

# TPS7H5002-SP Neutron Displacement Damage (NDD) Characterization



## ABSTRACT

This report presents the effect of neutron displacement damage (NDD) on the TPS7H5002-SP, Texas Instruments 4-V to 14-V radiation-hardness-assured, current mode, single output PWM controller optimized for DC-DC converters in space applications. The TPS7H5002-SP showed a strong degree of hardness to neutron irradiation up to fluence level  $1 \times 10^{13}$  n/cm<sup>2</sup>.

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

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## 1 Device Information

### 1.1 Product Description

The TPS7H5002-SP is a single output radiation-tolerant PWM controller that supports buck applications and single ended isolated topologies. The controller contains an integrated synchronous rectification output. Optimized for GaN power semiconductor based applications, the controller has configurable dead time and configurable leading edge blank time. The controller can be configured for maximum duty cycle of 75% or 100%. As such, the DCL pin can be left floating or connected to VLDO. Connection of the DCL pin to AVSS is not permissible for this device. The TPS7H5002-SP features dead-time programmability in order to target high-efficiency and high-performance topologies. The 0.613 +0.7%/-1% accurate internal reference allows design of high-current buck converters for FPGA core voltages.

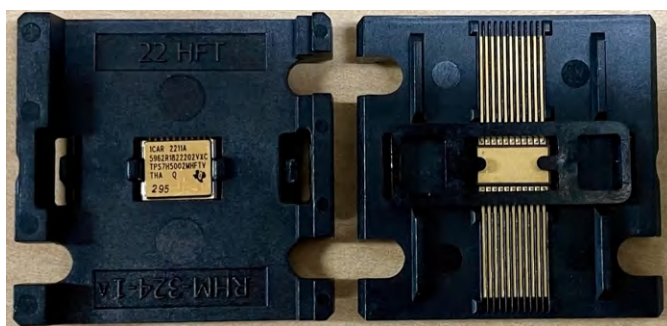
The TPS7H5002-SP can be driven using an external clock through the SYNC pin or run using its internal oscillator at a frequency programmed by the user. Other programmable features include the UVLO threshold, soft start, and slope compensation. The TPS7H5002-SP is packaged in a very small 22-pin ceramic dual flat package.

### 1.2 Device Details

Table 1-1 lists the device information and test conditions used in the NDD characterization.

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

NDD Exposure Details	
TI Device	TPS7H5002-SP
TI Part Name	5962R1822202VXC
Device Function	PWM controller
Package	22-pin CFP (HFT)
Technology	LBC7
Lot Number / Date Code	2002824 / 2211A
Sample Quantity	9 + 1 control unit
Exposure Facility	Fast Neutron Irradiation (FNI) Facility of University of Massachusetts Lowell Research Reactor (UMLRR)
Neutron Fluence (1-MeV equivalent) Level	$1 \times 10^{12}$ , $5 \times 10^{12}$ , $1 \times 10^{13}$ n/cm <sup>2</sup>
Irradiation Temperature	25°C



**Figure 1-1. TPS7H5002-SP Device**

## 2 Total Dose Test Setup

### 2.1 Test Overview

General test procedures adhere to MIL-STD-883, Method 1017 as a guide for neutron irradiation. The TPS7H5002-SP was electrically tested using the production automated test equipment (ATE) program at an ambient room temperature of 25°C before and after neutron irradiation.

### 2.2 Test Facility

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

Detailed information of the radiation facility is available at the following link:

[https://www.uml.edu/docs/FNI%20Brochure\\_tcm18-90375.pdf](https://www.uml.edu/docs/FNI%20Brochure_tcm18-90375.pdf)

### 2.3 Test Setup Details

Devices were irradiated at three fluence levels in unbiased conditions:  $1.0 \times 10^{12}$  n/cm<sup>2</sup>,  $5.0 \times 10^{12}$  n/cm<sup>2</sup> and  $1.0 \times 10^{13}$  n/cm<sup>2</sup>.

**Table 2-1. Neutron Irradiation Conditions**

GROUP	SAMPLE QTY	NEUTRON FLUENCE (n/cm <sup>2</sup> )	BIAS
A	3	$1.0 \times 10^{12}$	Unbias
B	3	$5.0 \times 10^{12}$	Unbias
C	3	$1.0 \times 10^{13}$	Unbias
Control Unit	1	N/A	N/A

## 3 Test Results

### 3.1 NDD Characterization Summary

The results show that all devices were fully functional and within specification limits. A sample size of nine units was exposed for neutron irradiation and an additional unirradiated control unit was used as correlation.

Overall, the TPS7H5002-SP showed a strong degree of hardness to Neutron irradiation up to fluence level  $1 \times 10^{13}$  n/cm<sup>2</sup>. The measurements taken post-irradiation for each sample set showed a marginal shift for most parameters at each fluence level. The parameters that showed a greater degree of change between pre- and post- irradiation were still within the Electrical Performance Characteristics specified in the Data Sheet Electrical Parameters table. See [Table 3-1](#) for the Data Sheet Electrical Parameters and Associated Tests.

Electrical testing is done for pre- and post- neutron irradiation by ATE. ATE electrical test is done at an ambient room temperature of 25°C. Parameters not listed in the [Table 3-1](#) are omitted either because there is no parametric data or because verification was done through bench testing.

See [Appendix A](#) for NDD report up to  $1.0 \times 10^{13}$  n/cm<sup>2</sup>.

### 3.2 Data Sheet Electrical Parameters and Associated Tests

**Table 3-1. TPS7H5002-SP Electrical Parameters Table**

PARAMETER	TEST CONDITION	TPS7H5002-SP DATA SHEET				TEST #
		MIN	TYP	MAX	UNIT	
<b>SUPPLY VOLTAGES AND CURRENTS</b>						
IDD Operating supply current	f <sub>SW</sub> = 500 kHz, No load for OUTA and SRA		6.25	8	mA	5.24 __IDD_ACT_500K_NOLOAD_4V, 5.25 __IDD_ACT_500K_NOLOAD_5V, 5.26 __IDD_ACT_500K_NOLOAD_12V, 5.27 __IDD_ACT_500K_NOLOAD_14V
	f <sub>SW</sub> = 1 MHz, No load for OUTA and SRA		6.75	9.5	mA	5.28 __IDD_ACT_1M_NOLOAD_4V, 5.29 __IDD_ACT_1M_NOLOAD_5V, 5.30 __IDD_ACT_1M_NOLOAD_12V, 5.31 __IDD_ACT_1M_NOLOAD_14V
	f <sub>SW</sub> = 2 MHz, No load for OUTA and SRA		8.5	13.5	mA	5.36 __IDD_ACT_2M_NOLOAD_4V, 5.37 __IDD_ACT_2M_NOLOAD_5V, 5.38 __IDD_ACT_2M_NOLOAD_12V, 5.39 __IDD_ACT_2M_NOLOAD_14V
	f <sub>SW</sub> = 500 kHz, C <sub>LOAD</sub> = 100pF for OUTA and SRA		7.5	9.5	mA	5.48 __IDD_ACT_500K_4V, 5.49 __IDD_ACT_500K_5V, 5.50 __IDD_ACT_500K_12V, 5.51 __IDD_ACT_500K_14V
	f <sub>SW</sub> = 1 MHz, C <sub>LOAD</sub> = 100pF for OUTA and SRA		9	12	mA	5.52 __IDD_ACT_1M_4V, 5.53 __IDD_ACT_1M_5V, 5.54 __IDD_ACT_1M_12V, 5.55 __IDD_ACT_1M_14V
	f <sub>SW</sub> = 2 MHz, C <sub>LOAD</sub> = 100pF for OUTA and SRA		14	19.5	mA	5.60 __IDD_ACT_2M_4V, 5.61 __IDD_ACT_2M_5V, 5.62 __IDD_ACT_2M_12V, 5.63 __IDD_ACT_2M_14V
I <sub>DD(dis)</sub> Standby current	EN = 0 V			3	mA	5.1 __IDD_DIS_4V, 5.2 __IDD_DIS_5V, 5.3 __IDD_DIS_12V 5.4 __IDD_DIS_14V
VLDO Internal linear regulator output voltage	5 V ≤ VIN ≤ 14 V, f <sub>sw</sub> ≤ 1 MHz	4.75	5	5.2	V	5.65 __V_LDO_100K_5V, 5.66 __V_LDO_100K_12V, 5.67 __V_LDO_100K_14V, 5.69 __V_LDO_200K_5V, 5.70 __V_LDO_200K_12V, 5.71 __V_LDO_200K_14V, 5.73 __V_LDO_500K_5V, 5.74 __V_LDO_500K_12V, 5.75 __V_LDO_500K_14V, 5.77 __V_LDO_1M_5V, 5.78 __V_LDO_1M_12V, 5.79 __V_LDO_1M_14V
	5 V ≤ VIN ≤ 14 V, f <sub>sw</sub> = 2 MHz	4.65	5	5.2	V	5.85 __V_LDO_2M_5V, 5.86 __V_LDO_2M_12V, 5.87 __V_LDO_2M_14V
<b>ENABLE AND UNDERVOLTAGE LOCKOUT</b>						
V <sub>ENR</sub> EN threshold rising		0.57	0.6	0.65	V	6.5 __V_EN_RISE_4V, 6.8 __V_EN_RISE_5V, 6.11 __V_EN_RISE_12V, 6.14 __V_EN_RISE_14V
V <sub>ENF</sub> EN threshold falling		0.47	0.5	0.55	V	6.6 __V_EN_FALL_4V, 6.9 __V_EN_FALL_5V, 6.12 __V_EN_FALL_12V, 6.15 __V_EN_FALL_14V
V <sub>ENH</sub> EN hysteresis voltage		85	95	105	mV	6.7 __V_EN_HYS_4V, 6.10 __V_EN_HYS_5V, 6.13 __V_EN_HYS_12V, 6.16 __V_EN_HYS_14V
I <sub>EN</sub> EN pin input leakage current	VIN = 14 V, EN = 5V		5	50	nA	6.1 __I_EN_LEAK_4V, 6.2 __I_EN_LEAK_5V, 6.3 __I_EN_LEAK_12V, 6.4 __I_EN_LEAK_14V
VLDO <sub>UVLOR</sub> VLDO UVLO rising		3.44	3.55	3.66	V	6.34 __UVLO_VLDO_RISE_1MHz, 6.37 __UVLO_VLDO_RISE_100kHz, 6.40 __UVLO_VLDO_RISE_200kHz, 6.43 __UVLO_VLDO_RISE_500kHz, 6.46 __UVLO_VLDO_RISE_2MHz
VLDO <sub>UVLOF</sub> VLDO UVLO falling		3.29	3.4	3.51	V	6.35 __UVLO_VLDO_FALL_1MHz, 6.38 __UVLO_VLDO_FALL_100kHz, 6.41 __UVLO_VLDO_FALL_200kHz, 6.44 __UVLO_VLDO_FALL_500kHz, 6.47 __UVLO_VLDO_FALL_2MHz
VLDO <sub>UVLOH</sub> VLDO UVLO hysteresis		115	135	160	mV	6.36 __UVLO_VLDO_HYS_1MHz, 6.39 __UVLO_VLDO_HYS_100kHz, 6.42 __UVLO_VLDO_HYS_200kHz, 6.45 __UVLO_VLDO_HYS_500kHz, 6.48 __UVLO_VLDO_HYS_2MHz
<b>SOFT START</b>						
I <sub>SS</sub> Soft-start current	SS = 0.3 V	1.98	2.7	3.32	μA	7.1 __I_SS_4V, 7.3 __I_SS_5V, 7.5 __I_SS_12V, 7.7 __I_SS_14V
<b>ERROR AMPLIFIER</b>						
EA <sub>gm</sub> Transconductance	-2 μA < I <sub>COMP</sub> < 2 μA, V <sub>(COMP)</sub> = 1 V	1150	1800	2500	μA/V	8.9 __EA_GM_4V, 8.10 __EA_GM_5V, 8.11 __EA_GM_12V, 8.12 __EA_GM_14V
EA <sub>ISRC</sub> Error amplifier source current	V <sub>(COMP)</sub> = 1 V, 100-mV input overdrive	100		190	μA	8.13 __EA_I_SOURCE_4V, 8.14 __EA_I_SOURCE_5V, 8.15 __EA_I_SOURCE_12V, 8.16 __EA_I_SOURCE_14V

**Table 3-1. TPS7H5002-SP Electrical Parameters Table (continued)**

PARAMETER	TEST CONDITION	TPS7H5002-SP DATA SHEET				TEST #
		MIN	TYP	MAX	UNIT	
EA <sub>ISNK</sub> Error amplifier sink current	V <sub>(COMP)</sub> = 1 V, 100-mV input overdrive	100		190	μA	8.17 __EA_I_SINK_4V, 8.18 __EA_I_SINK_5V, 8.19 __EA_I_SINK_12V, 8.20 __EA_I_SINK_14V
EA <sub>OS</sub> Error amplifier offset voltage		-2		2	mV	8.5 __EA_OS_4V, 8.6 __EA_OS_5V, 8.7 __EA_OS_12V, 8.8 __EA_OS_14V
<b>OSCILLATOR</b>						
SYNC <sub>RT</sub> SYNC out low-to-high rise time (10%/90%)	C <sub>LOAD</sub> = 25 pF		6	15	ns	9.1 __T_SYNC_RISE_100kHz_4V, 9.5 __T_SYNC_RISE_200kHz_4V, 9.9 __T_SYNC_RISE_500kHz_4V, 9.13 __T_SYNC_RISE_1MHz_4V, 9.17 __T_SYNC_RISE_1p5MHz_4V, 9.21 __T_SYNC_RISE_2MHz_4V, 9.25 __T_SYNC_RISE_100kHz_5V, 9.29 __T_SYNC_RISE_200kHz_5V, 9.33 __T_SYNC_RISE_500kHz_5V, 9.37 __T_SYNC_RISE_1MHz_5V, 9.41 __T_SYNC_RISE_1p5MHz_5V, 9.45 __T_SYNC_RISE_2MHz_5V, 9.49 __T_SYNC_RISE_100kHz_12V, 9.53 __T_SYNC_RISE_200kHz_12V, 9.57 __T_SYNC_RISE_500kHz_12V, 9.61 __T_SYNC_RISE_1MHz_12V, 9.65 __T_SYNC_RISE_1p5MHz_12V, 9.69 __T_SYNC_RISE_2MHz_12V, 9.73 __T_SYNC_RISE_100kHz_14V, 9.77 __T_SYNC_RISE_200kHz_14V, 9.81 __T_SYNC_RISE_500kHz_14V, 9.85 __T_SYNC_RISE_1MHz_14V, 9.89 __T_SYNC_RISE_1p5MHz_14V, 9.93 __T_SYNC_RISE_2MHz_14V
SYNC <sub>FT</sub> SYNC out high-to-low fall time (10%/90%)	C <sub>LOAD</sub> = 25 pF		6	17	ns	9.2 __T_SYNC_FALL_100kHz_4V, 9.6 __T_SYNC_FALL_200kHz_4V, 9.10 __T_SYNC_FALL_500kHz_4V, 9.14 __T_SYNC_FALL_1MHz_4V, 9.18 __T_SYNC_FALL_1p5MHz_4V, 9.22 __T_SYNC_FALL_2MHz_4V, 9.26 __T_SYNC_FALL_100kHz_5V, 9.30 __T_SYNC_FALL_200kHz_5V, 9.34 __T_SYNC_FALL_500kHz_5V, 9.38 __T_SYNC_FALL_1MHz_5V, 9.42 __T_SYNC_FALL_1p5MHz_5V, 9.46 __T_SYNC_FALL_2MHz_5V, 9.50 __T_SYNC_FALL_100kHz_12V, 9.54 __T_SYNC_FALL_200kHz_12V, 9.58 __T_SYNC_FALL_500kHz_12V, 9.62 __T_SYNC_FALL_1MHz_12V, 9.66 __T_SYNC_FALL_1p5MHz_12V, 9.70 __T_SYNC_FALL_2MHz_12V, 9.74 __T_SYNC_FALL_100kHz_14V, 9.78 __T_SYNC_FALL_200kHz_14V, 9.82 __T_SYNC_FALL_500kHz_14V, 9.86 __T_SYNC_FALL_1MHz_14V, 9.90 __T_SYNC_FALL_1p5MHz_14V, 9.94 __T_SYNC_FALL_2MHz_14V
SYNC <sub>OL</sub> SYNC out low level	I <sub>OL</sub> = 10 mA			500	mV	9.186 __SYNC_VOL_4V, 9.187 __SYNC_VOL_5V, 9.188 __SYNC_VOL_12V, 9.189 __SYNC_VOL_14V
EXT <sub>DT</sub> Externally set frequency detection time	RT = Open, f = 200 kHz			20	μs	9.185 __T_SYNC_DETECT
FSW <sub>EXT</sub> Externally set frequency	RT = 1.07 MΩ	95	105	115	kHz	9.4 __FSW_EXT_RT_100kHz_4V, 9.28 __FSW_EXT_RT_100kHz_5V, 9.52 __FSW_EXT_RT_100kHz_12V, 9.76 __FSW_EXT_RT_100kHz_14V
	RT = 511 kΩ	190	210	230	kHz	9.8 __FSW_EXT_RT_200kHz_4V, 9.32 __FSW_EXT_RT_200kHz_5V, 9.56 __FSW_EXT_RT_200kHz_12V, 9.80 __FSW_EXT_RT_200kHz_14V
	RT = 90.9 kΩ	900	1000	1100	kHz	9.16 __FSW_EXT_RT_1MHz_4V, 9.40 __FSW_EXT_RT_1MHz_5V, 9.64 __FSW_EXT_RT_1MHz_12V, 9.88 __FSW_EXT_RT_1MHz_14V
	RT = 34.8 kΩ	1700	2000	2300	kHz	9.24 __FSW_EXT_RT_2MHz_4V, 9.48 __FSW_EXT_RT_2MHz_5V, 9.72 __FSW_EXT_RT_2MHz_12V, 9.96 __FSW_EXT_RT_2MHz_14V
<b>VOLTAGE REFERENCE</b>						
VREF Internal voltage reference initial tolerance	Measured at COMP, 25°C	0.609	0.613	0.615	V	8.1 __VREF_4V, 8.2 __VREF_5V, 8.3 __VREF_12V, 8.4 __VREF_14V

**Table 3-1. TPS7H5002-SP Electrical Parameters Table (continued)**

PARAMETER	TEST CONDITION	TPS7H5002-SP DATA SHEET				TEST #
		MIN	TYP	MAX	UNIT	
REFCAP voltage	REFCAP = 470 nF	1.213	1.225	1.237	V	5.88 __V_REFCAP_100K_4V, 5.89 __V_REFCAP_100K_5V, 5.90 __V_REFCAP_100K_12V, 5.91 __V_REFCAP_100K_14V, 5.92 __V_REFCAP_200K_4V, 5.93 __V_REFCAP_200K_5V, 5.94 __V_REFCAP_200K_12V, 5.95 __V_REFCAP_200K_14V, 5.96 __V_REFCAP_500K_4V, 5.97 __V_REFCAP_500K_5V, 5.98 __V_REFCAP_500K_12V, 5.99 __V_REFCAP_500K_14V, 5.100 __V_REFCAP_1M_4V, 5.101 __V_REFCAP_1M_5V, 5.102 __V_REFCAP_1M_12V, 5.103 __V_REFCAP_1M_14V, 5.104 __V_REFCAP_1P5M_4V, 5.105 __V_REFCAP_1P5M_5V, 5.106 __V_REFCAP_1P5M_12V, 5.107 __V_REFCAP_1P5M_14V, 5.108 __V_REFCAP_2M_4V, 5.109 __V_REFCAP_2M_5V, 5.110 __V_REFCAP_2M_12V, 5.111 __V_REFCAP_2M_14V
<b>CURRENT SENSE, CURRENT LIMIT AND HICCUP</b>						
CCSR	COMP to CS_ILIM ratio	2.00	2.06	2.12		10.49 __CCSR_Ratio
V <sub>CS_ILIM</sub> Current limit (over-current) threshold			1.05	1.09	V	10.1 __V_CS_ILIM_OC_Rise_4V, 10.2 __V_CS_ILIM_OC_Fall_4V, 10.3 __V_CS_ILIM_OC_Rise_5V, 10.4 __V_CS_ILIM_OC_Fall_5V, 10.5 __V_CS_ILIM_OC_Rise_12V, 10.6 __V_CS_ILIM_OC_Fall_12V, 10.7 __V_CS_ILIM_OC_Rise_14V, 10.8 __V_CS_ILIM_OC_Fall_14V
<b>FAULT</b>						
V <sub>FLTR</sub> FLT threshold rising		0.57	0.6	0.65	V	12.1 __V_FAULT_RISE_4V, 12.4 __V_FAULT_RISE_5V, 12.7 __V_FAULT_RISE_12V, 12.10 __V_FAULT_RISE_14V
V <sub>FLTF</sub> FLT threshold falling		0.47	0.5	0.55	V	12.2 __V_FAULT_FALL_4V, 12.5 __V_FAULT_FALL_5V, 12.8 __V_FAULT_FALL_12V, 12.11 __V_FAULT_FALL_14V
V <sub>FLTH</sub> FLT hysteresis voltage		90	100	110	mV	12.3 __V_FAULT_HYS_4V, 12.6 __V_FAULT_HYS_5V, 12.9 __V_FAULT_HYS_12V, 12.12 __V_FAULT_HYS_14V
T <sub>FLT</sub> FLT minimum pulse width	V <sub>FLT</sub> = 1 V	0.4		1.4	μs	12.14 __T_FAULT_MIN
t <sub>DFLT</sub> FLT delay duration	f <sub>sw</sub> = 100 kHz	140	152	169	μs	12.15 __T_FAULT_DELAY_100kHz
	f <sub>sw</sub> = 200 kHz	66	78	86	μs	12.17 __T_FAULT_DELAY_200kHz
	f <sub>sw</sub> = 1 MHz	14	17	21	μs	12.21 __T_FAULT_DELAY_1MHz
	f <sub>sw</sub> = 2 MHz	7	11	14	μs	12.23 __T_FAULT_DELAY_2MHz
<b>PRIMARY AND SYNCHRONOUS RECTIFIER OUTPUTS</b>						
Rise/fall time	R <sub>LOAD</sub> = 50 kΩ, C <sub>LOAD</sub> = 100 pF, 10% to 90%		10	17	ns	13.1 __OUTA_RISE_1MHz_4V, 13.9 __OUTA_RISE_1MHz_5V, 13.17 __OUTA_RISE_1MHz_12V, 13.25 __OUTA_RISE_1MHz_14V, 13.3 __OUTA_FALL_1MHz_4V, 13.11 __OUTA_FALL_1MHz_5V, 13.19 __OUTA_FALL_1MHz_12V, 13.27 __OUTA_FALL_1MHz_14V, 13.13 __SRA_RISE_1MHz_5V, 13.21 __SRA_RISE_1MHz_12V, 13.29 __SRA_RISE_1MHz_14V, 13.5 __SRA_RISE_1MHz_4V, 13.15 __SRA_FALL_1MHz_5V, 13.23 __SRA_FALL_1MHz_12V, 13.31 __SRA_FALL_1MHz_14V, 13.7 __SRA_FALL_1MHz_4V
<b>MINIMUM ON-TIME AND DEAD TIME</b>						
t <sub>MIN</sub> Minimum on-time	LEB = 10 kΩ, 5 V ≤ VIN ≤ 14 V			85	ns	13.145 __OUT_T_ON_MIN

**Table 3-1. TPS7H5002-SP Electrical Parameters Table (continued)**

PARAMETER	TEST CONDITION	TPS7H5002-SP DATA SHEET				TEST #
		MIN	TYP	MAX	UNIT	
TD <sub>PS</sub> Primary off to secondary on dead time	PS = floating, 5 V ≤ VIN ≤ 14 V, 90% of OUTA falling edge to 10% of SRA rising edge with OUTA and SRA floating	5	8	11	ns	13.37 __PSA_DT_0ns_1M_5V, 13.41 __PSA_DT_0ns_1M_12V, 13.45 __PSA_DT_0ns_1M_14V
	PS = 49.9 kΩ, 5 V ≤ VIN ≤ 14 V, 90% of OUTA falling edge to 10% of SRA rising edge with OUTA and SRA floating	43	50	55	ns	13.53 __PSA_DT_50ns_1M_5V, 13.57 __PSA_DT_50ns_1M_12V, 13.61 __PSA_DT_50ns_1M_14V
	PS = 107 kΩ, 5 V ≤ VIN ≤ 14 V, 90% of OUTA falling edge to 10% of SRA rising edge with OUTA and SRA floating	85	100	110	ns	13.69 __PSA_DT_100ns_1M_5V, 13.73 __PSA_DT_100ns_1M_12V, 13.77 __PSA_DT_100ns_1M_14V, 13.78
TD <sub>SP</sub> Secondary off to primary on dead time	SP = floating, 5 V ≤ VIN ≤ 14 V, 90% of SRA falling edge to 10% of OUTA rising edge with OUTA and SRA floating	5	8	11	ns	13.39 __SPA_DT_0ns_1M_5V, 13.43 __SPA_DT_0ns_1M_12V, 13.47 __SPA_DT_0ns_1M_14V
	SP = 49.9 kΩ, 5 V ≤ VIN ≤ 14 V, 90% of SRA falling edge to 10% of OUTA rising edge with OUTA and SRA floating	43	50	55	ns	13.55 __SPA_DT_50ns_1M_5V, 13.59 __SPA_DT_50ns_1M_12V, 13.63 __SPA_DT_50ns_1M_14V
	SP = 107 kΩ, 5 V ≤ VIN ≤ 14 V, 90% of SRA falling edge to 10% of OUTA rising edge with OUTA and SRA floating	85	100	110	ns	13.71 __SPA_DT_100ns_1M_5V, 13.75 __SPA_DT_100ns_1M_12V, 13.79 __SPA_DT_100ns_1M_14V,
<b>LEADING EDGE BLANK TIME AND DUTY CYCLE</b>						
T <sub>LEB</sub> , Leading edge blank time	LEB = 10 kΩ, 5 V ≤ VIN ≤ 14 V	12	15	19	ns	13.147 __T_LEB_10ns_5V, 13.148 __T_LEB_10ns_12V, 13.149 __T_LEB_10ns_14V
	LEB = 49.9kΩ, 5 V ≤ VIN ≤ 14 V	45	50	55	ns	13.151 __T_LEB_50ns_5V, 13.152 __T_LEB_50ns_12V, 13.153 __T_LEB_50ns_14V
	LEB = 110 kΩ, 5 V ≤ VIN ≤ 14 V	85	100	110	ns	13.155 __T_LEB_100ns_5V, 13.156 __T_LEB_100ns_12V, 13.157 __T_LEB_100ns_14V
D <sub>MAX</sub> Maximum duty cycle	DCL = floating, clock duty cycle = 50%	70	75	80	%	13.163 __MAX_DC_DCL_OPEN
	DCL =VLDO			100	%	13.166 __MAX_DC_DCL_VLDO



## 4 Applicable and Reference Documents

### 4.1 Applicable Documents

- Texas Instruments, [TPS7H500x-SP Radiation-Hardness-Assured 2-MHz Current-Mode PWM Controllers data sheet, Data Sheet](#)
- Texas Instruments, [TPS7H5002-SP Total Ionizing Dose \(TID\)](#), Radiation Report
- Texas Instruments, [TPS7H500xEVM-CVAL User's Guide](#), User Guide
- Texas Instruments, [TPS7H500x-SP Single-Event Effects \(SEE\) radiation report](#), Radiation Report

### 4.2 Reference Documents

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

## A Appendix: NDD Report Data

This appendix contains the NDD report data.

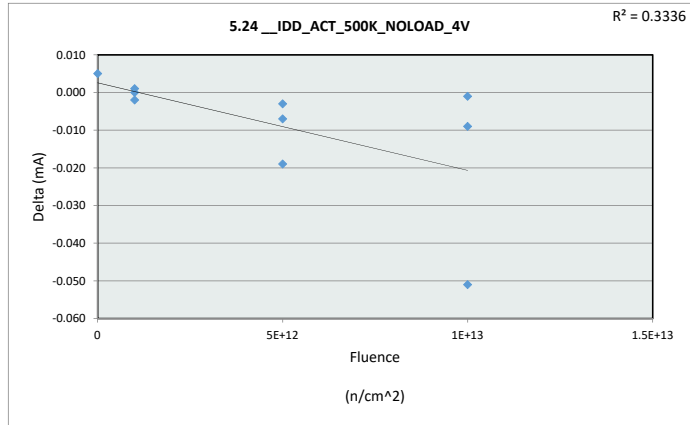
**Neutron Displacement Damage (NDD) Report**  
**TPS7H5002-SP**

# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.24 IDD\_ACT\_500K\_NOLOAD\_4V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	8	8
Min Limit		

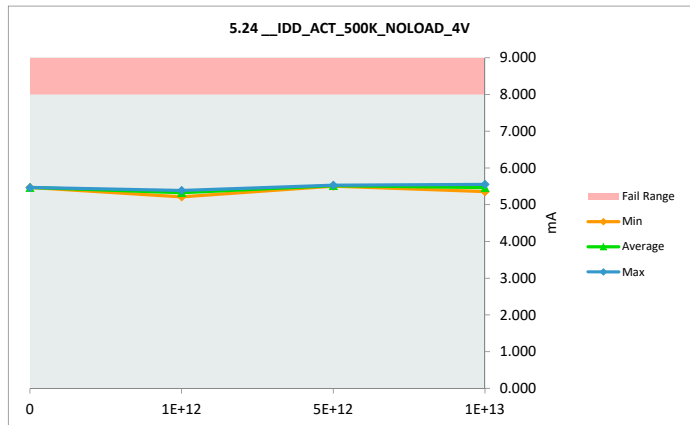
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.461	5.466	0.005
1E+12	281	5.388	5.386	-0.002
1E+12	284	5.215	5.215	0.000
1E+12	285	5.372	5.373	0.001
5E+12	286	5.550	5.531	-0.019
5E+12	287	5.515	5.512	-0.003
5E+12	289	5.514	5.507	-0.007
1E+13	290	5.560	5.551	-0.009
1E+13	291	5.536	5.485	-0.051
1E+13	292	5.354	5.353	-0.001
Max		5.560	5.551	0.005
Average		5.447	5.438	-0.009
Min		5.215	5.215	-0.051
Std Dev		0.112	0.105	0.016



## 5.24 IDD\_ACT\_500K\_NOLOAD\_4V

Test Site		
Tester		
Test Number		
Max Limit	8	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	5.466	5.215	5.507	5.353
Average	5.466	5.325	5.517	5.463
Max	5.466	5.386	5.531	5.551
UL	8.000	8.000	8.000	8.000

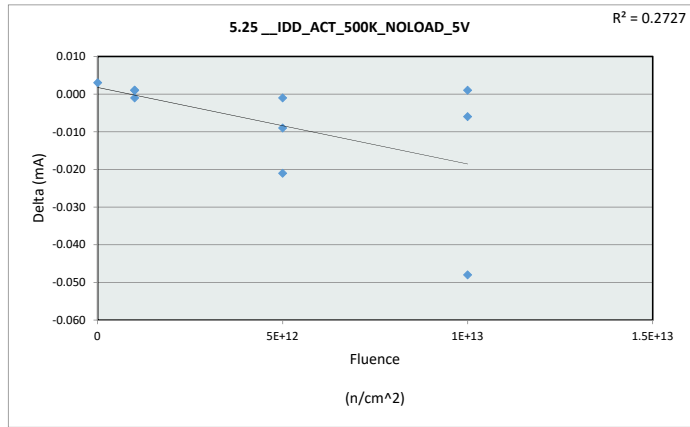


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.25 IDD\_ACT\_500K\_NOLOAD\_5V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	8	8
Min Limit		

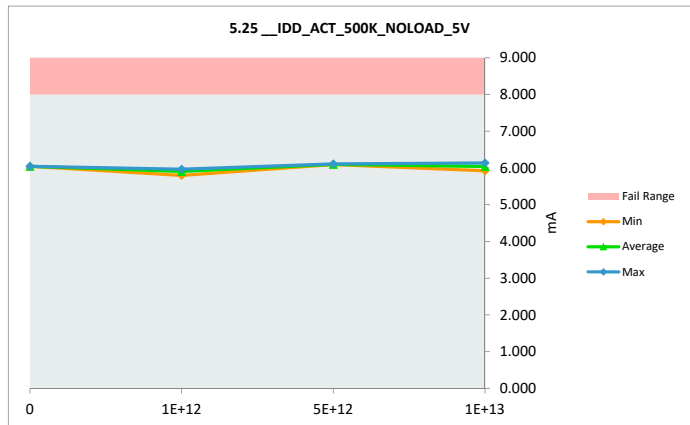
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.041	6.044	0.003
1E+12	281	5.967	5.966	-0.001
1E+12	284	5.795	5.796	0.001
1E+12	285	5.953	5.954	0.001
5E+12	286	6.130	6.109	-0.021
5E+12	287	6.095	6.094	-0.001
5E+12	289	6.102	6.093	-0.009
1E+13	290	6.142	6.136	-0.006
1E+13	291	6.107	6.059	-0.048
1E+13	292	5.921	5.922	0.001
Max		6.142	6.136	0.003
Average		6.025	6.017	-0.008
Min		5.795	5.796	-0.048
Std Dev		0.113	0.106	0.016



5.25 IDD\_ACT\_500K\_NOLOAD\_5V

Test Site		
Tester		
Test Number		
Max Limit	8	mA
Min Limit		mA

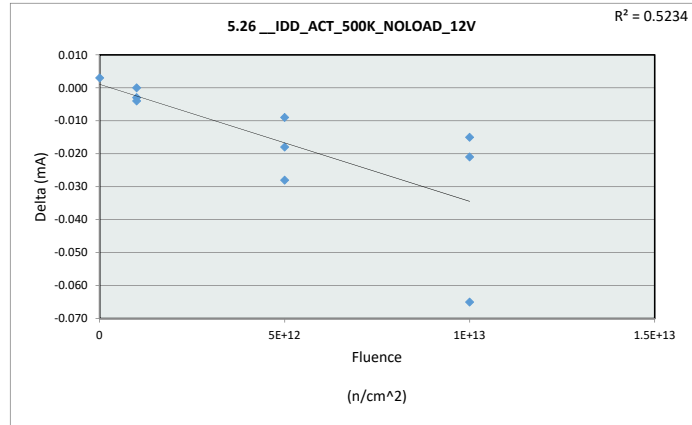
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.044	5.796	6.093	5.922
Average	6.044	5.905	6.099	6.039
Max	6.044	5.966	6.109	6.136
UL	8.000	8.000	8.000	8.000



# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

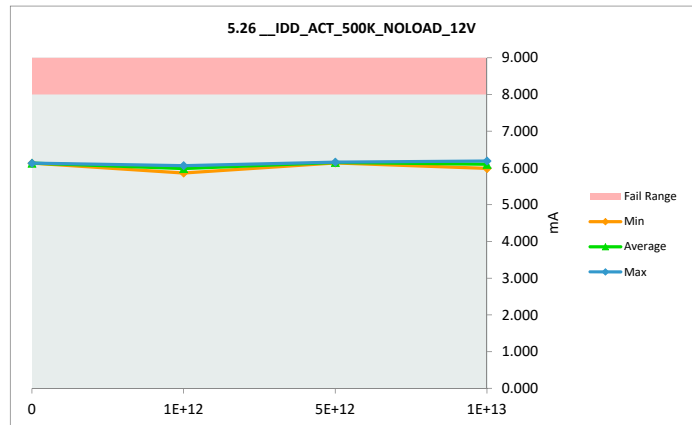
## 5.26 IDD\_ACT\_500K\_NOLOAD\_12V

Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.127	6.130	0.003
1E+12	281	6.064	6.061	-0.003
1E+12	284	5.868	5.864	-0.004
1E+12	285	6.021	6.021	0.000
5E+12	286	6.185	6.157	-0.028
5E+12	287	6.145	6.136	-0.009
5E+12	289	6.170	6.152	-0.018
1E+13	290	6.208	6.187	-0.021
1E+13	291	6.186	6.121	-0.065
1E+13	292	6.001	5.986	-0.015
Max		6.208	6.187	0.003
Average		6.097	6.081	-0.016
Min		5.868	5.864	-0.065
Std Dev		0.108	0.100	0.020



## 5.26 IDD\_ACT\_500K\_NOLOAD\_12V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.130	5.864	6.136	5.986
Average	6.130	5.982	6.148	6.098
Max	6.130	6.061	6.157	6.187
UL	8.000	8.000	8.000	8.000

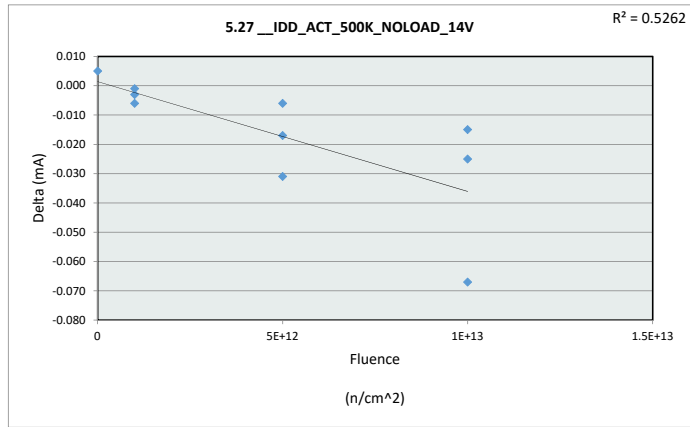


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.27 IDD\_ACT\_500K\_NOLOAD\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	8	8
Min Limit		

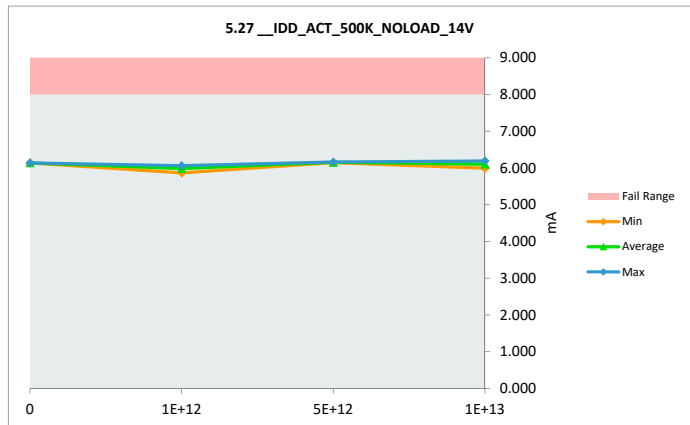
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.130	6.135	0.005
1E+12	281	6.070	6.064	-0.006
1E+12	284	5.871	5.868	-0.003
1E+12	285	6.025	6.024	-0.001
5E+12	286	6.190	6.159	-0.031
5E+12	287	6.150	6.144	-0.006
5E+12	289	6.173	6.156	-0.017
1E+13	290	6.215	6.190	-0.025
1E+13	291	6.191	6.124	-0.067
1E+13	292	6.006	5.991	-0.015
Max		6.215	6.190	0.005
Average		6.102	6.086	-0.017
Min		5.871	5.868	-0.067
Std Dev		0.109	0.100	0.021



## 5.27 IDD\_ACT\_500K\_NOLOAD\_14V

Test Site		
Tester		
Test Number		
Max Limit	8	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.135	5.868	6.144	5.991
Average	6.135	5.985	6.153	6.102
Max	6.135	6.064	6.159	6.190
UL	8.000	8.000	8.000	8.000

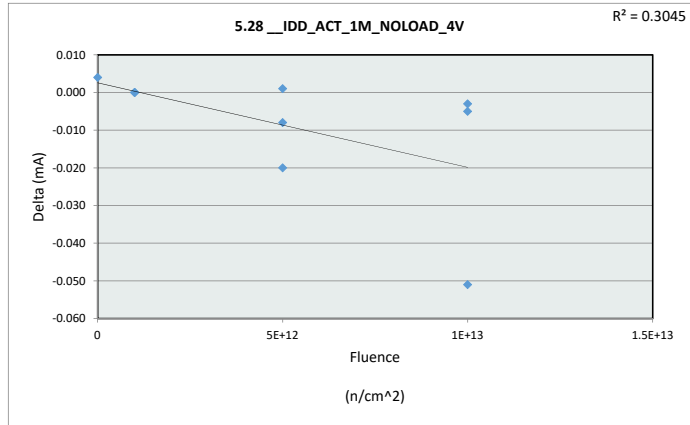


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.28 IDD\_ACT\_1M\_NOLOAD\_4V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

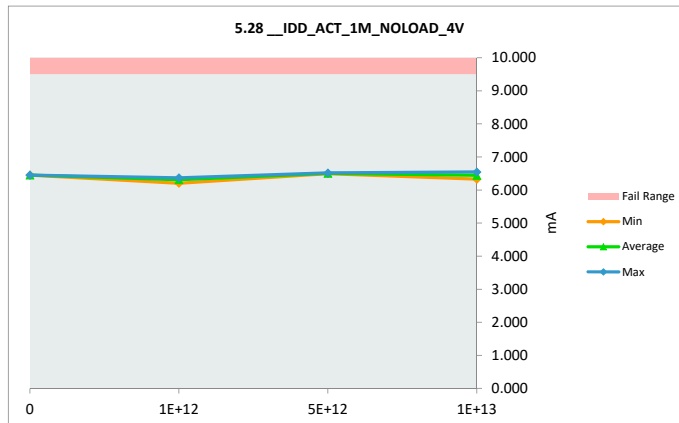
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.446	6.450	0.004
1E+12	281	6.369	6.369	0.000
1E+12	284	6.206	6.206	0.000
1E+12	285	6.361	6.361	0.000
5E+12	286	6.536	6.516	-0.020
5E+12	287	6.495	6.496	0.001
5E+12	289	6.507	6.499	-0.008
1E+13	290	6.550	6.545	-0.005
1E+13	291	6.511	6.460	-0.051
1E+13	292	6.328	6.325	-0.003
Max		6.550	6.545	0.004
Average		6.431	6.423	-0.008
Min		6.206	6.206	-0.051
Std Dev		0.111	0.106	0.016



## 5.28 IDD\_ACT\_1M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.450	6.206	6.496	6.325
Average	6.450	6.312	6.504	6.443
Max	6.450	6.369	6.516	6.545
UL	9.500	9.500	9.500	9.500



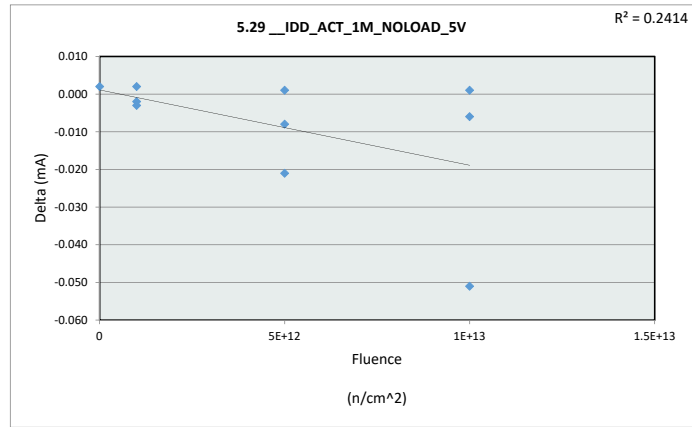


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.29 IDD\_ACT\_1M\_NOLOAD\_5V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

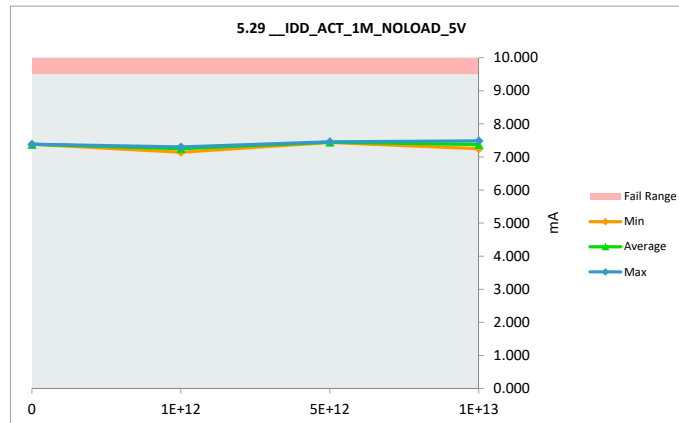
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.380	7.382	0.002
1E+12	281	7.304	7.302	-0.002
1E+12	284	7.146	7.143	-0.003
1E+12	285	7.300	7.302	0.002
5E+12	286	7.476	7.455	-0.021
5E+12	287	7.435	7.436	0.001
5E+12	289	7.453	7.445	-0.008
1E+13	290	7.491	7.485	-0.006
1E+13	291	7.438	7.387	-0.051
1E+13	292	7.247	7.248	0.001
Max		7.491	7.485	0.002
Average		7.367	7.359	-0.009
Min		7.146	7.143	-0.051
Std Dev		0.114	0.108	0.016



## 5.29 IDD\_ACT\_1M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.382	7.143	7.436	7.248
Average	7.382	7.249	7.445	7.373
Max	7.382	7.302	7.455	7.485
UL	9.500	9.500	9.500	9.500

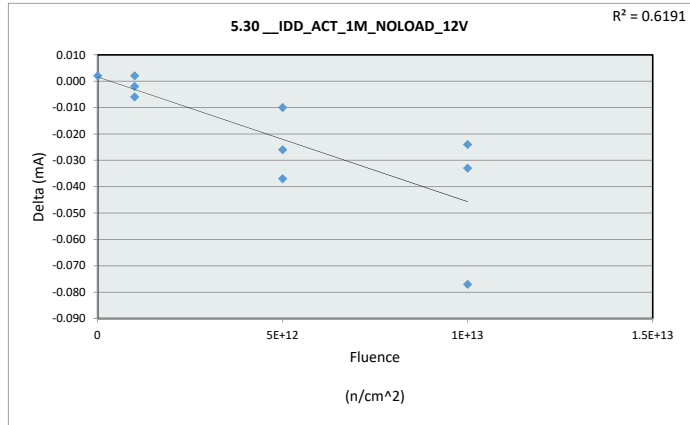


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.30 IDD\_ACT\_1M\_NOLOAD\_12V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

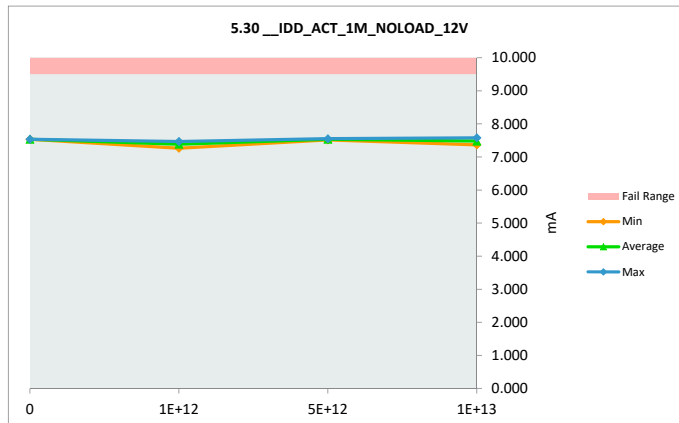
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.532	7.534	0.002
1E+12	281	7.471	7.469	-0.002
1E+12	284	7.271	7.265	-0.006
1E+12	285	7.419	7.421	0.002
5E+12	286	7.576	7.539	-0.037
5E+12	287	7.525	7.515	-0.010
5E+12	289	7.576	7.550	-0.026
1E+13	290	7.610	7.577	-0.033
1E+13	291	7.573	7.496	-0.077
1E+13	292	7.388	7.364	-0.024
Max		7.610	7.577	0.002
Average		7.494	7.473	-0.021
Min		7.271	7.265	-0.077
Std Dev		0.107	0.097	0.024



## 5.30 IDD\_ACT\_1M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.534	7.265	7.515	7.364
Average	7.534	7.385	7.535	7.479
Max	7.534	7.469	7.550	7.577
UL	9.500	9.500	9.500	9.500

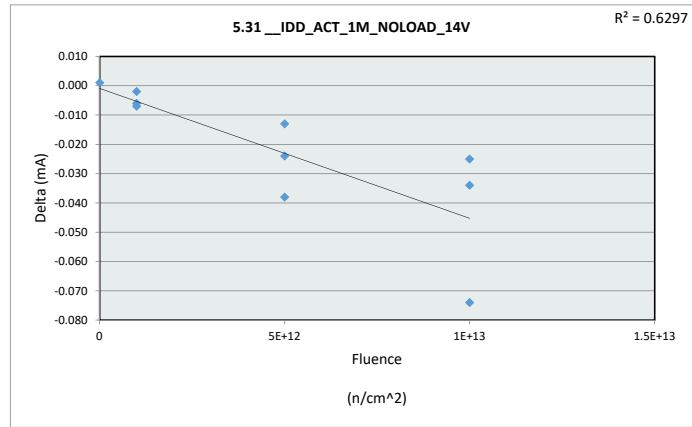


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.31 IDD\_ACT\_1M\_NOLOAD\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

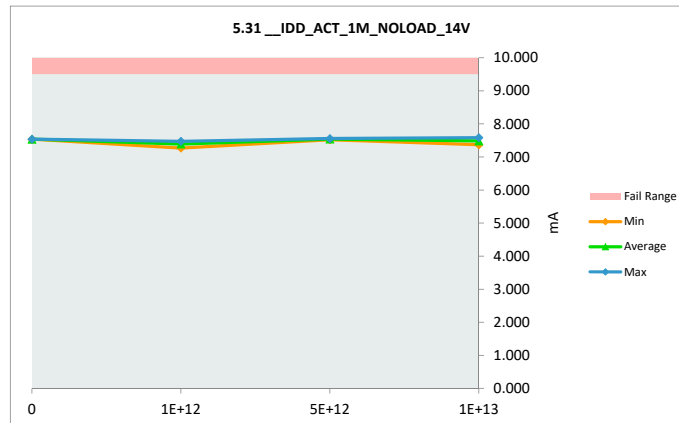
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.536	7.537	0.001
1E+12	281	7.478	7.471	-0.007
1E+12	284	7.276	7.270	-0.006
1E+12	285	7.427	7.425	-0.002
5E+12	286	7.580	7.542	-0.038
5E+12	287	7.531	7.518	-0.013
5E+12	289	7.579	7.555	-0.024
1E+13	290	7.616	7.582	-0.034
1E+13	291	7.576	7.502	-0.074
1E+13	292	7.392	7.367	-0.025
Max		7.616	7.582	0.001
Average		7.499	7.477	-0.022
Min		7.276	7.270	-0.074
Std Dev		0.106	0.097	0.023



## 5.31 IDD\_ACT\_1M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.537	7.270	7.518	7.367
Average	7.537	7.389	7.538	7.484
Max	7.537	7.471	7.555	7.582
UL	9.500	9.500	9.500	9.500

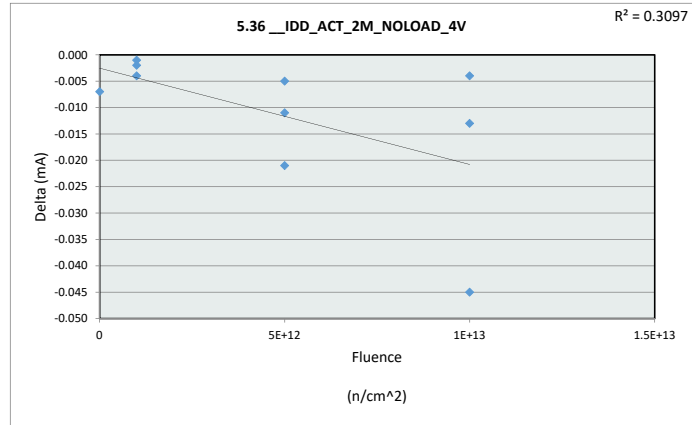


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.36 IDD\_ACT\_2M\_NOLOAD\_4V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	13.5	13.5
Min Limit		

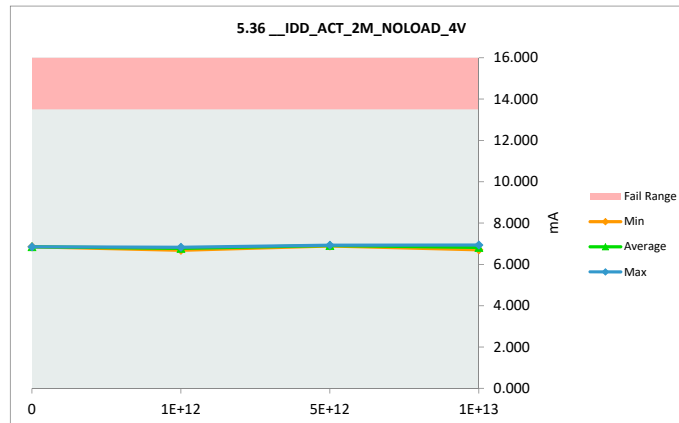
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.856	6.849	-0.007
1E+12	281	6.822	6.821	-0.001
1E+12	284	6.685	6.681	-0.004
1E+12	285	6.834	6.832	-0.002
5E+12	286	6.909	6.888	-0.021
5E+12	287	6.928	6.923	-0.005
5E+12	289	6.940	6.929	-0.011
1E+13	290	6.949	6.936	-0.013
1E+13	291	6.868	6.823	-0.045
1E+13	292	6.709	6.705	-0.004
Max		6.949	6.936	-0.001
Average		6.850	6.839	-0.011
Min		6.685	6.681	-0.045
Std Dev		0.092	0.089	0.013



## 5.36 IDD\_ACT\_2M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	13.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.849	6.681	6.888	6.705
Average	6.849	6.778	6.913	6.821
Max	6.849	6.832	6.929	6.936
UL	13.500	13.500	13.500	13.500

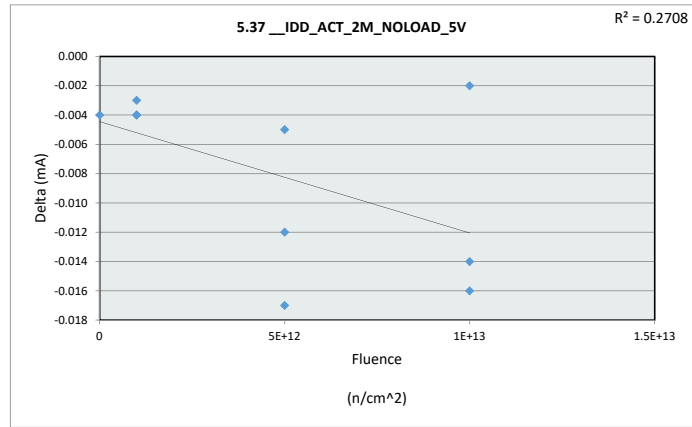


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.37 IDD\_ACT\_2M\_NOLOAD\_5V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	13.5	13.5
Min Limit		

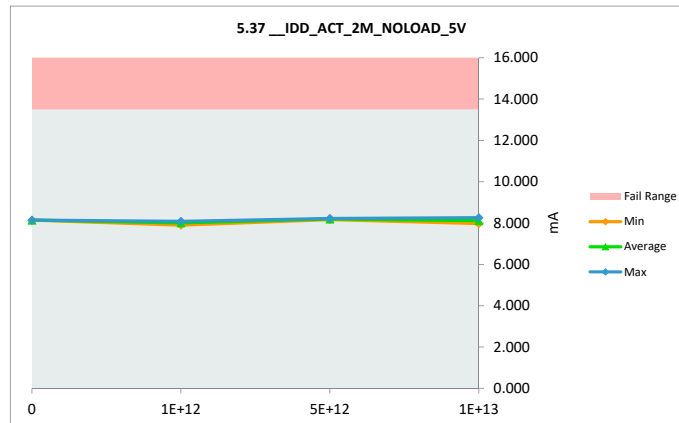
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.143	8.139	-0.004
1E+12	281	8.033	8.029	-0.004
1E+12	284	7.902	7.898	-0.004
1E+12	285	8.090	8.087	-0.003
5E+12	286	8.184	8.172	-0.012
5E+12	287	8.201	8.196	-0.005
5E+12	289	8.236	8.219	-0.017
1E+13	290	8.274	8.260	-0.014
1E+13	291	8.109	8.093	-0.016
1E+13	292	7.974	7.972	-0.002
Max		8.274	8.260	-0.002
Average		8.115	8.107	-0.008
Min		7.902	7.898	-0.017
Std Dev		0.118	0.114	0.006



## 5.37 IDD\_ACT\_2M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	13.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.139	7.898	8.172	7.972
Average	8.139	8.005	8.196	8.108
Max	8.139	8.087	8.219	8.260
UL	13.500	13.500	13.500	13.500

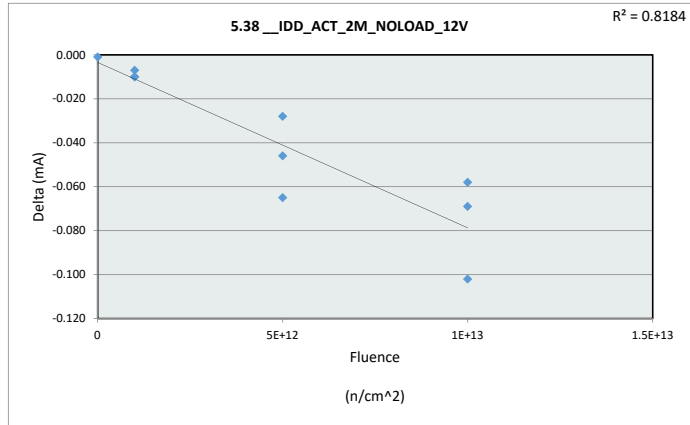


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.38 IDD\_ACT\_2M\_NOLOAD\_12V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	13.5	13.5
Min Limit		

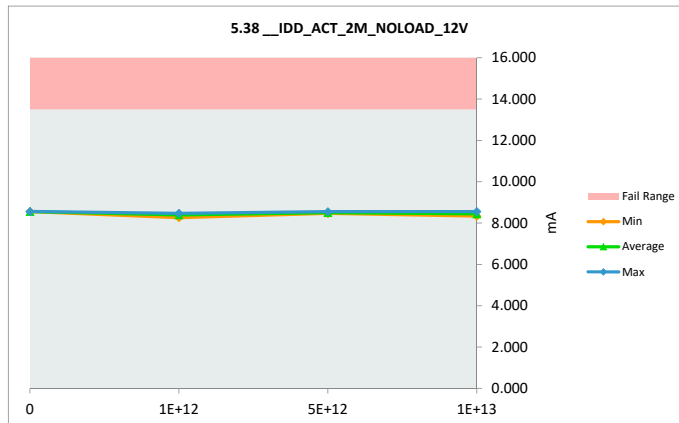
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.557	8.556	-0.001
1E+12	281	8.483	8.473	-0.010
1E+12	284	8.275	8.265	-0.010
1E+12	285	8.451	8.444	-0.007
5E+12	286	8.550	8.485	-0.065
5E+12	287	8.493	8.465	-0.028
5E+12	289	8.596	8.550	-0.046
1E+13	290	8.626	8.557	-0.069
1E+13	291	8.538	8.436	-0.102
1E+13	292	8.393	8.335	-0.058
Max		8.626	8.557	-0.001
Average		8.496	8.457	-0.040
Min		8.275	8.265	-0.102
Std Dev		0.104	0.095	0.034



## 5.38 IDD\_ACT\_2M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	13.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.556	8.265	8.465	8.335
Average	8.556	8.394	8.500	8.443
Max	8.556	8.473	8.550	8.557
UL	13.500	13.500	13.500	13.500

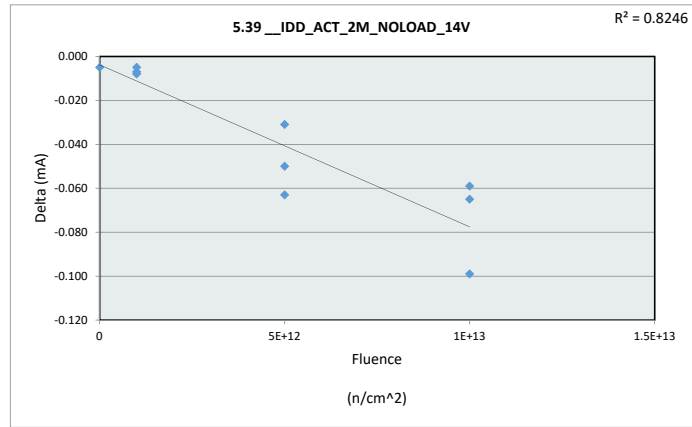


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.39 IDD\_ACT\_2M\_NOLOAD\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	13.5	13.5
Min Limit		

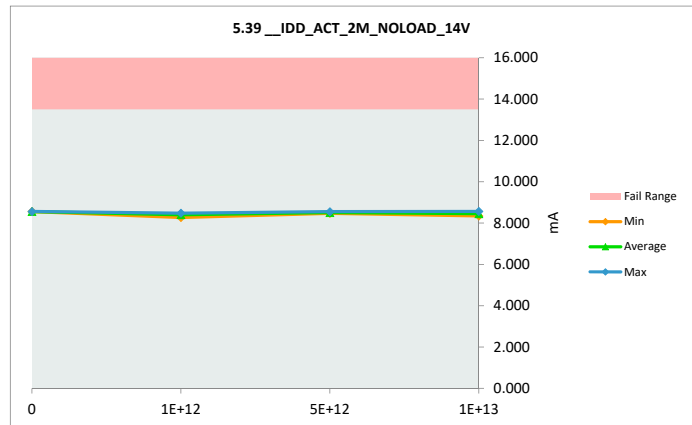
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.564	8.559	-0.005
1E+12	281	8.486	8.479	-0.007
1E+12	284	8.278	8.270	-0.008
1E+12	285	8.454	8.449	-0.005
5E+12	286	8.552	8.489	-0.063
5E+12	287	8.500	8.469	-0.031
5E+12	289	8.601	8.551	-0.050
1E+13	290	8.628	8.563	-0.065
1E+13	291	8.540	8.441	-0.099
1E+13	292	8.398	8.339	-0.059
Max		8.628	8.563	-0.005
Average		8.500	8.461	-0.039
Min		8.278	8.270	-0.099
Std Dev		0.104	0.095	0.033



## 5.39 IDD\_ACT\_2M\_NOLOAD

Test Site		
Tester		
Test Number		
Max Limit	13.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.559	8.270	8.469	8.339
Average	8.559	8.399	8.503	8.448
Max	8.559	8.479	8.551	8.563
UL	13.500	13.500	13.500	13.500

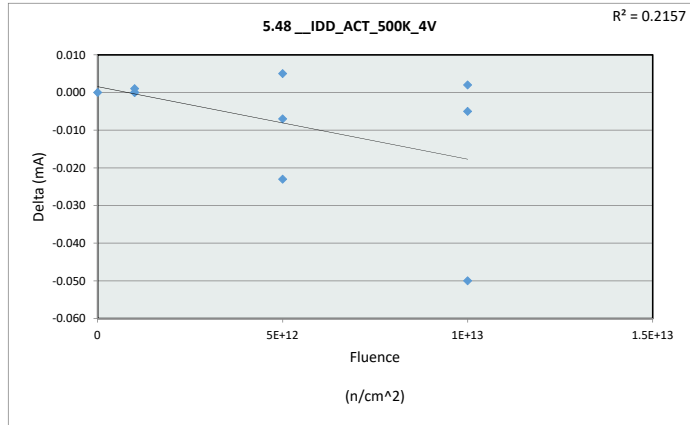


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.48 IDD\_ACT\_500K\_4V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

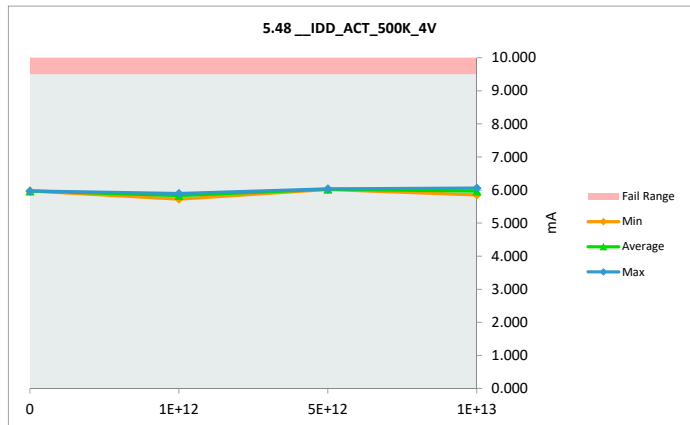
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.969	5.969	0.000
1E+12	281	5.893	5.893	0.000
1E+12	284	5.725	5.725	0.000
1E+12	285	5.880	5.881	0.001
5E+12	286	6.056	6.033	-0.023
5E+12	287	6.016	6.021	0.005
5E+12	289	6.024	6.017	-0.007
1E+13	290	6.066	6.061	-0.005
1E+13	291	6.035	5.985	-0.050
1E+13	292	5.847	5.849	0.002
Max		6.066	6.061	0.005
Average		5.951	5.943	-0.008
Min		5.725	5.725	-0.050
Std Dev		0.111	0.105	0.017



## 5.48 IDD\_ACT\_500K\_4V

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

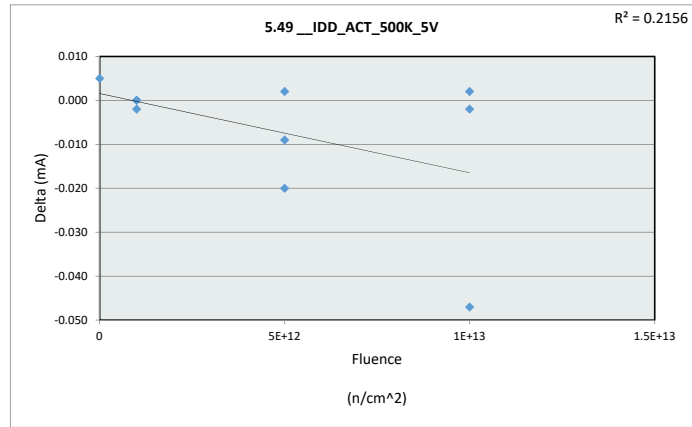
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	5.969	5.725	6.017	5.849
Average	5.969	5.833	6.024	5.965
Max	5.969	5.893	6.033	6.061
UL	9.500	9.500	9.500	9.500



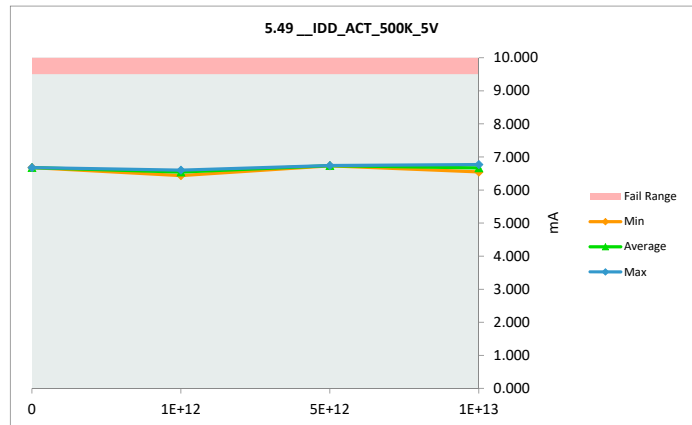


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.49 IDD_ACT_500K_5V				
Test Site				
Tester				
Test Number				
Unit		mA	mA	
Max Limit		9.5	9.5	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.672	6.677	0.005
1E+12	281	6.600	6.600	0.000
1E+12	284	6.436	6.434	-0.002
1E+12	285	6.587	6.587	0.000
5E+12	286	6.761	6.741	-0.020
5E+12	287	6.728	6.730	0.002
5E+12	289	6.740	6.731	-0.009
1E+13	290	6.774	6.772	-0.002
1E+13	291	6.735	6.688	-0.047
1E+13	292	6.541	6.543	0.002
Max		6.774	6.772	0.005
Average		6.657	6.650	-0.007
Min		6.436	6.434	-0.047
Std Dev		0.112	0.107	0.016



5.49 IDD_ACT_500K_5V				
Test Site				
Tester				
Test Number				
Max Limit	9.5		mA	
Min Limit			mA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.677	6.434	6.730	6.543
Average	6.677	6.540	6.734	6.668
Max	6.677	6.600	6.741	6.772
UL	9.500	9.500	9.500	9.500

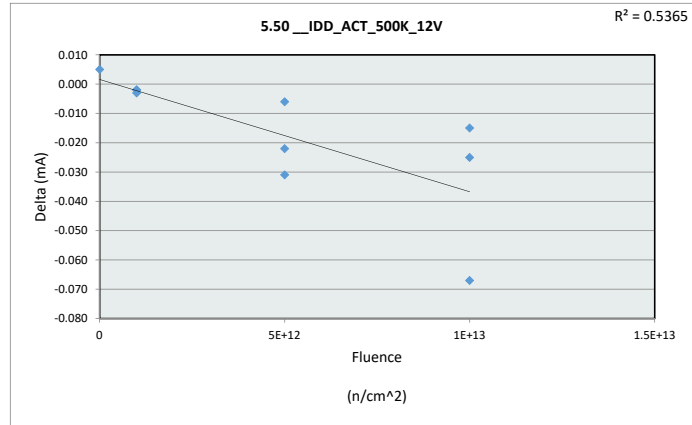


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.50 IDD\_ACT\_500K\_12V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

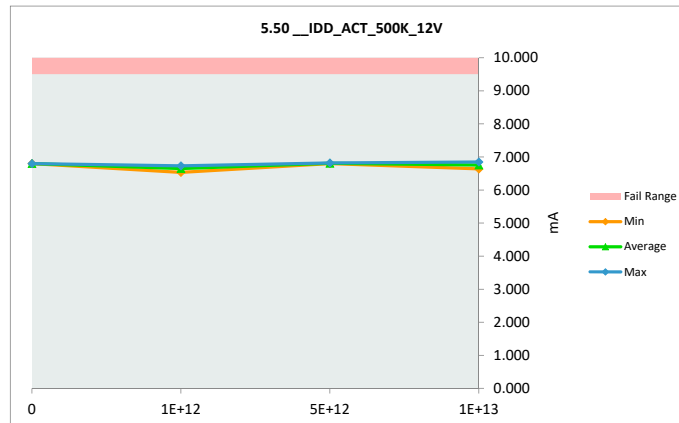
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.794	6.799	0.005
1E+12	281	6.733	6.730	-0.003
1E+12	284	6.537	6.535	-0.002
1E+12	285	6.689	6.687	-0.002
5E+12	286	6.845	6.814	-0.031
5E+12	287	6.803	6.797	-0.006
5E+12	289	6.839	6.817	-0.022
1E+13	290	6.873	6.848	-0.025
1E+13	291	6.844	6.777	-0.067
1E+13	292	6.652	6.637	-0.015
Max		6.873	6.848	0.005
Average		6.761	6.744	-0.017
Min		6.537	6.535	-0.067
Std Dev		0.107	0.098	0.021



## 5.50 IDD\_ACT\_500K\_12V

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.799	6.535	6.797	6.637
Average	6.799	6.651	6.809	6.754
Max	6.799	6.730	6.817	6.848
UL	9.500	9.500	9.500	9.500

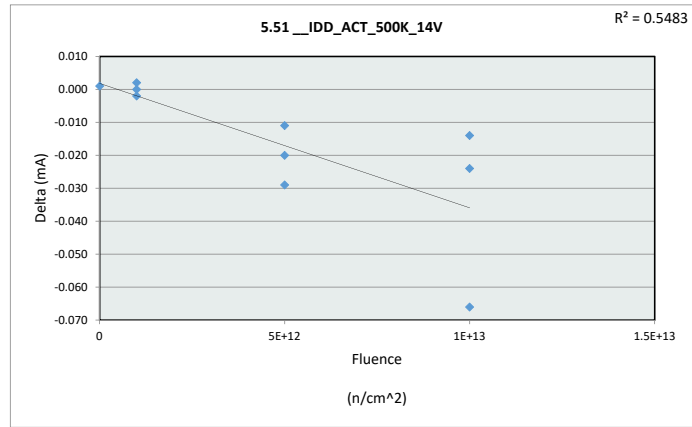


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.51 IDD\_ACT\_500K\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	9.5	9.5
Min Limit		

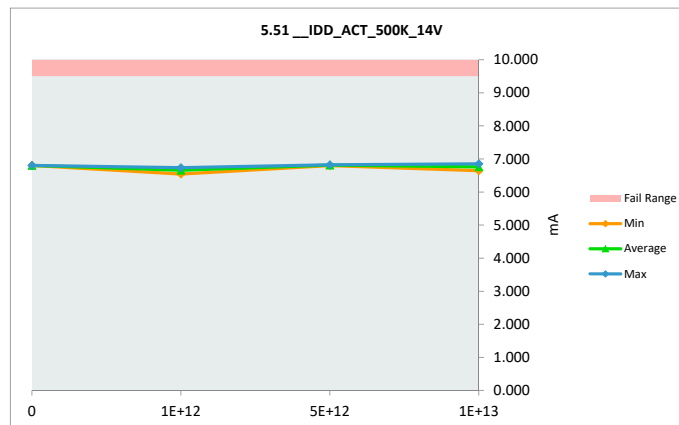
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.801	6.802	0.001
1E+12	281	6.738	6.736	-0.002
1E+12	284	6.541	6.541	0.000
1E+12	285	6.691	6.693	0.002
5E+12	286	6.848	6.819	-0.029
5E+12	287	6.809	6.798	-0.011
5E+12	289	6.843	6.823	-0.020
1E+13	290	6.876	6.852	-0.024
1E+13	291	6.849	6.783	-0.066
1E+13	292	6.657	6.643	-0.014
Max		6.876	6.852	0.002
Average		6.765	6.749	-0.016
Min		6.541	6.541	-0.066
Std Dev		0.107	0.097	0.021



## 5.51 IDD\_ACT\_500K\_14V

Test Site		
Tester		
Test Number		
Max Limit	9.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	6.802	6.541	6.798	6.643
Average	6.802	6.657	6.813	6.759
Max	6.802	6.736	6.823	6.852
UL	9.500	9.500	9.500	9.500

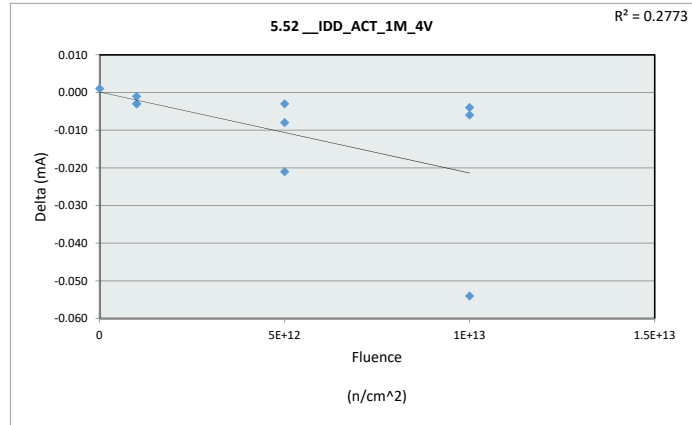


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.52 IDD\_ACT\_1M\_4V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	12	12
Min Limit		

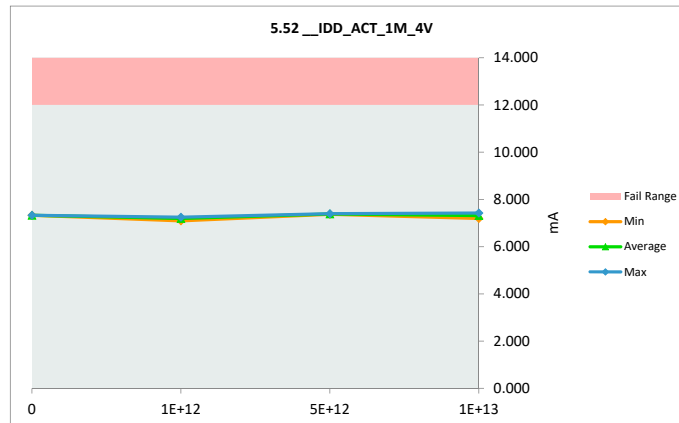
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.327	7.328	0.001
1E+12	281	7.248	7.247	-0.001
1E+12	284	7.095	7.092	-0.003
1E+12	285	7.246	7.243	-0.003
5E+12	286	7.417	7.396	-0.021
5E+12	287	7.377	7.374	-0.003
5E+12	289	7.390	7.382	-0.008
1E+13	290	7.432	7.426	-0.006
1E+13	291	7.385	7.331	-0.054
1E+13	292	7.196	7.192	-0.004
Max		7.432	7.426	0.001
Average		7.311	7.301	-0.010
Min		7.095	7.092	-0.054
Std Dev		0.111	0.105	0.017



## 5.52 IDD\_ACT\_1M\_4V

Test Site		
Tester		
Test Number		
Max Limit	12	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.328	7.092	7.374	7.192
Average	7.328	7.194	7.384	7.316
Max	7.328	7.247	7.396	7.426
UL	12.000	12.000	12.000	12.000

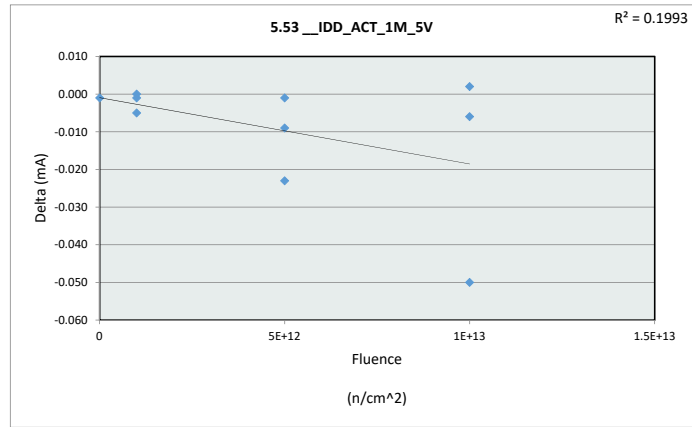


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.53 IDD\_ACT\_1M\_5V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	12	12
Min Limit		

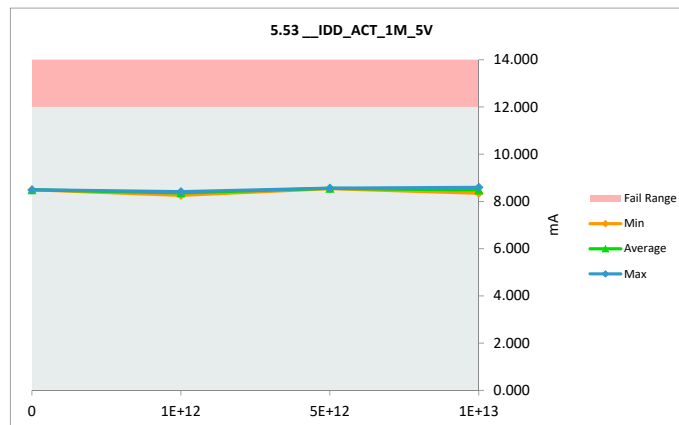
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.493	8.492	-0.001
1E+12	281	8.415	8.414	-0.001
1E+12	284	8.264	8.259	-0.005
1E+12	285	8.415	8.415	0.000
5E+12	286	8.586	8.563	-0.023
5E+12	287	8.547	8.546	-0.001
5E+12	289	8.571	8.562	-0.009
1E+13	290	8.605	8.599	-0.006
1E+13	291	8.543	8.493	-0.050
1E+13	292	8.343	8.345	0.002
Max		8.605	8.599	0.002
Average		8.478	8.469	-0.009
Min		8.264	8.259	-0.050
Std Dev		0.114	0.109	0.016



## 5.53 IDD\_ACT\_1M\_5V

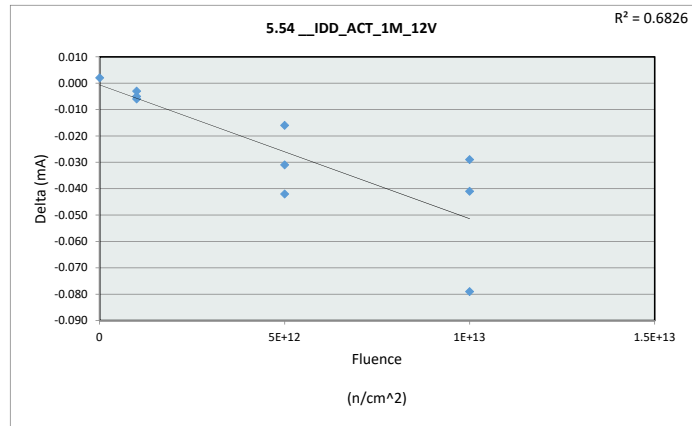
Test Site		
Tester		
Test Number		
Max Limit	12	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.492	8.259	8.546	8.345
Average	8.492	8.363	8.557	8.479
Max	8.492	8.415	8.563	8.599
UL	12.000	12.000	12.000	12.000

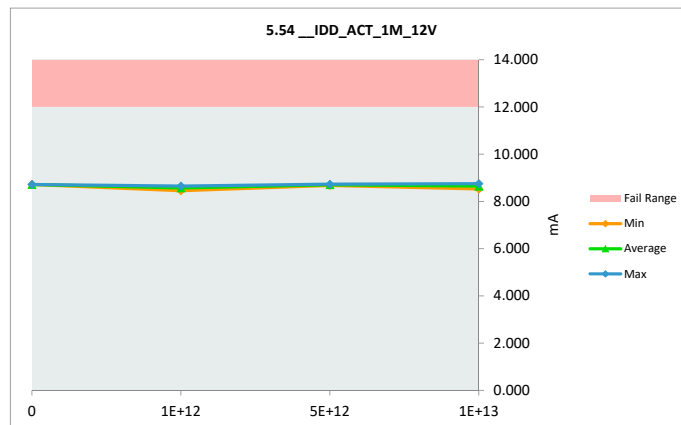


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.54 IDD_ACT_1M_12V				
Test Site				
Tester				
Test Number				
Unit		mA	mA	
Max Limit		12	12	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.716	8.718	0.002
1E+12	281	8.659	8.654	-0.005
1E+12	284	8.458	8.452	-0.006
1E+12	285	8.604	8.601	-0.003
5E+12	286	8.750	8.708	-0.042
5E+12	287	8.694	8.678	-0.016
5E+12	289	8.760	8.729	-0.031
1E+13	290	8.793	8.752	-0.041
1E+13	291	8.743	8.664	-0.079
1E+13	292	8.553	8.524	-0.029
Max		8.793	8.752	0.002
Average		8.673	8.648	-0.025
Min		8.458	8.452	-0.079
Std Dev		0.106	0.096	0.025



5.54 IDD_ACT_1M_12V				
Test Site				
Tester				
Test Number				
Max Limit		12	mA	
Min Limit			mA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.718	8.452	8.678	8.524
Average	8.718	8.569	8.705	8.647
Max	8.718	8.654	8.729	8.752
UL	12.000	12.000	12.000	12.000

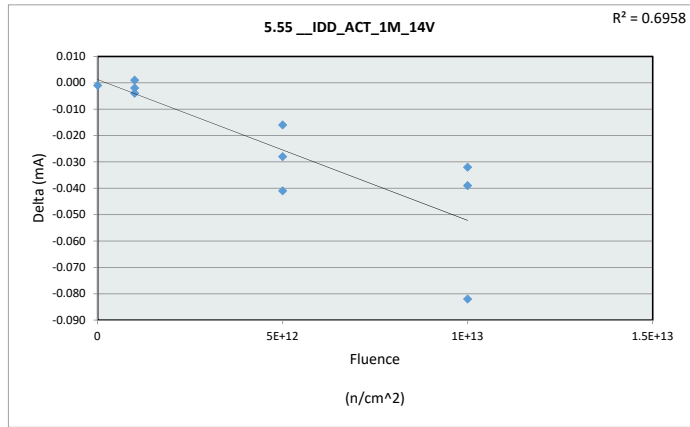


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.55 IDD\_ACT\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	12	12
Min Limit		

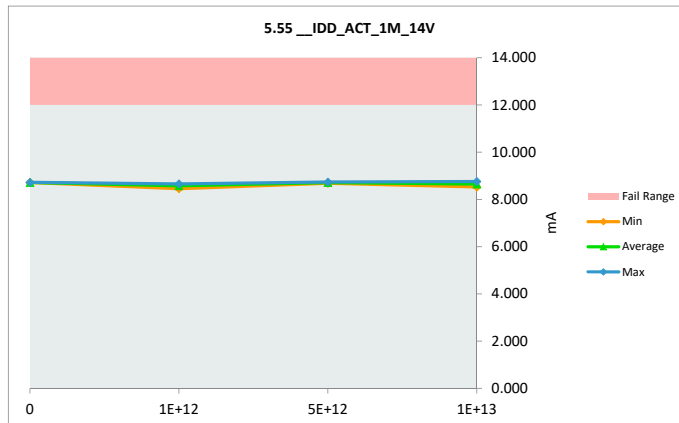
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.723	8.722	-0.001
1E+12	281	8.662	8.660	-0.002
1E+12	284	8.462	8.458	-0.004
1E+12	285	8.606	8.607	0.001
5E+12	286	8.754	8.713	-0.041
5E+12	287	8.701	8.685	-0.016
5E+12	289	8.761	8.733	-0.028
1E+13	290	8.797	8.758	-0.039
1E+13	291	8.749	8.667	-0.082
1E+13	292	8.558	8.526	-0.032
Max		8.797	8.758	0.001
Average		8.677	8.653	-0.024
Min		8.462	8.458	-0.082
Std Dev		0.106	0.096	0.026



## 5.55 IDD\_ACT\_1M\_14V

Test Site		
Tester		
Test Number		
Max Limit	12	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.722	8.458	8.685	8.526
Average	8.722	8.575	8.710	8.650
Max	8.722	8.660	8.733	8.758
UL	12.000	12.000	12.000	12.000

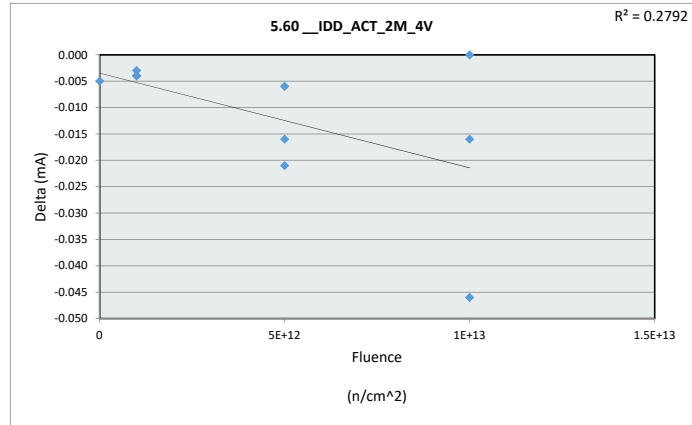


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.60 IDD\_ACT\_2M\_4V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	19.5	19.5
Min Limit		

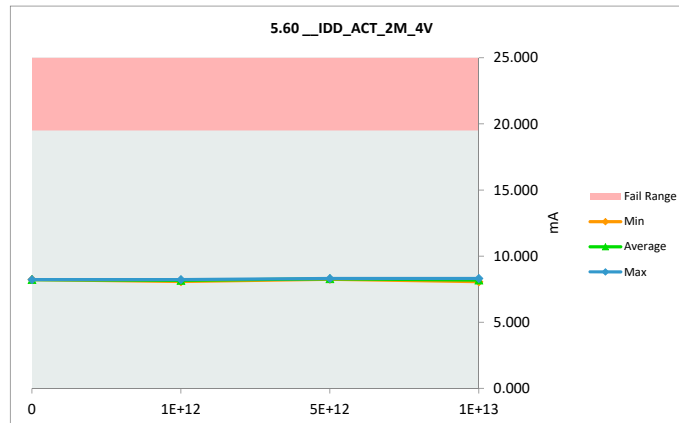
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.230	8.225	-0.005
1E+12	281	8.204	8.200	-0.004
1E+12	284	8.075	8.071	-0.004
1E+12	285	8.224	8.221	-0.003
5E+12	286	8.277	8.256	-0.021
5E+12	287	8.306	8.300	-0.006
5E+12	289	8.325	8.309	-0.016
1E+13	290	8.327	8.311	-0.016
1E+13	291	8.226	8.180	-0.046
1E+13	292	8.063	8.063	0.000
Max		8.327	8.311	0.000
Average		8.226	8.214	-0.012
Min		8.063	8.063	-0.046
Std Dev		0.094	0.090	0.014



## 5.60 IDD\_ACT\_2M\_4V

Test Site		
Tester		
Test Number		
Max Limit	19.5	mA
Min Limit		mA

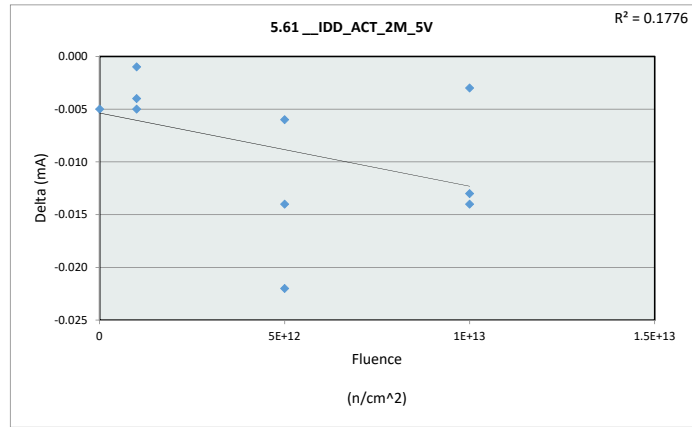
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.225	8.071	8.256	8.063
Average	8.225	8.164	8.288	8.185
Max	8.225	8.221	8.309	8.311
UL	19.500	19.500	19.500	19.500



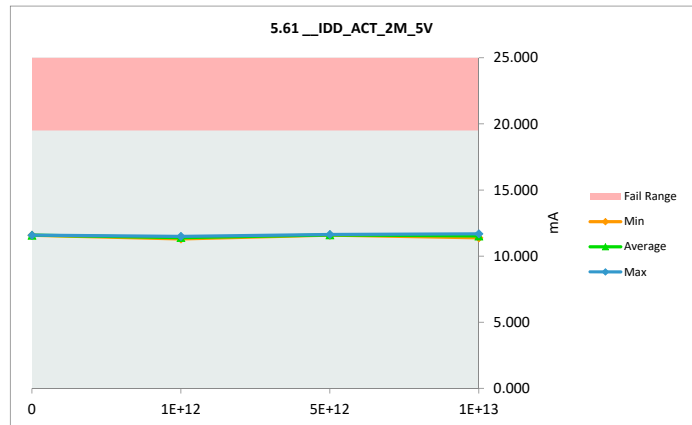


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.61 IDD_ACT_2M_5V				
Fluence	Serial #	PRE	POST	Delta
0	295	11.585	11.580	-0.005
1E+12	281	11.417	11.413	-0.004
1E+12	284	11.296	11.295	-0.001
1E+12	285	11.497	11.492	-0.005
5E+12	286	11.593	11.579	-0.014
5E+12	287	11.605	11.599	-0.006
5E+12	289	11.658	11.636	-0.022
1E+13	290	11.694	11.681	-0.013
1E+13	291	11.504	11.490	-0.014
1E+13	292	11.385	11.382	-0.003
	Max	11.694	11.681	-0.001
	Average	11.523	11.515	-0.009
	Min	11.296	11.295	-0.022
	Std Dev	0.127	0.123	0.007



5.61 IDD_ACT_2M_5V				
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	11.580	11.295	11.579	11.382
Average	11.580	11.400	11.605	11.518
Max	11.580	11.492	11.636	11.681
UL	19.500	19.500	19.500	19.500

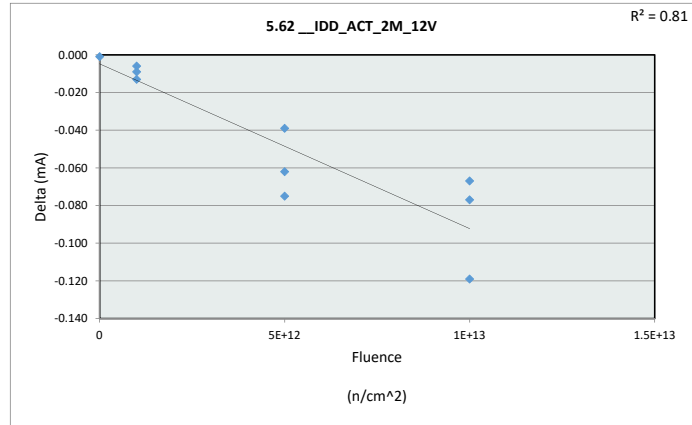


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.62 IDD\_ACT\_2M\_12V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	19.5	19.5
Min Limit		

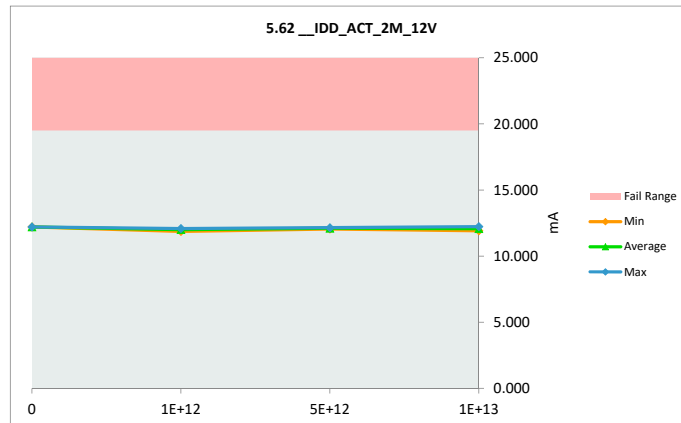
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	12.203	12.202	-0.001
1E+12	281	12.095	12.082	-0.013
1E+12	284	11.877	11.868	-0.009
1E+12	285	12.065	12.059	-0.006
5E+12	286	12.205	12.130	-0.075
5E+12	287	12.084	12.045	-0.039
5E+12	289	12.212	12.150	-0.062
1E+13	290	12.303	12.226	-0.077
1E+13	291	12.191	12.072	-0.119
1E+13	292	11.978	11.911	-0.067
Max		12.303	12.226	-0.001
Average		12.121	12.074	-0.047
Min		11.877	11.868	-0.119
Std Dev		0.127	0.115	0.039



## 5.62 IDD\_ACT\_2M\_12V

Test Site		
Tester		
Test Number		
Max Limit	19.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	12.202	11.868	12.045	11.911
Average	12.202	12.003	12.108	12.070
Max	12.202	12.082	12.150	12.226
UL	19.500	19.500	19.500	19.500

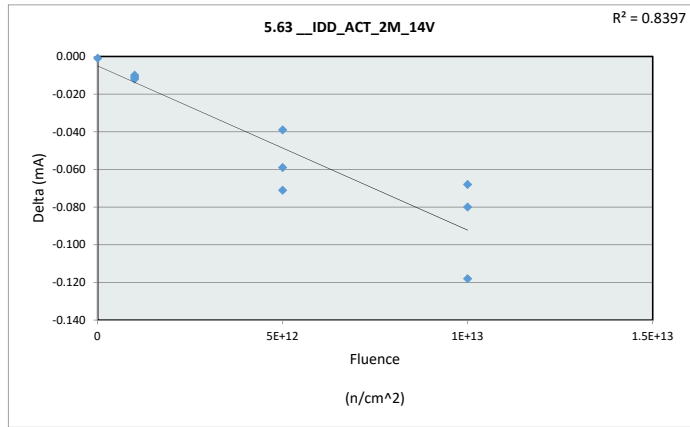


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.63 IDD\_ACT\_2M\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	19.5	19.5
Min Limit		

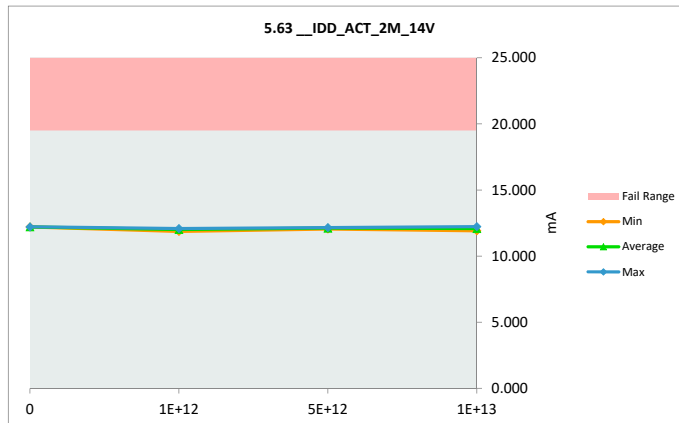
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	12.208	12.207	-0.001
1E+12	281	12.098	12.087	-0.011
1E+12	284	11.884	11.872	-0.012
1E+12	285	12.072	12.062	-0.010
5E+12	286	12.209	12.138	-0.071
5E+12	287	12.088	12.049	-0.039
5E+12	289	12.216	12.157	-0.059
1E+13	290	12.312	12.232	-0.080
1E+13	291	12.195	12.077	-0.118
1E+13	292	11.981	11.913	-0.068
Max		12.312	12.232	-0.001
Average		12.126	12.079	-0.047
Min		11.884	11.872	-0.118
Std Dev		0.127	0.116	0.039



## 5.63 IDD\_ACT\_2M\_14V

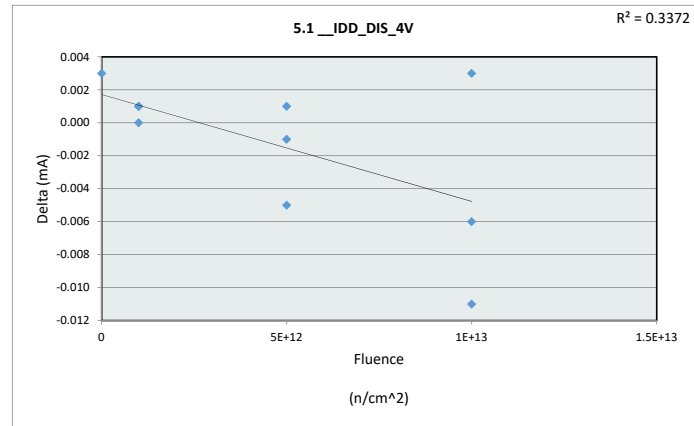
Test Site		
Tester		
Test Number		
Max Limit	19.5	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	12.207	11.872	12.049	11.913
Average	12.207	12.007	12.115	12.074
Max	12.207	12.087	12.157	12.232
UL	19.500	19.500	19.500	19.500

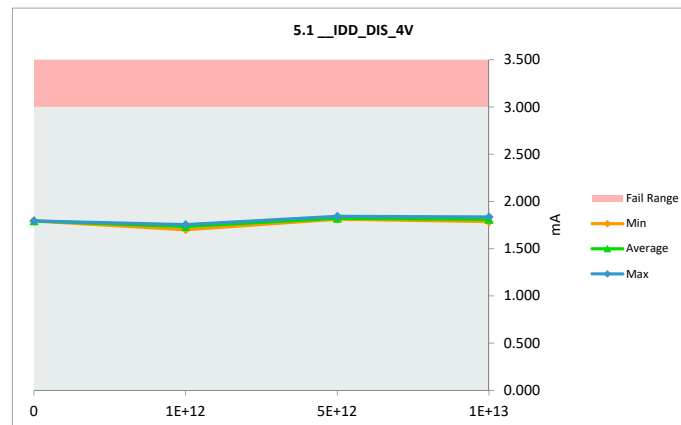


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.1_IDD_DIS_4V				
Test Site				
Tester				
Test Number				
Unit		mA	mA	
Max Limit		3	3	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.790	1.793	0.003
1E+12	281	1.753	1.754	0.001
1E+12	284	1.700	1.700	0.000
1E+12	285	1.749	1.750	0.001
5E+12	286	1.847	1.842	-0.005
5E+12	287	1.814	1.815	0.001
5E+12	289	1.813	1.812	-0.001
1E+13	290	1.842	1.836	-0.006
1E+13	291	1.820	1.809	-0.011
1E+13	292	1.783	1.786	0.003
	Max	1.847	1.842	0.003
	Average	1.791	1.790	-0.001
	Min	1.700	1.700	-0.011
	Std Dev	0.046	0.044	0.005



5.1_IDD_DIS_4V				
Test Site				
Tester				
Test Number				
Max Limit		3	mA	
Min Limit			mA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.793	1.700	1.812	1.786
Average	1.793	1.735	1.823	1.810
Max	1.793	1.754	1.842	1.836
UL	3.000	3.000	3.000	3.000

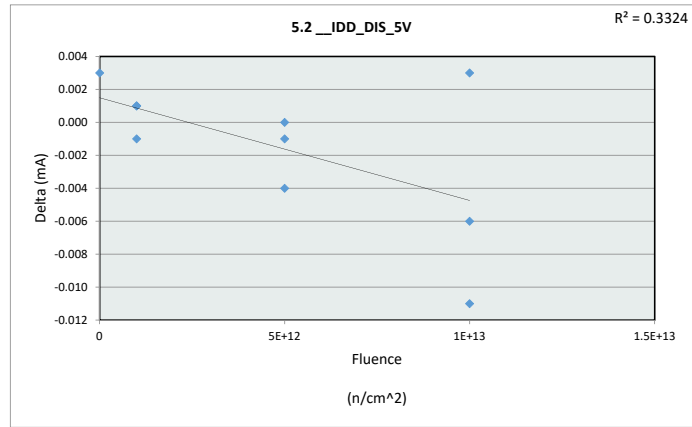


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.2 \_\_IDD\_DIS\_5V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	3	3
Min Limit		

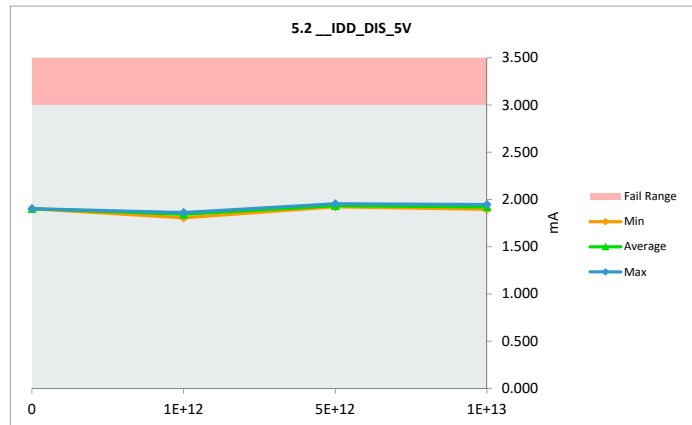
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.899	1.902	0.003
1E+12	281	1.861	1.862	0.001
1E+12	284	1.807	1.806	-0.001
1E+12	285	1.861	1.862	0.001
5E+12	286	1.958	1.954	-0.004
5E+12	287	1.925	1.925	0.000
5E+12	289	1.924	1.923	-0.001
1E+13	290	1.952	1.946	-0.006
1E+13	291	1.932	1.921	-0.011
1E+13	292	1.892	1.895	0.003
Max		1.958	1.954	0.003
Average		1.901	1.900	-0.002
Min		1.807	1.806	-0.011
Std Dev		0.047	0.045	0.004



## 5.2 \_\_IDD\_DIS\_5V

Test Site		
Tester		
Test Number		
Max Limit	3	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.902	1.806	1.923	1.895
Average	1.902	1.843	1.934	1.921
Max	1.902	1.862	1.954	1.946
UL	3.000	3.000	3.000	3.000

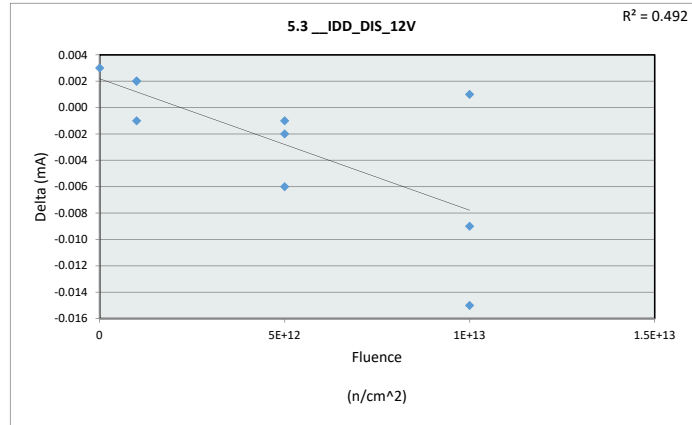


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.3 \_\_IDD\_DIS\_12V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	3	3
Min Limit		

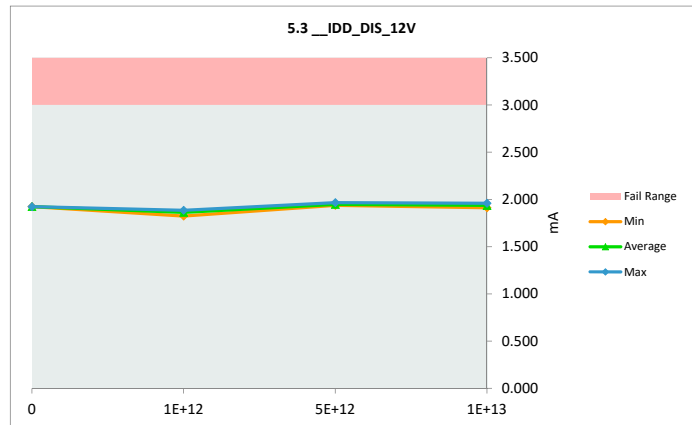
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.921	1.924	0.003
1E+12	281	1.883	1.885	0.002
1E+12	284	1.825	1.824	-0.001
1E+12	285	1.877	1.879	0.002
5E+12	286	1.972	1.966	-0.006
5E+12	287	1.938	1.937	-0.001
5E+12	289	1.941	1.939	-0.002
1E+13	290	1.968	1.959	-0.009
1E+13	291	1.952	1.937	-0.015
1E+13	292	1.911	1.912	0.001
Max		1.972	1.966	0.003
Average		1.919	1.916	-0.003
Min		1.825	1.824	-0.015
Std Dev		0.046	0.043	0.006



## 5.3 \_\_IDD\_DIS\_12V

Test Site		
Tester		
Test Number		
Max Limit	3	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.924	1.824	1.937	1.912
Average	1.924	1.863	1.947	1.936
Max	1.924	1.885	1.966	1.959
UL	3.000	3.000	3.000	3.000

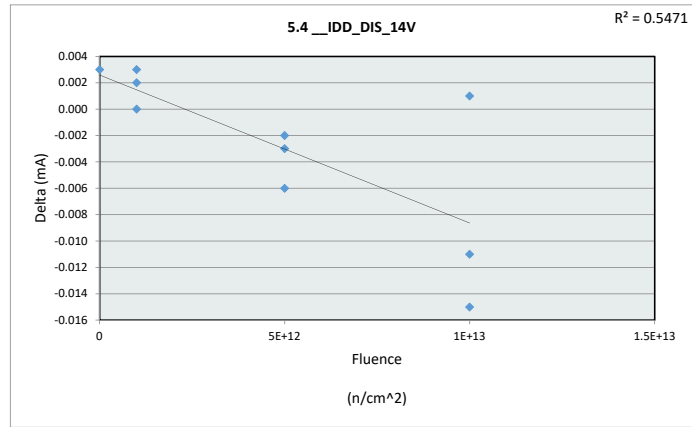


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.4 \_\_IDD\_DIS\_14V

Test Site		
Tester		
Test Number		
Unit	mA	mA
Max Limit	3	3
Min Limit		

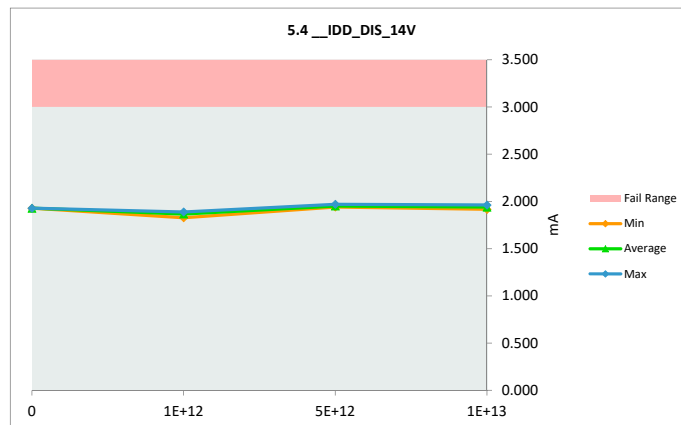
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.925	1.928	0.003
1E+12	281	1.887	1.889	0.002
1E+12	284	1.828	1.828	0.000
1E+12	285	1.881	1.884	0.003
5E+12	286	1.976	1.970	-0.006
5E+12	287	1.943	1.941	-0.002
5E+12	289	1.946	1.943	-0.003
1E+13	290	1.973	1.962	-0.011
1E+13	291	1.956	1.941	-0.015
1E+13	292	1.915	1.916	0.001
Max		1.976	1.970	0.003
Average		1.923	1.920	-0.003
Min		1.828	1.828	-0.015
Std Dev		0.047	0.043	0.006



## 5.4 \_\_IDD\_DIS\_14V

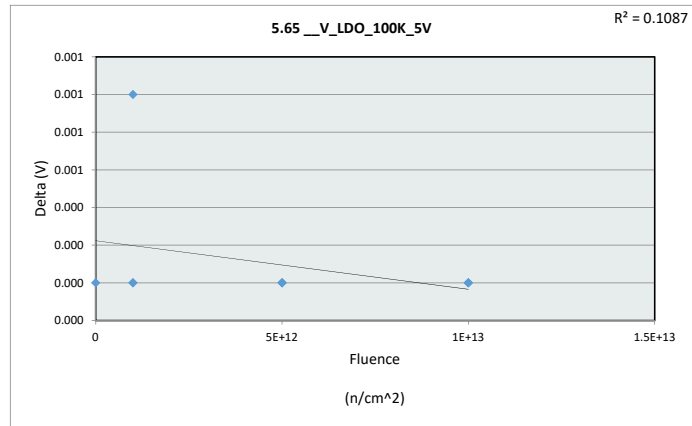
Test Site		
Tester		
Test Number		
Max Limit	3	mA
Min Limit		mA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.928	1.828	1.941	1.916
Average	1.928	1.867	1.951	1.940
Max	1.928	1.889	1.970	1.962
UL	3.000	3.000	3.000	3.000

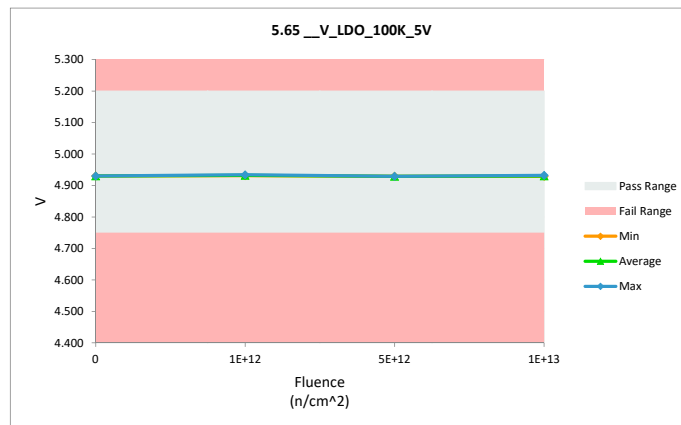


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.65 __V_LDO_100K_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	5.2	5.2		
Min Limit	4.75	4.75		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	4.930	4.930	0.000
1E+12	281	4.931	4.931	0.000
1E+12	284	4.933	4.934	0.001
1E+12	285	4.931	4.931	0.000
5E+12	286	4.929	4.929	0.000
5E+12	287	4.929	4.929	0.000
5E+12	289	4.929	4.929	0.000
1E+13	290	4.929	4.929	0.000
1E+13	291	4.929	4.929	0.000
1E+13	292	4.932	4.932	0.000
Max		4.933	4.934	0.001
Average		4.930	4.930	0.000
Min		4.929	4.929	0.000
Std Dev		0.001	0.002	0.000



5.65 __V_LDO_100K_5V				
Test Site				
Tester				
Test Number				
Max Limit	5.2	V		
Min Limit	4.75	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	4.930	4.931	4.929	4.929
Average	4.930	4.932	4.929	4.930
Max	4.930	4.934	4.929	4.932
UL	5.200	5.200	5.200	5.200



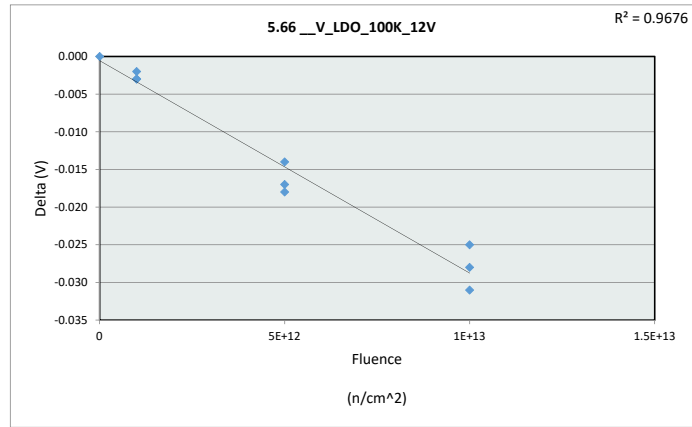


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.66\_V\_LDO\_100K\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	5.2	5.2
Min Limit	4.75	4.75

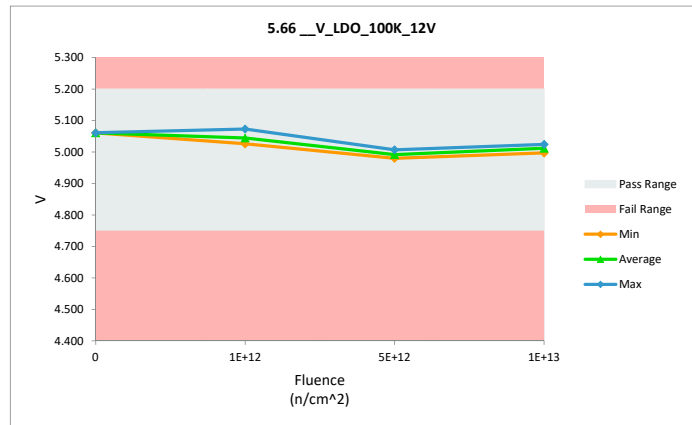
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.061	5.061	0.000
1E+12	281	5.076	5.073	-0.003
1E+12	284	5.037	5.034	-0.003
1E+12	285	5.028	5.026	-0.002
5E+12	286	5.005	4.988	-0.017
5E+12	287	4.994	4.980	-0.014
5E+12	289	5.025	5.007	-0.018
1E+13	290	5.028	4.997	-0.031
1E+13	291	5.040	5.015	-0.025
1E+13	292	5.052	5.024	-0.028
Max		5.076	5.073	0.000
Average		5.035	5.020	-0.014
Min		4.994	4.980	-0.031
Std Dev		0.025	0.030	0.012



5.66\_V\_LDO\_100K\_12V

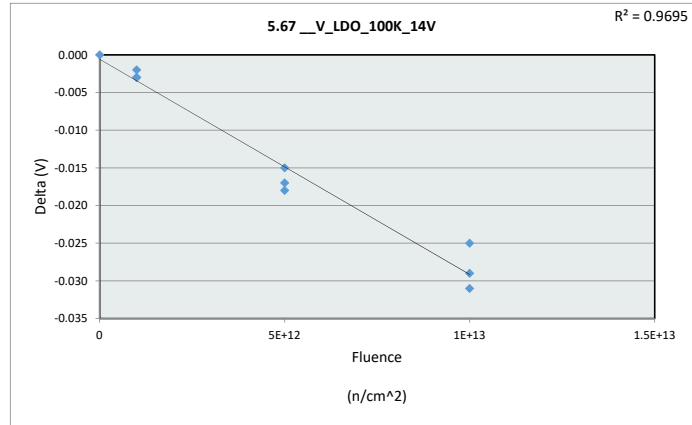
Test Site		
Tester		
Test Number		
Max Limit	5.2	V
Min Limit	4.75	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	5.061	5.026	4.980	4.997
Average	5.061	5.044	4.992	5.012
Max	5.061	5.073	5.007	5.024
UL	5.200	5.200	5.200	5.200

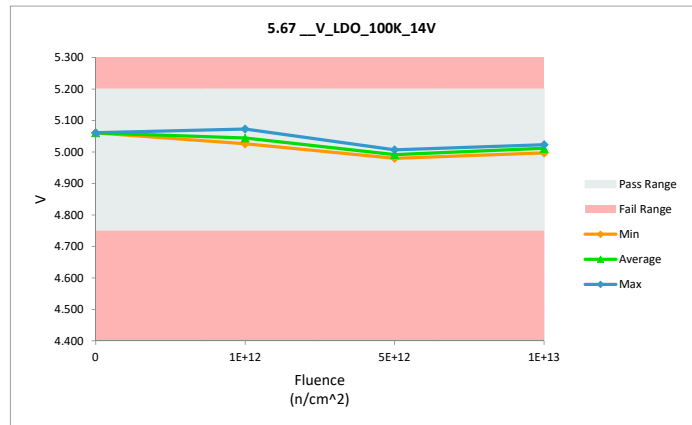


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.67 __V_LDO_100K_14V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.061	5.061	0.000
1E+12	281	5.076	5.073	-0.003
1E+12	284	5.037	5.034	-0.003
1E+12	285	5.028	5.026	-0.002
5E+12	286	5.005	4.988	-0.017
5E+12	287	4.995	4.980	-0.015
5E+12	289	5.025	5.007	-0.018
1E+13	290	5.028	4.997	-0.031
1E+13	291	5.040	5.015	-0.025
1E+13	292	5.052	5.023	-0.029
Max		5.076	5.073	0.000
Average		5.035	5.020	-0.014
Min		4.995	4.980	-0.031
Std Dev		0.024	0.030	0.012

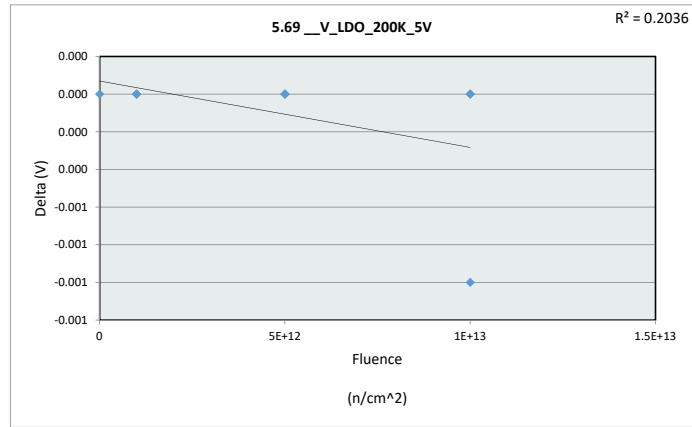


5.67 __V_LDO_100K_14V					
Test Site					
Tester					
Test Number					
Max Limit		5.2	V		
Min Limit		4.75	V		
Fluence (n/cm <sup>2</sup> )		0	1E+12	5E+12	1E+13
LL		4.750	4.750	4.750	4.750
Min		5.061	5.026	4.980	4.997
Average		5.061	5.044	4.992	5.012
Max		5.061	5.073	5.007	5.023
UL		5.200	5.200	5.200	5.200

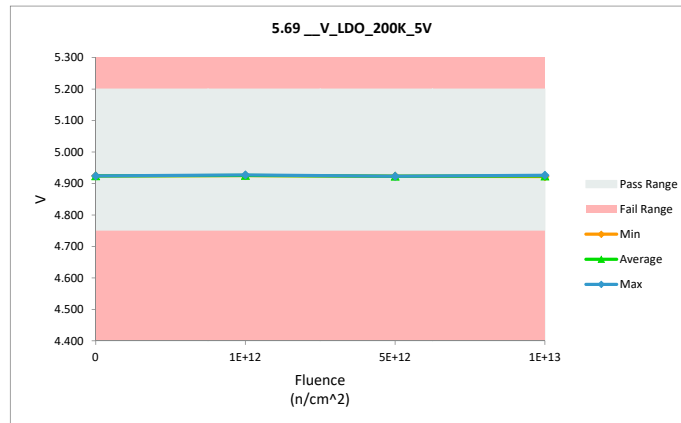


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.69 __V_LDO_200K_5V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	4.924	4.924	0.000
1E+12	281	4.925	4.925	0.000
1E+12	284	4.927	4.927	0.000
1E+12	285	4.925	4.925	0.000
5E+12	286	4.923	4.923	0.000
5E+12	287	4.923	4.923	0.000
5E+12	289	4.923	4.923	0.000
1E+13	290	4.923	4.922	-0.001
1E+13	291	4.923	4.923	0.000
1E+13	292	4.926	4.926	0.000
Max		4.927	4.927	0.000
Average		4.924	4.924	0.000
Min		4.923	4.922	-0.001
Std Dev		0.001	0.002	0.000

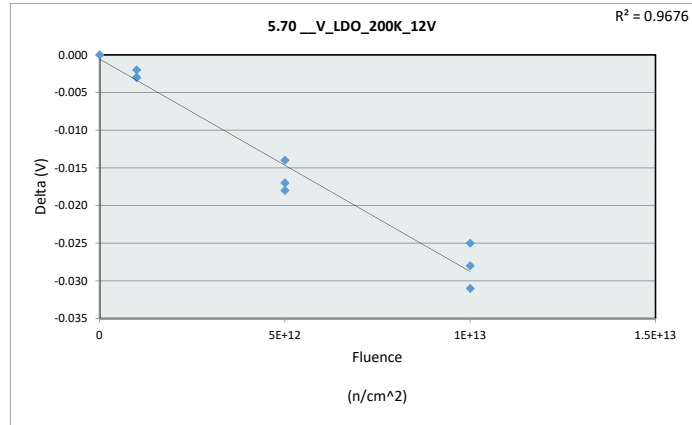


5.69 __V_LDO_200K_5V				
Test Site				
Tester				
Test Number				
Max Limit		5.2	V	
Min Limit		4.75	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	4.924	4.925	4.923	4.922
Average	4.924	4.926	4.923	4.924
Max	4.924	4.927	4.923	4.926
UL	5.200	5.200	5.200	5.200

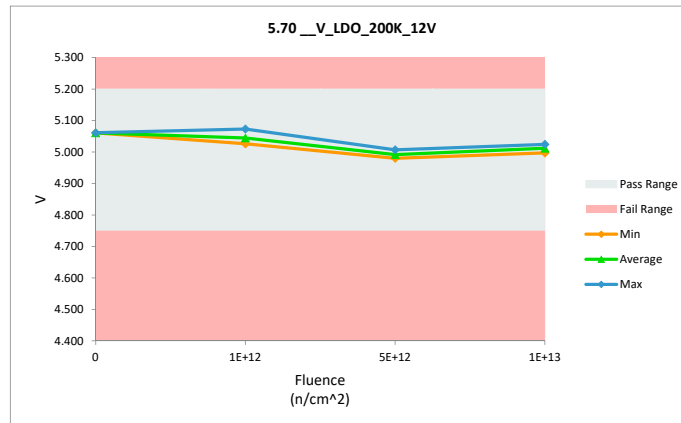


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.70_V_LDO_200K_12V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.061	5.061	0.000
1E+12	281	5.076	5.073	-0.003
1E+12	284	5.037	5.034	-0.003
1E+12	285	5.028	5.026	-0.002
5E+12	286	5.005	4.988	-0.017
5E+12	287	4.994	4.980	-0.014
5E+12	289	5.025	5.007	-0.018
1E+13	290	5.028	4.997	-0.031
1E+13	291	5.040	5.015	-0.025
1E+13	292	5.052	5.024	-0.028
Max		5.076	5.073	0.000
Average		5.035	5.020	-0.014
Min		4.994	4.980	-0.031
Std Dev		0.025	0.030	0.012

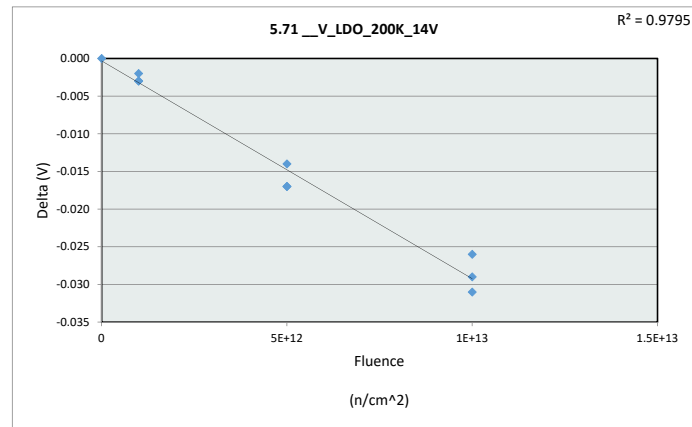


5.70_V_LDO_200K_12V					
Test Site					
Tester					
Test Number					
Max Limit		5.2	V		
Min Limit		4.75	V		
Fluence (n/cm <sup>2</sup> )		0	1E+12	5E+12	1E+13
LL		4.750	4.750	4.750	4.750
Min		5.061	5.026	4.980	4.997
Average		5.061	5.044	4.992	5.012
Max		5.061	5.073	5.007	5.024
UL		5.200	5.200	5.200	5.200

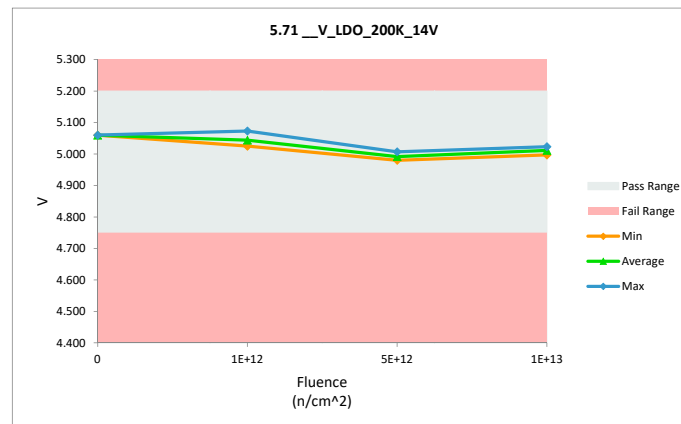


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.71_V_LDO_200K_14V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.060	5.060	0.000
1E+12	281	5.076	5.073	-0.003
1E+12	284	5.037	5.034	-0.003
1E+12	285	5.027	5.025	-0.002
5E+12	286	5.005	4.988	-0.017
5E+12	287	4.994	4.980	-0.014
5E+12	289	5.024	5.007	-0.017
1E+13	290	5.028	4.997	-0.031
1E+13	291	5.040	5.014	-0.026
1E+13	292	5.052	5.023	-0.029
Max		5.076	5.073	0.000
Average		5.034	5.020	-0.014
Min		4.994	4.980	-0.031
Std Dev		0.025	0.030	0.012

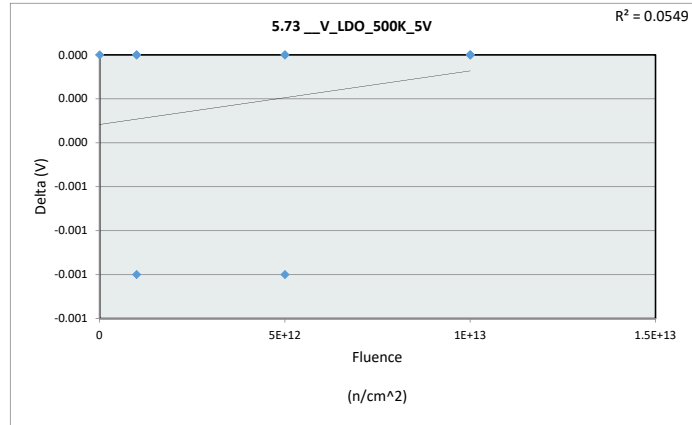


5.71_V_LDO_200K_14V					
Test Site					
Tester					
Test Number					
Max Limit		5.2	V		
Min Limit		4.75	V		
Fluence (n/cm <sup>2</sup> )		0	1E+12	5E+12	1E+13
LL		4.750	4.750	4.750	4.750
Min		5.060	5.025	4.980	4.997
Average		5.060	5.044	4.992	5.011
Max		5.060	5.073	5.007	5.023
UL		5.200	5.200	5.200	5.200

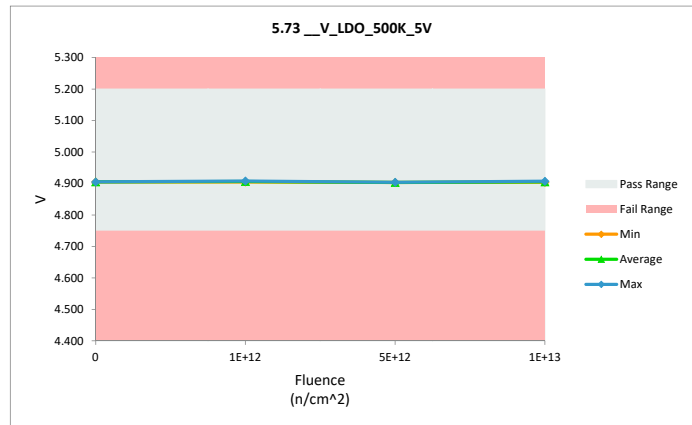


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.73 __V_LDO_500K_5V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	4.905	4.905	0.000
1E+12	281	4.906	4.905	-0.001
1E+12	284	4.908	4.908	0.000
1E+12	285	4.906	4.906	0.000
5E+12	286	4.904	4.904	0.000
5E+12	287	4.904	4.903	-0.001
5E+12	289	4.903	4.903	0.000
1E+13	290	4.904	4.904	0.000
1E+13	291	4.904	4.904	0.000
1E+13	292	4.907	4.907	0.000
Max		4.908	4.908	0.000
Average		4.905	4.905	0.000
Min		4.903	4.903	-0.001
Std Dev		0.002	0.002	0.000

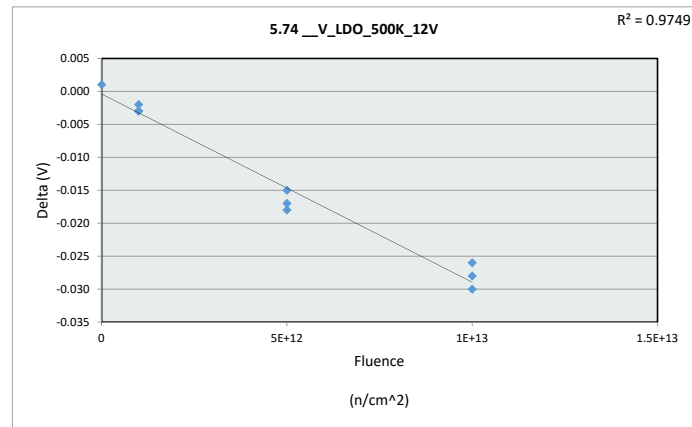


5.73 __V_LDO_500K_5V				
Test Site				
Tester				
Test Number				
Max Limit		5.2	V	
Min Limit		4.75	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	4.905	4.905	4.903	4.904
Average	4.905	4.906	4.903	4.905
Max	4.905	4.908	4.904	4.907
UL	5.200	5.200	5.200	5.200

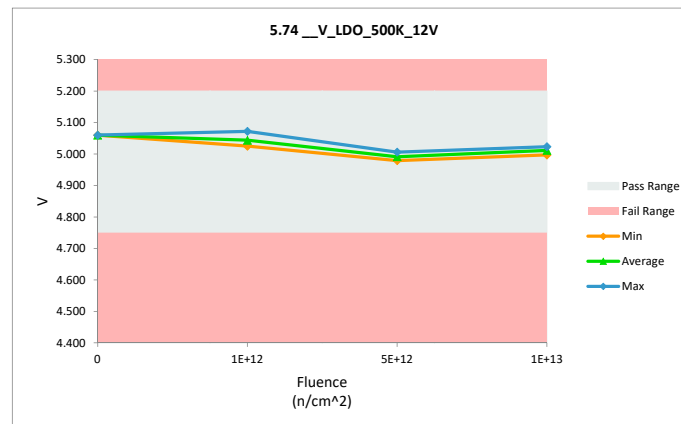


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.74_V_LDO_500K_12V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.059	5.060	0.001
1E+12	281	5.075	5.072	-0.003
1E+12	284	5.037	5.034	-0.003
1E+12	285	5.027	5.025	-0.002
5E+12	286	5.005	4.988	-0.017
5E+12	287	4.994	4.979	-0.015
5E+12	289	5.024	5.006	-0.018
1E+13	290	5.027	4.997	-0.030
1E+13	291	5.040	5.014	-0.026
1E+13	292	5.051	5.023	-0.028
Max		5.075	5.072	0.001
Average		5.034	5.020	-0.014
Min		4.994	4.979	-0.030
Std Dev		0.024	0.030	0.012

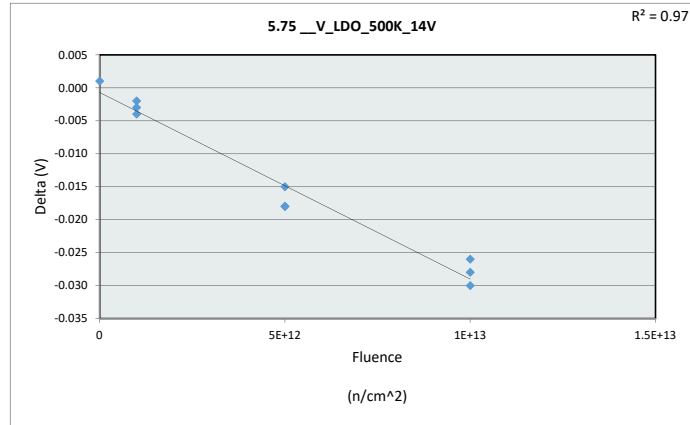


5.74_V_LDO_500K_12V				
Test Site				
Tester				
Test Number				
Max Limit		5.2	V	
Min Limit		4.75	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	5.060	5.025	4.979	4.997
Average	5.060	5.044	4.991	5.011
Max	5.060	5.072	5.006	5.023
UL	5.200	5.200	5.200	5.200

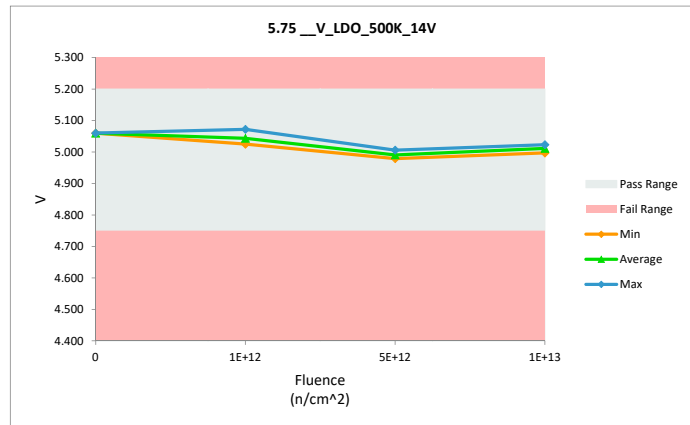


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.75_V_LDO_500K_14V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	5.2	5.2		
Min Limit	4.75	4.75		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.059	5.060	0.001
1E+12	281	5.075	5.072	-0.003
1E+12	284	5.037	5.033	-0.004
1E+12	285	5.027	5.025	-0.002
5E+12	286	5.005	4.987	-0.018
5E+12	287	4.994	4.979	-0.015
5E+12	289	5.024	5.006	-0.018
1E+13	290	5.027	4.997	-0.030
1E+13	291	5.040	5.014	-0.026
1E+13	292	5.051	5.023	-0.028
Max		5.075	5.072	0.001
Average		5.034	5.020	-0.014
Min		4.994	4.979	-0.030
Std Dev		0.024	0.030	0.012



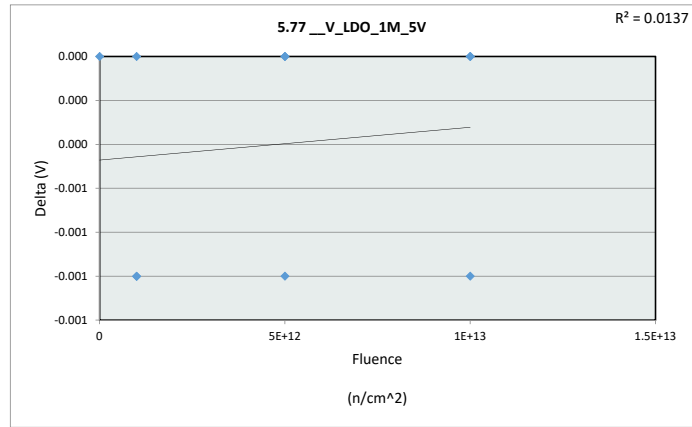
5.75_V_LDO_500K_14V				
Test Site				
Tester				
Test Number				
Max Limit	5.2	V		
Min Limit	4.75	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	5.060	5.025	4.979	4.997
Average	5.060	5.043	4.991	5.011
Max	5.060	5.072	5.006	5.023
UL	5.200	5.200	5.200	5.200



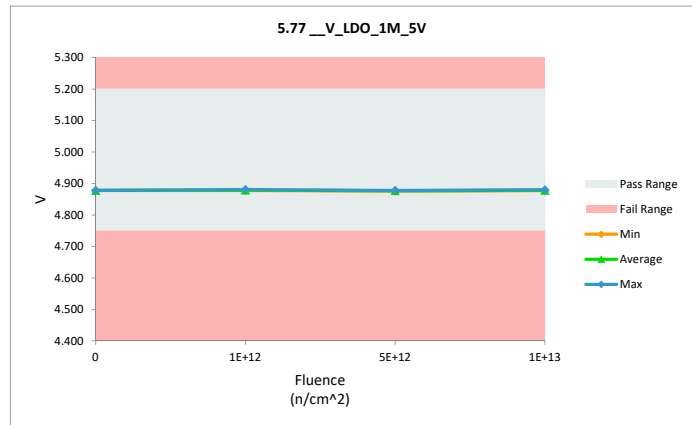


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.77 __V_LDO_1M_5V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	4.878	4.878	0.000
1E+12	281	4.879	4.878	-0.001
1E+12	284	4.881	4.881	0.000
1E+12	285	4.879	4.878	-0.001
5E+12	286	4.878	4.878	0.000
5E+12	287	4.877	4.876	-0.001
5E+12	289	4.876	4.876	0.000
1E+13	290	4.877	4.877	0.000
1E+13	291	4.878	4.878	0.000
1E+13	292	4.881	4.880	-0.001
Max		4.881	4.881	0.000
Average		4.878	4.878	0.000
Min		4.876	4.876	-0.001
Std Dev		0.002	0.002	0.001



5.77 __V_LDO_1M_5V				
Test Site				
Tester				
Test Number				
Max Limit		5.2	V	
Min Limit		4.75	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	4.878	4.878	4.876	4.877
Average	4.878	4.879	4.877	4.878
Max	4.878	4.881	4.878	4.880
UL	5.200	5.200	5.200	5.200

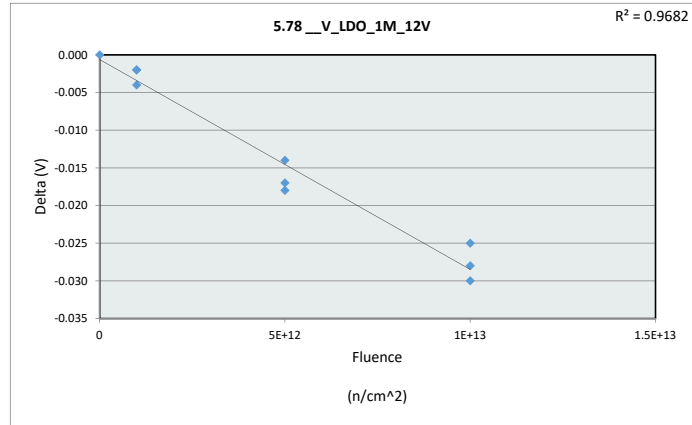


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.78 \_\_V\_LDO\_1M\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	5.2	5.2
Min Limit	4.75	4.75

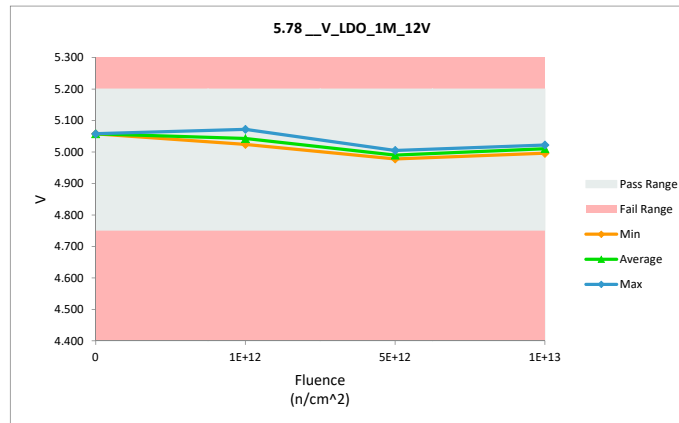
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.058	5.058	0.000
1E+12	281	5.074	5.072	-0.002
1E+12	284	5.036	5.032	-0.004
1E+12	285	5.026	5.024	-0.002
5E+12	286	5.004	4.987	-0.017
5E+12	287	4.992	4.978	-0.014
5E+12	289	5.023	5.005	-0.018
1E+13	290	5.026	4.996	-0.030
1E+13	291	5.038	5.013	-0.025
1E+13	292	5.050	5.022	-0.028
Max		5.074	5.072	0.000
Average		5.033	5.019	-0.014
Min		4.992	4.978	-0.030
Std Dev		0.024	0.030	0.011



## 5.78 \_\_V\_LDO\_1M\_12V

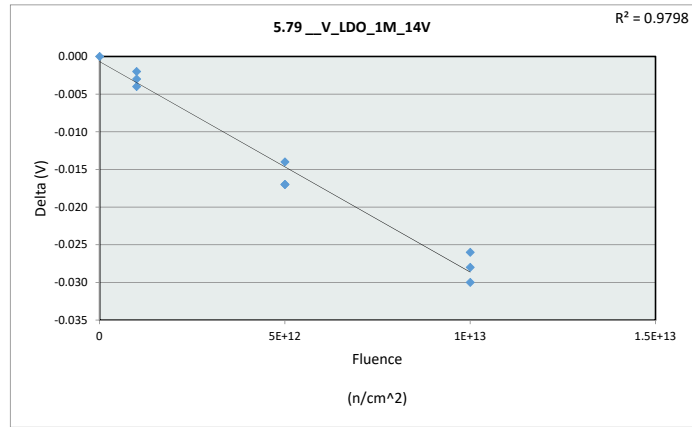
Test Site		
Tester		
Test Number		
Max Limit	5.2	V
Min Limit	4.75	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	5.058	5.024	4.978	4.996
Average	5.058	5.043	4.990	5.010
Max	5.058	5.072	5.005	5.022
UL	5.200	5.200	5.200	5.200

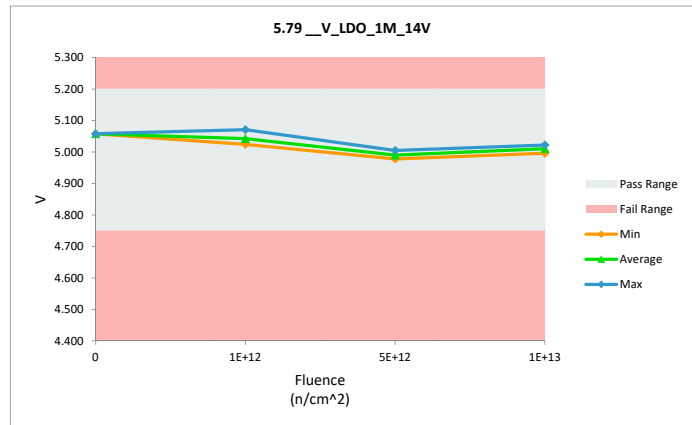


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.79 __V_LDO_1M_14V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.75	4.75	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.058	5.058	0.000
1E+12	281	5.074	5.071	-0.003
1E+12	284	5.036	5.032	-0.004
1E+12	285	5.026	5.024	-0.002
5E+12	286	5.004	4.987	-0.017
5E+12	287	4.992	4.978	-0.014
5E+12	289	5.022	5.005	-0.017
1E+13	290	5.026	4.996	-0.030
1E+13	291	5.039	5.013	-0.026
1E+13	292	5.050	5.022	-0.028
Max		5.074	5.071	0.000
Average		5.033	5.019	-0.014
Min		4.992	4.978	-0.030
Std Dev		0.024	0.030	0.011

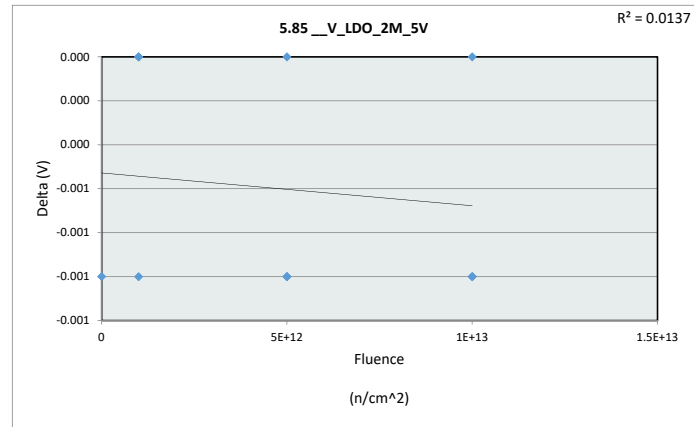


5.79 __V_LDO_1M_14V				
Test Site				
Tester				
Test Number				
Max Limit		5.2	V	
Min Limit		4.75	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.750	4.750	4.750	4.750
Min	5.058	5.024	4.978	4.996
Average	5.058	5.042	4.990	5.010
Max	5.058	5.071	5.005	5.022
UL	5.200	5.200	5.200	5.200

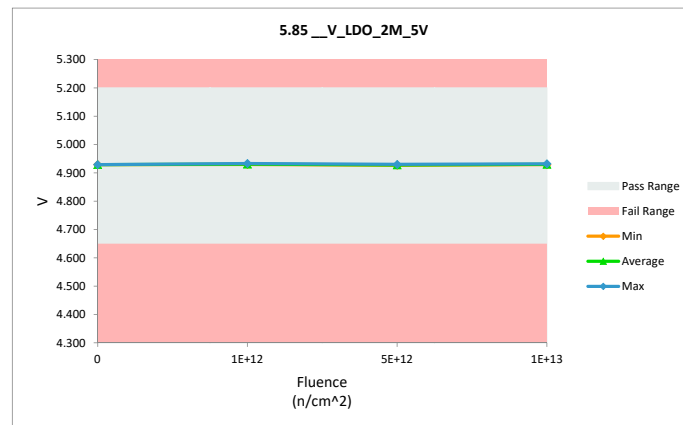


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.85 __V_LDO_2M_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	5.2	5.2		
Min Limit	4.65	4.65		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	4.930	4.929	-0.001
1E+12	281	4.931	4.930	-0.001
1E+12	284	4.933	4.933	0.000
1E+12	285	4.930	4.930	0.000
5E+12	286	4.931	4.930	-0.001
5E+12	287	4.928	4.927	-0.001
5E+12	289	4.927	4.927	0.000
1E+13	290	4.929	4.929	0.000
1E+13	291	4.931	4.930	-0.001
1E+13	292	4.933	4.932	-0.001
Max		4.933	4.933	0.000
Average		4.930	4.930	-0.001
Min		4.927	4.927	-0.001
Std Dev		0.002	0.002	0.001

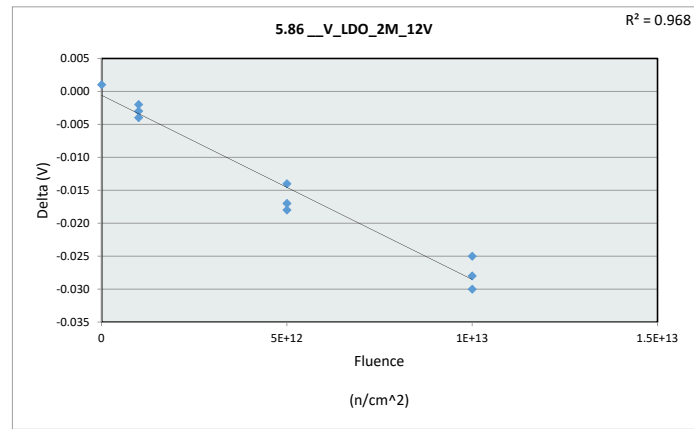


5.85 __V_LDO_2M_5V				
Test Site				
Tester				
Test Number				
Max Limit	5.2	V		
Min Limit	4.65	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.650	4.650	4.650	4.650
Min	4.929	4.930	4.927	4.929
Average	4.929	4.931	4.928	4.930
Max	4.929	4.933	4.930	4.932
UL	5.200	5.200	5.200	5.200

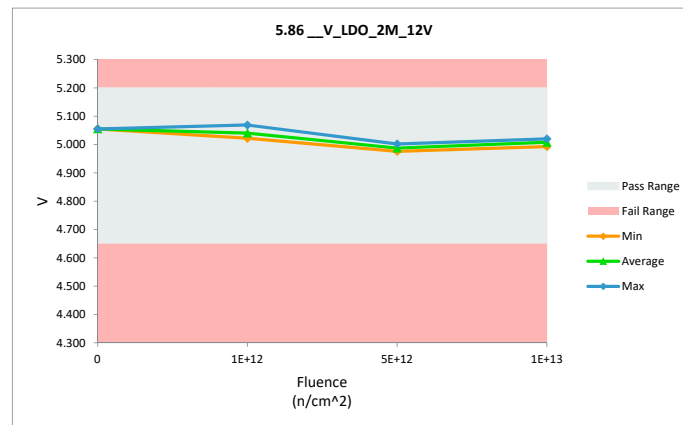


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.86 __V_LDO_2M_12V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		5.2	5.2	
Min Limit		4.65	4.65	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.054	5.055	0.001
1E+12	281	5.073	5.069	-0.004
1E+12	284	5.033	5.030	-0.003
1E+12	285	5.024	5.022	-0.002
5E+12	286	5.002	4.985	-0.017
5E+12	287	4.990	4.976	-0.014
5E+12	289	5.020	5.002	-0.018
1E+13	290	5.023	4.993	-0.030
1E+13	291	5.036	5.011	-0.025
1E+13	292	5.048	5.020	-0.028
Max		5.073	5.069	0.001
Average		5.030	5.016	-0.014
Min		4.990	4.976	-0.030
Std Dev		0.024	0.030	0.011



5.86 __V_LDO_2M_12V				
Test Site				
Tester				
Test Number				
Max Limit		5.2	V	
Min Limit		4.65	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.650	4.650	4.650	4.650
Min	5.055	5.022	4.976	4.993
Average	5.055	5.040	4.988	5.008
Max	5.055	5.069	5.002	5.020
UL	5.200	5.200	5.200	5.200

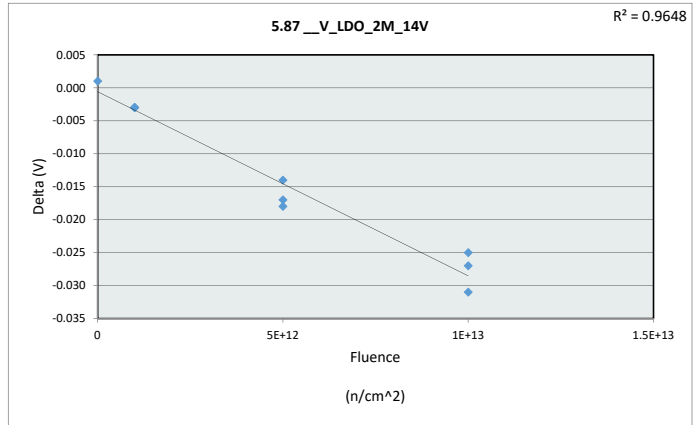


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.87 \_\_V\_LDO\_2M\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	5.2	5.2
Min Limit	4.65	4.65

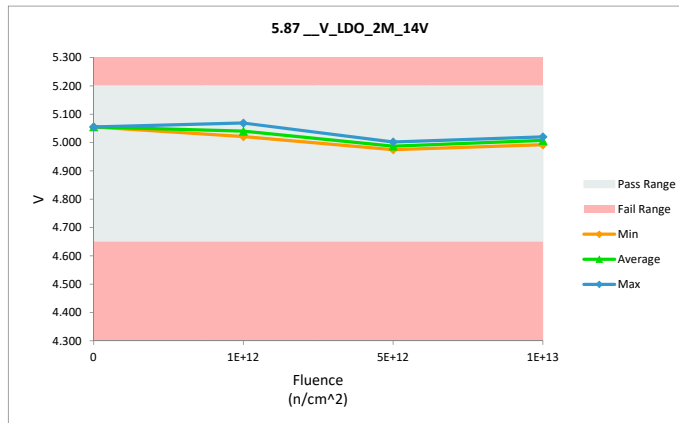
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	5.054	5.055	0.001
1E+12	281	5.072	5.069	-0.003
1E+12	284	5.033	5.030	-0.003
1E+12	285	5.024	5.021	-0.003
5E+12	286	5.002	4.985	-0.017
5E+12	287	4.989	4.975	-0.014
5E+12	289	5.020	5.002	-0.018
1E+13	290	5.023	4.992	-0.031
1E+13	291	5.035	5.010	-0.025
1E+13	292	5.047	5.020	-0.027
Max		5.072	5.069	0.001
Average		5.030	5.016	-0.014
Min		4.989	4.975	-0.031
Std Dev		0.024	0.030	0.012



5.87 \_\_V\_LDO\_2M\_14V

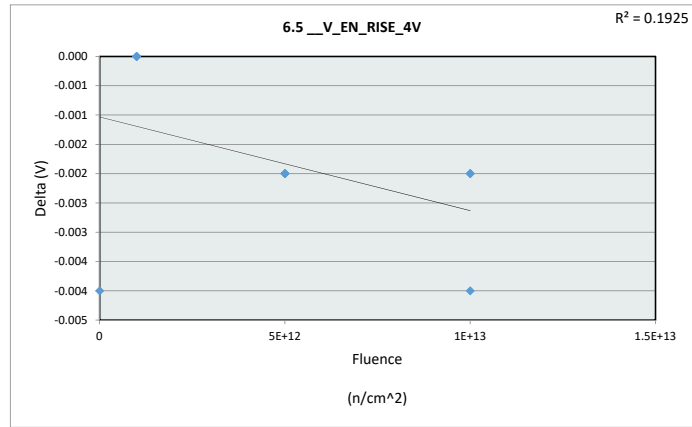
Test Site		
Tester		
Test Number		
Max Limit	5.2	V
Min Limit	4.65	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	4.650	4.650	4.650	4.650
Min	5.055	5.021	4.975	4.992
Average	5.055	5.040	4.987	5.007
Max	5.055	5.069	5.002	5.020
UL	5.200	5.200	5.200	5.200

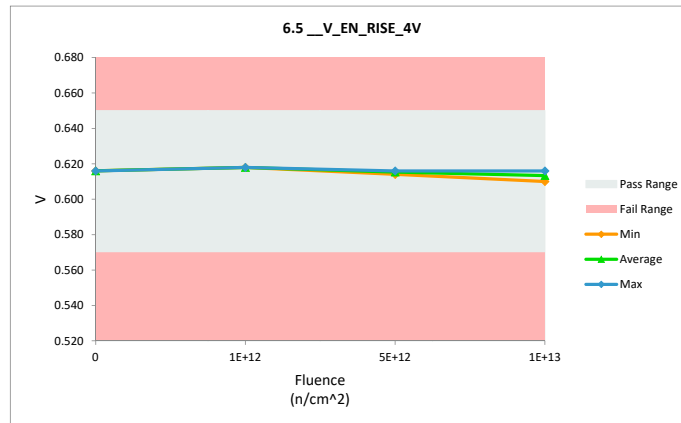


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.5 __V_EN_RISE_4V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.65	0.65		
Min Limit	0.57	0.57		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.620	0.616	-0.004
1E+12	281	0.618	0.618	0.000
1E+12	284	0.618	0.618	0.000
1E+12	285	0.618	0.618	0.000
5E+12	286	0.618	0.616	-0.002
5E+12	287	0.618	0.616	-0.002
5E+12	289	0.616	0.614	-0.002
1E+13	290	0.612	0.610	-0.002
1E+13	291	0.618	0.616	-0.002
1E+13	292	0.618	0.614	-0.004
Max		0.620	0.618	0.000
Average		0.617	0.616	-0.002
Min		0.612	0.610	-0.004
Std Dev		0.002	0.002	0.001

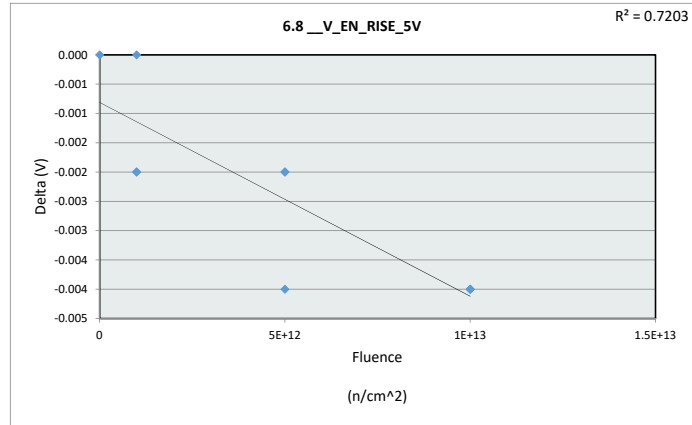


6.5 __V_EN_RISE_4V				
Test Site				
Tester				
Test Number				
Max Limit	0.65	V		
Min Limit	0.57	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.616	0.618	0.614	0.610
Average	0.616	0.618	0.615	0.613
Max	0.616	0.618	0.616	0.616
UL	0.650	0.650	0.650	0.650

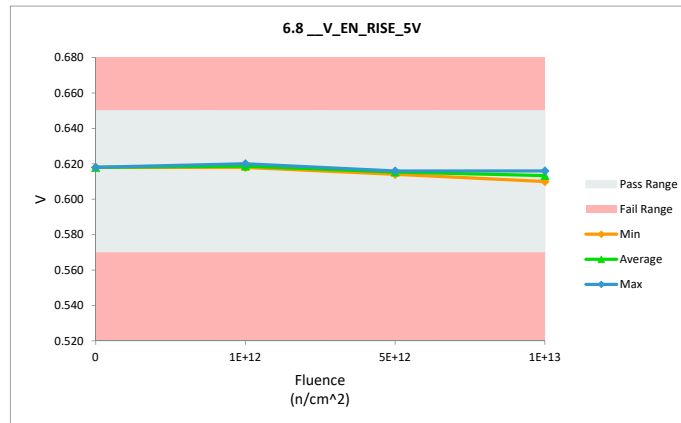


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.8 __V_EN_RISE_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.65	0.65		
Min Limit	0.57	0.57		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.618	0.618	0.000
1E+12	281	0.620	0.618	-0.002
1E+12	284	0.620	0.618	-0.002
1E+12	285	0.620	0.620	0.000
5E+12	286	0.618	0.616	-0.002
5E+12	287	0.618	0.616	-0.002
5E+12	289	0.618	0.614	-0.004
1E+13	290	0.614	0.610	-0.004
1E+13	291	0.620	0.616	-0.004
1E+13	292	0.618	0.614	-0.004
Max		0.620	0.620	0.000
Average		0.618	0.616	-0.002
Min		0.614	0.610	-0.004
Std Dev		0.002	0.003	0.002



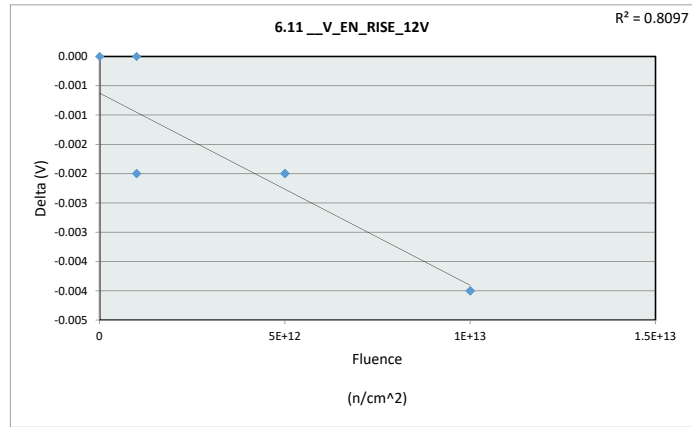
6.8 __V_EN_RISE_5V				
Test Site				
Tester				
Test Number				
Max Limit	0.65	V		
Min Limit	0.57	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.618	0.618	0.614	0.610
Average	0.618	0.619	0.615	0.613
Max	0.618	0.620	0.616	0.616
UL	0.650	0.650	0.650	0.650



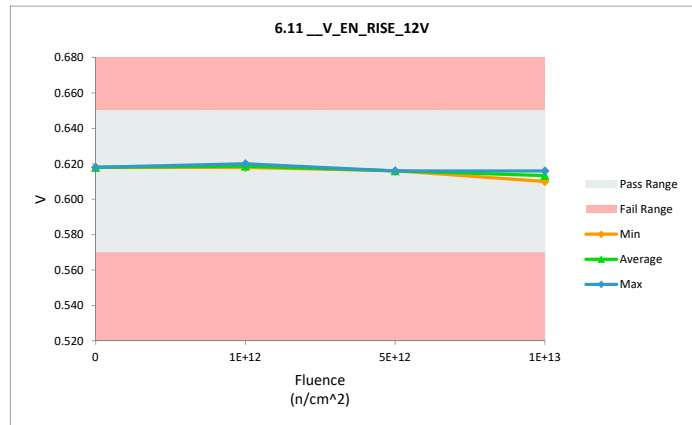


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.11 __V_EN_RISE_12V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.65	0.65		
Min Limit	0.57	0.57		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.618	0.618	0.000
1E+12	281	0.620	0.618	-0.002
1E+12	284	0.620	0.618	-0.002
1E+12	285	0.620	0.620	0.000
5E+12	286	0.618	0.616	-0.002
5E+12	287	0.618	0.616	-0.002
5E+12	289	0.618	0.616	-0.002
1E+13	290	0.614	0.610	-0.004
1E+13	291	0.620	0.616	-0.004
1E+13	292	0.618	0.614	-0.004
Max		0.620	0.620	0.000
Average		0.618	0.616	-0.002
Min		0.614	0.610	-0.004
Std Dev		0.002	0.003	0.001

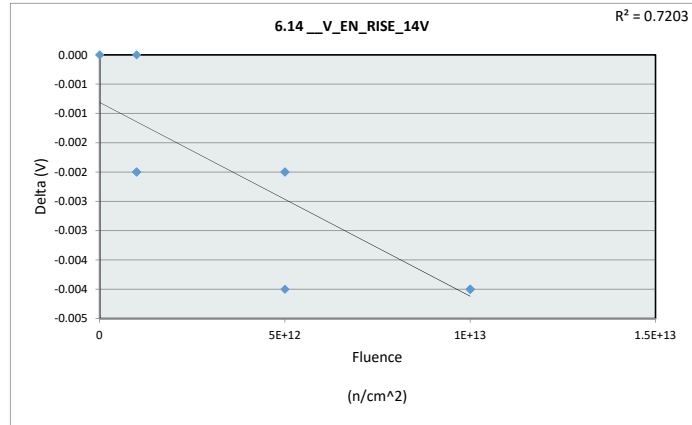


6.11 __V_EN_RISE_12V				
Test Site				
Tester				
Test Number				
Max Limit	0.65	V		
Min Limit	0.57	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.618	0.618	0.616	0.610
Average	0.618	0.619	0.616	0.613
Max	0.618	0.620	0.616	0.616
UL	0.650	0.650	0.650	0.650

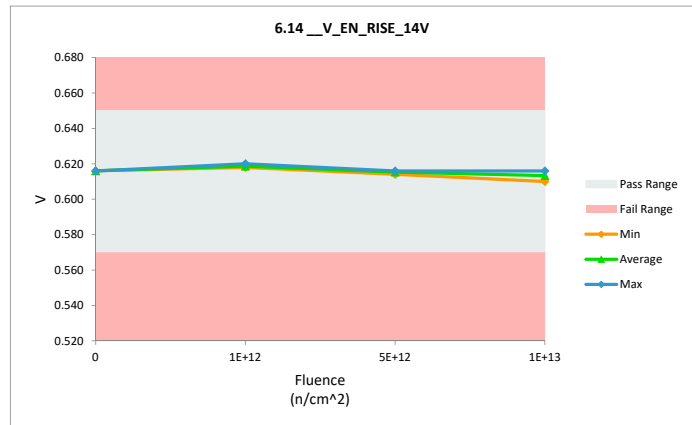


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.14 __V_EN_RISE_14V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.65	0.65		
Min Limit	0.57	0.57		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.616	0.616	0.000
1E+12	281	0.620	0.618	-0.002
1E+12	284	0.620	0.618	-0.002
1E+12	285	0.620	0.620	0.000
5E+12	286	0.618	0.616	-0.002
5E+12	287	0.618	0.616	-0.002
5E+12	289	0.618	0.614	-0.004
1E+13	290	0.614	0.610	-0.004
1E+13	291	0.620	0.616	-0.004
1E+13	292	0.618	0.614	-0.004
Max		0.620	0.620	0.000
Average		0.618	0.616	-0.002
Min		0.614	0.610	-0.004
Std Dev		0.002	0.003	0.002

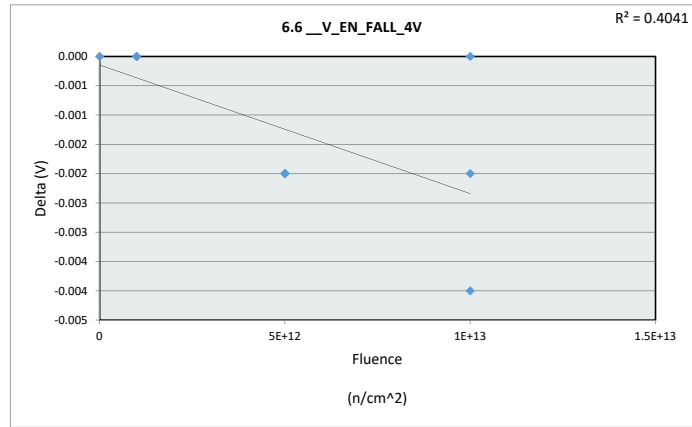


6.14 __V_EN_RISE_14V				
Test Site				
Tester				
Test Number				
Max Limit	0.65	V		
Min Limit	0.57	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.616	0.618	0.614	0.610
Average	0.616	0.619	0.615	0.613
Max	0.616	0.620	0.616	0.616
UL	0.650	0.650	0.650	0.650

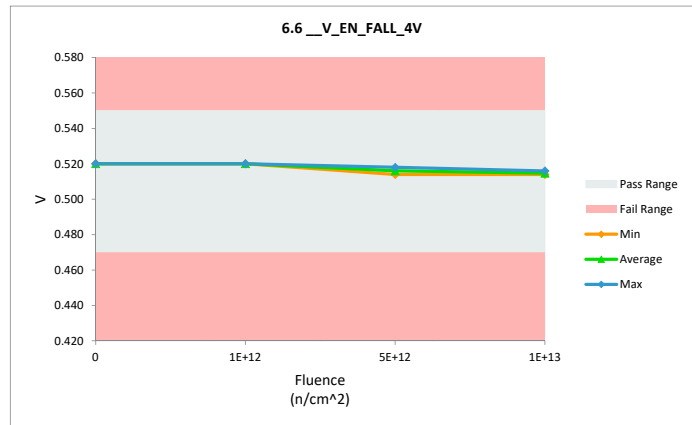


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.6 __V_EN_FALL_4V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		0.55	0.55	
Min Limit		0.47	0.47	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.520	0.520	0.000
1E+12	281	0.520	0.520	0.000
1E+12	284	0.520	0.520	0.000
1E+12	285	0.520	0.520	0.000
5E+12	286	0.520	0.518	-0.002
5E+12	287	0.518	0.516	-0.002
5E+12	289	0.516	0.514	-0.002
1E+13	290	0.514	0.514	0.000
1E+13	291	0.518	0.516	-0.002
1E+13	292	0.518	0.514	-0.004
Max		0.520	0.520	0.000
Average		0.518	0.517	-0.001
Min		0.514	0.514	-0.004
Std Dev		0.002	0.003	0.001

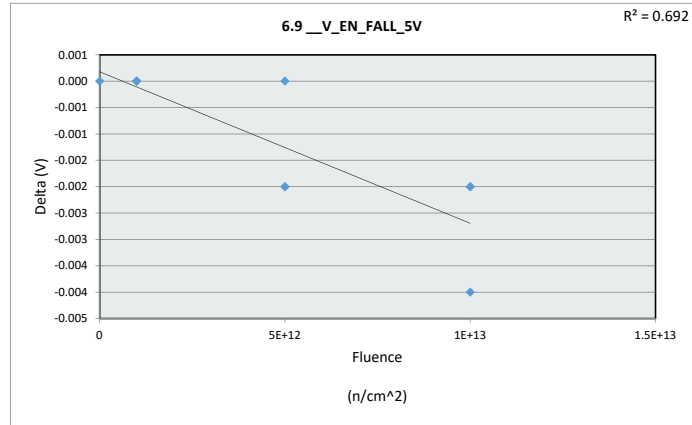


6.6 __V_EN_FALL_4V				
Test Site				
Tester				
Test Number				
Max Limit		0.55	V	
Min Limit		0.47	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.520	0.520	0.514	0.514
Average	0.520	0.520	0.516	0.515
Max	0.520	0.520	0.518	0.516
UL	0.550	0.550	0.550	0.550

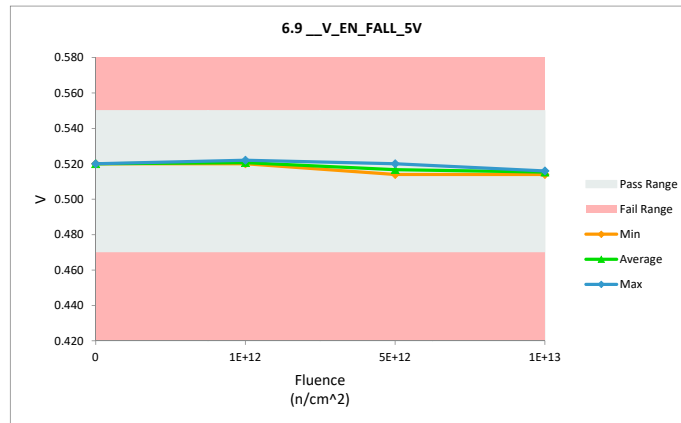


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.9 __V_EN_FALL_5V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		0.55	0.55	
Min Limit		0.47	0.47	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.520	0.520	0.000
1E+12	281	0.522	0.522	0.000
1E+12	284	0.520	0.520	0.000
1E+12	285	0.520	0.520	0.000
5E+12	286	0.520	0.520	0.000
5E+12	287	0.518	0.516	-0.002
5E+12	289	0.516	0.514	-0.002
1E+13	290	0.516	0.514	-0.002
1E+13	291	0.520	0.516	-0.004
1E+13	292	0.518	0.516	-0.002
Max		0.522	0.522	0.000
Average		0.519	0.518	-0.001
Min		0.516	0.514	-0.004
Std Dev		0.002	0.003	0.001

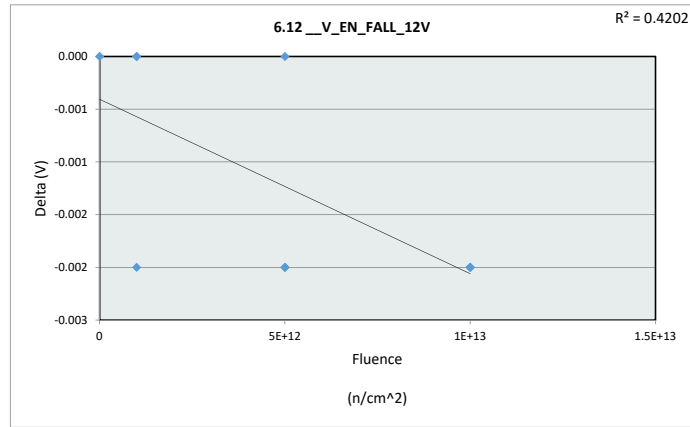


6.9 __V_EN_FALL_5V				
Test Site				
Tester				
Test Number				
Max Limit		0.55	V	
Min Limit		0.47	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.520	0.520	0.514	0.514
Average	0.520	0.521	0.517	0.515
Max	0.520	0.522	0.520	0.516
UL	0.550	0.550	0.550	0.550

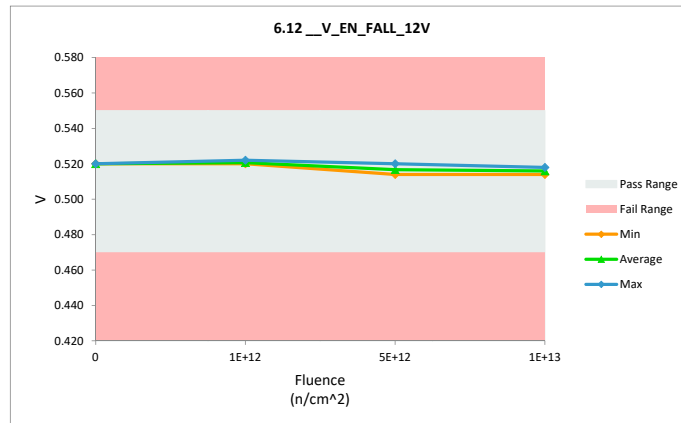


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.12 __V_EN_FALL_12V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		0.55	0.55	
Min Limit		0.47	0.47	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.520	0.520	0.000
1E+12	281	0.522	0.520	-0.002
1E+12	284	0.522	0.522	0.000
1E+12	285	0.520	0.520	0.000
5E+12	286	0.520	0.520	0.000
5E+12	287	0.518	0.516	-0.002
5E+12	289	0.516	0.514	-0.002
1E+13	290	0.516	0.514	-0.002
1E+13	291	0.520	0.518	-0.002
1E+13	292	0.518	0.516	-0.002
Max		0.522	0.522	0.000
Average		0.519	0.518	-0.001
Min		0.516	0.514	-0.002
Std Dev		0.002	0.003	0.001

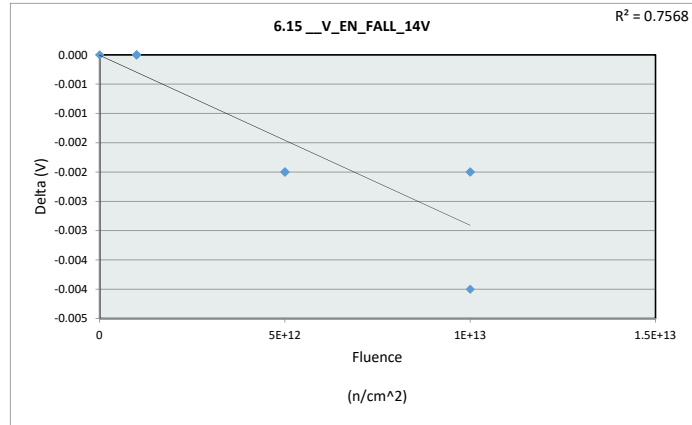


6.12 __V_EN_FALL_12V					
Test Site					
Tester					
Test Number					
Max Limit		0.55	V		
Min Limit		0.47	V		
Fluence (n/cm <sup>2</sup> )		0	1E+12	5E+12	1E+13
LL		0.470	0.470	0.470	0.470
Min		0.520	0.520	0.514	0.514
Average		0.520	0.521	0.517	0.516
Max		0.520	0.522	0.520	0.518
UL		0.550	0.550	0.550	0.550

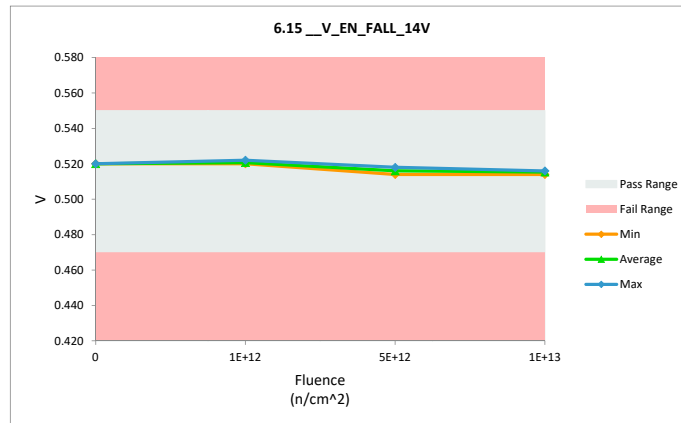


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.15 __V_EN_FALL_14V				
Test Site				
Tester				
Test Number				
Unit		V	V	
Max Limit		0.55	0.55	
Min Limit		0.47	0.47	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.520	0.520	0.000
1E+12	281	0.522	0.522	0.000
1E+12	284	0.520	0.520	0.000
1E+12	285	0.520	0.520	0.000
5E+12	286	0.520	0.518	-0.002
5E+12	287	0.518	0.516	-0.002
5E+12	289	0.516	0.514	-0.002
1E+13	290	0.516	0.514	-0.002
1E+13	291	0.520	0.516	-0.004
1E+13	292	0.518	0.516	-0.002
Max		0.522	0.522	0.000
Average		0.519	0.518	-0.001
Min		0.516	0.514	-0.004
Std Dev		0.002	0.003	0.001

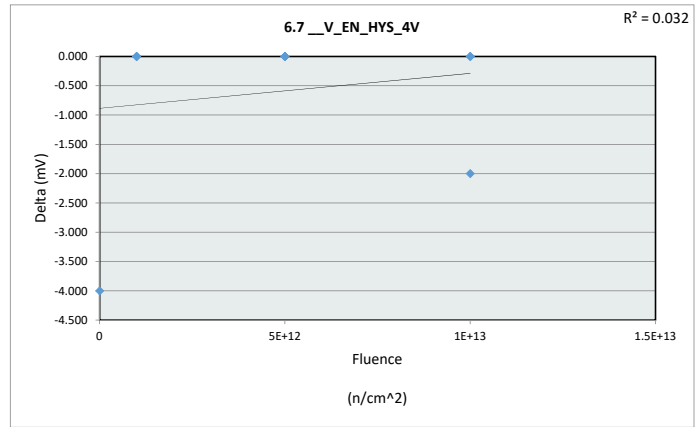


6.15 __V_EN_FALL_14V				
Test Site				
Tester				
Test Number				
Max Limit		0.55	V	
Min Limit		0.47	V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.520	0.520	0.514	0.514
Average	0.520	0.521	0.516	0.515
Max	0.520	0.522	0.518	0.516
UL	0.550	0.550	0.550	0.550

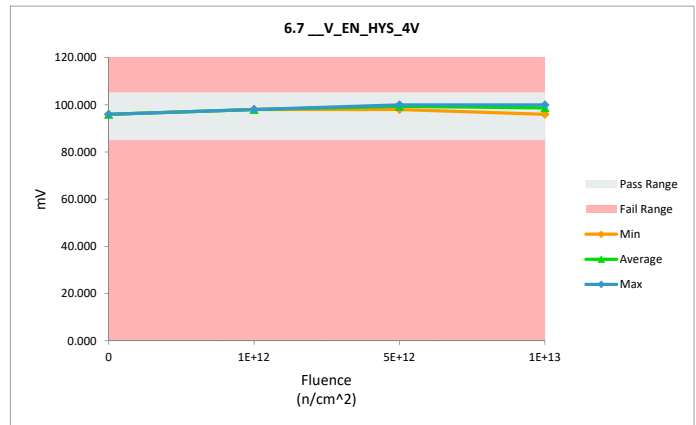


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.7 __V_EN_HYS_4V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		105	105	
Min Limit		85	85	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	100.000	96.000	-4.000
1E+12	281	98.000	98.000	0.000
1E+12	284	98.000	98.000	0.000
1E+12	285	98.000	98.000	0.000
5E+12	286	98.000	98.000	0.000
5E+12	287	100.000	100.000	0.000
5E+12	289	100.000	100.000	0.000
1E+13	290	98.000	96.000	-2.000
1E+13	291	100.000	100.000	0.000
1E+13	292	100.000	100.000	0.000
Max		100.000	100.000	0.000
Average		99.000	98.400	-0.600
Min		98.000	96.000	-4.000
Std Dev		1.054	1.578	1.350

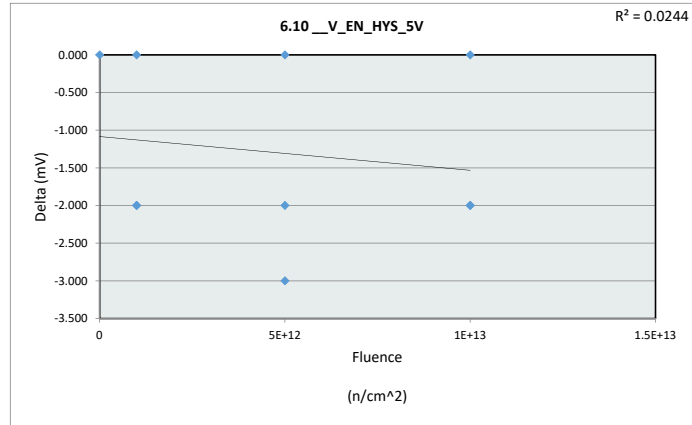


6.7 __V_EN_HYS_4V				
Test Site				
Tester				
Test Number				
Max Limit		105	mV	
Min Limit		85	mV	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	96.000	98.000	98.000	96.000
Average	96.000	98.000	99.333	98.667
Max	96.000	98.000	100.000	100.000
UL	105.000	105.000	105.000	105.000

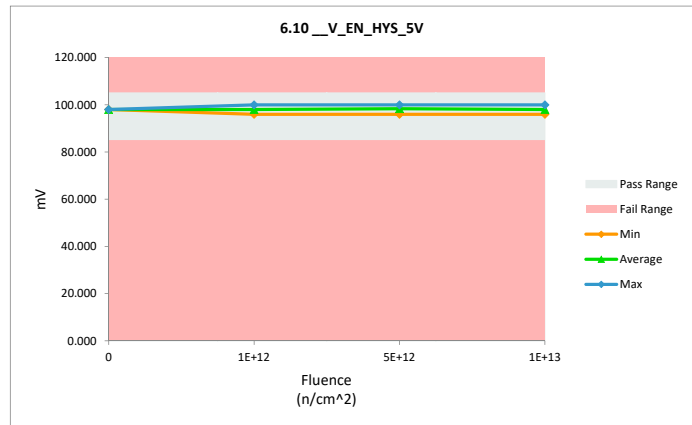


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.10 __V_EN_HYS_5V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		105	105	
Min Limit		85	85	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	98.000	98.000	0.000
1E+12	281	98.000	96.000	-2.000
1E+12	284	100.000	98.000	-2.000
1E+12	285	100.000	100.000	0.000
5E+12	286	98.000	96.000	-2.000
5E+12	287	100.000	100.000	0.000
5E+12	289	102.000	99.000	-3.000
1E+13	290	98.000	96.000	-2.000
1E+13	291	100.000	100.000	0.000
1E+13	292	100.000	98.000	-2.000
Max		102.000	100.000	0.000
Average		99.400	98.100	-1.300
Min		98.000	96.000	-3.000
Std Dev		1.350	1.663	1.160



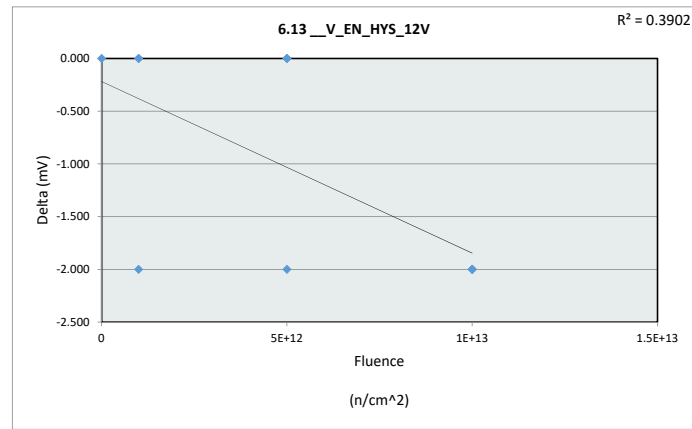
6.10 __V_EN_HYS_5V				
Test Site				
Tester				
Test Number				
Max Limit		105	mV	
Min Limit		85	mV	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	98.000	96.000	96.000	96.000
Average	98.000	98.000	98.333	98.000
Max	98.000	100.000	100.000	100.000
UL	105.000	105.000	105.000	105.000



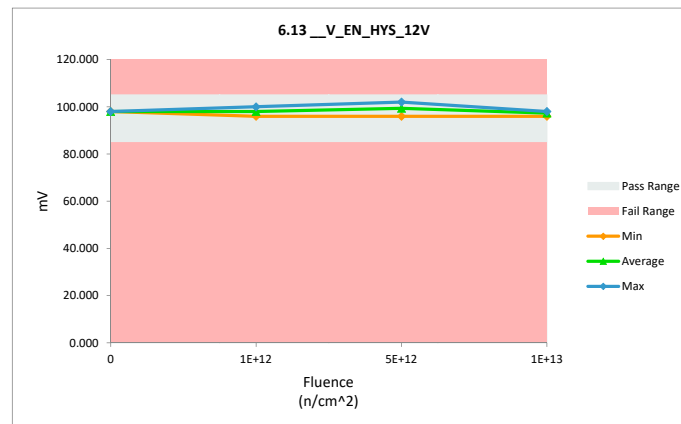


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.13 __V_EN_HYS_12V				
Fluence		PRE	POST	Delta
0	295	98.000	98.000	0.000
1E+12	281	98.000	98.000	0.000
1E+12	284	98.000	96.000	-2.000
1E+12	285	100.000	100.000	0.000
5E+12	286	98.000	96.000	-2.000
5E+12	287	100.000	100.000	0.000
5E+12	289	102.000	102.000	0.000
1E+13	290	98.000	96.000	-2.000
1E+13	291	100.000	98.000	-2.000
1E+13	292	100.000	98.000	-2.000
	Max	102.000	102.000	0.000
	Average	99.200	98.200	-1.000
	Min	98.000	96.000	-2.000
	Std Dev	1.398	1.989	1.054



6.13 __V_EN_HYS_12V					
Fluence (n/cm <sup>2</sup> )		0	1E+12	5E+12	1E+13
LL		85.000	85.000	85.000	85.000
Min		98.000	96.000	96.000	96.000
Average		98.000	98.000	99.333	97.333
Max		98.000	100.000	102.000	98.000
UL		105.000	105.000	105.000	105.000

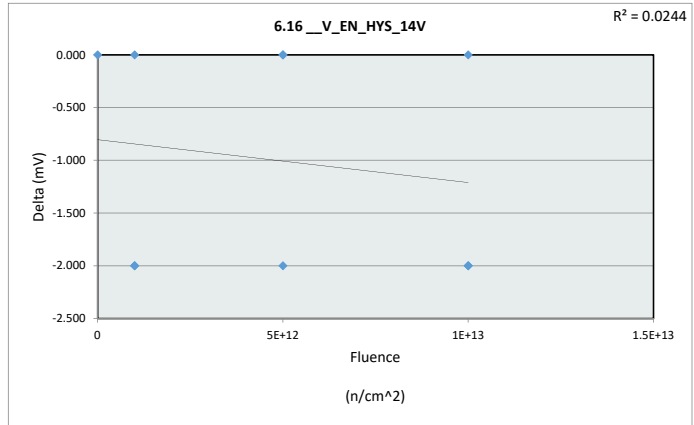


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.16 \_\_V\_EN\_HYS\_14V

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	105	105
Min Limit	85	85

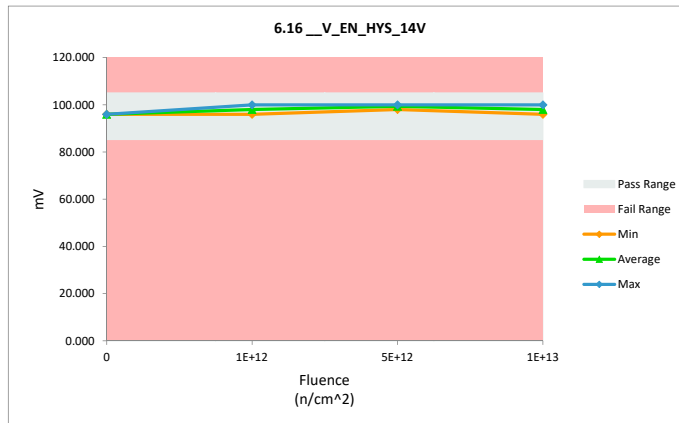
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	96.000	96.000	0.000
1E+12	281	98.000	96.000	-2.000
1E+12	284	100.000	98.000	-2.000
1E+12	285	100.000	100.000	0.000
5E+12	286	98.000	98.000	0.000
5E+12	287	100.000	100.000	0.000
5E+12	289	102.000	100.000	-2.000
1E+13	290	98.000	96.000	-2.000
1E+13	291	100.000	100.000	0.000
1E+13	292	100.000	98.000	-2.000
Max		102.000	100.000	0.000
Average		99.200	98.200	-1.000
Min		96.000	96.000	-2.000
Std Dev		1.687	1.751	1.054



## 6.16 \_\_V\_EN\_HYS\_14V

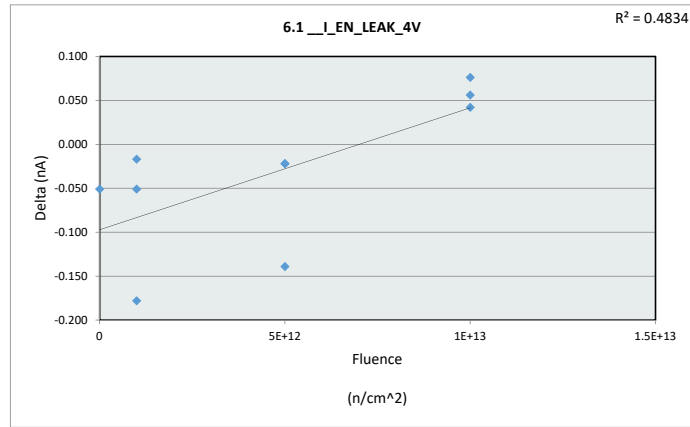
Test Site		
Tester		
Test Number		
Max Limit	105	mV
Min Limit	85	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	96.000	96.000	98.000	96.000
Average	96.000	98.000	99.333	98.000
Max	96.000	100.000	100.000	100.000
UL	105.000	105.000	105.000	105.000

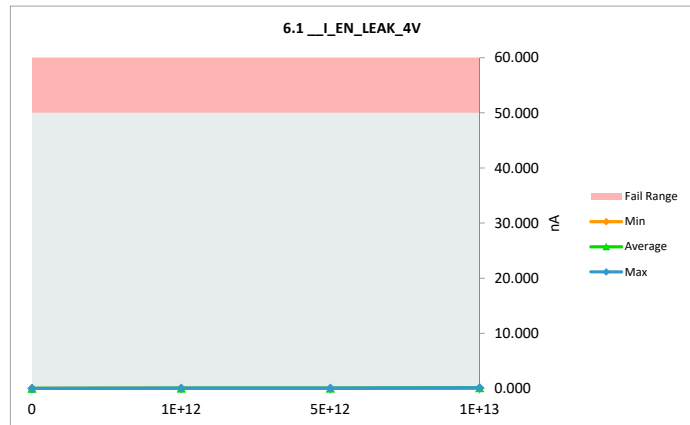


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.1_I_EN_LEAK_4V				
Fluence	Serial #	PRE	POST	Delta
0	295	0.051	0.000	-0.051
1E+12	281	0.090	0.039	-0.051
1E+12	284	0.046	0.029	-0.017
1E+12	285	0.188	0.010	-0.178
5E+12	286	0.168	0.029	-0.139
5E+12	287	0.061	0.039	-0.022
5E+12	289	0.032	0.010	-0.022
1E+13	290	0.041	0.117	0.076
1E+13	291	0.056	0.098	0.042
1E+13	292	0.012	0.068	0.056
Max		0.188	0.117	0.076
Average		0.074	0.044	-0.031
Min		0.012	0.000	-0.178
Std Dev		0.058	0.039	0.081



6.1_I_EN_LEAK_4V				
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	0.000	0.010	0.010	0.068
Average	0.000	0.026	0.026	0.094
Max	0.000	0.039	0.039	0.117
UL	50.000	50.000	50.000	50.000

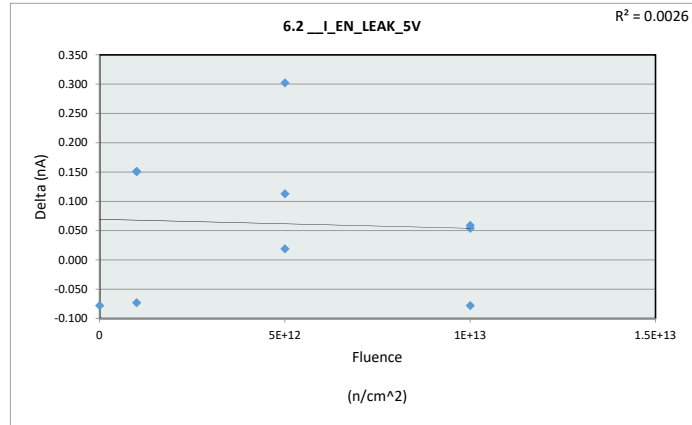


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.2 \_\_I\_EN\_LEAK\_5V

Test Site		
Tester		
Test Number		
Unit	nA	nA
Max Limit	50	50
Min Limit		

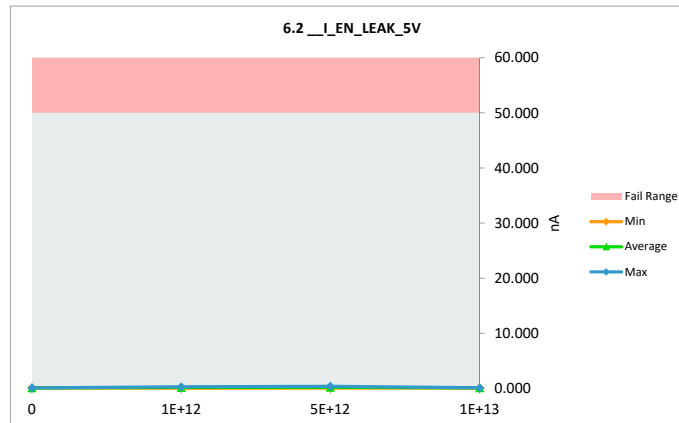
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.154	0.076	-0.078
1E+12	281	0.032	0.183	0.151
1E+12	284	0.095	0.022	-0.073
1E+12	285	0.110	0.261	0.151
5E+12	286	0.066	0.368	0.302
5E+12	287	0.027	0.046	0.019
5E+12	289	0.041	0.154	0.113
1E+13	290	0.129	0.051	-0.078
1E+13	291	0.022	0.076	0.054
1E+13	292	0.041	0.100	0.059
Max		0.154	0.368	0.302
Average		0.072	0.134	0.062
Min		0.022	0.022	-0.078
Std Dev		0.047	0.110	0.123



## 6.2 \_\_I\_EN\_LEAK\_5V

Test Site		
Tester		
Test Number		
Max Limit	50	nA
Min Limit		nA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	0.076	0.022	0.046	0.051
Average	0.076	0.155	0.189	0.076
Max	0.076	0.261	0.368	0.100
UL	50.000	50.000	50.000	50.000

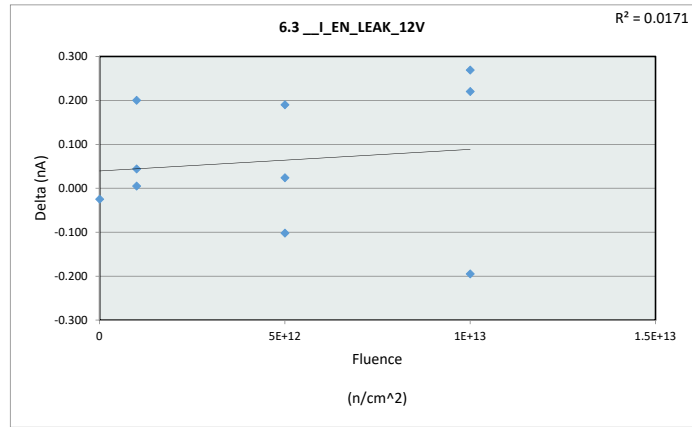


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.3\_I\_EN\_LEAK\_12V

Test Site	
Tester	
Test Number	
Unit	nA
Max Limit	50
Min Limit	

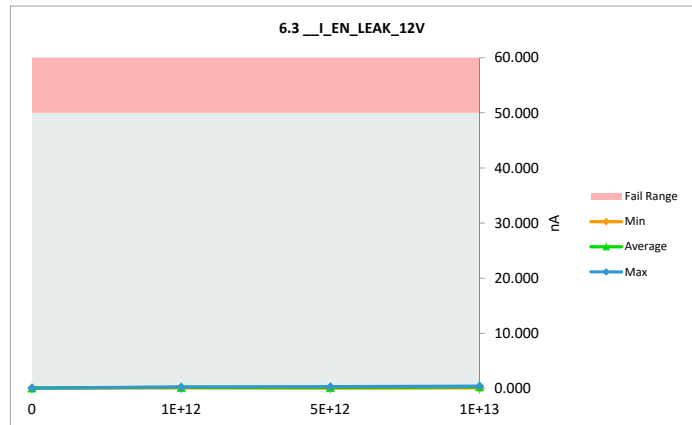
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.081	0.056	-0.025
1E+12	281	0.032	0.232	0.200
1E+12	284	0.051	0.095	0.044
1E+12	285	0.207	0.212	0.005
5E+12	286	0.159	0.183	0.024
5E+12	287	0.129	0.027	-0.102
5E+12	289	0.110	0.300	0.190
1E+13	290	0.266	0.071	-0.195
1E+13	291	0.012	0.281	0.269
1E+13	292	0.188	0.408	0.220
Max		0.266	0.408	0.269
Average		0.123	0.186	0.063
Min		0.012	0.027	-0.195
Std Dev		0.082	0.124	0.152



## 6.3\_I\_EN\_LEAK\_12V

Test Site	
Tester	
Test Number	
Max Limit	50 nA
Min Limit	nA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	0.056	0.095	0.027	0.071
Average	0.056	0.180	0.170	0.253
Max	0.056	0.232	0.300	0.408
UL	50.000	50.000	50.000	50.000

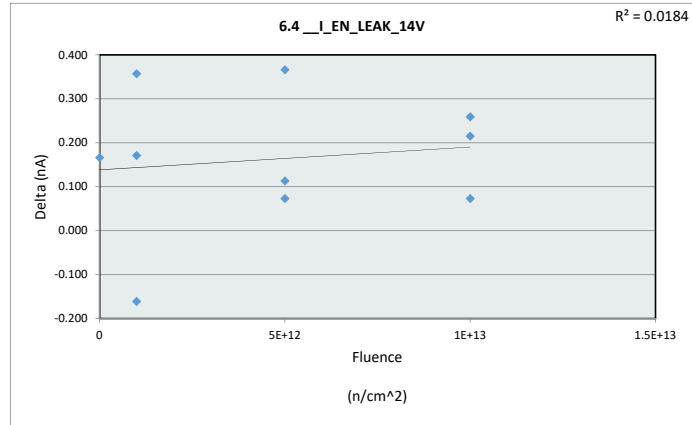


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.4\_I\_EN\_LEAK\_14V

Test Site	
Tester	
Test Number	
Unit	nA
Max Limit	50
Min Limit	

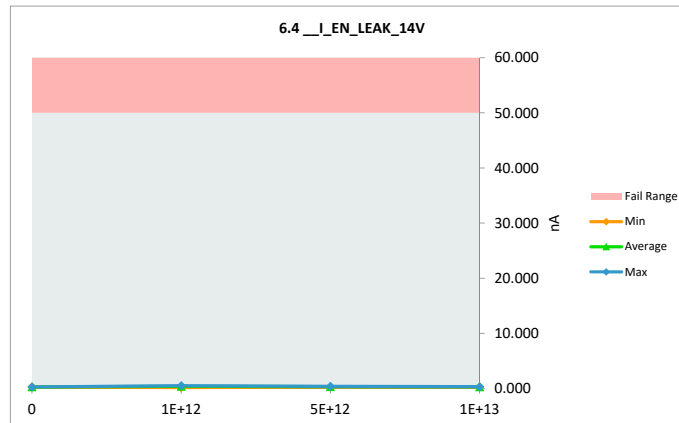
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.095	0.261	0.166
1E+12	281	0.295	0.466	0.171
1E+12	284	0.305	0.144	-0.161
1E+12	285	0.129	0.486	0.357
5E+12	286	0.002	0.368	0.366
5E+12	287	0.129	0.242	0.113
5E+12	289	0.188	0.261	0.073
1E+13	290	0.178	0.251	0.073
1E+13	291	0.041	0.300	0.259
1E+13	292	0.056	0.271	0.215
Max		0.305	0.486	0.366
Average		0.142	0.305	0.163
Min		0.002	0.144	-0.161
Std Dev		0.102	0.106	0.154



## 6.4\_I\_EN\_LEAK\_14V

Test Site	
Tester	
Test Number	
Max Limit	50 nA
Min Limit	nA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	0.261	0.144	0.242	0.251
Average	0.261	0.365	0.290	0.274
Max	0.261	0.486	0.368	0.300
UL	50.000	50.000	50.000	50.000

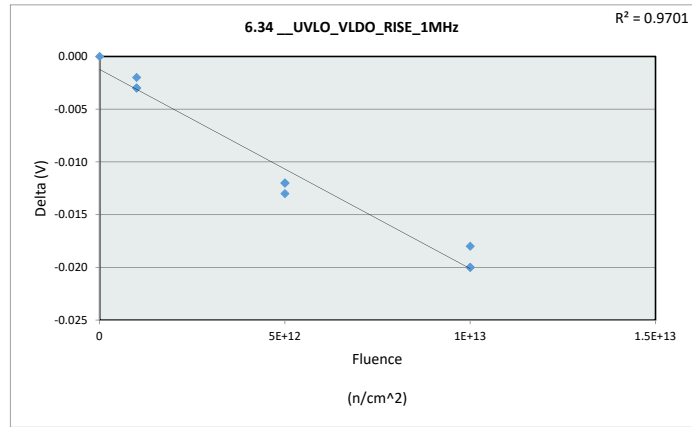


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.34 UVLO\_VLDO\_RISE\_1MHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.66	3.66
Min Limit	3.44	3.44

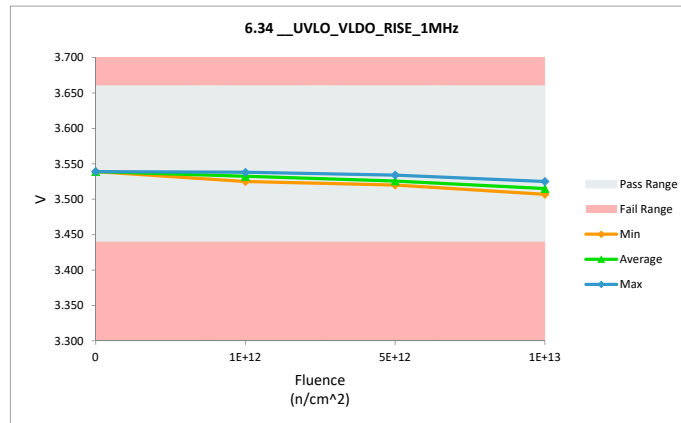
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.539	3.539	0.000
1E+12	281	3.536	3.534	-0.002
1E+12	284	3.541	3.538	-0.003
1E+12	285	3.528	3.525	-0.003
5E+12	286	3.546	3.534	-0.012
5E+12	287	3.532	3.520	-0.012
5E+12	289	3.536	3.523	-0.013
1E+13	290	3.527	3.507	-0.020
1E+13	291	3.531	3.513	-0.018
1E+13	292	3.545	3.525	-0.020
Max		3.546	3.539	0.000
Average		3.536	3.526	-0.010
Min		3.527	3.507	-0.020
Std Dev		0.007	0.011	0.008



## 6.34 UVLO\_VLDO\_RISE\_1MHz

Test Site		
Tester		
Test Number		
Max Limit	3.66	V
Min Limit	3.44	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.440	3.440	3.440	3.440
Min	3.539	3.525	3.520	3.507
Average	3.539	3.532	3.526	3.515
Max	3.539	3.538	3.534	3.525
UL	3.660	3.660	3.660	3.660

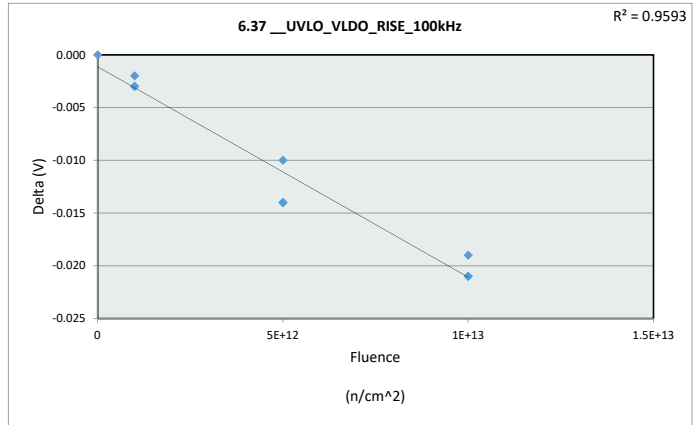


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.37 \_\_UVLO\_VLDO\_RISE\_100kHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.66	3.66
Min Limit	3.44	3.44

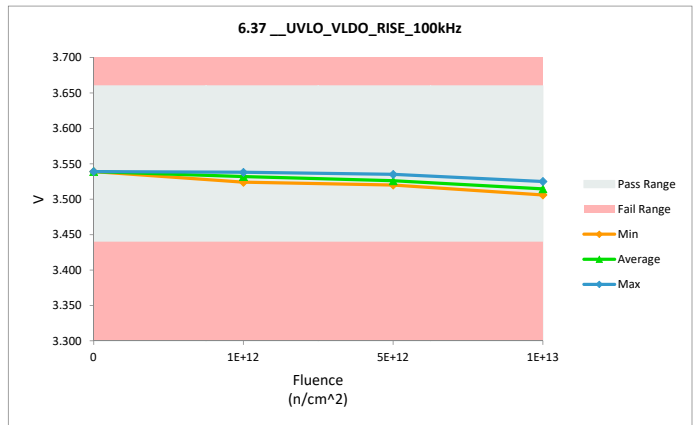
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.539	3.539	0.000
1E+12	281	3.536	3.534	-0.002
1E+12	284	3.541	3.538	-0.003
1E+12	285	3.527	3.524	-0.003
5E+12	286	3.545	3.535	-0.010
5E+12	287	3.534	3.520	-0.014
5E+12	289	3.537	3.523	-0.014
1E+13	290	3.527	3.506	-0.021
1E+13	291	3.532	3.513	-0.019
1E+13	292	3.546	3.525	-0.021
Max		3.546	3.539	0.000
Average		3.536	3.526	-0.011
Min		3.527	3.506	-0.021
Std Dev		0.007	0.011	0.008



## 6.37 \_\_UVLO\_VLDO\_RISE\_100

Test Site		
Tester		
Test Number		
Max Limit	3.66	V
Min Limit	3.44	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.440	3.440	3.440	3.440
Min	3.539	3.524	3.520	3.506
Average	3.539	3.532	3.526	3.515
Max	3.539	3.538	3.535	3.525
UL	3.660	3.660	3.660	3.660



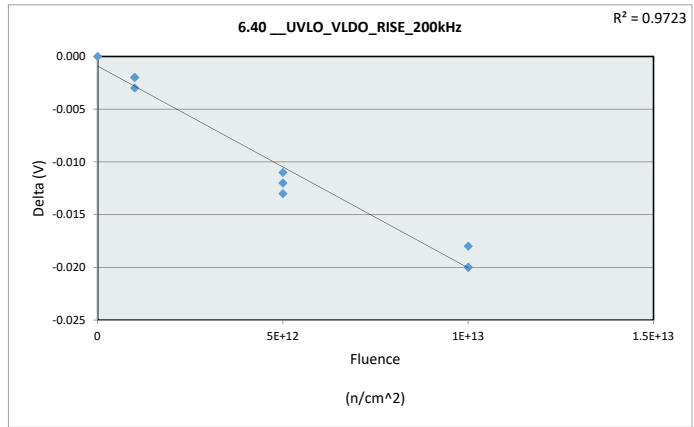


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.40 UVLO\_VLDO\_RISE\_200kHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.66	3.66
Min Limit	3.44	3.44

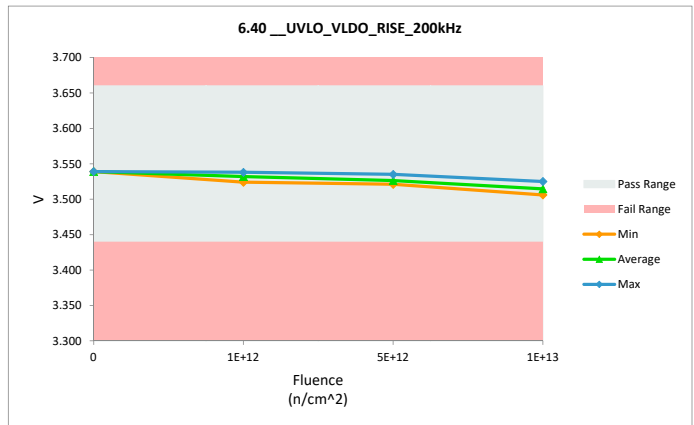
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.539	3.539	0.000
1E+12	281	3.536	3.534	-0.002
1E+12	284	3.541	3.538	-0.003
1E+12	285	3.526	3.524	-0.002
5E+12	286	3.546	3.535	-0.011
5E+12	287	3.533	3.521	-0.012
5E+12	289	3.536	3.523	-0.013
1E+13	290	3.526	3.506	-0.020
1E+13	291	3.531	3.513	-0.018
1E+13	292	3.545	3.525	-0.020
Max		3.546	3.539	0.000
Average		3.536	3.526	-0.010
Min		3.526	3.506	-0.020
Std Dev		0.007	0.011	0.008



## 6.40 UVLO\_VLDO\_RISE\_200

Test Site		
Tester		
Test Number		
Max Limit	3.66	V
Min Limit	3.44	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.440	3.440	3.440	3.440
Min	3.539	3.524	3.521	3.506
Average	3.539	3.532	3.526	3.515
Max	3.539	3.538	3.535	3.525
UL	3.660	3.660	3.660	3.660

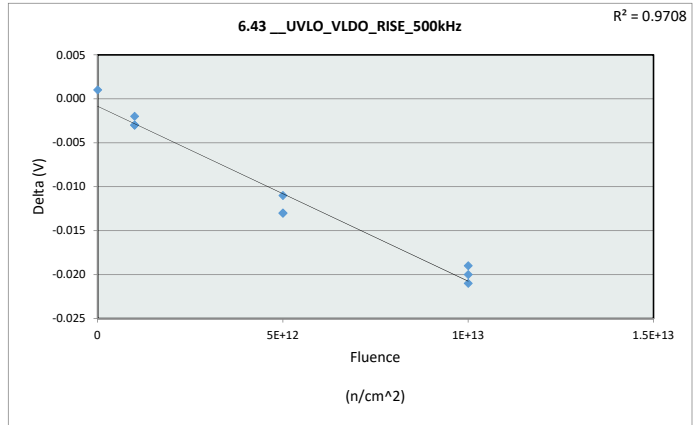


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.43 UVLO\_VLDO\_RISE\_500kHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.66	3.66
Min Limit	3.44	3.44

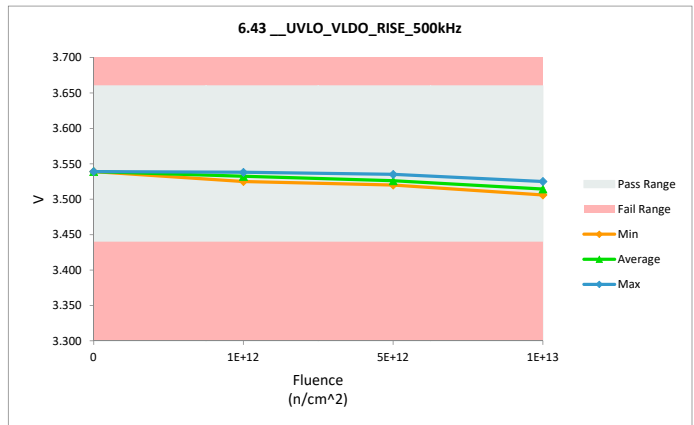
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.538	3.539	0.001
1E+12	281	3.537	3.534	-0.003
1E+12	284	3.541	3.538	-0.003
1E+12	285	3.527	3.525	-0.002
5E+12	286	3.546	3.535	-0.011
5E+12	287	3.533	3.520	-0.013
5E+12	289	3.536	3.523	-0.013
1E+13	290	3.527	3.506	-0.021
1E+13	291	3.531	3.512	-0.019
1E+13	292	3.545	3.525	-0.020
Max		3.546	3.539	0.001
Average		3.536	3.526	-0.010
Min		3.527	3.506	-0.021
Std Dev		0.007	0.011	0.008



## 6.43 UVLO\_VLDO\_RISE\_500

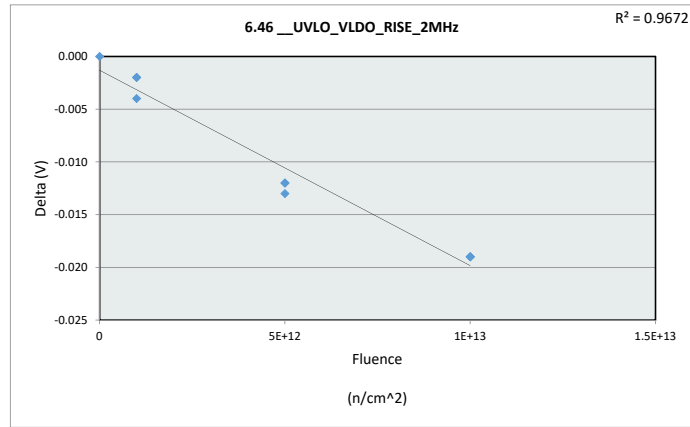
Test Site		
Tester		
Test Number		
Max Limit	3.66	V
Min Limit	3.44	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.440	3.440	3.440	3.440
Min	3.539	3.525	3.520	3.506
Average	3.539	3.532	3.526	3.514
Max	3.539	3.538	3.535	3.525
UL	3.660	3.660	3.660	3.660

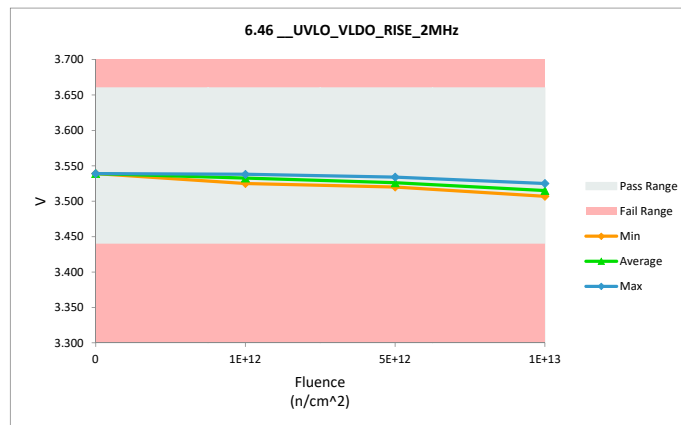


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.46 UVLO_VLDO_RISE_2MHz				
Test Site				
Tester				
Test Number				
Unit				
Max Limit				
Min Limit				
Fluence	Serial #	PRE	POST	Delta
0	295	3.539	3.539	0.000
1E+12	281	3.537	3.535	-0.002
1E+12	284	3.542	3.538	-0.004
1E+12	285	3.527	3.525	-0.002
5E+12	286	3.546	3.534	-0.012
5E+12	287	3.533	3.520	-0.013
5E+12	289	3.536	3.524	-0.012
1E+13	290	3.526	3.507	-0.019
1E+13	291	3.532	3.513	-0.019
1E+13	292	3.544	3.525	-0.019
Max		3.546	3.539	0.000
Average		3.536	3.526	-0.010
Min		3.526	3.507	-0.019
Std Dev		0.007	0.011	0.008



6.46 UVLO_VLDO_RISE_2MHz				
Test Site				
Tester				
Test Number				
Max Limit				
Min Limit				
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.440	3.440	3.440	3.440
Min	3.539	3.525	3.520	3.507
Average	3.539	3.533	3.526	3.515
Max	3.539	3.538	3.534	3.525
UL	3.660	3.660	3.660	3.660

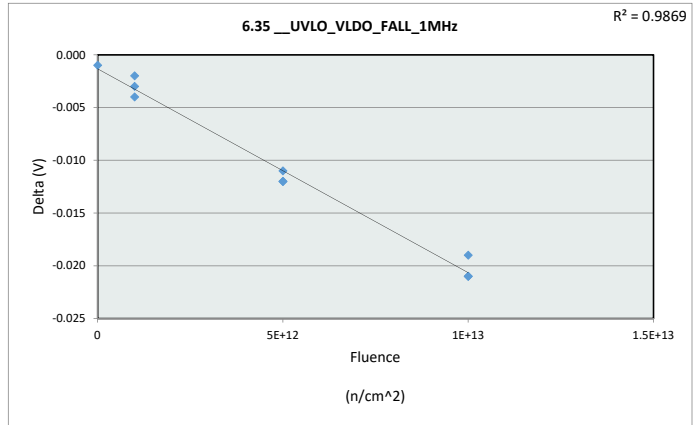


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.35 UVLO\_VLDO\_FALL\_1MHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.51	3.51
Min Limit	3.29	3.29

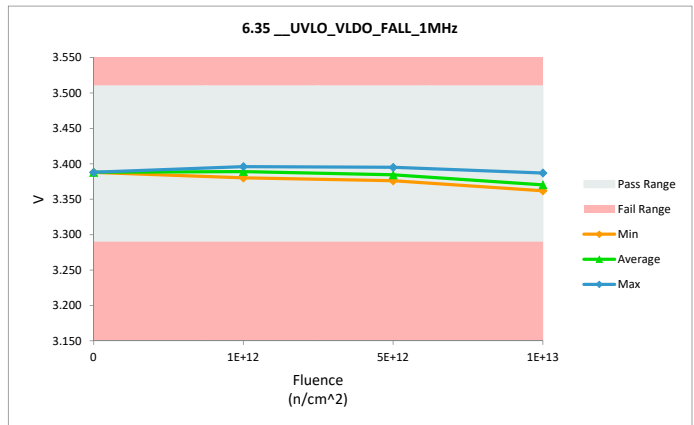
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.389	3.388	-0.001
1E+12	281	3.398	3.396	-0.002
1E+12	284	3.394	3.391	-0.003
1E+12	285	3.384	3.380	-0.004
5E+12	286	3.407	3.395	-0.012
5E+12	287	3.387	3.376	-0.011
5E+12	289	3.394	3.382	-0.012
1E+13	290	3.383	3.362	-0.021
1E+13	291	3.381	3.362	-0.019
1E+13	292	3.408	3.387	-0.021
Max		3.408	3.396	-0.001
Average		3.393	3.382	-0.011
Min		3.381	3.362	-0.021
Std Dev		0.010	0.012	0.008



## 6.35 UVLO\_VLDO\_FALL\_1MHz

Test Site		
Tester		
Test Number		
Max Limit	3.51	V
Min Limit	3.29	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.290	3.290	3.290	3.290
Min	3.388	3.380	3.376	3.362
Average	3.388	3.389	3.384	3.370
Max	3.388	3.396	3.395	3.387
UL	3.510	3.510	3.510	3.510

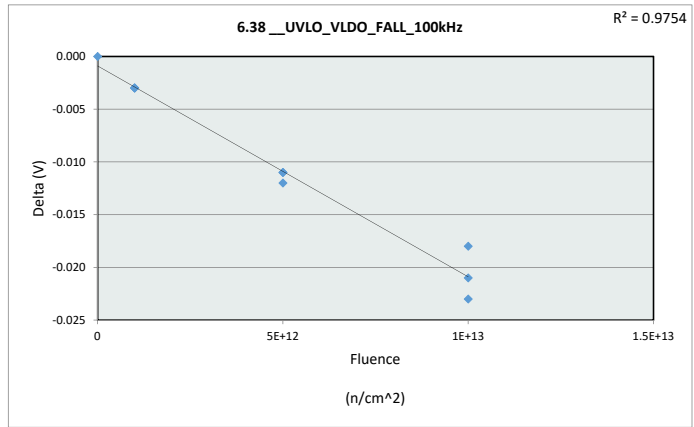


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.38 UVLO\_VLDO\_FALL\_100kHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.51	3.51
Min Limit	3.29	3.29

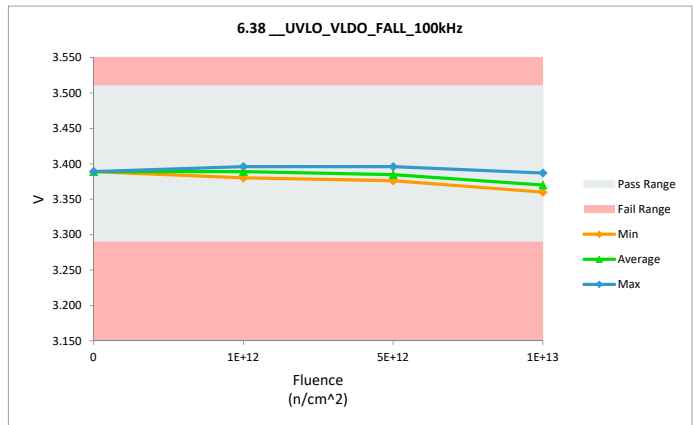
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.389	3.389	0.000
1E+12	281	3.399	3.396	-0.003
1E+12	284	3.394	3.391	-0.003
1E+12	285	3.383	3.380	-0.003
5E+12	286	3.407	3.396	-0.011
5E+12	287	3.387	3.376	-0.011
5E+12	289	3.394	3.382	-0.012
1E+13	290	3.383	3.360	-0.023
1E+13	291	3.381	3.363	-0.018
1E+13	292	3.408	3.387	-0.021
Max		3.408	3.396	0.000
Average		3.392	3.382	-0.011
Min		3.381	3.360	-0.023
Std Dev		0.010	0.013	0.008



## 6.38 UVLO\_VLDO\_FALL\_100

Test Site		
Tester		
Test Number		
Max Limit	3.51	V
Min Limit	3.29	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.290	3.290	3.290	3.290
Min	3.389	3.380	3.376	3.360
Average	3.389	3.389	3.385	3.370
Max	3.389	3.396	3.396	3.387
UL	3.510	3.510	3.510	3.510

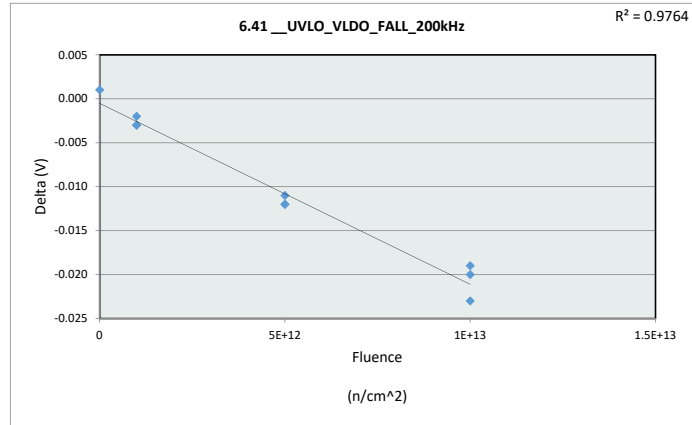


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.41 UVLO\_VLDO\_FALL\_200kHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.51	3.51
Min Limit	3.29	3.29

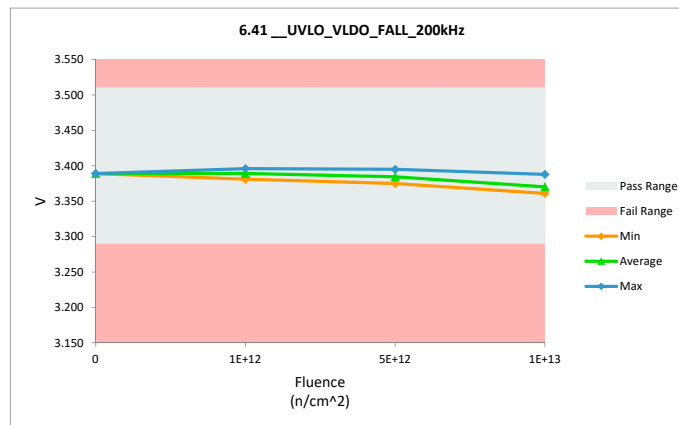
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.388	3.389	0.001
1E+12	281	3.398	3.396	-0.002
1E+12	284	3.394	3.391	-0.003
1E+12	285	3.384	3.381	-0.003
5E+12	286	3.407	3.395	-0.012
5E+12	287	3.387	3.375	-0.012
5E+12	289	3.394	3.383	-0.011
1E+13	290	3.384	3.361	-0.023
1E+13	291	3.381	3.362	-0.019
1E+13	292	3.408	3.388	-0.020
Max		3.408	3.396	0.001
Average		3.393	3.382	-0.010
Min		3.381	3.361	-0.023
Std Dev		0.010	0.013	0.008



## 6.41 UVLO\_VLDO\_FALL\_200

Test Site		
Tester		
Test Number		
Max Limit	3.51	V
Min Limit	3.29	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.290	3.290	3.290	3.290
Min	3.389	3.381	3.375	3.361
Average	3.389	3.389	3.384	3.370
Max	3.389	3.396	3.395	3.388
UL	3.510	3.510	3.510	3.510

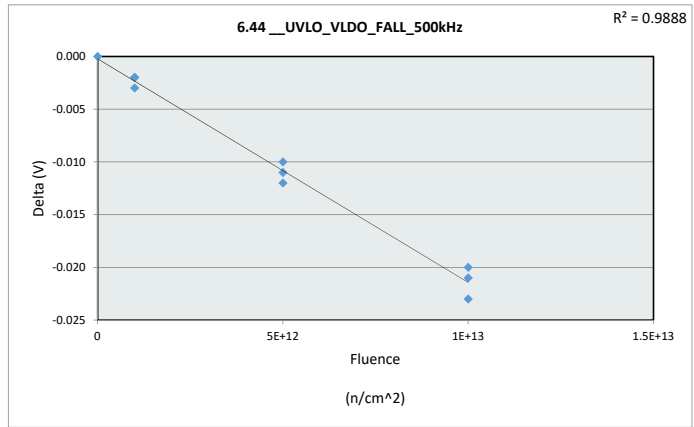


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.44 UVLO\_VLDO\_FALL\_500kHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.51	3.51
Min Limit	3.29	3.29

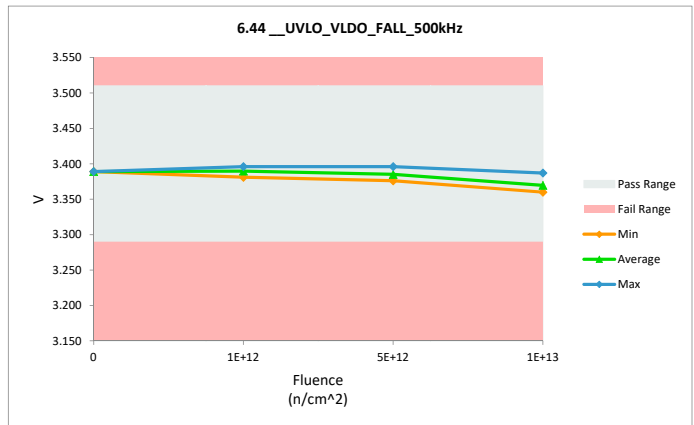
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.389	3.389	0.000
1E+12	281	3.399	3.396	-0.003
1E+12	284	3.394	3.392	-0.002
1E+12	285	3.383	3.381	-0.002
5E+12	286	3.408	3.396	-0.012
5E+12	287	3.386	3.376	-0.010
5E+12	289	3.394	3.383	-0.011
1E+13	290	3.383	3.360	-0.023
1E+13	291	3.382	3.362	-0.020
1E+13	292	3.408	3.387	-0.021
Max		3.408	3.396	0.000
Average		3.393	3.382	-0.010
Min		3.382	3.360	-0.023
Std Dev		0.010	0.013	0.009



## 6.44 UVLO\_VLDO\_FALL\_500

Test Site		
Tester		
Test Number		
Max Limit	3.51	V
Min Limit	3.29	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.290	3.290	3.290	3.290
Min	3.389	3.381	3.376	3.360
Average	3.389	3.390	3.385	3.370
Max	3.389	3.396	3.396	3.387
UL	3.510	3.510	3.510	3.510

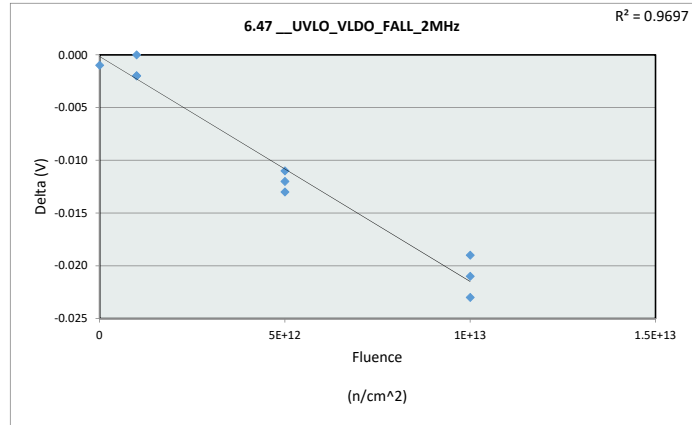


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.47 \_\_UVLO\_VLDO\_FALL\_2MHz

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	3.51	3.51
Min Limit	3.29	3.29

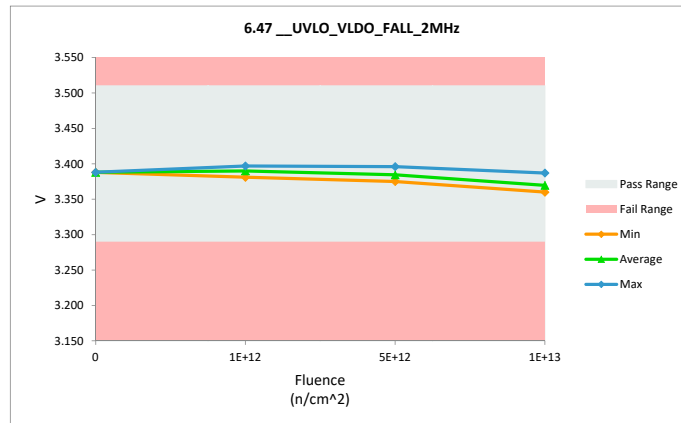
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	3.389	3.388	-0.001
1E+12	281	3.397	3.397	0.000
1E+12	284	3.394	3.392	-0.002
1E+12	285	3.383	3.381	-0.002
5E+12	286	3.408	3.396	-0.012
5E+12	287	3.386	3.375	-0.011
5E+12	289	3.395	3.382	-0.013
1E+13	290	3.383	3.360	-0.023
1E+13	291	3.381	3.362	-0.019
1E+13	292	3.408	3.387	-0.021
Max		3.408	3.397	0.000
Average		3.392	3.382	-0.010
Min		3.381	3.360	-0.023
Std Dev		0.010	0.013	0.009



## 6.47 \_\_UVLO\_VLDO\_FALL\_2MHz

Test Site		
Tester		
Test Number		
Max Limit	3.51	V
Min Limit	3.29	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	3.290	3.290	3.290	3.290
Min	3.388	3.381	3.375	3.360
Average	3.388	3.390	3.384	3.370
Max	3.388	3.397	3.396	3.387
UL	3.510	3.510	3.510	3.510



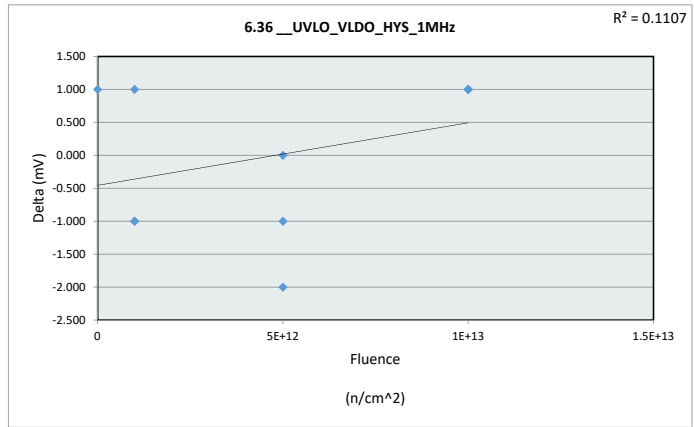


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.36 UVLO\_VLDO\_HYS\_1MHz

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	160	160
Min Limit	115	115

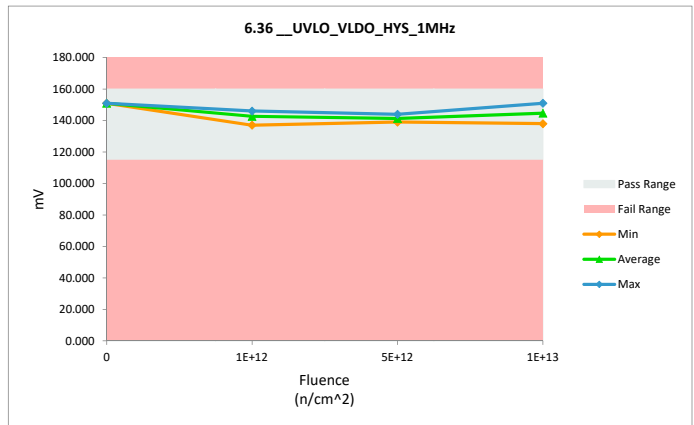
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	150.000	151.000	1.000
1E+12	281	138.000	137.000	-1.000
1E+12	284	147.000	146.000	-1.000
1E+12	285	144.000	145.000	1.000
5E+12	286	139.000	139.000	0.000
5E+12	287	146.000	144.000	-2.000
5E+12	289	142.000	141.000	-1.000
1E+13	290	144.000	145.000	1.000
1E+13	291	150.000	151.000	1.000
1E+13	292	137.000	138.000	1.000
Max		150.000	151.000	1.000
Average		143.700	143.700	0.000
Min		137.000	137.000	-2.000
Std Dev		4.692	4.968	1.155



## 6.36 UVLO\_VLDO\_HYS\_1MH

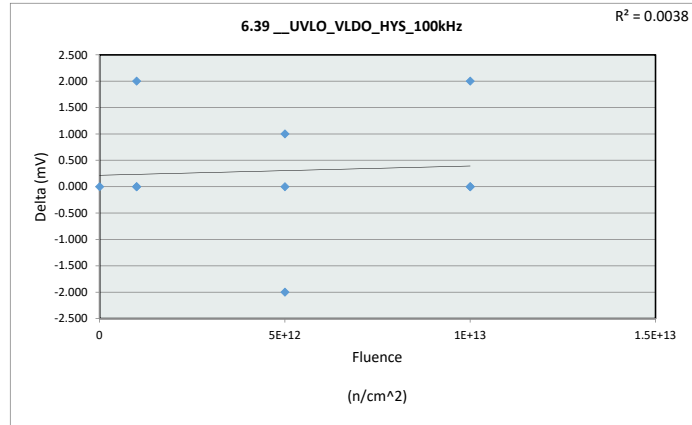
Test Site		
Tester		
Test Number		
Max Limit	160	mV
Min Limit	115	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	115.000	115.000	115.000	115.000
Min	151.000	137.000	139.000	138.000
Average	151.000	142.667	141.333	144.667
Max	151.000	146.000	144.000	151.000
UL	160.000	160.000	160.000	160.000

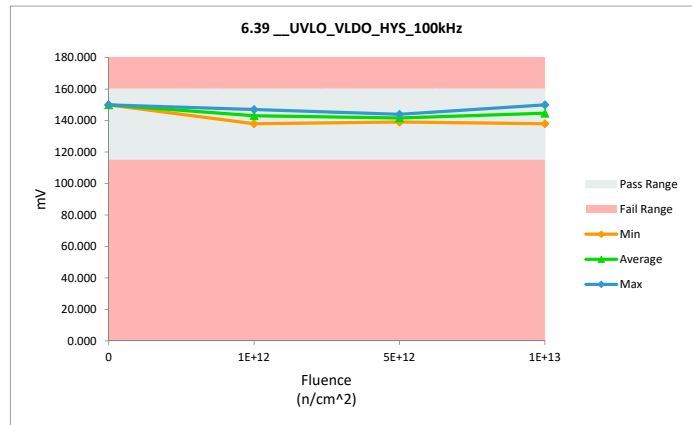


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.39 UVLO_VLDO_HYS_100kHz				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		160	160	
Min Limit		115	115	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	150.000	150.000	0.000
1E+12	281	136.000	138.000	2.000
1E+12	284	147.000	147.000	0.000
1E+12	285	144.000	144.000	0.000
5E+12	286	138.000	139.000	1.000
5E+12	287	146.000	144.000	-2.000
5E+12	289	142.000	142.000	0.000
1E+13	290	144.000	146.000	2.000
1E+13	291	150.000	150.000	0.000
1E+13	292	138.000	138.000	0.000
Max		150.000	150.000	2.000
Average		143.500	143.800	0.300
Min		136.000	138.000	-2.000
Std Dev		4.972	4.541	1.160



6.39 UVLO_VLDO_HYS_100kHz				
Test Site				
Tester				
Test Number				
Max Limit	160	mV		
Min Limit	115	mV		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	115.000	115.000	115.000	115.000
Min	150.000	138.000	139.000	138.000
Average	150.000	143.000	141.667	144.667
Max	150.000	147.000	144.000	150.000
UL	160.000	160.000	160.000	160.000

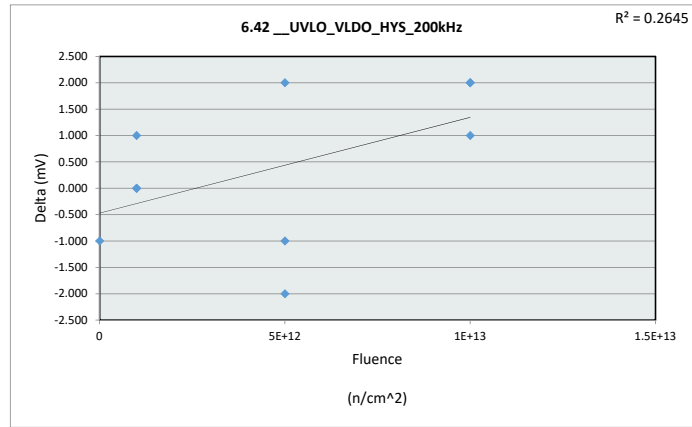


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.42 UVLO\_VLDO\_HYS\_200kHz

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	160	160
Min Limit	115	115

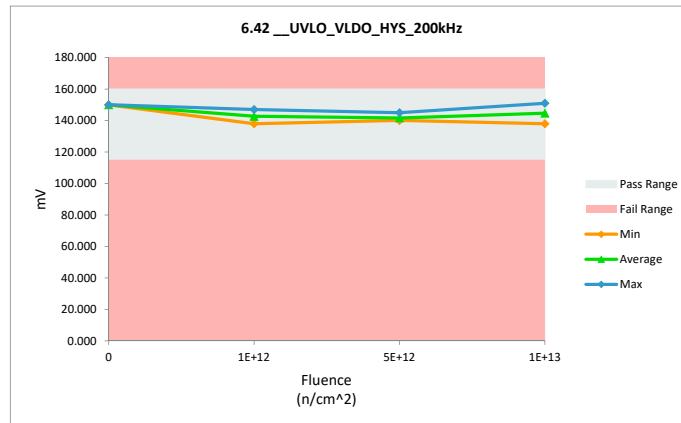
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	151.000	150.000	-1.000
1E+12	281	138.000	138.000	0.000
1E+12	284	147.000	147.000	0.000
1E+12	285	142.000	143.000	1.000
5E+12	286	138.000	140.000	2.000
5E+12	287	146.000	145.000	-1.000
5E+12	289	142.000	140.000	-2.000
1E+13	290	143.000	145.000	2.000
1E+13	291	149.000	151.000	2.000
1E+13	292	137.000	138.000	1.000
Max		151.000	151.000	2.000
Average		143.300	143.700	0.400
Min		137.000	138.000	-2.000
Std Dev		4.855	4.715	1.430



## 6.42 UVLO\_VLDO\_HYS\_200kHz

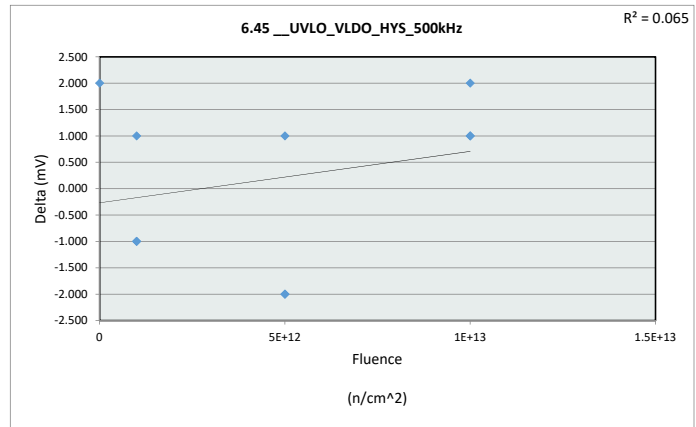
Test Site		
Tester		
Test Number		
Max Limit	160	mV
Min Limit	115	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	115.000	115.000	115.000	115.000
Min	150.000	138.000	140.000	138.000
Average	150.000	142.667	141.667	144.667
Max	150.000	147.000	145.000	151.000
UL	160.000	160.000	160.000	160.000

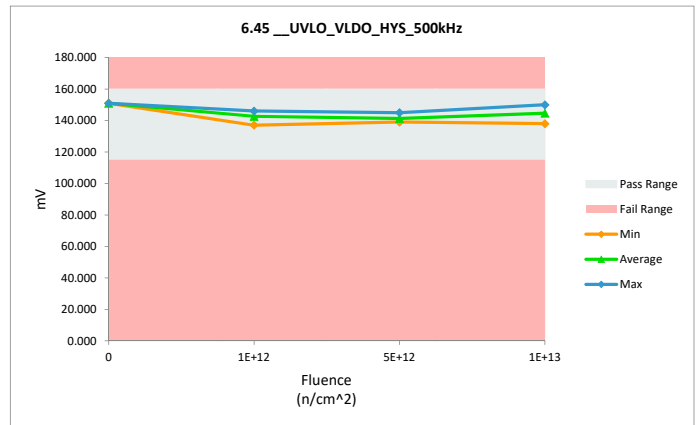


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

6.45 UVLO_VLDO_HYS_500kHz				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		160	160	
Min Limit		115	115	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	149.000	151.000	2.000
1E+12	281	138.000	137.000	-1.000
1E+12	284	147.000	146.000	-1.000
1E+12	285	144.000	145.000	1.000
5E+12	286	138.000	139.000	1.000
5E+12	287	147.000	145.000	-2.000
5E+12	289	142.000	140.000	-2.000
1E+13	290	144.000	146.000	2.000
1E+13	291	149.000	150.000	1.000
1E+13	292	137.000	138.000	1.000
Max		149.000	151.000	2.000
Average		143.500	143.700	0.200
Min		137.000	137.000	-2.000
Std Dev		4.601	4.945	1.549



6.45 UVLO_VLDO_HYS_500kHz				
Test Site				
Tester				
Test Number				
Max Limit		160	mV	
Min Limit		115	mV	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	115.000	115.000	115.000	115.000
Min	151.000	137.000	139.000	138.000
Average	151.000	142.667	141.333	144.667
Max	151.000	146.000	145.000	150.000
UL	160.000	160.000	160.000	160.000

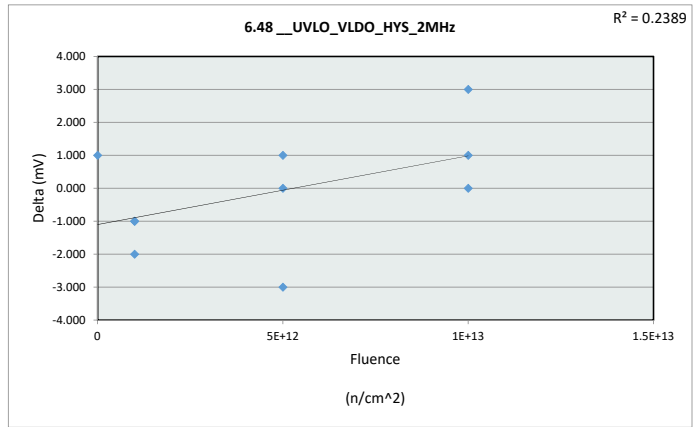


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 6.48 UVLO\_VLDO\_HYS\_2MHz

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	160	160
Min Limit	115	115

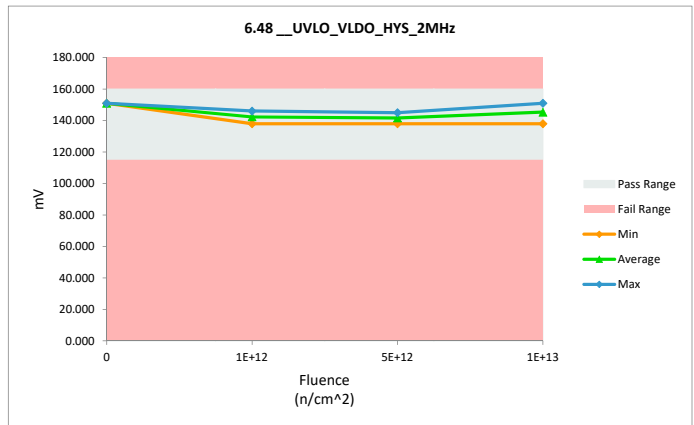
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	150.000	151.000	1.000
1E+12	281	139.000	138.000	-1.000
1E+12	284	148.000	146.000	-2.000
1E+12	285	144.000	143.000	-1.000
5E+12	286	138.000	138.000	0.000
5E+12	287	148.000	145.000	-3.000
5E+12	289	141.000	142.000	1.000
1E+13	290	144.000	147.000	3.000
1E+13	291	151.000	151.000	0.000
1E+13	292	137.000	138.000	1.000
Max		151.000	151.000	3.000
Average		144.000	143.900	-0.100
Min		137.000	138.000	-3.000
Std Dev		5.121	4.999	1.729



## 6.48 UVLO\_VLDO\_HYS\_2MH

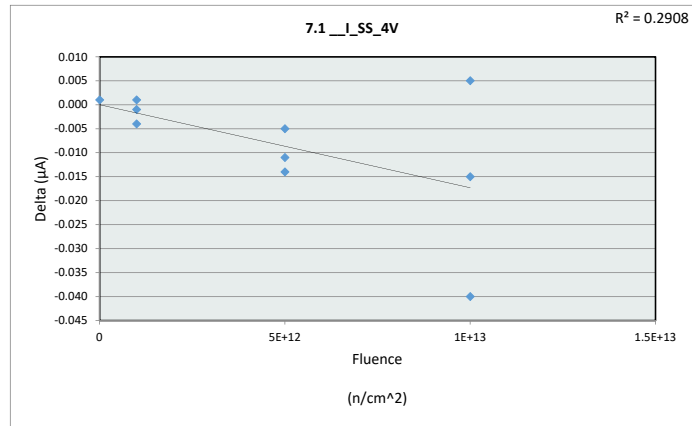
Test Site		
Tester		
Test Number		
Max Limit	160	mV
Min Limit	115	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	115.000	115.000	115.000	115.000
Min	151.000	138.000	138.000	138.000
Average	151.000	142.333	141.667	145.333
Max	151.000	146.000	145.000	151.000
UL	160.000	160.000	160.000	160.000

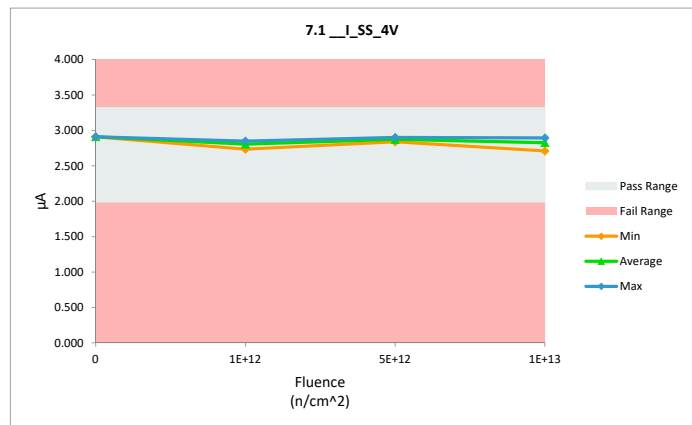


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

7.1_I_SS_4V				
Test Site				
Tester				
Test Number				
Unit		μA	μA	
Max Limit		3.32	3.32	
Min Limit		1.98	1.98	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2.909	2.910	0.001
1E+12	281	2.840	2.836	-0.004
1E+12	284	2.733	2.734	0.001
1E+12	285	2.849	2.848	-0.001
5E+12	286	2.914	2.900	-0.014
5E+12	287	2.882	2.877	-0.005
5E+12	289	2.849	2.838	-0.011
1E+13	290	2.909	2.894	-0.015
1E+13	291	2.912	2.872	-0.040
1E+13	292	2.705	2.710	0.005
Max		2.914	2.910	0.005
Average		2.850	2.842	-0.008
Min		2.705	2.710	-0.040
Std Dev		0.075	0.068	0.013

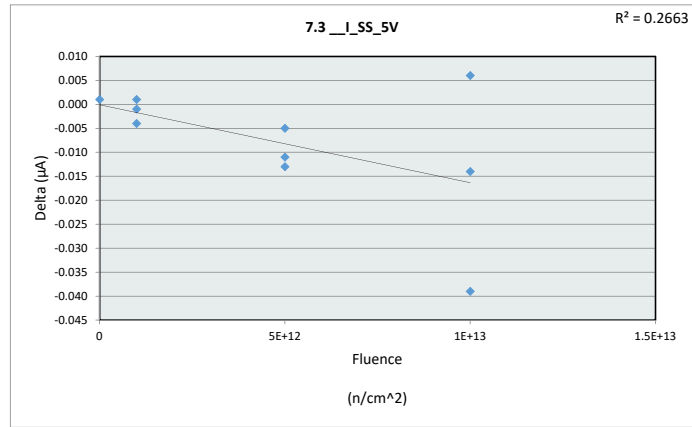


7.1_I_SS_4V				
Test Site				
Tester				
Test Number				
Max Limit		3.32	μA	
Min Limit		1.98	μA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.980	1.980	1.980	1.980
Min	2.910	2.734	2.838	2.710
Average	2.910	2.806	2.872	2.825
Max	2.910	2.848	2.900	2.894
UL	3.320	3.320	3.320	3.320

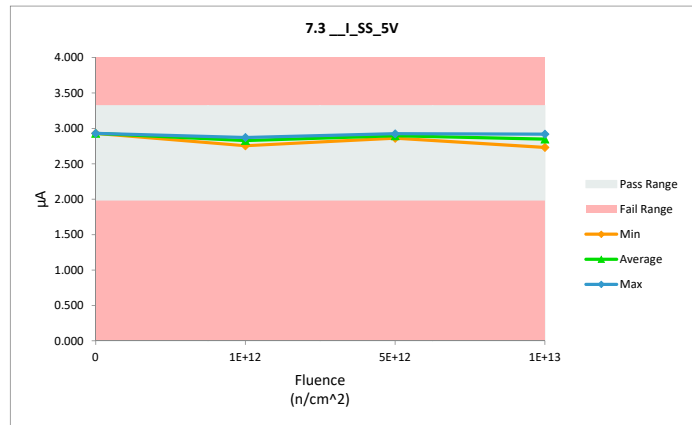


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

7.3_I_SS_5V				
Test Site				
Tester				
Test Number				
Unit		μA	μA	
Max Limit		3.32	3.32	
Min Limit		1.98	1.98	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2.930	2.931	0.001
1E+12	281	2.862	2.858	-0.004
1E+12	284	2.754	2.755	0.001
1E+12	285	2.872	2.871	-0.001
5E+12	286	2.937	2.924	-0.013
5E+12	287	2.905	2.900	-0.005
5E+12	289	2.872	2.861	-0.011
1E+13	290	2.932	2.918	-0.014
1E+13	291	2.935	2.896	-0.039
1E+13	292	2.726	2.732	0.006
Max		2.937	2.931	0.006
Average		2.872	2.865	-0.008
Min		2.726	2.732	-0.039
Std Dev		0.076	0.069	0.013

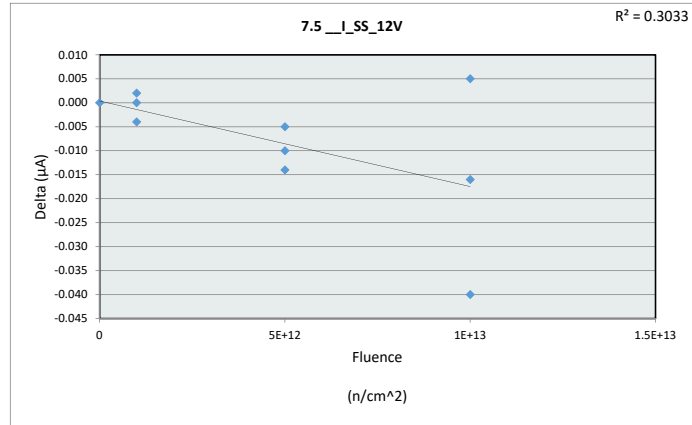


7.3_I_SS_5V					
Test Site					
Tester					
Test Number					
Max Limit		3.32	μA		
Min Limit		1.98	μA		
Fluence (n/cm <sup>2</sup> )		0	1E+12	5E+12	1E+13
LL		1.980	1.980	1.980	1.980
Min		2.931	2.755	2.861	2.732
Average		2.931	2.828	2.895	2.849
Max		2.931	2.871	2.924	2.918
UL		3.320	3.320	3.320	3.320

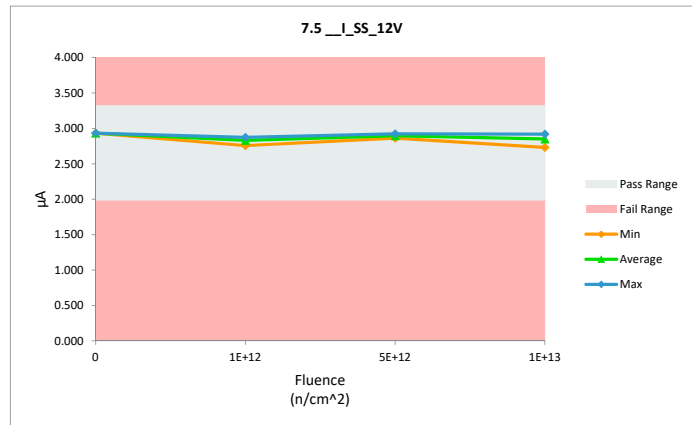


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

7.5 __I_SS_12V				
Test Site				
Tester				
Test Number				
Unit		μA	μA	
Max Limit		3.32	3.32	
Min Limit		1.98	1.98	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2.932	2.932	0.000
1E+12	281	2.864	2.860	-0.004
1E+12	284	2.755	2.757	0.002
1E+12	285	2.873	2.873	0.000
5E+12	286	2.937	2.923	-0.014
5E+12	287	2.905	2.900	-0.005
5E+12	289	2.872	2.862	-0.010
1E+13	290	2.934	2.918	-0.016
1E+13	291	2.937	2.897	-0.040
1E+13	292	2.727	2.732	0.005
Max		2.937	2.932	0.005
Average		2.874	2.865	-0.008
Min		2.727	2.732	-0.040
Std Dev		0.076	0.069	0.013



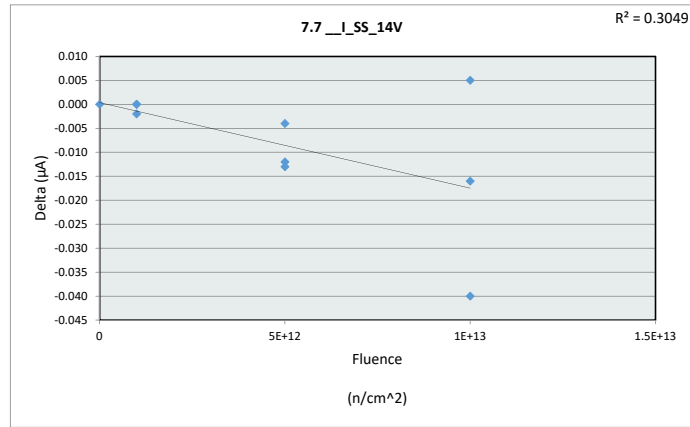
7.5 __I_SS_12V				
Test Site				
Tester				
Test Number				
Max Limit		3.32	μA	
Min Limit		1.98	μA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.980	1.980	1.980	1.980
Min	2.932	2.757	2.862	2.732
Average	2.932	2.830	2.895	2.849
Max	2.932	2.873	2.923	2.918
UL	3.320	3.320	3.320	3.320



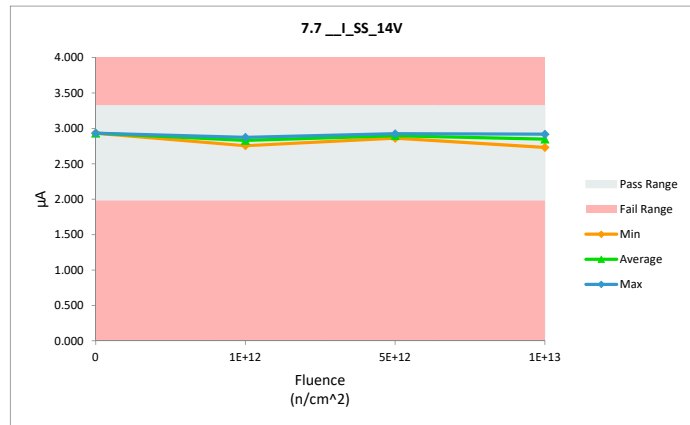


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

7.7_I_SS_14V				
Test Site				
Tester				
Test Number				
Unit		μA	μA	
Max Limit		3.32	3.32	
Min Limit		1.98	1.98	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2.933	2.933	0.000
1E+12	281	2.864	2.862	-0.002
1E+12	284	2.756	2.756	0.000
1E+12	285	2.873	2.873	0.000
5E+12	286	2.937	2.924	-0.013
5E+12	287	2.905	2.901	-0.004
5E+12	289	2.873	2.861	-0.012
1E+13	290	2.933	2.917	-0.016
1E+13	291	2.937	2.897	-0.040
1E+13	292	2.727	2.732	0.005
Max		2.937	2.933	0.005
Average		2.874	2.866	-0.008
Min		2.727	2.732	-0.040
Std Dev		0.076	0.069	0.013

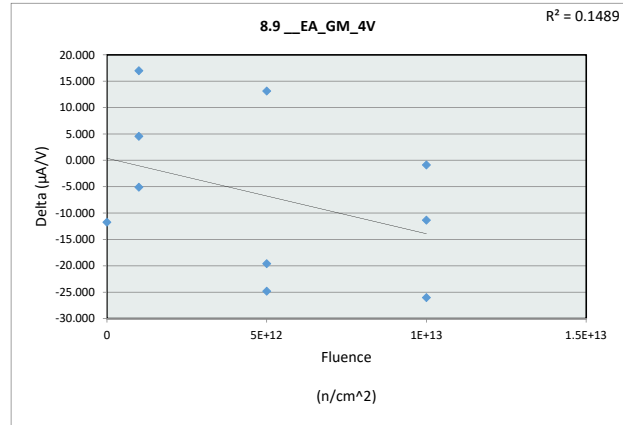


7.7_I_SS_14V				
Test Site				
Tester				
Test Number				
Max Limit		3.32	μA	
Min Limit		1.98	μA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.980	1.980	1.980	1.980
Min	2.933	2.756	2.861	2.732
Average	2.933	2.830	2.895	2.849
Max	2.933	2.873	2.924	2.917
UL	3.320	3.320	3.320	3.320

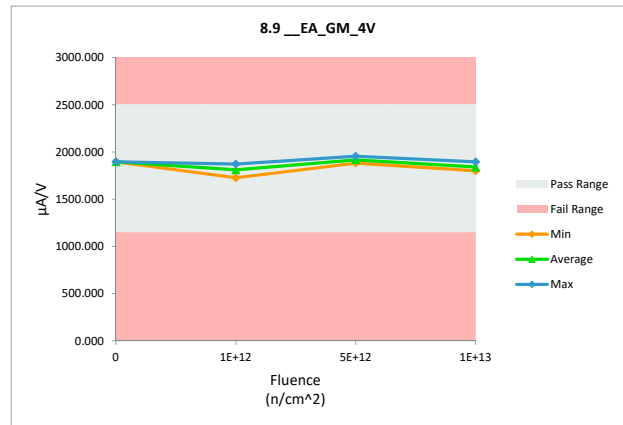


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.9_EA_GM_4V				
Fluence	Serial #	PRE	POST	Delta
0	295	1907.770	1896.031	-11.739
1E+12	281	1868.120	1872.656	4.536
1E+12	284	1732.459	1727.375	-5.084
1E+12	285	1818.018	1834.999	16.981
5E+12	286	1931.268	1911.672	-19.596
5E+12	287	1980.267	1955.466	-24.801
5E+12	289	1868.786	1881.909	13.123
1E+13	290	1826.797	1800.778	-26.019
1E+13	291	1907.163	1895.816	-11.347
1E+13	292	1825.207	1824.324	-0.883
	Max	1980.267	1955.466	16.981
	Average	1866.585	1860.103	-6.483
	Min	1732.459	1727.375	-26.019
	Std Dev	70.001	64.978	15.019



8.9_EA_GM_4V				
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1150.000	1150.000	1150.000	1150.000
Min	1896.031	1727.375	1881.909	1800.778
Average	1896.031	1811.677	1916.349	1840.306
Max	1896.031	1872.656	1955.466	1895.816
UL	2500.000	2500.000	2500.000	2500.000

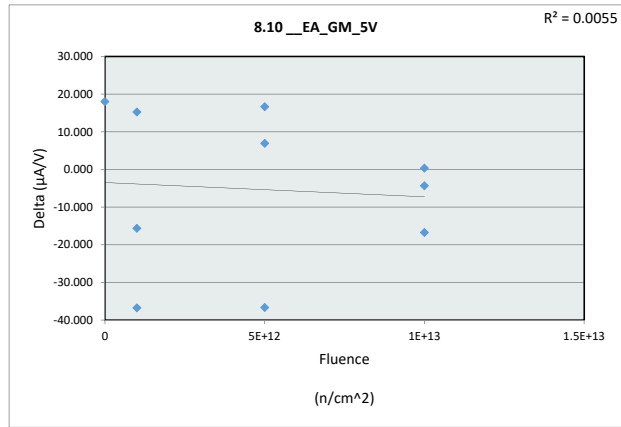


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.10\_EA\_GM\_5V

Test Site		
Tester		
Test Number		
Unit	µA/V	µA/V
Max Limit	2500	2500
Min Limit	1150	1150

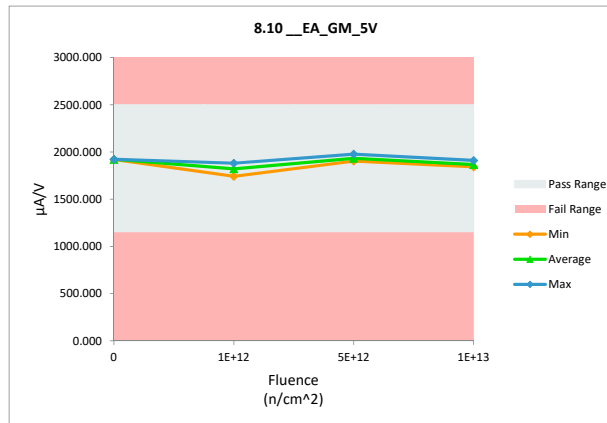
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1904.024	1922.031	18.007
1E+12	281	1866.406	1881.655	15.249
1E+12	284	1758.323	1742.707	-15.616
1E+12	285	1878.905	1842.162	-36.743
5E+12	286	1955.307	1918.679	-36.628
5E+12	287	1970.035	1976.953	6.918
5E+12	289	1887.944	1904.586	16.642
1E+13	290	1849.677	1845.354	-4.323
1E+13	291	1926.533	1909.801	-16.732
1E+13	292	1842.314	1842.648	0.334
Max		1970.035	1976.953	18.007
Average		1883.947	1878.658	-5.289
Min		1758.323	1742.707	-36.743
Std Dev		61.245	64.132	20.645



## 8.10\_EA\_GM\_5V

Test Site		
Tester		
Test Number		
Max Limit	2500	µA/V
Min Limit	1150	µA/V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1150.000	1150.000	1150.000	1150.000
Min	1922.031	1742.707	1904.586	1842.648
Average	1922.031	1822.175	1933.406	1865.934
Max	1922.031	1881.655	1976.953	1909.801
UL	2500.000	2500.000	2500.000	2500.000

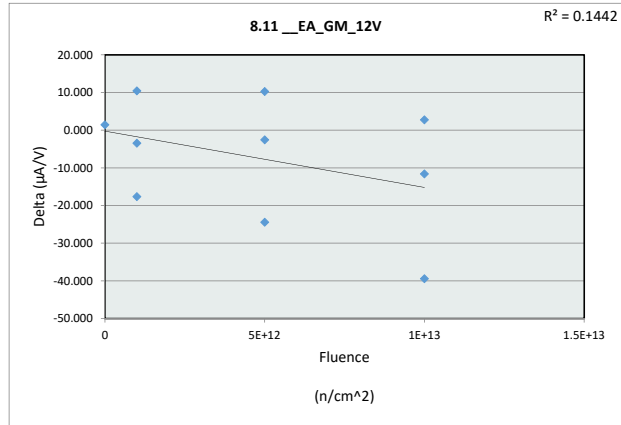


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.11\_EA\_GM\_12V

Test Site		
Tester		
Test Number		
Unit	µA/V	µA/V
Max Limit	2500	2500
Min Limit	1150	1150

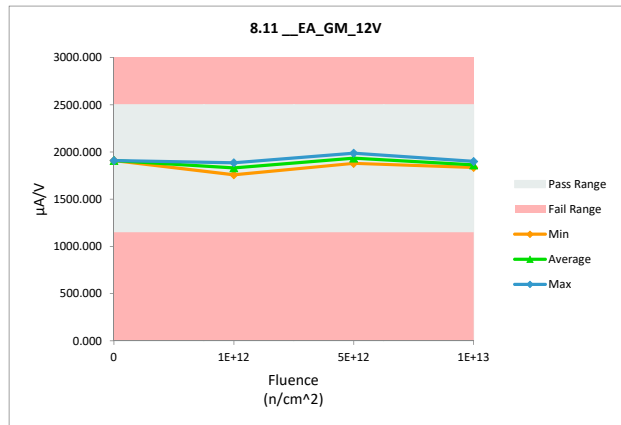
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1907.813	1909.225	1.412
1E+12	281	1888.794	1885.345	-3.449
1E+12	284	1747.882	1758.314	10.432
1E+12	285	1869.963	1852.321	-17.642
5E+12	286	1963.465	1939.025	-24.440
5E+12	287	1976.639	1986.892	10.253
5E+12	289	1881.909	1879.326	-2.583
1E+13	290	1848.383	1851.136	2.753
1E+13	291	1939.529	1900.111	-39.418
1E+13	292	1848.250	1836.637	-11.613
Max		1976.639	1986.892	10.432
Average		1887.263	1879.833	-7.430
Min		1747.882	1758.314	-39.418
Std Dev		66.450	61.900	15.942



## 8.11\_EA\_GM\_12V

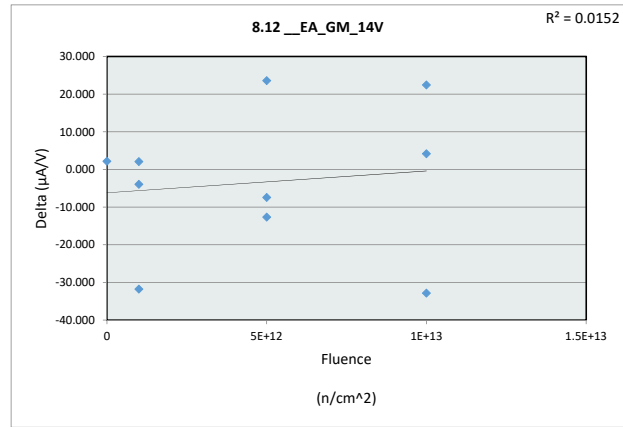
Test Site		
Tester		
Test Number		
Max Limit	2500	µA/V
Min Limit	1150	µA/V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1150.000	1150.000	1150.000	1150.000
Min	1909.225	1758.314	1879.326	1836.637
Average	1909.225	1831.993	1935.081	1862.628
Max	1909.225	1885.345	1986.892	1900.111
UL	2500.000	2500.000	2500.000	2500.000

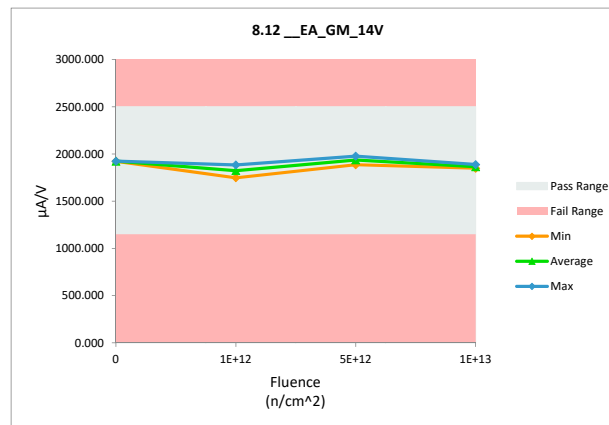


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.12_EA_GM_14V				
Test Site				
Tester				
Test Number				
Unit		µA/V	µA/V	
Max Limit		2500	2500	
Min Limit		1150	1150	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1921.206	1923.386	2.180
1E+12	281	1888.337	1884.382	-3.955
1E+12	284	1745.799	1747.882	2.083
1E+12	285	1869.953	1838.176	-31.777
5E+12	286	1924.953	1948.528	23.575
5E+12	287	1989.991	1977.349	-12.642
5E+12	289	1894.019	1886.596	-7.423
1E+13	290	1845.222	1849.402	4.180
1E+13	291	1920.788	1887.944	-32.844
1E+13	292	1833.105	1855.548	22.443
Max		1989.991	1977.349	23.575
Average		1883.337	1879.919	-3.418
Min		1745.799	1747.882	-32.844
Std Dev		65.958	64.048	19.114



8.12_EA_GM_14V				
Test Site				
Tester				
Test Number				
Max Limit		2500	µA/V	
Min Limit		1150	µA/V	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1150.000	1150.000	1150.000	1150.000
Min	1923.386	1747.882	1886.596	1849.402
Average	1923.386	1823.480	1937.491	1864.298
Max	1923.386	1884.382	1977.349	1887.944
UL	2500.000	2500.000	2500.000	2500.000

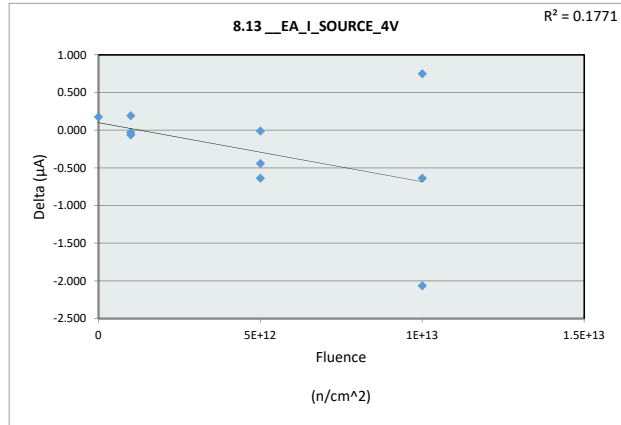


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.13 EA\_I\_SOURCE\_4V

Test Site		
Tester		
Test Number		
Unit	µA	µA
Max Limit	190	190
Min Limit	100	100

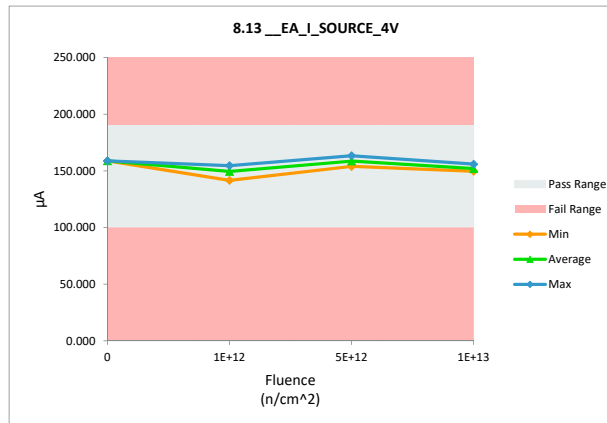
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	158.666	158.841	0.175
1E+12	281	154.635	154.605	-0.030
1E+12	284	141.455	141.647	0.192
1E+12	285	152.533	152.470	-0.063
5E+12	286	159.410	158.773	-0.637
5E+12	287	163.393	163.381	-0.012
5E+12	289	154.370	153.927	-0.443
1E+13	290	150.270	149.633	-0.637
1E+13	291	157.998	155.934	-2.064
1E+13	292	149.596	150.345	0.749
Max		163.393	163.381	0.749
Average		154.233	153.956	-0.277
Min		141.455	141.647	-2.064
Std Dev		6.219	6.016	0.755



## 8.13 EA\_I\_SOURCE\_4V

Test Site		
Tester		
Test Number		
Max Limit	190	µA
Min Limit	100	µA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	158.841	141.647	153.927	149.633
Average	158.841	149.574	158.694	151.971
Max	158.841	154.605	163.381	155.934
UL	190.000	190.000	190.000	190.000

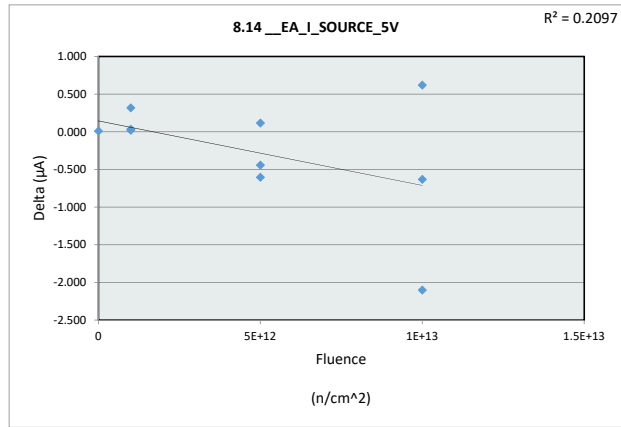


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.14\_EA\_I\_SOURCE\_5V

Test Site		
Tester		
Test Number		
Unit	µA	µA
Max Limit	190	190
Min Limit	100	100

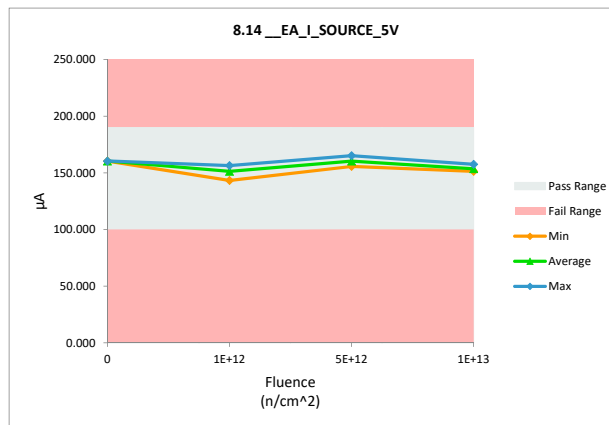
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	160.408	160.417	0.009
1E+12	281	156.410	156.431	0.021
1E+12	284	143.040	143.358	0.318
1E+12	285	154.170	154.202	0.032
5E+12	286	161.152	160.547	-0.605
5E+12	287	165.043	165.158	0.115
5E+12	289	156.125	155.683	-0.442
1E+13	290	151.991	151.359	-0.632
1E+13	291	159.655	157.553	-2.102
1E+13	292	151.237	151.855	0.618
Max		165.043	165.158	0.618
Average		155.923	155.656	-0.267
Min		143.040	143.358	-2.102
Std Dev		6.248	6.031	0.758



## 8.14\_EA\_I\_SOURCE\_5V

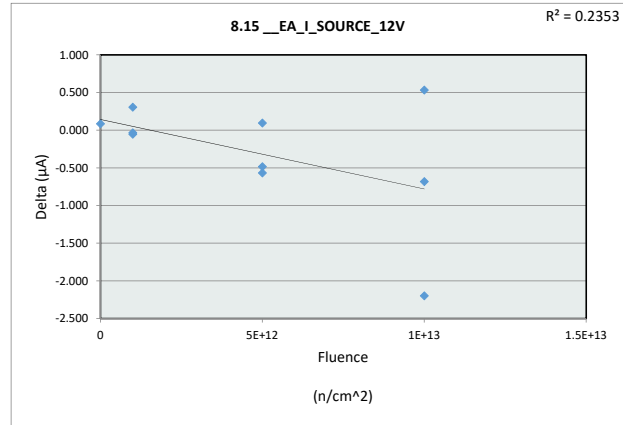
Test Site		
Tester		
Test Number		
Max Limit	190	µA
Min Limit	100	µA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	160.417	143.358	155.683	151.359
Average	160.417	151.330	160.463	153.589
Max	160.417	156.431	165.158	157.553
UL	190.000	190.000	190.000	190.000

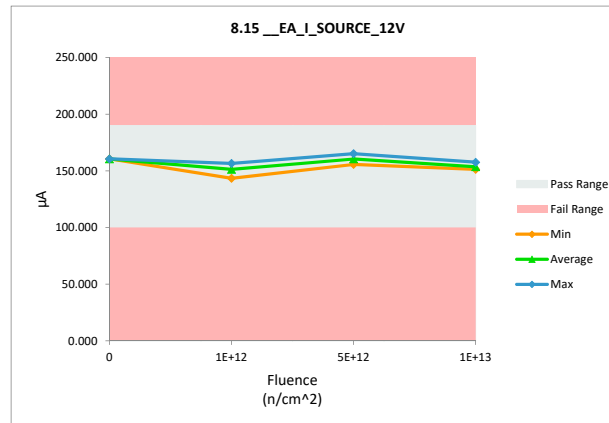


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.15_EA_I_SOURCE_12V				
Test Site				
Tester				
Test Number				
Unit		µA	µA	
Max Limit		190	190	
Min Limit		100	100	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	160.526	160.610	0.084
1E+12	281	156.587	156.552	-0.035
1E+12	284	143.154	143.458	0.304
1E+12	285	154.320	154.266	-0.054
5E+12	286	161.196	160.628	-0.568
5E+12	287	165.060	165.155	0.095
5E+12	289	156.200	155.715	-0.485
1E+13	290	152.049	151.366	-0.683
1E+13	291	159.812	157.614	-2.198
1E+13	292	151.379	151.911	0.532
Max		165.060	165.155	0.532
Average		156.028	155.727	-0.301
Min		143.154	143.458	-2.198
Std Dev		6.230	6.030	0.771



8.15_EA_I_SOURCE_12V				
Test Site				
Tester				
Test Number				
Max Limit		190	µA	
Min Limit		100	µA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	160.610	143.458	155.715	151.366
Average	160.610	151.425	160.499	153.630
Max	160.610	156.552	165.155	157.614
UL	190.000	190.000	190.000	190.000



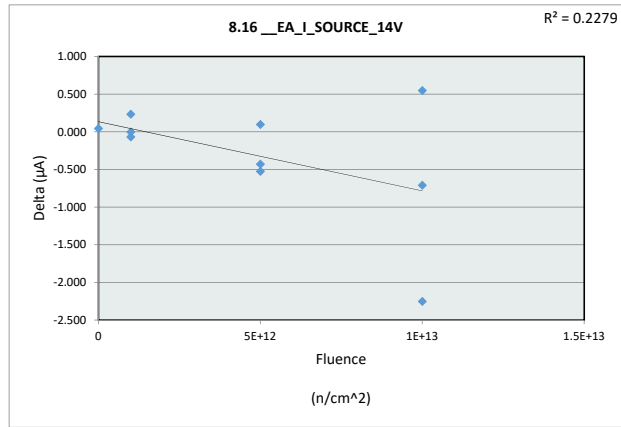


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.16\_EA\_I\_SOURCE\_14V

Test Site		
Tester		
Test Number		
Unit	µA	µA
Max Limit	190	190
Min Limit	100	100

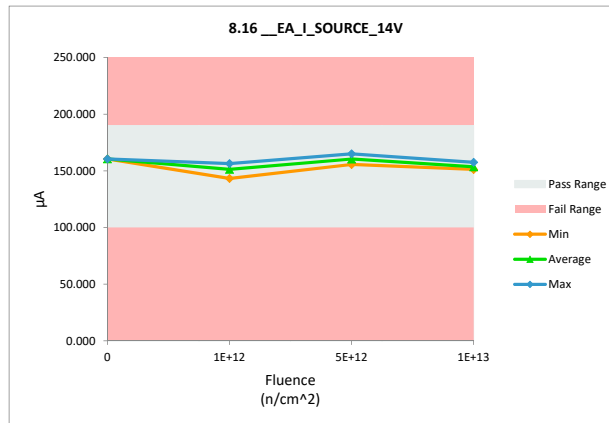
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	160.467	160.511	0.044
1E+12	281	156.515	156.511	-0.004
1E+12	284	143.116	143.349	0.233
1E+12	285	154.277	154.208	-0.069
5E+12	286	161.166	160.641	-0.525
5E+12	287	165.000	165.097	0.097
5E+12	289	156.105	155.675	-0.430
1E+13	290	151.975	151.265	-0.710
1E+13	291	159.782	157.530	-2.252
1E+13	292	151.332	151.878	0.546
Max		165.000	165.097	0.546
Average		155.973	155.667	-0.307
Min		143.116	143.349	-2.252
Std Dev		6.229	6.045	0.779



## 8.16\_EA\_I\_SOURCE\_14V

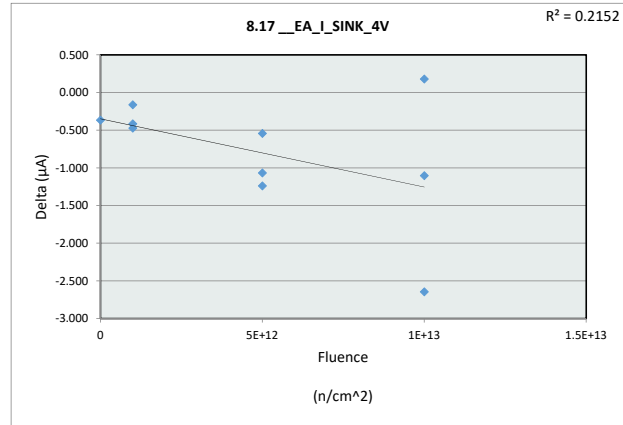
Test Site		
Tester		
Test Number		
Max Limit	190	µA
Min Limit	100	µA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	160.511	143.349	155.675	151.265
Average	160.511	151.356	160.471	153.558
Max	160.511	156.511	165.097	157.530
UL	190.000	190.000	190.000	190.000

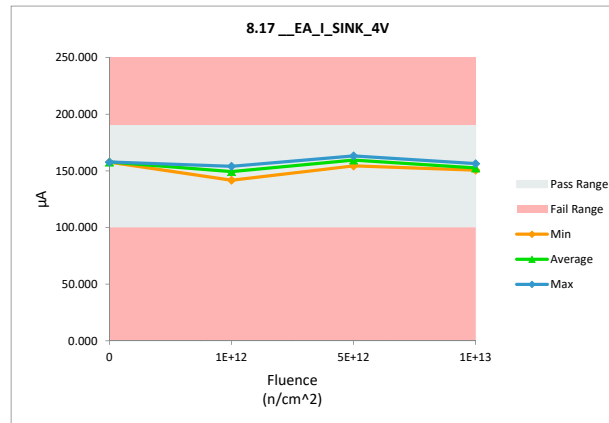


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.17_EA_I_SINK_4V				
Test Site				
Tester				
Test Number				
Unit		µA	µA	
Max Limit		190	190	
Min Limit		100	100	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	158.122	157.755	-0.367
1E+12	281	154.536	154.119	-0.417
1E+12	284	141.876	141.713	-0.163
1E+12	285	152.795	152.321	-0.474
5E+12	286	162.412	161.173	-1.239
5E+12	287	163.801	163.257	-0.544
5E+12	289	155.443	154.376	-1.067
1E+13	290	151.748	150.643	-1.105
1E+13	291	158.986	156.341	-2.645
1E+13	292	150.432	150.611	0.179
Max		163.801	163.257	0.179
Average		155.015	154.231	-0.784
Min		141.876	141.713	-2.645
Std Dev		6.386	6.082	0.791



8.17_EA_I_SINK_4V				
Test Site				
Tester				
Test Number				
Max Limit		190	µA	
Min Limit		100	µA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	157.755	141.713	154.376	150.611
Average	157.755	149.384	159.602	152.532
Max	157.755	154.119	163.257	156.341
UL	190.000	190.000	190.000	190.000

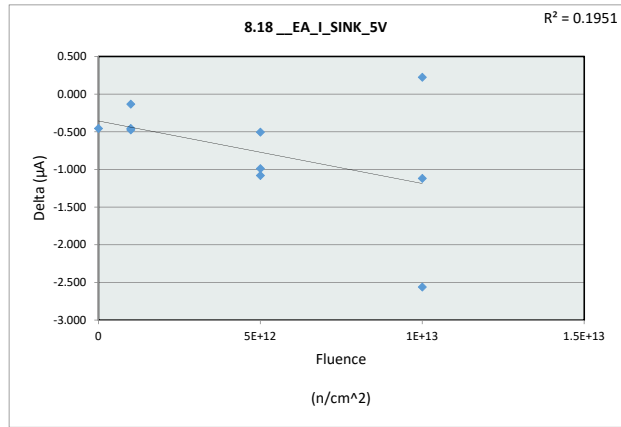


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.18 EA I SINK 5V

Test Site		
Tester		
Test Number		
Unit	µA	µA
Max Limit	190	190
Min Limit	100	100

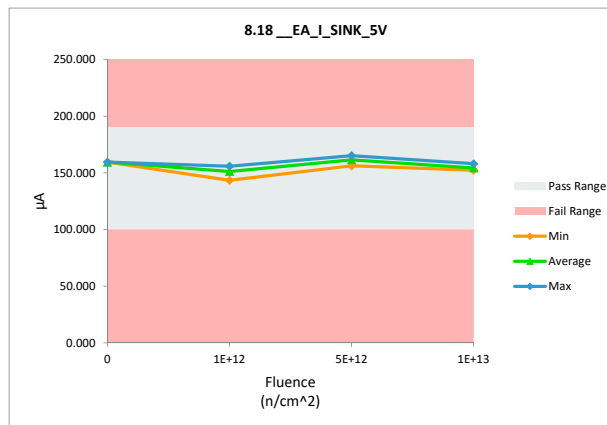
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	159.932	159.476	-0.456
1E+12	281	156.412	155.956	-0.456
1E+12	284	143.572	143.439	-0.133
1E+12	285	154.598	154.122	-0.476
5E+12	286	164.268	163.187	-1.081
5E+12	287	165.704	165.199	-0.505
5E+12	289	157.187	156.197	-0.990
1E+13	290	153.603	152.485	-1.118
1E+13	291	160.631	158.071	-2.560
1E+13	292	152.085	152.307	0.222
Max		165.704	165.199	0.222
Average		156.799	156.044	-0.755
Min		143.572	143.439	-2.560
Std Dev		6.430	6.146	0.761



## 8.18 EA I SINK 5V

Test Site		
Tester		
Test Number		
Max Limit	190	µA
Min Limit	100	µA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	159.476	143.439	156.197	152.307
Average	159.476	151.172	161.528	154.288
Max	159.476	155.956	165.199	158.071
UL	190.000	190.000	190.000	190.000

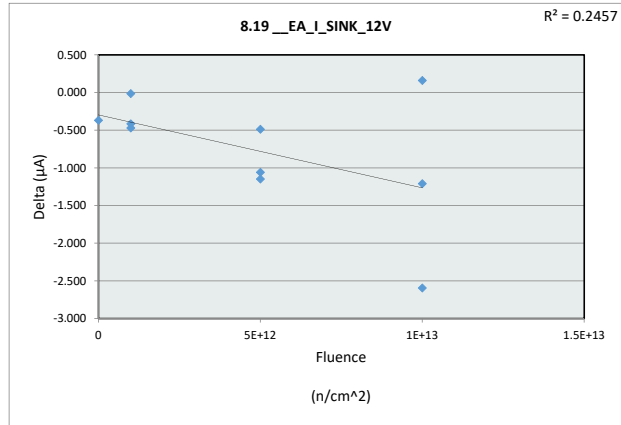


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.19\_EA\_I\_SINK\_12V

Test Site		
Tester		
Test Number		
Unit	µA	µA
Max Limit	190	190
Min Limit	100	100

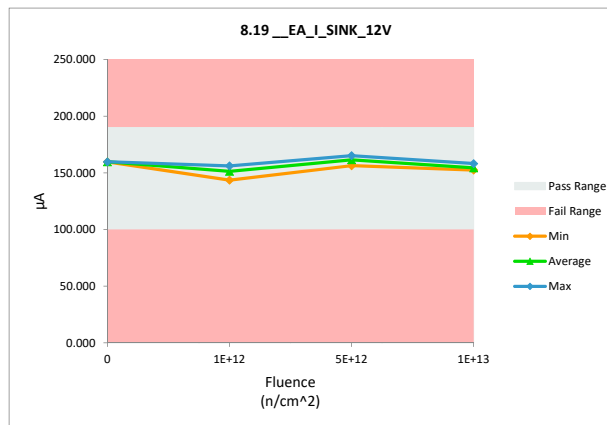
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	160.097	159.728	-0.369
1E+12	281	156.555	156.138	-0.417
1E+12	284	143.655	143.641	-0.014
1E+12	285	154.697	154.225	-0.472
5E+12	286	164.310	163.250	-1.060
5E+12	287	165.705	165.216	-0.489
5E+12	289	157.480	156.331	-1.149
1E+13	290	153.687	152.476	-1.211
1E+13	291	160.811	158.217	-2.594
1E+13	292	152.284	152.443	0.159
Max		165.705	165.216	0.159
Average		156.928	156.166	-0.762
Min		143.655	143.641	-2.594
Std Dev		6.415	6.120	0.791



## 8.19\_EA\_I\_SINK\_12V

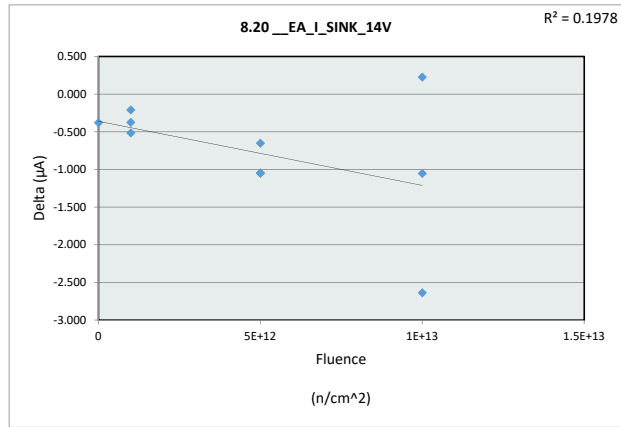
Test Site		
Tester		
Test Number		
Max Limit	190	µA
Min Limit	100	µA

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	159.728	143.641	156.331	152.443
Average	159.728	151.335	161.599	154.379
Max	159.728	156.138	165.216	158.217
UL	190.000	190.000	190.000	190.000

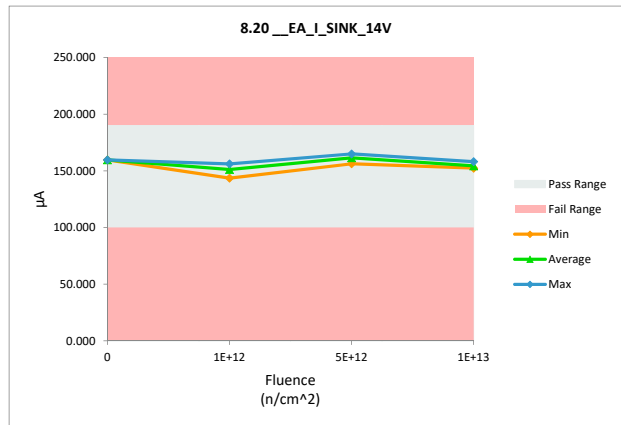


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.20_EA_I_SINK_14V				
Test Site				
Tester				
Test Number				
Unit		µA	µA	
Max Limit		190	190	
Min Limit		100	100	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	160.025	159.646	-0.379
1E+12	281	156.493	156.118	-0.375
1E+12	284	143.801	143.591	-0.210
1E+12	285	154.661	154.145	-0.516
5E+12	286	164.260	163.214	-1.046
5E+12	287	165.650	164.998	-0.652
5E+12	289	157.332	156.281	-1.051
1E+13	290	153.571	152.517	-1.054
1E+13	291	160.737	158.100	-2.637
1E+13	292	152.194	152.419	0.225
Max		165.650	164.998	0.225
Average		156.872	156.103	-0.769
Min		143.801	143.591	-2.637
Std Dev		6.372	6.083	0.775

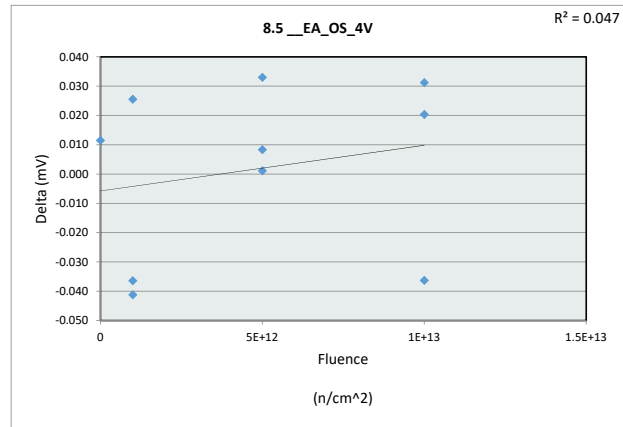


8.20_EA_I_SINK_14V				
Test Site				
Tester				
Test Number				
Max Limit		190	µA	
Min Limit		100	µA	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	100.000	100.000	100.000	100.000
Min	159.646	143.591	156.281	152.419
Average	159.646	151.285	161.498	154.345
Max	159.646	156.118	164.998	158.100
UL	190.000	190.000	190.000	190.000

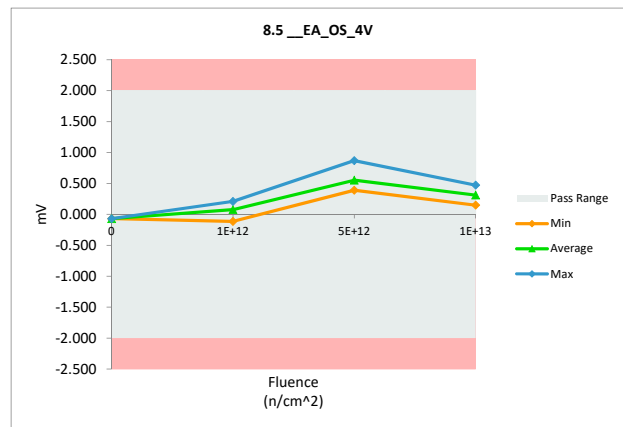


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.5_EA_OS_4V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		2	2	
Min Limit		-2	-2	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	-0.080	-0.069	0.012
1E+12	281	0.184	0.210	0.025
1E+12	284	0.178	0.136	-0.041
1E+12	285	-0.077	-0.113	-0.036
5E+12	286	0.861	0.869	0.008
5E+12	287	0.390	0.391	0.001
5E+12	289	0.364	0.397	0.033
1E+13	290	0.509	0.473	-0.036
1E+13	291	0.293	0.314	0.020
1E+13	292	0.118	0.149	0.031
Max		0.861	0.869	0.033
Average		0.274	0.276	0.002
Min		-0.080	-0.113	-0.041
Std Dev		0.281	0.285	0.029



8.5_EA_OS_4V				
Test Site				
Tester				
Test Number				
Max Limit		2	mV	
Min Limit		-2	mV	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	-2.000	-2.000	-2.000	-2.000
Min	-0.069	-0.113	0.391	0.150
Average	-0.069	0.078	0.553	0.312
Max	-0.069	0.210	0.869	0.473
UL	2.000	2.000	2.000	2.000

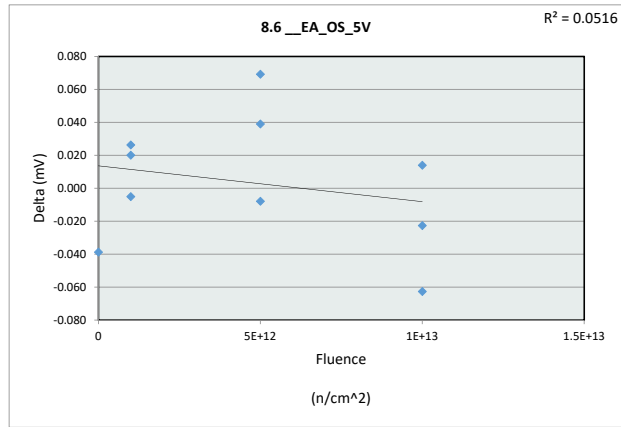


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.6 \_\_EA\_OS\_5V

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	2	2
Min Limit	-2	-2

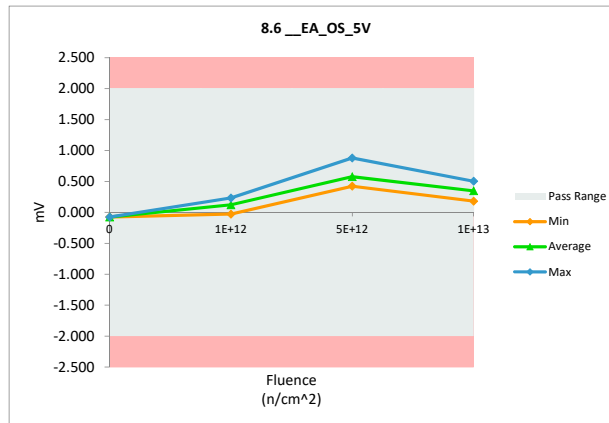
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	-0.037	-0.076	-0.039
1E+12	281	0.213	0.233	0.020
1E+12	284	0.167	0.162	-0.005
1E+12	285	-0.055	-0.028	0.026
5E+12	286	0.888	0.880	-0.008
5E+12	287	0.361	0.430	0.069
5E+12	289	0.384	0.423	0.039
1E+13	290	0.566	0.504	-0.063
1E+13	291	0.381	0.359	-0.023
1E+13	292	0.168	0.182	0.014
Max		0.888	0.880	0.069
Average		0.304	0.307	0.003
Min		-0.055	-0.076	-0.063
Std Dev		0.282	0.279	0.039



## 8.6 \_\_EA\_OS\_5V

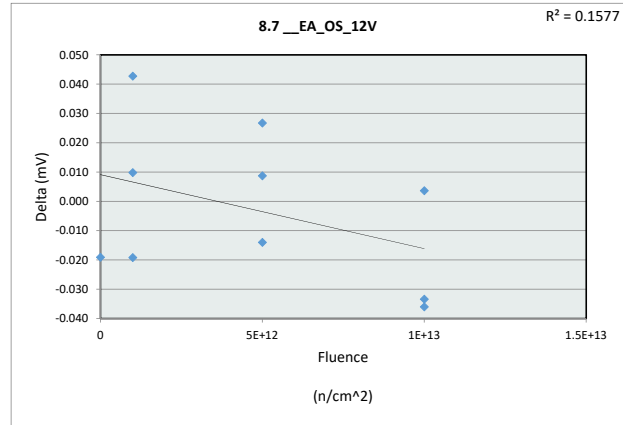
Test Site		
Tester		
Test Number		
Max Limit	2	mV
Min Limit	-2	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	-2.000	-2.000	-2.000	-2.000
Min	-0.076	-0.028	0.423	0.182
Average	-0.076	0.122	0.577	0.348
Max	-0.076	0.233	0.880	0.504
UL	2.000	2.000	2.000	2.000

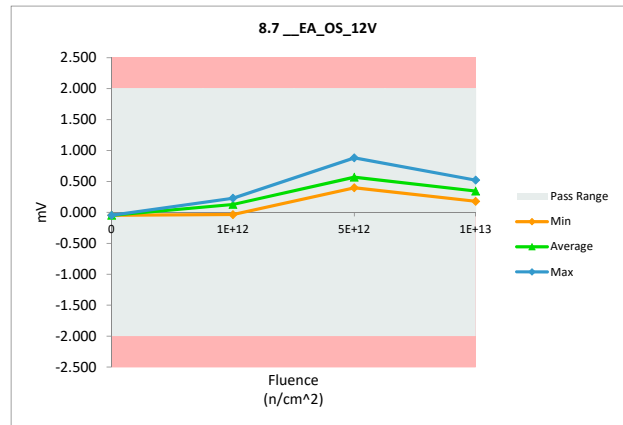


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.7_EA_OS_12V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		2	2	
Min Limit		-2	-2	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	-0.028	-0.047	-0.019
1E+12	281	0.220	0.229	0.010
1E+12	284	0.149	0.191	0.043
1E+12	285	-0.017	-0.036	-0.019
5E+12	286	0.896	0.882	-0.014
5E+12	287	0.420	0.428	0.009
5E+12	289	0.370	0.397	0.027
1E+13	290	0.558	0.522	-0.036
1E+13	291	0.365	0.332	-0.033
1E+13	292	0.175	0.179	0.004
Max		0.896	0.882	0.043
Average		0.311	0.308	-0.003
Min		-0.028	-0.047	-0.036
Std Dev		0.278	0.275	0.026



8.7_EA_OS_12V				
Test Site				
Tester				
Test Number				
Max Limit	2	mV		
Min Limit	-2	mV		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	-2.000	-2.000	-2.000	-2.000
Min	-0.047	-0.036	0.397	0.179
Average	-0.047	0.128	0.569	0.344
Max	-0.047	0.230	0.882	0.522
UL	2.000	2.000	2.000	2.000



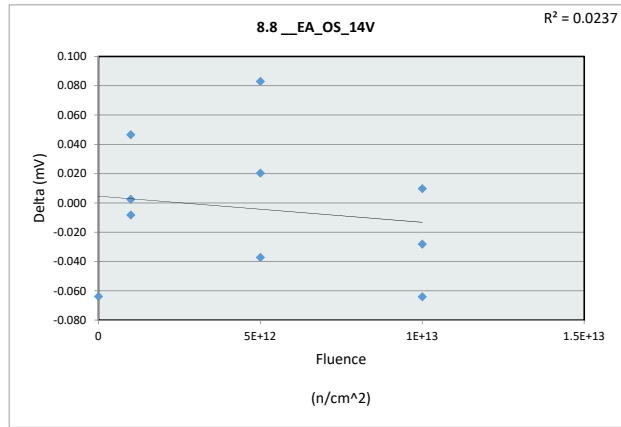


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 8.8\_EA\_OS\_14V

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	2	2
Min Limit	-2	-2

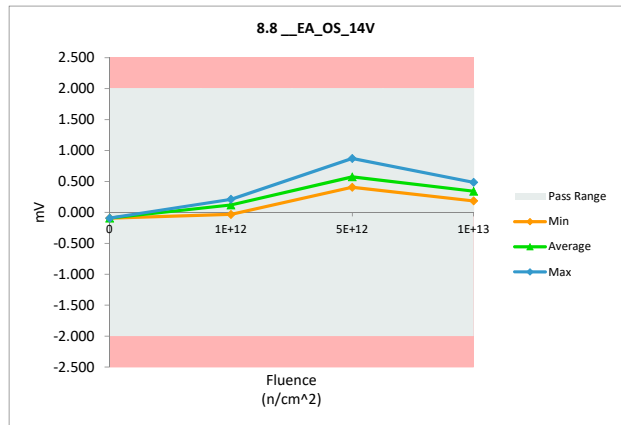
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	-0.028	-0.092	-0.064
1E+12	281	0.219	0.211	-0.008
1E+12	284	0.133	0.180	0.047
1E+12	285	-0.035	-0.032	0.002
5E+12	286	0.909	0.872	-0.037
5E+12	287	0.362	0.445	0.083
5E+12	289	0.386	0.407	0.020
1E+13	290	0.550	0.486	-0.064
1E+13	291	0.381	0.353	-0.028
1E+13	292	0.176	0.185	0.010
Max		0.909	0.872	0.083
Average		0.306	0.302	-0.004
Min		-0.035	-0.092	-0.064
Std Dev		0.283	0.278	0.047



## 8.8\_EA\_OS\_14V

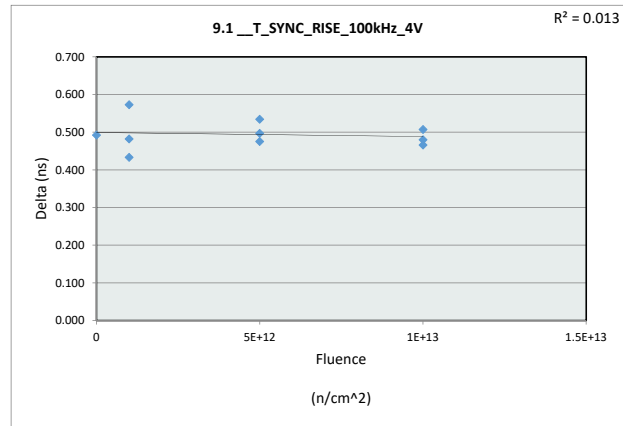
Test Site		
Tester		
Test Number		
Max Limit	2	mV
Min Limit	-2	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	-2.000	-2.000	-2.000	-2.000
Min	-0.092	-0.032	0.407	0.185
Average	-0.092	0.120	0.575	0.342
Max	-0.092	0.211	0.872	0.486
UL	2.000	2.000	2.000	2.000

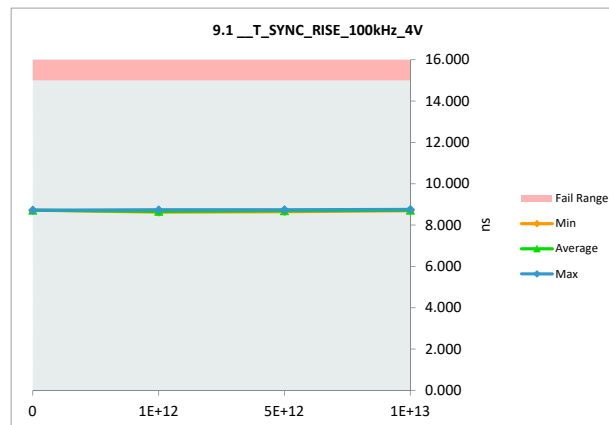


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.1 __T_SYNC_RISE_100kHz_4V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.230	8.722	0.492
1E+12	281	8.161	8.734	0.573
1E+12	284	8.150	8.632	0.482
1E+12	285	8.189	8.622	0.433
5E+12	286	8.171	8.646	0.475
5E+12	287	8.181	8.678	0.497
5E+12	289	8.206	8.740	0.534
1E+13	290	8.215	8.695	0.480
1E+13	291	8.252	8.759	0.507
1E+13	292	8.228	8.694	0.466
Max		8.252	8.759	0.573
Average		8.198	8.692	0.494
Min		8.150	8.622	0.433
Std Dev		0.033	0.047	0.038

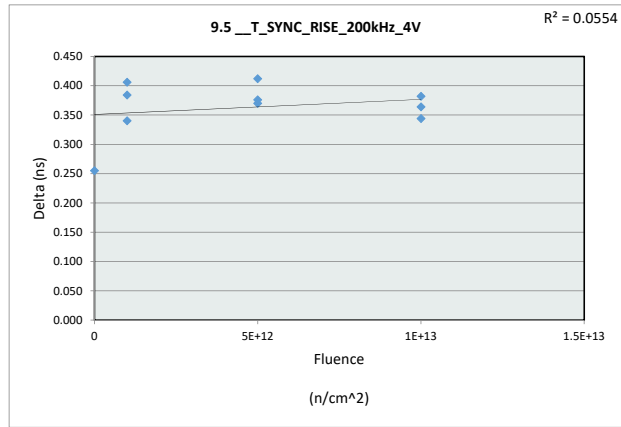


9.1 __T_SYNC_RISE_100kHz_4V				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.722	8.622	8.646	8.694
Average	8.722	8.663	8.688	8.716
Max	8.722	8.734	8.740	8.759
UL	15.000	15.000	15.000	15.000

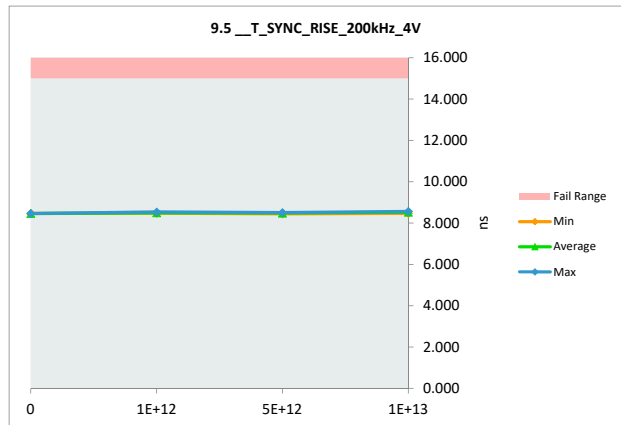


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.5 __T_SYNC_RISE_200kHz_4V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.205	8.460	0.255
1E+12	281	8.127	8.533	0.406
1E+12	284	8.131	8.471	0.340
1E+12	285	8.089	8.473	0.384
5E+12	286	8.073	8.485	0.412
5E+12	287	8.080	8.450	0.370
5E+12	289	8.126	8.502	0.376
1E+13	290	8.108	8.472	0.364
1E+13	291	8.203	8.547	0.344
1E+13	292	8.183	8.565	0.382
Max		8.205	8.565	0.412
Average		8.132	8.496	0.363
Min		8.073	8.450	0.255
Std Dev		0.049	0.039	0.045

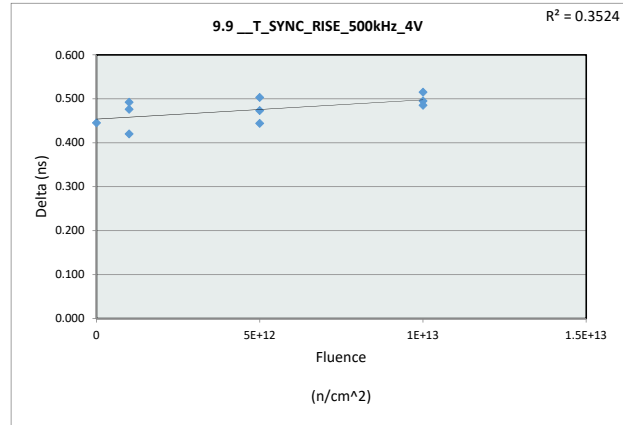


9.5 __T_SYNC_RISE_200kHz_4V				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.460	8.471	8.450	8.472
Average	8.460	8.492	8.479	8.528
Max	8.460	8.533	8.502	8.565
UL	15.000	15.000	15.000	15.000

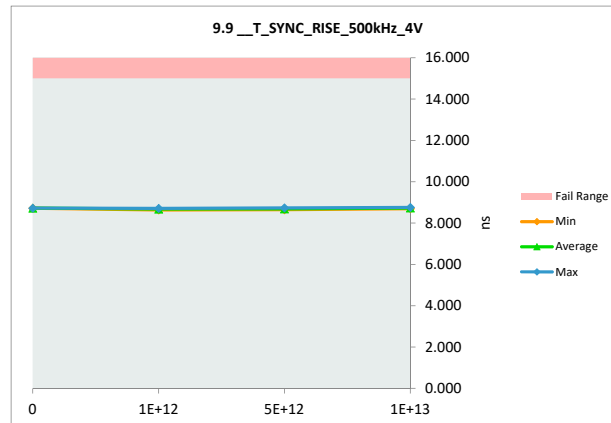


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.9 __T_SYNC_RISE_500kHz_4V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.275	8.720	0.445
1E+12	281	8.232	8.708	0.476
1E+12	284	8.216	8.636	0.420
1E+12	285	8.191	8.683	0.492
5E+12	286	8.198	8.642	0.444
5E+12	287	8.201	8.674	0.473
5E+12	289	8.230	8.733	0.503
1E+13	290	8.209	8.694	0.485
1E+13	291	8.244	8.759	0.515
1E+13	292	8.235	8.730	0.495
Max		8.275	8.759	0.515
Average		8.223	8.698	0.475
Min		8.191	8.636	0.420
Std Dev		0.025	0.040	0.030



9.9 __T_SYNC_RISE_500kHz_4V				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.720	8.636	8.642	8.694
Average	8.720	8.676	8.683	8.728
Max	8.720	8.708	8.733	8.759
UL	15.000	15.000	15.000	15.000

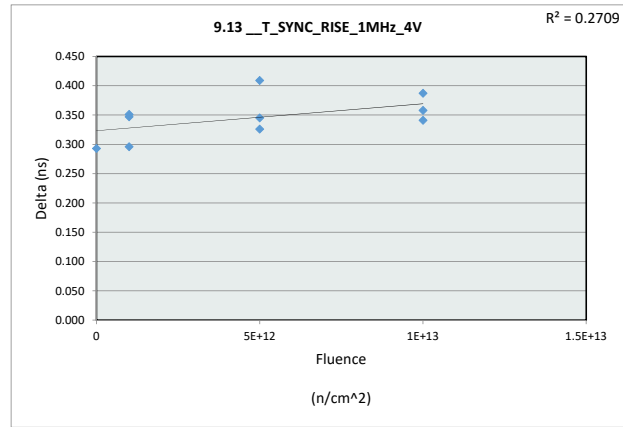


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.13 \_\_T\_SYNC\_RISE\_1MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

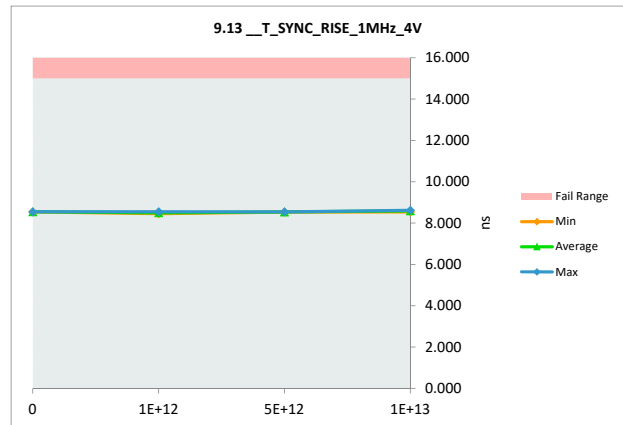
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.249	8.542	0.293
1E+12	281	8.200	8.547	0.347
1E+12	284	8.157	8.453	0.296
1E+12	285	8.120	8.471	0.351
5E+12	286	8.208	8.534	0.326
5E+12	287	8.129	8.538	0.409
5E+12	289	8.187	8.532	0.345
1E+13	290	8.199	8.540	0.341
1E+13	291	8.235	8.593	0.358
1E+13	292	8.234	8.621	0.387
Max		8.249	8.621	0.409
Average		8.192	8.537	0.345
Min		8.120	8.453	0.293
Std Dev		0.044	0.049	0.036



## 9.13 \_\_T\_SYNC\_RISE\_1MHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.542	8.453	8.532	8.540
Average	8.542	8.490	8.535	8.585
Max	8.542	8.547	8.538	8.621
UL	15.000	15.000	15.000	15.000

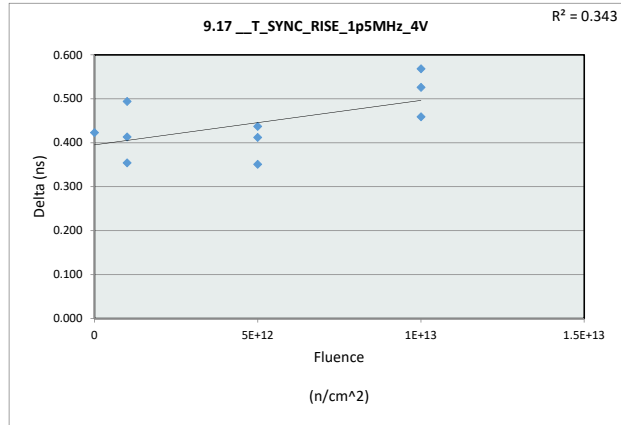


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.17 \_\_T\_SYNC\_RISE\_1p5MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

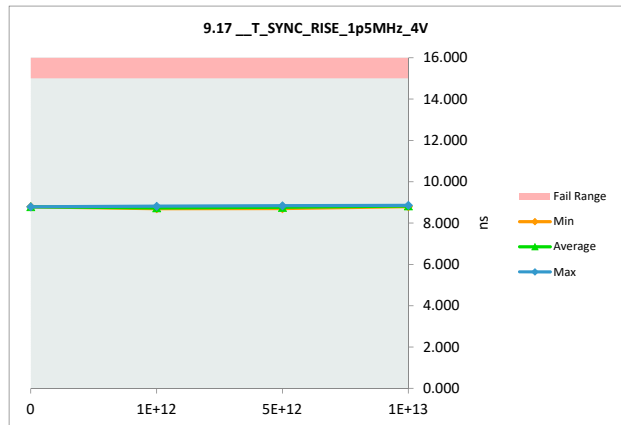
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.362	8.785	0.423
1E+12	281	8.318	8.812	0.494
1E+12	284	8.338	8.692	0.354
1E+12	285	8.281	8.694	0.413
5E+12	286	8.347	8.698	0.351
5E+12	287	8.305	8.742	0.437
5E+12	289	8.424	8.836	0.412
1E+13	290	8.227	8.795	0.568
1E+13	291	8.375	8.834	0.459
1E+13	292	8.331	8.857	0.526
Max		8.424	8.857	0.568
Average		8.331	8.775	0.444
Min		8.227	8.692	0.351
Std Dev		0.054	0.063	0.070



## 9.17 \_\_T\_SYNC\_RISE\_1p5MHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.785	8.692	8.698	8.795
Average	8.785	8.733	8.759	8.829
Max	8.785	8.812	8.836	8.857
UL	15.000	15.000	15.000	15.000

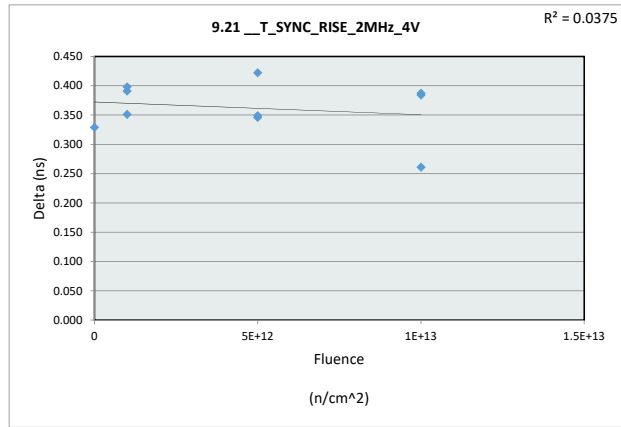


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.21 \_\_T\_SYNC\_RISE\_2MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

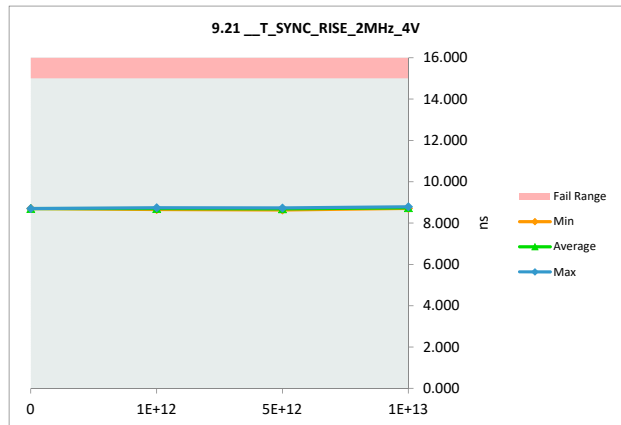
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.372	8.701	0.329
1E+12	281	8.348	8.739	0.391
1E+12	284	8.354	8.705	0.351
1E+12	285	8.257	8.655	0.398
5E+12	286	8.289	8.635	0.346
5E+12	287	8.273	8.695	0.422
5E+12	289	8.381	8.730	0.349
1E+13	290	8.344	8.728	0.384
1E+13	291	8.402	8.789	0.387
1E+13	292	8.452	8.713	0.261
Max		8.452	8.789	0.422
Average		8.347	8.709	0.362
Min		8.257	8.635	0.261
Std Dev		0.060	0.043	0.046



## 9.21 \_\_T\_SYNC\_RISE\_2MHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.701	8.655	8.635	8.713
Average	8.701	8.700	8.687	8.743
Max	8.701	8.739	8.730	8.789
UL	15.000	15.000	15.000	15.000

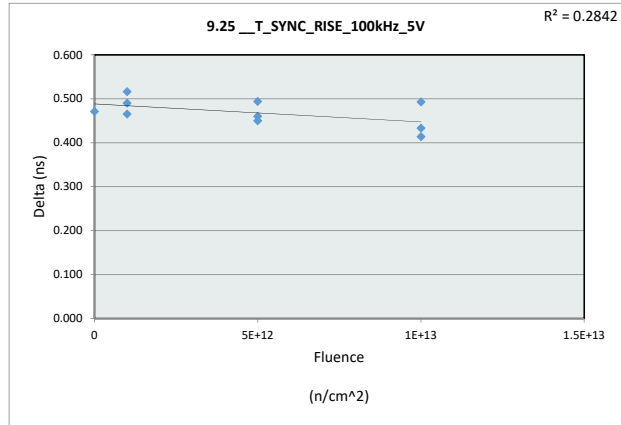


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.25 \_\_T\_SYNC\_RISE\_100kHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

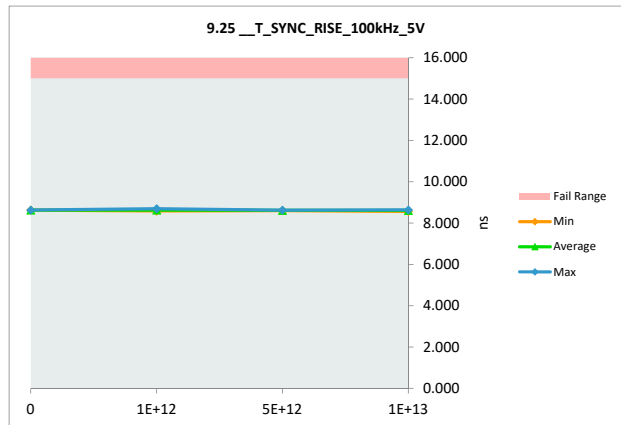
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.158	8.629	0.471
1E+12	281	8.182	8.698	0.516
1E+12	284	8.115	8.580	0.465
1E+12	285	8.103	8.593	0.490
5E+12	286	8.141	8.601	0.460
5E+12	287	8.120	8.614	0.494
5E+12	289	8.175	8.625	0.450
1E+13	290	8.148	8.562	0.414
1E+13	291	8.144	8.637	0.493
1E+13	292	8.200	8.633	0.433
Max		8.200	8.698	0.516
Average		8.149	8.617	0.469
Min		8.103	8.562	0.414
Std Dev		0.031	0.038	0.031



## 9.25 \_\_T\_SYNC\_RISE\_100kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.629	8.580	8.601	8.562
Average	8.629	8.624	8.613	8.611
Max	8.629	8.698	8.625	8.637
UL	15.000	15.000	15.000	15.000



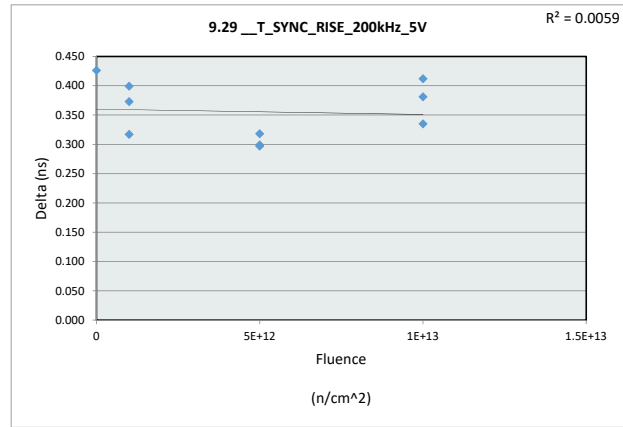


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.29 \_\_T\_SYNC\_RISE\_200kHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

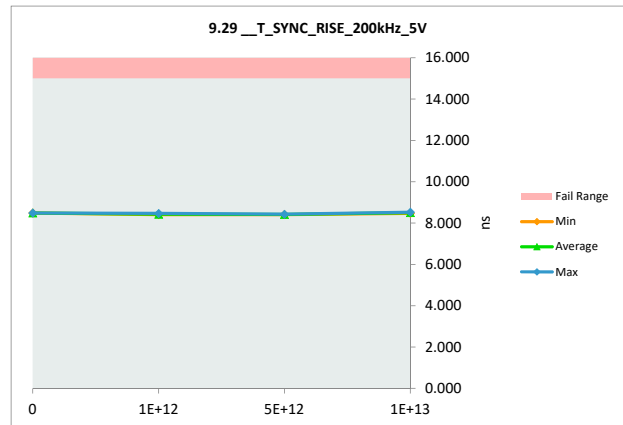
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.059	8.485	0.426
1E+12	281	8.067	8.466	0.399
1E+12	284	8.089	8.406	0.317
1E+12	285	8.032	8.405	0.373
5E+12	286	8.091	8.409	0.318
5E+12	287	8.131	8.428	0.297
5E+12	289	8.107	8.406	0.299
1E+13	290	8.098	8.510	0.412
1E+13	291	8.134	8.469	0.335
1E+13	292	8.145	8.526	0.381
Max		8.145	8.526	0.426
Average		8.095	8.451	0.356
Min		8.032	8.405	0.297
Std Dev		0.036	0.046	0.048



## 9.29 \_\_T\_SYNC\_RISE\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.485	8.405	8.406	8.469
Average	8.485	8.426	8.414	8.502
Max	8.485	8.466	8.428	8.526
UL	15.000	15.000	15.000	15.000

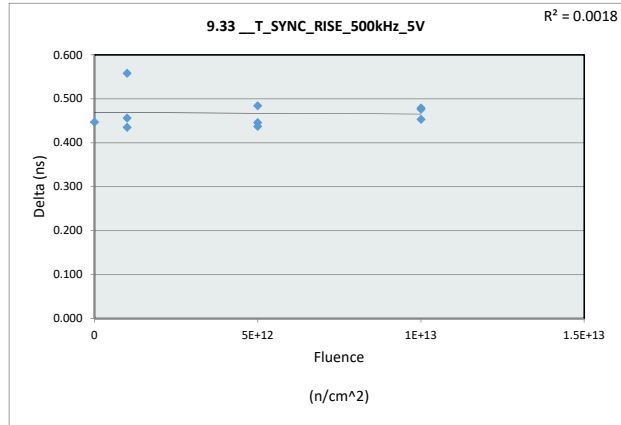


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.33 \_\_T\_SYNC\_RISE\_500kHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

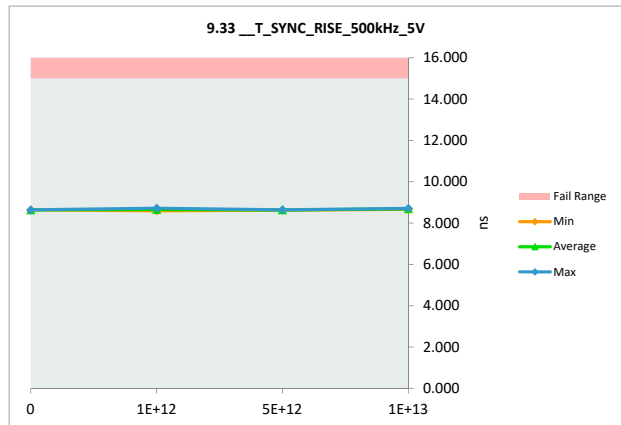
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.190	8.637	0.447
1E+12	281	8.164	8.722	0.558
1E+12	284	8.136	8.592	0.456
1E+12	285	8.201	8.636	0.435
5E+12	286	8.179	8.625	0.446
5E+12	287	8.149	8.633	0.484
5E+12	289	8.201	8.638	0.437
1E+13	290	8.188	8.667	0.479
1E+13	291	8.226	8.679	0.453
1E+13	292	8.231	8.707	0.476
Max		8.231	8.722	0.558
Average		8.186	8.654	0.467
Min		8.136	8.592	0.435
Std Dev		0.031	0.040	0.036



## 9.33 \_\_T\_SYNC\_RISE\_500kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.637	8.592	8.625	8.667
Average	8.637	8.650	8.632	8.684
Max	8.637	8.722	8.638	8.707
UL	15.000	15.000	15.000	15.000

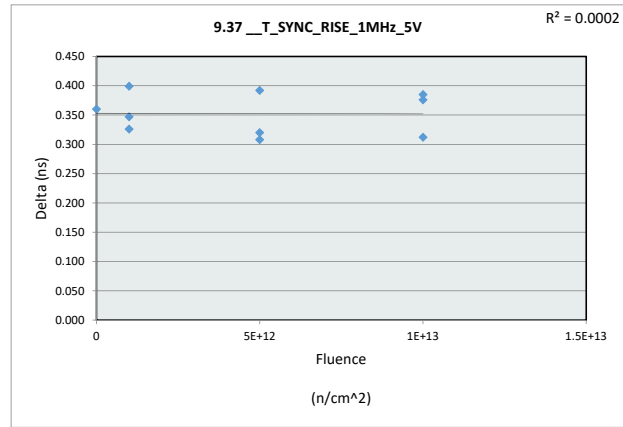


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.37 \_\_T\_SYNC\_RISE\_1MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

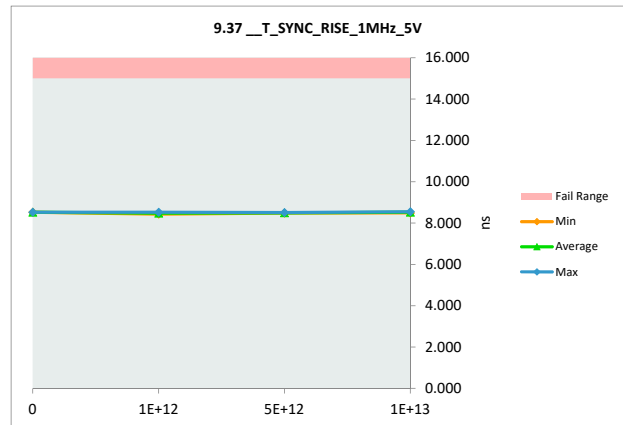
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.162	8.522	0.360
1E+12	281	8.123	8.522	0.399
1E+12	284	8.126	8.473	0.347
1E+12	285	8.106	8.432	0.326
5E+12	286	8.176	8.484	0.308
5E+12	287	8.160	8.480	0.320
5E+12	289	8.114	8.506	0.392
1E+13	290	8.175	8.487	0.312
1E+13	291	8.165	8.550	0.385
1E+13	292	8.172	8.548	0.376
Max		8.176	8.550	0.399
Average		8.148	8.500	0.353
Min		8.106	8.432	0.308
Std Dev		0.027	0.036	0.035



9.37 \_\_T\_SYNC\_RISE\_1MHz\_5V

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

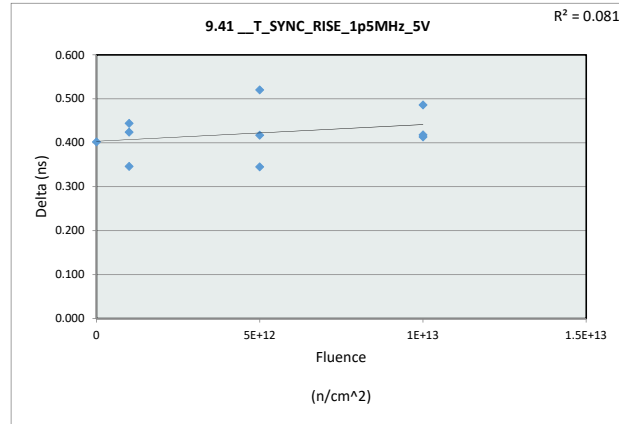
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.522	8.432	8.480	8.487
Average	8.522	8.476	8.490	8.528
Max	8.522	8.522	8.506	8.550
UL	15.000	15.000	15.000	15.000



# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

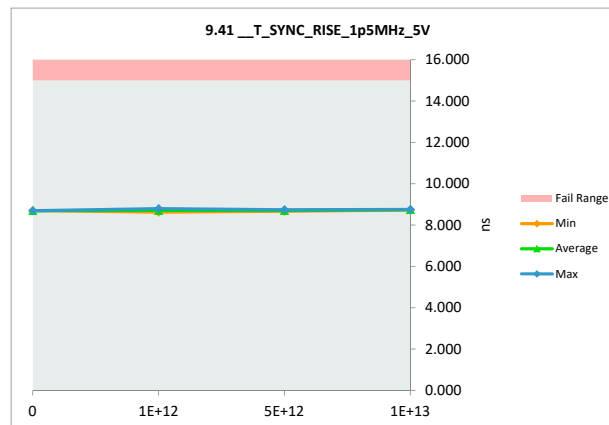
## 9.41 \_\_T\_SYNC\_RISE\_1p5MHz\_5V

Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.294	8.696	0.402
1E+12	281	8.352	8.796	0.444
1E+12	284	8.267	8.691	0.424
1E+12	285	8.283	8.629	0.346
5E+12	286	8.322	8.667	0.345
5E+12	287	8.284	8.701	0.417
5E+12	289	8.220	8.740	0.520
1E+13	290	8.315	8.728	0.413
1E+13	291	8.258	8.744	0.486
1E+13	292	8.338	8.756	0.418
Max		8.352	8.796	0.520
Average		8.293	8.715	0.421
Min		8.220	8.629	0.345
Std Dev		0.040	0.048	0.054



## 9.41 \_\_T\_SYNC\_RISE\_1p5MHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.696	8.629	8.667	8.728
Average	8.696	8.705	8.703	8.743
Max	8.696	8.796	8.740	8.756
UL	15.000	15.000	15.000	15.000

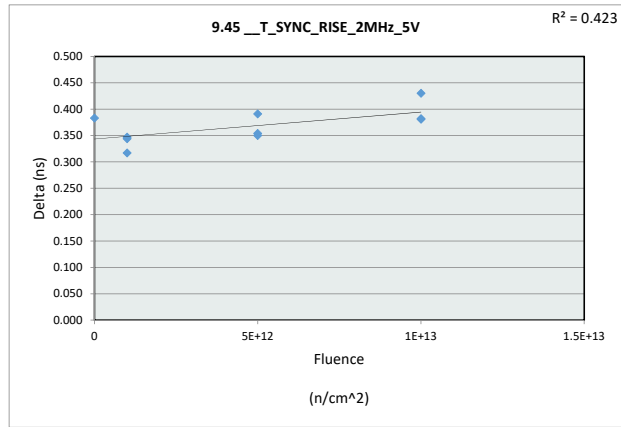


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.45 \_\_T\_SYNC\_RISE\_2MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

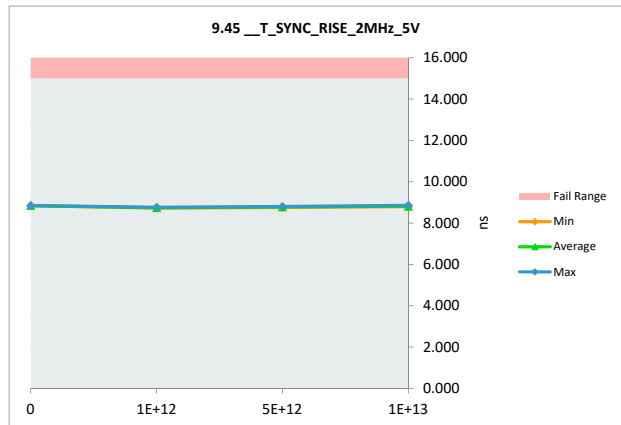
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.462	8.845	0.383
1E+12	281	8.420	8.767	0.347
1E+12	284	8.388	8.732	0.344
1E+12	285	8.408	8.725	0.317
5E+12	286	8.438	8.788	0.350
5E+12	287	8.399	8.753	0.354
5E+12	289	8.406	8.797	0.391
1E+13	290	8.408	8.789	0.381
1E+13	291	8.411	8.793	0.382
1E+13	292	8.424	8.854	0.430
Max		8.462	8.854	0.430
Average		8.416	8.784	0.368
Min		8.388	8.725	0.317
Std Dev		0.021	0.043	0.032



## 9.45 \_\_T\_SYNC\_RISE\_2MHz\_5V

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.845	8.725	8.753	8.789
Average	8.845	8.741	8.779	8.812
Max	8.845	8.767	8.797	8.854
UL	15.000	15.000	15.000	15.000

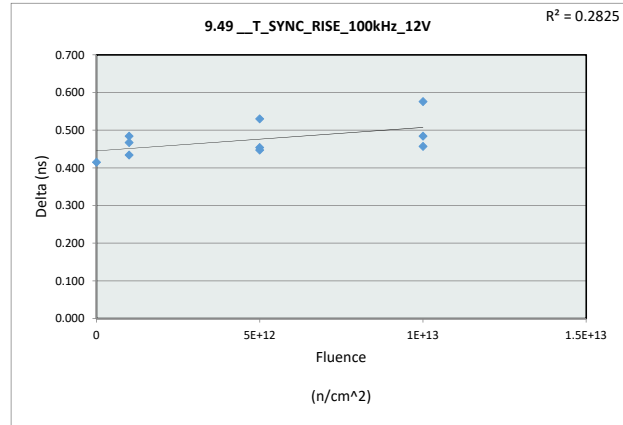


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.49 \_\_T\_SYNC\_RISE\_100kHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

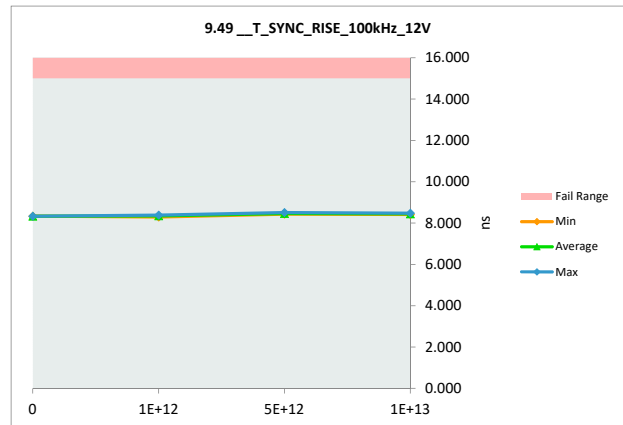
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.917	8.332	0.415
1E+12	281	7.857	8.291	0.434
1E+12	284	7.897	8.364	0.467
1E+12	285	7.898	8.382	0.484
5E+12	286	7.979	8.433	0.454
5E+12	287	7.979	8.509	0.530
5E+12	289	7.997	8.444	0.447
1E+13	290	7.900	8.476	0.576
1E+13	291	7.981	8.438	0.457
1E+13	292	7.926	8.410	0.484
Max		7.997	8.509	0.576
Average		7.933	8.408	0.475
Min		7.857	8.291	0.415
Std Dev		0.048	0.066	0.047



## 9.49 \_\_T\_SYNC\_RISE\_100kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.332	8.291	8.433	8.410
Average	8.332	8.346	8.462	8.441
Max	8.332	8.382	8.509	8.476
UL	15.000	15.000	15.000	15.000

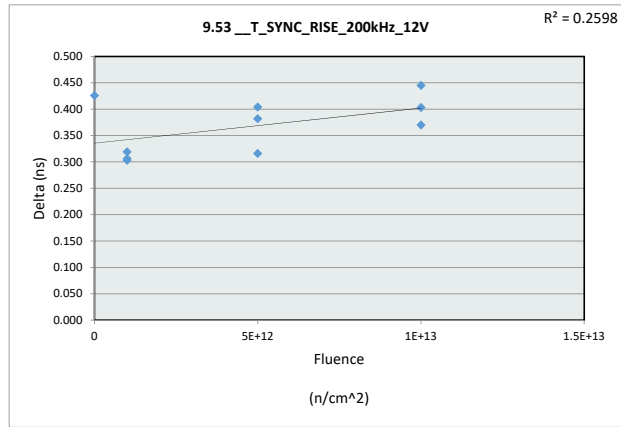


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.53 \_\_T\_SYNC\_RISE\_200kHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

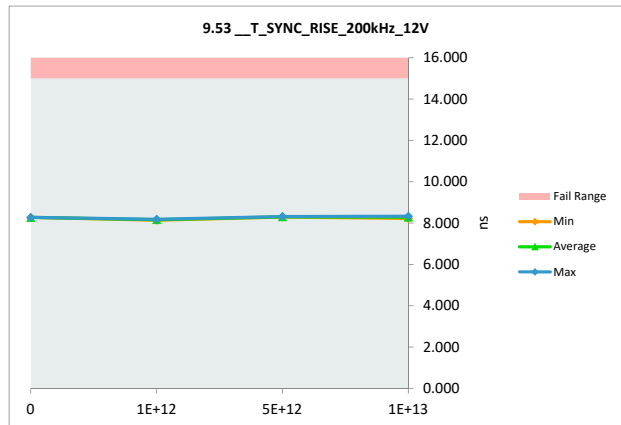
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.844	8.270	0.426
1E+12	281	7.837	8.140	0.303
1E+12	284	7.861	8.167	0.306
1E+12	285	7.867	8.186	0.319
5E+12	286	7.999	8.315	0.316
5E+12	287	7.920	8.302	0.382
5E+12	289	7.889	8.293	0.404
1E+13	290	7.849	8.219	0.370
1E+13	291	7.887	8.332	0.445
1E+13	292	7.891	8.294	0.403
Max		7.999	8.332	0.445
Average		7.884	8.252	0.367
Min		7.837	8.140	0.303
Std Dev		0.048	0.068	0.053



## 9.53 \_\_T\_SYNC\_RISE\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.270	8.140	8.293	8.219
Average	8.270	8.164	8.303	8.282
Max	8.270	8.186	8.315	8.332
UL	15.000	15.000	15.000	15.000

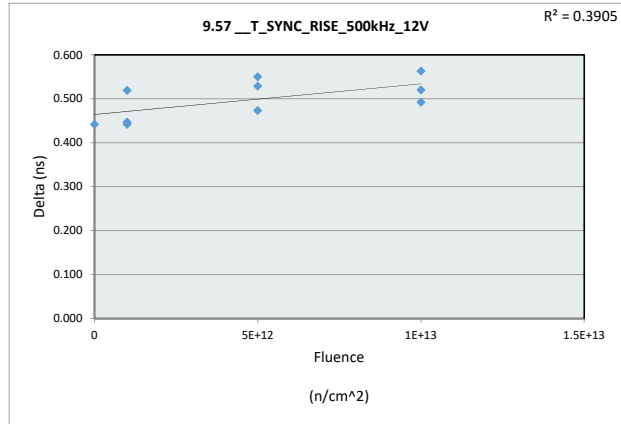


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.57 \_\_T\_SYNC\_RISE\_500kHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

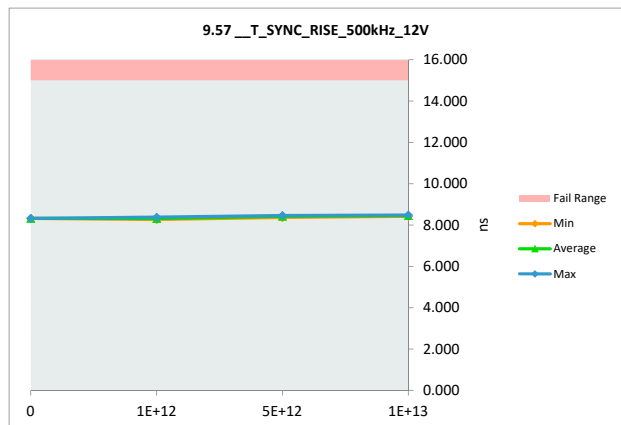
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.878	8.320	0.442
1E+12	281	7.825	8.272	0.447
1E+12	284	7.860	8.379	0.519
1E+12	285	7.860	8.302	0.442
5E+12	286	7.931	8.460	0.529
5E+12	287	7.965	8.438	0.473
5E+12	289	7.814	8.364	0.550
1E+13	290	7.923	8.486	0.563
1E+13	291	7.961	8.453	0.492
1E+13	292	7.904	8.424	0.520
Max		7.965	8.486	0.563
Average		7.892	8.390	0.498
Min		7.814	8.272	0.442
Std Dev		0.053	0.074	0.045



## 9.57 \_\_T\_SYNC\_RISE\_500kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

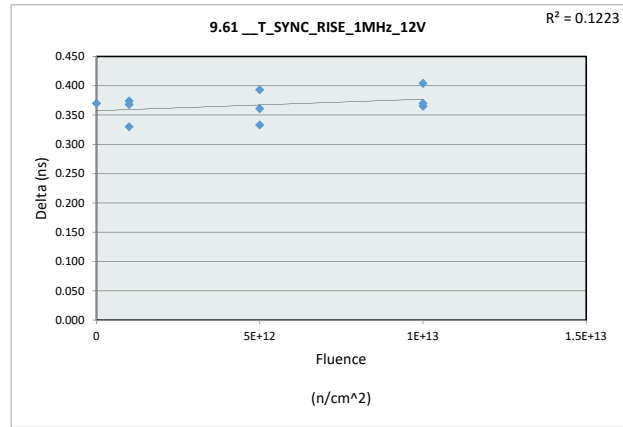
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.320	8.272	8.364	8.424
Average	8.320	8.318	8.421	8.454
Max	8.320	8.379	8.460	8.486
UL	15.000	15.000	15.000	15.000



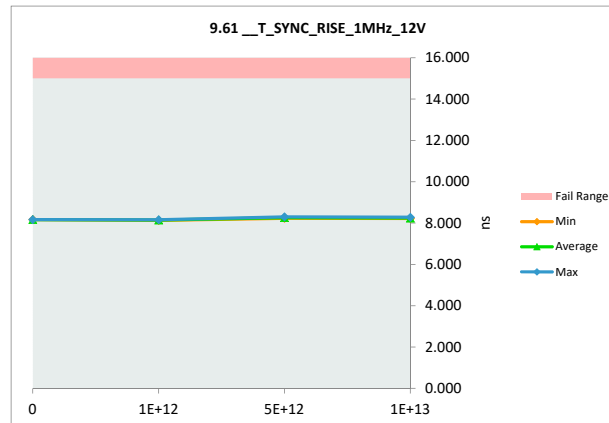


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.61 __T_SYNC_RISE_1MHz_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.796	8.166	0.370
1E+12	281	7.757	8.131	0.374
1E+12	284	7.765	8.133	0.368
1E+12	285	7.834	8.164	0.330
5E+12	286	7.909	8.302	0.393
5E+12	287	7.888	8.249	0.361
5E+12	289	7.895	8.228	0.333
1E+13	290	7.859	8.224	0.365
1E+13	291	7.874	8.278	0.404
1E+13	292	7.850	8.220	0.370
Max		7.909	8.302	0.404
Average		7.843	8.209	0.367
Min		7.757	8.131	0.330
Std Dev		0.054	0.059	0.023



9.61 __T_SYNC_RISE_1MHz_1				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.166	8.131	8.228	8.220
Average	8.166	8.143	8.260	8.241
Max	8.166	8.164	8.302	8.278
UL	15.000	15.000	15.000	15.000

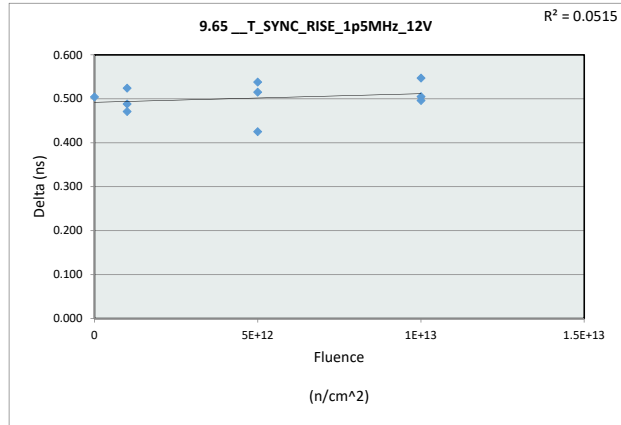


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.65 \_\_T\_SYNC\_RISE\_1p5MHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

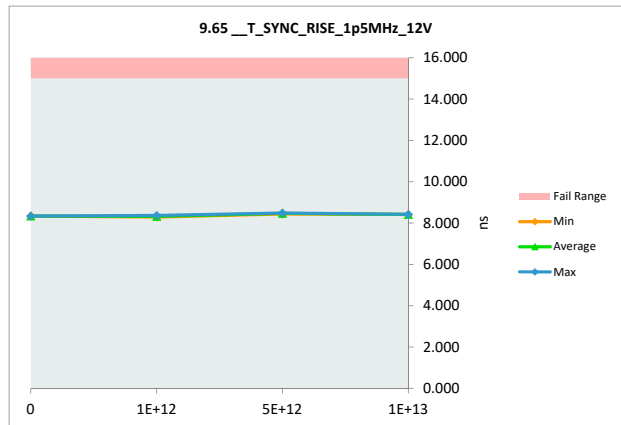
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.834	8.338	0.504
1E+12	281	7.821	8.292	0.471
1E+12	284	7.878	8.366	0.488
1E+12	285	7.786	8.310	0.524
5E+12	286	7.948	8.486	0.538
5E+12	287	8.051	8.476	0.425
5E+12	289	7.927	8.442	0.515
1E+13	290	7.906	8.411	0.505
1E+13	291	7.917	8.413	0.496
1E+13	292	7.871	8.418	0.547
Max		8.051	8.486	0.547
Average		7.894	8.395	0.501
Min		7.786	8.292	0.425
Std Dev		0.075	0.067	0.035



## 9.65 \_\_T\_SYNC\_RISE\_1p5MHz

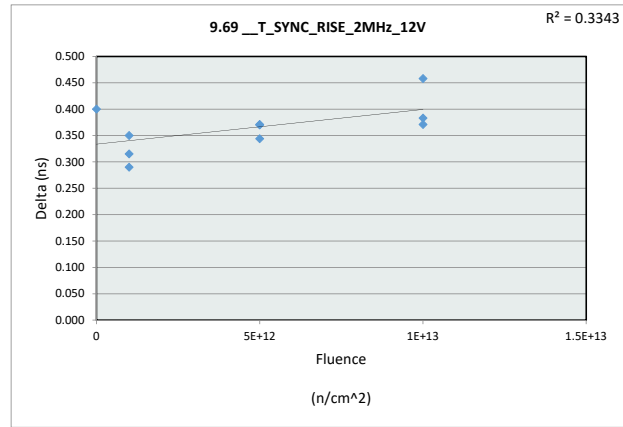
Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.338	8.292	8.442	8.411
Average	8.338	8.323	8.468	8.414
Max	8.338	8.366	8.486	8.418
UL	15.000	15.000	15.000	15.000

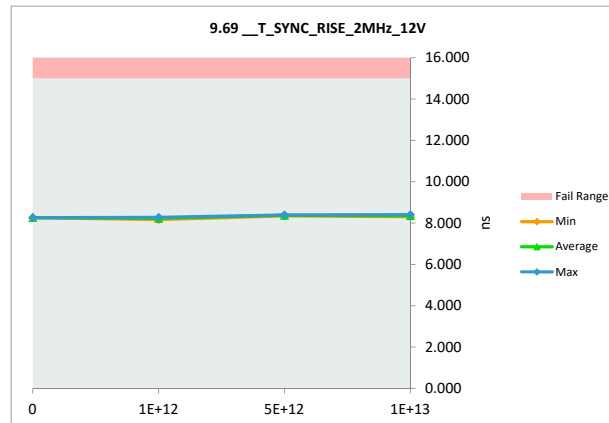


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.69 __T_SYNC_RISE_2MHz_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.859	8.259	0.400
1E+12	281	7.818	8.168	0.350
1E+12	284	7.958	8.248	0.290
1E+12	285	7.960	8.275	0.315
5E+12	286	8.049	8.393	0.344
5E+12	287	8.020	8.391	0.371
5E+12	289	7.976	8.346	0.370
1E+13	290	7.949	8.407	0.458
1E+13	291	7.964	8.347	0.383
1E+13	292	7.930	8.301	0.371
Max		8.049	8.407	0.458
Average		7.948	8.313	0.365
Min		7.818	8.168	0.290
Std Dev		0.068	0.077	0.046

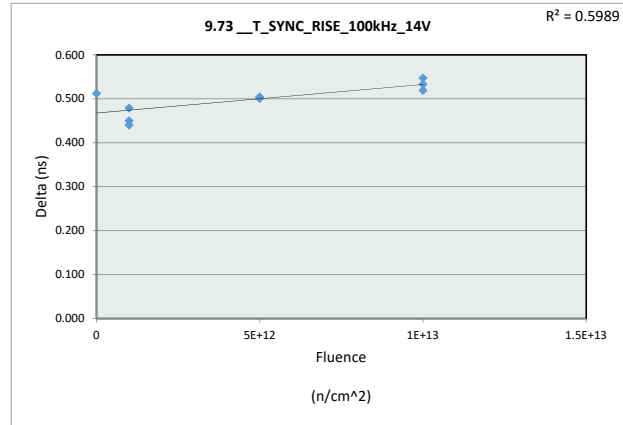


9.69 __T_SYNC_RISE_2MHz_1				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.259	8.168	8.346	8.301
Average	8.259	8.230	8.377	8.352
Max	8.259	8.275	8.393	8.407
UL	15.000	15.000	15.000	15.000

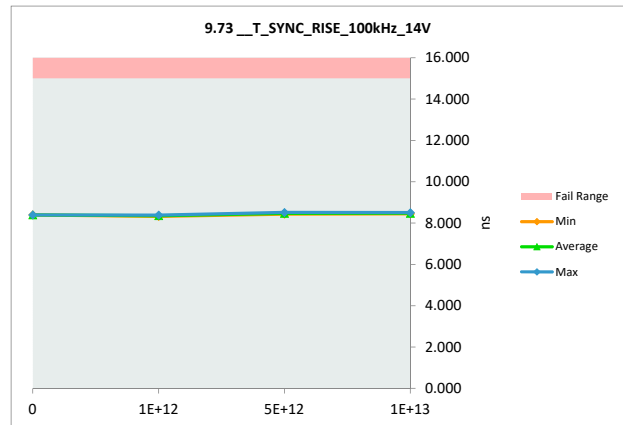


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.73 __T_SYNC_RISE_100kHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.878	8.390	0.512
1E+12	281	7.871	8.321	0.450
1E+12	284	7.922	8.362	0.440
1E+12	285	7.906	8.385	0.479
5E+12	286	7.974	8.475	0.501
5E+12	287	8.009	8.513	0.504
5E+12	289	7.929	8.431	0.502
1E+13	290	7.956	8.503	0.547
1E+13	291	7.917	8.450	0.533
1E+13	292	7.946	8.465	0.519
Max		8.009	8.513	0.547
Average		7.931	8.430	0.499
Min		7.871	8.321	0.440
Std Dev		0.042	0.063	0.034



9.73 __T_SYNC_RISE_100kHz				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.390	8.321	8.431	8.450
Average	8.390	8.356	8.473	8.473
Max	8.390	8.385	8.513	8.503
UL	15.000	15.000	15.000	15.000

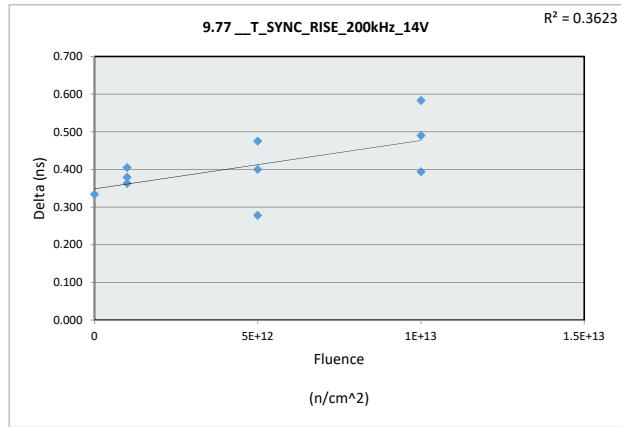


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.77 \_\_T\_SYNC\_RISE\_200kHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

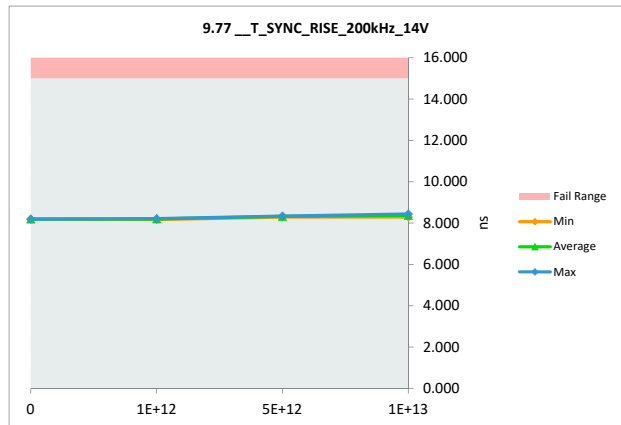
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.857	8.191	0.334
1E+12	281	7.766	8.171	0.405
1E+12	284	7.835	8.214	0.379
1E+12	285	7.847	8.210	0.363
5E+12	286	8.017	8.295	0.278
5E+12	287	7.938	8.338	0.400
5E+12	289	7.854	8.329	0.475
1E+13	290	7.853	8.436	0.583
1E+13	291	7.886	8.376	0.490
1E+13	292	7.901	8.295	0.394
Max		8.017	8.436	0.583
Average		7.875	8.286	0.410
Min		7.766	8.171	0.278
Std Dev		0.067	0.087	0.086



## 9.77 \_\_T\_SYNC\_RISE\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.191	8.171	8.295	8.295
Average	8.191	8.198	8.321	8.369
Max	8.191	8.214	8.338	8.436
UL	15.000	15.000	15.000	15.000

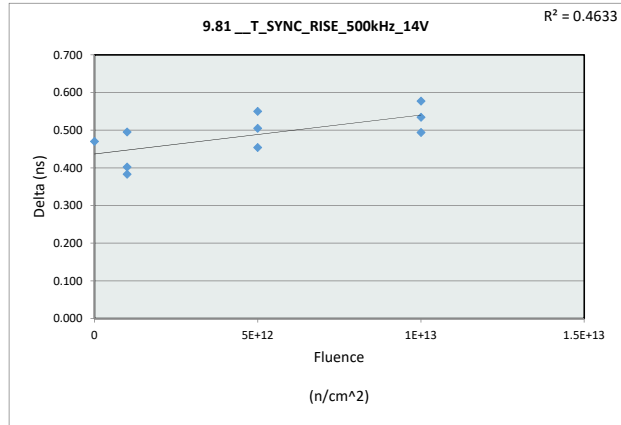


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.81 \_\_T\_SYNC\_RISE\_500kHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

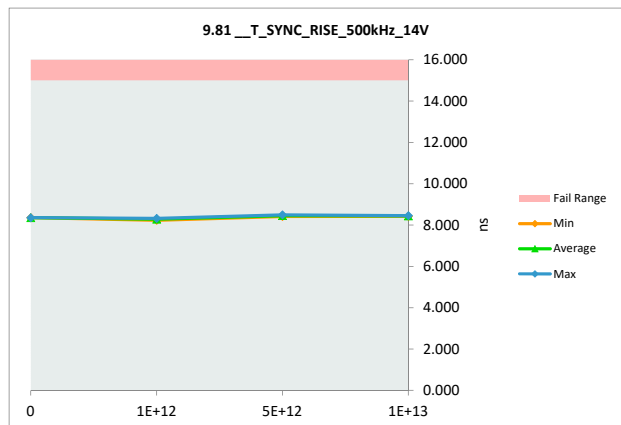
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.886	8.356	0.470
1E+12	281	7.829	8.231	0.402
1E+12	284	7.794	8.289	0.495
1E+12	285	7.941	8.324	0.383
5E+12	286	7.962	8.416	0.454
5E+12	287	7.985	8.490	0.505
5E+12	289	7.907	8.457	0.550
1E+13	290	7.915	8.449	0.534
1E+13	291	7.875	8.452	0.577
1E+13	292	7.928	8.422	0.494
Max		7.985	8.490	0.577
Average		7.902	8.389	0.486
Min		7.794	8.231	0.383
Std Dev		0.059	0.085	0.062



## 9.81 \_\_T\_SYNC\_RISE\_500kHz

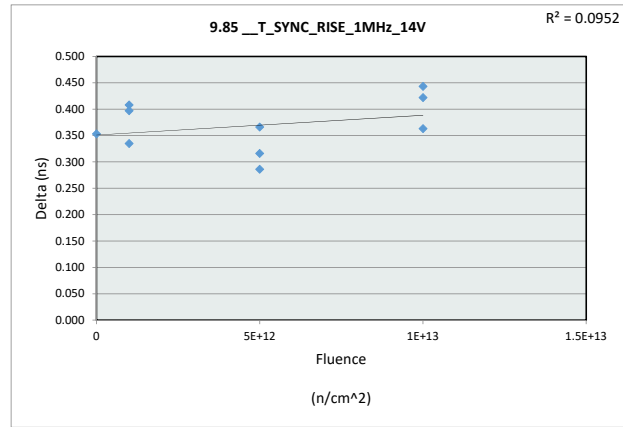
Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.356	8.231	8.416	8.422
Average	8.356	8.281	8.454	8.441
Max	8.356	8.324	8.490	8.452
UL	15.000	15.000	15.000	15.000

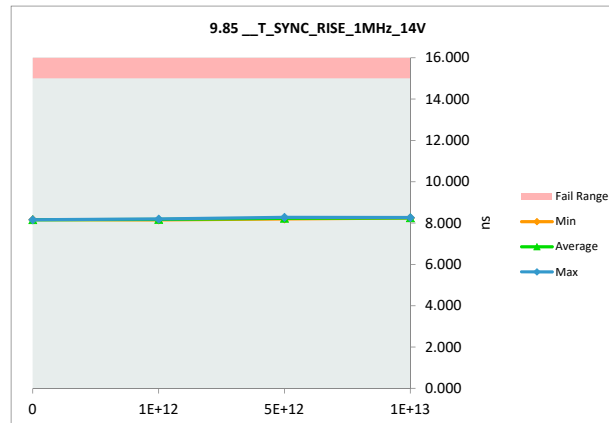


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.85 __T_SYNC_RISE_1MHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	15	15		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.810	8.163	0.353
1E+12	281	7.757	8.154	0.397
1E+12	284	7.785	8.193	0.408
1E+12	285	7.839	8.174	0.335
5E+12	286	7.899	8.215	0.316
5E+12	287	7.911	8.277	0.366
5E+12	289	7.913	8.199	0.286
1E+13	290	7.881	8.244	0.363
1E+13	291	7.814	8.257	0.443
1E+13	292	7.843	8.265	0.422
Max		7.913	8.277	0.443
Average		7.845	8.214	0.369
Min		7.757	8.154	0.286
Std Dev		0.055	0.044	0.049



9.85 __T_SYNC_RISE_1MHz_1				
Test Site				
Tester				
Test Number				
Max Limit	15	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.163	8.154	8.199	8.244
Average	8.163	8.174	8.230	8.255
Max	8.163	8.193	8.277	8.265
UL	15.000	15.000	15.000	15.000

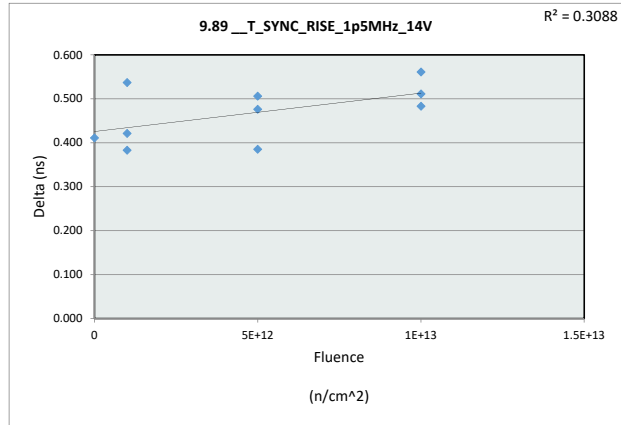


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.89 \_\_T\_SYNC\_RISE\_1p5MHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

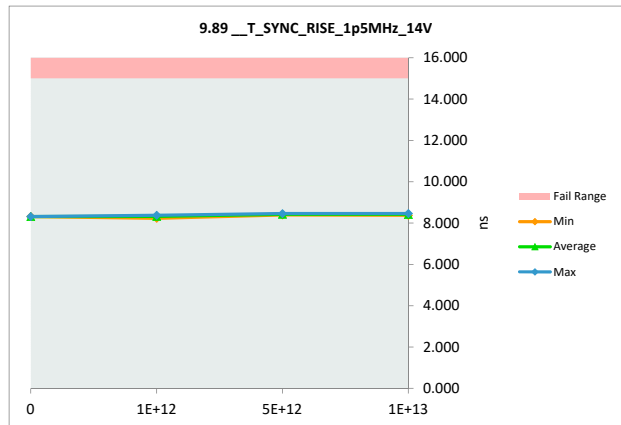
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.903	8.314	0.411
1E+12	281	7.844	8.227	0.383
1E+12	284	7.837	8.374	0.537
1E+12	285	7.944	8.365	0.421
5E+12	286	7.952	8.458	0.506
5E+12	287	7.946	8.422	0.476
5E+12	289	8.010	8.395	0.385
1E+13	290	7.859	8.370	0.511
1E+13	291	7.937	8.420	0.483
1E+13	292	7.902	8.463	0.561
Max		8.010	8.463	0.561
Average		7.913	8.381	0.467
Min		7.837	8.227	0.383
Std Dev		0.055	0.070	0.064



## 9.89 \_\_T\_SYNC\_RISE\_1p5MHz

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.314	8.227	8.395	8.370
Average	8.314	8.322	8.425	8.418
Max	8.314	8.374	8.458	8.463
UL	15.000	15.000	15.000	15.000



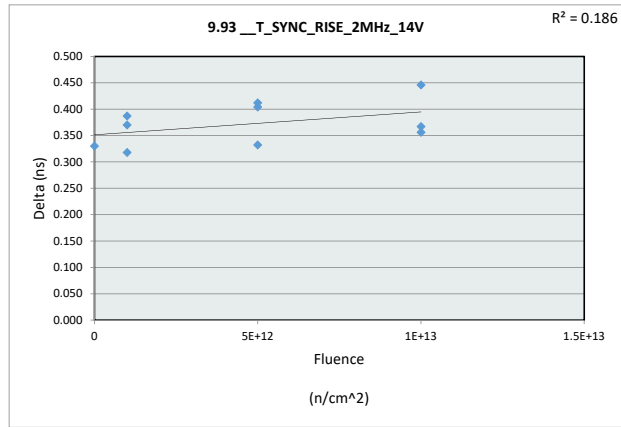


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.93 \_\_T\_SYNC\_RISE\_2MHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	15	15
Min Limit		

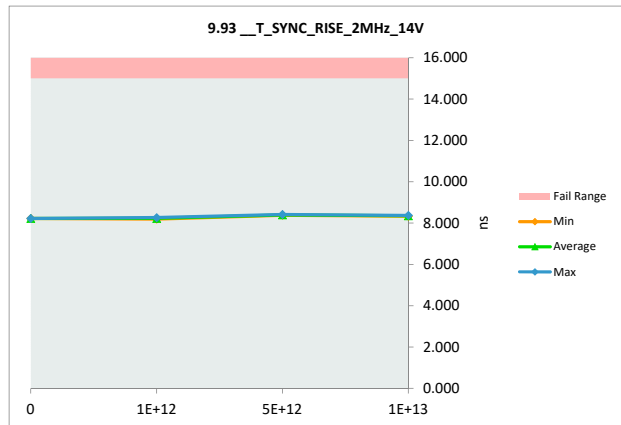
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.892	8.222	0.330
1E+12	281	7.807	8.194	0.387
1E+12	284	7.898	8.216	0.318
1E+12	285	7.894	8.264	0.370
5E+12	286	8.043	8.375	0.332
5E+12	287	8.002	8.414	0.412
5E+12	289	7.994	8.398	0.404
1E+13	290	7.980	8.347	0.367
1E+13	291	7.972	8.328	0.356
1E+13	292	7.923	8.369	0.446
Max		8.043	8.414	0.446
Average		7.941	8.313	0.372
Min		7.807	8.194	0.318
Std Dev		0.070	0.082	0.041



9.93 \_\_T\_SYNC\_RISE\_2MHz\_1

Test Site		
Tester		
Test Number		
Max Limit	15	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.222	8.194	8.375	8.328
Average	8.222	8.225	8.396	8.348
Max	8.222	8.264	8.414	8.369
UL	15.000	15.000	15.000	15.000

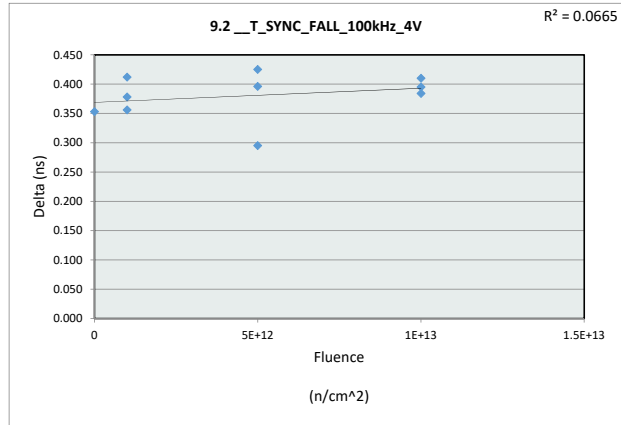


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.2 \_\_T\_SYNC\_FALL\_100kHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

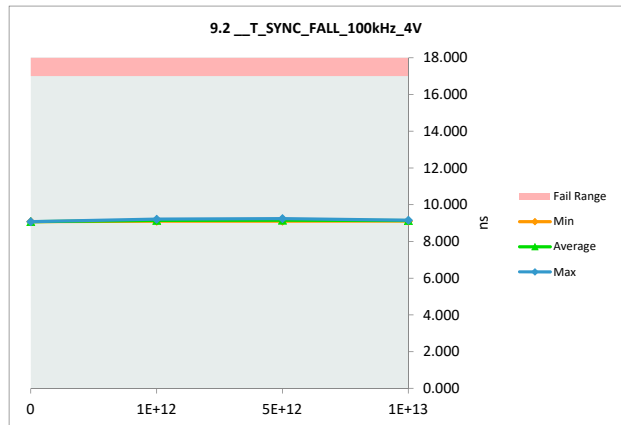
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.721	9.074	0.353
1E+12	281	8.766	9.122	0.356
1E+12	284	8.722	9.100	0.378
1E+12	285	8.796	9.208	0.412
5E+12	286	8.943	9.238	0.295
5E+12	287	8.703	9.128	0.425
5E+12	289	8.710	9.106	0.396
1E+13	290	8.752	9.147	0.395
1E+13	291	8.693	9.103	0.410
1E+13	292	8.769	9.153	0.384
Max		8.943	9.238	0.425
Average		8.757	9.138	0.380
Min		8.693	9.074	0.295
Std Dev		0.073	0.051	0.038



## 9.2 \_\_T\_SYNC\_FALL\_100kHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	9.074	9.100	9.106	9.103
Average	9.074	9.143	9.157	9.134
Max	9.074	9.208	9.238	9.153
UL	17.000	17.000	17.000	17.000

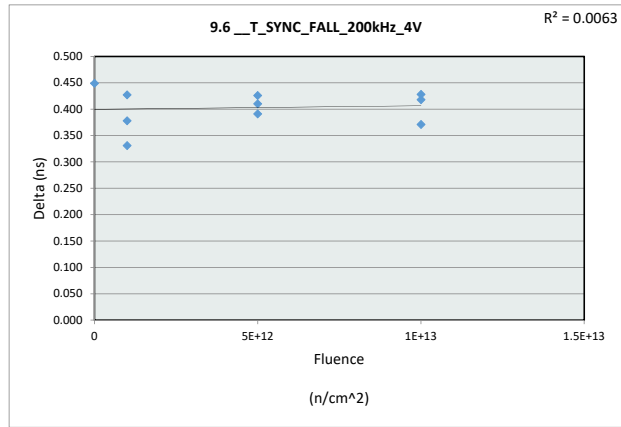


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.6 \_\_T\_SYNC\_FALL\_200kHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

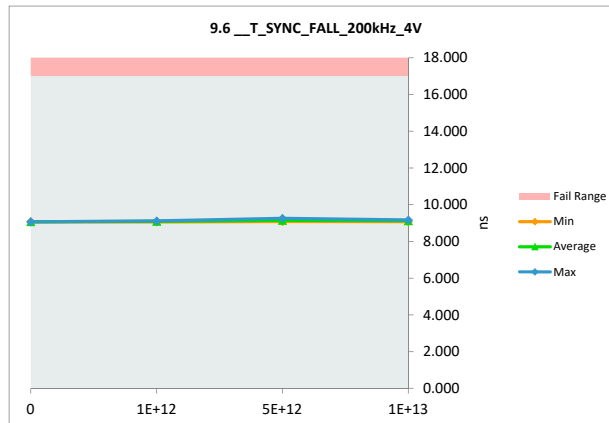
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.617	9.066	0.449
1E+12	281	8.682	9.109	0.427
1E+12	284	8.678	9.056	0.378
1E+12	285	8.784	9.115	0.331
5E+12	286	8.829	9.255	0.426
5E+12	287	8.697	9.088	0.391
5E+12	289	8.685	9.095	0.410
1E+13	290	8.765	9.136	0.371
1E+13	291	8.653	9.071	0.418
1E+13	292	8.736	9.164	0.428
Max		8.829	9.255	0.449
Average		8.713	9.115	0.403
Min		8.617	9.056	0.331
Std Dev		0.065	0.059	0.035



## 9.6 \_\_T\_SYNC\_FALL\_200kHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	9.066	9.056	9.088	9.071
Average	9.066	9.093	9.146	9.124
Max	9.066	9.115	9.255	9.164
UL	17.000	17.000	17.000	17.000

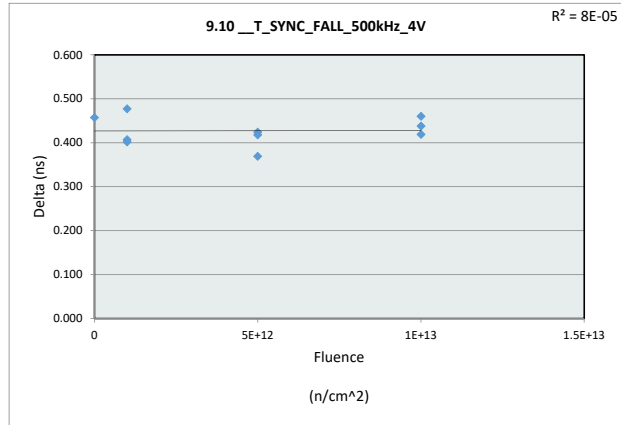


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.10 \_\_T\_SYNC\_FALL\_500kHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

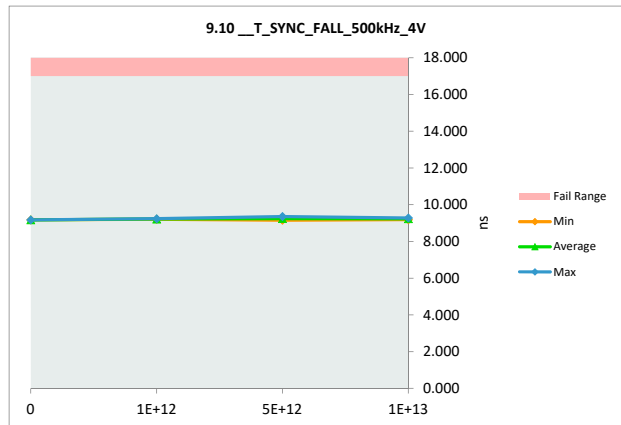
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.718	9.175	0.457
1E+12	281	8.733	9.210	0.477
1E+12	284	8.804	9.206	0.402
1E+12	285	8.828	9.235	0.407
5E+12	286	8.940	9.358	0.418
5E+12	287	8.777	9.201	0.424
5E+12	289	8.785	9.154	0.369
1E+13	290	8.819	9.238	0.419
1E+13	291	8.746	9.184	0.438
1E+13	292	8.814	9.274	0.460
Max		8.940	9.358	0.477
Average		8.796	9.224	0.427
Min		8.718	9.154	0.369
Std Dev		0.063	0.058	0.032



## 9.10 T\_SYNC\_FALL\_500kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	9.175	9.206	9.154	9.184
Average	9.175	9.217	9.238	9.232
Max	9.175	9.235	9.358	9.274
UL	17.000	17.000	17.000	17.000

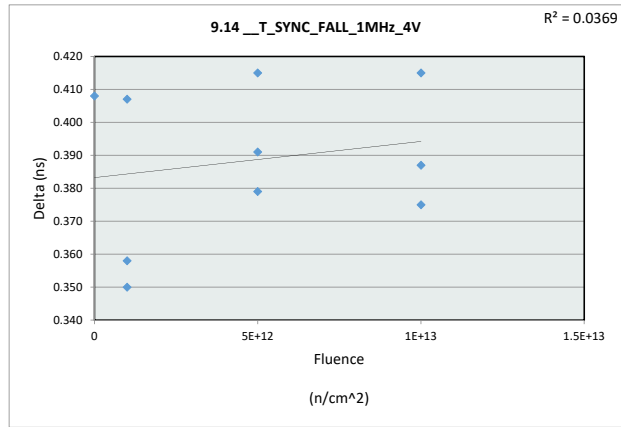


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.14 \_\_T\_SYNC\_FALL\_1MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

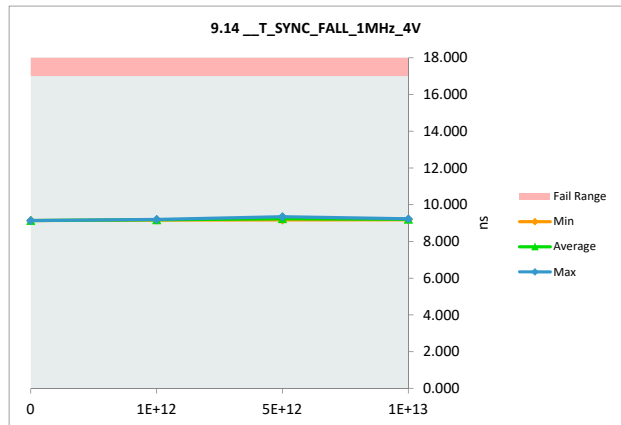
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.727	9.135	0.408
1E+12	281	8.807	9.165	0.358
1E+12	284	8.753	9.160	0.407
1E+12	285	8.847	9.197	0.350
5E+12	286	8.965	9.344	0.379
5E+12	287	8.761	9.176	0.415
5E+12	289	8.776	9.167	0.391
1E+13	290	8.840	9.215	0.375
1E+13	291	8.764	9.179	0.415
1E+13	292	8.838	9.225	0.387
Max		8.965	9.344	0.415
Average		8.808	9.196	0.388
Min		8.727	9.135	0.350
Std Dev		0.069	0.058	0.023



## 9.14 \_\_T\_SYNC\_FALL\_1MHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	9.135	9.160	9.167	9.179
Average	9.135	9.174	9.229	9.206
Max	9.135	9.197	9.344	9.225
UL	17.000	17.000	17.000	17.000

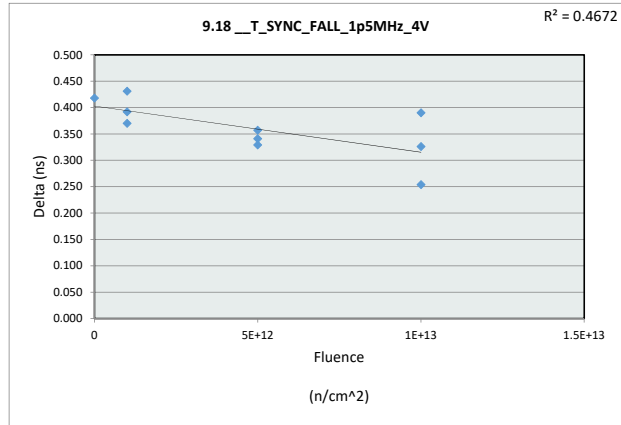


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.18 \_\_T\_SYNC\_FALL\_1p5MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

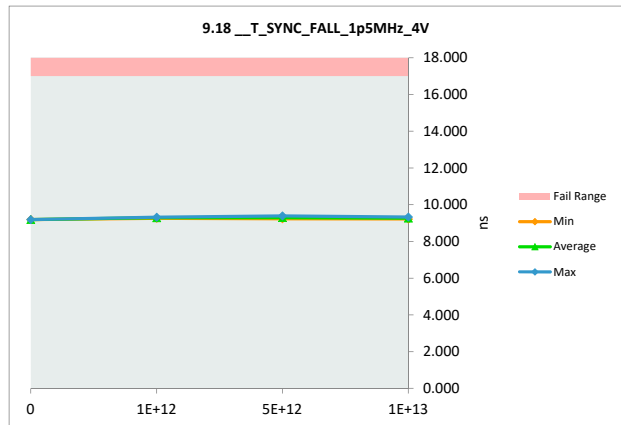
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.774	9.192	0.418
1E+12	281	8.888	9.319	0.431
1E+12	284	8.892	9.284	0.392
1E+12	285	8.887	9.257	0.370
5E+12	286	9.063	9.392	0.329
5E+12	287	8.876	9.233	0.357
5E+12	289	8.916	9.257	0.341
1E+13	290	8.999	9.253	0.254
1E+13	291	8.890	9.216	0.326
1E+13	292	8.939	9.329	0.390
Max		9.063	9.392	0.431
Average		8.912	9.273	0.361
Min		8.774	9.192	0.254
Std Dev		0.077	0.059	0.052



## 9.18 \_\_T\_SYNC\_FALL\_1p5MHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	9.192	9.257	9.233	9.216
Average	9.192	9.287	9.294	9.266
Max	9.192	9.319	9.392	9.329
UL	17.000	17.000	17.000	17.000

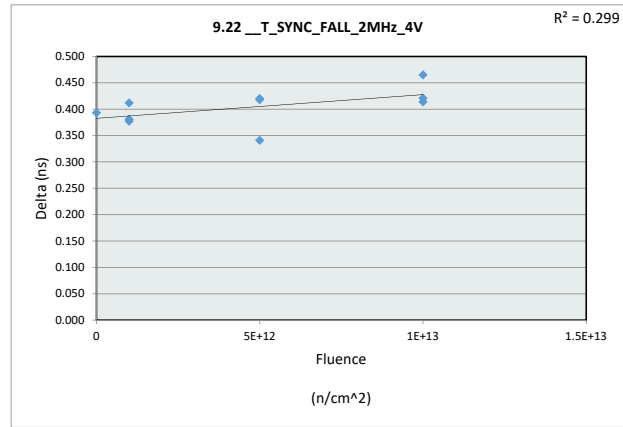


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.22 \_\_T\_SYNC\_FALL\_2MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

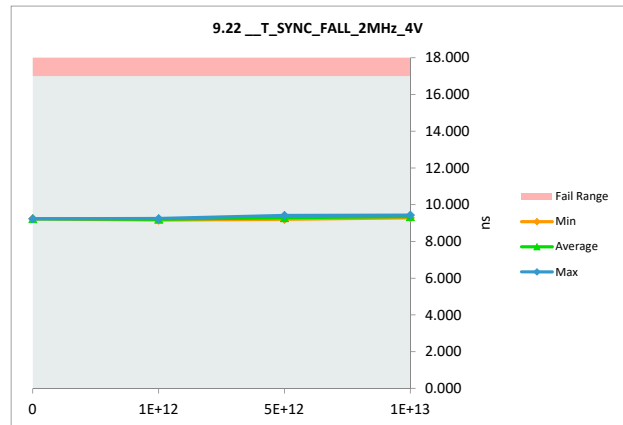
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.837	9.230	0.393
1E+12	281	8.805	9.217	0.412
1E+12	284	8.778	9.159	0.381
1E+12	285	8.869	9.246	0.377
5E+12	286	9.074	9.415	0.341
5E+12	287	8.830	9.248	0.418
5E+12	289	8.779	9.199	0.420
1E+13	290	8.920	9.341	0.421
1E+13	291	8.875	9.289	0.414
1E+13	292	8.966	9.431	0.465
Max		9.074	9.431	0.465
Average		8.873	9.277	0.404
Min		8.778	9.159	0.341
Std Dev		0.092	0.091	0.033



## 9.22 \_\_T\_SYNC\_FALL\_2MHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	9.230	9.159	9.199	9.289
Average	9.230	9.207	9.287	9.354
Max	9.230	9.246	9.415	9.431
UL	17.000	17.000	17.000	17.000

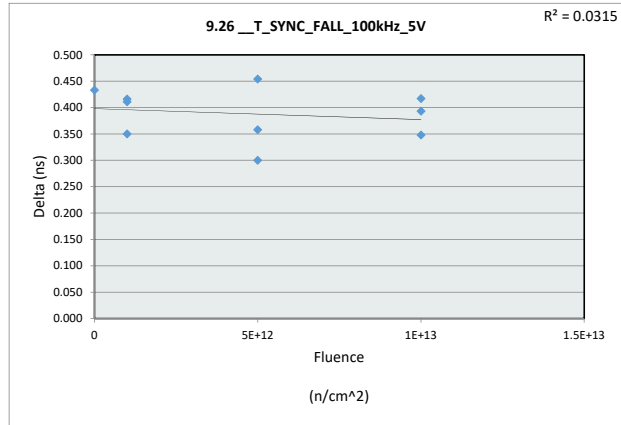


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.26 \_\_T\_SYNC\_FALL\_100kHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

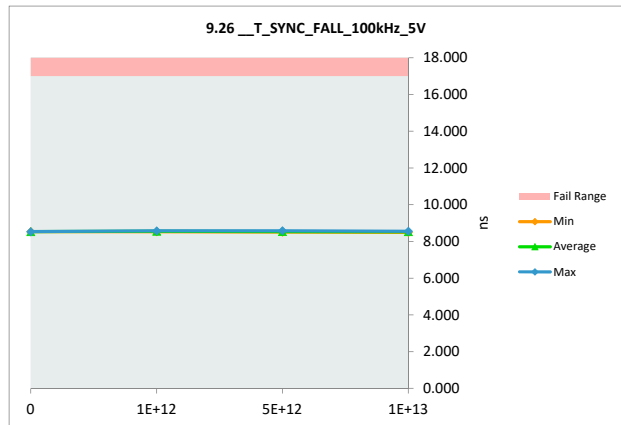
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.099	8.532	0.433
1E+12	281	8.162	8.573	0.411
1E+12	284	8.177	8.527	0.350
1E+12	285	8.150	8.566	0.416
5E+12	286	8.221	8.521	0.300
5E+12	287	8.127	8.581	0.454
5E+12	289	8.145	8.503	0.358
1E+13	290	8.136	8.529	0.393
1E+13	291	8.143	8.491	0.348
1E+13	292	8.136	8.553	0.417
Max		8.221	8.581	0.454
Average		8.150	8.538	0.388
Min		8.099	8.491	0.300
Std Dev		0.033	0.030	0.047



9.26 T\_SYNC\_FALL\_100kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.532	8.527	8.503	8.491
Average	8.532	8.555	8.535	8.524
Max	8.532	8.573	8.581	8.553
UL	17.000	17.000	17.000	17.000



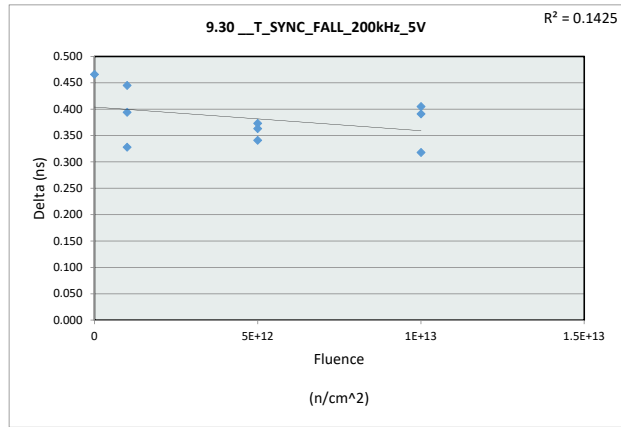


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.30 \_\_T\_SYNC\_FALL\_200kHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

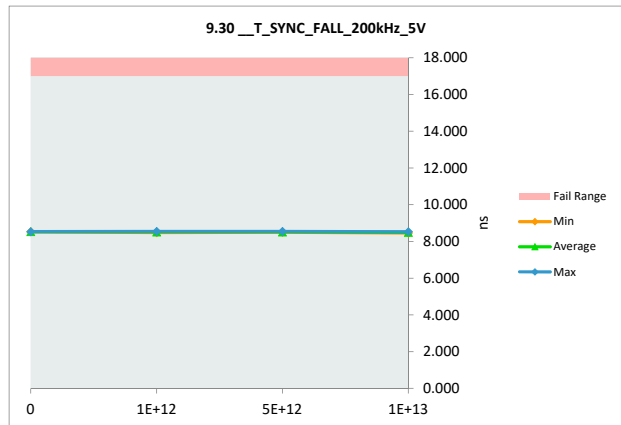
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.063	8.529	0.466
1E+12	281	8.124	8.518	0.394
1E+12	284	8.148	8.476	0.328
1E+12	285	8.097	8.542	0.445
5E+12	286	8.168	8.541	0.373
5E+12	287	8.136	8.499	0.363
5E+12	289	8.152	8.493	0.341
1E+13	290	8.177	8.495	0.318
1E+13	291	8.070	8.461	0.391
1E+13	292	8.122	8.527	0.405
Max		8.177	8.542	0.466
Average		8.126	8.508	0.382
Min		8.063	8.461	0.318
Std Dev		0.039	0.028	0.048



## 9.30 \_\_T\_SYNC\_FALL\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.529	8.476	8.493	8.461
Average	8.529	8.512	8.511	8.494
Max	8.529	8.542	8.541	8.527
UL	17.000	17.000	17.000	17.000

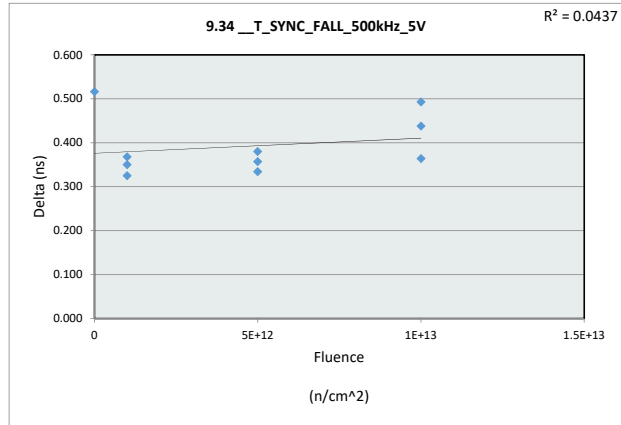


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.34 \_\_T\_SYNC\_FALL\_500kHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

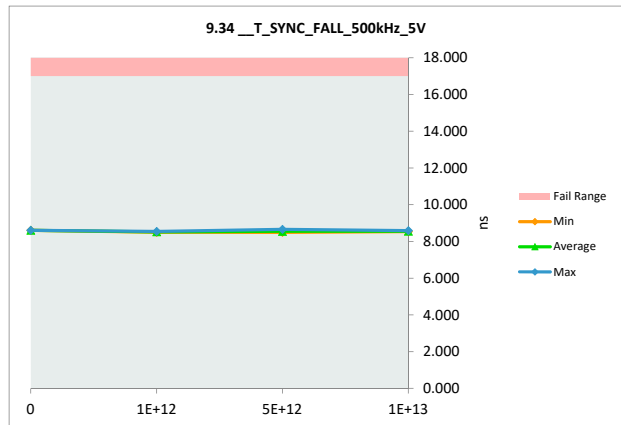
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.090	8.606	0.516
1E+12	281	8.172	8.497	0.325
1E+12	284	8.163	8.513	0.350
1E+12	285	8.175	8.543	0.368
5E+12	286	8.277	8.657	0.380
5E+12	287	8.155	8.489	0.334
5E+12	289	8.143	8.500	0.357
1E+13	290	8.169	8.533	0.364
1E+13	291	8.103	8.541	0.438
1E+13	292	8.094	8.587	0.493
Max		8.277	8.657	0.516
Average		8.154	8.547	0.393
Min		8.090	8.489	0.325
Std Dev		0.054	0.054	0.067



## 9.34 \_\_T\_SYNC\_FALL\_500kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.606	8.497	8.489	8.533
Average	8.606	8.518	8.549	8.554
Max	8.606	8.543	8.657	8.587
UL	17.000	17.000	17.000	17.000

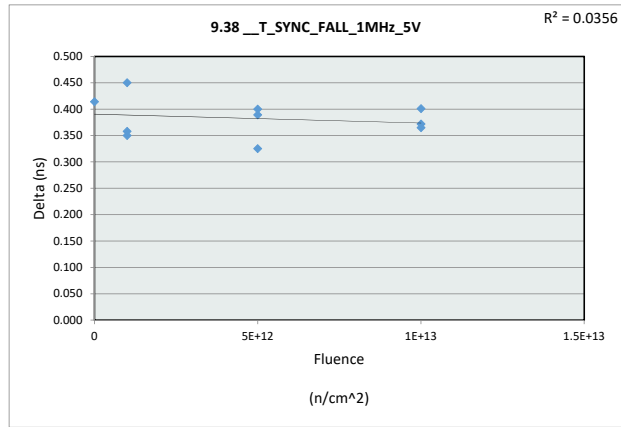


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.38 \_\_T\_SYNC\_FALL\_1MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

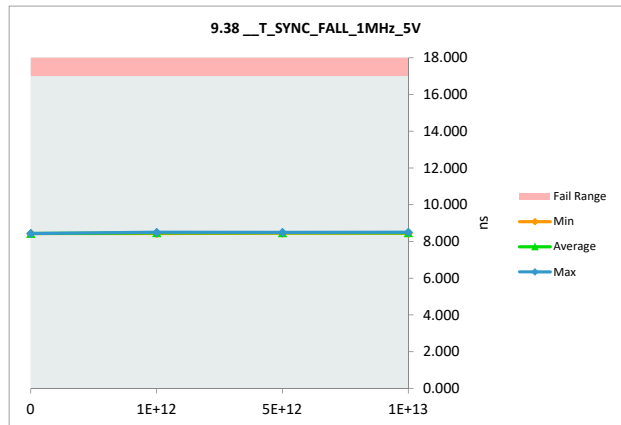
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.020	8.434	0.414
1E+12	281	8.137	8.495	0.358
1E+12	284	8.084	8.434	0.350
1E+12	285	8.024	8.474	0.450
5E+12	286	8.166	8.491	0.325
5E+12	287	8.071	8.460	0.389
5E+12	289	8.051	8.451	0.400
1E+13	290	8.088	8.460	0.372
1E+13	291	8.077	8.442	0.365
1E+13	292	8.097	8.498	0.401
Max		8.166	8.498	0.450
Average		8.082	8.464	0.382
Min		8.020	8.434	0.325
Std Dev		0.046	0.025	0.036



## 9.38 \_\_T\_SYNC\_FALL\_1MHz\_5

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.434	8.434	8.451	8.442
Average	8.434	8.468	8.467	8.467
Max	8.434	8.495	8.491	8.498
UL	17.000	17.000	17.000	17.000

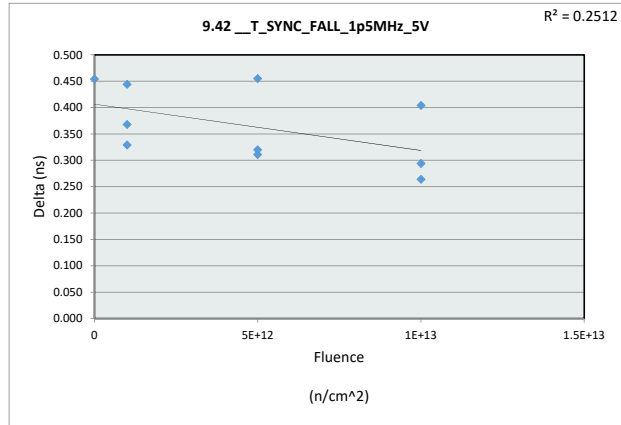


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.42 \_\_T\_SYNC\_FALL\_1p5MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

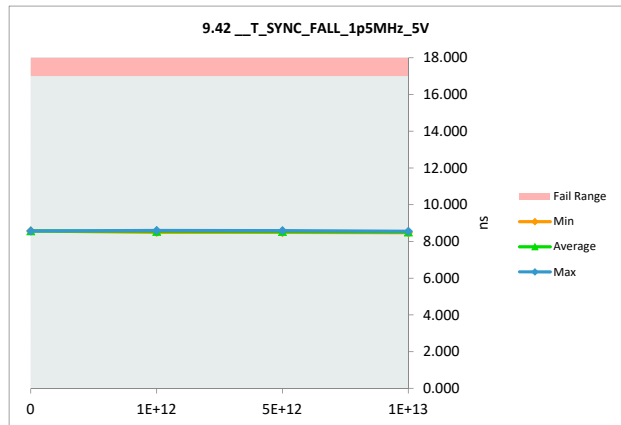
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.115	8.569	0.454
1E+12	281	8.156	8.600	0.444
1E+12	284	8.179	8.547	0.368
1E+12	285	8.161	8.490	0.329
5E+12	286	8.219	8.530	0.311
5E+12	287	8.131	8.586	0.455
5E+12	289	8.166	8.486	0.320
1E+13	290	8.203	8.497	0.294
1E+13	291	8.210	8.474	0.264
1E+13	292	8.146	8.550	0.404
Max		8.219	8.600	0.455
Average		8.169	8.533	0.364
Min		8.115	8.474	0.264
Std Dev		0.034	0.045	0.071



9.42 \_\_T\_SYNC\_FALL\_1p5MHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.569	8.490	8.486	8.474
Average	8.569	8.546	8.534	8.507
Max	8.569	8.600	8.586	8.550
UL	17.000	17.000	17.000	17.000

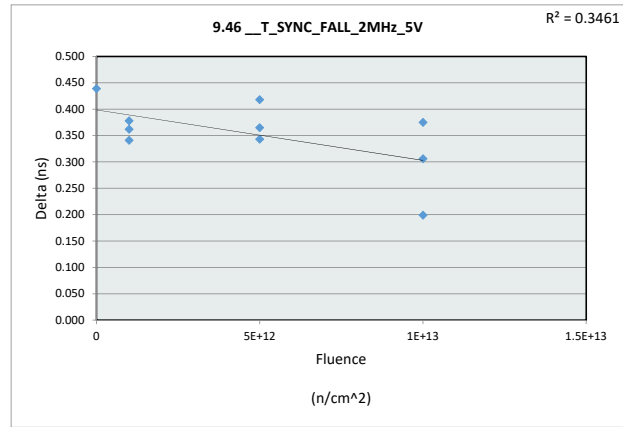


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.46 \_\_T\_SYNC\_FALL\_2MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

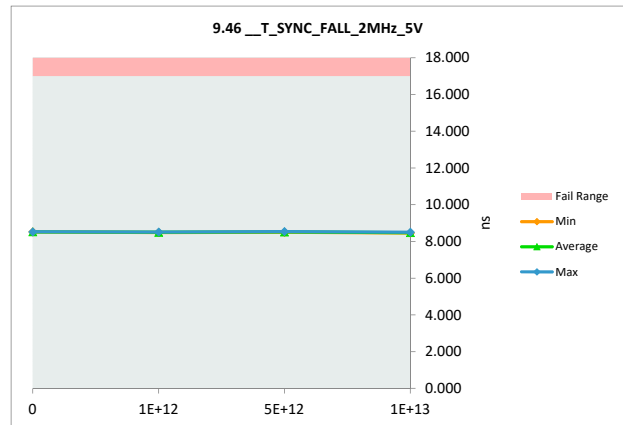
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.083	8.522	0.439
1E+12	281	8.128	8.506	0.378
1E+12	284	8.142	8.483	0.341
1E+12	285	8.140	8.502	0.362
5E+12	286	8.169	8.534	0.365
5E+12	287	8.094	8.512	0.418
5E+12	289	8.152	8.495	0.343
1E+13	290	8.151	8.457	0.306
1E+13	291	8.270	8.469	0.199
1E+13	292	8.127	8.502	0.375
Max		8.270	8.534	0.439
Average		8.146	8.498	0.353
Min		8.083	8.457	0.199
Std Dev		0.051	0.023	0.066



9.46 \_\_T\_SYNC\_FALL\_2MHz\_5V

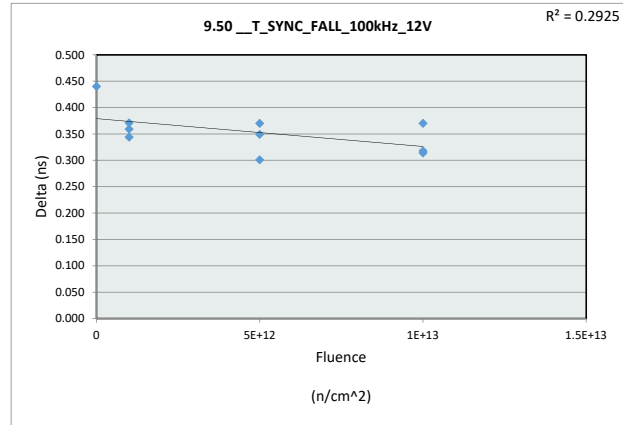
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.522	8.483	8.495	8.457
Average	8.522	8.497	8.514	8.476
Max	8.522	8.506	8.534	8.502
UL	17.000	17.000	17.000	17.000

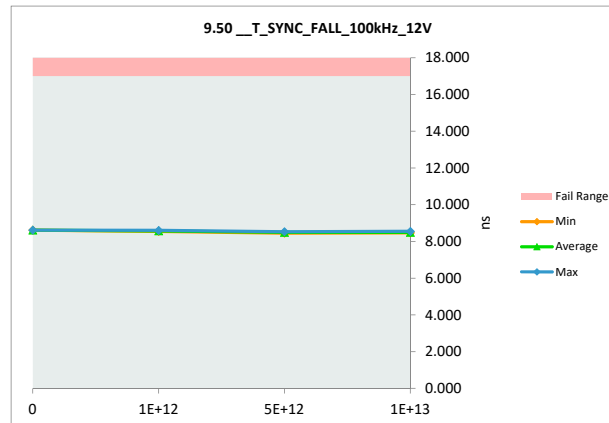


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.50 __T_SYNC_FALL_100kHz_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.172	8.612	0.440
1E+12	281	8.256	8.600	0.344
1E+12	284	8.182	8.541	0.359
1E+12	285	8.193	8.564	0.371
5E+12	286	8.158	8.528	0.370
5E+12	287	8.101	8.450	0.349
5E+12	289	8.198	8.499	0.301
1E+13	290	8.148	8.466	0.318
1E+13	291	8.151	8.465	0.314
1E+13	292	8.176	8.546	0.370
Max		8.256	8.612	0.440
Average		8.173	8.527	0.354
Min		8.101	8.450	0.301
Std Dev		0.040	0.057	0.040



9.50 __T_SYNC_FALL_100kHz				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.612	8.541	8.450	8.465
Average	8.612	8.568	8.492	8.492
Max	8.612	8.600	8.528	8.546
UL	17.000	17.000	17.000	17.000

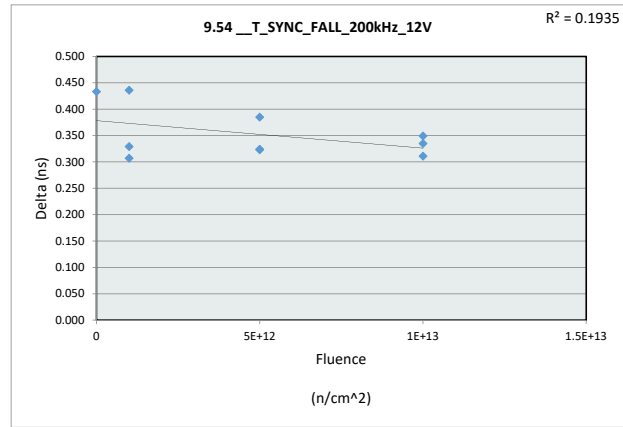


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.54 \_\_T\_SYNC\_FALL\_200kHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

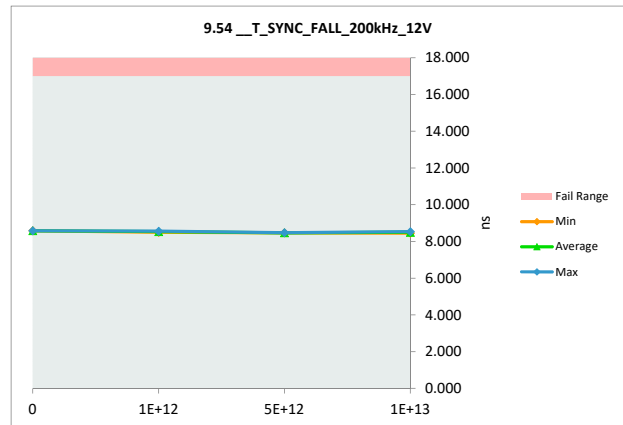
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.143	8.576	0.433
1E+12	281	8.234	8.541	0.307
1E+12	284	8.166	8.495	0.329
1E+12	285	8.118	8.554	0.436
5E+12	286	8.156	8.479	0.323
5E+12	287	8.081	8.466	0.385
5E+12	289	8.139	8.463	0.324
1E+13	290	8.150	8.499	0.349
1E+13	291	8.141	8.452	0.311
1E+13	292	8.196	8.531	0.335
Max		8.234	8.576	0.436
Average		8.152	8.506	0.353
Min		8.081	8.452	0.307
Std Dev		0.041	0.043	0.048



## 9.54 \_\_T\_SYNC\_FALL\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.576	8.495	8.463	8.452
Average	8.576	8.530	8.469	8.494
Max	8.576	8.554	8.479	8.531
UL	17.000	17.000	17.000	17.000

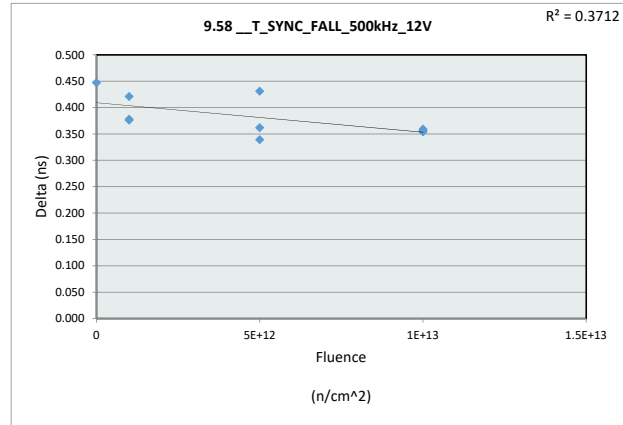


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.58 \_\_T\_SYNC\_FALL\_500kHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

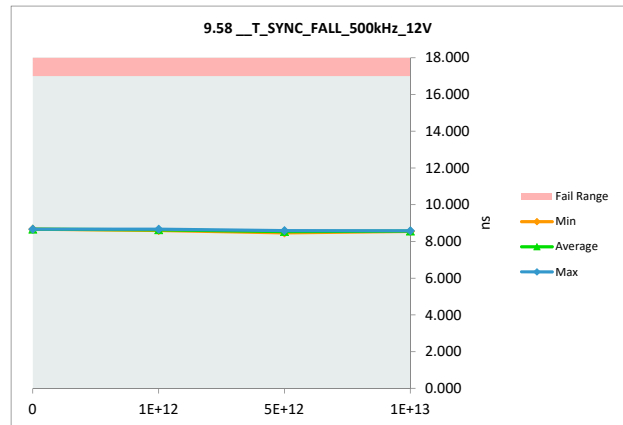
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.224	8.671	0.447
1E+12	281	8.288	8.666	0.378
1E+12	284	8.203	8.624	0.421
1E+12	285	8.219	8.595	0.376
5E+12	286	8.194	8.556	0.362
5E+12	287	8.129	8.468	0.339
5E+12	289	8.155	8.586	0.431
1E+13	290	8.196	8.555	0.359
1E+13	291	8.189	8.545	0.356
1E+13	292	8.228	8.582	0.354
Max		8.288	8.671	0.447
Average		8.202	8.585	0.382
Min		8.129	8.468	0.339
Std Dev		0.043	0.060	0.037



9.58 \_\_T\_SYNC\_FALL\_500kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.671	8.595	8.468	8.545
Average	8.671	8.628	8.537	8.561
Max	8.671	8.666	8.586	8.582
UL	17.000	17.000	17.000	17.000



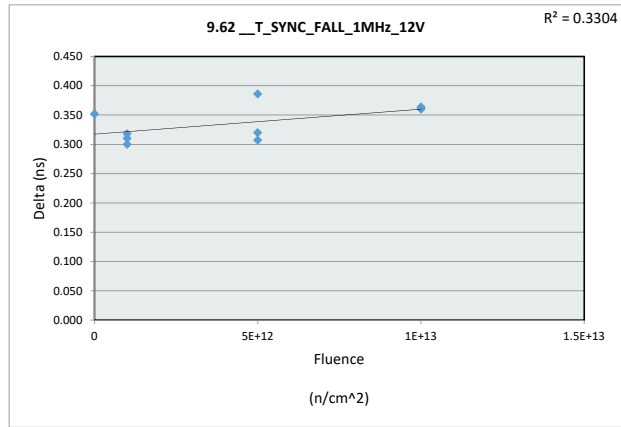


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.62 \_\_T\_SYNC\_FALL\_1MHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

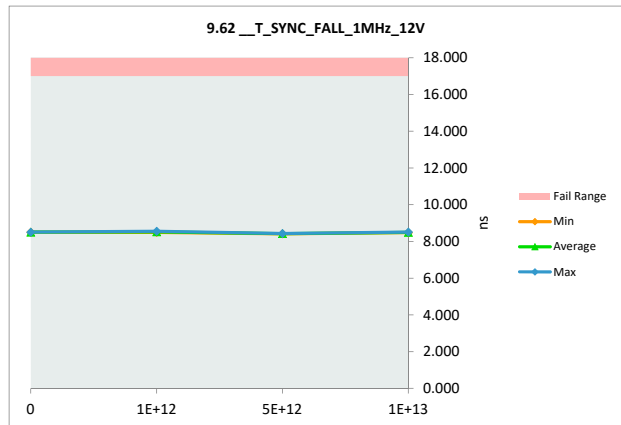
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.153	8.505	0.352
1E+12	281	8.235	8.553	0.318
1E+12	284	8.191	8.491	0.300
1E+12	285	8.193	8.503	0.310
5E+12	286	8.111	8.431	0.320
5E+12	287	8.106	8.413	0.307
5E+12	289	8.042	8.428	0.386
1E+13	290	8.113	8.477	0.364
1E+13	291	8.123	8.484	0.361
1E+13	292	8.150	8.510	0.360
Max		8.235	8.553	0.386
Average		8.142	8.480	0.338
Min		8.042	8.413	0.300
Std Dev		0.055	0.044	0.030



## 9.62 \_\_T\_SYNC\_FALL\_1MHz\_1

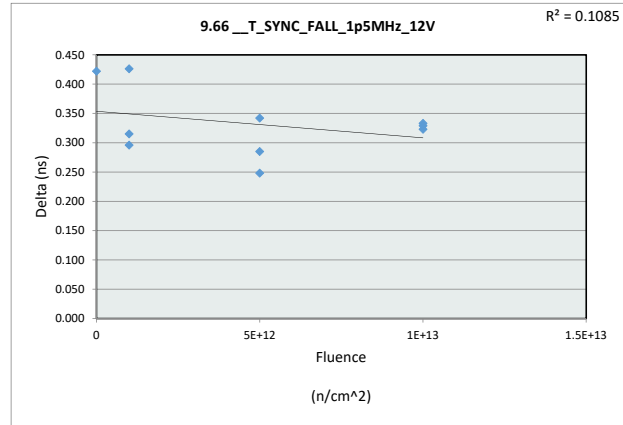
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.505	8.491	8.413	8.477
Average	8.505	8.516	8.424	8.490
Max	8.505	8.553	8.431	8.510
UL	17.000	17.000	17.000	17.000

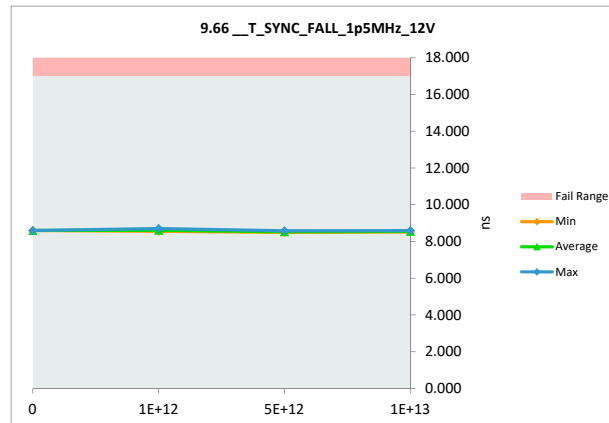


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.66 __T_SYNC_FALL_1p5MHz_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.171	8.593	0.422
1E+12	281	8.274	8.700	0.426
1E+12	284	8.278	8.574	0.296
1E+12	285	8.235	8.550	0.315
5E+12	286	8.251	8.499	0.248
5E+12	287	8.208	8.493	0.285
5E+12	289	8.236	8.578	0.342
1E+13	290	8.198	8.531	0.333
1E+13	291	8.192	8.515	0.323
1E+13	292	8.258	8.587	0.329
Max		8.278	8.700	0.426
Average		8.230	8.562	0.332
Min		8.171	8.493	0.248
Std Dev		0.036	0.061	0.056



9.66 __T_SYNC_FALL_1p5MHz				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.593	8.550	8.493	8.515
Average	8.593	8.608	8.523	8.544
Max	8.593	8.700	8.578	8.587
UL	17.000	17.000	17.000	17.000

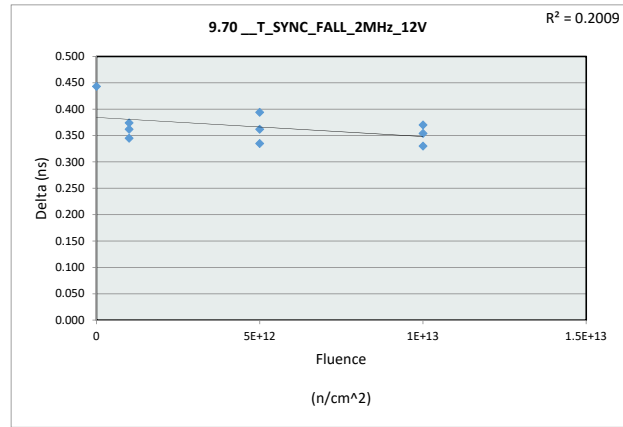


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.70 \_\_T\_SYNC\_FALL\_2MHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

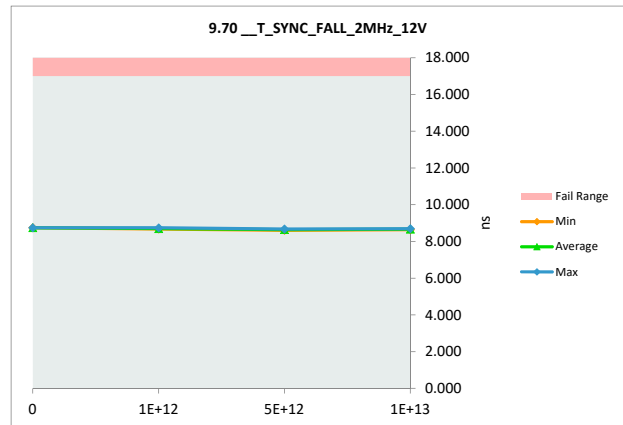
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.304	8.747	0.443
1E+12	281	8.376	8.738	0.362
1E+12	284	8.331	8.676	0.345
1E+12	285	8.299	8.673	0.374
5E+12	286	8.339	8.674	0.335
5E+12	287	8.241	8.603	0.362
5E+12	289	8.258	8.652	0.394
1E+13	290	8.298	8.668	0.370
1E+13	291	8.337	8.691	0.354
1E+13	292	8.310	8.640	0.330
Max		8.376	8.747	0.443
Average		8.309	8.676	0.367
Min		8.241	8.603	0.330
Std Dev		0.040	0.043	0.033



## 9.70 \_\_T\_SYNC\_FALL\_2MHz\_1

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.747	8.673	8.603	8.640
Average	8.747	8.696	8.643	8.666
Max	8.747	8.738	8.674	8.691
UL	17.000	17.000	17.000	17.000

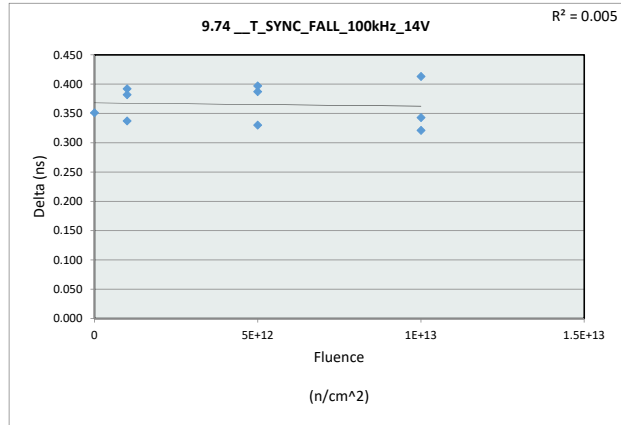


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.74 \_\_T\_SYNC\_FALL\_100kHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

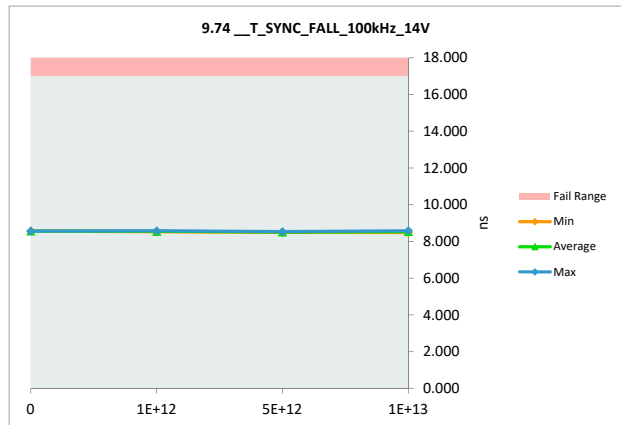
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.209	8.560	0.351
1E+12	281	8.237	8.574	0.337
1E+12	284	8.131	8.523	0.392
1E+12	285	8.161	8.543	0.382
5E+12	286	8.173	8.503	0.330
5E+12	287	8.101	8.488	0.387
5E+12	289	8.135	8.532	0.397
1E+13	290	8.159	8.480	0.321
1E+13	291	8.173	8.516	0.343
1E+13	292	8.171	8.584	0.413
Max		8.237	8.584	0.413
Average		8.165	8.530	0.365
Min		8.101	8.480	0.321
Std Dev		0.039	0.035	0.032



9.74 \_\_T\_SYNC\_FALL\_100kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.560	8.523	8.488	8.480
Average	8.560	8.547	8.508	8.527
Max	8.560	8.574	8.532	8.584
UL	17.000	17.000	17.000	17.000

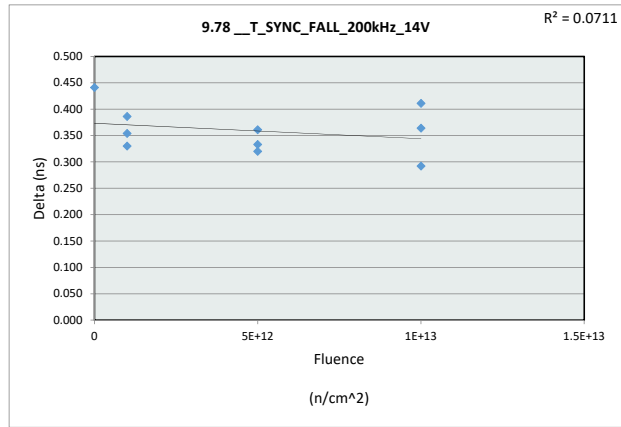


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.78 \_\_T\_SYNC\_FALL\_200kHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

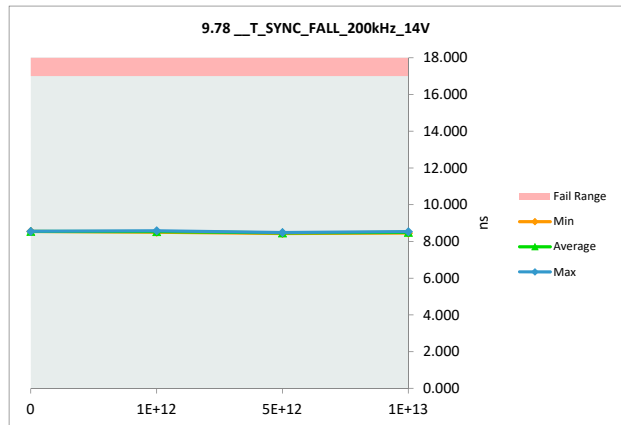
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.106	8.547	0.441
1E+12	281	8.193	8.579	0.386
1E+12	284	8.152	8.506	0.354
1E+12	285	8.170	8.500	0.330
5E+12	286	8.160	8.480	0.320
5E+12	287	8.098	8.431	0.333
5E+12	289	8.115	8.476	0.361
1E+13	290	8.080	8.491	0.411
1E+13	291	8.160	8.452	0.292
1E+13	292	8.164	8.528	0.364
Max		8.193	8.579	0.441
Average		8.140	8.499	0.359
Min		8.080	8.431	0.292
Std Dev		0.037	0.044	0.044



## 9.78 \_\_T\_SYNC\_FALL\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.547	8.500	8.431	8.452
Average	8.547	8.528	8.462	8.490
Max	8.547	8.579	8.480	8.528
UL	17.000	17.000	17.000	17.000

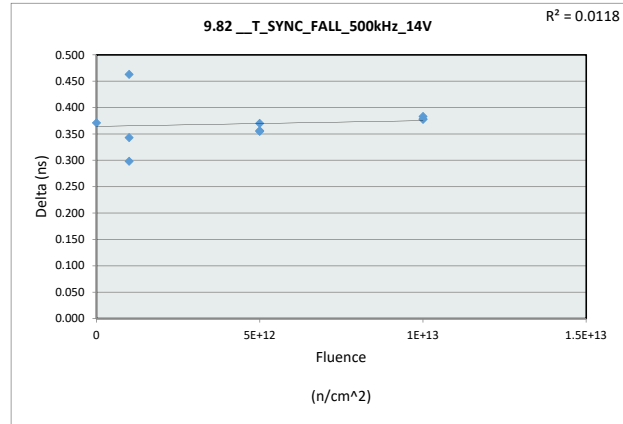


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.82 \_\_T\_SYNC\_FALL\_500kHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

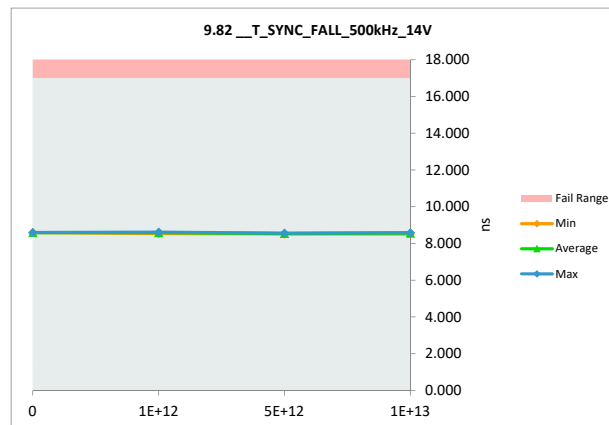
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.221	8.592	0.371
1E+12	281	8.253	8.596	0.343
1E+12	284	8.238	8.536	0.298
1E+12	285	8.150	8.613	0.463
5E+12	286	8.168	8.538	0.370
5E+12	287	8.157	8.513	0.356
5E+12	289	8.207	8.562	0.355
1E+13	290	8.192	8.570	0.378
1E+13	291	8.134	8.512	0.378
1E+13	292	8.201	8.584	0.383
Max		8.253	8.613	0.463
Average		8.192	8.562	0.369
Min		8.134	8.512	0.298
Std Dev		0.039	0.036	0.041



## 9.82 \_\_T\_SYNC\_FALL\_500kHz

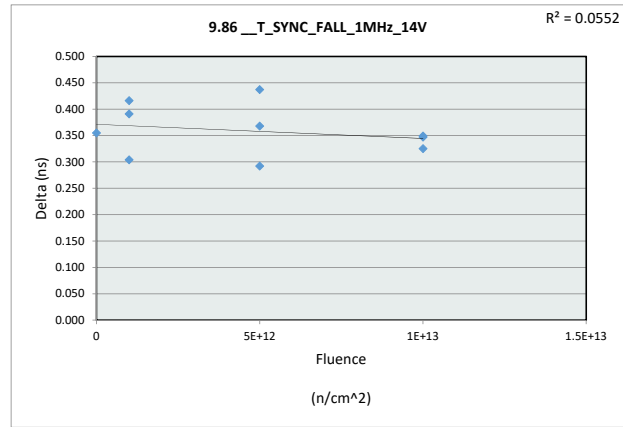
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.592	8.536	8.513	8.512
Average	8.592	8.582	8.538	8.555
Max	8.592	8.613	8.562	8.584
UL	17.000	17.000	17.000	17.000

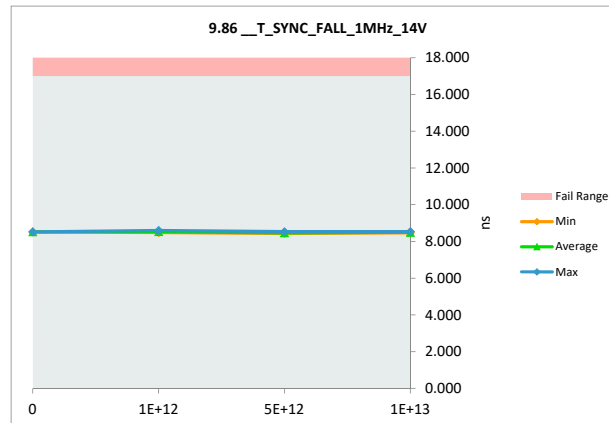


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.86 __T_SYNC_FALL_1MHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.160	8.515	0.355
1E+12	281	8.203	8.594	0.391
1E+12	284	8.100	8.516	0.416
1E+12	285	8.176	8.480	0.304
5E+12	286	8.095	8.532	0.437
5E+12	287	8.060	8.428	0.368
5E+12	289	8.139	8.431	0.292
1E+13	290	8.138	8.463	0.325
1E+13	291	8.139	8.486	0.347
1E+13	292	8.185	8.534	0.349
Max		8.203	8.594	0.437
Average		8.140	8.498	0.358
Min		8.060	8.428	0.292
Std Dev		0.044	0.051	0.046

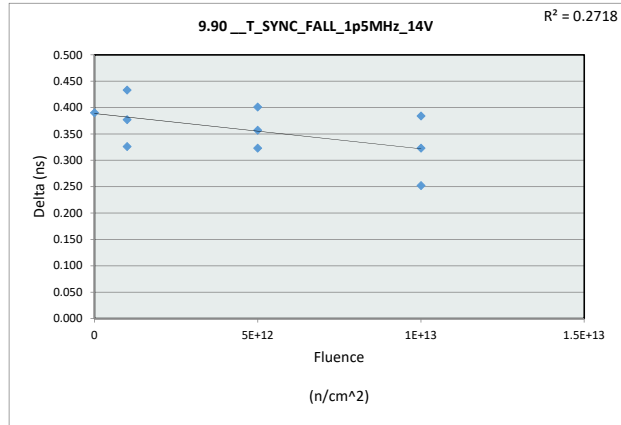


9.86 __T_SYNC_FALL_1MHz_1				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.515	8.480	8.428	8.463
Average	8.515	8.530	8.464	8.494
Max	8.515	8.594	8.532	8.534
UL	17.000	17.000	17.000	17.000

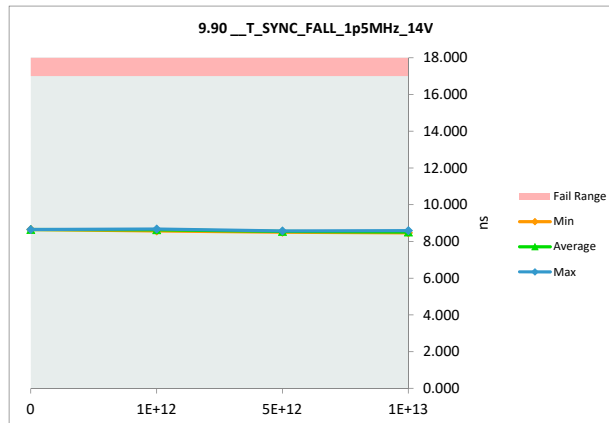


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.90 __T_SYNC_FALL_1p5MHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.259	8.649	0.390
1E+12	281	8.274	8.651	0.377
1E+12	284	8.243	8.569	0.326
1E+12	285	8.239	8.672	0.433
5E+12	286	8.216	8.573	0.357
5E+12	287	8.177	8.500	0.323
5E+12	289	8.157	8.558	0.401
1E+13	290	8.233	8.485	0.252
1E+13	291	8.146	8.469	0.323
1E+13	292	8.202	8.586	0.384
Max		8.274	8.672	0.433
Average		8.215	8.571	0.357
Min		8.146	8.469	0.252
Std Dev		0.043	0.071	0.052



9.90 __T_SYNC_FALL_1p5MHz				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.649	8.569	8.500	8.469
Average	8.649	8.631	8.544	8.513
Max	8.649	8.672	8.573	8.586
UL	17.000	17.000	17.000	17.000



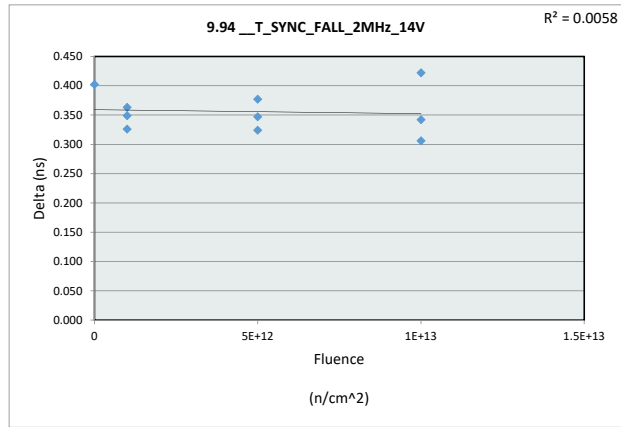


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.94 \_\_T\_SYNC\_FALL\_2MHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

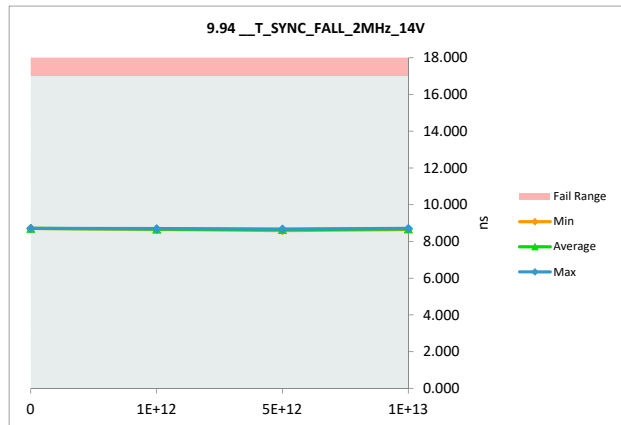
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.306	8.708	0.402
1E+12	281	8.370	8.696	0.326
1E+12	284	8.302	8.651	0.349
1E+12	285	8.304	8.667	0.363
5E+12	286	8.353	8.677	0.324
5E+12	287	8.239	8.586	0.347
5E+12	289	8.280	8.657	0.377
1E+13	290	8.292	8.714	0.422
1E+13	291	8.328	8.670	0.342
1E+13	292	8.341	8.647	0.306
Max		8.370	8.714	0.422
Average		8.311	8.667	0.356
Min		8.239	8.586	0.306
Std Dev		0.038	0.037	0.036



## 9.94 \_\_T\_SYNC\_FALL\_2MHz\_1

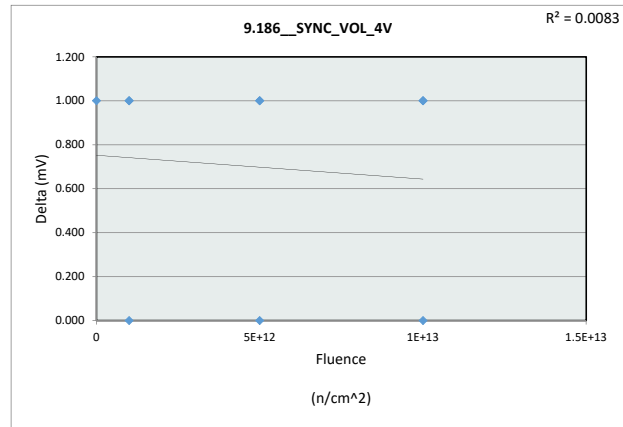
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.708	8.651	8.586	8.647
Average	8.708	8.671	8.640	8.677
Max	8.708	8.696	8.677	8.714
UL	17.000	17.000	17.000	17.000

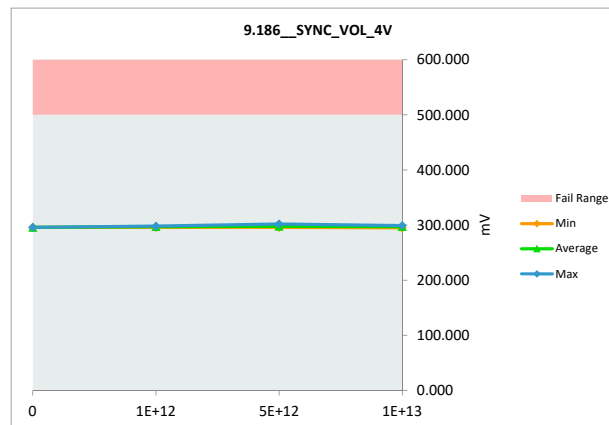


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.186_SYNC_VOL_4V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		500	500	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	295.000	296.000	1.000
1E+12	281	297.000	298.000	1.000
1E+12	284	296.000	296.000	0.000
1E+12	285	296.000	297.000	1.000
5E+12	286	302.000	302.000	0.000
5E+12	287	295.000	296.000	1.000
5E+12	289	295.000	296.000	1.000
1E+13	290	297.000	297.000	0.000
1E+13	291	294.000	295.000	1.000
1E+13	292	298.000	299.000	1.000
Max		302.000	302.000	1.000
Average		296.500	297.200	0.700
Min		294.000	295.000	0.000
Std Dev		2.273	2.044	0.483

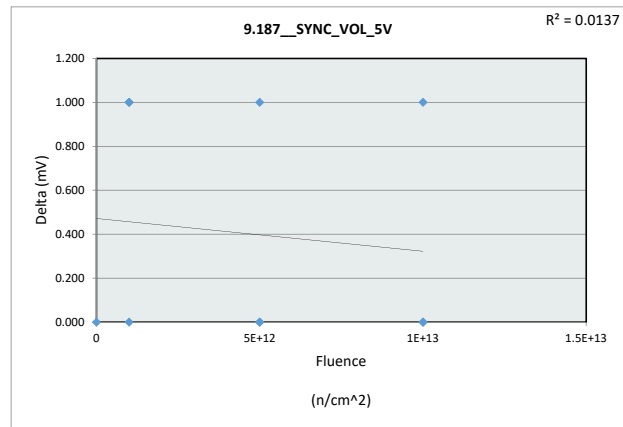


9.186_SYNC_VOL_4V				
Test Site				
Tester				
Test Number				
Max Limit	500	mV		
Min Limit		mV		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	296.000	296.000	296.000	295.000
Average	296.000	297.000	298.000	297.000
Max	296.000	298.000	302.000	299.000
UL	500.000	500.000	500.000	500.000

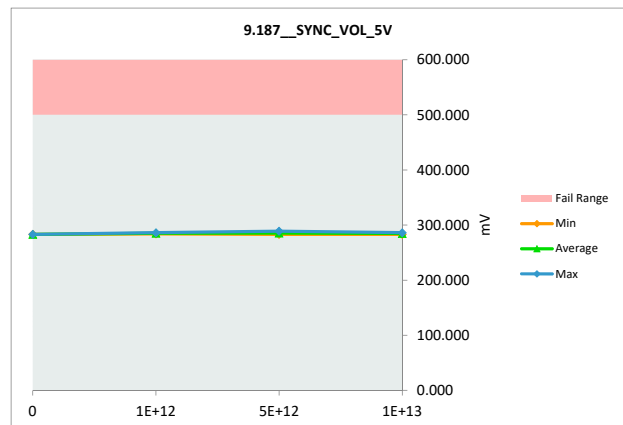


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.187_SYNC_VOL_5V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		500	500	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	283.000	283.000	0.000
1E+12	281	285.000	286.000	1.000
1E+12	284	284.000	284.000	0.000
1E+12	285	284.000	285.000	1.000
5E+12	286	289.000	289.000	0.000
5E+12	287	283.000	283.000	0.000
5E+12	289	283.000	284.000	1.000
1E+13	290	285.000	285.000	0.000
1E+13	291	282.000	283.000	1.000
1E+13	292	286.000	286.000	0.000
Max		289.000	289.000	1.000
Average		284.400	284.800	0.400
Min		282.000	283.000	0.000
Std Dev		2.011	1.874	0.516

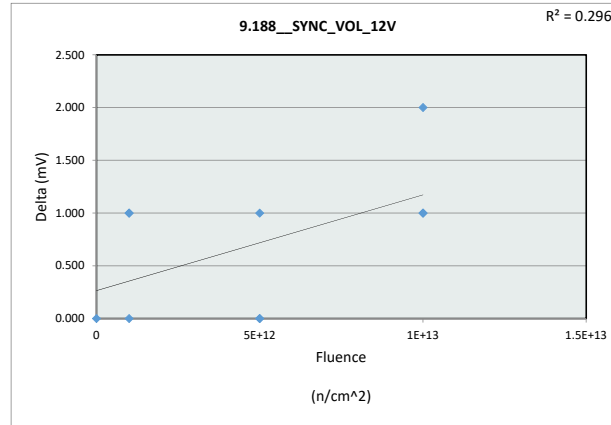


9.187_SYNC_VOL_5V				
Test Site				
Tester				
Test Number				
Max Limit	500	mV		
Min Limit		mV		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	283.000	284.000	283.000	283.000
Average	283.000	285.000	285.333	284.667
Max	283.000	286.000	289.000	286.000
UL	500.000	500.000	500.000	500.000

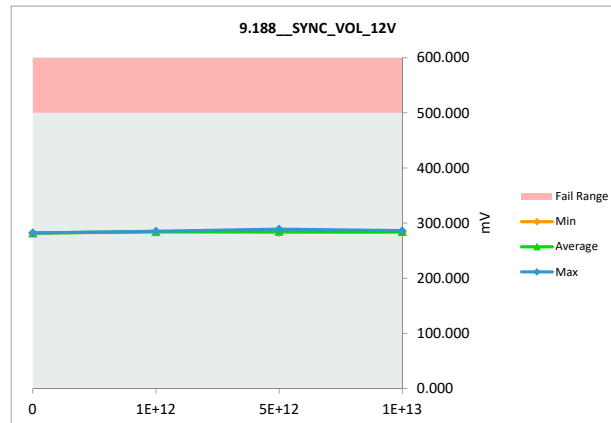


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.188_SYNC_VOL_12V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		500	500	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	282.000	282.000	0.000
1E+12	281	284.000	285.000	1.000
1E+12	284	283.000	284.000	1.000
1E+12	285	284.000	284.000	0.000
5E+12	286	289.000	289.000	0.000
5E+12	287	282.000	283.000	1.000
5E+12	289	283.000	283.000	0.000
1E+13	290	284.000	285.000	1.000
1E+13	291	281.000	283.000	2.000
1E+13	292	285.000	286.000	1.000
Max		289.000	289.000	2.000
Average		283.700	284.400	0.700
Min		281.000	282.000	0.000
Std Dev		2.214	2.011	0.675

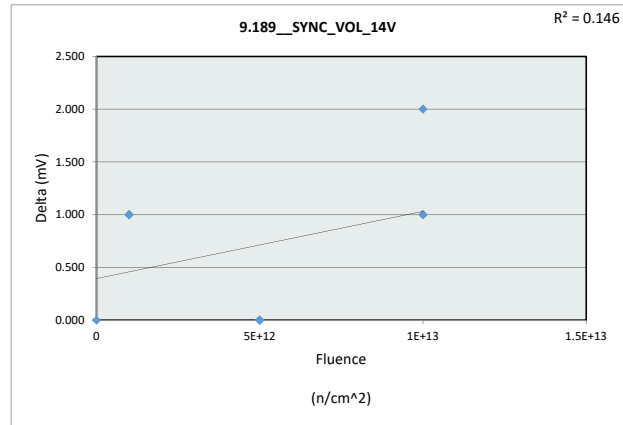


9.188_SYNC_VOL_12V				
Test Site				
Tester				
Test Number				
Max Limit		500	mV	
Min Limit			mV	
Fluence (n/cm <sup>2</sup> )	LL	Min	Average	Max
0	282.000	282.000	282.000	282.000
1E+12	284.000	284.000	284.333	285.000
5E+12	283.000	283.000	285.000	289.000
1E+13	283.000	281.000	284.667	286.000
	UL	500.000	500.000	500.000

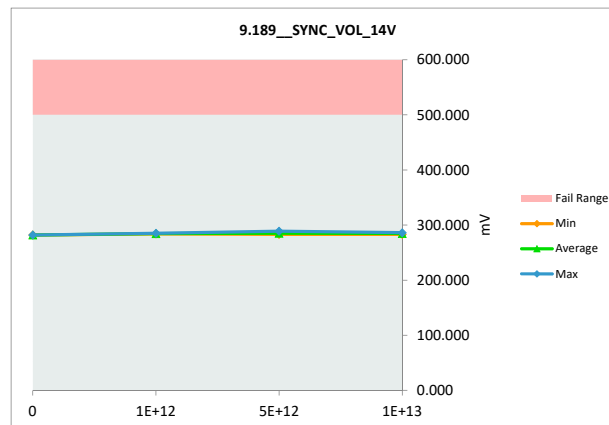


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.189_SYNC_VOL_14V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		500	500	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	282.000	282.000	0.000
1E+12	281	284.000	285.000	1.000
1E+12	284	283.000	284.000	1.000
1E+12	285	283.000	284.000	1.000
5E+12	286	289.000	289.000	0.000
5E+12	287	283.000	283.000	0.000
5E+12	289	283.000	283.000	0.000
1E+13	290	284.000	285.000	1.000
1E+13	291	281.000	283.000	2.000
1E+13	292	285.000	286.000	1.000
Max		289.000	289.000	2.000
Average		283.700	284.400	0.700
Min		281.000	282.000	0.000
Std Dev		2.163	2.011	0.675

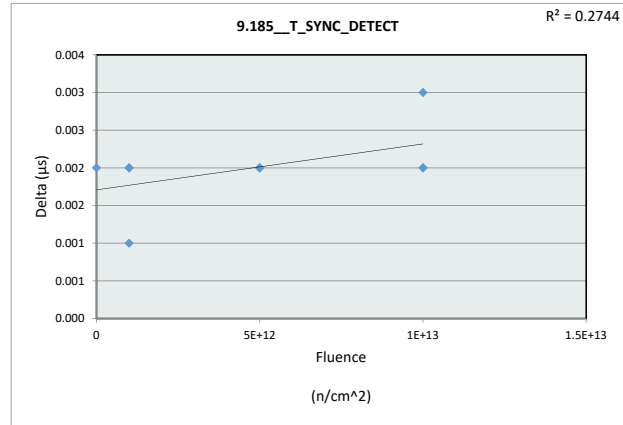


9.189_SYNC_VOL_14V				
Test Site				
Tester				
Test Number				
Max Limit	500	mV		
Min Limit		mV		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	282.000	284.000	283.000	283.000
Average	282.000	284.333	285.000	284.667
Max	282.000	285.000	289.000	286.000
UL	500.000	500.000	500.000	500.000

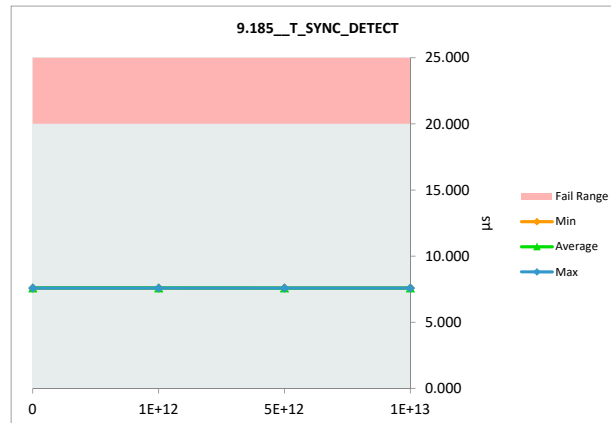


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.185__T_SYNC_DETECT				
Test Site				
Tester				
Test Number				
Unit		µs	µs	
Max Limit		20	20	
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.588	7.590	0.002
1E+12	281	7.588	7.590	0.002
1E+12	284	7.589	7.590	0.001
1E+12	285	7.588	7.590	0.002
5E+12	286	7.588	7.590	0.002
5E+12	287	7.589	7.591	0.002
5E+12	289	7.589	7.591	0.002
1E+13	290	7.587	7.589	0.002
1E+13	291	7.587	7.590	0.003
1E+13	292	7.588	7.590	0.002
Max		7.589	7.591	0.003
Average		7.588	7.590	0.002
Min		7.587	7.589	0.001
Std Dev		0.001	0.001	0.000



9.185__T_SYNC_DETECT				
Test Site				
Tester				
Test Number				
Max Limit	20	µs		
Min Limit		µs		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.590	7.590	7.590	7.589
Average	7.590	7.590	7.591	7.590
Max	7.590	7.590	7.591	7.590
UL	20.000	20.000	20.000	20.000

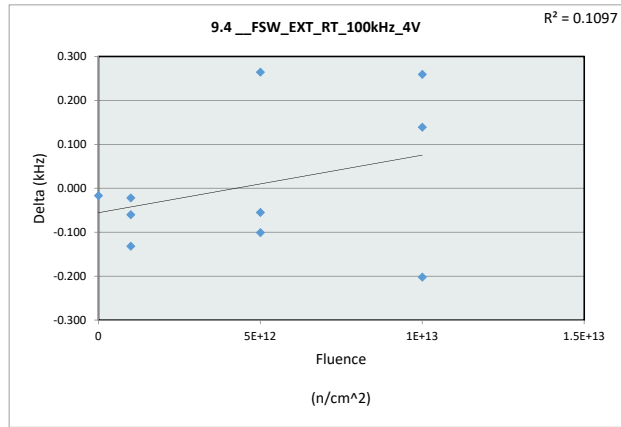


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.4 \_\_FSW\_EXT\_RT\_100kHz\_4V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	115	115
Min Limit	95	95

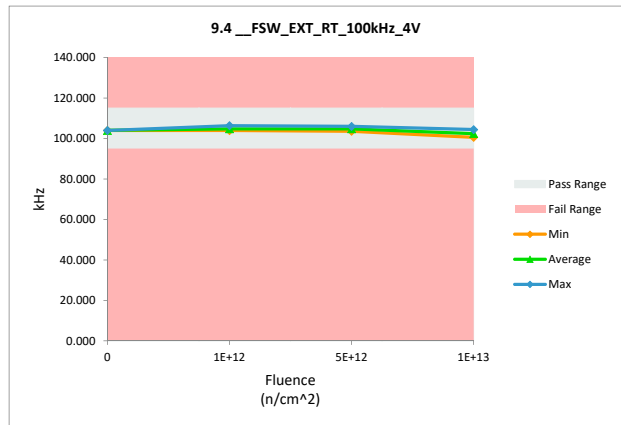
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	104.005	103.988	-0.017
1E+12	281	104.117	104.057	-0.060
1E+12	284	106.340	106.318	-0.022
1E+12	285	104.064	103.932	-0.132
5E+12	286	103.651	103.550	-0.101
5E+12	287	104.565	104.829	0.264
5E+12	289	106.040	105.985	-0.055
1E+13	290	104.592	104.390	-0.202
1E+13	291	102.132	102.271	0.139
1E+13	292	100.334	100.593	0.259
Max		106.340	106.318	0.264
Average		103.984	103.991	0.007
Min		100.334	100.593	-0.202
Std Dev		1.744	1.665	0.160



## 9.4 \_\_FSW\_EXT\_RT\_100kHz\_4V

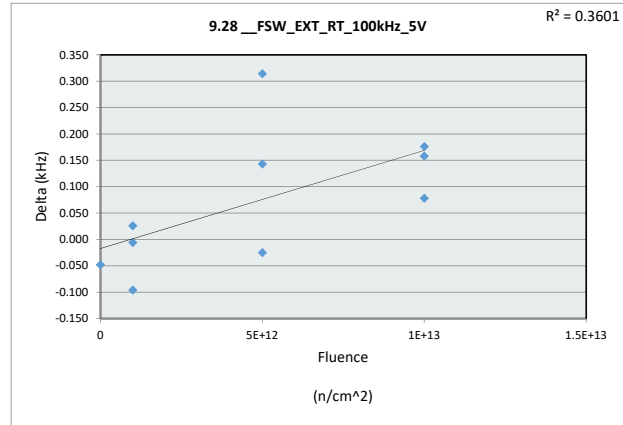
Test Site		
Tester		
Test Number		
Max Limit	115	kHz
Min Limit	95	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	95.000	95.000	95.000	95.000
Min	103.988	103.932	103.550	100.593
Average	103.988	104.769	104.788	102.418
Max	103.988	106.318	105.985	104.390
UL	115.000	115.000	115.000	115.000

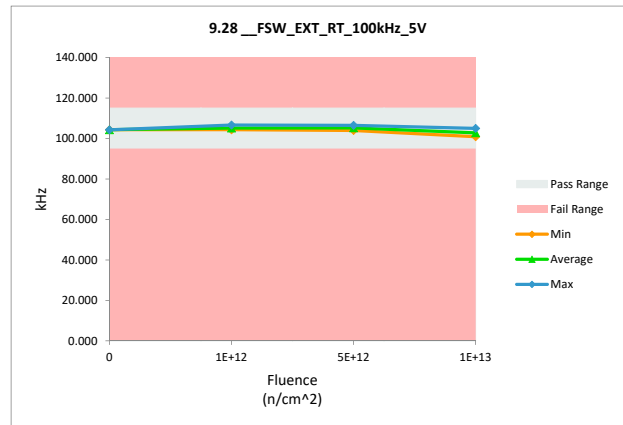


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.28_FSW_EXT_RT_100kHz_5V				
Test Site				
Tester				
Test Number				
Unit		kHz	kHz	
Max Limit		115	115	
Min Limit		95	95	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	104.377	104.329	-0.048
1E+12	281	104.429	104.423	-0.006
1E+12	284	106.656	106.682	0.026
1E+12	285	104.436	104.340	-0.096
5E+12	286	104.009	103.984	-0.025
5E+12	287	104.931	105.245	0.314
5E+12	289	106.371	106.514	0.143
1E+13	290	104.906	104.984	0.078
1E+13	291	102.421	102.597	0.176
1E+13	292	100.749	100.907	0.158
Max		106.656	106.682	0.314
Average		104.328	104.400	0.072
Min		100.749	100.907	-0.096
Std Dev		1.728	1.712	0.126



9.28_FSW_EXT_RT_100kHz				
Test Site				
Tester				
Test Number				
Max Limit	115	kHz		
Min Limit	95	kHz		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	95.000	95.000	95.000	95.000
Min	104.329	104.340	103.984	100.907
Average	104.329	105.148	105.248	102.829
Max	104.329	106.682	106.514	104.984
UL	115.000	115.000	115.000	115.000



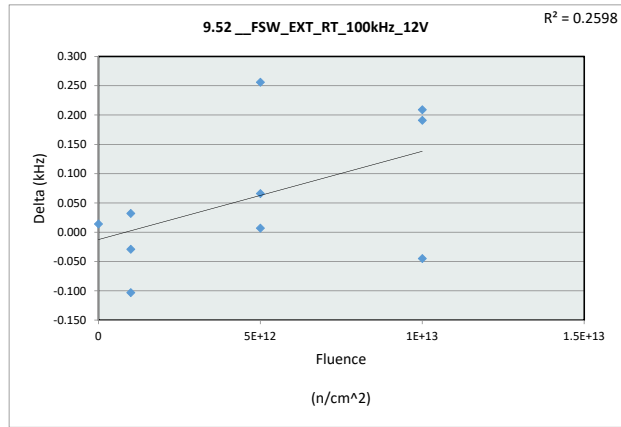


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.52\_FSW\_EXT\_RT\_100kHz\_12V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	115	115
Min Limit	95	95

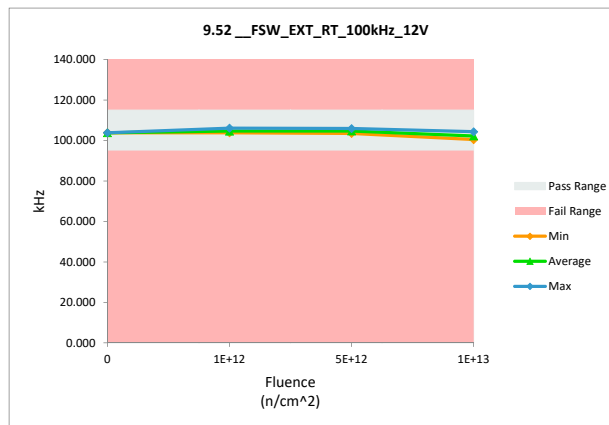
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	103.811	103.825	0.014
1E+12	281	103.949	103.920	-0.029
1E+12	284	106.118	106.150	0.032
1E+12	285	103.911	103.808	-0.103
5E+12	286	103.466	103.473	0.007
5E+12	287	104.428	104.684	0.256
5E+12	289	105.855	105.921	0.066
1E+13	290	104.357	104.312	-0.045
1E+13	291	101.874	102.065	0.191
1E+13	292	100.256	100.465	0.209
Max		106.118	106.150	0.256
Average		103.803	103.862	0.060
Min		100.256	100.465	-0.103
Std Dev		1.723	1.676	0.120



## 9.52\_FSW\_EXT\_RT\_100kHz

Test Site		
Tester		
Test Number		
Max Limit	115	kHz
Min Limit	95	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	95.000	95.000	95.000	95.000
Min	103.825	103.808	103.473	100.465
Average	103.825	104.626	104.693	102.281
Max	103.825	106.150	105.921	104.312
UL	115.000	115.000	115.000	115.000

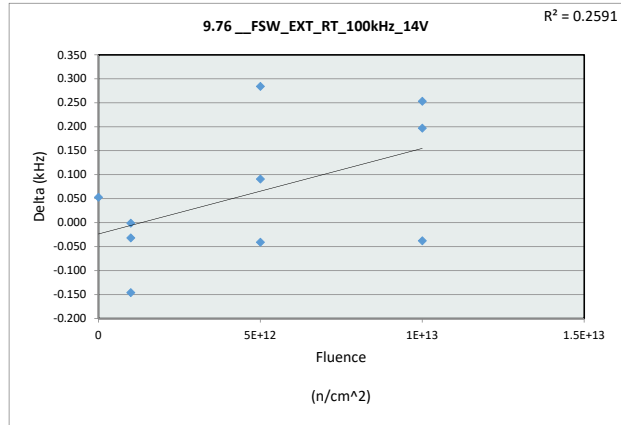


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.76\_FSW\_EXT\_RT\_100kHz\_14V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	115	115
Min Limit	95	95

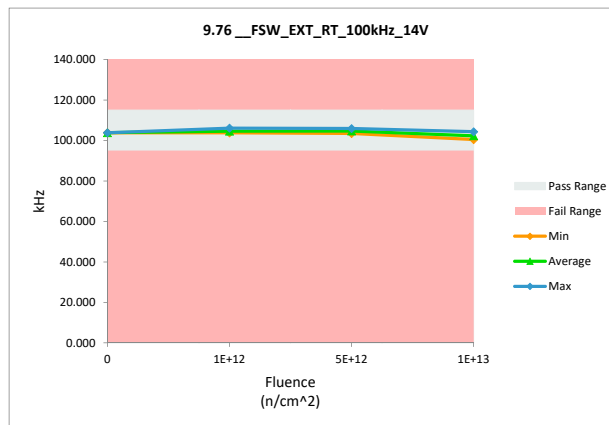
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	103.800	103.853	0.053
1E+12	281	103.944	103.912	-0.032
1E+12	284	106.104	106.103	-0.001
1E+12	285	103.915	103.769	-0.146
5E+12	286	103.490	103.449	-0.041
5E+12	287	104.400	104.684	0.284
5E+12	289	105.826	105.917	0.091
1E+13	290	104.350	104.312	-0.038
1E+13	291	101.911	102.108	0.197
1E+13	292	100.212	100.465	0.253
Max		106.104	106.103	0.284
Average		103.795	103.857	0.062
Min		100.212	100.465	-0.146
Std Dev		1.721	1.664	0.142



## 9.76\_FSW\_EXT\_RT\_100kHz

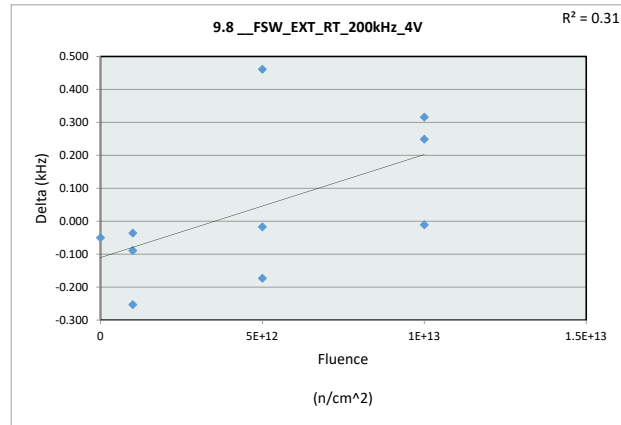
Test Site		
Tester		
Test Number		
Max Limit	115	kHz
Min Limit	95	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	95.000	95.000	95.000	95.000
Min	103.853	103.769	103.449	100.465
Average	103.853	104.595	104.683	102.295
Max	103.853	106.103	105.917	104.312
UL	115.000	115.000	115.000	115.000

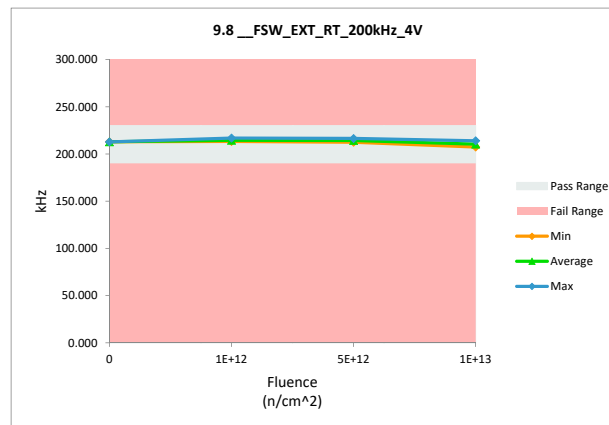


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.8_FSW_EXT_RT_200kHz_4V				
Test Site				
Tester				
Test Number				
Unit		kHz	kHz	
Max Limit		230	230	
Min Limit		190	190	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	212.932	212.882	-0.050
1E+12	281	213.425	213.336	-0.089
1E+12	284	216.899	216.863	-0.036
1E+12	285	213.764	213.511	-0.253
5E+12	286	212.585	212.412	-0.173
5E+12	287	213.729	214.190	0.461
5E+12	289	216.405	216.388	-0.017
1E+13	290	213.940	213.929	-0.011
1E+13	291	209.839	210.155	0.316
1E+13	292	207.116	207.365	0.249
Max		216.899	216.863	0.461
Average		213.063	213.103	0.040
Min		207.116	207.365	-0.253
Std Dev		2.862	2.772	0.227



9.8_FSW_EXT_RT_200kHz_4V				
Test Site				
Tester				
Test Number				
Max Limit		230	kHz	
Min Limit		190	kHz	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	190.000	190.000	190.000	190.000
Min	212.882	213.336	212.412	207.365
Average	212.882	214.570	214.330	210.483
Max	212.882	216.863	216.388	213.929
UL	230.000	230.000	230.000	230.000

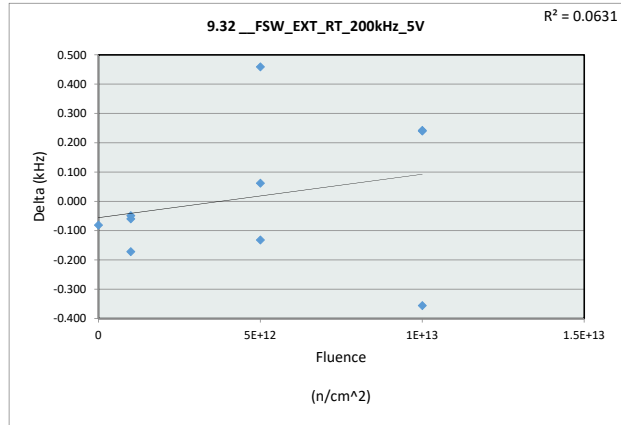


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.32\_FSW\_EXT\_RT\_200kHz\_5V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	230	230
Min Limit	190	190

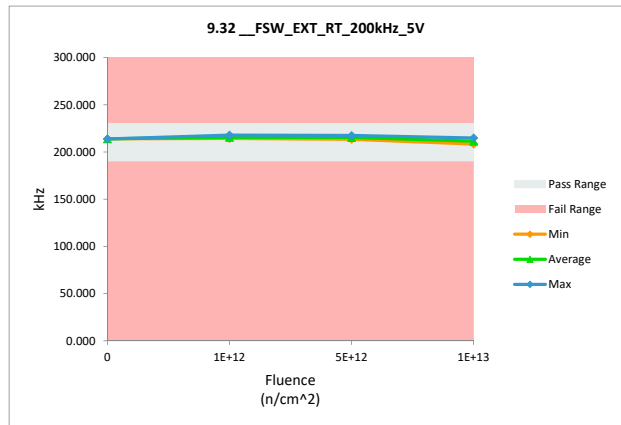
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	213.941	213.860	-0.081
1E+12	281	214.444	214.384	-0.060
1E+12	284	217.905	217.856	-0.049
1E+12	285	214.759	214.587	-0.172
5E+12	286	213.631	213.499	-0.132
5E+12	287	214.756	215.215	0.459
5E+12	289	217.422	217.484	0.062
1E+13	290	215.165	214.809	-0.356
1E+13	291	210.858	211.100	0.242
1E+13	292	208.141	208.381	0.240
Max		217.905	217.856	0.459
Average		214.102	214.118	0.015
Min		208.141	208.381	-0.356
Std Dev		2.865	2.784	0.239



## 9.32\_FSW\_EXT\_RT\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	230	kHz
Min Limit	190	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	190.000	190.000	190.000	190.000
Min	213.860	214.384	213.499	208.381
Average	213.860	215.609	215.399	211.430
Max	213.860	217.856	217.484	214.809
UL	230.000	230.000	230.000	230.000

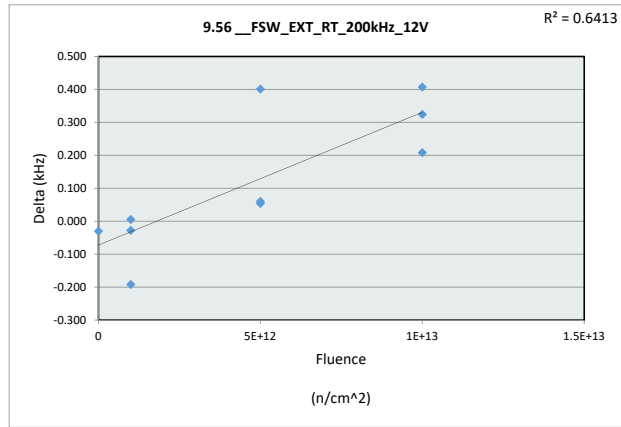


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.56\_FSW\_EXT\_RT\_200kHz\_12V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	230	230
Min Limit	190	190

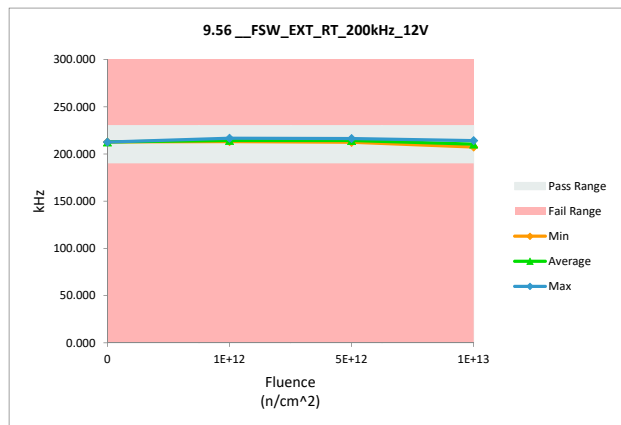
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	212.723	212.693	-0.030
1E+12	281	213.231	213.203	-0.028
1E+12	284	216.665	216.670	0.005
1E+12	285	213.580	213.388	-0.192
5E+12	286	212.281	212.335	0.054
5E+12	287	213.614	214.015	0.401
5E+12	289	216.242	216.302	0.060
1E+13	290	213.902	214.110	0.208
1E+13	291	209.695	210.019	0.324
1E+13	292	206.986	207.393	0.407
Max		216.665	216.670	0.407
Average		212.892	213.013	0.121
Min		206.986	207.393	-0.192
Std Dev		2.850	2.742	0.204



## 9.56\_FSW\_EXT\_RT\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	230	kHz
Min Limit	190	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	190.000	190.000	190.000	190.000
Min	212.693	213.203	212.335	207.393
Average	212.693	214.420	214.217	210.507
Max	212.693	216.670	216.302	214.110
UL	230.000	230.000	230.000	230.000

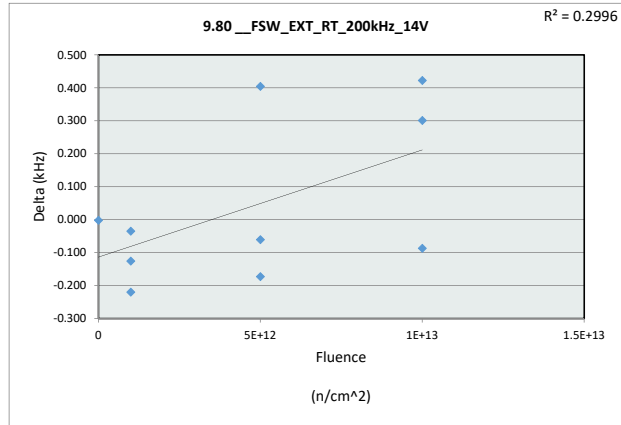


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.80\_FSW\_EXT\_RT\_200kHz\_14V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	230	230
Min Limit	190	190

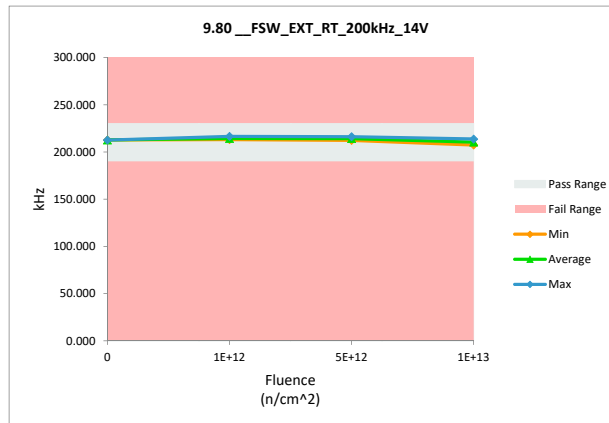
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	212.716	212.714	-0.002
1E+12	281	213.266	213.140	-0.126
1E+12	284	216.633	216.598	-0.035
1E+12	285	213.544	213.324	-0.220
5E+12	286	212.451	212.278	-0.173
5E+12	287	213.573	213.977	0.404
5E+12	289	216.276	216.215	-0.061
1E+13	290	213.845	213.758	-0.087
1E+13	291	209.726	210.027	0.301
1E+13	292	206.922	207.344	0.422
Max		216.633	216.598	0.422
Average		212.895	212.938	0.042
Min		206.922	207.344	-0.220
Std Dev		2.853	2.715	0.241



## 9.80\_FSW\_EXT\_RT\_200kHz

Test Site		
Tester		
Test Number		
Max Limit	230	kHz
Min Limit	190	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	190.000	190.000	190.000	190.000
Min	212.714	213.140	212.278	207.344
Average	212.714	214.354	214.157	210.376
Max	212.714	216.598	216.215	213.758
UL	230.000	230.000	230.000	230.000

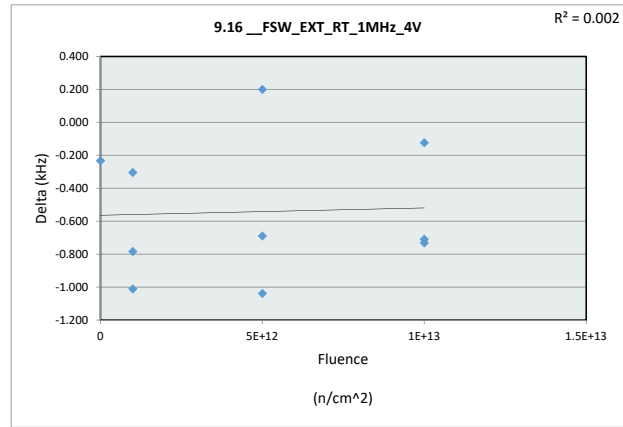


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.16 \_\_FSW\_EXT\_RT\_1MHz\_4V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	1100	1100
Min Limit	900	900

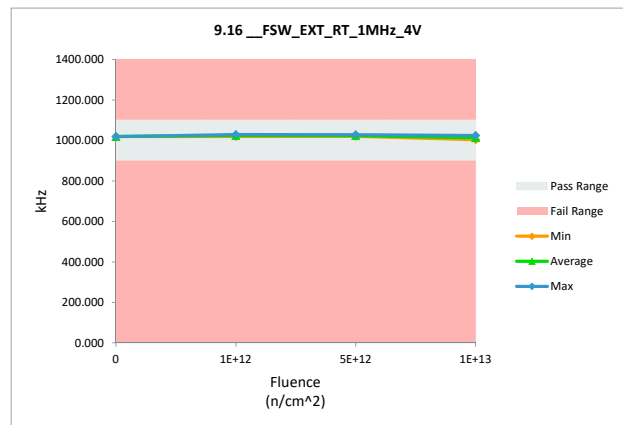
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1019.790	1019.557	-0.233
1E+12	281	1020.657	1019.873	-0.784
1E+12	284	1029.479	1029.175	-0.304
1E+12	285	1025.580	1024.569	-1.011
5E+12	286	1021.843	1020.805	-1.038
5E+12	287	1021.780	1021.980	0.200
5E+12	289	1029.112	1028.423	-0.689
1E+13	290	1025.259	1024.550	-0.709
1E+13	291	1012.272	1011.541	-0.731
1E+13	292	1004.543	1004.419	-0.124
Max		1029.479	1029.175	0.200
Average		1021.032	1020.489	-0.542
Min		1004.543	1004.419	-1.038
Std Dev		7.650	7.553	0.406



## 9.16 \_\_FSW\_EXT\_RT\_1MHz\_4V

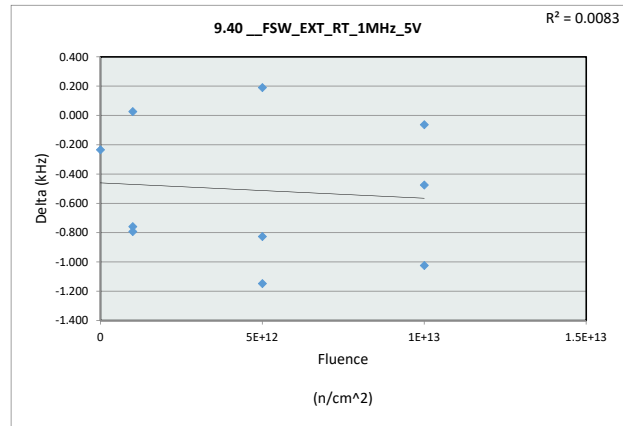
Test Site		
Tester		
Test Number		
Max Limit	1100	kHz
Min Limit	900	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	900.000	900.000	900.000	900.000
Min	1019.557	1019.873	1020.805	1004.419
Average	1019.557	1024.539	1023.736	1013.503
Max	1019.557	1029.175	1028.423	1024.550
UL	1100.000	1100.000	1100.000	1100.000

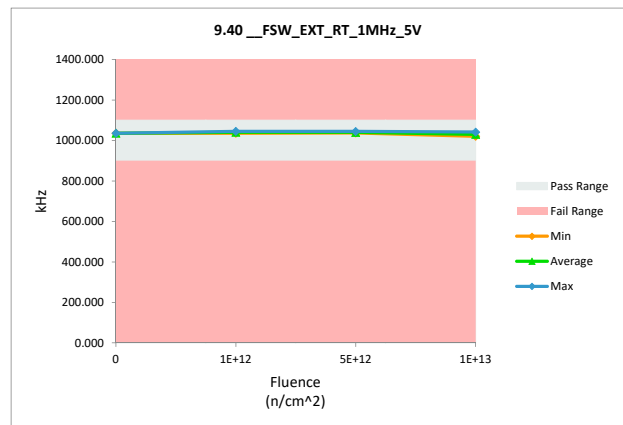


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.40 __FSW_EXT_RT_1MHz_5V				
Test Site				
Tester				
Test Number				
Unit		kHz	kHz	
Max Limit		1100	1100	
Min Limit		900	900	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1035.967	1035.732	-0.235
1E+12	281	1036.409	1035.616	-0.793
1E+12	284	1044.977	1045.003	0.026
1E+12	285	1041.129	1040.370	-0.759
5E+12	286	1038.928	1037.780	-1.148
5E+12	287	1037.642	1037.832	0.190
5E+12	289	1045.449	1044.622	-0.827
1E+13	290	1041.940	1041.465	-0.475
1E+13	291	1029.008	1027.984	-1.024
1E+13	292	1020.594	1020.531	-0.063
Max		1045.449	1045.003	0.190
Average		1037.204	1036.694	-0.511
Min		1020.594	1020.531	-1.148
Std Dev		7.562	7.527	0.468



9.40 __FSW_EXT_RT_1MHz_5V				
Test Site				
Tester				
Test Number				
Max Limit		1100	kHz	
Min Limit		900	kHz	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	900.000	900.000	900.000	900.000
Min	1035.732	1035.616	1037.780	1020.531
Average	1035.732	1040.330	1040.078	1029.993
Max	1035.732	1045.003	1044.622	1041.465
UL	1100.000	1100.000	1100.000	1100.000



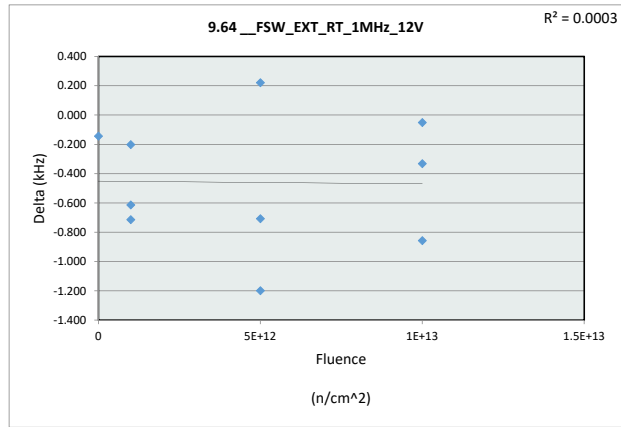


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.64\_FSW\_EXT\_RT\_1MHz\_12V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	1100	1100
Min Limit	900	900

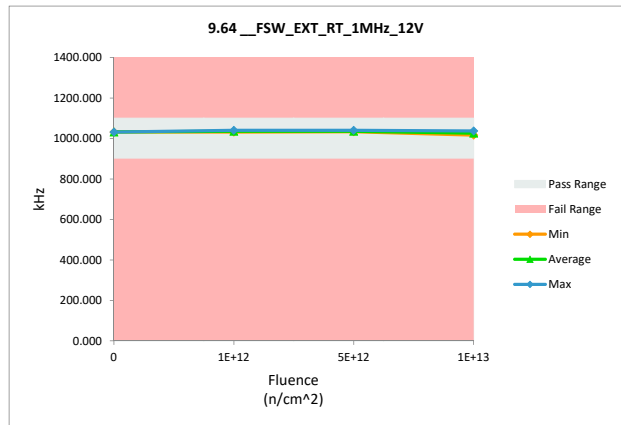
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1032.101	1031.957	-0.144
1E+12	281	1032.314	1031.600	-0.714
1E+12	284	1040.771	1040.569	-0.202
1E+12	285	1036.693	1036.079	-0.614
5E+12	286	1034.822	1033.623	-1.199
5E+12	287	1033.309	1033.529	0.220
5E+12	289	1041.181	1040.473	-0.708
1E+13	290	1037.595	1037.263	-0.332
1E+13	291	1025.132	1024.275	-0.857
1E+13	292	1016.820	1016.769	-0.051
Max		1041.181	1040.569	0.220
Average		1033.074	1032.614	-0.460
Min		1016.820	1016.769	-1.199
Std Dev		7.382	7.323	0.430



## 9.64\_FSW\_EXT\_RT\_1MHz\_12V

Test Site		
Tester		
Test Number		
Max Limit	1100	kHz
Min Limit	900	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	900.000	900.000	900.000	900.000
Min	1031.957	1031.600	1033.529	1016.769
Average	1031.957	1036.083	1035.875	1026.102
Max	1031.957	1040.569	1040.473	1037.263
UL	1100.000	1100.000	1100.000	1100.000

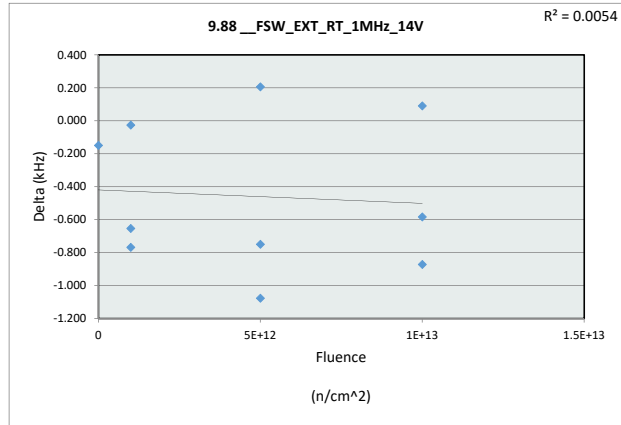


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.88\_FSW\_EXT\_RT\_1MHz\_14V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	1100	1100
Min Limit	900	900

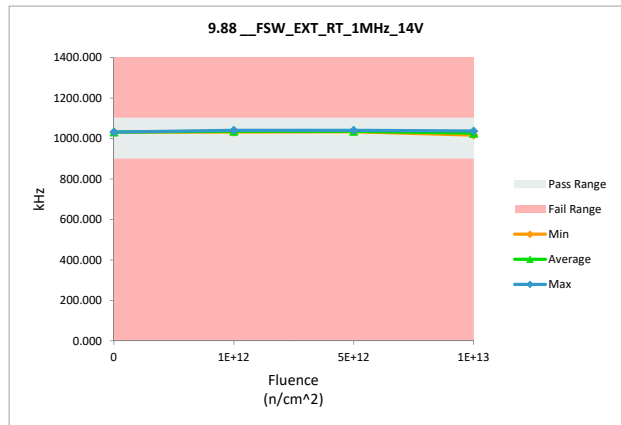
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1031.999	1031.849	-0.150
1E+12	281	1032.173	1031.519	-0.654
1E+12	284	1040.505	1040.478	-0.027
1E+12	285	1036.632	1035.864	-0.768
5E+12	286	1034.668	1033.591	-1.077
5E+12	287	1033.289	1033.494	0.205
5E+12	289	1041.134	1040.384	-0.750
1E+13	290	1037.603	1037.019	-0.584
1E+13	291	1025.063	1024.191	-0.872
1E+13	292	1016.674	1016.764	0.090
Max		1041.134	1040.478	0.205
Average		1032.974	1032.515	-0.459
Min		1016.674	1016.764	-1.077
Std Dev		7.386	7.286	0.449



9.88\_FSW\_EXT\_RT\_1MHz\_14V

Test Site		
Tester		
Test Number		
Max Limit	1100	kHz
Min Limit	900	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	900.000	900.000	900.000	900.000
Min	1031.849	1031.519	1033.494	1016.764
Average	1031.849	1035.954	1035.823	1025.991
Max	1031.849	1040.478	1040.384	1037.019
UL	1100.000	1100.000	1100.000	1100.000

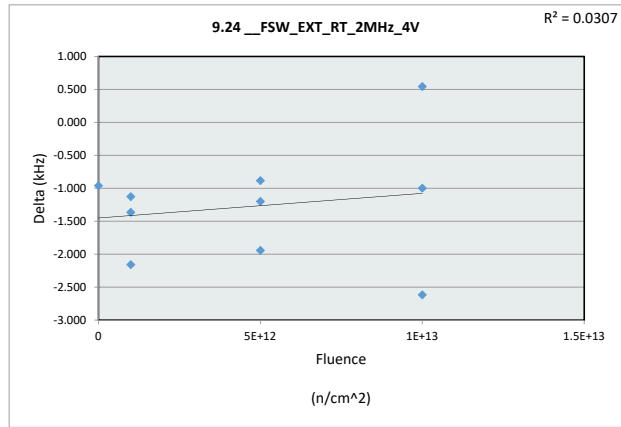


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 9.24\_FSW\_EXT\_RT\_2MHz\_4V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	2300	2300
Min Limit	1700	1700

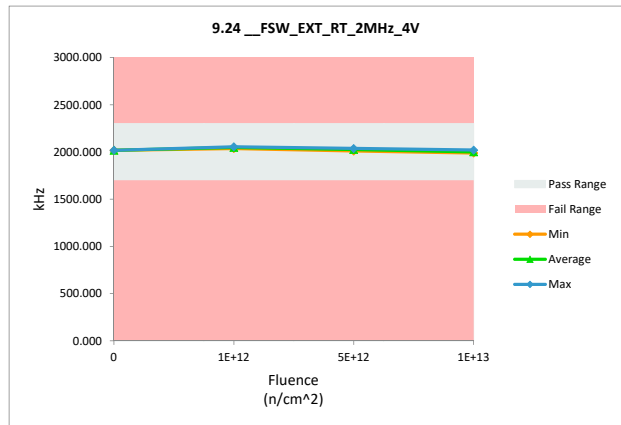
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2018.741	2017.778	-0.963
1E+12	281	2038.166	2036.801	-1.365
1E+12	284	2056.772	2055.644	-1.128
1E+12	285	2053.986	2051.828	-2.158
5E+12	286	2011.448	2010.249	-1.199
5E+12	287	2032.559	2031.675	-0.884
5E+12	289	2038.836	2036.894	-1.942
1E+13	290	2023.008	2020.391	-2.617
1E+13	291	1992.170	1992.713	0.543
1E+13	292	1989.571	1988.572	-0.999
Max		2056.772	2055.644	0.543
Average		2025.526	2024.255	-1.271
Min		1989.571	1988.572	-2.617
Std Dev		23.163	22.703	0.862



## 9.24\_FSW\_EXT\_RT\_2MHz\_4V

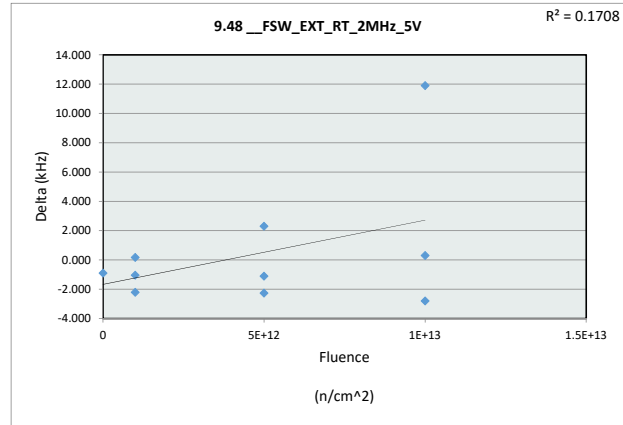
Test Site		
Tester		
Test Number		
Max Limit	2300	kHz
Min Limit	1700	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1700.000	1700.000	1700.000	1700.000
Min	2017.778	2036.801	2010.249	1988.572
Average	2017.778	2048.091	2026.273	2000.559
Max	2017.778	2055.644	2036.894	2020.391
UL	2300.000	2300.000	2300.000	2300.000

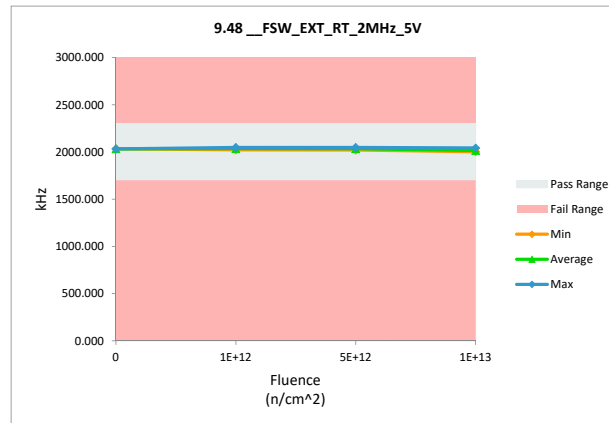


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.48_FSW_EXT_RT_2MHz_5V				
Test Site				
Tester				
Test Number				
Unit		kHz	kHz	
Max Limit		2300	2300	
Min Limit		1700	1700	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2033.504	2032.603	-0.901
1E+12	281	2024.402	2022.190	-2.212
1E+12	284	2039.140	2039.316	0.176
1E+12	285	2049.313	2048.268	-1.045
5E+12	286	2018.184	2020.482	2.298
5E+12	287	2037.839	2036.737	-1.102
5E+12	289	2050.148	2047.888	-2.260
1E+13	290	2045.371	2042.568	-2.803
1E+13	291	1992.671	2004.572	11.901
1E+13	292	2001.937	2002.241	0.304
Max		2050.148	2048.268	11.901
Average		2029.251	2029.687	0.436
Min		1992.671	2002.241	-2.803
Std Dev		19.773	16.728	4.296



9.48_FSW_EXT_RT_2MHz_5V				
Test Site				
Tester				
Test Number				
Max Limit		2300	kHz	
Min Limit		1700	kHz	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1700.000	1700.000	1700.000	1700.000
Min	2032.603	2022.190	2020.482	2002.241
Average	2032.603	2036.591	2035.036	2016.460
Max	2032.603	2048.268	2047.888	2042.568
UL	2300.000	2300.000	2300.000	2300.000

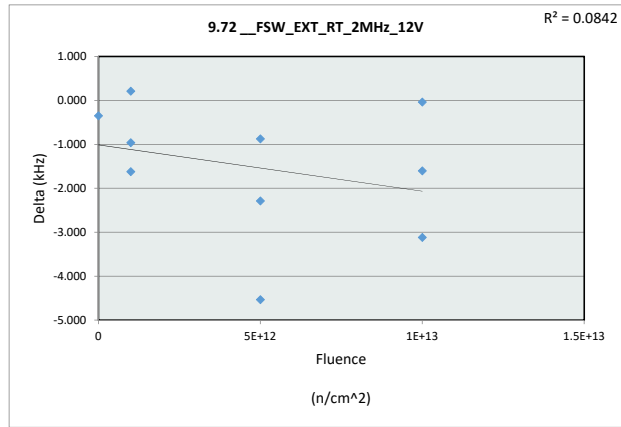


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.72\_FSW\_EXT\_RT\_2MHz\_12V

Test Site		
Tester		
Test Number		
Unit	kHz	kHz
Max Limit	2300	2300
Min Limit	1700	1700

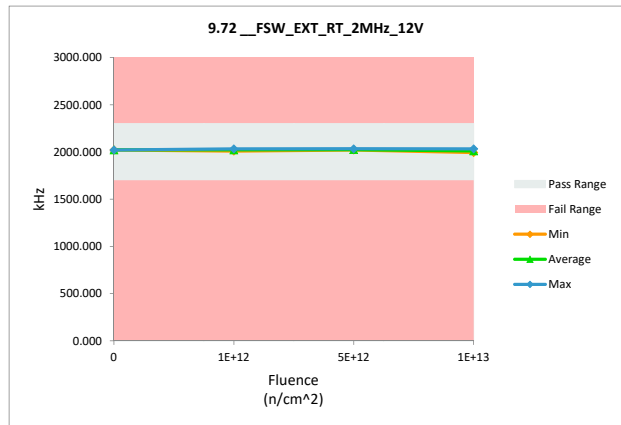
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2021.955	2021.604	-0.351
1E+12	281	2010.715	2009.093	-1.622
1E+12	284	2024.412	2024.619	0.207
1E+12	285	2034.251	2033.288	-0.963
5E+12	286	2026.327	2021.794	-4.533
5E+12	287	2022.291	2021.416	-0.875
5E+12	289	2035.881	2033.592	-2.289
1E+13	290	2037.101	2033.984	-3.117
1E+13	291	2006.913	2006.874	-0.039
1E+13	292	1995.799	1994.195	-1.604
Max		2037.101	2033.984	0.207
Average		2021.564	2020.046	-1.519
Min		1995.799	1994.195	-4.533
Std Dev		13.478	13.094	1.472



9.72\_FSW\_EXT\_RT\_2MHz\_12V

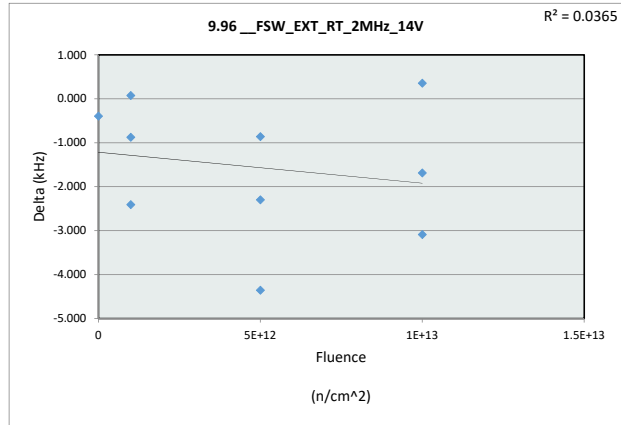
Test Site		
Tester		
Test Number		
Max Limit	2300	kHz
Min Limit	1700	kHz

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1700.000	1700.000	1700.000	1700.000
Min	2021.604	2009.093	2021.416	1994.195
Average	2021.604	2022.333	2025.601	2011.684
Max	2021.604	2033.288	2033.592	2033.984
UL	2300.000	2300.000	2300.000	2300.000

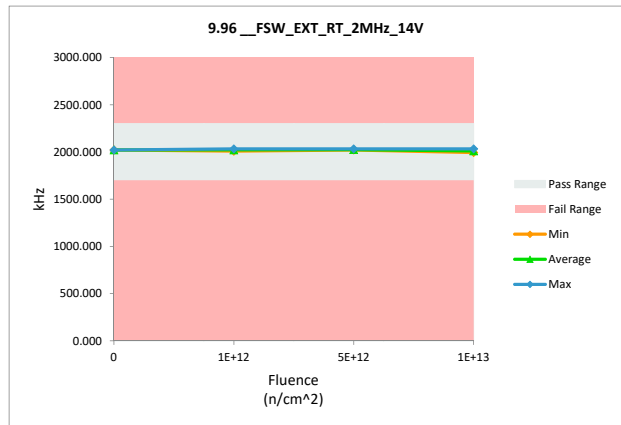


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

9.96_FSW_EXT_RT_2MHz_14V				
Test Site				
Tester				
Test Number				
Unit		kHz	kHz	
Max Limit		2300	2300	
Min Limit		1700	1700	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2021.506	2021.109	-0.397
1E+12	281	2010.844	2008.437	-2.407
1E+12	284	2024.288	2024.362	0.074
1E+12	285	2033.676	2032.801	-0.875
5E+12	286	2025.976	2021.619	-4.357
5E+12	287	2021.828	2020.966	-0.862
5E+12	289	2035.298	2032.997	-2.301
1E+13	290	2036.591	2033.503	-3.088
1E+13	291	2006.524	2006.877	0.353
1E+13	292	1995.450	1993.763	-1.687
Max		2036.591	2033.503	0.353
Average		2021.198	2019.643	-1.555
Min		1995.450	1993.763	-4.357
Std Dev		13.374	13.047	1.494

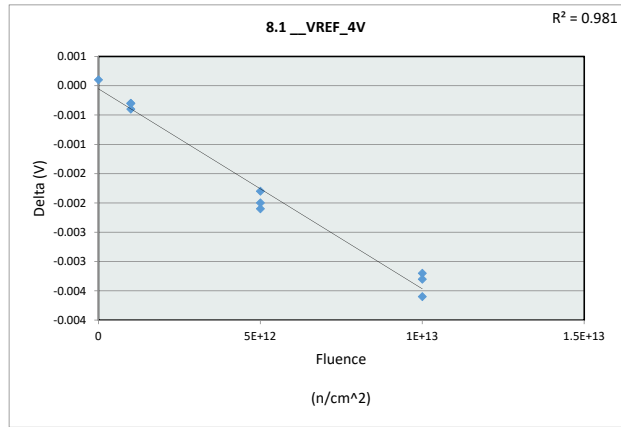


9.96_FSW_EXT_RT_2MHz_14V				
Test Site				
Tester				
Test Number				
Max Limit		2300	kHz	
Min Limit		1700	kHz	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1700.000	1700.000	1700.000	1700.000
Min	2021.109	2008.437	2020.966	1993.763
Average	2021.109	2021.867	2025.194	2011.381
Max	2021.109	2032.801	2032.997	2033.503
UL	2300.000	2300.000	2300.000	2300.000

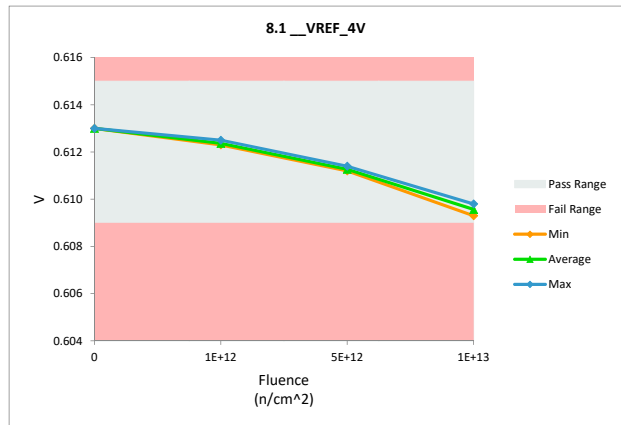


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.1 __VREF_4V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.615	0.615		
Min Limit	0.609	0.609		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.613	0.613	0.000
1E+12	281	0.613	0.613	0.000
1E+12	284	0.613	0.612	0.000
1E+12	285	0.613	0.612	0.000
5E+12	286	0.613	0.611	-0.002
5E+12	287	0.613	0.611	-0.002
5E+12	289	0.613	0.611	-0.002
1E+13	290	0.613	0.609	-0.004
1E+13	291	0.613	0.610	-0.003
1E+13	292	0.613	0.610	-0.003
Max		0.613	0.613	0.000
Average		0.613	0.611	-0.002
Min		0.613	0.609	-0.004
Std Dev		0.000	0.001	0.001

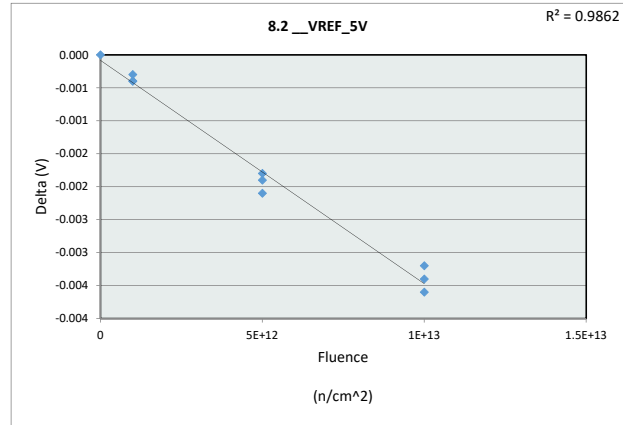


8.1 __VREF_4V				
Test Site				
Tester				
Test Number				
Max Limit	0.615	V		
Min Limit	0.609	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.609	0.609	0.609	0.609
Min	0.613	0.612	0.611	0.609
Average	0.613	0.612	0.611	0.610
Max	0.613	0.613	0.611	0.610
UL	0.615	0.615	0.615	0.615

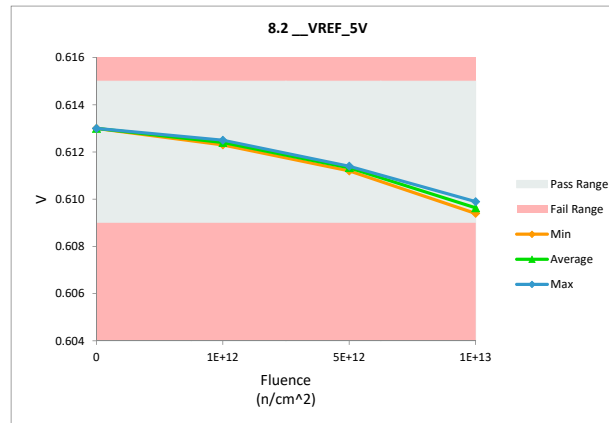


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.2 __VREF_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.615	0.615		
Min Limit	0.609	0.609		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.613	0.613	0.000
1E+12	281	0.613	0.613	0.000
1E+12	284	0.613	0.612	0.000
1E+12	285	0.613	0.612	0.000
5E+12	286	0.613	0.611	-0.002
5E+12	287	0.613	0.611	-0.002
5E+12	289	0.613	0.611	-0.002
1E+13	290	0.613	0.609	-0.004
1E+13	291	0.613	0.610	-0.003
1E+13	292	0.613	0.610	-0.003
Max		0.613	0.613	0.000
Average		0.613	0.611	-0.002
Min		0.613	0.609	-0.004
Std Dev		0.000	0.001	0.001



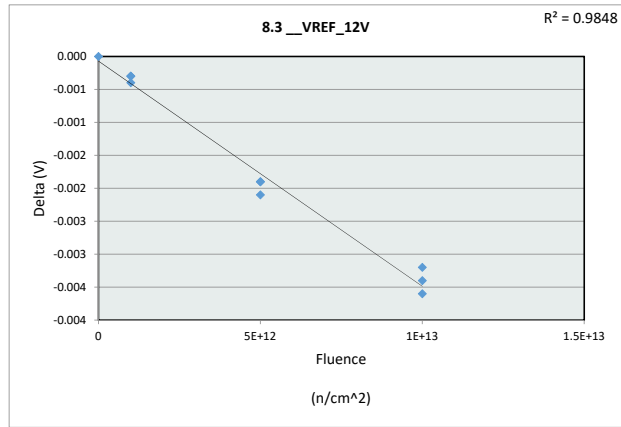
8.2 __VREF_5V				
Test Site				
Tester				
Test Number				
Max Limit	0.615	V		
Min Limit	0.609	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.609	0.609	0.609	0.609
Min	0.613	0.612	0.611	0.609
Average	0.613	0.612	0.611	0.610
Max	0.613	0.613	0.611	0.610
UL	0.615	0.615	0.615	0.615



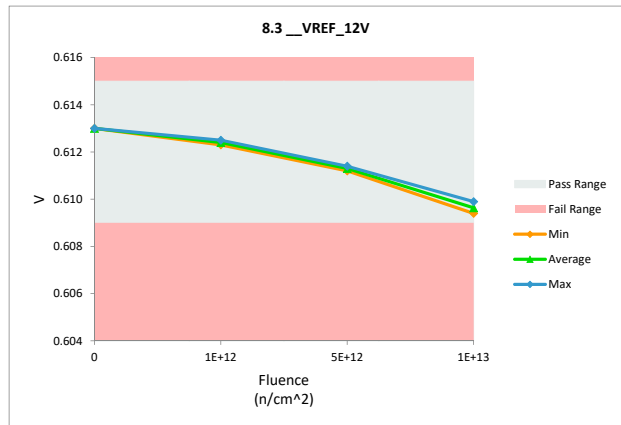


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.3 __VREF_12V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.615	0.615		
Min Limit	0.609	0.609		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.613	0.613	0.000
1E+12	281	0.613	0.613	0.000
1E+12	284	0.613	0.612	0.000
1E+12	285	0.613	0.612	0.000
5E+12	286	0.613	0.611	-0.002
5E+12	287	0.613	0.611	-0.002
5E+12	289	0.613	0.611	-0.002
1E+13	290	0.613	0.609	-0.004
1E+13	291	0.613	0.610	-0.003
1E+13	292	0.613	0.610	-0.003
Max		0.613	0.613	0.000
Average		0.613	0.611	-0.002
Min		0.613	0.609	-0.004
Std Dev		0.000	0.001	0.001

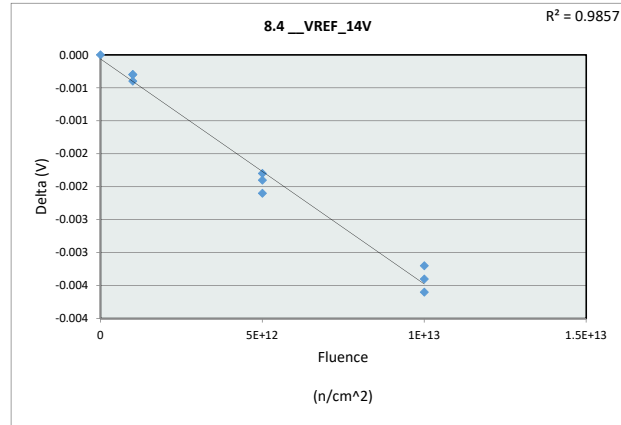


8.3 __VREF_12V				
Test Site				
Tester				
Test Number				
Max Limit	0.615	V		
Min Limit	0.609	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.609	0.609	0.609	0.609
Min	0.613	0.612	0.611	0.609
Average	0.613	0.612	0.611	0.610
Max	0.613	0.613	0.611	0.610
UL	0.615	0.615	0.615	0.615

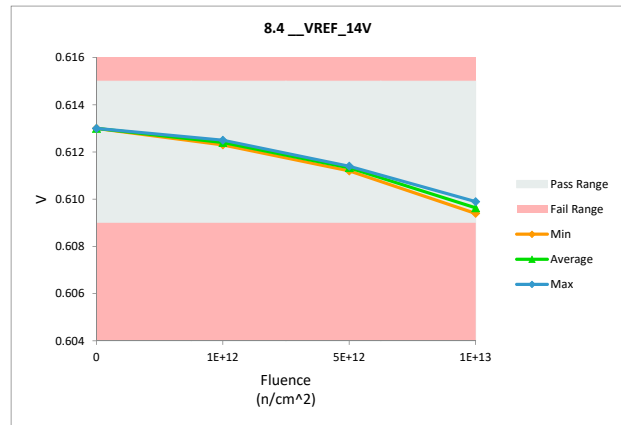


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

8.4 __VREF_14V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.615	0.615		
Min Limit	0.609	0.609		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.613	0.613	0.000
1E+12	281	0.613	0.613	0.000
1E+12	284	0.613	0.612	0.000
1E+12	285	0.613	0.612	0.000
5E+12	286	0.613	0.611	-0.002
5E+12	287	0.613	0.611	-0.002
5E+12	289	0.613	0.611	-0.002
1E+13	290	0.613	0.609	-0.004
1E+13	291	0.613	0.610	-0.003
1E+13	292	0.613	0.610	-0.003
Max		0.613	0.613	0.000
Average		0.613	0.611	-0.002
Min		0.613	0.609	-0.004
Std Dev		0.000	0.001	0.001



8.4 __VREF_14V				
Test Site				
Tester				
Test Number				
Max Limit	0.615	V		
Min Limit	0.609	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.609	0.609	0.609	0.609
Min	0.613	0.612	0.611	0.609
Average	0.613	0.612	0.611	0.610
Max	0.613	0.613	0.611	0.610
UL	0.615	0.615	0.615	0.615

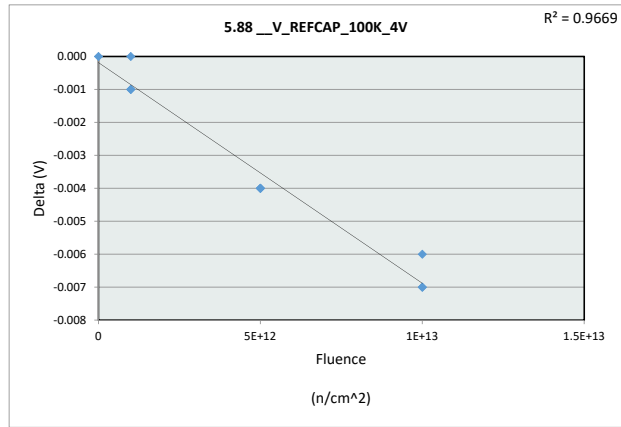


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.88 \_\_V\_REFCAP\_100K\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

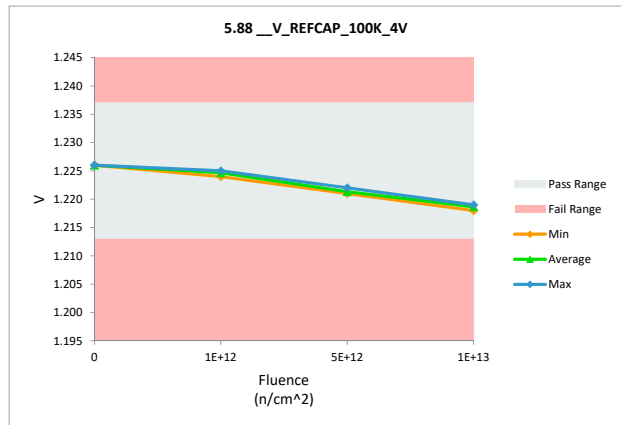
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.221	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



## 5.88 \_\_V\_REFCAP\_100K\_4V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.221	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

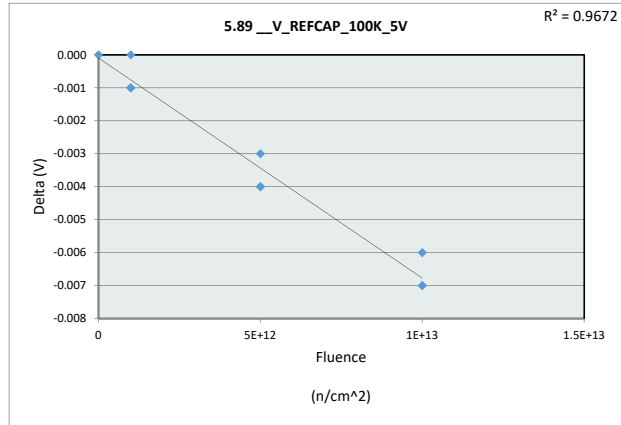


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.89 \_\_V\_REFCAP\_100K\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

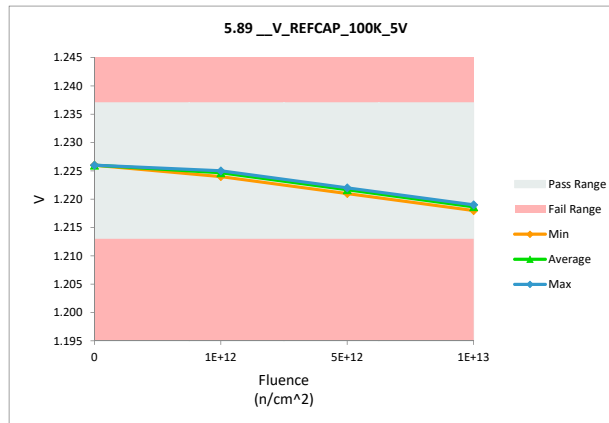
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



5.89 \_\_V\_REFCAP\_100K\_5V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

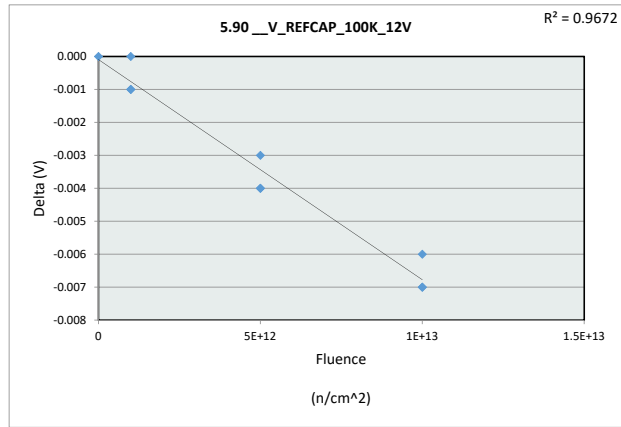


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.90 \_\_V\_REFCAP\_100K\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

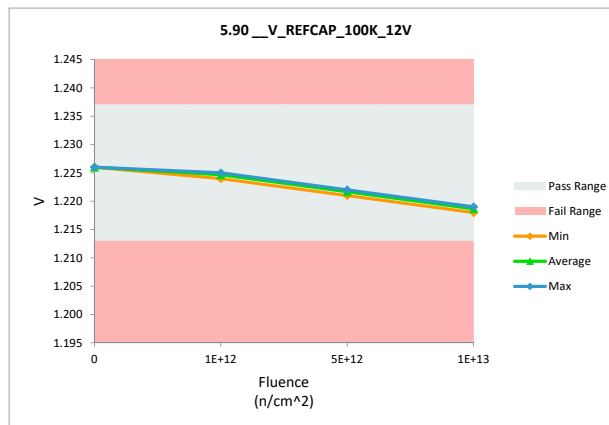
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



5.90 \_\_V\_REFCAP\_100K\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

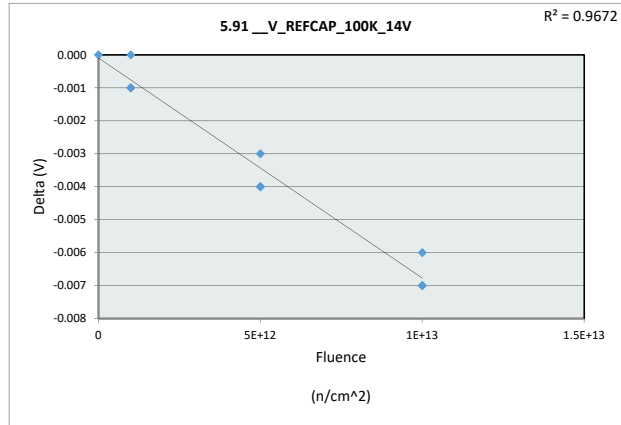


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.91\_V\_REFCAP\_100K\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

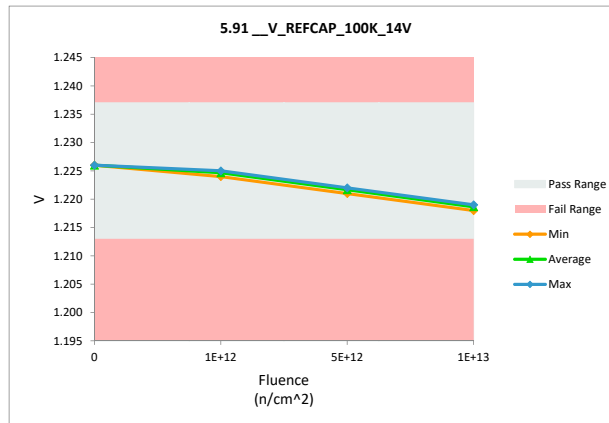
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



5.91\_V\_REFCAP\_100K\_14V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

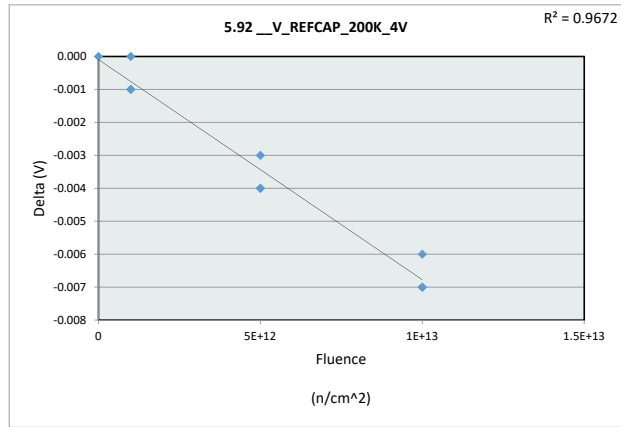


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.92 \_\_V\_REFCAP\_200K\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

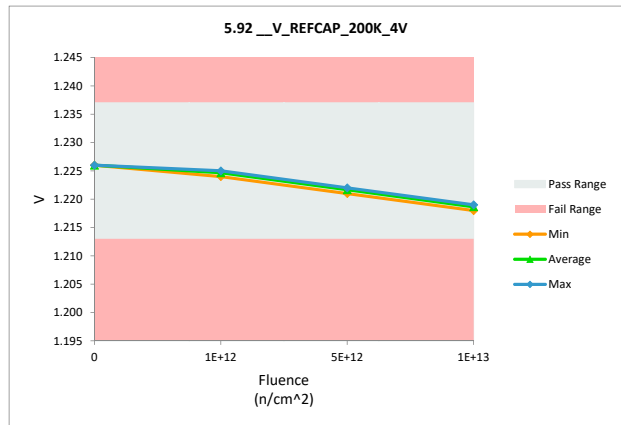
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



## 5.92 \_\_V\_REFCAP\_200K\_4V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

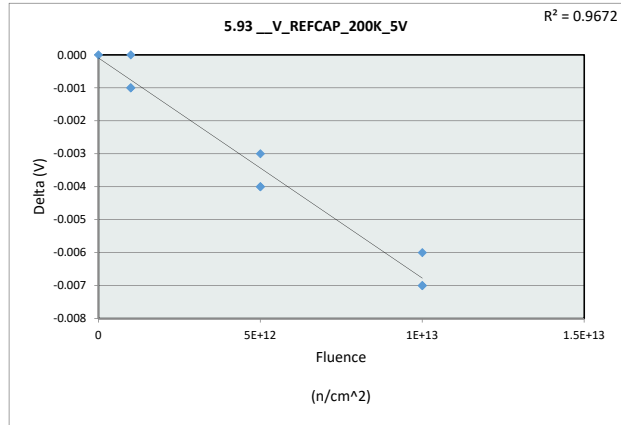


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.93 \_\_V\_REFCAP\_200K\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

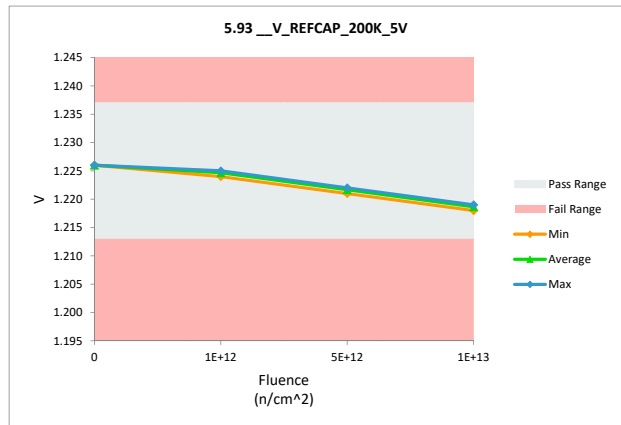
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



## 5.93 \_\_V\_REFCAP\_200K\_5V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237



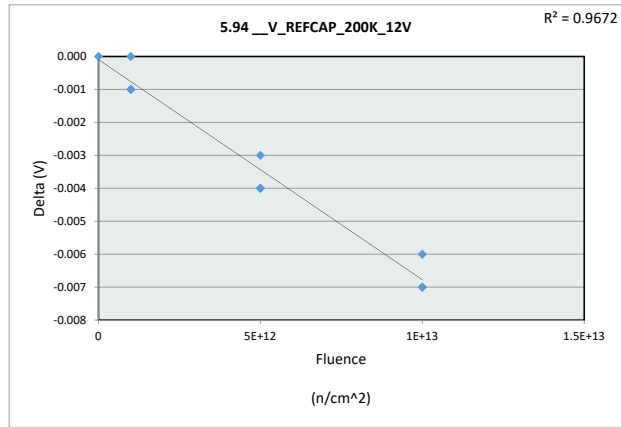


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.94\_V\_REFCAP\_200K\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

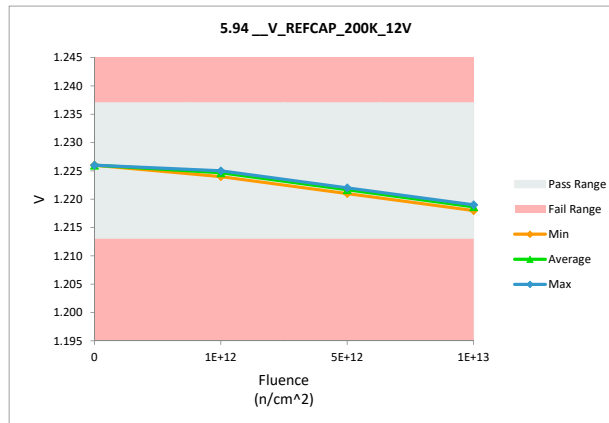
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



5.94\_V\_REFCAP\_200K\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

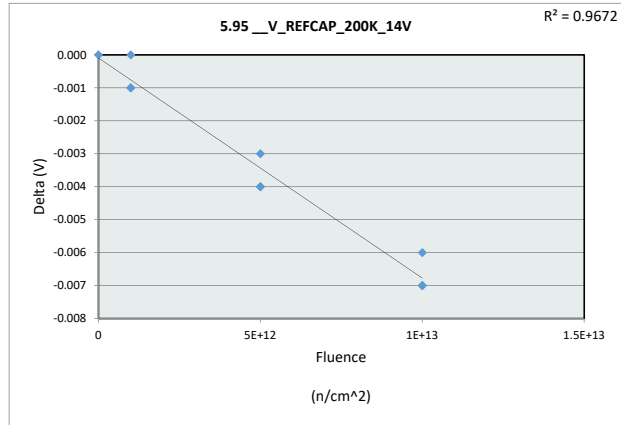


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.95\_V\_REFCAP\_200K\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

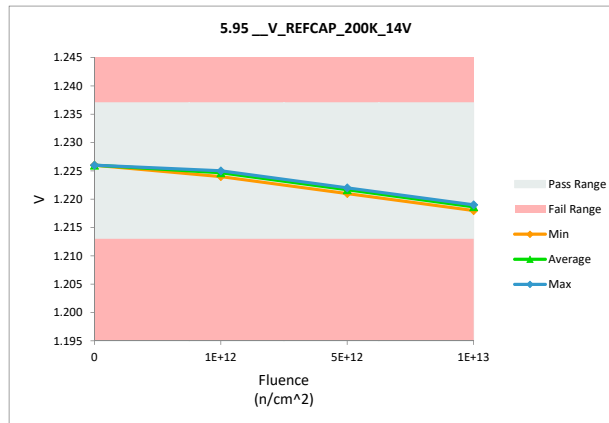
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.225	1.225	0.000
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.225	1.219	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.225	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



5.95\_V\_REFCAP\_200K\_14V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

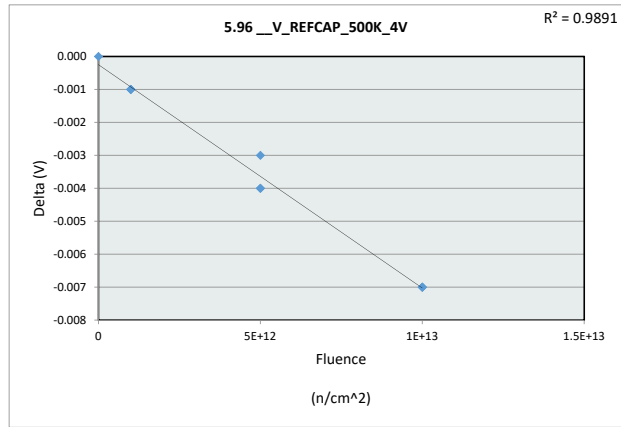


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.96 \_\_V\_REFCAP\_500K\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

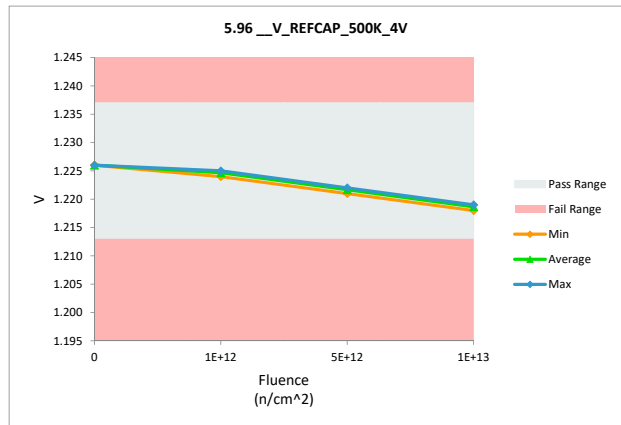
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.224	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.225	1.222	-0.003
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.226	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



## 5.96 \_\_V\_REFCAP\_500K\_4V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.224	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

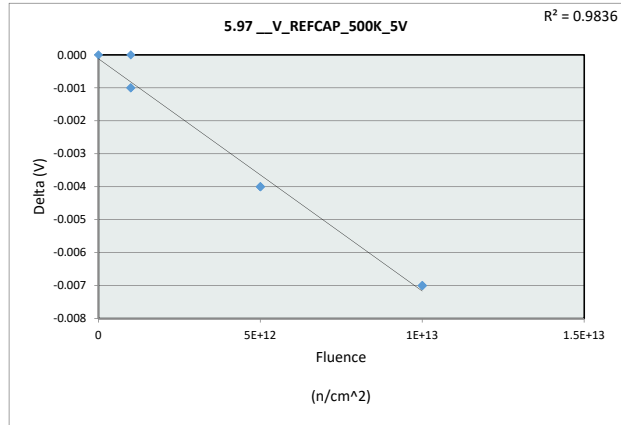


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.97 \_\_V\_REFCAP\_500K\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

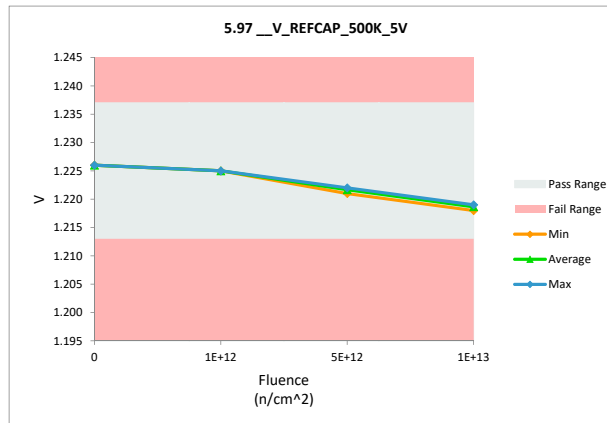
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.226	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



## 5.97 \_\_V\_REFCAP\_500K\_5V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.225	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

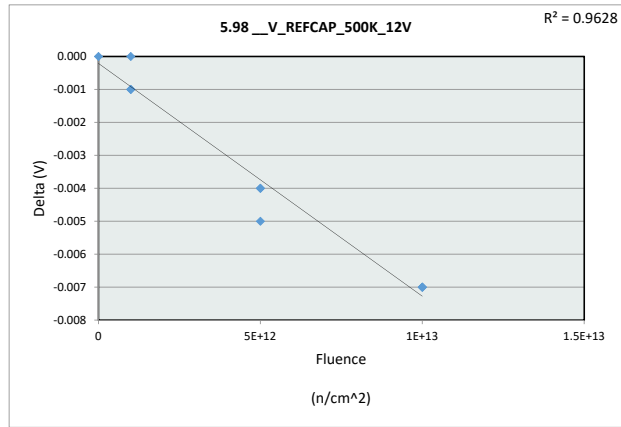


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.98 \_\_V\_REFCAP\_500K\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

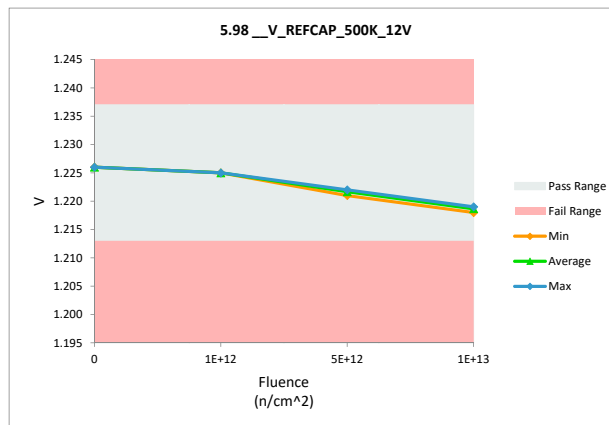
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.226	1.221	-0.005
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.226	1.222	-0.004
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



5.98 \_\_V\_REFCAP\_500K\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.225	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

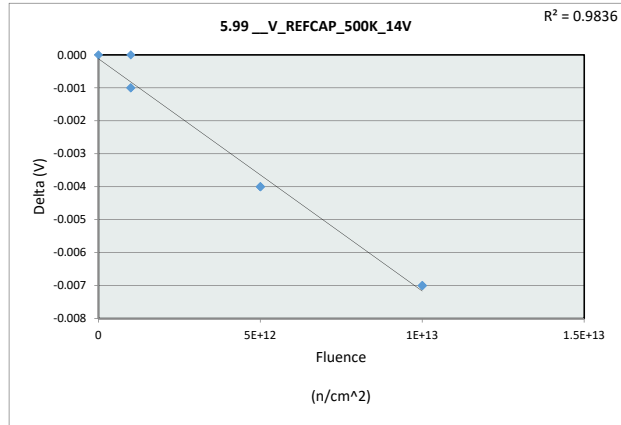


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.99\_V\_REFCAP\_500K\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

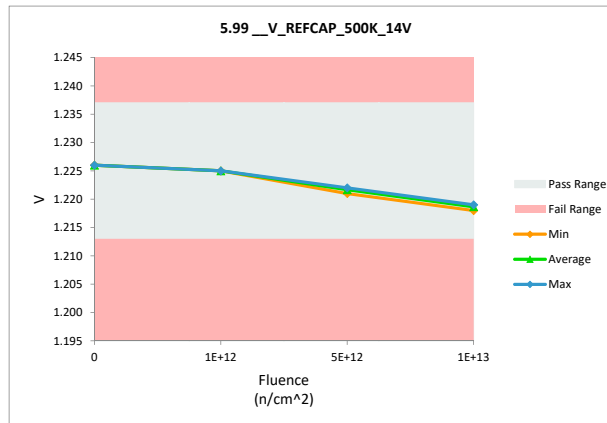
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.225	1.221	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.226	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



5.99\_V\_REFCAP\_500K\_14V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.225	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

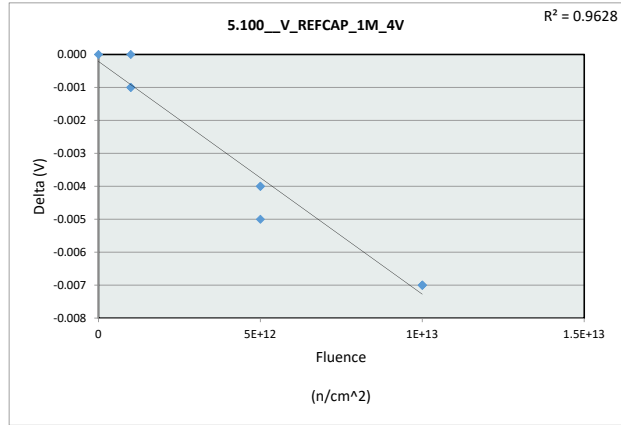


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.100\_V\_REFCAP\_1M\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

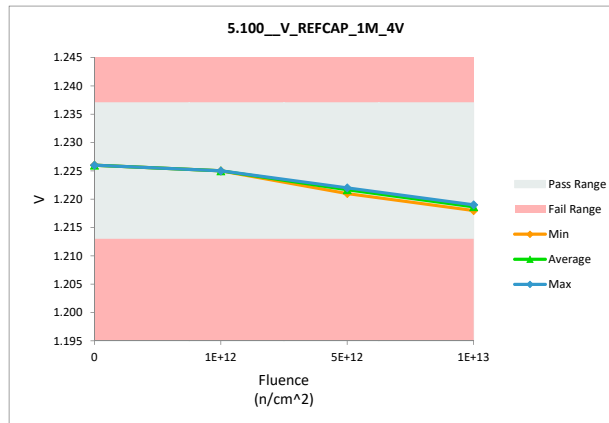
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.226	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.226	1.221	-0.005
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.226	0.000
Average		1.226	1.222	-0.004
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



## 5.100\_V\_REFCAP\_1M\_4V

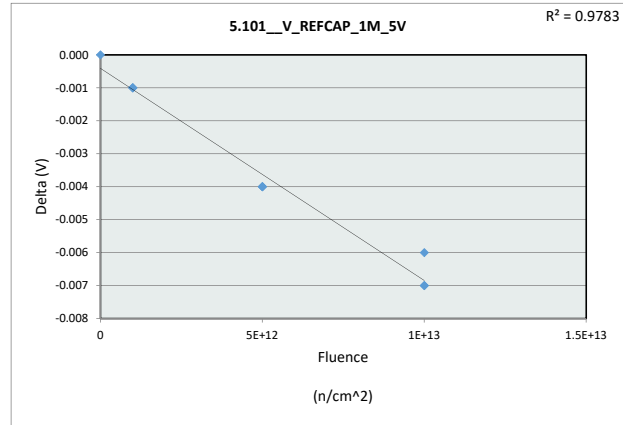
Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.226	1.225	1.221	1.218
Average	1.226	1.225	1.222	1.219
Max	1.226	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

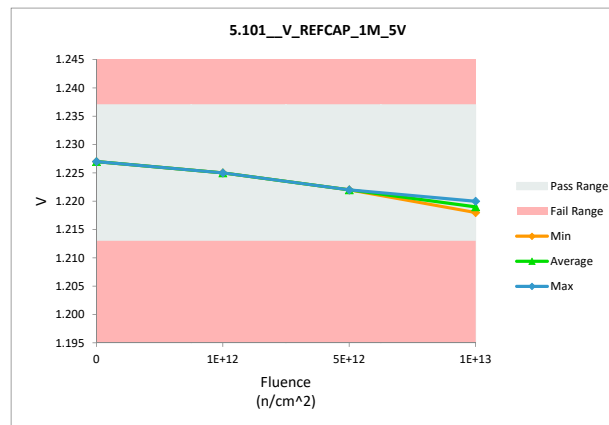


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.101_V_REFCAP_1M_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	1.237	1.237		
Min Limit	1.213	1.213		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.223	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



5.101_V_REFCAP_1M_5V				
Test Site				
Tester				
Test Number				
Max Limit	1.237	V		
Min Limit	1.213	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.225	1.222	1.219
Max	1.227	1.225	1.222	1.220
UL	1.237	1.237	1.237	1.237



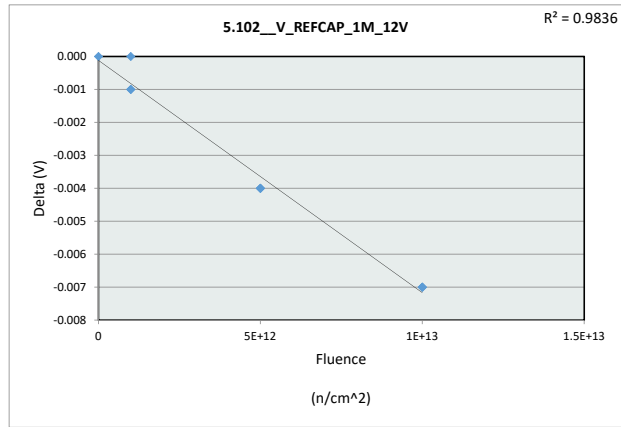


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.102\_V\_REFCAP\_1M\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

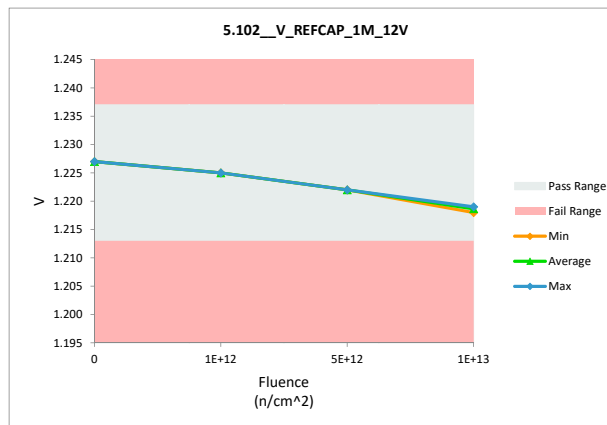
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003



## 5.102\_V\_REFCAP\_1M\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.225	1.222	1.219
Max	1.227	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

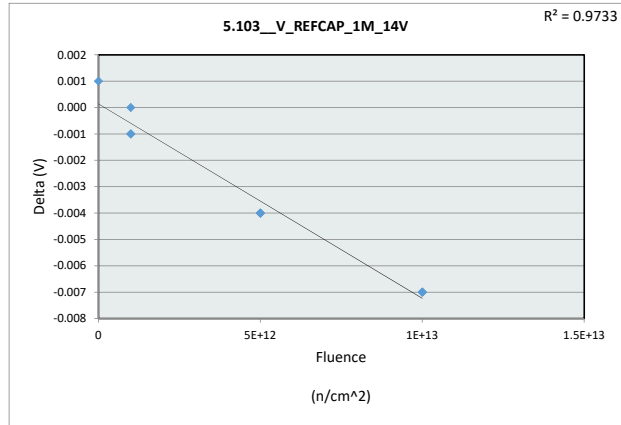


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.103\_V\_REFCAP\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

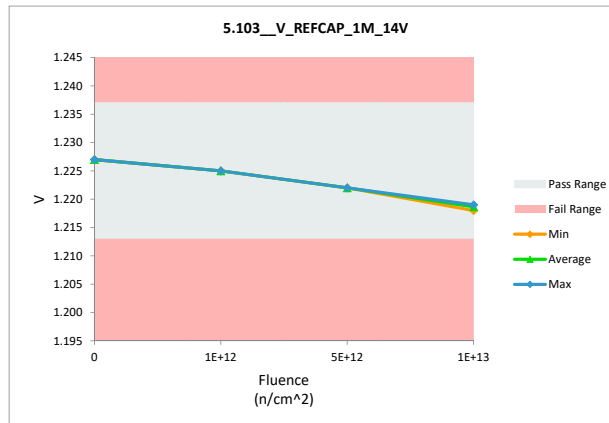
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.226	1.227	0.001
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.226	1.227	0.001
Average		1.226	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



## 5.103\_V\_REFCAP\_1M\_14V

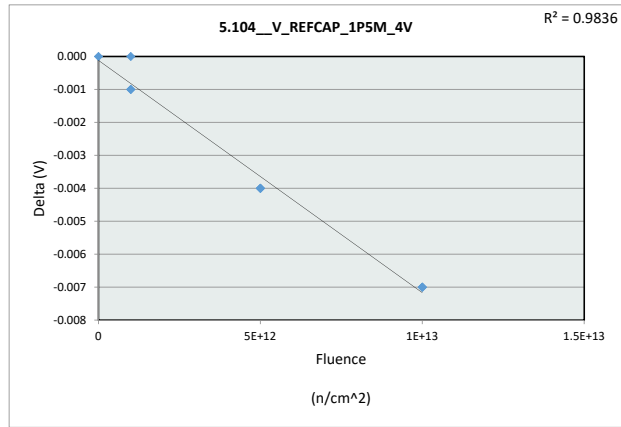
Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.225	1.222	1.219
Max	1.227	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

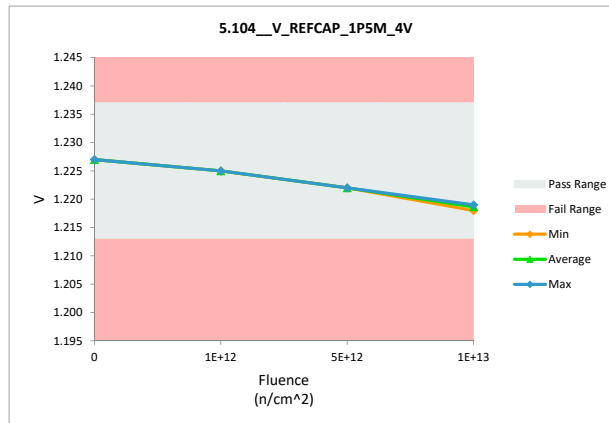


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.104_V_REFCAP_1P5M_4V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	1.237	1.237		
Min Limit	1.213	1.213		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.225	1.225	0.000
1E+12	285	1.226	1.225	-0.001
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.219	-0.007
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.222	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.001	0.003	0.003

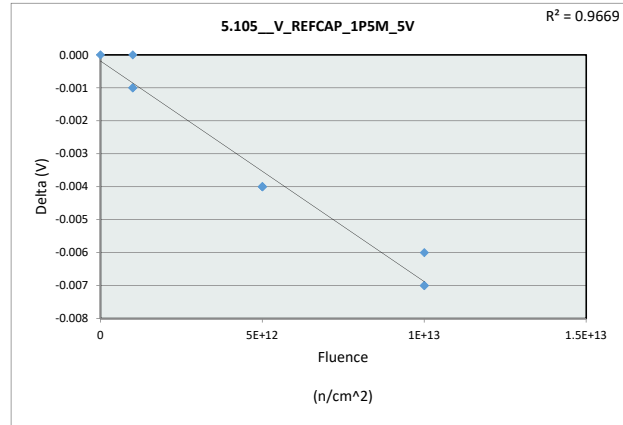


5.104_V_REFCAP_1P5M_4V				
Test Site				
Tester				
Test Number				
Max Limit	1.237	V		
Min Limit	1.213	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.225	1.222	1.219
Max	1.227	1.225	1.222	1.219
UL	1.237	1.237	1.237	1.237

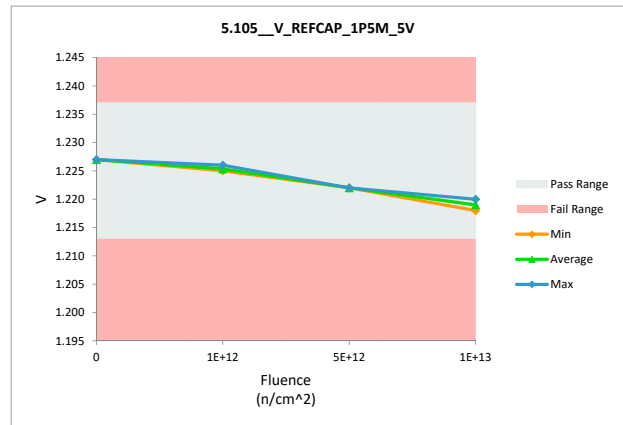


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.105_V_REFCAP_1P5M_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	1.237	1.237		
Min Limit	1.213	1.213		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.226	1.226	0.000
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.223	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



5.105_V_REFCAP_1P5M_5V				
Test Site				
Tester				
Test Number				
Max Limit	1.237	V		
Min Limit	1.213	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.225	1.222	1.219
Max	1.227	1.226	1.222	1.220
UL	1.237	1.237	1.237	1.237

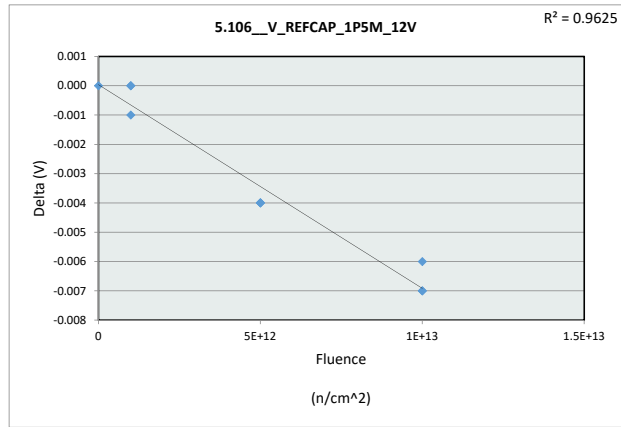


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.106\_V\_REFCAP\_1P5M\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

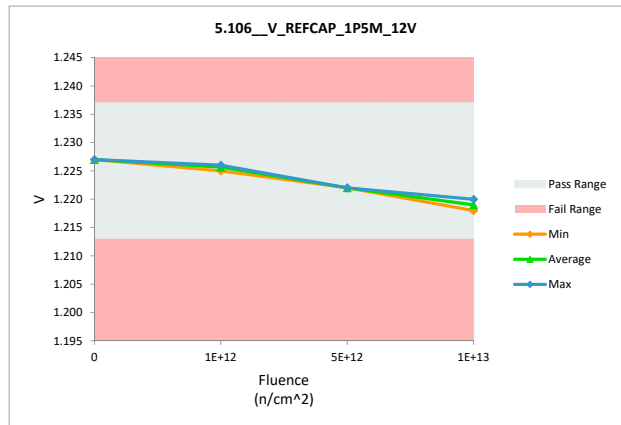
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.226	0.000
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.226	1.226	0.000
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.223	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



## 5.106\_V\_REFCAP\_1P5M\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.226	1.222	1.219
Max	1.227	1.226	1.222	1.220
UL	1.237	1.237	1.237	1.237

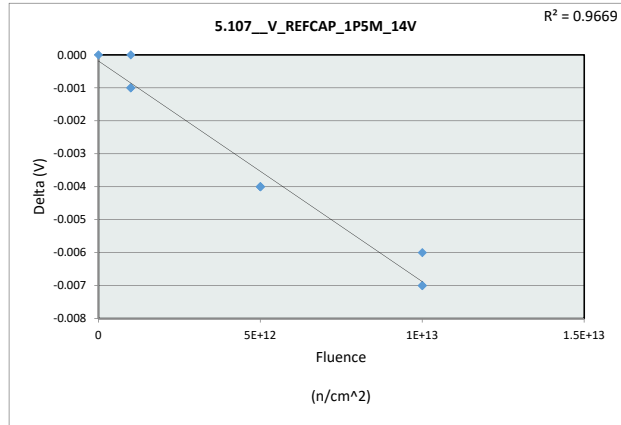


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.107\_V\_REFCAP\_1P5M\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

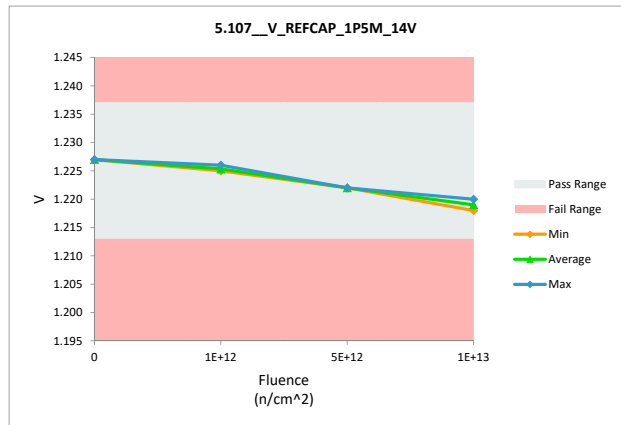
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.225	-0.001
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.226	1.226	0.000
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.223	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



## 5.107\_V\_REFCAP\_1P5M\_14V

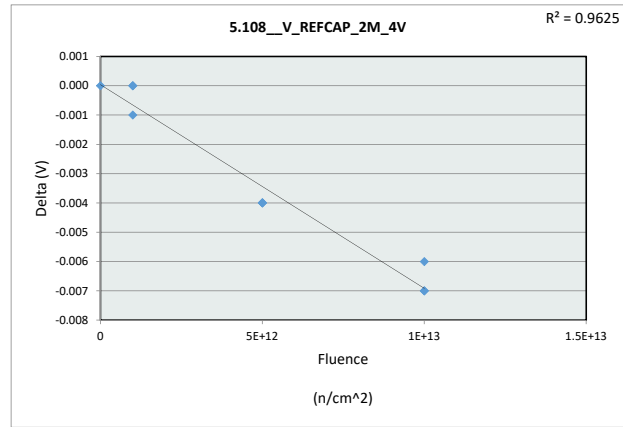
Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.225	1.222	1.219
Max	1.227	1.226	1.222	1.220
UL	1.237	1.237	1.237	1.237

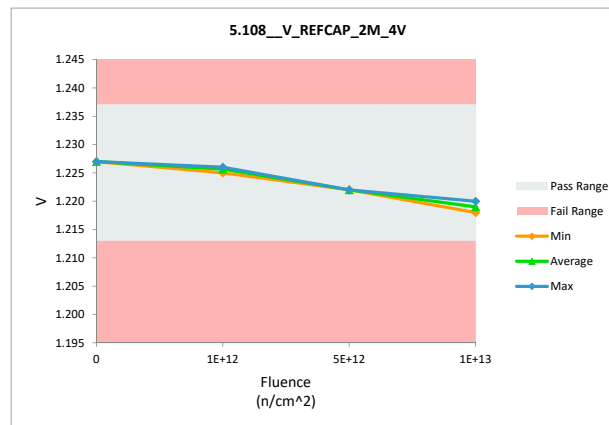


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

5.108_V_REFCAP_2M_4V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	1.237	1.237		
Min Limit	1.213	1.213		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.226	1.226	0.000
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.226	1.226	0.000
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.222	-0.004
5E+12	289	1.226	1.222	-0.004
1E+13	290	1.225	1.218	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.226	1.219	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.223	-0.003
Min		1.225	1.218	-0.007
Std Dev		0.000	0.003	0.003



5.108_V_REFCAP_2M_4V				
Test Site				
Tester				
Test Number				
Max Limit	1.237	V		
Min Limit	1.213	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.218
Average	1.227	1.226	1.222	1.219
Max	1.227	1.226	1.222	1.220
UL	1.237	1.237	1.237	1.237

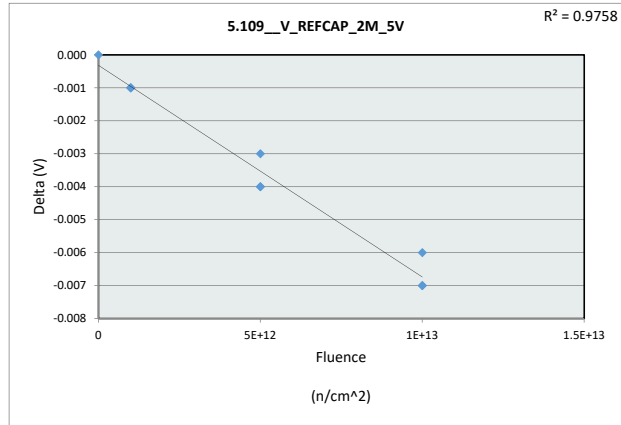


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.109\_V\_REFCAP\_2M\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

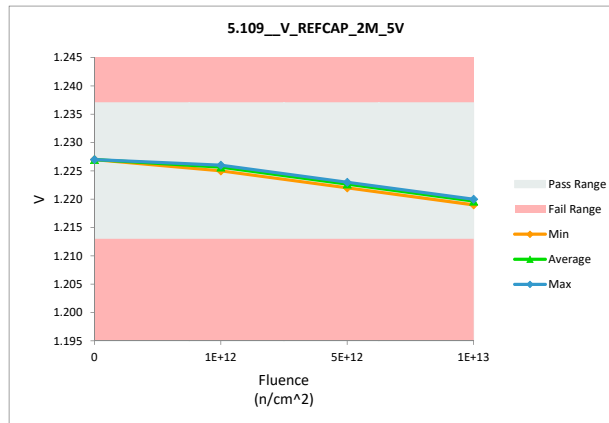
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.227	1.226	-0.001
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.227	1.226	-0.001
5E+12	286	1.226	1.222	-0.004
5E+12	287	1.226	1.223	-0.003
5E+12	289	1.227	1.223	-0.004
1E+13	290	1.226	1.219	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.227	1.220	-0.007
Max		1.227	1.227	0.000
Average		1.226	1.223	-0.003
Min		1.226	1.219	-0.007
Std Dev		0.001	0.003	0.003



## 5.109\_V\_REFCAP\_2M\_5V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.219
Average	1.227	1.226	1.223	1.220
Max	1.227	1.226	1.223	1.220
UL	1.237	1.237	1.237	1.237



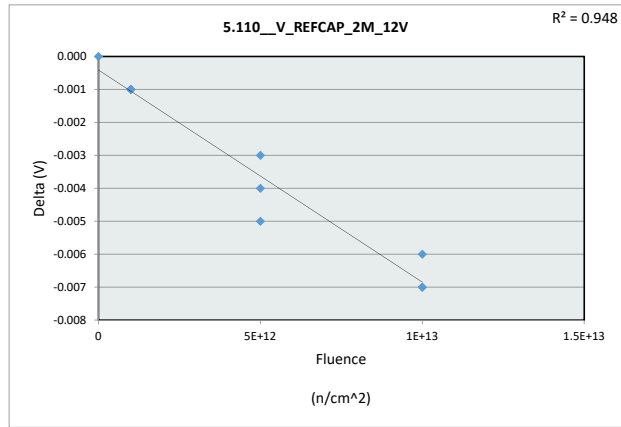


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.110\_V\_REFCAP\_2M\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

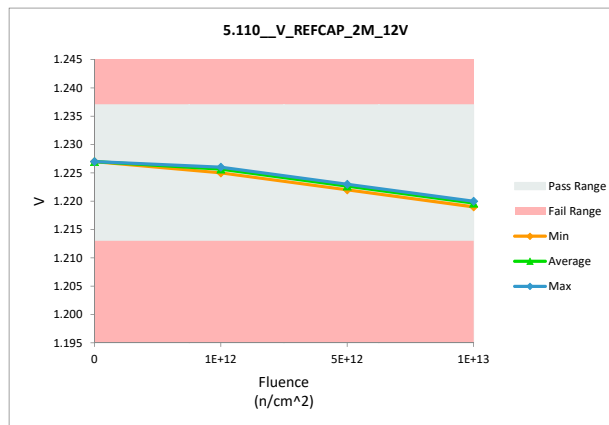
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.227	1.226	-0.001
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.227	1.226	-0.001
5E+12	286	1.227	1.222	-0.005
5E+12	287	1.226	1.223	-0.003
5E+12	289	1.227	1.223	-0.004
1E+13	290	1.226	1.219	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.227	1.220	-0.007
Max		1.227	1.227	0.000
Average		1.227	1.223	-0.003
Min		1.226	1.219	-0.007
Std Dev		0.001	0.003	0.003



## 5.110\_V\_REFCAP\_2M\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.219
Average	1.227	1.226	1.223	1.220
Max	1.227	1.226	1.223	1.220
UL	1.237	1.237	1.237	1.237

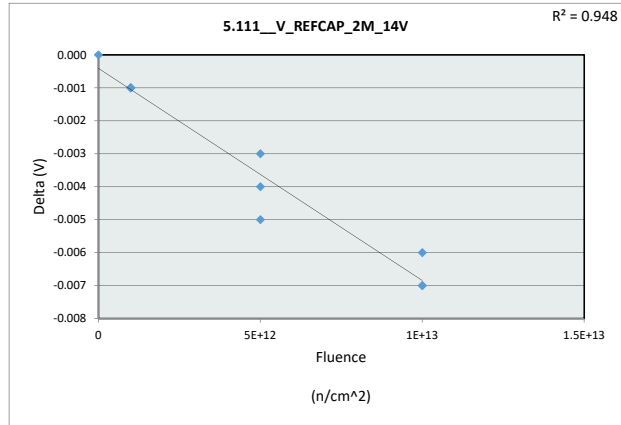


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 5.111\_V\_REFCAP\_2M\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.237	1.237
Min Limit	1.213	1.213

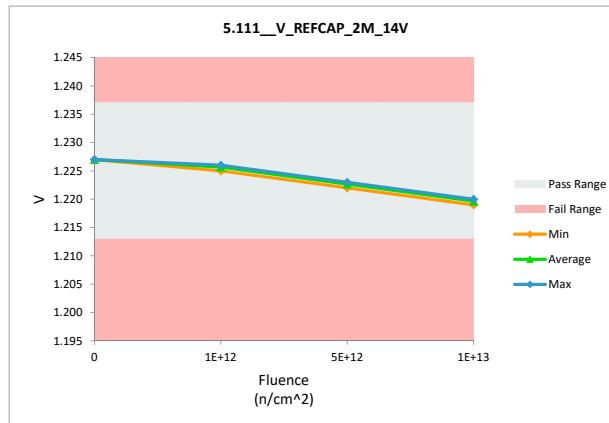
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.227	1.227	0.000
1E+12	281	1.227	1.226	-0.001
1E+12	284	1.226	1.225	-0.001
1E+12	285	1.227	1.226	-0.001
5E+12	286	1.227	1.222	-0.005
5E+12	287	1.226	1.223	-0.003
5E+12	289	1.227	1.223	-0.004
1E+13	290	1.226	1.219	-0.007
1E+13	291	1.226	1.220	-0.006
1E+13	292	1.227	1.220	-0.007
Max		1.227	1.227	0.000
Average		1.227	1.223	-0.003
Min		1.226	1.219	-0.007
Std Dev		0.001	0.003	0.003



## 5.111\_V\_REFCAP\_2M\_14V

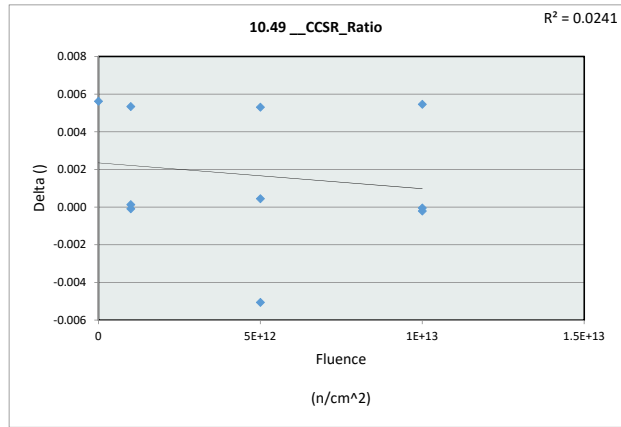
Test Site		
Tester		
Test Number		
Max Limit	1.237	V
Min Limit	1.213	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	1.213	1.213	1.213	1.213
Min	1.227	1.225	1.222	1.219
Average	1.227	1.226	1.223	1.220
Max	1.227	1.226	1.223	1.220
UL	1.237	1.237	1.237	1.237

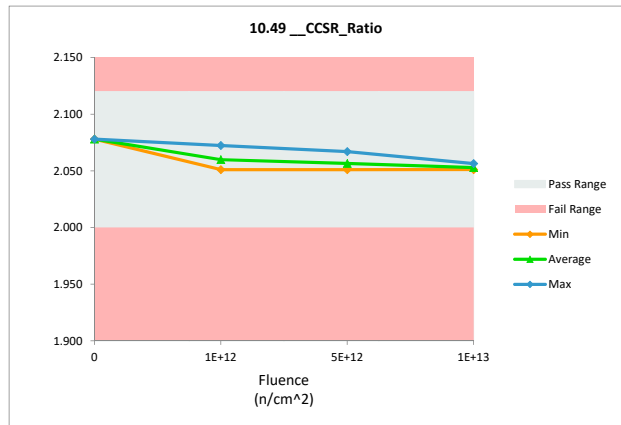


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

10.49 __CCSR_Ratio				
Test Site				
Tester				
Test Number				
Unit				
Max Limit	2.12	2.12		
Min Limit	2	2		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	2.072	2.078	0.006
1E+12	281	2.056	2.056	0.000
1E+12	284	2.051	2.051	0.000
1E+12	285	2.067	2.072	0.005
5E+12	286	2.051	2.051	0.000
5E+12	287	2.062	2.067	0.005
5E+12	289	2.056	2.051	-0.005
1E+13	290	2.051	2.051	0.000
1E+13	291	2.051	2.056	0.005
1E+13	292	2.051	2.051	0.000
Max		2.072	2.078	0.006
Average		2.057	2.059	0.002
Min		2.051	2.051	-0.005
Std Dev		0.008	0.010	0.004



10.49 __CCSR_Ratio				
Test Site				
Tester				
Test Number				
Max Limit	2.12			
Min Limit	2			
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	2.000	2.000	2.000	2.000
Min	2.078	2.051	2.051	2.051
Average	2.078	2.060	2.057	2.053
Max	2.078	2.072	2.067	2.056
UL	2.120	2.120	2.120	2.120

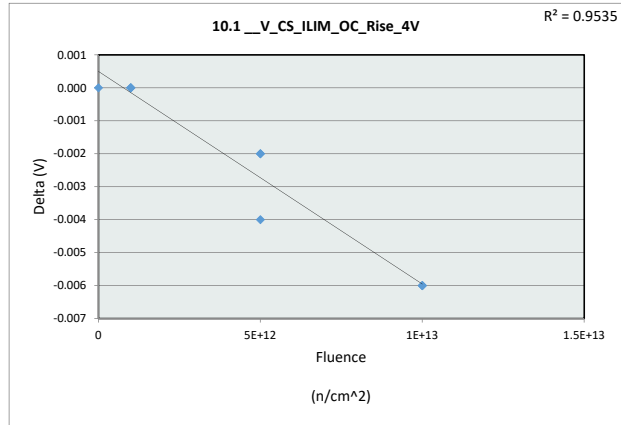


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.1 \_\_V\_CS\_ILIM\_OC\_Rise\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

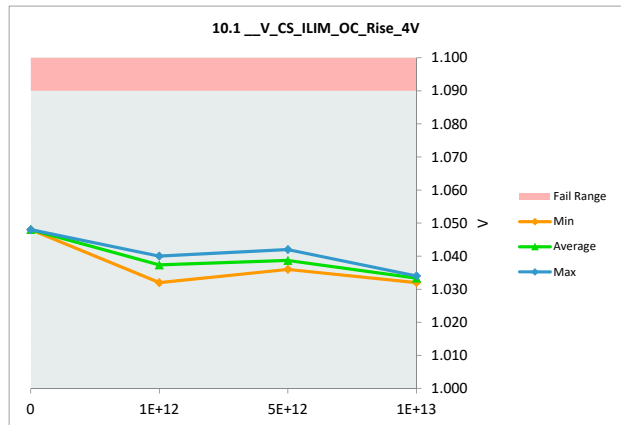
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.048	1.048	0.000
1E+12	281	1.040	1.040	0.000
1E+12	284	1.032	1.032	0.000
1E+12	285	1.040	1.040	0.000
5E+12	286	1.046	1.042	-0.004
5E+12	287	1.038	1.036	-0.002
5E+12	289	1.040	1.038	-0.002
1E+13	290	1.038	1.032	-0.006
1E+13	291	1.040	1.034	-0.006
1E+13	292	1.040	1.034	-0.006
Max		1.048	1.048	0.000
Average		1.040	1.038	-0.003
Min		1.032	1.032	-0.006
Std Dev		0.004	0.005	0.003



## 10.1 \_\_V\_CS\_ILIM\_OC\_Rise\_4V

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.048	1.032	1.036	1.032
Average	1.048	1.037	1.039	1.033
Max	1.048	1.040	1.042	1.034
UL	1.090	1.090	1.090	1.090

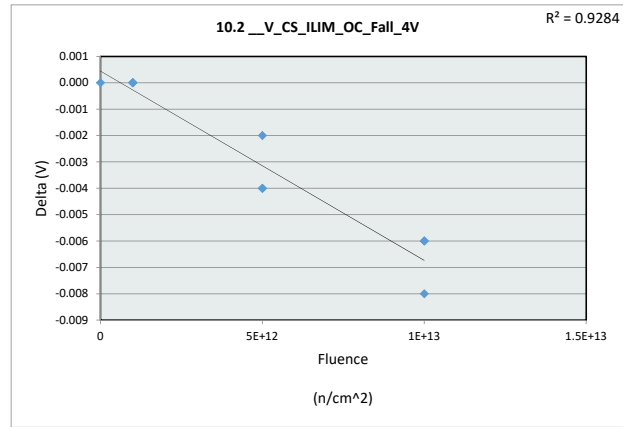


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.2 \_\_V\_CS\_ILIM\_OC\_Fall\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

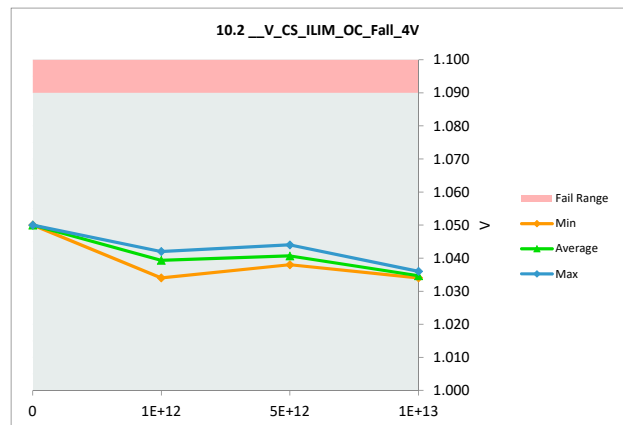
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.050	1.050	0.000
1E+12	281	1.042	1.042	0.000
1E+12	284	1.034	1.034	0.000
1E+12	285	1.042	1.042	0.000
5E+12	286	1.048	1.044	-0.004
5E+12	287	1.042	1.038	-0.004
5E+12	289	1.042	1.040	-0.002
1E+13	290	1.040	1.034	-0.006
1E+13	291	1.042	1.036	-0.006
1E+13	292	1.042	1.034	-0.008
Max		1.050	1.050	0.000
Average		1.042	1.039	-0.003
Min		1.034	1.034	-0.008
Std Dev		0.004	0.005	0.003



## 10.2 \_\_V\_CS\_ILIM\_OC\_Fall\_4V

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.050	1.034	1.038	1.034
Average	1.050	1.039	1.041	1.035
Max	1.050	1.042	1.044	1.036
UL	1.090	1.090	1.090	1.090

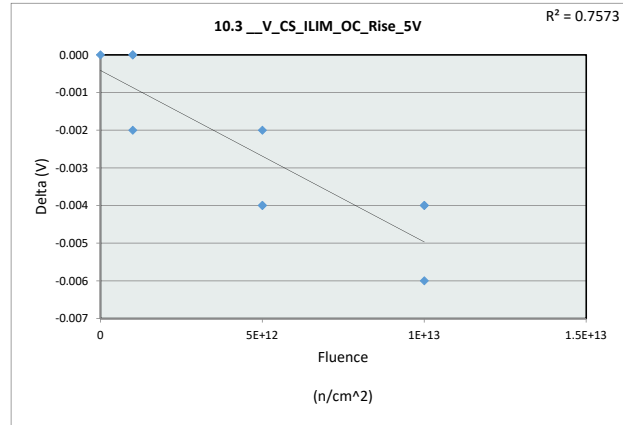


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.3 \_\_V\_CS\_ILIM\_OC\_Rise\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

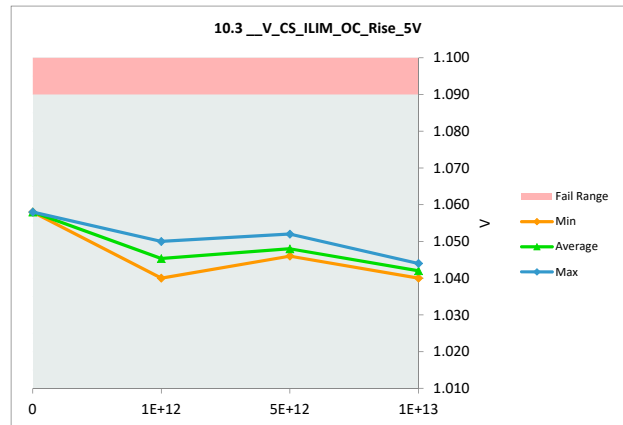
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.058	1.058	0.000
1E+12	281	1.050	1.050	0.000
1E+12	284	1.040	1.040	0.000
1E+12	285	1.048	1.046	-0.002
5E+12	286	1.056	1.052	-0.004
5E+12	287	1.048	1.046	-0.002
5E+12	289	1.050	1.046	-0.004
1E+13	290	1.044	1.040	-0.004
1E+13	291	1.048	1.044	-0.004
1E+13	292	1.048	1.042	-0.006
Max		1.058	1.058	0.000
Average		1.049	1.046	-0.003
Min		1.040	1.040	-0.006
Std Dev		0.005	0.006	0.002



## 10.3 \_\_V\_CS\_ILIM\_OC\_Rise\_5V

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.058	1.040	1.046	1.040
Average	1.058	1.045	1.048	1.042
Max	1.058	1.050	1.052	1.044
UL	1.090	1.090	1.090	1.090

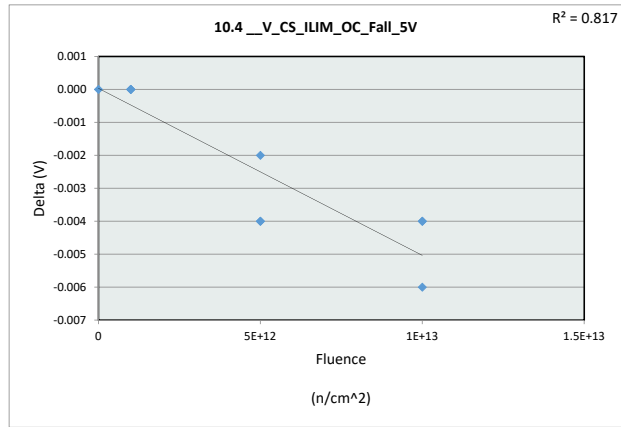


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.4 \_\_V\_CS\_ILIM\_OC\_Fall\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

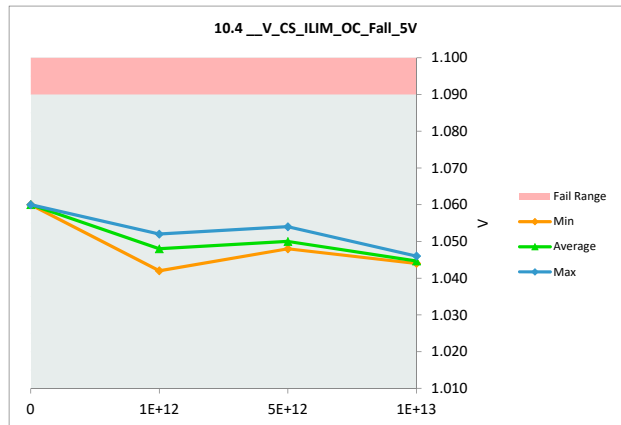
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.060	1.060	0.000
1E+12	281	1.052	1.052	0.000
1E+12	284	1.042	1.042	0.000
1E+12	285	1.050	1.050	0.000
5E+12	286	1.058	1.054	-0.004
5E+12	287	1.050	1.048	-0.002
5E+12	289	1.052	1.048	-0.004
1E+13	290	1.048	1.044	-0.004
1E+13	291	1.050	1.046	-0.004
1E+13	292	1.050	1.044	-0.006
Max		1.060	1.060	0.000
Average		1.051	1.049	-0.002
Min		1.042	1.042	-0.006
Std Dev		0.005	0.005	0.002



## 10.4 \_\_V\_CS\_ILIM\_OC\_Fall\_5V

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.060	1.042	1.048	1.044
Average	1.060	1.048	1.050	1.045
Max	1.060	1.052	1.054	1.046
UL	1.090	1.090	1.090	1.090

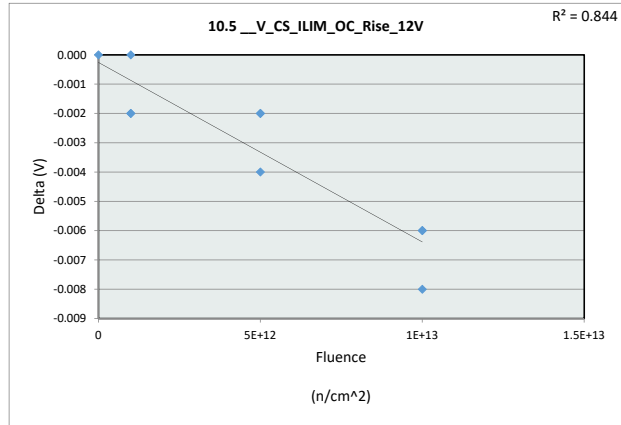


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.5 \_\_V\_CS\_ILIM\_OC\_Rise\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

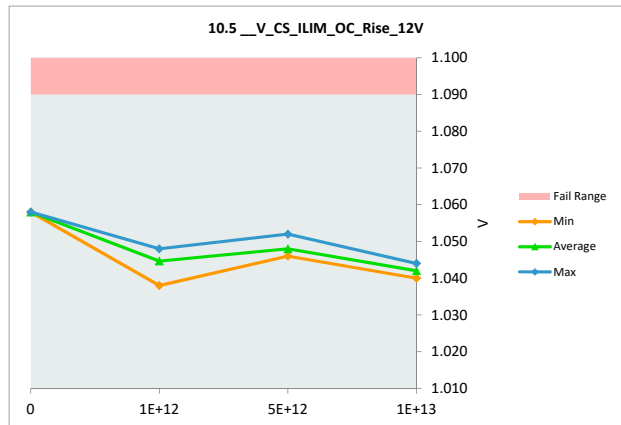
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.058	1.058	0.000
1E+12	281	1.050	1.048	-0.002
1E+12	284	1.040	1.038	-0.002
1E+12	285	1.048	1.048	0.000
5E+12	286	1.056	1.052	-0.004
5E+12	287	1.048	1.046	-0.002
5E+12	289	1.048	1.046	-0.002
1E+13	290	1.046	1.040	-0.006
1E+13	291	1.050	1.044	-0.006
1E+13	292	1.050	1.042	-0.008
Max		1.058	1.058	0.000
Average		1.049	1.046	-0.003
Min		1.040	1.038	-0.008
Std Dev		0.005	0.006	0.003



## 10.5 \_\_V\_CS\_ILIM\_OC\_Rise\_1

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.058	1.038	1.046	1.040
Average	1.058	1.045	1.048	1.042
Max	1.058	1.048	1.052	1.044
UL	1.090	1.090	1.090	1.090



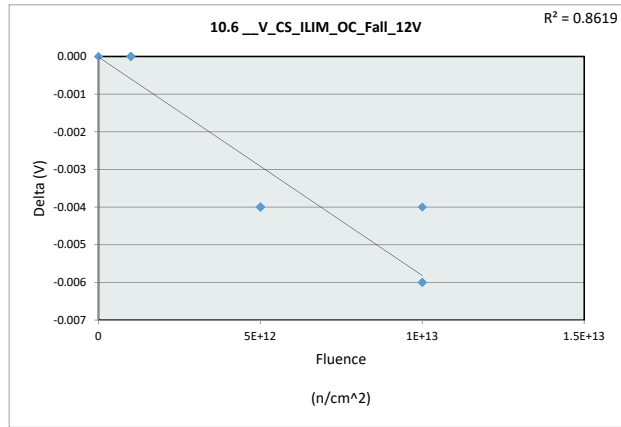


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.6 \_\_V\_CS\_ILIM\_OC\_Fall\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

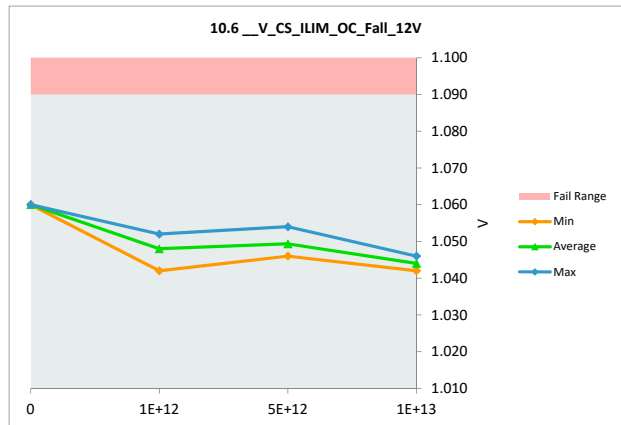
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.060	1.060	0.000
1E+12	281	1.052	1.052	0.000
1E+12	284	1.042	1.042	0.000
1E+12	285	1.050	1.050	0.000
5E+12	286	1.058	1.054	-0.004
5E+12	287	1.050	1.046	-0.004
5E+12	289	1.052	1.048	-0.004
1E+13	290	1.048	1.042	-0.006
1E+13	291	1.050	1.046	-0.004
1E+13	292	1.050	1.044	-0.006
Max		1.060	1.060	0.000
Average		1.051	1.048	-0.003
Min		1.042	1.042	-0.006
Std Dev		0.005	0.006	0.003



## 10.6 \_\_V\_CS\_ILIM\_OC\_Fall\_12V

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.060	1.042	1.046	1.042
Average	1.060	1.048	1.049	1.044
Max	1.060	1.052	1.054	1.046
UL	1.090	1.090	1.090	1.090

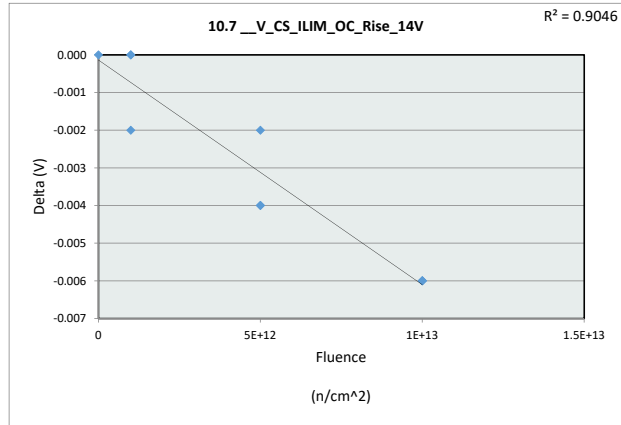


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

10.7 \_\_V\_CS\_ILIM\_OC\_Rise\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

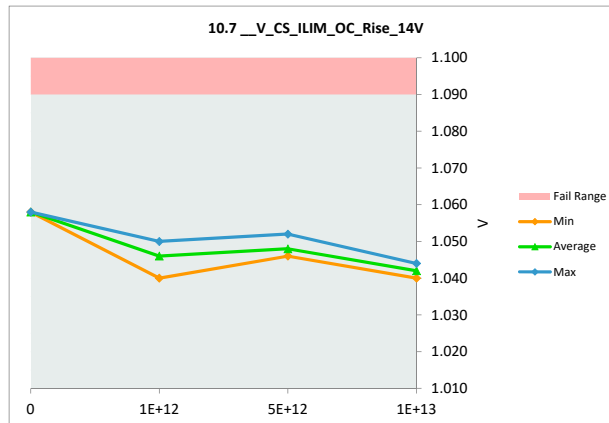
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.058	1.058	0.000
1E+12	281	1.050	1.050	0.000
1E+12	284	1.040	1.040	0.000
1E+12	285	1.050	1.048	-0.002
5E+12	286	1.056	1.052	-0.004
5E+12	287	1.048	1.046	-0.002
5E+12	289	1.050	1.046	-0.004
1E+13	290	1.046	1.040	-0.006
1E+13	291	1.050	1.044	-0.006
1E+13	292	1.048	1.042	-0.006
Max		1.058	1.058	0.000
Average		1.050	1.047	-0.003
Min		1.040	1.040	-0.006
Std Dev		0.005	0.006	0.003



10.7 \_\_V\_CS\_ILIM\_OC\_Rise\_1

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.058	1.040	1.046	1.040
Average	1.058	1.046	1.048	1.042
Max	1.058	1.050	1.052	1.044
UL	1.090	1.090	1.090	1.090

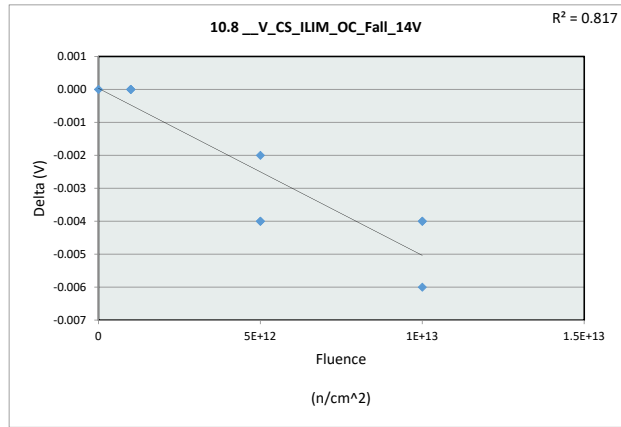


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 10.8 \_\_V\_CS\_ILIM\_OC\_Fall\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	1.09	1.09
Min Limit		

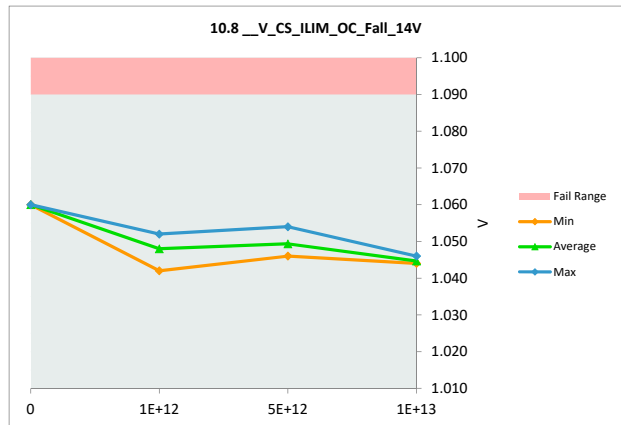
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	1.060	1.060	0.000
1E+12	281	1.052	1.052	0.000
1E+12	284	1.042	1.042	0.000
1E+12	285	1.050	1.050	0.000
5E+12	286	1.058	1.054	-0.004
5E+12	287	1.050	1.046	-0.004
5E+12	289	1.050	1.048	-0.002
1E+13	290	1.048	1.044	-0.004
1E+13	291	1.050	1.046	-0.004
1E+13	292	1.050	1.044	-0.006
Max		1.060	1.060	0.000
Average		1.051	1.049	-0.002
Min		1.042	1.042	-0.006
Std Dev		0.005	0.006	0.002



## 10.8 \_\_V\_CS\_ILIM\_OC\_Fall\_14V

Test Site		
Tester		
Test Number		
Max Limit	1.09	V
Min Limit		V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	1.060	1.042	1.046	1.044
Average	1.060	1.048	1.049	1.045
Max	1.060	1.052	1.054	1.046
UL	1.090	1.090	1.090	1.090

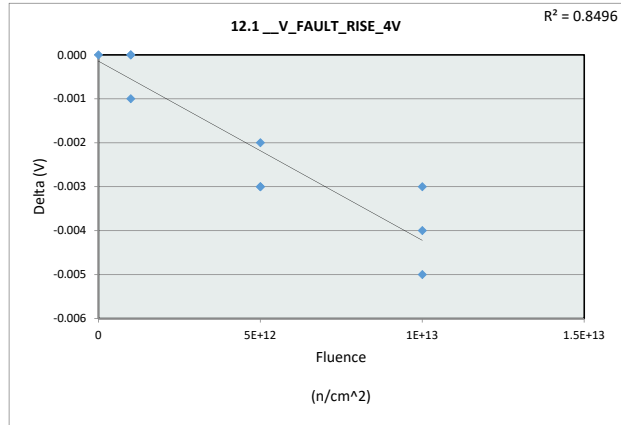


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.1 \_\_V\_FAULT\_RISE\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.65	0.65
Min Limit	0.57	0.57

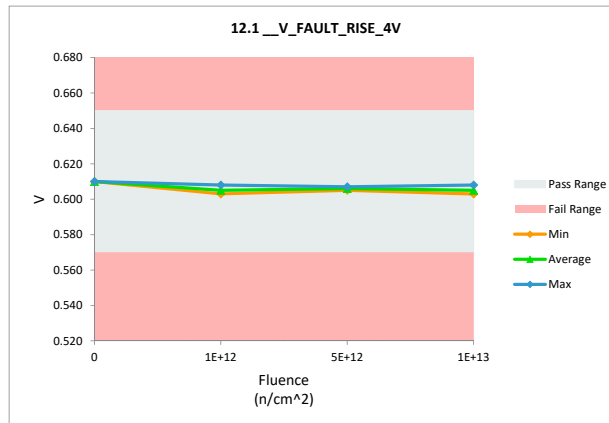
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.610	0.610	0.000
1E+12	281	0.604	0.604	0.000
1E+12	284	0.604	0.603	-0.001
1E+12	285	0.608	0.608	0.000
5E+12	286	0.610	0.607	-0.003
5E+12	287	0.607	0.605	-0.002
5E+12	289	0.609	0.606	-0.003
1E+13	290	0.608	0.603	-0.005
1E+13	291	0.608	0.604	-0.004
1E+13	292	0.611	0.608	-0.003
Max		0.611	0.610	0.000
Average		0.608	0.606	-0.002
Min		0.604	0.603	-0.005
Std Dev		0.002	0.002	0.002



## 12.1 \_\_V\_FAULT\_RISE\_4V

Test Site		
Tester		
Test Number		
Max Limit	0.65	V
Min Limit	0.57	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.610	0.603	0.605	0.603
Average	0.610	0.605	0.606	0.605
Max	0.610	0.608	0.607	0.608
UL	0.650	0.650	0.650	0.650

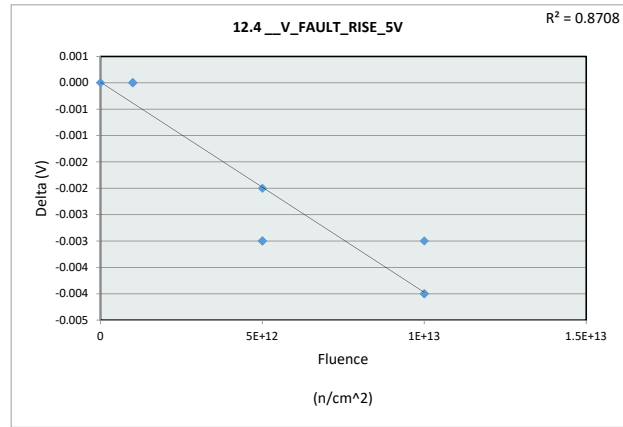


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.4 \_\_V\_FAULT\_RISE\_5V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.65	0.65
Min Limit	0.57	0.57

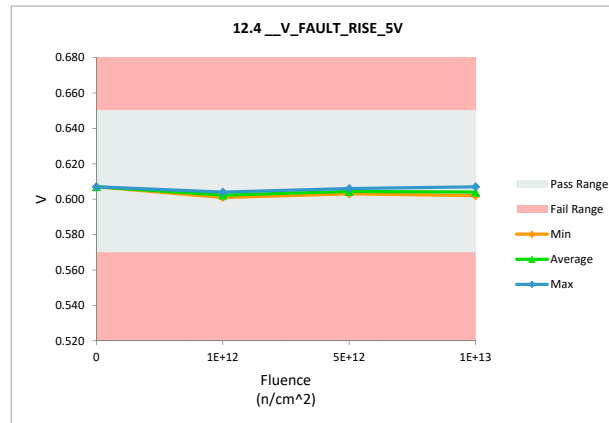
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.607	0.607	0.000
1E+12	281	0.602	0.602	0.000
1E+12	284	0.601	0.601	0.000
1E+12	285	0.604	0.604	0.000
5E+12	286	0.609	0.606	-0.003
5E+12	287	0.605	0.603	-0.002
5E+12	289	0.607	0.604	-0.003
1E+13	290	0.606	0.602	-0.004
1E+13	291	0.607	0.603	-0.004
1E+13	292	0.610	0.607	-0.003
Max		0.610	0.607	0.000
Average		0.606	0.604	-0.002
Min		0.601	0.601	-0.004
Std Dev		0.003	0.002	0.002



## 12.4 \_\_V\_FAULT\_RISE\_5V

Test Site		
Tester		
Test Number		
Max Limit	0.65	V
Min Limit	0.57	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.607	0.601	0.603	0.602
Average	0.607	0.602	0.604	0.604
Max	0.607	0.604	0.606	0.607
UL	0.650	0.650	0.650	0.650

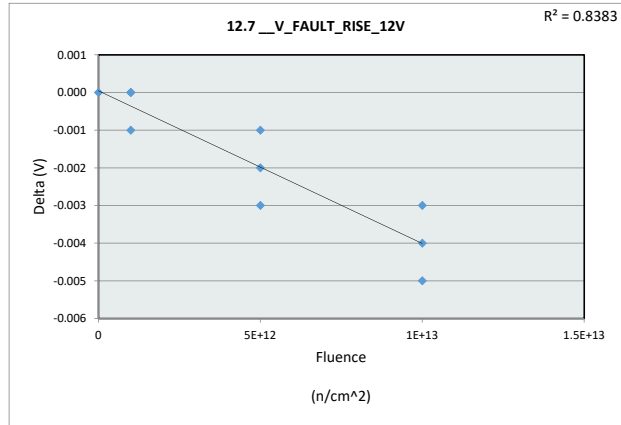


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.7 \_\_V\_FAULT\_RISE\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.65	0.65
Min Limit	0.57	0.57

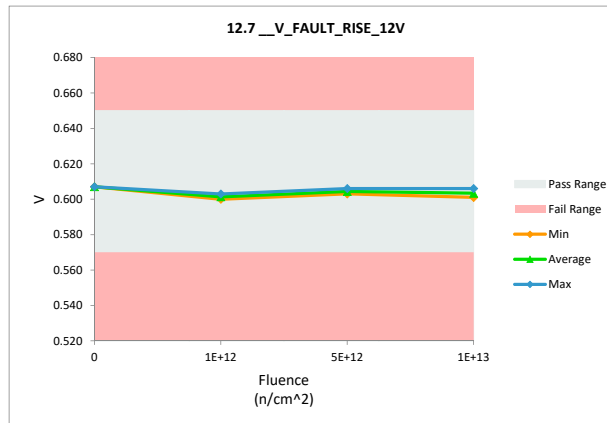
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.607	0.607	0.000
1E+12	281	0.601	0.601	0.000
1E+12	284	0.601	0.600	-0.001
1E+12	285	0.603	0.603	0.000
5E+12	286	0.608	0.606	-0.002
5E+12	287	0.604	0.603	-0.001
5E+12	289	0.607	0.604	-0.003
1E+13	290	0.606	0.601	-0.005
1E+13	291	0.606	0.603	-0.003
1E+13	292	0.610	0.606	-0.004
Max		0.610	0.607	0.000
Average		0.605	0.603	-0.002
Min		0.601	0.600	-0.005
Std Dev		0.003	0.002	0.002



## 12.7 \_\_V\_FAULT\_RISE\_12V

Test Site		
Tester		
Test Number		
Max Limit	0.65	V
Min Limit	0.57	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.607	0.600	0.603	0.601
Average	0.607	0.601	0.604	0.603
Max	0.607	0.603	0.606	0.606
UL	0.650	0.650	0.650	0.650

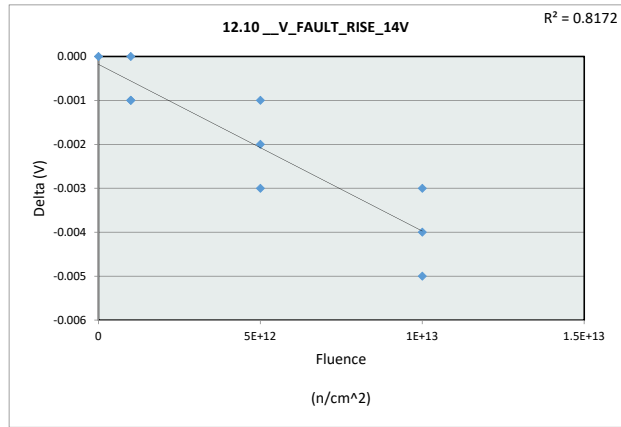


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.10 \_\_V\_FAULT\_RISE\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.65	0.65
Min Limit	0.57	0.57

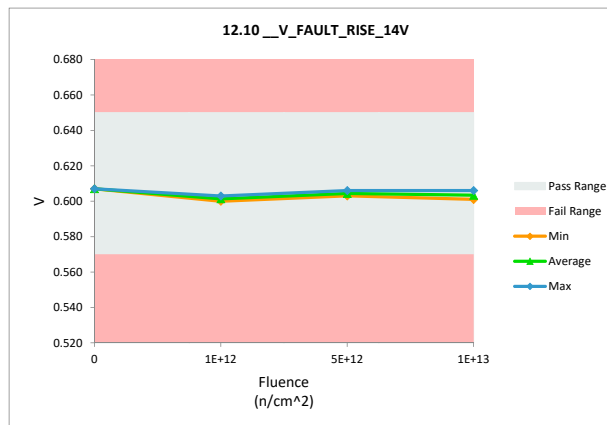
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.607	0.607	0.000
1E+12	281	0.601	0.601	0.000
1E+12	284	0.601	0.600	-0.001
1E+12	285	0.604	0.603	-0.001
5E+12	286	0.608	0.606	-0.002
5E+12	287	0.604	0.603	-0.001
5E+12	289	0.607	0.604	-0.003
1E+13	290	0.606	0.601	-0.005
1E+13	291	0.606	0.603	-0.003
1E+13	292	0.610	0.606	-0.004
Max		0.610	0.607	0.000
Average		0.605	0.603	-0.002
Min		0.601	0.600	-0.005
Std Dev		0.003	0.002	0.002



## 12.10 \_\_V\_FAULT\_RISE\_14V

Test Site		
Tester		
Test Number		
Max Limit	0.65	V
Min Limit	0.57	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.570	0.570	0.570	0.570
Min	0.607	0.600	0.603	0.601
Average	0.607	0.601	0.604	0.603
Max	0.607	0.603	0.606	0.606
UL	0.650	0.650	0.650	0.650

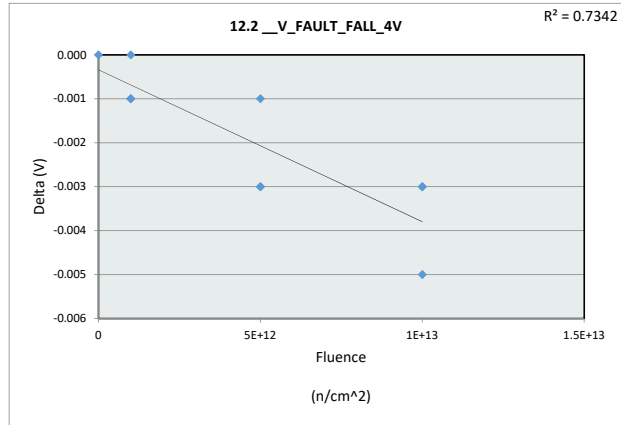


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.2 \_\_V\_FAULT\_FALL\_4V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.55	0.55
Min Limit	0.47	0.47

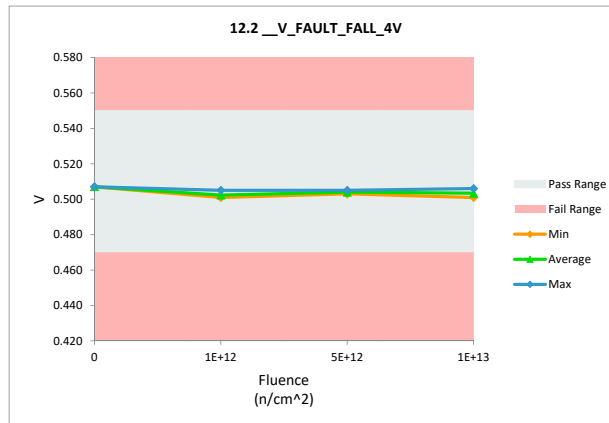
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.507	0.507	0.000
1E+12	281	0.501	0.501	0.000
1E+12	284	0.502	0.501	-0.001
1E+12	285	0.506	0.505	-0.001
5E+12	286	0.508	0.505	-0.003
5E+12	287	0.504	0.503	-0.001
5E+12	289	0.507	0.504	-0.003
1E+13	290	0.506	0.501	-0.005
1E+13	291	0.506	0.503	-0.003
1E+13	292	0.509	0.506	-0.003
Max		0.509	0.507	0.000
Average		0.506	0.504	-0.002
Min		0.501	0.501	-0.005
Std Dev		0.003	0.002	0.002



## 12.2 \_\_V\_FAULT\_FALL\_4V

Test Site		
Tester		
Test Number		
Max Limit	0.55	V
Min Limit	0.47	V

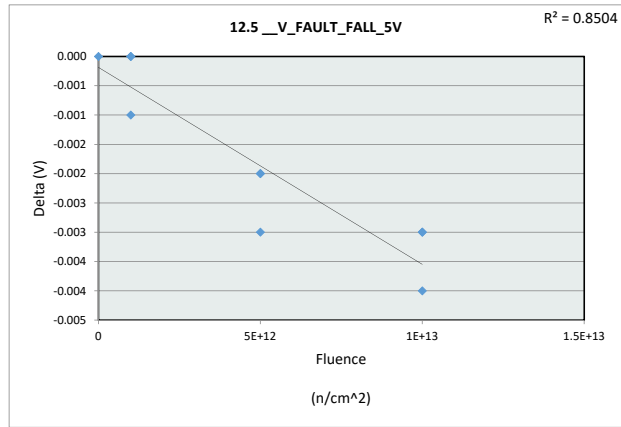
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.507	0.501	0.503	0.501
Average	0.507	0.502	0.504	0.503
Max	0.507	0.505	0.505	0.506
UL	0.550	0.550	0.550	0.550



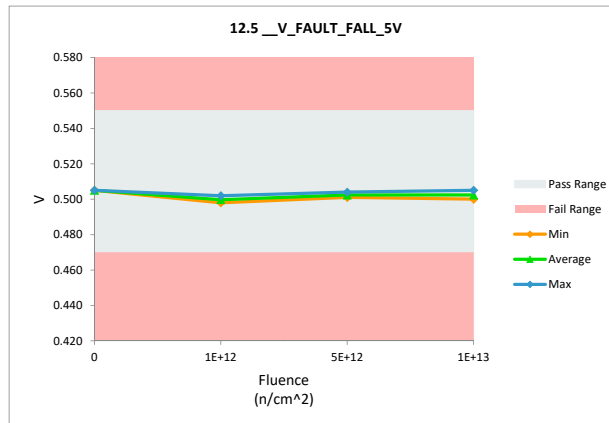


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

12.5 __V_FAULT_FALL_5V				
Test Site				
Tester				
Test Number				
Unit	V	V		
Max Limit	0.55	0.55		
Min Limit	0.47	0.47		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.505	0.505	0.000
1E+12	281	0.499	0.499	0.000
1E+12	284	0.499	0.498	-0.001
1E+12	285	0.502	0.502	0.000
5E+12	286	0.506	0.504	-0.002
5E+12	287	0.503	0.501	-0.002
5E+12	289	0.505	0.502	-0.003
1E+13	290	0.504	0.500	-0.004
1E+13	291	0.505	0.502	-0.003
1E+13	292	0.508	0.505	-0.003
Max		0.508	0.505	0.000
Average		0.504	0.502	-0.002
Min		0.499	0.498	-0.004
Std Dev		0.003	0.002	0.001



12.5 __V_FAULT_FALL_5V				
Test Site				
Tester				
Test Number				
Max Limit	0.55	V		
Min Limit	0.47	V		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.505	0.498	0.501	0.500
Average	0.505	0.500	0.502	0.502
Max	0.505	0.502	0.504	0.505
UL	0.550	0.550	0.550	0.550

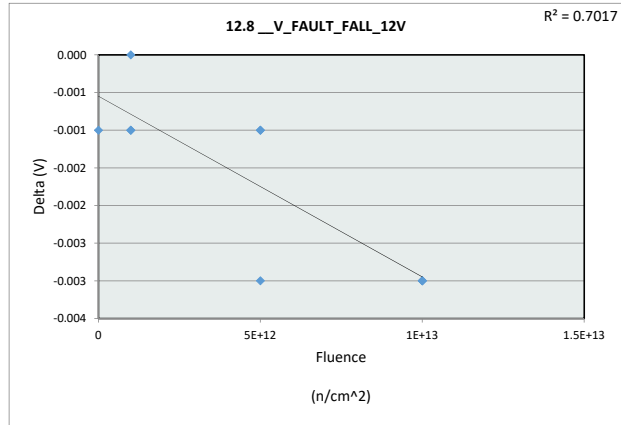


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.8 \_\_V\_FAULT\_FALL\_12V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.55	0.55
Min Limit	0.47	0.47

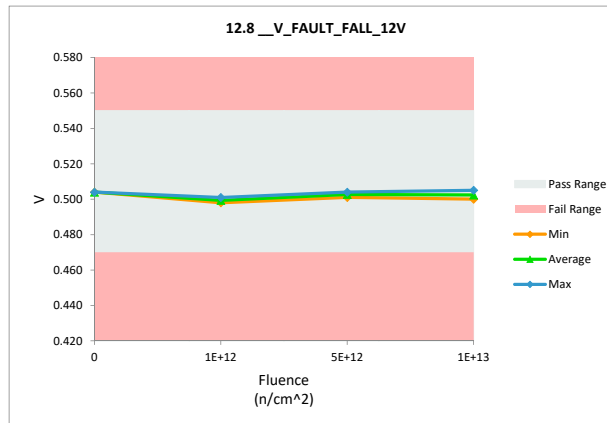
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.505	0.504	-0.001
1E+12	281	0.499	0.499	0.000
1E+12	284	0.499	0.498	-0.001
1E+12	285	0.502	0.501	-0.001
5E+12	286	0.507	0.504	-0.003
5E+12	287	0.502	0.501	-0.001
5E+12	289	0.504	0.503	-0.001
1E+13	290	0.503	0.500	-0.003
1E+13	291	0.505	0.502	-0.003
1E+13	292	0.508	0.505	-0.003
Max		0.508	0.505	0.000
Average		0.503	0.502	-0.002
Min		0.499	0.498	-0.003
Std Dev		0.003	0.002	0.001



## 12.8 \_\_V\_FAULT\_FALL\_12V

Test Site		
Tester		
Test Number		
Max Limit	0.55	V
Min Limit	0.47	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.504	0.498	0.501	0.500
Average	0.504	0.499	0.503	0.502
Max	0.504	0.501	0.504	0.505
UL	0.550	0.550	0.550	0.550

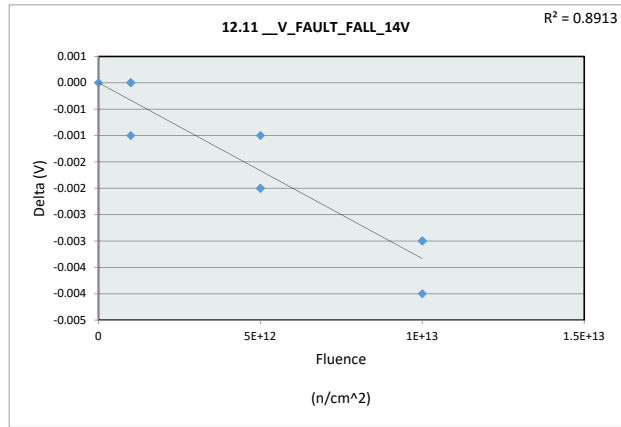


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.11 \_\_V\_FAULT\_FALL\_14V

Test Site		
Tester		
Test Number		
Unit	V	V
Max Limit	0.55	0.55
Min Limit	0.47	0.47

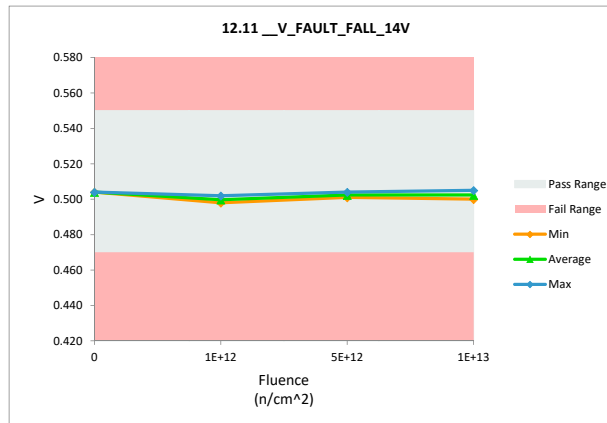
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.504	0.504	0.000
1E+12	281	0.499	0.499	0.000
1E+12	284	0.499	0.498	-0.001
1E+12	285	0.502	0.502	0.000
5E+12	286	0.506	0.504	-0.002
5E+12	287	0.502	0.501	-0.001
5E+12	289	0.504	0.502	-0.002
1E+13	290	0.504	0.500	-0.004
1E+13	291	0.505	0.502	-0.003
1E+13	292	0.508	0.505	-0.003
Max		0.508	0.505	0.000
Average		0.503	0.502	-0.002
Min		0.499	0.498	-0.004
Std Dev		0.003	0.002	0.001



## 12.11 \_\_V\_FAULT\_FALL\_14V

Test Site		
Tester		
Test Number		
Max Limit	0.55	V
Min Limit	0.47	V

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.470	0.470	0.470	0.470
Min	0.504	0.498	0.501	0.500
Average	0.504	0.500	0.502	0.502
Max	0.504	0.502	0.504	0.505
UL	0.550	0.550	0.550	0.550

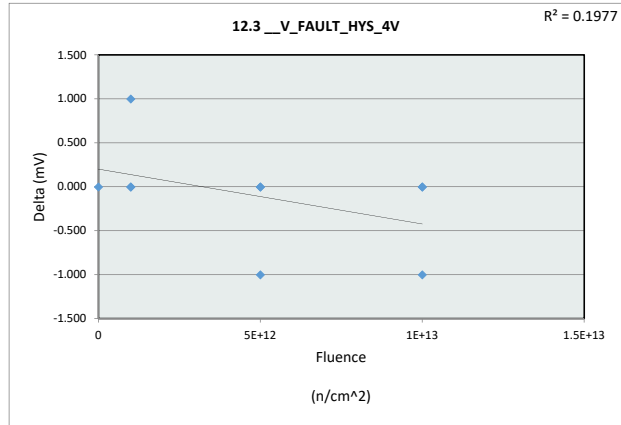


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.3 \_\_V\_FAULT\_HYS\_4V

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	110	110
Min Limit	90	90

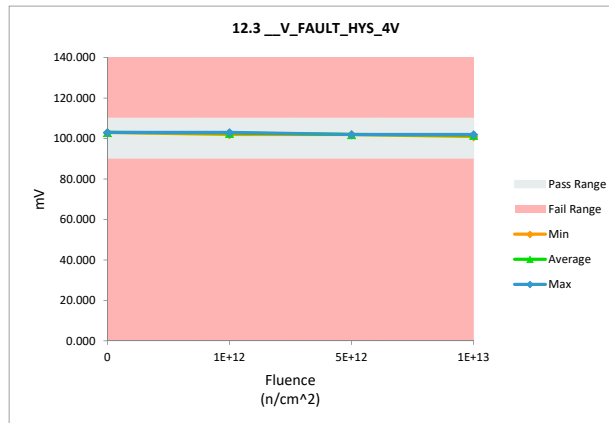
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	103.000	103.000	0.000
1E+12	281	103.000	103.000	0.000
1E+12	284	102.000	102.000	0.000
1E+12	285	102.000	103.000	1.000
5E+12	286	102.000	102.000	0.000
5E+12	287	103.000	102.000	-1.000
5E+12	289	102.000	102.000	0.000
1E+13	290	102.000	102.000	0.000
1E+13	291	102.000	101.000	-1.000
1E+13	292	102.000	102.000	0.000
Max		103.000	103.000	1.000
Average		102.300	102.200	-0.100
Min		102.000	101.000	-1.000
Std Dev		0.483	0.632	0.568



## 12.3 \_\_V\_FAULT\_HYS\_4V

Test Site		
Tester		
Test Number		
Max Limit	110	mV
Min Limit	90	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	90.000	90.000	90.000	90.000
Min	103.000	102.000	102.000	101.000
Average	103.000	102.667	102.000	101.667
Max	103.000	103.000	102.000	102.000
UL	110.000	110.000	110.000	110.000

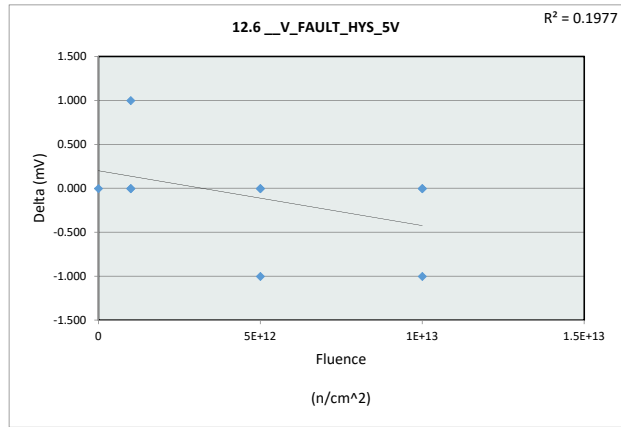


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.6 \_\_V\_FAULT\_HYS\_5V

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	110	110
Min Limit	90	90

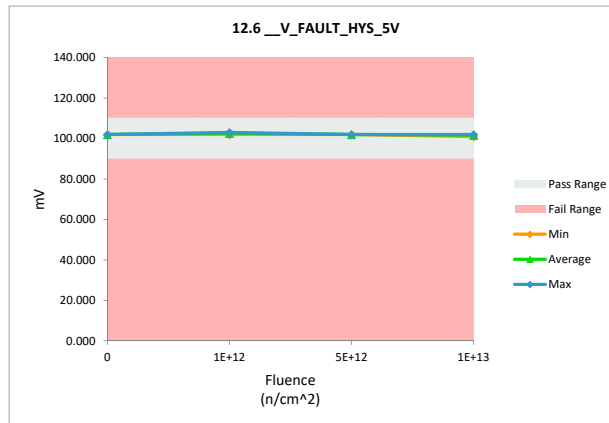
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	102.000	102.000	0.000
1E+12	281	103.000	103.000	0.000
1E+12	284	102.000	103.000	1.000
1E+12	285	102.000	102.000	0.000
5E+12	286	103.000	102.000	-1.000
5E+12	287	102.000	102.000	0.000
5E+12	289	102.000	102.000	0.000
1E+13	290	102.000	102.000	0.000
1E+13	291	102.000	101.000	-1.000
1E+13	292	102.000	102.000	0.000
Max		103.000	103.000	1.000
Average		102.200	102.100	-0.100
Min		102.000	101.000	-1.000
Std Dev		0.422	0.568	0.568



## 12.6 \_\_V\_FAULT\_HYS\_5V

Test Site		
Tester		
Test Number		
Max Limit	110	mV
Min Limit	90	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	90.000	90.000	90.000	90.000
Min	102.000	102.000	102.000	101.000
Average	102.000	102.667	102.000	101.667
Max	102.000	103.000	102.000	102.000
UL	110.000	110.000	110.000	110.000

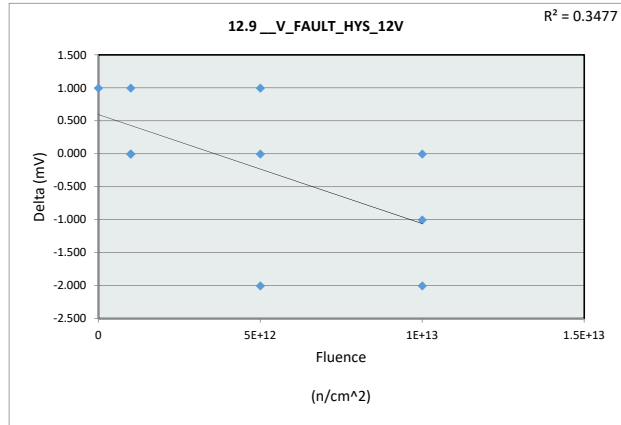


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.9 \_\_V\_FAULT\_HYS\_12V

Test Site		
Tester		
Test Number		
Unit	mV	mV
Max Limit	110	110
Min Limit	90	90

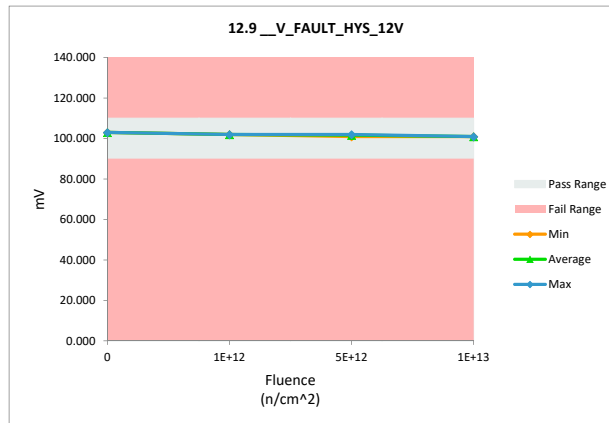
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	102.000	103.000	1.000
1E+12	281	102.000	102.000	0.000
1E+12	284	102.000	102.000	0.000
1E+12	285	101.000	102.000	1.000
5E+12	286	101.000	102.000	1.000
5E+12	287	102.000	102.000	0.000
5E+12	289	103.000	101.000	-2.000
1E+13	290	103.000	101.000	-2.000
1E+13	291	101.000	101.000	0.000
1E+13	292	102.000	101.000	-1.000
Max		103.000	103.000	1.000
Average		101.900	101.700	-0.200
Min		101.000	101.000	-2.000
Std Dev		0.738	0.675	1.135



## 12.9 \_\_V\_FAULT\_HYS\_12V

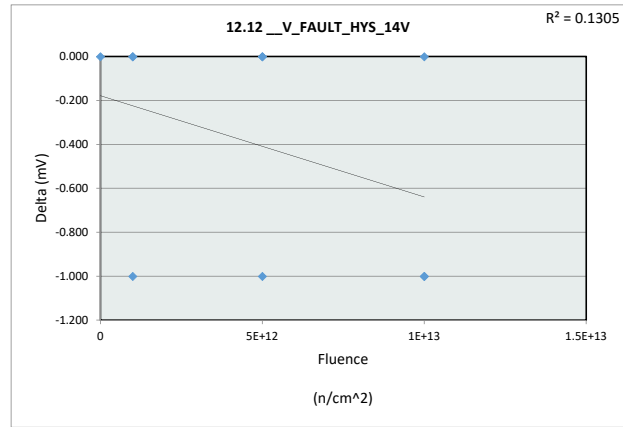
Test Site		
Tester		
Test Number		
Max Limit	110	mV
Min Limit	90	mV

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	90.000	90.000	90.000	90.000
Min	103.000	102.000	101.000	101.000
Average	103.000	102.000	101.667	101.000
Max	103.000	102.000	102.000	101.000
UL	110.000	110.000	110.000	110.000

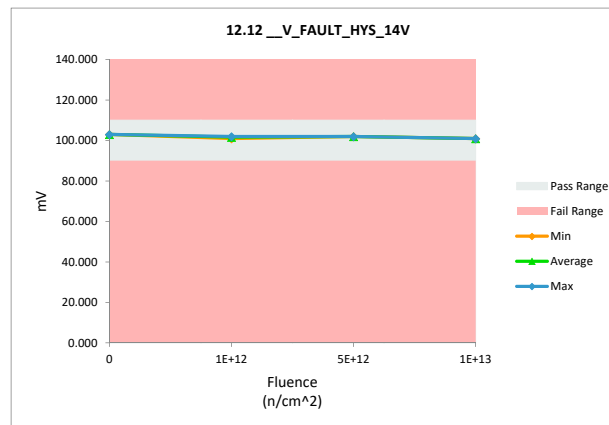


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

12.12 __V_FAULT_HYS_14V				
Test Site				
Tester				
Test Number				
Unit		mV	mV	
Max Limit		110	110	
Min Limit		90	90	
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	103.000	103.000	0.000
1E+12	281	102.000	102.000	0.000
1E+12	284	102.000	102.000	0.000
1E+12	285	102.000	101.000	-1.000
5E+12	286	102.000	102.000	0.000
5E+12	287	102.000	102.000	0.000
5E+12	289	103.000	102.000	-1.000
1E+13	290	102.000	101.000	-1.000
1E+13	291	101.000	101.000	0.000
1E+13	292	102.000	101.000	-1.000
Max		103.000	103.000	0.000
Average		102.100	101.700	-0.400
Min		101.000	101.000	-1.000
Std Dev		0.568	0.675	0.516



12.12 __V_FAULT_HYS_14V				
Test Site				
Tester				
Test Number				
Max Limit		110	mV	
Min Limit		90	mV	
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	90.000	90.000	90.000	90.000
Min	103.000	101.000	102.000	101.000
Average	103.000	101.667	102.000	101.000
Max	103.000	102.000	102.000	101.000
UL	110.000	110.000	110.000	110.000

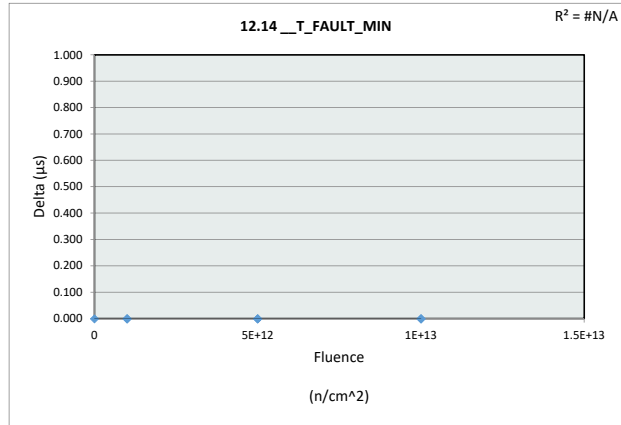


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.14 \_\_T\_FAULT\_MIN

Test Site		
Tester		
Test Number		
Unit	µs	µs
Max Limit	1.4	1.4
Min Limit	0.4	0.4

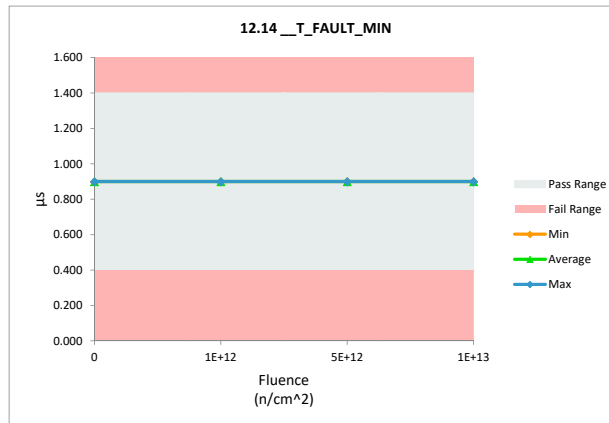
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	0.900	0.900	0.000
1E+12	281	0.900	0.900	0.000
1E+12	284	0.900	0.900	0.000
1E+12	285	0.900	0.900	0.000
5E+12	286	0.900	0.900	0.000
5E+12	287	0.900	0.900	0.000
5E+12	289	0.900	0.900	0.000
1E+13	290	0.900	0.900	0.000
1E+13	291	0.900	0.900	0.000
1E+13	292	0.900	0.900	0.000
Max		0.900	0.900	0.000
Average		0.900	0.900	0.000
Min		0.900	0.900	0.000
Std Dev		0.000	0.000	0.000



## 12.14 \_\_T\_FAULT\_MIN

Test Site		
Tester		
Test Number		
Max Limit	1.4	µs
Min Limit	0.4	µs

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	0.400	0.400	0.400	0.400
Min	0.900	0.900	0.900	0.900
Average	0.900	0.900	0.900	0.900
Max	0.900	0.900	0.900	0.900
UL	1.400	1.400	1.400	1.400



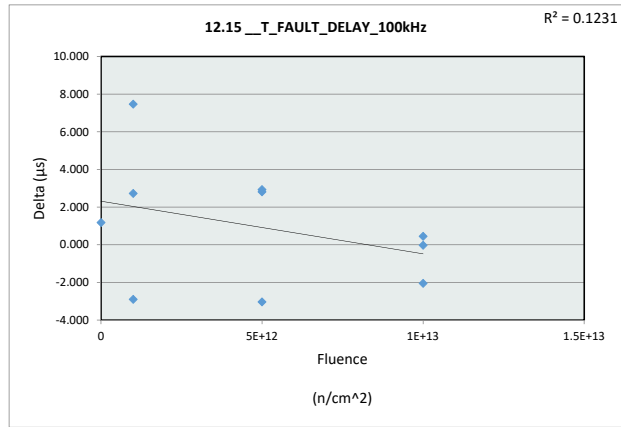


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.15 \_\_T\_FAULT\_DELAY\_100kHz

Test Site		
Tester		
Test Number		
Unit	µs	µs
Max Limit	169	169
Min Limit	140	140

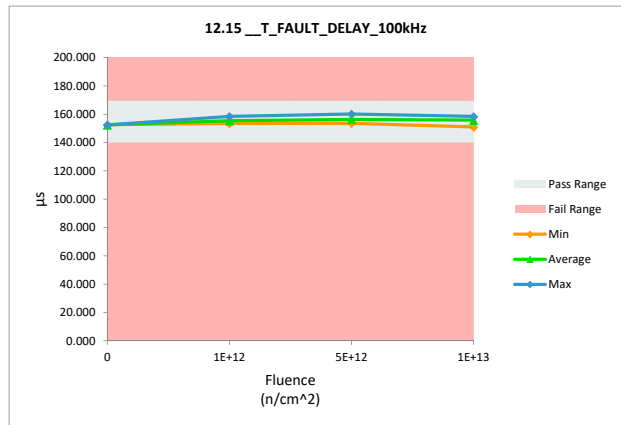
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	151.332	152.531	1.199
1E+12	281	150.748	153.490	2.742
1E+12	284	150.988	158.466	7.478
1E+12	285	157.138	154.261	-2.877
5E+12	286	157.382	160.211	2.829
5E+12	287	158.354	155.338	-3.016
5E+12	289	150.691	153.639	2.948
1E+13	290	150.599	151.068	0.469
1E+13	291	160.441	158.411	-2.030
1E+13	292	157.921	157.908	-0.013
Max		160.441	160.211	7.478
Average		154.559	155.532	0.973
Min		150.599	151.068	-3.016
Std Dev		3.990	3.033	3.229



## 12.15 \_\_T\_FAULT\_DELAY\_100

Test Site		
Tester		
Test Number		
Max Limit	169	µs
Min Limit	140	µs

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	140.000	140.000	140.000	140.000
Min	152.531	153.490	153.639	151.068
Average	152.531	155.406	156.396	155.796
Max	152.531	158.466	160.211	158.411
UL	169.000	169.000	169.000	169.000

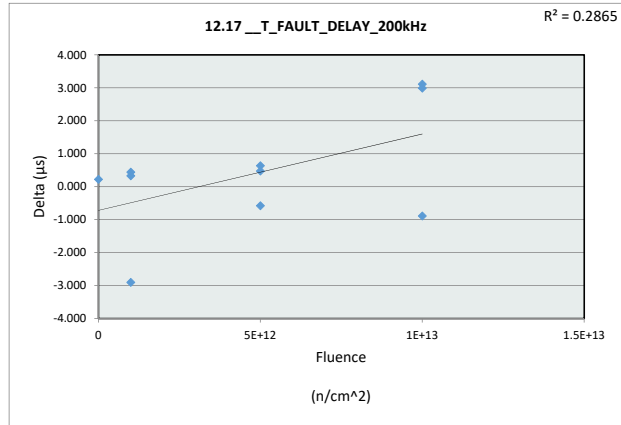


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

**12.17 \_\_T\_FAULT\_DELAY\_200kHz**

Test Site		
Tester		
Test Number		
Unit	µs	µs
Max Limit	86	86
Min Limit	66	66

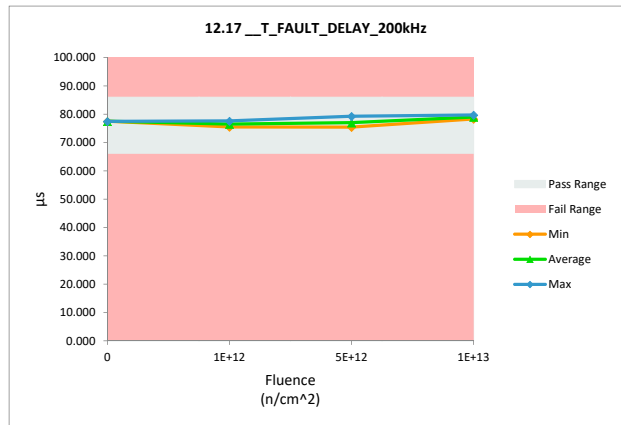
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	77.273	77.506	0.233
1E+12	281	76.156	76.496	0.340
1E+12	284	77.171	77.623	0.452
1E+12	285	78.409	75.516	-2.893
5E+12	286	75.766	76.249	0.483
5E+12	287	76.051	75.484	-0.567
5E+12	289	78.634	79.278	0.644
1E+13	290	76.751	79.749	2.998
1E+13	291	79.212	78.331	-0.881
1E+13	292	75.798	78.916	3.118
Max		79.212	79.749	3.118
Average		77.122	77.515	0.393
Min		75.766	75.484	-2.893
Std Dev		1.254	1.546	1.753



**12.17 \_\_T\_FAULT\_DELAY\_200**

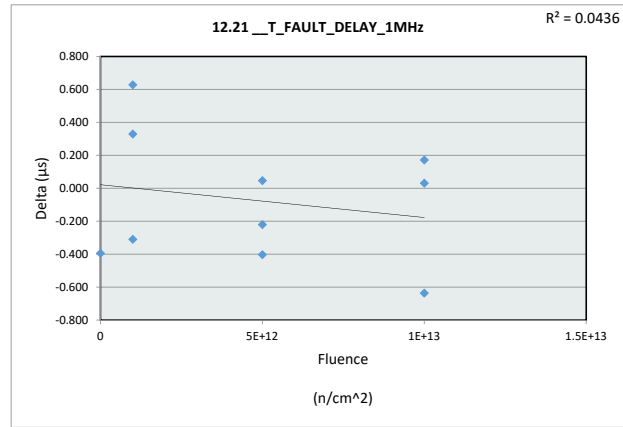
Test Site		
Tester		
Test Number		
Max Limit	86	µs
Min Limit	66	µs

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	66.000	66.000	66.000	66.000
Min	77.506	75.516	75.484	78.331
Average	77.506	76.545	77.004	78.999
Max	77.506	77.623	79.278	79.749
UL	86.000	86.000	86.000	86.000

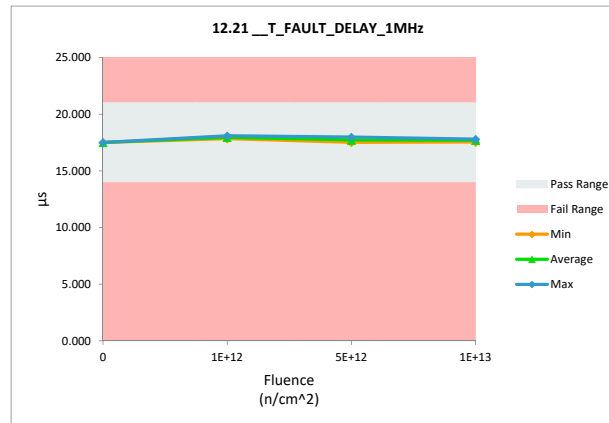


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

12.21 __T_FAULT_DELAY_1MHz				
Test Site				
Tester				
Test Number				
Unit	$\mu\text{s}$	$\mu\text{s}$		
Max Limit	21	21		
Min Limit	14	14		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	17.905	17.513	-0.392
1E+12	281	18.155	17.847	-0.308
1E+12	284	17.584	17.915	0.331
1E+12	285	17.472	18.102	0.630
5E+12	286	17.474	17.522	0.048
5E+12	287	18.384	17.983	-0.401
5E+12	289	17.896	17.677	-0.219
1E+13	290	18.178	17.544	-0.634
1E+13	291	17.584	17.757	0.173
1E+13	292	17.770	17.803	0.033
Max		18.384	18.102	0.630
Average		17.840	17.766	-0.074
Min		17.472	17.513	-0.634
Std Dev		0.320	0.203	0.386



12.21 __T_FAULT_DELAY_1MHz				
Test Site				
Tester				
Test Number				
Max Limit	21	$\mu\text{s}$		
Min Limit	14	$\mu\text{s}$		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	14.000	14.000	14.000	14.000
Min	17.513	17.847	17.522	17.544
Average	17.513	17.955	17.727	17.701
Max	17.513	18.102	17.983	17.803
UL	21.000	21.000	21.000	21.000

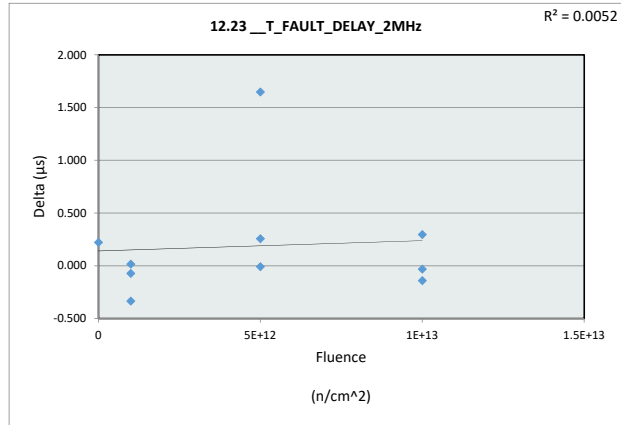


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 12.23 \_\_T\_FAULT\_DELAY\_2MHz

Test Site		
Tester		
Test Number		
Unit	µs	µs
Max Limit	14	14
Min Limit	7	7

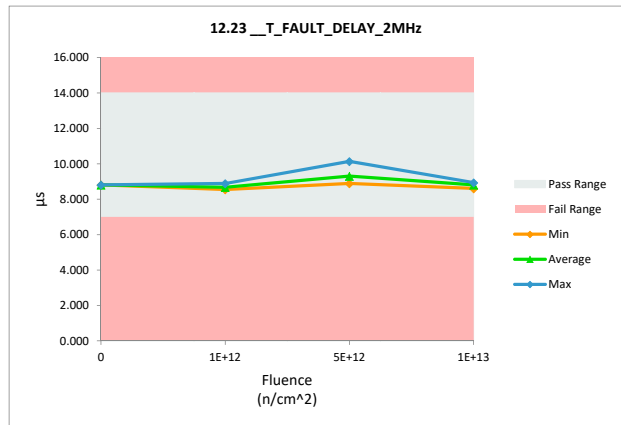
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.586	8.811	0.225
1E+12	281	8.664	8.595	-0.069
1E+12	284	8.870	8.889	0.019
1E+12	285	8.878	8.546	-0.332
5E+12	286	8.896	8.890	-0.006
5E+12	287	8.490	10.140	1.650
5E+12	289	8.635	8.894	0.259
1E+13	290	8.969	8.940	-0.029
1E+13	291	8.741	8.604	-0.137
1E+13	292	8.588	8.887	0.299
Max		8.969	10.140	1.650
Average		8.732	8.920	0.188
Min		8.490	8.546	-0.332
Std Dev		0.163	0.453	0.549



## 12.23 \_\_T\_FAULT\_DELAY\_2MHz

Test Site		
Tester		
Test Number		
Max Limit	14	µs
Min Limit	7	µs

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	7.000	7.000	7.000	7.000
Min	8.811	8.546	8.890	8.604
Average	8.811	8.677	9.308	8.810
Max	8.811	8.889	10.140	8.940
UL	14.000	14.000	14.000	14.000

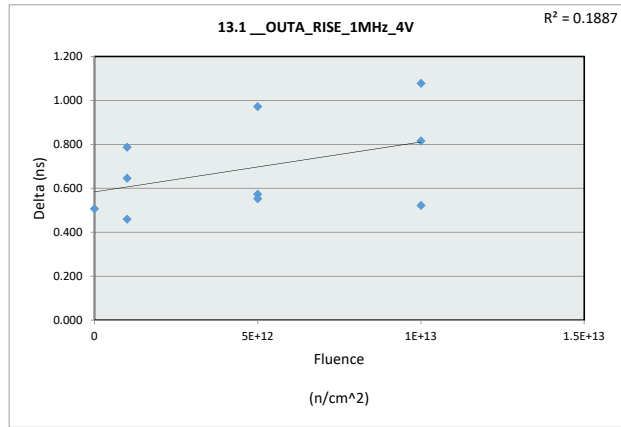


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.1 \_\_OUTA\_RISE\_1MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

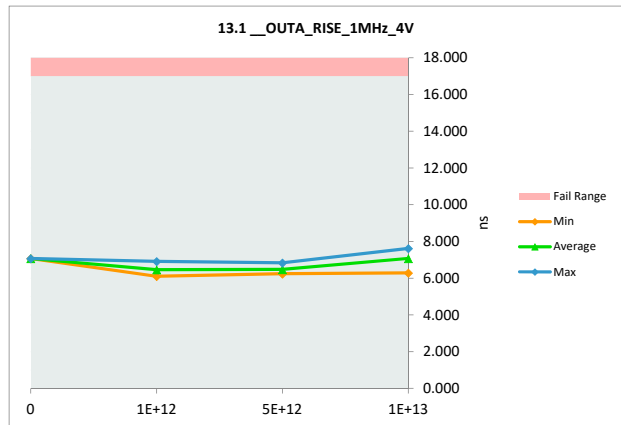
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.565	7.073	0.508
1E+12	281	6.127	6.915	0.788
1E+12	284	5.641	6.102	0.461
1E+12	285	5.714	6.361	0.647
5E+12	286	5.771	6.345	0.574
5E+12	287	5.685	6.239	0.554
5E+12	289	5.865	6.838	0.973
1E+13	290	5.764	6.287	0.523
1E+13	291	6.539	7.618	1.079
1E+13	292	6.509	7.326	0.817
Max		6.565	7.618	1.079
Average		6.018	6.710	0.692
Min		5.641	6.102	0.461
Std Dev		0.383	0.518	0.212



## 13.1 \_\_OUTA\_RISE\_1MHz\_4V

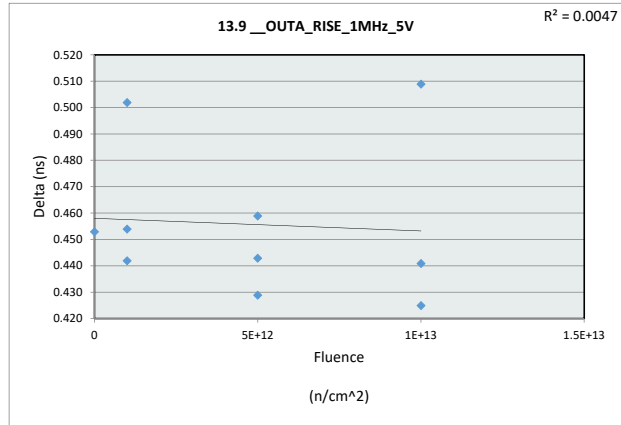
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.073	6.102	6.239	6.287
Average	7.073	6.459	6.474	7.077
Max	7.073	6.915	6.838	7.618
UL	17.000	17.000	17.000	17.000

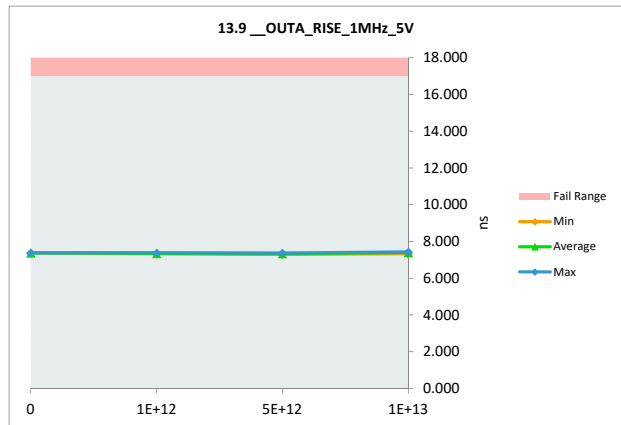


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.9 __OUTA_RISE_1MHz_5V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.922	7.375	0.453
1E+12	281	6.940	7.382	0.442
1E+12	284	6.820	7.322	0.502
1E+12	285	6.879	7.333	0.454
5E+12	286	6.887	7.346	0.459
5E+12	287	6.858	7.287	0.429
5E+12	289	6.922	7.365	0.443
1E+13	290	6.819	7.328	0.509
1E+13	291	7.009	7.434	0.425
1E+13	292	6.990	7.431	0.441
Max		7.009	7.434	0.509
Average		6.905	7.360	0.456
Min		6.819	7.287	0.425
Std Dev		0.065	0.047	0.028



13.9 __OUTA_RISE_1MHz_5V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.375	7.322	7.287	7.328
Average	7.375	7.346	7.333	7.398
Max	7.375	7.382	7.365	7.434
UL	17.000	17.000	17.000	17.000

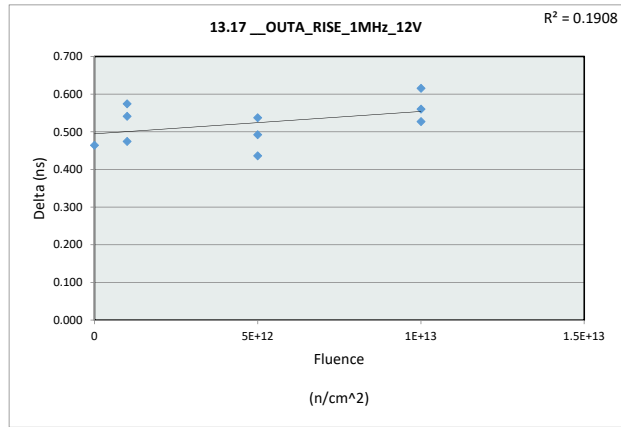


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.17 \_\_OUTA\_RISE\_1MHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

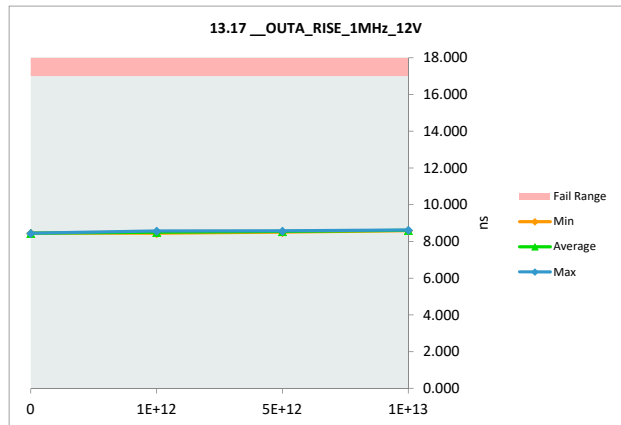
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.988	8.453	0.465
1E+12	281	7.905	8.480	0.575
1E+12	284	7.975	8.450	0.475
1E+12	285	8.025	8.567	0.542
5E+12	286	8.065	8.502	0.437
5E+12	287	8.080	8.573	0.493
5E+12	289	8.014	8.552	0.538
1E+13	290	8.010	8.626	0.616
1E+13	291	8.085	8.613	0.528
1E+13	292	8.027	8.588	0.561
Max		8.085	8.626	0.616
Average		8.017	8.540	0.523
Min		7.905	8.450	0.437
Std Dev		0.054	0.065	0.055



## 13.17 \_\_OUTA\_RISE\_1MHz\_12V

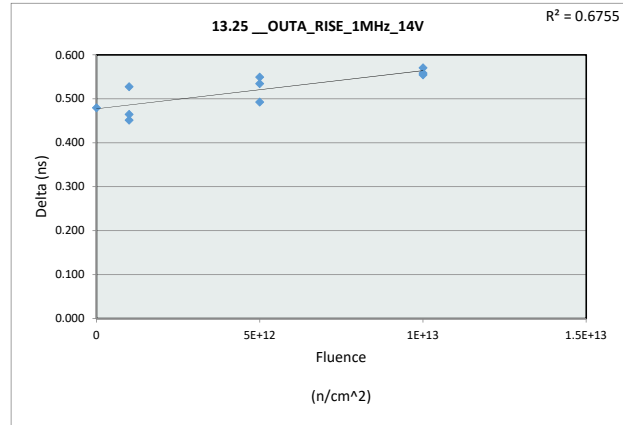
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.453	8.450	8.502	8.588
Average	8.453	8.499	8.542	8.609
Max	8.453	8.567	8.573	8.626
UL	17.000	17.000	17.000	17.000

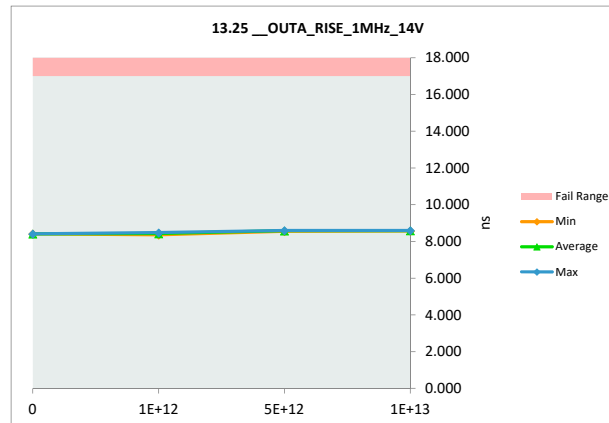


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.25 __OUTA_RISE_1MHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.930	8.410	0.480
1E+12	281	7.906	8.358	0.452
1E+12	284	7.948	8.476	0.528
1E+12	285	7.982	8.447	0.465
5E+12	286	8.041	8.591	0.550
5E+12	287	8.108	8.601	0.493
5E+12	289	8.016	8.551	0.535
1E+13	290	8.026	8.597	0.571
1E+13	291	8.039	8.594	0.555
1E+13	292	8.011	8.570	0.559
Max		8.108	8.601	0.571
Average		8.001	8.519	0.519
Min		7.906	8.358	0.452
Std Dev		0.060	0.089	0.043



13.25 __OUTA_RISE_1MHz_14V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.410	8.358	8.551	8.570
Average	8.410	8.427	8.581	8.587
Max	8.410	8.476	8.601	8.597
UL	17.000	17.000	17.000	17.000



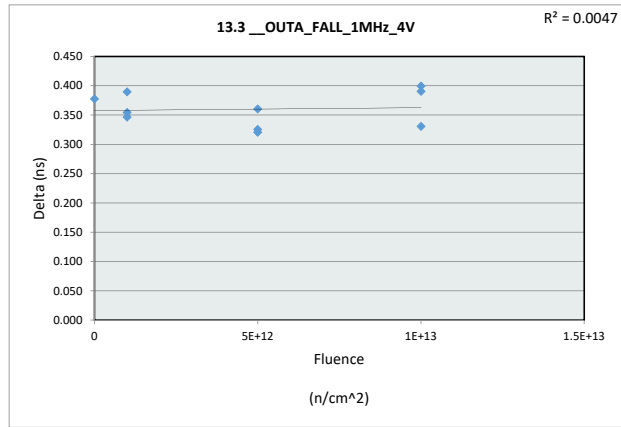


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.3\_OUTA\_FALL\_1MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

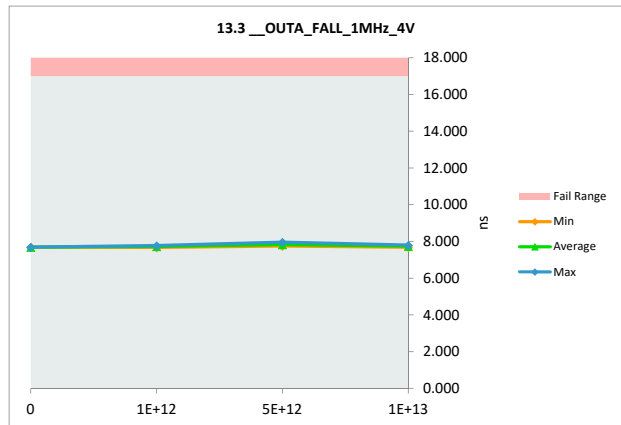
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.311	7.689	0.378
1E+12	281	7.373	7.728	0.355
1E+12	284	7.328	7.675	0.347
1E+12	285	7.381	7.771	0.390
5E+12	286	7.598	7.959	0.361
5E+12	287	7.444	7.770	0.326
5E+12	289	7.432	7.753	0.321
1E+13	290	7.400	7.800	0.400
1E+13	291	7.351	7.682	0.331
1E+13	292	7.358	7.749	0.391
Max		7.598	7.959	0.400
Average		7.398	7.758	0.360
Min		7.311	7.675	0.321
Std Dev		0.082	0.082	0.029



## 13.3\_OUTA\_FALL\_1MHz\_4V

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.689	7.675	7.753	7.682
Average	7.689	7.725	7.827	7.744
Max	7.689	7.771	7.959	7.800
UL	17.000	17.000	17.000	17.000

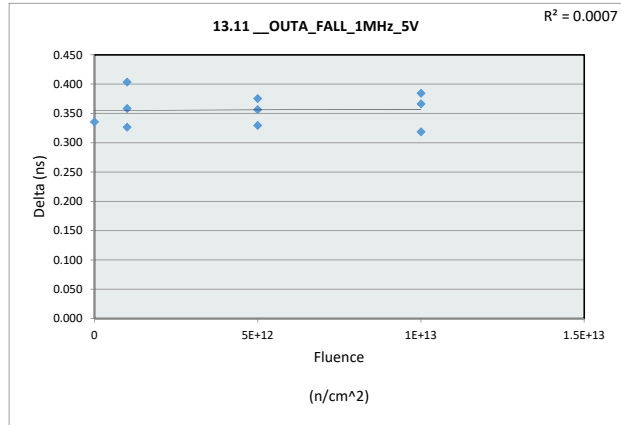


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.11 \_\_OUTA\_FALL\_1MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

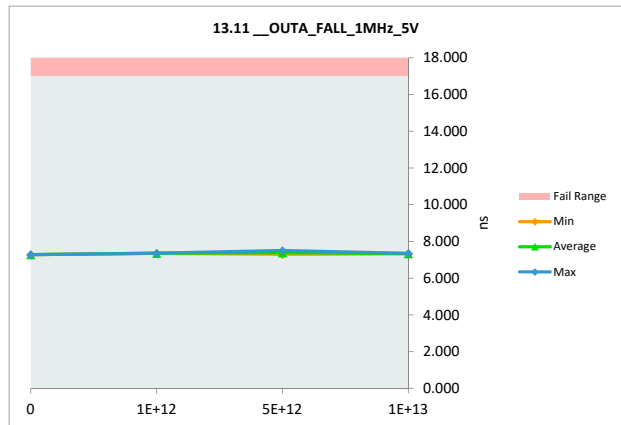
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.943	7.279	0.336
1E+12	281	7.026	7.353	0.327
1E+12	284	6.954	7.358	0.404
1E+12	285	6.992	7.351	0.359
5E+12	286	7.128	7.504	0.376
5E+12	287	6.967	7.297	0.330
5E+12	289	6.997	7.354	0.357
1E+13	290	7.000	7.319	0.319
1E+13	291	6.963	7.348	0.385
1E+13	292	6.977	7.344	0.367
Max		7.128	7.504	0.404
Average		6.995	7.351	0.356
Min		6.943	7.279	0.319
Std Dev		0.053	0.060	0.028



## 13.11 \_\_OUTA\_FALL\_1MHz\_5V

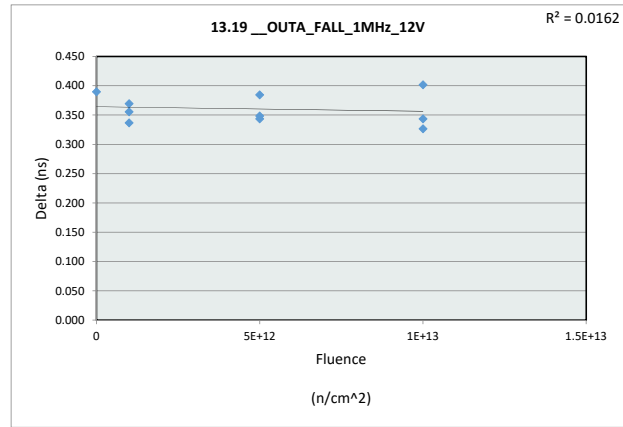
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.279	7.351	7.297	7.319
Average	7.279	7.354	7.385	7.337
Max	7.279	7.358	7.504	7.348
UL	17.000	17.000	17.000	17.000

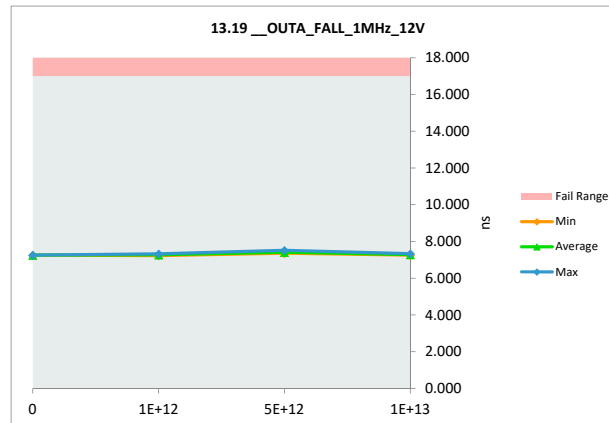


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.19_OUTA_FALL_1MHz_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.864	7.254	0.390
1E+12	281	6.861	7.231	0.370
1E+12	284	6.914	7.251	0.337
1E+12	285	6.969	7.325	0.356
5E+12	286	7.171	7.515	0.344
5E+12	287	7.007	7.356	0.349
5E+12	289	6.981	7.366	0.385
1E+13	290	6.928	7.330	0.402
1E+13	291	6.923	7.250	0.327
1E+13	292	6.922	7.266	0.344
Max		7.171	7.515	0.402
Average		6.954	7.314	0.360
Min		6.861	7.231	0.327
Std Dev		0.089	0.086	0.025

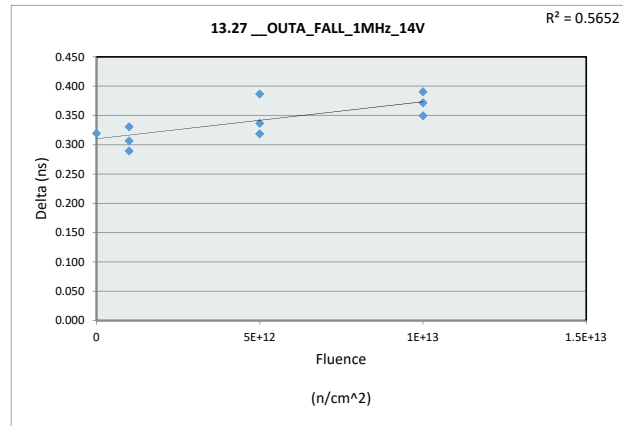


13.19_OUTA_FALL_1MHz_12V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.254	7.231	7.356	7.250
Average	7.254	7.269	7.412	7.282
Max	7.254	7.325	7.515	7.330
UL	17.000	17.000	17.000	17.000

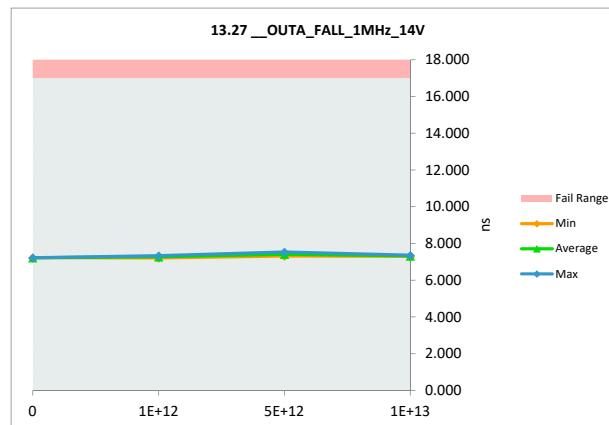


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.27 __OUTA_FALL_1MHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.903	7.223	0.320
1E+12	281	6.885	7.216	0.331
1E+12	284	6.982	7.272	0.290
1E+12	285	7.024	7.331	0.307
5E+12	286	7.149	7.536	0.387
5E+12	287	7.040	7.377	0.337
5E+12	289	7.001	7.320	0.319
1E+13	290	6.982	7.354	0.372
1E+13	291	6.955	7.305	0.350
1E+13	292	6.901	7.292	0.391
Max		7.149	7.536	0.391
Average		6.982	7.323	0.340
Min		6.885	7.216	0.290
Std Dev		0.079	0.091	0.034

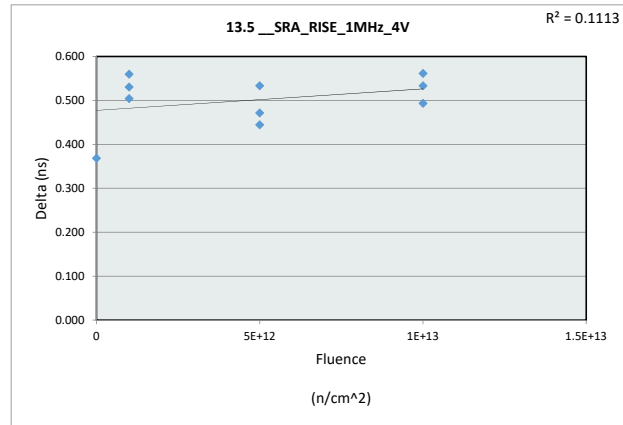


13.27 __OUTA_FALL_1MHz_14V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.223	7.216	7.320	7.292
Average	7.223	7.273	7.411	7.317
Max	7.223	7.331	7.536	7.354
UL	17.000	17.000	17.000	17.000

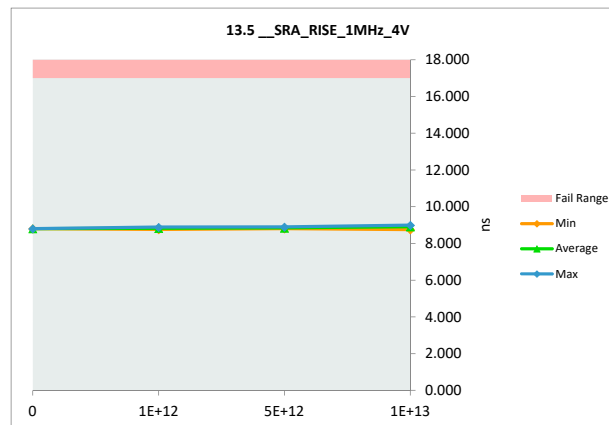


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.5_SRA_RISE_1MHz_4V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.433	8.802	0.369
1E+12	281	8.384	8.889	0.505
1E+12	284	8.256	8.816	0.560
1E+12	285	8.228	8.759	0.531
5E+12	286	8.336	8.808	0.472
5E+12	287	8.284	8.818	0.534
5E+12	289	8.453	8.898	0.445
1E+13	290	8.259	8.753	0.494
1E+13	291	8.457	8.991	0.534
1E+13	292	8.435	8.997	0.562
Max		8.457	8.997	0.562
Average		8.352	8.853	0.501
Min		8.228	8.753	0.369
Std Dev		0.091	0.088	0.059



13.5_SRA_RISE_1MHz_4V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.802	8.759	8.808	8.753
Average	8.802	8.821	8.841	8.914
Max	8.802	8.889	8.898	8.997
UL	17.000	17.000	17.000	17.000

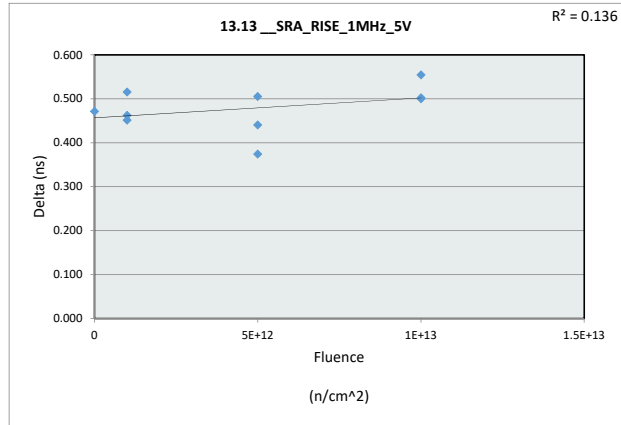


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.13\_SRA\_RISE\_1MHz\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

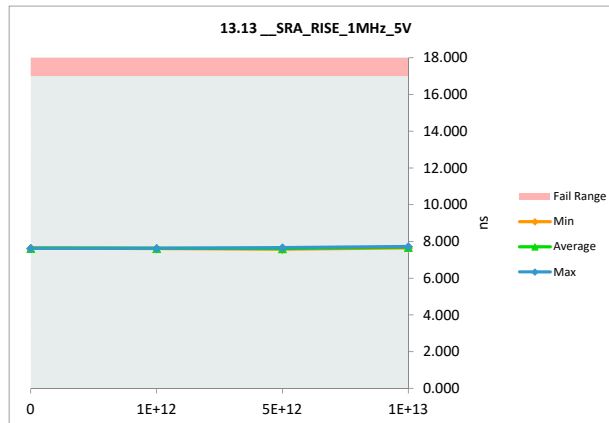
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.161	7.633	0.472
1E+12	281	7.180	7.632	0.452
1E+12	284	7.170	7.633	0.463
1E+12	285	7.091	7.607	0.516
5E+12	286	7.166	7.607	0.441
5E+12	287	7.201	7.576	0.375
5E+12	289	7.156	7.662	0.506
1E+13	290	7.147	7.650	0.503
1E+13	291	7.148	7.703	0.555
1E+13	292	7.222	7.723	0.501
Max		7.222	7.723	0.555
Average		7.164	7.643	0.478
Min		7.091	7.576	0.375
Std Dev		0.035	0.044	0.050



## 13.13\_SRA\_RISE\_1MHz\_5V

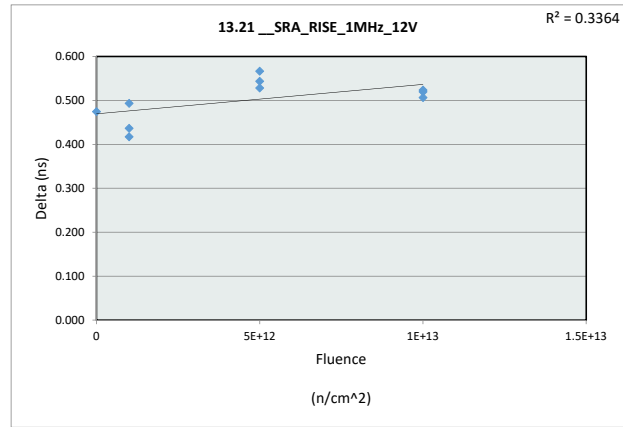
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.633	7.607	7.576	7.650
Average	7.633	7.624	7.615	7.692
Max	7.633	7.633	7.662	7.723
UL	17.000	17.000	17.000	17.000

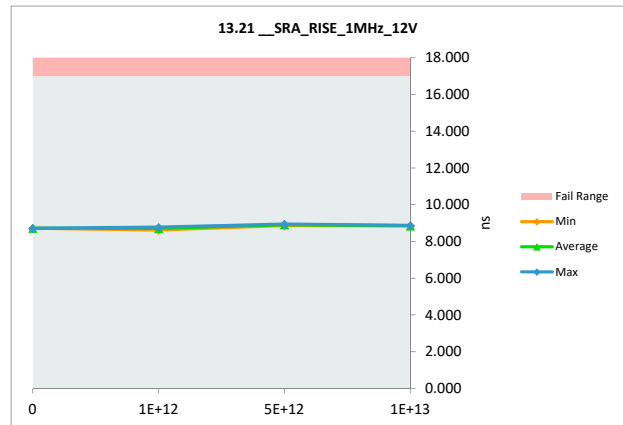


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.21 __SRA_RISE_1MHz_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.242	8.717	0.475
1E+12	281	8.184	8.621	0.437
1E+12	284	8.311	8.729	0.418
1E+12	285	8.281	8.775	0.494
5E+12	286	8.339	8.906	0.567
5E+12	287	8.402	8.946	0.544
5E+12	289	8.342	8.871	0.529
1E+13	290	8.331	8.838	0.507
1E+13	291	8.344	8.868	0.524
1E+13	292	8.330	8.850	0.520
Max		8.402	8.946	0.567
Average		8.311	8.812	0.502
Min		8.184	8.621	0.418
Std Dev		0.061	0.100	0.047



13.21 __SRA_RISE_1MHz_12V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.717	8.621	8.871	8.838
Average	8.717	8.708	8.908	8.852
Max	8.717	8.775	8.946	8.868
UL	17.000	17.000	17.000	17.000

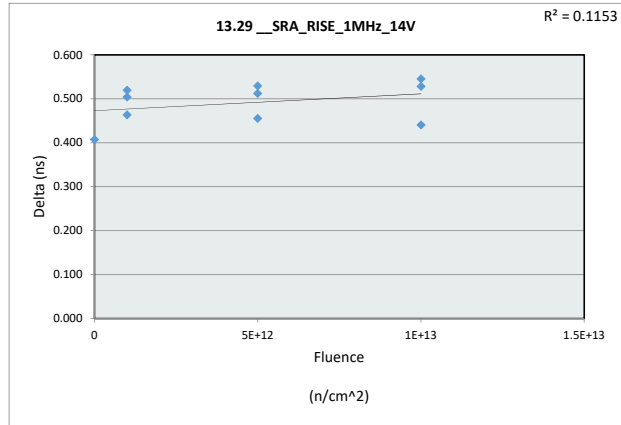


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.29\_SRA\_RISE\_1MHz\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

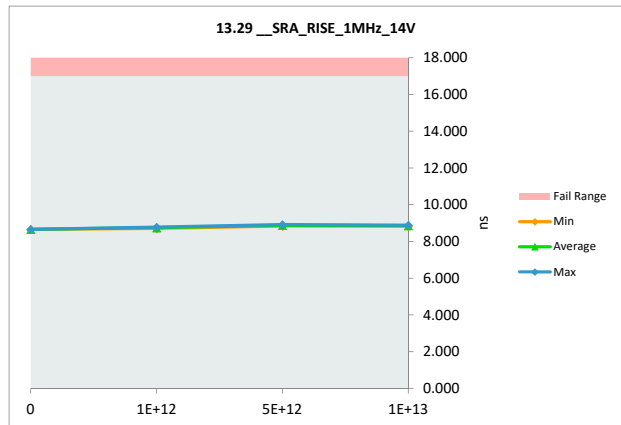
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	8.254	8.662	0.408
1E+12	281	8.199	8.704	0.505
1E+12	284	8.259	8.779	0.520
1E+12	285	8.302	8.766	0.464
5E+12	286	8.352	8.882	0.530
5E+12	287	8.406	8.919	0.513
5E+12	289	8.381	8.837	0.456
1E+13	290	8.384	8.825	0.441
1E+13	291	8.336	8.882	0.546
1E+13	292	8.331	8.860	0.529
Max		8.406	8.919	0.546
Average		8.320	8.812	0.491
Min		8.199	8.662	0.408
Std Dev		0.066	0.083	0.046



13.29\_SRA\_RISE\_1MHz\_14V

Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	8.662	8.704	8.837	8.825
Average	8.662	8.750	8.879	8.856
Max	8.662	8.779	8.919	8.882
UL	17.000	17.000	17.000	17.000



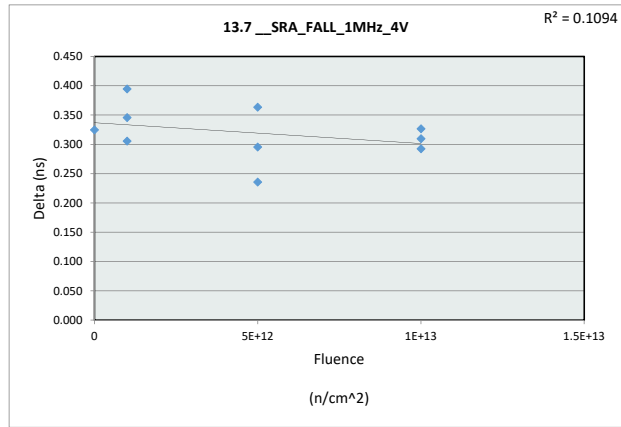


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.7 \_\_SRA\_FALL\_1MHz\_4V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

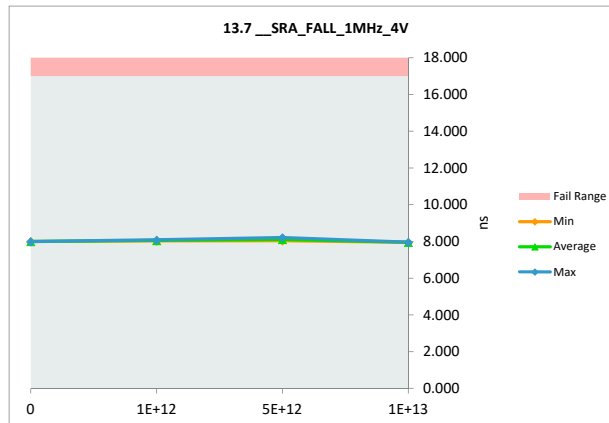
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.668	7.993	0.325
1E+12	281	7.692	8.087	0.395
1E+12	284	7.695	8.041	0.346
1E+12	285	7.723	8.029	0.306
5E+12	286	7.922	8.218	0.296
5E+12	287	7.706	8.070	0.364
5E+12	289	7.807	8.043	0.236
1E+13	290	7.669	7.962	0.293
1E+13	291	7.623	7.950	0.327
1E+13	292	7.644	7.954	0.310
Max		7.922	8.218	0.395
Average		7.715	8.035	0.320
Min		7.623	7.950	0.236
Std Dev		0.088	0.081	0.043



## 13.7 \_\_SRA\_FALL\_1MHz\_4V

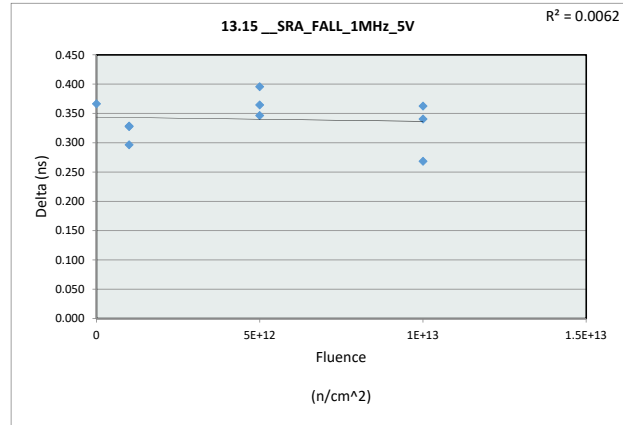
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.993	8.029	8.043	7.950
Average	7.993	8.052	8.110	7.955
Max	7.993	8.087	8.218	7.962
UL	17.000	17.000	17.000	17.000

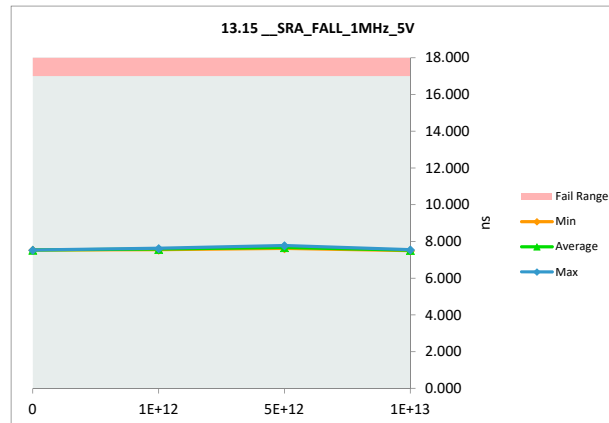


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.15_SRA_FALL_1MHz_5V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.167	7.534	0.367
1E+12	281	7.296	7.625	0.329
1E+12	284	7.250	7.547	0.297
1E+12	285	7.241	7.569	0.328
5E+12	286	7.416	7.781	0.365
5E+12	287	7.230	7.626	0.396
5E+12	289	7.275	7.622	0.347
1E+13	290	7.199	7.540	0.341
1E+13	291	7.229	7.498	0.269
1E+13	292	7.188	7.551	0.363
Max		7.416	7.781	0.396
Average		7.249	7.589	0.340
Min		7.167	7.498	0.269
Std Dev		0.070	0.080	0.037



13.15_SRA_FALL_1MHz_5V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.534	7.547	7.622	7.498
Average	7.534	7.580	7.676	7.530
Max	7.534	7.625	7.781	7.551
UL	17.000	17.000	17.000	17.000

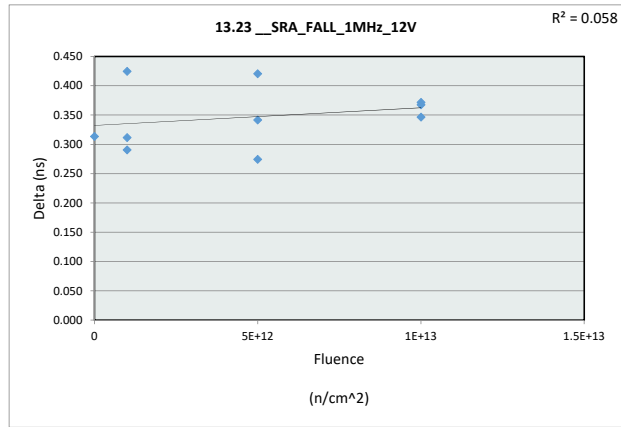


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.23\_SRA\_FALL\_1MHz\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	17	17
Min Limit		

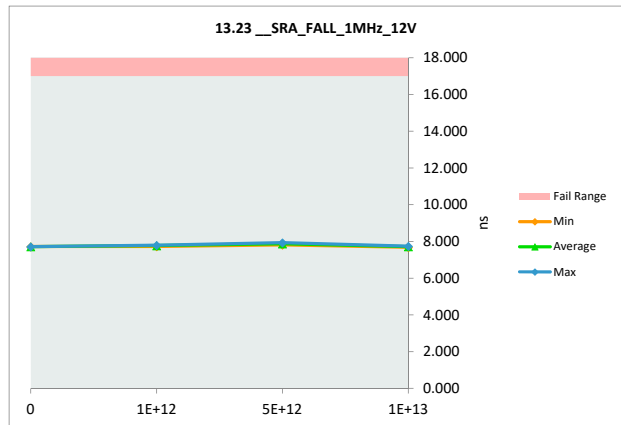
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.405	7.719	0.314
1E+12	281	7.482	7.794	0.312
1E+12	284	7.435	7.726	0.291
1E+12	285	7.367	7.792	0.425
5E+12	286	7.658	7.933	0.275
5E+12	287	7.461	7.882	0.421
5E+12	289	7.475	7.817	0.342
1E+13	290	7.366	7.734	0.368
1E+13	291	7.370	7.742	0.372
1E+13	292	7.334	7.681	0.347
Max		7.658	7.933	0.425
Average		7.435	7.782	0.347
Min		7.334	7.681	0.275
Std Dev		0.094	0.079	0.051



## 13.23\_SRA\_FALL\_1MHz\_12V

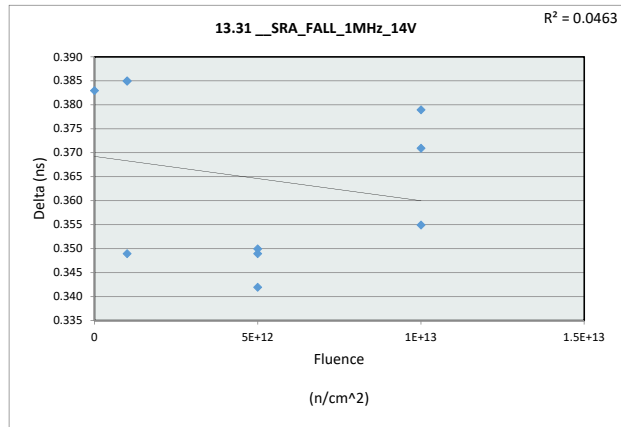
Test Site		
Tester		
Test Number		
Max Limit	17	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.719	7.726	7.817	7.681
Average	7.719	7.771	7.877	7.719
Max	7.719	7.794	7.933	7.742
UL	17.000	17.000	17.000	17.000

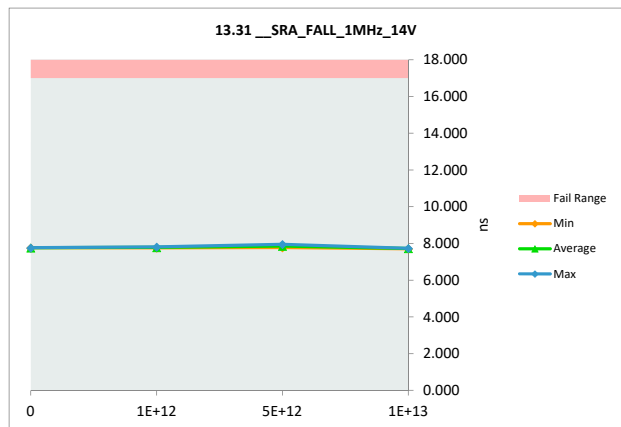


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.31_SRA_FALL_1MHz_14V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	17	17		
Min Limit				
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.379	7.762	0.383
1E+12	281	7.424	7.809	0.385
1E+12	284	7.389	7.774	0.385
1E+12	285	7.408	7.757	0.349
5E+12	286	7.608	7.950	0.342
5E+12	287	7.483	7.832	0.349
5E+12	289	7.428	7.778	0.350
1E+13	290	7.359	7.738	0.379
1E+13	291	7.370	7.725	0.355
1E+13	292	7.340	7.711	0.371
Max		7.608	7.950	0.385
Average		7.419	7.784	0.365
Min		7.340	7.711	0.342
Std Dev		0.078	0.069	0.017



13.31_SRA_FALL_1MHz_14V				
Test Site				
Tester				
Test Number				
Max Limit	17	ns		
Min Limit		ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	7.762	7.757	7.778	7.711
Average	7.762	7.780	7.853	7.725
Max	7.762	7.809	7.950	7.738
UL	17.000	17.000	17.000	17.000

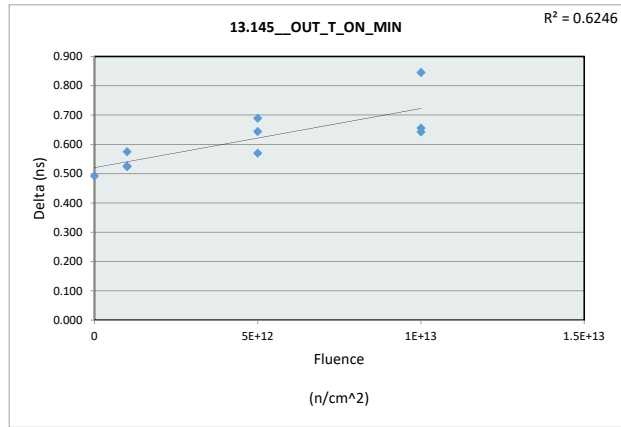


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.145\_OUT\_T\_ON\_MIN

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	85	85
Min Limit		

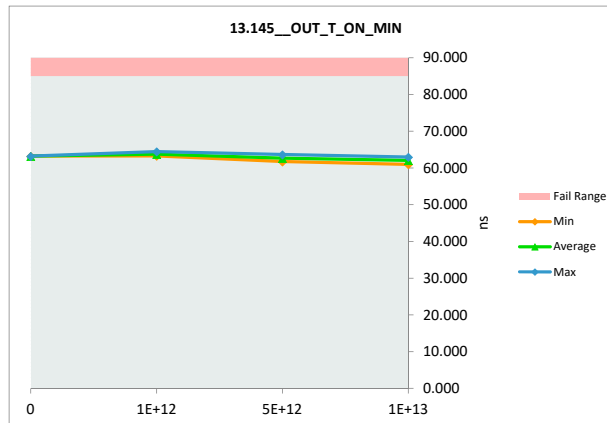
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	62.715	63.208	0.493
1E+12	281	62.946	63.522	0.576
1E+12	284	62.742	63.267	0.525
1E+12	285	63.916	64.443	0.527
5E+12	286	61.078	61.723	0.645
5E+12	287	62.950	63.640	0.690
5E+12	289	62.024	62.595	0.571
1E+13	290	60.324	60.967	0.643
1E+13	291	61.453	62.299	0.846
1E+13	292	62.322	62.978	0.656
Max		63.916	64.443	0.846
Average		62.247	62.864	0.617
Min		60.324	60.967	0.493
Std Dev		1.053	1.006	0.104



## 13.145\_OUT\_T\_ON\_MIN

Test Site		
Tester		
Test Number		
Max Limit	85	ns
Min Limit		ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	63.208	63.267	61.723	60.967
Average	63.208	63.744	62.653	62.081
Max	63.208	64.443	63.640	62.978
UL	85.000	85.000	85.000	85.000

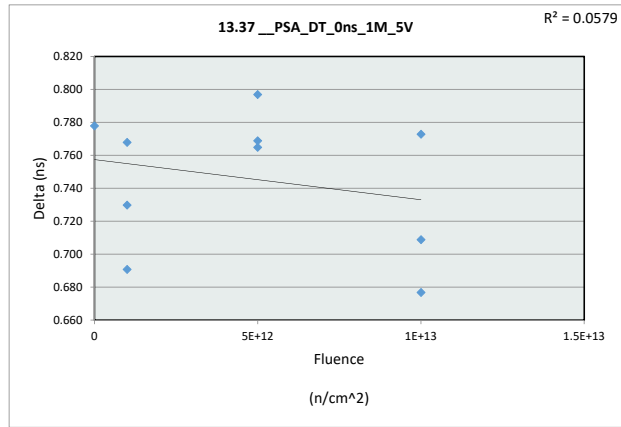


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.37 \_\_PSA\_DT\_0ns\_1M\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	11	11
Min Limit	5	5

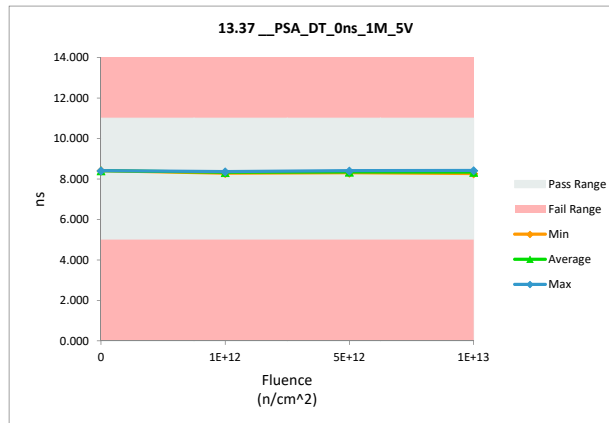
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.634	8.412	0.778
1E+12	281	7.574	8.342	0.768
1E+12	284	7.556	8.286	0.730
1E+12	285	7.672	8.363	0.691
5E+12	286	7.569	8.338	0.769
5E+12	287	7.538	8.303	0.765
5E+12	289	7.611	8.408	0.797
1E+13	290	7.564	8.273	0.709
1E+13	291	7.742	8.419	0.677
1E+13	292	7.552	8.325	0.773
Max		7.742	8.419	0.797
Average		7.601	8.347	0.746
Min		7.538	8.273	0.677
Std Dev		0.065	0.053	0.041



13.37 \_\_PSA\_DT\_0ns\_1M\_5V

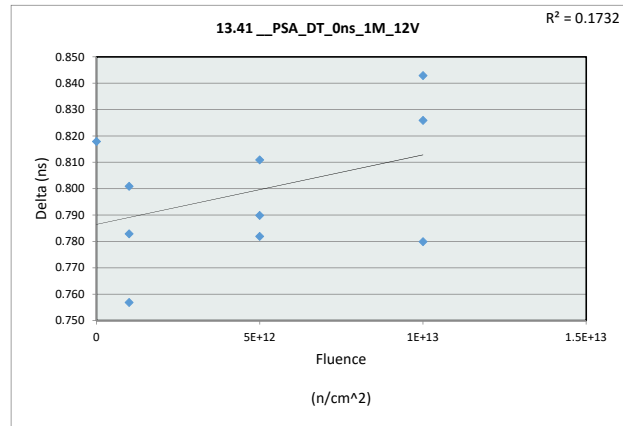
Test Site		
Tester		
Test Number		
Max Limit	11	ns
Min Limit	5	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	5.000	5.000	5.000	5.000
Min	8.412	8.286	8.303	8.273
Average	8.412	8.330	8.350	8.339
Max	8.412	8.363	8.408	8.419
UL	11.000	11.000	11.000	11.000

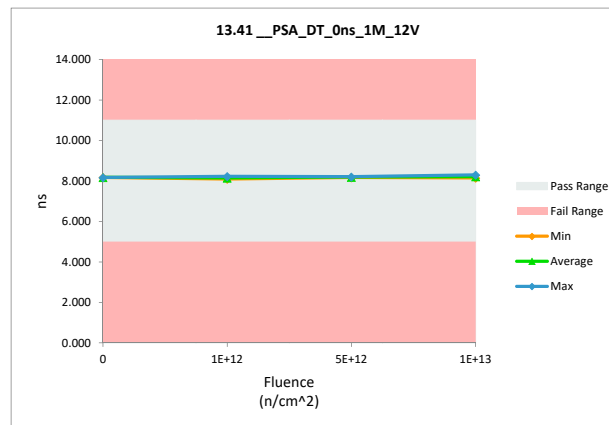


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.41_PSA_DT_0ns_1M_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	11	11		
Min Limit	5	5		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.359	8.177	0.818
1E+12	281	7.342	8.099	0.757
1E+12	284	7.338	8.121	0.783
1E+12	285	7.428	8.229	0.801
5E+12	286	7.395	8.206	0.811
5E+12	287	7.380	8.170	0.790
5E+12	289	7.428	8.210	0.782
1E+13	290	7.371	8.151	0.780
1E+13	291	7.479	8.305	0.826
1E+13	292	7.351	8.194	0.843
Max		7.479	8.305	0.843
Average		7.387	8.186	0.799
Min		7.338	8.099	0.757
Std Dev		0.046	0.058	0.026



13.41_PSA_DT_0ns_1M_12V				
Test Site				
Tester				
Test Number				
Max Limit	11	ns		
Min Limit	5	ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	5.000	5.000	5.000	5.000
Min	8.177	8.099	8.170	8.151
Average	8.177	8.150	8.195	8.217
Max	8.177	8.229	8.210	8.305
UL	11.000	11.000	11.000	11.000

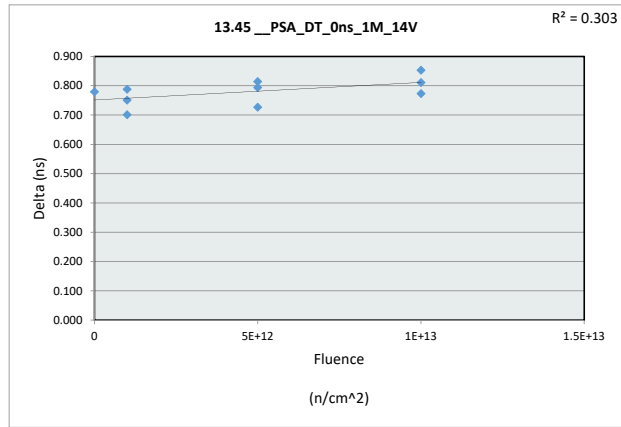


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.45\_PSA\_DT\_0ns\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	11	11
Min Limit	5	5

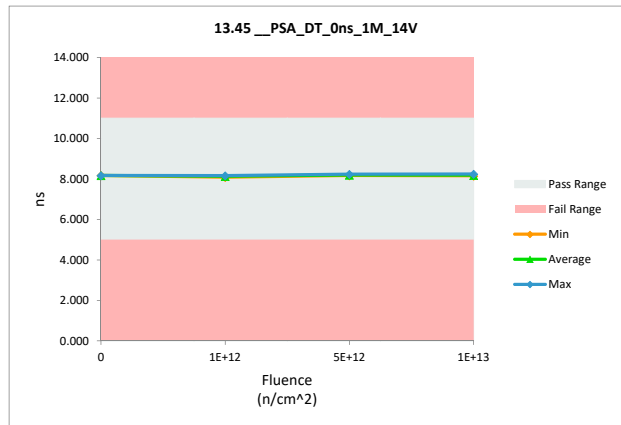
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	7.395	8.175	0.780
1E+12	281	7.335	8.087	0.752
1E+12	284	7.357	8.146	0.789
1E+12	285	7.469	8.171	0.702
5E+12	286	7.443	8.171	0.728
5E+12	287	7.382	8.197	0.815
5E+12	289	7.443	8.238	0.795
1E+13	290	7.343	8.155	0.812
1E+13	291	7.477	8.251	0.774
1E+13	292	7.300	8.154	0.854
Max		7.477	8.251	0.854
Average		7.394	8.174	0.780
Min		7.300	8.087	0.702
Std Dev		0.061	0.047	0.044



13.45\_PSA\_DT\_0ns\_1M\_14V

Test Site		
Tester		
Test Number		
Max Limit	11	ns
Min Limit	5	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	5.000	5.000	5.000	5.000
Min	8.175	8.087	8.171	8.154
Average	8.175	8.135	8.202	8.187
Max	8.175	8.171	8.238	8.251
UL	11.000	11.000	11.000	11.000



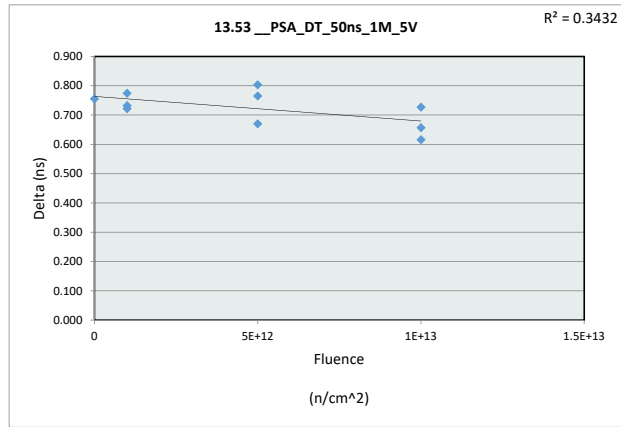


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.53\_PSA\_DT\_50ns\_1M\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	43	43

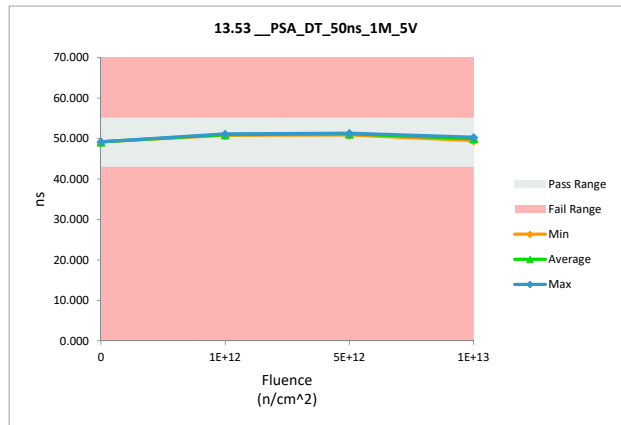
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	48.439	49.195	0.756
1E+12	281	50.415	51.138	0.723
1E+12	284	50.023	50.798	0.775
1E+12	285	50.178	50.911	0.733
5E+12	286	50.195	50.866	0.671
5E+12	287	50.493	51.259	0.766
5E+12	289	50.514	51.318	0.804
1E+13	290	49.492	50.150	0.658
1E+13	291	48.741	49.469	0.728
1E+13	292	49.686	50.303	0.617
Max		50.514	51.318	0.804
Average		49.818	50.541	0.723
Min		48.439	49.195	0.617
Std Dev		0.730	0.742	0.058



13.53\_PSA\_DT\_50ns\_1M\_5V

Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	43	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	43.000	43.000	43.000	43.000
Min	49.195	50.798	50.866	49.469
Average	49.195	50.949	51.148	49.974
Max	49.195	51.138	51.318	50.303
UL	55.000	55.000	55.000	55.000

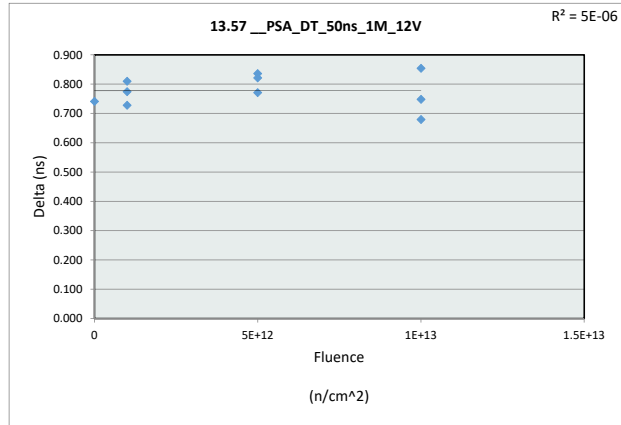


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.57 \_\_ PSA\_DT\_50ns\_1M\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	43	43

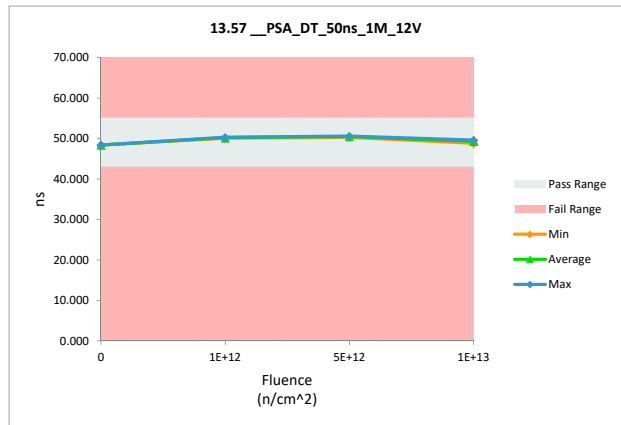
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	47.642	48.384	0.742
1E+12	281	49.571	50.300	0.729
1E+12	284	49.244	50.055	0.811
1E+12	285	49.412	50.187	0.775
5E+12	286	49.503	50.275	0.772
5E+12	287	49.796	50.618	0.822
5E+12	289	49.752	50.589	0.837
1E+13	290	48.738	49.487	0.749
1E+13	291	47.963	48.818	0.855
1E+13	292	48.921	49.601	0.680
Max		49.796	50.618	0.855
Average		49.054	49.831	0.777
Min		47.642	48.384	0.680
Std Dev		0.743	0.751	0.054



13.57 \_\_ PSA\_DT\_50ns\_1M\_12V

Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	43	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	43.000	43.000	43.000	43.000
Min	48.384	50.055	50.275	48.818
Average	48.384	50.181	50.494	49.302
Max	48.384	50.300	50.618	49.601
UL	55.000	55.000	55.000	55.000

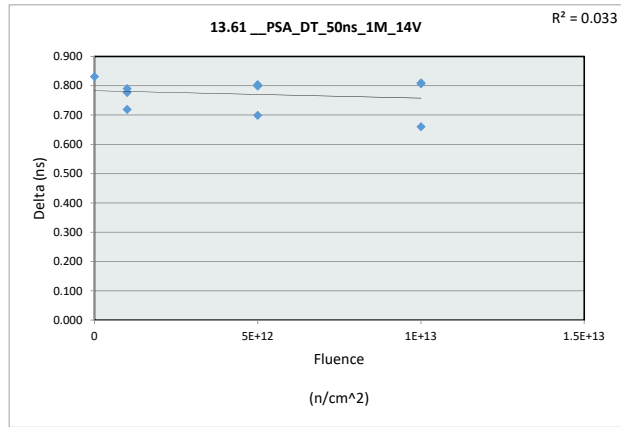


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.61\_PSA\_DT\_50ns\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	43	43

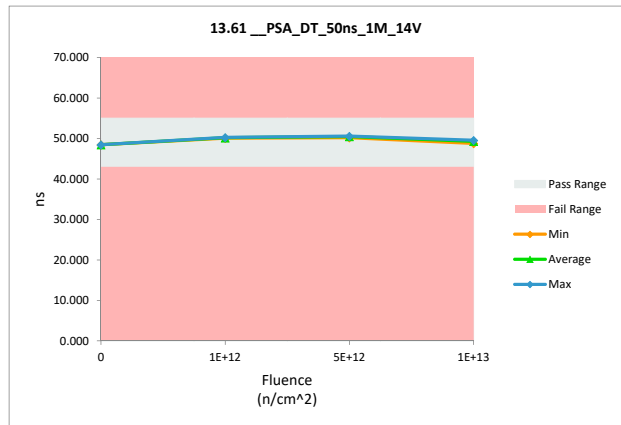
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	47.645	48.477	0.832
1E+12	281	49.554	50.274	0.720
1E+12	284	49.299	50.077	0.778
1E+12	285	49.388	50.179	0.791
5E+12	286	49.529	50.229	0.700
5E+12	287	49.792	50.592	0.800
5E+12	289	49.785	50.590	0.805
1E+13	290	48.714	49.522	0.808
1E+13	291	47.975	48.786	0.811
1E+13	292	48.906	49.567	0.661
Max		49.792	50.592	0.832
Average		49.059	49.829	0.771
Min		47.645	48.477	0.661
Std Dev		0.746	0.729	0.057



13.61\_PSA\_DT\_50ns\_1M\_14V

Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	43	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	43.000	43.000	43.000	43.000
Min	48.477	50.077	50.229	48.786
Average	48.477	50.177	50.470	49.292
Max	48.477	50.274	50.592	49.567
UL	55.000	55.000	55.000	55.000

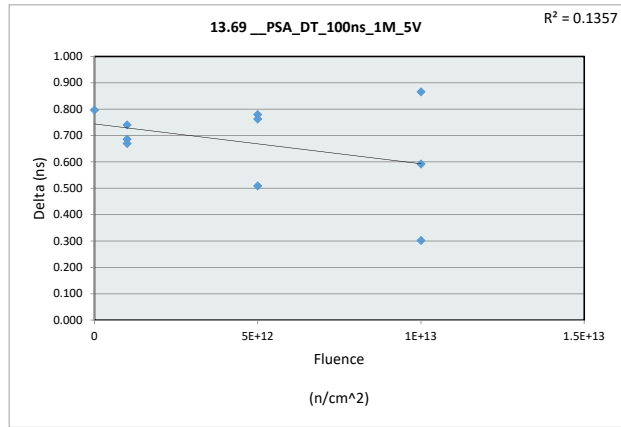


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.69\_PSA\_DT\_100ns\_1M\_5V

Test Site	
Tester	
Test Number	
Unit	ns
Max Limit	110
Min Limit	85

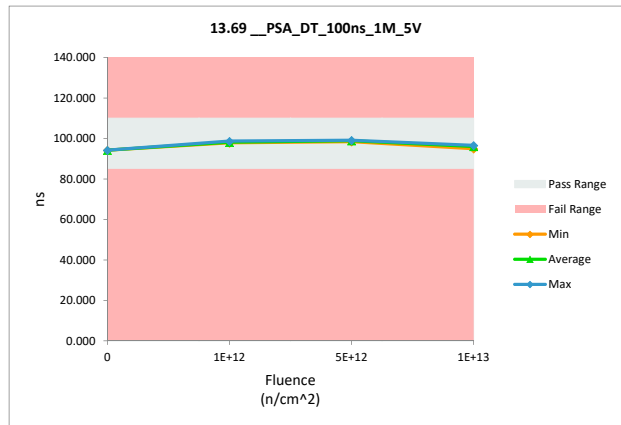
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	93.492	94.290	0.798
1E+12	281	98.043	98.714	0.671
1E+12	284	97.084	97.825	0.741
1E+12	285	97.227	97.914	0.687
5E+12	286	97.975	98.485	0.510
5E+12	287	98.280	99.044	0.764
5E+12	289	98.391	99.172	0.781
1E+13	290	96.014	96.607	0.593
1E+13	291	94.101	94.968	0.867
1E+13	292	96.310	96.613	0.303
Max		98.391	99.172	0.867
Average		96.692	97.363	0.672
Min		93.492	94.290	0.303
Std Dev		1.728	1.700	0.166



13.69\_PSA\_DT\_100ns\_1M\_5V

Test Site	
Tester	
Test Number	
Max Limit	110
Min Limit	85

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	94.290	97.825	98.485	94.968
Average	94.290	98.151	98.900	96.063
Max	94.290	98.714	99.172	96.613
UL	110.000	110.000	110.000	110.000

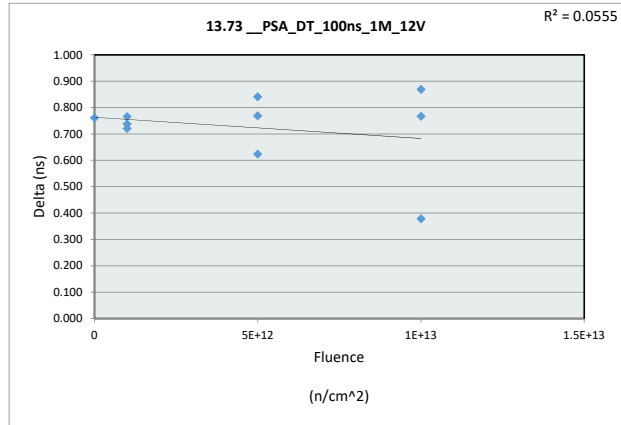


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.73 \_\_PSA\_DT\_100ns\_1M\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	110	110
Min Limit	85	85

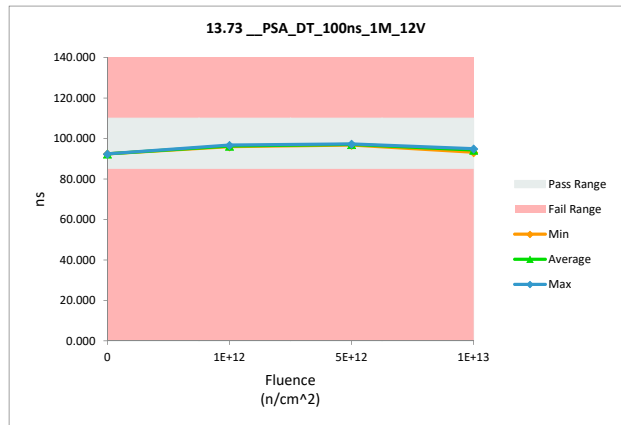
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	91.644	92.406	0.762
1E+12	281	96.015	96.737	0.722
1E+12	284	95.230	95.997	0.767
1E+12	285	95.374	96.113	0.739
5E+12	286	96.172	96.797	0.625
5E+12	287	96.487	97.257	0.770
5E+12	289	96.474	97.316	0.842
1E+13	290	94.183	94.951	0.768
1E+13	291	92.304	93.174	0.870
1E+13	292	94.436	94.816	0.380
Max		96.487	97.316	0.870
Average		94.832	95.556	0.725
Min		91.644	92.406	0.380
Std Dev		1.707	1.698	0.138



13.73 \_\_PSA\_DT\_100ns\_1M\_1

Test Site		
Tester		
Test Number		
Max Limit	110	ns
Min Limit	85	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	92.406	95.997	96.797	93.174
Average	92.406	96.282	97.123	94.314
Max	92.406	96.737	97.316	94.951
UL	110.000	110.000	110.000	110.000

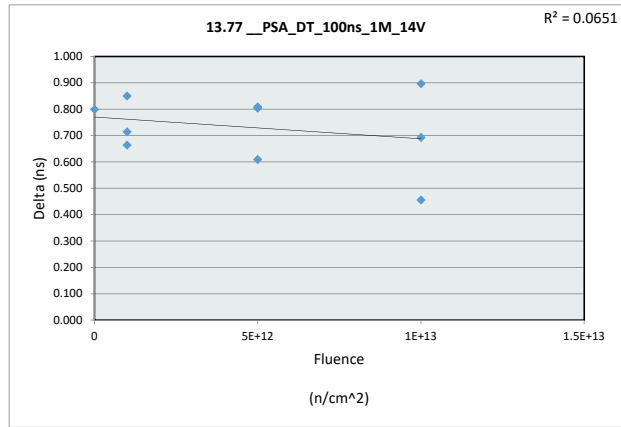


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.77\_PSA\_DT\_100ns\_1M\_14V

Test Site	
Tester	
Test Number	
Unit	ns
Max Limit	110
Min Limit	85

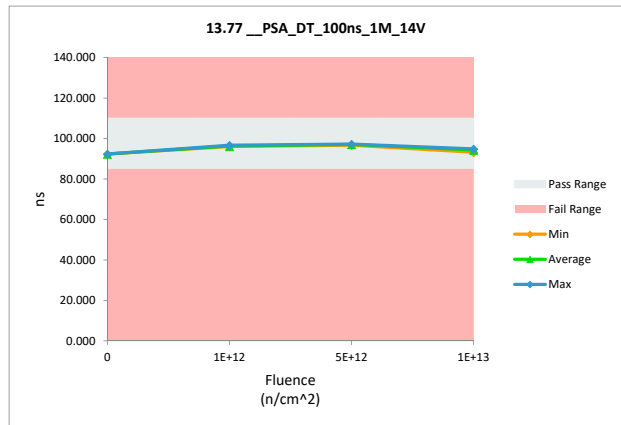
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	91.585	92.385	0.800
1E+12	281	95.974	96.689	0.715
1E+12	284	95.158	96.009	0.851
1E+12	285	95.351	96.016	0.665
5E+12	286	96.121	96.731	0.610
5E+12	287	96.415	97.220	0.805
5E+12	289	96.466	97.276	0.810
1E+13	290	94.189	94.883	0.694
1E+13	291	92.278	93.176	0.898
1E+13	292	94.393	94.850	0.457
Max		96.466	97.276	0.898
Average		94.793	95.524	0.731
Min		91.585	92.385	0.457
Std Dev		1.705	1.682	0.131



13.77\_PSA\_DT\_100ns\_1M\_1

Test Site	
Tester	
Test Number	
Max Limit	110
Min Limit	85

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	92.385	96.009	96.731	93.176
Average	92.385	96.238	97.076	94.303
Max	92.385	96.689	97.276	94.883
UL	110.000	110.000	110.000	110.000

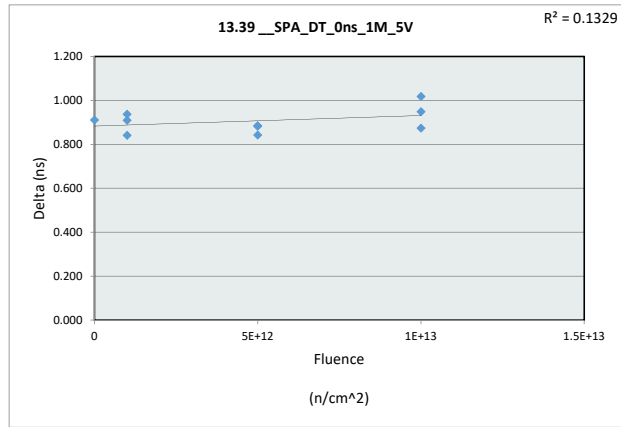


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.39 \_\_SPA\_DT\_0ns\_1M\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	11	11
Min Limit	5	5

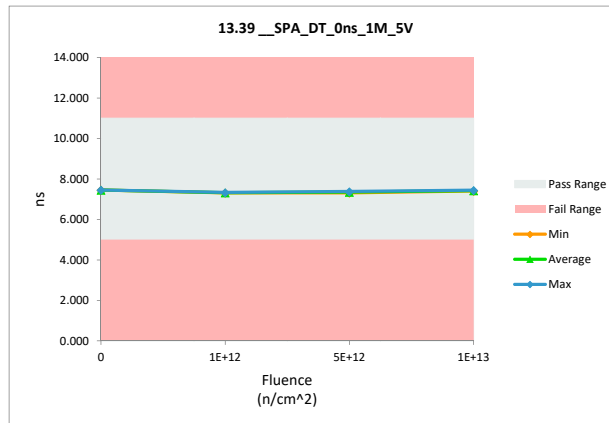
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.541	7.453	0.912
1E+12	281	6.472	7.314	0.842
1E+12	284	6.396	7.334	0.938
1E+12	285	6.412	7.323	0.911
5E+12	286	6.493	7.379	0.886
5E+12	287	6.467	7.311	0.844
5E+12	289	6.483	7.367	0.884
1E+13	290	6.408	7.427	1.019
1E+13	291	6.528	7.403	0.875
1E+13	292	6.494	7.444	0.950
Max		6.541	7.453	1.019
Average		6.469	7.376	0.906
Min		6.396	7.311	0.842
Std Dev		0.050	0.054	0.053



13.39 \_\_SPA\_DT\_0ns\_1M\_5V

Test Site		
Tester		
Test Number		
Max Limit	11	ns
Min Limit	5	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	5.000	5.000	5.000	5.000
Min	7.453	7.314	7.311	7.403
Average	7.453	7.324	7.352	7.425
Max	7.453	7.334	7.379	7.444
UL	11.000	11.000	11.000	11.000

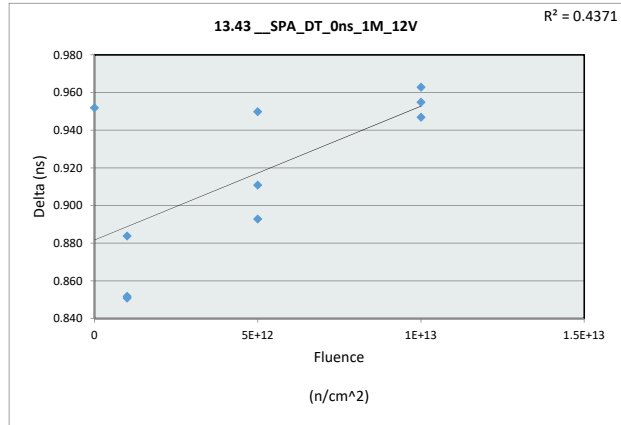


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.43 SPA\_DT\_0ns\_1M\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	11	11
Min Limit	5	5

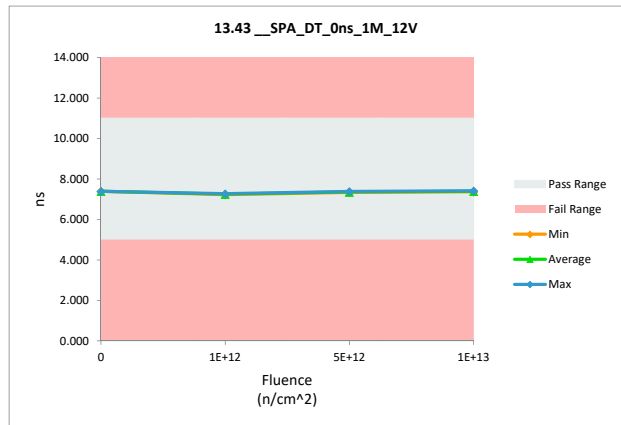
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.441	7.393	0.952
1E+12	281	6.378	7.229	0.851
1E+12	284	6.365	7.249	0.884
1E+12	285	6.423	7.275	0.852
5E+12	286	6.492	7.385	0.893
5E+12	287	6.401	7.351	0.950
5E+12	289	6.426	7.337	0.911
1E+13	290	6.420	7.367	0.947
1E+13	291	6.443	7.406	0.963
1E+13	292	6.463	7.418	0.955
Max		6.492	7.418	0.963
Average		6.425	7.341	0.916
Min		6.365	7.229	0.851
Std Dev		0.038	0.067	0.044



13.43 SPA\_DT\_0ns\_1M\_12V

Test Site		
Tester		
Test Number		
Max Limit	11	ns
Min Limit	5	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	5.000	5.000	5.000	5.000
Min	7.393	7.229	7.337	7.367
Average	7.393	7.251	7.358	7.397
Max	7.393	7.275	7.385	7.418
UL	11.000	11.000	11.000	11.000



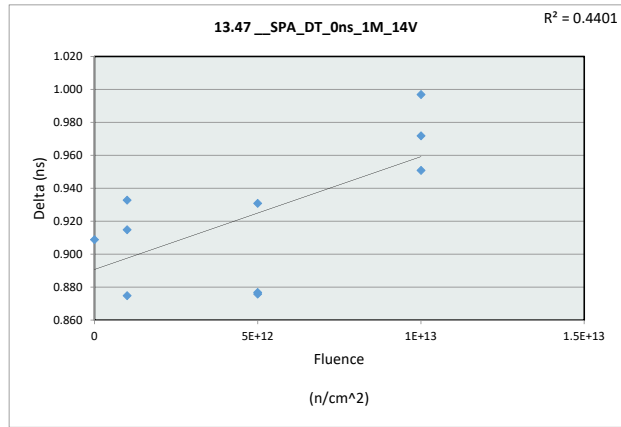


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.47 \_\_SPA\_DT\_0ns\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	11	11
Min Limit	5	5

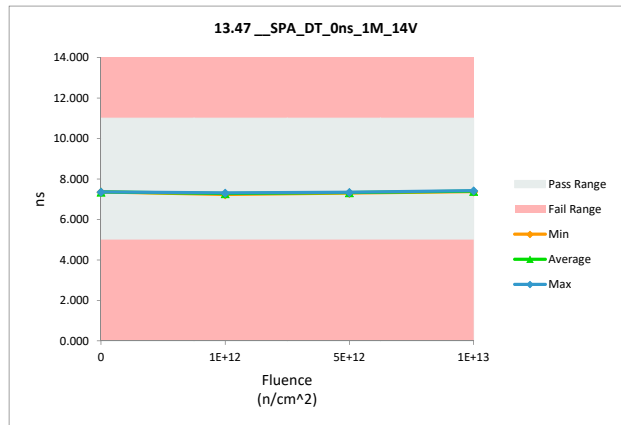
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	6.449	7.358	0.909
1E+12	281	6.369	7.284	0.915
1E+12	284	6.362	7.237	0.875
1E+12	285	6.385	7.318	0.933
5E+12	286	6.466	7.343	0.877
5E+12	287	6.428	7.304	0.876
5E+12	289	6.409	7.340	0.931
1E+13	290	6.423	7.374	0.951
1E+13	291	6.453	7.425	0.972
1E+13	292	6.415	7.412	0.997
Max		6.466	7.425	0.997
Average		6.416	7.339	0.924
Min		6.362	7.237	0.875
Std Dev		0.035	0.057	0.042



13.47 \_\_SPA\_DT\_0ns\_1M\_14V

Test Site		
Tester		
Test Number		
Max Limit	11	ns
Min Limit	5	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	5.000	5.000	5.000	5.000
Min	7.358	7.237	7.304	7.374
Average	7.358	7.280	7.329	7.404
Max	7.358	7.318	7.343	7.425
UL	11.000	11.000	11.000	11.000

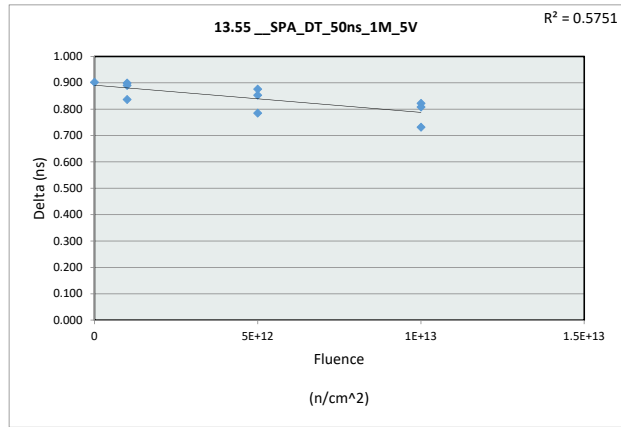


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.55 \_\_SPA\_DT\_50ns\_1M\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	43	43

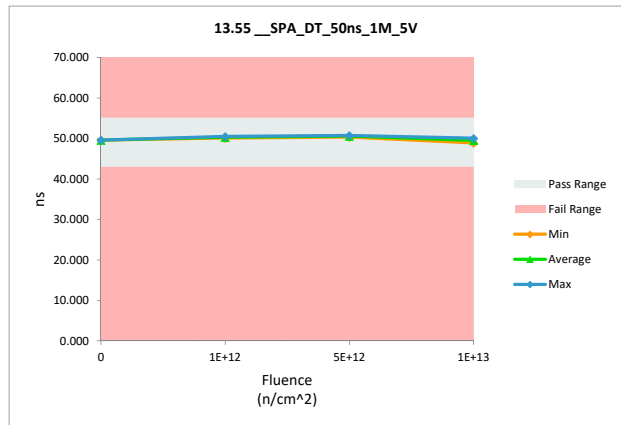
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	48.702	49.605	0.903
1E+12	281	49.221	50.112	0.891
1E+12	284	49.611	50.511	0.900
1E+12	285	49.442	50.280	0.838
5E+12	286	49.579	50.365	0.786
5E+12	287	49.845	50.722	0.877
5E+12	289	49.897	50.751	0.854
1E+13	290	48.791	49.600	0.809
1E+13	291	48.174	48.907	0.733
1E+13	292	49.240	50.063	0.823
Max		49.897	50.751	0.903
Average		49.250	50.092	0.841
Min		48.174	48.907	0.733
Std Dev		0.550	0.577	0.055



13.55 \_\_SPA\_DT\_50ns\_1M\_5V

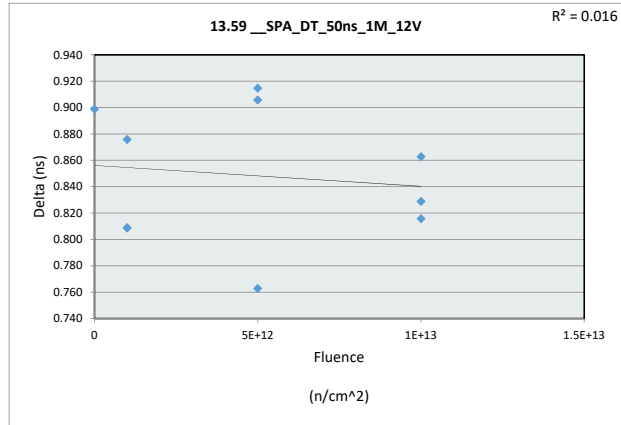
Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	43	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	43.000	43.000	43.000	43.000
Min	49.605	50.112	50.365	48.907
Average	49.605	50.301	50.613	49.523
Max	49.605	50.511	50.751	50.063
UL	55.000	55.000	55.000	55.000

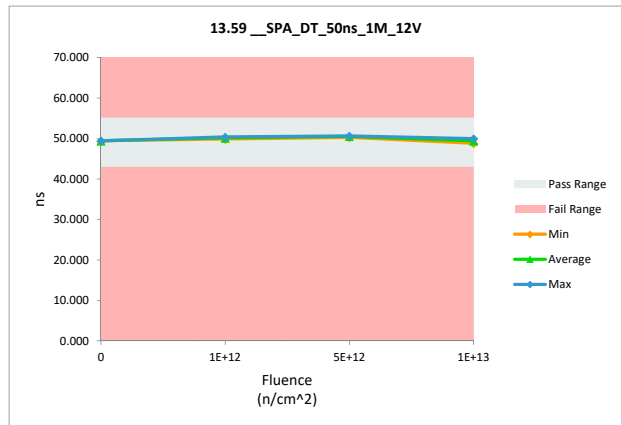


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.59 __SPA_DT_50ns_1M_12V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	55	55		
Min Limit	43	43		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	48.541	49.440	0.899
1E+12	281	49.058	49.867	0.809
1E+12	284	49.502	50.378	0.876
1E+12	285	49.379	50.188	0.809
5E+12	286	49.515	50.278	0.763
5E+12	287	49.741	50.647	0.906
5E+12	289	49.730	50.645	0.915
1E+13	290	48.662	49.491	0.829
1E+13	291	48.008	48.824	0.816
1E+13	292	49.098	49.961	0.863
Max		49.741	50.647	0.915
Average		49.123	49.972	0.849
Min		48.008	48.824	0.763
Std Dev		0.569	0.583	0.051



13.59 __SPA_DT_50ns_1M_12V				
Test Site				
Tester				
Test Number				
Max Limit	55	ns		
Min Limit	43	ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	43.000	43.000	43.000	43.000
Min	49.440	49.867	50.278	48.824
Average	49.440	50.144	50.523	49.425
Max	49.440	50.378	50.647	49.961
UL	55.000	55.000	55.000	55.000

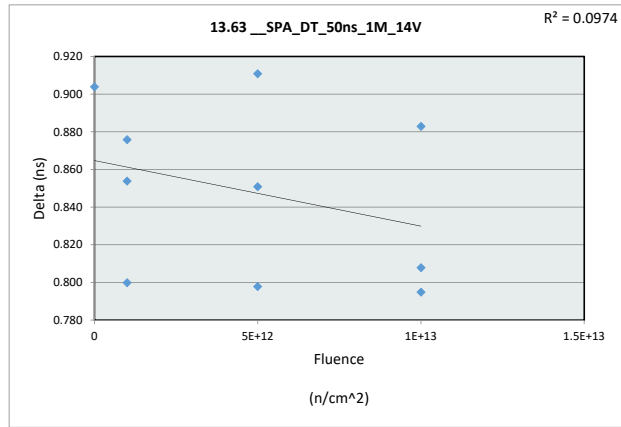


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.63\_SPA\_DT\_50ns\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	43	43

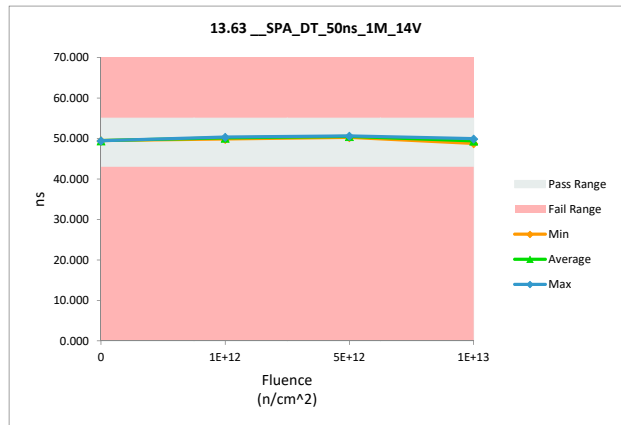
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	48.559	49.463	0.904
1E+12	281	49.059	49.859	0.800
1E+12	284	49.514	50.368	0.854
1E+12	285	49.343	50.219	0.876
5E+12	286	49.493	50.291	0.798
5E+12	287	49.743	50.654	0.911
5E+12	289	49.766	50.617	0.851
1E+13	290	48.699	49.507	0.808
1E+13	291	48.009	48.804	0.795
1E+13	292	49.071	49.954	0.883
Max		49.766	50.654	0.911
Average		49.126	49.974	0.848
Min		48.009	48.804	0.795
Std Dev		0.566	0.582	0.045



13.63\_SPA\_DT\_50ns\_1M\_14V

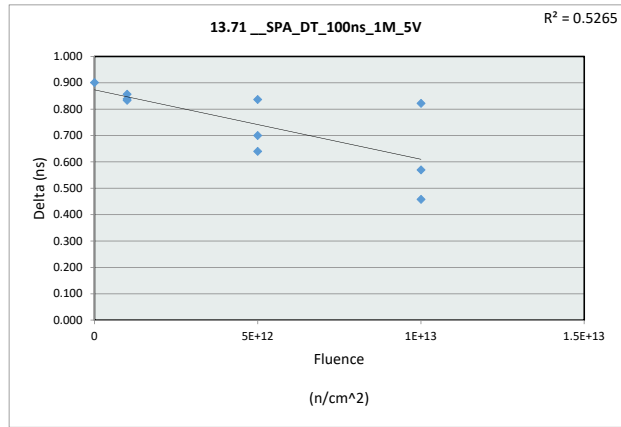
Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	43	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	43.000	43.000	43.000	43.000
Min	49.463	49.859	50.291	48.804
Average	49.463	50.149	50.521	49.422
Max	49.463	50.368	50.654	49.954
UL	55.000	55.000	55.000	55.000

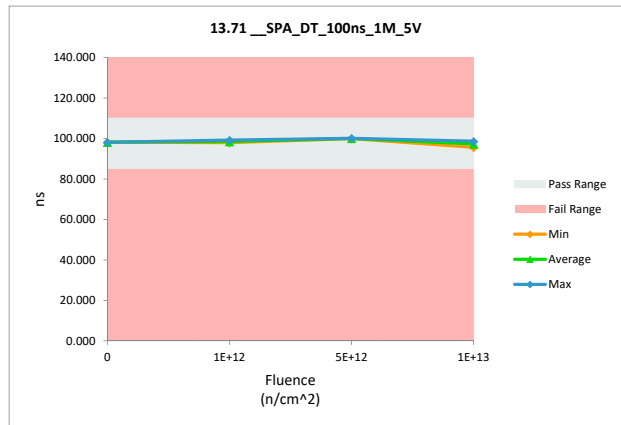


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.71 SPA_DT_100ns_1M_5V				
Test Site				
Tester				
Test Number				
Unit	ns	ns		
Max Limit	110	110		
Min Limit	85	85		
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	97.244	98.146	0.902
1E+12	281	97.094	97.929	0.835
1E+12	284	98.336	99.176	0.840
1E+12	285	97.479	98.337	0.858
5E+12	286	99.280	99.921	0.641
5E+12	287	99.239	100.077	0.838
5E+12	289	99.396	100.097	0.701
1E+13	290	97.055	97.626	0.571
1E+13	291	95.235	95.694	0.459
1E+13	292	97.799	98.622	0.823
Max		99.396	100.097	0.902
Average		97.816	98.563	0.747
Min		95.235	95.694	0.459
Std Dev		1.297	1.358	0.147



13.71 SPA_DT_100ns_1M_5V				
Test Site				
Tester				
Test Number				
Max Limit	110	ns		
Min Limit	85	ns		
Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	98.146	97.929	99.921	95.694
Average	98.146	98.481	100.032	97.314
Max	98.146	99.176	100.097	98.622
UL	110.000	110.000	110.000	110.000

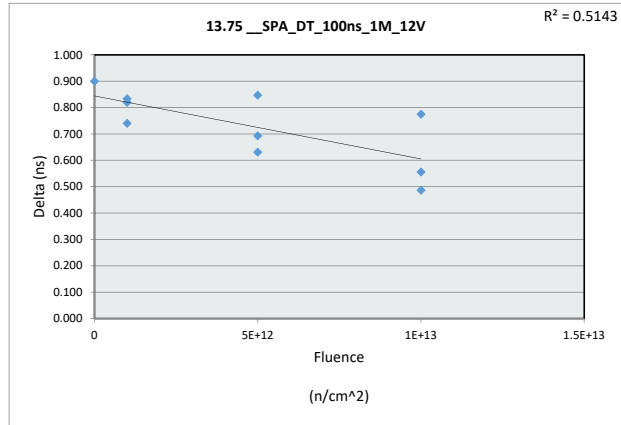


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.75 SPA\_DT\_100ns\_1M\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	110	110
Min Limit	85	85

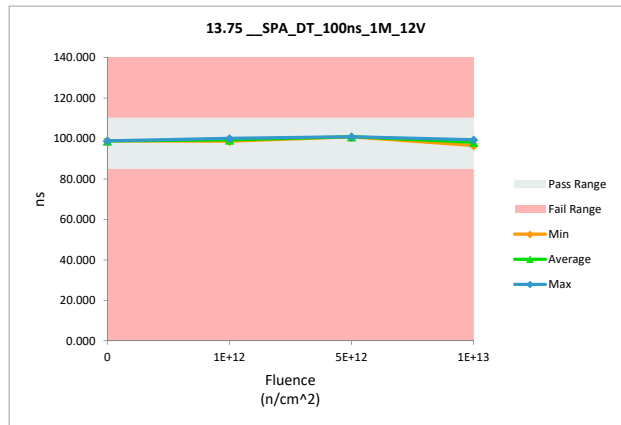
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	97.939	98.840	0.901
1E+12	281	97.939	98.680	0.741
1E+12	284	99.207	100.042	0.835
1E+12	285	98.374	99.195	0.821
5E+12	286	100.147	100.779	0.632
5E+12	287	100.067	100.915	0.848
5E+12	289	100.215	100.909	0.694
1E+13	290	97.886	98.443	0.557
1E+13	291	96.038	96.526	0.488
1E+13	292	98.603	99.379	0.776
Max		100.215	100.915	0.901
Average		98.642	99.371	0.729
Min		96.038	96.526	0.488
Std Dev		1.312	1.371	0.135



13.75 SPA\_DT\_100ns\_1M\_1

Test Site		
Tester		
Test Number		
Max Limit	110	ns
Min Limit	85	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	98.840	98.680	100.779	96.526
Average	98.840	99.306	100.868	98.116
Max	98.840	100.042	100.915	99.379
UL	110.000	110.000	110.000	110.000

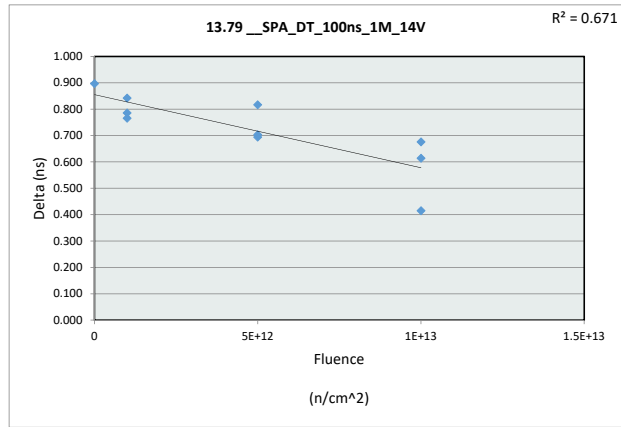


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.79 SPA\_DT\_100ns\_1M\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	110	110
Min Limit	85	85

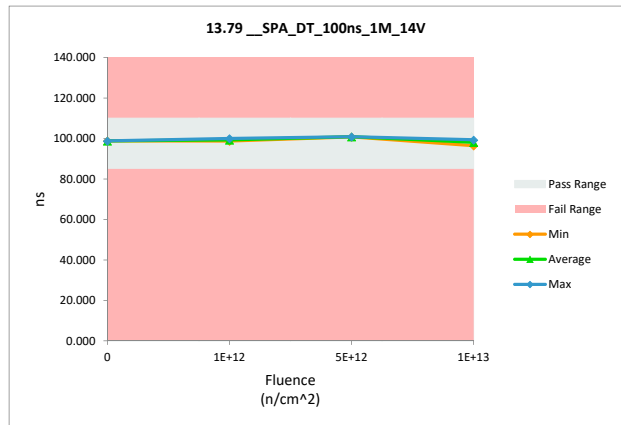
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	97.934	98.832	0.898
1E+12	281	97.948	98.735	0.787
1E+12	284	99.182	100.025	0.843
1E+12	285	98.363	99.130	0.767
5E+12	286	100.125	100.820	0.695
5E+12	287	100.085	100.903	0.818
5E+12	289	100.194	100.898	0.704
1E+13	290	97.861	98.476	0.615
1E+13	291	96.060	96.476	0.416
1E+13	292	98.658	99.335	0.677
Max		100.194	100.903	0.898
Average		98.641	99.363	0.722
Min		96.060	96.476	0.416
Std Dev		1.305	1.380	0.137



13.79 SPA\_DT\_100ns\_1M\_1

Test Site		
Tester		
Test Number		
Max Limit	110	ns
Min Limit	85	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	98.832	98.735	100.820	96.476
Average	98.832	99.297	100.874	98.096
Max	98.832	100.025	100.903	99.335
UL	110.000	110.000	110.000	110.000

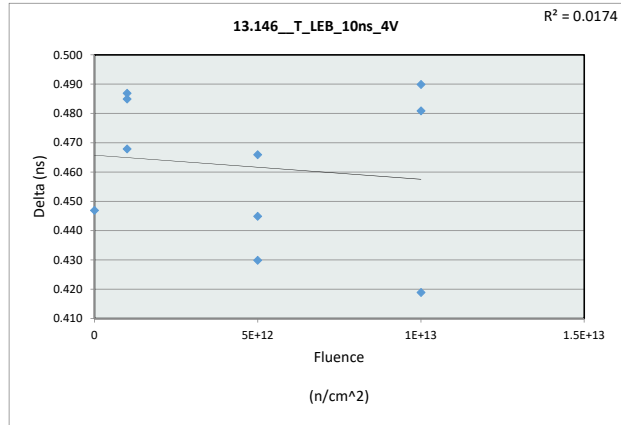


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.146\_T\_LEB\_10ns\_4V

Test Site	
Tester	
Test Number	
Unit	ns
Max Limit	19
Min Limit	12

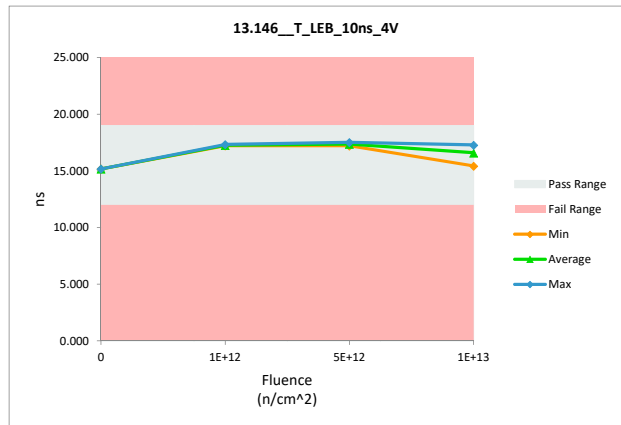
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	14.726	15.173	0.447
1E+12	281	16.734	17.221	0.487
1E+12	284	16.737	17.222	0.485
1E+12	285	16.867	17.335	0.468
5E+12	286	16.786	17.216	0.430
5E+12	287	17.057	17.523	0.466
5E+12	289	16.940	17.385	0.445
1E+13	290	16.869	17.288	0.419
1E+13	291	14.944	15.434	0.490
1E+13	292	16.582	17.063	0.481
Max		17.057	17.523	0.490
Average		16.424	16.886	0.462
Min		14.726	15.173	0.419
Std Dev		0.849	0.845	0.025



13.146\_T\_LEB\_10ns\_4V

Test Site	
Tester	
Test Number	
Max Limit	19
Min Limit	12

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	12.000	12.000	12.000	12.000
Min	15.173	17.221	17.216	15.434
Average	15.173	17.259	17.375	16.595
Max	15.173	17.335	17.523	17.288
UL	19.000	19.000	19.000	19.000



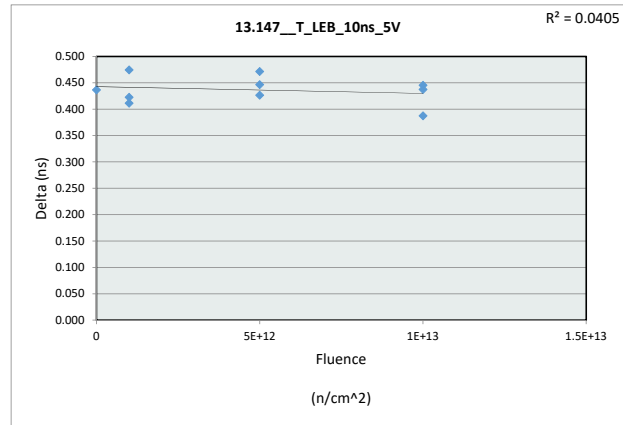


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.147\_T\_LEB\_10ns\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	19	19
Min Limit	12	12

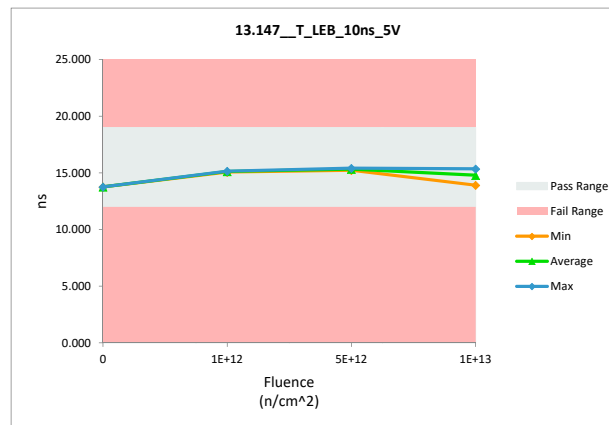
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	13.330	13.767	0.437
1E+12	281	14.596	15.071	0.475
1E+12	284	14.736	15.159	0.423
1E+12	285	14.741	15.153	0.412
5E+12	286	14.786	15.233	0.447
5E+12	287	14.997	15.424	0.427
5E+12	289	14.859	15.331	0.472
1E+13	290	14.923	15.361	0.438
1E+13	291	13.472	13.918	0.446
1E+13	292	14.686	15.074	0.388
Max		14.997	15.424	0.475
Average		14.513	14.949	0.437
Min		13.330	13.767	0.388
Std Dev		0.598	0.596	0.026



13.147\_T\_LEB\_10ns\_5V

Test Site		
Tester		
Test Number		
Max Limit	19	ns
Min Limit	12	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	12.000	12.000	12.000	12.000
Min	13.767	15.071	15.233	13.918
Average	13.767	15.128	15.329	14.784
Max	13.767	15.159	15.424	15.361
UL	19.000	19.000	19.000	19.000

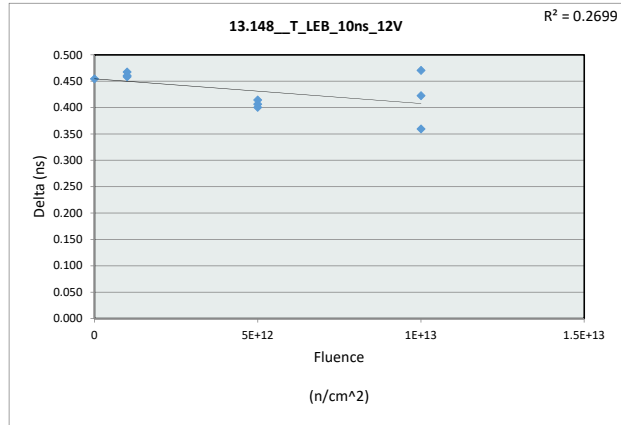


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.148\_T\_LEB\_10ns\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	19	19
Min Limit	12	12

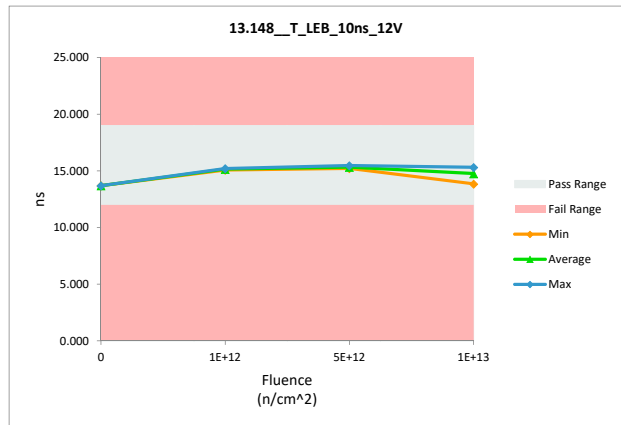
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	13.245	13.700	0.455
1E+12	281	14.609	15.077	0.468
1E+12	284	14.702	15.161	0.459
1E+12	285	14.761	15.222	0.461
5E+12	286	14.803	15.218	0.415
5E+12	287	15.068	15.469	0.401
5E+12	289	14.907	15.314	0.407
1E+13	290	14.956	15.316	0.360
1E+13	291	13.385	13.856	0.471
1E+13	292	14.680	15.103	0.423
Max		15.068	15.469	0.471
Average		14.512	14.944	0.432
Min		13.245	13.700	0.360
Std Dev		0.646	0.626	0.037



13.148\_T\_LEB\_10ns\_12V

Test Site		
Tester		
Test Number		
Max Limit	19	ns
Min Limit	12	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	12.000	12.000	12.000	12.000
Min	13.700	15.077	15.218	13.856
Average	13.700	15.153	15.334	14.758
Max	13.700	15.222	15.469	15.316
UL	19.000	19.000	19.000	19.000

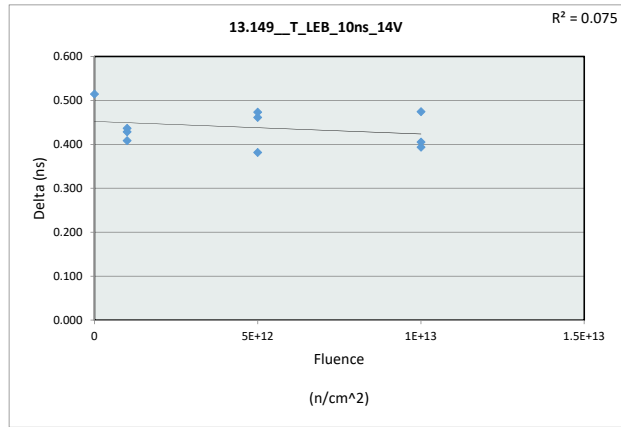


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.149\_T\_LEB\_10ns\_14V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	19	19
Min Limit	12	12

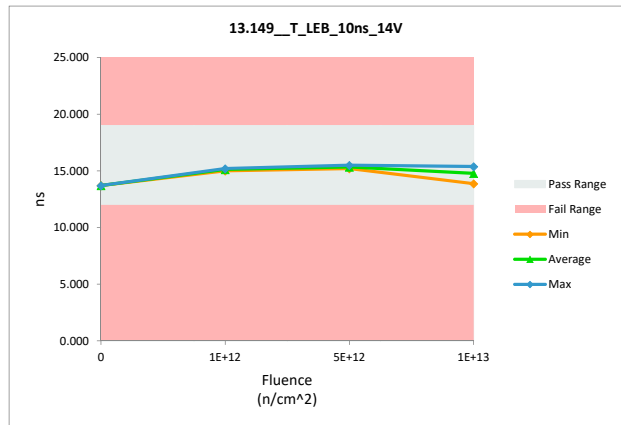
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	13.198	13.713	0.515
1E+12	281	14.580	15.009	0.429
1E+12	284	14.718	15.155	0.437
1E+12	285	14.802	15.211	0.409
5E+12	286	14.820	15.202	0.382
5E+12	287	15.040	15.502	0.462
5E+12	289	14.859	15.333	0.474
1E+13	290	14.982	15.388	0.406
1E+13	291	13.399	13.874	0.475
1E+13	292	14.679	15.073	0.394
Max		15.040	15.502	0.515
Average		14.508	14.946	0.438
Min		13.198	13.713	0.382
Std Dev		0.653	0.626	0.042



13.149\_T\_LEB\_10ns\_14V

Test Site		
Tester		
Test Number		
Max Limit	19	ns
Min Limit	12	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	12.000	12.000	12.000	12.000
Min	13.713	15.009	15.202	13.874
Average	13.713	15.125	15.346	14.778
Max	13.713	15.211	15.502	15.388
UL	19.000	19.000	19.000	19.000

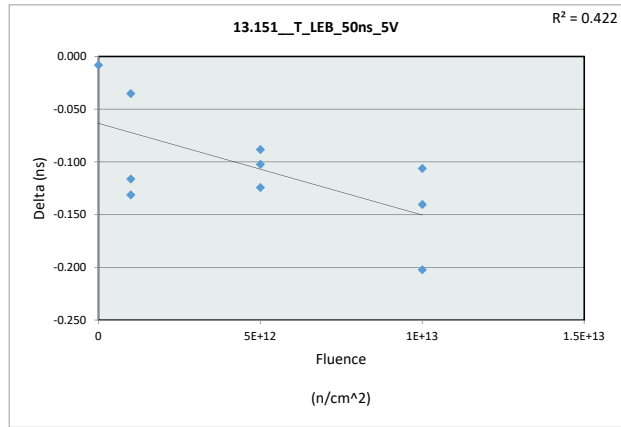


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.151\_T\_LEB\_50ns\_5V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	45	45

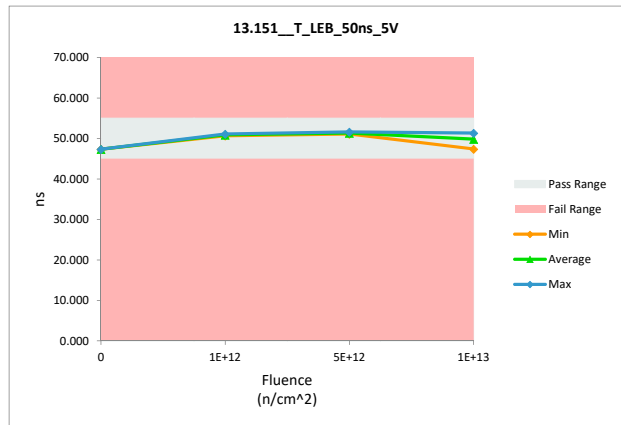
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	47.382	47.374	-0.008
1E+12	281	50.800	50.684	-0.116
1E+12	284	50.889	50.854	-0.035
1E+12	285	51.255	51.124	-0.131
5E+12	286	51.207	51.119	-0.088
5E+12	287	51.721	51.619	-0.102
5E+12	289	51.405	51.281	-0.124
1E+13	290	51.559	51.357	-0.202
1E+13	291	47.516	47.410	-0.106
1E+13	292	50.920	50.780	-0.140
Max		51.721	51.619	-0.008
Average		50.465	50.360	-0.105
Min		47.382	47.374	-0.202
Std Dev		1.617	1.589	0.054



13.151\_T\_LEB\_50ns\_5V

Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	45	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	45.000	45.000	45.000	45.000
Min	47.374	50.684	51.119	47.410
Average	47.374	50.887	51.340	49.849
Max	47.374	51.124	51.619	51.357
UL	55.000	55.000	55.000	55.000

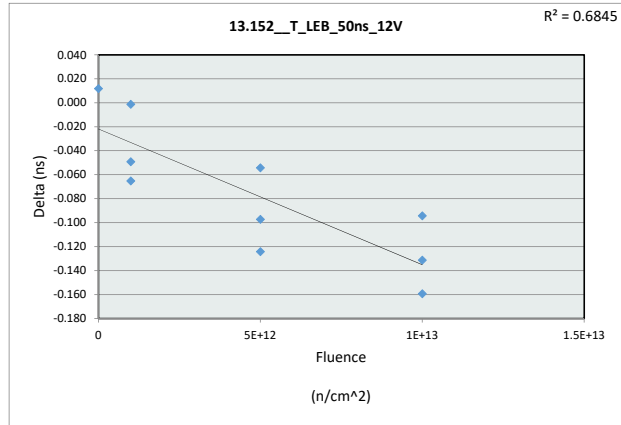


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

13.152\_T\_LEB\_50ns\_12V

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	45	45

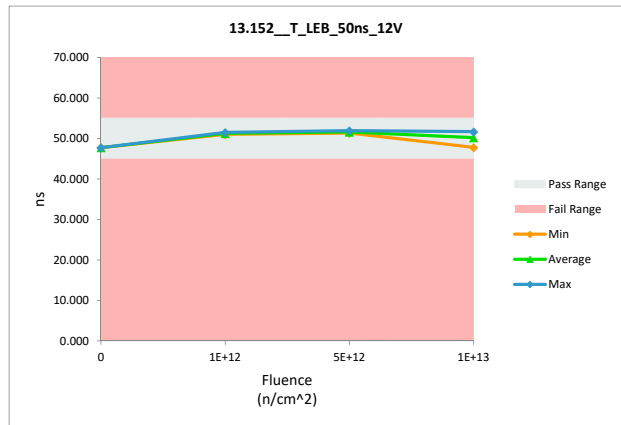
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	47.730	47.742	0.012
1E+12	281	51.107	51.042	-0.065
1E+12	284	51.250	51.201	-0.049
1E+12	285	51.526	51.525	-0.001
5E+12	286	51.488	51.364	-0.124
5E+12	287	52.004	51.950	-0.054
5E+12	289	51.673	51.576	-0.097
1E+13	290	51.851	51.692	-0.159
1E+13	291	47.903	47.809	-0.094
1E+13	292	51.245	51.114	-0.131
Max		52.004	51.950	0.012
Average		50.778	50.701	-0.076
Min		47.730	47.742	-0.159
Std Dev		1.585	1.566	0.055



13.152\_T\_LEB\_50ns\_12V

Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	45	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	45.000	45.000	45.000	45.000
Min	47.742	51.042	51.364	47.809
Average	47.742	51.256	51.630	50.205
Max	47.742	51.525	51.950	51.692
UL	55.000	55.000	55.000	55.000

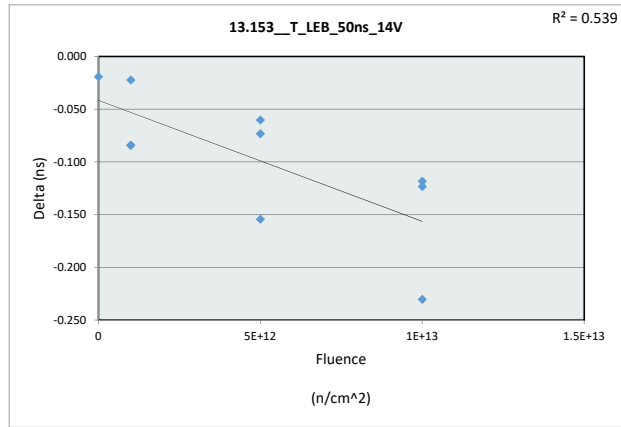


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

**13.153\_T\_LEB\_50ns\_14V**

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	55	55
Min Limit	45	45

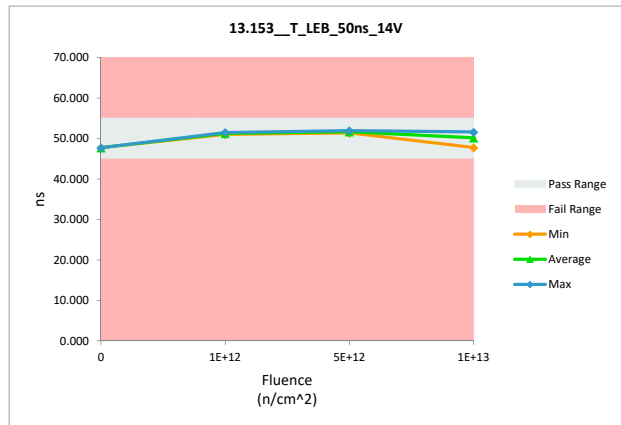
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	47.758	47.739	-0.019
1E+12	281	51.122	51.038	-0.084
1E+12	284	51.280	51.196	-0.084
1E+12	285	51.532	51.510	-0.022
5E+12	286	51.540	51.386	-0.154
5E+12	287	52.010	51.937	-0.073
5E+12	289	51.711	51.651	-0.060
1E+13	290	51.843	51.613	-0.230
1E+13	291	47.888	47.765	-0.123
1E+13	292	51.226	51.108	-0.118
Max		52.010	51.937	-0.019
Average		50.791	50.694	-0.097
Min		47.758	47.739	-0.230
Std Dev		1.589	1.574	0.063



**13.153\_T\_LEB\_50ns\_14V**

Test Site		
Tester		
Test Number		
Max Limit	55	ns
Min Limit	45	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	45.000	45.000	45.000	45.000
Min	47.739	51.038	51.386	47.765
Average	47.739	51.248	51.658	50.162
Max	47.739	51.510	51.937	51.613
UL	55.000	55.000	55.000	55.000

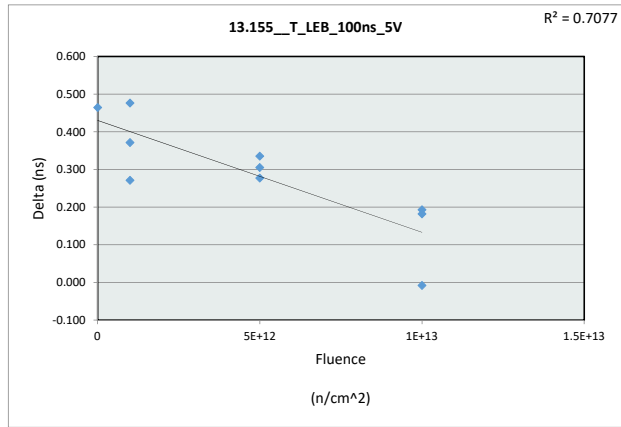


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

**13.155\_T\_LEB\_100ns\_5V**

Test Site	
Tester	
Test Number	
Unit	ns
Max Limit	110
Min Limit	85

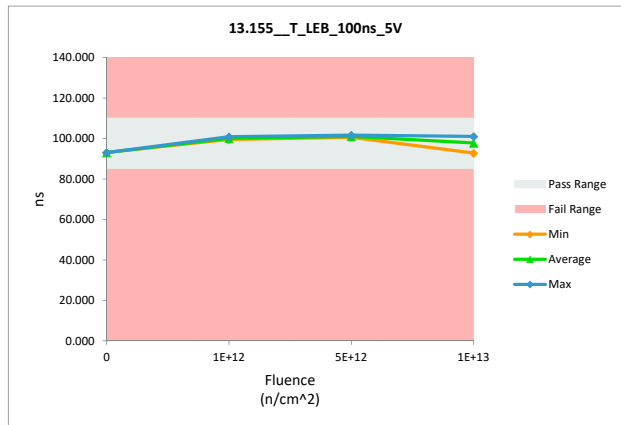
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	92.629	93.094	0.465
1E+12	281	99.219	99.491	0.272
1E+12	284	99.243	99.720	0.477
1E+12	285	100.549	100.921	0.372
5E+12	286	100.314	100.592	0.278
5E+12	287	101.377	101.683	0.306
5E+12	289	100.485	100.821	0.336
1E+13	290	101.063	101.056	-0.007
1E+13	291	92.665	92.848	0.183
1E+13	292	99.299	99.493	0.194
Max		101.377	101.683	0.477
Average		98.684	98.972	0.288
Min		92.629	92.848	-0.007
Std Dev		3.269	3.244	0.143



**13.155\_T\_LEB\_100ns\_5V**

Test Site	
Tester	
Test Number	
Max Limit	110
Min Limit	85

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	93.094	99.491	100.592	92.848
Average	93.094	100.044	101.032	97.799
Max	93.094	100.921	101.683	101.056
UL	110.000	110.000	110.000	110.000

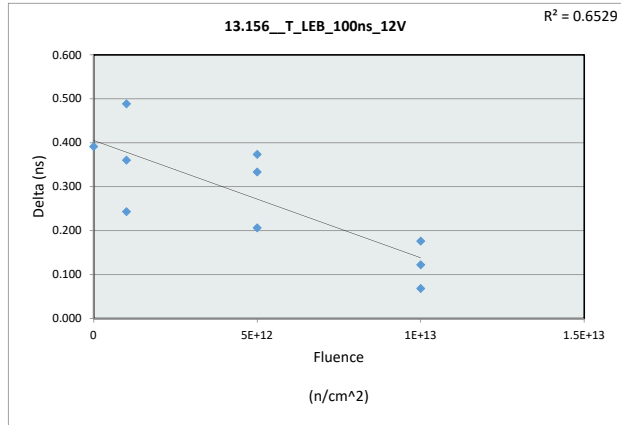


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

**13.156\_T\_LEB\_100ns\_12V**

Test Site	
Tester	
Test Number	
Unit	ns
Max Limit	110
Min Limit	85

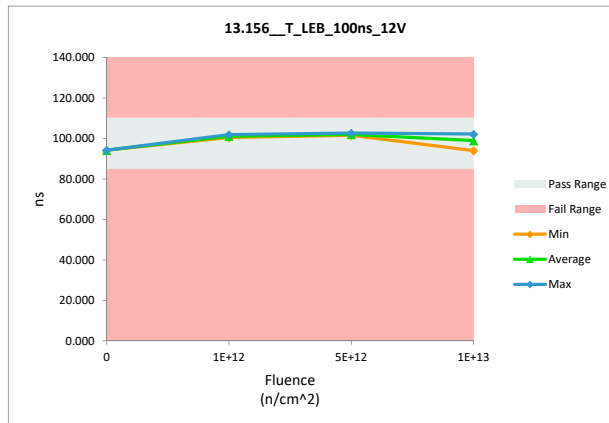
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	93.865	94.257	0.392
1E+12	281	100.246	100.490	0.244
1E+12	284	100.388	100.877	0.489
1E+12	285	101.569	101.930	0.361
5E+12	286	101.244	101.578	0.334
5E+12	287	102.371	102.745	0.374
5E+12	289	101.603	101.810	0.207
1E+13	290	102.109	102.178	0.069
1E+13	291	93.878	94.001	0.123
1E+13	292	100.426	100.603	0.177
Max		102.371	102.745	0.489
Average		99.770	100.047	0.277
Min		93.865	94.001	0.069
Std Dev		3.191	3.199	0.134



**13.156\_T\_LEB\_100ns\_12V**

Test Site	
Tester	
Test Number	
Max Limit	110
Min Limit	85

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	94.257	100.490	101.578	94.001
Average	94.257	101.099	102.044	98.927
Max	94.257	101.930	102.745	102.178
UL	110.000	110.000	110.000	110.000



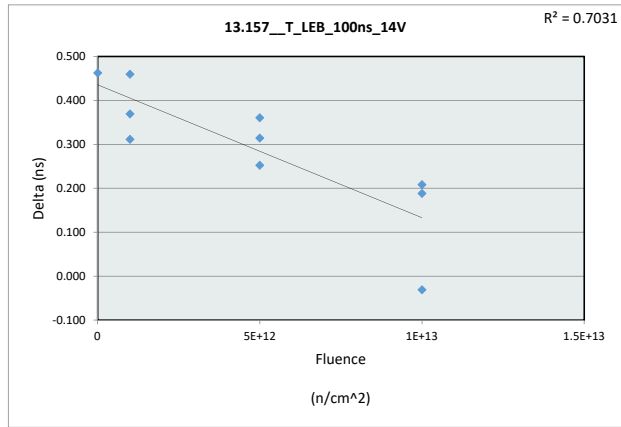


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

**13.157\_T\_LEB\_100ns\_14V**

Test Site		
Tester		
Test Number		
Unit	ns	ns
Max Limit	110	110
Min Limit	85	85

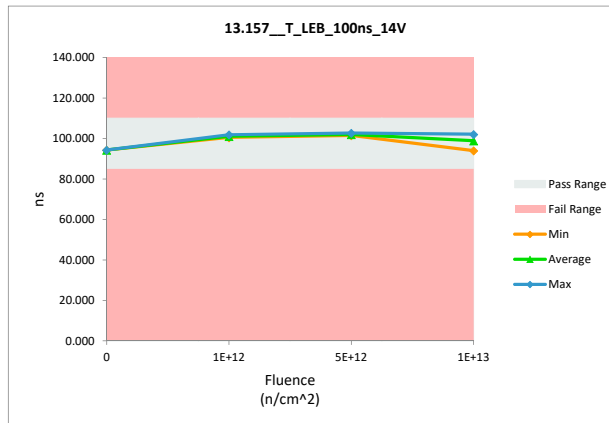
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	93.841	94.304	0.463
1E+12	281	100.205	100.517	0.312
1E+12	284	100.373	100.833	0.460
1E+12	285	101.557	101.927	0.370
5E+12	286	101.281	101.534	0.253
5E+12	287	102.385	102.700	0.315
5E+12	289	101.536	101.897	0.361
1E+13	290	102.120	102.090	-0.030
1E+13	291	93.824	94.013	0.189
1E+13	292	100.357	100.566	0.209
Max		102.385	102.700	0.463
Average		99.748	100.038	0.290
Min		93.824	94.013	-0.030
Std Dev		3.203	3.178	0.146



**13.157\_T\_LEB\_100ns\_14V**

Test Site		
Tester		
Test Number		
Max Limit	110	ns
Min Limit	85	ns

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	85.000	85.000	85.000	85.000
Min	94.304	100.517	101.534	94.013
Average	94.304	101.092	102.044	98.890
Max	94.304	101.927	102.700	102.090
UL	110.000	110.000	110.000	110.000

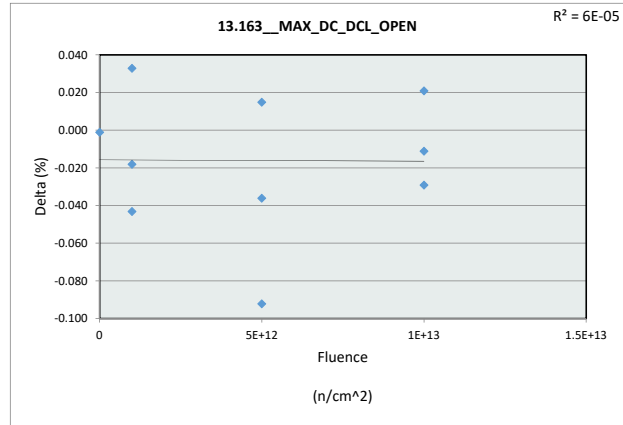


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.163\_MAX\_DC\_DCL\_OPEN

Test Site		
Tester		
Test Number		
Unit	%	%
Max Limit	80	80
Min Limit	70	70

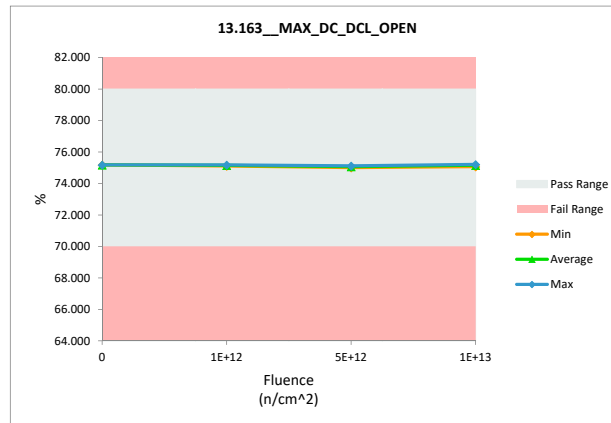
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	75.184	75.183	-0.001
1E+12	281	75.201	75.183	-0.018
1E+12	284	75.130	75.163	0.033
1E+12	285	75.152	75.109	-0.043
5E+12	286	75.101	75.009	-0.092
5E+12	287	75.069	75.084	0.015
5E+12	289	75.158	75.122	-0.036
1E+13	290	75.100	75.071	-0.029
1E+13	291	75.220	75.209	-0.011
1E+13	292	75.161	75.182	0.021
Max		75.220	75.209	0.033
Average		75.148	75.132	-0.016
Min		75.069	75.009	-0.092
Std Dev		0.048	0.064	0.037



## 13.163\_MAX\_DC\_DCL\_OPEN

Test Site		
Tester		
Test Number		
Max Limit	80	%
Min Limit	70	%

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL	70.000	70.000	70.000	70.000
Min	75.183	75.109	75.009	75.071
Average	75.183	75.152	75.072	75.154
Max	75.183	75.183	75.122	75.209
UL	80.000	80.000	80.000	80.000

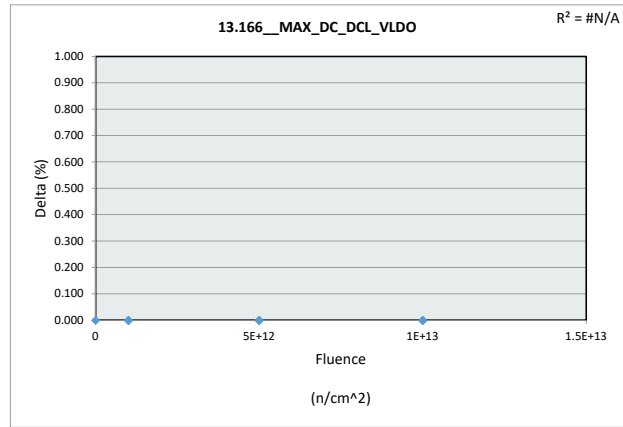


# Neutron Displacement Damage (NDD) Report TPS7H5002-SP

## 13.166\_MAX\_DC\_DCL\_VLDO

Test Site		
Tester		
Test Number		
Unit	%	%
Max Limit	100	100
Min Limit		

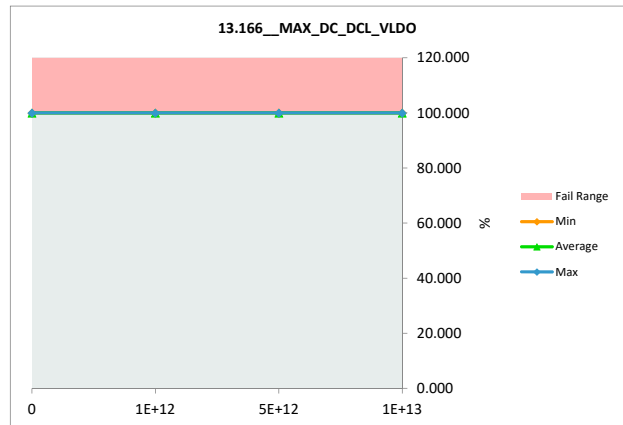
Fluence (n/cm <sup>2</sup> )	Serial #	PRE	POST	Delta
0	295	100.000	100.000	0.000
1E+12	281	100.000	100.000	0.000
1E+12	284	100.000	100.000	0.000
1E+12	285	100.000	100.000	0.000
5E+12	286	100.000	100.000	0.000
5E+12	287	100.000	100.000	0.000
5E+12	289	100.000	100.000	0.000
1E+13	290	100.000	100.000	0.000
1E+13	291	100.000	100.000	0.000
1E+13	292	100.000	100.000	0.000
Max		100.000	100.000	0.000
Average		100.000	100.000	0.000
Min		100.000	100.000	0.000
Std Dev		0.000	0.000	0.000



## 13.166\_MAX\_DC\_DCL\_VLDO

Test Site		
Tester		
Test Number		
Max Limit	100	%
Min Limit		%

Fluence (n/cm <sup>2</sup> )	0	1E+12	5E+12	1E+13
LL				
Min	100.000	100.000	100.000	100.000
Average	100.000	100.000	100.000	100.000
Max	100.000	100.000	100.000	100.000
UL	100.000	100.000	100.000	100.000



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