Radiation Report

TPS7H2201-SEP Neutron Displacement Damage (NDD) Characterization

ABSTRACT

This report presents the effect of neutron displacement damage (NDD) on the TPS7H2201-SEP device. The results show that all devices were fully functional and within production test limits after having been irradiated up to 1 × 10^{13} n/cm^2 [1-MeV(Si) equivalent]. A sample size of nine units were exposed per MIL-STD-883, Method 1017 for Neutron Irradiation, and an additional two devices were used as control units and were not irradiated. Electrical testing was performed at Texas Instruments before and after neutron irradiation using the production test program for TPS7H2201-SEP.

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Trademarks

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1 Overview

The TPS7H2201-SEP is a radiation-tolerant single channel eFuse that provides configurable rise time to minimize inrush current and reverse current protection. The device contains a P-channel MOSFET that can operate over an input voltage range of 1.5 V to 7 V and can support a maximum continuous current of 6 A. The switch is controlled by an on and off input (EN), which can interface directly with low-voltage control signals.

The TPS7H2201-SEP is available in a ceramic and plastic package with integrated thermal pad allowing for high power dissipation. The device is characterized for operation over the free-air temperature range of –55°C to +125°C.

Table 1-1. Overview Information

TI Part Number	TPS7H2201-SEP
VID Number	V62/23608
Device Name	PTPS7H2201MDAPSEP
Device Function	Load switch and eFuse
Technology	Linear BiCMOS 7 (LBC7)
Assembly Lot Number and Lot Trace Code	3113808 / 32AHRTK
Unbiased Quantity Tested	9
Exposure Facility	VPT Rad
Neutron Fluence (1-MeV equivalent)	1.0×10^{12}, 5.0×10^{12}, 1.0×10^{13} n/cm^2
Irradiation Temperature	Room temperature
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2 Test Procedures

The TPS7H2201-SEP was electrically pre- and post-tested using the production automated test equipment program.

General test procedures adhered to MIL-STD-883, Method 1017 for Neutron Irradiation of TPS7H2201-SEP. Neutron irradiation conditions are listed in Table 2-1.

Table 2-1. Neutron Irradiation Conditions

Group	Sample Quantity	Neutron Fluence (n/cm^2)	Bias
A	3	1.0×10^{12}	Unbiased
B	3	5.0×10^{12}	Unbiased
C	3	1.0×10^{13}	Unbiased

Figure 2-1. TPS7H2201-SEP Device

3 Facility

VPT Rad performs all neutron displacement damage irradiations in a low-enriched, open-pool, water moderated, thermal neutron reactor. The VPT Rad uses flat-plate type fuel, and has a maximum thermal energy output of up to 1 MW. The Fast Neutron Irradiator (FNI) faces one side of the reactor core, the design produces a geometrical planar beam of fast neutrons that is approximately uniform over an area of 12 in × 20 in. Lead and thermal neutron absorbing compounds are combined to filter out both fission gammas and thermal neutrons. The ratio of fast-to-thermal neutrons is approximately 400:1, with a gamma exposure of less than 150 rad (Si) for a 1E12 n/cm2 (1 MeV Si equivalent) exposure. The FNI can accommodate a sample or samples with size up to 30 cm in diameter and 15-cm thick including packaging materials. The minimum neutron fluence rate is 1E6 n/cm2-s. The maximum neutron fluence rate is approximately 1.0 E11 n/cm2-s. (both values are 1 MeV Si equivalent).

The neutron fluence rate is determined using the previously-measured neutron radiation field for the FNI, performed in accordance with ASTM standards (ASTM F1190), and correlated to the measured reactor power level. The neutron dose is timed to meet the customer-specified fluence for the irradiation. Neutron dosimetry meeting ASTM standards (ASTM E265) is used to track and ensure irradiations meet the required minimum. The facility retains source-suitability with the Defense Logistics Agency (DLA) Laboratory Suitability Program for ASTM Test Method 1017. The DUTS are typically irradiation in an unbiased condition as per TM1017. If bias conditions are required, the conditions can be maintained through dry thimbles connected to the irradiation volume.

4 Results

There were no functional failures at any irradiation level. All parametric measurements remained well within all data sheet limits for all exposure levels. The full parameter list is shown in Section 4.1 and the related data can be found in Appendix A.

4.1 Data Sheet Electrical Parameters and Associated Tests

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	SPECID	Test Number
POWER SUPPLIES AND CURRENTS							
VIN_{HUVLO}			1.32		V	VIN_UVLO_Rising	5.0
VIN_{LUVLO}			1.23		V	VIN_UVLO_Falling	5.1
$HYST_{VIN\text{-}UVLO}$			92		mV	VIN_Hysteresis	5.2
I_Q	IOUT = 0 mA, VIN = EN = 5 V, CS resistor of 20 kΩ to GND, IOUT = 0 mA, VIN = EN = 5 V, CS resistor of 20 kΩ to GND		2.4	6.5	mA	IQ_VIN_5V	3.6
I_F	EN = VOUT = GND, measured VOUT current, 1.5 V ≤ VIN ≤ 7 V			250	µA		
I_F	EN = VOUT = GND, measured VOUT current, VIN =1.5 V		3.27		µA	FORWARD_LEAKAGE	4.1, 4.3, 4.5, 4.7, 4.9
I_F	EN = VOUT = GND, measured VOUT current, VIN = 1.8 V		3.35		µA	FORWARD_LEAKAGE_VIN_1p5V	4.1
I_F	EN = VOUT = GND, measured VOUT current, VIN= 3.3 V		3.62		µA	FORWARD_LEAKAGE_VIN_3p3V	4.5
I_F	EN = VOUT = GND, measured VOUT current, VIN = 5 V		4.11		µA		
I_F	EN = VOUT = GND, measured VOUT current, VIN = 7 V		6.82		µA	FORWARD_LEAKAGE_VIN_5V	4.5
I_{SD} VIN	EN = GND, IOUT = 0 mA, measured VIN current, VIN = 5 V		0.4	3	mA	ISD_VIN_5V	4.6
I_{SD} VIN	EN = GND, IOUT = 0 mA, measured VIN current, VIN = 3.3 V		0.3	3	mA	ISD_VIN_3p3V	4.4
I_{SD} VIN	EN = GND, IOUT = 0 mA, measured VIN current, VIN = 1.8 V		0.2	3	mA	ISD_VIN_1p8V	4.2

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	SPECID	Test Number
I_{SD} VIN	EN = GND, IOUT = 0 mA, measured VIN current, VIN = 1.8, 3.3, and 5 V			3.1	mA	ISD_VIN_1p8V	4.2
V_{RCP_ENTER} (3)	EN = 7 V, VIN = 1.5 V		TBD		mV	VRCP_ENTER_VIN_1p5V	
V_{RCP_ENTER} (3)	EN = 7 V, VIN = 7 V		TBD		mV	VRCP_ENTER_VIN_7V	
V_{RCP_EXIT} (3)	EN = 7 V, VIN = 1.5 V		TBD		mV	VRCP_EXIT_VIN_1p5V	
V_{RCP_EXIT} (3)	EN = 7 V, VIN = 7 V		TBD		mV	VRCP_EXIT_VIN_7V	
t_{RCP} (3)	EN = 7 V, VIN = 1.5 V		TBD		µs	tRCP_VIN_1p5V	
t_{RCP} (3)	EN = 7 V, VIN = 7 V		TBD		µs	tRCP_VIN_7V	
I_{RCP}	EN = 0 V, VIN = 0 to 7 V, VOUT = 0 to 7 V for VOUT > VIN, EN = 0 V, VIN = 0 to 7 V, VOUT = 0 to 7 V for VOUT > VIN		0.45	2.5	mA	IRCP_EN_0V	3.1, 3.3, 3.5, 3.9
I_{RCP}	EN = 7 V, VIN = 0 V, VOUT = 0 to 7 V, EN = 7 V, VIN = 0 V, VOUT = 0 to 7 V		0.45	2.5	mA	IRCP_EN_7V	3.10, 22.16, 3.11, 22.18
SOFT START							
I_{SS}	1 V on SS pin, 1 V on SS pin		65	83	µA	SS_I_Charge	6.3, 6.7, 6.11, 6.15, 6.19
SR_{SS}	SS pin floating, COUT = 10 µF, SS pin floating, COUT = 10 µF		295		mV/µs	SS_Slew_Rate	
ENABLE AND UNDERVOLTAGE LOCKOUT (EN/UVLO) INPUT							
V_{IHEN}		0.56	0.61	0.65	V	EN_VTH_RISING	6.0, 6.4, 6.8, 6.12, 6.16
V_{ILEN}		0.47	0.51	0.55	V	EN_VTH_FALLING	6.1, 6.5, 6.9, 6.13, 6.17
$HYST_{EN}$			93	124	mV	EN_HYST	6.2, 6.6, 6.10, 6.14, 6.18
t_{LOW}	RTIMER = GND, IL = 1 A, IVOUT = 2 A	20			µs	EN_LOW_TIME	
VIN_{EN}		75%				VIN_EN_PERCENTAGE	
I_{EN}	EN = VIN = 5 V, EN = VIN = 5 V			12	nA	IEN_VIN_5V	
OVERVOLTAGE PROTECTION (OVP)							
V_{OVPR}		0.52	0.57	0.63	V	OVP_VTH_Rising	7.0, 7.3, 7.6, 7.9, 7.12
V_{OVPF}		0.5	0.55	0.59	V	OVP_VTH_Falling	7.1, 7.4, 7.7, 7.10, 7.13

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	SPECID	Test Number
$HYST_{OVP}$	1.6 V < VIN < 7 V, 1.6 V < VIN < 7 V		20	55	mV	OVP_HYST	7.2, 7.5, 7.8, 7.11, 7.14
I_{OVP}				15	nA	OVP_ILEAK	7.15, 7.16, 7.17, 7.18, 7.19
CURRENT LIMIT AND CURRENT SENSE							
t_{CSEN}	CSS = 120 nF, CSS = 120 nF			5	ms	CS_EN_TIME	13.0, 13.1
Minimum VOUT current for valid CS output		750			mA	MIN_VOUT_CURR_CS	
VOUT current change to CS change delay time	0.5-A rising step, 100 mA/µs, 1.5 V ≤ VIN ≤ 7 V, 0.5-A rising step, 100 mA/µs, 1.5 V ≤ VIN ≤ 7 V		16	74	µs	IOUT_CS_DELAY_RISING	40.1, 40.3, 40.5, 40.7, 40.9
VOUT current change to CS change delay time	0.5-A falling step, 100 mA/µs, 1.5 V ≤ VIN ≤ 7 V, 0.5-A falling step, 100 mA/µs, 1.5 V ≤ VIN ≤ 7 V		16	73	µs	IOUT_CS_DELAY_FALLING	40.0, 40.2, 40.4, 40.6, 40.8
CS pin accuracy	0.75 A ≤ IVOUT ≤ 7.5 A, 0.75 A ≤ IVOUT ≤ 7.5 A	–10%		10%		CS_ACCURACY	9.9, 9.19
CS pin voltage	0.75 A ≤ IVOUT ≤ 7.5 A, no OCP, 0.75 A ≤ IVOUT ≤ 7.5 A, no OCP			VIN – 0.4	V	CS_VOLTAGE	
Current limit setting, I_{IL}	IVOUT ≤ 1 A, IVOUT ≤ 1 A	IVOUT + 0.5			A	CURR_LIMIT_SET_LESS_1A	
Current limit setting, I_{IL}	1 A < IVOUT ≤ 3 A, 1 A < IVOUT ≤ 3 A	IVOUT + 1			A	CURR_LIMIT_SET_GREATER_1A	
Current limit setting, I_{IL}	IVOUT > 3 A, IVOUT > 3 A	IVOUT + 1.5			A	CURR_LIMIT_SET_GREATER_3A	
Programmable current limit accuracy	1.5 V ≤ VIN ≤ 7 V, 1.5 V ≤ VIN ≤ 7 V	–20%		20%		Current_Limit_Accuracy	30.3, 30.7, 30.11, 30.15, 30.19, 30.23, 30.27, 30.31, 30.35, 30.39, 30.43, 30.47, 30.51, 30.55, 30.59
Fast trip off current limit	VIN = 5 V, 10-mΩ short in 10 µs, VIN = 5 V, 10-mΩ short in 10 µs		22		A	FTO_Current_Limit	
Fast trip off off-time	VIN = 5 V, CSS = 2.7 nF, VIN = 5 V, CSS = 2.7 nF		61	158	µs	FTO_OFF_TIME	

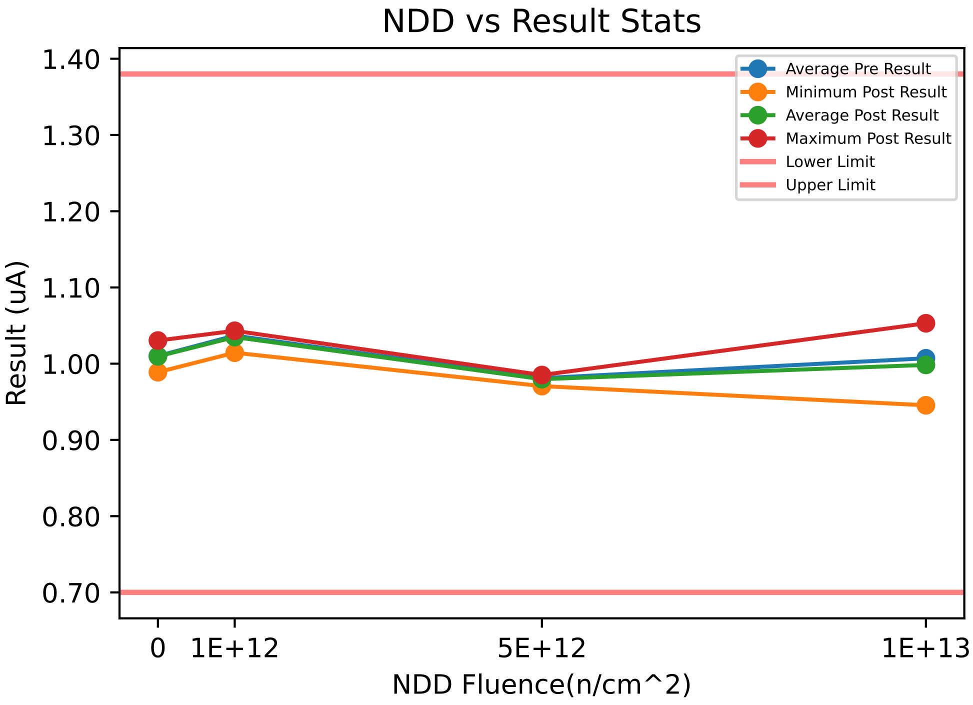
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	SPECID	Test Number
Internal current limit timer (fast trip off current limit)	VIN = 5 V, IVOUT = 3 A, IL = 6 A, ILTIMER = VIN, 10-mΩ short in 10 µs, VIN = 5 V, IVOUT = 3 A, IL = 6 A, ILTIMER = VIN, 10-mΩ short in 10 µs		15	35	µs	Current_Limit_Timer	
TIMERS							
$I_{ILTIMER}$		0.7	1	1.38	µA	ILTIMER_CHARGE_CURR	12.0, 12.2
$PD_{ILTIMER}$	40 mV on ILTIMER pin, 40 mV on ILTIMER pin		38	153	Ω	ILTIMER_PDR	35.0, 35.2, 35.4, 35.6, 35.8
I_{RTIMER}		0.7	1	1.38	µA	RTIMER_CHARGE_CURR	12.1, 12.3
PD_{RTIMER}	40 mV on RTIMER pin, 40 mV on RTIMER pin		38	153	Ω	RTIMER_PDR	35.1, 35.3, 35.5, 35.7, 35.9
THERMAL SHUTDOWN							
Thermal shutdown	VIN = 5 V, VIN = 5 V		175		°C	Thermal_SHDN	
Thermal shutdown hysteresis	VIN = 5 V, VIN = 5 V		20		°C	Thermal_SHDN_Hyst	
RESISTANCE CHARACTERISTICS							
R_{ON}	VIN = 7 V, IIL = 7.5 A, –55°C		15.9	17	mΩ	RON_VIN_7V_N55_Plastic	
R_{ON}	VIN = 7 V, IIL = 7.5 A, –40°C		16.9		mΩ	RON_VIN_7V_N40_Plastic	
R_{ON}	VIN = 7 V, IIL = 7.5 A, 25°C		19.9	21	mΩ	RON_VIN_7V_25_Plastic	8.4
R_{ON}	VIN = 7 V, IIL = 7.5 A, 85°C		22.9		mΩ	RON_VIN_7V_85_Plastic	
R_{ON}	VIN = 7 V, IIL = 7.5 A, 125°C		25	27	mΩ	RON_VIN_7V_125_Plastic	
R_{ON}	VIN = 5 V, IIL = 7.5 A, –55°C		17	18	mΩ	RON_VIN_5V_N55_Plastic	
R_{ON}	VIN = 5 V, IIL = 7.5 A, –40°C		18		mΩ	RON_VIN_5V_N40_Plastic	
R_{ON}	VIN = 5 V, IIL = 7.5 A, 25°C		21.4	23	mΩ	RON_VIN_5V_25_Plastic	8.3
R_{ON}	VIN = 5 V, IIL = 7.5 A, 85°C		24.8		mΩ	RON_VIN_5V_85_Plastic	
R_{ON}	VIN = 5 V, IIL = 7.5 A, 125°C		27	29	mΩ	RON_VIN_5V_125_Plastic	
R_{ON}	VIN = 3.3 V, IIL = 7.5 A, –55°C		19.2	21	mΩ	RON_VIN_3P3V_N55_Plastic	

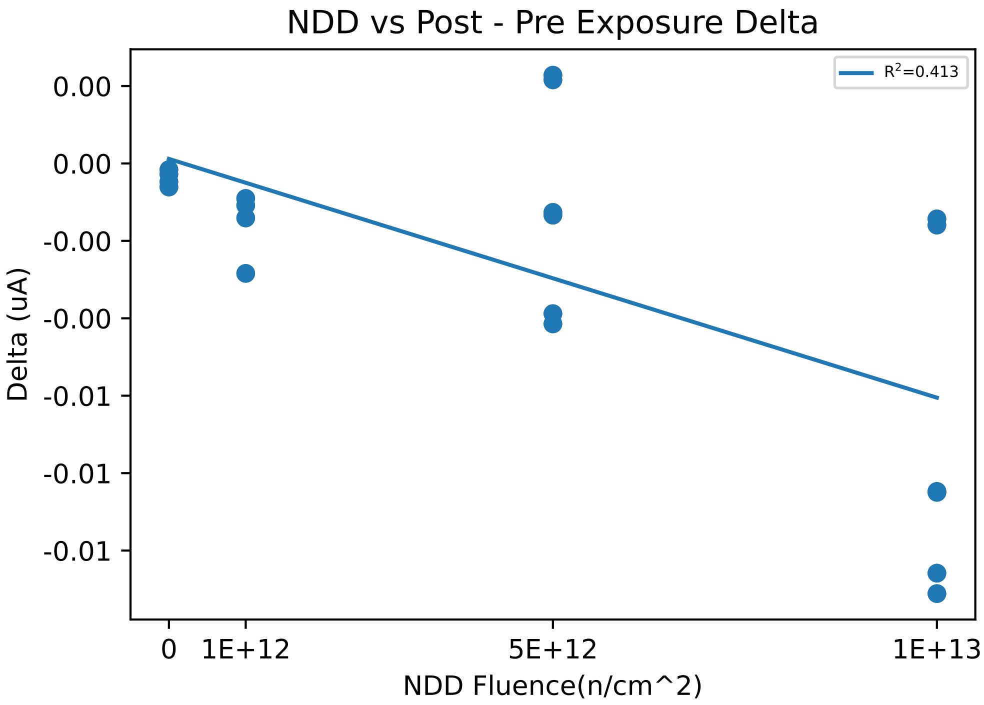
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	SPECID	Test Number
R_{ON}	VIN = 3.3 V, IIL = 7.5 A, –40°C		20.4		mΩ	RON_VIN_3P3V_N40_Plastic	
R_{ON}	VIN = 3.3 V, IIL = 7.5 A, 25°C		24.5	26	mΩ	RON_VIN_3P3V_25_Plastic	8.2
R_{ON}	VIN = 3.3 V, IIL = 7.5 A, 85°C		28.5		mΩ	RON_VIN_3P3V_85_Plastic	
R_{ON}	VIN = 3.3 V, IIL = 7.5 A, 125°C		31.2	33	mΩ	RON_VIN_3P3V_125_Plastic	
R_{ON}	VIN = 1.8 V, IIL = 7.5 A, –55°C		27.1	29	mΩ	RON_VIN_1P8V_N55_Plastic	
R_{ON}	VIN = 1.8 V, IIL = 7.5 A, –40°C		28.7		mΩ	RON_VIN_1P8V_N40_Plastic	
R_{ON}	VIN = 1.8 V, IIL = 7.5 A, 25°C		34.9	37	mΩ	RON_VIN_1P8V_25_Plastic	8.1
R_{ON}	VIN = 1.8 V, IIL = 7.5 A, 85°C		41	62	mΩ	RON_VIN_1P8V_85_Plastic	
R_{ON}	VIN = 1.8 V, IIL = 7.5 A, 125°C		44.9	48	mΩ	RON_VIN_1P8V_125_Plastic	
R_{ON}	VIN = 1.5 V, IIL = 7.5 A, –55°C		33	36	mΩ	RON_VIN_1P5V_N55_Plastic	
R_{ON}	VIN = 1.5 V, IIL = 7.5 A, –40°C		35		mΩ	RON_VIN_1P5V_N40_Plastic	
R_{ON}	VIN = 1.5 V, IIL = 7.5 A, 25°C		47.2	46	mΩ	RON_VIN_1P5V_25_Plastic	8.0
R_{ON}	VIN = 1.5 V, IIL = 7.5 A, 85°C		46.2		mΩ	RON_VIN_1P5V_85_Plastic	
R_{ON}	VIN = 1.5 V, IIL = 7.5 A, 125°C		55	59	mΩ	RON_VIN_1P5V_125_Plastic	

A Appendix: NDD Report Data

This appendix contains the detailed NDD test results.

Device Test: 12.0 ILTIMER_CHARGE_CURR(ILT_ICharge_Vin1p5V)





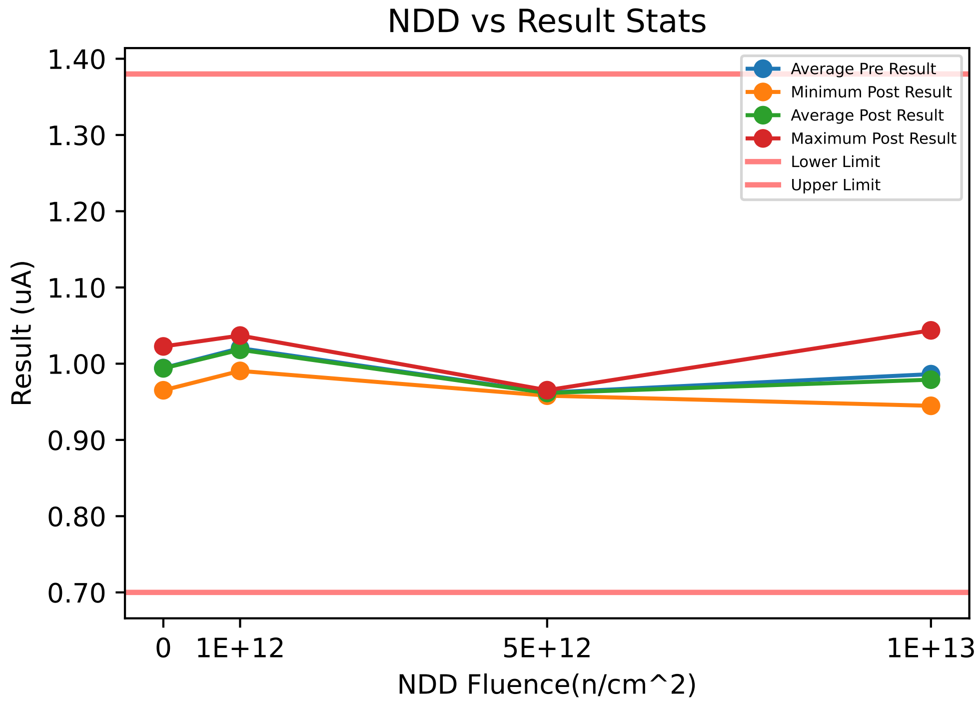
Test Results (Lower Limit = 0.7, Upper Limit = 1.38 (uA))

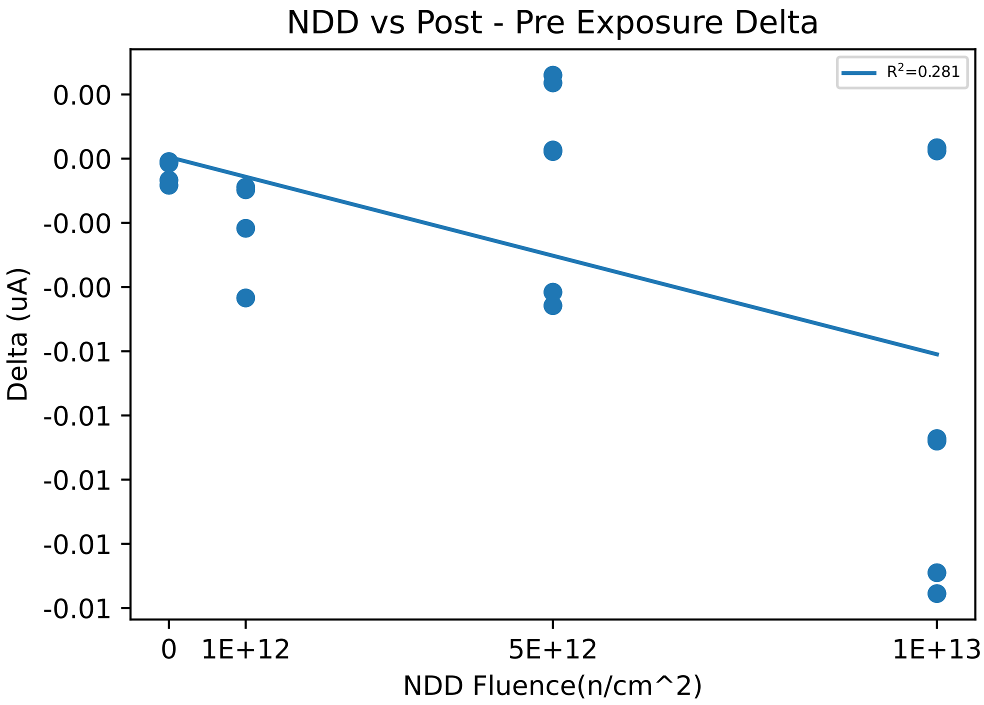
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.031	1.0304	-0.00059
71	0	Correlation	0.98906	0.98886	-0.0002
72	1e+12	NDD, unbiased	1.0443	1.0432	-0.00113
74	1e+12	NDD, unbiased	1.0407	1.0389	-0.00176
75	1e+12	NDD, unbiased	1.0179	1.0144	-0.00355
76	5e+12	NDD, unbiased	0.98056	0.98341	0.00285
77	5e+12	NDD, unbiased	0.97546	0.97061	-0.00485
78	5e+12	NDD, unbiased	0.98669	0.98511	-0.00158
81	1e+13	NDD, unbiased	1.0636	1.053	-0.01062
82	1e+13	NDD, unbiased	0.95868	0.94545	-0.01323
83	1e+13	NDD, unbiased	0.99852	0.99673	-0.00179

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	0.98906	1.01	1.031	0.029621	0.98886	1.0096	1.0304	0.029345	-0.00059	-0.000395	-0.0002	0.00027577
1e+12	1.0179	1.0343	1.0443	0.014279	1.0144	1.0322	1.0432	0.015525	-0.00355	-0.0021467	-0.00113	0.0012555
5e+12	0.97546	0.9809	0.98669	0.0056229	0.97061	0.97971	0.98511	0.0079265	-0.00485	-0.0011933	0.00285	0.0038645
1e+13	0.95868	1.0069	1.0636	0.052985	0.94545	0.9984	1.053	0.053804	-0.01323	-0.0085467	-0.00179	0.0059952

Device Test: 12.1 RTIMER_CHARGE_CURR(RT_ICharge_Vin1p5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

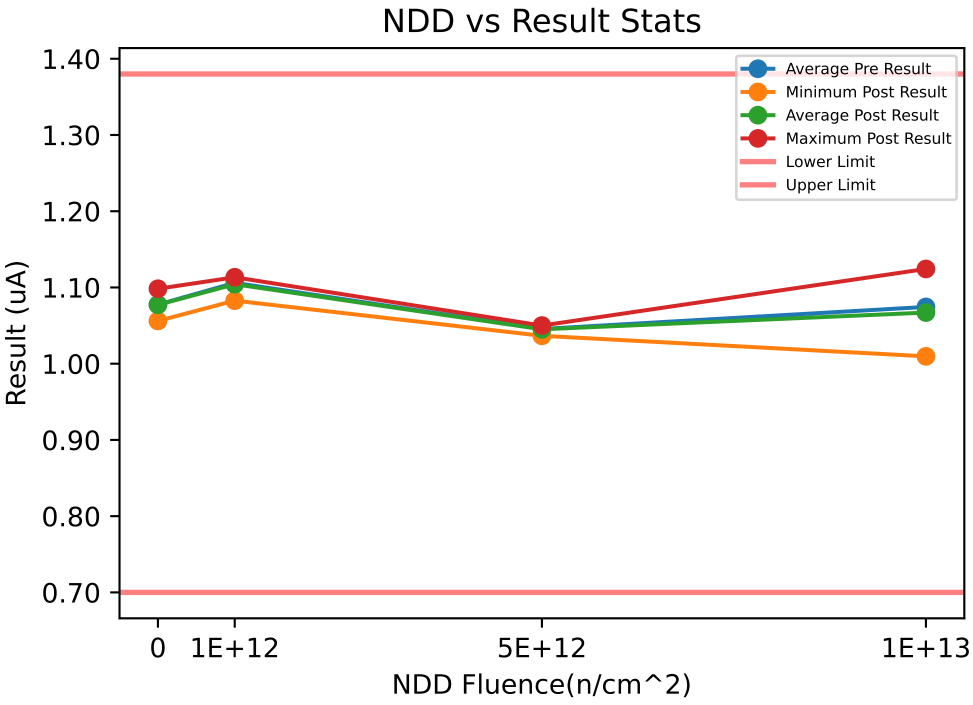
Test Results (Lower Limit = 0.7, Upper Limit = 1.38 (uA))

Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.0233	1.0227	-0.00067
71	0	Correlation	0.96526	0.96512	-0.00014
72	1e+12	NDD, unbiased	1.0378	1.0369	-0.00089
74	1e+12	NDD, unbiased	0.99272	0.99055	-0.00217
75	1e+12	NDD, unbiased	1.013	1.0087	-0.00434
76	5e+12	NDD, unbiased	0.95543	0.95803	0.0026
77	5e+12	NDD, unbiased	0.9694	0.96524	-0.00416
78	5e+12	NDD, unbiased	0.96125	0.96152	0.00027
81	1e+13	NDD, unbiased	1.0525	1.0437	-0.0088
82	1e+13	NDD, unbiased	0.96154	0.94864	-0.0129
83	1e+13	NDD, unbiased	0.94441	0.94475	0.00034

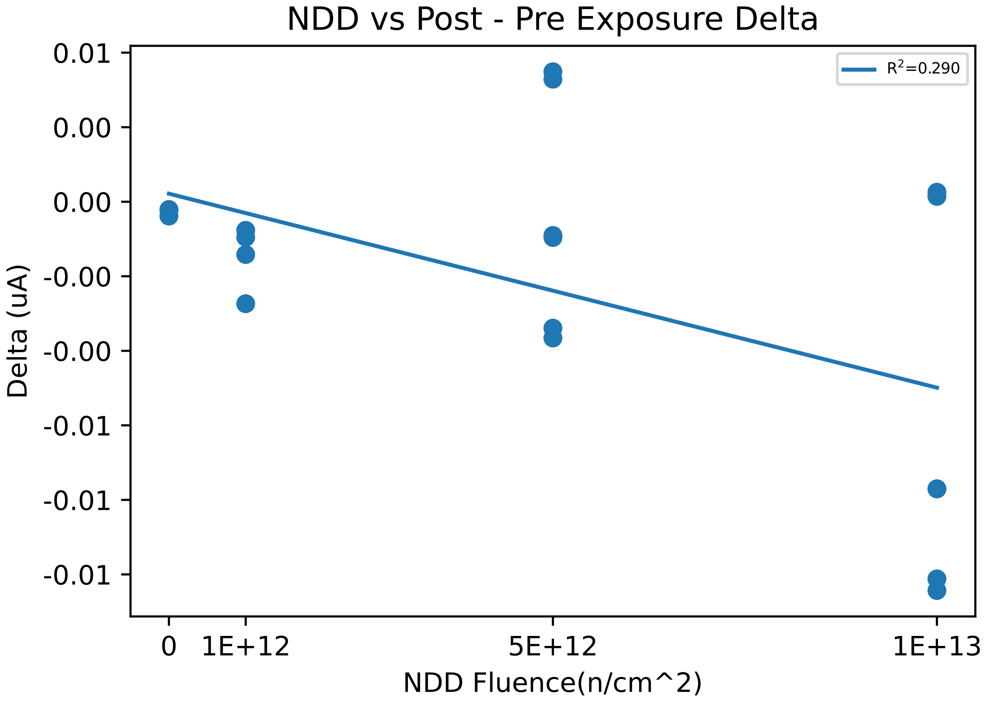
Test Statistics (uA)

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	0.96526	0.99429	1.0233	0.041055	0.96512	0.99389	1.0227	0.04068	-0.00067	-0.000405	-0.00014	0.00037477
1e+12	0.99272	1.0145	1.0378	0.022587	0.99055	1.0121	1.0369	0.023373	-0.00434	-0.0024667	-0.00089	0.001744
5e+12	0.95543	0.96203	0.9694	0.0070173	0.95803	0.9616	0.96524	0.0036056	-0.00416	-0.00043	0.0026	0.0034339
1e+13	0.94441	0.98616	1.0525	0.058107	0.94475	0.97904	1.0437	0.056051	-0.0129	-0.00712	0.00034	0.006778

Device Test: 12.2 ILTIMER_CHARGE_CURR(ILT_ICharge_Vin7p0V)



NDD vs Result Stats



NDD vs Post - Pre Exposure Delta

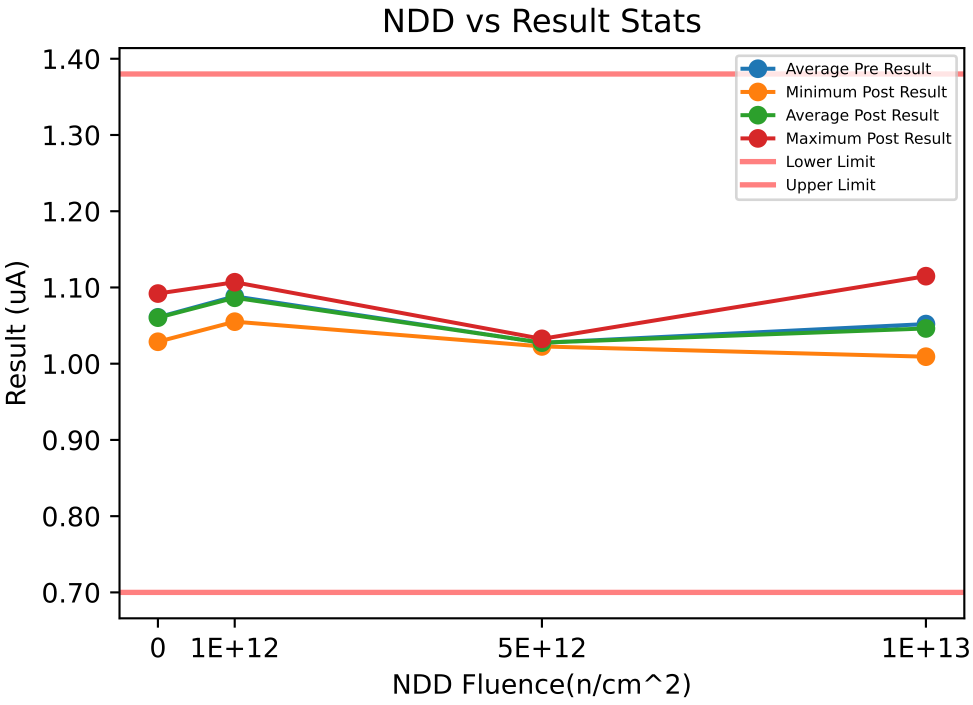
Test Results (Lower Limit = 0.7, Upper Limit = 1.38 (uA))

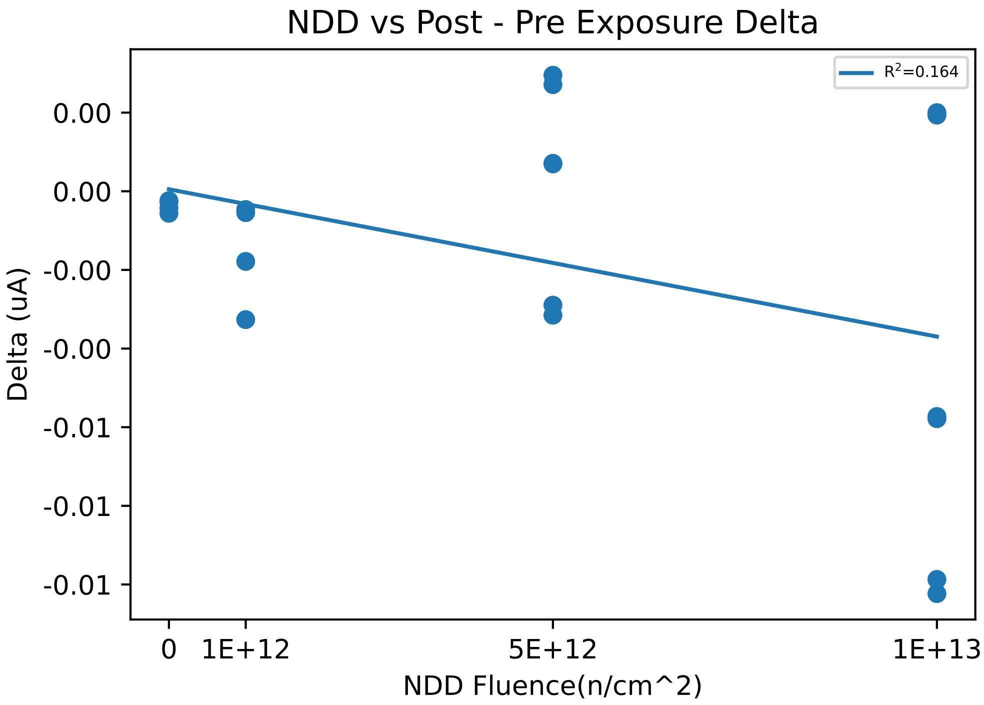
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.0986	1.0983	-0.00029
71	0	Correlation	1.0563	1.0561	-0.00026
72	1e+12	NDD, unbiased	1.1143	1.1134	-0.00096
74	1e+12	NDD, unbiased	1.1093	1.1075	-0.00177
75	1e+12	NDD, unbiased	1.0861	1.0827	-0.00342
76	5e+12	NDD, unbiased	1.0443	1.0487	0.00436
77	5e+12	NDD, unbiased	1.0408	1.0366	-0.00424
78	5e+12	NDD, unbiased	1.0512	1.05	-0.00113
81	1e+13	NDD, unbiased	1.1339	1.1243	-0.00963
82	1e+13	NDD, unbiased	1.0223	1.0096	-0.01265
83	1e+13	NDD, unbiased	1.067	1.0672	0.00018

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	1.0563	1.0775	1.0986	0.029868	1.0561	1.0772	1.0983	0.029847	-0.00029	-0.000275	-0.00026	2.1213e-05
1e+12	1.0861	1.1032	1.1143	0.015028	1.0827	1.1012	1.1134	0.016266	-0.00342	-0.00205	-0.00096	0.0012537
5e+12	1.0408	1.0454	1.0512	0.0052635	1.0366	1.0451	1.05	0.0074122	-0.00424	-0.00033667	0.00436	0.0043545
1e+13	1.0223	1.0744	1.1339	0.056165	1.0096	1.067	1.1243	0.05731	-0.01265	-0.0073667	0.00018	0.0067078

Device Test: 12.3 RTIMER_CHARGE_CURR(RT_ICharge_Vin7p0V)





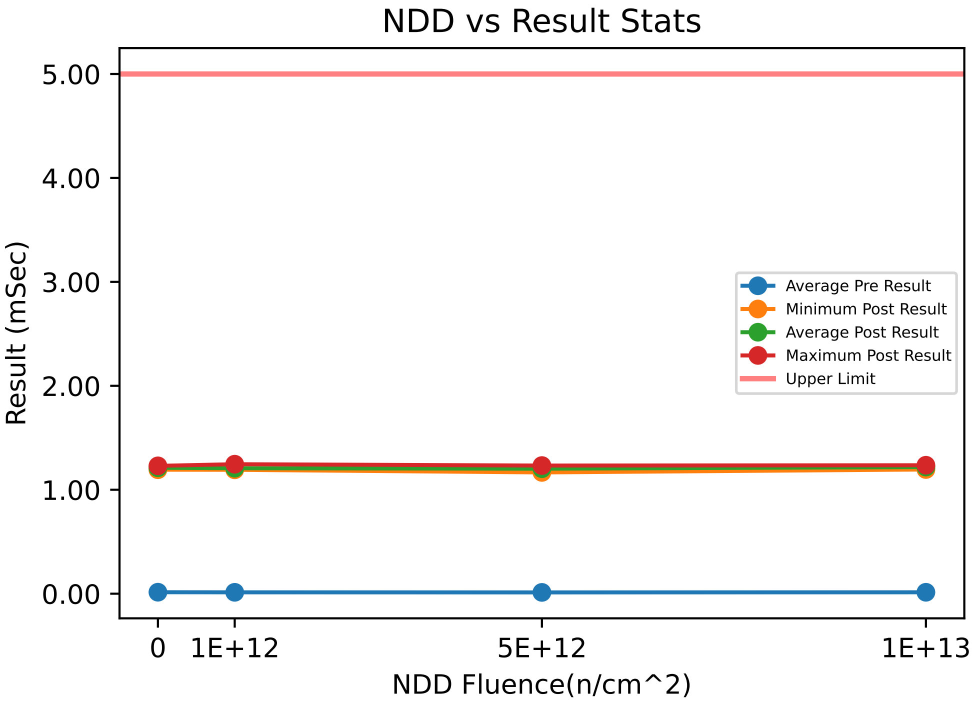
Test Results (Lower Limit = 0.7, Upper Limit = 1.38 (uA))

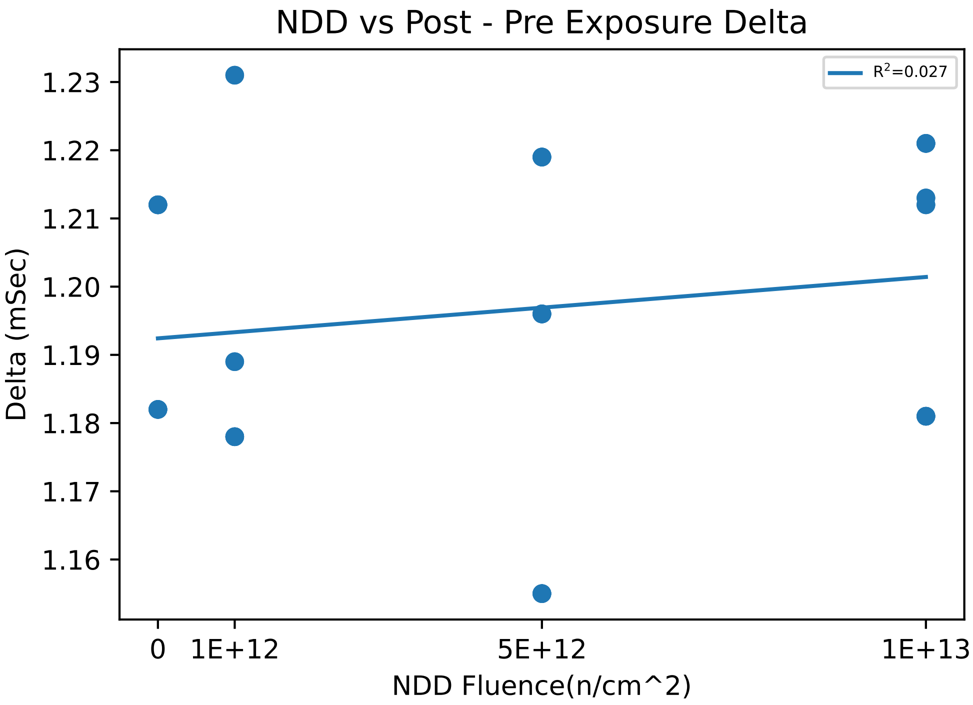
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.0925	1.092	-0.00053
71	0	Correlation	1.0291	1.0288	-0.00033
72	1e+12	NDD, unbiased	1.1074	1.1069	-0.00058
74	1e+12	NDD, unbiased	1.0574	1.0551	-0.00223
75	1e+12	NDD, unbiased	1.0811	1.077	-0.00408
76	5e+12	NDD, unbiased	1.0189	1.0226	0.00369
77	5e+12	NDD, unbiased	1.0362	1.0326	-0.00362
78	5e+12	NDD, unbiased	1.0267	1.0275	0.00087
81	1e+13	NDD, unbiased	1.122	1.1148	-0.00716
82	1e+13	NDD, unbiased	1.027	1.0147	-0.01234
83	1e+13	NDD, unbiased	1.0067	1.0092	0.0025

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	1.0291	1.0608	1.0925	0.044845	1.0288	1.0604	1.092	0.044703	-0.00053	-0.00043	-0.00033	0.00014142
1e+12	1.0574	1.082	1.1074	0.025056	1.0551	1.0797	1.1069	0.025971	-0.00408	-0.0022967	-0.00058	0.001751
5e+12	1.0189	1.0273	1.0362	0.0086563	1.0226	1.0276	1.0326	0.0049852	-0.00362	0.00031333	0.00369	0.0036867
1e+13	1.0067	1.0519	1.122	0.061532	1.0092	1.0462	1.1148	0.059458	-0.01234	-0.0056667	0.0025	0.0075319

Device Test: 13.0 CS_EN_TIME(CS_Delay_Vin1p5V_1A)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

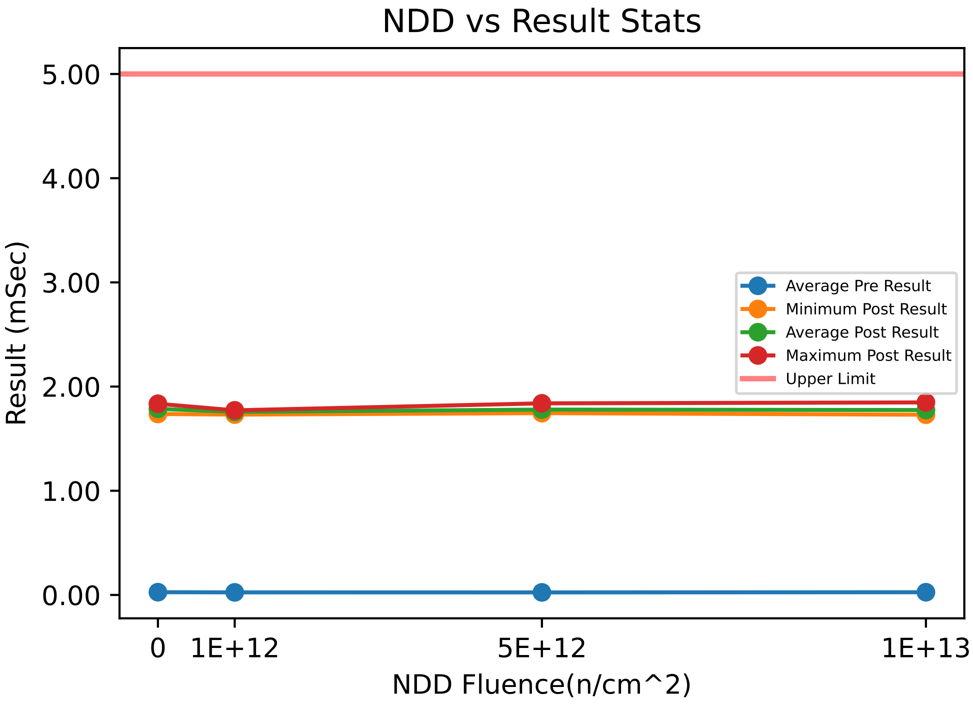
Test Results (Upper Limit = 5.0 (mSec))

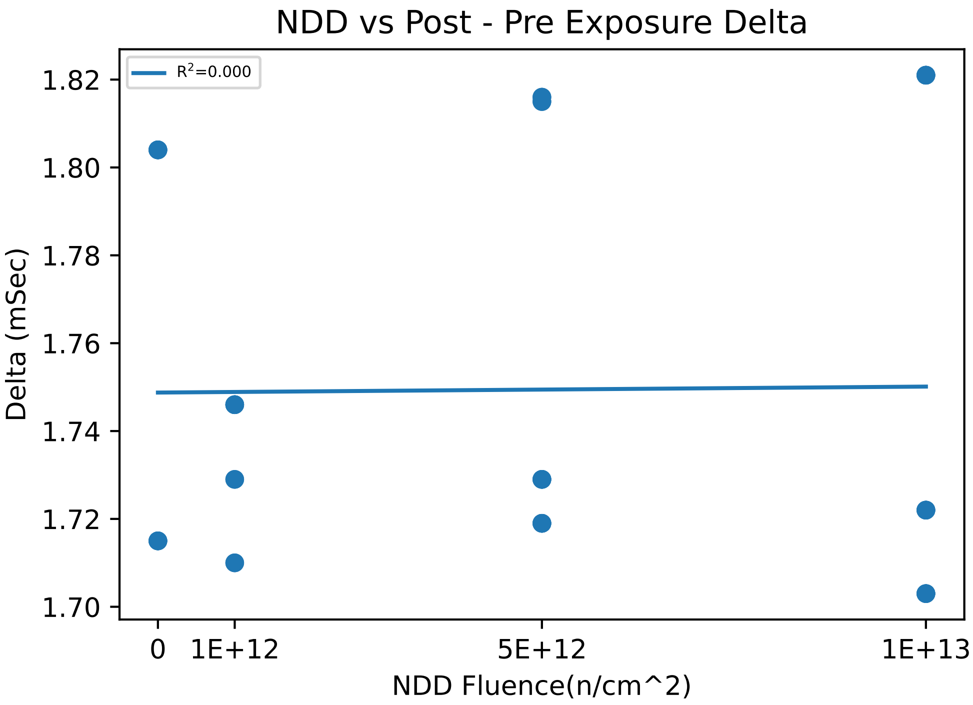
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.018	1.23	1.212
71	0	Correlation	0.011	1.193	1.182
72	1e+12	NDD, unbiased	0.014	1.192	1.178
74	1e+12	NDD, unbiased	0.011	1.2	1.189
75	1e+12	NDD, unbiased	0.015	1.246	1.231
76	5e+12	NDD, unbiased	0.012	1.167	1.155
77	5e+12	NDD, unbiased	0.012	1.208	1.196
78	5e+12	NDD, unbiased	0.014	1.233	1.219
81	1e+13	NDD, unbiased	0.014	1.195	1.181
82	1e+13	NDD, unbiased	0.015	1.236	1.221
83	1e+13	NDD, unbiased	0.012	1.225	1.213

Test Statistics (mSec)

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	0.0145	0.018	0.0049497	1.193	1.2115	1.23	0.026163	1.182	1.197	1.212	0.021213
1e+12	0.011	0.013333	0.015	0.0020817	1.192	1.2127	1.246	0.029143	1.178	1.1993	1.231	0.02797
5e+12	0.012	0.012667	0.014	0.0011547	1.167	1.2027	1.233	0.033322	1.155	1.19	1.219	0.032419
1e+13	0.012	0.013667	0.015	0.0015275	1.195	1.2187	1.236	0.021221	1.181	1.205	1.221	0.021166

Device Test: 13.1 CS_EN_TIME(CS_Delay_Vin7p0V_1A)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

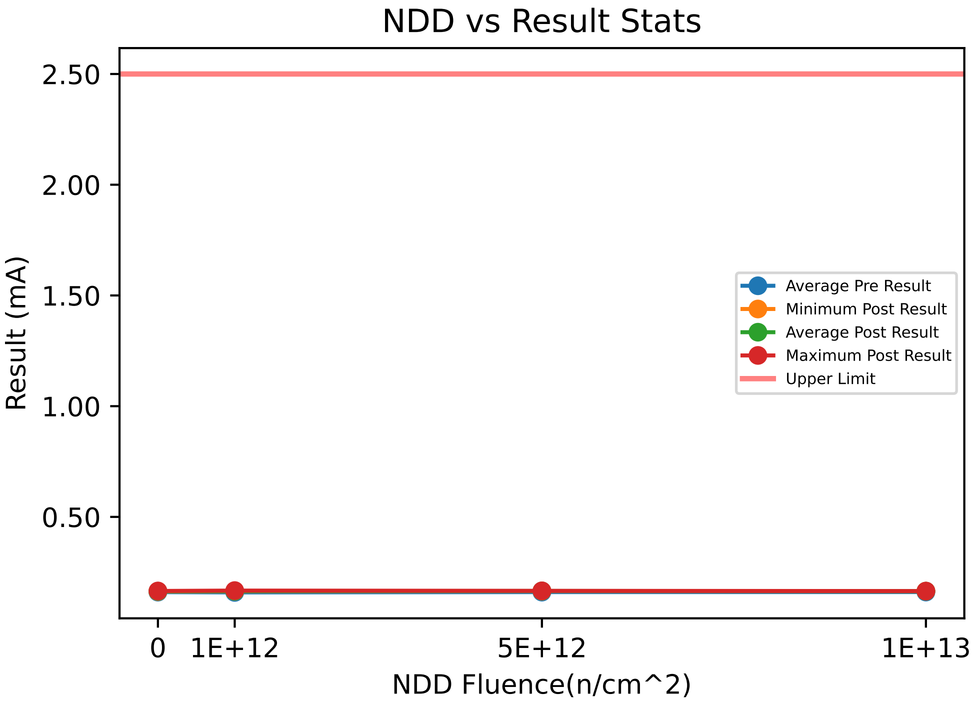
Test Results (Upper Limit = 5.0 (mSec))

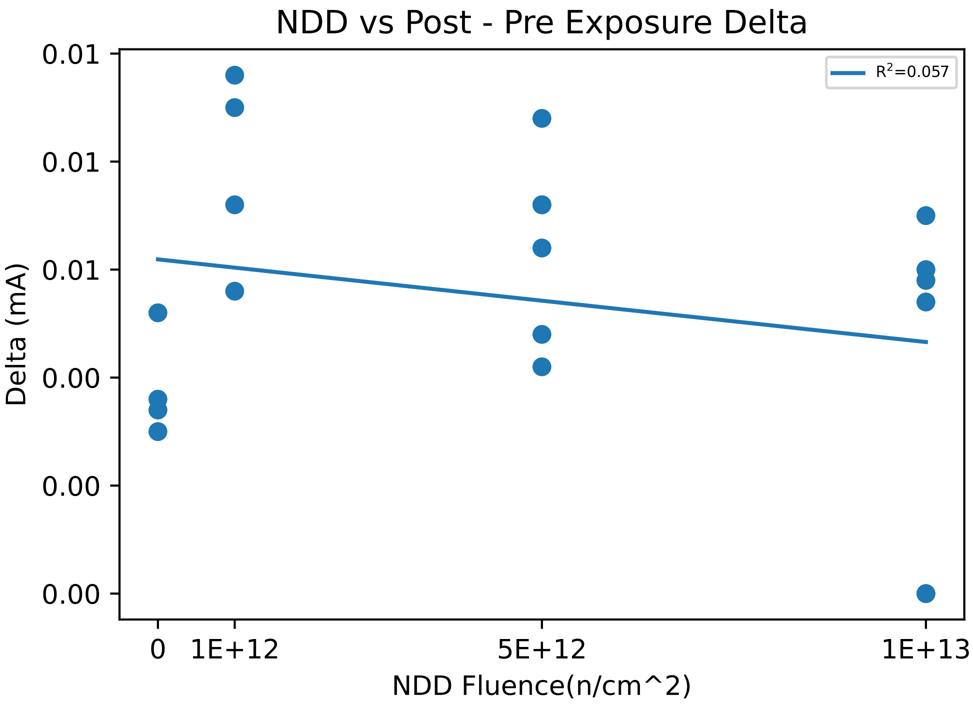
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.031	1.835	1.804
71	0	Correlation	0.022	1.737	1.715
72	1e+12	NDD, unbiased	0.026	1.772	1.746
74	1e+12	NDD, unbiased	0.021	1.731	1.71
75	1e+12	NDD, unbiased	0.026	1.755	1.729
76	5e+12	NDD, unbiased	0.023	1.839	1.816
77	5e+12	NDD, unbiased	0.024	1.753	1.729
78	5e+12	NDD, unbiased	0.026	1.745	1.719
81	1e+13	NDD, unbiased	0.027	1.848	1.821
82	1e+13	NDD, unbiased	0.027	1.73	1.703
83	1e+13	NDD, unbiased	0.024	1.746	1.722

Test Statistics (mSec)

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	0.022	0.0265	0.031	0.006364	1.737	1.786	1.835	0.069296	1.715	1.7595	1.804	0.062933
1e+12	0.021	0.024333	0.026	0.0028868	1.731	1.7527	1.772	0.020599	1.71	1.7283	1.746	0.018009
5e+12	0.023	0.024333	0.026	0.0015275	1.745	1.779	1.839	0.052115	1.719	1.7547	1.816	0.053351
1e+13	0.024	0.026	0.027	0.0017321	1.73	1.7747	1.848	0.06401	1.703	1.7487	1.821	0.063359

Device Test: 3.1 IRCP_EN_0V(IRCP_1p5V)





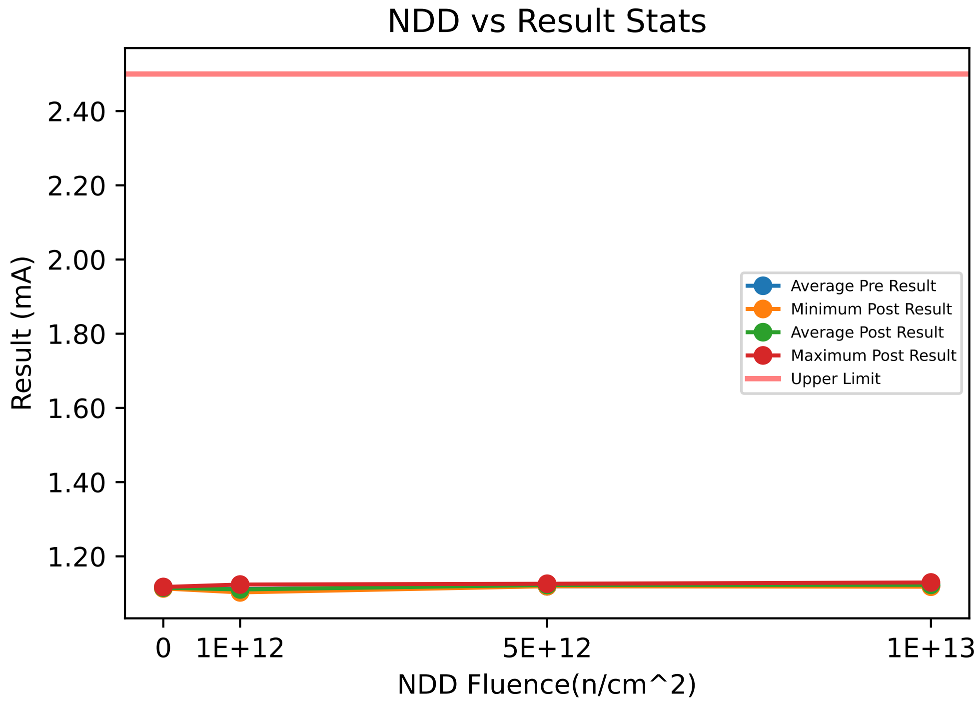
Test Results (Upper Limit = 2.5 (mA))

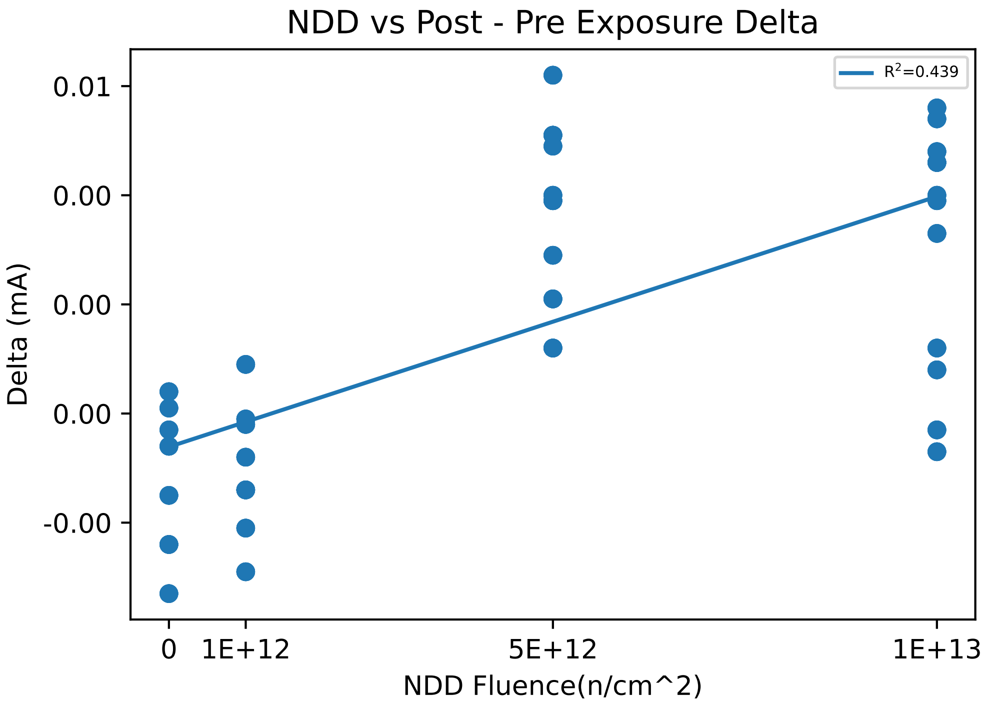
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.1617	0.1655	0.0038
71	0	Correlation	0.1595	0.163	0.0035
72	1e+12	NDD, unbiased	0.1586	0.1642	0.0056
74	1e+12	NDD, unbiased	0.1605	0.1673	0.0068
75	1e+12	NDD, unbiased	0.1595	0.1643	0.0048
76	5e+12	NDD, unbiased	0.1609	0.1661	0.0052
77	5e+12	NDD, unbiased	0.1607	0.1648	0.0041
78	5e+12	NDD, unbiased	0.1605	0.1661	0.0056
81	1e+13	NDD, unbiased	0.1595	0.1645	0.005
82	1e+13	NDD, unbiased	0.1631	0.1651	0.002
83	1e+13	NDD, unbiased	0.1598	0.1645	0.0047

Test Statistics (mA)

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	0.1595	0.1606	0.1617	0.0015556	0.163	0.16425	0.1655	0.0017678	0.0035	0.00365	0.0038	0.00021213
1e+12	0.1586	0.15953	0.1605	0.00095044	0.1642	0.16527	0.1673	0.0017616	0.0048	0.0057333	0.0068	0.0010066
5e+12	0.1605	0.1607	0.1609	0.0002	0.1648	0.16567	0.1661	0.00075056	0.0041	0.0049667	0.0056	0.00077675
1e+13	0.1595	0.1608	0.1631	0.0019975	0.1645	0.1647	0.1651	0.00034641	0.002	0.0039	0.005	0.0016523

Device Test: 3.10 IRCP_EN_7V(IRCP_7p0_EN7p0V)





Test Results (Upper Limit = 2.5 (mA))

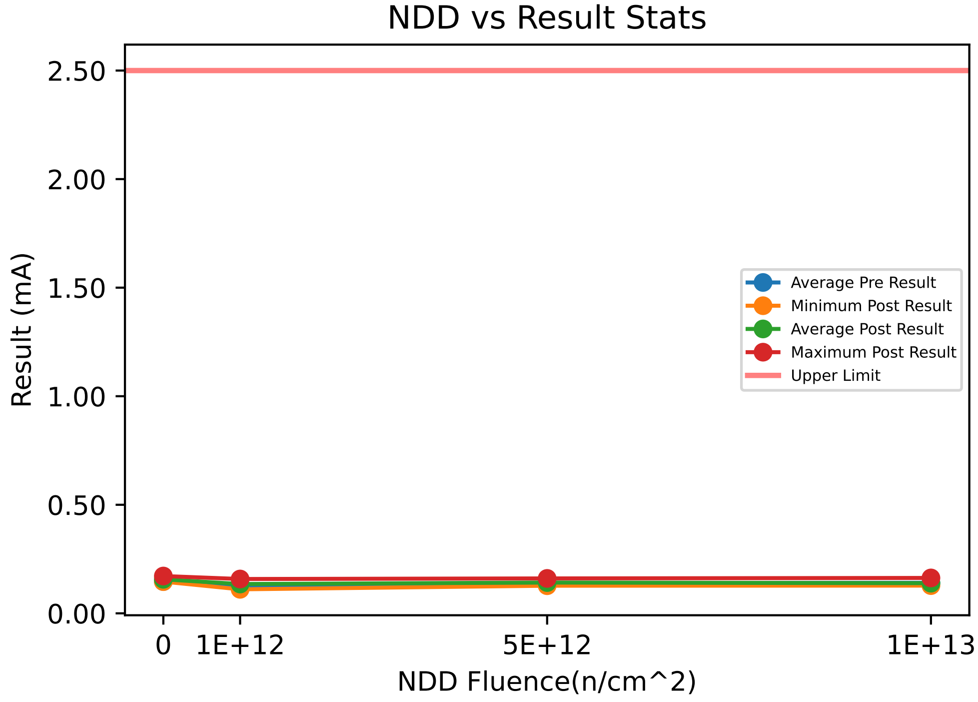
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.1173	1.1174	0.0001
71	0	Correlation	1.1167	1.1143	-0.0024
72	1e+12	NDD, unbiased	1.1049	1.1041	-0.0008
74	1e+12	NDD, unbiased	1.1254	1.124	-0.0014
75	1e+12	NDD, unbiased	1.1123	1.1132	0.0009
76	5e+12	NDD, unbiased	1.1184	1.1235	0.0051
77	5e+12	NDD, unbiased	1.1181	1.1202	0.0021
78	5e+12	NDD, unbiased	1.1212	1.1261	0.0049
81	1e+13	NDD, unbiased	1.1177	1.1223	0.0046
82	1e+13	NDD, unbiased	1.1242	1.1296	0.0054
83	1e+13	NDD, unbiased	1.1188	1.1185	-0.0003

Test Statistics (mA)

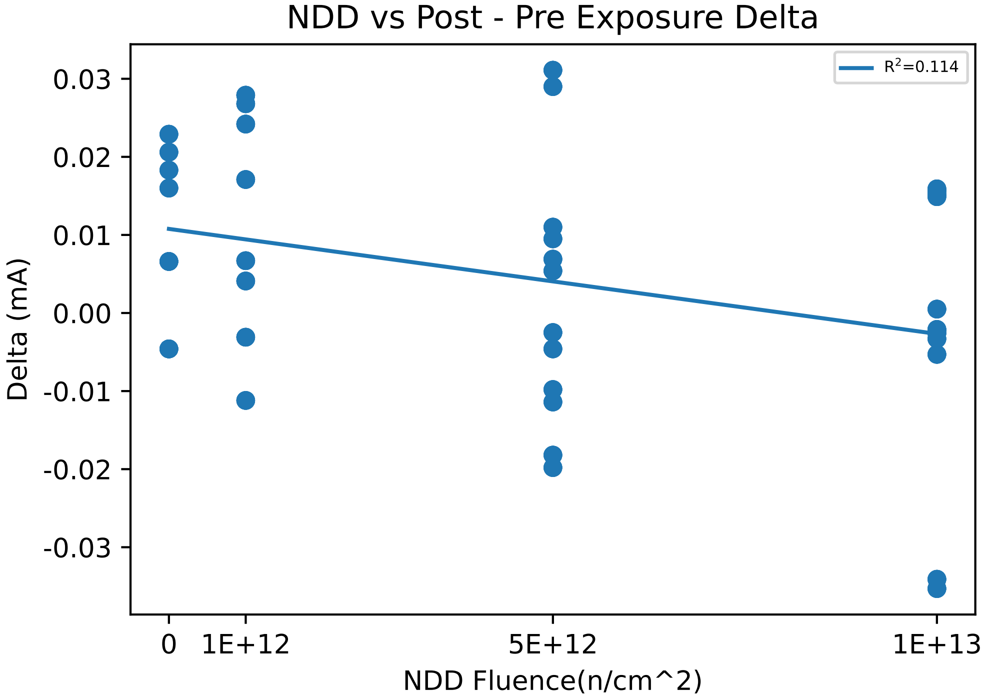
Fluence(n/cm^2)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0	1.1167	1.117	1.1173	0.00042426	1.1143	1.1159	1.1174	0.002192	-0.0024	-0.00115	0.0001	0.0017678
1e+12	1.1049	1.1142	1.1254	0.010381	1.1041	1.1138	1.124	0.0099621	-0.0014	-0.00043333	0.0009	0.001193
5e+12	1.1181	1.1192	1.1212	0.0017098	1.1202	1.1233	1.1261	0.0029569	0.0021	0.0040333	0.0051	0.0016773
1e+13	1.1177	1.1202	1.1242	0.003479	1.1185	1.1235	1.1296	0.0056412	-0.0003	0.0032333	0.0054	0.003086

Device Test: 3.11 IRCP_EN_7V(IRCP_1p5_EN7p0V)

NDD vs Result Stats



NDD vs Post - Pre Exposure Delta



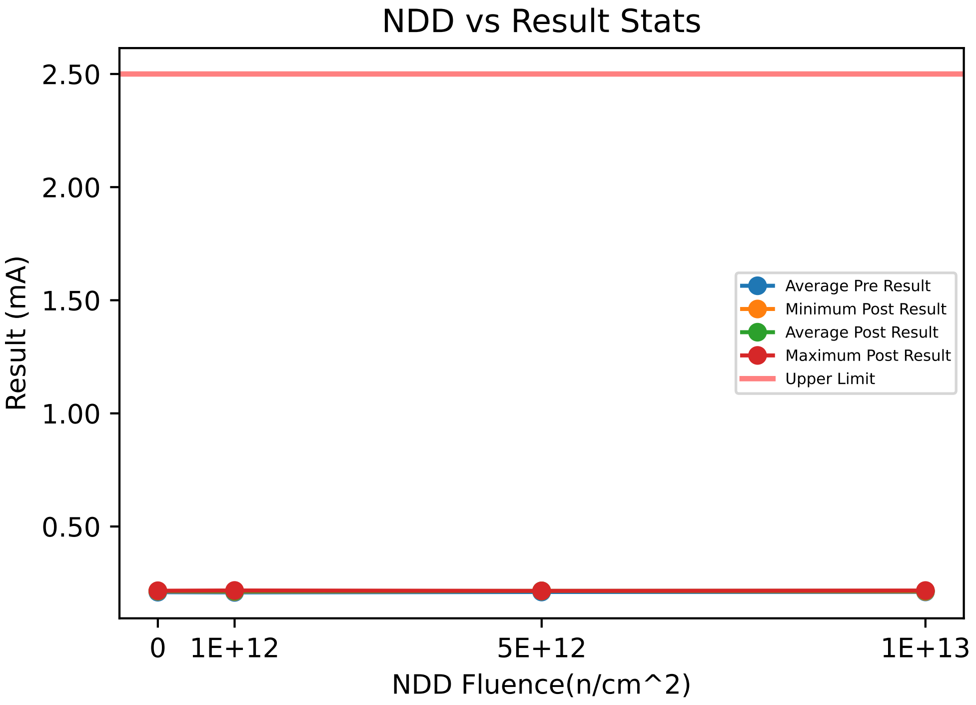
Test Results (Upper Limit = 2.5 (mA))

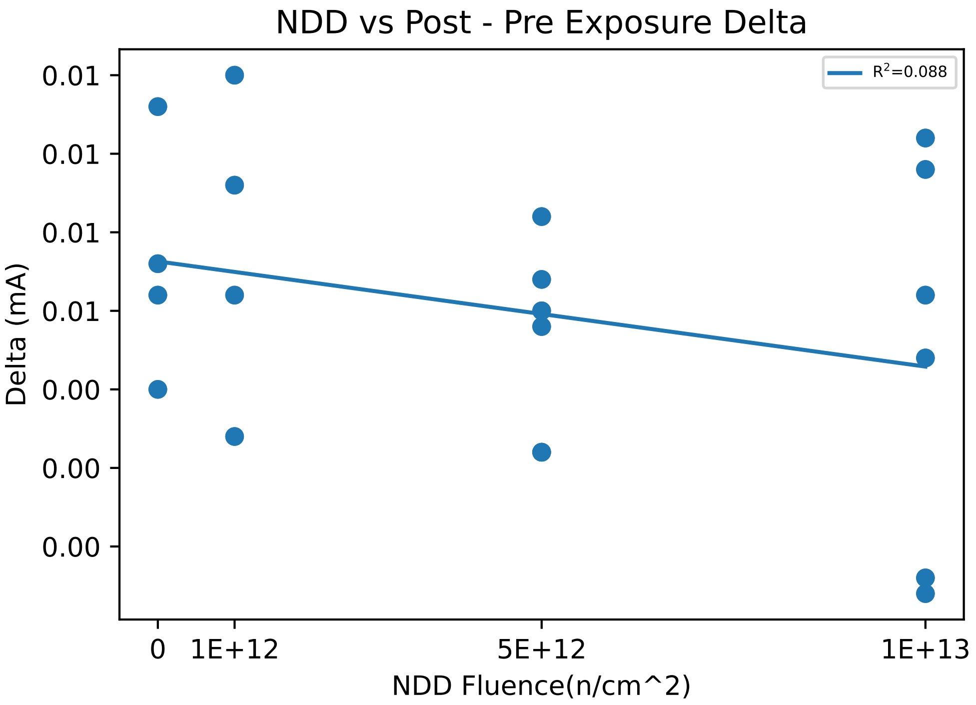
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.1652	0.1606	-0.0046
71	0	Correlation	0.1254	0.1483	0.0229
72	1e+12	NDD, unbiased	0.1195	0.1463	0.0268
74	1e+12	NDD, unbiased	0.1302	0.1581	0.0279
75	1e+12	NDD, unbiased	0.1218	0.1389	0.0171
76	5e+12	NDD, unbiased	0.1626	0.1444	-0.0182
77	5e+12	NDD, unbiased	0.1297	0.1608	0.0311
78	5e+12	NDD, unbiased	0.1236	0.1346	0.011
81	1e+13	NDD, unbiased	0.1247	0.1403	0.0156
82	1e+13	NDD, unbiased	0.1651	0.163	-0.0021
83	1e+13	NDD, unbiased	0.1299	0.1277	-0.0022

Test Statistics (mA)

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	0.1254	0.1453	0.1652	0.028143	0.1483	0.15445	0.1606	0.0086974	-0.0046	0.00915	0.0229	0.019445
1e+12	0.1195	0.12383	0.1302	0.0056323	0.1389	0.14777	0.1581	0.0096837	0.0171	0.023933	0.0279	0.0059433
5e+12	0.1236	0.13863	0.1626	0.020979	0.1346	0.1466	0.1608	0.013238	-0.0182	0.0079667	0.0311	0.02479
1e+13	0.1247	0.1399	0.1651	0.021978	0.1277	0.14367	0.163	0.017889	-0.0022	0.0037667	0.0156	0.010248

Device Test: 3.3 IRCP_EN_0V(IRCP_1p8V)





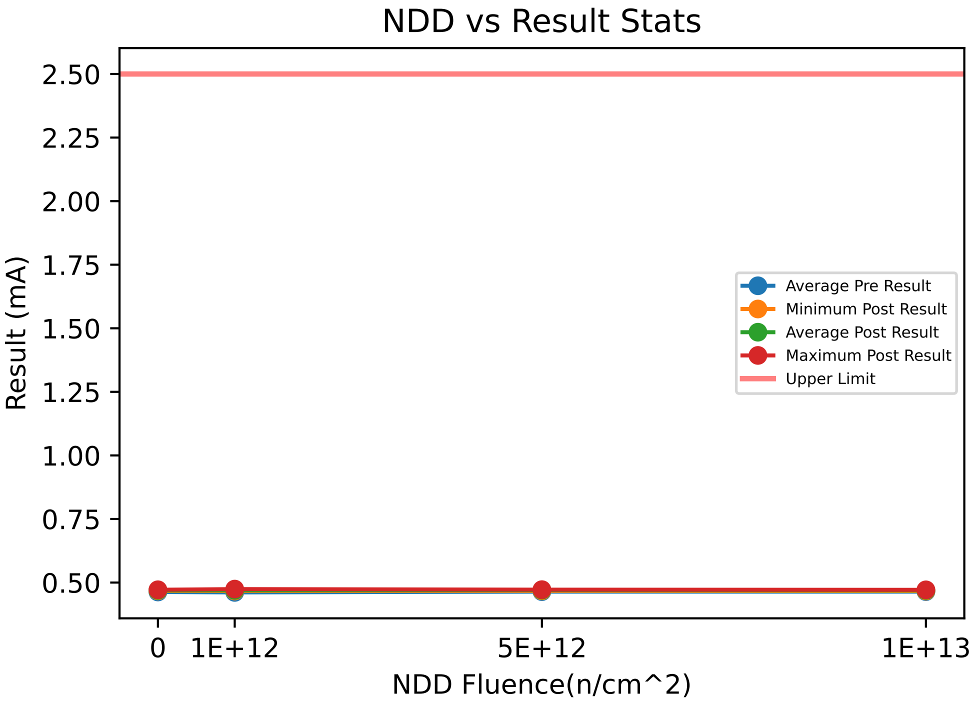
Test Results (Upper Limit = 2.5 (mA))

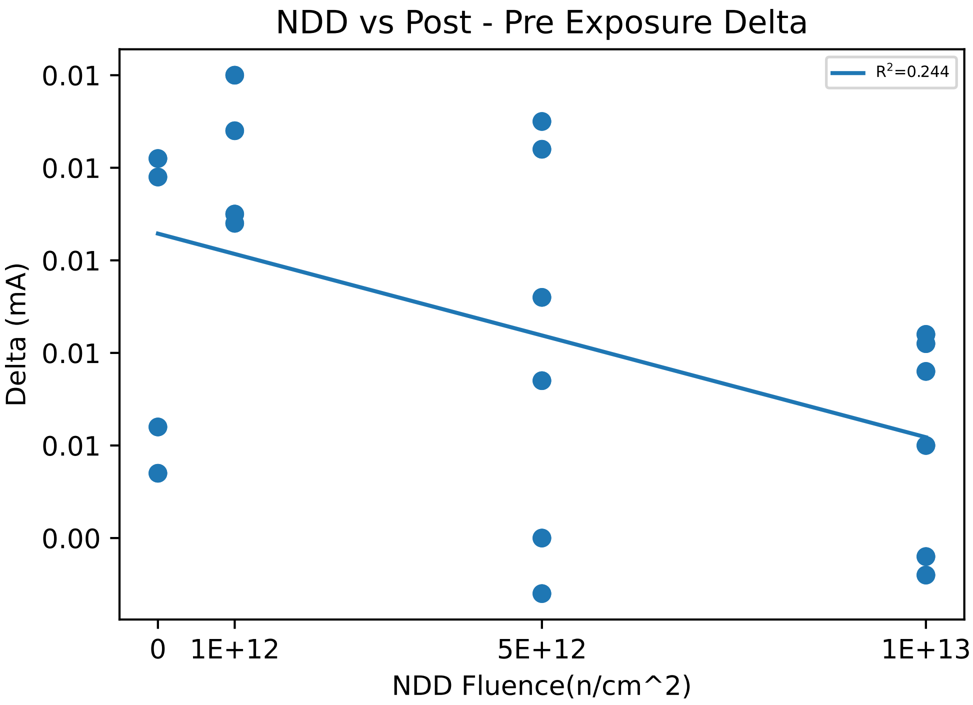
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.2107	0.216	0.0053
71	0	Correlation	0.2087	0.2138	0.0051
72	1e+12	NDD, unbiased	0.2066	0.2124	0.0058
74	1e+12	NDD, unbiased	0.213	0.2172	0.0042
75	1e+12	NDD, unbiased	0.2077	0.2142	0.0065
76	5e+12	NDD, unbiased	0.2102	0.2154	0.0052
77	5e+12	NDD, unbiased	0.2109	0.215	0.0041
78	5e+12	NDD, unbiased	0.2104	0.2153	0.0049
81	1e+13	NDD, unbiased	0.2102	0.2163	0.0061
82	1e+13	NDD, unbiased	0.2122	0.2169	0.0047
83	1e+13	NDD, unbiased	0.2099	0.2131	0.0032

Test Statistics (mA)

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	0.2087	0.2097	0.2107	0.0014142	0.2138	0.2149	0.216	0.0015556	0.0051	0.0052	0.0053	0.00014142
1e+12	0.2066	0.2091	0.213	0.003422	0.2124	0.2146	0.2172	0.0024249	0.0042	0.0055	0.0065	0.001179
5e+12	0.2102	0.2105	0.2109	0.00036056	0.215	0.21523	0.2154	0.00020817	0.0041	0.0047333	0.0052	0.00056862
1e+13	0.2099	0.21077	0.2122	0.0012503	0.2131	0.21543	0.2169	0.0020429	0.0032	0.0046667	0.0061	0.0014503

Device Test: 3.5 IRCP_EN_0V(IRCP_3p3V)





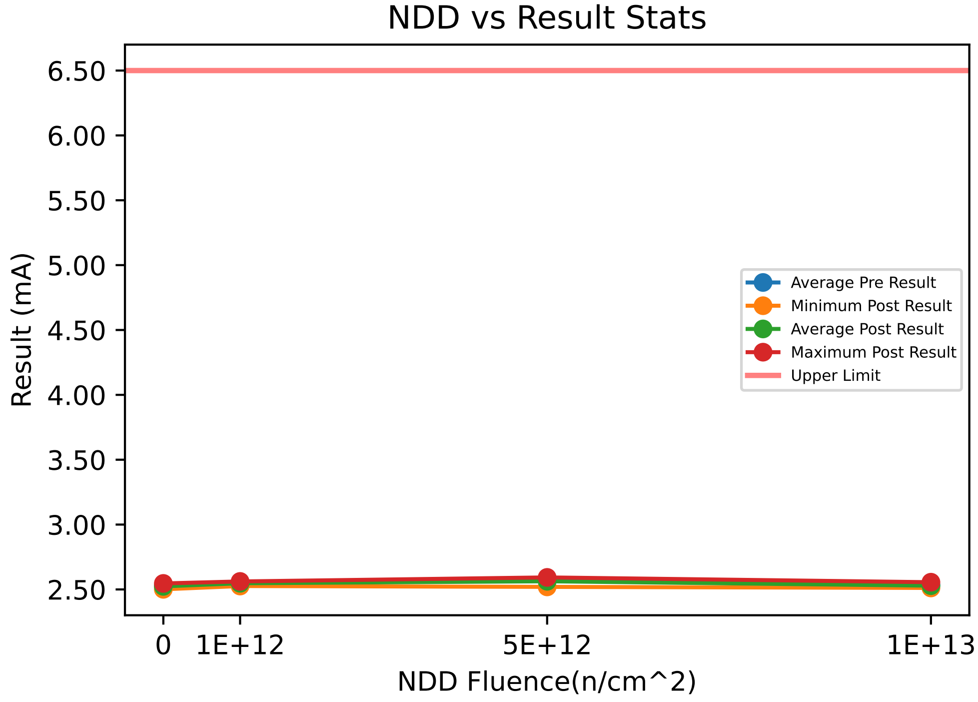
Test Results (Upper Limit = 2.5 (mA))

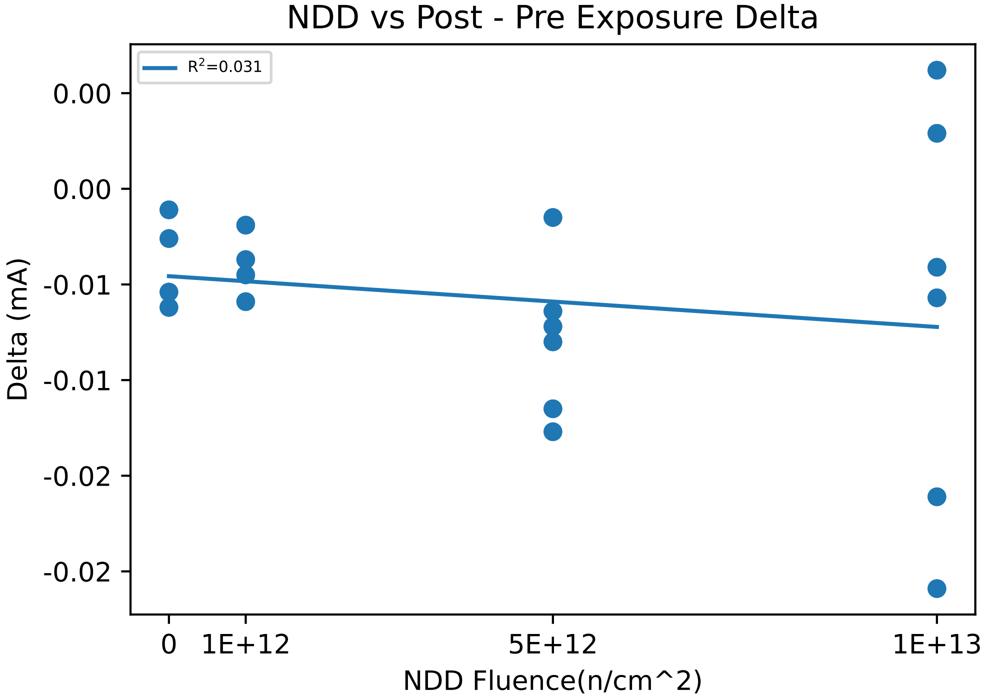
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.4636	0.4717	0.0081
71	0	Correlation	0.462	0.4672	0.0052
72	1e+12	NDD, unbiased	0.4583	0.4667	0.0084
74	1e+12	NDD, unbiased	0.4669	0.4743	0.0074
75	1e+12	NDD, unbiased	0.4609	0.4699	0.009
76	5e+12	NDD, unbiased	0.4635	0.4717	0.0082
77	5e+12	NDD, unbiased	0.4639	0.4673	0.0034
78	5e+12	NDD, unbiased	0.4664	0.4721	0.0057
81	1e+13	NDD, unbiased	0.4645	0.4703	0.0058
82	1e+13	NDD, unbiased	0.4653	0.4714	0.0061
83	1e+13	NDD, unbiased	0.4631	0.4667	0.0036

Test Statistics (mA)

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	0.462	0.4628	0.4636	0.0011314	0.4672	0.46945	0.4717	0.003182	0.0052	0.00665	0.0081	0.0020506
1e+12	0.4583	0.46203	0.4669	0.0044106	0.4667	0.4703	0.4743	0.0038158	0.0074	0.0082667	0.009	0.00080829
5e+12	0.4635	0.4646	0.4664	0.0015716	0.4673	0.47037	0.4721	0.0026633	0.0034	0.0057667	0.0082	0.0024007
1e+13	0.4631	0.4643	0.4653	0.0011136	0.4667	0.46947	0.4714	0.0024583	0.0036	0.0051667	0.0061	0.001365

Device Test: 3.6 IQ_VIN_5V(IQ_Vin_5p0V)





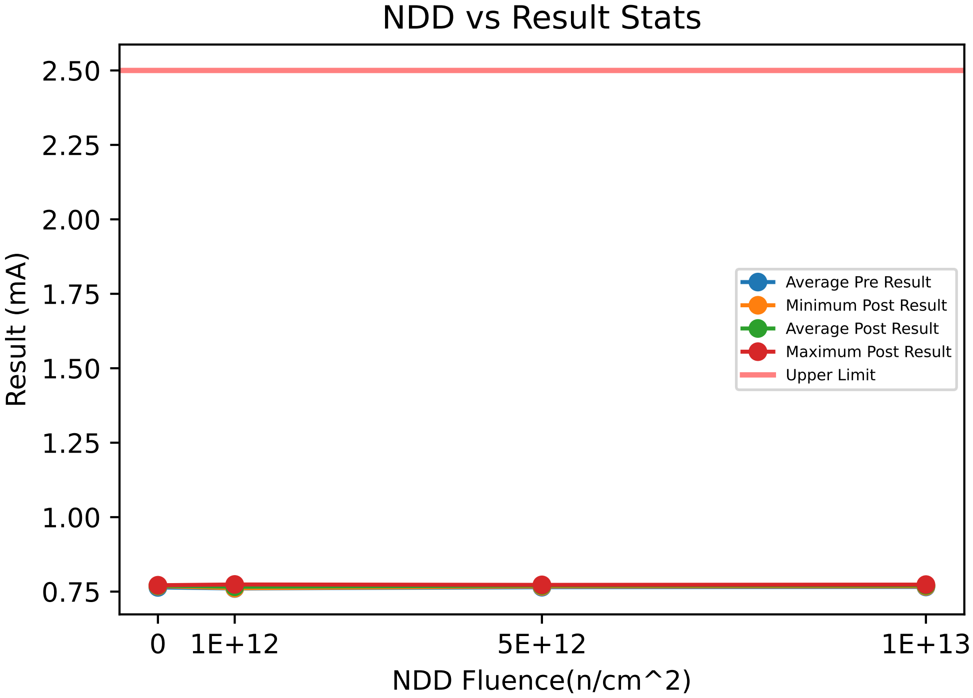
Test Results (Upper Limit = 6.5 (mA))

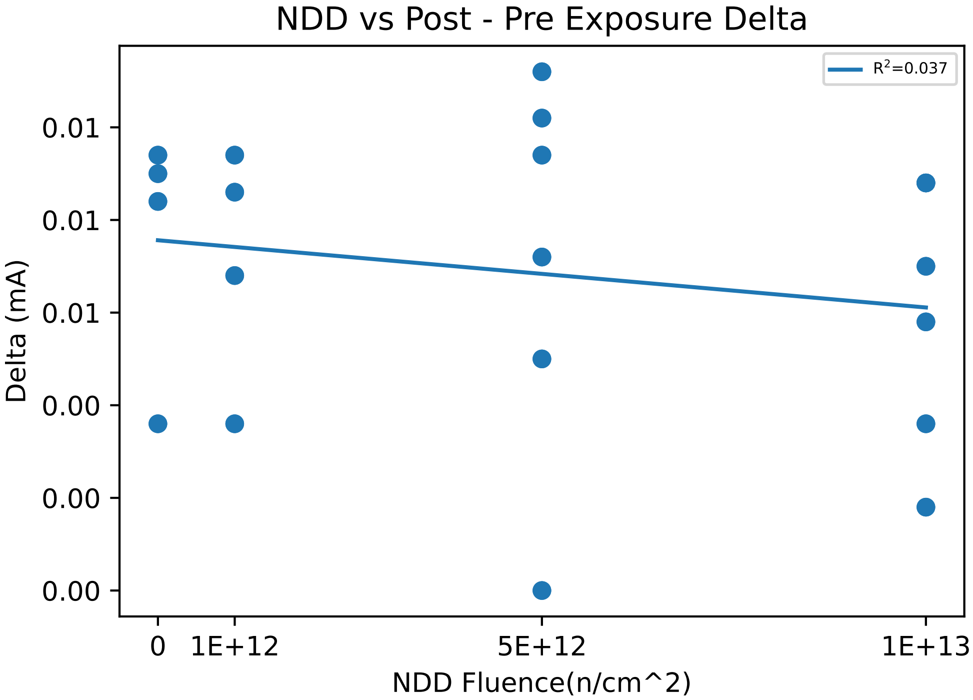
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	2.502	2.5009	-0.0011
71	0	Correlation	2.5517	2.5463	-0.0054
72	1e+12	NDD, unbiased	2.5635	2.5616	-0.0019
74	1e+12	NDD, unbiased	2.5321	2.5262	-0.0059
75	1e+12	NDD, unbiased	2.5452	2.5407	-0.0045
76	5e+12	NDD, unbiased	2.5942	2.5927	-0.0015
77	5e+12	NDD, unbiased	2.5277	2.5197	-0.008
78	5e+12	NDD, unbiased	2.5825	2.5761	-0.0064
81	1e+13	NDD, unbiased	2.5156	2.5115	-0.0041
82	1e+13	NDD, unbiased	2.5718	2.5557	-0.0161
83	1e+13	NDD, unbiased	2.5134	2.5196	0.0062

Test Statistics (mA)

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	2.502	2.5268	2.5517	0.035143	2.5009	2.5236	2.5463	0.032103	-0.0054	-0.00325	-0.0011	0.0030406
1e+12	2.5321	2.5469	2.5635	0.015772	2.5262	2.5428	2.5616	0.017796	-0.0059	-0.0041	-0.0019	0.0020298
5e+12	2.5277	2.5681	2.5942	0.035502	2.5197	2.5628	2.5927	0.038266	-0.008	-0.0053	-0.0015	0.0033867
1e+13	2.5134	2.5336	2.5718	0.0331	2.5115	2.5289	2.5557	0.023532	-0.0161	-0.0046667	0.0062	0.011161

Device Test: 3.7 IRCP_EN_0V(IRCP_5p0V)





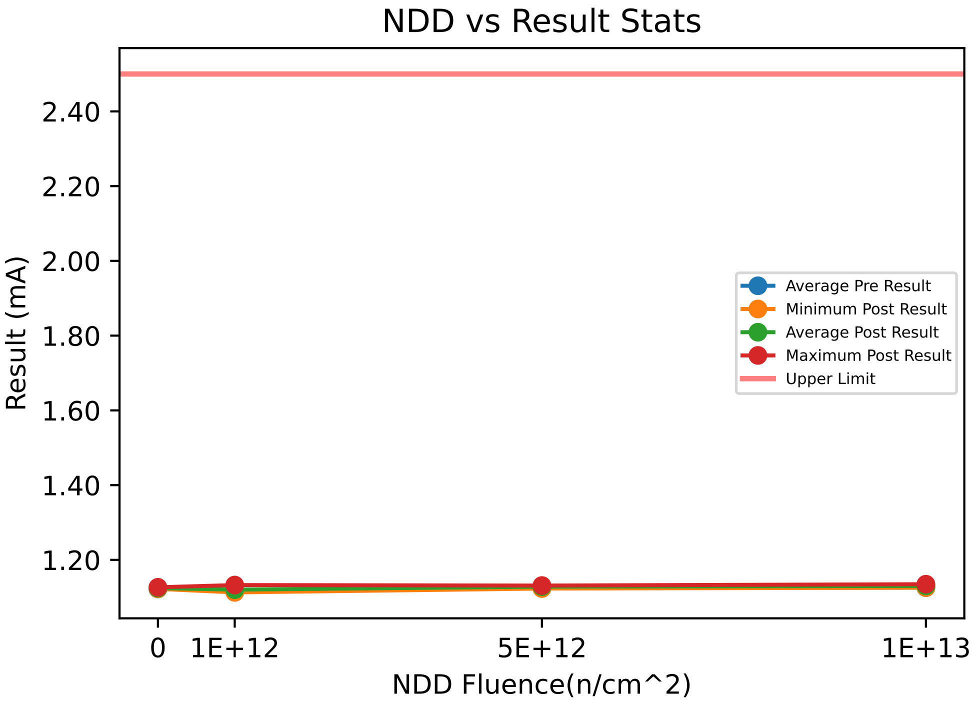
Test Results (Upper Limit = 2.5 (mA))

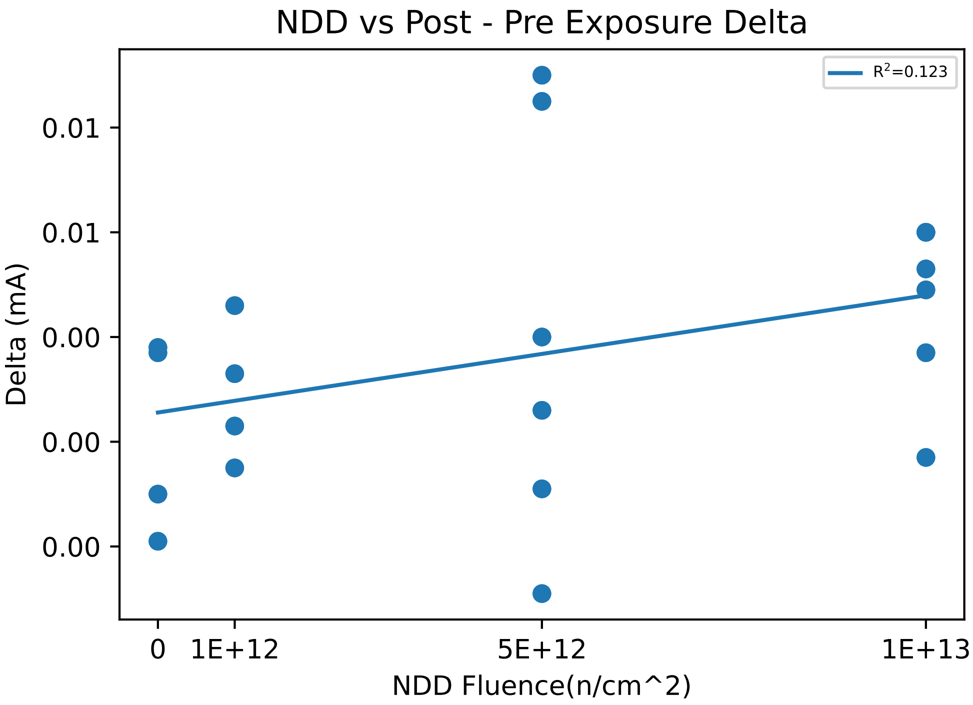
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.7652	0.7714	0.0062
71	0	Correlation	0.7646	0.7684	0.0038
72	1e+12	NDD, unbiased	0.7559	0.7613	0.0054
74	1e+12	NDD, unbiased	0.7702	0.774	0.0038
75	1e+12	NDD, unbiased	0.7609	0.7676	0.0067
76	5e+12	NDD, unbiased	0.7639	0.771	0.0071
77	5e+12	NDD, unbiased	0.7654	0.7674	0.002
78	5e+12	NDD, unbiased	0.767	0.7726	0.0056
81	1e+13	NDD, unbiased	0.7652	0.7707	0.0055
82	1e+13	NDD, unbiased	0.7697	0.7735	0.0038
83	1e+13	NDD, unbiased	0.7648	0.7677	0.0029

Test Statistics (mA)

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	0.7646	0.7649	0.7652	0.00042426	0.7684	0.7699	0.7714	0.0021213	0.0038	0.005	0.0062	0.0016971
1e+12	0.7559	0.76233	0.7702	0.007257	0.7613	0.76763	0.774	0.0063501	0.0038	0.0053	0.0067	0.0014526
5e+12	0.7639	0.76543	0.767	0.0015503	0.7674	0.77033	0.7726	0.0026633	0.002	0.0049	0.0071	0.0026211
1e+13	0.7648	0.76657	0.7697	0.0027209	0.7677	0.77063	0.7735	0.0029006	0.0029	0.0040667	0.0055	0.0013204

Device Test: 3.9 IRCP_EN_0V(IRCP_7p0V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

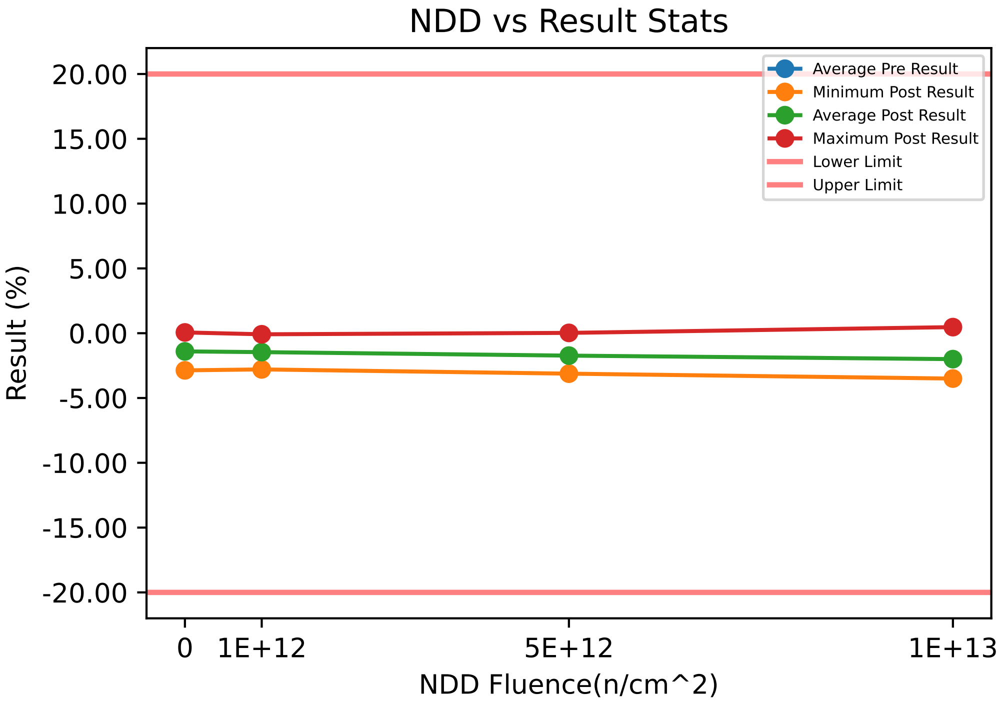
Test Results (Upper Limit = 2.5 (mA))

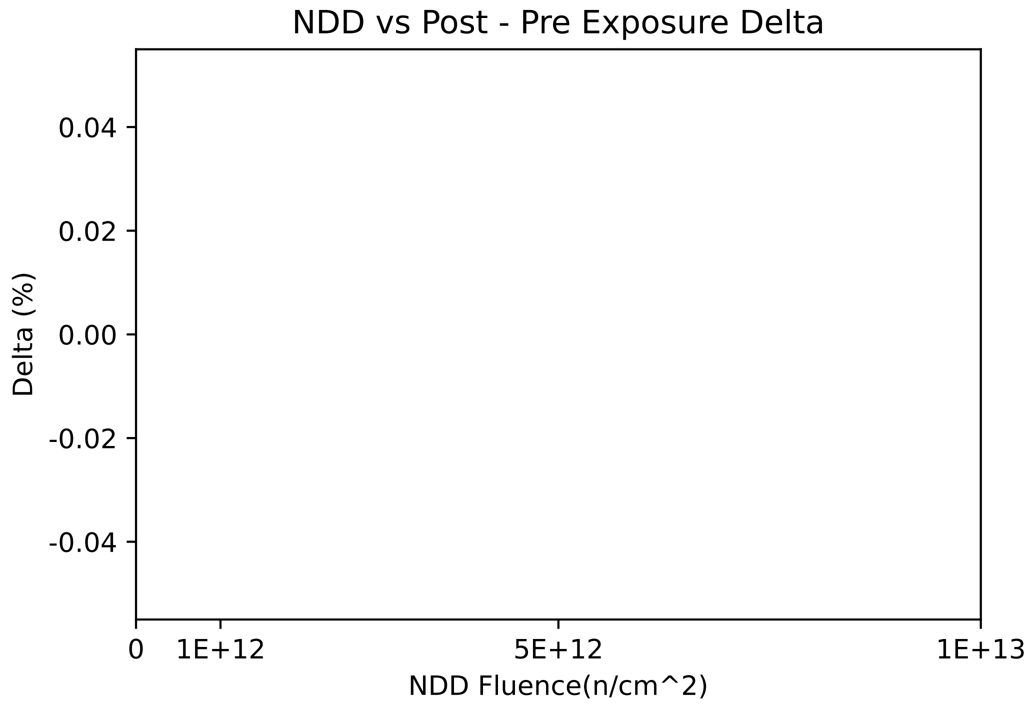
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.1229	1.1266	0.0037
71	0	Correlation	1.1224	1.1225	0.0001
72	1e+12	NDD, unbiased	1.1107	1.113	0.0023
74	1e+12	NDD, unbiased	1.1311	1.1326	0.0015
75	1e+12	NDD, unbiased	1.1182	1.1228	0.0046
76	5e+12	NDD, unbiased	1.1228	1.1313	0.0085
77	5e+12	NDD, unbiased	1.1242	1.1233	-0.0009
78	5e+12	NDD, unbiased	1.1279	1.1305	0.0026
81	1e+13	NDD, unbiased	1.1244	1.1304	0.006
82	1e+13	NDD, unbiased	1.13	1.1349	0.0049
83	1e+13	NDD, unbiased	1.124	1.1257	0.0017

Test Statistics (mA)

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	1.1224	1.1227	1.1229	0.00035355	1.1225	1.1246	1.1266	0.0028991	0.0001	0.0019	0.0037	0.0025456
1e+12	1.1107	1.12	1.1311	0.010318	1.113	1.1228	1.1326	0.0098	0.0015	0.0028	0.0046	0.0016093
5e+12	1.1228	1.125	1.1279	0.002635	1.1233	1.1284	1.1313	0.0044061	-0.0009	0.0034	0.0085	0.0047508
1e+13	1.124	1.1261	1.13	0.0033546	1.1257	1.1303	1.1349	0.0046004	0.0017	0.0042	0.006	0.0022338

Device Test: 30.15 Current_Limit_Accuracy(Accuracy_Ilim_750mA_1p5V)





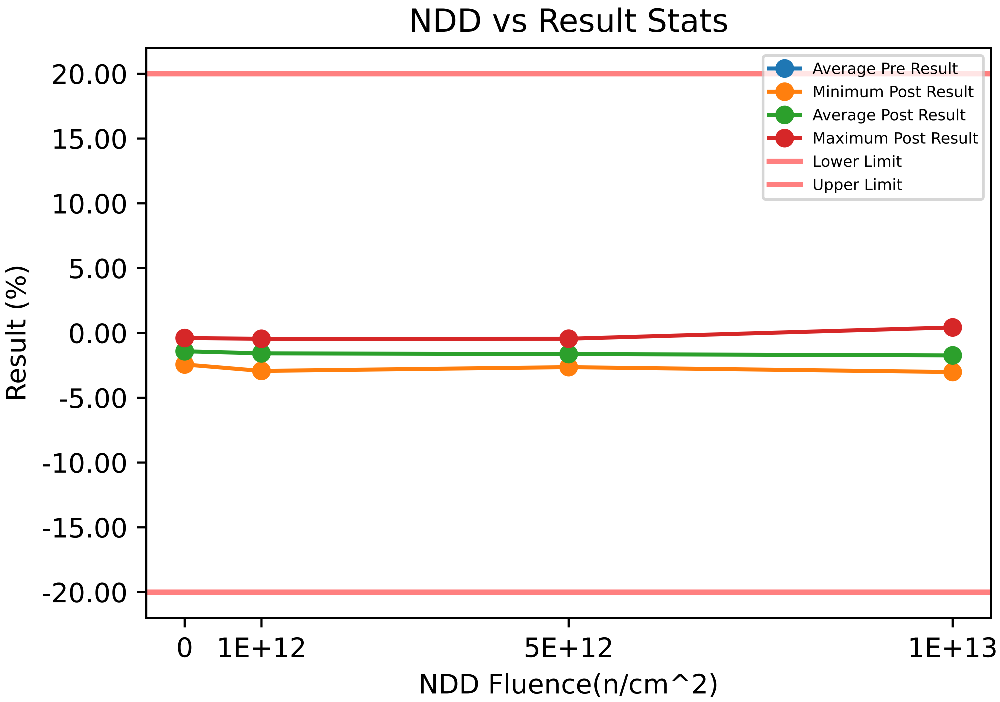
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.867	
71	0	Correlation		0.059	
72	1e+12	NDD, unbiased		-0.084	
74	1e+12	NDD, unbiased		-2.794	
75	1e+12	NDD, unbiased		-1.503	
76	5e+12	NDD, unbiased		-2.092	
77	5e+12	NDD, unbiased		0.024	
78	5e+12	NDD, unbiased		-3.122	
81	1e+13	NDD, unbiased		-3.501	
82	1e+13	NDD, unbiased		-2.97	
83	1e+13	NDD, unbiased		0.469	

Test Statistics (%)

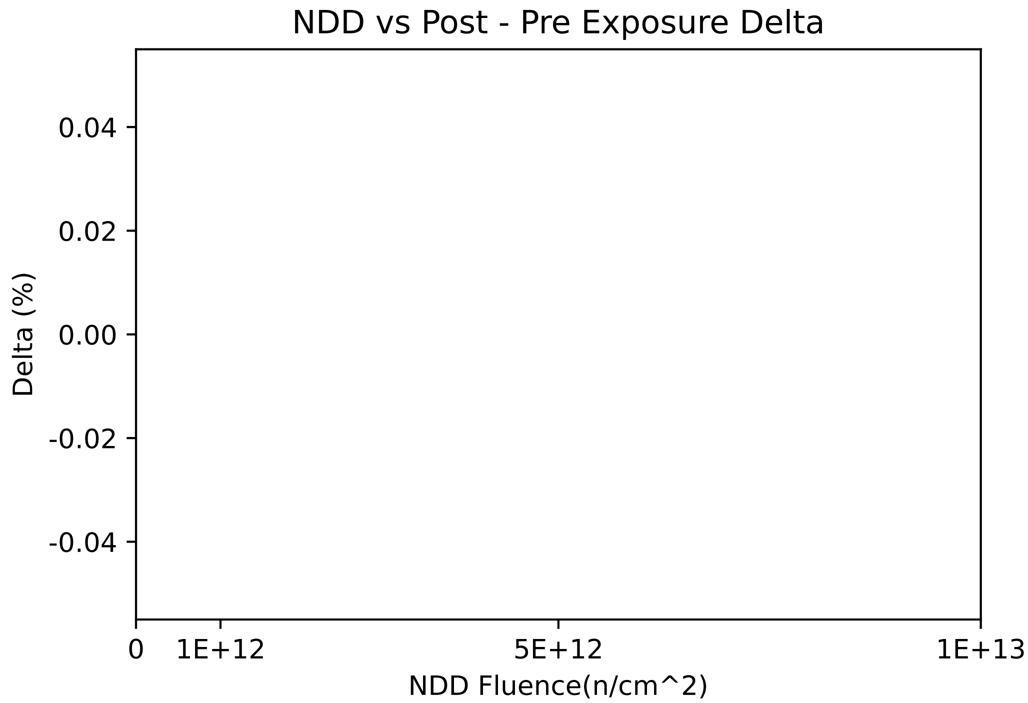
Fluence(n/cm^2)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0					-2.867	-1.404	0.059	2.069				
1e+12					-2.794	-1.4603	-0.084	1.3555				
5e+12					-3.122	-1.73	0.024	1.6039				
1e+13					-3.501	-2.0007	0.469	2.1552				

Device Test: 30.19 Current_Limit_Accuracy(Accuracy_Ilim_1A_1p5V)



Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

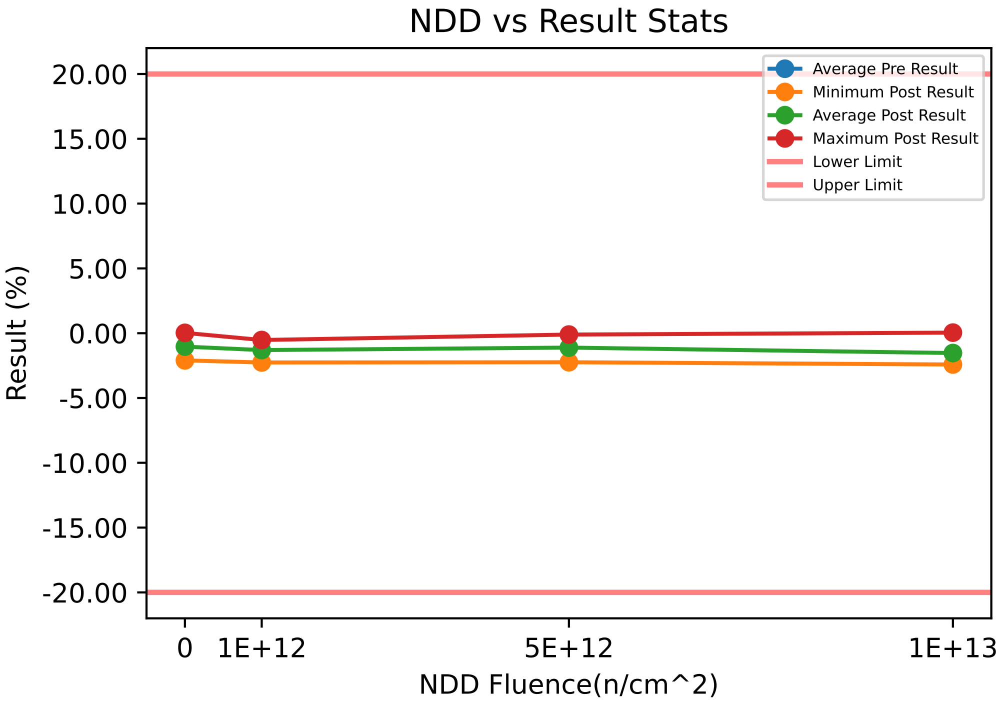
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.433	
71	0	Correlation		-0.393	
72	1e+12	NDD, unbiased		-0.451	
74	1e+12	NDD, unbiased		-2.929	
75	1e+12	NDD, unbiased		-1.344	
76	5e+12	NDD, unbiased		-1.799	
77	5e+12	NDD, unbiased		-0.446	
78	5e+12	NDD, unbiased		-2.638	
81	1e+13	NDD, unbiased		-3.014	
82	1e+13	NDD, unbiased		-2.612	
83	1e+13	NDD, unbiased		0.425	

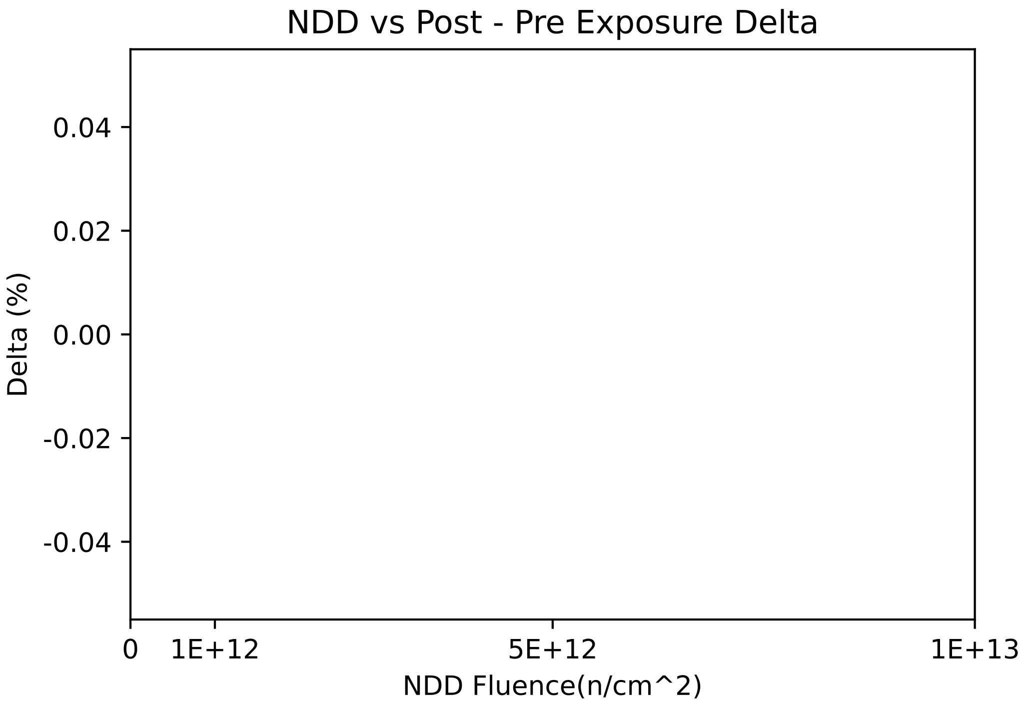


Test Statistics (%)

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					-2.433	-1.413	-0.393	1.4425				
1e+12					-2.929	-1.5747	-0.451	1.255				
5e+12					-2.638	-1.6277	-0.446	1.106				
1e+13					-3.014	-1.7337	0.425	1.8802				

Device Test: 30.23 Current_Limit_Accuracy(Accuracy_Ilim_2A_1p5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

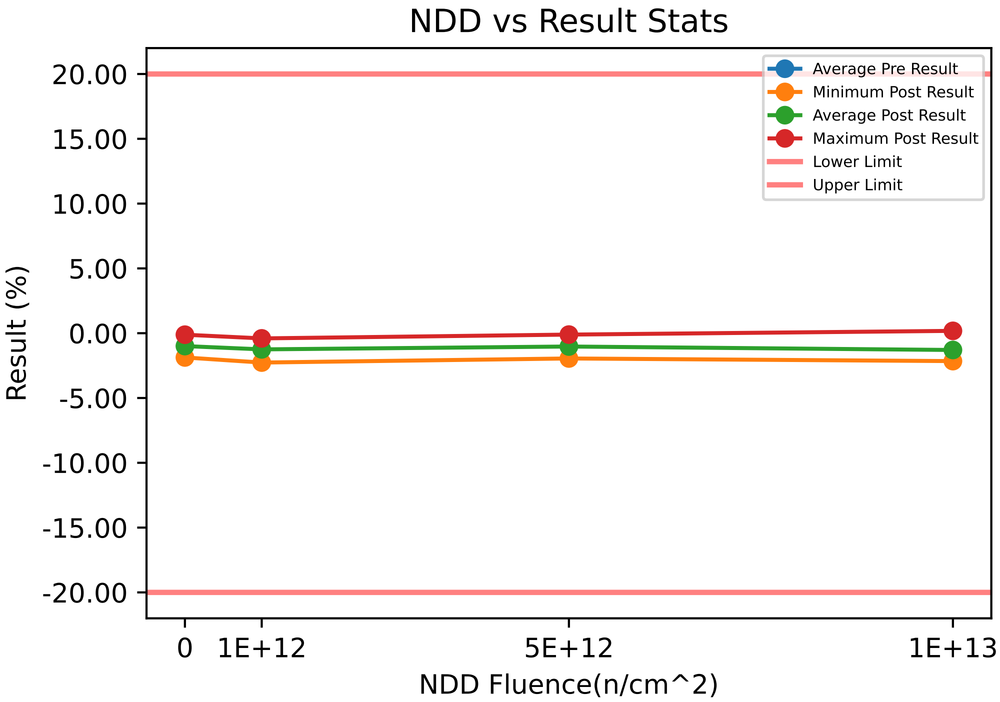
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

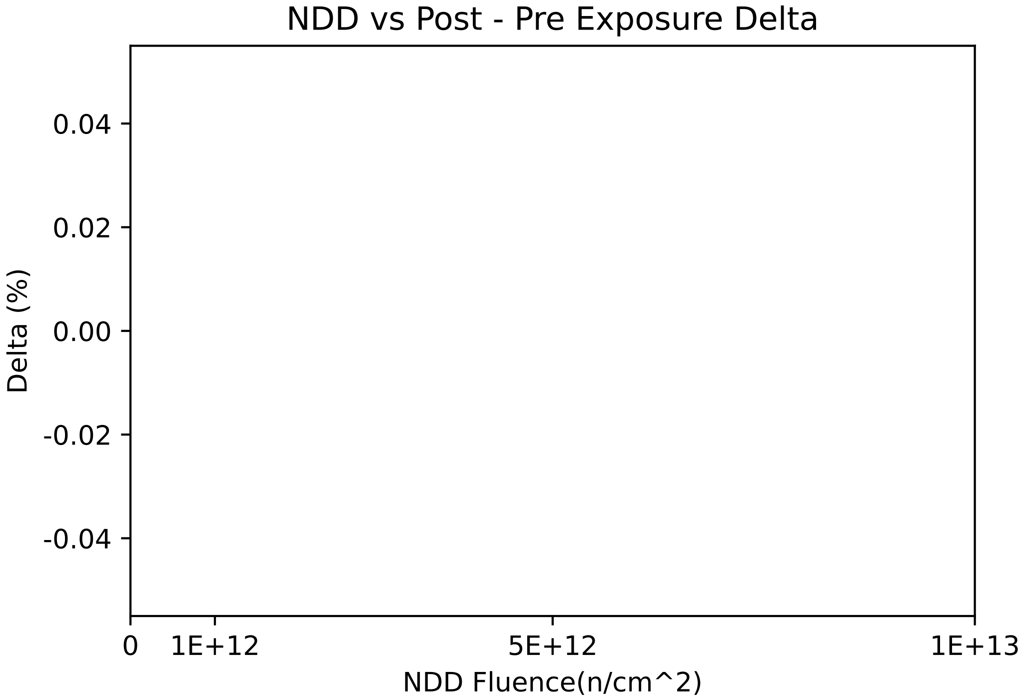
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.098	
71	0	Correlation		0.026	
72	1e+12	NDD, unbiased		-0.526	
74	1e+12	NDD, unbiased		-2.259	
75	1e+12	NDD, unbiased		-1.119	
76	5e+12	NDD, unbiased		-0.988	
77	5e+12	NDD, unbiased		-0.106	
78	5e+12	NDD, unbiased		-2.241	
81	1e+13	NDD, unbiased		-2.415	
82	1e+13	NDD, unbiased		-2.219	
83	1e+13	NDD, unbiased		0.043	

Test Statistics (%)

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					-2.098	-1.036	0.026	1.5019				
1e+12					-2.259	-1.3013	-0.526	0.88077				
5e+12					-2.241	-1.1117	-0.106	1.0729				
1e+13					-2.415	-1.5303	0.043	1.3661				

Device Test: 30.27 Current_Limit_Accuracy(Accuracy_Ilim_3A_1p5V)





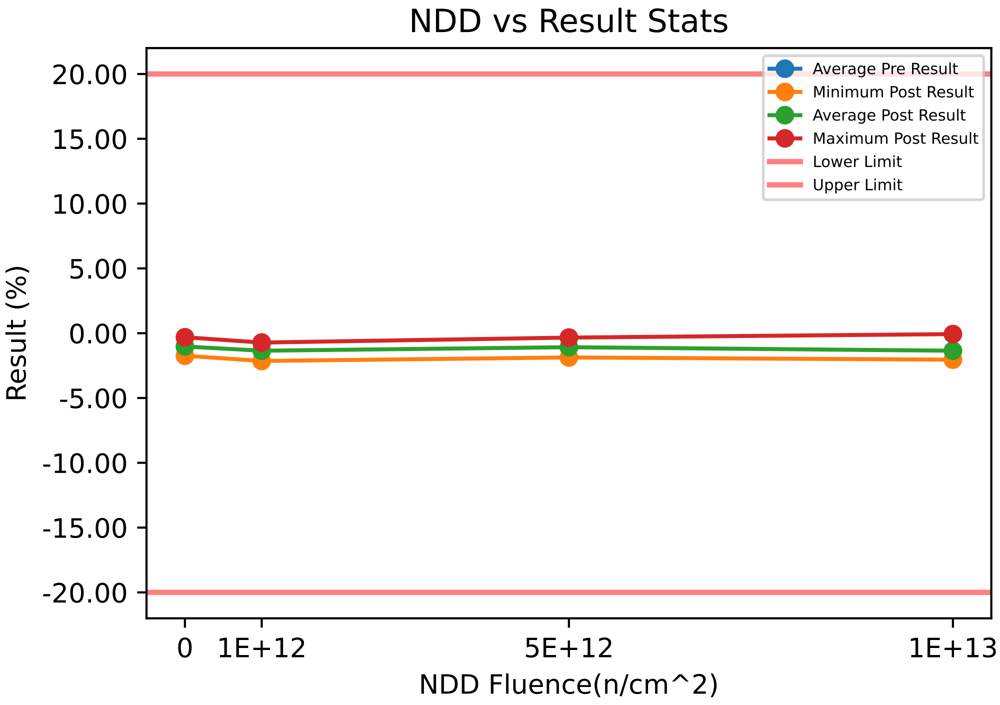
Test Results (Lower Limit = -20.0,
Upper Limit = 20.0 (%))

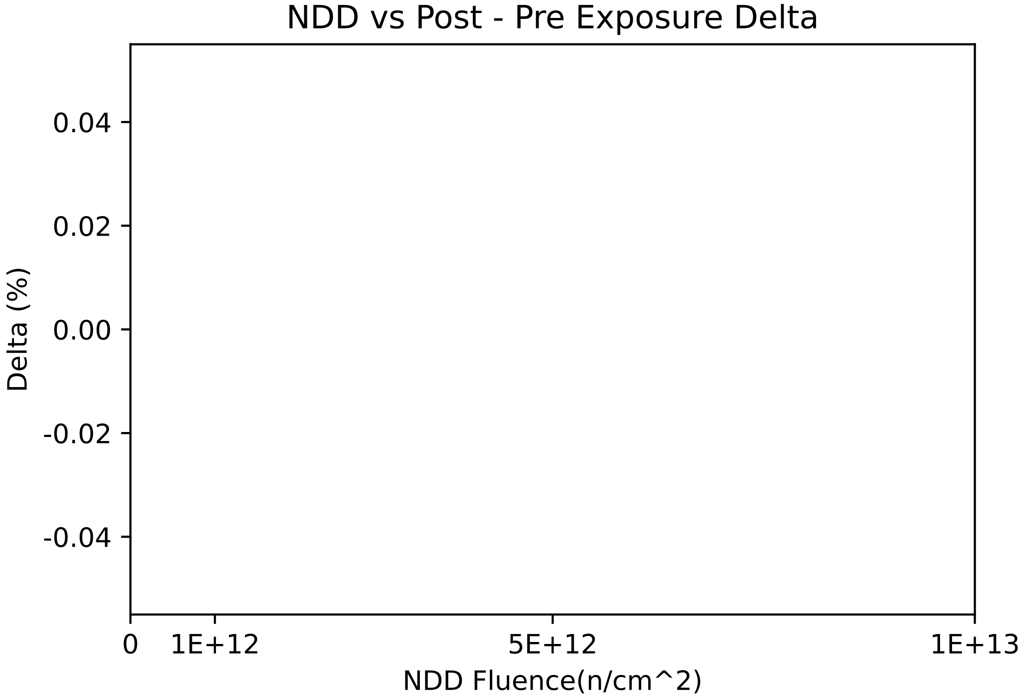
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-1.872	
71	0	Correlation		-0.116	
72	1e+12	NDD, unbiased		-0.401	
74	1e+12	NDD, unbiased		-2.265	
75	1e+12	NDD, unbiased		-1.079	
76	5e+12	NDD, unbiased		-1.026	
77	5e+12	NDD, unbiased		-0.108	
78	5e+12	NDD, unbiased		-1.95	
81	1e+13	NDD, unbiased		-2.153	
82	1e+13	NDD, unbiased		-1.913	
83	1e+13	NDD, unbiased		0.18	

Test Statistics (%)

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					-1.872	-0.994	-0.116	1.2417				
1e+12					-2.265	-1.2483	-0.401	0.94347				
5e+12					-1.95	-1.028	-0.108	0.921				
1e+13					-2.153	-1.2953	0.18	1.2833				

Device Test: 30.31 Current_Limit_Accuracy(Accuracy_Ilim_4A_1p5V)





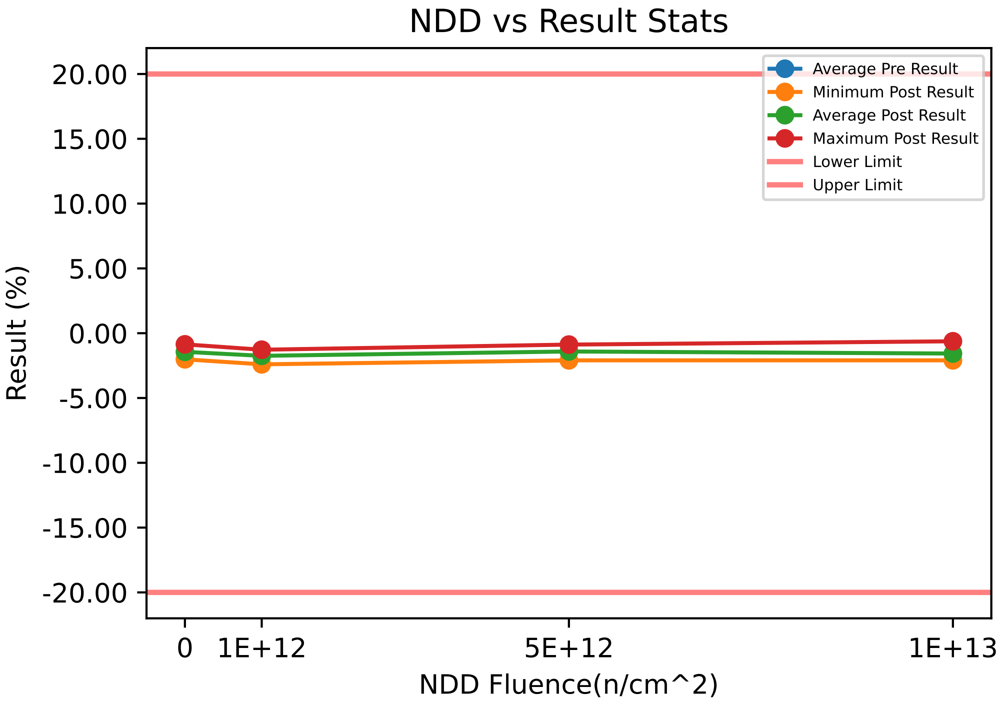
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

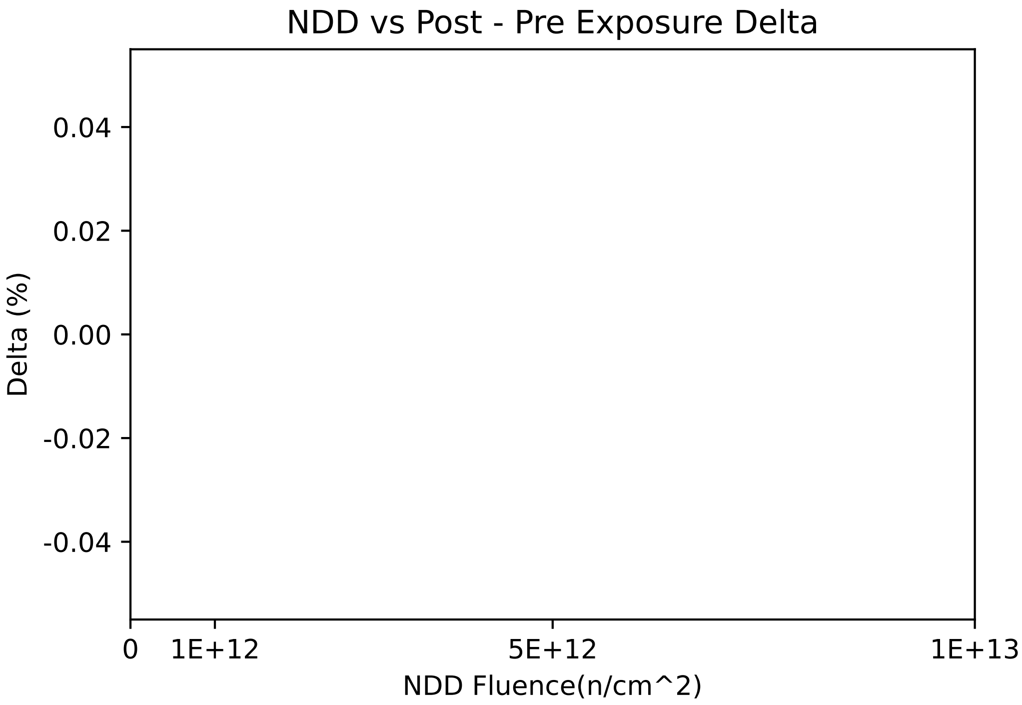
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-1.739	
71	0	Correlation		-0.313	
72	1e+12	NDD, unbiased		-0.722	
74	1e+12	NDD, unbiased		-2.142	
75	1e+12	NDD, unbiased		-1.191	
76	5e+12	NDD, unbiased		-1.032	
77	5e+12	NDD, unbiased		-0.339	
78	5e+12	NDD, unbiased		-1.871	
81	1e+13	NDD, unbiased		-2.043	
82	1e+13	NDD, unbiased		-1.944	
83	1e+13	NDD, unbiased		-0.069	

Test Statistics (%)

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					-1.739	-1.026	-0.313	1.0083				
1e+12					-2.142	-1.3517	-0.722	0.72351				
5e+12					-1.871	-1.0807	-0.339	0.76716				
1e+13					-2.043	-1.352	-0.069	1.1122				

Device Test: 30.35 Current_Limit_Accuracy(Accuracy_Ilim_6A_1p5V)





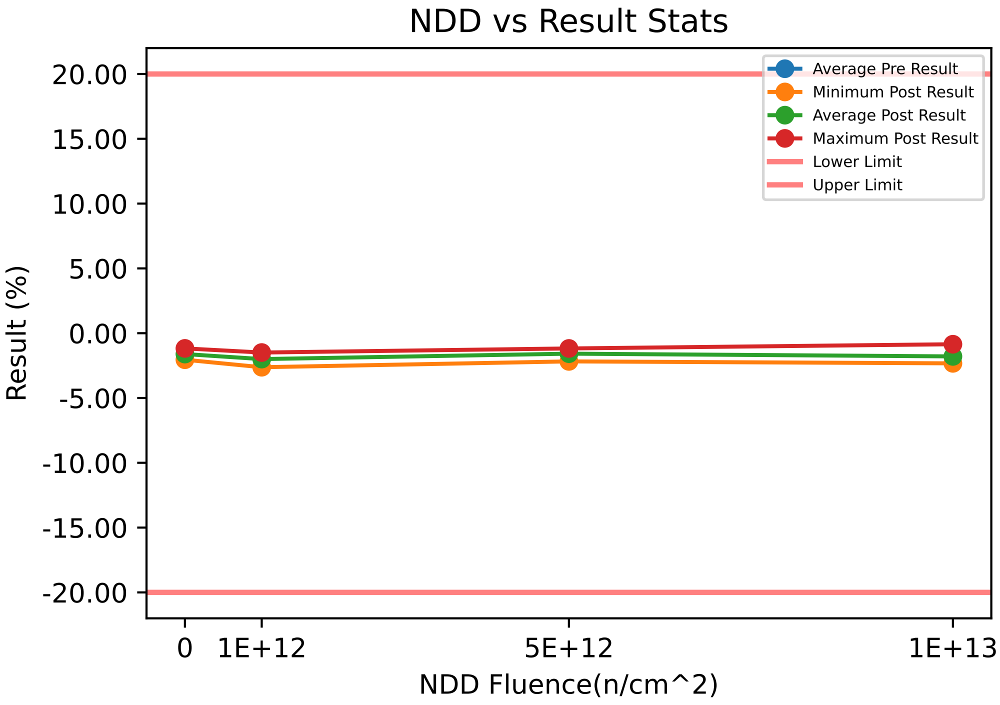
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

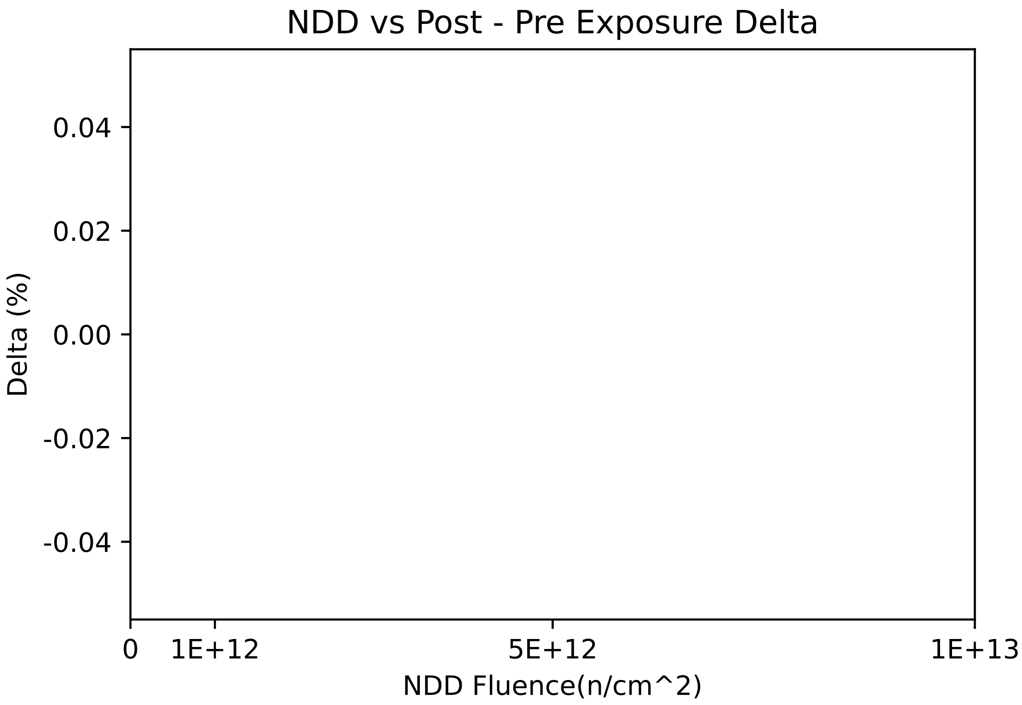
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.015	
71	0	Correlation		-0.861	
72	1e+12	NDD, unbiased		-1.275	
74	1e+12	NDD, unbiased		-2.402	
75	1e+12	NDD, unbiased		-1.562	
76	5e+12	NDD, unbiased		-1.258	
77	5e+12	NDD, unbiased		-0.879	
78	5e+12	NDD, unbiased		-2.095	
81	1e+13	NDD, unbiased		-2.094	
82	1e+13	NDD, unbiased		-1.988	
83	1e+13	NDD, unbiased		-0.625	

Test Statistics (%)

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					-2.015	-1.438	-0.861	0.816				
1e+12					-2.402	-1.7463	-1.275	0.58568				
5e+12					-2.095	-1.4107	-0.879	0.62221				
1e+13					-2.094	-1.569	-0.625	0.81924				

Device Test: 30.39 Current_Limit_Accuracy(Accuracy_Ilim_7A_1p5V)





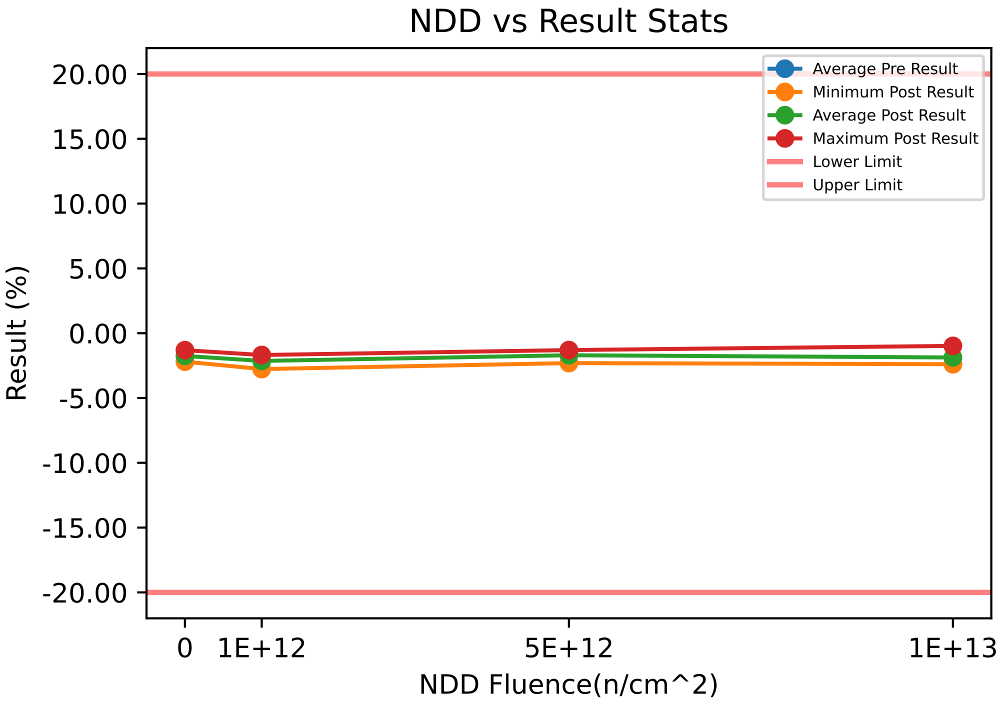
Test Results (Lower Limit = -20.0,
Upper Limit = 20.0 (%))

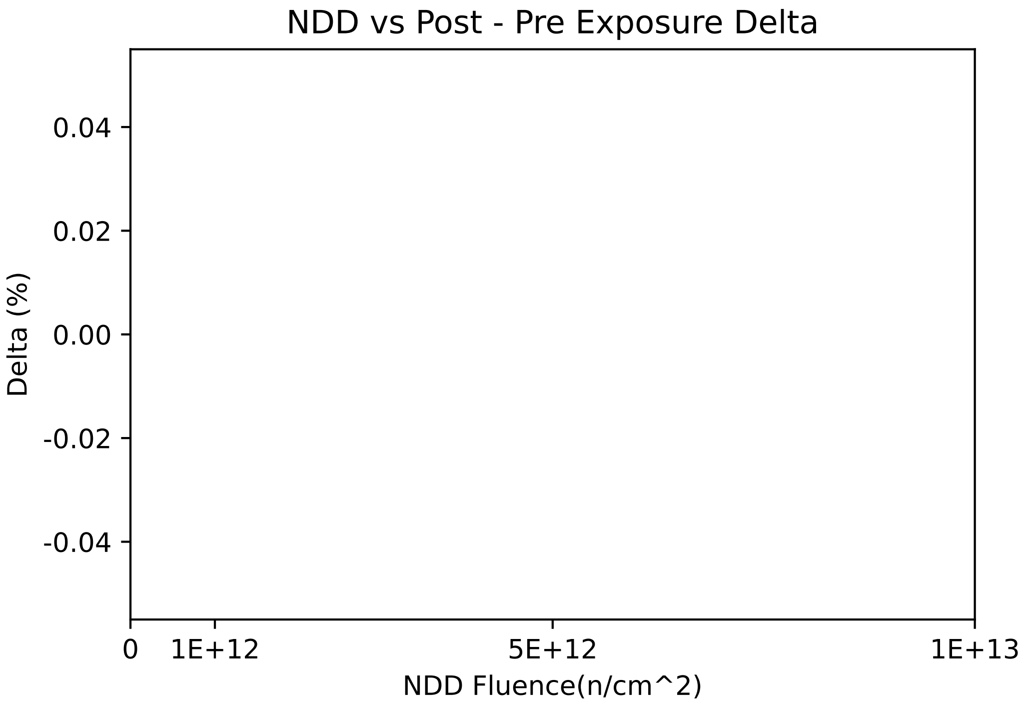
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.047	
71	0	Correlation		-1.173	
72	1e+12	NDD, unbiased		-1.492	
74	1e+12	NDD, unbiased		-2.626	
75	1e+12	NDD, unbiased		-1.874	
76	5e+12	NDD, unbiased		-1.387	
77	5e+12	NDD, unbiased		-1.177	
78	5e+12	NDD, unbiased		-2.176	
81	1e+13	NDD, unbiased		-2.326	
82	1e+13	NDD, unbiased		-2.192	
83	1e+13	NDD, unbiased		-0.852	

Test Statistics (%)

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					-2.047	-1.61	-1.173	0.61801				
1e+12					-2.626	-1.9973	-1.492	0.57697				
5e+12					-2.176	-1.58	-1.177	0.52672				
1e+13					-2.326	-1.79	-0.852	0.81509				

Device Test: 30.43 Current_Limit_Accuracy(Accuracy_Ilim_7p5A_1p5V)





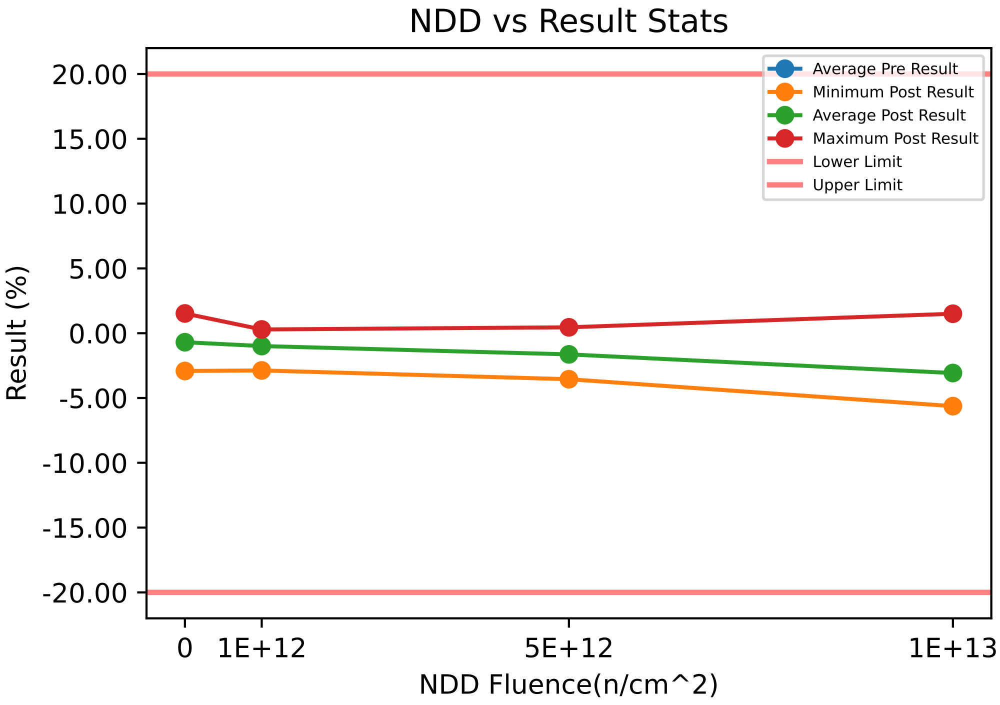
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

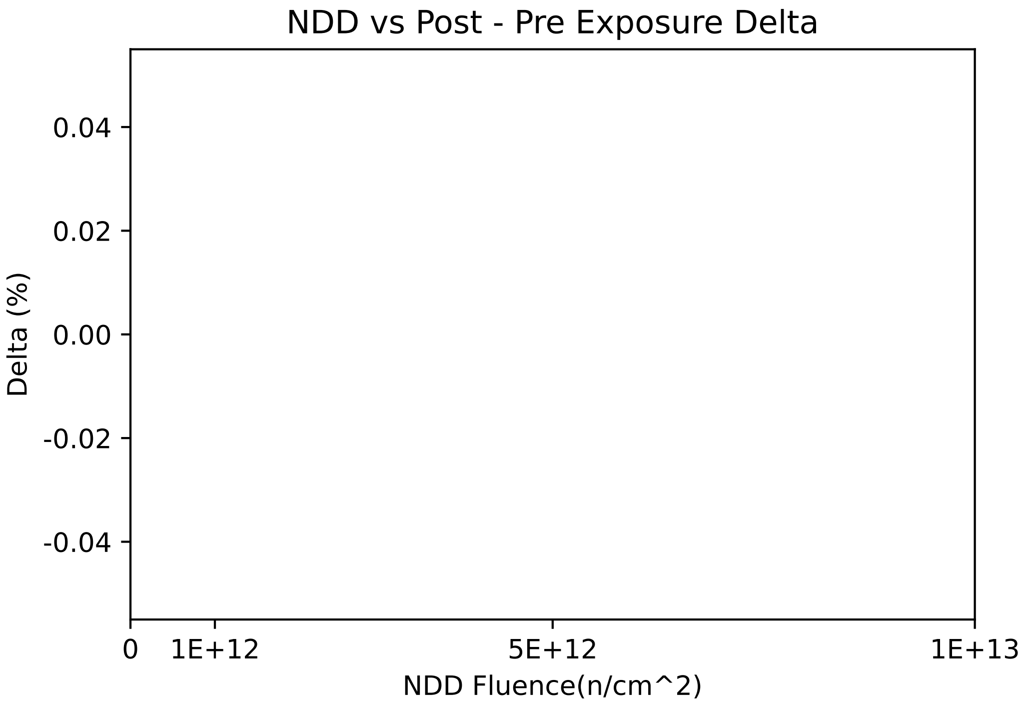
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.197	
71	0	Correlation		-1.31	
72	1e+12	NDD, unbiased		-1.683	
74	1e+12	NDD, unbiased		-2.768	
75	1e+12	NDD, unbiased		-1.969	
76	5e+12	NDD, unbiased		-1.496	
77	5e+12	NDD, unbiased		-1.303	
78	5e+12	NDD, unbiased		-2.307	
81	1e+13	NDD, unbiased		-2.394	
82	1e+13	NDD, unbiased		-2.246	
83	1e+13	NDD, unbiased		-0.979	

Test Statistics (%)

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					-2.197	-1.7535	-1.31	0.6272				
1e+12					-2.768	-2.14	-1.683	0.56235				
5e+12					-2.307	-1.702	-1.303	0.53276				
1e+13					-2.394	-1.873	-0.979	0.77776				

Device Test: 30.59 Current_Limit_Accuracy(Accuracy_Ilim_750mA_7V)





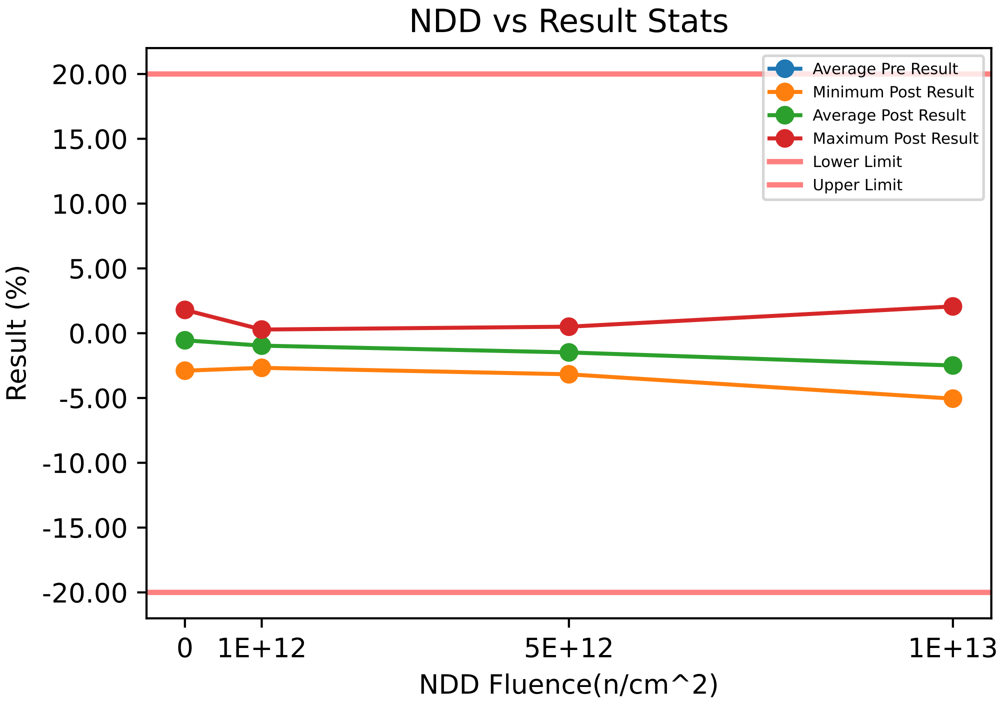
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

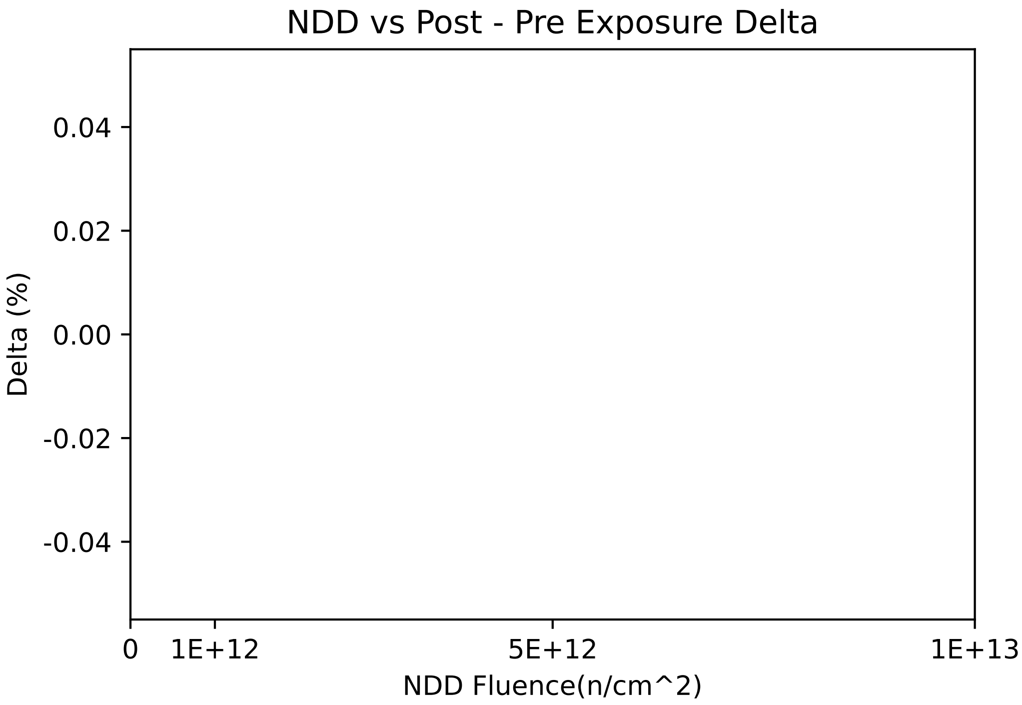
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.916	
71	0	Correlation		1.523	
72	1e+12	NDD, unbiased		0.289	
74	1e+12	NDD, unbiased		-2.874	
75	1e+12	NDD, unbiased		-0.388	
76	5e+12	NDD, unbiased		-1.806	
77	5e+12	NDD, unbiased		0.454	
78	5e+12	NDD, unbiased		-3.551	
81	1e+13	NDD, unbiased		-5.628	
82	1e+13	NDD, unbiased		-5.093	
83	1e+13	NDD, unbiased		1.501	

Test Statistics (%)

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					-2.916	-0.6965	1.523	3.1388				
1e+12					-2.874	-0.991	0.289	1.6655				
5e+12					-3.551	-1.6343	0.454	2.008				
1e+13					-5.628	-3.0733	1.501	3.9705				

Device Test: 30.63 Current_Limit_Accuracy(Accuracy_Ilim_1A_7V)





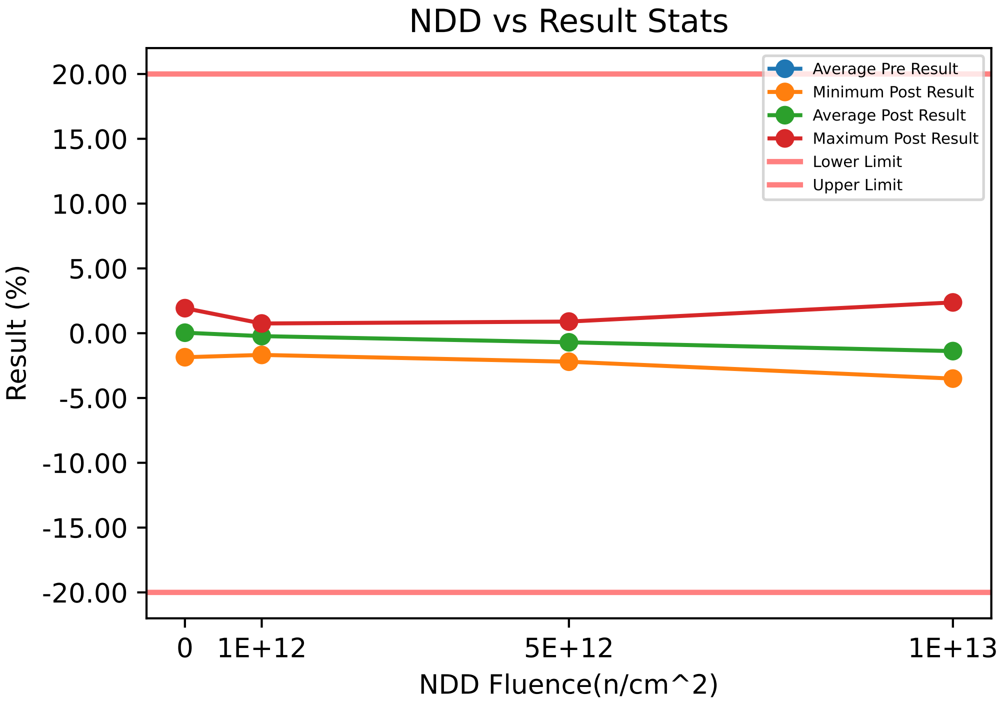
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

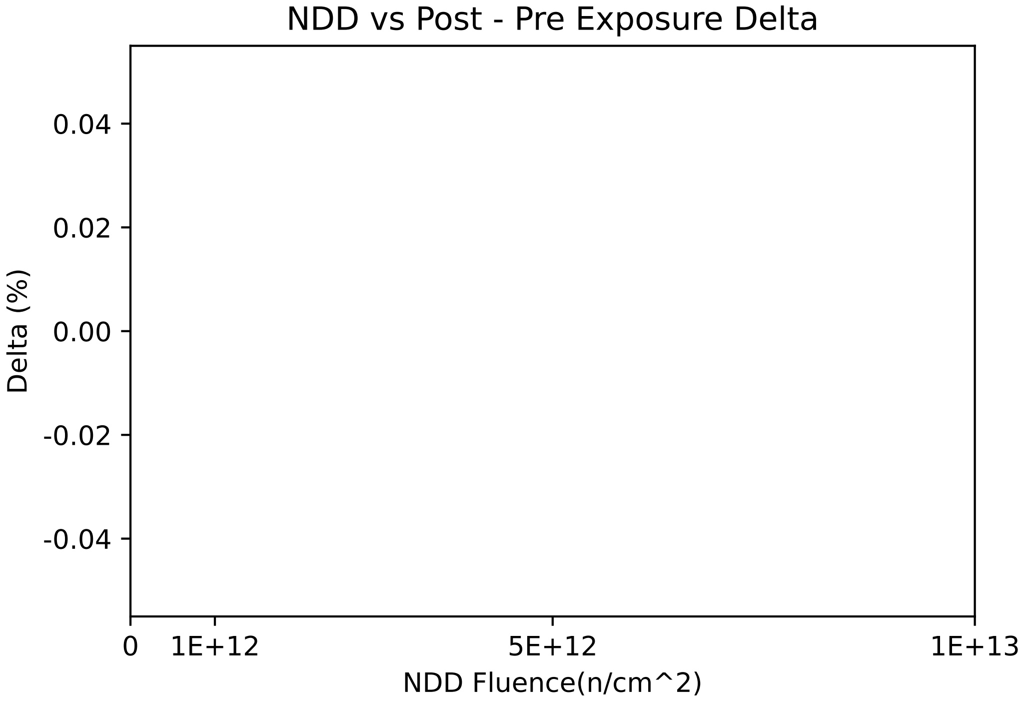
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-2.892	
71	0	Correlation		1.797	
72	1e+12	NDD, unbiased		0.283	
74	1e+12	NDD, unbiased		-2.672	
75	1e+12	NDD, unbiased		-0.49	
76	5e+12	NDD, unbiased		-1.782	
77	5e+12	NDD, unbiased		0.502	
78	5e+12	NDD, unbiased		-3.171	
81	1e+13	NDD, unbiased		-5.049	
82	1e+13	NDD, unbiased		-4.49	
83	1e+13	NDD, unbiased		2.066	

Test Statistics (%)

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					-2.892	-0.5475	1.797	3.3156				
1e+12					-2.672	-0.95967	0.283	1.5325				
5e+12					-3.171	-1.4837	0.502	1.8546				
1e+13					-5.049	-2.491	2.066	3.9564				

Device Test: 30.67 Current_Limit_Accuracy(Accuracy_Ilim_2A_7V)





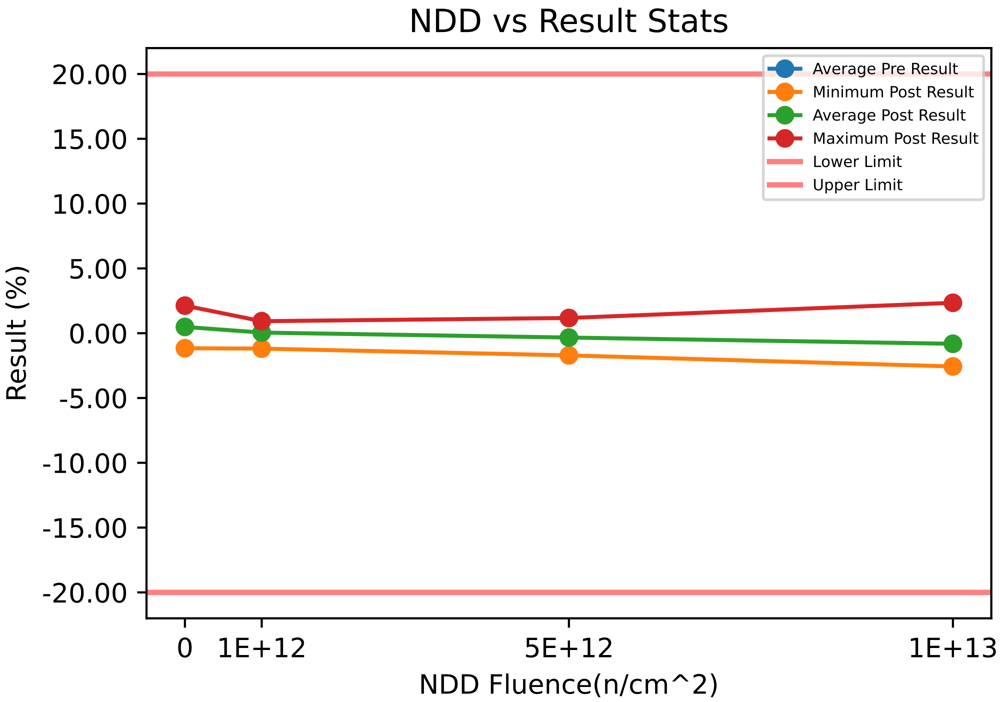
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

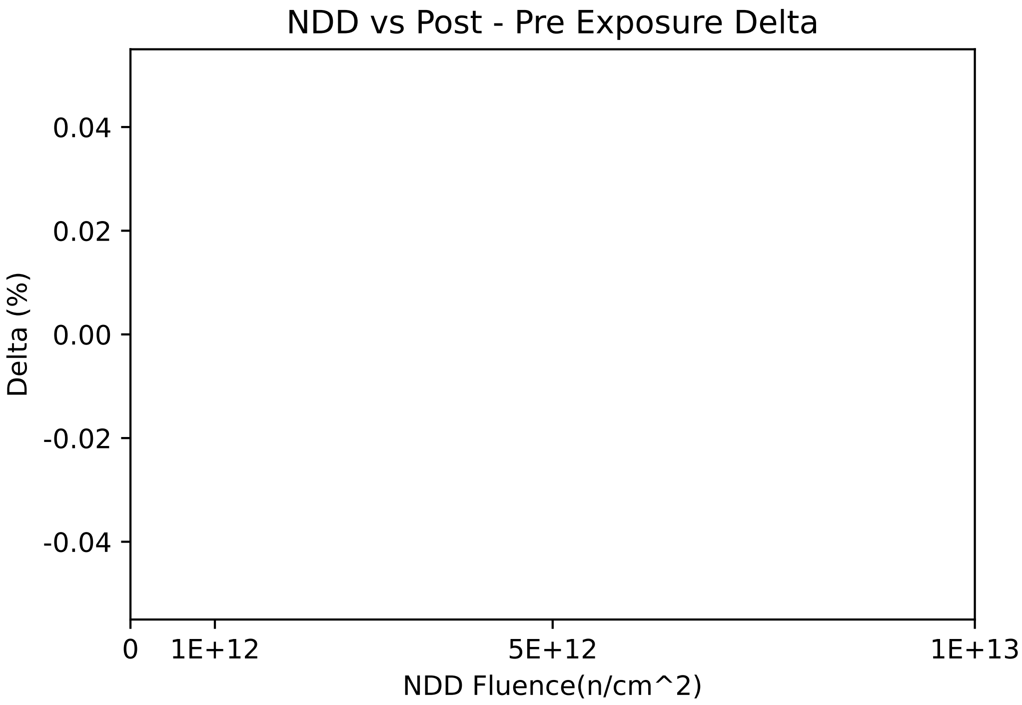
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-1.854	
71	0	Correlation		1.931	
72	1e+12	NDD, unbiased		0.75	
74	1e+12	NDD, unbiased		-1.675	
75	1e+12	NDD, unbiased		0.25	
76	5e+12	NDD, unbiased		-0.806	
77	5e+12	NDD, unbiased		0.898	
78	5e+12	NDD, unbiased		-2.2	
81	1e+13	NDD, unbiased		-3.503	
82	1e+13	NDD, unbiased		-3.016	
83	1e+13	NDD, unbiased		2.375	

Test Statistics (%)

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					-1.854	0.0385	1.931	2.6764				
1e+12					-1.675	-0.225	0.75	1.2804				
5e+12					-2.2	-0.70267	0.898	1.5516				
1e+13					-3.503	-1.3813	2.375	3.2622				

Device Test: 30.71 Current_Limit_Accuracy(Accuracy_Ilim_3A_7V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

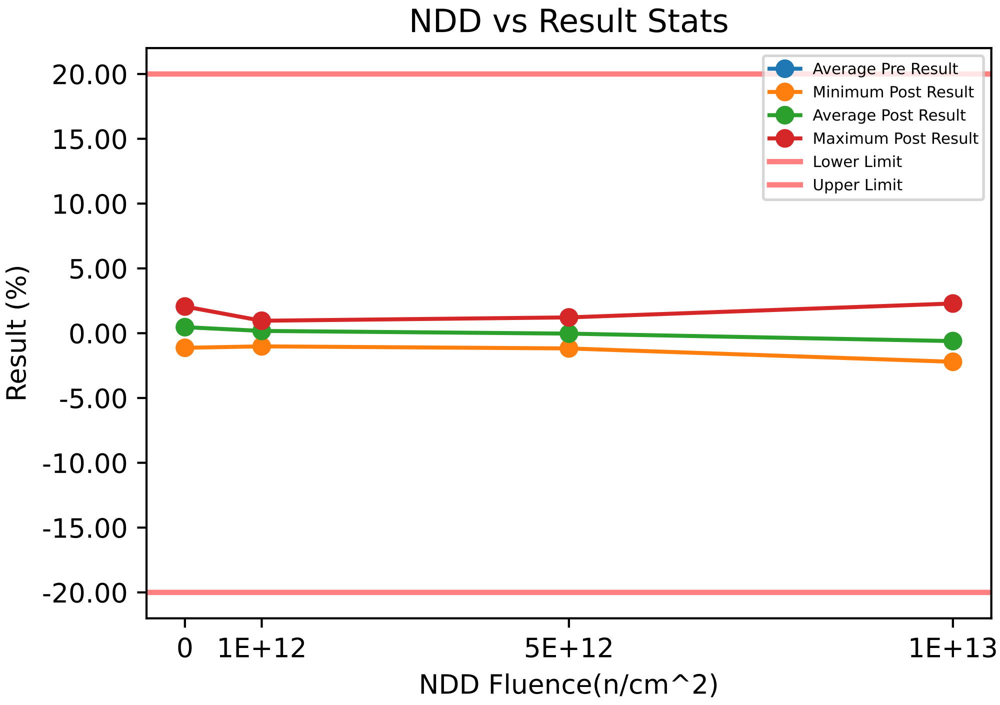
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

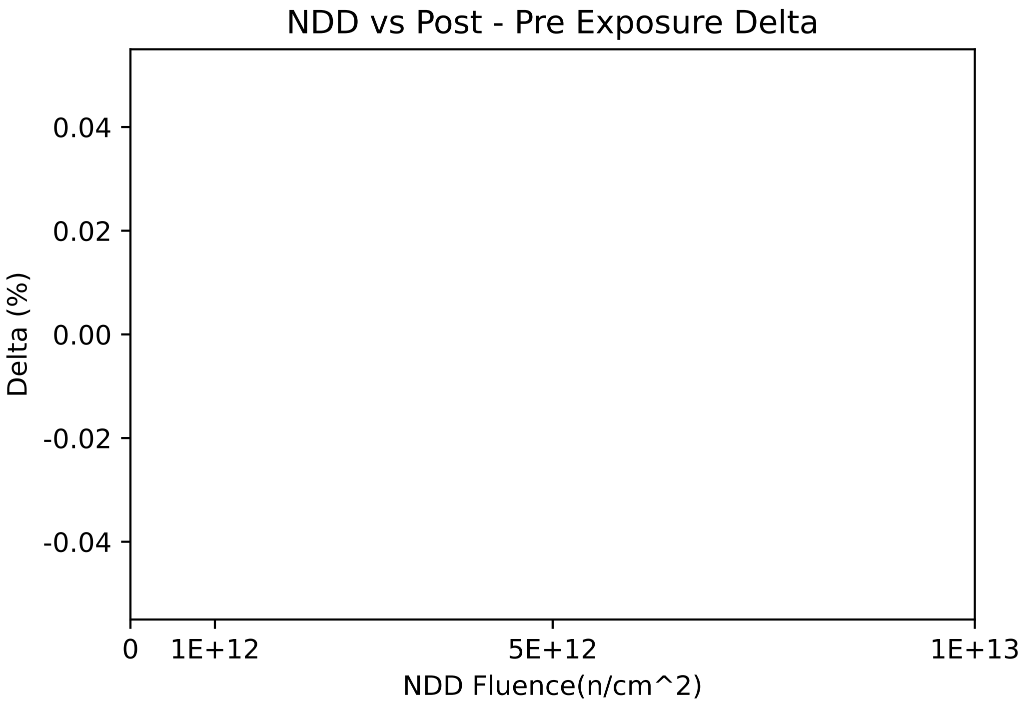
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-1.159	
71	0	Correlation		2.129	
72	1e+12	NDD, unbiased		0.927	
74	1e+12	NDD, unbiased		-1.189	
75	1e+12	NDD, unbiased		0.404	
76	5e+12	NDD, unbiased		-0.471	
77	5e+12	NDD, unbiased		1.174	
78	5e+12	NDD, unbiased		-1.711	
81	1e+13	NDD, unbiased		-2.566	
82	1e+13	NDD, unbiased		-2.226	
83	1e+13	NDD, unbiased		2.345	

Test Statistics (%)

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					-1.159	0.485	2.129	2.325				
1e+12					-1.189	0.047333	0.927	1.1022				
5e+12					-1.711	-0.336	1.174	1.4472				
1e+13					-2.566	-0.81567	2.345	2.7425				

Device Test: 30.75 Current_Limit_Accuracy(Accuracy_Ilim_4A_7V)





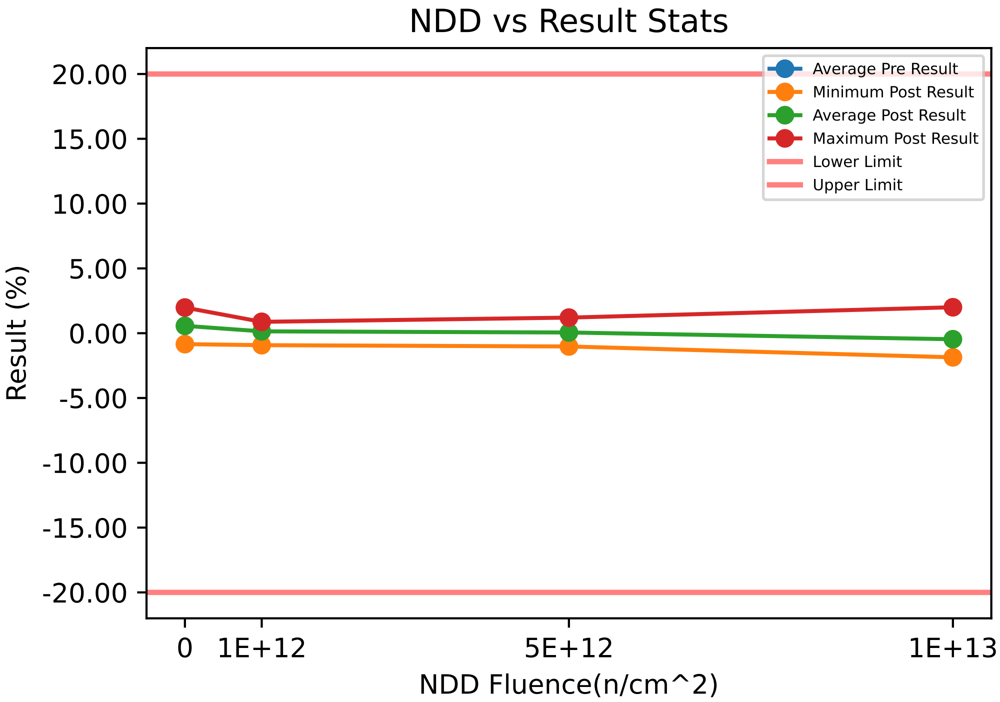
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

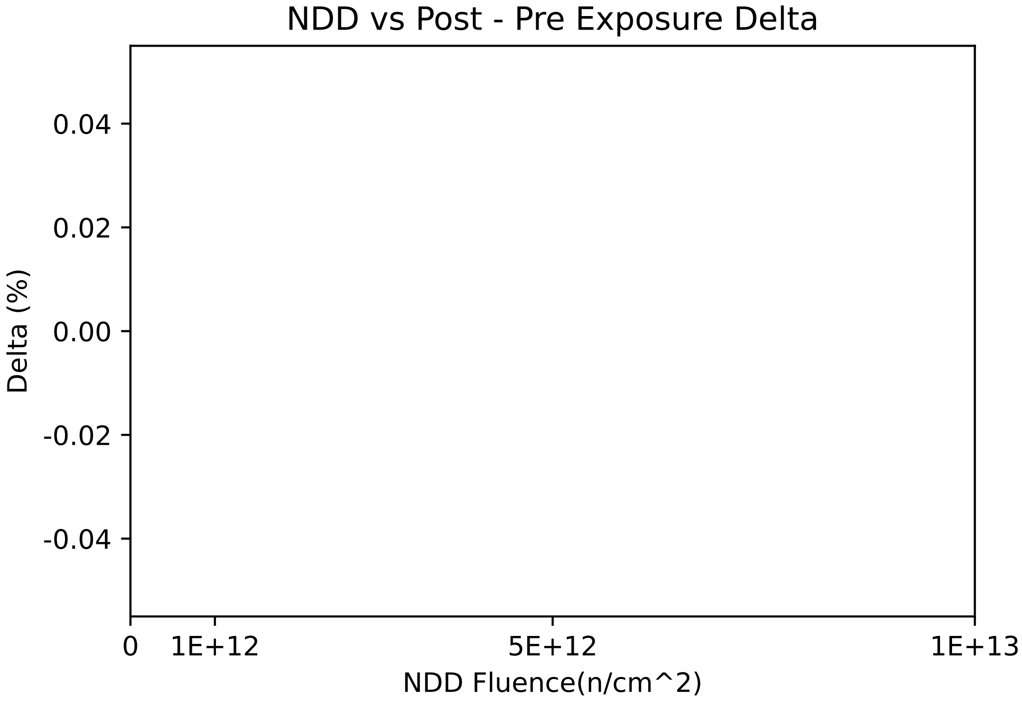
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-1.127	
71	0	Correlation		2.059	
72	1e+12	NDD, unbiased		0.961	
74	1e+12	NDD, unbiased		-1.015	
75	1e+12	NDD, unbiased		0.581	
76	5e+12	NDD, unbiased		-0.141	
77	5e+12	NDD, unbiased		1.219	
78	5e+12	NDD, unbiased		-1.175	
81	1e+13	NDD, unbiased		-2.206	
82	1e+13	NDD, unbiased		-1.908	
83	1e+13	NDD, unbiased		2.291	

Test Statistics (%)

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					-1.127	0.466	2.059	2.2528				
1e+12					-1.015	0.17567	0.961	1.0485				
5e+12					-1.175	-0.032333	1.219	1.2007				
1e+13					-2.206	-0.60767	2.291	2.5147				

Device Test: 30.79 Current_Limit_Accuracy(Accuracy_Ilim_6A_7V)





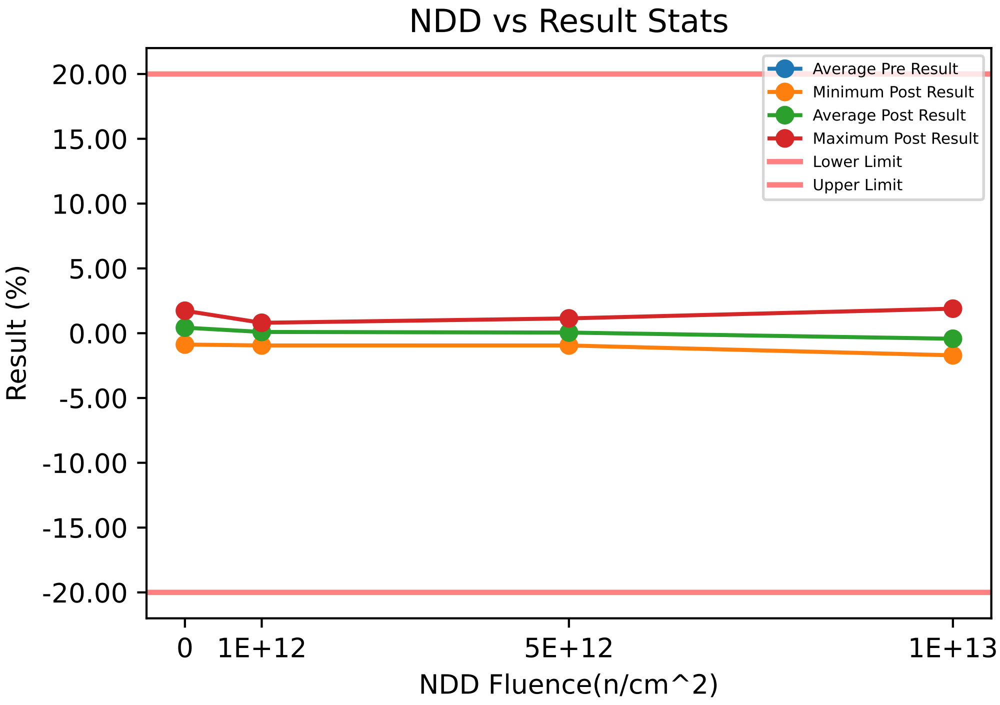
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

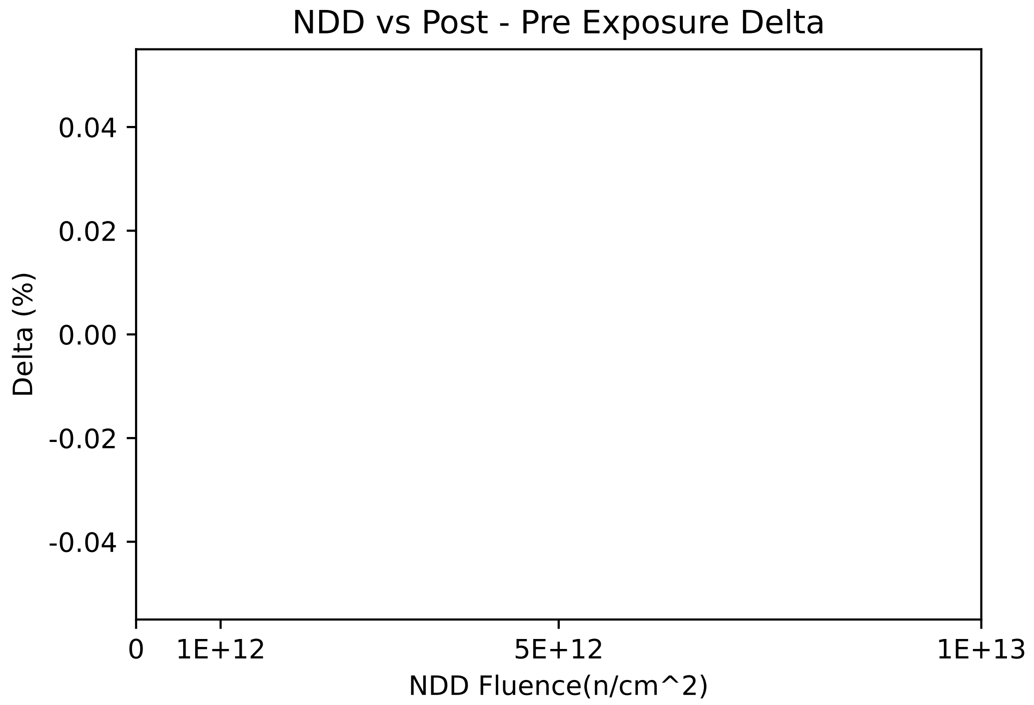
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-0.844	
71	0	Correlation		1.979	
72	1e+12	NDD, unbiased		0.877	
74	1e+12	NDD, unbiased		-0.923	
75	1e+12	NDD, unbiased		0.476	
76	5e+12	NDD, unbiased		-0.017	
77	5e+12	NDD, unbiased		1.203	
78	5e+12	NDD, unbiased		-1.023	
81	1e+13	NDD, unbiased		-1.861	
82	1e+13	NDD, unbiased		-1.539	
83	1e+13	NDD, unbiased		2.001	

Test Statistics (%)

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					-0.844	0.5675	1.979	1.9962				
1e+12					-0.923	0.14333	0.877	0.94499				
5e+12					-1.023	0.054333	1.203	1.1147				
1e+13					-1.861	-0.46633	2.001	2.1428				

Device Test: 30.83 Current_Limit_Accuracy(Accuracy_Ilim_7A_7V)





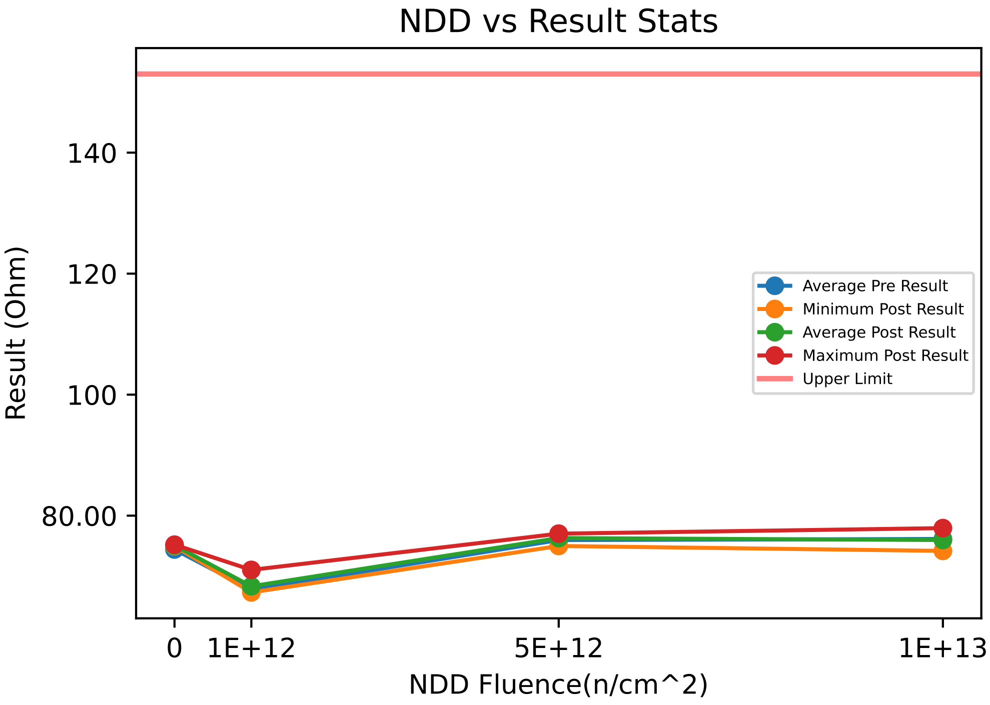
Test Results (Lower Limit = -20.0, Upper Limit = 20.0 (%))

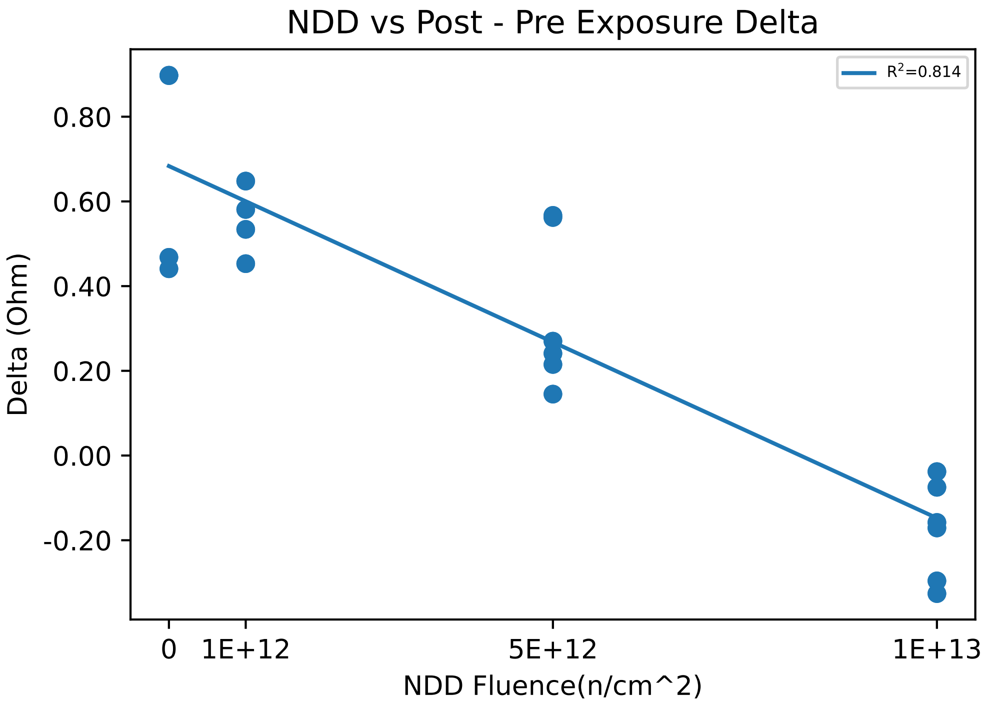
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		-0.875	
71	0	Correlation		1.732	
72	1e+12	NDD, unbiased		0.803	
74	1e+12	NDD, unbiased		-0.945	
75	1e+12	NDD, unbiased		0.431	
76	5e+12	NDD, unbiased		-0.047	
77	5e+12	NDD, unbiased		1.142	
78	5e+12	NDD, unbiased		-0.946	
81	1e+13	NDD, unbiased		-1.707	
82	1e+13	NDD, unbiased		-1.469	
83	1e+13	NDD, unbiased		1.892	

Test Statistics (%)

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					-0.875	0.4285	1.732	1.8434				
1e+12					-0.945	0.096333	0.803	0.9208				
5e+12					-0.946	0.049667	1.142	1.0474				
1e+13					-1.707	-0.428	1.892	2.0127				

Device Test: 35.0 ILTIMER_PDR(ILT_PDresistance_10mA_Vin1p5V)





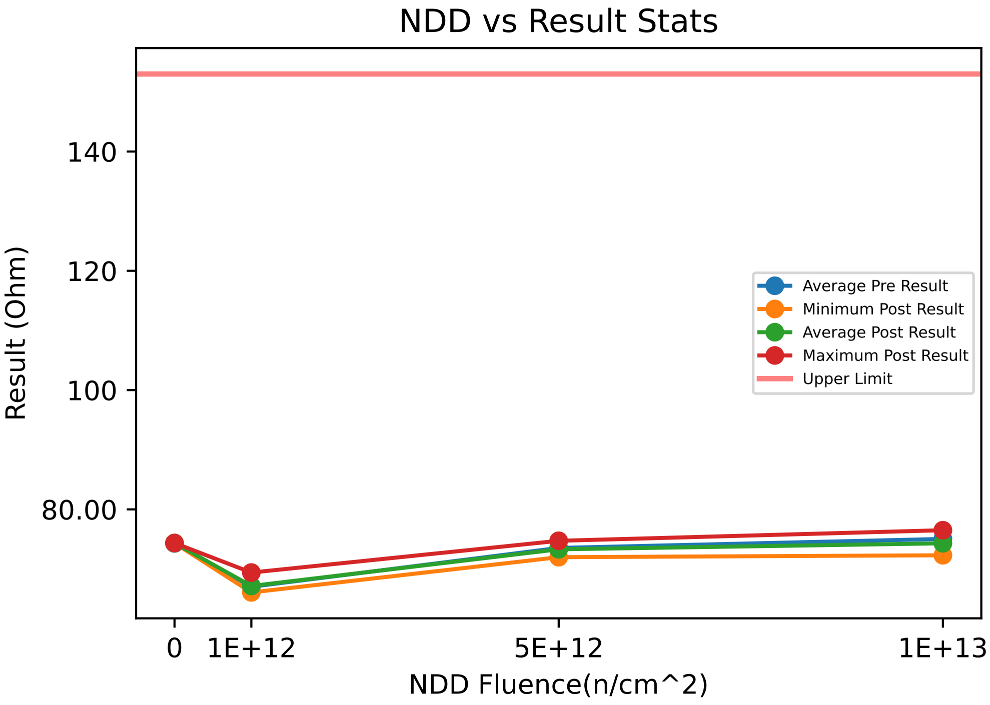
Test Results (Upper Limit = 153.0 (Ohm))

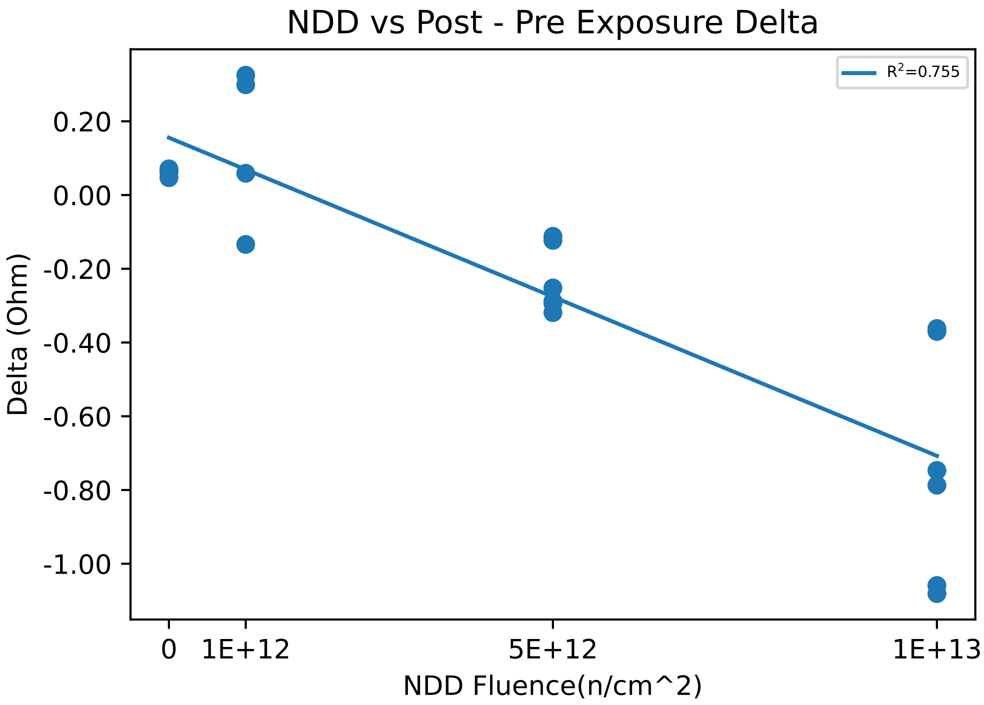
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	74.735	75.203	0.468
71	0	Correlation	74.075	74.972	0.897
72	1e+12	NDD, unbiased	66.735	67.316	0.581
74	1e+12	NDD, unbiased	66.99	67.638	0.648
75	1e+12	NDD, unbiased	70.583	71.036	0.453
76	5e+12	NDD, unbiased	76.81	77.025	0.215
77	5e+12	NDD, unbiased	76.311	76.878	0.567
78	5e+12	NDD, unbiased	74.717	74.987	0.27
81	1e+13	NDD, unbiased	75.969	75.798	-0.171
82	1e+13	NDD, unbiased	77.979	77.941	-0.038
83	1e+13	NDD, unbiased	74.473	74.177	-0.296

Test Statistics (Ohm)

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	74.075	74.405	74.735	0.46669	74.972	75.088	75.203	0.16334	0.468	0.6825	0.897	0.30335
1e+12	66.735	68.103	70.583	2.1518	67.316	68.663	71.036	2.0611	0.453	0.56067	0.648	0.099077
5e+12	74.717	75.946	76.81	1.0932	74.987	76.297	77.025	1.1366	0.215	0.35067	0.567	0.18936
1e+13	74.473	76.14	77.979	1.7593	74.177	75.972	77.941	1.888	-0.296	-0.16833	-0.038	0.12902

Device Test: 35.1 RTIMER_PDR(RT_PDresistance_10mA_Vin1p5V)





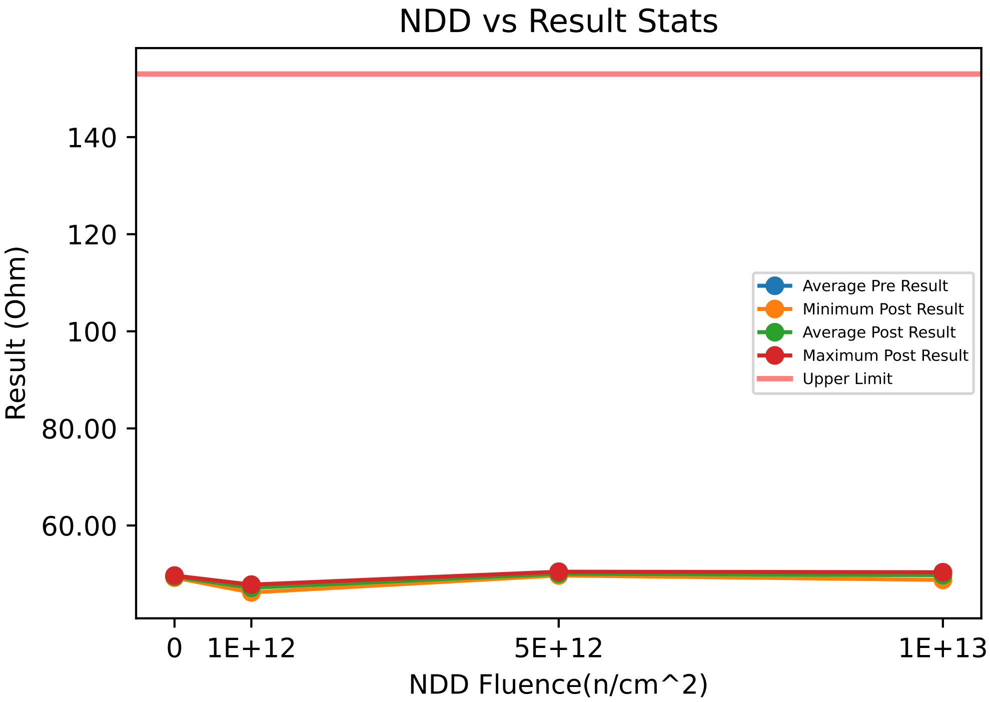
Test Results (Upper Limit = 153.0 (Ohm))

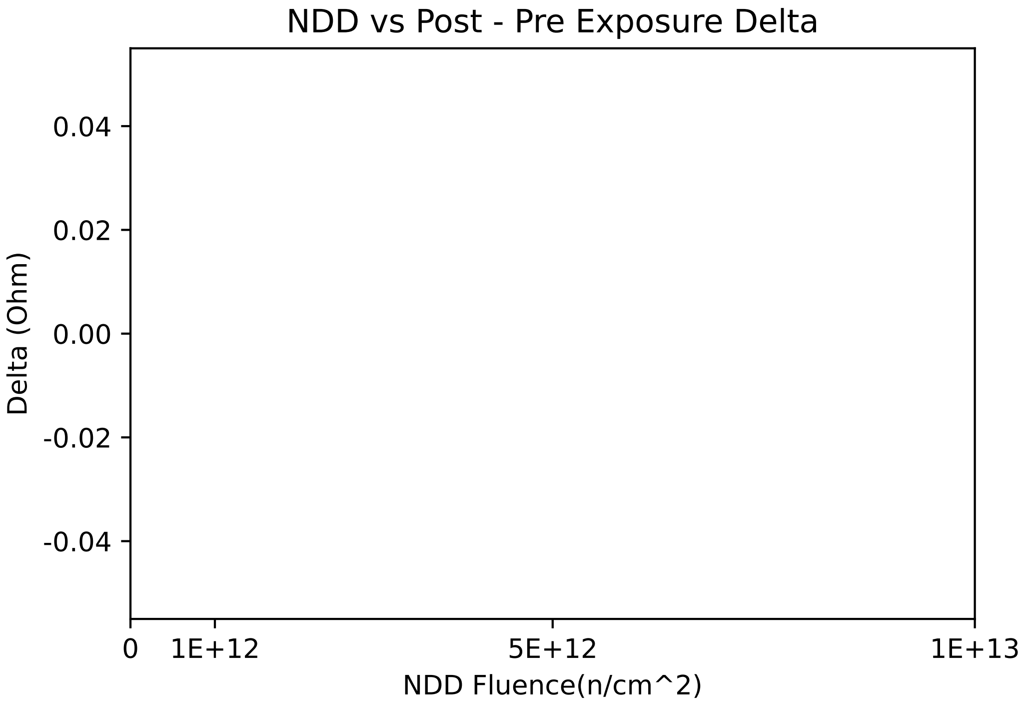
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	74.308	74.355	0.047
71	0	Correlation	74.281	74.352	0.071
72	1e+12	NDD, unbiased	65.755	66.08	0.325
74	1e+12	NDD, unbiased	67.207	67.073	-0.134
75	1e+12	NDD, unbiased	69.347	69.406	0.059
76	5e+12	NDD, unbiased	74.985	74.733	-0.252
77	5e+12	NDD, unbiased	73.491	73.203	-0.288
78	5e+12	NDD, unbiased	72.095	71.983	-0.112
81	1e+13	NDD, unbiased	74.478	74.116	-0.362
82	1e+13	NDD, unbiased	77.253	76.506	-0.747
83	1e+13	NDD, unbiased	73.364	72.305	-1.059

Test Statistics (Ohm)

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	74.281	74.294	74.308	0.019092	74.352	74.353	74.355	0.0021213	0.047	0.059	0.071	0.016971
1e+12	65.755	67.436	69.347	1.8069	66.08	67.52	69.406	1.7074	-0.134	0.083333	0.325	0.23047
5e+12	72.095	73.524	74.985	1.4453	71.983	73.306	74.733	1.3779	-0.288	-0.21733	-0.112	0.09298
1e+13	73.364	75.032	77.253	2.0027	72.305	74.309	76.506	2.1071	-1.059	-0.72267	-0.362	0.34914

Device Test: 35.2 ILTIMER_PDR(ILT_PDresistance_10mA_Vin1p8V)





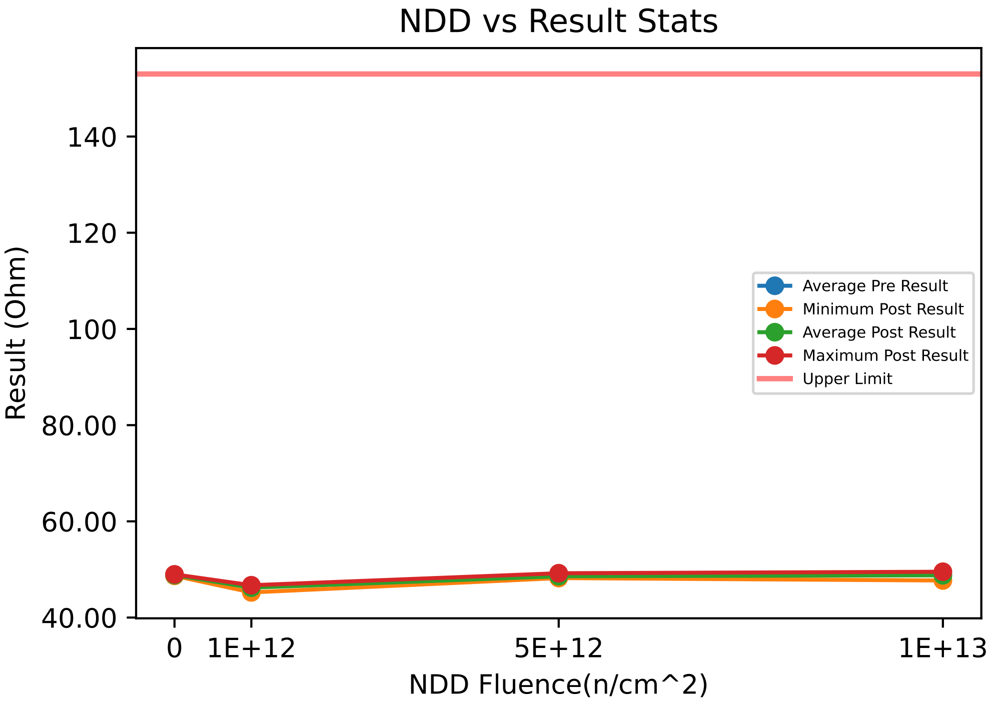
Test Results (Upper Limit = 153.0 (Ohm))

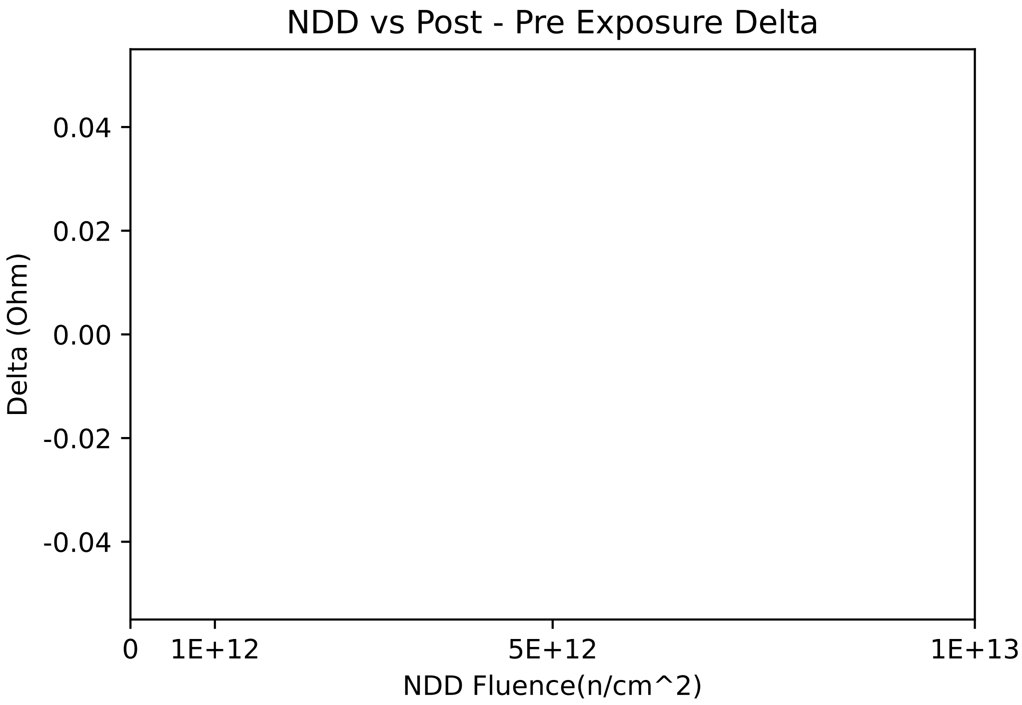
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		49.686	
71	0	Correlation		49.259	
72	1e+12	NDD, unbiased		46.216	
74	1e+12	NDD, unbiased		47.442	
75	1e+12	NDD, unbiased		47.816	
76	5e+12	NDD, unbiased		50.48	
77	5e+12	NDD, unbiased		50.018	
78	5e+12	NDD, unbiased		49.721	
81	1e+13	NDD, unbiased		50.107	
82	1e+13	NDD, unbiased		50.37	
83	1e+13	NDD, unbiased		48.793	

Test Statistics (Ohm)

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					49.259	49.472	49.686	0.30193				
1e+12					46.216	47.158	47.816	0.83695				
5e+12					49.721	50.073	50.48	0.38248				
1e+13					48.793	49.757	50.37	0.84486				

Device Test: 35.3 RTIMER_PDR(RT_PDresistance_10mA_Vin1p8V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

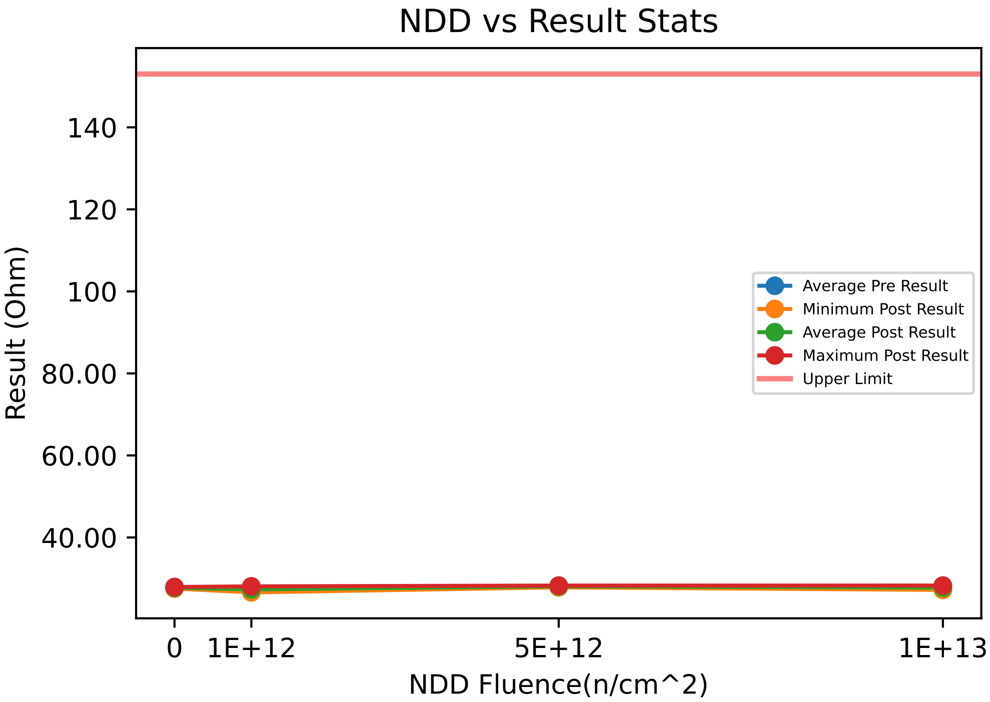
Test Results (Upper Limit = 153.0 (Ohm))

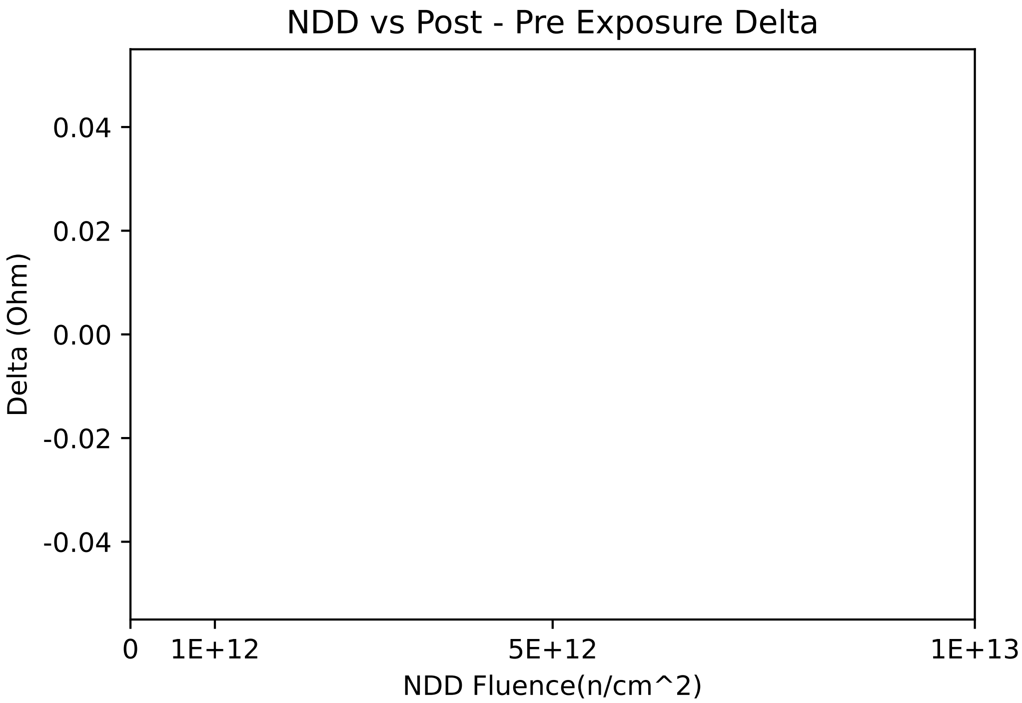
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		48.977	
71	0	Correlation		48.674	
72	1e+12	NDD, unbiased		45.228	
74	1e+12	NDD, unbiased		46.687	
75	1e+12	NDD, unbiased		46.715	
76	5e+12	NDD, unbiased		49.211	
77	5e+12	NDD, unbiased		48.335	
78	5e+12	NDD, unbiased		48.208	
81	1e+13	NDD, unbiased		49.12	
82	1e+13	NDD, unbiased		49.52	
83	1e+13	NDD, unbiased		47.705	

Test Statistics (Ohm)

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					48.674	48.825	48.977	0.21425				
1e+12					45.228	46.21	46.715	0.85055				
5e+12					48.208	48.585	49.211	0.54612				
1e+13					47.705	48.782	49.52	0.95363				

Device Test: 35.4 ILTIMER_PDR(ILT_PDresistance_10mA_Vin3p3V)





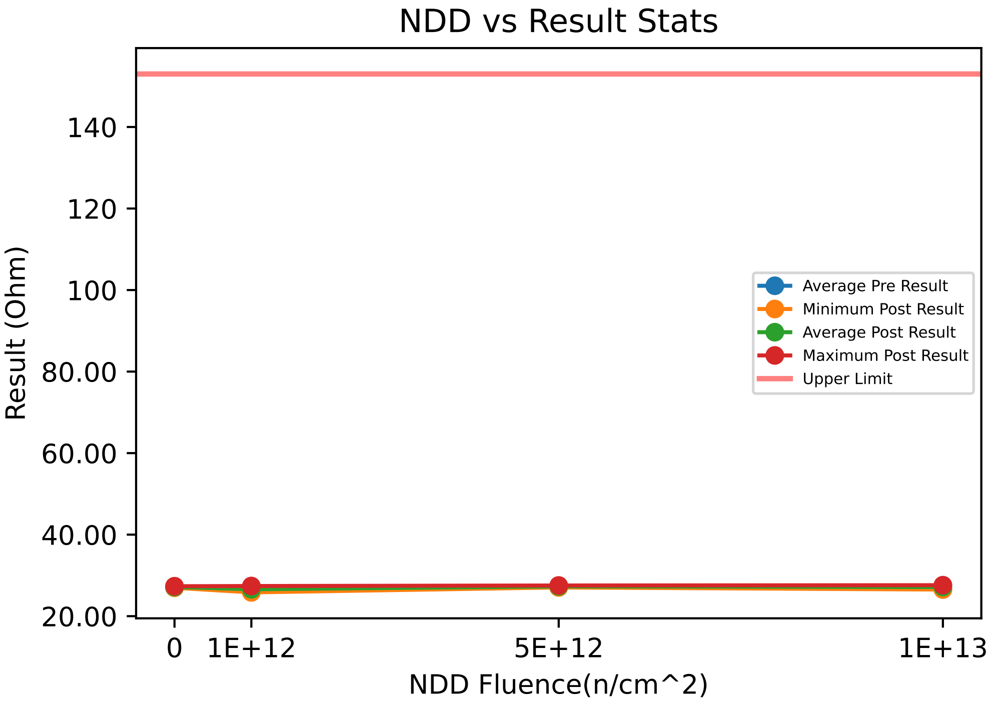
Test Results (Upper Limit = 153.0 (Ohm))

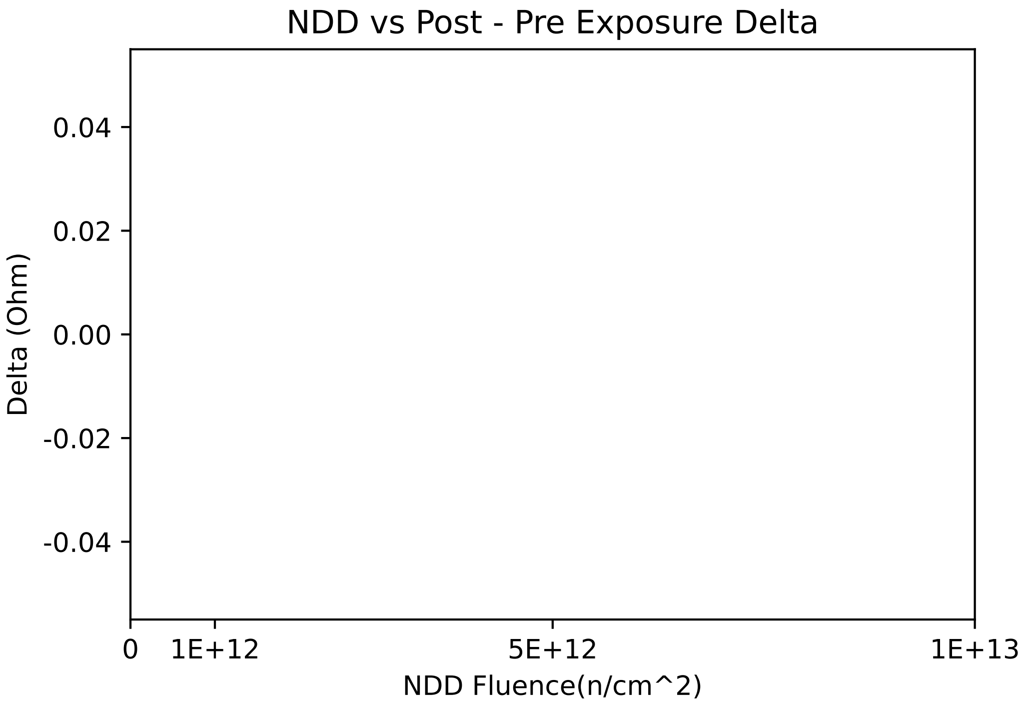
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		27.919	
71	0	Correlation		27.537	
72	1e+12	NDD, unbiased		26.602	
74	1e+12	NDD, unbiased		28.076	
75	1e+12	NDD, unbiased		27.315	
76	5e+12	NDD, unbiased		28.267	
77	5e+12	NDD, unbiased		27.836	
78	5e+12	NDD, unbiased		28.15	
81	1e+13	NDD, unbiased		28.272	
82	1e+13	NDD, unbiased		27.871	
83	1e+13	NDD, unbiased		27.205	

Test Statistics (Ohm)

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					27.537	27.728	27.919	0.27011				
1e+12					26.602	27.331	28.076	0.73713				
5e+12					27.836	28.084	28.267	0.22288				
1e+13					27.205	27.783	28.272	0.53896				

Device Test: 35.5 RTIMER_PDR(RT_PDresistance_10mA_Vin3p3V)





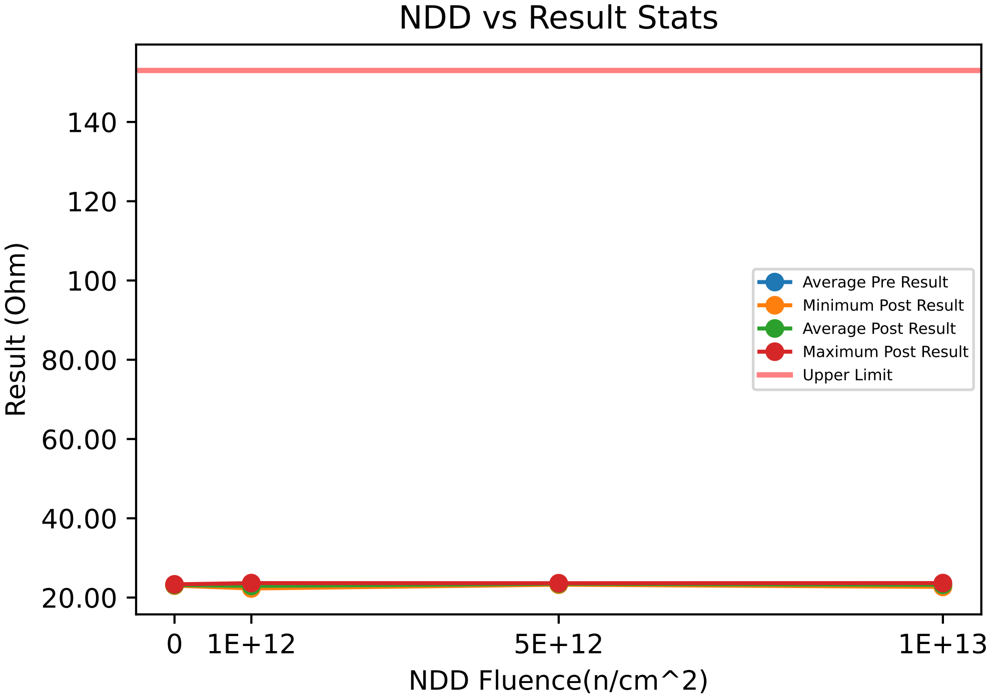
Test Results (Upper Limit = 153.0 (Ohm))

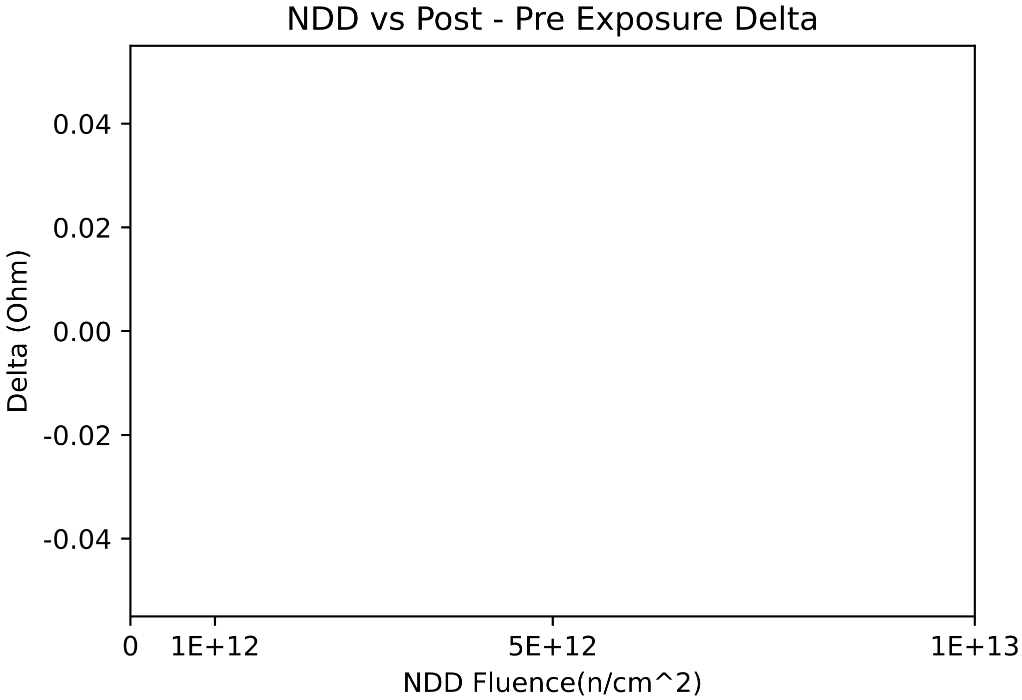
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		27.347	
71	0	Correlation		26.963	
72	1e+12	NDD, unbiased		25.831	
74	1e+12	NDD, unbiased		27.395	
75	1e+12	NDD, unbiased		26.543	
76	5e+12	NDD, unbiased		27.529	
77	5e+12	NDD, unbiased		27.047	
78	5e+12	NDD, unbiased		27.356	
81	1e+13	NDD, unbiased		27.6	
82	1e+13	NDD, unbiased		27.301	
83	1e+13	NDD, unbiased		26.526	

Test Statistics (Ohm)

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					26.963	27.155	27.347	0.27153				
1e+12					25.831	26.59	27.395	0.78304				
5e+12					27.047	27.311	27.529	0.24418				
1e+13					26.526	27.142	27.6	0.5543				

Device Test: 35.6 ILTIMER_PDR(ILT_PDresistance_10mA_Vin5p0V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

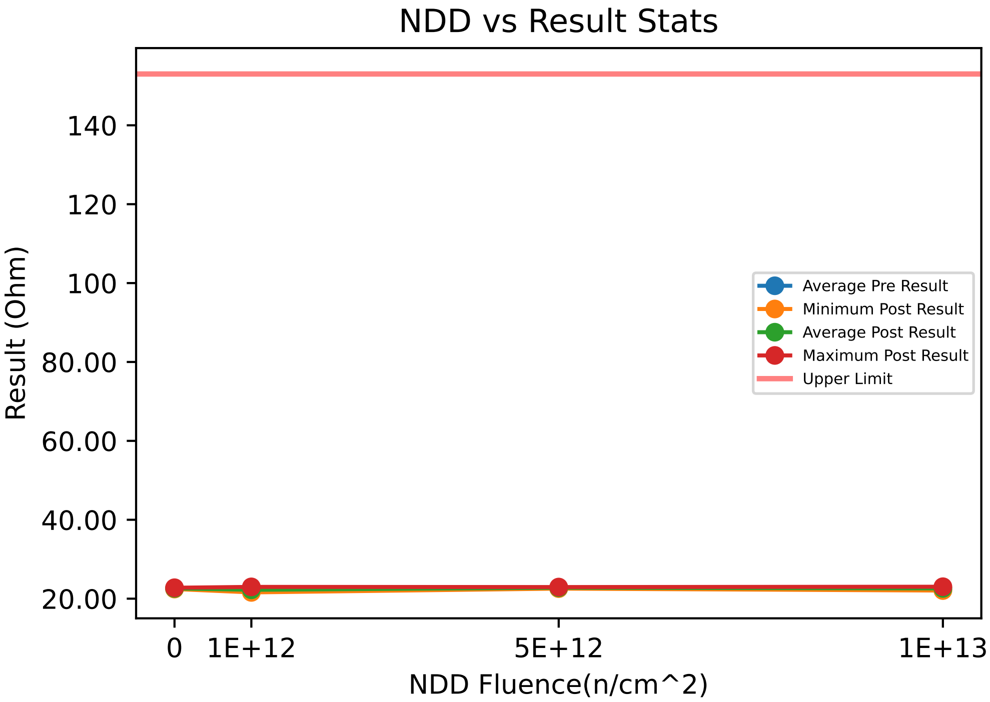
Test Results (Upper Limit = 153.0 (Ohm))

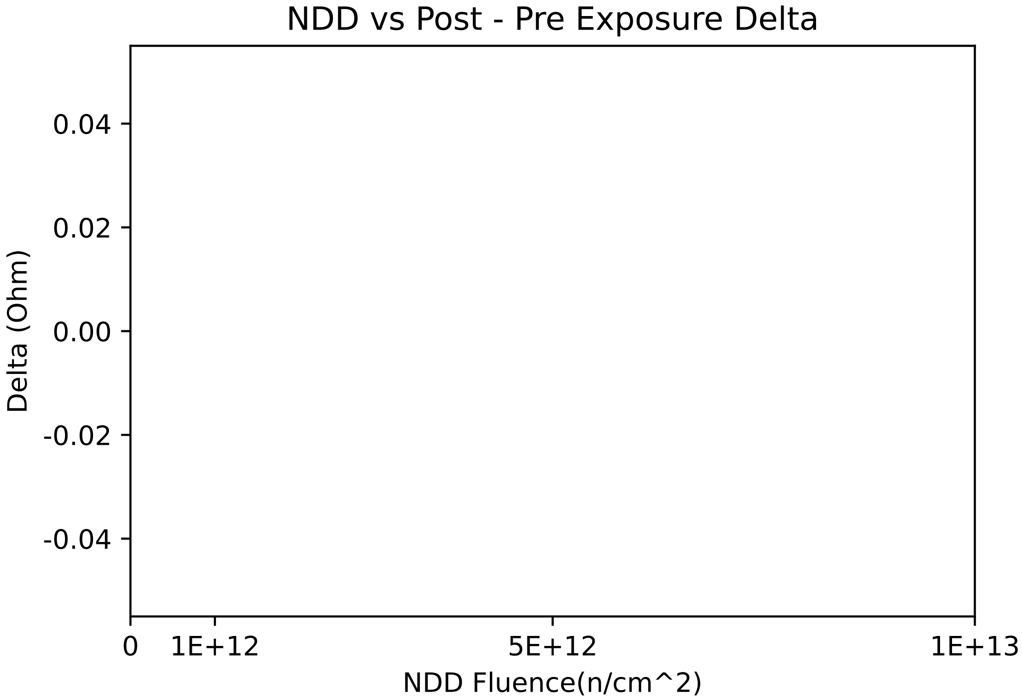
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		23.331	
71	0	Correlation		22.998	
72	1e+12	NDD, unbiased		22.287	
74	1e+12	NDD, unbiased		23.644	
75	1e+12	NDD, unbiased		22.868	
76	5e+12	NDD, unbiased		23.62	
77	5e+12	NDD, unbiased		23.234	
78	5e+12	NDD, unbiased		23.543	
81	1e+13	NDD, unbiased		23.648	
82	1e+13	NDD, unbiased		23.268	
83	1e+13	NDD, unbiased		22.68	

Test Statistics (Ohm)

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					22.998	23.165	23.331	0.23547				
1e+12					22.287	22.933	23.644	0.68083				
5e+12					23.234	23.466	23.62	0.20429				
1e+13					22.68	23.199	23.648	0.48771				

Device Test: 35.7 RTIMER_PDR(RT_PDresistance_10mA_Vin5p0V)





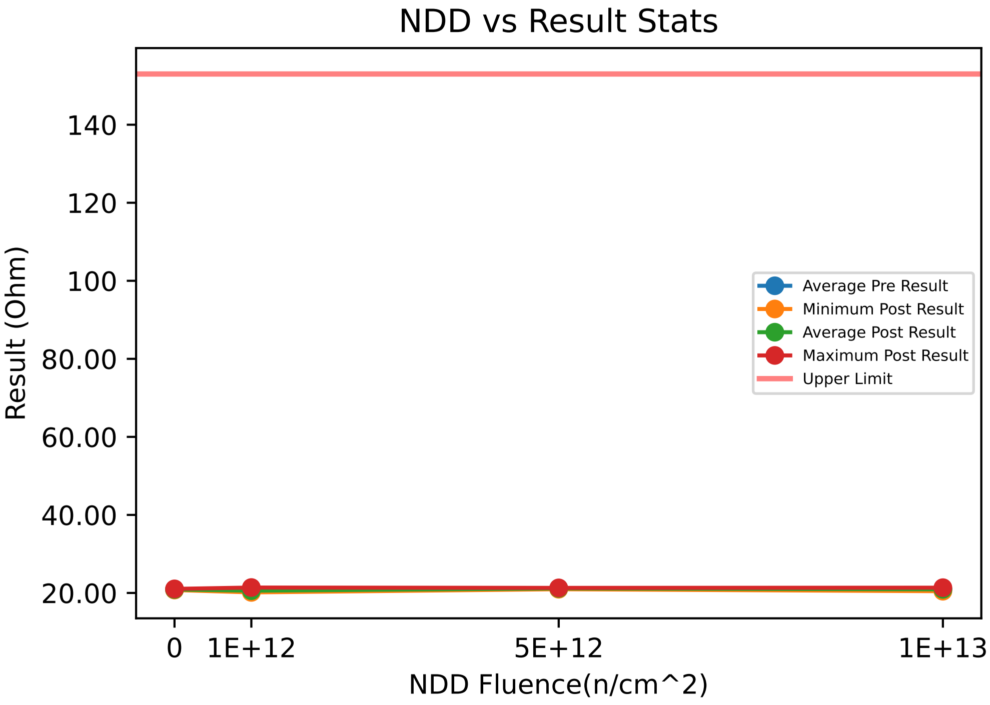
Test Results (Upper Limit = 153.0 (Ohm))

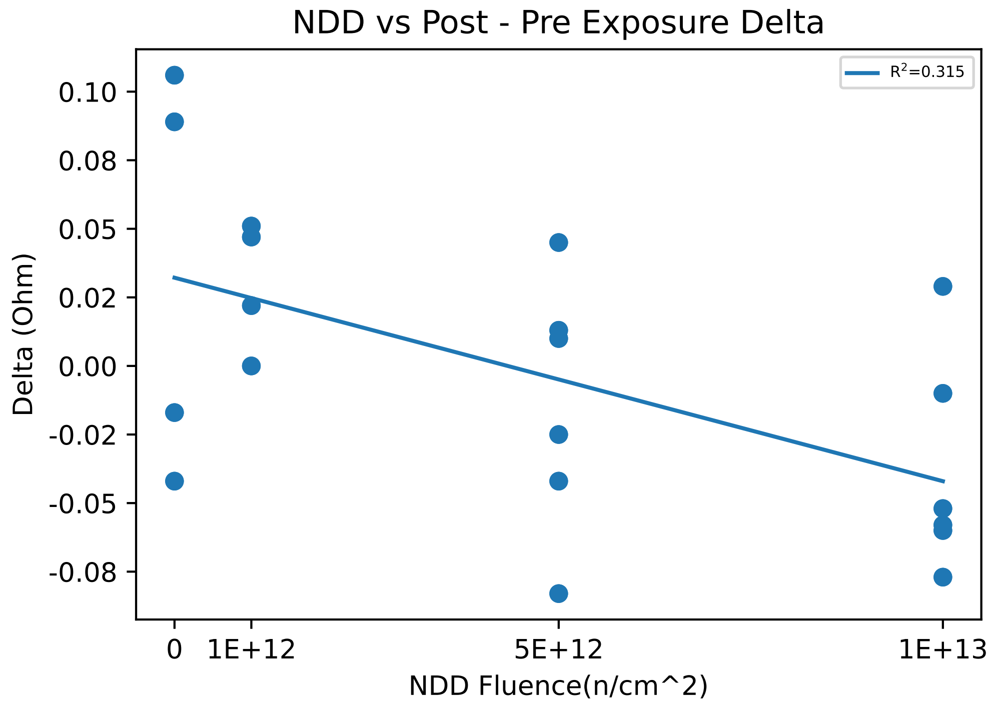
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		22.772	
71	0	Correlation		22.442	
72	1e+12	NDD, unbiased		21.59	
74	1e+12	NDD, unbiased		22.989	
75	1e+12	NDD, unbiased		22.161	
76	5e+12	NDD, unbiased		22.943	
77	5e+12	NDD, unbiased		22.55	
78	5e+12	NDD, unbiased		22.824	
81	1e+13	NDD, unbiased		23.028	
82	1e+13	NDD, unbiased		22.703	
83	1e+13	NDD, unbiased		22.058	

Test Statistics (Ohm)

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					22.442	22.607	22.772	0.23335				
1e+12					21.59	22.247	22.989	0.70342				
5e+12					22.55	22.772	22.943	0.20153				
1e+13					22.058	22.596	23.028	0.49372				

Device Test: 35.8 ILTIMER_PDR(ILT_PDresistance_10mA_Vin7p0V)





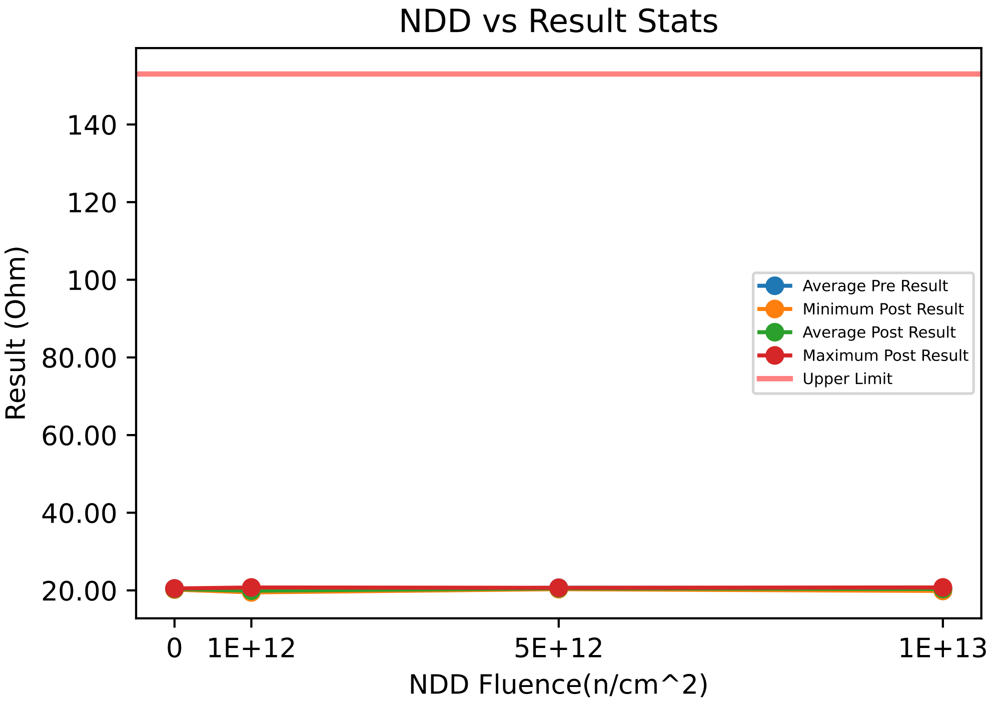
Test Results (Upper Limit = 153.0 (Ohm))

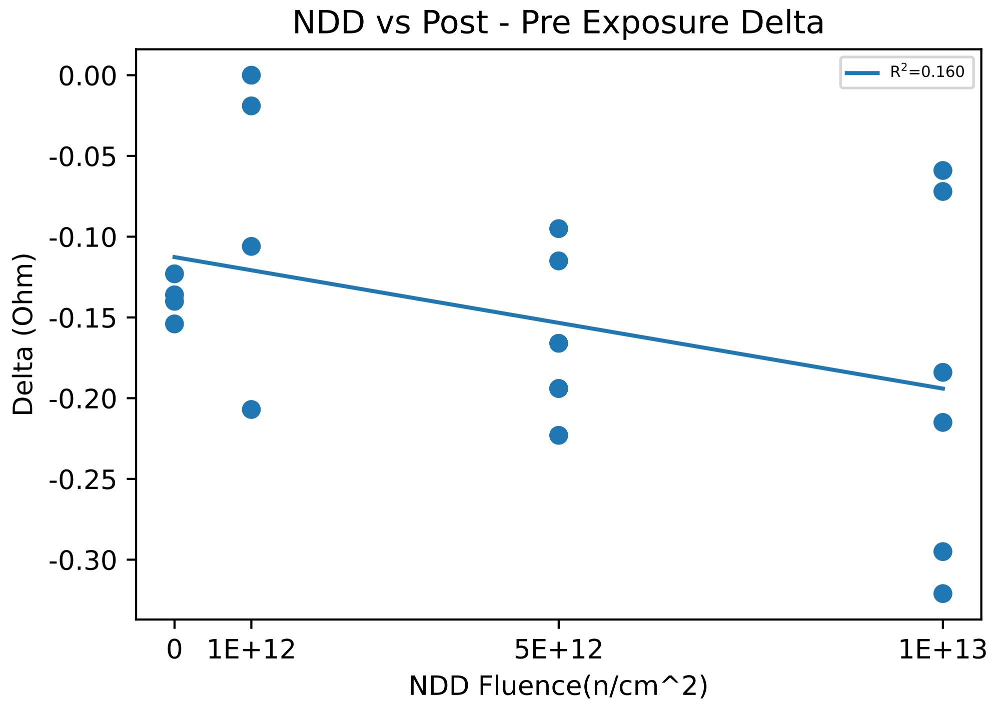
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	21.063	21.046	-0.017
71	0	Correlation	20.645	20.751	0.106
72	1e+12	NDD, unbiased	20.096	20.143	0.047
74	1e+12	NDD, unbiased	21.339	21.39	0.051
75	1e+12	NDD, unbiased	20.652	20.652	0
76	5e+12	NDD, unbiased	21.343	21.301	-0.042
77	5e+12	NDD, unbiased	20.911	20.956	0.045
78	5e+12	NDD, unbiased	21.239	21.249	0.01
81	1e+13	NDD, unbiased	21.413	21.353	-0.06
82	1e+13	NDD, unbiased	20.972	21.001	0.029
83	1e+13	NDD, unbiased	20.498	20.446	-0.052

Test Statistics (Ohm)

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	20.645	20.854	21.063	0.29557	20.751	20.898	21.046	0.2086	-0.017	0.0445	0.106	0.086974
1e+12	20.096	20.696	21.339	0.62265	20.143	20.728	21.39	0.62699	0	0.032667	0.051	0.028361
5e+12	20.911	21.164	21.343	0.22547	20.956	21.169	21.301	0.186	-0.042	0.0043333	0.045	0.043776
1e+13	20.498	20.961	21.413	0.4576	20.446	20.933	21.353	0.45727	-0.06	-0.027667	0.029	0.049238

Device Test: 35.9 RTIMER_PDR(RT_PDresistance_10mA_Vin7p0V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

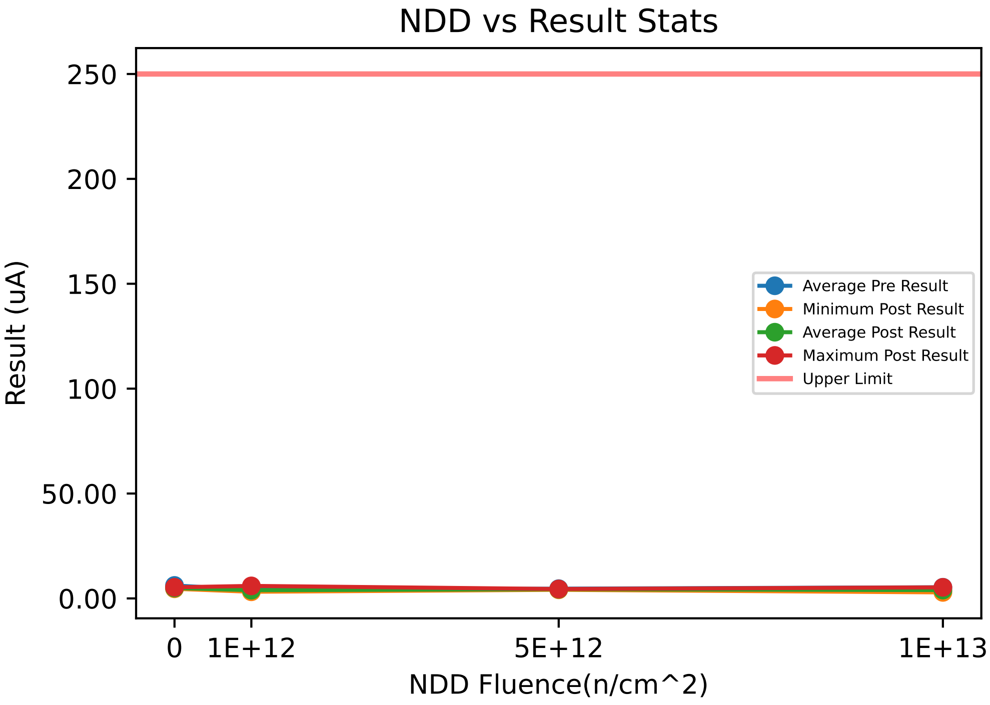
Test Results (Upper Limit = 153.0 (Ohm))

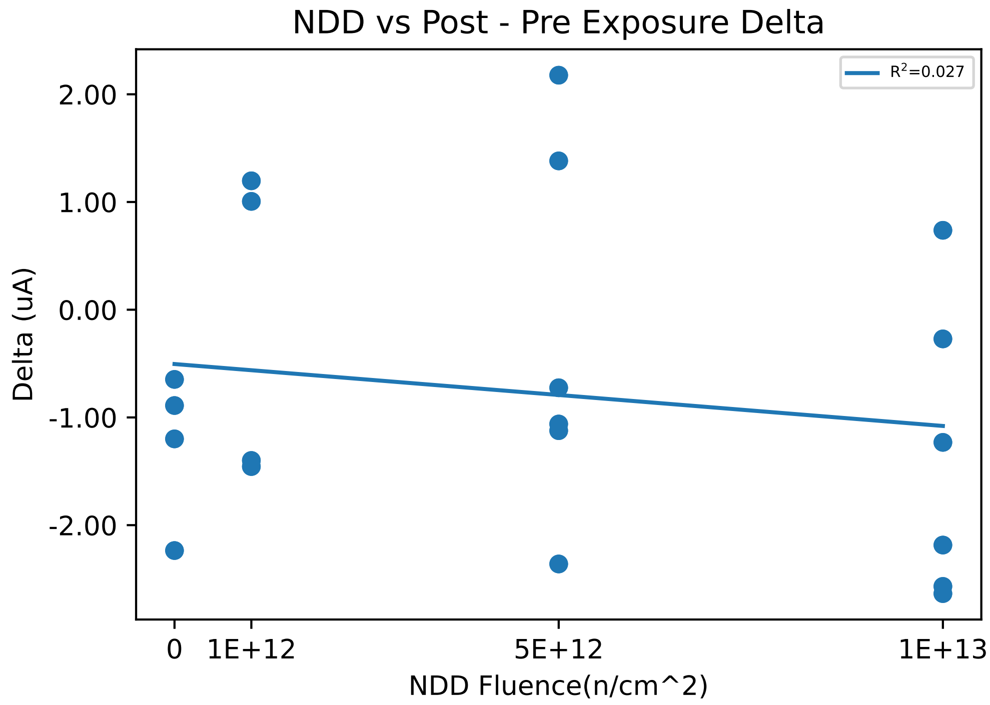
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	20.616	20.493	-0.123
71	0	Correlation	20.343	20.207	-0.136
72	1e+12	NDD, unbiased	19.482	19.482	0
74	1e+12	NDD, unbiased	20.958	20.751	-0.207
75	1e+12	NDD, unbiased	20.096	19.99	-0.106
76	5e+12	NDD, unbiased	20.833	20.667	-0.166
77	5e+12	NDD, unbiased	20.507	20.313	-0.194
78	5e+12	NDD, unbiased	20.659	20.564	-0.095
81	1e+13	NDD, unbiased	20.82	20.761	-0.059
82	1e+13	NDD, unbiased	20.62	20.436	-0.184
83	1e+13	NDD, unbiased	20.142	19.847	-0.295

Test Statistics (Ohm)

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	20.343	20.48	20.616	0.19304	20.207	20.35	20.493	0.20223	-0.136	-0.1295	-0.123	0.0091924
1e+12	19.482	20.179	20.958	0.74146	19.482	20.074	20.751	0.63869	-0.207	-0.10433	0	0.10351
5e+12	20.507	20.666	20.833	0.16312	20.313	20.515	20.667	0.18208	-0.194	-0.15167	-0.095	0.051033
1e+13	20.142	20.527	20.82	0.34837	19.847	20.348	20.761	0.46331	-0.295	-0.17933	-0.059	0.11807

Device Test: 4.1 FORWARD_LEAKAGE(Forward_Leakage_1p5V)





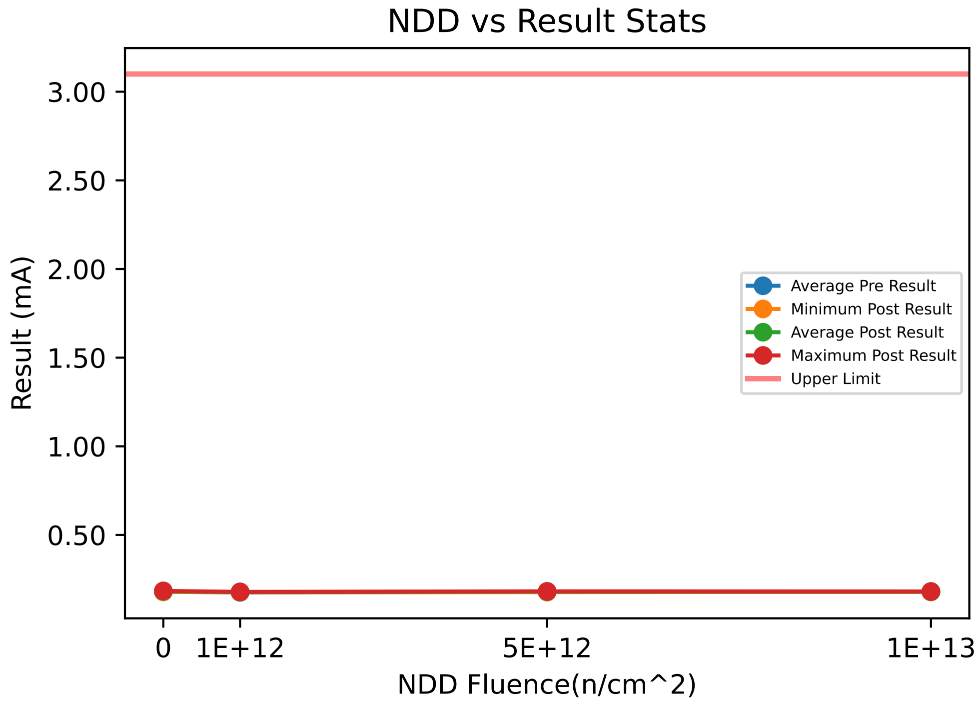
Test Results (Upper Limit = 250.0 (uA))

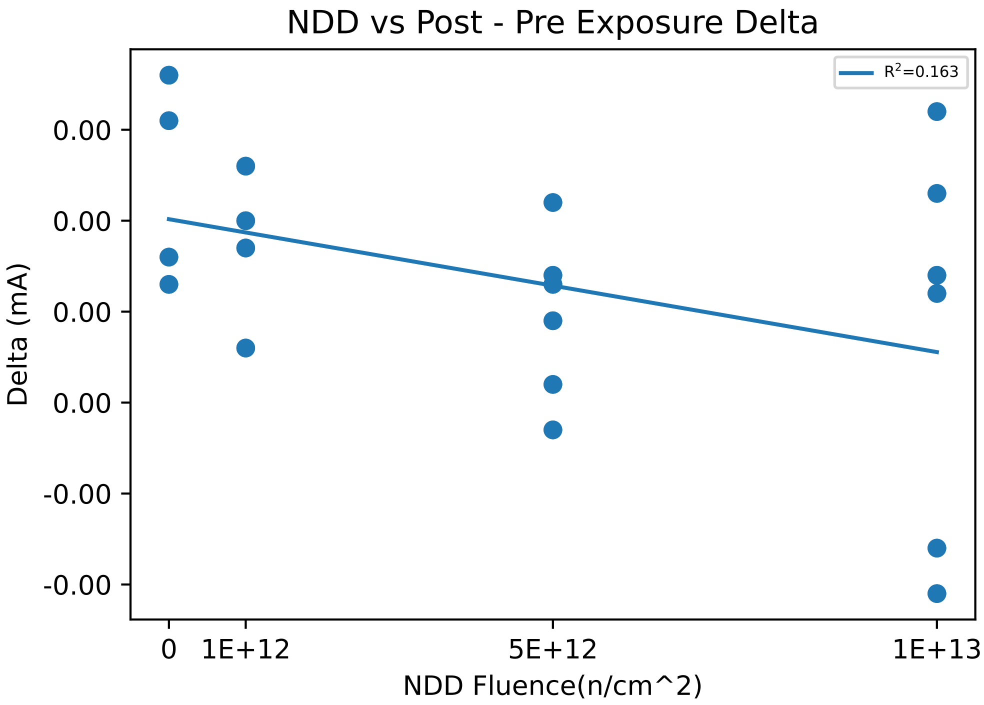
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	6.1888	5.2993	-0.8895
71	0	Correlation	6.8215	4.5857	-2.2358
72	1e+12	NDD, unbiased	1.9655	3.1622	1.1967
74	1e+12	NDD, unbiased	7.4209	5.9649	-1.456
75	1e+12	NDD, unbiased	4.7398	3.3403	-1.3995
76	5e+12	NDD, unbiased	5.2272	4.1044	-1.1228
77	5e+12	NDD, unbiased	6.8527	4.4923	-2.3604
78	5e+12	NDD, unbiased	5.5518	4.4908	-1.061
81	1e+13	NDD, unbiased	5.5013	2.8658	-2.6355
82	1e+13	NDD, unbiased	6.509	5.2774	-1.2316
83	1e+13	NDD, unbiased	5.9231	3.7382	-2.1849

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	6.1888	6.5052	6.8215	0.44739	4.5857	4.9425	5.2993	0.50459	-2.2358	-1.5627	-0.8895	0.95198
1e+12	1.9655	4.7087	7.4209	2.7278	3.1622	4.1558	5.9649	1.5693	-1.456	-0.55293	1.1967	1.5155
5e+12	5.2272	5.8772	6.8527	0.86023	4.1044	4.3625	4.4923	0.22352	-2.3604	-1.5147	-1.061	0.73302
1e+13	5.5013	5.9778	6.509	0.50607	2.8658	3.9605	5.2774	1.2211	-2.6355	-2.0173	-1.2316	0.71679

Device Test: 4.2 ISD_VIN_1p8V(ISD_Vin_1p8V)





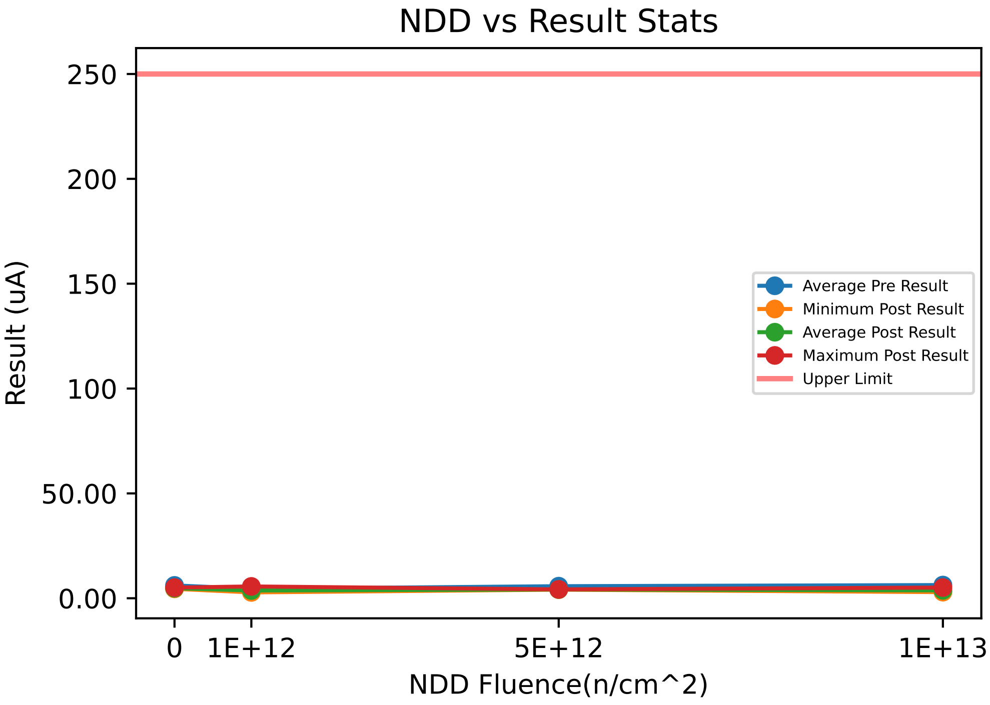
Test Results (Upper Limit = 3.1 (mA))

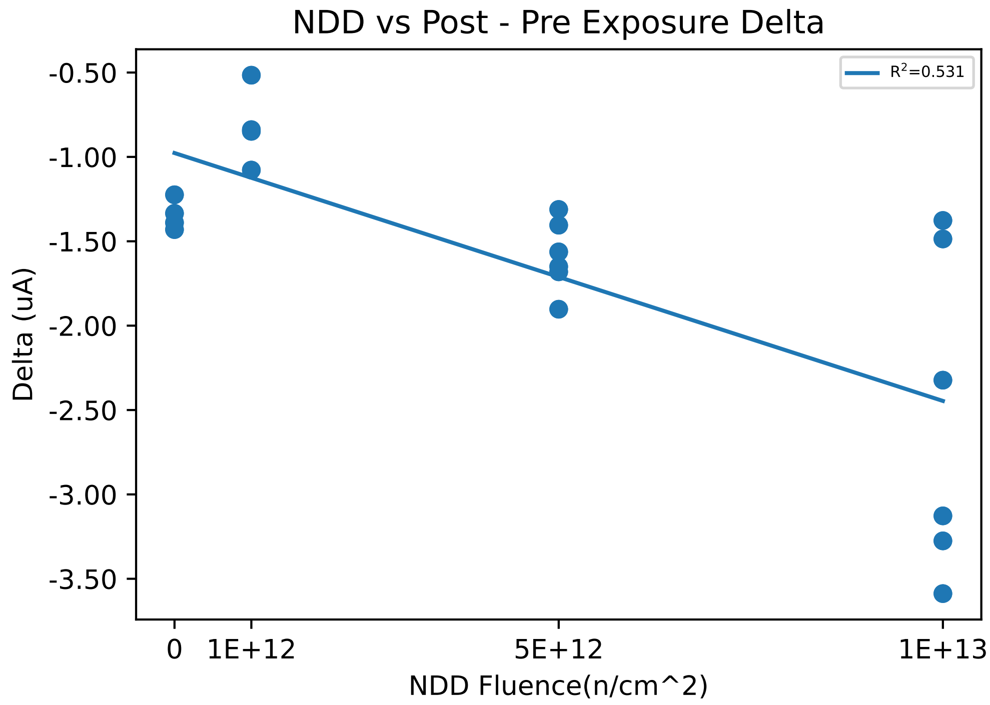
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.1809	0.1845	0.0036
71	0	Correlation	0.1777	0.179	0.0013
72	1e+12	NDD, unbiased	0.1747	0.1767	0.002
74	1e+12	NDD, unbiased	0.1783	0.1789	0.0006
75	1e+12	NDD, unbiased	0.1759	0.1785	0.0026
76	5e+12	NDD, unbiased	0.1807	0.182	0.0013
77	5e+12	NDD, unbiased	0.1774	0.1776	0.0002
78	5e+12	NDD, unbiased	0.1782	0.1804	0.0022
81	1e+13	NDD, unbiased	0.1785	0.1799	0.0014
82	1e+13	NDD, unbiased	0.1829	0.1813	-0.0016
83	1e+13	NDD, unbiased	0.1759	0.1791	0.0032

Test Statistics (mA)

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	0.1777	0.1793	0.1809	0.0022627	0.179	0.18175	0.1845	0.0038891	0.0013	0.00245	0.0036	0.0016263
1e+12	0.1747	0.1763	0.1783	0.001833	0.1767	0.17803	0.1789	0.0011719	0.0006	0.0017333	0.0026	0.0010263
5e+12	0.1774	0.17877	0.1807	0.0017214	0.1776	0.18	0.182	0.0022271	0.0002	0.0012333	0.0022	0.0010017
1e+13	0.1759	0.1791	0.1829	0.0035384	0.1791	0.1801	0.1813	0.0011136	-0.0016	0.001	0.0032	0.0024249

Device Test: 4.3 FORWARD_LEAKAGE(Forward_Leakage_1p8V)





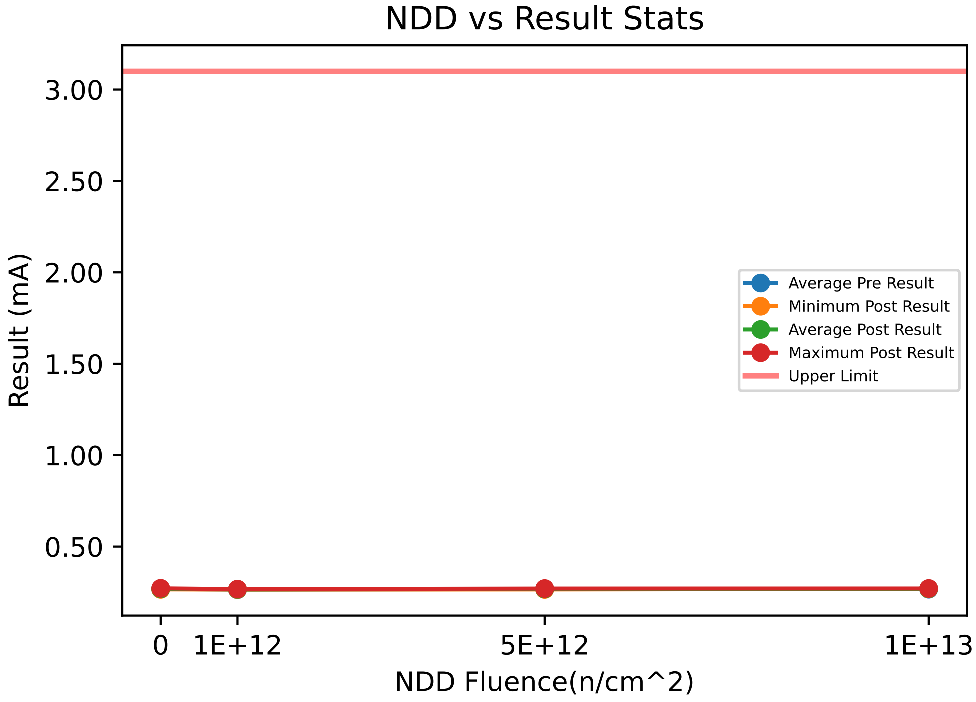
Test Results (Upper Limit = 250.0 (uA))

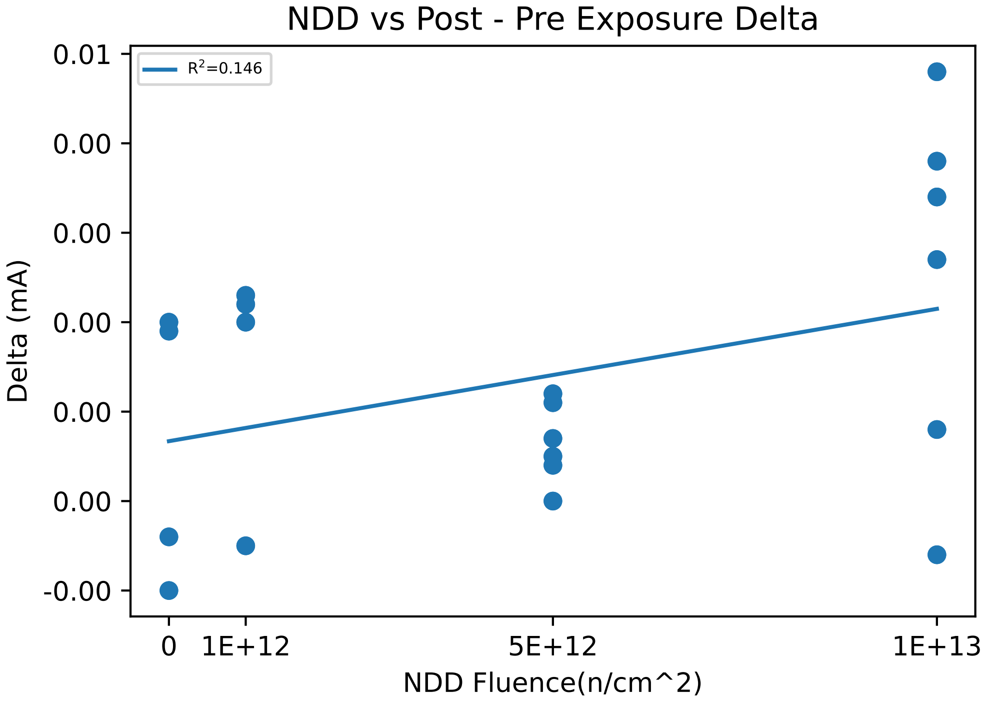
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	6.4103	5.0758	-1.3345
71	0	Correlation	5.7039	4.4795	-1.2244
72	1e+12	NDD, unbiased	3.6816	3.1658	-0.5158
74	1e+12	NDD, unbiased	6.4711	5.6326	-0.8385
75	1e+12	NDD, unbiased	3.8669	2.7889	-1.078
76	5e+12	NDD, unbiased	5.4993	4.0947	-1.4046
77	5e+12	NDD, unbiased	5.5309	4.2195	-1.3114
78	5e+12	NDD, unbiased	5.7451	4.1823	-1.5628
81	1e+13	NDD, unbiased	6.0404	2.9132	-3.1272
82	1e+13	NDD, unbiased	6.4713	5.0947	-1.3766
83	1e+13	NDD, unbiased	6.5394	3.264	-3.2754

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	5.7039	6.0571	6.4103	0.4995	4.4795	4.7776	5.0758	0.42165	-1.3345	-1.2795	-1.2244	0.077852
1e+12	3.6816	4.6732	6.4711	1.5598	2.7889	3.8624	5.6326	1.5445	-1.078	-0.81077	-0.5158	0.28212
5e+12	5.4993	5.5918	5.7451	0.13373	4.0947	4.1655	4.2195	0.064074	-1.5628	-1.4263	-1.3114	0.12709
1e+13	6.0404	6.3504	6.5394	0.27059	2.9132	3.7573	5.0947	1.1714	-3.2754	-2.5931	-1.3766	1.0561

Device Test: 4.4 ISD_VIN_3p3V(ISD_Vin_3p3V)





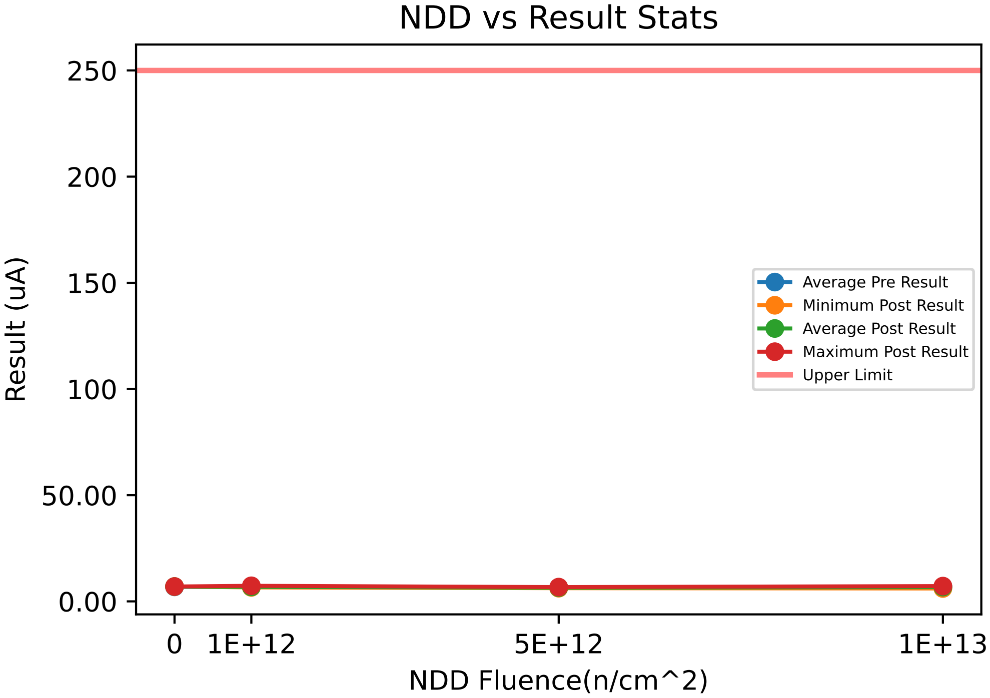
Test Results (Upper Limit = 3.1 (mA))

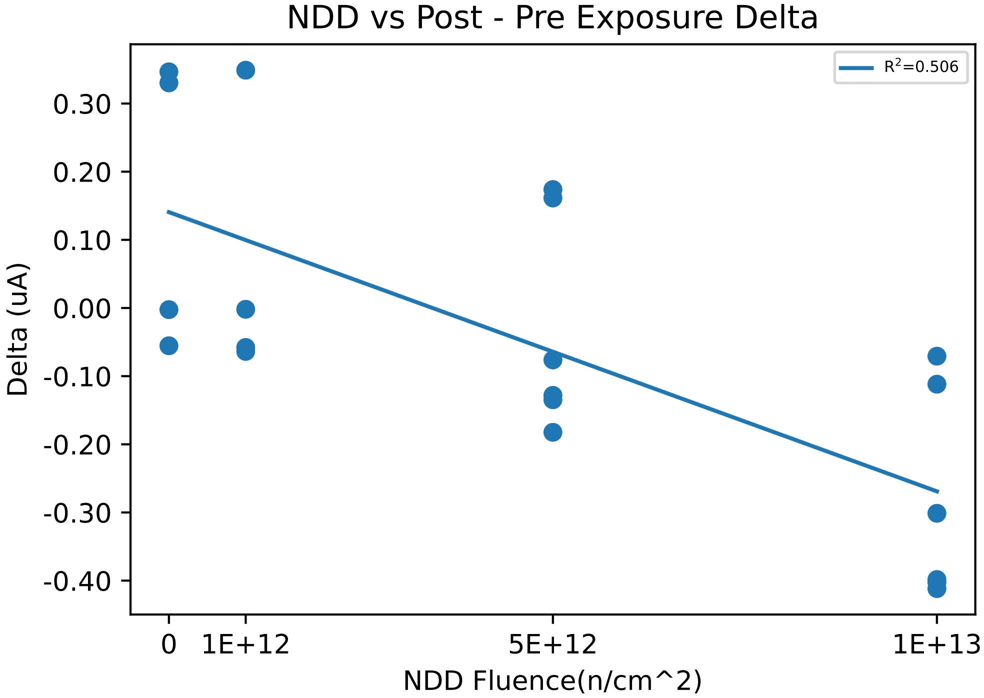
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.2697	0.2717	0.002
71	0	Correlation	0.267	0.266	-0.001
72	1e+12	NDD, unbiased	0.2629	0.2649	0.002
74	1e+12	NDD, unbiased	0.2671	0.2666	-0.0005
75	1e+12	NDD, unbiased	0.2651	0.2673	0.0022
76	5e+12	NDD, unbiased	0.2693	0.2705	0.0012
77	5e+12	NDD, unbiased	0.2651	0.2656	0.0005
78	5e+12	NDD, unbiased	0.2672	0.2679	0.0007
81	1e+13	NDD, unbiased	0.2646	0.2684	0.0038
82	1e+13	NDD, unbiased	0.27	0.2708	0.0008
83	1e+13	NDD, unbiased	0.2641	0.2689	0.0048

Test Statistics (mA)

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	0.267	0.26835	0.2697	0.0019092	0.266	0.26885	0.2717	0.0040305	-0.001	0.0005	0.002	0.0021213
1e+12	0.2629	0.26503	0.2671	0.0021008	0.2649	0.26627	0.2673	0.0012342	-0.0005	0.0012333	0.0022	0.0015044
5e+12	0.2651	0.2672	0.2693	0.0021	0.2656	0.268	0.2705	0.0024515	0.0005	0.0008	0.0012	0.00036056
1e+13	0.2641	0.26623	0.27	0.0032716	0.2684	0.26937	0.2708	0.0012662	0.0008	0.0031333	0.0048	0.0020817

Device Test: 4.5 FORWARD_LEAKAGE(Forward_Leakage_3p3V)





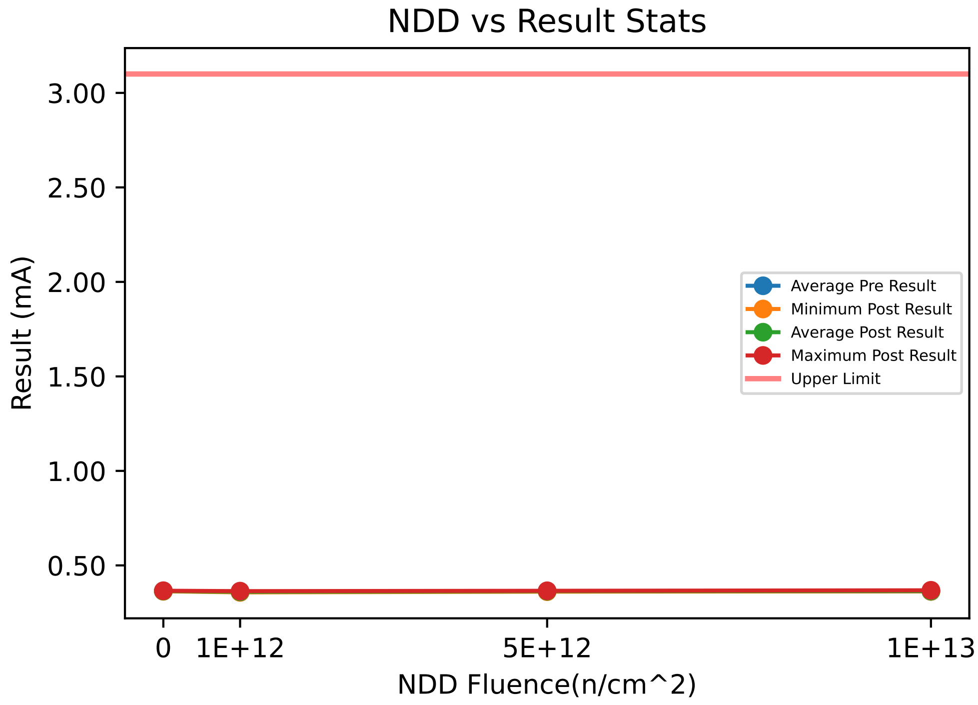
Test Results (Upper Limit = 250.0 (uA))

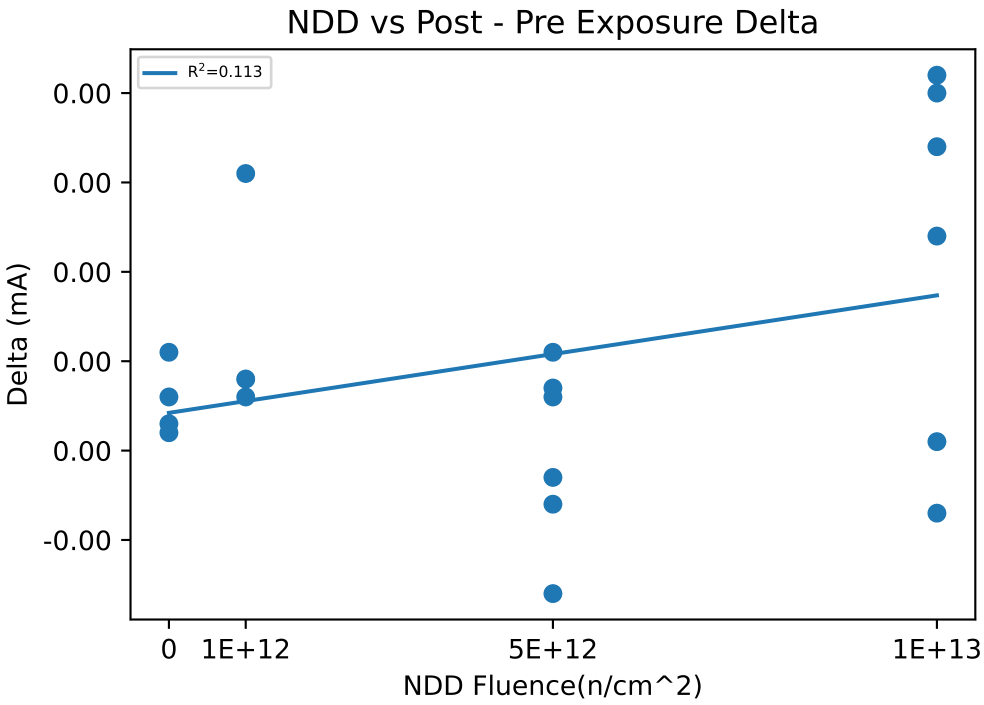
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	6.9757	6.9733	-0.0024
71	0	Correlation	6.6453	6.9918	0.3465
72	1e+12	NDD, unbiased	6.7246	6.6609	-0.0637
74	1e+12	NDD, unbiased	6.9785	7.3274	0.3489
75	1e+12	NDD, unbiased	6.5879	6.586	-0.0019
76	5e+12	NDD, unbiased	6.2798	6.2036	-0.0762
77	5e+12	NDD, unbiased	6.544	6.7178	0.1738
78	5e+12	NDD, unbiased	6.5792	6.451	-0.1282
81	1e+13	NDD, unbiased	6.4689	6.0705	-0.3984
82	1e+13	NDD, unbiased	6.9302	6.8595	-0.0707
83	1e+13	NDD, unbiased	7.4894	7.1882	-0.3012

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	6.6453	6.8105	6.9757	0.23363	6.9733	6.9825	6.9918	0.013081	-0.0024	0.17205	0.3465	0.24671
1e+12	6.5879	6.7637	6.9785	0.19821	6.586	6.8581	7.3274	0.40815	-0.0637	0.094433	0.3489	0.22253
5e+12	6.2798	6.4677	6.5792	0.16365	6.2036	6.4575	6.7178	0.25716	-0.1282	-0.0102	0.1738	0.16146
1e+13	6.4689	6.9628	7.4894	0.51103	6.0705	6.7061	7.1882	0.57443	-0.3984	-0.25677	-0.0707	0.16831

Device Test: 4.6 ISD_VIN_5V(ISD_Vin_5p0V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

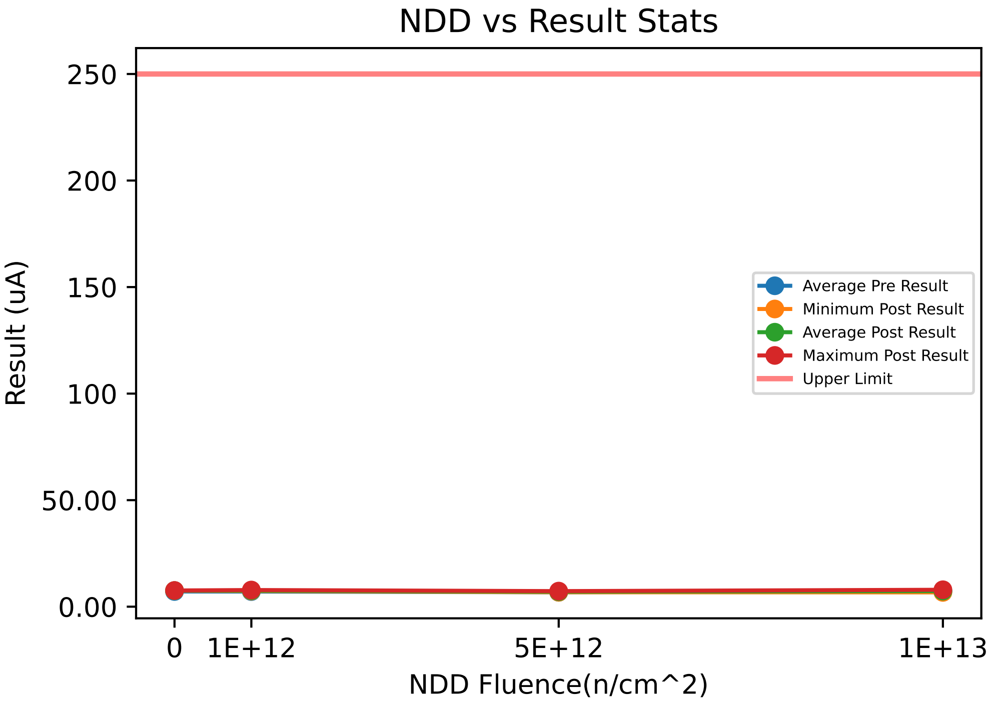
Test Results (Upper Limit = 3.1 (mA))

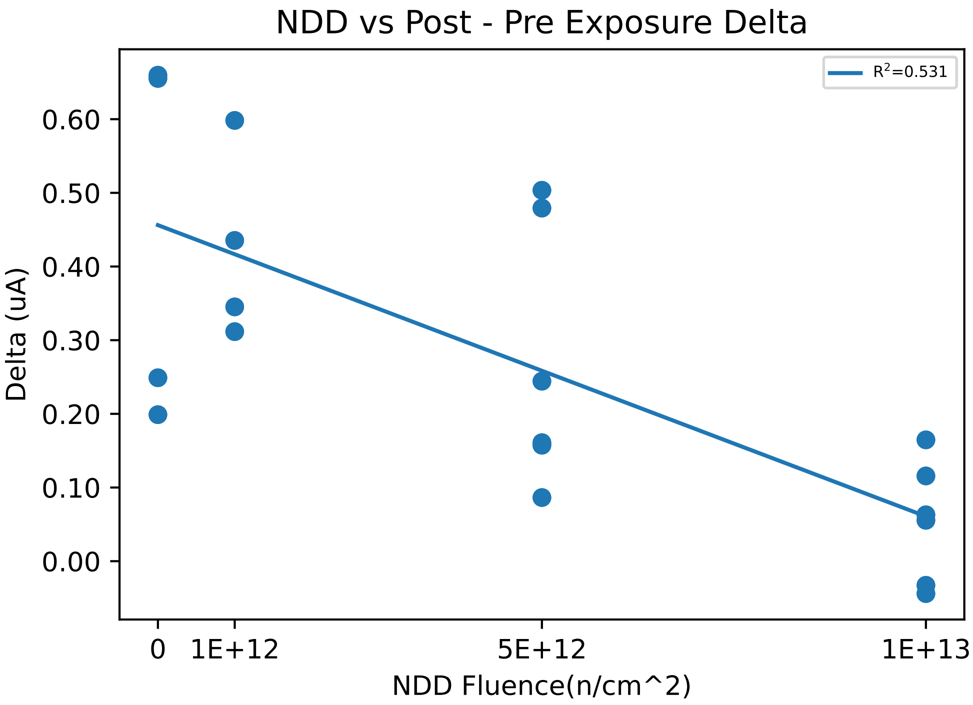
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.3654	0.366	0.0006
71	0	Correlation	0.3627	0.3629	0.0002
72	1e+12	NDD, unbiased	0.3563	0.3571	0.0008
74	1e+12	NDD, unbiased	0.3632	0.3638	0.0006
75	1e+12	NDD, unbiased	0.3591	0.3622	0.0031
76	5e+12	NDD, unbiased	0.366	0.3657	-0.0003
77	5e+12	NDD, unbiased	0.3601	0.3608	0.0007
78	5e+12	NDD, unbiased	0.363	0.3641	0.0011
81	1e+13	NDD, unbiased	0.3592	0.3626	0.0034
82	1e+13	NDD, unbiased	0.369	0.3683	-0.0007
83	1e+13	NDD, unbiased	0.3588	0.3628	0.004

Test Statistics (mA)

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	0.3627	0.36405	0.3654	0.0019092	0.3629	0.36445	0.366	0.002192	0.0002	0.0004	0.0006	0.00028284
1e+12	0.3563	0.35953	0.3632	0.0034704	0.3571	0.36103	0.3638	0.003499	0.0006	0.0015	0.0031	0.0013892
5e+12	0.3601	0.36303	0.366	0.0029501	0.3608	0.36353	0.3657	0.0024987	-0.0003	0.0005	0.0011	0.00072111
1e+13	0.3588	0.36233	0.369	0.005777	0.3626	0.36457	0.3683	0.0032347	-0.0007	0.0022333	0.004	0.002558

Device Test: 4.7 FORWARD_LEAKAGE(Forward_Leakage_5p0V)





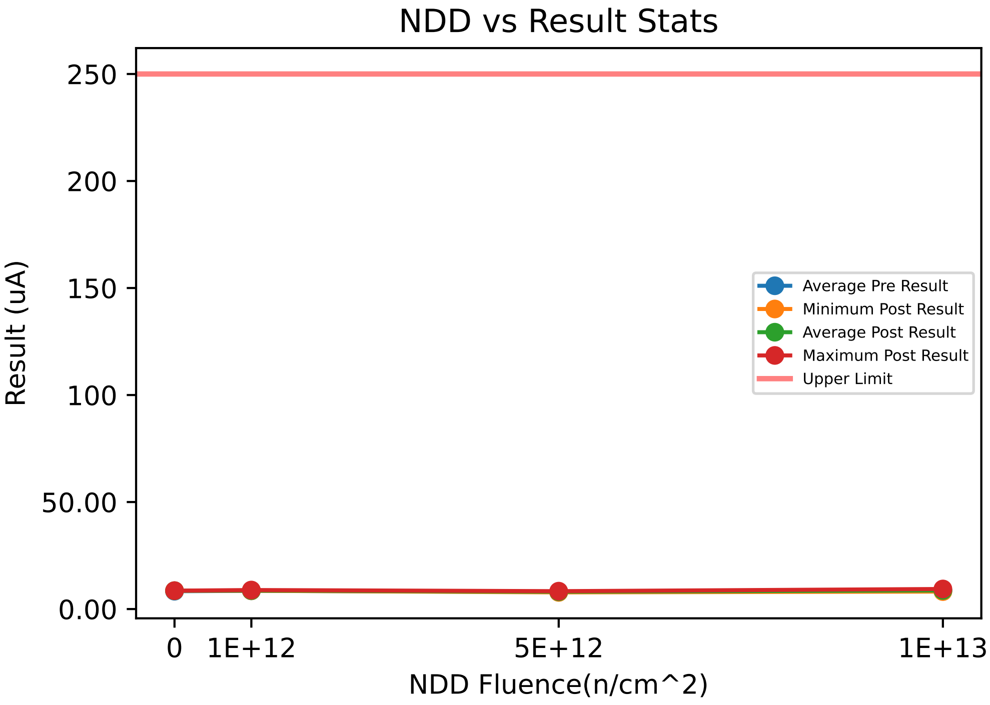
Test Results (Upper Limit = 250.0 (uA))

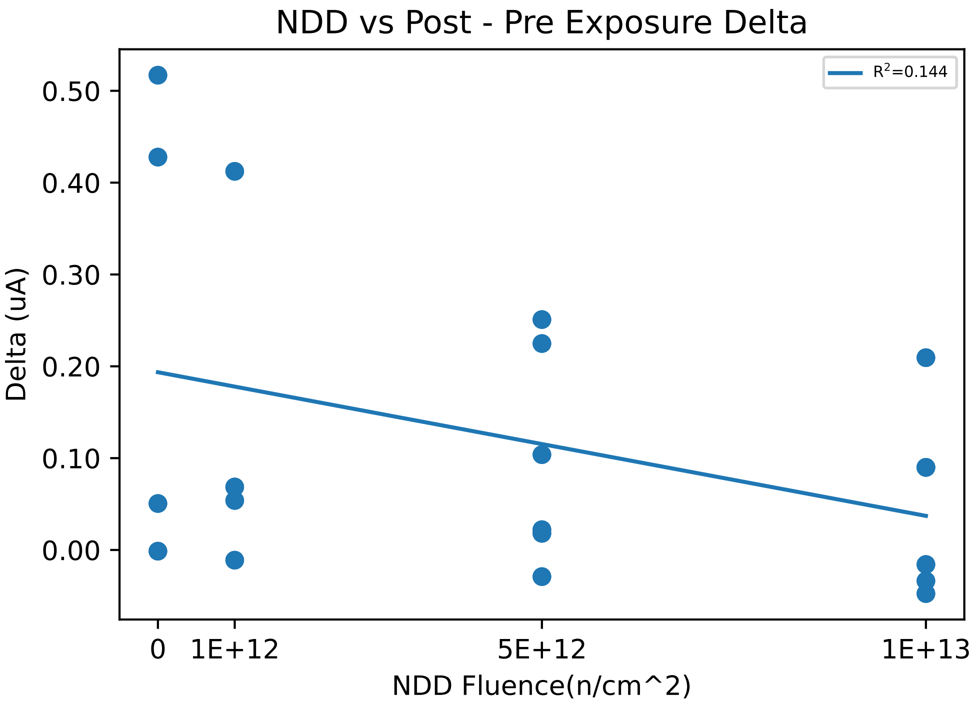
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	7.2717	7.5207	0.249
71	0	Correlation	6.9551	7.6104	0.6553
72	1e+12	NDD, unbiased	7.1309	7.4425	0.3116
74	1e+12	NDD, unbiased	7.2192	7.8175	0.5983
75	1e+12	NDD, unbiased	6.908	7.3434	0.4354
76	5e+12	NDD, unbiased	6.52	6.7643	0.2443
77	5e+12	NDD, unbiased	6.8064	7.3099	0.5035
78	5e+12	NDD, unbiased	6.867	7.0244	0.1574
81	1e+13	NDD, unbiased	6.7369	6.7042	-0.0327
82	1e+13	NDD, unbiased	7.1961	7.3118	0.1157
83	1e+13	NDD, unbiased	7.7771	7.9418	0.1647

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	6.9551	7.1134	7.2717	0.22387	7.5207	7.5655	7.6104	0.063427	0.249	0.45215	0.6553	0.2873
1e+12	6.908	7.086	7.2192	0.16038	7.3434	7.5345	7.8175	0.25007	0.3116	0.44843	0.5983	0.14379
5e+12	6.52	6.7311	6.867	0.18534	6.7643	7.0329	7.3099	0.2729	0.1574	0.30173	0.5035	0.18006
1e+13	6.7369	7.2367	7.7771	0.52129	6.7042	7.3193	7.9418	0.61883	-0.0327	0.082567	0.1647	0.10279

Device Test: 4.9 FORWARD_LEAKAGE(Forward_Leakage_7p0V)





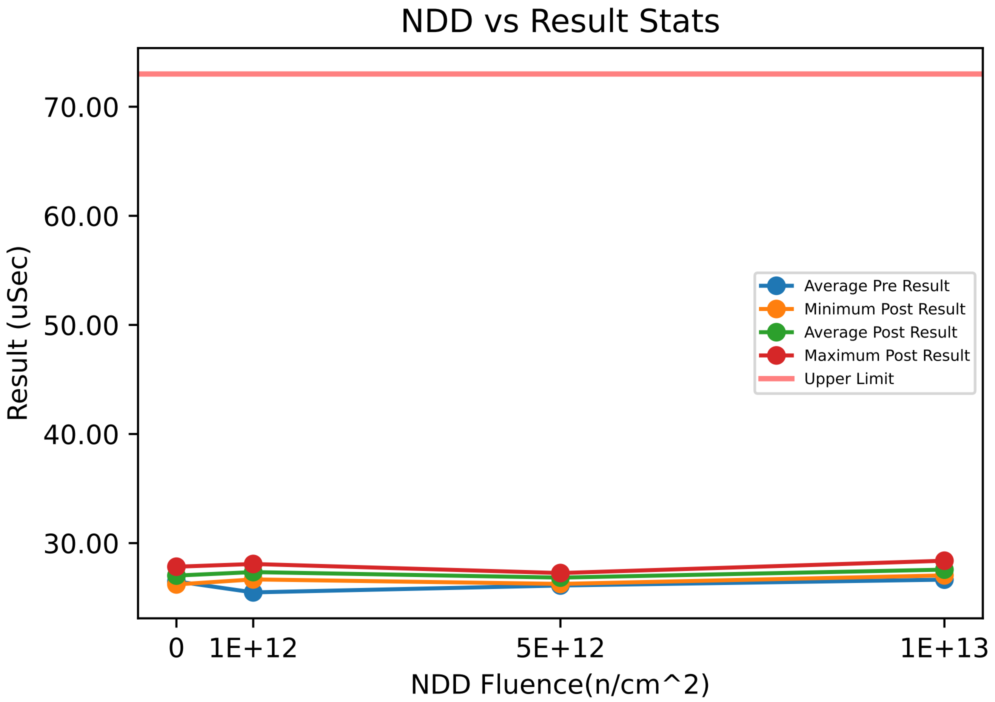
Test Results (Upper Limit = 250.0 (uA))

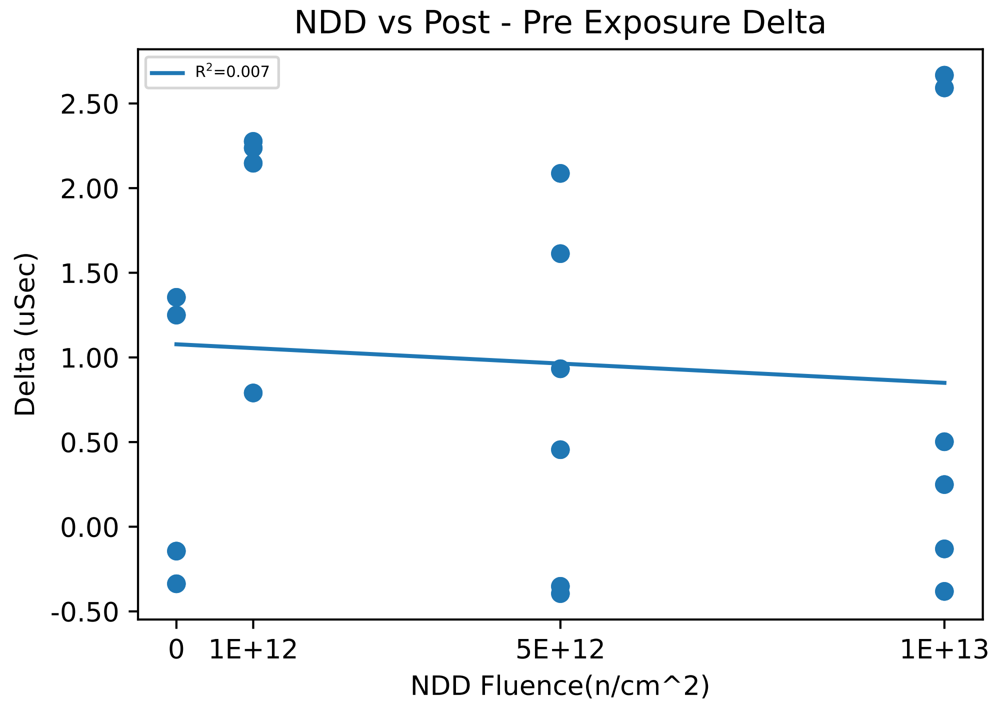
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	8.5134	8.564	0.0506
71	0	Correlation	8.0731	8.5901	0.517
72	1e+12	NDD, unbiased	8.5157	8.5843	0.0686
74	1e+12	NDD, unbiased	8.4725	8.8848	0.4123
75	1e+12	NDD, unbiased	8.4832	8.5371	0.0539
76	5e+12	NDD, unbiased	7.6757	7.7795	0.1038
77	5e+12	NDD, unbiased	8.1052	8.3561	0.2509
78	5e+12	NDD, unbiased	8.0788	8.1009	0.0221
81	1e+13	NDD, unbiased	8.1958	8.1621	-0.0337
82	1e+13	NDD, unbiased	8.4317	8.5216	0.0899
83	1e+13	NDD, unbiased	9.1672	9.3766	0.2094

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	8.0731	8.2933	8.5134	0.31134	8.564	8.577	8.5901	0.018455	0.0506	0.2838	0.517	0.32979
1e+12	8.4725	8.4905	8.5157	0.022498	8.5371	8.6687	8.8848	0.1886	0.0539	0.17827	0.4123	0.20281
5e+12	7.6757	7.9532	8.1052	0.24071	7.7795	8.0788	8.3561	0.28893	0.0221	0.1256	0.2509	0.11595
1e+13	8.1958	8.5982	9.1672	0.50666	8.1621	8.6868	9.3766	0.62387	-0.0337	0.088533	0.2094	0.12156

Device Test: 40.0 IOUT_CS_DELAY_FALLING(IOUT_CS_FallingDELAY_1p5V)





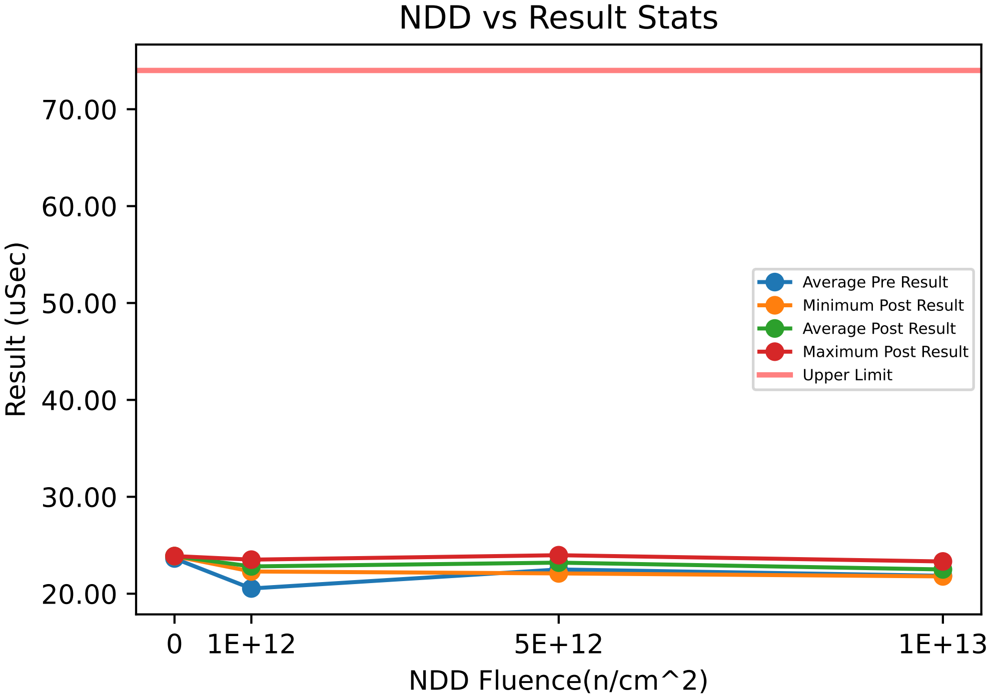
Test Results (Upper Limit = 73.0 (uSec))

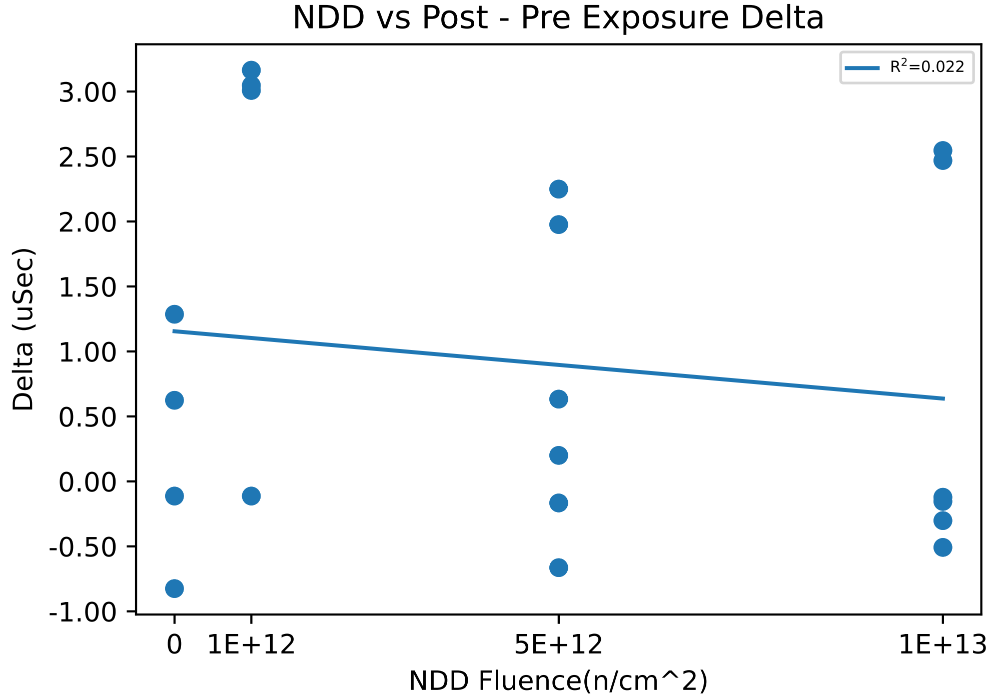
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	26.548	26.211	-0.337
71	0	Correlation	26.587	27.837	1.25
72	1e+12	NDD, unbiased	25.034	27.31	2.276
74	1e+12	NDD, unbiased	27.296	28.086	0.79
75	1e+12	NDD, unbiased	24.435	26.672	2.237
76	5e+12	NDD, unbiased	26.612	26.26	-0.352
77	5e+12	NDD, unbiased	26.541	26.996	0.455
78	5e+12	NDD, unbiased	25.643	27.256	1.613
81	1e+13	NDD, unbiased	24.608	27.275	2.667
82	1e+13	NDD, unbiased	28.137	28.386	0.249
83	1e+13	NDD, unbiased	27.173	27.042	-0.131

Test Statistics (uSec)

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	26.548	26.567	26.587	0.027577	26.211	27.024	27.837	1.1498	-0.337	0.4565	1.25	1.1222
1e+12	24.435	25.588	27.296	1.5089	26.672	27.356	28.086	0.70812	0.79	1.7677	2.276	0.84691
5e+12	25.643	26.265	26.612	0.54012	26.26	26.837	27.256	0.51661	-0.352	0.572	1.613	0.98771
1e+13	24.608	26.639	28.137	1.824	27.042	27.568	28.386	0.71821	-0.131	0.92833	2.667	1.5177

Device Test: 40.1 IOUT_CS_DELAY_RISING(IOUT_CS_RisingDELAY_1p5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

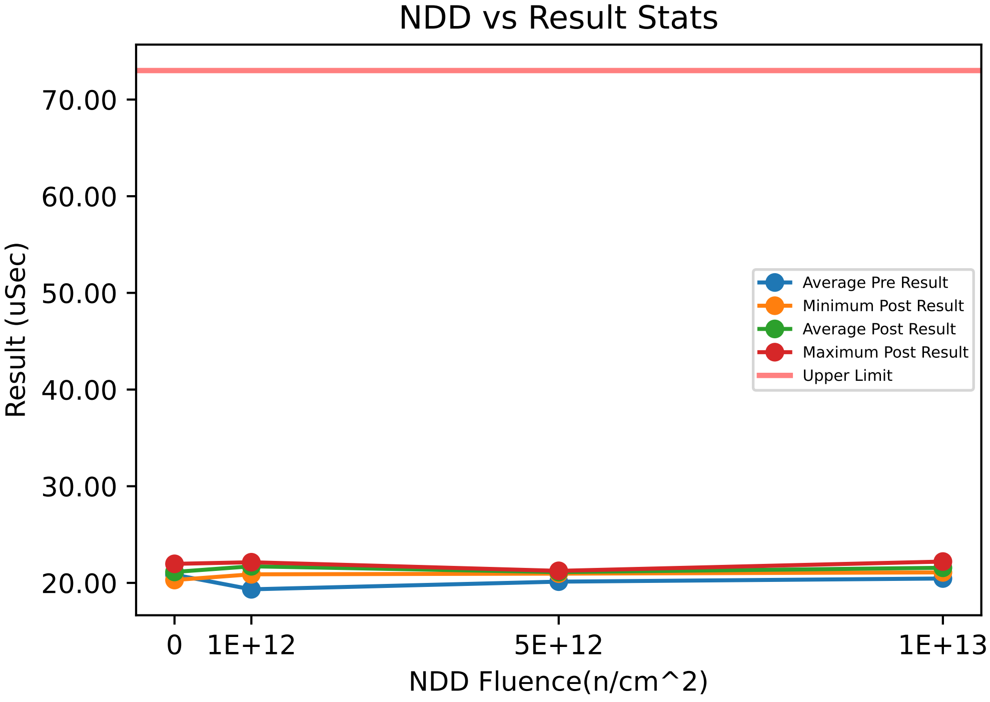
Test Results (Upper Limit = 74.0 (uSec))

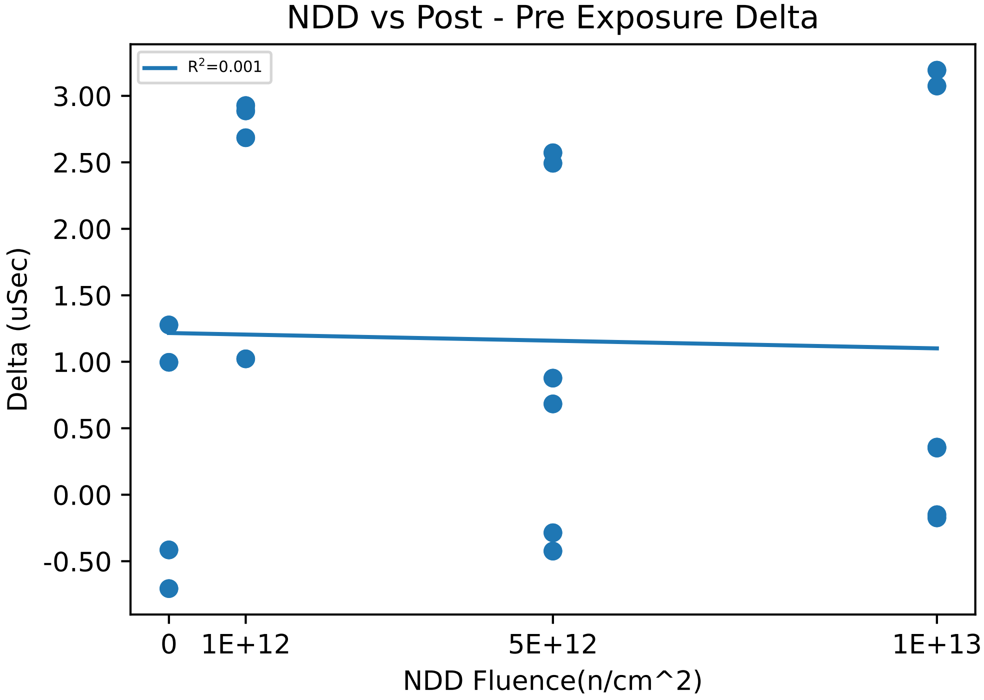
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	23.999	23.886	-0.113
71	0	Correlation	22.587	23.873	1.286
72	1e+12	NDD, unbiased	19.681	22.728	3.047
74	1e+12	NDD, unbiased	22.407	22.294	-0.113
75	1e+12	NDD, unbiased	20.351	23.515	3.164
76	5e+12	NDD, unbiased	24.14	23.974	-0.166
77	5e+12	NDD, unbiased	22.919	23.552	0.633
78	5e+12	NDD, unbiased	19.844	22.093	2.249
81	1e+13	NDD, unbiased	20.859	23.328	2.469
82	1e+13	NDD, unbiased	22.52	22.398	-0.122
83	1e+13	NDD, unbiased	22.087	21.785	-0.302

Test Statistics (uSec)

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	22.587	23.293	23.999	0.99843	23.873	23.88	23.886	0.0091924	-0.113	0.5865	1.286	0.98924
1e+12	19.681	20.813	22.407	1.4205	22.294	22.846	23.515	0.61895	-0.113	2.0327	3.164	1.8591
5e+12	19.844	22.301	24.14	2.2137	22.093	23.206	23.974	0.98699	-0.166	0.90533	2.249	1.2303
1e+13	20.859	21.822	22.52	0.86163	21.785	22.504	23.328	0.77691	-0.302	0.68167	2.469	1.5505

Device Test: 40.2 IOUT_CS_DELAY_FALLING(IOUT_CS_FallingDELAY_1p8V)





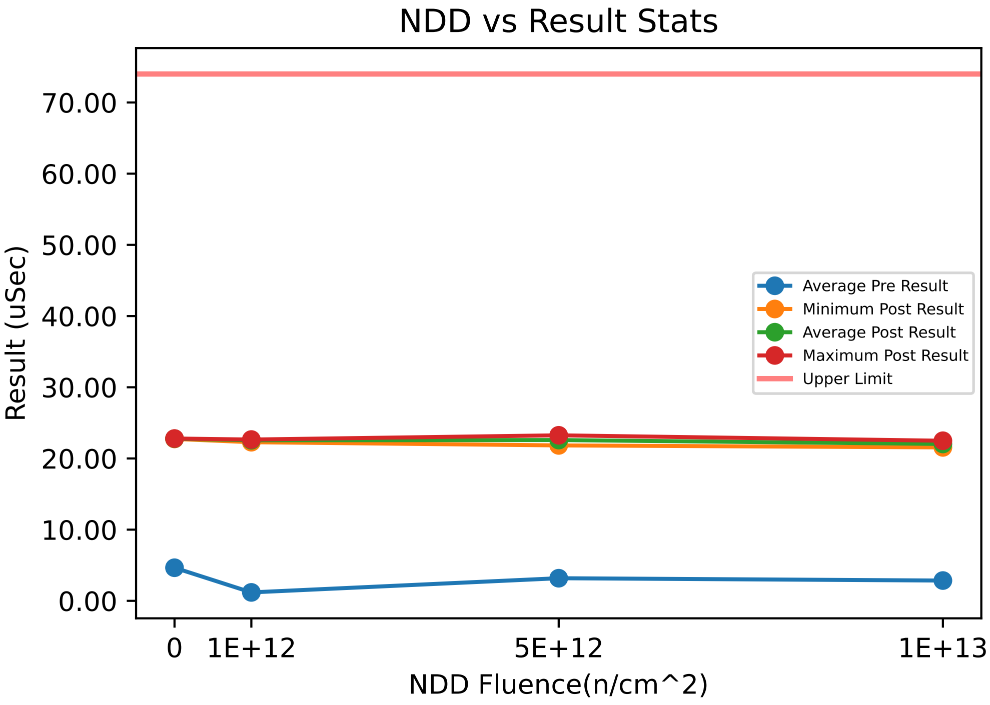
Test Results (Upper Limit = 73.0 (uSec))

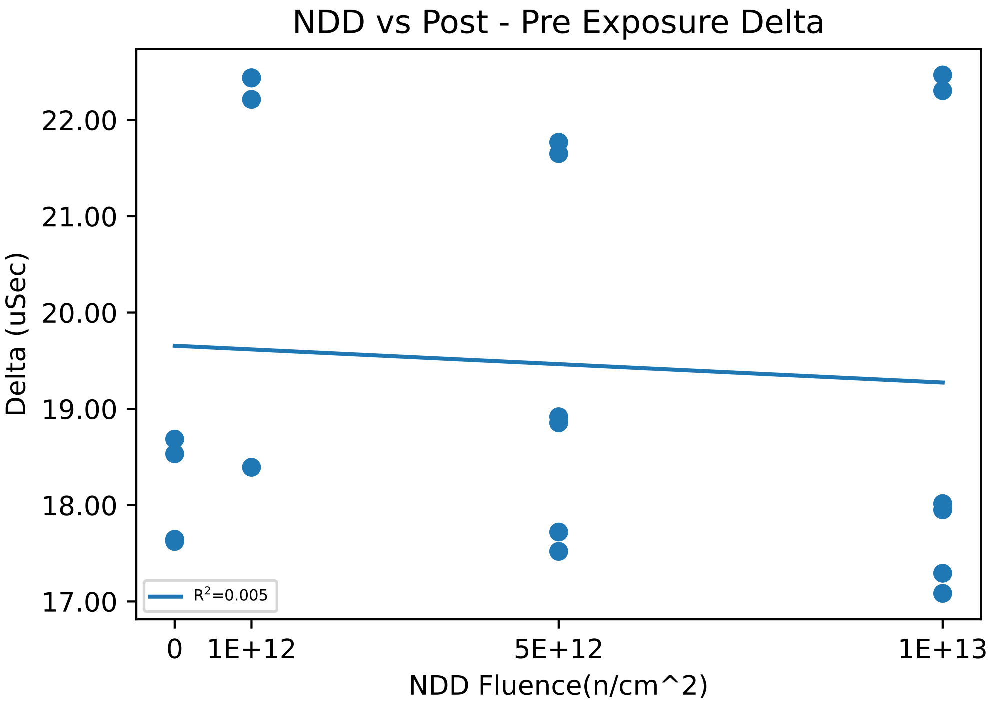
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	21.003	20.297	-0.706
71	0	Correlation	20.693	21.97	1.277
72	1e+12	NDD, unbiased	18.992	21.919	2.927
74	1e+12	NDD, unbiased	21.115	22.137	1.022
75	1e+12	NDD, unbiased	18.203	20.888	2.685
76	5e+12	NDD, unbiased	21.381	20.957	-0.424
77	5e+12	NDD, unbiased	20.266	21.143	0.877
78	5e+12	NDD, unbiased	18.675	21.247	2.572
81	1e+13	NDD, unbiased	18.014	21.088	3.074
82	1e+13	NDD, unbiased	22.38	22.206	-0.174
83	1e+13	NDD, unbiased	21.042	21.393	0.351

Test Statistics (uSec)

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	20.693	20.848	21.003	0.2192	20.297	21.133	21.97	1.183	-0.706	0.2855	1.277	1.4022
1e+12	18.203	19.437	21.115	1.5061	20.888	21.648	22.137	0.66714	1.022	2.2113	2.927	1.0371
5e+12	18.675	20.107	21.381	1.36	20.957	21.116	21.247	0.14692	-0.424	1.0083	2.572	1.5023
1e+13	18.014	20.479	22.38	2.2368	21.088	21.562	22.206	0.57792	-0.174	1.0837	3.074	1.7436

Device Test: 40.3 IOUT_CS_DELAY_RISING(IOUT_CS_RisingDELAY_1p8V)





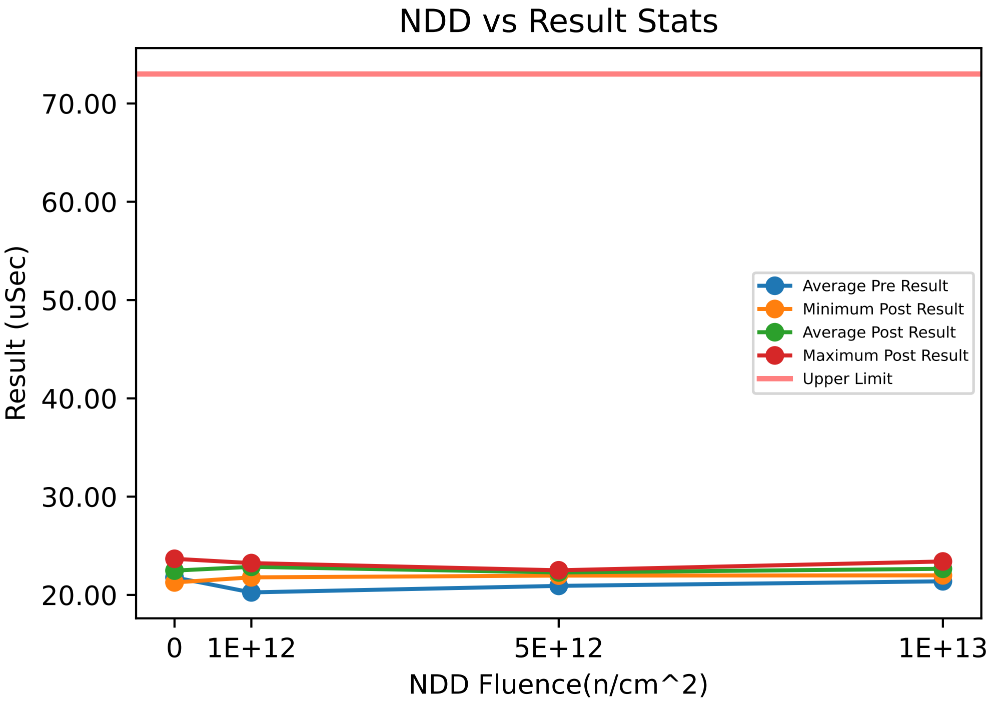
Test Results (Upper Limit = 74.0 (uSec))

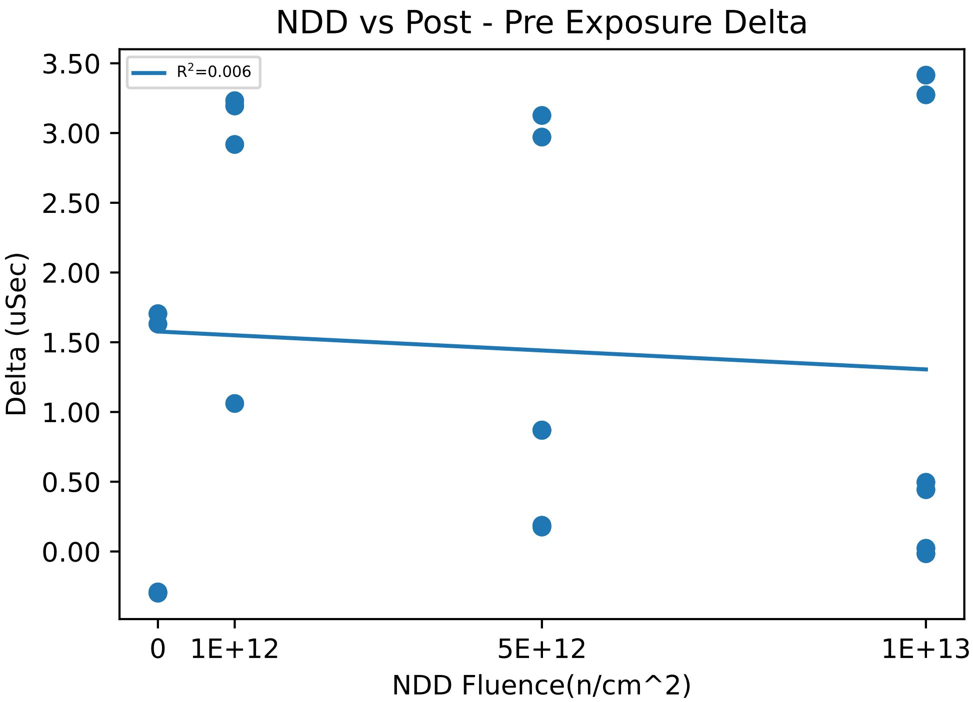
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	5.121	22.744	17.623
71	0	Correlation	4.114	22.8	18.686
72	1e+12	NDD, unbiased	0.223	22.658	22.435
74	1e+12	NDD, unbiased	3.89	22.283	18.393
75	1e+12	NDD, unbiased	0.413	22.626	22.213
76	5e+12	NDD, unbiased	5.53	23.251	17.721
77	5e+12	NDD, unbiased	3.748	22.666	18.918
78	5e+12	NDD, unbiased	0.066	21.834	21.768
81	1e+13	NDD, unbiased	0.183	22.487	22.304
82	1e+13	NDD, unbiased	4.777	22.07	17.293
83	1e+13	NDD, unbiased	3.538	21.554	18.016

Test Statistics (uSec)

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	4.114	4.6175	5.121	0.71206	22.744	22.772	22.8	0.039598	17.623	18.154	18.686	0.75165
1e+12	0.223	1.5087	3.89	2.0645	22.283	22.522	22.658	0.20789	18.393	21.014	22.435	2.2723
5e+12	0.066	3.1147	5.53	2.7865	21.834	22.584	23.251	0.71208	17.721	19.469	21.768	2.079
1e+13	0.183	2.8327	4.777	2.3768	21.554	22.037	22.487	0.46737	17.293	19.204	22.304	2.7086

Device Test: 40.4 IOUT_CS_DELAY_FALLING(IOUT_CS_FallingDELAY_3p3V)





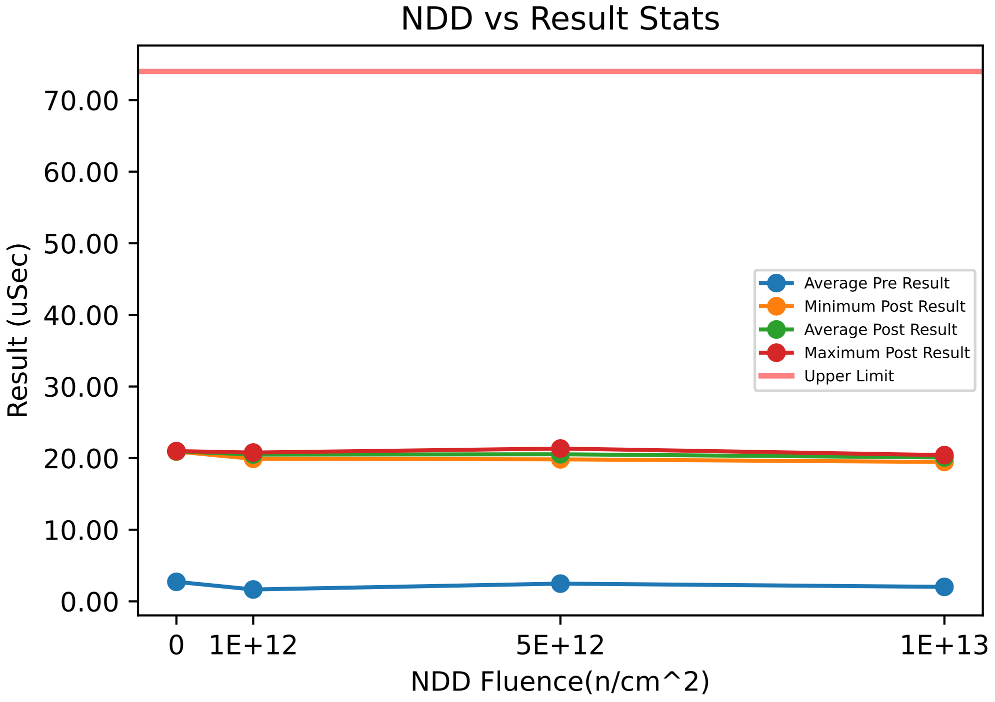
Test Results (Upper Limit = 73.0 (uSec))

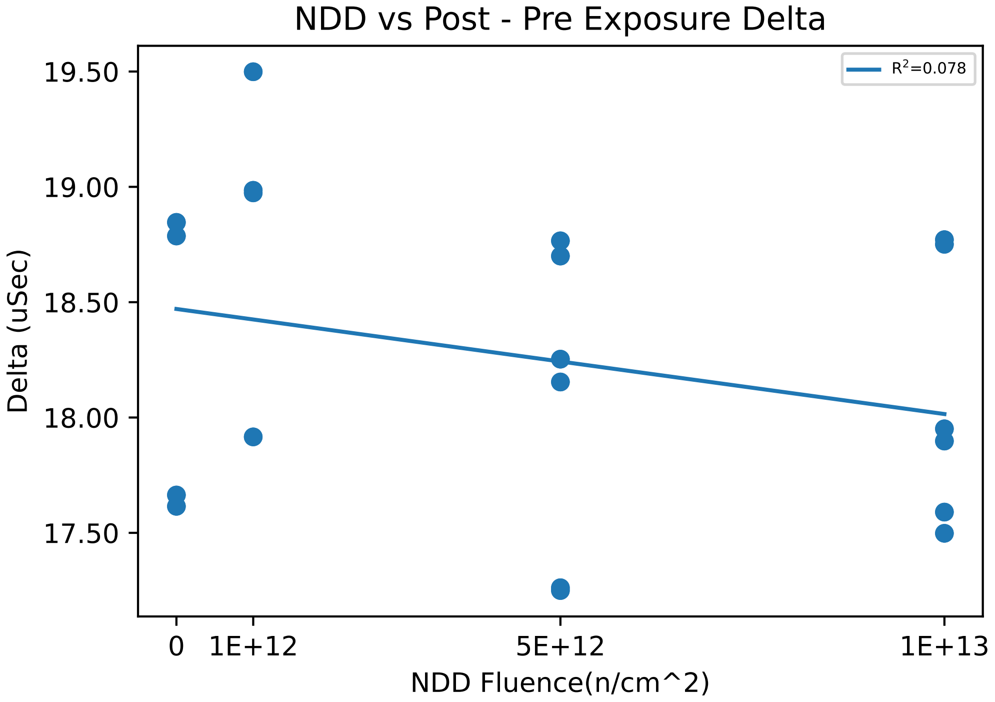
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	21.571	21.272	-0.299
71	0	Correlation	22.046	23.677	1.631
72	1e+12	NDD, unbiased	20.047	23.241	3.194
74	1e+12	NDD, unbiased	22.107	23.168	1.061
75	1e+12	NDD, unbiased	18.872	21.79	2.918
76	5e+12	NDD, unbiased	21.792	21.967	0.175
77	5e+12	NDD, unbiased	21.522	22.39	0.868
78	5e+12	NDD, unbiased	19.537	22.508	2.971
81	1e+13	NDD, unbiased	18.719	21.993	3.274
82	1e+13	NDD, unbiased	23.383	23.406	0.023
83	1e+13	NDD, unbiased	22.137	22.58	0.443

Test Statistics (uSec)

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	21.571	21.809	22.046	0.33588	21.272	22.474	23.677	1.7006	-0.299	0.666	1.631	1.3647
1e+12	18.872	20.342	22.107	1.6376	21.79	22.733	23.241	0.81748	1.061	2.391	3.194	1.1601
5e+12	19.537	20.95	21.792	1.2314	21.967	22.288	22.508	0.28447	0.175	1.338	2.971	1.456
1e+13	18.719	21.413	23.383	2.4148	21.993	22.66	23.406	0.70986	0.023	1.2467	3.274	1.7682

Device Test: 40.5 IOUT_CS_DELAY_RISING(IOUT_CS_RisingDELAY_3p3V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

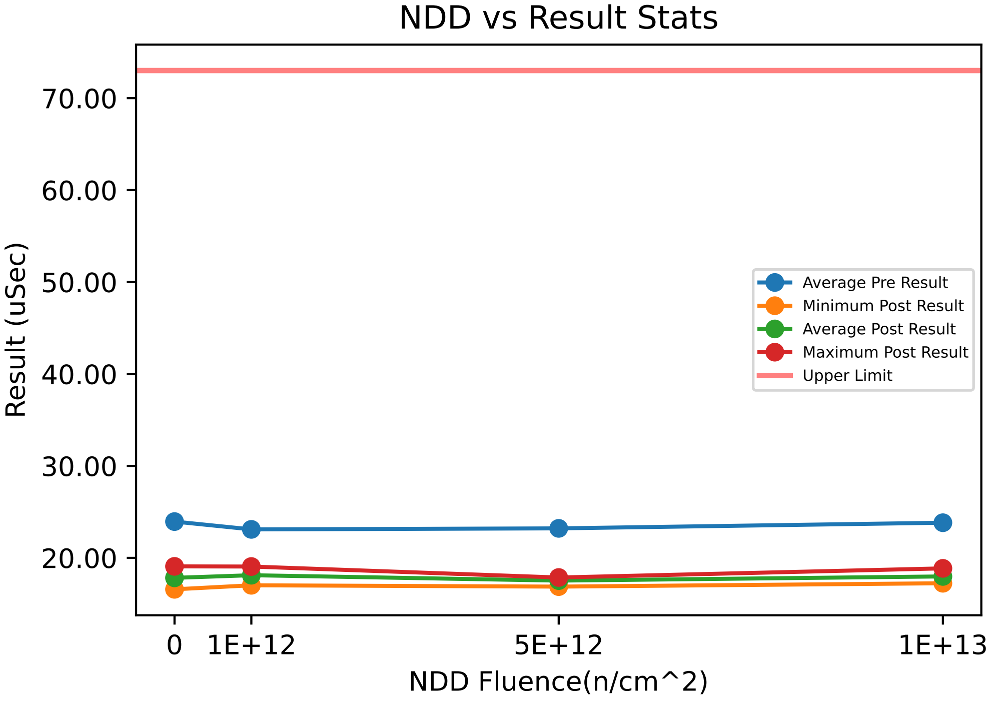
Test Results (Upper Limit = 74.0 (uSec))

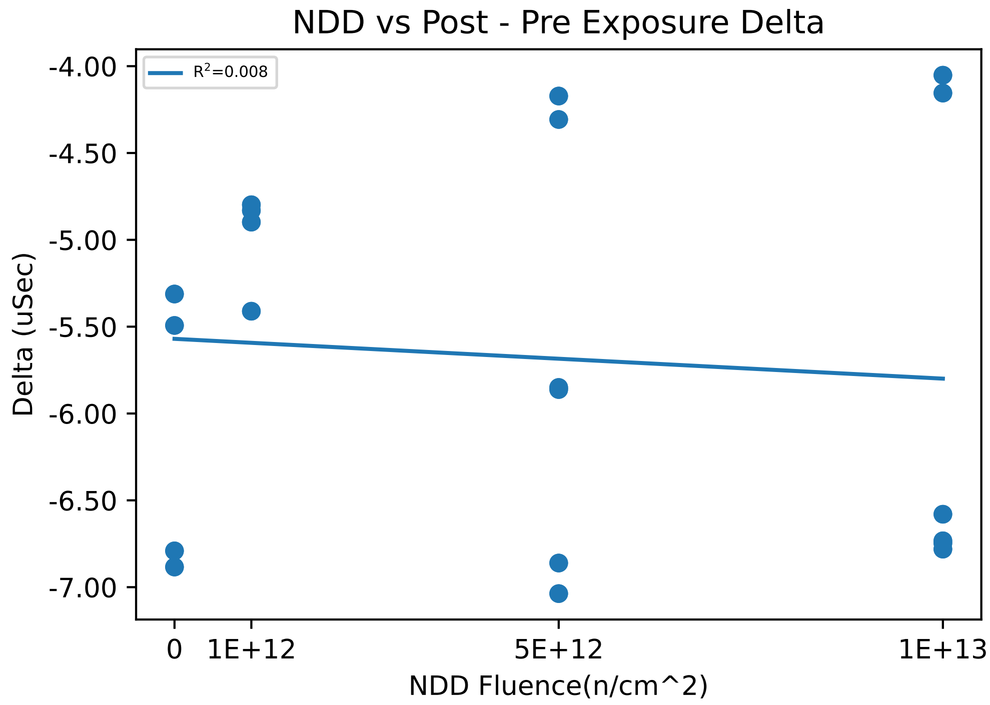
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	3.304	20.919	17.615
71	0	Correlation	2.136	20.982	18.846
72	1e+12	NDD, unbiased	1.672	20.657	18.985
74	1e+12	NDD, unbiased	1.985	19.901	17.916
75	1e+12	NDD, unbiased	1.279	20.778	19.499
76	5e+12	NDD, unbiased	4.076	21.338	17.262
77	5e+12	NDD, unbiased	1.679	20.445	18.766
78	5e+12	NDD, unbiased	1.676	19.83	18.154
81	1e+13	NDD, unbiased	1.669	20.42	18.751
82	1e+13	NDD, unbiased	2.813	20.403	17.59
83	1e+13	NDD, unbiased	1.512	19.463	17.951

Test Statistics (uSec)

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	2.136	2.72	3.304	0.8259	20.919	20.95	20.982	0.044548	17.615	18.23	18.846	0.87045
1e+12	1.279	1.6453	1.985	0.35375	19.901	20.445	20.778	0.47527	17.916	18.8	19.499	0.80755
5e+12	1.676	2.477	4.076	1.3848	19.83	20.538	21.338	0.75826	17.262	18.061	18.766	0.75633
1e+13	1.512	1.998	2.813	0.71016	19.463	20.095	20.42	0.54768	17.59	18.097	18.751	0.59417

Device Test: 40.6 IOUT_CS_DELAY_FALLING(IOUT_CS_FallingDELAY_5V)





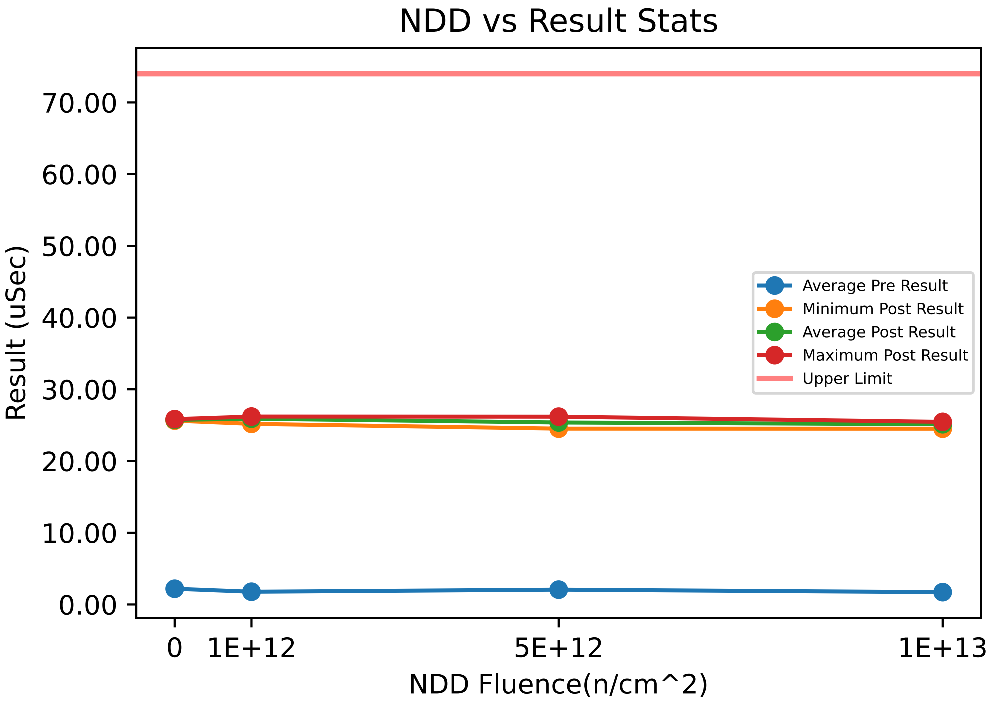
Test Results (Upper Limit = 73.0 (uSec))

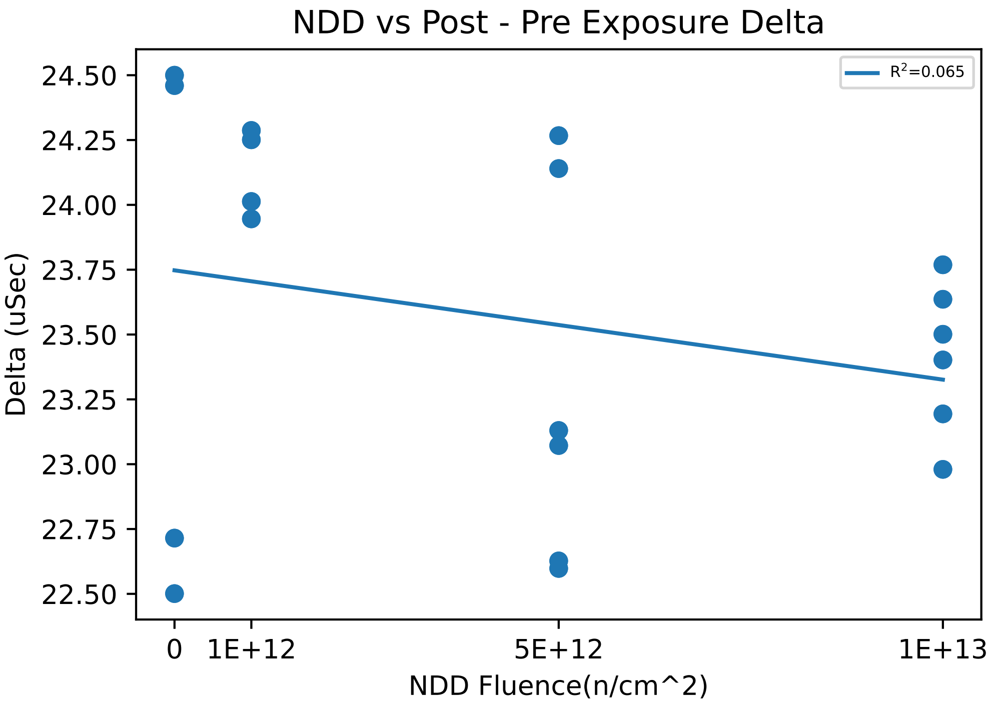
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	23.464	16.58	-6.884
71	0	Correlation	24.568	19.075	-5.493
72	1e+12	NDD, unbiased	23.021	18.19	-4.831
74	1e+12	NDD, unbiased	24.469	19.058	-5.411
75	1e+12	NDD, unbiased	21.916	17.018	-4.898
76	5e+12	NDD, unbiased	23.735	16.874	-6.861
77	5e+12	NDD, unbiased	23.706	17.844	-5.862
78	5e+12	NDD, unbiased	22.171	17.864	-4.307
81	1e+13	NDD, unbiased	21.291	17.239	-4.052
82	1e+13	NDD, unbiased	25.592	18.859	-6.733
83	1e+13	NDD, unbiased	24.594	17.847	-6.747

Test Statistics (uSec)

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	23.464	24.016	24.568	0.78065	16.58	17.828	19.075	1.7642	-6.884	-6.1885	-5.493	0.98359
1e+12	21.916	23.135	24.469	1.2803	17.018	18.089	19.058	1.0238	-5.411	-5.0467	-4.831	0.3173
5e+12	22.171	23.204	23.735	0.89472	16.874	17.527	17.864	0.56589	-6.861	-5.6767	-4.307	1.287
1e+13	21.291	23.826	25.592	2.2511	17.239	17.982	18.859	0.81835	-6.747	-5.844	-4.052	1.5519

Device Test: 40.7 IOUT_CS_DELAY_RISING(IOUT_CS_RisingDELAY_5V)





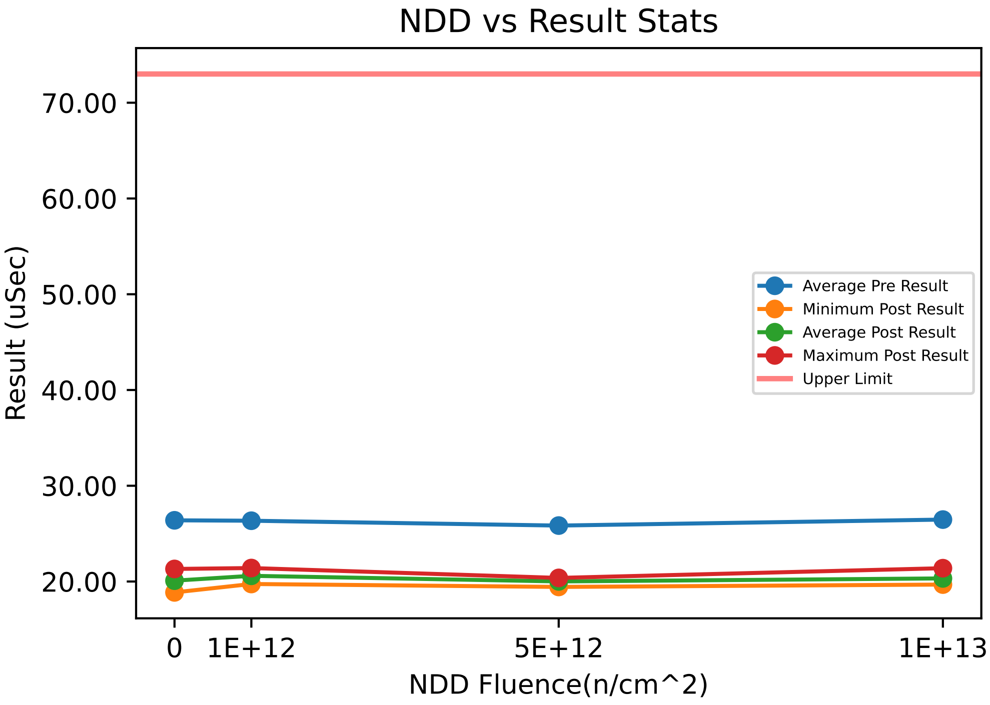
Test Results (Upper Limit = 74.0 (uSec))

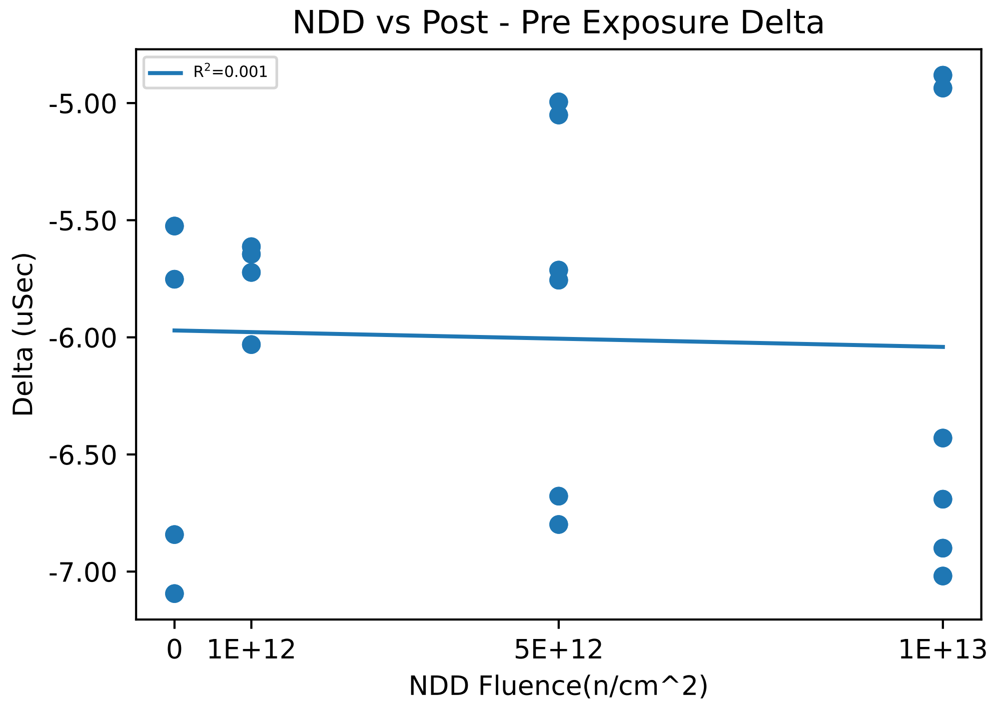
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	3.134	25.635	22.501
71	0	Correlation	1.38	25.84	24.46
72	1e+12	NDD, unbiased	1.951	26.202	24.251
74	1e+12	NDD, unbiased	1.237	25.183	23.946
75	1e+12	NDD, unbiased	1.727	26.014	24.287
76	5e+12	NDD, unbiased	3.559	26.186	22.627
77	5e+12	NDD, unbiased	1.151	25.418	24.267
78	5e+12	NDD, unbiased	1.386	24.516	23.13
81	1e+13	NDD, unbiased	1.652	25.421	23.769
82	1e+13	NDD, unbiased	2.269	25.463	23.194
83	1e+13	NDD, unbiased	1.008	24.509	23.501

Test Statistics (uSec)

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	1.38	2.257	3.134	1.2403	25.635	25.738	25.84	0.14496	22.501	23.48	24.46	1.3852
1e+12	1.237	1.6383	1.951	0.36516	25.183	25.8	26.202	0.54226	23.946	24.161	24.287	0.18735
5e+12	1.151	2.032	3.559	1.3276	24.516	25.373	26.186	0.8359	22.627	23.341	24.267	0.84018
1e+13	1.008	1.643	2.269	0.63055	24.509	25.131	25.463	0.53908	23.194	23.488	23.769	0.28772

Device Test: 40.8 IOUT_CS_DELAY_FALLING(IOUT_CS_FallingDELAY_7V)





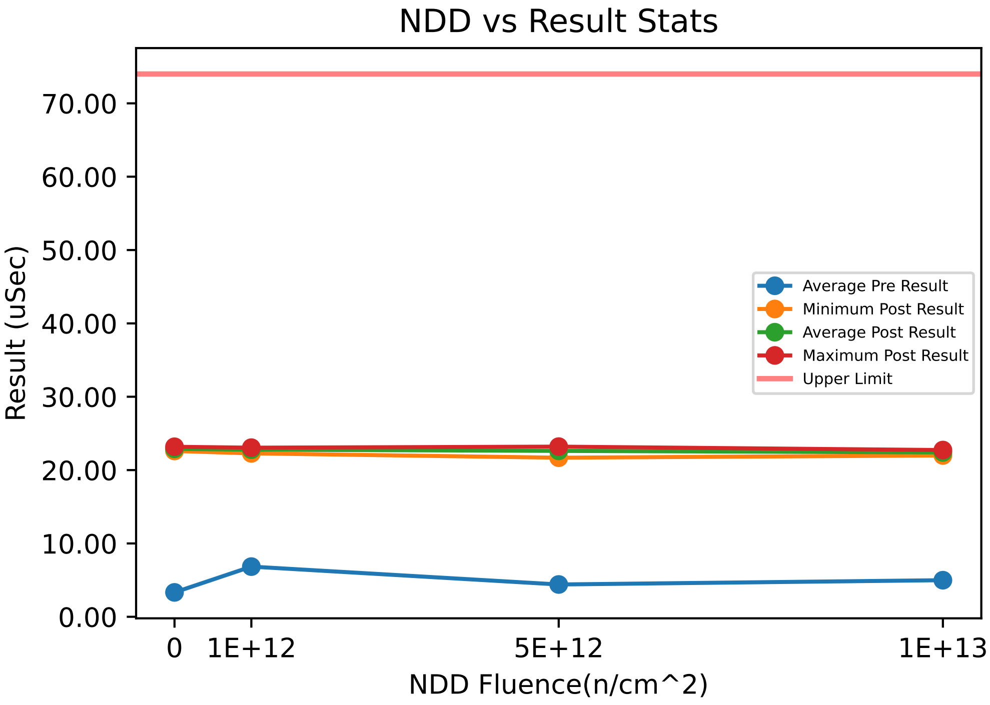
Test Results (Upper Limit = 73.0 (uSec))

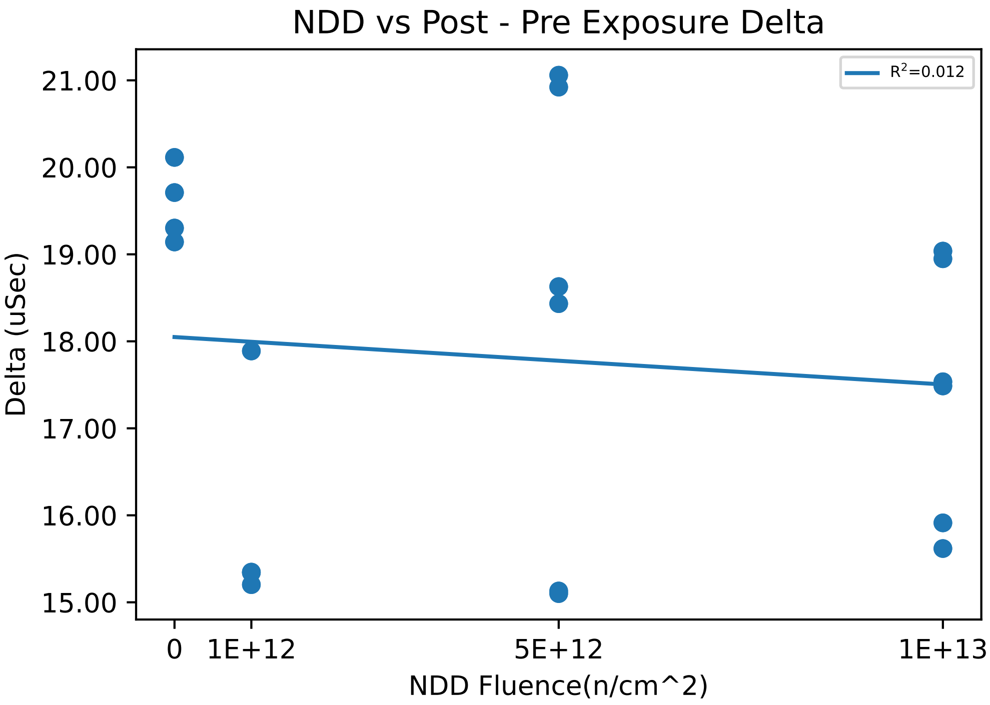
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	25.957	18.863	-7.094
71	0	Correlation	27.064	21.312	-5.752
72	1e+12	NDD, unbiased	26.647	20.616	-6.031
74	1e+12	NDD, unbiased	27.02	21.407	-5.613
75	1e+12	NDD, unbiased	25.464	19.741	-5.723
76	5e+12	NDD, unbiased	26.112	19.434	-6.678
77	5e+12	NDD, unbiased	26.089	20.376	-5.713
78	5e+12	NDD, unbiased	25.271	20.22	-5.051
81	1e+13	NDD, unbiased	24.561	19.68	-4.881
82	1e+13	NDD, unbiased	28.082	21.391	-6.691
83	1e+13	NDD, unbiased	26.919	19.9	-7.019

Test Statistics (uSec)

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	25.957	26.511	27.064	0.78277	18.863	20.087	21.312	1.7317	-7.094	-6.423	-5.752	0.94894
1e+12	25.464	26.377	27.02	0.81238	19.741	20.588	21.407	0.83335	-6.031	-5.789	-5.613	0.21667
5e+12	25.271	25.824	26.112	0.47905	19.434	20.01	20.376	0.50489	-6.678	-5.814	-5.051	0.81819
1e+13	24.561	26.521	28.082	1.794	19.68	20.324	21.391	0.93086	-7.019	-6.197	-4.881	1.1514

Device Test: 40.9 IOUT_CS_DELAY_RISING(IOUT_CS_RisingDELAY_7V)





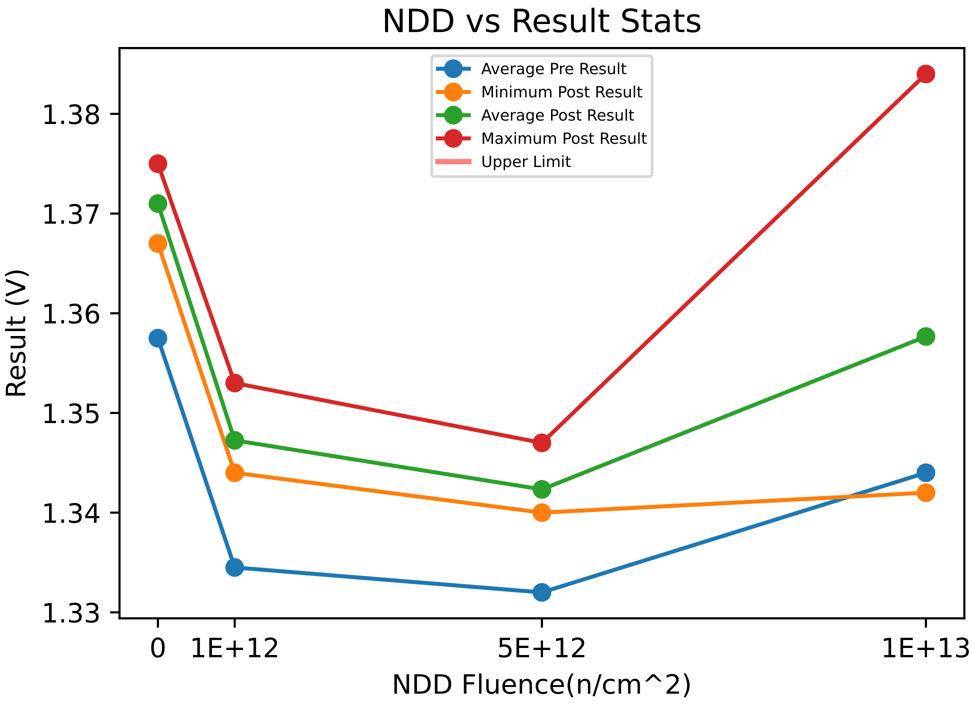
Test Results (Upper Limit = 74.0 (uSec))

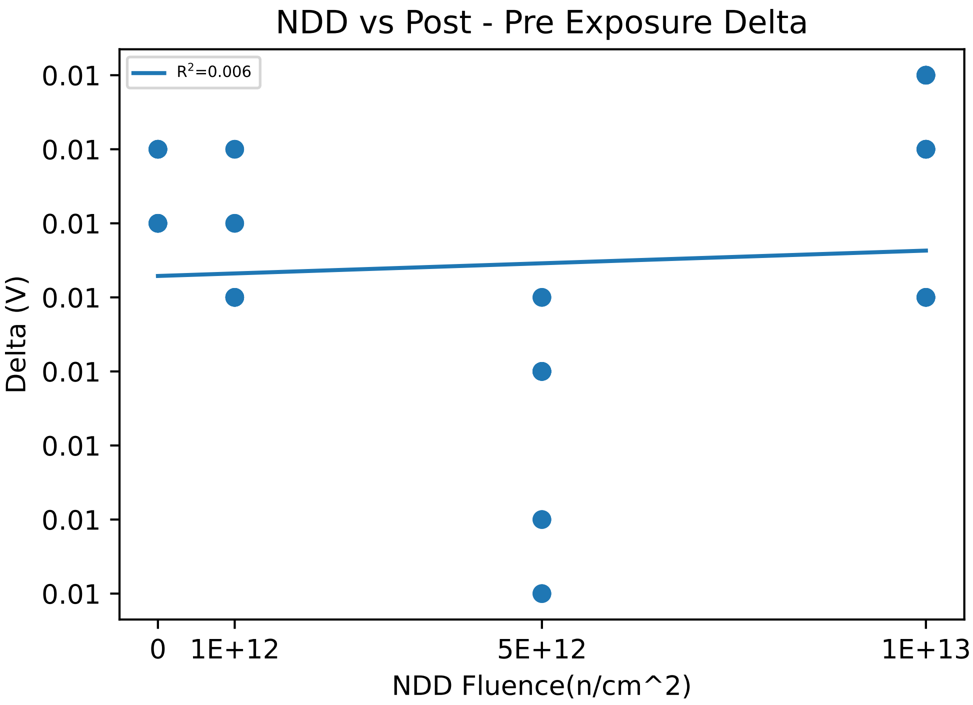
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	2.491	22.605	20.114
71	0	Correlation	3.879	23.181	19.302
72	1e+12	NDD, unbiased	7.715	23.056	15.341
74	1e+12	NDD, unbiased	4.392	22.281	17.889
75	1e+12	NDD, unbiased	7.405	22.752	15.347
76	5e+12	NDD, unbiased	2.277	23.199	20.922
77	5e+12	NDD, unbiased	4.338	22.967	18.629
78	5e+12	NDD, unbiased	6.559	21.689	15.13
81	1e+13	NDD, unbiased	6.82	22.733	15.913
82	1e+13	NDD, unbiased	3.559	22.508	18.949
83	1e+13	NDD, unbiased	4.507	21.994	17.487

Test Statistics (uSec)

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	2.491	3.185	3.879	0.98146	22.605	22.893	23.181	0.40729	19.302	19.708	20.114	0.57417
1e+12	4.392	6.504	7.715	1.8356	22.281	22.696	23.056	0.39049	15.341	16.192	17.889	1.4694
5e+12	2.277	4.3913	6.559	2.1415	21.689	22.618	23.199	0.81314	15.13	18.227	20.922	2.9169
1e+13	3.559	4.962	6.82	1.6774	21.994	22.412	22.733	0.3788	15.913	17.45	18.949	1.5183

Device Test: 5.0 VIN_UVLO_Rising(VIN_UVLO_RISING)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

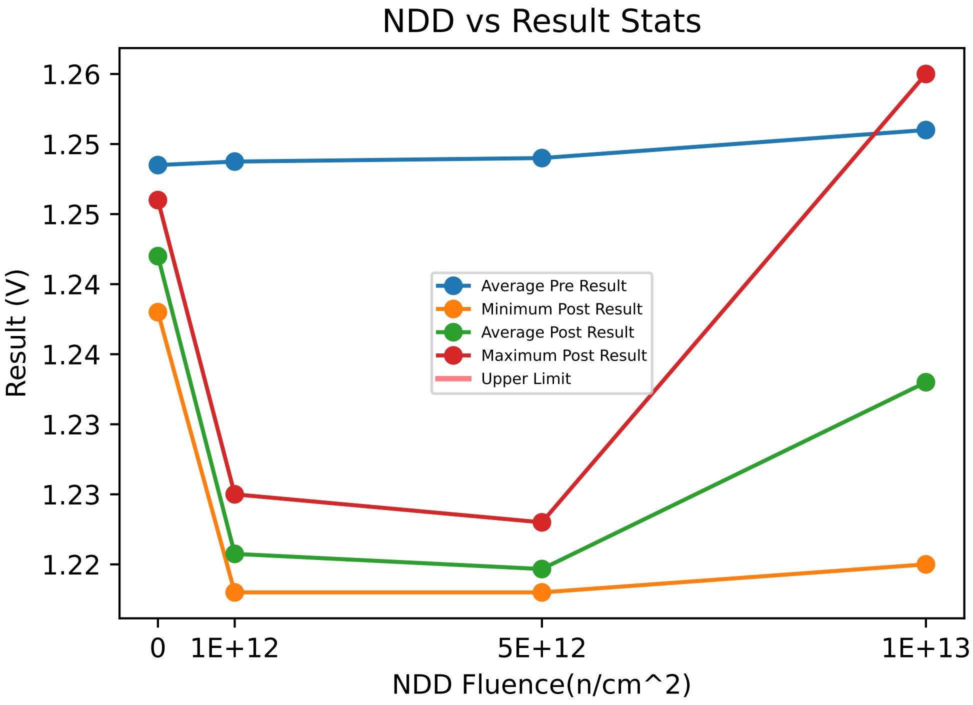
Test Results (No Limits Specified (V))

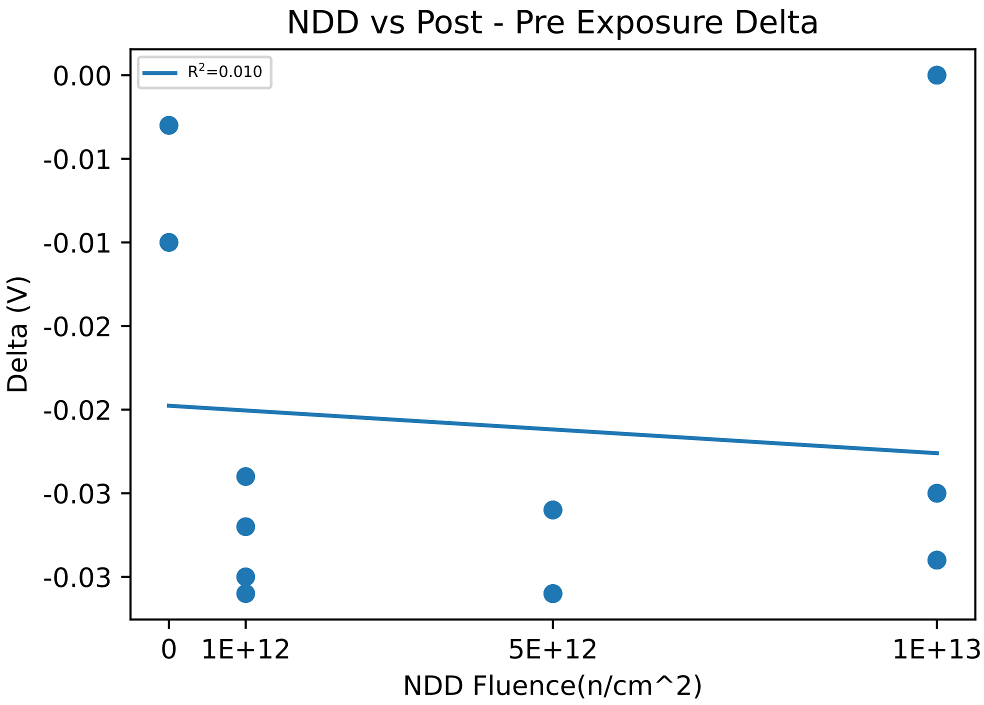
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.362	1.375	0.013
71	0	Correlation	1.353	1.367	0.014
72	1e+12	NDD, unbiased	1.332	1.344	0.012
74	1e+12	NDD, unbiased	1.334	1.348	0.014
75	1e+12	NDD, unbiased	1.34	1.353	0.013
76	5e+12	NDD, unbiased	1.329	1.34	0.011
77	5e+12	NDD, unbiased	1.328	1.34	0.012
78	5e+12	NDD, unbiased	1.339	1.347	0.008
81	1e+13	NDD, unbiased	1.327	1.342	0.015
82	1e+13	NDD, unbiased	1.37	1.384	0.014
83	1e+13	NDD, unbiased	1.335	1.347	0.012

Test Statistics (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	1.353	1.3575	1.362	0.006364	1.367	1.371	1.375	0.0056569	0.013	0.0135	0.014	0.00070711
1e+12	1.332	1.3353	1.34	0.0041633	1.344	1.3483	1.353	0.0045092	0.012	0.013	0.014	0.001
5e+12	1.328	1.332	1.339	0.0060828	1.34	1.3423	1.347	0.0040415	0.008	0.010333	0.012	0.0020817
1e+13	1.327	1.344	1.37	0.022869	1.342	1.3577	1.384	0.022942	0.012	0.013667	0.015	0.0015275

Device Test: 5.1 VIN_UVLO_Falling(VIN_UVLO_FALLING)





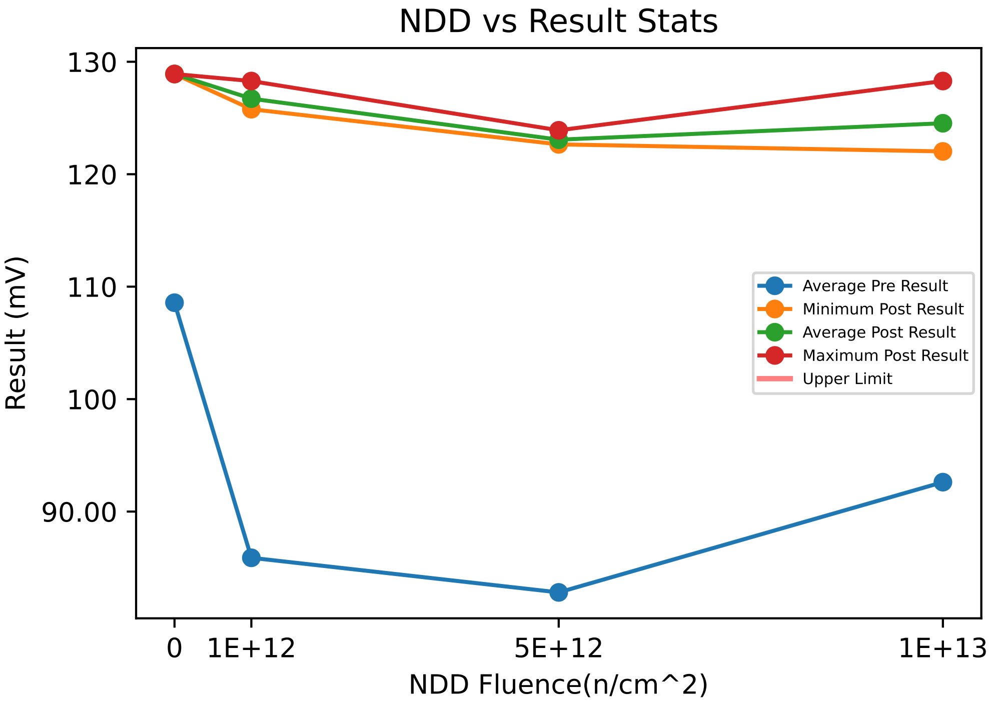
Test Results (No Limits Specified (V))

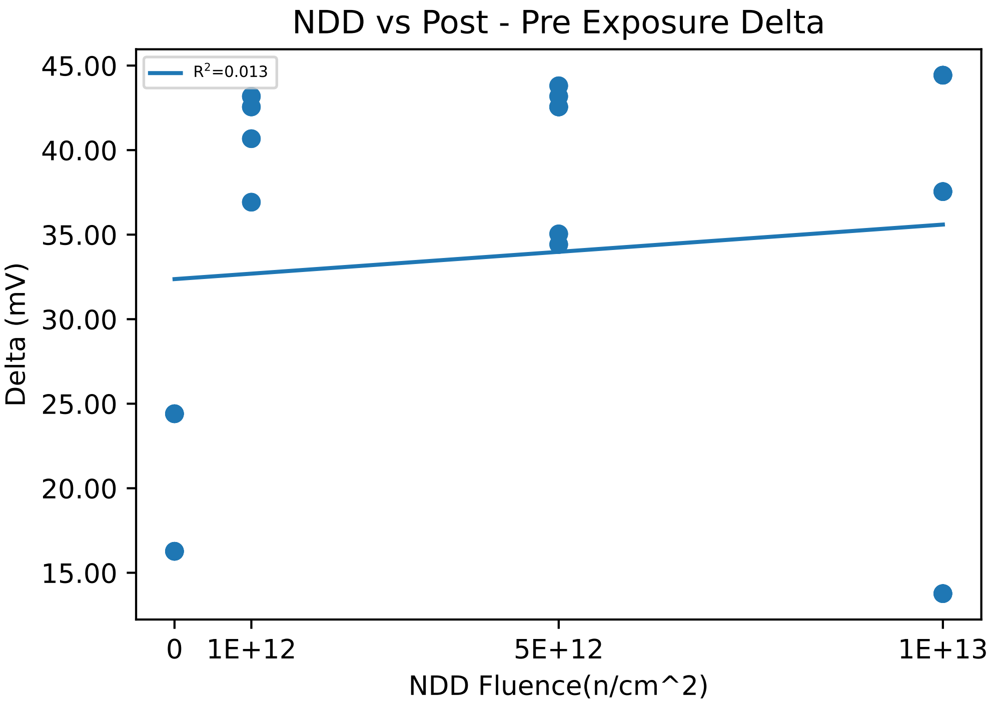
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.249	1.246	-0.003
71	0	Correlation	1.248	1.238	-0.01
72	1e+12	NDD, unbiased	1.249	1.218	-0.031
74	1e+12	NDD, unbiased	1.249	1.222	-0.027
75	1e+12	NDD, unbiased	1.249	1.225	-0.024
76	5e+12	NDD, unbiased	1.249	1.218	-0.031
77	5e+12	NDD, unbiased	1.249	1.218	-0.031
78	5e+12	NDD, unbiased	1.249	1.223	-0.026
81	1e+13	NDD, unbiased	1.249	1.22	-0.029
82	1e+13	NDD, unbiased	1.255	1.255	0
83	1e+13	NDD, unbiased	1.249	1.224	-0.025

Test Statistics (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	1.248	1.2485	1.249	0.00070711	1.238	1.242	1.246	0.0056569	-0.01	-0.0065	-0.003	0.0049497
1e+12	1.249	1.249	1.249	0	1.218	1.2217	1.225	0.0035119	-0.031	-0.027333	-0.024	0.0035119
5e+12	1.249	1.249	1.249	0	1.218	1.2197	1.223	0.0028868	-0.031	-0.029333	-0.026	0.0028868
1e+13	1.249	1.251	1.255	0.0034641	1.22	1.233	1.255	0.019157	-0.029	-0.018	0	0.015716

Device Test: 5.2 VIN_Hysteresis(VIN_UVLO_HYSTERESIS)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

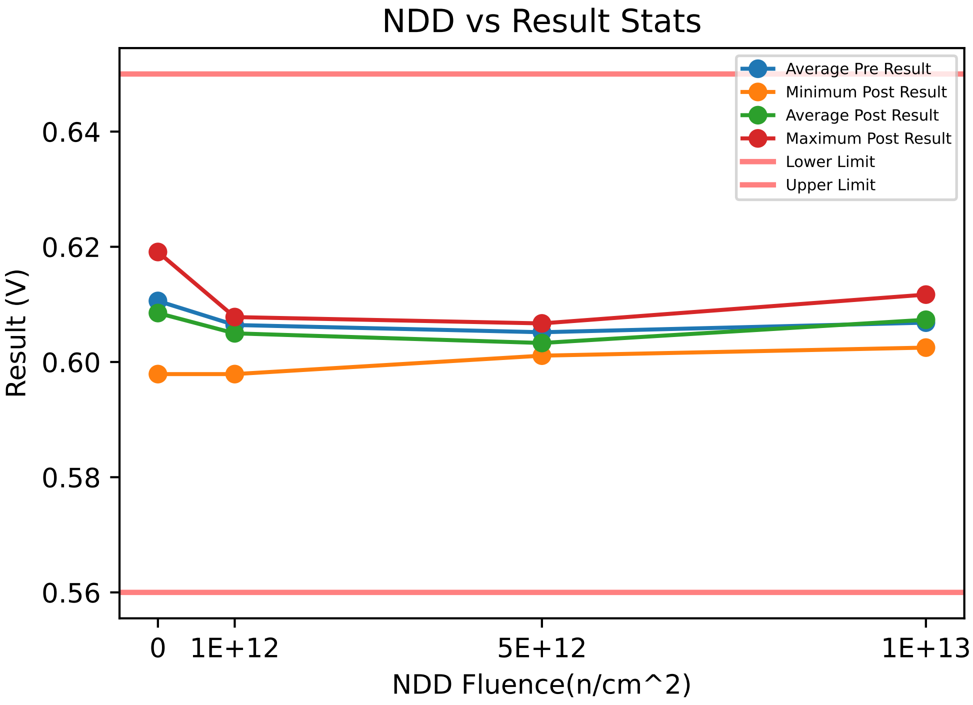
Test Results (No Limits Specified (mV))

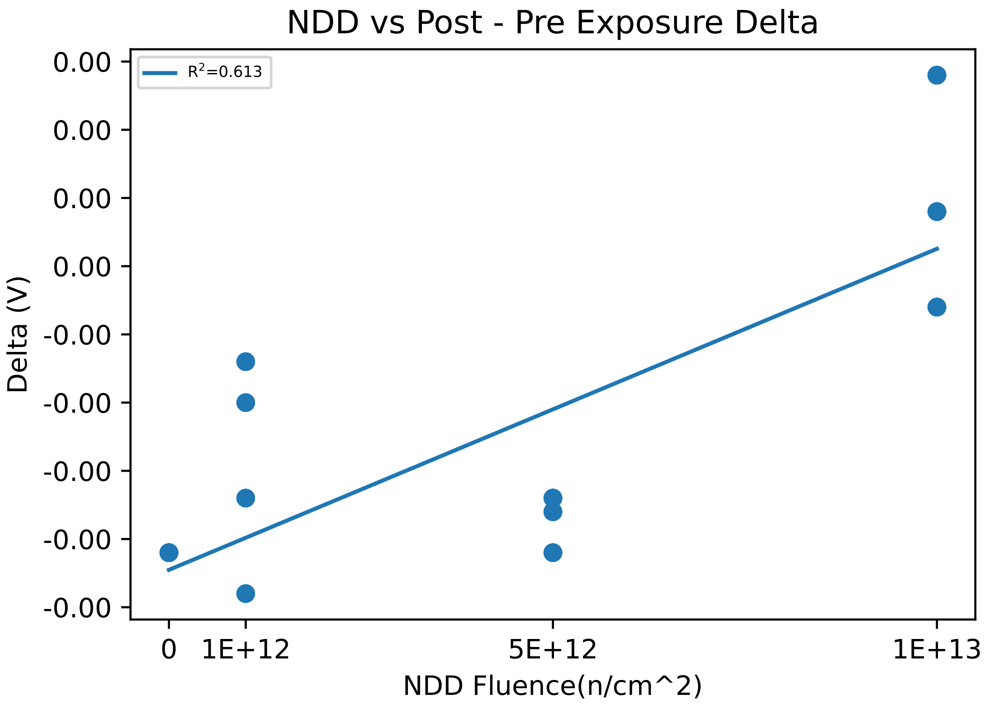
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	112.64	128.91	16.271
71	0	Correlation	104.5	128.91	24.406
72	1e+12	NDD, unbiased	83.229	126.41	43.179
74	1e+12	NDD, unbiased	85.107	125.78	40.675
75	1e+12	NDD, unbiased	91.365	128.28	36.92
76	5e+12	NDD, unbiased	80.1	122.65	42.554
77	5e+12	NDD, unbiased	78.849	122.65	43.805
78	5e+12	NDD, unbiased	89.487	123.91	34.418
81	1e+13	NDD, unbiased	77.597	122.03	44.431
82	1e+13	NDD, unbiased	114.52	128.29	13.768
83	1e+13	NDD, unbiased	85.732	123.28	37.547

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	104.5	108.57	112.64	5.753	128.91	128.91	128.91	0.00070711	16.271	20.339	24.406	5.7523
1e+12	83.229	86.567	91.365	4.26	125.78	126.83	128.28	1.3026	36.92	40.258	43.179	3.1503
5e+12	78.849	82.812	89.487	5.8145	122.65	123.07	123.91	0.72227	34.418	40.259	43.805	5.097
1e+13	77.597	92.616	114.52	19.399	122.03	124.53	128.29	3.3115	13.768	31.915	44.431	16.089

Device Test: 6.0 EN_VTH_RISING(EN_UVLO_RISING_1p5V)





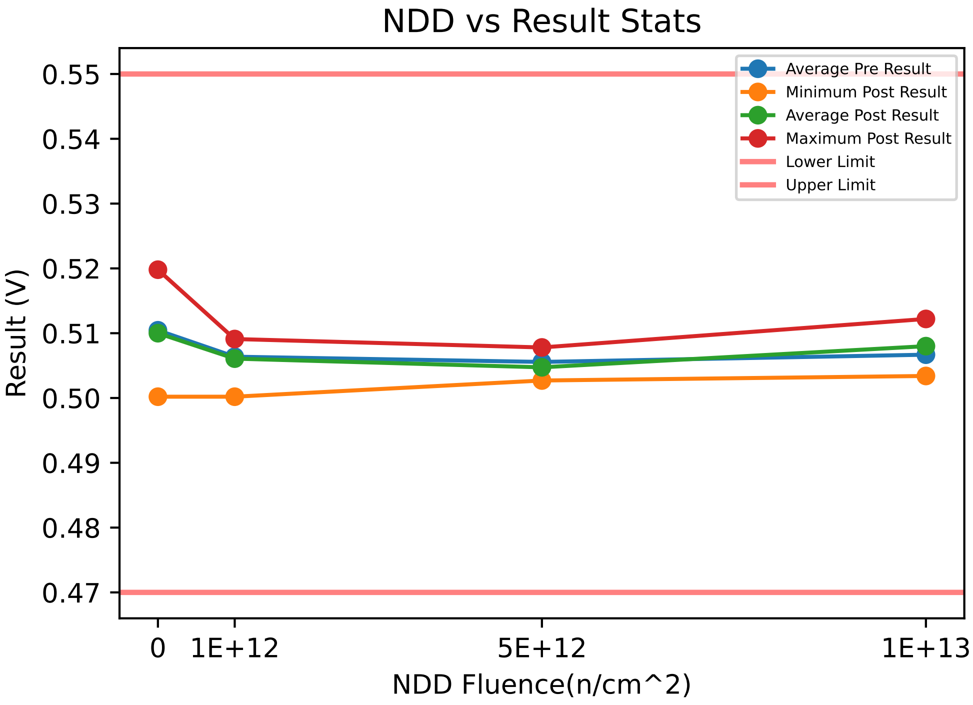
Test Results (Lower Limit = 0.56, Upper Limit = 0.65 (V))

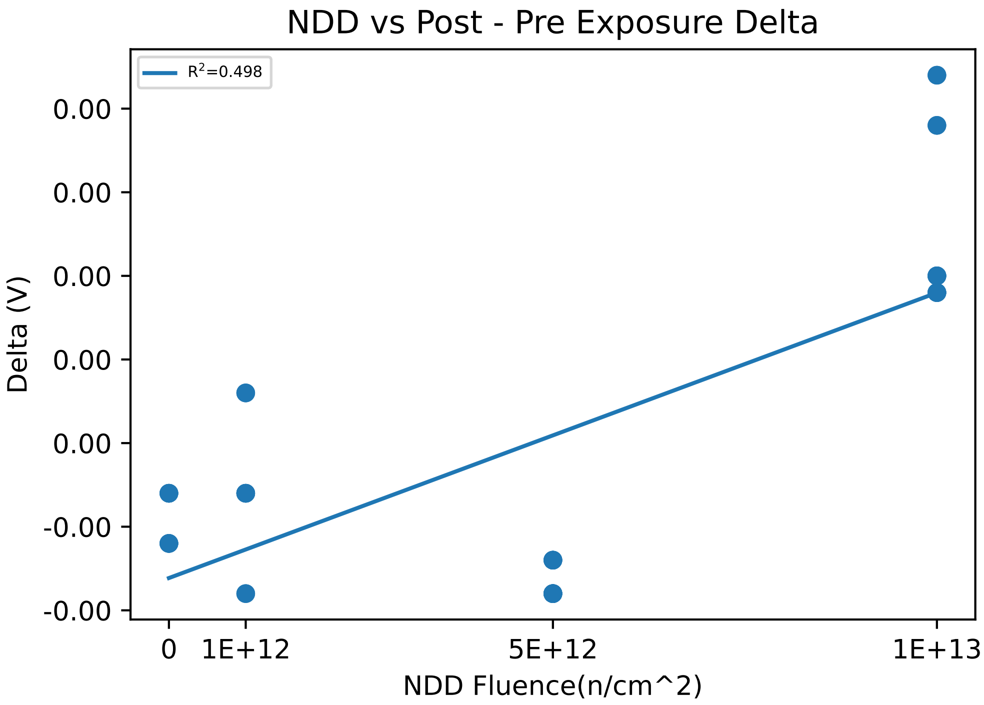
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.6212	0.6191	-0.0021
71	0	Correlation	0.6	0.5979	-0.0021
72	1e+12	NDD, unbiased	0.6081	0.6071	-0.001
74	1e+12	NDD, unbiased	0.5996	0.5979	-0.0017
75	1e+12	NDD, unbiased	0.6102	0.6078	-0.0024
76	5e+12	NDD, unbiased	0.6039	0.6021	-0.0018
77	5e+12	NDD, unbiased	0.6028	0.6011	-0.0017
78	5e+12	NDD, unbiased	0.6088	0.6067	-0.0021
81	1e+13	NDD, unbiased	0.6064	0.6078	0.0014
82	1e+13	NDD, unbiased	0.612	0.6117	-0.0003
83	1e+13	NDD, unbiased	0.6021	0.6025	0.0004

Test Statistics (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	0.6	0.6106	0.6212	0.014991	0.5979	0.6085	0.6191	0.014991	-0.0021	-0.0021	-0.0021	0
1e+12	0.5996	0.60597	0.6102	0.0056128	0.5979	0.60427	0.6078	0.0055248	-0.0024	-0.0017	-0.001	0.0007
5e+12	0.6028	0.60517	0.6088	0.0031943	0.6011	0.6033	0.6067	0.0029866	-0.0021	-0.0018667	-0.0017	0.00020817
1e+13	0.6021	0.60683	0.612	0.0049642	0.6025	0.60733	0.6117	0.0046177	-0.0003	0.0005	0.0014	0.0008544

Device Test: 6.1 EN_VTH_FALLING(EN_UVLO_FALLING_1p5V)





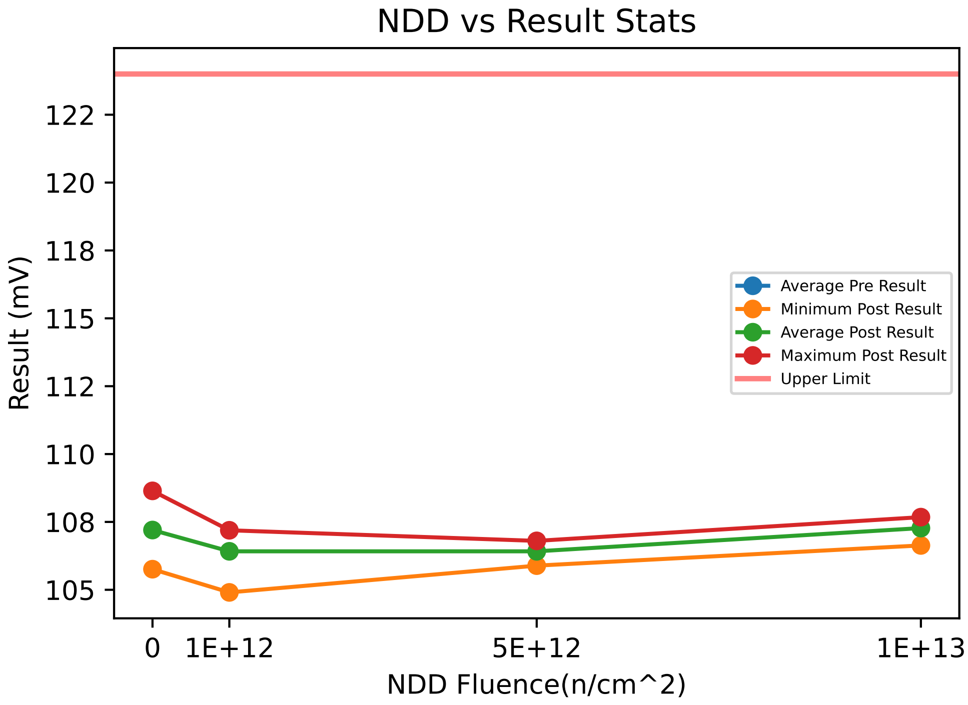
Test Results (Lower Limit = 0.47, Upper Limit = 0.55 (V))

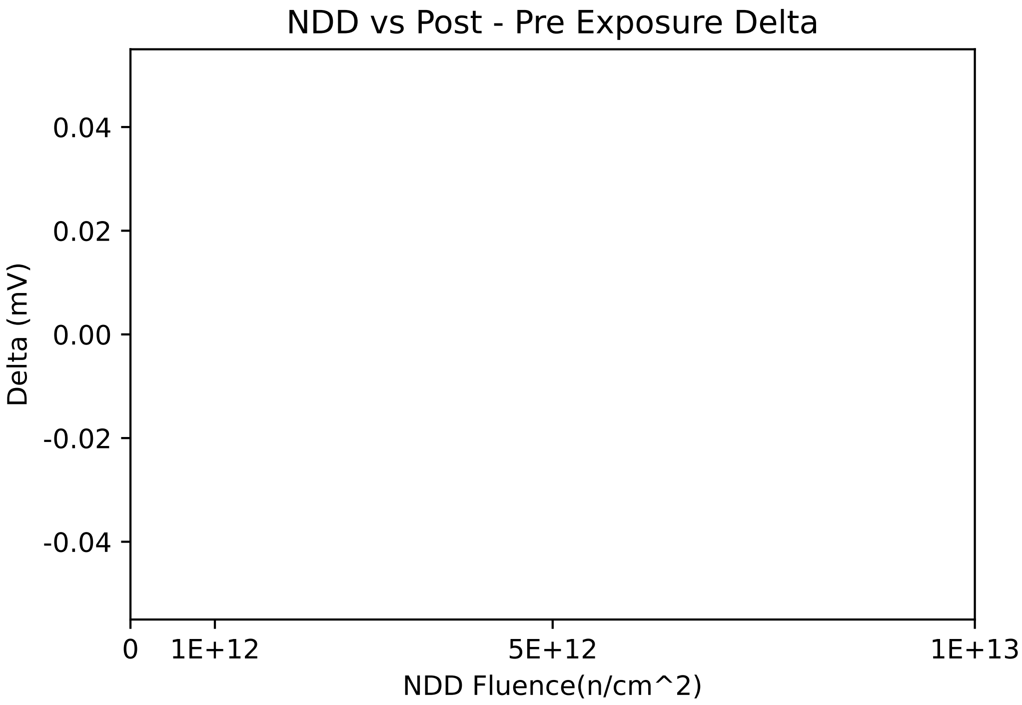
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.5204	0.5198	-0.0006
71	0	Correlation	0.5005	0.5002	-0.0003
72	1e+12	NDD, unbiased	0.5078	0.5075	-0.0003
74	1e+12	NDD, unbiased	0.4999	0.5002	0.0003
75	1e+12	NDD, unbiased	0.51	0.5091	-0.0009
76	5e+12	NDD, unbiased	0.5046	0.5037	-0.0009
77	5e+12	NDD, unbiased	0.5034	0.5027	-0.0007
78	5e+12	NDD, unbiased	0.5087	0.5078	-0.0009
81	1e+13	NDD, unbiased	0.5062	0.5084	0.0022
82	1e+13	NDD, unbiased	0.5113	0.5122	0.0009
83	1e+13	NDD, unbiased	0.5024	0.5034	0.001

Test Statistics (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	0.5005	0.51045	0.5204	0.014071	0.5002	0.51	0.5198	0.013859	-0.0006	-0.00045	-0.0003	0.00021213
1e+12	0.4999	0.5059	0.51	0.0053113	0.5002	0.5056	0.5091	0.0047445	-0.0009	-0.0003	0.0003	0.0006
5e+12	0.5034	0.50557	0.5087	0.0027791	0.5027	0.50473	0.5078	0.0027025	-0.0009	-0.00083333	-0.0007	0.00011547
1e+13	0.5024	0.50663	0.5113	0.0044658	0.5034	0.508	0.5122	0.0044136	0.0009	0.0013667	0.0022	0.00072342

Device Test: 6.10 EN_HYST(EN_UVLO_HYSTERESIS_3p3V)





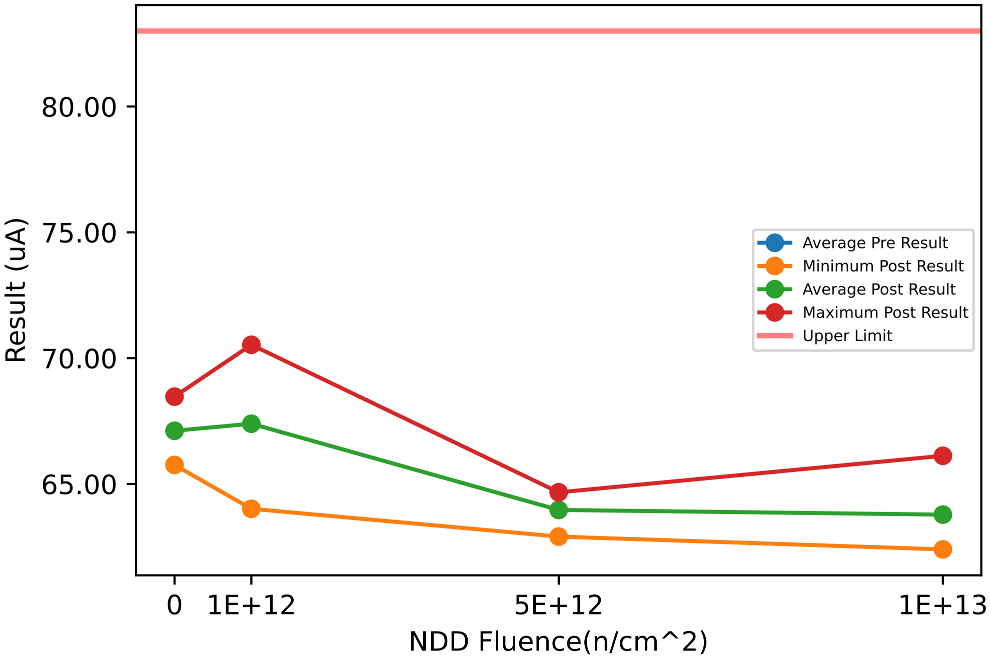
Test Results (Upper Limit = 124.0 (mV))

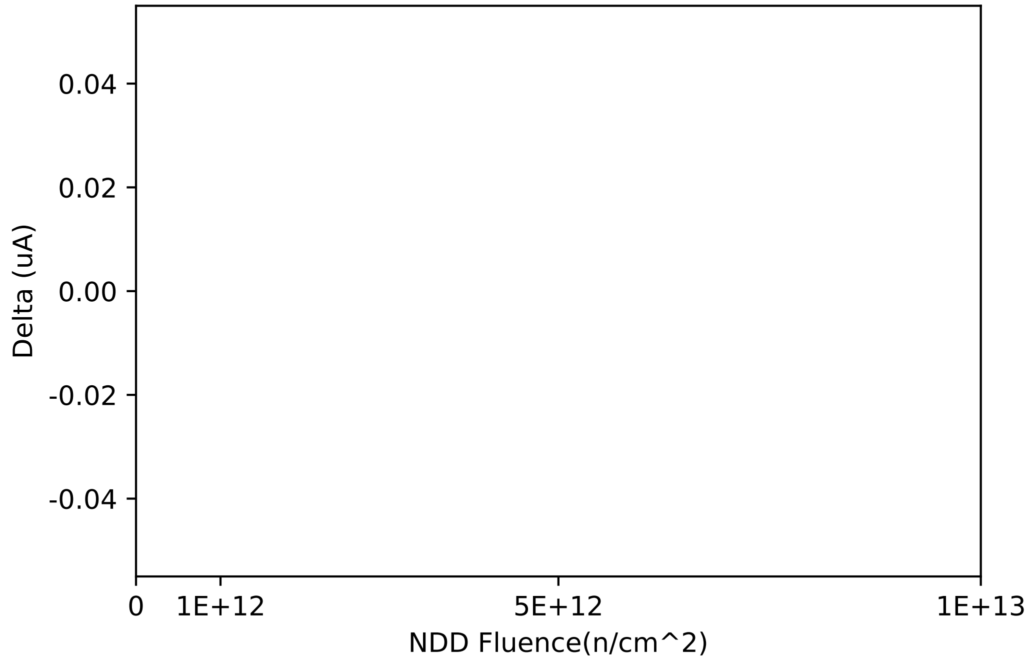
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		108.64	
71	0	Correlation		105.76	
72	1e+12	NDD, unbiased		107.19	
74	1e+12	NDD, unbiased		104.9	
75	1e+12	NDD, unbiased		107.16	
76	5e+12	NDD, unbiased		105.89	
77	5e+12	NDD, unbiased		106.56	
78	5e+12	NDD, unbiased		106.8	
81	1e+13	NDD, unbiased		107.51	
82	1e+13	NDD, unbiased		107.68	
83	1e+13	NDD, unbiased		106.63	

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					105.76	107.2	108.64	2.04				
1e+12					104.9	106.42	107.19	1.3104				
5e+12					105.89	106.42	106.8	0.47229				
1e+13					106.63	107.27	107.68	0.55944				

Device Test: 6.11 SS_I_Charge(SS_Icharge_3p3V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

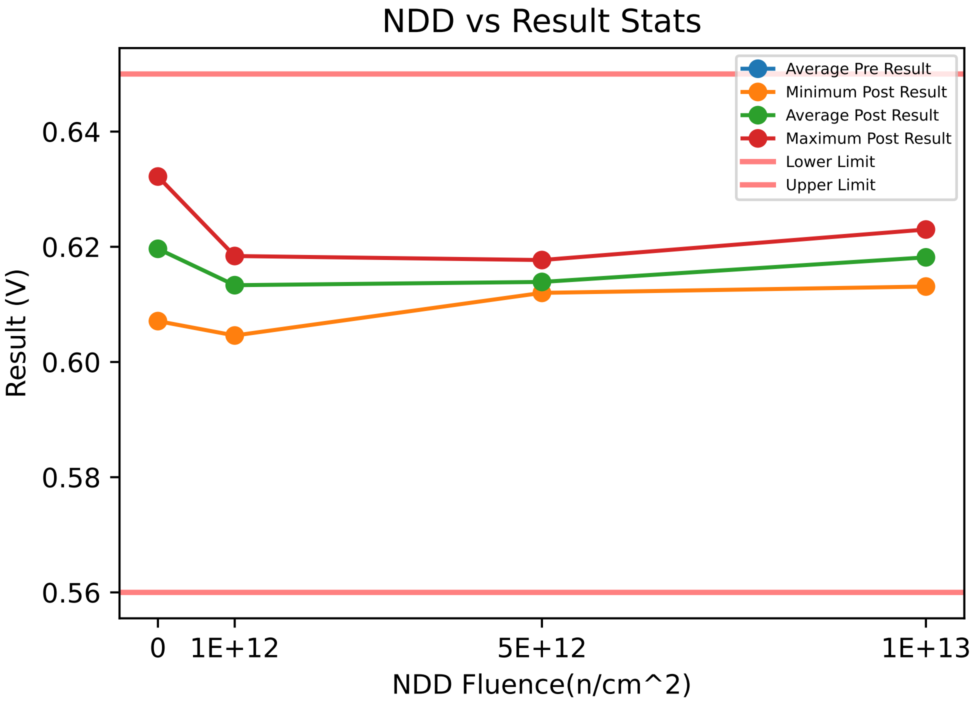
Test Results (Upper Limit = 83.0 (uA))

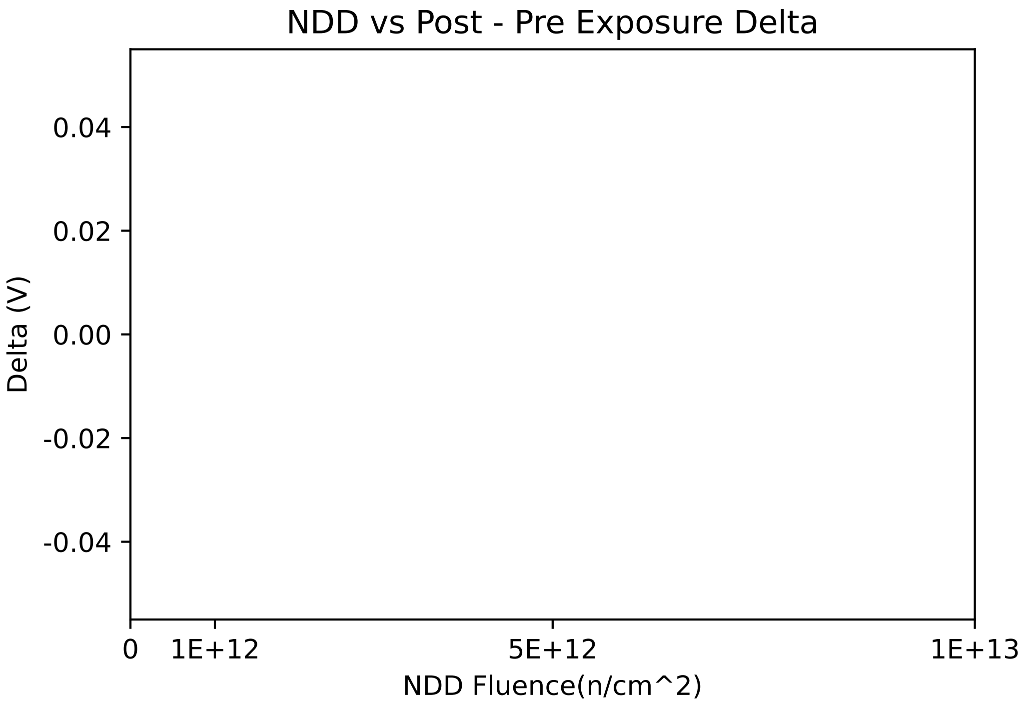
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		68.471	
71	0	Correlation		65.757	
72	1e+12	NDD, unbiased		70.531	
74	1e+12	NDD, unbiased		64.013	
75	1e+12	NDD, unbiased		67.638	
76	5e+12	NDD, unbiased		64.668	
77	5e+12	NDD, unbiased		62.909	
78	5e+12	NDD, unbiased		64.326	
81	1e+13	NDD, unbiased		62.826	
82	1e+13	NDD, unbiased		66.119	
83	1e+13	NDD, unbiased		62.4	

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					65.757	67.114	68.471	1.9191				
1e+12					64.013	67.394	70.531	3.2658				
5e+12					62.909	63.968	64.668	0.93264				
1e+13					62.4	63.782	66.119	2.0354				

Device Test: 6.12 EN_VTH_RISING(EN_UVLO_RISING_5V)





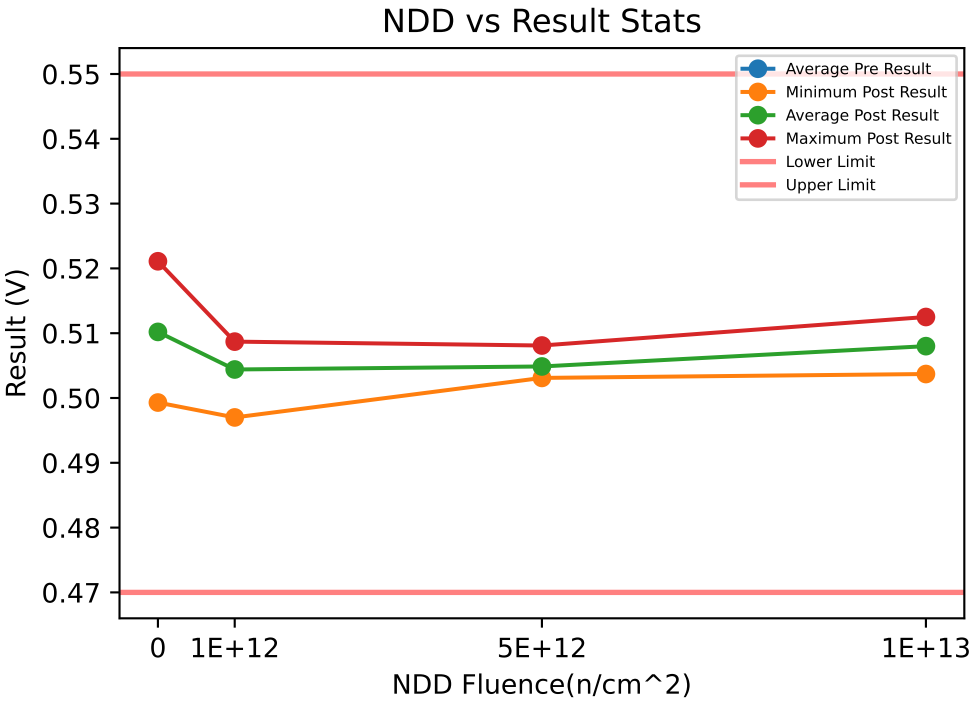
Test Results (Lower Limit = 0.56, Upper Limit = 0.65 (V))

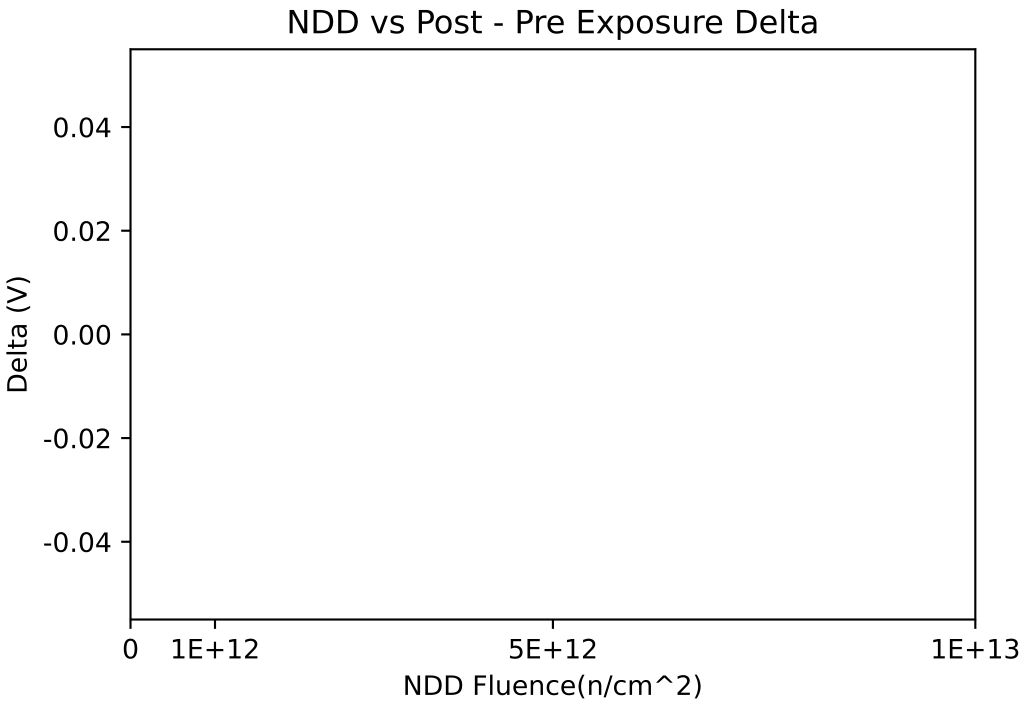
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.6322	
71	0	Correlation		0.6071	
72	1e+12	NDD, unbiased		0.6184	
74	1e+12	NDD, unbiased		0.6046	
75	1e+12	NDD, unbiased		0.617	
76	5e+12	NDD, unbiased		0.612	
77	5e+12	NDD, unbiased		0.612	
78	5e+12	NDD, unbiased		0.6177	
81	1e+13	NDD, unbiased		0.6184	
82	1e+13	NDD, unbiased		0.623	
83	1e+13	NDD, unbiased		0.6131	

Test Statistics (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					0.6071	0.61965	0.6322	0.017748				
1e+12					0.6046	0.61333	0.6184	0.0075956				
5e+12					0.612	0.6139	0.6177	0.0032909				
1e+13					0.6131	0.61817	0.623	0.0049541				

Device Test: 6.13 EN_VTH_FALLING(EN_UVLO_FALLING_5V)





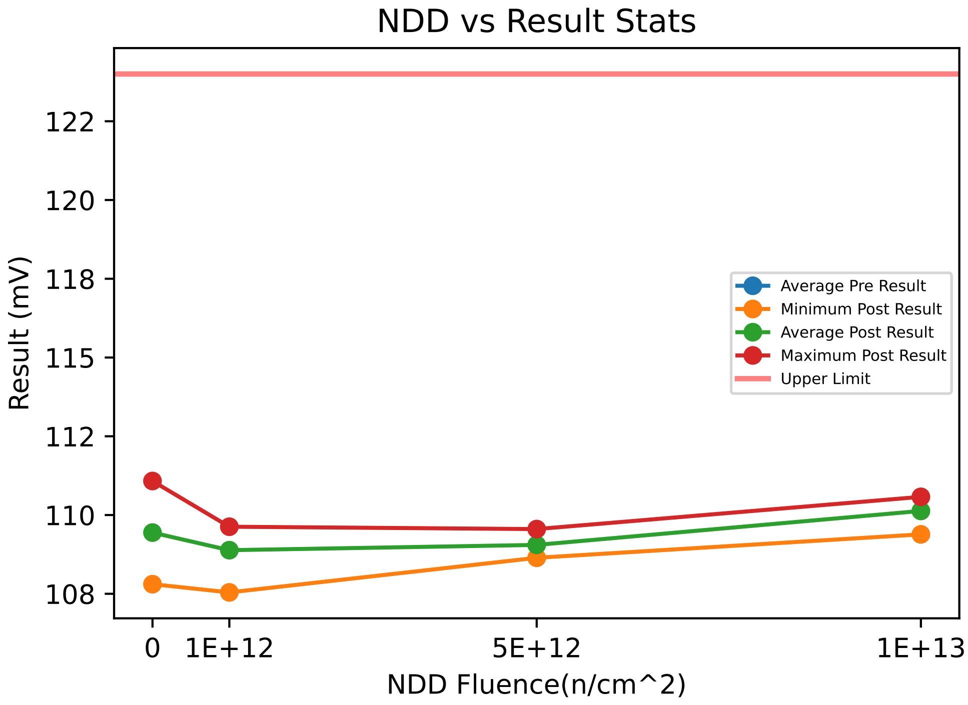
Test Results (Lower Limit = 0.47, Upper Limit = 0.55 (V))

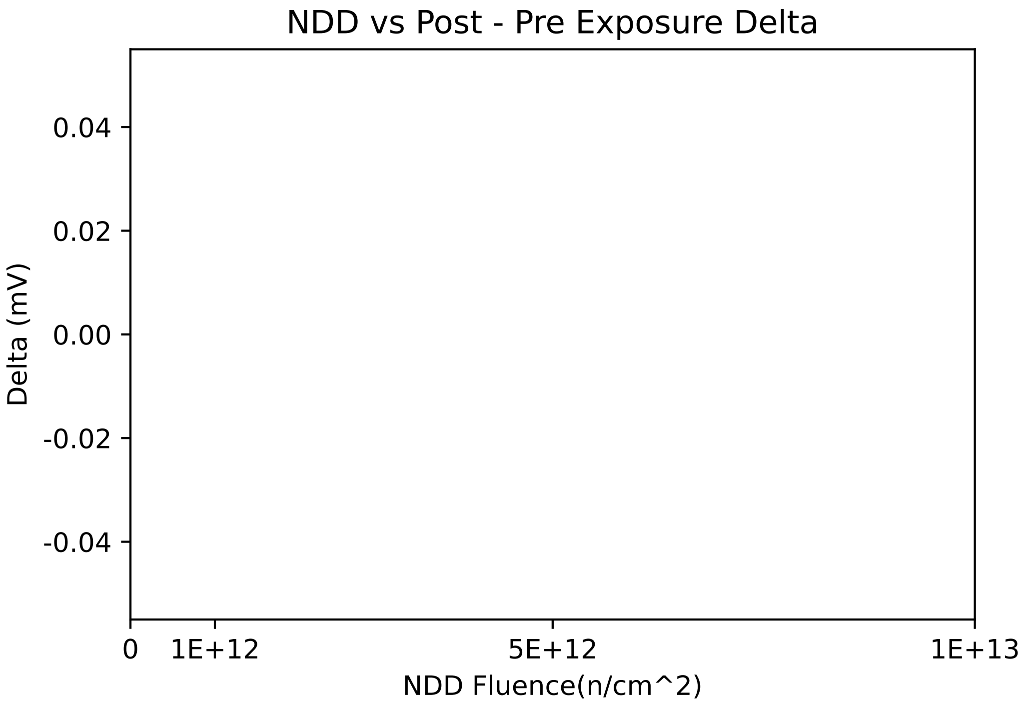
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5211	
71	0	Correlation		0.4993	
72	1e+12	NDD, unbiased		0.5087	
74	1e+12	NDD, unbiased		0.497	
75	1e+12	NDD, unbiased		0.5075	
76	5e+12	NDD, unbiased		0.5034	
77	5e+12	NDD, unbiased		0.5031	
78	5e+12	NDD, unbiased		0.5081	
81	1e+13	NDD, unbiased		0.5078	
82	1e+13	NDD, unbiased		0.5125	
83	1e+13	NDD, unbiased		0.5037	

Test Statistics (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					0.4993	0.5102	0.5211	0.015415				
1e+12					0.497	0.5044	0.5087	0.0064366				
5e+12					0.5031	0.50487	0.5081	0.0028042				
1e+13					0.5037	0.508	0.5125	0.0044034				

Device Test: 6.14 EN_HYST(EN_UVLO_HYSTERESIS_5V)





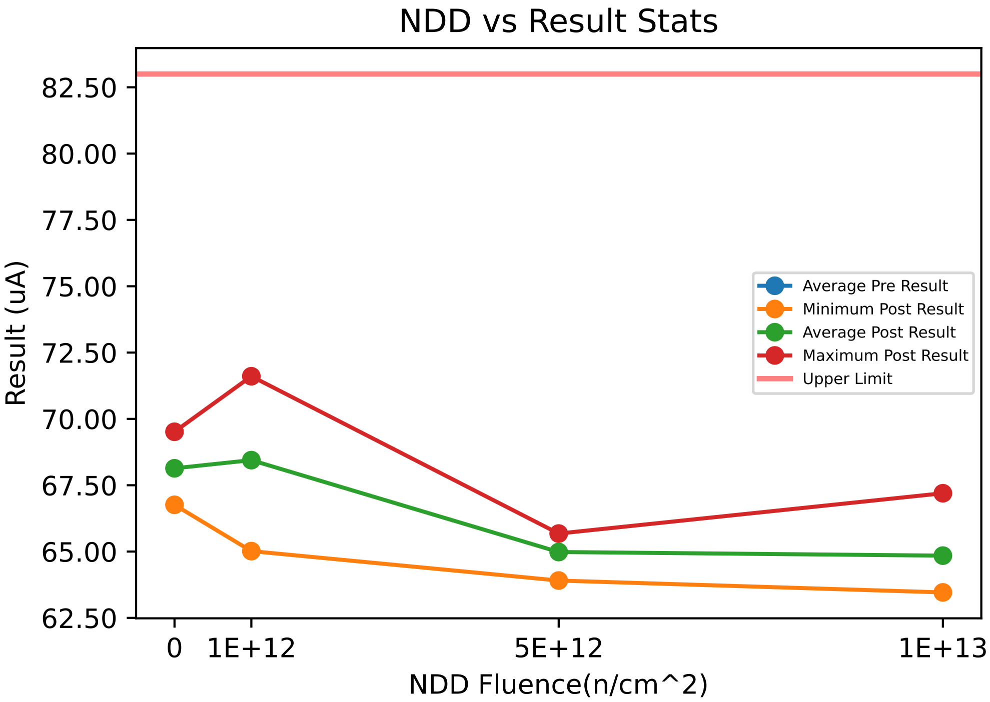
Test Results (Upper Limit = 124.0 (mV))

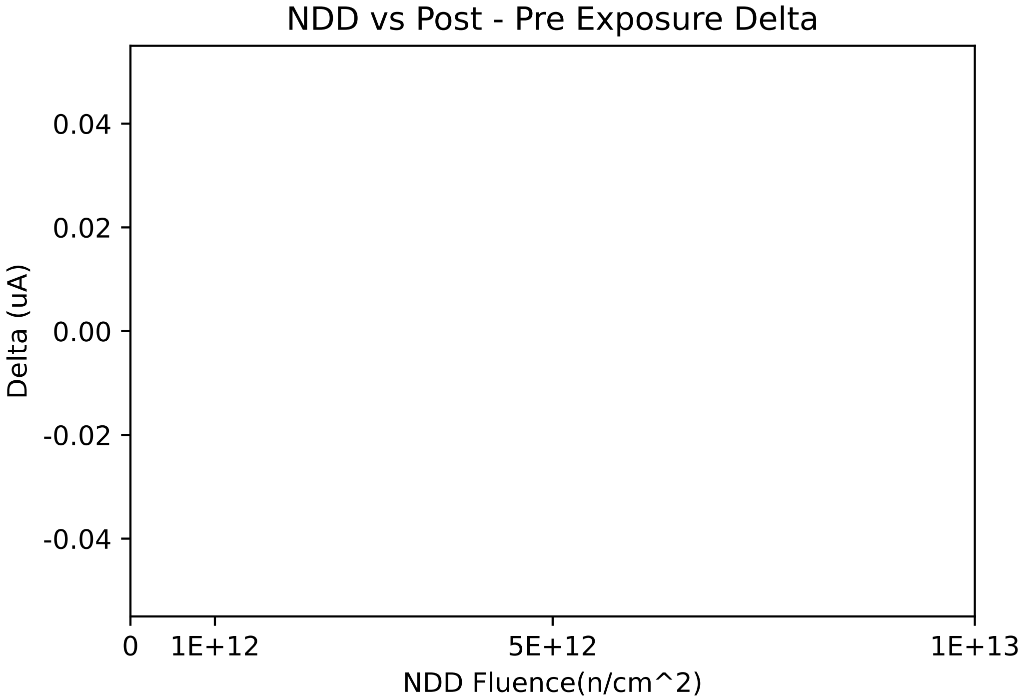
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		111.08	
71	0	Correlation		107.81	
72	1e+12	NDD, unbiased		109.63	
74	1e+12	NDD, unbiased		107.54	
75	1e+12	NDD, unbiased		109.48	
76	5e+12	NDD, unbiased		108.64	
77	5e+12	NDD, unbiased		108.96	
78	5e+12	NDD, unbiased		109.55	
81	1e+13	NDD, unbiased		110.58	
82	1e+13	NDD, unbiased		110.43	
83	1e+13	NDD, unbiased		109.39	

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					107.81	109.44	111.08	2.3158				
1e+12					107.54	108.88	109.63	1.1629				
5e+12					108.64	109.05	109.55	0.46311				
1e+13					109.39	110.13	110.58	0.6489				

Device Test: 6.15 SS_I_Charge(SS_Icharge_5V)





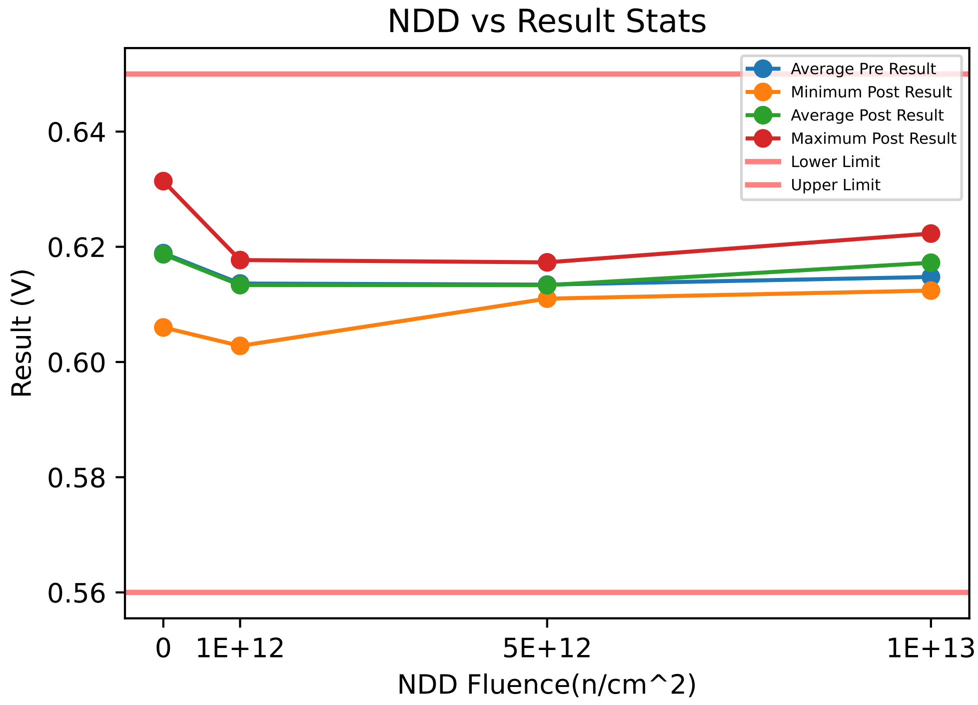
Test Results (Upper Limit = 83.0 (uA))

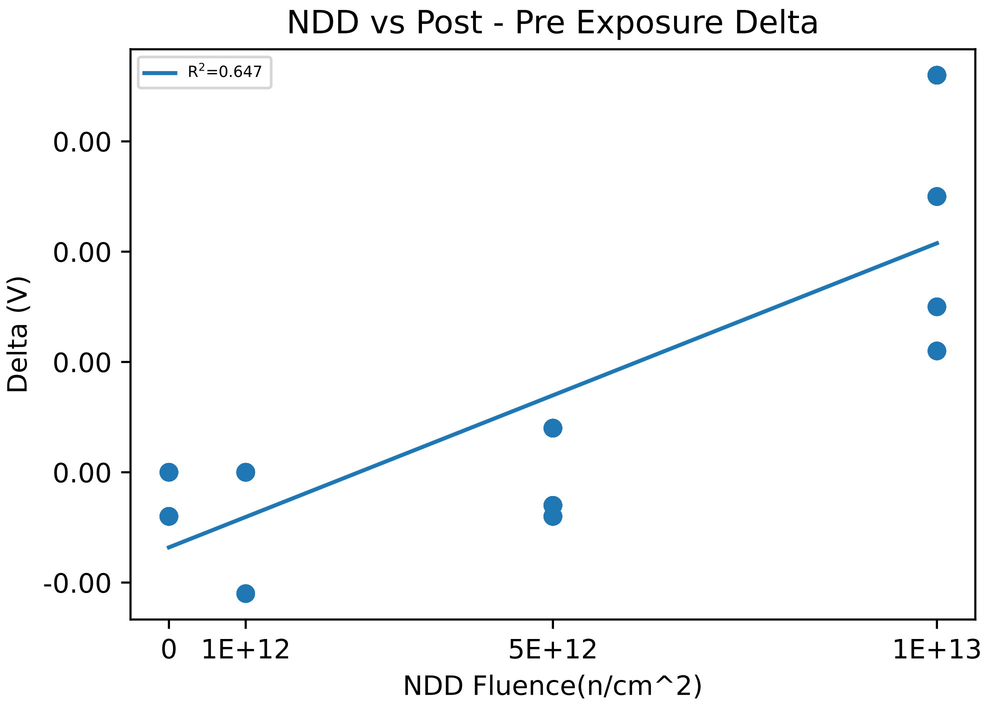
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		69.515	
71	0	Correlation		66.762	
72	1e+12	NDD, unbiased		71.608	
74	1e+12	NDD, unbiased		65.017	
75	1e+12	NDD, unbiased		68.713	
76	5e+12	NDD, unbiased		65.679	
77	5e+12	NDD, unbiased		63.908	
78	5e+12	NDD, unbiased		65.362	
81	1e+13	NDD, unbiased		63.881	
82	1e+13	NDD, unbiased		67.198	
83	1e+13	NDD, unbiased		63.461	

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					66.762	68.138	69.515	1.9467				
1e+12					65.017	68.446	71.608	3.3036				
5e+12					63.908	64.983	65.679	0.94437				
1e+13					63.461	64.847	67.198	2.0471				

Device Test: 6.16 EN_VTH_RISING(EN_UVLO_RISING_7V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

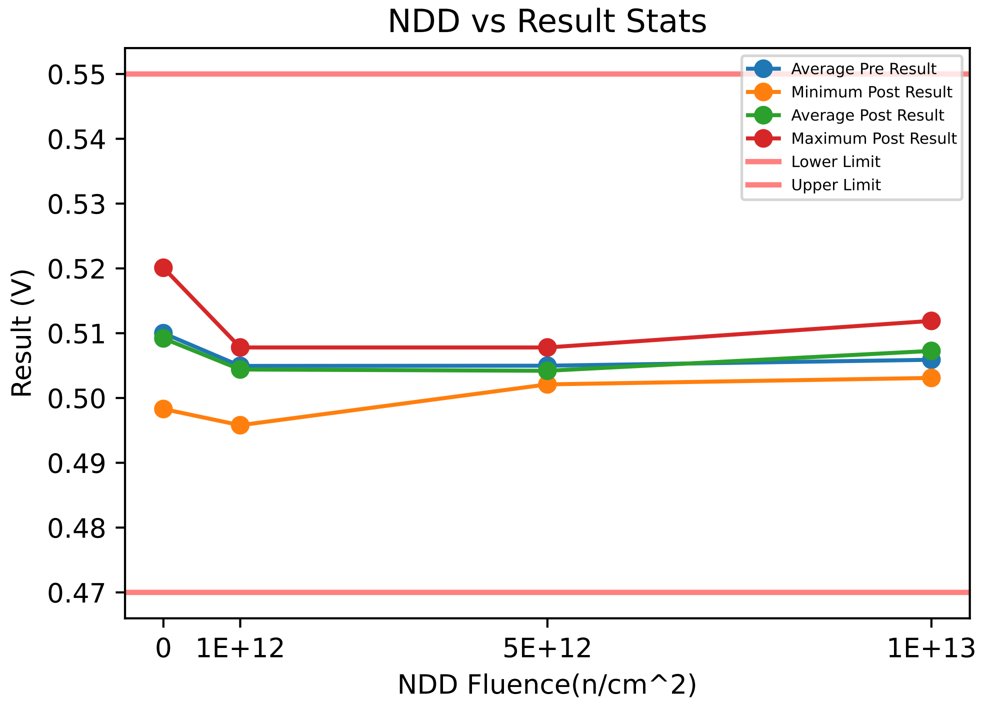
Test Results (Lower Limit = 0.56, Upper Limit = 0.65 (V))

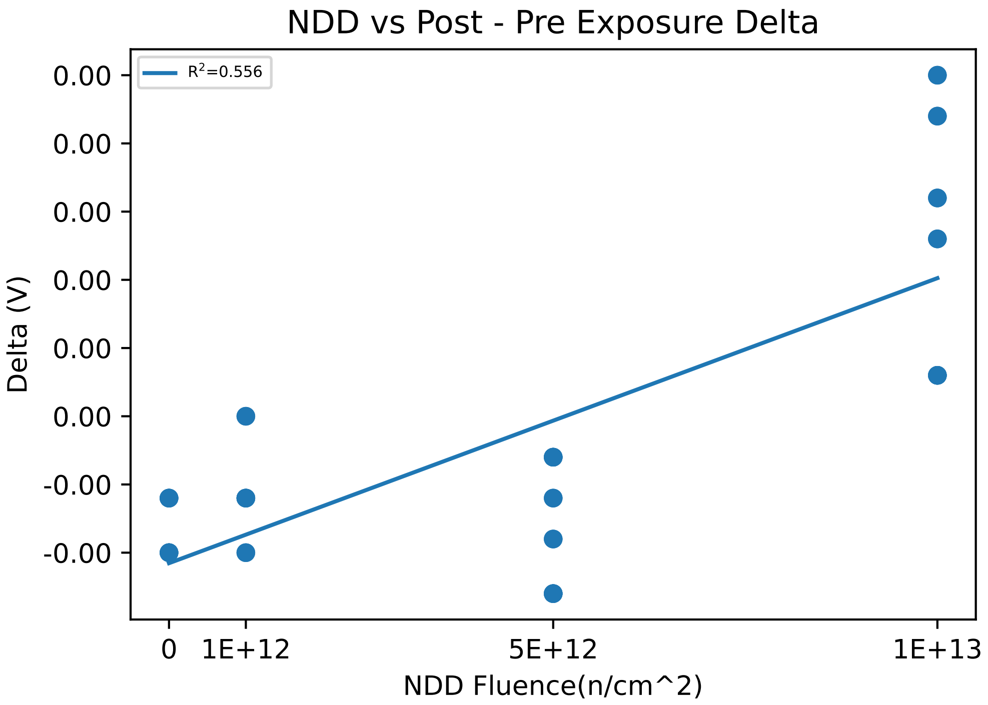
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.6318	0.6314	-0.0004
71	0	Correlation	0.606	0.606	0
72	1e+12	NDD, unbiased	0.6177	0.6177	0
74	1e+12	NDD, unbiased	0.6028	0.6028	0
75	1e+12	NDD, unbiased	0.6163	0.6152	-0.0011
76	5e+12	NDD, unbiased	0.612	0.6117	-0.0003
77	5e+12	NDD, unbiased	0.6106	0.611	0.0004
78	5e+12	NDD, unbiased	0.6177	0.6173	-0.0004
81	1e+13	NDD, unbiased	0.6134	0.617	0.0036
82	1e+13	NDD, unbiased	0.6212	0.6223	0.0011
83	1e+13	NDD, unbiased	0.6099	0.6124	0.0025

Test Statistics (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	0.606	0.6189	0.6318	0.018243	0.606	0.6187	0.6314	0.017961	-0.0004	-0.0002	0	0.00028284
1e+12	0.6028	0.61227	0.6177	0.0082282	0.6028	0.6119	0.6177	0.0079793	-0.0011	-0.00036667	0	0.00063509
5e+12	0.6106	0.61343	0.6177	0.0037608	0.611	0.61333	0.6173	0.003453	-0.0004	-0.0001	0.0004	0.00043589
1e+13	0.6099	0.61483	0.6212	0.0057848	0.6124	0.61723	0.6223	0.0049541	0.0011	0.0024	0.0036	0.001253

Device Test: 6.17 EN_VTH_FALLING(EN_UVLO_FALLING_7V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

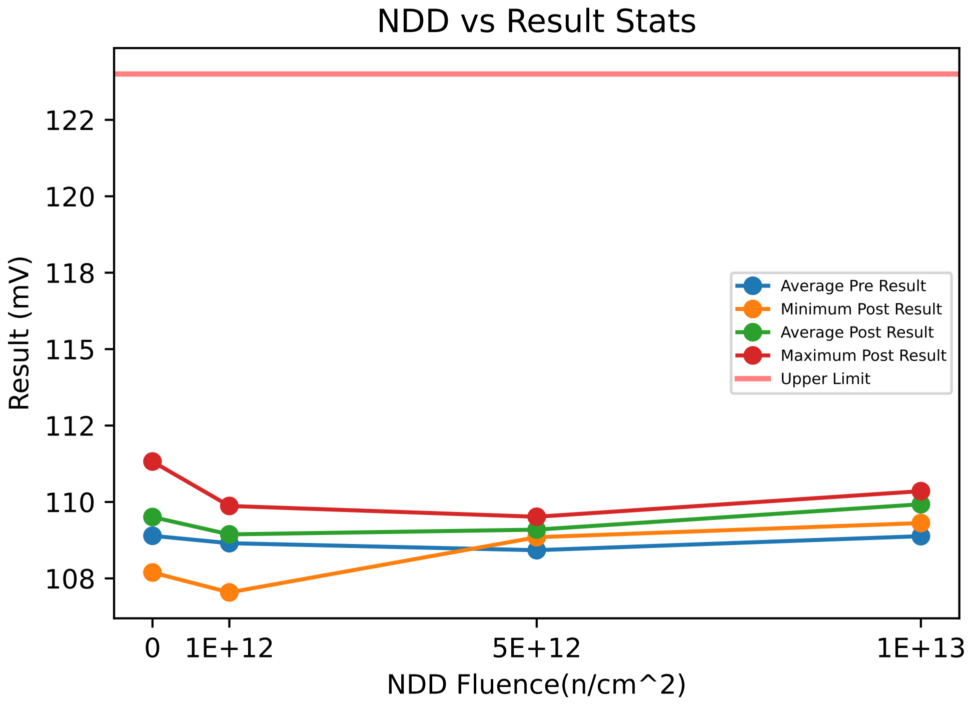
Test Results (Lower Limit = 0.47, Upper Limit = 0.55 (V))

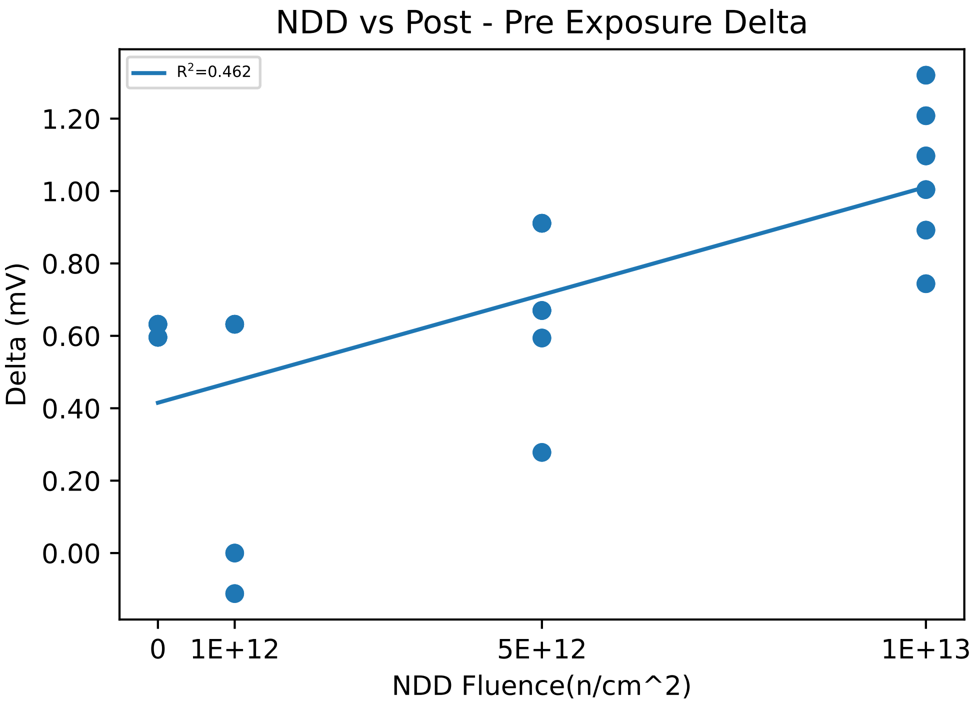
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.5211	0.5201	-0.001
71	0	Correlation	0.4989	0.4983	-0.0006
72	1e+12	NDD, unbiased	0.5084	0.5078	-0.0006
74	1e+12	NDD, unbiased	0.4958	0.4958	0
75	1e+12	NDD, unbiased	0.5072	0.5062	-0.001
76	5e+12	NDD, unbiased	0.504	0.5027	-0.0013
77	5e+12	NDD, unbiased	0.5024	0.5021	-0.0003
78	5e+12	NDD, unbiased	0.5084	0.5078	-0.0006
81	1e+13	NDD, unbiased	0.5043	0.5068	0.0025
82	1e+13	NDD, unbiased	0.5116	0.5119	0.0003
83	1e+13	NDD, unbiased	0.5015	0.5031	0.0016

Test Statistics (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	0.4989	0.51	0.5211	0.015698	0.4983	0.5092	0.5201	0.015415	-0.001	-0.0008	-0.0006	0.00028284
1e+12	0.4958	0.5038	0.5084	0.0069541	0.4958	0.50327	0.5078	0.0065156	-0.001	-0.00053333	0	0.00050332
5e+12	0.5024	0.50493	0.5084	0.003107	0.5021	0.5042	0.5078	0.0031321	-0.0013	-0.00073333	-0.0003	0.00051316
1e+13	0.5015	0.5058	0.5116	0.0052144	0.5031	0.50727	0.5119	0.0044185	0.0003	0.0014667	0.0025	0.001106

Device Test: 6.18 EN_HYST(EN_UVLO_HYSTERESIS_7V)





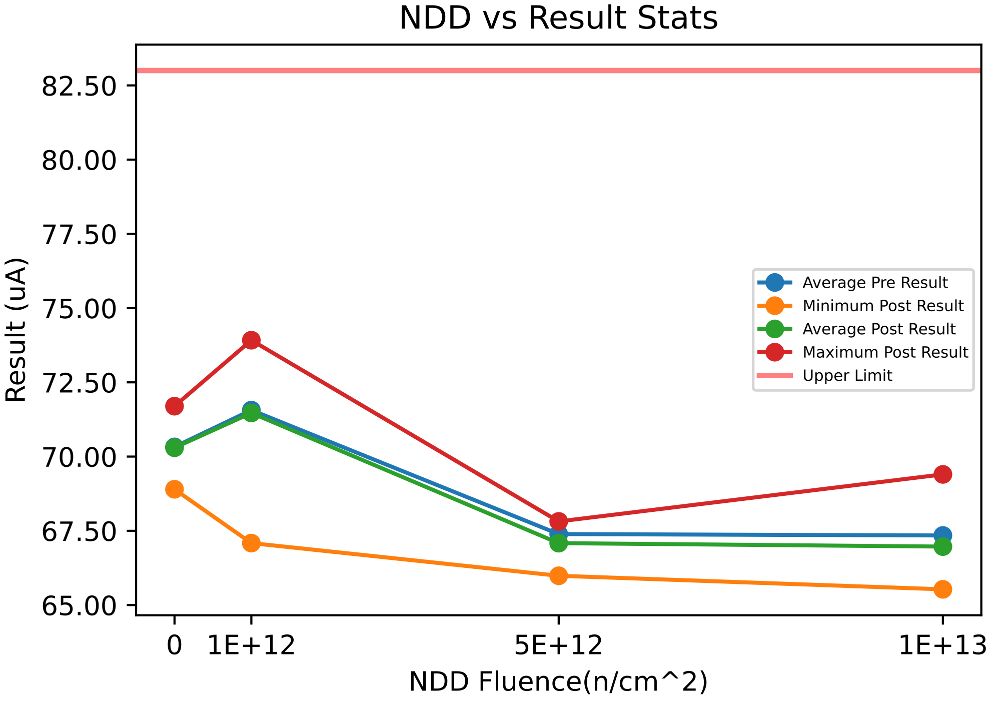
Test Results (Upper Limit = 124.0 (mV))

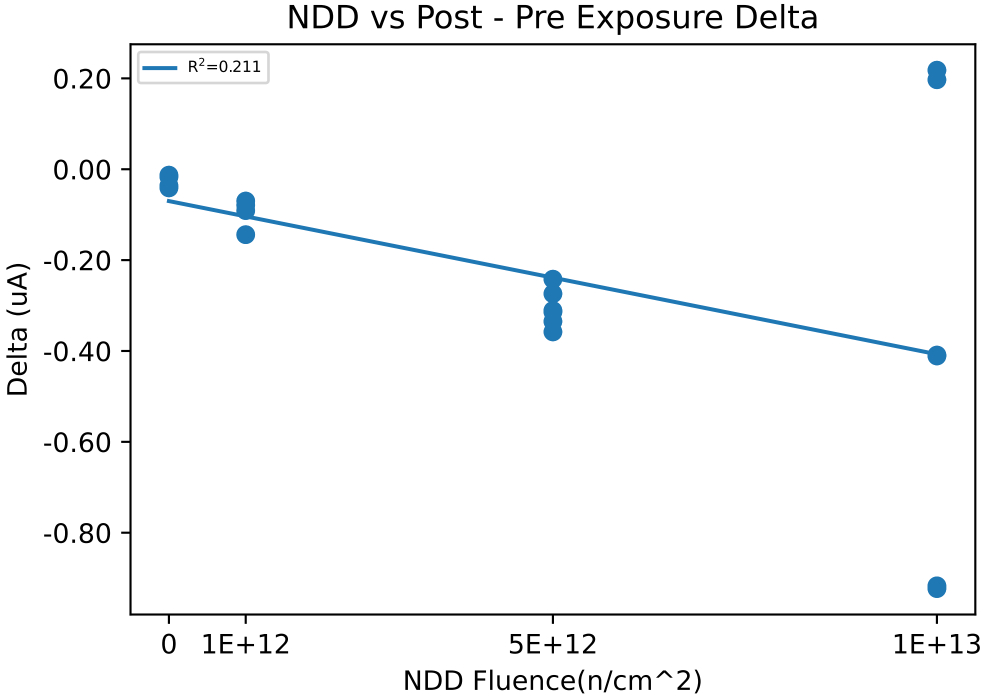
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	110.73	111.32	0.596
71	0	Correlation	107.06	107.69	0.632
72	1e+12	NDD, unbiased	109.24	109.87	0.632
74	1e+12	NDD, unbiased	107.04	107.04	0
75	1e+12	NDD, unbiased	109.09	108.98	-0.112
76	5e+12	NDD, unbiased	108.01	108.92	0.911
77	5e+12	NDD, unbiased	108.18	108.85	0.67
78	5e+12	NDD, unbiased	109.24	109.52	0.278
81	1e+13	NDD, unbiased	109.11	110.11	1.004
82	1e+13	NDD, unbiased	109.61	110.35	0.744
83	1e+13	NDD, unbiased	108.42	109.31	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	107.06	108.89	110.73	2.5923	107.69	109.51	111.32	2.5668	0.596	0.614	0.632	0.025456
1e+12	107.04	108.46	109.24	1.2271	107.04	108.63	109.87	1.4456	-0.112	0.17333	0.632	0.40115
5e+12	108.01	108.48	109.24	0.66603	108.85	109.09	109.52	0.36676	0.278	0.61967	0.911	0.31949
1e+13	108.42	109.05	109.61	0.59794	109.31	109.93	110.35	0.5459	0.744	0.88	1.004	0.13041

Device Test: 6.19 SS_I_Charge(SS_Icharge_7V)





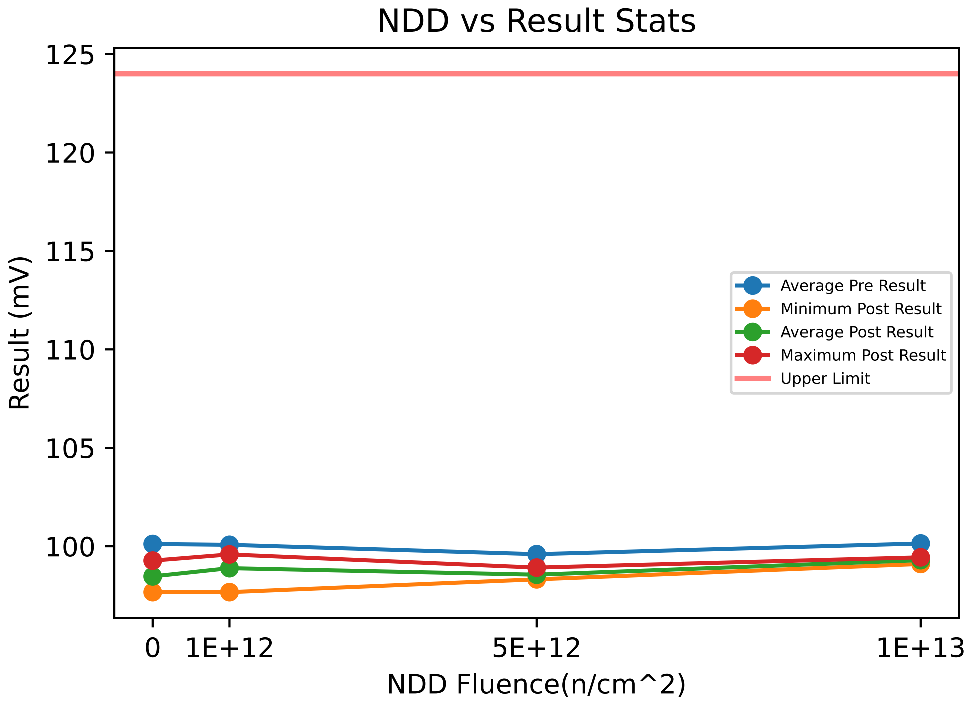
Test Results (Upper Limit = 83.0 (uA))

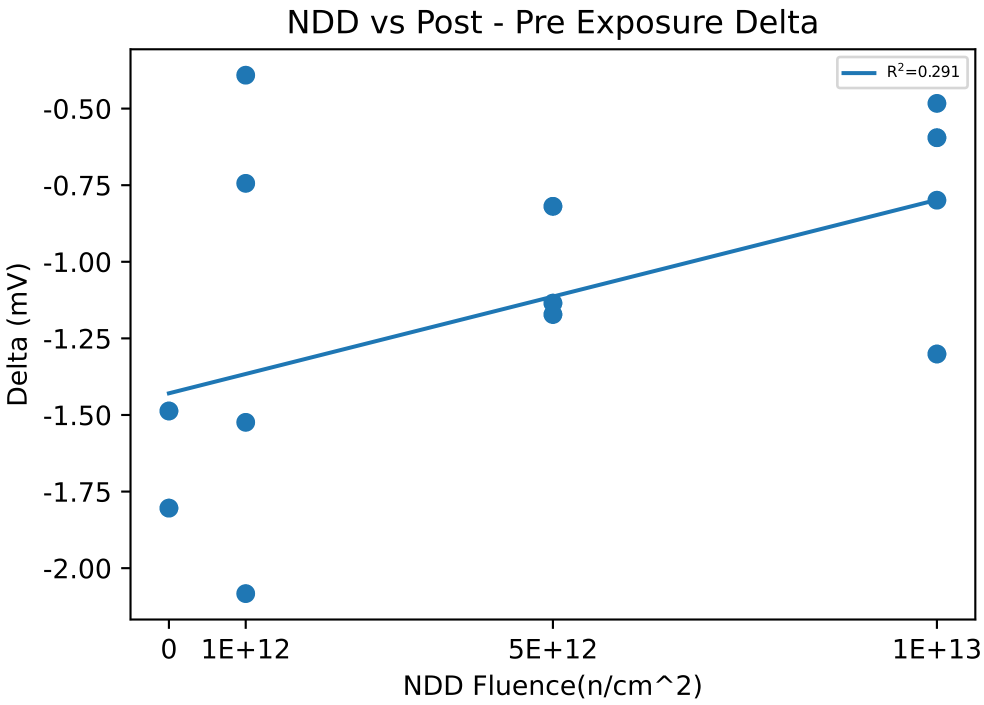
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	71.71	71.697	-0.013
71	0	Correlation	68.94	68.899	-0.041
72	1e+12	NDD, unbiased	74.01	73.919	-0.091
74	1e+12	NDD, unbiased	67.23	67.086	-0.144
75	1e+12	NDD, unbiased	71.022	70.952	-0.07
76	5e+12	NDD, unbiased	68.058	67.816	-0.242
77	5e+12	NDD, unbiased	66.297	65.986	-0.311
78	5e+12	NDD, unbiased	67.787	67.452	-0.335
81	1e+13	NDD, unbiased	66.389	65.978	-0.411
82	1e+13	NDD, unbiased	70.317	69.4	-0.917
83	1e+13	NDD, unbiased	65.312	65.53	0.218

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	68.94	70.325	71.71	1.9587	68.899	70.298	71.697	1.9785	-0.041	-0.027	-0.013	0.019799
1e+12	67.23	70.754	74.01	3.3979	67.086	70.652	73.919	3.4263	-0.144	-0.10167	-0.07	0.038136
5e+12	66.297	67.381	68.058	0.94821	65.986	67.085	67.816	0.96872	-0.335	-0.296	-0.242	0.04828
1e+13	65.312	67.339	70.317	2.6344	65.53	66.969	69.4	2.1169	-0.917	-0.37	0.218	0.56861

Device Test: 6.2 EN_HYST(EN_UVLO_HYSTERESIS_1p5V)





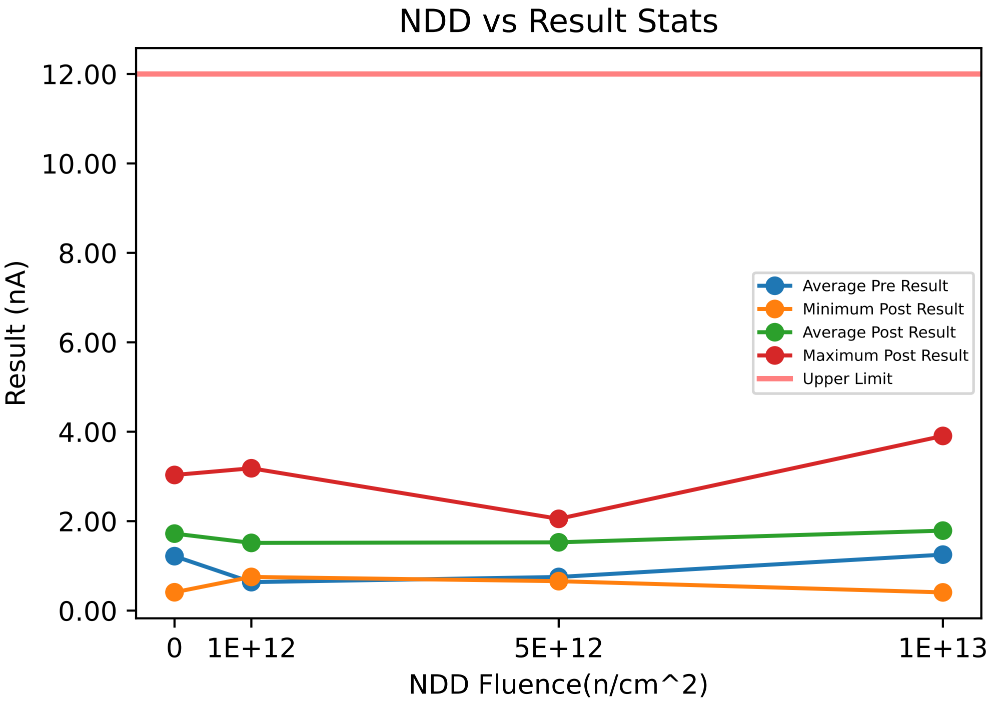
Test Results (Upper Limit = 124.0 (mV))

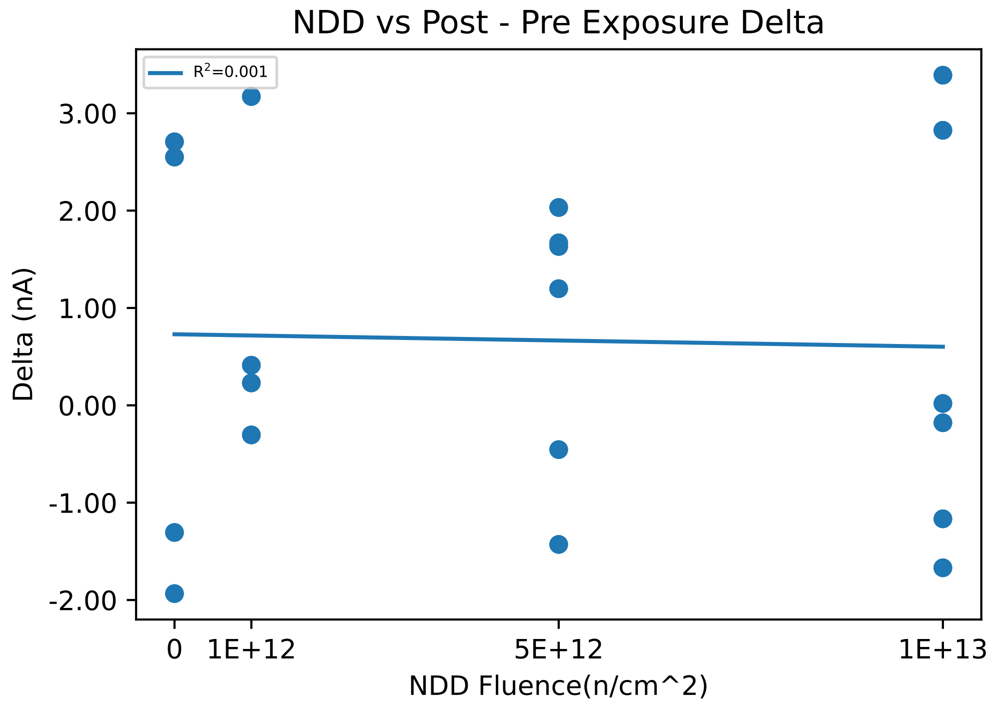
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	100.76	99.271	-1.487
71	0	Correlation	99.473	97.669	-1.804
72	1e+12	NDD, unbiased	100.33	99.585	-0.744
74	1e+12	NDD, unbiased	99.752	97.669	-2.083
75	1e+12	NDD, unbiased	100.24	98.712	-1.524
76	5e+12	NDD, unbiased	99.251	98.432	-0.819
77	5e+12	NDD, unbiased	99.455	98.32	-1.135
78	5e+12	NDD, unbiased	100.09	98.916	-1.172
81	1e+13	NDD, unbiased	100.14	99.344	-0.799
82	1e+13	NDD, unbiased	100.74	99.438	-1.301
83	1e+13	NDD, unbiased	99.696	99.101	-0.595

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	99.473	100.12	100.76	0.90863	97.669	98.47	99.271	1.1328	-1.804	-1.6455	-1.487	0.22415
1e+12	99.752	100.11	100.33	0.30979	97.669	98.655	99.585	0.95926	-2.083	-1.4503	-0.744	0.67253
5e+12	99.251	99.598	100.09	0.43644	98.32	98.556	98.916	0.31676	-1.172	-1.042	-0.819	0.19401
1e+13	99.696	100.19	100.74	0.52327	99.101	99.294	99.438	0.1739	-1.301	-0.89833	-0.595	0.36333

Device Test: 6.21 IEN_VIN_5V(EN_I_5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

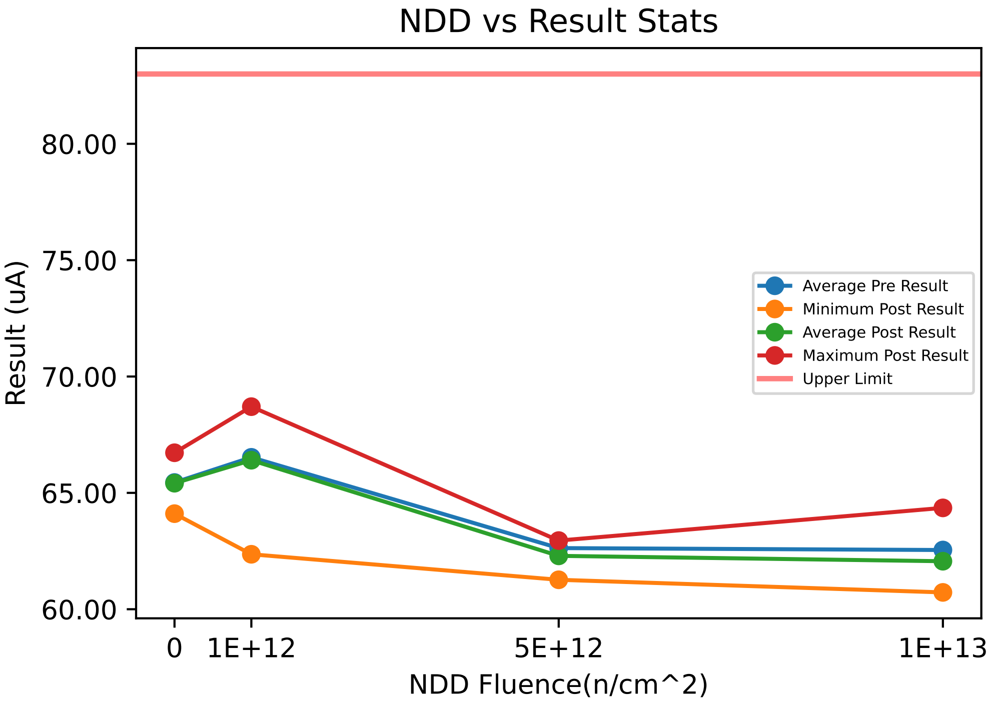
Test Results (Upper Limit = 12.0 (nA))

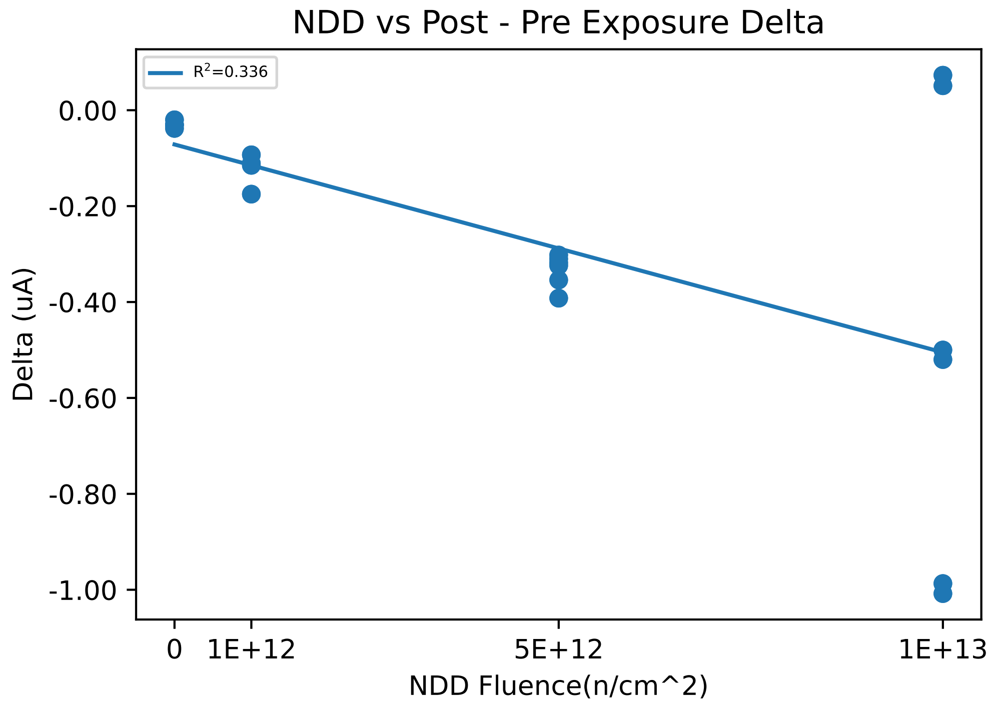
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	2.344	0.41	-1.934
71	0	Correlation	0.483	3.033	2.55
72	1e+12	NDD, unbiased	1.057	0.753	-0.304
74	1e+12	NDD, unbiased	0.955	1.367	0.412
75	1e+12	NDD, unbiased	0.011	3.183	3.172
76	5e+12	NDD, unbiased	2.087	0.658	-1.429
77	5e+12	NDD, unbiased	0.672	1.87	1.198
78	5e+12	NDD, unbiased	0.42	2.052	1.632
81	1e+13	NDD, unbiased	0.586	0.407	-0.179
82	1e+13	NDD, unbiased	2.218	1.052	-1.166
83	1e+13	NDD, unbiased	1.081	3.906	2.825

Test Statistics (nA)

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	0.483	1.4135	2.344	1.3159	0.41	1.7215	3.033	1.8547	-1.934	0.308	2.55	3.1707
1e+12	0.011	0.67433	1.057	0.57672	0.753	1.7677	3.183	1.2636	-0.304	1.0933	3.172	1.8354
5e+12	0.42	1.0597	2.087	0.89857	0.658	1.5267	2.052	0.75777	-1.429	0.467	1.632	1.6563
1e+13	0.586	1.295	2.218	0.83678	0.407	1.7883	3.906	1.8621	-1.166	0.49333	2.825	2.0787

Device Test: 6.3 SS_I_Charge(SS_Icharge_1p5V)





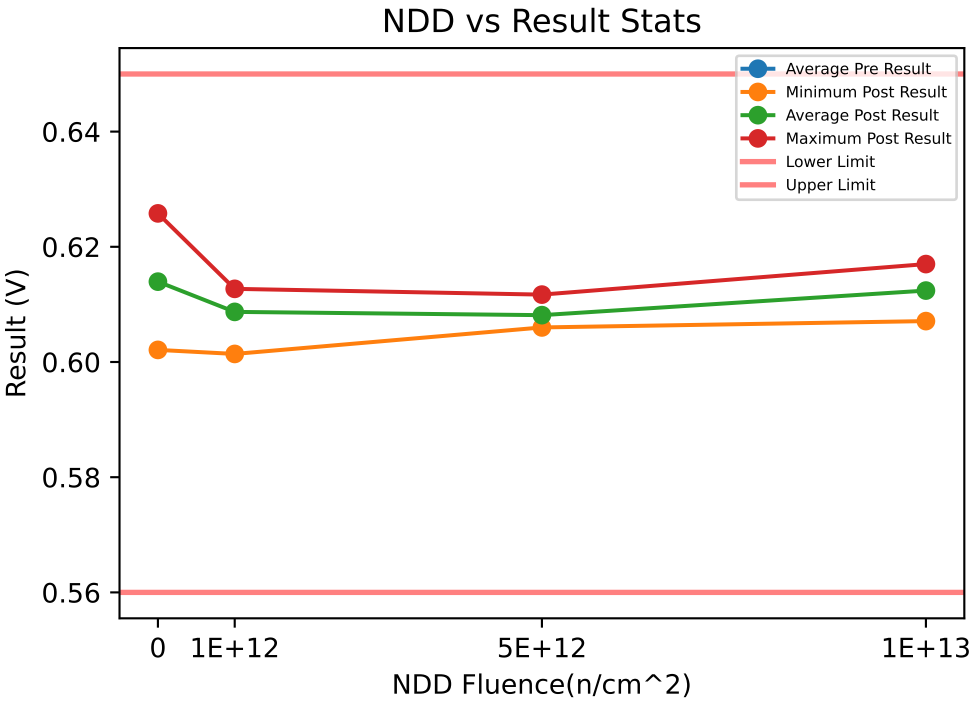
Test Results (Upper Limit = 83.0 (uA))

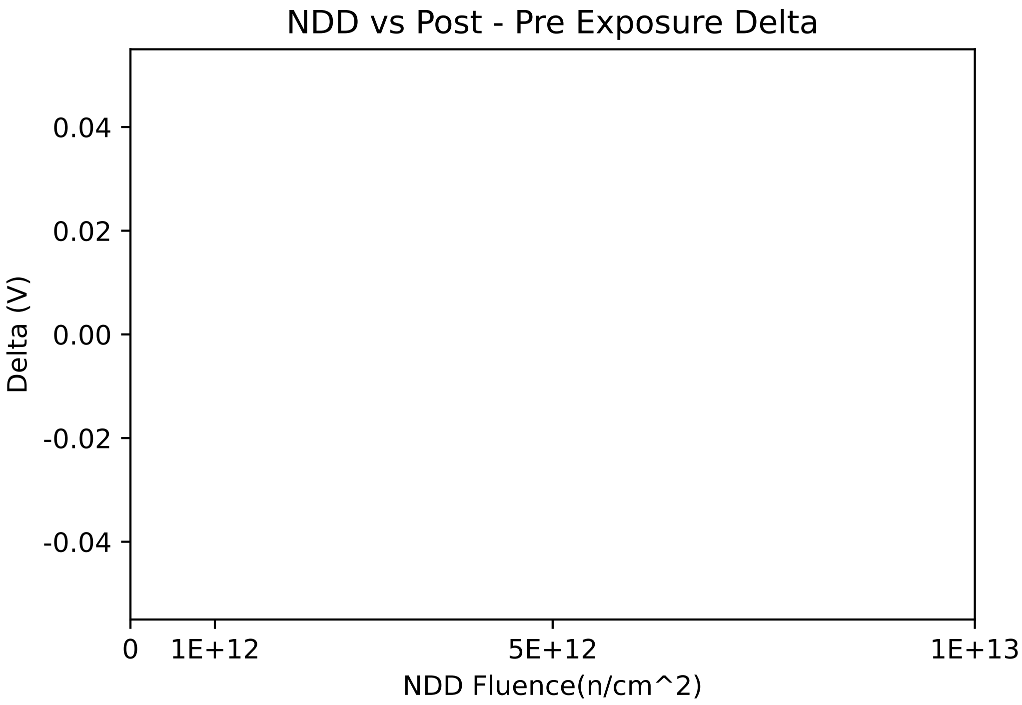
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	66.754	66.724	-0.03
71	0	Correlation	64.138	64.107	-0.031
72	1e+12	NDD, unbiased	68.82	68.705	-0.115
74	1e+12	NDD, unbiased	62.536	62.361	-0.175
75	1e+12	NDD, unbiased	65.936	65.843	-0.093
76	5e+12	NDD, unbiased	63.26	62.95	-0.31
77	5e+12	NDD, unbiased	61.619	61.265	-0.354
78	5e+12	NDD, unbiased	62.967	62.665	-0.302
81	1e+13	NDD, unbiased	61.61	61.11	-0.5
82	1e+13	NDD, unbiased	65.342	64.355	-0.987
83	1e+13	NDD, unbiased	60.65	60.723	0.073

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	64.138	65.446	66.754	1.8498	64.107	65.416	66.724	1.8505	-0.031	-0.0305	-0.03	0.00070711
1e+12	62.536	65.764	68.82	3.1455	62.361	65.636	68.705	3.177	-0.175	-0.12767	-0.093	0.042442
5e+12	61.619	62.615	63.26	0.8752	61.265	62.293	62.95	0.90189	-0.354	-0.322	-0.302	0.028
1e+13	60.65	62.534	65.342	2.4787	60.723	62.063	64.355	1.9946	-0.987	-0.47133	0.073	0.53058

Device Test: 6.4 EN_VTH_RISING(EN_UVLO_RISING_1p8V)





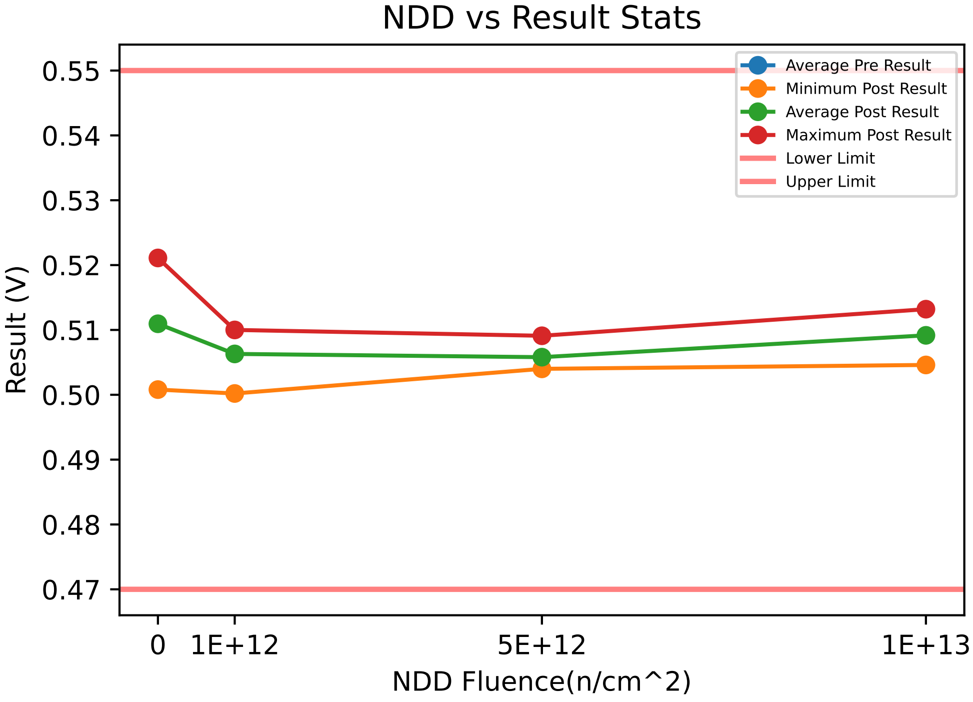
Test Results (Lower Limit = 0.56, Upper Limit = 0.65 (V))

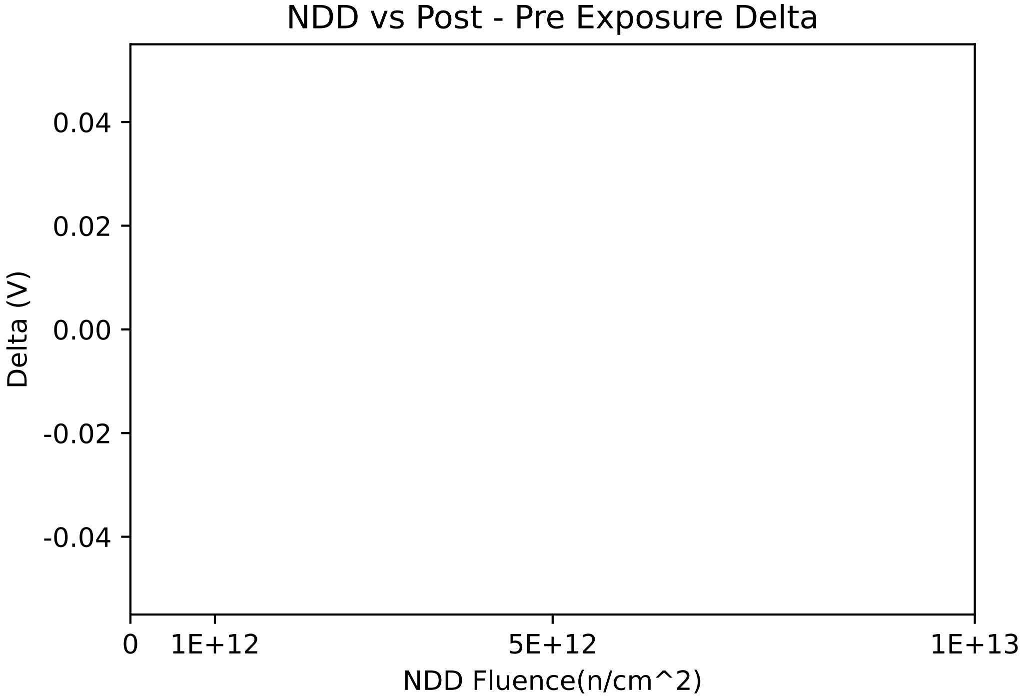
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.6258	
71	0	Correlation		0.6021	
72	1e+12	NDD, unbiased		0.612	
74	1e+12	NDD, unbiased		0.6014	
75	1e+12	NDD, unbiased		0.6127	
76	5e+12	NDD, unbiased		0.6067	
77	5e+12	NDD, unbiased		0.606	
78	5e+12	NDD, unbiased		0.6117	
81	1e+13	NDD, unbiased		0.6131	
82	1e+13	NDD, unbiased		0.617	
83	1e+13	NDD, unbiased		0.6071	

Test Statistics (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					0.6021	0.61395	0.6258	0.016758				
1e+12					0.6014	0.6087	0.6127	0.0063317				
5e+12					0.606	0.60813	0.6117	0.0031086				
1e+13					0.6071	0.6124	0.617	0.004987				

Device Test: 6.5 EN_VTH_FALLING(EN_UVLO_FALLING_1p8V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

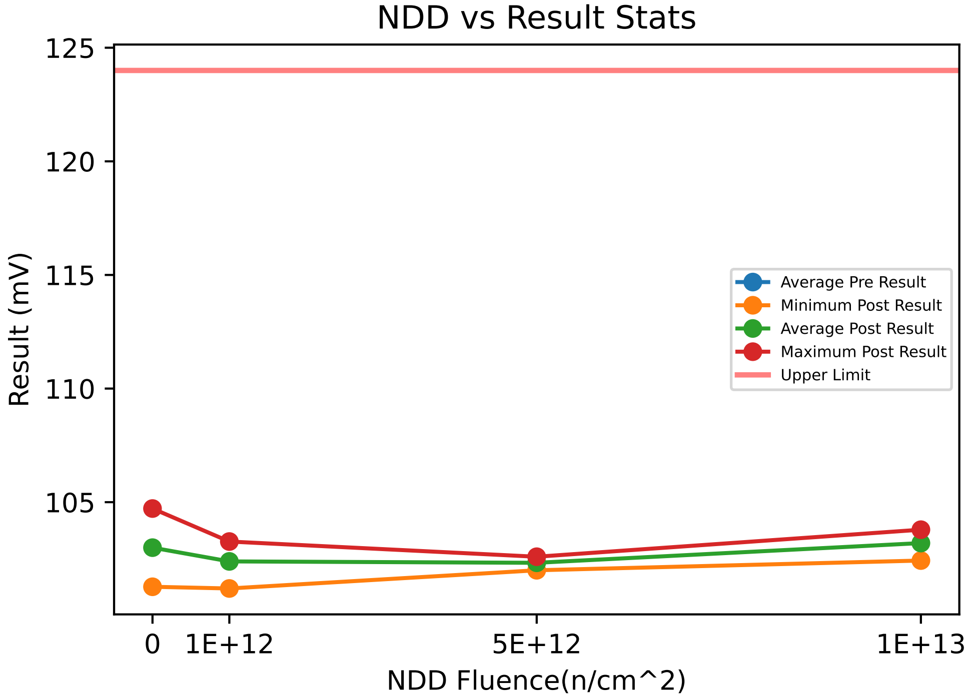
Test Results (Lower Limit = 0.47, Upper Limit = 0.55 (V))

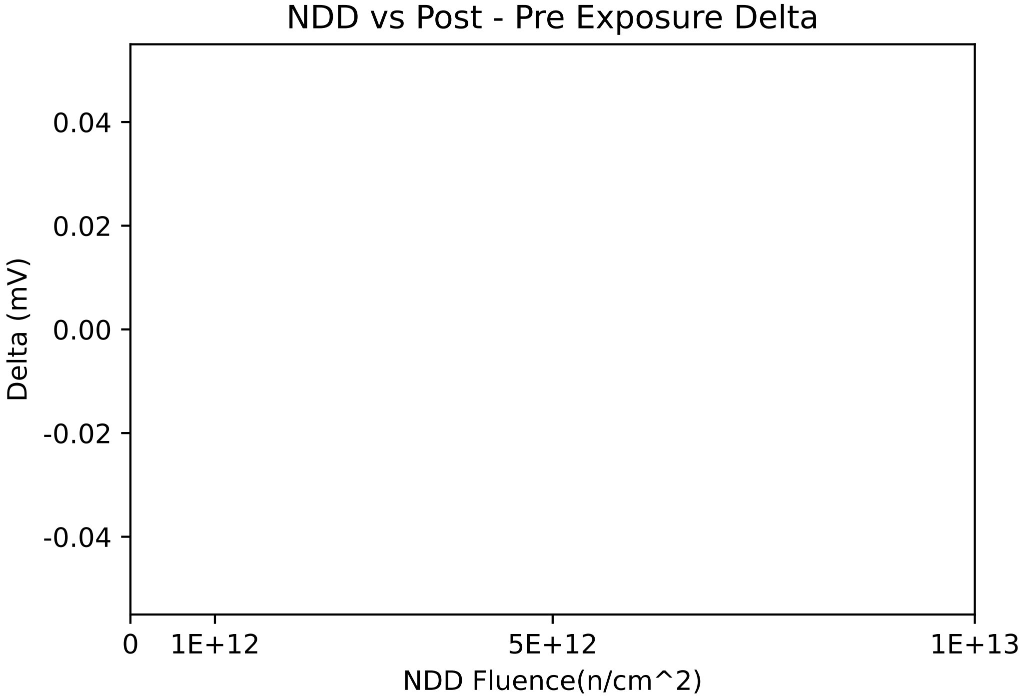
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5211	
71	0	Correlation		0.5008	
72	1e+12	NDD, unbiased		0.5087	
74	1e+12	NDD, unbiased		0.5002	
75	1e+12	NDD, unbiased		0.51	
76	5e+12	NDD, unbiased		0.5043	
77	5e+12	NDD, unbiased		0.504	
78	5e+12	NDD, unbiased		0.5091	
81	1e+13	NDD, unbiased		0.5097	
82	1e+13	NDD, unbiased		0.5132	
83	1e+13	NDD, unbiased		0.5046	

Test Statistics (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					0.5008	0.51095	0.5211	0.014354				
1e+12					0.5002	0.5063	0.51	0.0053226				
5e+12					0.504	0.5058	0.5091	0.0028618				
1e+13					0.5046	0.50917	0.5132	0.0043247				

Device Test: 6.6 EN_HYST(EN_UVLO_HYSTERESIS_1p8V)





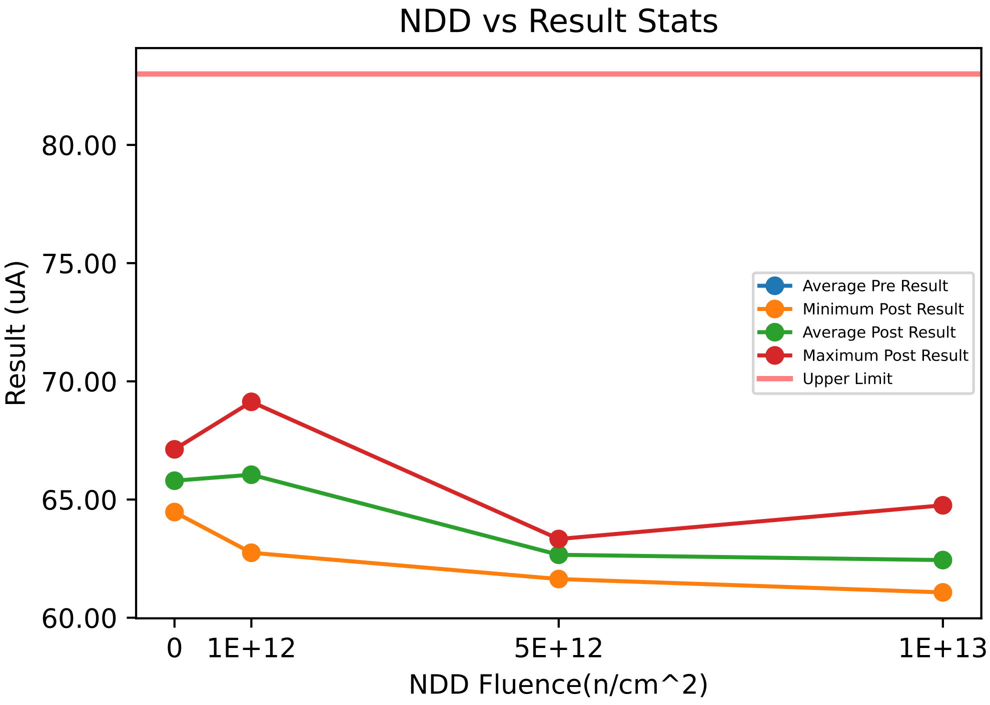
Test Results (Upper Limit = 124.0 (mV))

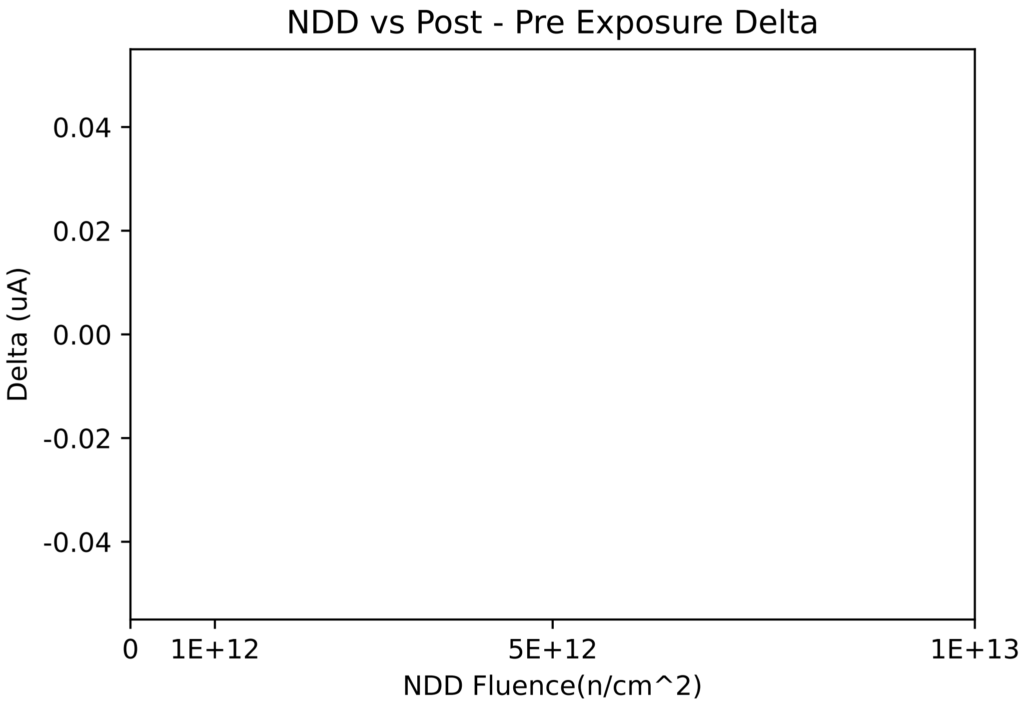
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		104.72	
71	0	Correlation		101.28	
72	1e+12	NDD, unbiased		103.27	
74	1e+12	NDD, unbiased		101.2	
75	1e+12	NDD, unbiased		102.71	
76	5e+12	NDD, unbiased		102.39	
77	5e+12	NDD, unbiased		102	
78	5e+12	NDD, unbiased		102.6	
81	1e+13	NDD, unbiased		103.38	
82	1e+13	NDD, unbiased		103.79	
83	1e+13	NDD, unbiased		102.43	

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					101.28	103	104.72	2.4346				
1e+12					101.2	102.39	103.27	1.0688				
5e+12					102	102.33	102.6	0.3028				
1e+13					102.43	103.2	103.79	0.69666				

Device Test: 6.7 SS_I_Charge(SS_Icharge_1p8V)





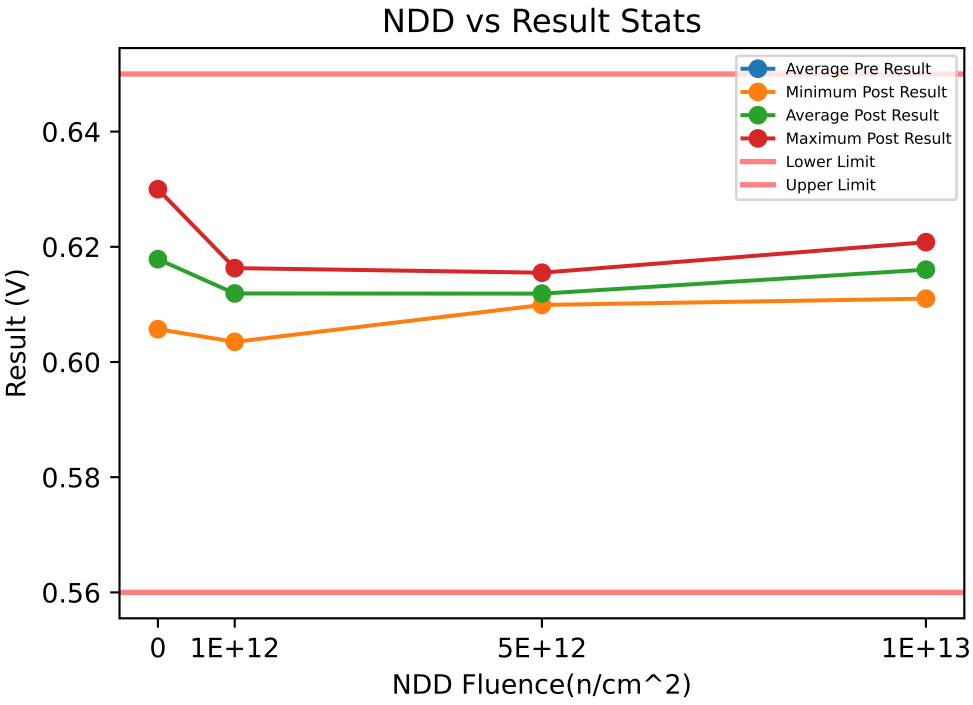
Test Results (Upper Limit = 83.0 (uA))

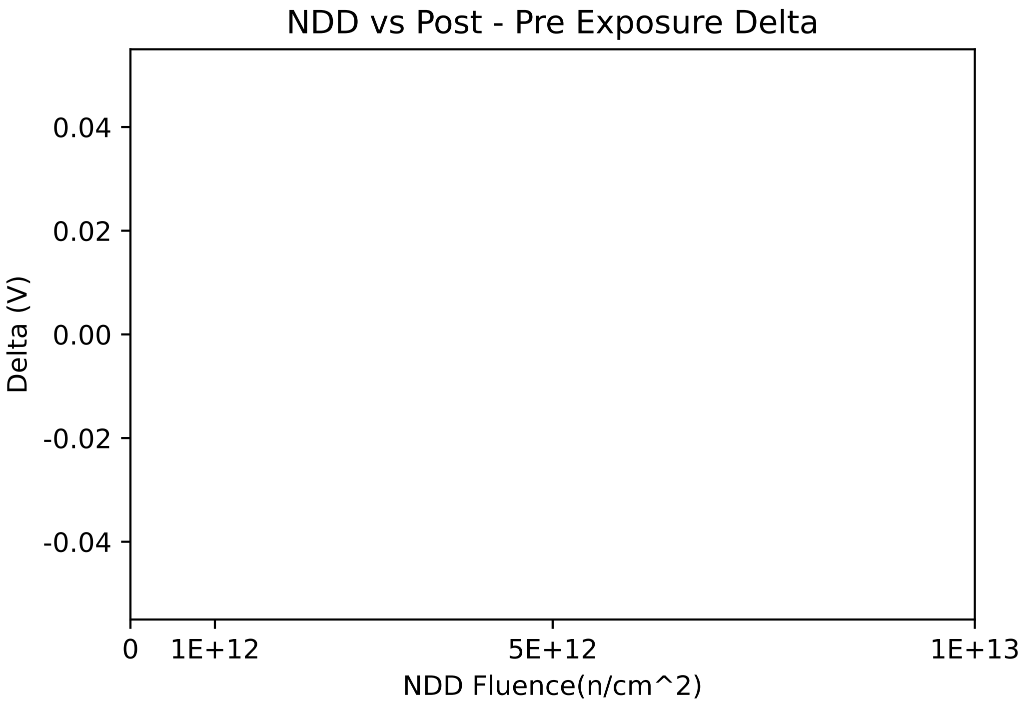
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		67.123	
71	0	Correlation		64.47	
72	1e+12	NDD, unbiased		69.133	
74	1e+12	NDD, unbiased		62.749	
75	1e+12	NDD, unbiased		66.266	
76	5e+12	NDD, unbiased		63.331	
77	5e+12	NDD, unbiased		61.637	
78	5e+12	NDD, unbiased		63.02	
81	1e+13	NDD, unbiased		61.49	
82	1e+13	NDD, unbiased		64.756	
83	1e+13	NDD, unbiased		61.072	

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					64.47	65.797	67.123	1.876				
1e+12					62.749	66.049	69.133	3.1975				
5e+12					61.637	62.663	63.331	0.90176				
1e+13					61.072	62.439	64.756	2.0171				

Device Test: 6.8 EN_VTH_RISING(EN_UVLO_RISING_3p3V)





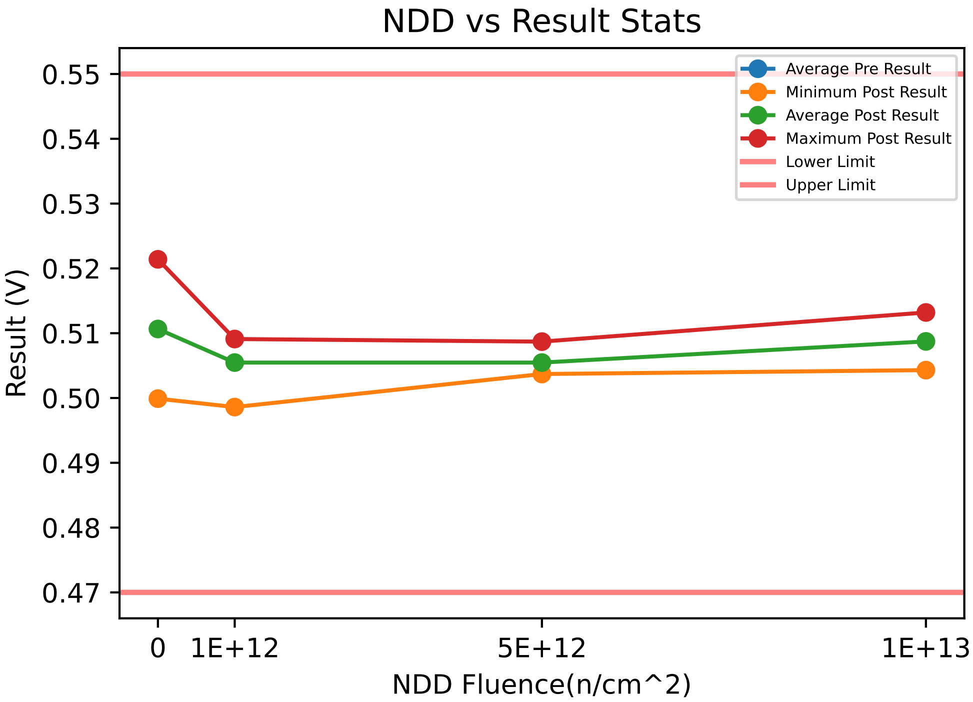
Test Results (Lower Limit = 0.56, Upper Limit = 0.65 (V))

Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.63	
71	0	Correlation		0.6057	
72	1e+12	NDD, unbiased		0.6163	
74	1e+12	NDD, unbiased		0.6035	
75	1e+12	NDD, unbiased		0.6159	
76	5e+12	NDD, unbiased		0.6099	
77	5e+12	NDD, unbiased		0.6102	
78	5e+12	NDD, unbiased		0.6155	
81	1e+13	NDD, unbiased		0.6163	
82	1e+13	NDD, unbiased		0.6208	
83	1e+13	NDD, unbiased		0.611	

Test Statistics (V)

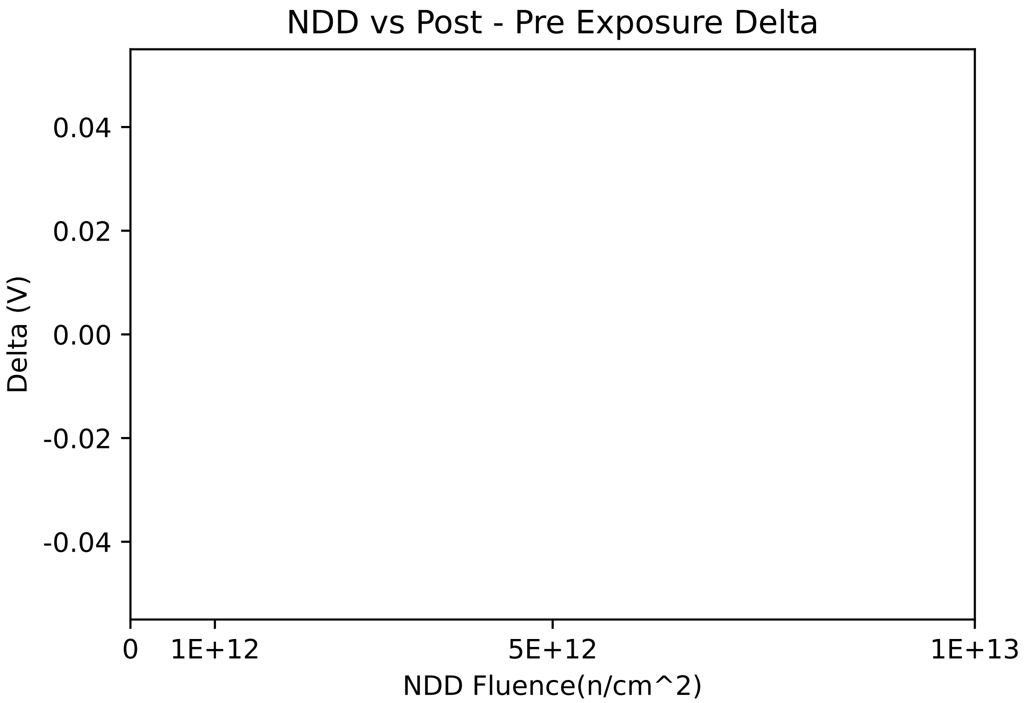
Fluence(n/cm^2)	Pre Exposure Min	Pre Exposure Avg	Pre Exposure Max	Pre Exposure Std	Post Exposure Min	Post Exposure Avg	Post Exposure Max	Post Exposure Std	Min Delta	Avg Delta	Max Delta	Std Delta
0					0.6057	0.61785	0.63	0.017183				
1e+12					0.6035	0.6119	0.6163	0.0072774				
5e+12					0.6099	0.61187	0.6155	0.0031501				
1e+13					0.611	0.61603	0.6208	0.0049054				

Device Test: 6.9 EN_VTH_FALLING(EN_UVLO_FALLING_3p3V)



Test Results (Lower Limit = 0.47, Upper Limit = 0.55 (V))

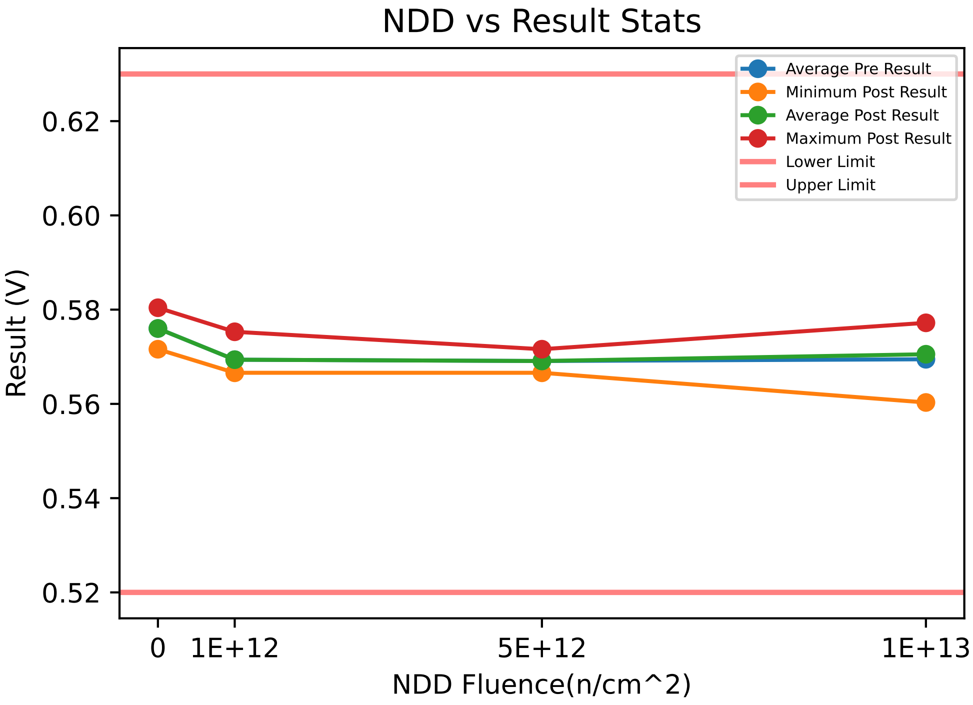
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5214	
71	0	Correlation		0.4999	
72	1e+12	NDD, unbiased		0.5091	
74	1e+12	NDD, unbiased		0.4986	
75	1e+12	NDD, unbiased		0.5087	
76	5e+12	NDD, unbiased		0.504	
77	5e+12	NDD, unbiased		0.5037	
78	5e+12	NDD, unbiased		0.5087	
81	1e+13	NDD, unbiased		0.5087	
82	1e+13	NDD, unbiased		0.5132	
83	1e+13	NDD, unbiased		0.5043	

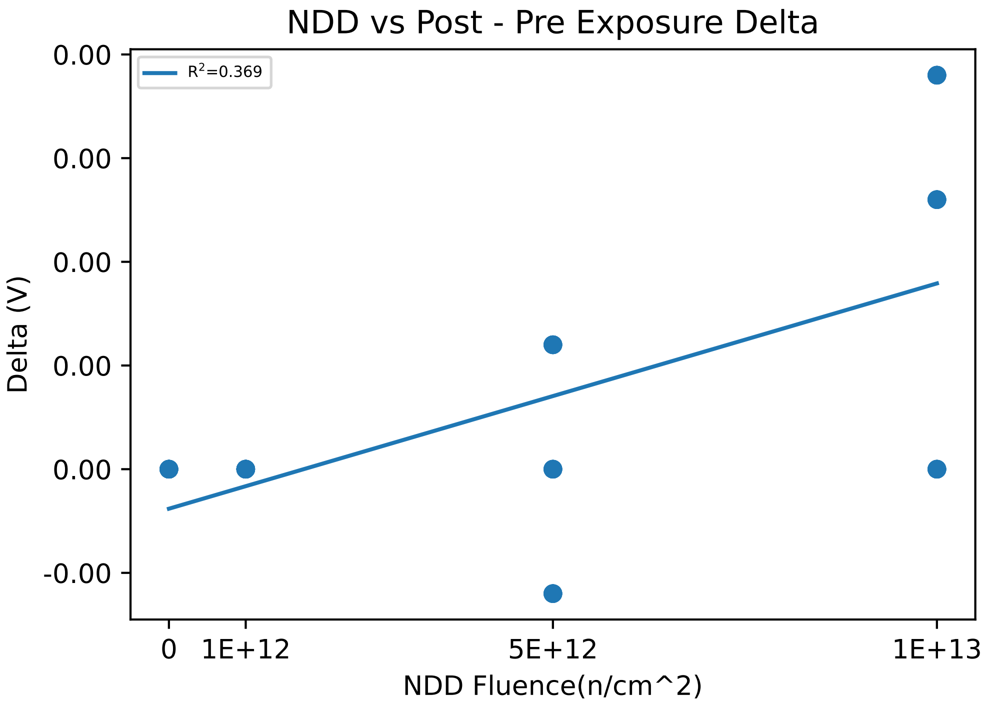


Test Statistics (V)

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					0.4999	0.51065	0.5214	0.015203				
1e+12					0.4986	0.50547	0.5091	0.0059501				
5e+12					0.5037	0.50547	0.5087	0.0028042				
1e+13					0.5043	0.50873	0.5132	0.0044501				

Device Test: 7.0 OVP_VTH_Rising(OVP_UVLO_RISING_1p5V)





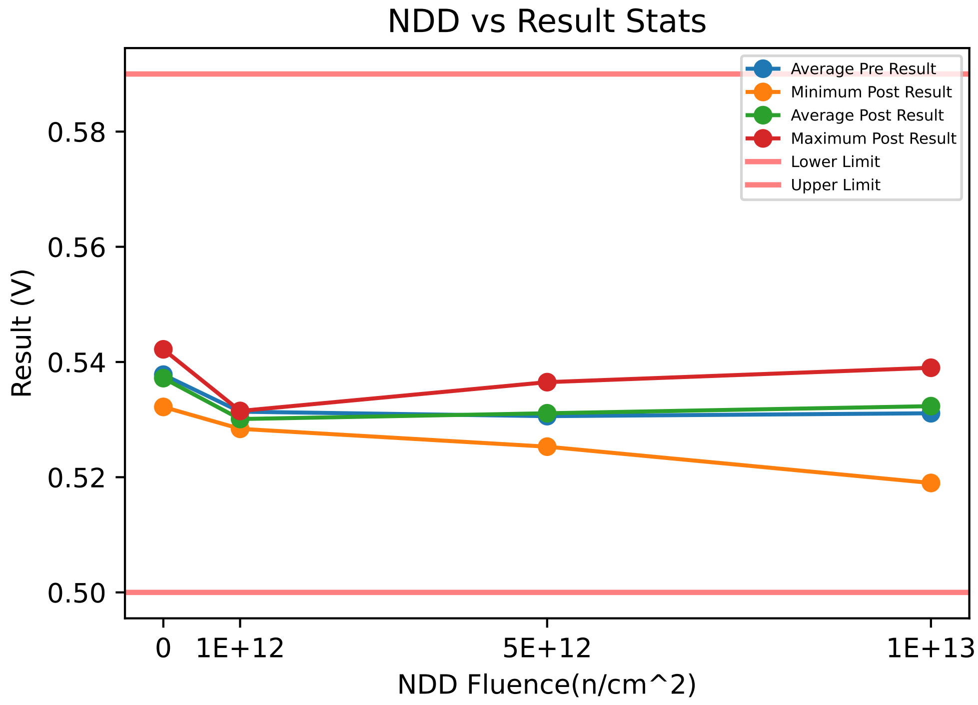
Test Results (Lower Limit = 0.52, Upper Limit = 0.63 (V))

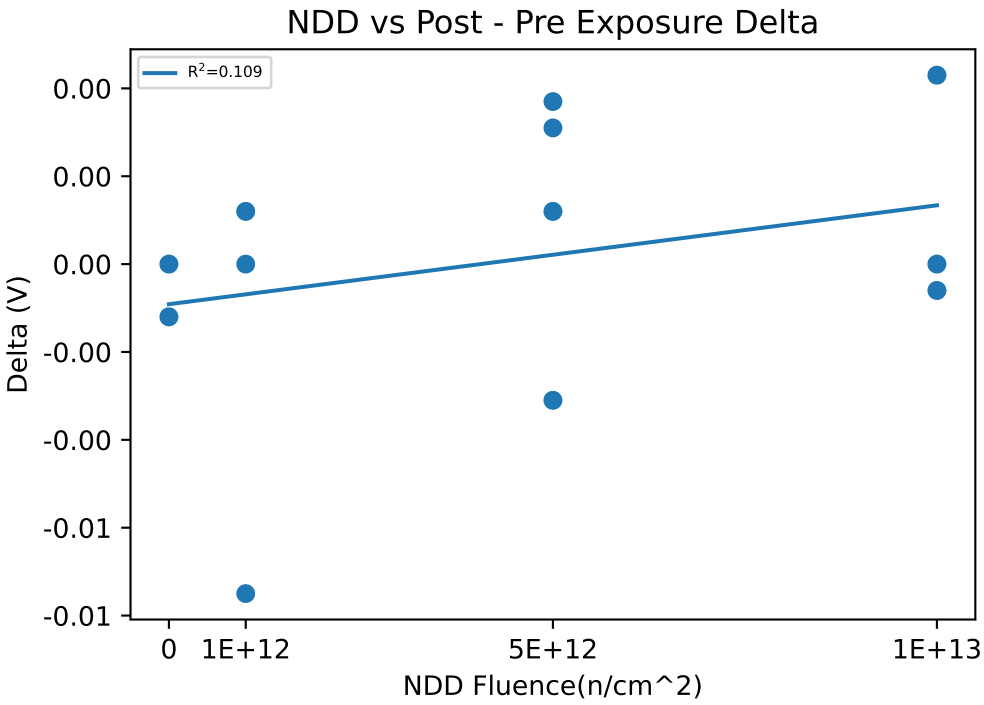
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.5804	0.5804	0
71	0	Correlation	0.5716	0.5716	0
72	1e+12	NDD, unbiased	0.5678	0.5678	0
74	1e+12	NDD, unbiased	0.5666	0.5666	0
75	1e+12	NDD, unbiased	0.5753	0.5753	0
76	5e+12	NDD, unbiased	0.571	0.5716	0.0006
77	5e+12	NDD, unbiased	0.5691	0.5691	0
78	5e+12	NDD, unbiased	0.5672	0.5666	-0.0006
81	1e+13	NDD, unbiased	0.5728	0.5741	0.0013
82	1e+13	NDD, unbiased	0.5772	0.5772	0
83	1e+13	NDD, unbiased	0.5584	0.5603	0.0019

Test Statistics (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	0.5716	0.576	0.5804	0.0062225	0.5716	0.576	0.5804	0.0062225	0	0	0	0
1e+12	0.5666	0.5699	0.5753	0.0047149	0.5666	0.5699	0.5753	0.0047149	0	0	0	0
5e+12	0.5672	0.5691	0.571	0.0019	0.5666	0.5691	0.5716	0.0025	-0.0006	0	0.0006	0.0006
1e+13	0.5584	0.56947	0.5772	0.0098333	0.5603	0.57053	0.5772	0.0089969	0	0.0010667	0.0019	0.00097125

Device Test: 7.1 OVP_VTH_Falling(OVP_UVLO_FALLING_1p5V)





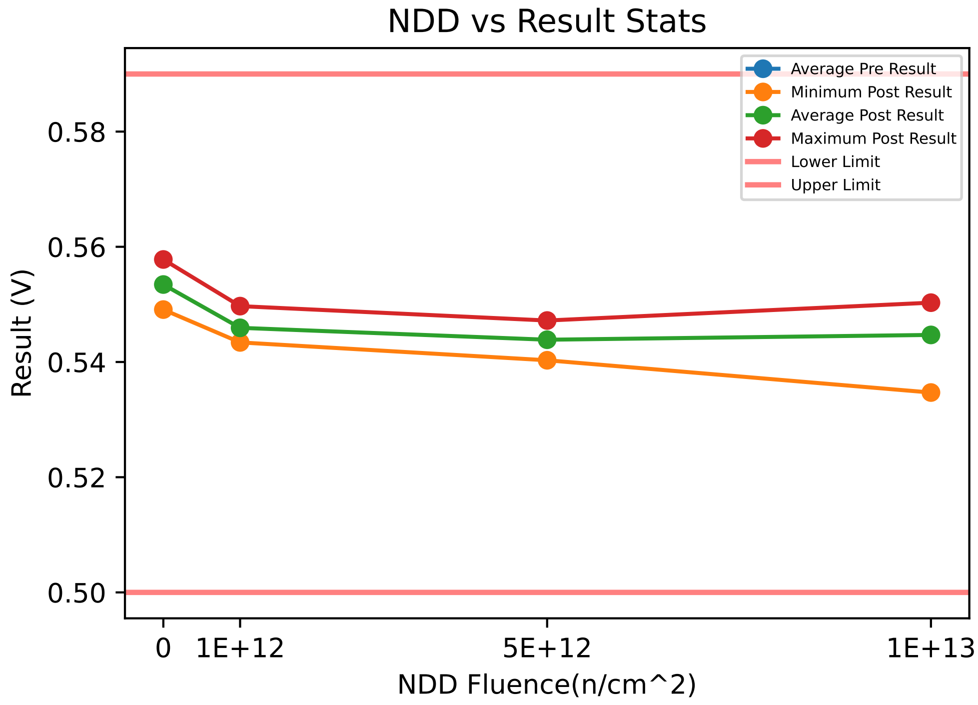
Test Results (Lower Limit = 0.5, Upper Limit = 0.59 (V))

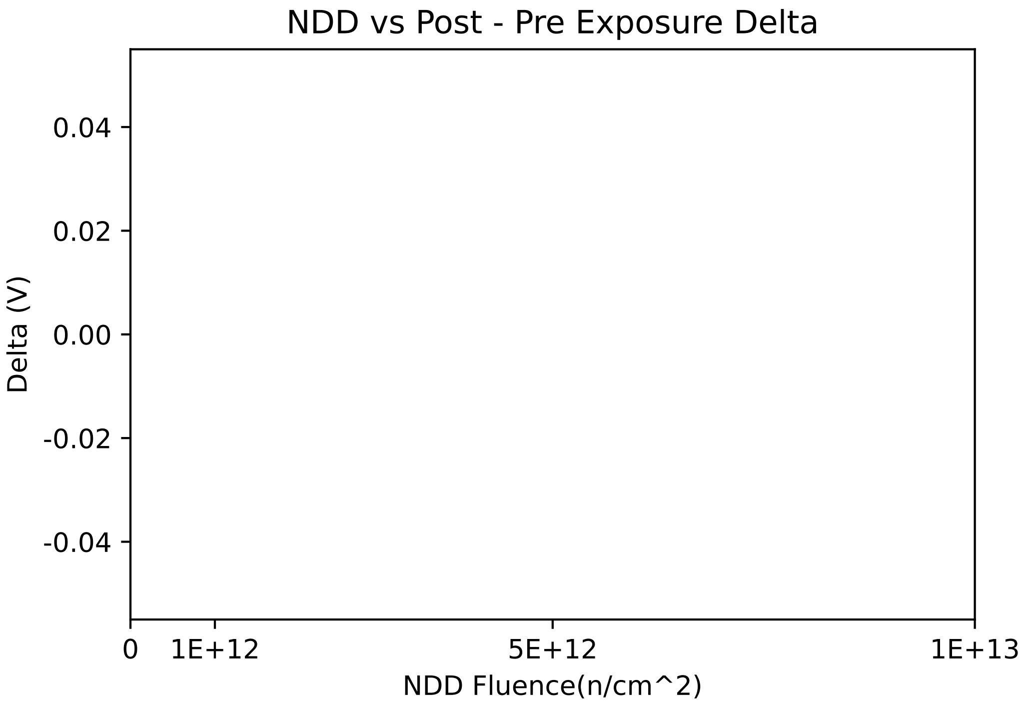
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.5422	0.5422	0
71	0	Correlation	0.5334	0.5322	-0.0012
72	1e+12	NDD, unbiased	0.5303	0.5315	0.0012
74	1e+12	NDD, unbiased	0.5284	0.5284	0
75	1e+12	NDD, unbiased	0.5365	0.529	-0.0075
76	5e+12	NDD, unbiased	0.5328	0.5365	0.0037
77	5e+12	NDD, unbiased	0.5303	0.5315	0.0012
78	5e+12	NDD, unbiased	0.5284	0.5253	-0.0031
81	1e+13	NDD, unbiased	0.5347	0.539	0.0043
82	1e+13	NDD, unbiased	0.539	0.539	0
83	1e+13	NDD, unbiased	0.5196	0.519	-0.0006

Test Statistics (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	0.5334	0.5378	0.5422	0.0062225	0.5322	0.5372	0.5422	0.0070711	-0.0012	-0.0006	0	0.00084853
1e+12	0.5284	0.53173	0.5365	0.004236	0.5284	0.52963	0.5315	0.0016442	-0.0075	-0.0021	0.0012	0.0047149
5e+12	0.5284	0.5305	0.5328	0.0022068	0.5253	0.5311	0.5365	0.0056107	-0.0031	0.0006	0.0037	0.0034395
1e+13	0.5196	0.5311	0.539	0.010189	0.519	0.53233	0.539	0.011547	-0.0006	0.0012333	0.0043	0.0026727

Device Test: 7.10 OVP_VTH_Falling(OVP_UVLO_FALLING_5V)





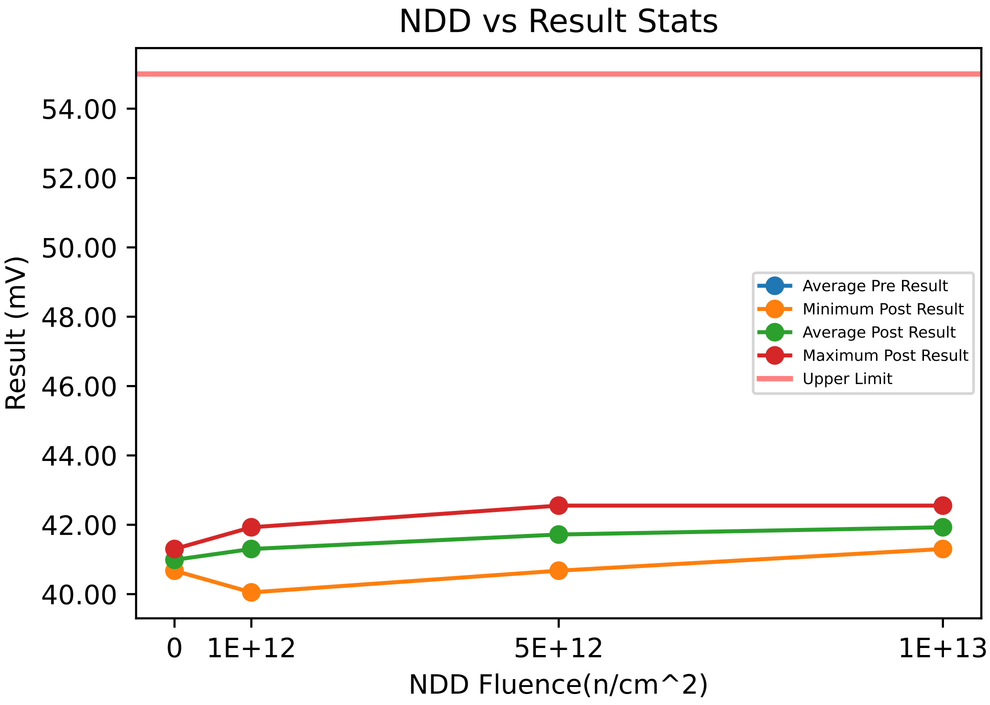
Test Results (Lower Limit = 0.5, Upper Limit = 0.59 (V))

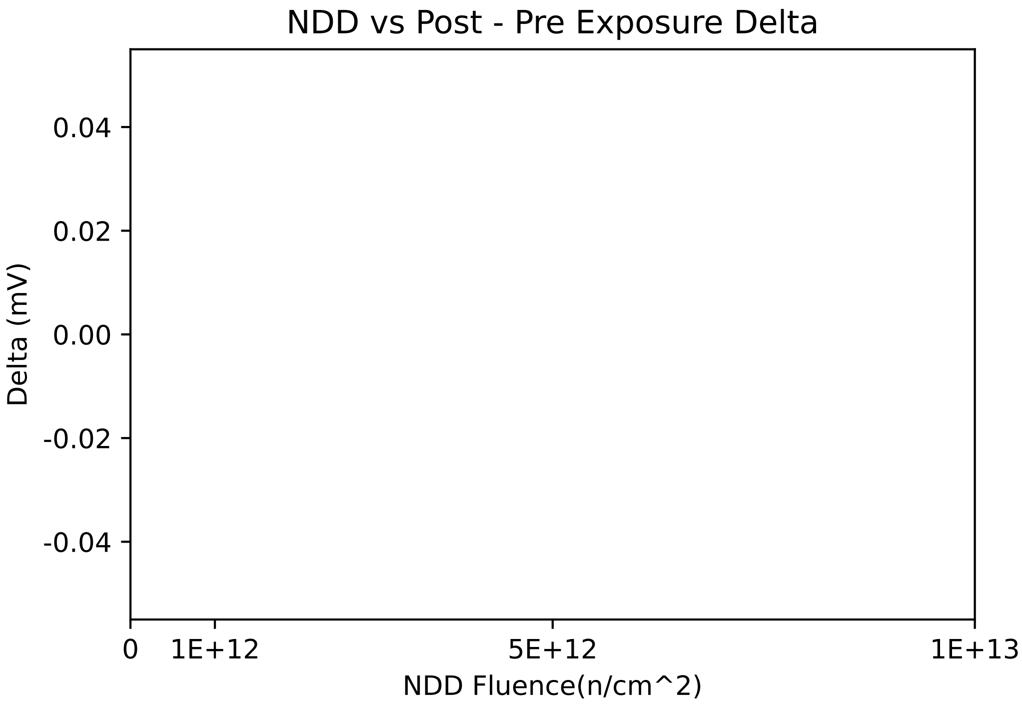
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5578	
71	0	Correlation		0.5491	
72	1e+12	NDD, unbiased		0.5447	
74	1e+12	NDD, unbiased		0.5434	
75	1e+12	NDD, unbiased		0.5497	
76	5e+12	NDD, unbiased		0.5472	
77	5e+12	NDD, unbiased		0.5441	
78	5e+12	NDD, unbiased		0.5403	
81	1e+13	NDD, unbiased		0.5491	
82	1e+13	NDD, unbiased		0.5503	
83	1e+13	NDD, unbiased		0.5347	

Test Statistics (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					0.5491	0.55345	0.5578	0.0061518				
1e+12					0.5434	0.54593	0.5497	0.0033262				
5e+12					0.5403	0.54387	0.5472	0.0034559				
1e+13					0.5347	0.5447	0.5503	0.008681				

Device Test: 7.11 OVP_HYST(OVP_UVLO_HYSTERESIS_5V)





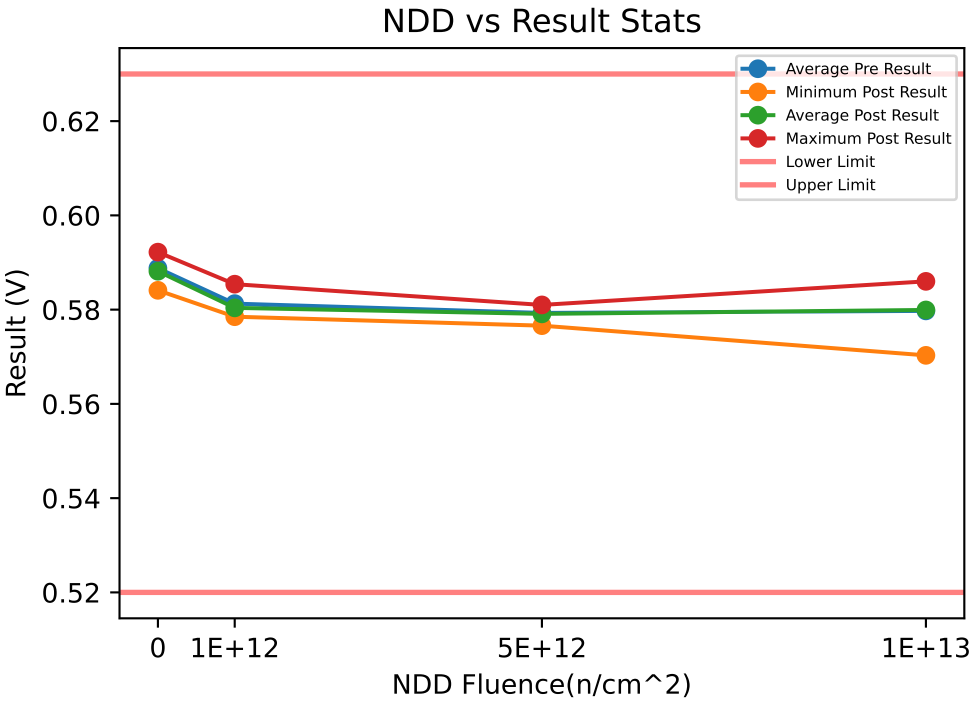
Test Results (Upper Limit = 55.0 (mV))

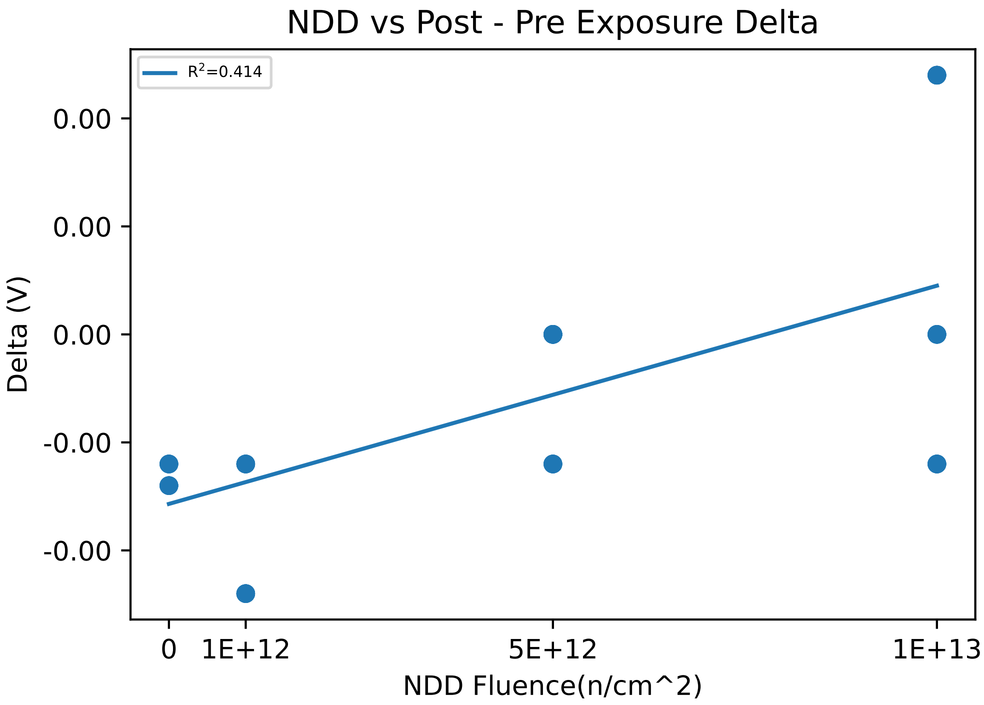
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		40.676	
71	0	Correlation		41.302	
72	1e+12	NDD, unbiased		40.05	
74	1e+12	NDD, unbiased		41.928	
75	1e+12	NDD, unbiased		41.928	
76	5e+12	NDD, unbiased		40.676	
77	5e+12	NDD, unbiased		42.553	
78	5e+12	NDD, unbiased		41.928	
81	1e+13	NDD, unbiased		41.302	
82	1e+13	NDD, unbiased		42.553	
83	1e+13	NDD, unbiased		41.928	

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					40.676	40.989	41.302	0.44265				
1e+12					40.05	41.302	41.928	1.0843				
5e+12					40.676	41.719	42.553	0.95579				
1e+13					41.302	41.928	42.553	0.6255				

Device Test: 7.12 OVP_VTH_Rising(OVP_UVLO_RISING_7V)





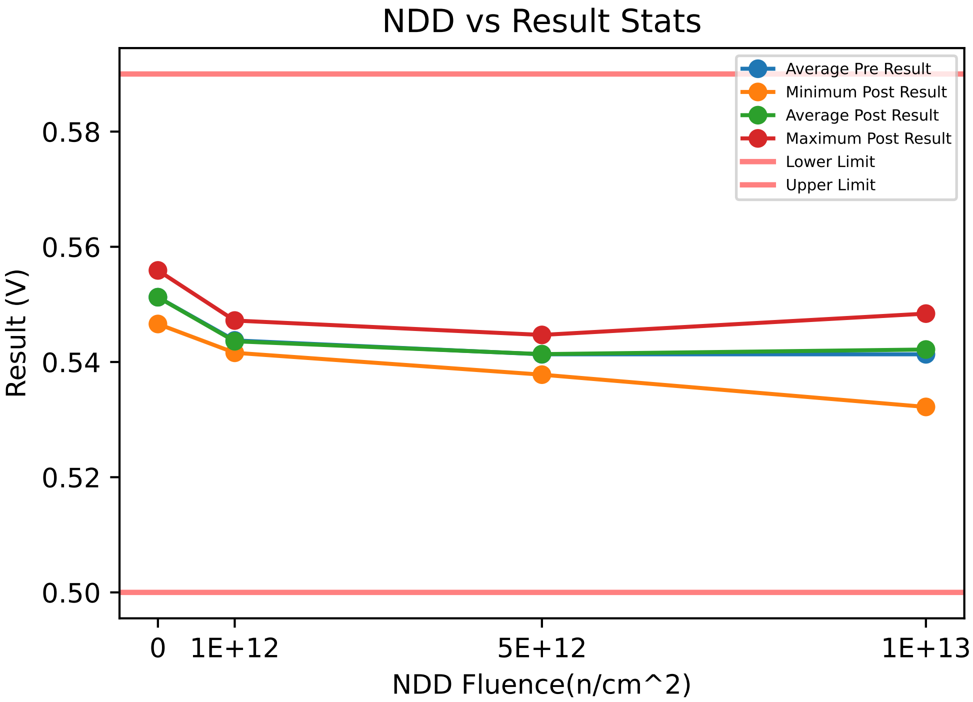
Test Results (Lower Limit = 0.52, Upper Limit = 0.63 (V))

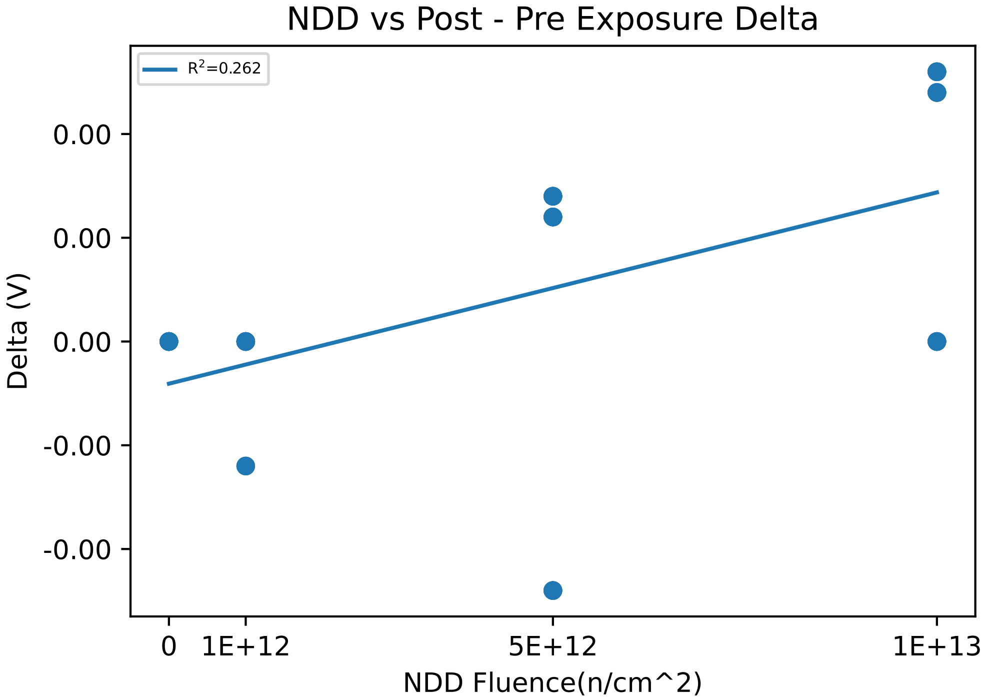
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.5929	0.5922	-0.0007
71	0	Correlation	0.5847	0.5841	-0.0006
72	1e+12	NDD, unbiased	0.5797	0.5785	-0.0012
74	1e+12	NDD, unbiased	0.5797	0.5791	-0.0006
75	1e+12	NDD, unbiased	0.586	0.5854	-0.0006
76	5e+12	NDD, unbiased	0.581	0.581	0
77	5e+12	NDD, unbiased	0.5797	0.5797	0
78	5e+12	NDD, unbiased	0.5772	0.5766	-0.0006
81	1e+13	NDD, unbiased	0.5835	0.5835	0
82	1e+13	NDD, unbiased	0.5866	0.586	-0.0006
83	1e+13	NDD, unbiased	0.5691	0.5703	0.0012

Test Statistics (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	0.5847	0.5888	0.5929	0.0057983	0.5841	0.58815	0.5922	0.0057276	-0.0007	-0.00065	-0.0006	7.0711e-05
1e+12	0.5797	0.5818	0.586	0.0036373	0.5785	0.581	0.5854	0.0038223	-0.0012	-0.0008	-0.0006	0.00034641
5e+12	0.5772	0.5793	0.581	0.0019313	0.5766	0.5791	0.581	0.0022605	-0.0006	-0.0002	0	0.00034641
1e+13	0.5691	0.57973	0.5866	0.0093383	0.5703	0.57993	0.586	0.0084358	-0.0006	0.0002	0.0012	0.00091652

Device Test: 7.13 OVP_VTH_Falling(OVP_UVLO_FALLING_7V)





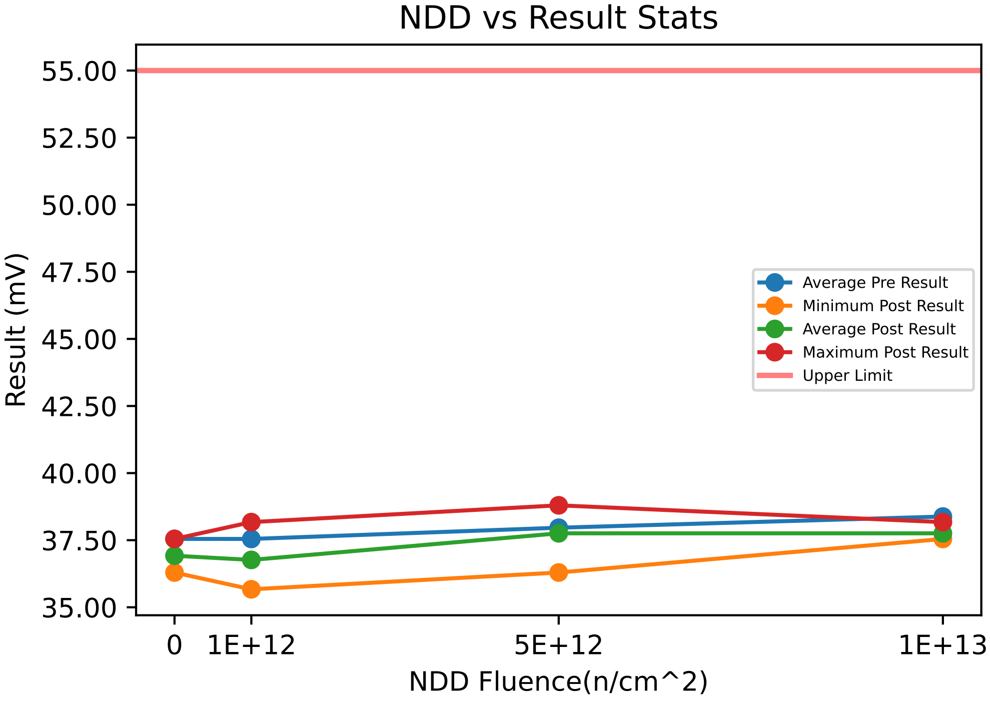
Test Results (Lower Limit = 0.5, Upper Limit = 0.59 (V))

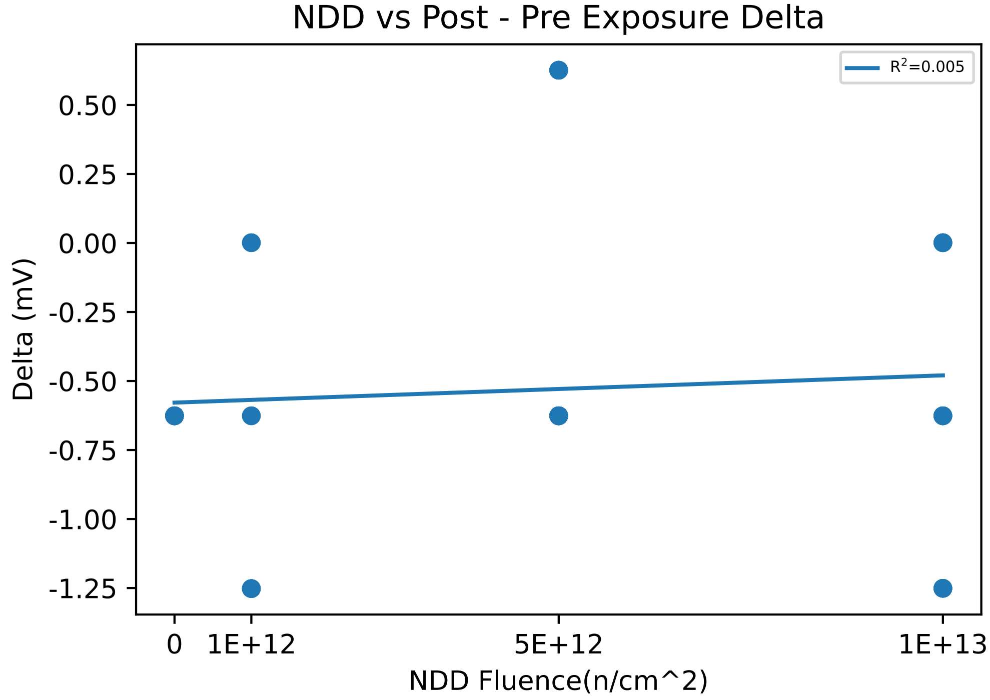
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.5559	0.5559	0
71	0	Correlation	0.5466	0.5466	0
72	1e+12	NDD, unbiased	0.5428	0.5428	0
74	1e+12	NDD, unbiased	0.5416	0.5416	0
75	1e+12	NDD, unbiased	0.5478	0.5472	-0.0006
76	5e+12	NDD, unbiased	0.5441	0.5447	0.0006
77	5e+12	NDD, unbiased	0.5409	0.5416	0.0007
78	5e+12	NDD, unbiased	0.539	0.5378	-0.0012
81	1e+13	NDD, unbiased	0.5447	0.5459	0.0012
82	1e+13	NDD, unbiased	0.5484	0.5484	0
83	1e+13	NDD, unbiased	0.5309	0.5322	0.0013

Test Statistics (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	0.5466	0.55125	0.5559	0.0065761	0.5466	0.55125	0.5559	0.0065761	0	0	0	0
1e+12	0.5416	0.54407	0.5478	0.0032884	0.5416	0.54387	0.5472	0.0029484	-0.0006	-0.0002	0	0.00034641
5e+12	0.539	0.54133	0.5441	0.0025775	0.5378	0.54137	0.5447	0.0034559	-0.0012	3.3333e-05	0.0007	0.0010693
1e+13	0.5309	0.54133	0.5484	0.009223	0.5322	0.54217	0.5484	0.0087214	0	0.00083333	0.0013	0.00072342

Device Test: 7.14 OVP_HYST(OVP_UVLO_HYSTERESIS_7V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

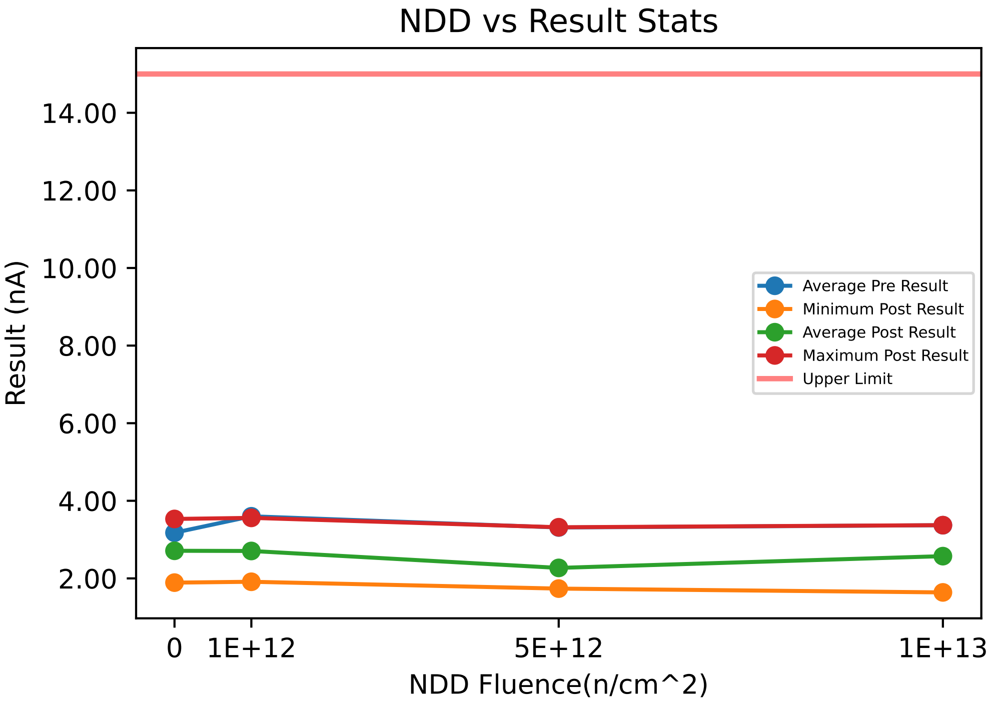
Test Results (Upper Limit = 55.0 (mV))

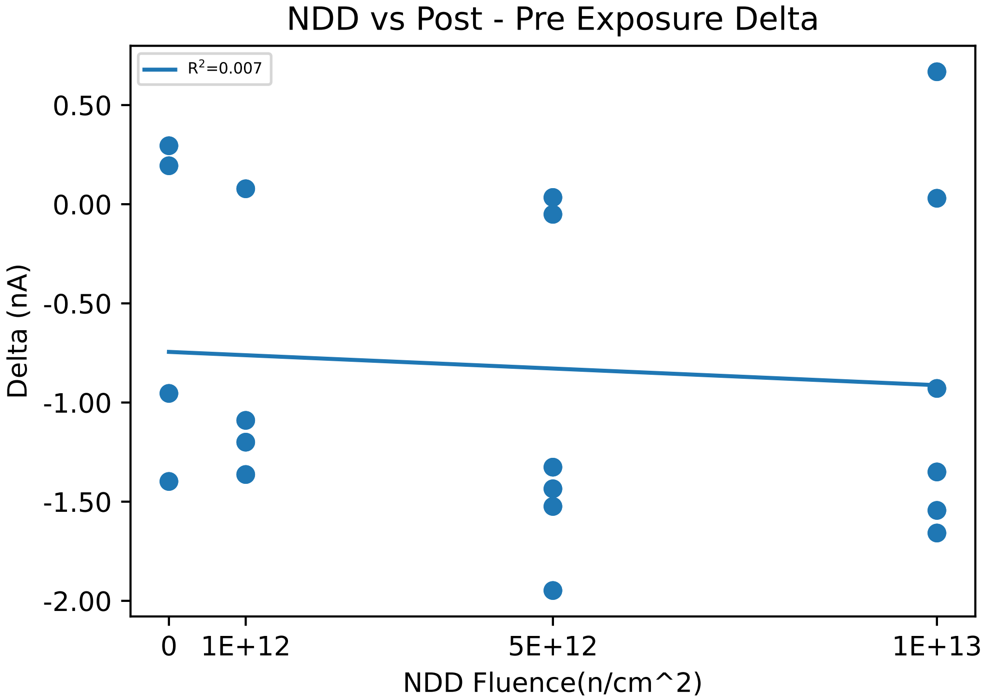
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	36.921	36.295	-0.626
71	0	Correlation	38.173	37.547	-0.626
72	1e+12	NDD, unbiased	36.921	35.669	-1.252
74	1e+12	NDD, unbiased	38.173	37.547	-0.626
75	1e+12	NDD, unbiased	38.172	38.173	0.001
76	5e+12	NDD, unbiased	36.921	36.295	-0.626
77	5e+12	NDD, unbiased	38.799	38.173	-0.626
78	5e+12	NDD, unbiased	38.173	38.799	0.626
81	1e+13	NDD, unbiased	38.798	37.547	-1.251
82	1e+13	NDD, unbiased	38.172	37.546	-0.626
83	1e+13	NDD, unbiased	38.172	38.173	0.001

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	36.921	37.547	38.173	0.8853	36.295	36.921	37.547	0.8853	-0.626	-0.626	-0.626	5.0243e-15
1e+12	36.921	37.755	38.173	0.72255	35.669	37.13	38.173	1.3031	-1.252	-0.62567	0.001	0.6265
5e+12	36.921	37.964	38.799	0.95623	36.295	37.756	38.799	1.3031	-0.626	-0.20867	0.626	0.72284
1e+13	38.172	38.381	38.798	0.36142	37.546	37.755	38.173	0.36171	-1.251	-0.62533	0.001	0.626

Device Test: 7.15 OVP_ILEAK(OVP_I_7V)





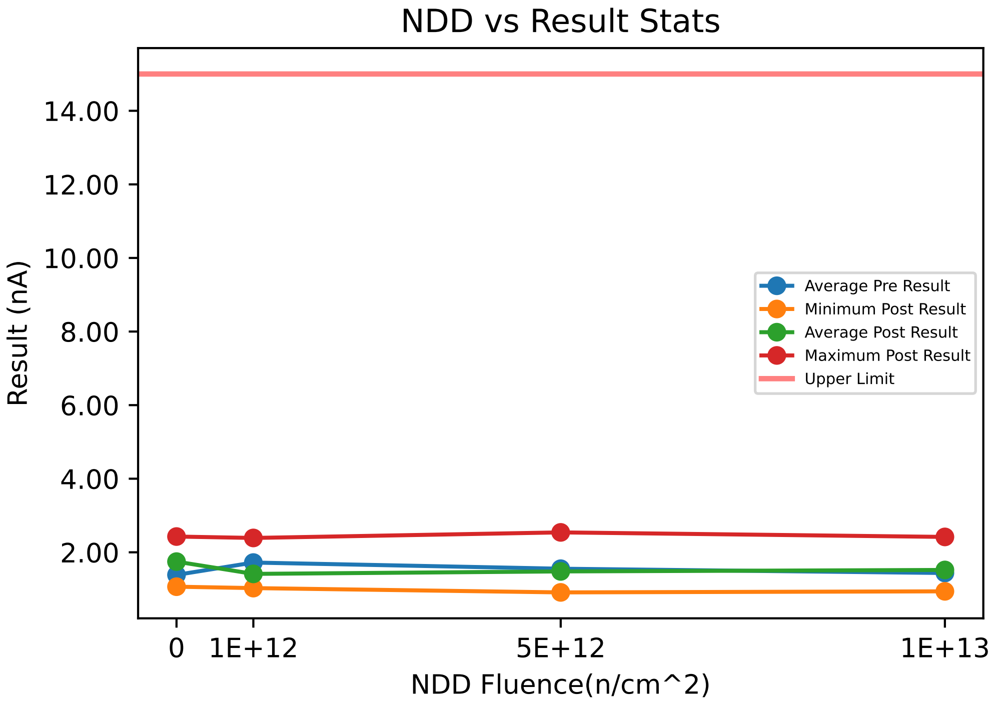
Test Results (Upper Limit = 15.0 (nA))

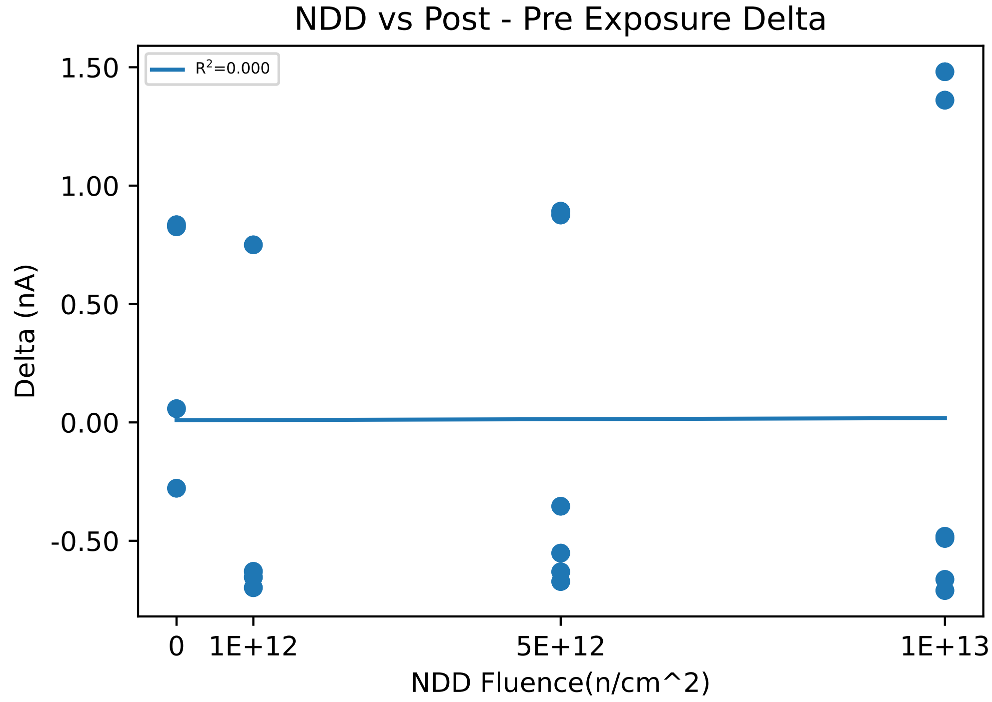
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	3.289	1.891	-1.398
71	0	Correlation	3.338	3.532	0.194
72	1e+12	NDD, unbiased	3.877	2.677	-1.2
74	1e+12	NDD, unbiased	3.482	3.56	0.078
75	1e+12	NDD, unbiased	3.003	1.913	-1.09
76	5e+12	NDD, unbiased	3.704	1.756	-1.948
77	5e+12	NDD, unbiased	3.369	3.318	-0.051
78	5e+12	NDD, unbiased	3.063	1.737	-1.326
81	1e+13	NDD, unbiased	3.638	2.709	-0.929
82	1e+13	NDD, unbiased	3.342	3.372	0.03
83	1e+13	NDD, unbiased	3.297	1.639	-1.658

Test Statistics (nA)

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	3.289	3.3135	3.338	0.034648	1.891	2.7115	3.532	1.1604	-1.398	-0.602	0.194	1.1257
1e+12	3.003	3.454	3.877	0.43767	1.913	2.7167	3.56	0.82422	-1.2	-0.73733	0.078	0.70824
5e+12	3.063	3.3787	3.704	0.32061	1.737	2.2703	3.318	0.90736	-1.948	-1.1083	-0.051	0.96705
1e+13	3.297	3.4257	3.638	0.18526	1.639	2.5733	3.372	0.87443	-1.658	-0.85233	0.03	0.84661

Device Test: 7.16 OVP_ILEAK(OVP_I_5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

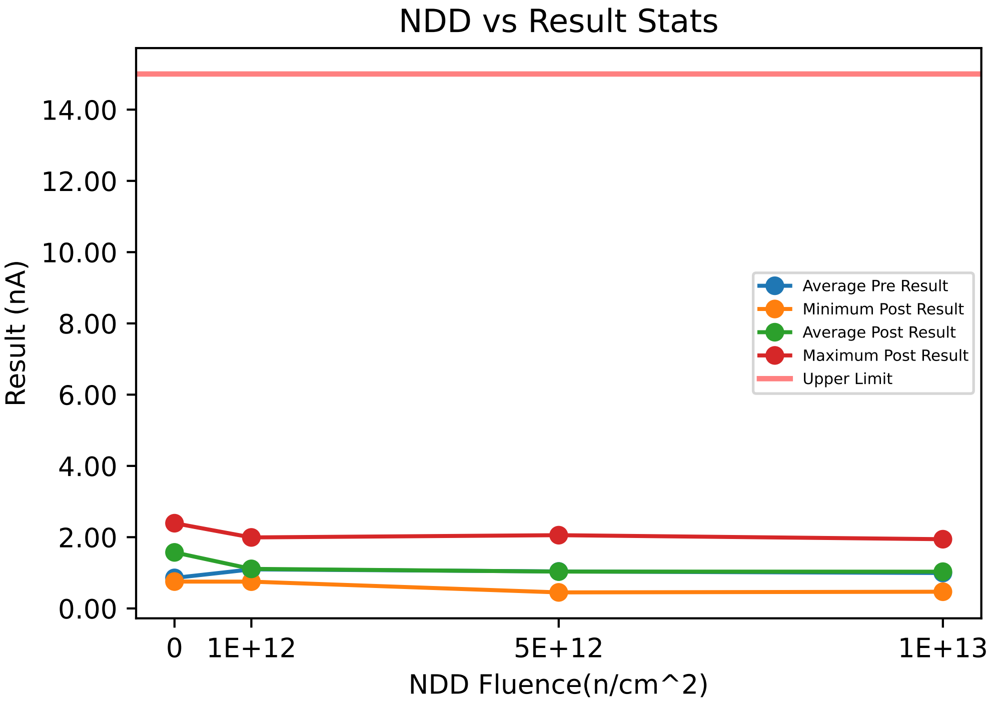
Test Results (Upper Limit = 15.0 (nA))

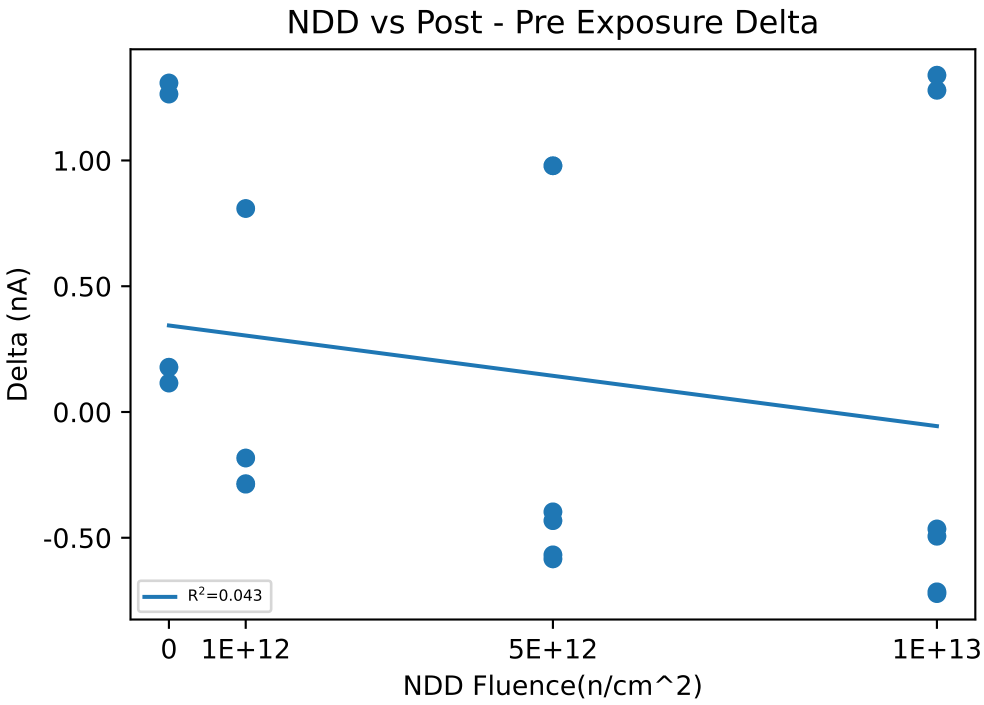
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	1.343	1.065	-0.278
71	0	Correlation	1.593	2.428	0.835
72	1e+12	NDD, unbiased	1.747	1.118	-0.629
74	1e+12	NDD, unbiased	1.64	2.39	0.75
75	1e+12	NDD, unbiased	1.725	1.027	-0.698
76	5e+12	NDD, unbiased	1.462	0.91	-0.552
77	5e+12	NDD, unbiased	1.665	2.541	0.876
78	5e+12	NDD, unbiased	1.621	0.99	-0.631
81	1e+13	NDD, unbiased	1.684	1.203	-0.481
82	1e+13	NDD, unbiased	1.057	2.418	1.361
83	1e+13	NDD, unbiased	1.602	0.939	-0.663

Test Statistics (nA)

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	1.343	1.468	1.593	0.17678	1.065	1.7465	2.428	0.96379	-0.278	0.2785	0.835	0.78701
1e+12	1.64	1.704	1.747	0.056507	1.027	1.5117	2.39	0.76202	-0.698	-0.19233	0.75	0.81681
5e+12	1.462	1.5827	1.665	0.10679	0.91	1.4803	2.541	0.91943	-0.631	-0.10233	0.876	0.84818
1e+13	1.057	1.4477	1.684	0.3408	0.939	1.52	2.418	0.78881	-0.663	0.072333	1.361	1.1197

Device Test: 7.17 OVP_ILEAK(OVP_I_3p3V)





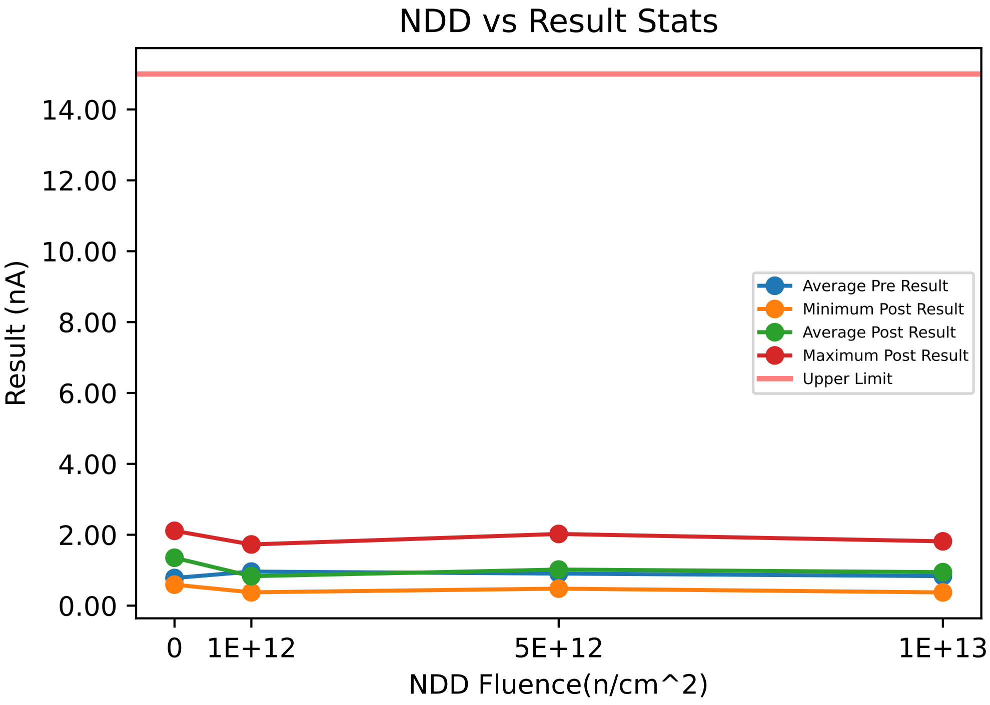
Test Results (Upper Limit = 15.0 (nA))

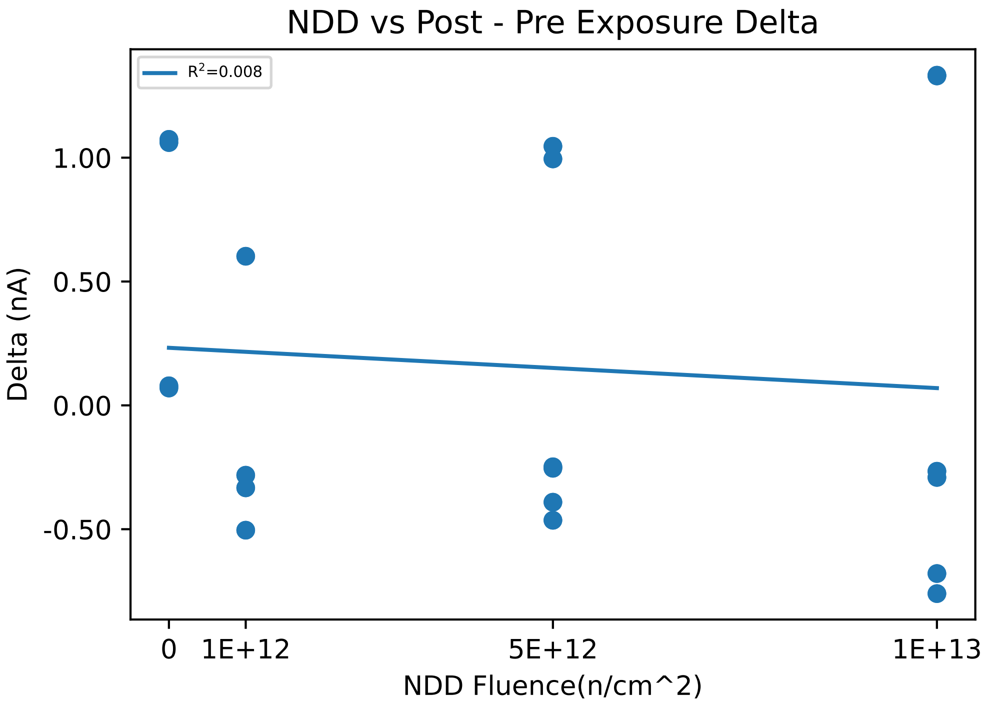
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.576	0.754	0.178
71	0	Correlation	1.128	2.392	1.264
72	1e+12	NDD, unbiased	1.135	0.848	-0.287
74	1e+12	NDD, unbiased	1.184	1.993	0.809
75	1e+12	NDD, unbiased	1.037	0.752	-0.285
76	5e+12	NDD, unbiased	1.029	0.597	-0.432
77	5e+12	NDD, unbiased	1.077	2.056	0.979
78	5e+12	NDD, unbiased	1.034	0.45	-0.584
81	1e+13	NDD, unbiased	1.147	0.682	-0.465
82	1e+13	NDD, unbiased	0.604	1.943	1.339
83	1e+13	NDD, unbiased	1.191	0.469	-0.722

Test Statistics (nA)

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	0.576	0.852	1.128	0.39032	0.754	1.573	2.392	1.1582	0.178	0.721	1.264	0.76792
1e+12	1.037	1.1187	1.184	0.074849	0.752	1.1977	1.993	0.69045	-0.287	0.079	0.809	0.6322
5e+12	1.029	1.0467	1.077	0.026388	0.45	1.0343	2.056	0.88784	-0.584	-0.012333	0.979	0.86188
1e+13	0.604	0.98067	1.191	0.32694	0.469	1.0313	1.943	0.79668	-0.722	0.050667	1.339	1.1231

Device Test: 7.18 OVP_ILEAK(OVP_I_1p8V)





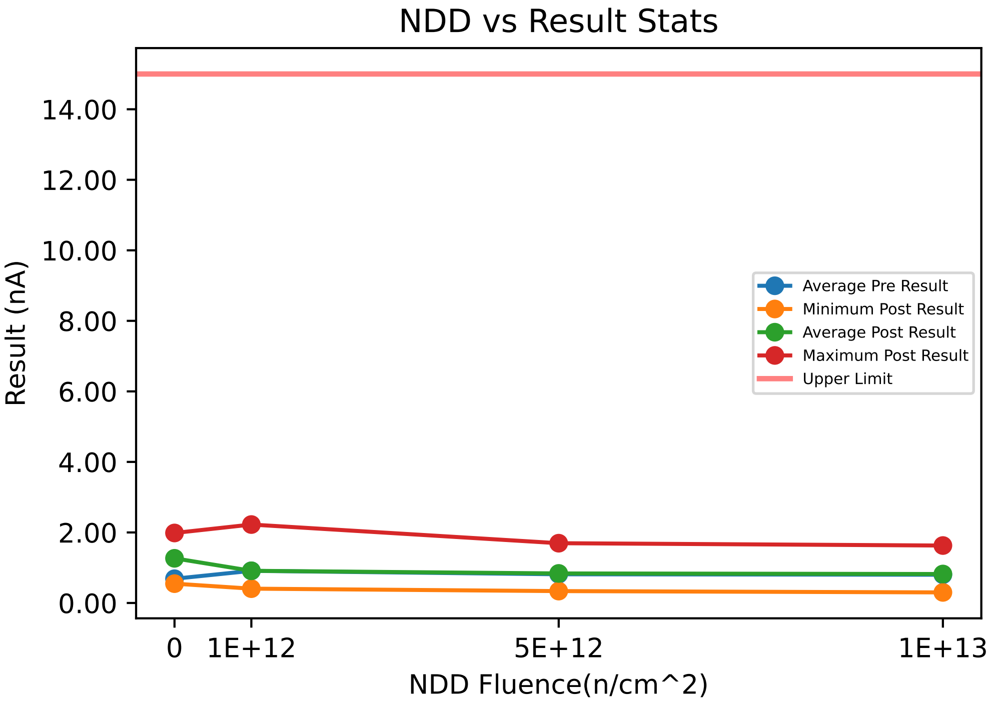
Test Results (Upper Limit = 15.0 (nA))

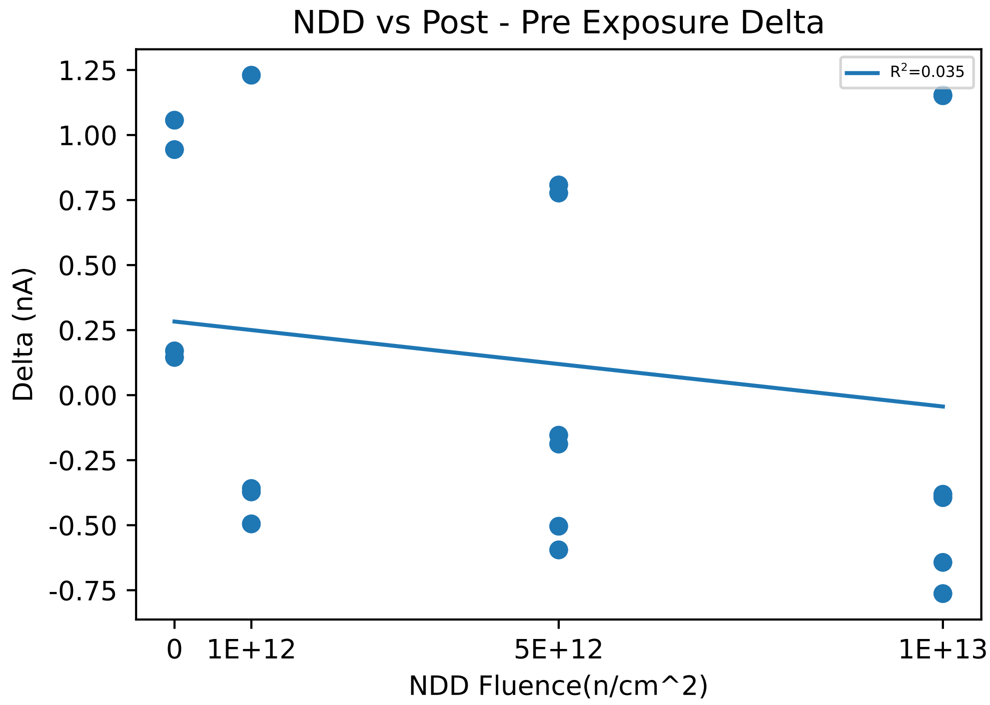
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.522	0.592	0.07
71	0	Correlation	1.037	2.111	1.074
72	1e+12	NDD, unbiased	0.944	0.611	-0.333
74	1e+12	NDD, unbiased	1.125	1.727	0.602
75	1e+12	NDD, unbiased	0.881	0.377	-0.504
76	5e+12	NDD, unbiased	0.802	0.554	-0.248
77	5e+12	NDD, unbiased	0.977	2.023	1.046
78	5e+12	NDD, unbiased	0.871	0.48	-0.391
81	1e+13	NDD, unbiased	0.912	0.646	-0.266
82	1e+13	NDD, unbiased	0.485	1.815	1.33
83	1e+13	NDD, unbiased	1.053	0.374	-0.679

Test Statistics (nA)

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	0.522	0.7795	1.037	0.36416	0.592	1.3515	2.111	1.0741	0.07	0.572	1.074	0.70994
1e+12	0.881	0.98333	1.125	0.12667	0.377	0.905	1.727	0.72142	-0.504	-0.078333	0.602	0.59536
5e+12	0.802	0.88333	0.977	0.088149	0.48	1.019	2.023	0.87028	-0.391	0.13567	1.046	0.79161
1e+13	0.485	0.81667	1.053	0.29576	0.374	0.945	1.815	0.76562	-0.679	0.12833	1.33	1.061

Device Test: 7.19 OVP_ILEAK(OVP_I_1p5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

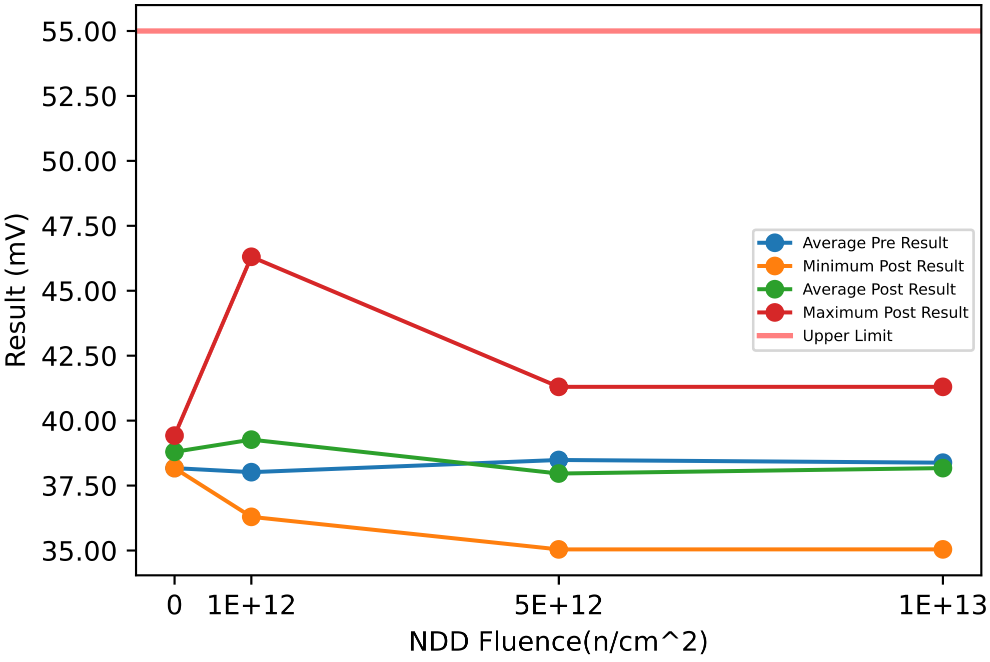
Test Results (Upper Limit = 15.0 (nA))

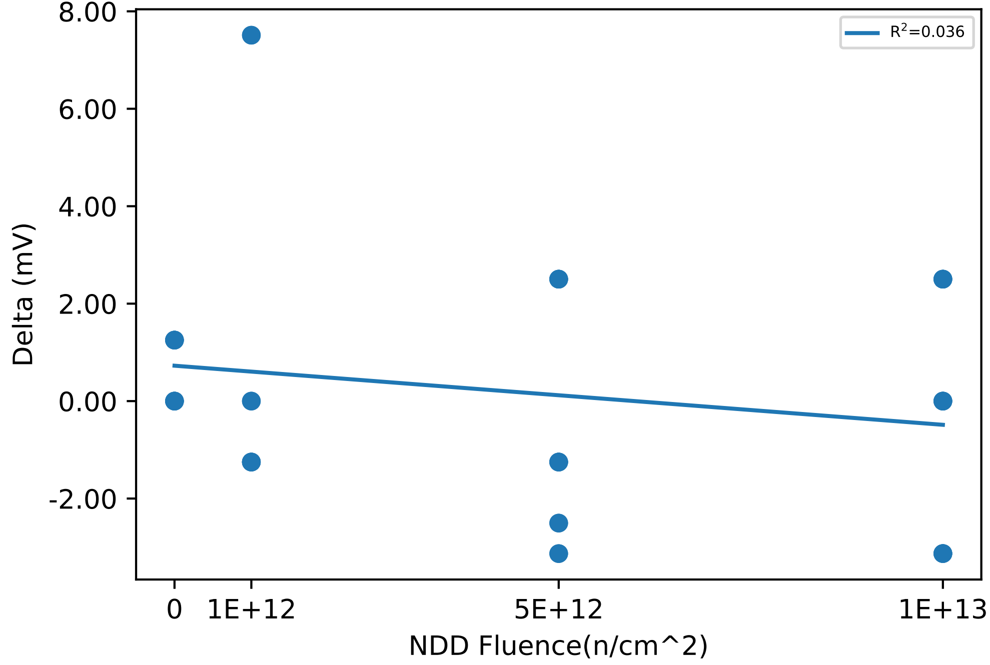
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	0.378	0.548	0.17
71	0	Correlation	0.928	1.985	1.057
72	1e+12	NDD, unbiased	0.869	0.51	-0.359
74	1e+12	NDD, unbiased	0.994	2.224	1.23
75	1e+12	NDD, unbiased	0.901	0.406	-0.495
76	5e+12	NDD, unbiased	0.67	0.482	-0.188
77	5e+12	NDD, unbiased	0.918	1.695	0.777
78	5e+12	NDD, unbiased	0.841	0.337	-0.504
81	1e+13	NDD, unbiased	0.929	0.535	-0.394
82	1e+13	NDD, unbiased	0.475	1.629	1.154
83	1e+13	NDD, unbiased	0.943	0.3	-0.643

Test Statistics (nA)

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	0.653	0.928	0.38891	0.548	1.2665	1.985	1.0161	0.17	0.6135	1.057	0.6272
1e+12	0.869	0.92133	0.994	0.064933	0.406	1.0467	2.224	1.0209	-0.495	0.12533	1.23	0.95908
5e+12	0.67	0.80967	0.918	0.12693	0.337	0.838	1.695	0.74572	-0.504	0.028333	0.777	0.66734
1e+13	0.475	0.78233	0.943	0.26625	0.3	0.82133	1.629	0.70926	-0.643	0.039	1.154	0.97361

Device Test: 7.2 OVP_HYST(OVP_UVLO_HYSTERESIS_1p5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

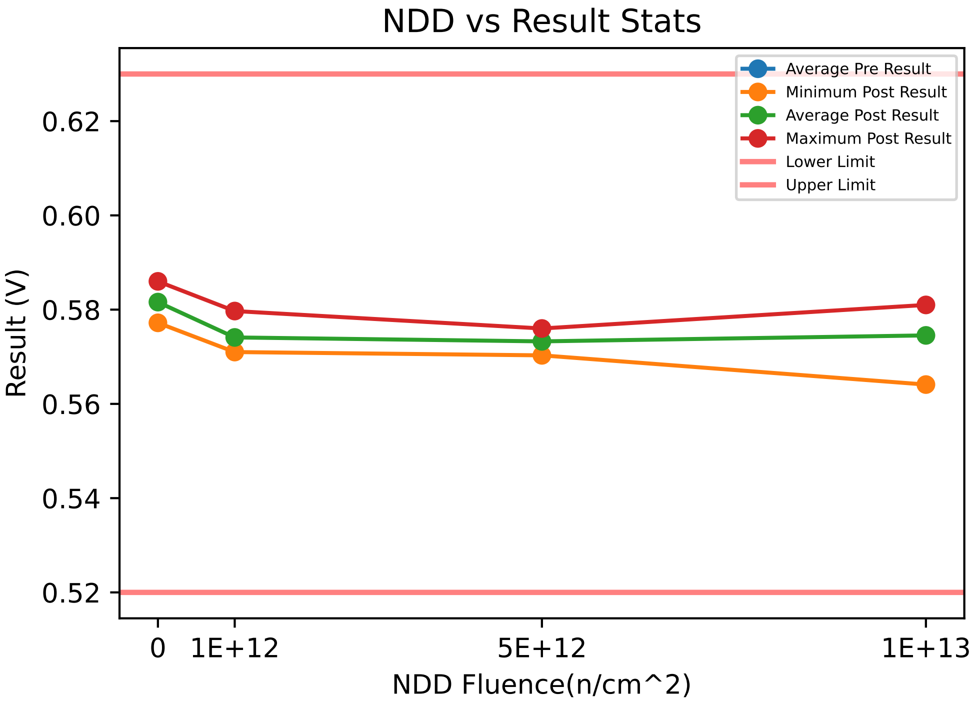
Test Results (Upper Limit = 55.0 (mV))

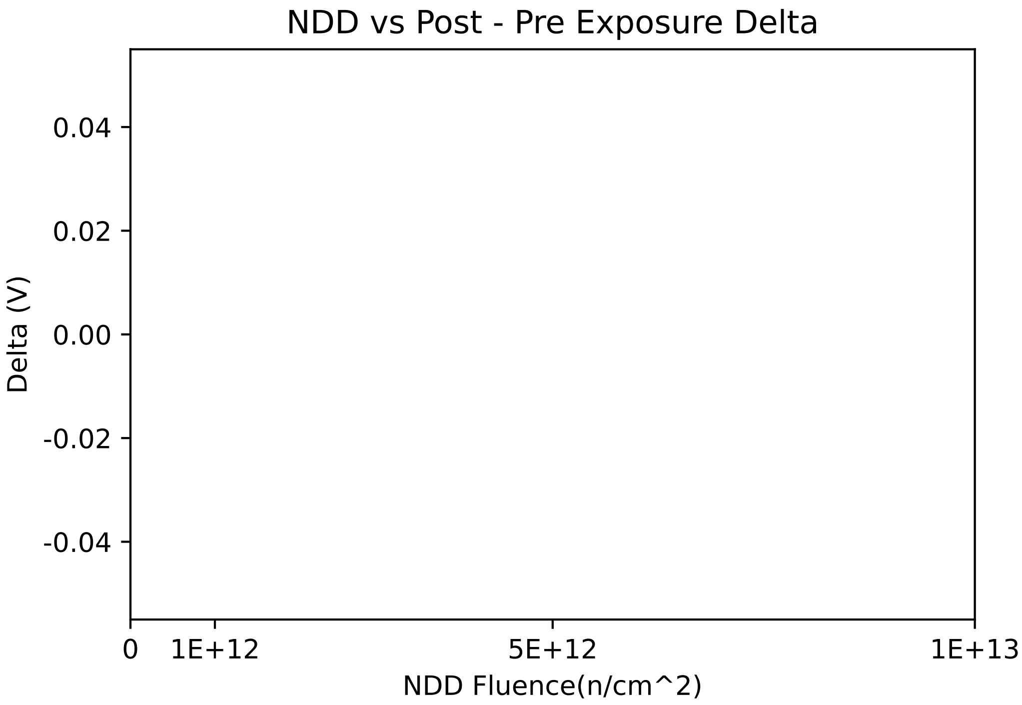
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	38.172	38.172	0
71	0	Correlation	38.172	39.424	1.252
72	1e+12	NDD, unbiased	37.547	36.296	-1.251
74	1e+12	NDD, unbiased	38.172	38.172	0
75	1e+12	NDD, unbiased	38.798	46.308	7.51
76	5e+12	NDD, unbiased	38.173	35.043	-3.13
77	5e+12	NDD, unbiased	38.798	37.547	-1.251
78	5e+12	NDD, unbiased	38.798	41.301	2.503
81	1e+13	NDD, unbiased	38.173	35.044	-3.129
82	1e+13	NDD, unbiased	38.173	38.173	0
83	1e+13	NDD, unbiased	38.798	41.301	2.503

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	38.172	38.172	38.172	0	38.172	38.798	39.424	0.8853	0	0.626	1.252	0.8853
1e+12	37.547	38.172	38.798	0.6255	36.296	40.259	46.308	5.3222	-1.251	2.0863	7.51	4.7385
5e+12	38.173	38.59	38.798	0.36084	35.043	37.964	41.301	3.1497	-3.13	-0.626	2.503	2.868
1e+13	38.173	38.381	38.798	0.36084	35.044	38.173	41.301	3.1285	-3.129	-0.20867	2.503	2.8218

Device Test: 7.3 OVP_VTH_Rising(OVP_UVLO_RISING_1p8V)





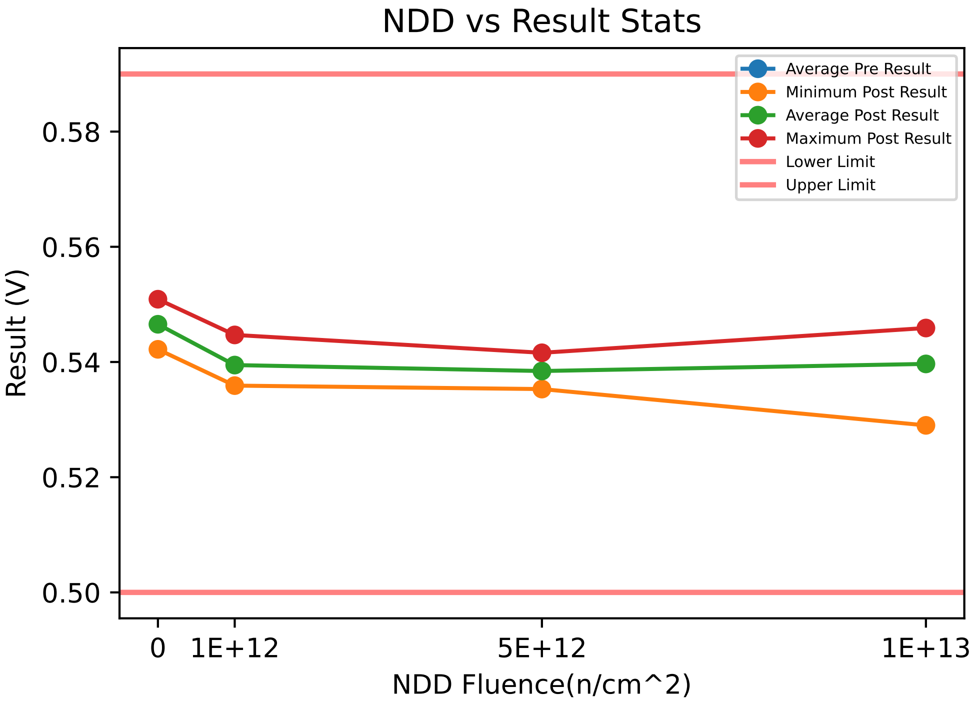
Test Results (Lower Limit = 0.52, Upper Limit = 0.63 (V))

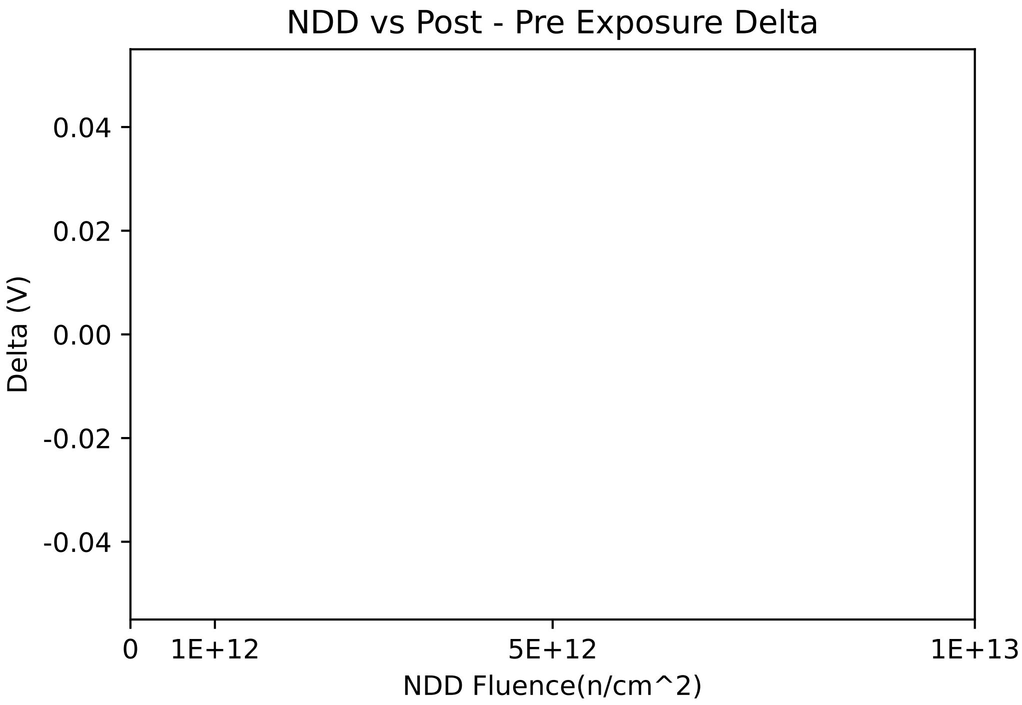
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.586	
71	0	Correlation		0.5772	
72	1e+12	NDD, unbiased		0.5716	
74	1e+12	NDD, unbiased		0.571	
75	1e+12	NDD, unbiased		0.5797	
76	5e+12	NDD, unbiased		0.576	
77	5e+12	NDD, unbiased		0.5735	
78	5e+12	NDD, unbiased		0.5703	
81	1e+13	NDD, unbiased		0.5785	
82	1e+13	NDD, unbiased		0.581	
83	1e+13	NDD, unbiased		0.5641	

Test Statistics (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					0.5772	0.5816	0.586	0.0062225				
1e+12					0.571	0.5741	0.5797	0.004859				
5e+12					0.5703	0.57327	0.576	0.0028572				
1e+13					0.5641	0.57453	0.581	0.0091216				

Device Test: 7.4 OVP_VTH_Falling(OVP_UVLO_FALLING_1p8V)





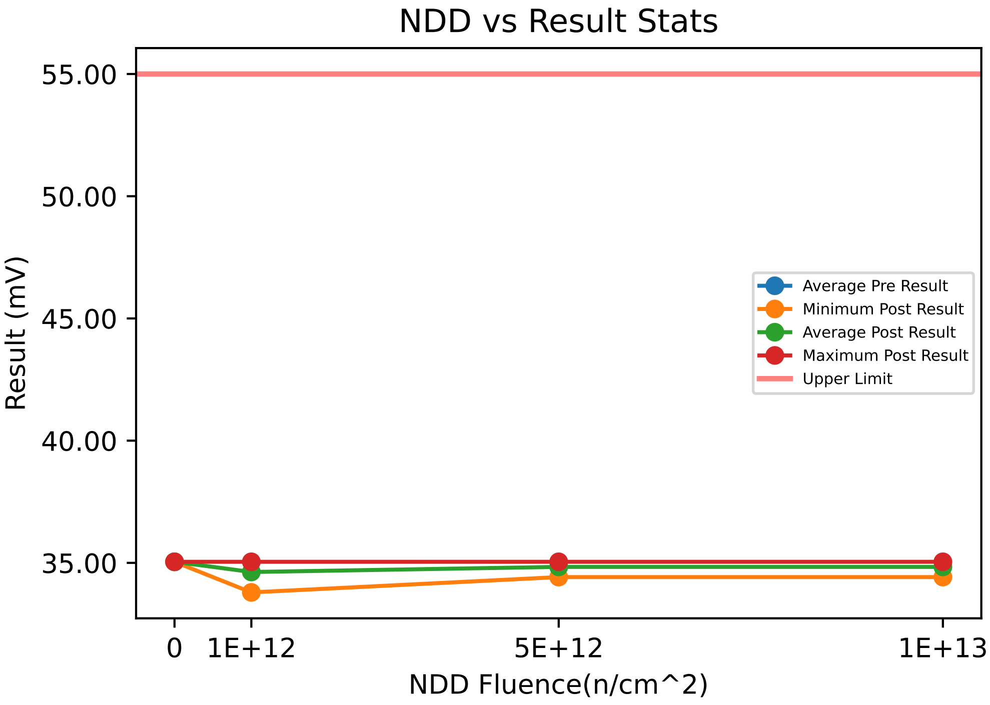
Test Results (Lower Limit = 0.5, Upper Limit = 0.59 (V))

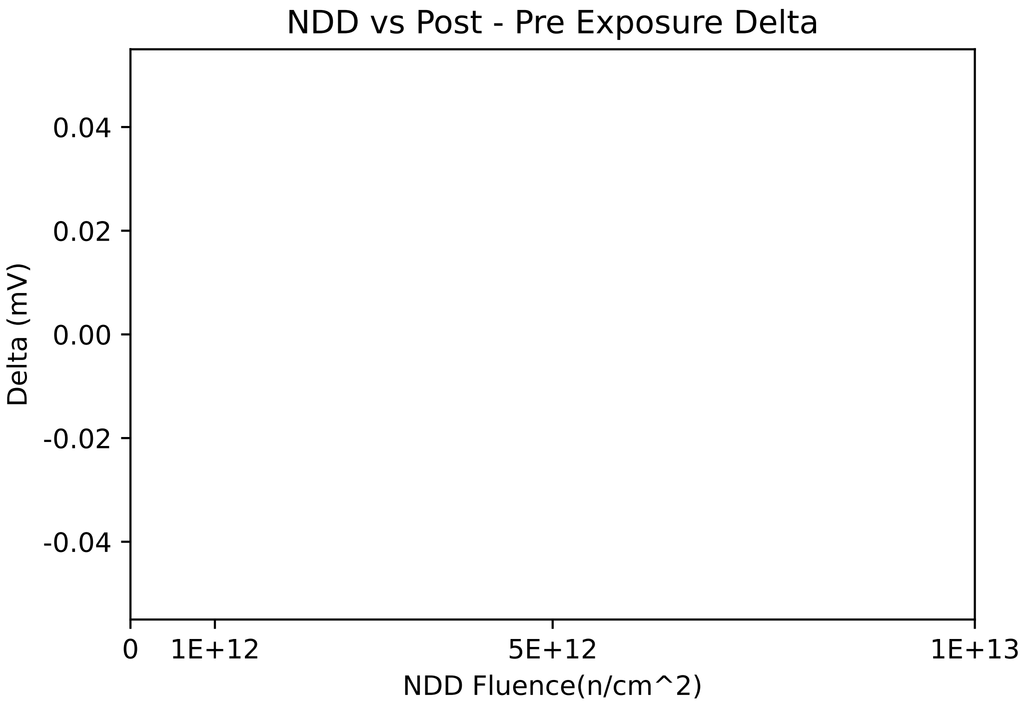
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5509	
71	0	Correlation		0.5422	
72	1e+12	NDD, unbiased		0.5378	
74	1e+12	NDD, unbiased		0.5359	
75	1e+12	NDD, unbiased		0.5447	
76	5e+12	NDD, unbiased		0.5416	
77	5e+12	NDD, unbiased		0.5384	
78	5e+12	NDD, unbiased		0.5353	
81	1e+13	NDD, unbiased		0.5441	
82	1e+13	NDD, unbiased		0.5459	
83	1e+13	NDD, unbiased		0.529	

Test Statistics (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					0.5422	0.54655	0.5509	0.0061518				
1e+12					0.5359	0.53947	0.5447	0.0046307				
5e+12					0.5353	0.53843	0.5416	0.0031501				
1e+13					0.529	0.53967	0.5459	0.0092813				

Device Test: 7.5 OVP_HYST(OVP_UVLO_HYSTERESIS_1p8V)





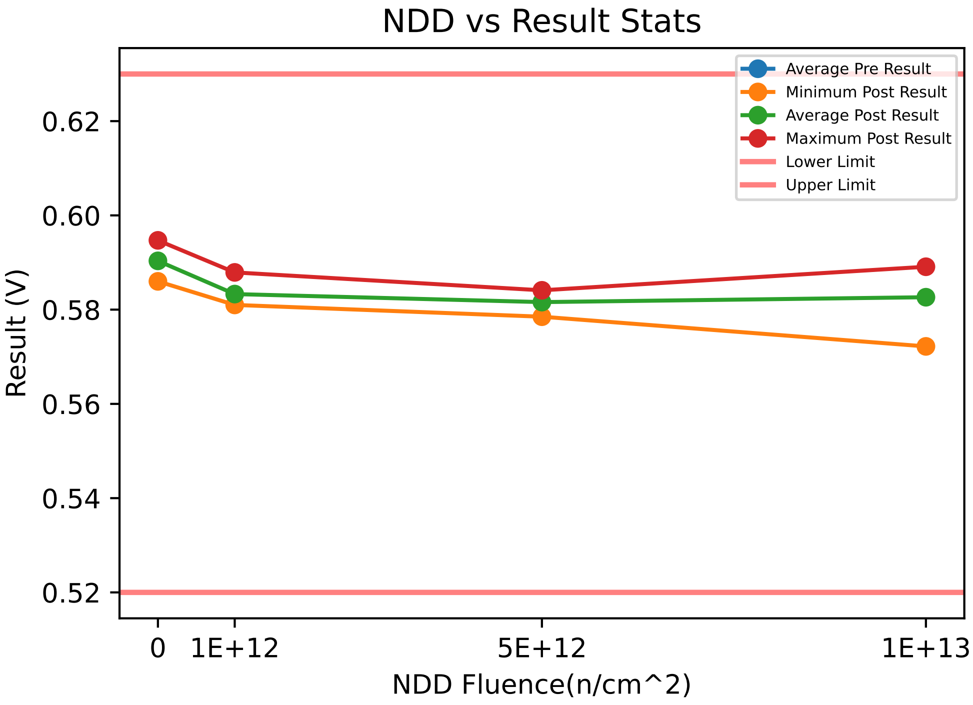
Test Results (Upper Limit = 55.0 (mV))

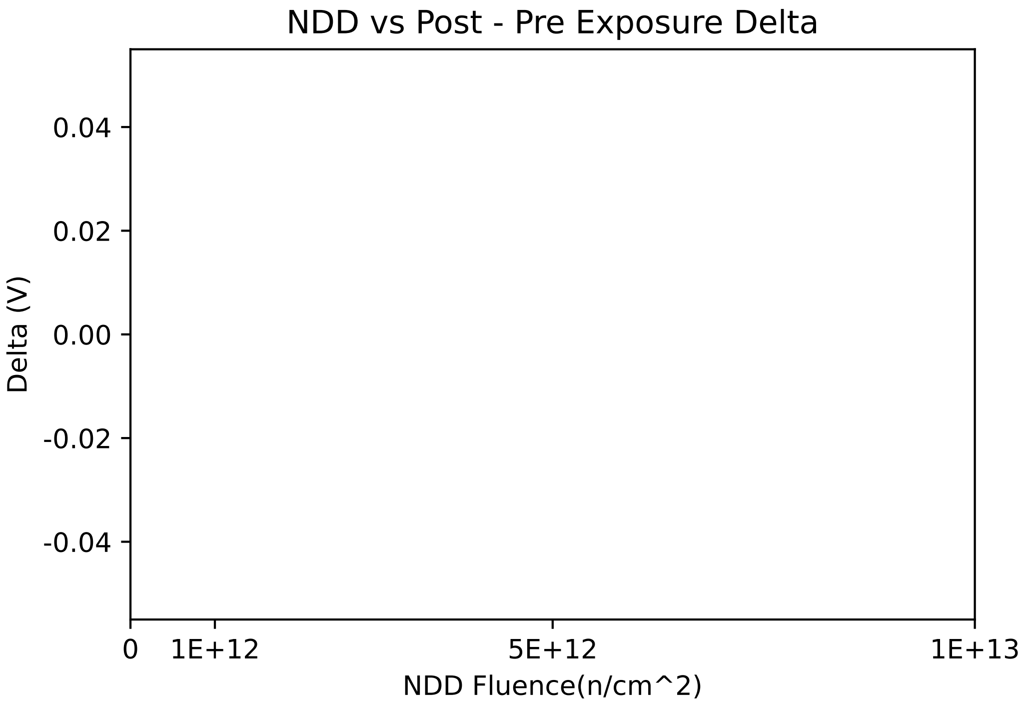
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		35.043	
71	0	Correlation		35.044	
72	1e+12	NDD, unbiased		33.792	
74	1e+12	NDD, unbiased		35.044	
75	1e+12	NDD, unbiased		35.044	
76	5e+12	NDD, unbiased		34.418	
77	5e+12	NDD, unbiased		35.044	
78	5e+12	NDD, unbiased		35.044	
81	1e+13	NDD, unbiased		34.418	
82	1e+13	NDD, unbiased		35.044	
83	1e+13	NDD, unbiased		35.044	

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					35.043	35.043	35.044	0.00070711				
1e+12					33.792	34.627	35.044	0.72284				
5e+12					34.418	34.835	35.044	0.36142				
1e+13					34.418	34.835	35.044	0.36142				

Device Test: 7.6 OVP_VTH_Rising(OVP_UVLO_RISING_3p3V)





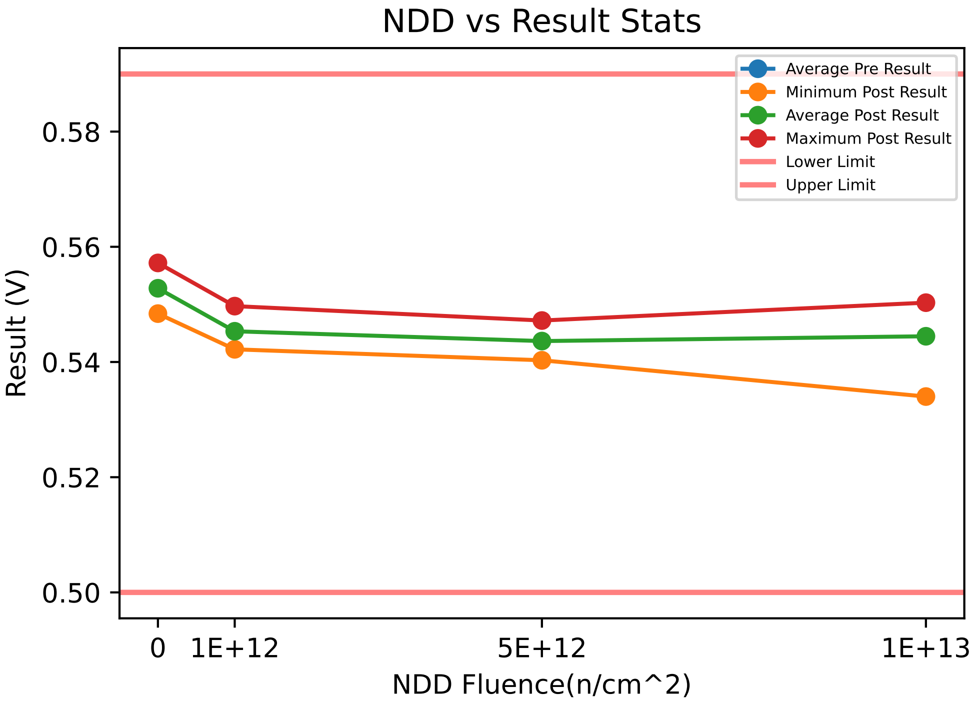
Test Results (Lower Limit = 0.52, Upper Limit = 0.63 (V))

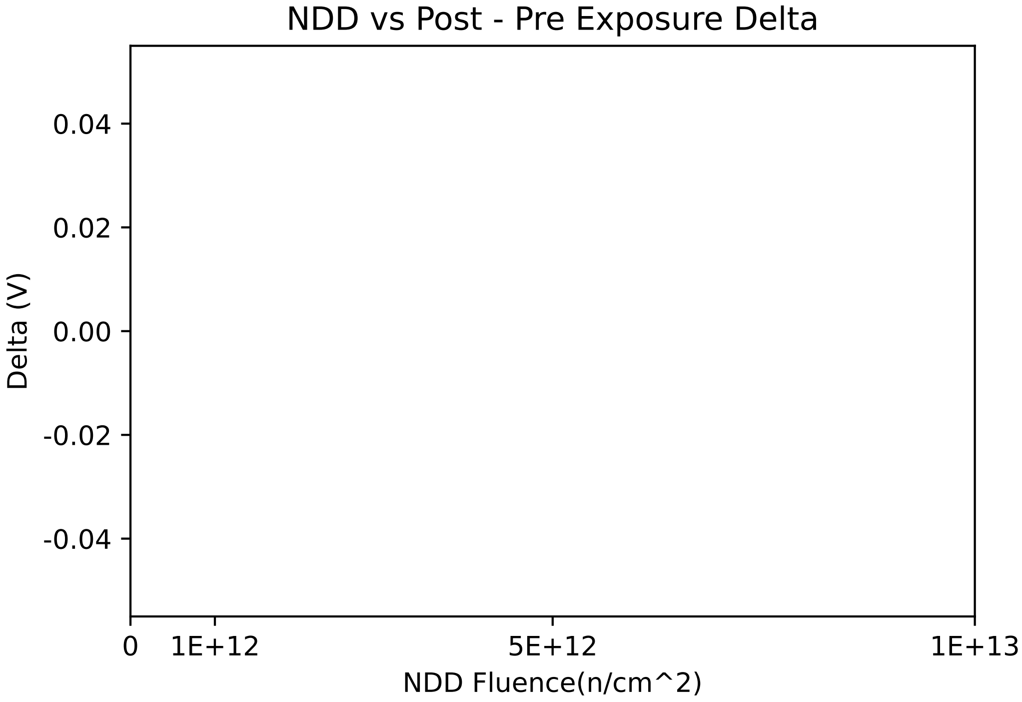
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5947	
71	0	Correlation		0.586	
72	1e+12	NDD, unbiased		0.581	
74	1e+12	NDD, unbiased		0.581	
75	1e+12	NDD, unbiased		0.5879	
76	5e+12	NDD, unbiased		0.5841	
77	5e+12	NDD, unbiased		0.5822	
78	5e+12	NDD, unbiased		0.5785	
81	1e+13	NDD, unbiased		0.5866	
82	1e+13	NDD, unbiased		0.5891	
83	1e+13	NDD, unbiased		0.5722	

Test Statistics (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					0.586	0.59035	0.5947	0.0061518				
1e+12					0.581	0.5833	0.5879	0.0039837				
5e+12					0.5785	0.5816	0.5841	0.0028478				
1e+13					0.5722	0.58263	0.5891	0.0091216				

Device Test: 7.7 OVP_VTH_Falling(OVP_UVLO_FALLING_3p3V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

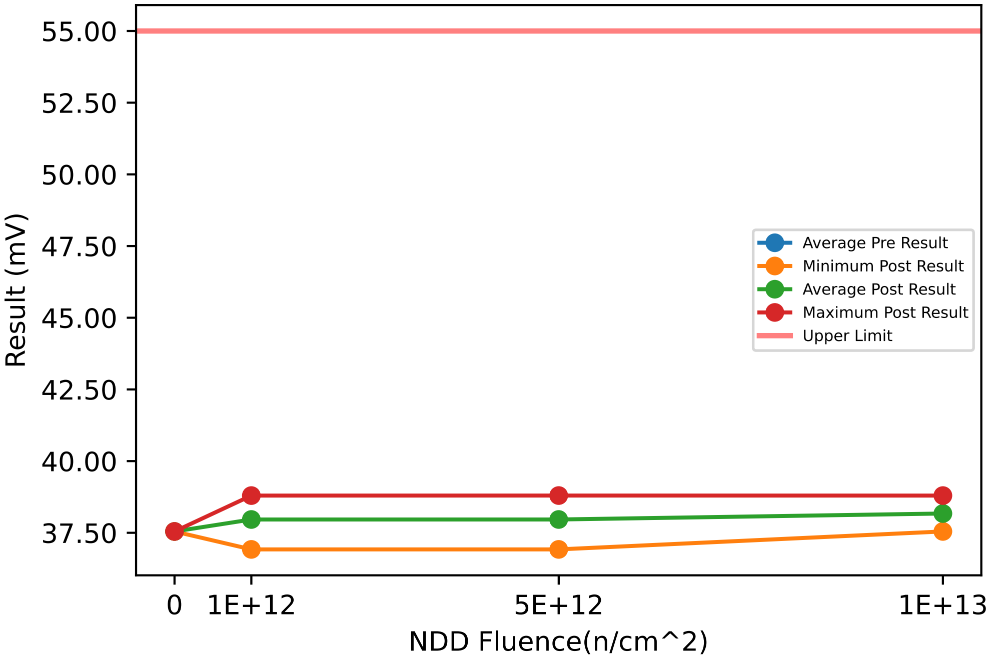
Test Results (Lower Limit = 0.5, Upper Limit = 0.59 (V))

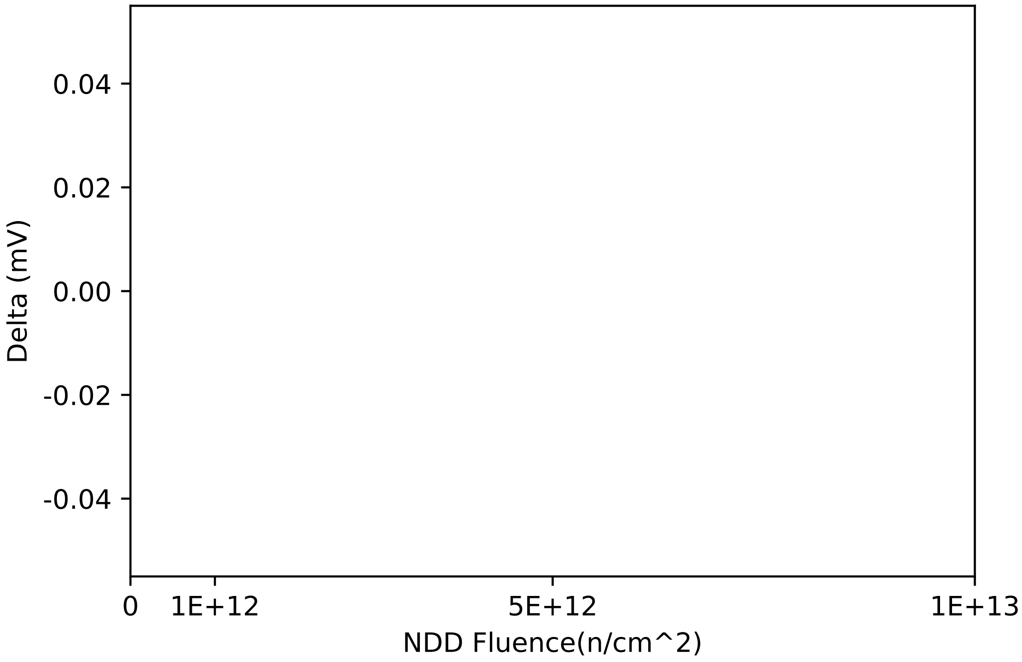
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5572	
71	0	Correlation		0.5484	
72	1e+12	NDD, unbiased		0.5441	
74	1e+12	NDD, unbiased		0.5422	
75	1e+12	NDD, unbiased		0.5497	
76	5e+12	NDD, unbiased		0.5472	
77	5e+12	NDD, unbiased		0.5434	
78	5e+12	NDD, unbiased		0.5403	
81	1e+13	NDD, unbiased		0.5491	
82	1e+13	NDD, unbiased		0.5503	
83	1e+13	NDD, unbiased		0.534	

Test Statistics (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					0.5484	0.5528	0.5572	0.0062225				
1e+12					0.5422	0.54533	0.5497	0.0038991				
5e+12					0.5403	0.54363	0.5472	0.0034559				
1e+13					0.534	0.54447	0.5503	0.0090842				

Device Test: 7.8 OVP_HYST(OVP_UVLO_HYSTERESIS_3p3V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

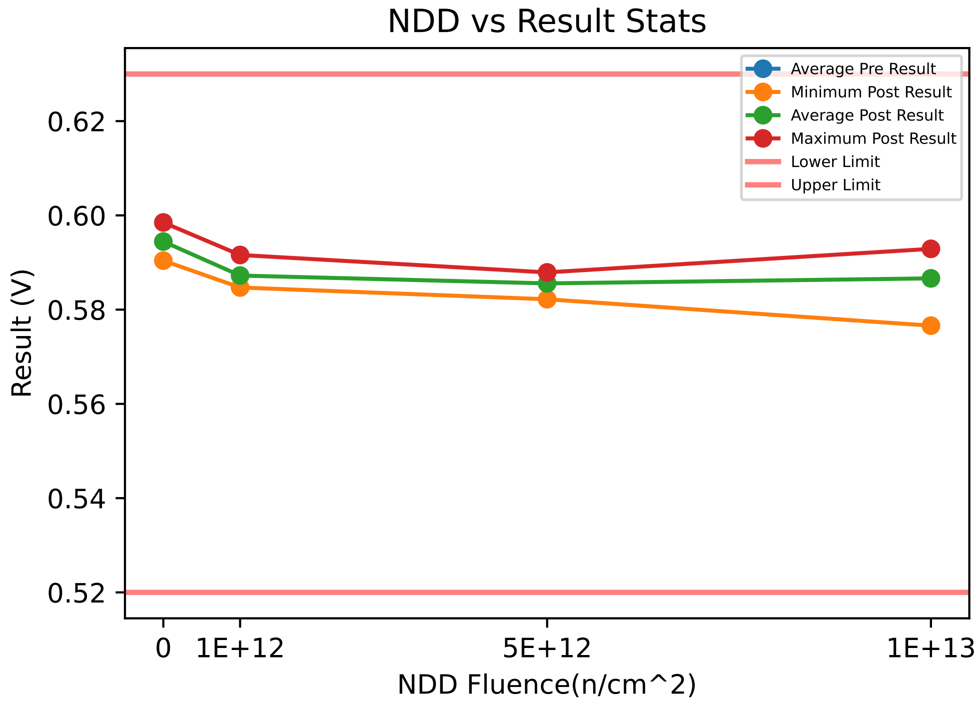
Test Results (Upper Limit = 55.0 (mV))

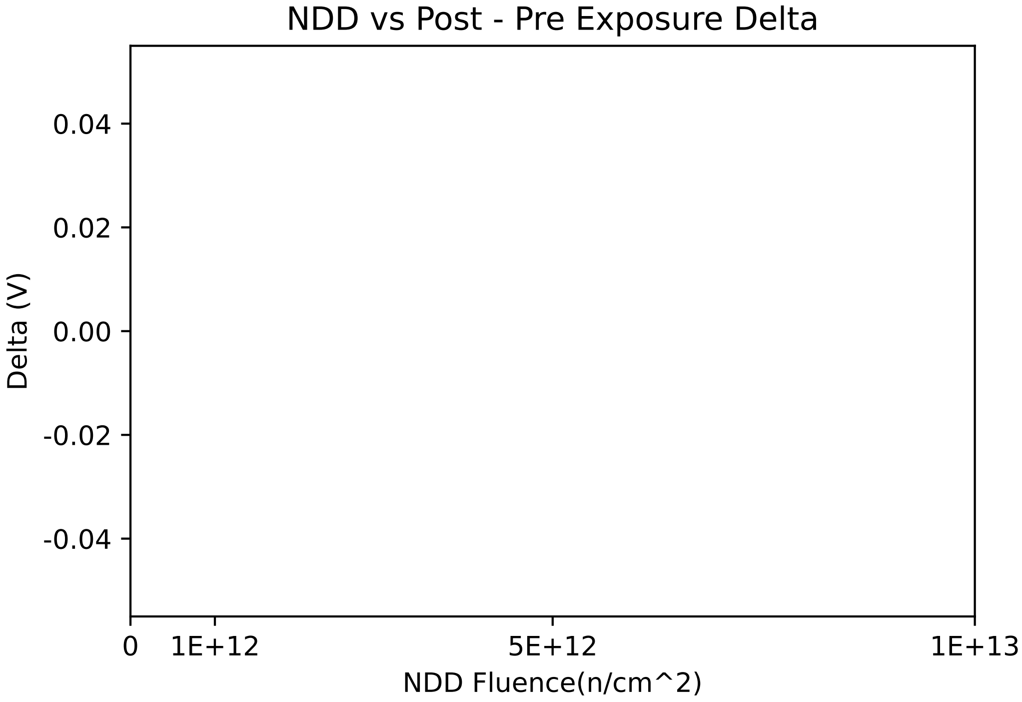
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		37.547	
71	0	Correlation		37.546	
72	1e+12	NDD, unbiased		36.921	
74	1e+12	NDD, unbiased		38.798	
75	1e+12	NDD, unbiased		38.173	
76	5e+12	NDD, unbiased		36.921	
77	5e+12	NDD, unbiased		38.799	
78	5e+12	NDD, unbiased		38.173	
81	1e+13	NDD, unbiased		37.547	
82	1e+13	NDD, unbiased		38.798	
83	1e+13	NDD, unbiased		38.172	

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					37.546	37.546	37.547	0.00070711				
1e+12					36.921	37.964	38.798	0.95579				
5e+12					36.921	37.964	38.799	0.95623				
1e+13					37.547	38.172	38.798	0.6255				

Device Test: 7.9 OVP_VTH_Rising(OVP_UVLO_RISING_5V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

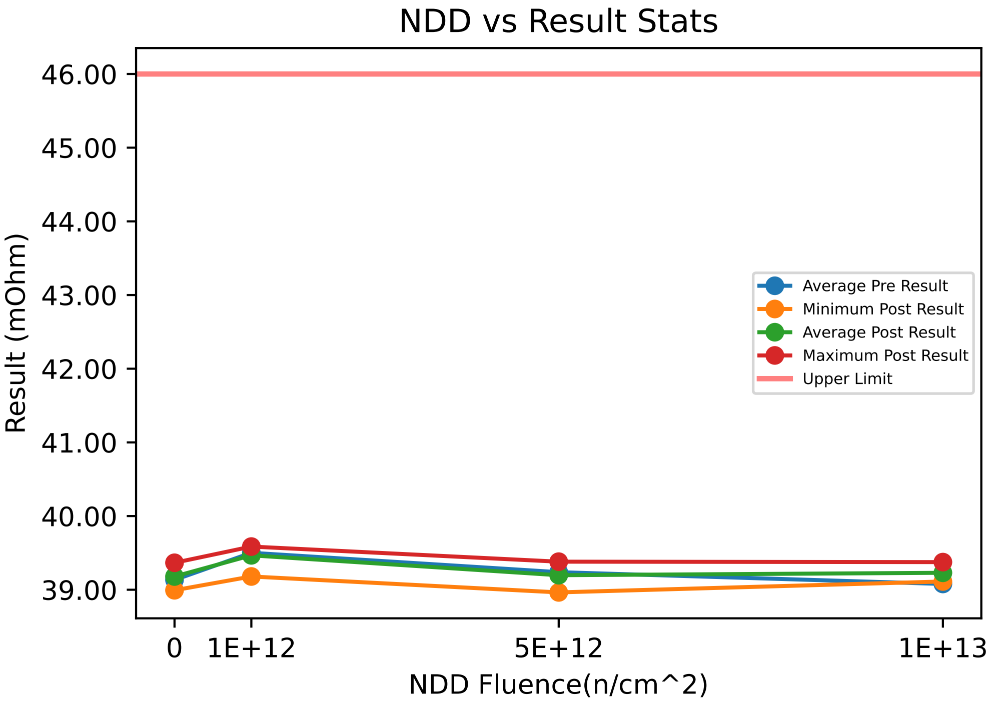
Test Results (Lower Limit = 0.52, Upper Limit = 0.63 (V))

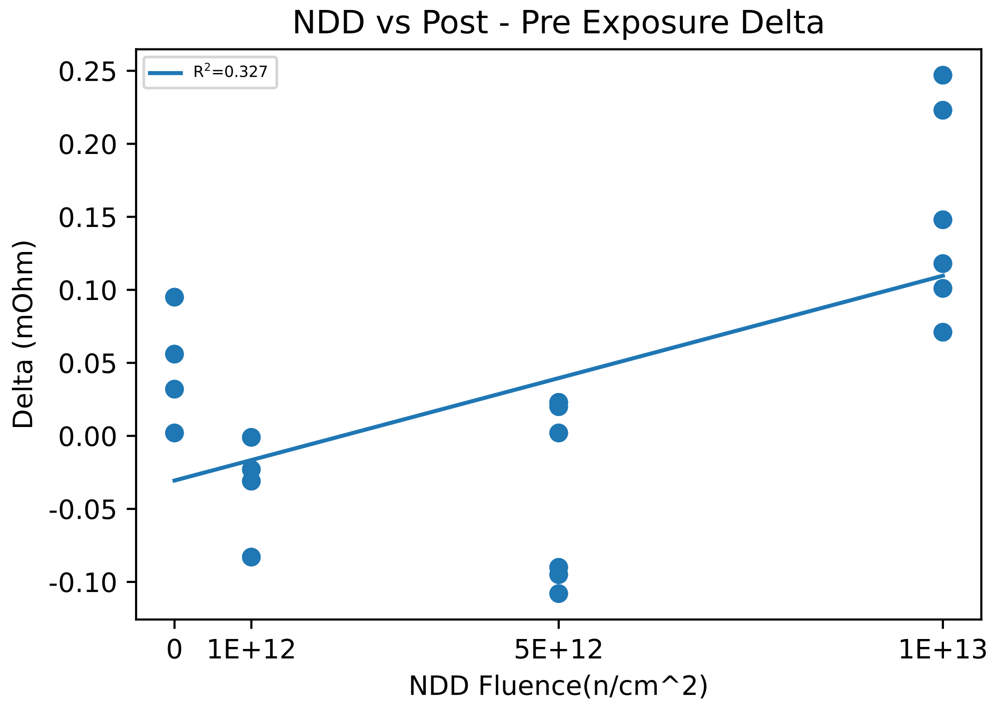
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		0.5985	
71	0	Correlation		0.5904	
72	1e+12	NDD, unbiased		0.5847	
74	1e+12	NDD, unbiased		0.5854	
75	1e+12	NDD, unbiased		0.5916	
76	5e+12	NDD, unbiased		0.5879	
77	5e+12	NDD, unbiased		0.5866	
78	5e+12	NDD, unbiased		0.5822	
81	1e+13	NDD, unbiased		0.5904	
82	1e+13	NDD, unbiased		0.5929	
83	1e+13	NDD, unbiased		0.5766	

Test Statistics (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					0.5904	0.59445	0.5985	0.0057276				
1e+12					0.5847	0.58723	0.5916	0.0037978				
5e+12					0.5822	0.58557	0.5879	0.0029872				
1e+13					0.5766	0.58663	0.5929	0.0087786				

Device Test: 8.0 RON_VIN_1P5V_25_Plastic(RdsOn_Vin1p5_6ALoad)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

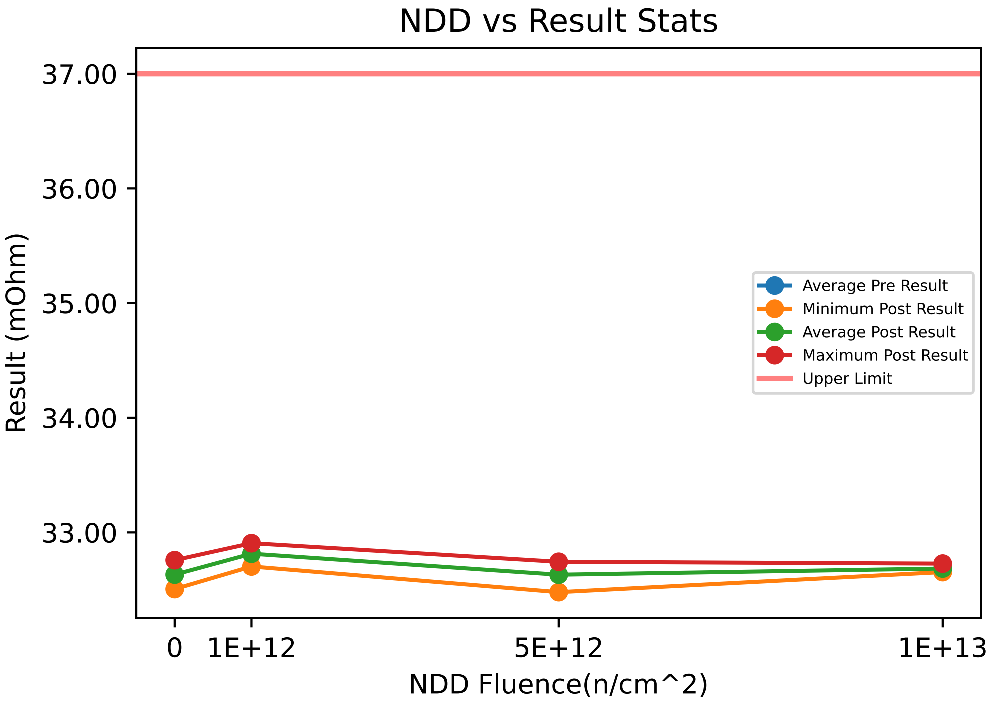
Test Results (Upper Limit = 46.0 (mOhm))

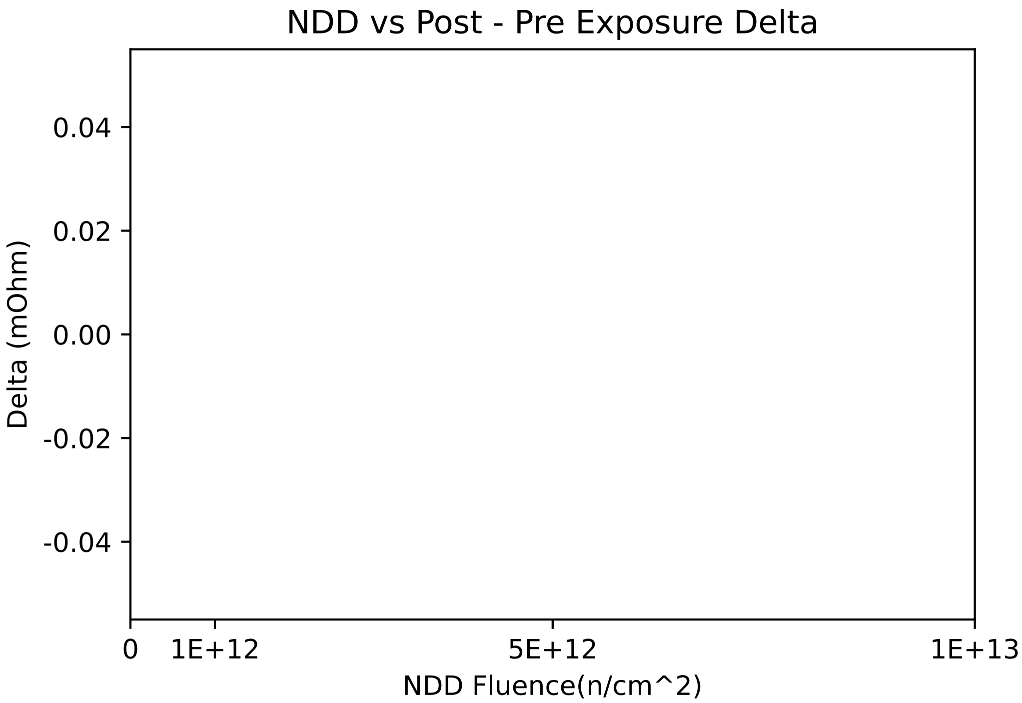
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	38.937	38.993	0.056
71	0	Correlation	39.271	39.366	0.095
72	1e+12	NDD, unbiased	39.609	39.586	-0.023
74	1e+12	NDD, unbiased	39.181	39.18	-0.001
75	1e+12	NDD, unbiased	39.547	39.516	-0.031
76	5e+12	NDD, unbiased	39.227	39.247	0.02
77	5e+12	NDD, unbiased	39.358	39.381	0.023
78	5e+12	NDD, unbiased	38.962	38.964	0.002
81	1e+13	NDD, unbiased	39.102	39.203	0.101
82	1e+13	NDD, unbiased	38.865	39.112	0.247
83	1e+13	NDD, unbiased	39.152	39.375	0.223

Test Statistics (mOhm)

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	38.937	39.104	39.271	0.23617	38.993	39.18	39.366	0.26375	0.056	0.0755	0.095	0.027577
1e+12	39.181	39.446	39.609	0.23129	39.18	39.427	39.586	0.21704	-0.031	-0.018333	-0.001	0.015535
5e+12	38.962	39.182	39.358	0.20174	38.964	39.197	39.381	0.21289	0.002	0.015	0.023	0.011358
1e+13	38.865	39.04	39.152	0.15332	39.112	39.23	39.375	0.13356	0.101	0.19033	0.247	0.07829

Device Test: 8.1 RON_VIN_1P8V_25_Plastic(RdsOn_Vin1p8_6ALoad)





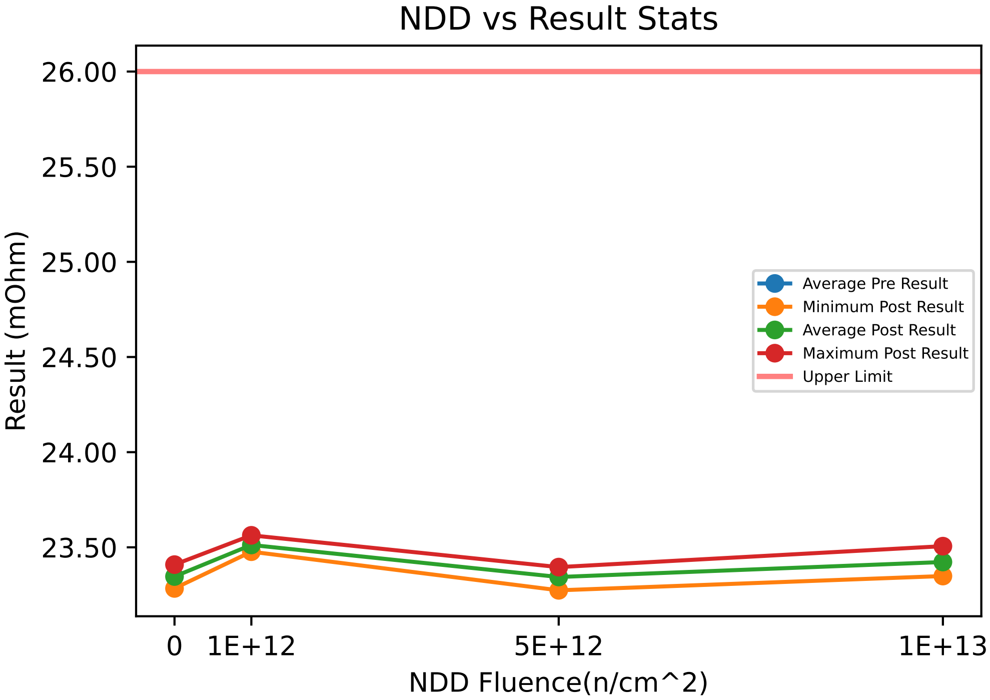
Test Results (Upper Limit = 37.0 (mOhm))

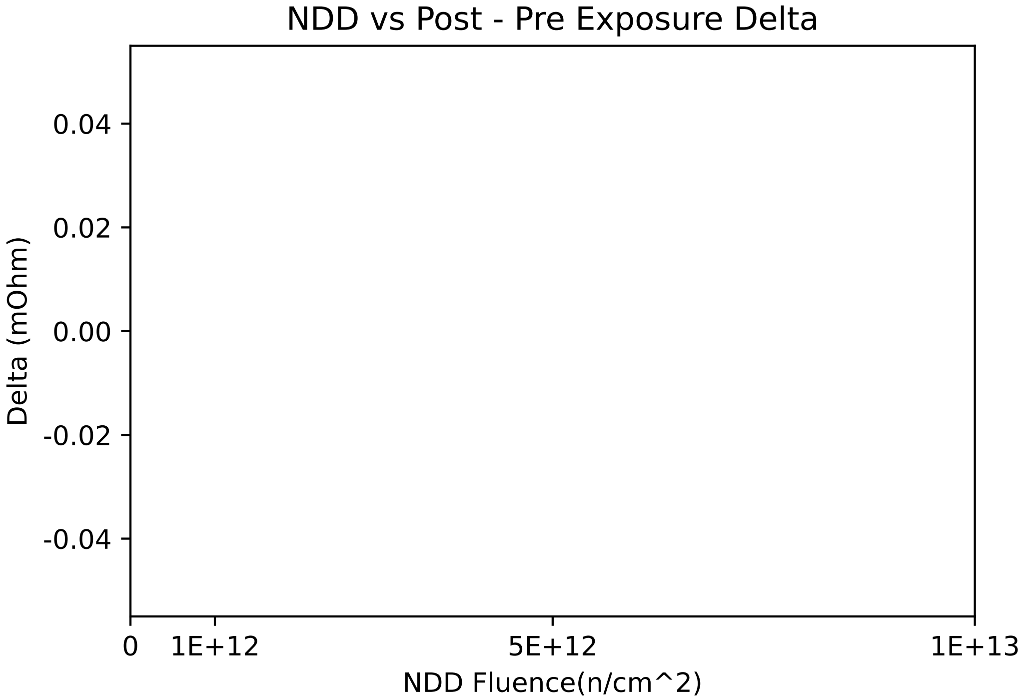
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		32.506	
71	0	Correlation		32.758	
72	1e+12	NDD, unbiased		32.906	
74	1e+12	NDD, unbiased		32.703	
75	1e+12	NDD, unbiased		32.834	
76	5e+12	NDD, unbiased		32.671	
77	5e+12	NDD, unbiased		32.744	
78	5e+12	NDD, unbiased		32.479	
81	1e+13	NDD, unbiased		32.654	
82	1e+13	NDD, unbiased		32.673	
83	1e+13	NDD, unbiased		32.728	

Test Statistics (mOhm)

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					32.506	32.632	32.758	0.17819				
1e+12					32.703	32.814	32.906	0.10292				
5e+12					32.479	32.631	32.744	0.13688				
1e+13					32.654	32.685	32.728	0.038432				

Device Test: 8.2 RON_VIN_3P3V_25_Plastic(RdsOn_Vin3p3_6ALoad)





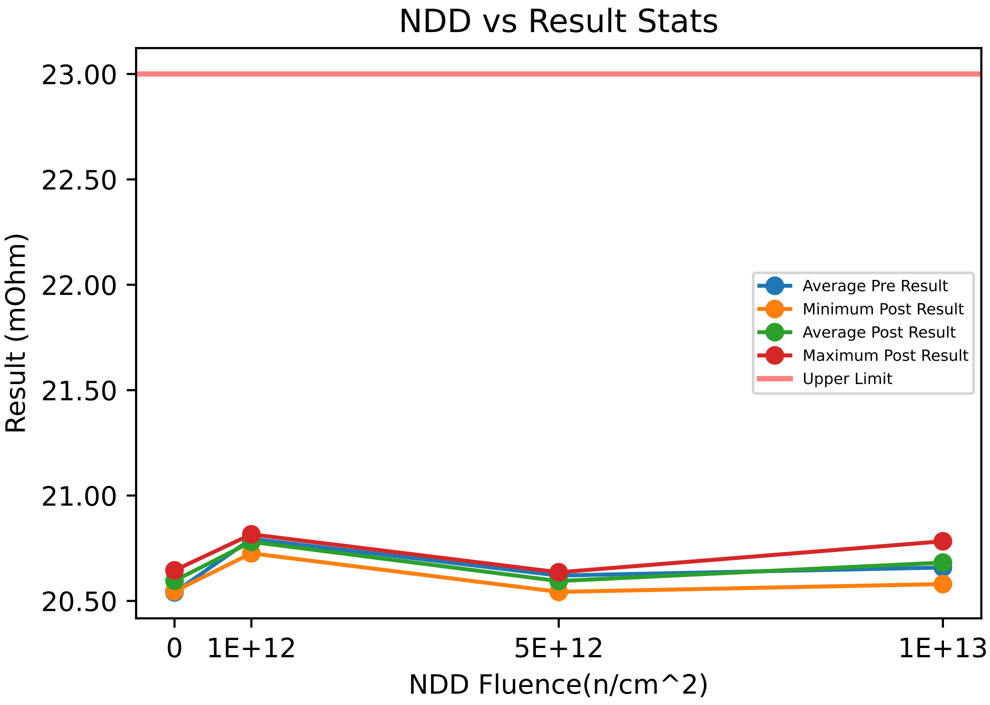
Test Results (Upper Limit = 26.0 (mOhm))

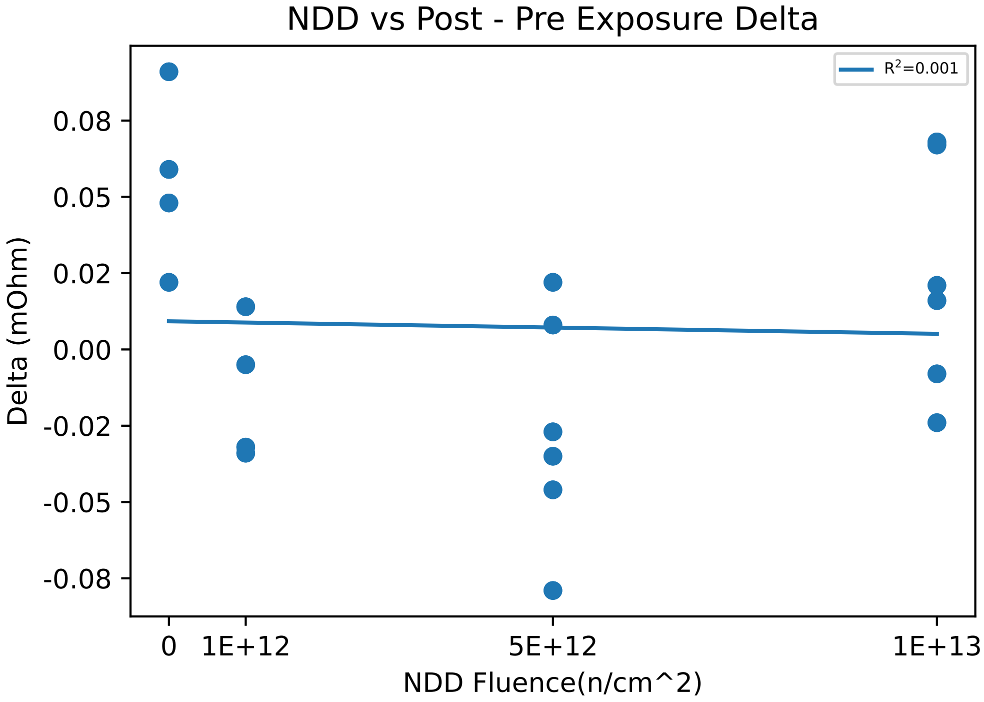
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation		23.284	
71	0	Correlation		23.409	
72	1e+12	NDD, unbiased		23.563	
74	1e+12	NDD, unbiased		23.497	
75	1e+12	NDD, unbiased		23.477	
76	5e+12	NDD, unbiased		23.362	
77	5e+12	NDD, unbiased		23.396	
78	5e+12	NDD, unbiased		23.274	
81	1e+13	NDD, unbiased		23.413	
82	1e+13	NDD, unbiased		23.506	
83	1e+13	NDD, unbiased		23.349	

Test Statistics (mOhm)

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					23.284	23.346	23.409	0.088388				
1e+12					23.477	23.512	23.563	0.045004				
5e+12					23.274	23.344	23.396	0.06296				
1e+13					23.349	23.423	23.506	0.078945				

Device Test: 8.3 RON_VIN_5V_25_Plastic(RdsOn_Vin5p0_6ALoad)





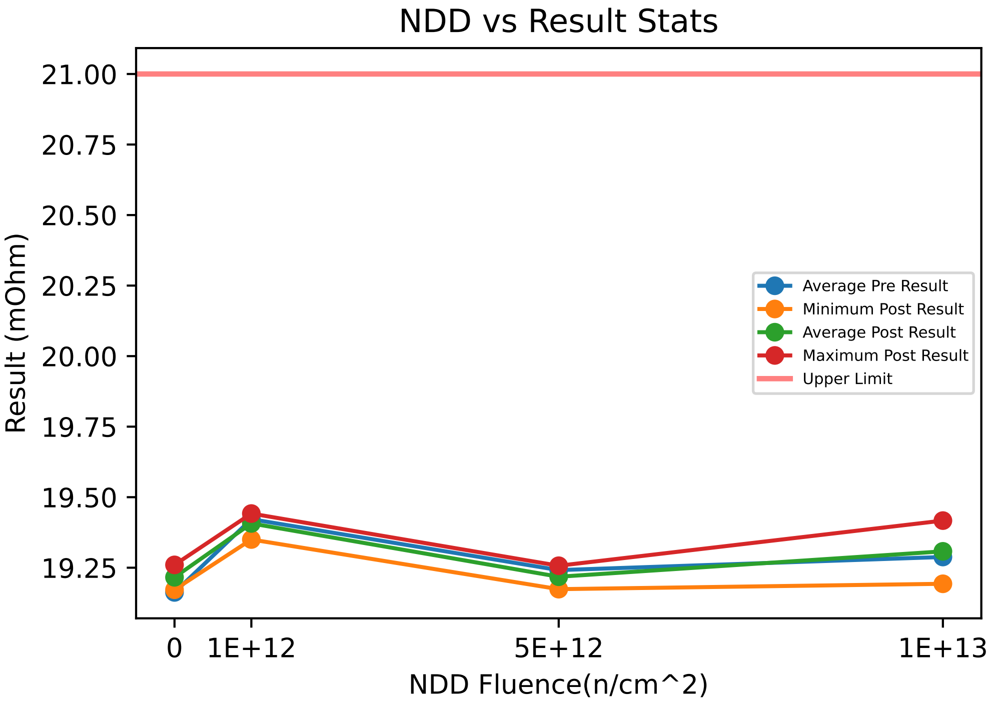
Test Results (Upper Limit = 23.0 (mOhm))

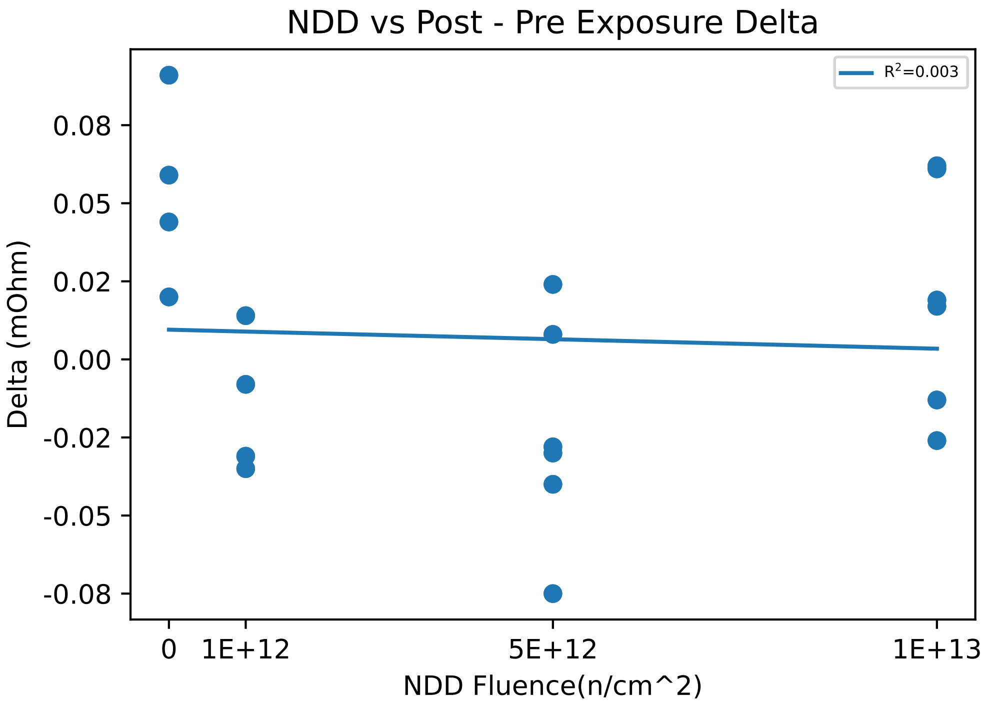
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	20.498	20.546	0.048
71	0	Correlation	20.554	20.645	0.091
72	1e+12	NDD, unbiased	20.821	20.816	-0.005
74	1e+12	NDD, unbiased	20.75	20.764	0.014
75	1e+12	NDD, unbiased	20.758	20.726	-0.032
76	5e+12	NDD, unbiased	20.596	20.604	0.008
77	5e+12	NDD, unbiased	20.614	20.636	0.022
78	5e+12	NDD, unbiased	20.57	20.543	-0.027
81	1e+13	NDD, unbiased	20.691	20.683	-0.008
82	1e+13	NDD, unbiased	20.715	20.783	0.068
83	1e+13	NDD, unbiased	20.513	20.58	0.067

Test Statistics (mOhm)

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	20.498	20.526	20.554	0.039598	20.546	20.596	20.645	0.070004	0.048	0.0695	0.091	0.030406
1e+12	20.75	20.776	20.821	0.038889	20.726	20.769	20.816	0.045181	-0.032	-0.0076667	0.014	0.023116
5e+12	20.57	20.593	20.614	0.022121	20.543	20.594	20.636	0.047248	-0.027	0.001	0.022	0.025239
1e+13	20.513	20.64	20.715	0.11035	20.58	20.682	20.783	0.1015	-0.008	0.042333	0.068	0.043593

Device Test: 8.4 RON_VIN_7V_25_Plastic(RdsOn_Vin7p0_6ALoad)





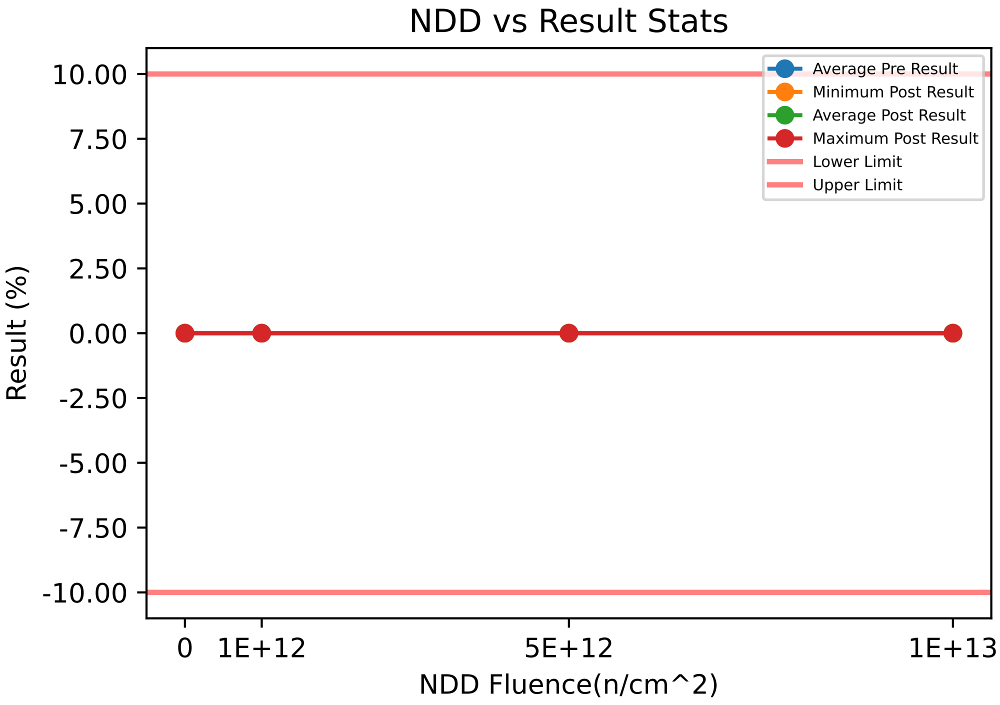
Test Results (Upper Limit = 21.0 (mOhm))

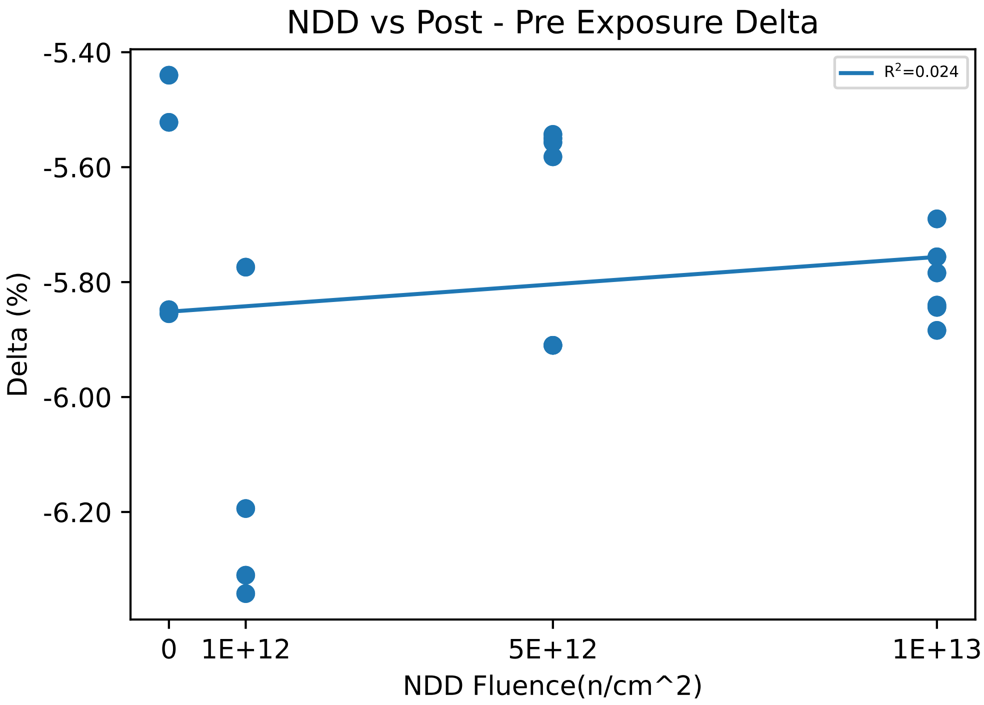
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	19.128	19.172	0.044
71	0	Correlation	19.169	19.26	0.091
72	1e+12	NDD, unbiased	19.45	19.442	-0.008
74	1e+12	NDD, unbiased	19.38	19.394	0.014
75	1e+12	NDD, unbiased	19.385	19.35	-0.035
76	5e+12	NDD, unbiased	19.215	19.223	0.008
77	5e+12	NDD, unbiased	19.233	19.257	0.024
78	5e+12	NDD, unbiased	19.204	19.174	-0.03
81	1e+13	NDD, unbiased	19.327	19.314	-0.013
82	1e+13	NDD, unbiased	19.356	19.417	0.061
83	1e+13	NDD, unbiased	19.131	19.193	0.062

Test Statistics (mOhm)

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	19.128	19.148	19.169	0.028991	19.172	19.216	19.26	0.062225	0.044	0.0675	0.091	0.033234
1e+12	19.38	19.405	19.45	0.039051	19.35	19.395	19.442	0.046014	-0.035	-0.0096667	0.014	0.024542
5e+12	19.204	19.217	19.233	0.01464	19.174	19.218	19.257	0.041725	-0.03	0.00066667	0.024	0.027737
1e+13	19.131	19.271	19.356	0.12239	19.193	19.308	19.417	0.11212	-0.013	0.036667	0.062	0.043016

Device Test: 9.19 CS_ACCURACY(Accuracy_750mA_6A_7V)


NDD vs Result Stats


NDD vs Post - Pre Exposure Delta

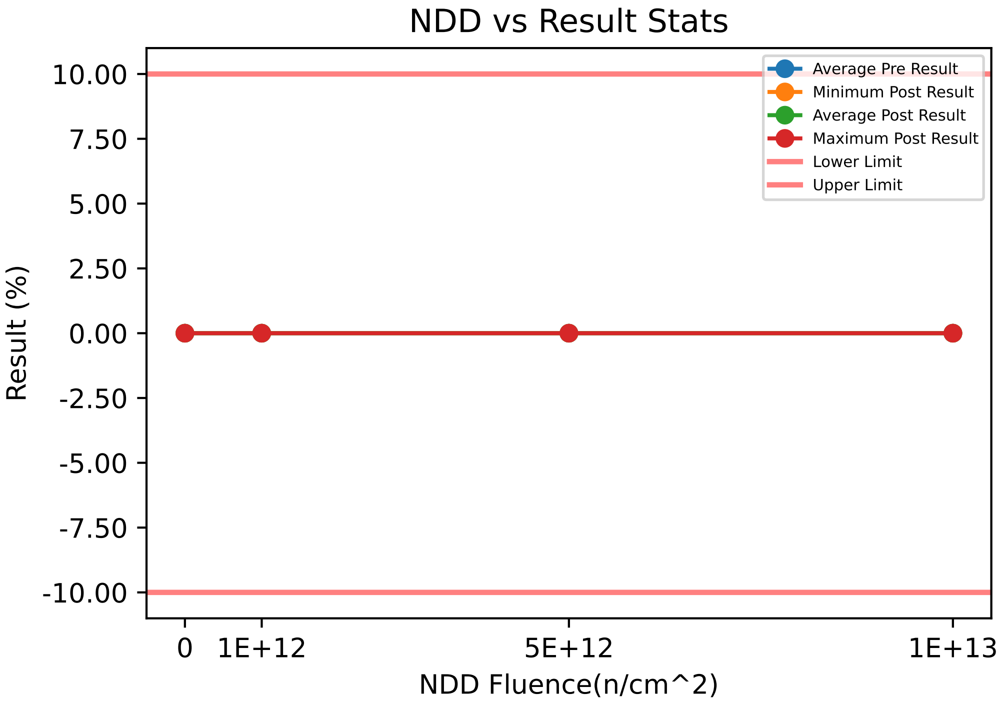
Test Results (Lower Limit = -10.0, Upper Limit = 10.0 (%))

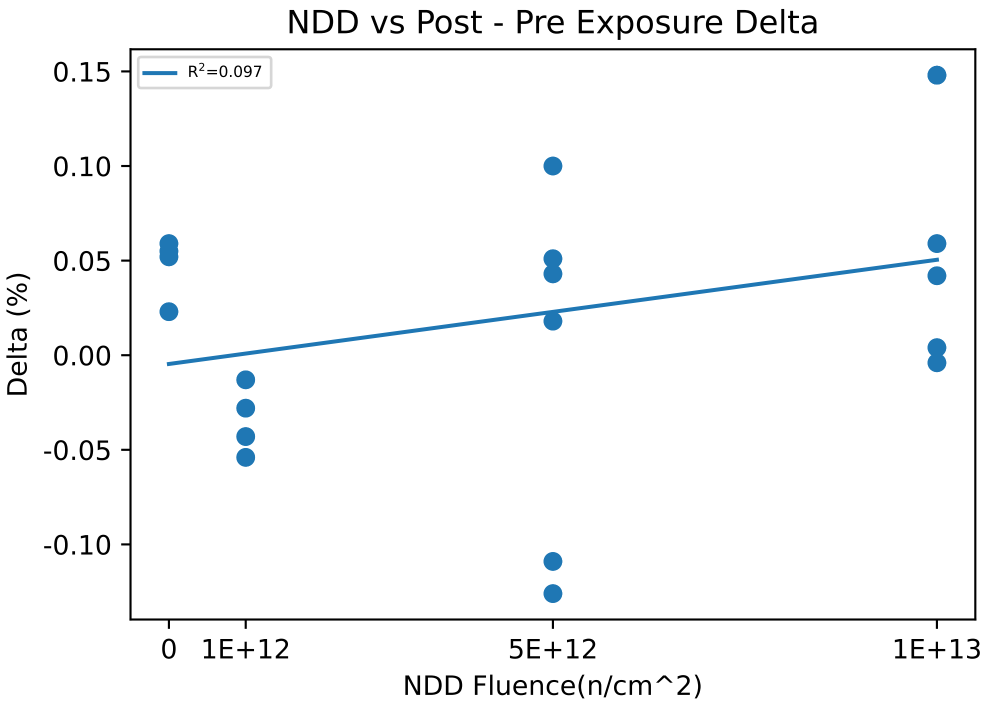
Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	-6.3e-14	-5.503e-12	-5.44
71	0	Correlation	5.6e-13	-5.288e-12	-5.848
72	1e+12	NDD, unbiased	-3.03e-13	-6.613e-12	-6.31
74	1e+12	NDD, unbiased	-9.41e-13	-6.715e-12	-5.774
75	1e+12	NDD, unbiased	1.08e-13	-6.086e-12	-6.194
76	5e+12	NDD, unbiased	-1.38e-13	-5.695e-12	-5.557
77	5e+12	NDD, unbiased	-6.4e-14	-5.974e-12	-5.91
78	5e+12	NDD, unbiased	-6.15e-13	-6.165e-12	-5.55
81	1e+13	NDD, unbiased	-5.17e-13	-6.207e-12	-5.69
82	1e+13	NDD, unbiased	-8.75e-13	-6.715e-12	-5.84
83	1e+13	NDD, unbiased	-1.8e-13	-6.064e-12	-5.884

Test Statistics (%)

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	-6.3e-14	2.485e-13	5.6e-13	4.4053e-13	-5.503e-12	-5.3955e-12	-5.288e-12	1.5203e-13	-5.848	-5.644	-5.44	0.2885
1e+12	-9.41e-13	-3.7867e-13	1.08e-13	5.2858e-13	-6.715e-12	-6.4713e-12	-6.086e-12	3.3758e-13	-6.31	-6.0927	-5.774	0.282
5e+12	-6.15e-13	-2.7233e-13	-6.4e-14	2.9906e-13	-6.165e-12	-5.9447e-12	-5.695e-12	2.3637e-13	-5.91	-5.6723	-5.55	0.20586
1e+13	-8.75e-13	-5.24e-13	-1.8e-13	3.4755e-13	-6.715e-12	-6.3287e-12	-6.064e-12	3.4213e-13	-5.884	-5.8047	-5.69	0.10171

Device Test: 9.9 CS_ACCURACY(Accuracy_750mA_6A_1p5V)





Test Results (Lower Limit = -10.0, Upper Limit = 10.0 (%))

Serial #	Fluence(n/cm^2)	Exposure Conditions	Pre Result	Post Result	Delta
70	0	Correlation	-4.51e-13	-3.99e-13	0.052
71	0	Correlation	1.8e-14	4.1e-14	0.023
72	1e+12	NDD, unbiased	-8.5e-13	-8.63e-13	-0.013
74	1e+12	NDD, unbiased	-1.45e-12	-1.493e-12	-0.043
75	1e+12	NDD, unbiased	-5.17e-13	-5.71e-13	-0.054
76	5e+12	NDD, unbiased	-5.32e-13	-4.81e-13	0.051
77	5e+12	NDD, unbiased	-5.89e-13	-7.15e-13	-0.126
78	5e+12	NDD, unbiased	-1.078e-12	-1.06e-12	0.018
81	1e+13	NDD, unbiased	-1.013e-12	-8.65e-13	0.148
82	1e+13	NDD, unbiased	-1.36e-12	-1.364e-12	-0.004
83	1e+13	NDD, unbiased	-7.12e-13	-6.7e-13	0.042

Test Statistics (%)

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	-4.51e-13	-2.165e-13	1.8e-14	3.3163e-13	-3.99e-13	-1.79e-13	4.1e-14	3.1113e-13	0.023	0.0375	0.052	0.020506
1e+12	-1.45e-12	-9.39e-13	-5.17e-13	4.7282e-13	-1.493e-12	-9.7567e-13	-5.71e-13	4.7121e-13	-0.054	-0.036667	-0.013	0.021221
5e+12	-1.078e-12	-7.33e-13	-5.32e-13	3.0013e-13	-1.06e-12	-7.52e-13	-4.81e-13	2.9127e-13	-0.126	-0.019	0.051	0.094122
1e+13	-1.36e-12	-1.0283e-12	-7.12e-13	3.2427e-13	-1.364e-12	-9.6633e-13	-6.7e-13	3.5793e-13	-0.004	0.062	0.148	0.077949

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