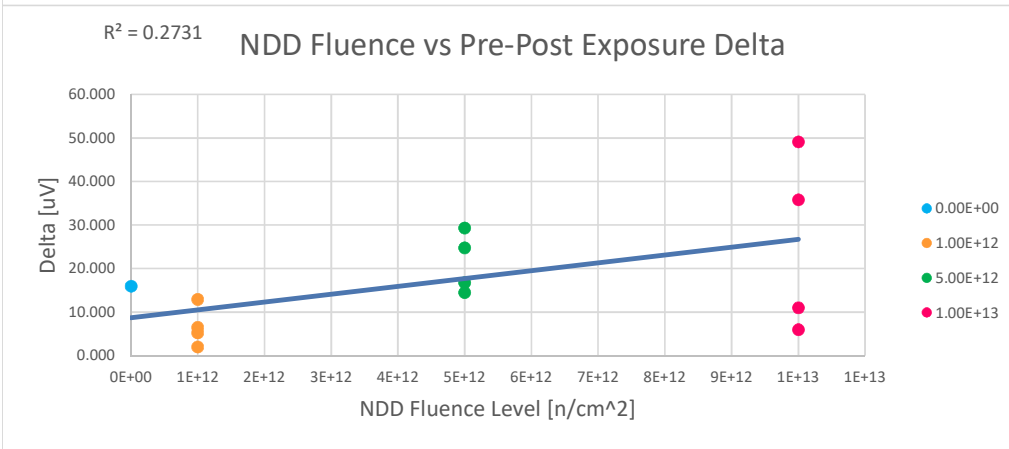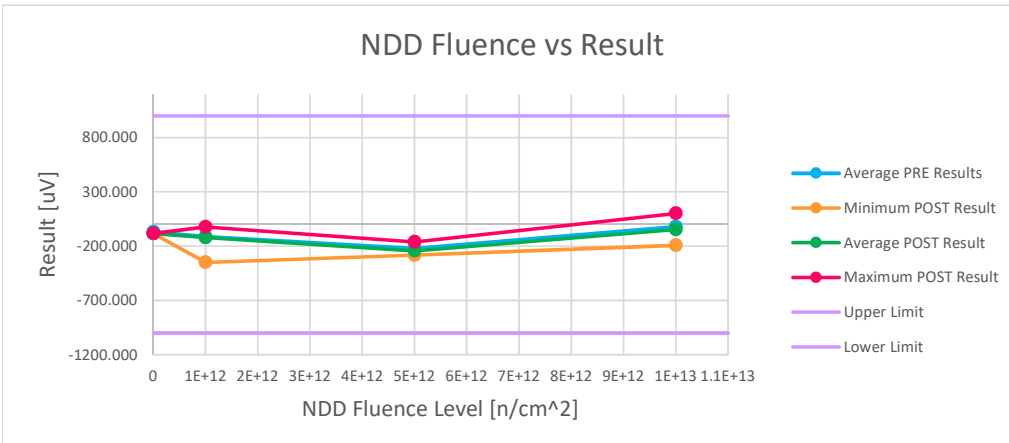## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.4042

TEST RESULTS (LOWER LIMIT = -5 | UPPER LIMIT = 5) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.877	-0.909	0.032
2	1E+12	NDD	-0.343	-0.400	0.056
3	1E+12	NDD	0.692	0.637	0.055
4	1E+12	NDD	0.224	0.176	0.049
5	5E+12	NDD	0.384	0.403	-0.019
6	5E+12	NDD	0.563	0.565	-0.002
7	5E+12	NDD	-0.176	-0.213	0.038
8	5E+12	NDD	-0.481	-0.445	-0.036
9	1E+13	NDD	0.099	0.234	-0.135
10	1E+13	NDD	0.878	0.897	-0.019
11	1E+13	NDD	-0.790	-0.778	-0.013
12	1E+13	NDD	0.072	0.078	-0.006
13	0E+00	CONTROL	0.166	0.182	-0.016

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	0.166	0.166	0.166	-	0.182	0.182	0.182	-	-0.016	-0.016	-0.016	-
1E+12	-0.877	-0.076	0.692	0.681	-0.909	-0.124	0.637	0.673	0.032	0.048	0.056	0.011
5E+12	-0.481	0.073	0.563	0.485	-0.445	0.077	0.565	0.483	-0.036	-0.005	0.038	0.032
1E+13	-0.790	0.065	0.878	0.682	-0.778	0.108	0.897	0.689	-0.135	-0.043	-0.006	0.061

DEVICE TEST: 15.1 AOL1_VIOH_AMP1 [uV]

NDD Fluence vs Result

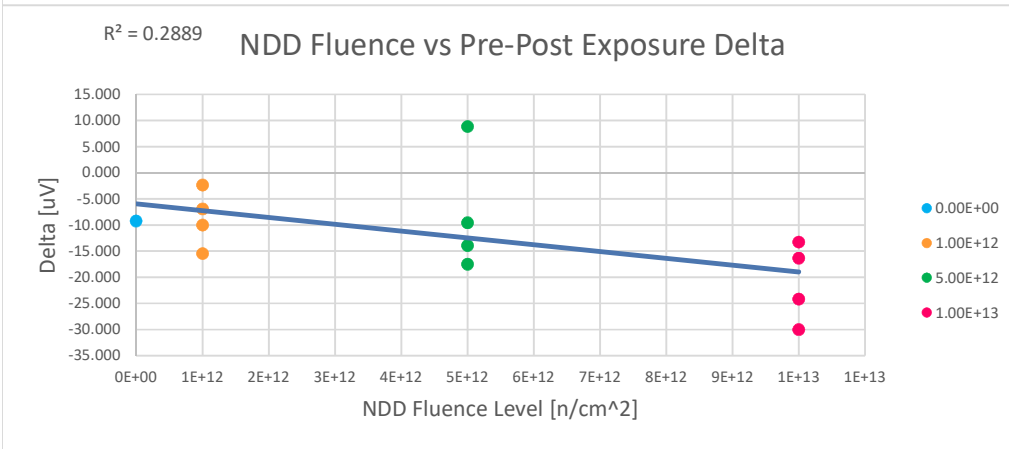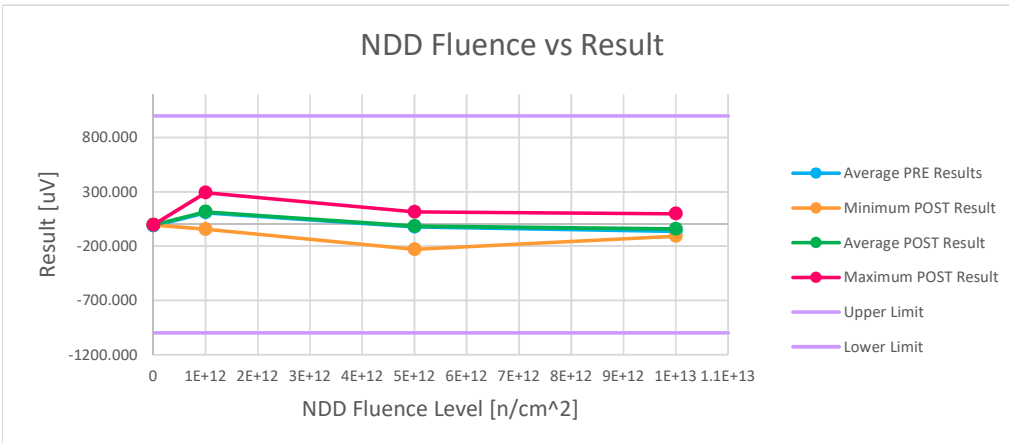## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2731

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-343.111	-349.512	6.401
2	1E+12	NDD	-70.665	-83.467	12.802
3	1E+12	NDD	-20.633	-25.758	5.124
4	1E+12	NDD	-20.502	-22.424	1.922
5	5E+12	NDD	-132.433	-161.631	29.199
6	5E+12	NDD	-246.196	-260.587	14.391
7	5E+12	NDD	-259.272	-283.907	24.635
8	5E+12	NDD	-251.029	-267.663	16.635
9	1E+13	NDD	112.710	101.811	10.899
10	1E+13	NDD	14.373	-34.633	49.005
11	1E+13	NDD	-54.046	-59.883	5.837
12	1E+13	NDD	-155.950	-191.634	35.684
13	0E+00	CONTROL	-67.741	-83.613	15.872

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-67.741	-67.741	-67.741	-	-83.613	-83.613	-83.613	-	15.872	15.872	15.872	-
1E+12	-343.111	-113.728	-20.502	154.735	-349.512	-120.290	-22.424	155.363	1.922	6.563	12.802	4.567
5E+12	-259.272	-222.232	-132.433	60.109	-283.907	-243.447	-161.631	55.411	14.391	21.215	29.199	6.904
1E+13	-155.950	-20.728	112.710	113.186	-191.634	-46.085	101.811	120.249	5.837	25.356	49.005	20.461

DEVICE TEST: 15.2 AOL1_VIOH_AMP2 [uV]

NDD Fluence vs Result

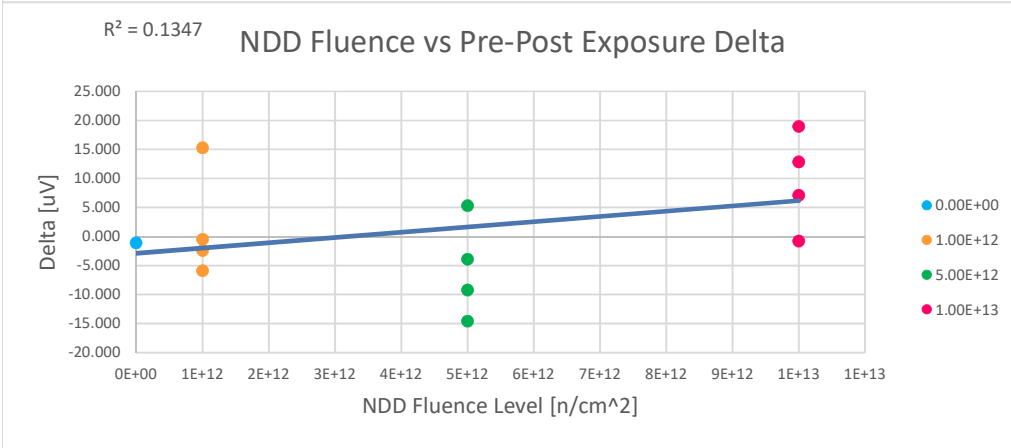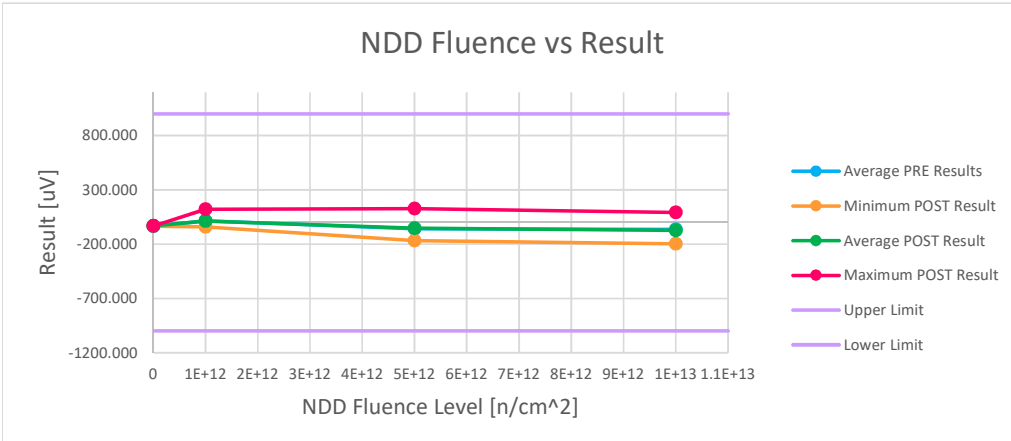NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2889

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	167.652	170.073	-2.421
2	1E+12	NDD	284.173	291.130	-6.957
3	1E+12	NDD	34.231	49.775	-15.544
4	1E+12	NDD	-55.383	-45.299	-10.084
5	5E+12	NDD	-248.109	-230.533	-17.575
6	5E+12	NDD	31.671	45.666	-13.995
7	5E+12	NDD	21.801	13.030	8.771
8	5E+12	NDD	104.024	113.645	-9.621
9	1E+13	NDD	-73.277	-56.865	-16.412
10	1E+13	NDD	-126.680	-102.442	-24.238
11	1E+13	NDD	-121.275	-107.955	-13.321
12	1E+13	NDD	68.295	98.350	-30.055
13	0E+00	CONTROL	-13.402	-4.093	-9.309

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-13.402	-13.402	-13.402	-	-4.093	-4.093	-4.093	-	-9.309	-9.309	-9.309	-
1E+12	-55.383	107.669	284.173	149.143	-45.299	116.420	291.130	146.056	-15.544	-8.751	-2.421	5.514
5E+12	-248.109	-22.653	104.024	154.709	-230.533	-14.548	113.645	149.966	-17.575	-8.105	8.771	11.712
1E+13	-126.680	-63.234	68.295	90.912	-107.955	-42.228	98.350	96.475	-30.055	-21.006	-13.321	7.583

DEVICE TEST: 15.3 AOL1_VIOH_AMP3 [uV]

NDD Fluence vs Result

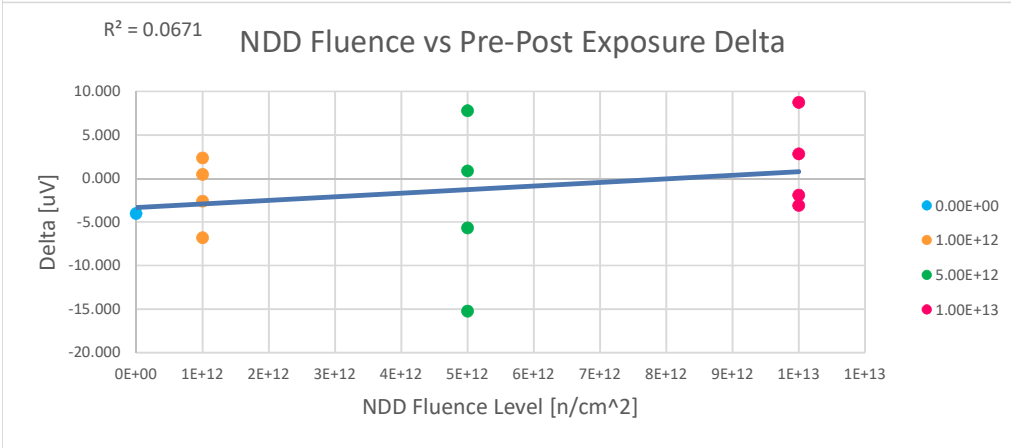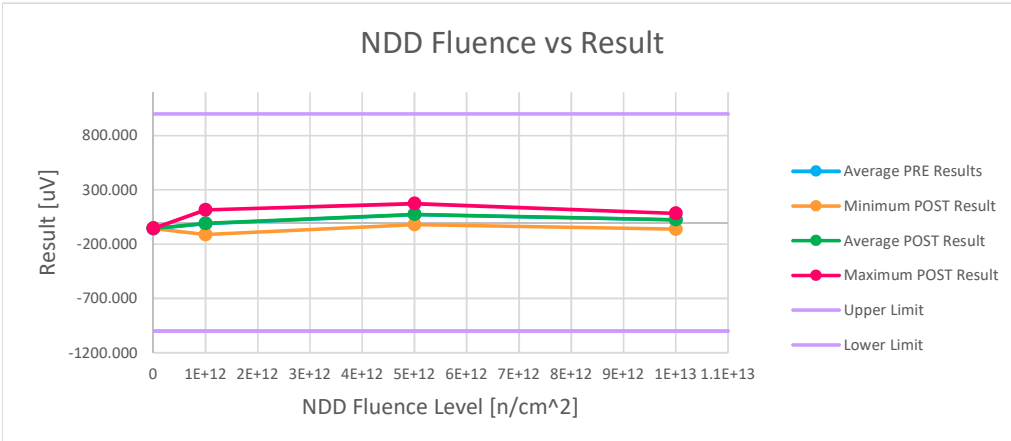## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1347

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-15.655	-15.111	-0.544
2	1E+12	NDD	137.572	122.371	15.201
3	1E+12	NDD	-19.018	-16.529	-2.489
4	1E+12	NDD	-46.674	-40.730	-5.944
5	5E+12	NDD	-51.705	-56.976	5.270
6	5E+12	NDD	111.364	126.027	-14.663
7	5E+12	NDD	-121.760	-117.777	-3.983
8	5E+12	NDD	-176.647	-167.377	-9.270
9	1E+13	NDD	110.399	91.503	18.896
10	1E+13	NDD	-34.857	-34.004	-0.854
11	1E+13	NDD	-190.541	-197.558	7.017
12	1E+13	NDD	-142.703	-155.489	12.786
13	0E+00	CONTROL	-34.404	-33.258	-1.146

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-34.404	-34.404	-34.404	-	-33.258	-33.258	-33.258	-	-1.146	-1.146	-1.146	-
1E+12	-46.674	14.056	137.572	83.509	-40.730	12.500	122.371	74.185	-5.944	1.556	15.201	9.367
5E+12	-176.647	-59.687	111.364	124.973	-167.377	-54.026	126.027	128.245	-14.663	-5.661	5.270	8.493
1E+13	-190.541	-64.426	110.399	133.505	-197.558	-73.887	91.503	130.254	-0.854	9.461	18.896	8.415

DEVICE TEST: 15.4 AOL1_VIOH_AMP4 [uV]

NDD Fluence vs Result

R² = 0.0671
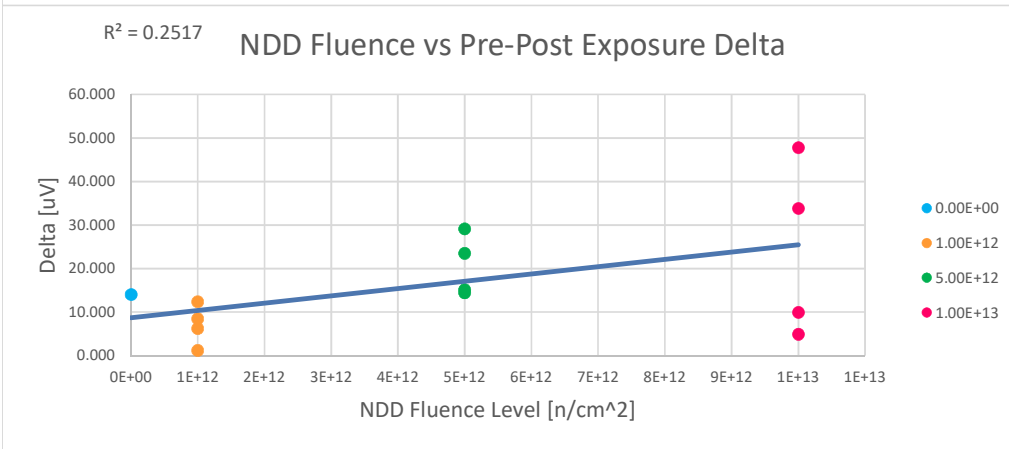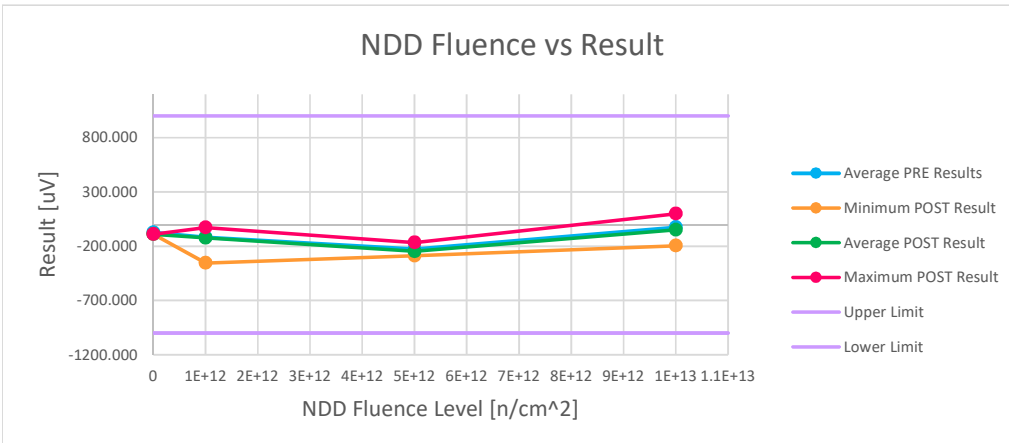
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-111.570	-111.995	0.425
2	1E+12	NDD	-6.416	-8.748	2.332
3	1E+12	NDD	-40.166	-37.539	-2.627
4	1E+12	NDD	109.574	116.418	-6.844
5	5E+12	NDD	167.071	172.801	-5.730
6	5E+12	NDD	-11.542	-19.276	7.734
7	5E+12	NDD	57.516	56.687	0.829
8	5E+12	NDD	74.289	89.572	-15.283
9	1E+13	NDD	82.785	84.732	-1.947
10	1E+13	NDD	70.750	67.975	2.775
11	1E+13	NDD	2.285	5.421	-3.136
12	1E+13	NDD	-52.420	-61.110	8.690
13	0E+00	CONTROL	-59.015	-54.939	-4.076

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-59.015	-59.015	-59.015	-	-54.939	-54.939	-54.939	-	-4.076	-4.076	-4.076	-
1E+12	-111.570	-12.144	109.574	92.229	-111.995	-10.466	116.418	95.120	-6.844	-1.678	2.332	4.004
5E+12	-11.542	71.833	167.071	73.559	-19.276	74.946	172.801	79.584	-15.283	-3.113	7.734	9.801
1E+13	-52.420	25.850	82.785	63.085	-61.110	24.255	84.732	66.359	-3.136	1.595	8.690	5.375

DEVICE TEST: 15.5 AOL1_VIOL_AMP1 [uV]

NDD Fluence vs Result

R² = 0.2517

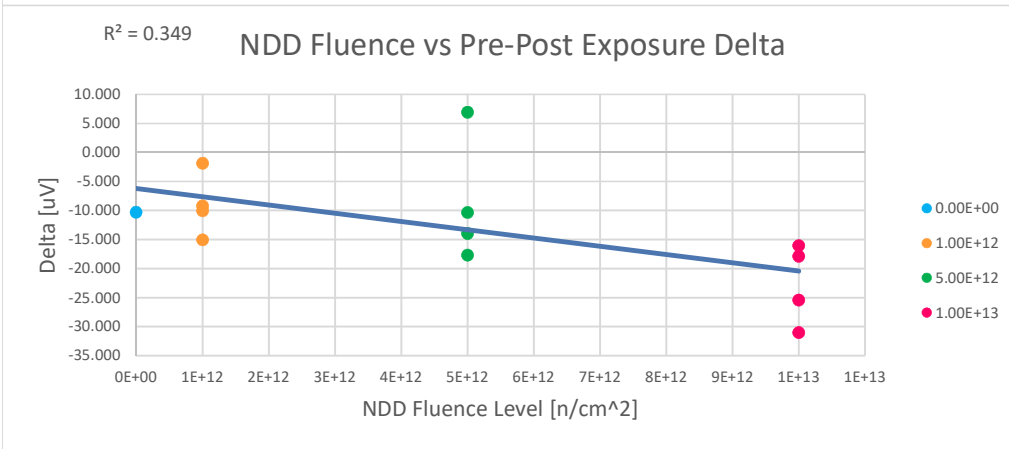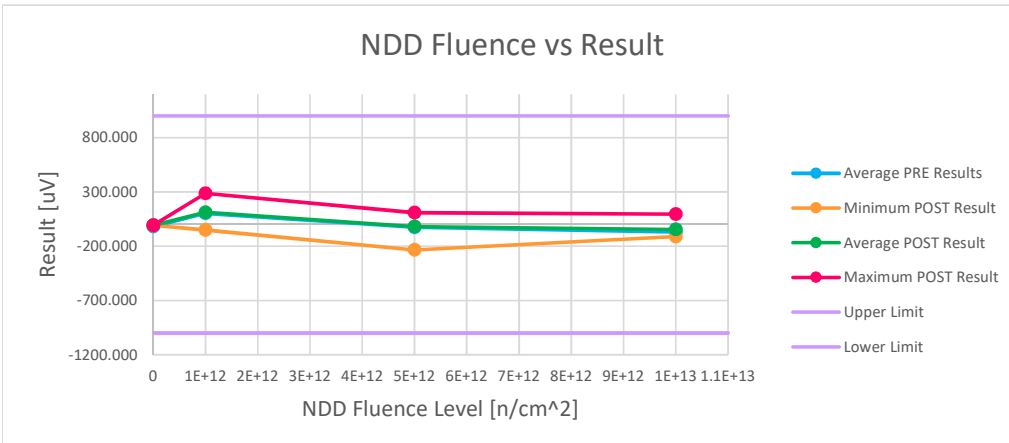NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-346.940	-355.375	8.435
2	1E+12	NDD	-76.877	-89.228	12.351
3	1E+12	NDD	-23.849	-30.056	6.207
4	1E+12	NDD	-26.363	-27.497	1.135
5	5E+12	NDD	-137.300	-166.398	29.098
6	5E+12	NDD	-251.903	-266.304	14.401
7	5E+12	NDD	-264.315	-287.767	23.453
8	5E+12	NDD	-255.355	-270.456	15.101
9	1E+13	NDD	107.697	97.805	9.892
10	1E+13	NDD	10.031	-37.703	47.735
11	1E+13	NDD	-59.776	-64.620	4.845
12	1E+13	NDD	-162.352	-196.108	33.756
13	0E+00	CONTROL	-75.079	-89.081	14.003

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-75.079	-75.079	-75.079	-	-89.081	-89.081	-89.081	-	14.003	14.003	14.003	-
1E+12	-346.940	-118.507	-23.849	154.235	-355.375	-125.539	-27.497	155.855	1.135	7.032	12.351	4.680
5E+12	-264.315	-227.218	-137.300	60.173	-287.767	-247.731	-166.398	55.013	14.401	20.513	29.098	7.047
1E+13	-162.352	-26.100	107.697	113.880	-196.108	-50.157	97.805	120.497	4.845	24.057	47.735	20.203

DEVICE TEST: 15.6 AOL1_VIOL_AMP2 [uV]

NDD Fluence vs Result

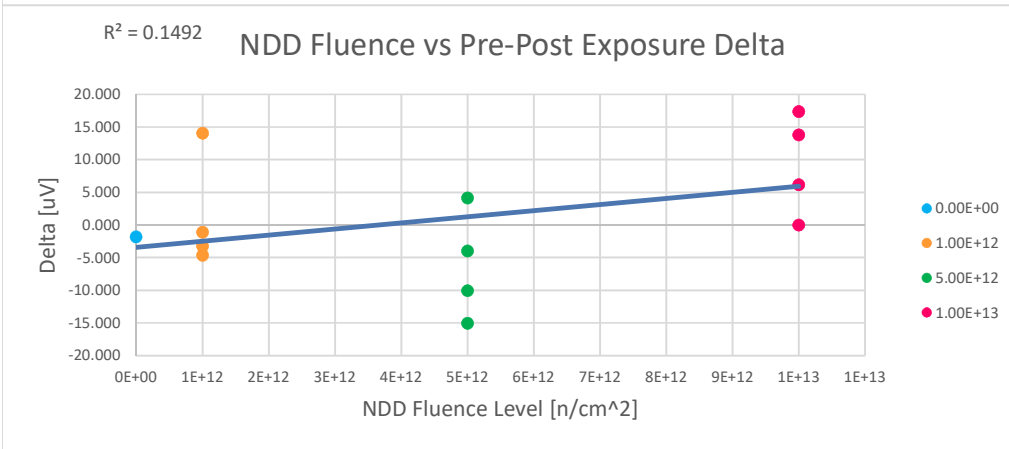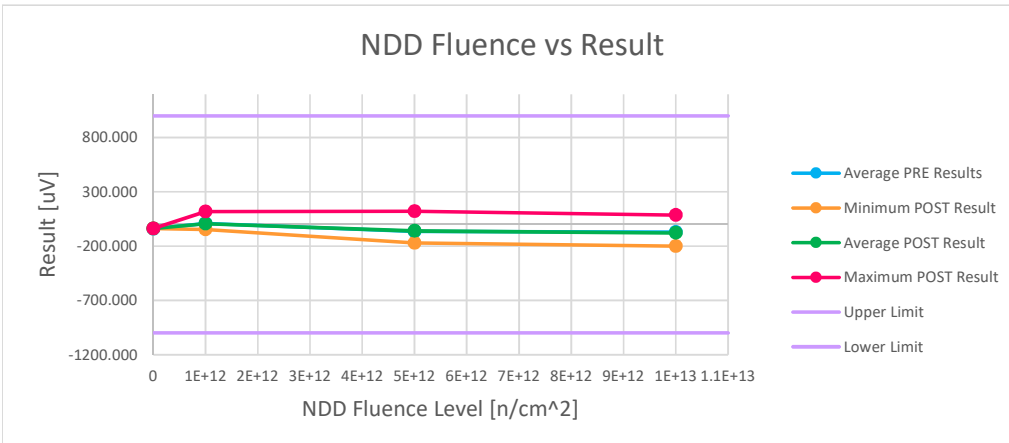## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.349

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	163.037	164.882	-1.845
2	1E+12	NDD	277.702	286.875	-9.173
3	1E+12	NDD	29.484	44.511	-15.027
4	1E+12	NDD	-60.554	-50.489	-10.064
5	5E+12	NDD	-252.783	-235.095	-17.688
6	5E+12	NDD	25.878	39.832	-13.954
7	5E+12	NDD	15.374	8.424	6.950
8	5E+12	NDD	99.058	109.376	-10.318
9	1E+13	NDD	-78.959	-61.061	-17.897
10	1E+13	NDD	-131.062	-105.659	-25.403
11	1E+13	NDD	-127.133	-111.113	-16.020
12	1E+13	NDD	62.715	93.744	-31.029
13	0E+00	CONTROL	-17.828	-7.558	-10.270

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-17.828	-17.828	-17.828	-	-7.558	-7.558	-7.558	-	-10.270	-10.270	-10.270	-
1E+12	-60.554	102.417	277.702	148.636	-50.489	111.445	286.875	146.440	-15.027	-9.027	-1.845	5.437
5E+12	-252.783	-28.118	99.058	154.332	-235.095	-19.366	109.376	149.878	-17.688	-8.752	6.950	10.892
1E+13	-131.062	-68.610	62.715	90.698	-111.113	-46.022	93.744	95.837	-31.029	-22.587	-16.020	6.936

DEVICE TEST: 15.7 AOL1_VIOL_AMP3 [uV]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

R² = 0.1492

NDD Fluence vs Pre-Post Exposure Delta
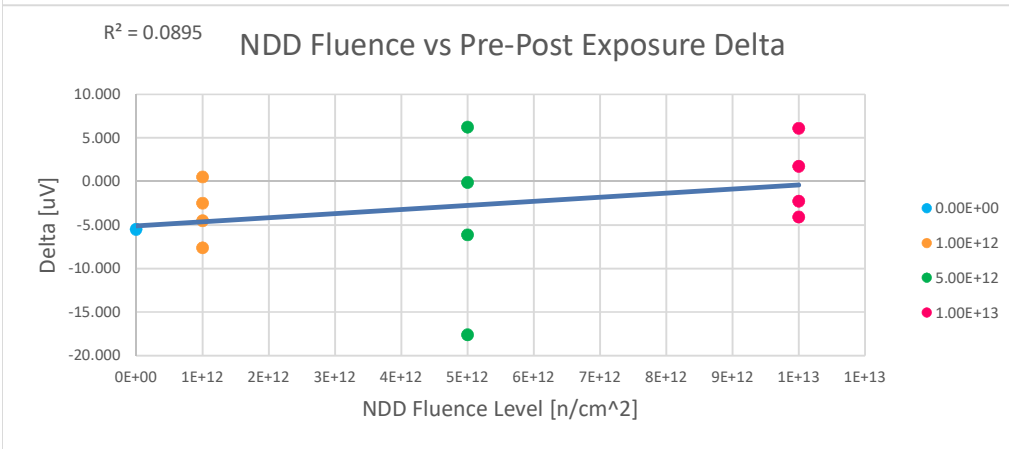
Legend:
- 0.00E+00
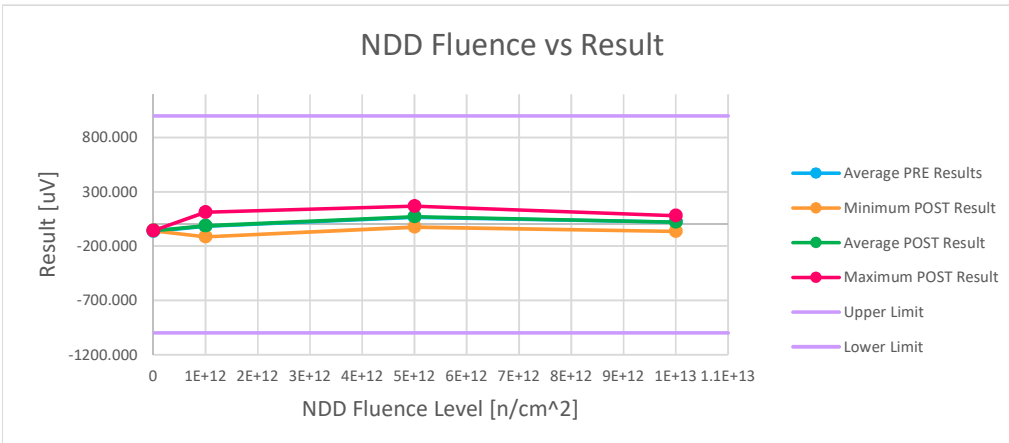- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-20.803	-19.673	-1.130
2	1E+12	NDD	131.181	117.180	14.001
3	1E+12	NDD	-24.664	-21.413	-3.250
4	1E+12	NDD	-51.896	-47.223	-4.673
5	5E+12	NDD	-57.936	-62.050	4.114
6	5E+12	NDD	105.341	120.412	-15.071
7	5E+12	NDD	-127.068	-123.056	-4.013
8	5E+12	NDD	-181.956	-171.852	-10.105
9	1E+13	NDD	104.476	87.131	17.345
10	1E+13	NDD	-39.069	-39.019	-0.050
11	1E+13	NDD	-194.826	-200.951	6.124
12	1E+13	NDD	-148.363	-162.128	13.765
13	0E+00	CONTROL	-40.298	-38.449	-1.849

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-40.298	-40.298	-40.298	-	-38.449	-38.449	-38.449	-	-1.849	-1.849	-1.849	-
1E+12	-51.896	8.455	131.181	82.979	-47.223	7.218	117.180	74.383	-4.673	1.237	14.001	8.633
5E+12	-181.956	-65.405	105.341	124.628	-171.852	-59.136	120.412	127.850	-15.071	-6.269	4.114	8.268
1E+13	-194.826	-69.446	104.476	133.066	-200.951	-78.742	87.131	130.358	-0.050	9.296	17.345	7.793

DEVICE TEST: 15.8 AOL1_VIOL_AMP4 [uV]

NDD Fluence vs Result

R² = 0.0895

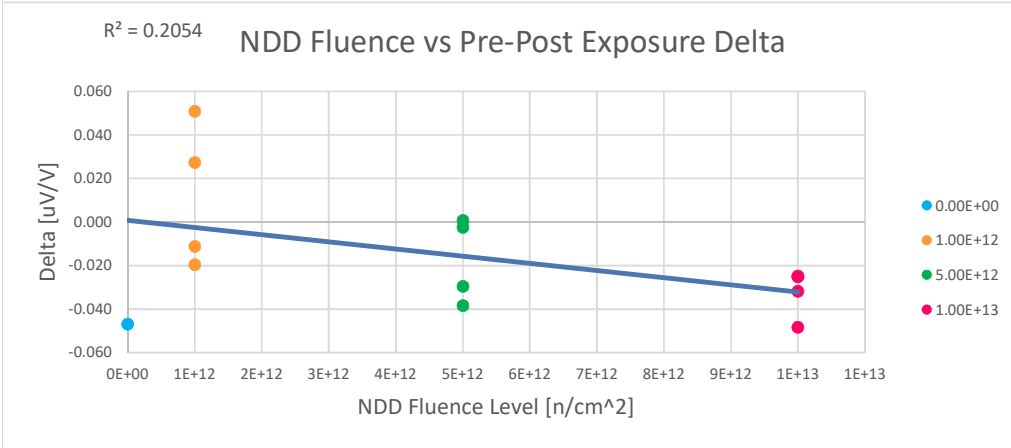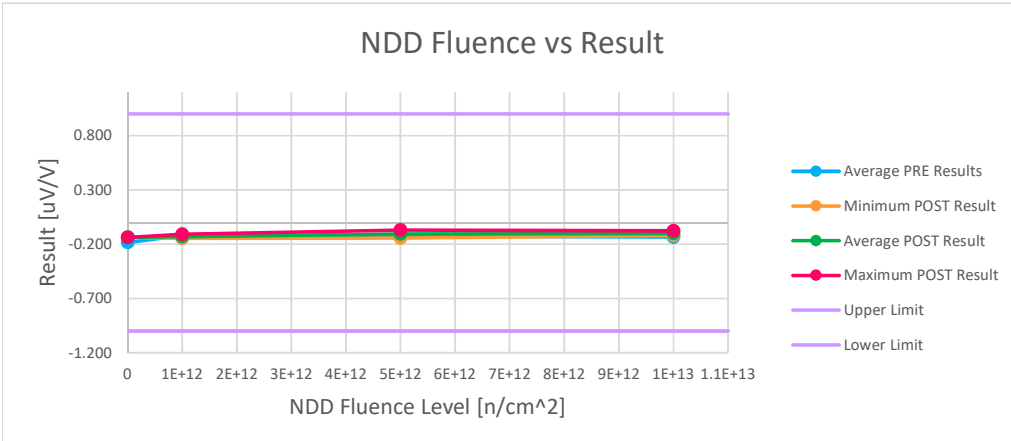NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-118.472	-113.925	-4.547
2	1E+12	NDD	-12.806	-13.280	0.475
3	1E+12	NDD	-44.172	-41.633	-2.539
4	1E+12	NDD	105.070	112.719	-7.649
5	5E+12	NDD	161.105	167.274	-6.169
6	5E+12	NDD	-18.444	-24.627	6.183
7	5E+12	NDD	51.915	52.051	-0.136
8	5E+12	NDD	69.361	86.998	-17.638
9	1E+13	NDD	78.208	80.521	-2.313
10	1E+13	NDD	67.270	65.577	1.693
11	1E+13	NDD	-3.491	0.611	-4.102
12	1E+13	NDD	-58.532	-64.590	6.058
13	0E+00	CONTROL	-63.270	-57.732	-5.538

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-63.270	-63.270	-63.270	-	-57.732	-57.732	-57.732	-	-5.538	-5.538	-5.538	-
1E+12	-118.472	-17.595	105.070	93.009	-113.925	-14.030	112.719	94.528	-7.649	-3.565	0.475	3.416
5E+12	-18.444	65.984	161.105	73.904	-24.627	70.424	167.274	79.639	-17.638	-4.440	6.183	10.141
1E+13	-58.532	20.864	78.208	64.132	-64.590	20.530	80.521	66.509	-4.102	0.334	6.058	4.520

DEVICE TEST: 15.9 AOL1_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result
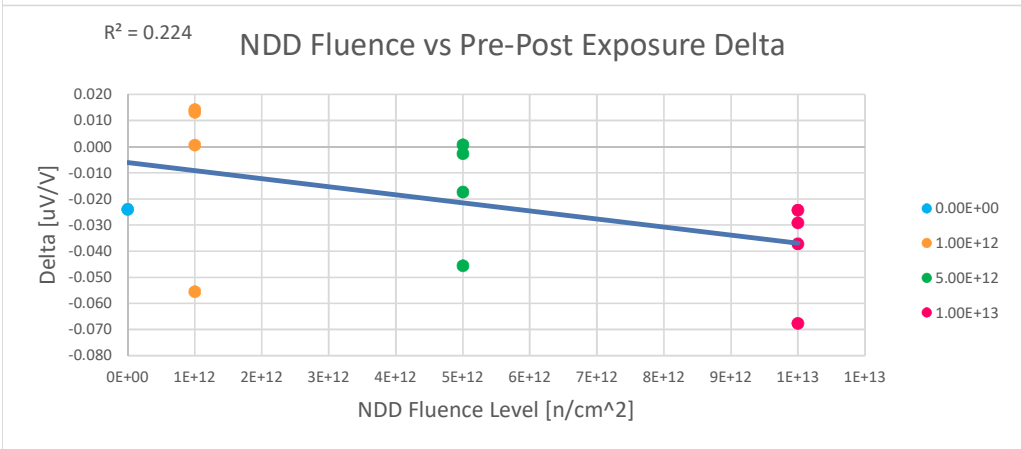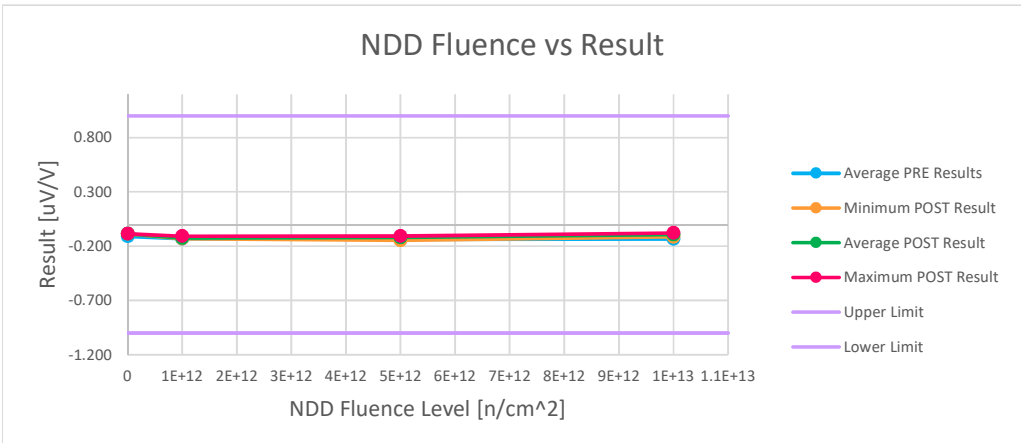
R² = 0.2054

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.096	-0.147	0.051
2	1E+12	NDD	-0.156	-0.145	-0.011
3	1E+12	NDD	-0.081	-0.108	0.027
4	1E+12	NDD	-0.147	-0.127	-0.020
5	5E+12	NDD	-0.122	-0.120	-0.003
6	5E+12	NDD	-0.143	-0.144	0.001
7	5E+12	NDD	-0.127	-0.097	-0.030
8	5E+12	NDD	-0.109	-0.070	-0.039
9	1E+13	NDD	-0.126	-0.101	-0.025
10	1E+13	NDD	-0.109	-0.077	-0.032
11	1E+13	NDD	-0.144	-0.119	-0.025
12	1E+13	NDD	-0.161	-0.112	-0.048
13	0E+00	CONTROL	-0.184	-0.137	-0.047

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.184	-0.184	-0.184	-	-0.137	-0.137	-0.137	-	-0.047	-0.047	-0.047	-
1E+12	-0.156	-0.120	-0.081	0.037	-0.147	-0.132	-0.108	0.018	-0.020	0.012	0.051	0.033
5E+12	-0.143	-0.125	-0.109	0.014	-0.144	-0.108	-0.070	0.031	-0.039	-0.018	0.001	0.020
1E+13	-0.161	-0.135	-0.109	0.022	-0.119	-0.102	-0.077	0.018	-0.048	-0.033	-0.025	0.011

DEVICE TEST: 15.10 AOL1_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.224
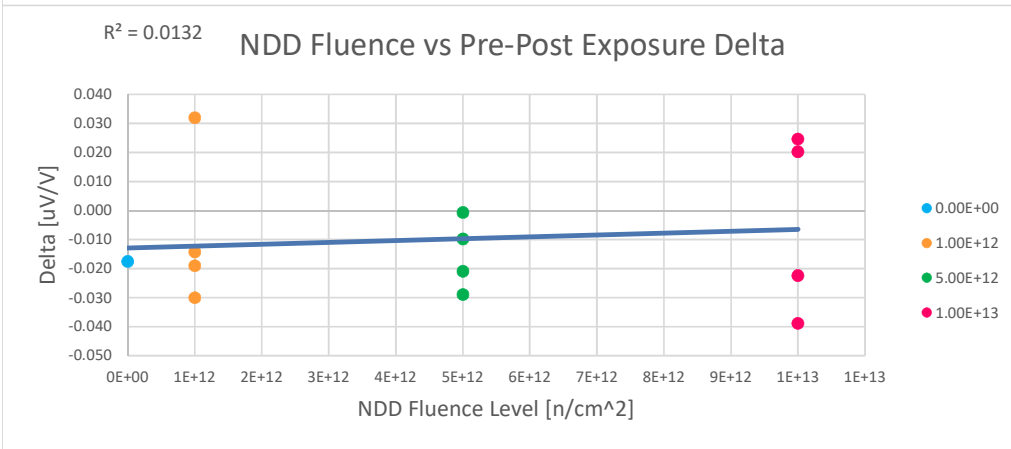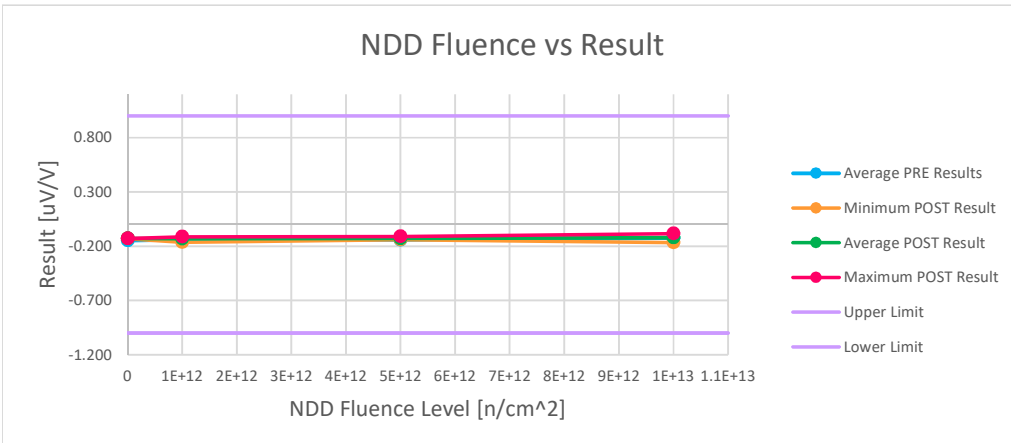

Legend:
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.116	-0.130	0.014
2	1E+12	NDD	-0.163	-0.107	-0.056
3	1E+12	NDD	-0.119	-0.132	0.013
4	1E+12	NDD	-0.130	-0.130	0.001
5	5E+12	NDD	-0.117	-0.115	-0.003
6	5E+12	NDD	-0.146	-0.147	0.001
7	5E+12	NDD	-0.161	-0.116	-0.046
8	5E+12	NDD	-0.125	-0.107	-0.018
9	1E+13	NDD	-0.143	-0.105	-0.037
10	1E+13	NDD	-0.110	-0.081	-0.029
11	1E+13	NDD	-0.147	-0.079	-0.068
12	1E+13	NDD	-0.140	-0.116	-0.024
13	0E+00	CONTROL	-0.111	-0.087	-0.024

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.111	-0.111	-0.111	-	-0.087	-0.087	-0.087	-	-0.024	-0.024	-0.024	-
1E+12	-0.163	-0.132	-0.116	0.021	-0.132	-0.125	-0.107	0.012	-0.056	-0.007	0.014	0.033
5E+12	-0.161	-0.137	-0.117	0.020	-0.147	-0.121	-0.107	0.017	-0.046	-0.016	0.001	0.021
1E+13	-0.147	-0.135	-0.110	0.017	-0.116	-0.095	-0.079	0.018	-0.068	-0.040	-0.024	0.019

DEVICE TEST: 15.11 AOL1_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

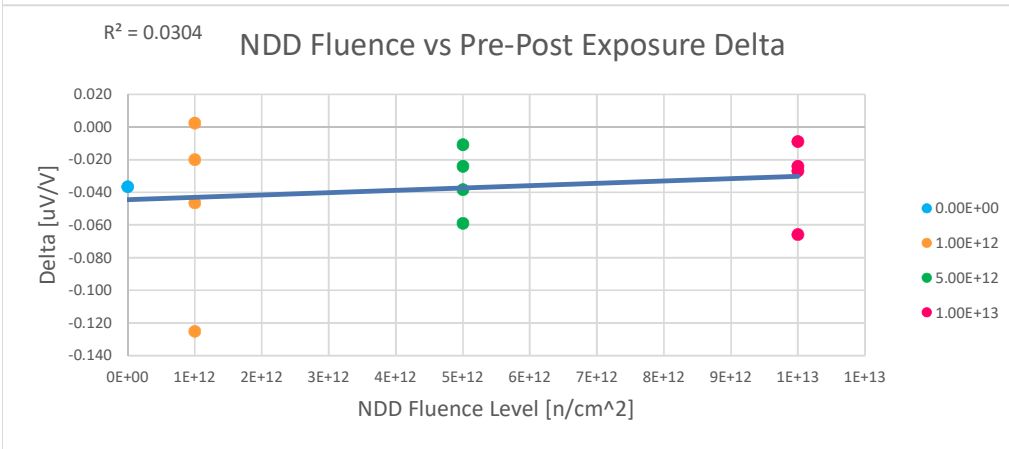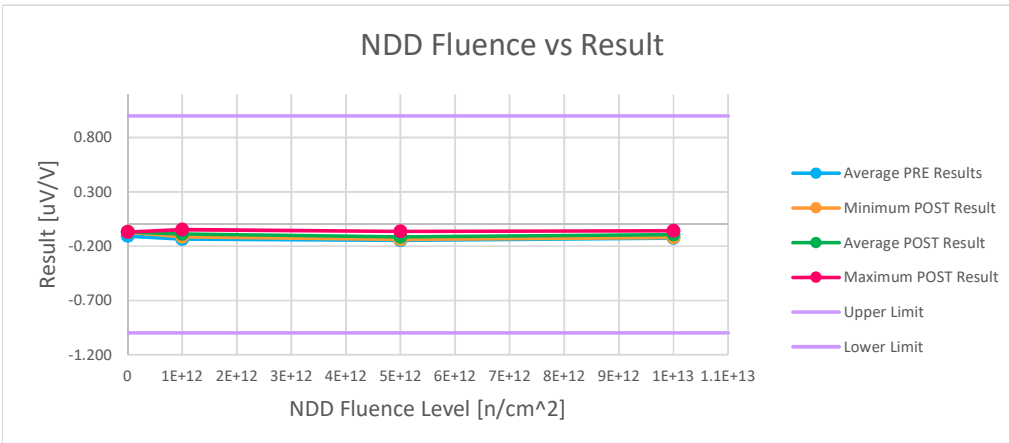## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0132

TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.129	-0.115	-0.014
2	1E+12	NDD	-0.161	-0.130	-0.030
3	1E+12	NDD	-0.142	-0.123	-0.019
4	1E+12	NDD	-0.131	-0.163	0.032
5	5E+12	NDD	-0.157	-0.127	-0.029
6	5E+12	NDD	-0.151	-0.141	-0.010
7	5E+12	NDD	-0.133	-0.133	-0.001
8	5E+12	NDD	-0.133	-0.112	-0.021
9	1E+13	NDD	-0.149	-0.110	-0.039
10	1E+13	NDD	-0.106	-0.126	0.020
11	1E+13	NDD	-0.108	-0.085	-0.022
12	1E+13	NDD	-0.142	-0.167	0.025
13	0E+00	CONTROL	-0.148	-0.130	-0.018

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.148	-0.148	-0.148	-	-0.130	-0.130	-0.130	-	-0.018	-0.018	-0.018	-
1E+12	-0.161	-0.141	-0.129	0.014	-0.163	-0.133	-0.115	0.021	-0.030	-0.008	0.032	0.027
5E+12	-0.157	-0.144	-0.133	0.012	-0.141	-0.128	-0.112	0.012	-0.029	-0.015	-0.001	0.012
1E+13	-0.149	-0.126	-0.106	0.023	-0.167	-0.122	-0.085	0.034	-0.039	-0.004	0.025	0.031

DEVICE TEST: 15.12 AOL1_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

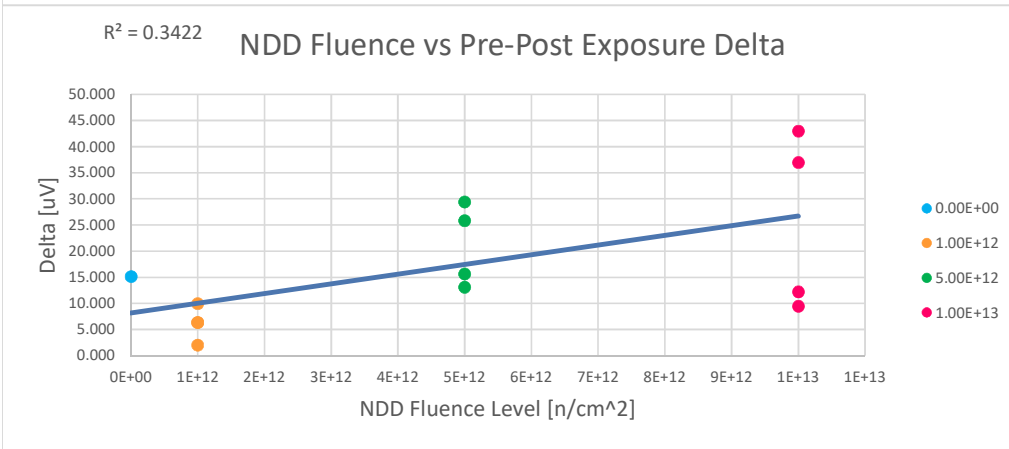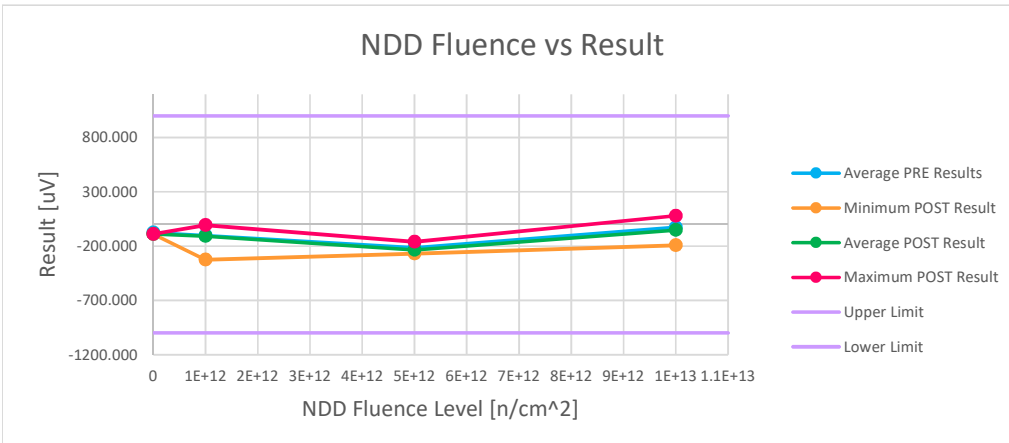## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0304

TEST RESULTS (LOWER LIMIT = -1 | UPPER LIMIT = 1) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.173	-0.048	-0.125
2	1E+12	NDD	-0.161	-0.114	-0.047
3	1E+12	NDD	-0.101	-0.103	0.002
4	1E+12	NDD	-0.113	-0.093	-0.020
5	5E+12	NDD	-0.150	-0.139	-0.011
6	5E+12	NDD	-0.173	-0.134	-0.039
7	5E+12	NDD	-0.141	-0.116	-0.024
8	5E+12	NDD	-0.124	-0.065	-0.059
9	1E+13	NDD	-0.115	-0.106	-0.009
10	1E+13	NDD	-0.087	-0.060	-0.027
11	1E+13	NDD	-0.145	-0.121	-0.024
12	1E+13	NDD	-0.154	-0.087	-0.066
13	0E+00	CONTROL	-0.107	-0.070	-0.037

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.107	-0.107	-0.107	-	-0.070	-0.070	-0.070	-	-0.037	-0.037	-0.037	-
1E+12	-0.173	-0.137	-0.101	0.035	-0.114	-0.089	-0.048	0.029	-0.125	-0.048	0.002	0.056
5E+12	-0.173	-0.147	-0.124	0.021	-0.139	-0.114	-0.065	0.034	-0.059	-0.033	-0.011	0.021
1E+13	-0.154	-0.125	-0.087	0.030	-0.121	-0.094	-0.060	0.026	-0.066	-0.032	-0.009	0.024

DEVICE TEST: 16.1 AOL2_VIOH_AMP1 [uV]

NDD Fluence vs Result

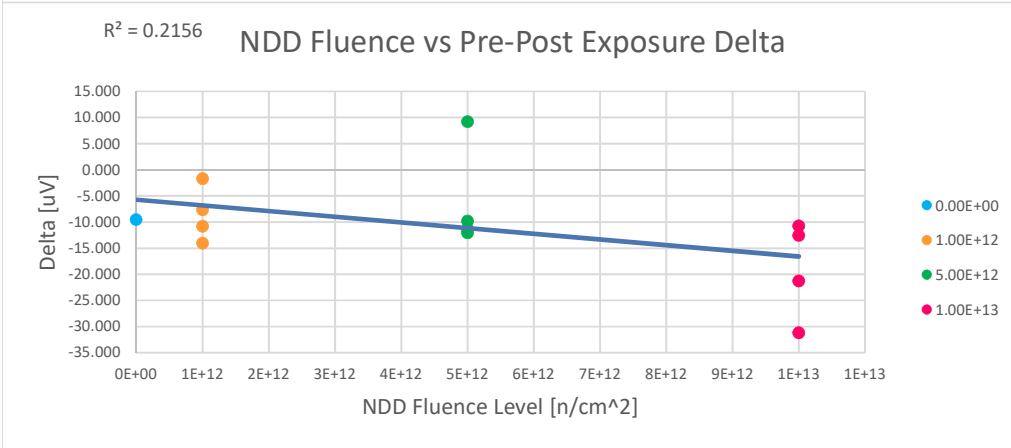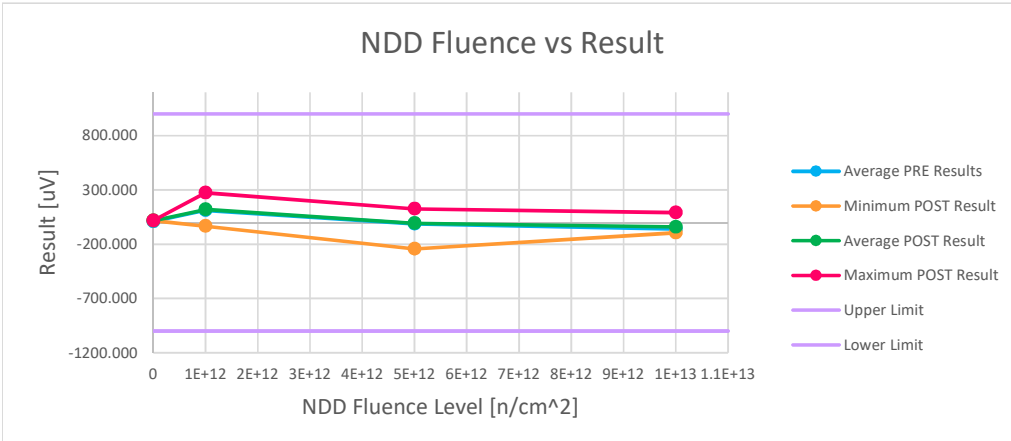**NDD Fluence vs Pre-Post Exposure Delta**

R² = 0.3422

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-318.819	-325.095	6.276
2	1E+12	NDD	-65.929	-75.835	9.906
3	1E+12	NDD	-15.985	-22.322	6.336
4	1E+12	NDD	-4.175	-6.165	1.990
5	5E+12	NDD	-130.898	-160.228	29.330
6	5E+12	NDD	-255.005	-270.558	15.553
7	5E+12	NDD	-231.385	-257.136	25.752
8	5E+12	NDD	-244.261	-257.326	13.065
9	1E+13	NDD	91.225	79.046	12.178
10	1E+13	NDD	42.260	-0.653	42.913
11	1E+13	NDD	-86.772	-96.158	9.386
12	1E+13	NDD	-154.649	-191.546	36.897
13	0E+00	CONTROL	-74.801	-89.900	15.099

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-74.801	-74.801	-74.801	-	-89.900	-89.900	-89.900	-	15.099	15.099	15.099	-
1E+12	-318.819	-101.227	-4.175	147.510	-325.095	-107.354	-6.165	148.183	1.990	6.127	9.906	3.238
5E+12	-255.005	-215.387	-130.898	57.148	-270.558	-236.312	-160.228	51.111	13.065	20.925	29.330	7.844
1E+13	-154.649	-26.984	91.225	113.492	-191.546	-52.328	79.046	117.235	9.386	25.344	42.913	17.031

DEVICE TEST: 16.2 AOL2_VIOH_AMP2 [uV]

NDD Fluence vs Result

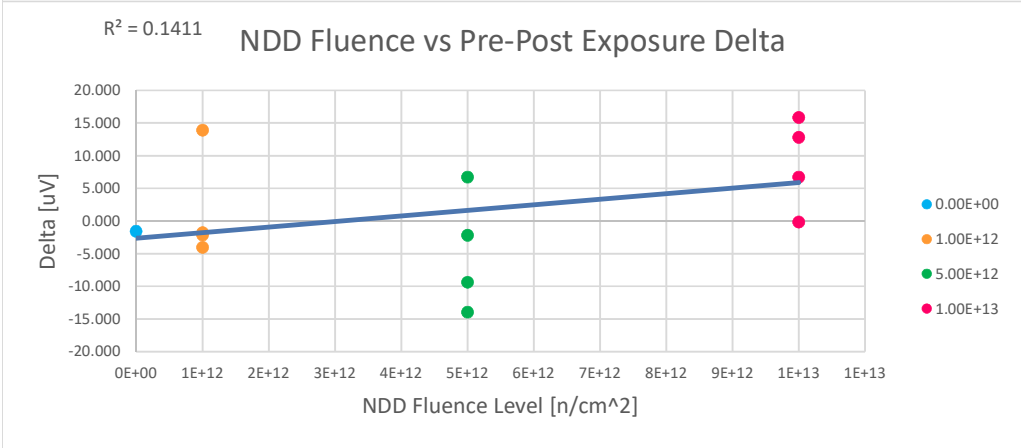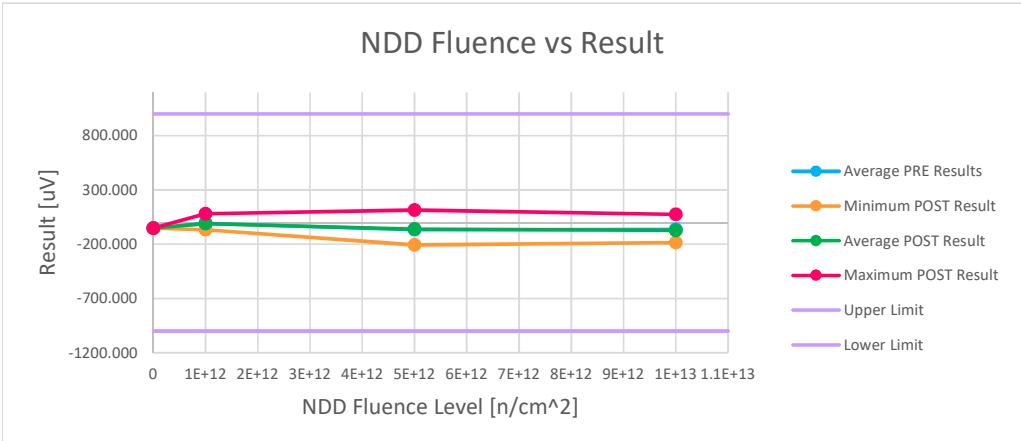## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2156

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	176.460	178.203	-1.743
2	1E+12	NDD	265.491	273.159	-7.669
3	1E+12	NDD	48.853	62.921	-14.068
4	1E+12	NDD	-45.932	-35.078	-10.855
5	5E+12	NDD	-256.551	-244.439	-12.113
6	5E+12	NDD	56.981	68.389	-11.408
7	5E+12	NDD	26.899	17.738	9.161
8	5E+12	NDD	116.148	125.986	-9.839
9	1E+13	NDD	-74.825	-64.073	-10.751
10	1E+13	NDD	-116.207	-94.897	-21.310
11	1E+13	NDD	-108.523	-95.921	-12.603
12	1E+13	NDD	58.435	89.679	-31.244
13	0E+00	CONTROL	7.515	17.080	-9.565

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	7.515	7.515	7.515	-	17.080	17.080	17.080	-	-9.565	-9.565	-9.565	-
1E+12	-45.932	111.218	265.491	137.407	-35.078	119.801	273.159	134.353	-14.068	-8.583	-1.743	5.256
5E+12	-256.551	-14.131	116.148	165.812	-244.439	-8.081	125.986	163.660	-12.113	-6.050	9.161	10.185
1E+13	-116.207	-60.280	58.435	81.159	-95.921	-41.303	89.679	88.563	-31.244	-18.977	-10.751	9.385

DEVICE TEST: 16.3 AOL2_VIOH_AMP3 [uV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
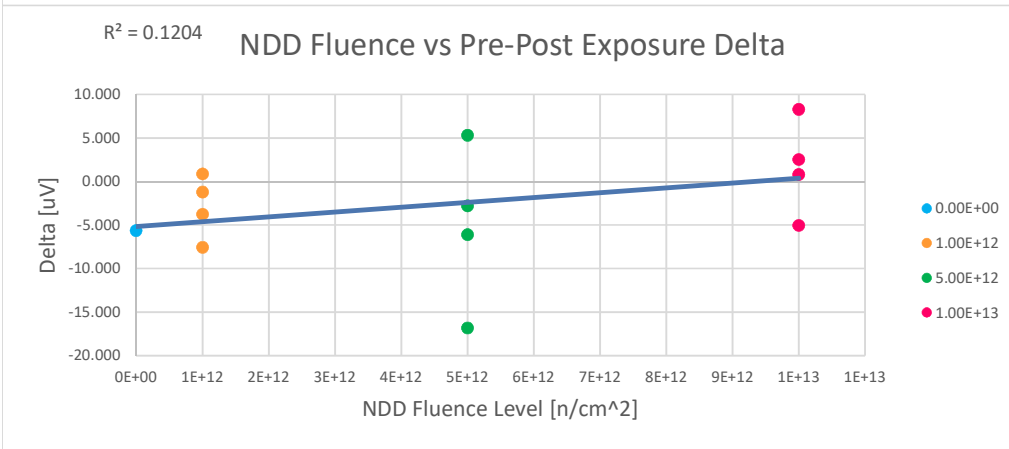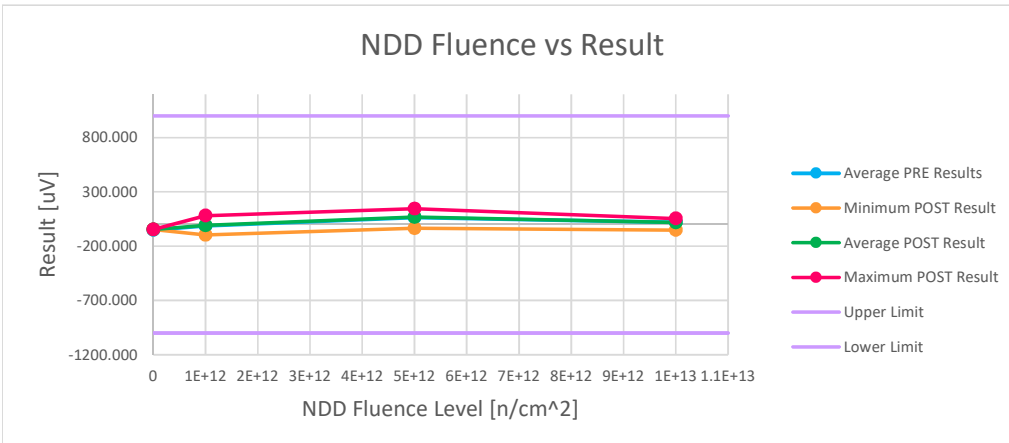
R² = 0.1411

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-23.625	-21.808	-1.817
2	1E+12	NDD	93.141	79.249	13.892
3	1E+12	NDD	-34.228	-32.059	-2.170
4	1E+12	NDD	-70.806	-66.729	-4.077
5	5E+12	NDD	-33.439	-40.145	6.706
6	5E+12	NDD	100.386	114.387	-14.001
7	5E+12	NDD	-117.869	-115.642	-2.227
8	5E+12	NDD	-216.413	-206.990	-9.423
9	1E+13	NDD	88.388	72.567	15.822
10	1E+13	NDD	-46.572	-46.374	-0.198
11	1E+13	NDD	-178.754	-185.436	6.683
12	1E+13	NDD	-124.407	-137.181	12.775
13	0E+00	CONTROL	-54.543	-52.925	-1.617

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-54.543	-54.543	-54.543	-	-52.925	-52.925	-52.925	-	-1.617	-1.617	-1.617	-
1E+12	-70.806	-8.879	93.141	70.953	-66.729	-10.337	79.249	62.741	-4.077	1.457	13.892	8.349
5E+12	-216.413	-66.834	100.386	134.234	-206.990	-62.097	114.387	136.002	-14.001	-4.736	6.706	9.038
1E+13	-178.754	-65.336	88.388	115.954	-185.436	-74.106	72.567	113.512	-0.198	8.770	15.822	7.084

DEVICE TEST: 16.4 AOL2_VIOH_AMP4 [uV]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
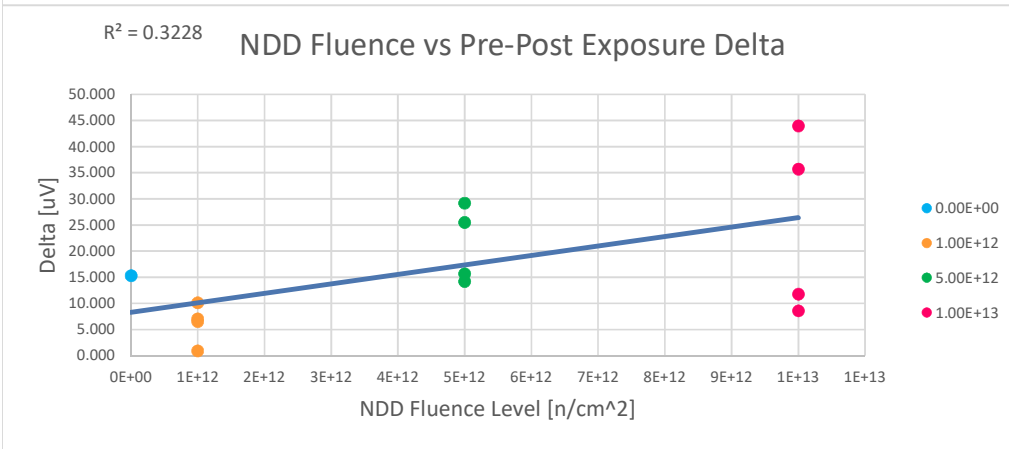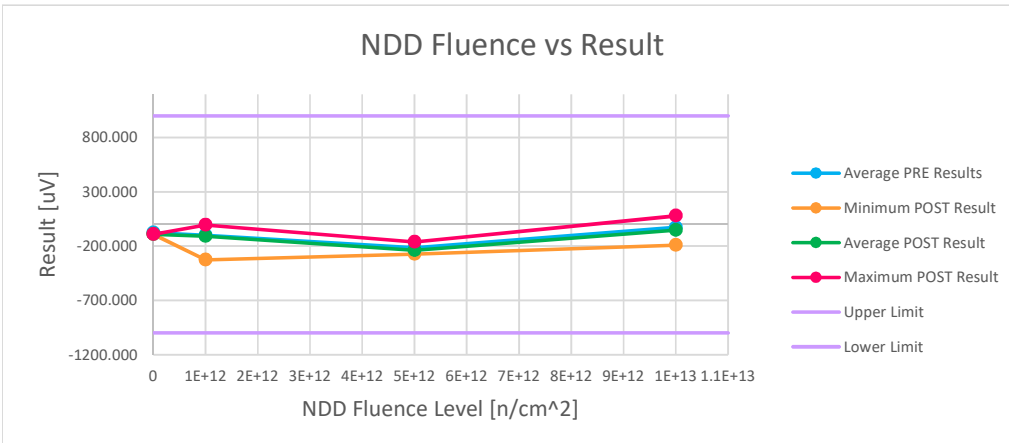
R² = 0.1204

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-99.549	-95.764	-3.785
2	1E+12	NDD	31.370	30.557	0.813
3	1E+12	NDD	-59.424	-58.170	-1.253
4	1E+12	NDD	73.981	81.603	-7.621
5	5E+12	NDD	138.220	144.361	-6.141
6	5E+12	NDD	-30.085	-35.331	5.246
7	5E+12	NDD	53.802	56.628	-2.826
8	5E+12	NDD	90.418	107.294	-16.876
9	1E+13	NDD	56.361	53.865	2.496
10	1E+13	NDD	30.697	29.928	0.769
11	1E+13	NDD	35.216	40.310	-5.094
12	1E+13	NDD	-42.988	-51.210	8.223
13	0E+00	CONTROL	-52.639	-46.955	-5.684

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-52.639	-52.639	-52.639	-	-46.955	-46.955	-46.955	-	-5.684	-5.684	-5.684	-
1E+12	-99.549	-13.405	73.981	79.958	-95.764	-10.444	81.603	81.058	-7.621	-2.962	0.813	3.631
5E+12	-30.085	63.089	138.220	71.085	-35.331	68.238	144.361	77.849	-16.876	-5.149	5.246	9.164
1E+13	-42.988	19.822	56.361	43.341	-51.210	18.223	53.865	47.315	-5.094	1.599	8.223	5.482

DEVICE TEST: 16.5 AOL2_VIOL_AMP1 [uV]

NDD Fluence vs Result

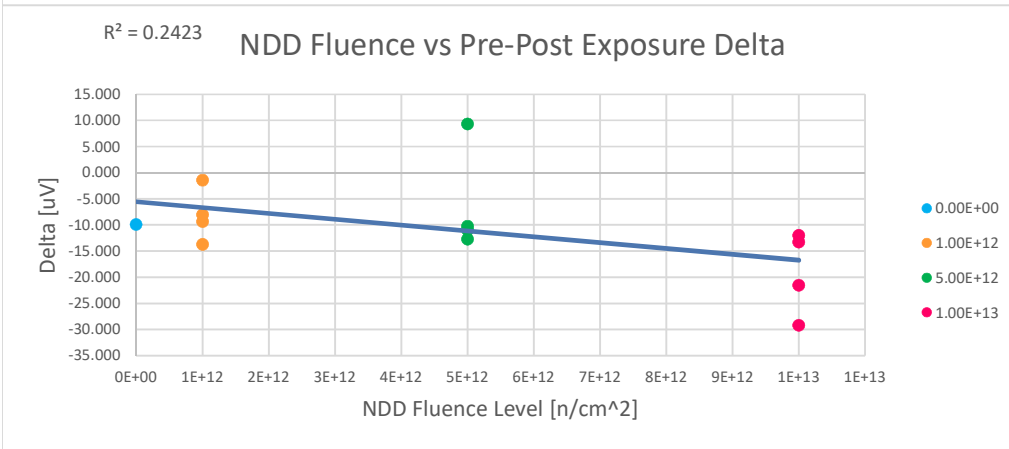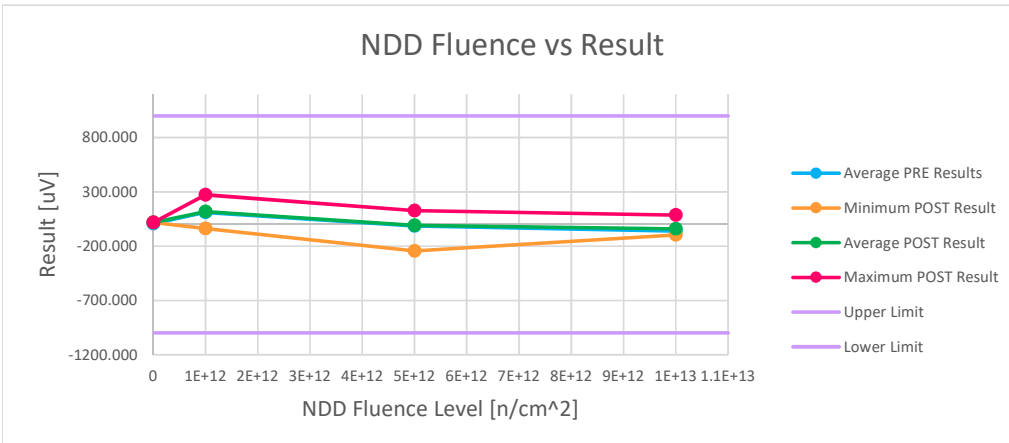## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.3228

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-319.243	-326.221	6.978
2	1E+12	NDD	-66.411	-76.478	10.067
3	1E+12	NDD	-16.073	-22.556	6.483
4	1E+12	NDD	-5.622	-6.472	0.850
5	5E+12	NDD	-131.731	-160.842	29.111
6	5E+12	NDD	-256.278	-271.918	15.640
7	5E+12	NDD	-232.641	-258.072	25.430
8	5E+12	NDD	-245.328	-259.432	14.103
9	1E+13	NDD	90.172	78.461	11.711
10	1E+13	NDD	42.348	-1.560	43.908
11	1E+13	NDD	-87.751	-96.260	8.509
12	1E+13	NDD	-156.345	-191.970	35.625
13	0E+00	CONTROL	-75.751	-90.982	15.231

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-75.751	-75.751	-75.751	-	-90.982	-90.982	-90.982	-	15.231	15.231	15.231	-
1E+12	-319.243	-101.837	-5.622	147.346	-326.221	-107.932	-6.472	148.574	0.850	6.094	10.067	3.839
5E+12	-256.278	-216.495	-131.731	57.328	-271.918	-237.566	-160.842	51.528	14.103	21.071	29.111	7.341
1E+13	-156.345	-27.894	90.172	113.953	-191.970	-52.832	78.461	117.064	8.509	24.938	43.908	17.502

DEVICE TEST: 16.6 AOL2_VIOL_AMP2 [uV]

NDD Fluence vs Result

- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

R² = 0.2423

NDD Fluence vs Pre-Post Exposure Delta
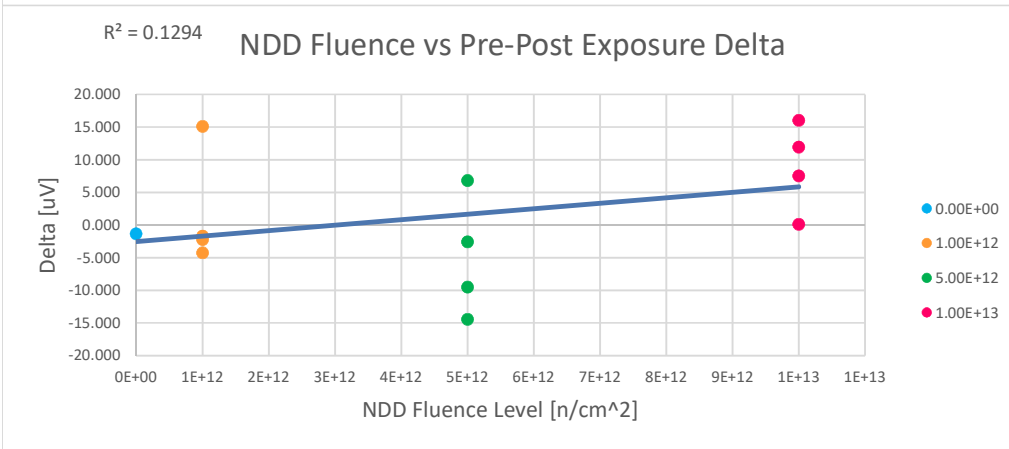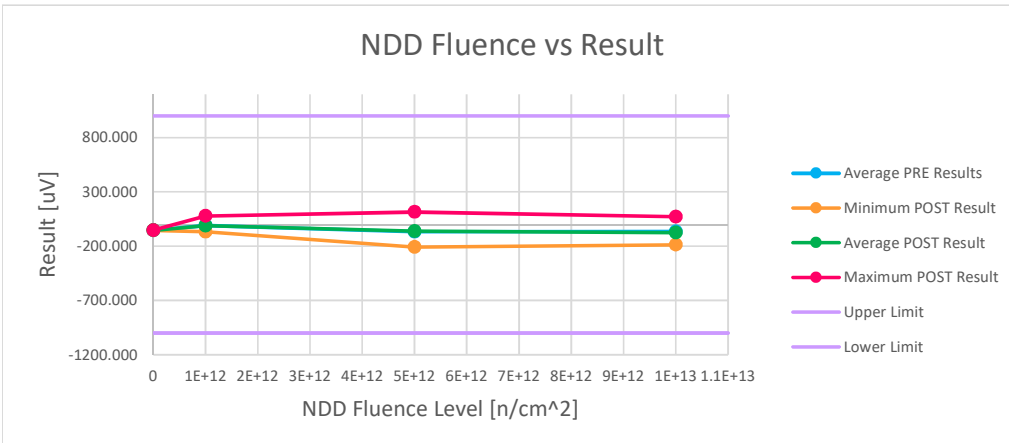
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	176.446	177.925	-1.479
2	1E+12	NDD	264.965	273.072	-8.107
3	1E+12	NDD	49.072	62.848	-13.775
4	1E+12	NDD	-46.122	-36.686	-9.436
5	5E+12	NDD	-257.253	-244.453	-12.799
6	5E+12	NDD	57.098	68.112	-11.014
7	5E+12	NDD	26.139	16.875	9.264
8	5E+12	NDD	115.345	125.636	-10.291
9	1E+13	NDD	-75.643	-63.576	-12.067
10	1E+13	NDD	-116.747	-95.131	-21.616
11	1E+13	NDD	-109.035	-95.701	-13.333
12	1E+13	NDD	58.698	87.983	-29.285
13	0E+00	CONTROL	7.018	16.978	-9.959

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	7.018	7.018	7.018	-	16.978	16.978	16.978	-	-9.959	-9.959	-9.959	-
1E+12	-46.122	111.090	264.965	137.248	-36.686	119.290	273.072	134.909	-13.775	-8.199	-1.479	5.092
5E+12	-257.253	-14.668	115.345	165.898	-244.453	-8.458	125.636	163.483	-12.799	-6.210	9.264	10.370
1E+13	-116.747	-60.682	58.698	81.561	-95.701	-41.606	87.983	87.688	-29.285	-19.075	-12.067	8.016

DEVICE TEST: 16.7 AOL2_VIOL_AMP3 [uV]

NDD Fluence vs Result

R² = 0.1294

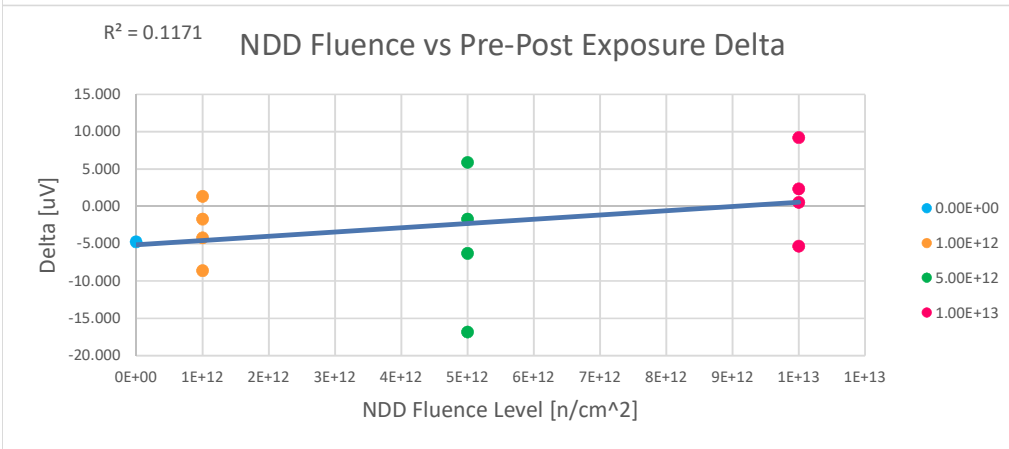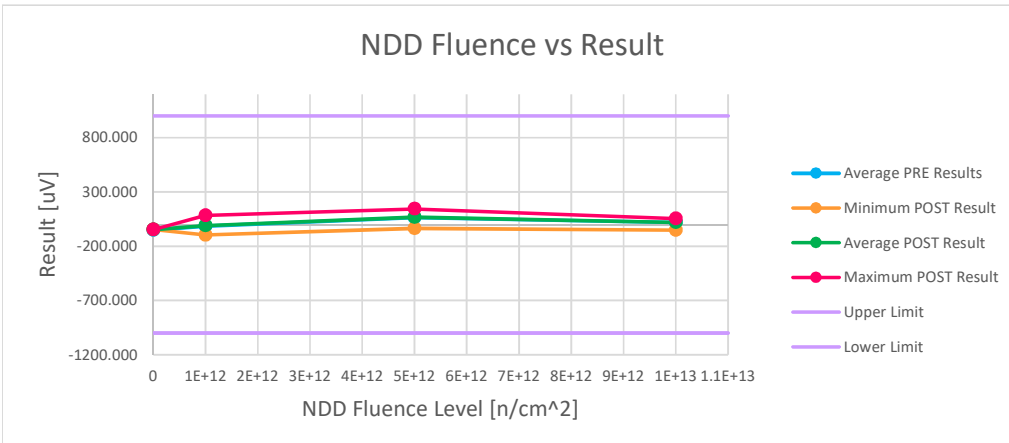NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-24.620	-22.876	-1.744
2	1E+12	NDD	92.352	77.290	15.062
3	1E+12	NDD	-34.638	-32.366	-2.272
4	1E+12	NDD	-71.376	-67.065	-4.311
5	5E+12	NDD	-34.199	-40.964	6.765
6	5E+12	NDD	99.625	114.124	-14.499
7	5E+12	NDD	-119.083	-116.446	-2.637
8	5E+12	NDD	-217.378	-207.823	-9.555
9	1E+13	NDD	87.408	71.411	15.997
10	1E+13	NDD	-47.274	-47.325	0.051
11	1E+13	NDD	-180.070	-187.527	7.457
12	1E+13	NDD	-125.401	-137.284	11.882
13	0E+00	CONTROL	-55.098	-53.686	-1.413

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-55.098	-55.098	-55.098	-	-53.686	-53.686	-53.686	-	-1.413	-1.413	-1.413	-
1E+12	-71.376	-9.571	92.352	70.859	-67.065	-11.254	77.290	62.010	-4.311	1.684	15.062	8.987
5E+12	-217.378	-67.759	99.625	134.367	-207.823	-62.777	114.124	136.246	-14.499	-4.982	6.765	9.219
1E+13	-180.070	-66.334	87.408	116.082	-187.527	-75.181	71.411	113.642	0.051	8.847	15.997	6.823

DEVICE TEST: 16.8 AOL2_VIOL_AMP4 [uV]

NDD Fluence vs Result

- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

$R^2 = 0.1171$

NDD Fluence vs Pre-Post Exposure Delta

- 0.00E+00
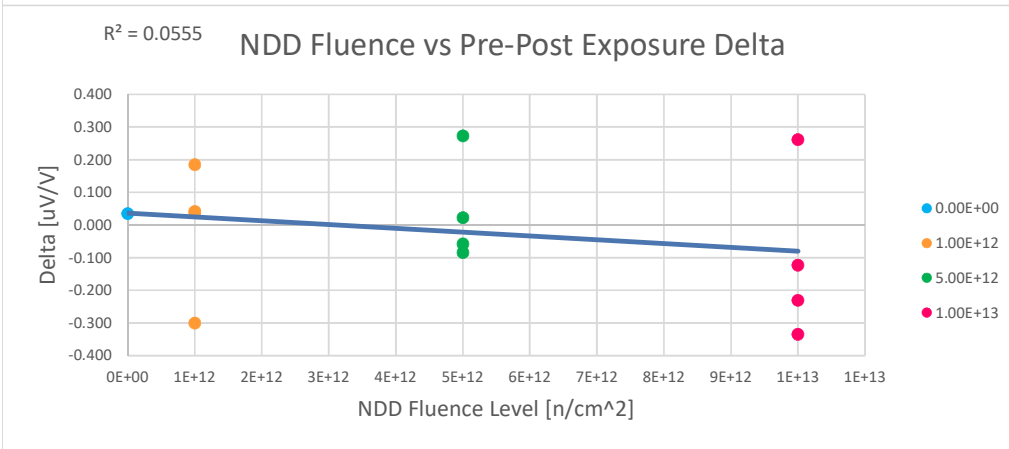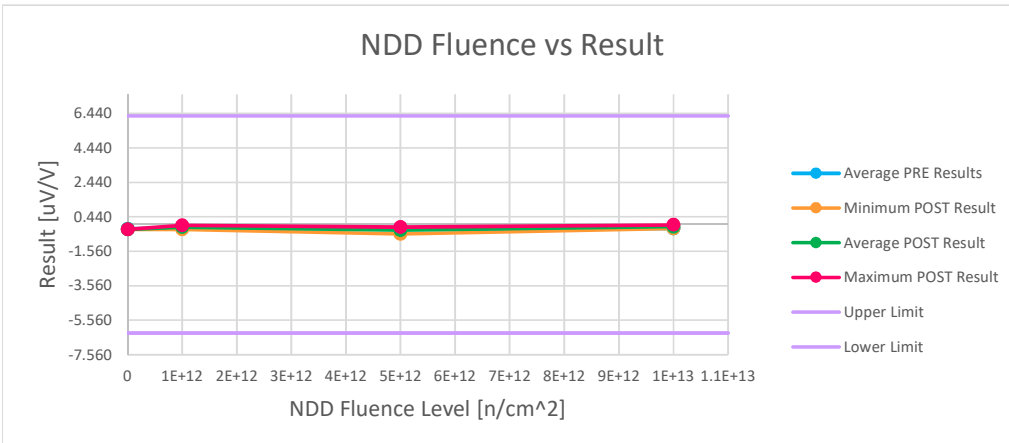- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-101.026	-96.773	-4.253
2	1E+12	NDD	30.902	29.592	1.310
3	1E+12	NDD	-60.053	-58.302	-1.751
4	1E+12	NDD	72.972	81.603	-8.630
5	5E+12	NDD	136.553	142.870	-6.316
6	5E+12	NDD	-30.158	-36.047	5.889
7	5E+12	NDD	52.778	54.508	-1.730
8	5E+12	NDD	89.789	106.636	-16.847
9	1E+13	NDD	54.723	52.388	2.335
10	1E+13	NDD	30.800	30.279	0.521
11	1E+13	NDD	34.690	40.061	-5.372
12	1E+13	NDD	-42.988	-52.175	9.188
13	0E+00	CONTROL	-52.756	-47.979	-4.777

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-52.756	-52.756	-52.756	-	-47.979	-47.979	-47.979	-	-4.777	-4.777	-4.777	-
1E+12	-101.026	-14.301	72.972	80.155	-96.773	-10.970	81.603	81.276	-8.630	-3.331	1.310	4.202
5E+12	-30.158	62.241	136.553	70.494	-36.047	66.992	142.870	77.679	-16.847	-4.751	5.889	9.506
1E+13	-42.988	19.306	54.723	42.832	-52.175	17.638	52.388	47.413	-5.372	1.668	9.188	5.996

DEVICE TEST: 16.9 AOL2_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

R² = 0.0555
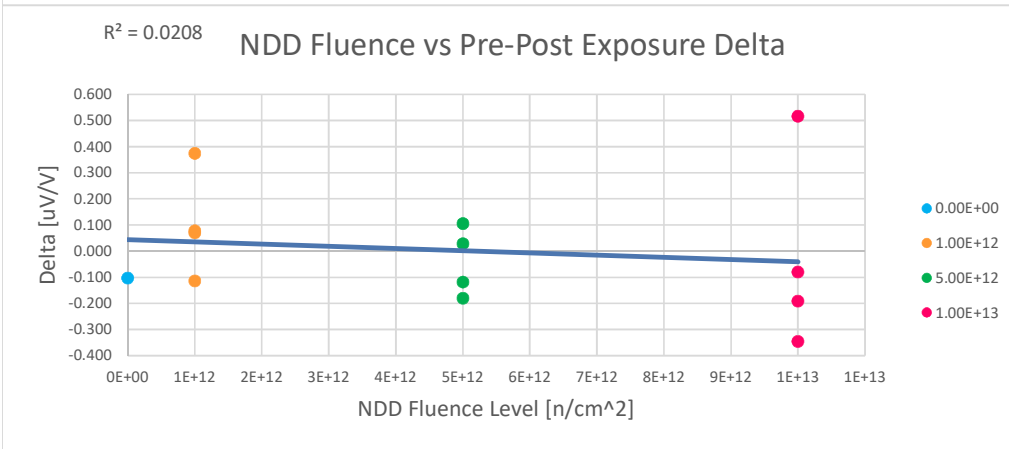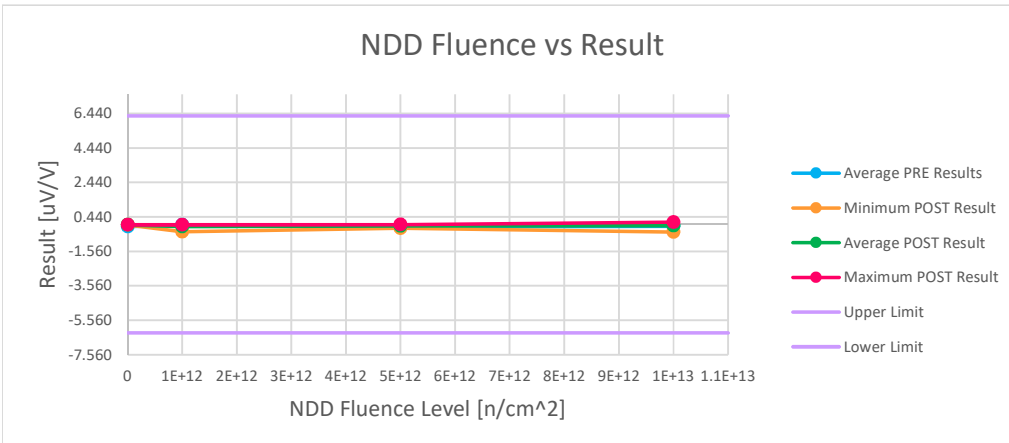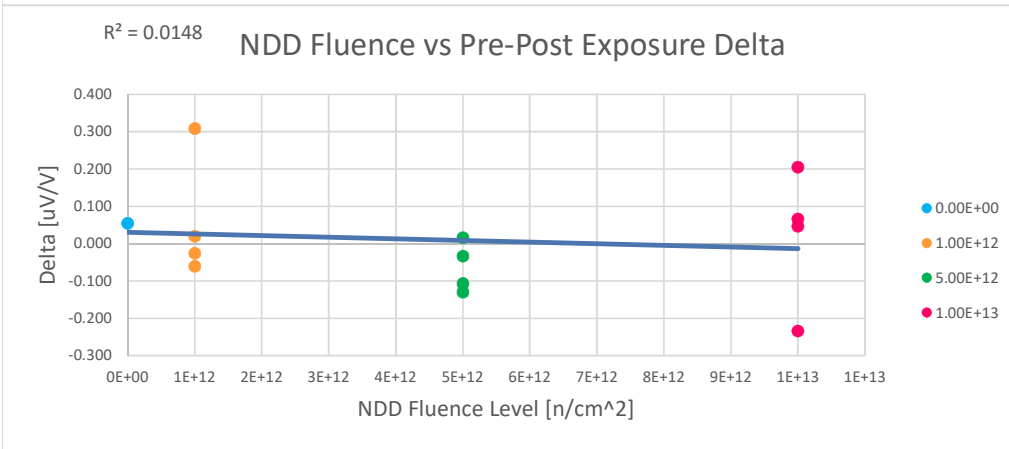
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -6.3 | UPPER LIMIT = 6.3) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.112	-0.296	0.184
2	1E+12	NDD	-0.127	-0.169	0.042
3	1E+12	NDD	-0.023	-0.062	0.038
4	1E+12	NDD	-0.381	-0.081	-0.300
5	5E+12	NDD	-0.219	-0.162	-0.058
6	5E+12	NDD	-0.335	-0.358	0.023
7	5E+12	NDD	-0.331	-0.246	-0.085
8	5E+12	NDD	-0.281	-0.554	0.273
9	1E+13	NDD	-0.277	-0.154	-0.123
10	1E+13	NDD	0.023	-0.239	0.262
11	1E+13	NDD	-0.258	-0.027	-0.231
12	1E+13	NDD	-0.446	-0.112	-0.335
13	0E+00	CONTROL	-0.250	-0.285	0.035

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.250	-0.250	-0.250	-	-0.285	-0.285	-0.285	-	0.035	0.035	0.035	-
1E+12	-0.381	-0.161	-0.023	0.154	-0.296	-0.152	-0.062	0.107	-0.300	-0.009	0.184	0.206
5E+12	-0.335	-0.291	-0.219	0.054	-0.554	-0.330	-0.162	0.170	-0.085	0.038	0.273	0.163
1E+13	-0.446	-0.239	0.023	0.194	-0.239	-0.133	-0.027	0.088	-0.335	-0.107	0.262	0.260

DEVICE TEST: 16.10 AOL2_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
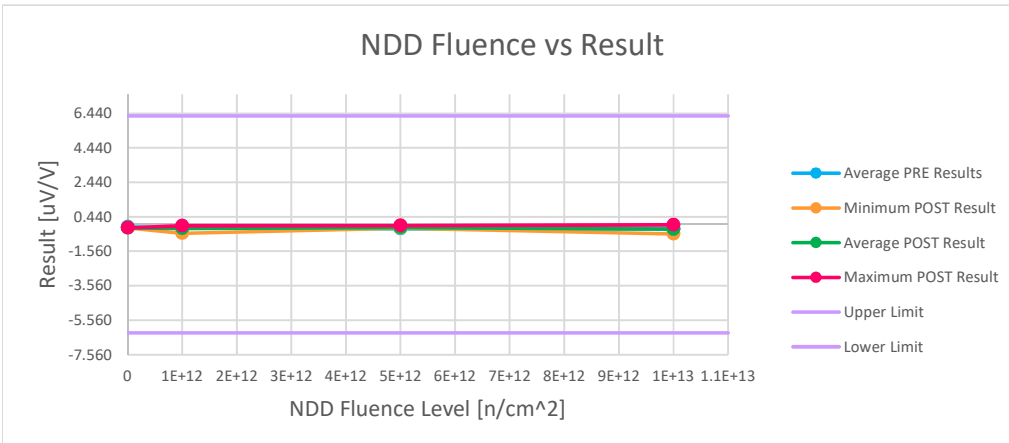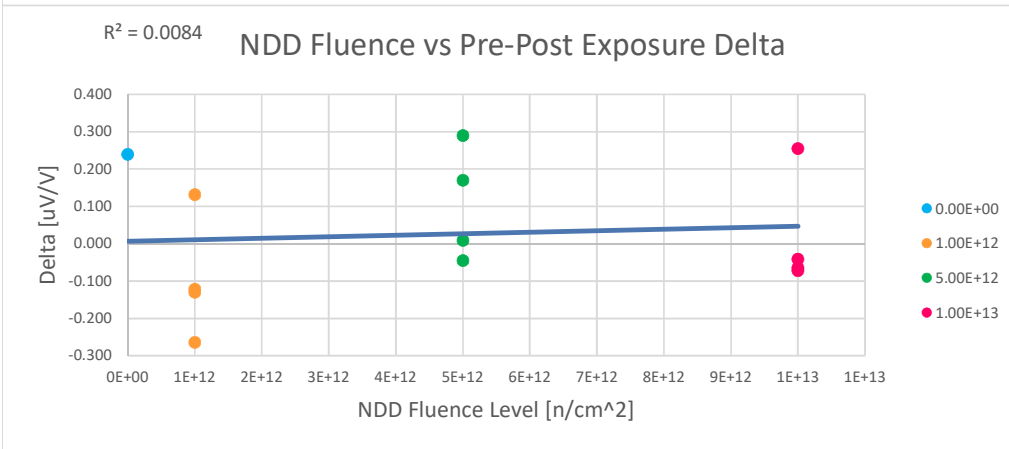
R² = 0.0208

TEST RESULTS (LOWER LIMIT = -6.3 | UPPER LIMIT = 6.3) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.004	-0.073	0.069
2	1E+12	NDD	-0.138	-0.023	-0.115
3	1E+12	NDD	0.058	-0.019	0.077
4	1E+12	NDD	-0.050	-0.423	0.373
5	5E+12	NDD	-0.185	-0.004	-0.181
6	5E+12	NDD	0.031	-0.073	0.104
7	5E+12	NDD	-0.200	-0.227	0.027
8	5E+12	NDD	-0.211	-0.092	-0.119
9	1E+13	NDD	-0.215	0.131	-0.346
10	1E+13	NDD	-0.142	-0.062	-0.081
11	1E+13	NDD	-0.135	0.058	-0.192
12	1E+13	NDD	0.069	-0.446	0.516
13	0E+00	CONTROL	-0.131	-0.027	-0.104

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.131	-0.131	-0.131	-	-0.027	-0.027	-0.027	-	-0.104	-0.104	-0.104	-
1E+12	-0.138	-0.034	0.058	0.083	-0.423	-0.135	-0.019	0.194	-0.115	0.101	0.373	0.202
5E+12	-0.211	-0.141	0.031	0.115	-0.227	-0.099	-0.004	0.093	-0.181	-0.042	0.104	0.131
1E+13	-0.215	-0.106	0.069	0.122	-0.446	-0.080	0.131	0.257	-0.346	-0.026	0.516	0.377

DEVICE TEST: 16.11 AOL2_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

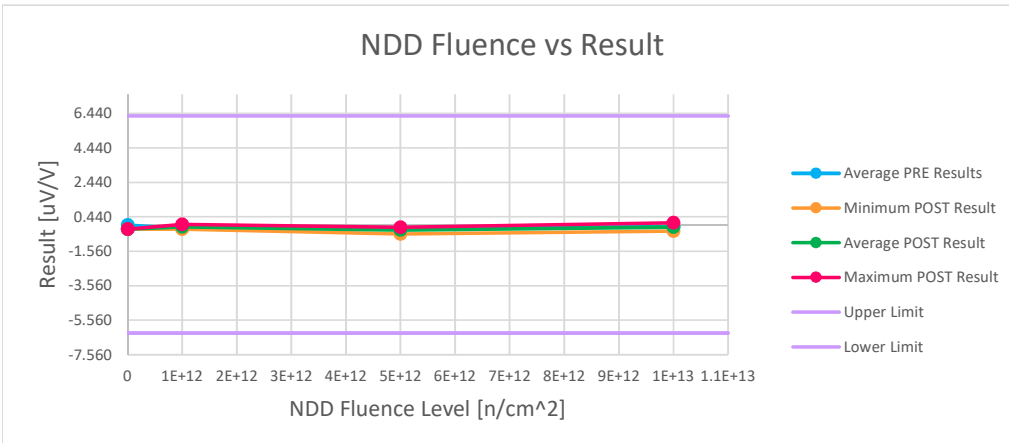## NDD Fluence vs Pre-Post Exposure Delta
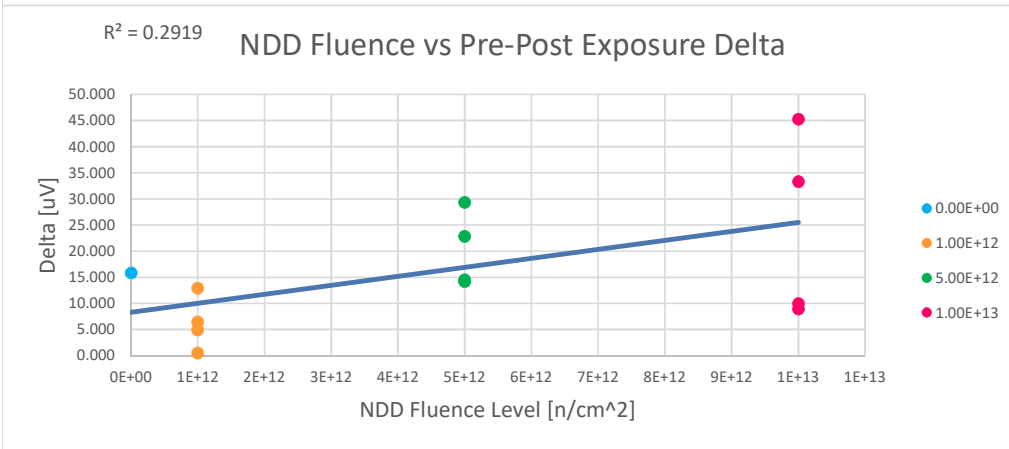
$R^2 = 0.0148$

TEST RESULTS (LOWER LIMIT = -6.3 | UPPER LIMIT = 6.3) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.262	-0.281	0.019
2	1E+12	NDD	-0.208	-0.516	0.308
3	1E+12	NDD	-0.108	-0.081	-0.027
4	1E+12	NDD	-0.150	-0.089	-0.062
5	5E+12	NDD	-0.200	-0.215	0.015
6	5E+12	NDD	-0.200	-0.069	-0.131
7	5E+12	NDD	-0.319	-0.212	-0.108
8	5E+12	NDD	-0.254	-0.219	-0.035
9	1E+13	NDD	-0.258	-0.304	0.046
10	1E+13	NDD	-0.185	-0.250	0.065
11	1E+13	NDD	-0.346	-0.550	0.204
12	1E+13	NDD	-0.262	-0.027	-0.235
13	0E+00	CONTROL	-0.146	-0.200	0.054

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.146	-0.146	-0.146	-	-0.200	-0.200	-0.200	-	0.054	0.054	0.054	-
1E+12	-0.262	-0.182	-0.108	0.067	-0.516	-0.241	-0.081	0.205	-0.062	0.060	0.308	0.169
5E+12	-0.319	-0.243	-0.200	0.057	-0.219	-0.179	-0.069	0.073	-0.131	-0.064	0.015	0.067
1E+13	-0.346	-0.263	-0.185	0.066	-0.550	-0.283	-0.027	0.215	-0.235	0.020	0.204	0.184

DEVICE TEST: 16.12 AOL2_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

R² = 0.0084
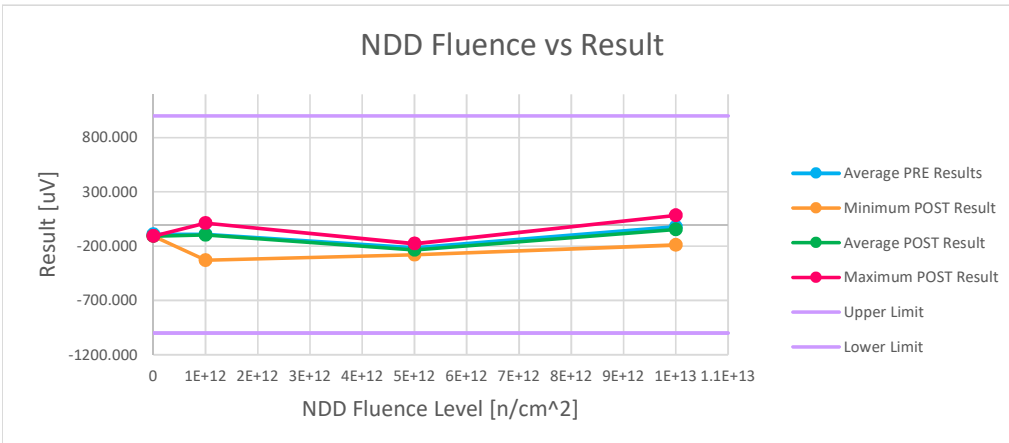
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -6.3 | UPPER LIMIT = 6.3) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.389	-0.266	-0.123
2	1E+12	NDD	-0.123	-0.254	0.131
3	1E+12	NDD	-0.165	-0.035	-0.131
4	1E+12	NDD	-0.266	0.000	-0.266
5	5E+12	NDD	-0.439	-0.392	-0.046
6	5E+12	NDD	-0.019	-0.189	0.170
7	5E+12	NDD	-0.269	-0.558	0.289
8	5E+12	NDD	-0.165	-0.173	0.008
9	1E+13	NDD	-0.431	-0.389	-0.042
10	1E+13	NDD	0.027	0.092	-0.065
11	1E+13	NDD	-0.139	-0.065	-0.073
12	1E+13	NDD	0.000	-0.254	0.254
13	0E+00	CONTROL	-0.031	-0.269	0.239

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.031	-0.031	-0.031	-	-0.269	-0.269	-0.269	-	0.239	0.239	0.239	-
1E+12	-0.389	-0.236	-0.123	0.118	-0.266	-0.139	0.000	0.141	-0.266	-0.097	0.131	0.165
5E+12	-0.439	-0.223	-0.019	0.177	-0.558	-0.328	-0.173	0.183	-0.046	0.105	0.289	0.153
1E+13	-0.431	-0.136	0.027	0.210	-0.389	-0.154	0.092	0.211	-0.073	0.018	0.254	0.158

DEVICE TEST: 161.1 AOL3_VIOH_AMP1 [uV]

NDD Fluence vs Result
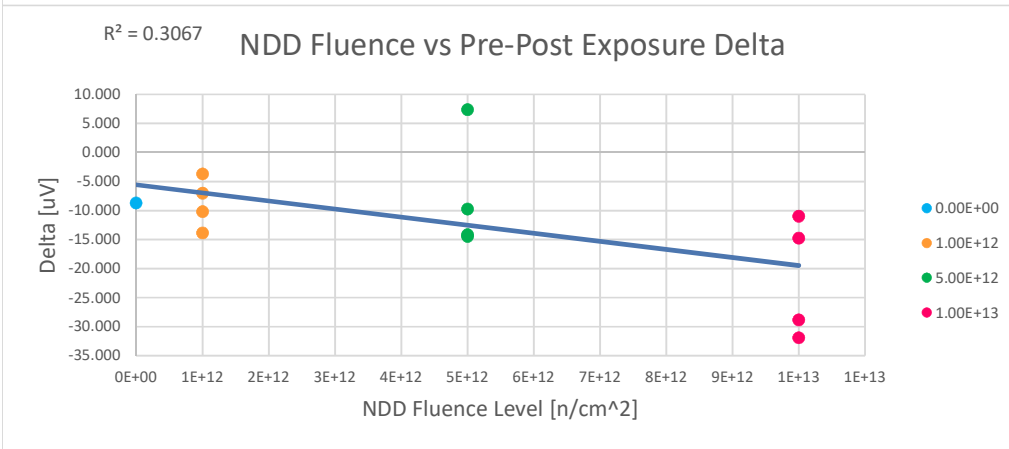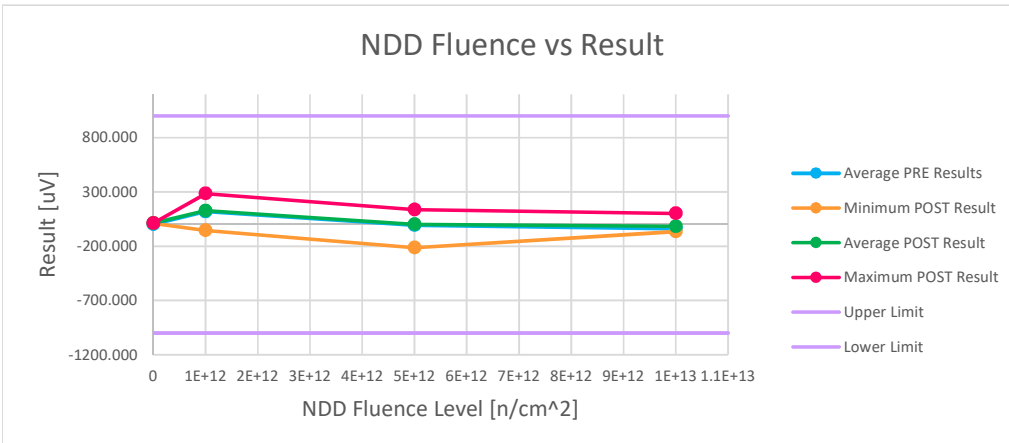
R² = 0.2919

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-322.743	-329.101	6.358
2	1E+12	NDD	-54.930	-67.771	12.841
3	1E+12	NDD	16.631	11.811	4.819
4	1E+12	NDD	-6.141	-6.560	0.419
5	5E+12	NDD	-148.364	-177.619	29.255
6	5E+12	NDD	-265.358	-279.792	14.434
7	5E+12	NDD	-252.030	-274.777	22.747
8	5E+12	NDD	-196.971	-211.080	14.109
9	1E+13	NDD	93.929	84.003	9.926
10	1E+13	NDD	38.613	-6.553	45.166
11	1E+13	NDD	-63.342	-72.180	8.838
12	1E+13	NDD	-156.162	-189.382	33.220
13	0E+00	CONTROL	-90.572	-106.349	15.777

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-90.572	-90.572	-90.572	-	-106.349	-106.349	-106.349	-	15.777	15.777	15.777	-
1E+12	-322.743	-91.796	16.631	156.832	-329.101	-97.905	11.811	157.841	0.419	6.109	12.841	5.145
5E+12	-265.358	-215.681	-148.364	53.761	-279.792	-235.817	-177.619	49.835	14.109	20.136	29.255	7.276
1E+13	-156.162	-21.741	93.929	110.788	-189.382	-46.028	84.003	115.037	8.838	24.287	45.166	17.895

DEVICE TEST: 161.2 AOL3_VIOH_AMP2 [uV]

NDD Fluence vs Result

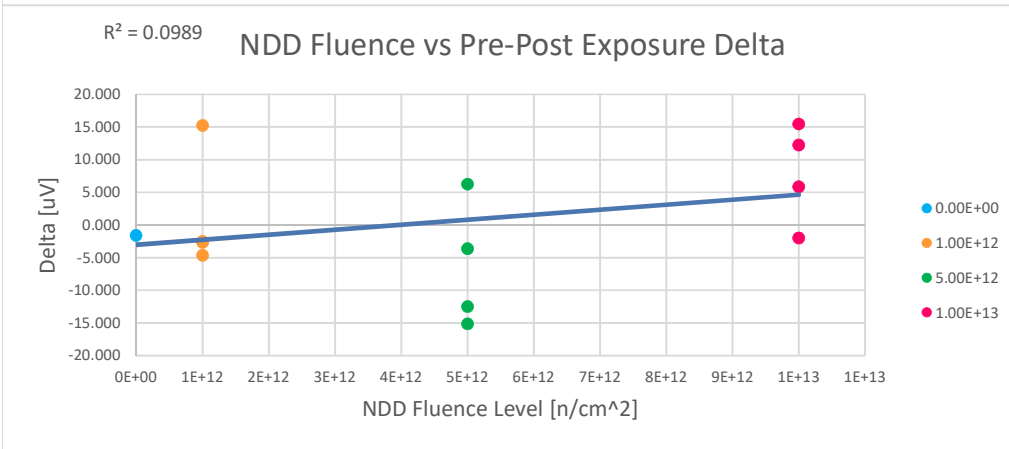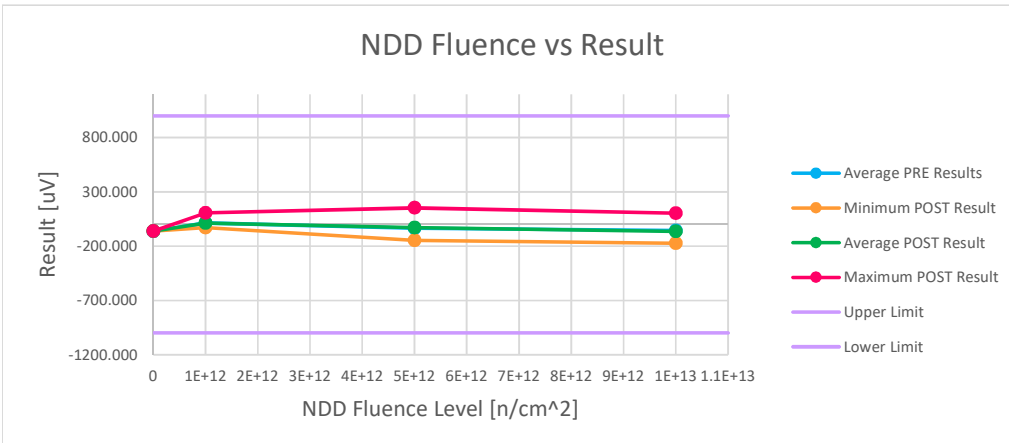## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.3067

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	199.335	203.053	-3.718
2	1E+12	NDD	276.183	283.234	-7.051
3	1E+12	NDD	58.932	72.827	-13.895
4	1E+12	NDD	-64.286	-54.065	-10.221
5	5E+12	NDD	-228.718	-214.237	-14.481
6	5E+12	NDD	43.550	57.737	-14.187
7	5E+12	NDD	24.547	17.197	7.350
8	5E+12	NDD	126.723	136.493	-9.769
9	1E+13	NDD	-54.967	-40.159	-14.808
10	1E+13	NDD	-94.486	-65.616	-28.870
11	1E+13	NDD	-77.703	-66.669	-11.034
12	1E+13	NDD	69.237	101.173	-31.935
13	0E+00	CONTROL	1.592	10.303	-8.711

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	1.592	1.592	1.592	-	10.303	10.303	10.303	-	-8.711	-8.711	-8.711	-
1E+12	-64.286	117.541	276.183	150.945	-54.065	126.262	283.234	148.223	-13.895	-8.721	-3.718	4.353
5E+12	-228.718	-8.474	126.723	153.387	-214.237	-0.702	136.493	150.726	-14.481	-7.772	7.350	10.309
1E+13	-94.486	-39.479	69.237	74.265	-66.669	-17.818	101.173	80.268	-31.935	-21.662	-11.034	10.286

DEVICE TEST: 161.3 AOL3_VIOH_AMP3 [uV]

NDD Fluence vs Result

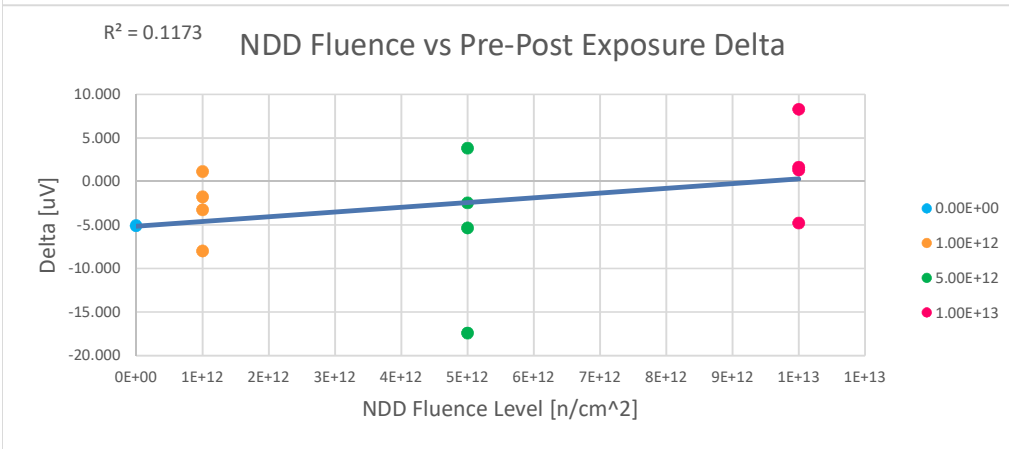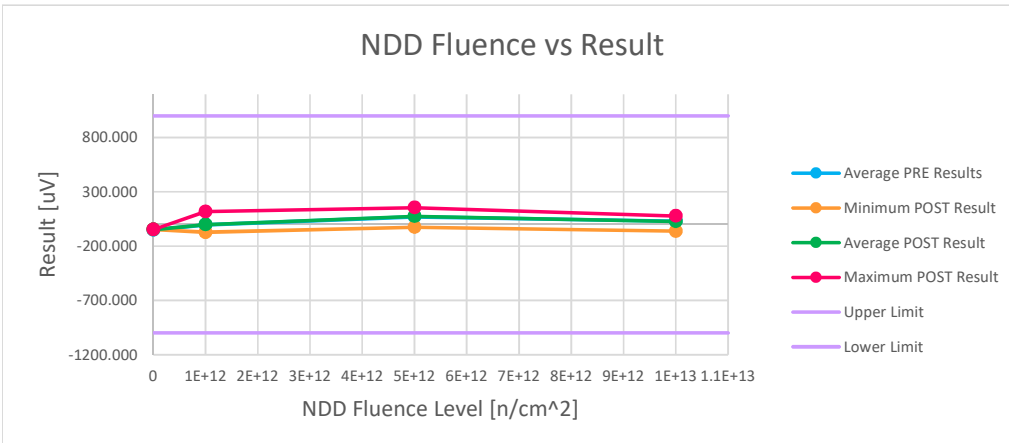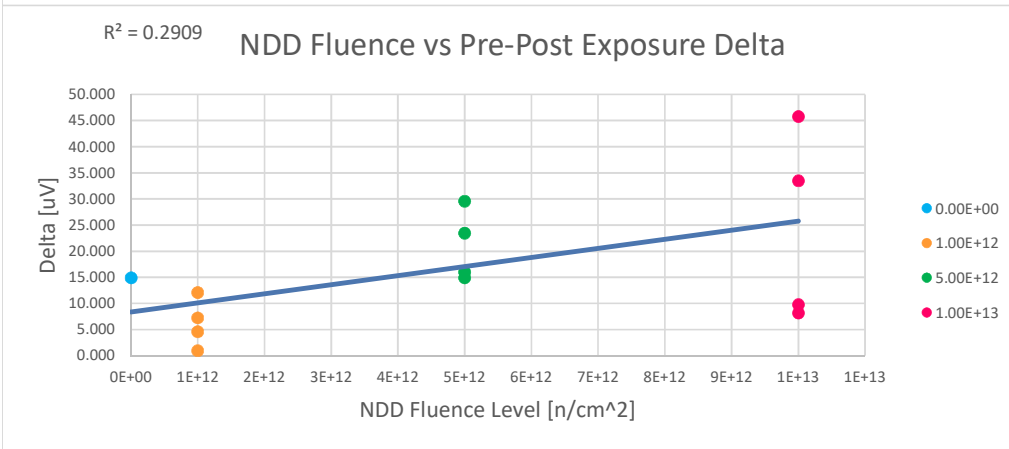## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0989

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-31.728	-29.017	-2.711
2	1E+12	NDD	120.600	105.431	15.169
3	1E+12	NDD	-11.384	-8.794	-2.590
4	1E+12	NDD	-22.470	-17.750	-4.719
5	5E+12	NDD	-15.135	-21.333	6.198
6	5E+12	NDD	137.159	152.341	-15.182
7	5E+12	NDD	-102.403	-98.709	-3.694
8	5E+12	NDD	-160.333	-147.775	-12.558
9	1E+13	NDD	117.953	102.528	15.424
10	1E+13	NDD	-54.470	-52.406	-2.063
11	1E+13	NDD	-167.053	-172.839	5.785
12	1E+13	NDD	-124.845	-137.028	12.182
13	0E+00	CONTROL	-63.815	-62.160	-1.655

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-63.815	-63.815	-63.815	-	-62.160	-62.160	-62.160	-	-1.655	-1.655	-1.655	-
1E+12	-31.728	13.755	120.600	71.714	-29.017	12.467	105.431	62.526	-4.719	1.287	15.169	9.306
5E+12	-160.333	-35.178	137.159	129.467	-147.775	-28.869	152.341	131.542	-15.182	-6.309	6.198	9.679
1E+13	-167.053	-57.104	117.953	125.605	-172.839	-64.936	102.528	122.531	-2.063	7.832	15.424	7.717

DEVICE TEST: 161.4 AOL3_VIOH_AMP4 [uV]

NDD Fluence vs Result

R² = 0.1173
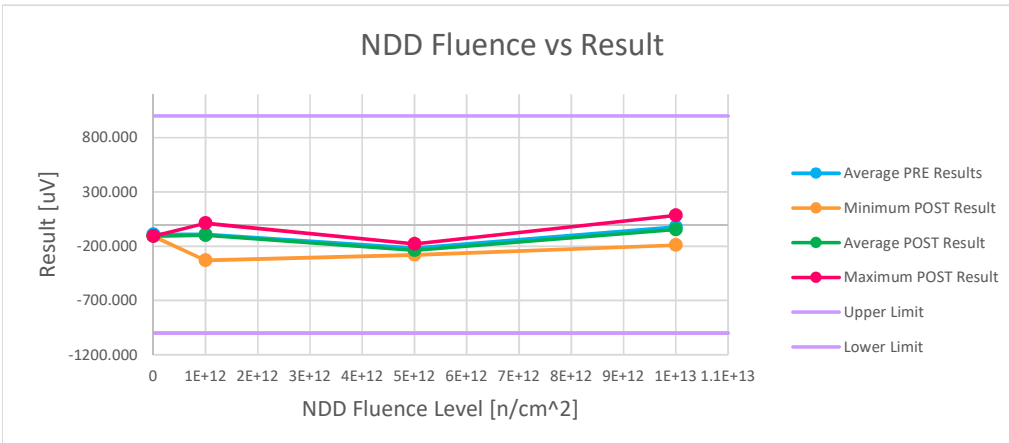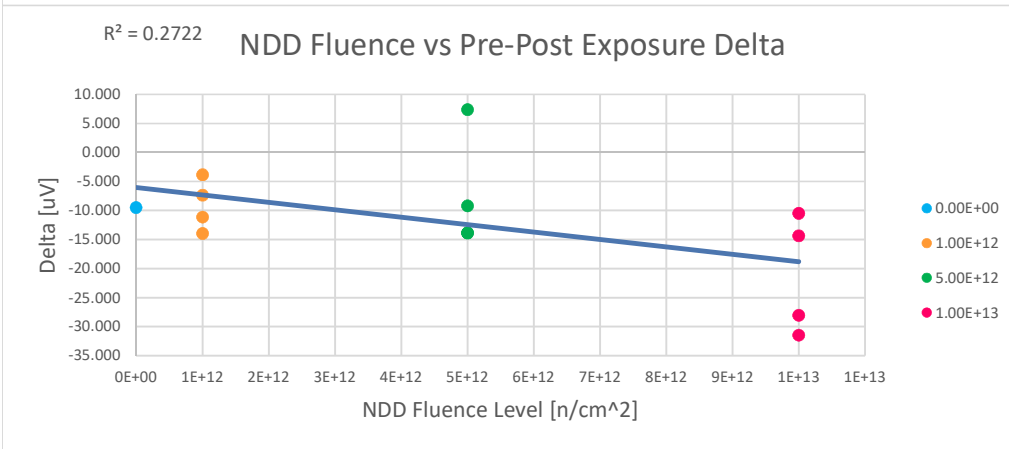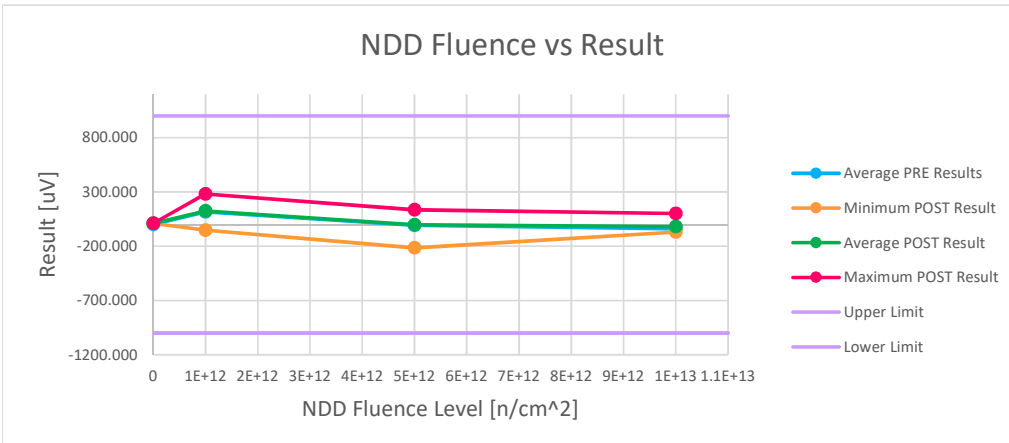
NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-75.319	-72.054	-3.265
2	1E+12	NDD	13.457	12.323	1.134
3	1E+12	NDD	-70.077	-68.282	-1.795
4	1E+12	NDD	110.948	118.955	-8.007
5	5E+12	NDD	148.749	154.100	-5.351
6	5E+12	NDD	-22.327	-26.111	3.784
7	5E+12	NDD	61.398	63.881	-2.482
8	5E+12	NDD	90.337	107.762	-17.425
9	1E+13	NDD	78.844	77.545	1.298
10	1E+13	NDD	44.640	43.022	1.618
11	1E+13	NDD	52.837	57.652	-4.815
12	1E+13	NDD	-55.066	-63.325	8.258
13	0E+00	CONTROL	-53.158	-48.067	-5.091

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-53.158	-53.158	-53.158	-	-48.067	-48.067	-48.067	-	-5.091	-5.091	-5.091	-
1E+12	-75.319	-5.248	110.948	87.491	-72.054	-2.264	118.955	89.695	-8.007	-2.983	1.134	3.816
5E+12	-22.327	69.539	148.749	71.210	-26.111	74.908	154.100	76.762	-17.425	-5.368	3.784	8.897
1E+13	-55.066	30.314	78.844	58.758	-63.325	28.724	77.545	62.975	-4.815	1.590	8.258	5.341

DEVICE TEST: 161.5 AOL3_VIOL_AMP1 [uV]

NDD Fluence vs Result

Average PRE Results · Minimum POST Result · Average POST Result · Maximum POST Result · Upper Limit · Lower Limit

R² = 0.2909

NDD Fluence vs Pre-Post Exposure Delta
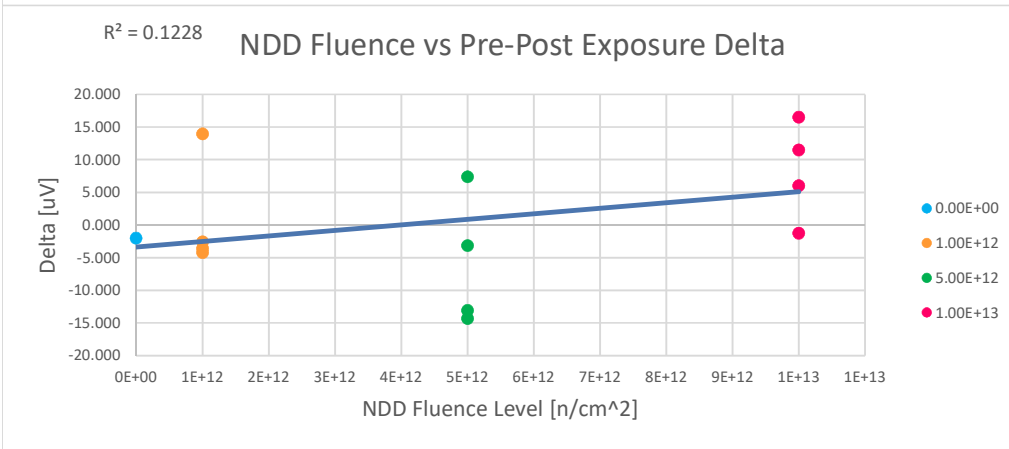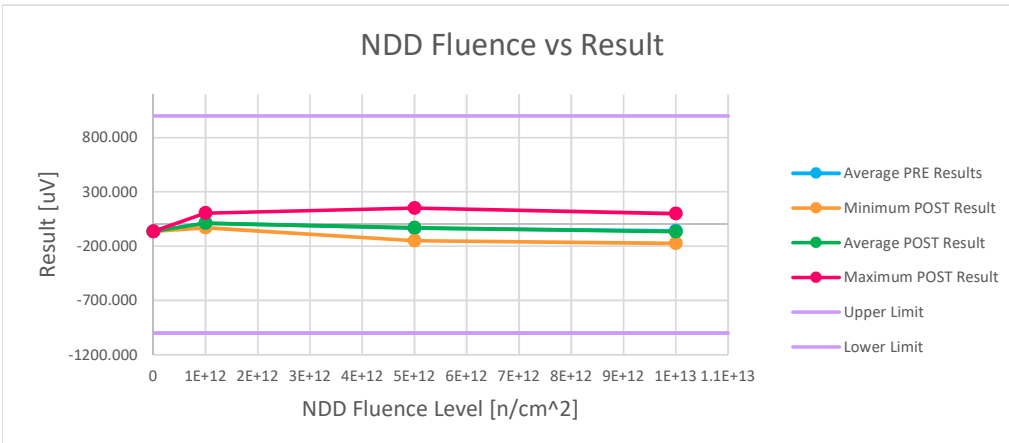
0.00E+00 · 1.00E+12 · 5.00E+12 · 1.00E+13

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-324.029	-331.229	7.200
2	1E+12	NDD	-57.152	-69.219	12.067
3	1E+12	NDD	15.147	10.627	4.520
4	1E+12	NDD	-7.756	-8.666	0.909
5	5E+12	NDD	-149.863	-179.389	29.526
6	5E+12	NDD	-265.972	-281.919	15.947
7	5E+12	NDD	-253.769	-277.160	23.391
8	5E+12	NDD	-198.403	-213.244	14.841
9	1E+13	NDD	92.547	82.833	9.714
10	1E+13	NDD	37.400	-8.300	45.700
11	1E+13	NDD	-65.315	-73.452	8.136
12	1E+13	NDD	-157.507	-190.947	33.440
13	0E+00	CONTROL	-93.627	-108.462	14.835

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-93.627	-93.627	-93.627	-	-108.462	-108.462	-108.462	-	14.835	14.835	14.835	-
1E+12	-324.029	-93.448	15.147	156.654	-331.229	-99.622	10.627	158.108	0.909	6.174	12.067	4.699
5E+12	-265.972	-217.002	-149.863	53.552	-281.919	-237.928	-179.389	50.035	14.841	20.926	29.526	6.876
1E+13	-157.507	-23.219	92.547	110.878	-190.947	-47.466	82.833	115.143	8.136	24.248	45.700	18.398

DEVICE TEST: 161.6 AOL3_VIOL_AMP2 [uV]

NDD Fluence vs Result

R² = 0.2722

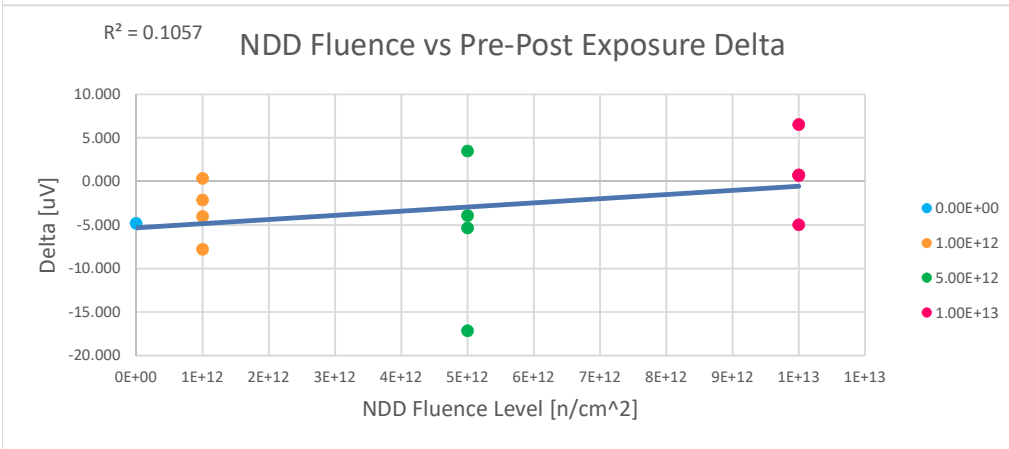NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	197.597	201.488	-3.891
2	1E+12	NDD	274.036	281.436	-7.400
3	1E+12	NDD	57.157	71.153	-13.996
4	1E+12	NDD	-65.951	-54.774	-11.177
5	5E+12	NDD	-230.062	-216.138	-13.924
6	5E+12	NDD	42.768	56.655	-13.887
7	5E+12	NDD	22.699	15.355	7.345
8	5E+12	NDD	125.489	134.731	-9.241
9	1E+13	NDD	-56.391	-41.987	-14.404
10	1E+13	NDD	-95.830	-67.707	-28.123
11	1E+13	NDD	-79.813	-69.294	-10.520
12	1E+13	NDD	68.032	99.557	-31.525
13	0E+00	CONTROL	-0.307	9.257	-9.564

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-0.307	-0.307	-0.307	-	9.257	9.257	9.257	-	-9.564	-9.564	-9.564	-
1E+12	-65.951	115.710	274.036	150.778	-54.774	124.826	281.436	147.807	-13.996	-9.116	-3.891	4.409
5E+12	-230.062	-9.776	125.489	153.447	-216.138	-2.349	134.731	150.877	-13.924	-7.427	7.345	10.090
1E+13	-95.830	-41.000	68.032	74.471	-69.294	-19.858	99.557	80.587	-31.525	-21.143	-10.520	10.243

DEVICE TEST: 161.7 AOL3_VIOL_AMP3 [uV]

NDD Fluence vs Result

R² = 0.1228

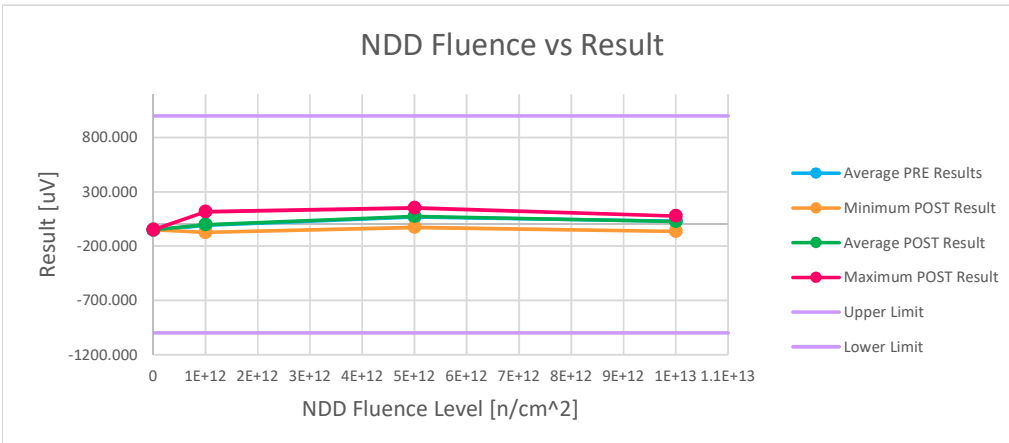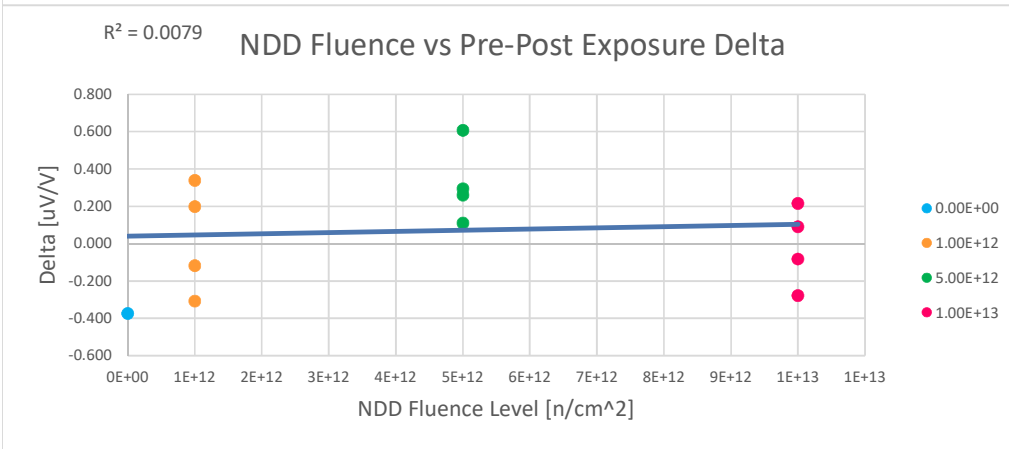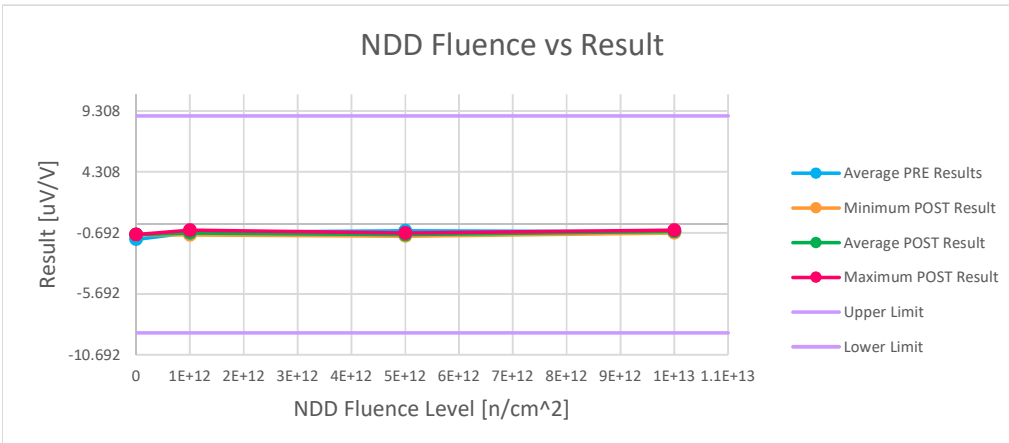## NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-34.185	-30.523	-3.662
2	1E+12	NDD	118.918	105.022	13.897
3	1E+12	NDD	-13.307	-10.673	-2.634
4	1E+12	NDD	-23.969	-19.681	-4.288
5	5E+12	NDD	-16.313	-23.643	7.331
6	5E+12	NDD	136.282	150.659	-14.377
7	5E+12	NDD	-103.303	-100.113	-3.190
8	5E+12	NDD	-161.891	-148.755	-13.136
9	1E+13	NDD	116.871	100.394	16.477
10	1E+13	NDD	-55.588	-54.263	-1.325
11	1E+13	NDD	-168.567	-174.513	5.946
12	1E+13	NDD	-127.185	-138.622	11.436
13	0E+00	CONTROL	-65.848	-63.797	-2.051

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-65.848	-65.848	-65.848	-	-63.797	-63.797	-63.797	-	-2.051	-2.051	-2.051	-
1E+12	-34.185	11.864	118.918	71.876	-30.523	11.036	105.022	63.180	-4.288	0.828	13.897	8.739
5E+12	-161.891	-36.306	136.282	129.675	-148.755	-30.463	150.659	131.270	-14.377	-5.843	7.331	10.109
1E+13	-168.567	-58.618	116.871	125.957	-174.513	-66.751	100.394	122.299	-1.325	8.134	16.477	7.633

DEVICE TEST: 161.8 AOL3_VIOL_AMP4 [uV]

NDD Fluence vs Result

R² = 0.1057

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -1000 | UPPER LIMIT = 1000) [uV]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-77.023	-72.975	-4.048
2	1E+12	NDD	11.702	11.387	0.315
3	1E+12	NDD	-72.241	-70.080	-2.161
4	1E+12	NDD	109.340	117.157	-7.817
5	5E+12	NDD	146.731	152.089	-5.358
6	5E+12	NDD	-24.221	-27.676	3.455
7	5E+12	NDD	58.276	62.243	-3.967
8	5E+12	NDD	89.094	106.270	-17.176
9	1E+13	NDD	77.652	76.931	0.721
10	1E+13	NDD	42.301	41.648	0.653
11	1E+13	NDD	50.936	55.941	-5.005
12	1E+13	NDD	-57.647	-64.158	6.511
13	0E+00	CONTROL	-54.467	-49.617	-4.850

TEST STATISTICS [uV]

Fluence (n/cm^2)	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	-54.467	-54.467	-54.467	-	-49.617	-49.617	-49.617	-	-4.850	-4.850	-4.850	-
1E+12	-77.023	-7.055	109.340	87.644	-72.975	-3.628	117.157	89.516	-7.817	-3.428	0.315	3.428
5E+12	-24.221	67.470	146.731	71.278	-27.676	73.232	152.089	76.623	-17.176	-5.761	3.455	8.537
1E+13	-57.647	28.310	77.652	59.248	-64.158	27.590	76.931	62.859	-5.005	0.720	6.511	4.702

DEVICE TEST: 161.9 AOL3_VIO_DIFF_AMP1 [uV/V]

NDD Fluence vs Result

R² = 0.0079

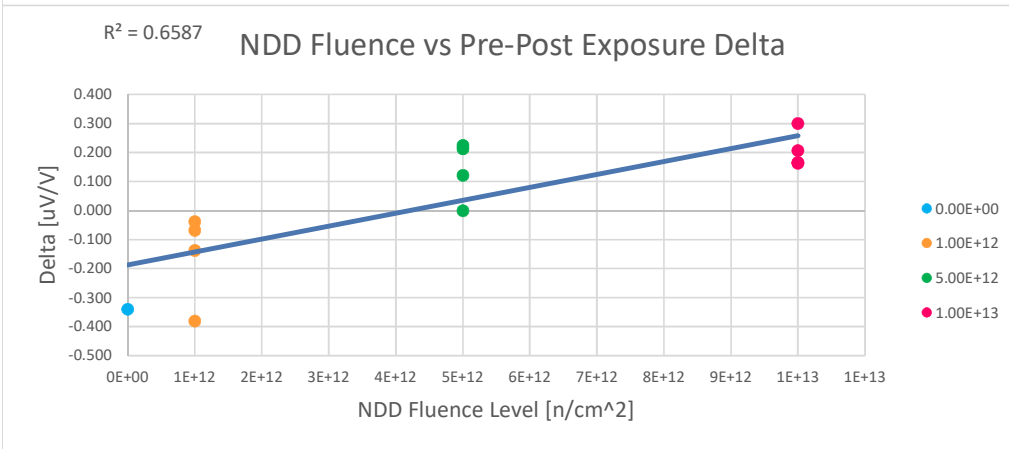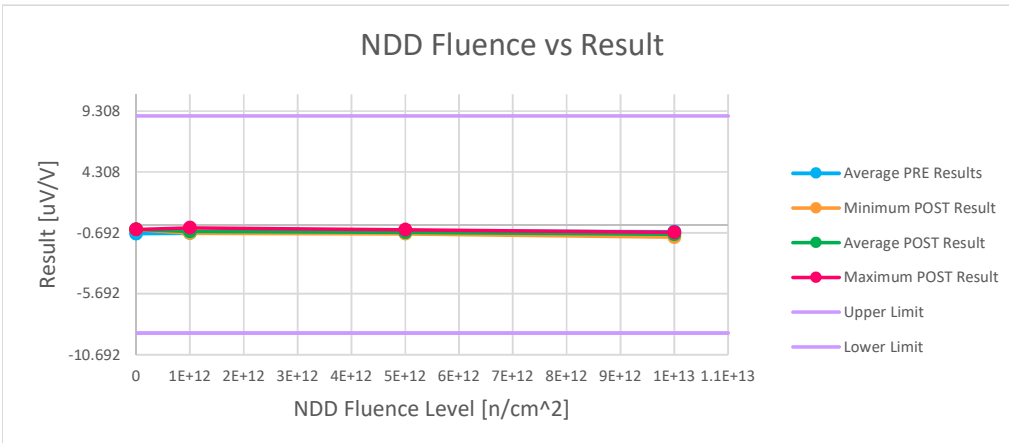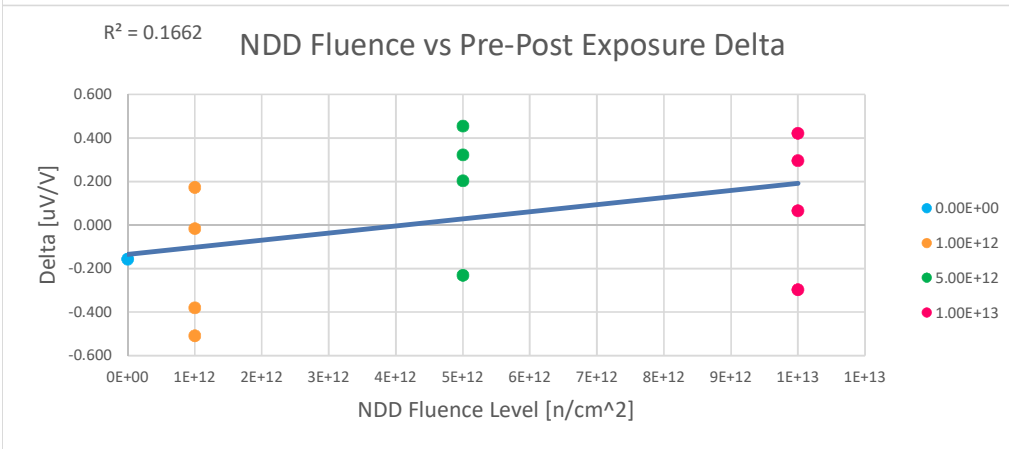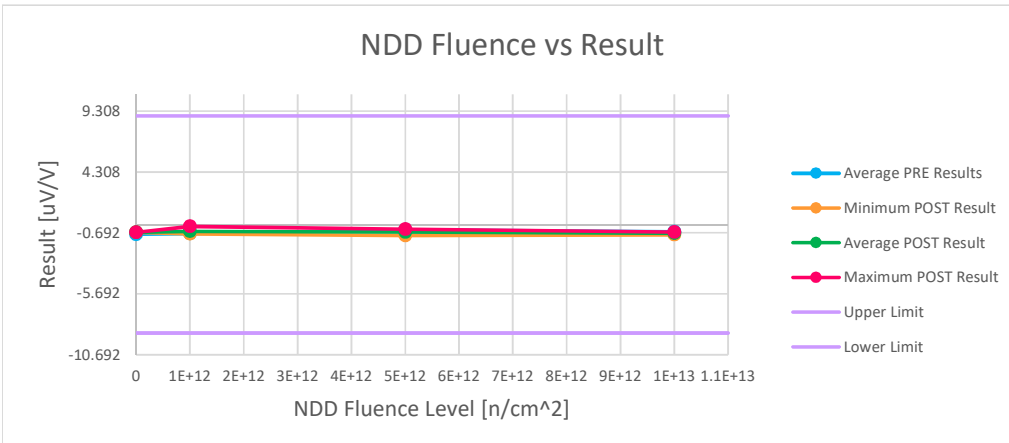NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -8.91 | UPPER LIMIT = 8.91) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.514	-0.851	0.337
2	1E+12	NDD	-0.889	-0.579	-0.310
3	1E+12	NDD	-0.593	-0.474	-0.120
4	1E+12	NDD	-0.646	-0.842	0.196
5	5E+12	NDD	-0.599	-0.708	0.108
6	5E+12	NDD	-0.246	-0.851	0.605
7	5E+12	NDD	-0.696	-0.953	0.258
8	5E+12	NDD	-0.573	-0.866	0.293
9	1E+13	NDD	-0.552	-0.468	-0.085
10	1E+13	NDD	-0.485	-0.699	0.214
11	1E+13	NDD	-0.789	-0.509	-0.280
12	1E+13	NDD	-0.538	-0.626	0.088
13	0E+00	CONTROL	-1.222	-0.845	-0.377

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-1.222	-1.222	-1.222	-	-0.845	-0.845	-0.845	-	-0.377	-0.377	-0.377	-
1E+12	-0.889	-0.661	-0.514	0.161	-0.851	-0.686	-0.474	0.190	-0.310	0.026	0.337	0.294
5E+12	-0.696	-0.528	-0.246	0.196	-0.953	-0.844	-0.708	0.102	0.108	0.316	0.605	0.209
1E+13	-0.789	-0.591	-0.485	0.135	-0.699	-0.575	-0.468	0.106	-0.280	-0.016	0.214	0.215

DEVICE TEST: 161.10 AOL3_VIO_DIFF_AMP2 [uV/V]

NDD Fluence vs Result
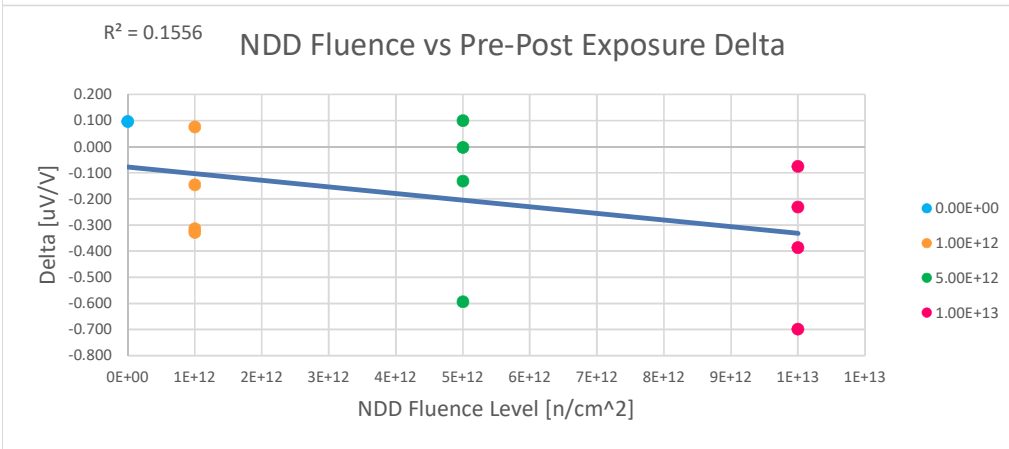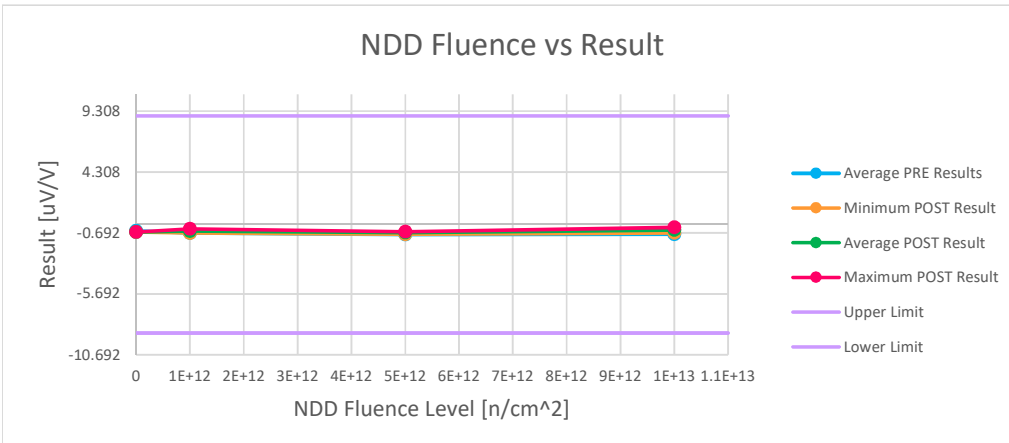
R² = 0.6587

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -8.91 | UPPER LIMIT = 8.91) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.695	-0.626	-0.069
2	1E+12	NDD	-0.859	-0.719	-0.139
3	1E+12	NDD	-0.710	-0.670	-0.040
4	1E+12	NDD	-0.666	-0.284	-0.382
5	5E+12	NDD	-0.538	-0.760	0.223
6	5E+12	NDD	-0.313	-0.433	0.120
7	5E+12	NDD	-0.739	-0.737	-0.002
8	5E+12	NDD	-0.494	-0.705	0.211
9	1E+13	NDD	-0.570	-0.731	0.161
10	1E+13	NDD	-0.538	-0.836	0.299
11	1E+13	NDD	-0.844	-1.050	0.206
12	1E+13	NDD	-0.482	-0.646	0.164
13	0E+00	CONTROL	-0.760	-0.418	-0.341

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.760	-0.760	-0.760	-	-0.418	-0.418	-0.418	-	-0.341	-0.341	-0.341	-
1E+12	-0.859	-0.733	-0.666	0.086	-0.719	-0.575	-0.284	0.198	-0.382	-0.158	-0.040	0.155
5E+12	-0.739	-0.521	-0.313	0.175	-0.760	-0.659	-0.433	0.152	-0.002	0.138	0.223	0.104
1E+13	-0.844	-0.608	-0.482	0.161	-1.050	-0.816	-0.646	0.174	0.161	0.208	0.299	0.064

DEVICE TEST: 161.11 AOL3_VIO_DIFF_AMP3 [uV/V]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

R² = 0.1662

NDD Fluence vs Pre-Post Exposure Delta

Legend:
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

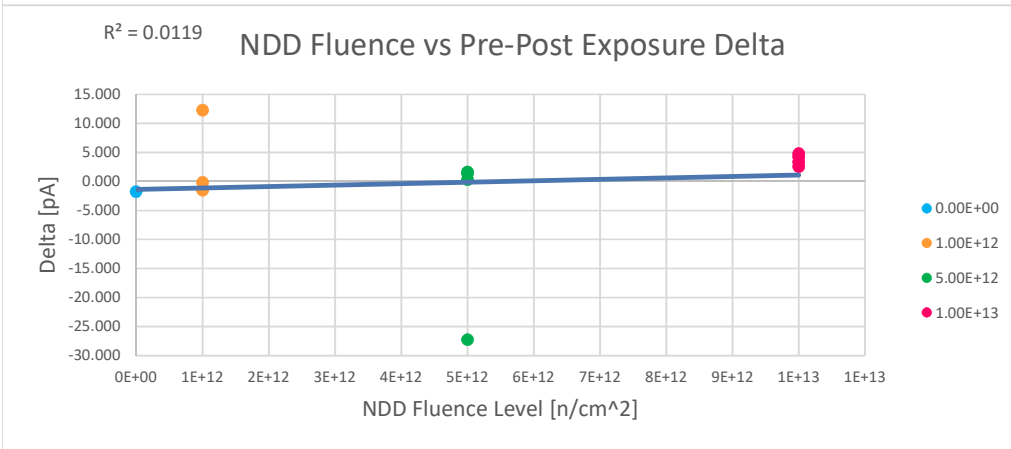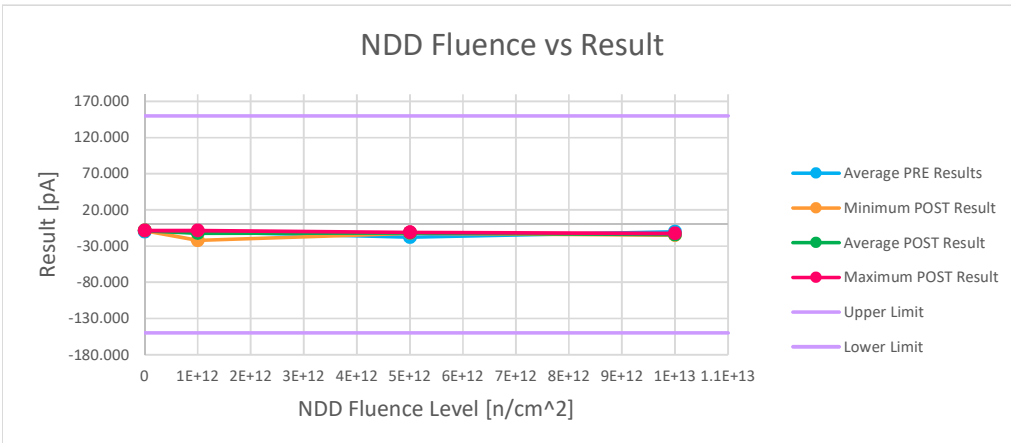## TEST RESULTS (LOWER LIMIT = -8.91 | UPPER LIMIT = 8.91) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.983	-0.602	-0.381
2	1E+12	NDD	-0.673	-0.164	-0.509
3	1E+12	NDD	-0.769	-0.752	-0.018
4	1E+12	NDD	-0.600	-0.772	0.172
5	5E+12	NDD	-0.471	-0.924	0.453
6	5E+12	NDD	-0.351	-0.673	0.322
7	5E+12	NDD	-0.360	-0.562	0.202
8	5E+12	NDD	-0.623	-0.392	-0.231
9	1E+13	NDD	-0.433	-0.854	0.421
10	1E+13	NDD	-0.448	-0.743	0.295
11	1E+13	NDD	-0.605	-0.670	0.064
12	1E+13	NDD	-0.936	-0.638	-0.298
13	0E+00	CONTROL	-0.813	-0.655	-0.158

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.813	-0.813	-0.813	-	-0.655	-0.655	-0.655	-	-0.158	-0.158	-0.158	-
1E+12	-0.983	-0.756	-0.600	0.166	-0.772	-0.572	-0.164	0.283	-0.509	-0.184	0.172	0.316
5E+12	-0.623	-0.451	-0.351	0.127	-0.924	-0.638	-0.392	0.223	-0.231	0.186	0.453	0.297
1E+13	-0.936	-0.605	-0.433	0.234	-0.854	-0.726	-0.638	0.096	-0.298	0.121	0.421	0.316

DEVICE TEST: 161.12 AOL3_VIO_DIFF_AMP4 [uV/V]

NDD Fluence vs Result

R² = 0.1556

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -8.91 | UPPER LIMIT = 8.91) [uV/V]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-0.681	-0.368	-0.313
2	1E+12	NDD	-0.702	-0.374	-0.328
3	1E+12	NDD	-0.866	-0.719	-0.146
4	1E+12	NDD	-0.643	-0.719	0.076
5	5E+12	NDD	-0.807	-0.804	-0.003
6	5E+12	NDD	-0.758	-0.626	-0.132
7	5E+12	NDD	-1.249	-0.655	-0.594
8	5E+12	NDD	-0.497	-0.597	0.099
9	1E+13	NDD	-0.477	-0.246	-0.231
10	1E+13	NDD	-0.936	-0.550	-0.386
11	1E+13	NDD	-0.760	-0.684	-0.076
12	1E+13	NDD	-1.032	-0.333	-0.699
13	0E+00	CONTROL	-0.524	-0.620	0.096

TEST STATISTICS [uV/V]

Fluence (n/cm^2)	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	-0.524	-0.524	-0.524	-	-0.620	-0.620	-0.620	-	0.096	0.096	0.096	-
1E+12	-0.866	-0.723	-0.643	0.098	-0.719	-0.545	-0.368	0.201	-0.328	-0.178	0.076	0.188
5E+12	-1.249	-0.828	-0.497	0.312	-0.804	-0.670	-0.597	0.092	-0.594	-0.157	0.099	0.306
1E+13	-1.032	-0.801	-0.477	0.244	-0.684	-0.453	-0.246	0.200	-0.699	-0.348	-0.076	0.266

DEVICE TEST: 18.1 IIBP1_AMP1 [pA]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta
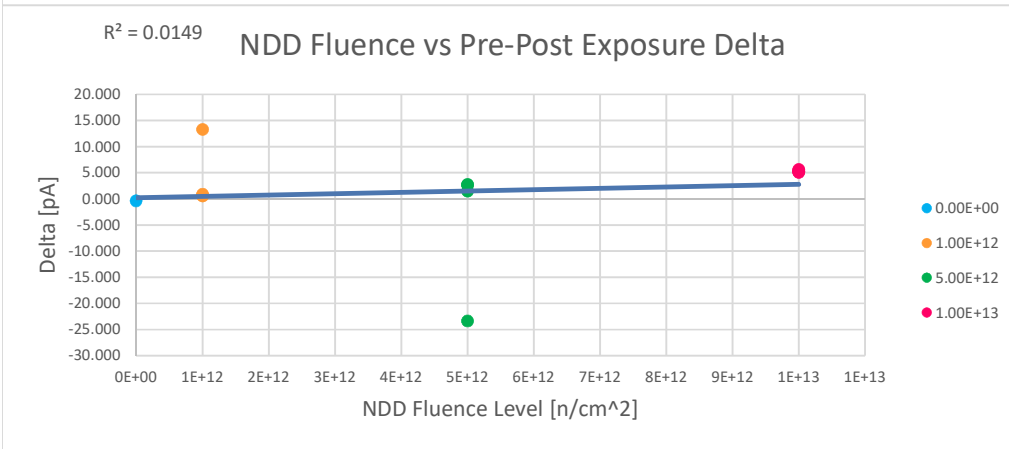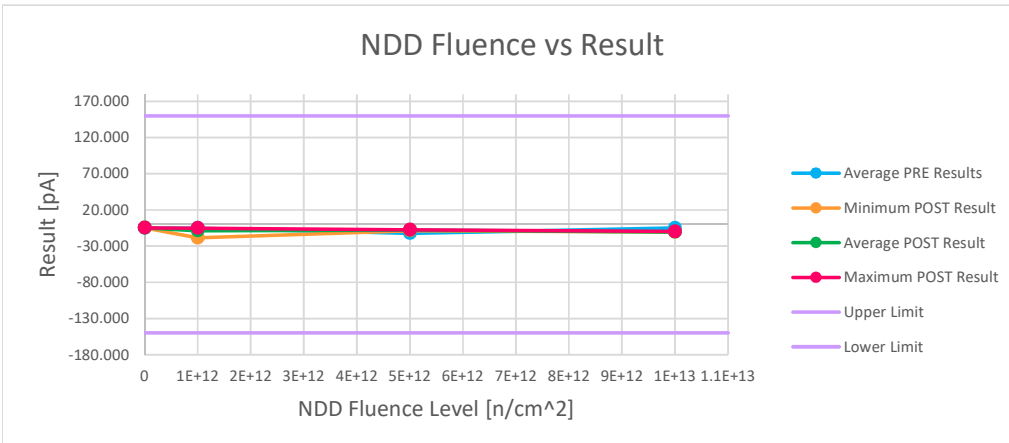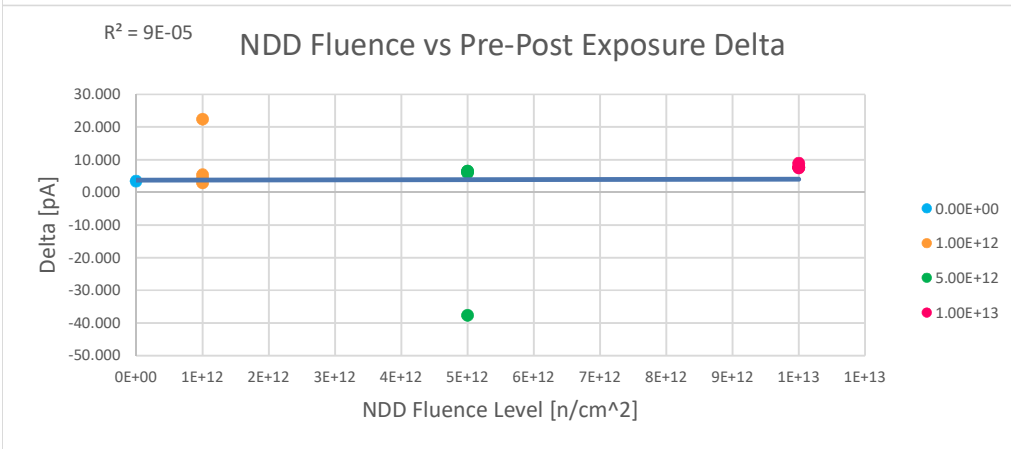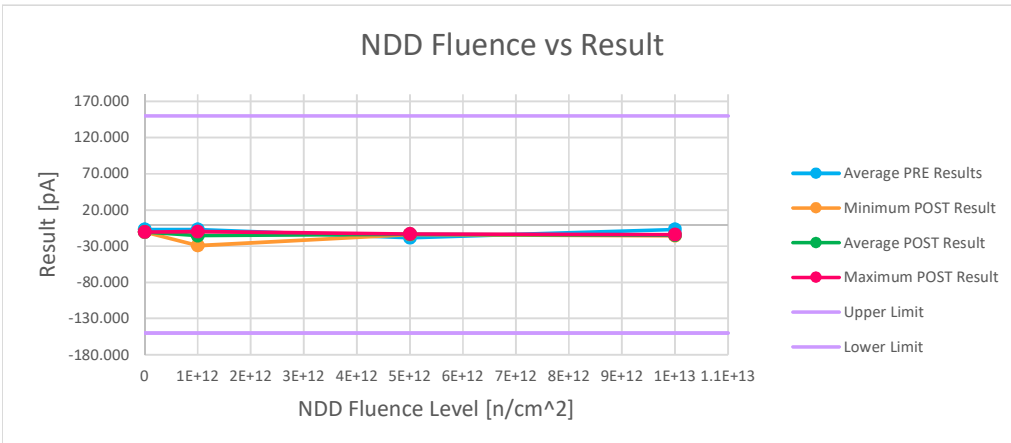
R² = 0.0119

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-9.754	-22.007	12.253
2	1E+12	NDD	-10.212	-8.651	-1.561
3	1E+12	NDD	-10.067	-8.690	-1.377
4	1E+12	NDD	-9.866	-9.640	-0.226
5	5E+12	NDD	-10.726	-11.003	0.277
6	5E+12	NDD	-39.435	-12.143	-27.292
7	5E+12	NDD	-10.419	-11.987	1.568
8	5E+12	NDD	-10.201	-11.596	1.395
9	1E+13	NDD	-10.055	-12.585	2.529
10	1E+13	NDD	-10.385	-15.161	4.776
11	1E+13	NDD	-10.575	-13.892	3.317
12	1E+13	NDD	-10.184	-14.395	4.211
13	0E+00	CONTROL	-10.363	-8.584	-1.779

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-10.363	-10.363	-10.363	-	-8.584	-8.584	-8.584	-	-1.779	-1.779	-1.779	-
1E+12	-10.212	-9.974	-9.754	0.204	-22.007	-12.247	-8.651	6.523	-1.561	2.272	12.253	6.680
5E+12	-39.435	-17.695	-10.201	14.495	-12.143	-11.682	-11.003	0.508	-27.292	-6.013	1.568	14.197
1E+13	-10.575	-10.300	-10.055	0.228	-15.161	-14.008	-12.585	1.083	2.529	3.708	4.776	0.989

DEVICE TEST: 18.2 IIBP1_AMP2 [pA]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

$R^2 = 0.0149$

Legend:
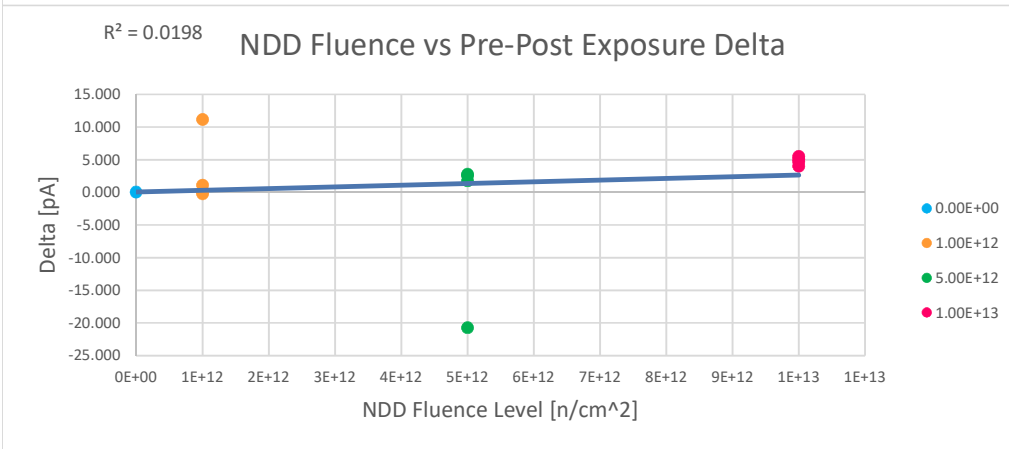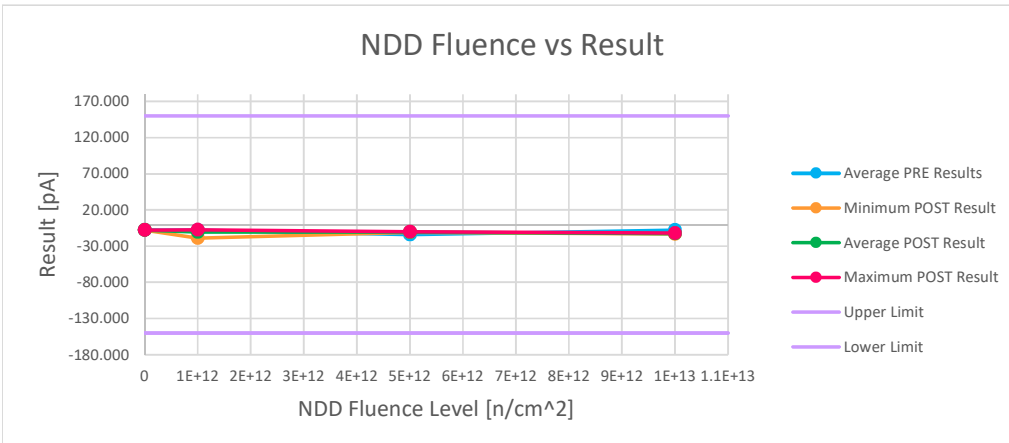- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-5.365	-18.599	13.234
2	1E+12	NDD	-5.013	-5.863	0.849
3	1E+12	NDD	-4.840	-5.354	0.514
4	1E+12	NDD	-5.069	-5.656	0.586
5	5E+12	NDD	-5.990	-7.439	1.448
6	5E+12	NDD	-32.174	-8.746	-23.428
7	5E+12	NDD	-5.544	-8.126	2.582
8	5E+12	NDD	-5.432	-8.109	2.677
9	1E+13	NDD	-4.773	-9.763	4.990
10	1E+13	NDD	-5.075	-10.339	5.264
11	1E+13	NDD	-5.181	-10.373	5.192
12	1E+13	NDD	-5.147	-10.714	5.566
13	0E+00	CONTROL	-5.309	-4.840	-0.470

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-5.309	-5.309	-5.309	-	-4.840	-4.840	-4.840	-	-0.470	-0.470	-0.470	-
1E+12	-5.365	-5.072	-4.840	0.218	-18.599	-8.868	-5.354	6.491	0.514	3.796	13.234	6.294
5E+12	-32.174	-12.285	-5.432	13.261	-8.746	-8.105	-7.439	0.534	-23.428	-4.180	2.677	12.844
1E+13	-5.181	-5.044	-4.773	0.186	-10.714	-10.297	-9.763	0.394	4.990	5.253	5.566	0.239

DEVICE TEST: 18.3 IIBP1_AMP3 [pA]

NDD Fluence vs Result

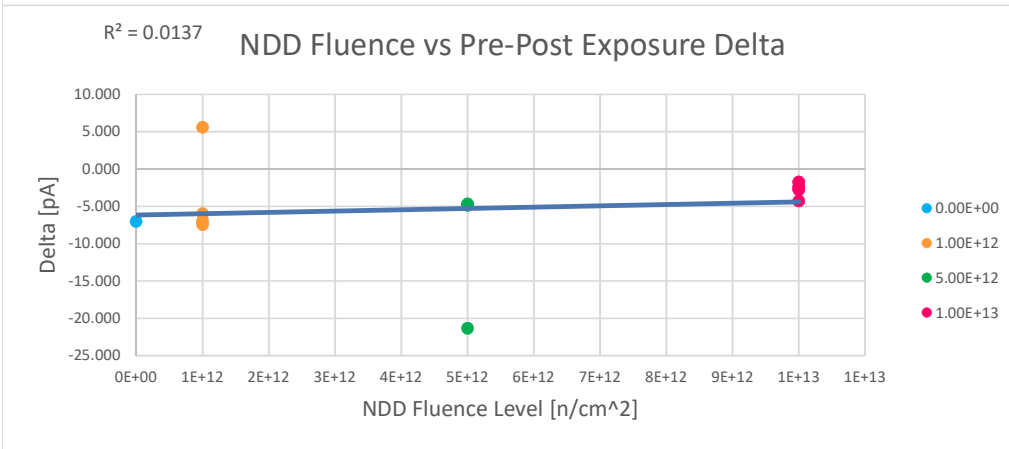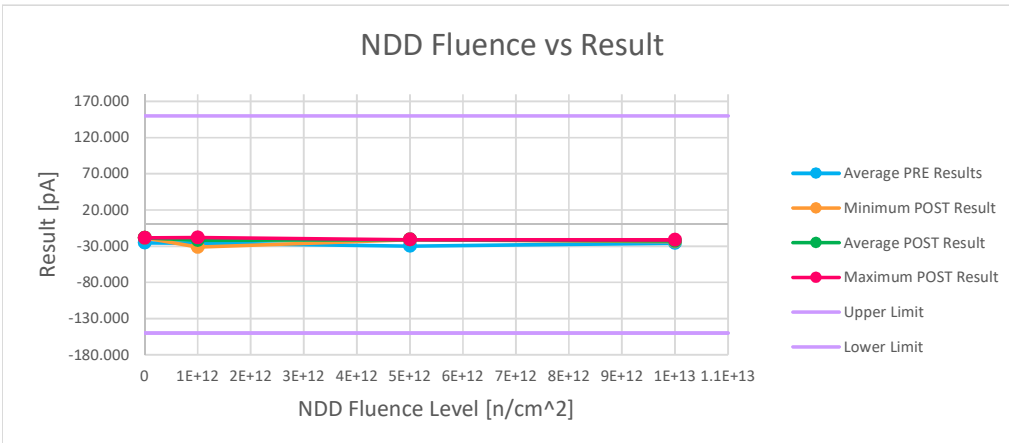### NDD Fluence vs Pre-Post Exposure Delta

R² = 9E-05

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-6.948	-29.286	22.338
2	1E+12	NDD	-6.970	-9.836	2.866
3	1E+12	NDD	-6.579	-10.664	4.084
4	1E+12	NDD	-7.004	-12.357	5.353
5	5E+12	NDD	-7.244	-13.206	5.962
6	5E+12	NDD	-51.805	-14.084	-37.721
7	5E+12	NDD	-6.959	-13.441	6.482
8	5E+12	NDD	-7.082	-13.452	6.370
9	1E+13	NDD	-6.842	-14.380	7.538
10	1E+13	NDD	-6.943	-14.671	7.728
11	1E+13	NDD	-6.792	-14.185	7.393
12	1E+13	NDD	-6.797	-15.610	8.813
13	0E+00	CONTROL	-6.982	-10.328	3.347

TEST STATISTICS [pA]

| Fluence (n/cm^2)	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	-6.982	-6.982	-6.982	-	-10.328	-10.328	-10.328	-	3.347	3.347	3.347	-
1E+12	-7.004	-6.875	-6.579	0.199	-29.286	-15.536	-9.836	9.227	2.866	8.660	22.338	9.175
5E+12	-51.805	-18.273	-6.959	22.355	-14.084	-13.546	-13.206	0.376	-37.721	-4.727	6.482	21.997
1E+13	-6.943	-6.843	-6.792	0.070	-15.610	-14.711	-14.185	0.631	7.393	7.868	8.813	0.644

DEVICE TEST: 18.4 IIBP1_AMP4 [pA]

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-7.836	-18.940	11.104
2	1E+12	NDD	-7.612	-7.651	0.039
3	1E+12	NDD	-7.836	-7.550	-0.285
4	1E+12	NDD	-7.730	-8.785	1.056
5	5E+12	NDD	-8.383	-10.115	1.732
6	5E+12	NDD	-31.592	-10.814	-20.778
7	5E+12	NDD	-7.836	-10.557	2.721
8	5E+12	NDD	-8.171	-10.663	2.492
9	1E+13	NDD	-7.344	-11.982	4.638
10	1E+13	NDD	-7.635	-13.077	5.443
11	1E+13	NDD	-8.098	-12.060	3.962
12	1E+13	NDD	-8.255	-13.295	5.041
13	0E+00	CONTROL	-7.813	-7.824	0.011

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-7.813	-7.813	-7.813	-	-7.824	-7.824	-7.824	-	0.011	0.011	0.011	-
1E+12	-7.836	-7.753	-7.612	0.107	-18.940	-10.732	-7.550	5.501	-0.285	2.978	11.104	5.447
5E+12	-31.592	-13.996	-7.836	11.733	-10.814	-10.537	-10.115	0.300	-20.778	-3.458	2.721	11.554
1E+13	-8.255	-7.833	-7.344	0.419	-13.295	-12.604	-11.982	0.679	3.962	4.771	5.443	0.632

DEVICE TEST: 18.5 IIBN1_AMP1 [pA]

NDD Fluence vs Result

R² = 0.0137

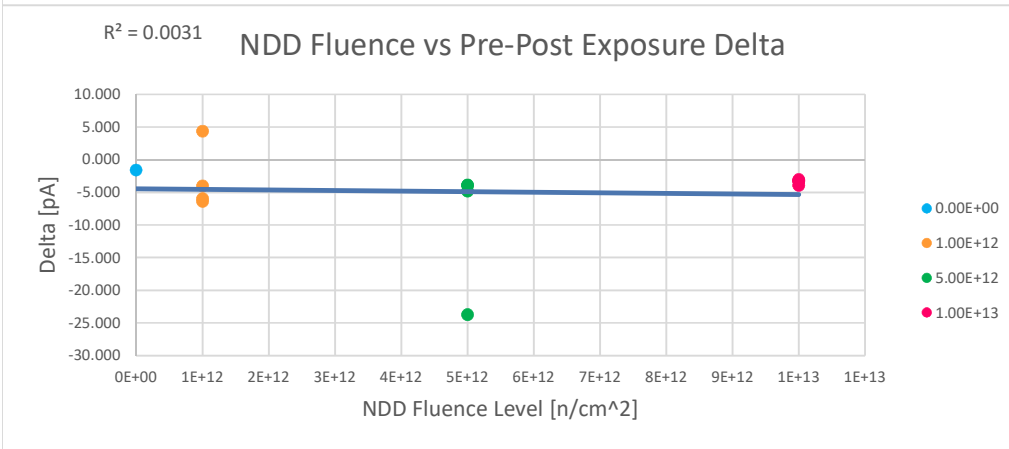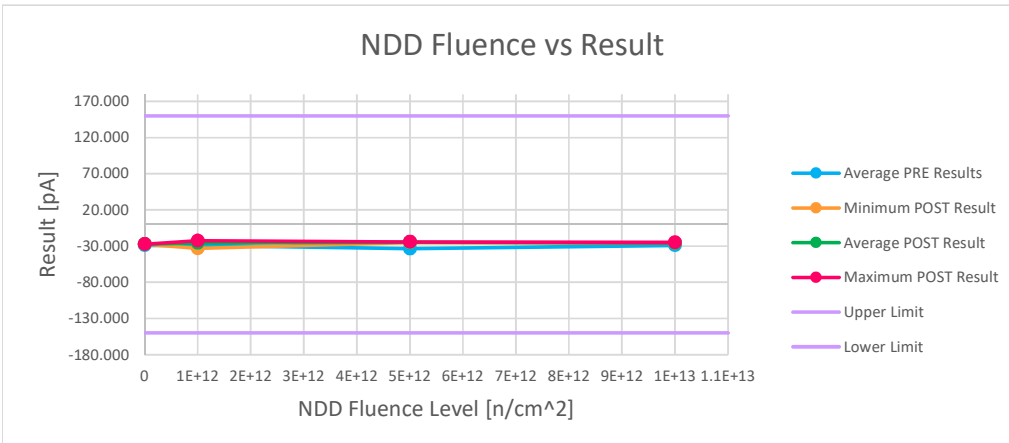NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-25.669	-31.261	5.592
2	1E+12	NDD	-25.563	-18.084	-7.480
3	1E+12	NDD	-25.742	-18.771	-6.971
4	1E+12	NDD	-25.608	-19.615	-5.993
5	5E+12	NDD	-25.725	-21.057	-4.669
6	5E+12	NDD	-42.601	-21.241	-21.360
7	5E+12	NDD	-25.759	-20.906	-4.853
8	5E+12	NDD	-25.770	-20.883	-4.887
9	1E+13	NDD	-25.736	-21.420	-4.317
10	1E+13	NDD	-25.776	-24.024	-1.752
11	1E+13	NDD	-25.647	-23.225	-2.422
12	1E+13	NDD	-25.558	-22.750	-2.808
13	0E+00	CONTROL	-25.591	-18.536	-7.055

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-25.591	-25.591	-25.591	-	-18.536	-18.536	-18.536	-	-7.055	-7.055	-7.055	-
1E+12	-25.742	-25.646	-25.563	0.078	-31.261	-21.933	-18.084	6.250	-7.480	-3.713	5.592	6.234
5E+12	-42.601	-29.964	-25.725	8.425	-21.241	-21.022	-20.883	0.165	-21.360	-8.942	-4.669	8.279
1E+13	-25.776	-25.679	-25.558	0.097	-24.024	-22.855	-21.420	1.091	-4.317	-2.825	-1.752	1.086

DEVICE TEST: 18.6 IIBN1_AMP2 [pA]
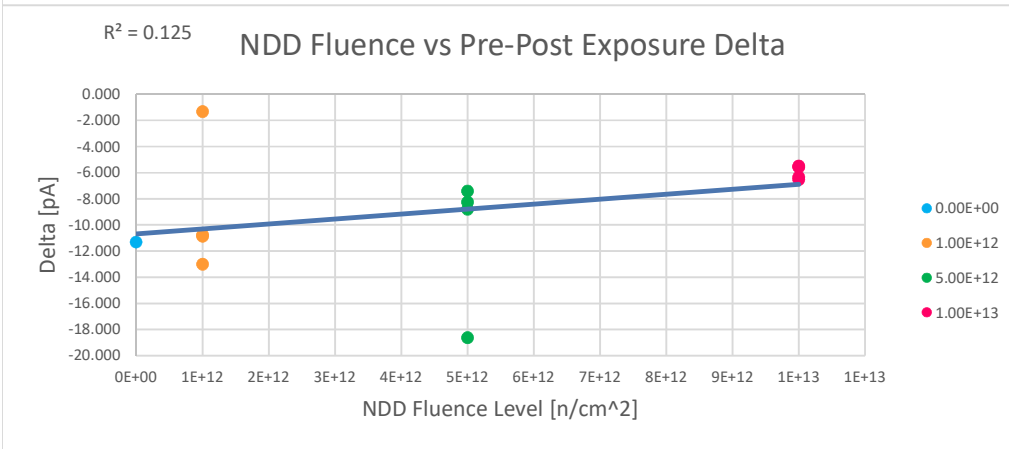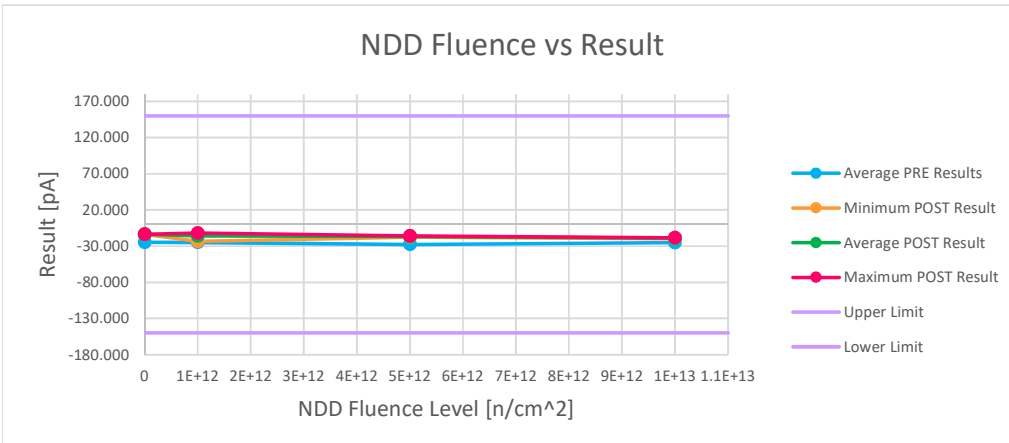
NDD Fluence vs Result

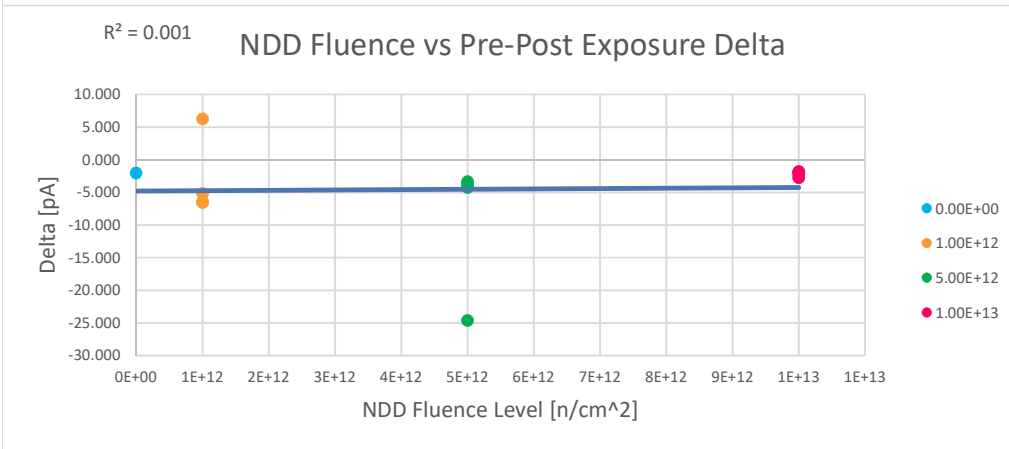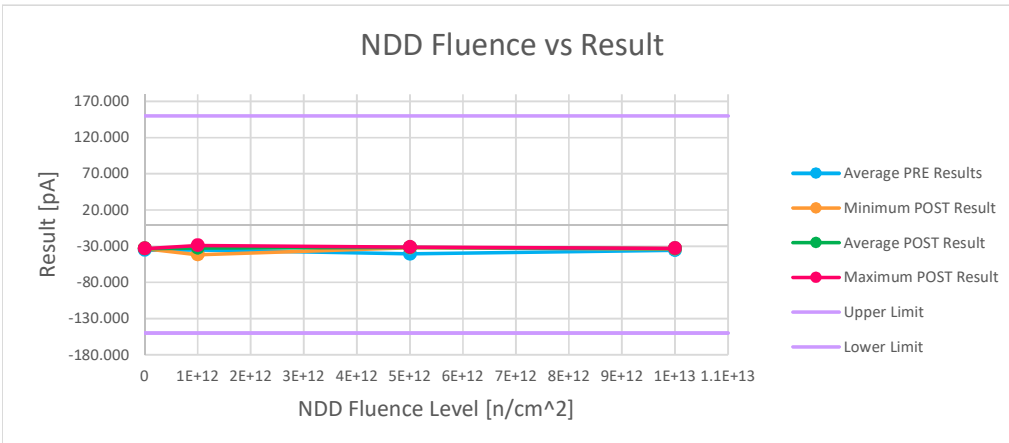## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.125

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-24.816	-23.472	-1.344
2	1E+12	NDD	-24.922	-11.893	-13.029
3	1E+12	NDD	-24.967	-14.067	-10.900
4	1E+12	NDD	-25.117	-14.324	-10.794
5	5E+12	NDD	-25.050	-16.772	-8.279
6	5E+12	NDD	-36.049	-17.398	-18.651
7	5E+12	NDD	-24.939	-16.118	-8.821
8	5E+12	NDD	-24.861	-17.426	-7.435
9	1E+13	NDD	-24.989	-18.431	-6.558
10	1E+13	NDD	-25.190	-18.828	-6.362
11	1E+13	NDD	-24.928	-19.315	-5.613
12	1E+13	NDD	-25.045	-19.538	-5.507
13	0E+00	CONTROL	-24.961	-13.614	-11.347

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-24.961	-24.961	-24.961	-	-13.614	-13.614	-13.614	-	-11.347	-11.347	-11.347	-
1E+12	-25.117	-24.956	-24.816	0.125	-23.472	-15.939	-11.893	5.139	-13.029	-9.017	-1.344	5.218
5E+12	-36.049	-27.725	-24.861	5.550	-17.426	-16.928	-16.118	0.619	-18.651	-10.797	-7.435	5.268
1E+13	-25.190	-25.038	-24.928	0.112	-19.538	-19.028	-18.431	0.496	-6.558	-6.010	-5.507	0.527

DEVICE TEST: 18.7 IIBN1_AMP3 [pA]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0031

Legend:
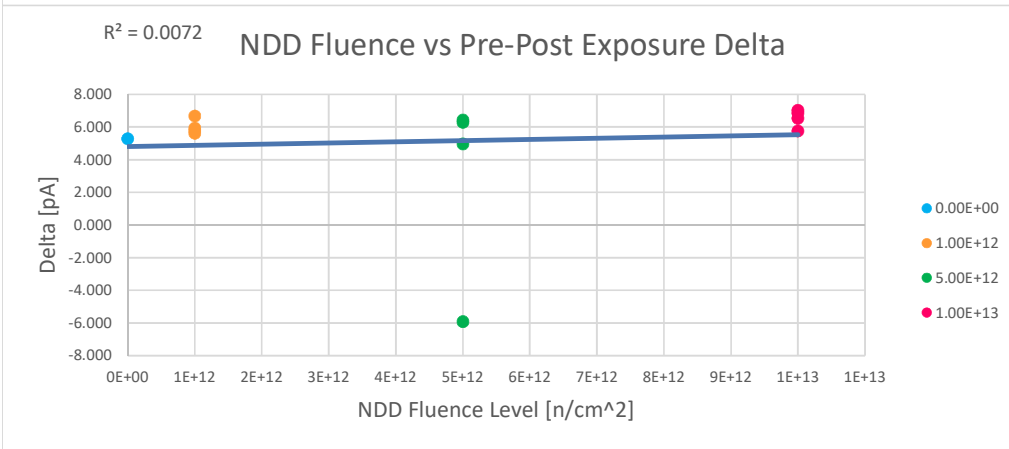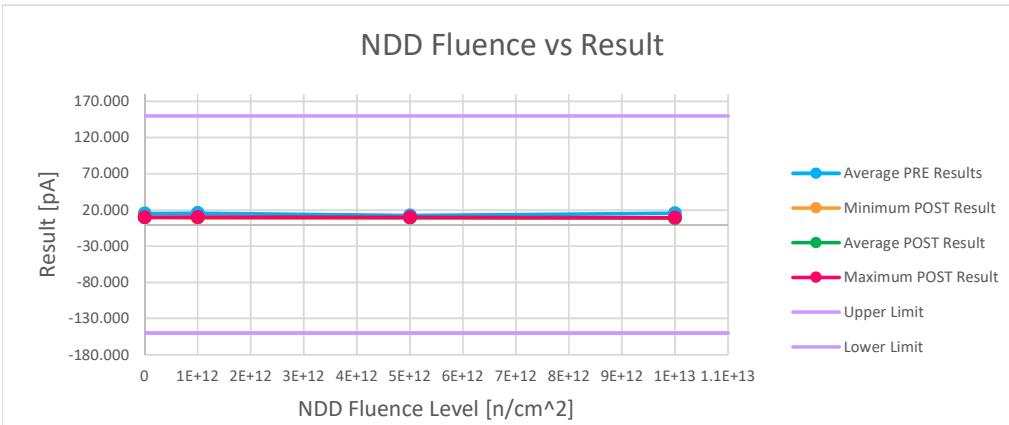- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-28.916	-33.254	4.338
2	1E+12	NDD	-28.815	-22.372	-6.443
3	1E+12	NDD	-28.938	-22.965	-5.974
4	1E+12	NDD	-28.938	-24.887	-4.051
5	5E+12	NDD	-28.787	-24.893	-3.895
6	5E+12	NDD	-48.129	-24.379	-23.750
7	5E+12	NDD	-28.961	-24.993	-3.967
8	5E+12	NDD	-28.989	-24.138	-4.850
9	1E+13	NDD	-29.005	-25.049	-3.956
10	1E+13	NDD	-29.072	-25.759	-3.313
11	1E+13	NDD	-28.955	-25.658	-3.297
12	1E+13	NDD	-28.944	-25.854	-3.090
13	0E+00	CONTROL	-29.044	-27.430	-1.614

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-29.044	-29.044	-29.044	-	-27.430	-27.430	-27.430	-	-1.614	-1.614	-1.614	-
1E+12	-28.938	-28.902	-28.815	0.059	-33.254	-25.870	-22.372	5.039	-6.443	-3.032	4.338	5.021
5E+12	-48.129	-33.716	-28.787	9.609	-24.993	-24.601	-24.138	0.409	-23.750	-9.116	-3.895	9.766
1E+13	-29.072	-28.994	-28.944	0.059	-25.854	-25.580	-25.049	0.363	-3.956	-3.414	-3.090	0.375

DEVICE TEST: 18.8 IIBN1_AMP4 [pA]

NDD Fluence vs Result
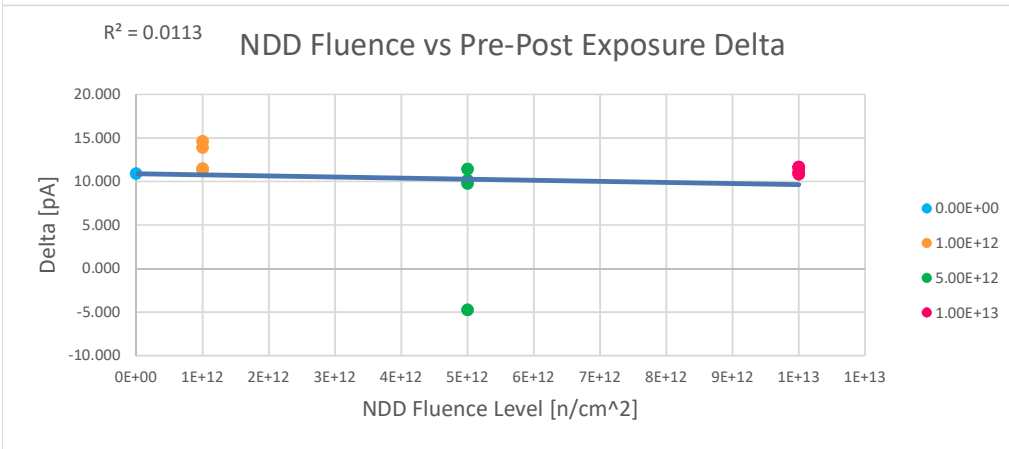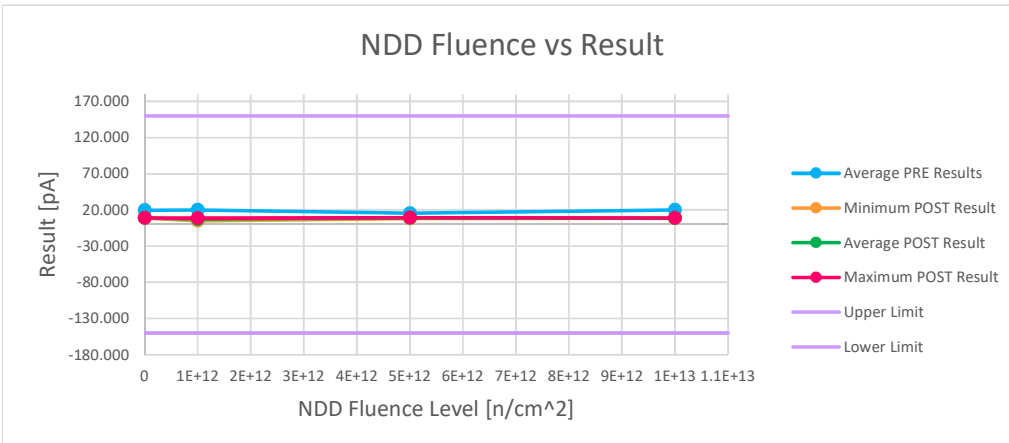

R² = 0.001

NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-35.529	-41.764	6.235
2	1E+12	NDD	-35.518	-28.988	-6.530
3	1E+12	NDD	-35.613	-29.044	-6.569
4	1E+12	NDD	-35.512	-30.307	-5.205
5	5E+12	NDD	-35.535	-31.274	-4.261
6	5E+12	NDD	-56.202	-31.565	-24.637
7	5E+12	NDD	-35.646	-32.247	-3.400
8	5E+12	NDD	-35.574	-31.693	-3.881
9	1E+13	NDD	-35.775	-32.984	-2.791
10	1E+13	NDD	-35.674	-33.744	-1.930
11	1E+13	NDD	-35.546	-33.700	-1.846
12	1E+13	NDD	-35.630	-33.431	-2.198
13	0E+00	CONTROL	-35.496	-33.420	-2.075

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	-35.496	-35.496	-35.496	-	-33.420	-33.420	-33.420	-	-2.075	-2.075	-2.075	-
1E+12	-35.613	-35.543	-35.512	0.047	-41.764	-32.526	-28.988	6.189	-6.569	-3.017	6.235	6.200
5E+12	-56.202	-40.739	-35.535	10.309	-32.247	-31.695	-31.274	0.408	-24.637	-9.045	-3.400	10.401
1E+13	-35.775	-35.656	-35.546	0.095	-33.744	-33.465	-32.984	0.349	-2.791	-2.191	-1.846	0.427

DEVICE TEST: 18.9 IIO1_AMP1 [pA]

NDD Fluence vs Result

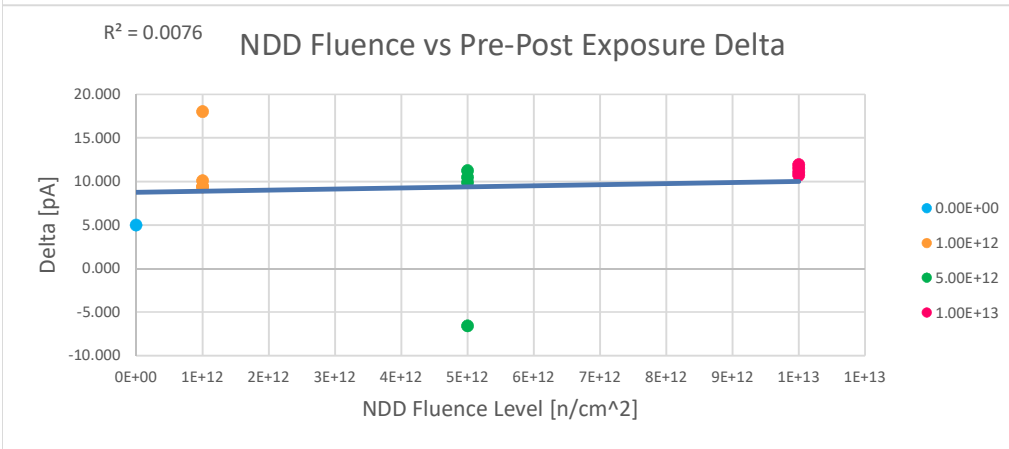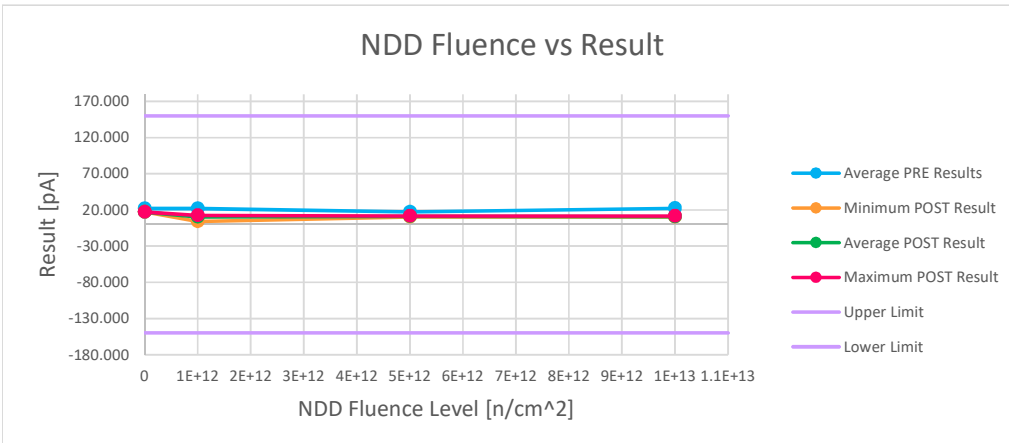## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0072

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	15.916	9.254	6.662
2	1E+12	NDD	15.351	9.433	5.918
3	1E+12	NDD	15.675	10.081	5.594
4	1E+12	NDD	15.742	9.975	5.767
5	5E+12	NDD	14.999	10.053	4.946
6	5E+12	NDD	3.166	9.098	-5.932
7	5E+12	NDD	15.340	8.919	6.421
8	5E+12	NDD	15.569	9.288	6.282
9	1E+13	NDD	15.681	8.835	6.846
10	1E+13	NDD	15.390	8.863	6.528
11	1E+13	NDD	15.072	9.332	5.740
12	1E+13	NDD	15.374	8.354	7.019
13	0E+00	CONTROL	15.228	9.953	5.276

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	15.228	15.228	15.228	-	9.953	9.953	9.953	-	5.276	5.276	5.276	-
1E+12	15.351	15.671	15.916	0.236	9.254	9.686	10.081	0.404	5.594	5.985	6.662	0.470
5E+12	3.166	12.269	15.569	6.073	8.919	9.339	10.053	0.499	-5.932	2.929	6.421	5.945
1E+13	15.072	15.379	15.681	0.249	8.354	8.846	9.332	0.399	5.740	6.533	7.019	0.567

DEVICE TEST: 18.10 IIO1_AMP2 [pA]

NDD Fluence vs Result

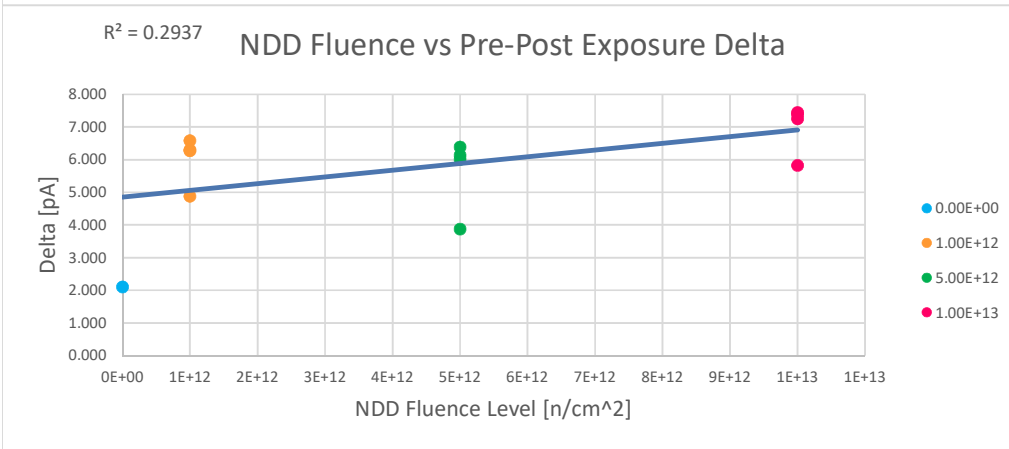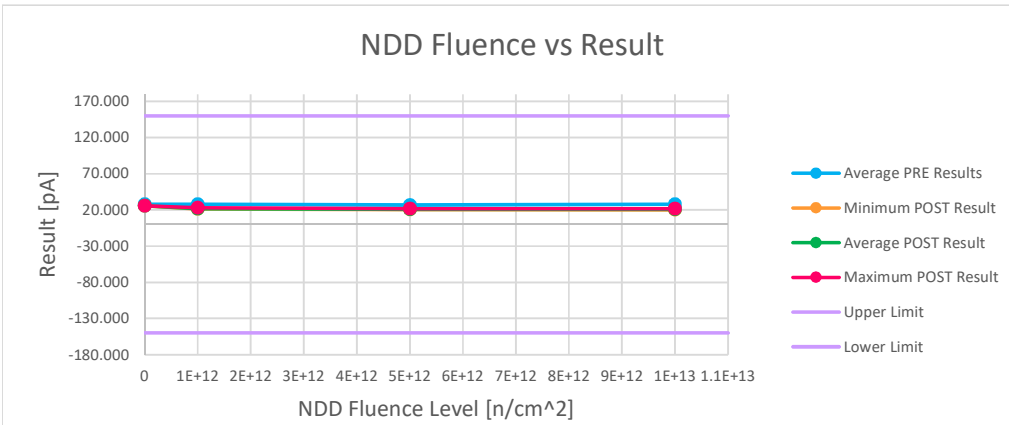## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0113

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	19.451	4.873	14.578
2	1E+12	NDD	19.909	6.030	13.878
3	1E+12	NDD	20.126	8.713	11.414
4	1E+12	NDD	20.048	8.668	11.380
5	5E+12	NDD	19.060	9.333	9.727
6	5E+12	NDD	3.875	8.651	-4.776
7	5E+12	NDD	19.395	7.992	11.403
8	5E+12	NDD	19.428	9.316	10.112
9	1E+13	NDD	20.216	8.668	11.548
10	1E+13	NDD	20.115	8.489	11.626
11	1E+13	NDD	19.747	8.942	10.805
12	1E+13	NDD	19.897	8.825	11.073
13	0E+00	CONTROL	19.652	8.774	10.878

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	19.652	19.652	19.652	-	8.774	8.774	8.774	-	10.878	10.878	10.878	-
1E+12	19.451	19.883	20.126	0.302	4.873	7.071	8.713	1.929	11.380	12.812	14.578	1.659
5E+12	3.875	15.440	19.428	7.712	7.992	8.823	9.333	0.639	-4.776	6.616	11.403	7.629
1E+13	19.747	19.994	20.216	0.212	8.489	8.731	8.942	0.196	10.805	11.263	11.626	0.391

DEVICE TEST: 18.11 IIO1_AMP3 [pA]

NDD Fluence vs Result

Legend:
- Average PRE Results
- Minimum POST Result
- Average POST Result
- Maximum POST Result
- Upper Limit
- Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.0076
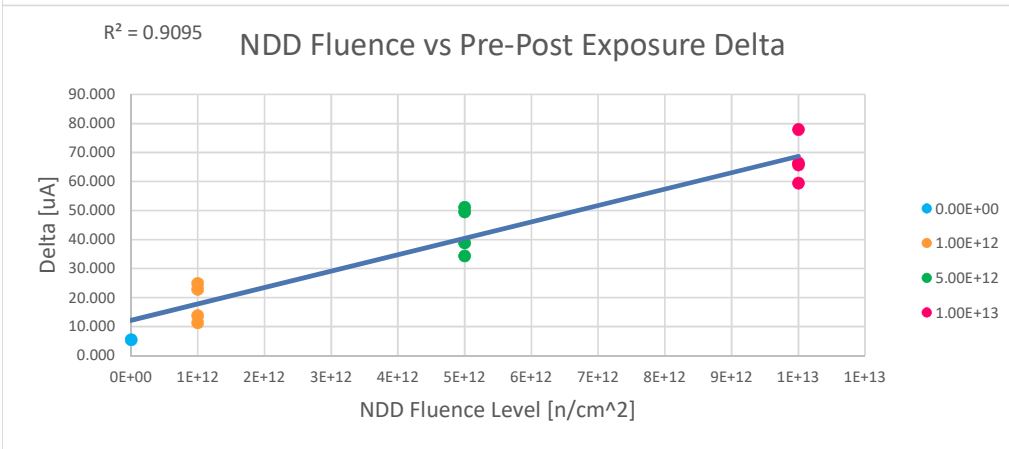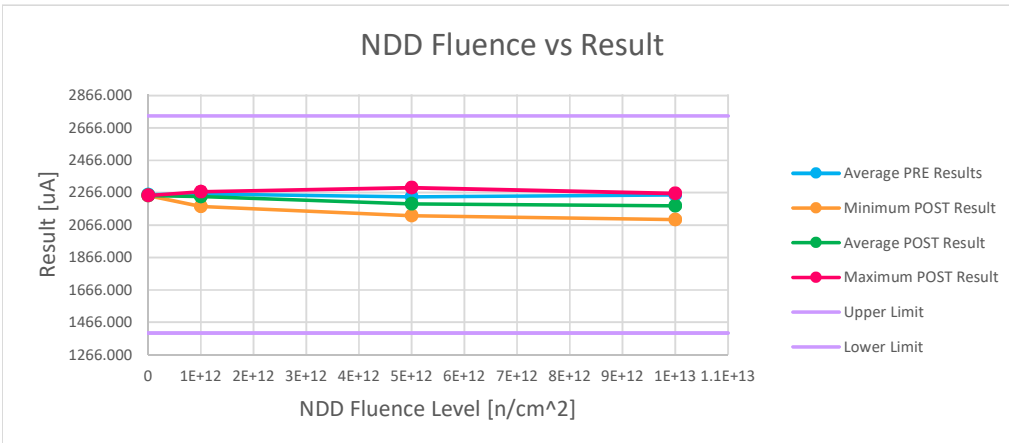

Legend:
- 0.00E+00
- 1.00E+12
- 5.00E+12
- 1.00E+13

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	21.968	3.968	18.000
2	1E+12	NDD	21.845	12.536	9.309
3	1E+12	NDD	22.359	12.301	10.058
4	1E+12	NDD	21.934	12.530	9.404
5	5E+12	NDD	21.543	11.686	9.857
6	5E+12	NDD	3.676	10.295	-6.619
7	5E+12	NDD	22.001	11.552	10.449
8	5E+12	NDD	21.906	10.686	11.220
9	1E+13	NDD	22.163	10.669	11.494
10	1E+13	NDD	22.130	11.088	11.042
11	1E+13	NDD	22.163	11.474	10.690
12	1E+13	NDD	22.147	10.244	11.902
13	0E+00	CONTROL	22.063	17.102	4.961

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	22.063	22.063	22.063	-	17.102	17.102	17.102	-	4.961	4.961	4.961	-
1E+12	21.845	22.027	22.359	0.228	3.968	10.334	12.536	4.245	9.309	11.693	18.000	4.218
5E+12	3.676	17.282	22.001	9.073	10.295	11.055	11.686	0.673	-6.619	6.227	11.220	8.582
1E+13	22.130	22.151	22.163	0.016	10.244	10.869	11.474	0.530	10.690	11.282	11.902	0.529

DEVICE TEST: 18.12 IIO1_AMP4 [pA]

NDD Fluence vs Result

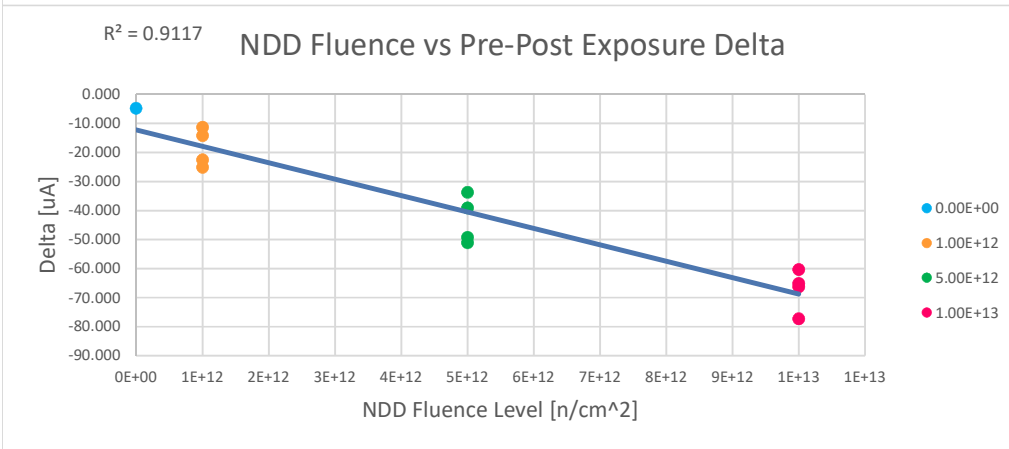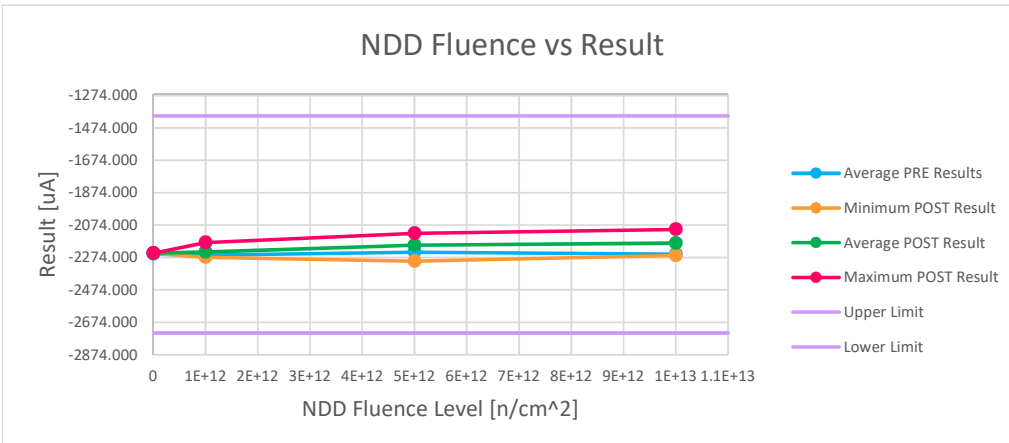## NDD Fluence vs Pre-Post Exposure Delta

R² = 0.2937

TEST RESULTS (LOWER LIMIT = -150 | UPPER LIMIT = 150) [pA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	27.693	22.824	4.869
2	1E+12	NDD	27.906	21.338	6.568
3	1E+12	NDD	27.777	21.494	6.283
4	1E+12	NDD	27.783	21.522	6.261
5	5E+12	NDD	27.151	21.159	5.993
6	5E+12	NDD	24.611	20.751	3.860
7	5E+12	NDD	27.811	21.690	6.121
8	5E+12	NDD	27.403	21.030	6.373
9	1E+13	NDD	28.431	21.002	7.429
10	1E+13	NDD	28.040	20.667	7.373
11	1E+13	NDD	27.447	21.639	5.808
12	1E+13	NDD	27.375	20.136	7.239
13	0E+00	CONTROL	27.682	25.596	2.086

TEST STATISTICS [pA]

Fluence (n/cm^2)	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	27.682	27.682	27.682	-	25.596	25.596	25.596	-	2.086	2.086	2.086	-
1E+12	27.693	27.790	27.906	0.087	21.338	21.794	22.824	0.691	4.869	5.995	6.568	0.764
5E+12	24.611	26.744	27.811	1.448	20.751	21.157	21.690	0.394	3.860	5.587	6.373	1.162
1E+13	27.375	27.823	28.431	0.503	20.136	20.861	21.639	0.630	5.808	6.962	7.429	0.774

DEVICE TEST: 19.1 ICC1_VCCP_INT [uA]

NDD Fluence vs Result

R² = 0.9095

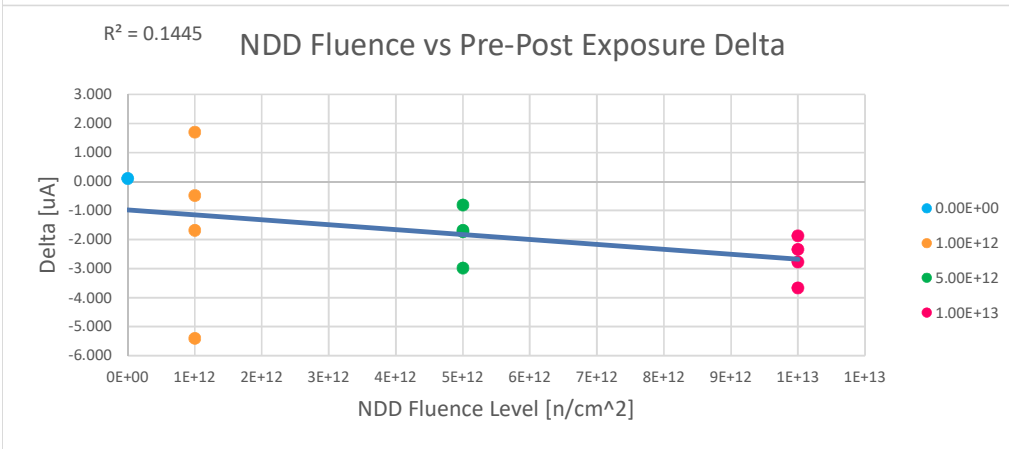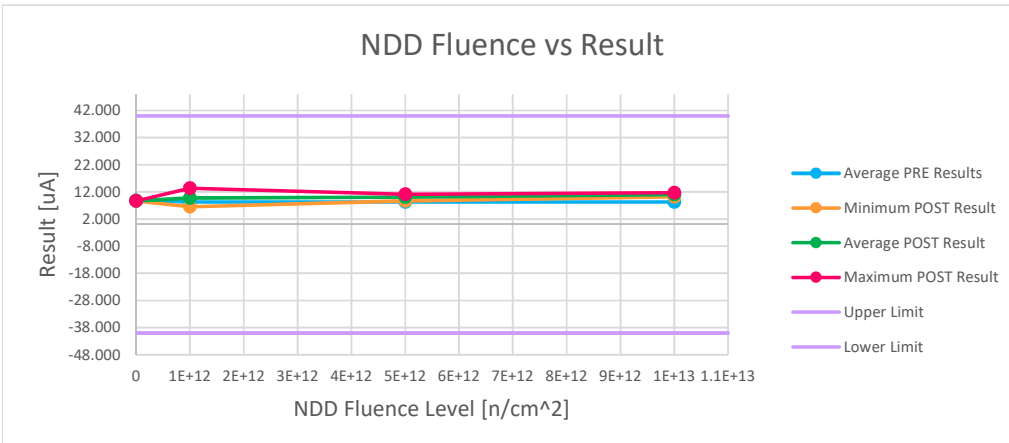NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = 1400 | UPPER LIMIT = 2740) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	2263.577	2252.401	11.176
2	1E+12	NDD	2205.614	2180.859	24.756
3	1E+12	NDD	2271.249	2257.594	13.656
4	1E+12	NDD	2294.481	2271.805	22.676
5	5E+12	NDD	2287.219	2237.780	49.438
6	5E+12	NDD	2347.402	2296.381	51.021
7	5E+12	NDD	2164.285	2130.047	34.238
8	5E+12	NDD	2163.563	2124.913	38.650
9	1E+13	NDD	2252.098	2192.825	59.273
10	1E+13	NDD	2166.198	2099.985	66.213
11	1E+13	NDD	2263.479	2185.739	77.741
12	1E+13	NDD	2326.322	2260.776	65.547
13	0E+00	CONTROL	2253.132	2247.775	5.357

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	2253.132	2253.132	2253.132	-	2247.775	2247.775	2247.775	-	5.357	5.357	5.357	-
1E+12	2205.614	2258.731	2294.481	37.770	2180.859	2240.665	2271.805	40.705	11.176	18.066	24.756	6.657
5E+12	2163.563	2240.617	2347.402	91.903	2124.913	2197.280	2296.381	84.100	34.238	43.337	51.021	8.186
1E+13	2166.198	2252.024	2326.322	65.872	2099.985	2184.831	2260.776	65.907	59.273	67.193	77.741	7.695

DEVICE TEST: 19.2 ICC1_VCCN_INT [uA]

NDD Fluence vs Result

R² = 0.9117

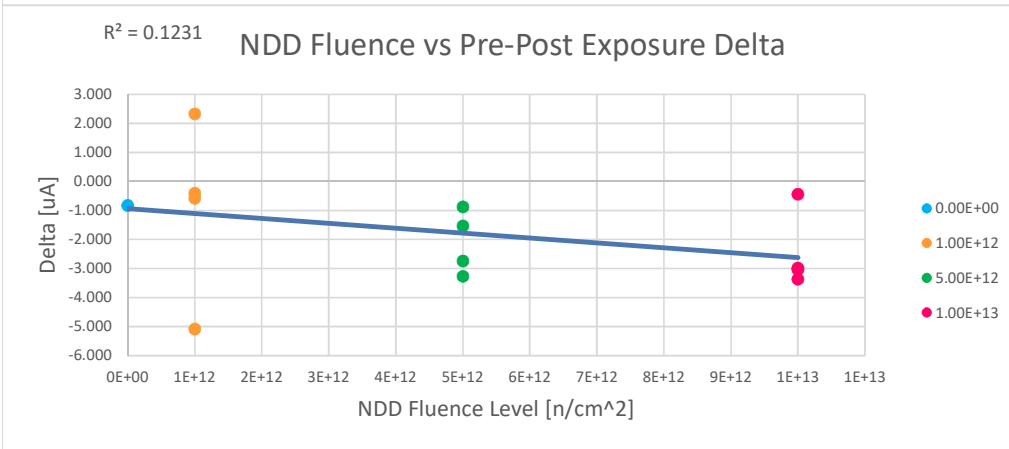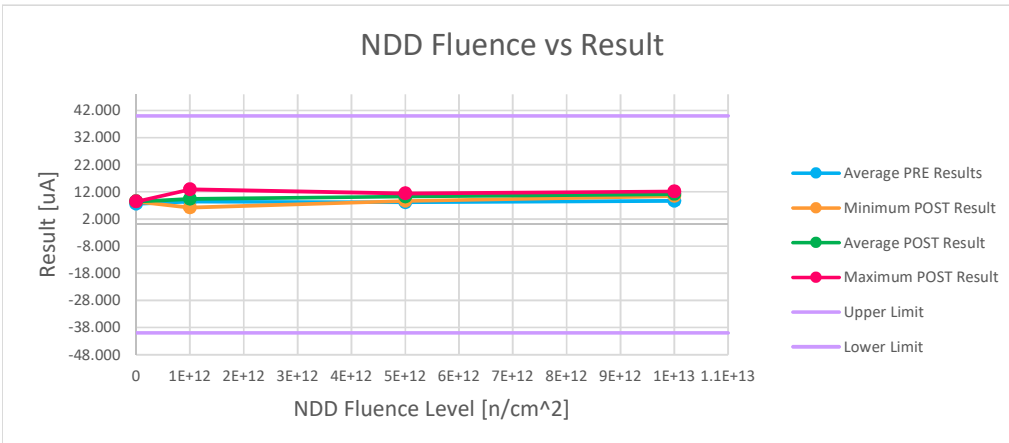NDD Fluence vs Pre-Post Exposure Delta

TEST RESULTS (LOWER LIMIT = -2740 | UPPER LIMIT = -1400) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	-2264.129	-2252.733	-11.396
2	1E+12	NDD	-2206.143	-2180.984	-25.159
3	1E+12	NDD	-2271.800	-2257.535	-14.266
4	1E+12	NDD	-2294.733	-2272.115	-22.618
5	5E+12	NDD	-2287.707	-2238.407	-49.300
6	5E+12	NDD	-2347.728	-2296.610	-51.118
7	5E+12	NDD	-2164.063	-2130.237	-33.826
8	5E+12	NDD	-2163.614	-2124.459	-39.155
9	1E+13	NDD	-2253.122	-2192.773	-60.349
10	1E+13	NDD	-2166.991	-2100.647	-66.344
11	1E+13	NDD	-2263.447	-2186.098	-77.349
12	1E+13	NDD	-2326.254	-2261.068	-65.186
13	0E+00	CONTROL	-2252.927	-2248.107	-4.819

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	-2252.927	-2252.927	-2252.927	-	-2248.107	-2248.107	-2248.107	-	-4.819	-4.819	-4.819	-
1E+12	-2294.733	-2259.201	-2206.143	37.686	-2272.115	-2240.842	-2180.984	40.747	-25.159	-18.360	-11.396	6.573
5E+12	-2347.728	-2240.778	-2163.614	92.159	-2296.610	-2197.428	-2124.459	84.371	-51.118	-43.350	-33.826	8.247
1E+13	-2326.254	-2252.453	-2166.991	65.502	-2261.068	-2185.146	-2100.647	65.735	-77.349	-67.307	-60.349	7.181

DEVICE TEST: 19.3 Iq_pos_INT [uA]

NDD Fluence vs Result

Legend: Average PRE Results, Minimum POST Result, Average POST Result, Maximum POST Result, Upper Limit, Lower Limit

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1445

Legend: 0.00E+00, 1.00E+12, 5.00E+12, 1.00E+13

TEST RESULTS (LOWER LIMIT = -40 | UPPER LIMIT = 40) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	8.239	6.539	1.700
2	1E+12	NDD	8.043	9.721	-1.678
3	1E+12	NDD	8.824	9.311	-0.487
4	1E+12	NDD	7.946	13.352	-5.406
5	5E+12	NDD	8.063	9.741	-1.678
6	5E+12	NDD	7.894	8.706	-0.812
7	5E+12	NDD	8.141	11.127	-2.986
8	5E+12	NDD	8.941	10.678	-1.736
9	1E+13	NDD	8.082	10.853	-2.771
10	1E+13	NDD	7.868	10.209	-2.342
11	1E+13	NDD	7.946	11.615	-3.669
12	1E+13	NDD	9.312	11.185	-1.873
13	0E+00	CONTROL	8.785	8.687	0.099

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	8.785	8.785	8.785	-	8.687	8.687	8.687	-	0.099	0.099	0.099	-
1E+12	7.946	8.263	8.824	0.393	6.539	9.731	13.352	2.797	-5.406	-1.468	1.700	2.975
5E+12	7.894	8.260	8.941	0.466	8.706	10.063	11.127	1.073	-2.986	-1.803	-0.812	0.895
1E+13	7.868	8.302	9.312	0.679	10.209	10.966	11.615	0.593	-3.669	-2.664	-1.873	0.764

DEVICE TEST: 19.4 Iq_neg_INT [uA]

NDD Fluence vs Result

NDD Fluence vs Pre-Post Exposure Delta

R² = 0.1231

TEST RESULTS (LOWER LIMIT = -40 | UPPER LIMIT = 40) [uA]

Serial #	Fluence (n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
1	1E+12	NDD	8.529	6.207	2.322
2	1E+12	NDD	8.373	8.783	-0.410
3	1E+12	NDD	8.959	9.544	-0.586
4	1E+12	NDD	7.827	12.921	-5.095
5	5E+12	NDD	7.631	10.384	-2.752
6	5E+12	NDD	7.777	8.666	-0.889
7	5E+12	NDD	8.100	11.379	-3.279
8	5E+12	NDD	8.763	10.306	-1.542
9	1E+13	NDD	9.993	10.442	-0.449
10	1E+13	NDD	8.100	11.145	-3.045
11	1E+13	NDD	7.866	10.852	-2.987
12	1E+13	NDD	8.783	12.160	-3.377
13	0E+00	CONTROL	7.573	8.412	-0.840

TEST STATISTICS [uA]

Fluence (n/cm^2)	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	7.573	7.573	7.573	-	8.412	8.412	8.412	-	-0.840	-0.840	-0.840	-
1E+12	7.827	8.422	8.959	0.468	6.207	9.364	12.921	2.768	-5.095	-0.942	2.322	3.072
5E+12	7.631	8.068	8.763	0.503	8.666	10.184	11.379	1.124	-3.279	-2.116	-0.889	1.094
1E+13	7.866	8.685	9.993	0.955	10.442	11.150	12.160	0.732	-3.377	-2.464	-0.449	1.354