Radiation Report

LM139AQML-SP Neutron Displacement Damage (NDD) Characterization

ABSTRACT

This report presents the effect of neutron displacement damage (NDD) on the LM139AQML-SP device. The results show that devices remained within data sheet specifications up to 1×10^{11} n/cm^2. At 1×10^{12} n/cm^2 some specifications went outside the range specified in the data sheet, but the devices remained functional.

A sample size of 10 units was exposed to radiation testing per (MIL-STD-883, Method 1017 for Neutron Irradiation) and an additional unirradiated sample device was used for correlation. Electrical testing was performed at Texas Instruments before and after neutron irradiation using the production test program for LM139AQML-SP.

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Trademarks

1 Overview

The LM139AQML-SP is a differential comparator that consists of four independent precision voltage comparators with an offset voltage specification as low as 2 mV max for all four comparators. It was designed to specifically operate from a single power supply over a wide range of voltages. Operation from split power supplies is also possible and the low power supply current drain is independent of the magnitude of the power supply voltage. This device is offered in three different 14 pin ceramic packages.

General device information and testing conditions are listed in Table 1-1.

Table 1-1. Overview Information

TI Part Number	LM139AQML-SP
Device Function	Quad Differential Comparator
Technology	Bipolar
A/T Lot Number	JM0794065
Unbiased Quantity Tested	10
Exposure Facility	VPT
Neutron Fluence (1-MeV equivalent)	1.0×10^{11}, 1.0×10^{12} n/cm^2
Irradiation Temperature	25°C
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2 Test Procedures

The LM139AQML-SP was electrically pre-tested using the production automated test equipment program.

General test procedures were IAW MIL-STD-883, Method 1017 for Neutron Irradiation of LM139AML-SP.

Table 2-1. Neutron Irradiation Conditions

Group	Sample Qty	Neutron Fluence (n/cm^2)	Bias
A	5	1.0×10^{11}	Unbiased
B	5	1.0×10^{12}	Unbiased

3 Facility

The University of Massachusetts's Fast Neutron Irradiation (FNI) facility is an experimental facility replaces three beam ports that originally existed on the left side of the research reactor. It is designed to give a fast flux level ≥ 1011 n/cm2–s, with relatively low thermal fluence and gamma dose rates. Samples with a cross-sectional area as large as 30 cm (12 in) × 30 cm (12 in) and up to 15 cm (6 in) thick can be irradiated. The fast neutron flux is designed to be nearly uniform over the 30 cm (12 in) × 30 cm (12 in) area facing the core, and the fast fluence variation through the sample thickness is minimized via a single 180° rotation of the sample canister at the midpoint of the irradiation period. The FNI facility offers a significantly larger sample volume than previously available within the University of Massachusetts Lowell Research Reactor (UMLRR). The fluences are calculated based on 1-MeV equivalences.

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

4 Results

At 1.0×10^{12}, some parametric measurements failed to remain within the range specified in the data sheet. All parametric measurements remained well within the LM139AQML-SP Class V, radiation low power low offset voltage quad comparator limits for 1.0×10^{11} n/cm^2 levels. The full parameter list and graphs are found in Appendix A.

Positive and negative input bias current went beyond the datasheet specification at 1.0×10^{11} n/cm^2, reaching a value of -200 nA, however this did not further impact device functionality.

Table 4-1 lists the LM139AQML-SP specification compliance matrix.

Table 4-1. LM139AQML-SP Spec Table

PARAMETER	TEST CONDITION	MIN	MAX	UNIT	TEST NUMBER
REFERENCE					
V_{Diff}	II; +V = 30V; -V = 0V; $+V_I$ = 36V; $-V_I$ = 0V		500	nA	1000-1003
V_{Diff}	II; +V = 30V; -V = 0V; $+V_I$ = 0V; $-V_I$ = 36V		500	nA	1004-1007
Supply Current	I_{CC}; +V = 5V; -V = 0V; V_{CM} = 0V; R_L = Infinity		2	mA	1008
Supply Current	I_{CC}; +V = 30V; -V = 0V; V_{CM} = 0V; R_L = Infinity		2	mA	1009
Input Offset Voltage	V_{IO}; +V = 30V; -V = 0V; V_{CM} = 0V	-4	4	mV	2000-2003
Input Offset Voltage	V_{IO}; +V = 30V; -V = 0V; V_{CM} = 28.5V	-4	4	mV	2004-2007
Input Offset Voltage	V_{IO}; +V = 5V; -V = 0V; V_{CM} = 0V	-4	4	mV	2008-2011
Common Mode Rejection Ratio	CMRR; +V = 30V; -V = 0V; V_{CM} = 0V to 28.5V		60	dB	2012-2015
Power Supply Rejection Ratio	PSRR; +V = 5V to 30V; -V = 0V; V_{CM} = 0V		60	dB	2016-2019
Voltage Gain	A_V; +V = 15V; -V = 0V; R_L > 15ΩK; V_I = 1V to 11V; V_{CM} = 0V		50	V/mV	3000-3003
Positive Input Bias Current	$+I_{Bias}$; +V = 5V; -V = 0V; V_O = 1.5V; V_{CM} = 0V	-300	-1	nA	4000-4003
Negative Input Bias Current	$-I_{Bias}$; +V = 5V; -V = 0V; V_O = 1.5V; V_{CM} = 0V	-300	-1	nA	4004-4007
Input Offset Current	I_{IO}; +V = 5V; -V = 0V; V_O = 1.5V; V_{CM} = 0V	-25	25	nA	4008-4011
Output Leakage Current	I_{CEX}; +V = 30V; -V = 0V; V_O = 30V; V_{CM} = 0V		1	uA	5000-5003
Output Sink Current	$I_{Sink;}$ +V = 5V; -V = 0V; V_O = 1.5V; V_{CM} = 0V		6	mA	5004-5007
Output Saturation Voltage	V_{Sat}; +V = 5V; -V = 0V; I_{Sink} = 4mA; V_{CM} = 0V		400	mV	5008-5011

A Test Results

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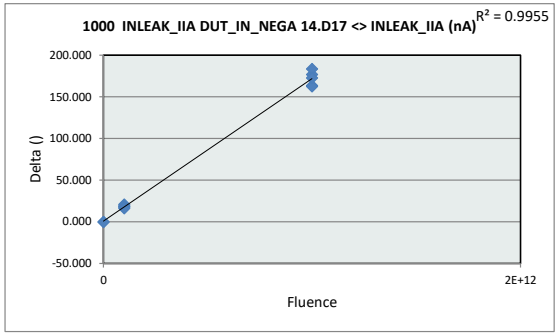
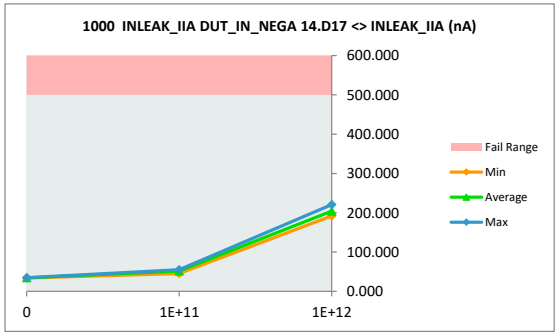
		1000 INLEAK_IIA DUT_IN_NEGA				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	34.029	33.906	-0.123	-0.36%	0.02%
0	2	34.904	34.689	-0.215	-0.62%	0.04%
1E+11	30	34.281	55.055	20.775	60.60%	4.15%
1E+11	31	35.899	54.136	18.237	50.80%	3.65%
1E+11	32	32.583	51.844	19.260	59.11%	3.85%
1E+11	33	34.409	51.956	17.547	51.00%	3.51%
1E+11	34	29.281	45.390	16.109	55.01%	3.22%
1E+12	35	30.153	193.608	163.455	542.08%	32.69%
1E+12	36	32.926	209.828	176.902	537.26%	35.38%
1E+12	37	29.315	191.833	162.518	554.39%	32.50%
1E+12	38	37.080	220.663	183.583	495.10%	36.72%
1E+12	39	32.212	204.812	172.600	535.83%	34.52%
	Max	37.080	220.663	183.583	554.39%	36.72%
	Average	33.089	112.310	79.221	245.02%	15.86%
	Min	29.281	33.906	-0.215	-0.62%	0.02%
	Std Dev	2.515	81.660	82.191	255.32%	16.43%



	1000 INLEAK_IIA DUT_IN_NE		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	33.906	45.390	191.833
Average	34.298	51.676	204.149
Max	34.689	55.055	220.663
UL	500.000	500.000	500.000



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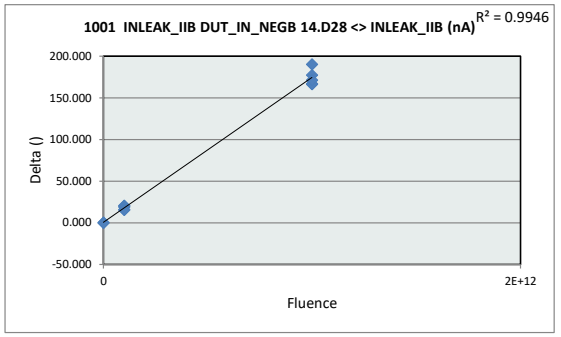
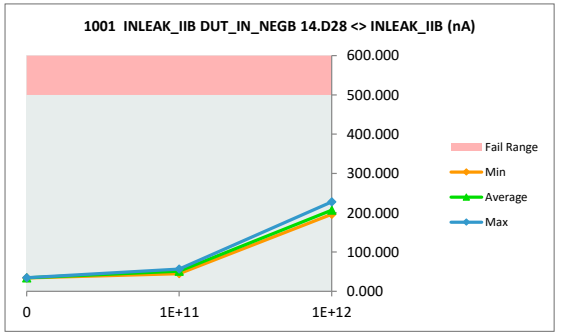
		1001 INLEAK_IIB DUT_IN_NEGE				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	33.700	34.061	0.360	1.07%	0.07%
0	2	34.728	34.589	-0.138	-0.40%	0.03%
1E+11	30	34.208	54.804	20.597	60.21%	4.12%
1E+11	31	36.280	56.489	20.209	55.70%	4.04%
1E+11	32	32.333	51.267	18.934	58.56%	3.79%
1E+11	33	34.258	49.995	15.737	45.94%	3.15%
1E+11	34	29.124	44.735	15.612	53.60%	3.12%
1E+12	35	29.843	196.279	166.436	557.70%	33.29%
1E+12	36	31.779	209.175	177.396	558.22%	35.48%
1E+12	37	29.281	196.113	166.832	569.76%	33.37%
1E+12	38	37.354	227.687	190.333	509.54%	38.07%
1E+12	39	31.629	203.088	171.460	542.10%	34.29%
	Max	37.354	227.687	190.333	569.76%	38.07%
	Average	32.876	113.190	80.314	251.00%	16.07%
	Min	29.124	34.061	-0.138	-0.40%	0.03%
	Std Dev	2.675	82.990	83.615	262.83%	16.72%



	1001 INLEAK_IIB DUT_IN_NE		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	34.061	44.735	196.113
Average	34.325	51.458	206.468
Max	34.589	56.489	227.687
UL	500.000	500.000	500.000



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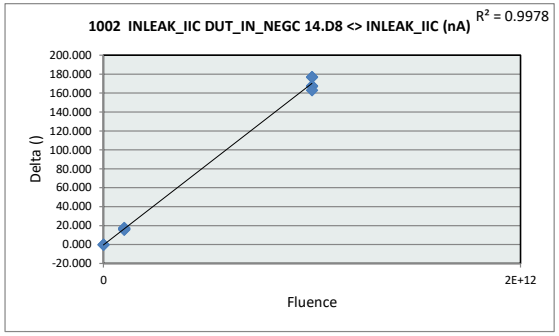
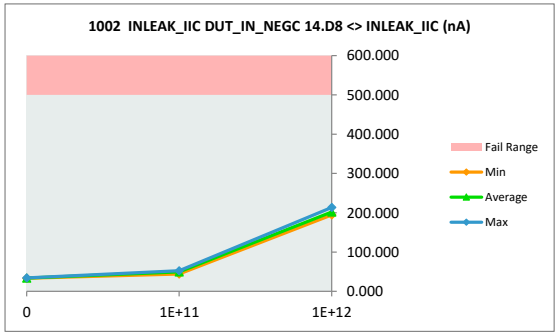
		1002 INLEAK_IIC DUT_IN_NEGC				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	33.598	33.341	-0.258	-0.77%	0.05%
0	2	34.169	34.103	-0.066	-0.19%	0.01%
1E+11	30	33.820	49.483	15.662	46.31%	3.13%
1E+11	31	35.558	52.193	16.635	46.78%	3.33%
1E+11	32	31.774	49.352	17.578	55.32%	3.52%
1E+11	33	33.774	50.820	17.046	50.47%	3.41%
1E+11	34	28.529	44.121	15.591	54.65%	3.12%
1E+12	35	29.101	196.116	167.015	573.92%	33.40%
1E+12	36	32.114	209.036	176.923	550.92%	35.38%
1E+12	37	28.779	196.313	167.535	582.15%	33.51%
1E+12	38	36.765	213.459	176.694	480.61%	35.34%
1E+12	39	31.486	194.424	162.938	517.49%	32.59%
	Max	36.765	213.459	176.923	582.15%	35.38%
	Average	32.456	110.230	77.774	246.47%	15.57%
	Min	28.529	33.341	-0.258	-0.77%	0.01%
	Std Dev	2.659	81.277	81.915	261.90%	16.37%



	1002 INLEAK_IIC DUT_IN_NE		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	33.341	44.121	194.424
Average	33.722	49.194	201.870
Max	34.103	52.193	213.459
UL	500.000	500.000	500.000



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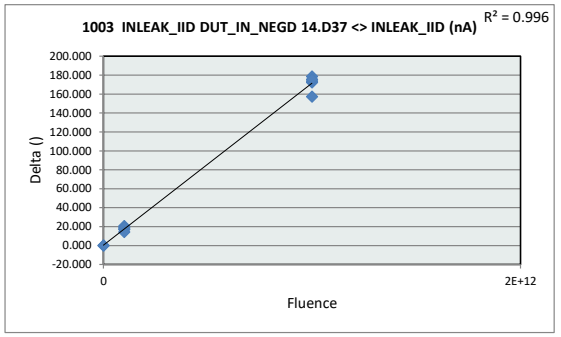
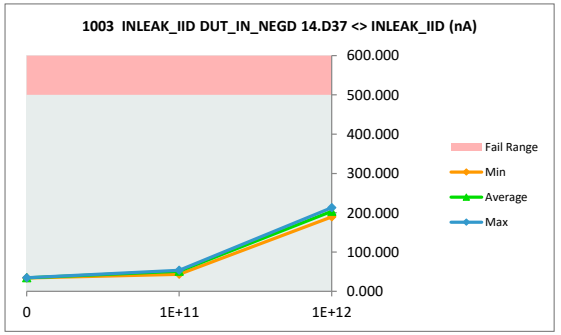
		1003 INLEAK_IID DUT_IN_NEGI				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	33.844	34.028	0.184	0.54%	0.04%
0	2	34.645	34.549	-0.095	-0.27%	0.02%
1E+11	30	34.280	51.190	16.911	49.33%	3.38%
1E+11	31	36.085	53.570	17.485	48.46%	3.50%
1E+11	32	32.572	53.170	20.598	63.24%	4.12%
1E+11	33	34.358	53.243	18.886	54.97%	3.78%
1E+11	34	29.140	43.404	14.264	48.95%	2.85%
1E+12	35	29.804	208.419	178.616	599.31%	35.72%
1E+12	36	32.164	204.402	172.237	535.49%	34.45%
1E+12	37	29.461	203.141	173.681	589.53%	34.74%
1E+12	38	37.329	212.868	175.539	470.25%	35.11%
1E+12	39	32.112	189.372	157.260	489.72%	31.45%
	Max	37.329	212.868	178.616	599.31%	35.72%
	Average	32.983	111.780	78.797	245.79%	15.76%
	Min	29.140	34.028	-0.095	-0.27%	0.02%
	Std Dev	2.602	81.526	82.212	260.01%	16.44%



	1003 INLEAK_IID DUT_IN_NE		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	34.028	43.404	189.372
Average	34.289	50.916	203.641
Max	34.549	53.570	212.868
UL	500.000	500.000	500.000



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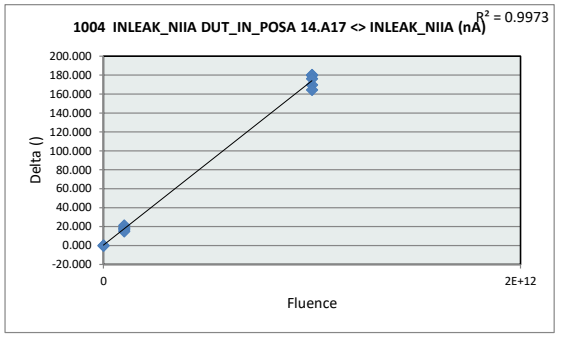
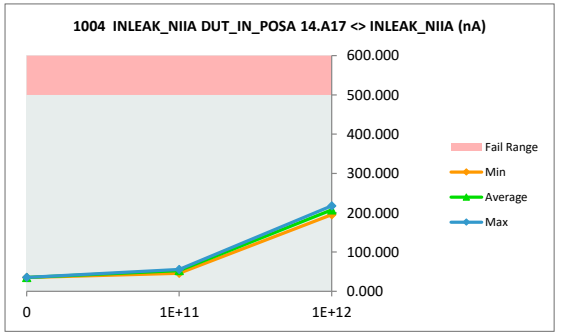
		1004 INLEAK_NIIA DUT_IN_POS				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	34.807	35.066	0.259	0.75%	0.05%
0	2	35.521	35.370	-0.151	-0.43%	0.03%
1E+11	30	35.763	53.644	17.881	50.00%	3.58%
1E+11	31	37.021	55.845	18.824	50.85%	3.76%
1E+11	32	33.326	54.699	21.373	64.13%	4.27%
1E+11	33	35.732	52.400	16.668	46.65%	3.33%
1E+11	34	30.631	45.702	15.072	49.20%	3.01%
1E+12	35	31.244	200.902	169.659	543.02%	33.93%
1E+12	36	33.216	213.426	180.210	542.53%	36.04%
1E+12	37	30.584	195.100	164.515	537.90%	32.90%
1E+12	38	37.816	217.603	179.787	475.43%	35.96%
1E+12	39	33.063	209.312	176.249	533.06%	35.25%
	Max	37.816	217.603	180.210	543.02%	36.04%
	Average	34.060	114.089	80.029	241.09%	16.01%
	Min	30.584	35.066	-0.151	-0.43%	0.03%
	Std Dev	2.436	82.708	83.390	253.17%	16.67%



	1004 INLEAK_NIIA DUT_IN_P		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	35.066	45.702	195.100
Average	35.218	52.458	207.269
Max	35.370	55.845	217.603
UL	500.000	500.000	500.000



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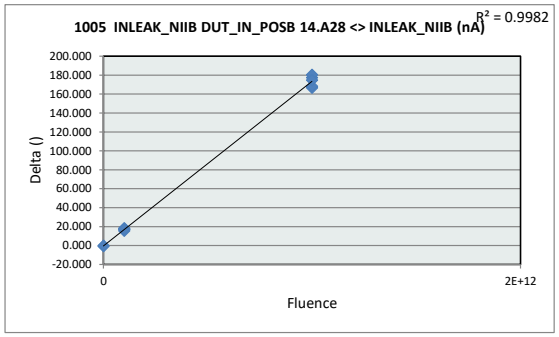
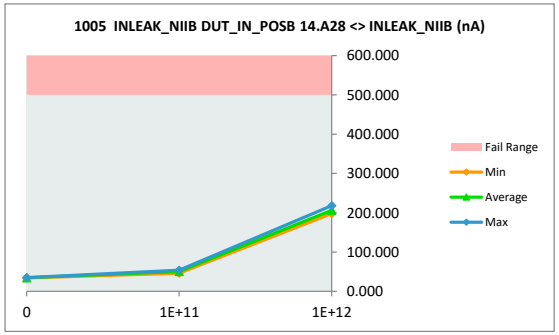
		1005_INLEAK_NIIB DUT_IN_POS				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	34.890	34.163	-0.727	-2.08%	0.15%
0	2	35.106	34.889	-0.217	-0.62%	0.04%
1E+11	30	35.181	50.628	15.447	43.91%	3.09%
1E+11	31	36.618	54.020	17.402	47.52%	3.48%
1E+11	32	32.858	51.176	18.319	55.75%	3.66%
1E+11	33	34.637	51.230	16.593	47.90%	3.32%
1E+11	34	29.142	46.159	17.016	58.39%	3.40%
1E+12	35	31.545	198.176	166.631	528.24%	33.33%
1E+12	36	32.268	209.493	177.226	549.24%	35.45%
1E+12	37	29.687	197.923	168.236	566.71%	33.65%
1E+12	38	37.713	217.991	180.278	478.02%	36.06%
1E+12	39	32.153	206.792	174.639	543.14%	34.93%
	Max	37.713	217.991	180.278	566.71%	36.06%
	Average	33.483	112.720	79.237	243.01%	15.88%
	Min	29.142	34.163	-0.727	-2.08%	0.04%
	Std Dev	2.649	82.786	83.436	257.56%	16.65%



	1005_INLEAK_NIIB DUT_IN_P		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	34.163	46.159	197.923
Average	34.526	50.643	206.075
Max	34.889	54.020	217.991
UL	500.000	500.000	500.000



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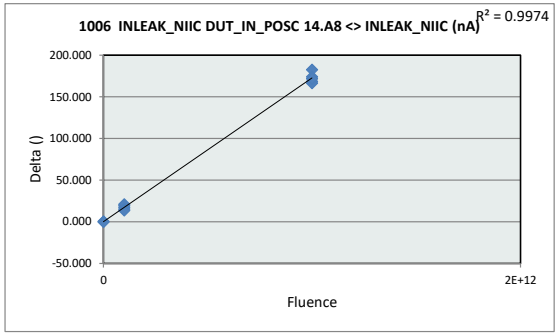
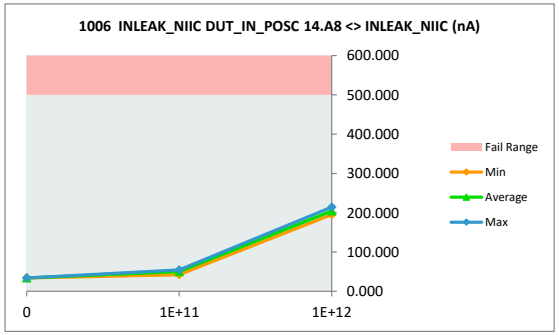
		1006 INLEAK_NIIC DUT_IN_POS				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	33.299	33.902	0.603	1.81%	0.12%
0	2	34.179	33.990	-0.188	-0.55%	0.04%
1E+11	30	34.074	51.490	17.416	51.11%	3.48%
1E+11	31	35.274	54.623	19.348	54.85%	3.87%
1E+11	32	32.064	52.998	20.934	65.29%	4.19%
1E+11	33	34.153	49.498	15.345	44.93%	3.07%
1E+11	34	28.569	42.291	13.723	48.03%	2.74%
1E+12	35	29.718	198.156	168.438	566.78%	33.69%
1E+12	36	31.680	214.301	182.620	576.45%	36.52%
1E+12	37	28.914	195.366	166.452	575.68%	33.29%
1E+12	38	36.741	210.810	174.069	473.78%	34.81%
1E+12	39	31.707	203.504	171.797	541.83%	34.36%
	Max	36.741	214.301	182.620	576.45%	36.52%
	Average	32.531	111.744	79.213	250.00%	15.85%
	Min	28.569	33.902	-0.188	-0.55%	0.04%
	Std Dev	2.556	82.219	82.839	264.09%	16.56%

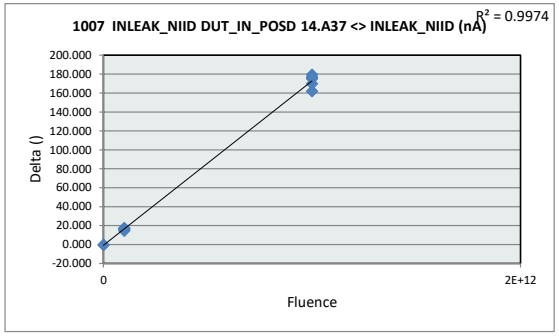


	1006 INLEAK_NIIC DUT_IN_P		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	33.902	42.291	195.366
Average	33.946	50.180	204.427
Max	33.990	54.623	214.301
UL	500.000	500.000	500.000

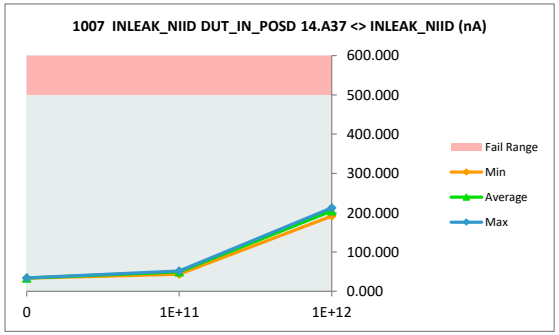


NDD Report
LM139AQML-SP

		1007_INLEAK_NIID DUT_IN_POS				
	Max Limit	500	500			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	33.838	33.464	-0.375	-1.11%	0.07%
0	2	34.280	34.125	-0.155	-0.45%	0.03%
1E+11	30	34.034	50.280	16.246	47.74%	3.25%
1E+11	31	35.321	51.502	16.180	45.81%	3.24%
1E+11	32	32.399	49.816	17.416	53.75%	3.48%
1E+11	33	33.651	50.792	17.140	50.94%	3.43%
1E+11	34	28.675	43.328	14.652	51.10%	2.93%
1E+12	35	29.684	199.694	170.010	572.74%	34.00%
1E+12	36	31.746	211.289	179.543	565.56%	35.91%
1E+12	37	29.293	191.416	162.123	553.45%	32.42%
1E+12	38	37.103	212.392	175.288	472.43%	35.06%
1E+12	39	32.189	209.086	176.898	549.57%	35.38%
	Max	37.103	212.392	179.543	572.74%	35.91%
	Average	32.685	111.432	78.747	246.79%	15.77%
	Min	28.675	33.464	-0.375	-1.11%	0.03%
	Std Dev	2.539	82.785	83.321	263.02%	16.65%

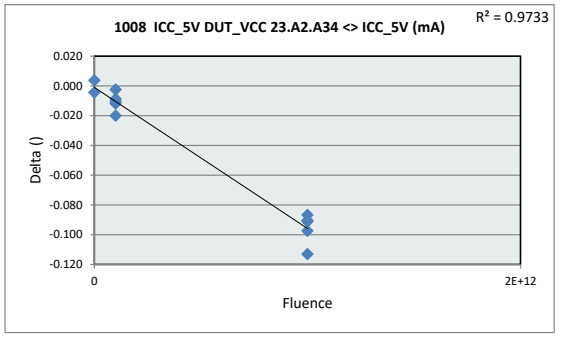


	1007_INLEAK_NIID DUT_IN_P		
Max Limit	500		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	33.464	43.328	191.416
Average	33.794	49.143	204.776
Max	34.125	51.502	212.392
UL	500.000	500.000	500.000

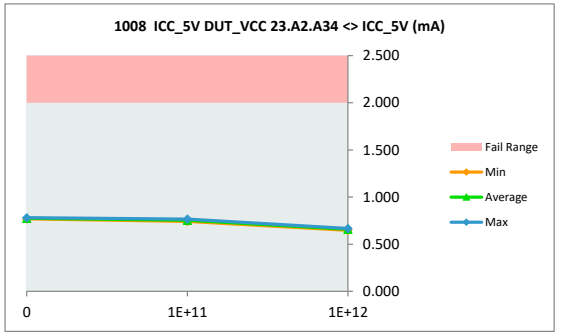


NDD Report
LM139AQML-SP

		1008_ICC_5V DUT_VCC 23.A2.A3				
	Max Limit	2	2			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.773	0.769	-0.004	-0.57%	0.22%
0	2	0.777	0.781	0.004	0.48%	0.19%
1E+11	30	0.778	0.766	-0.012	-1.53%	0.59%
1E+11	31	0.759	0.756	-0.003	-0.33%	0.13%
1E+11	32	0.766	0.746	-0.020	-2.61%	1.00%
1E+11	33	0.773	0.763	-0.011	-1.37%	0.53%
1E+11	34	0.751	0.742	-0.009	-1.17%	0.44%
1E+12	35	0.751	0.660	-0.091	-12.13%	4.56%
1E+12	36	0.753	0.666	-0.087	-11.52%	4.34%
1E+12	37	0.738	0.647	-0.090	-12.27%	4.52%
1E+12	38	0.770	0.657	-0.113	-14.67%	5.65%
1E+12	39	0.756	0.658	-0.097	-12.88%	4.87%
	Max	0.778	0.781	0.004	0.48%	5.65%
	Average	0.762	0.718	-0.044	-5.88%	2.25%
	Min	0.738	0.647	-0.113	-14.67%	0.13%
	Std Dev	0.013	0.054	0.046	6.10%	2.27%



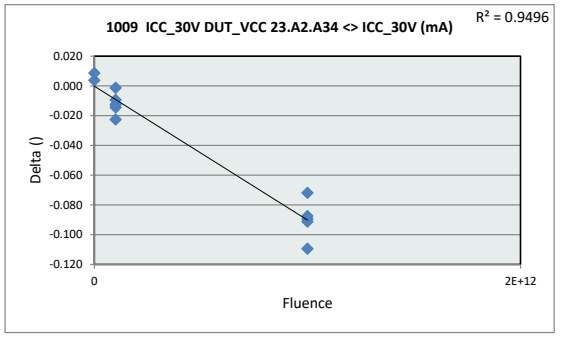
	1008_ICC_5V DUT_VCC 23.A2.		
Max Limit	2		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.769	0.742	0.647
Average	0.775	0.754	0.658
Max	0.781	0.766	0.666
UL	2.000	2.000	2.000



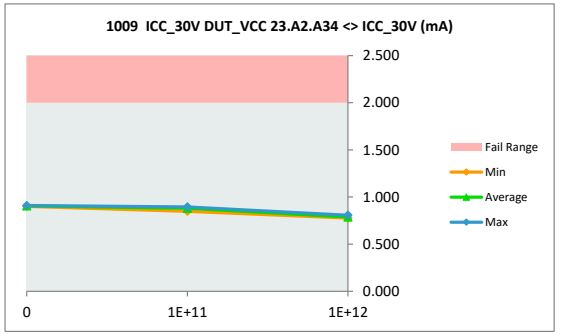
NDD Report
LM139AQML-SP

		1009_ICC_30V DUT_VCC 23.A2.A	
	Max Limit	2	2
	Min Limit		
Fluence	Serial #	PRE NDD	POST NDD
0	1	0.897	0.901
0	2	0.901	0.910
1E+11	30	0.908	0.893
1E+11	31	0.893	0.880
1E+11	32	0.883	0.882
1E+11	33	0.905	0.895
1E+11	34	0.871	0.849
1E+12	35	0.871	0.781
1E+12	36	0.886	0.777
1E+12	37	0.868	0.777
1E+12	38	0.885	0.797
1E+12	39	0.878	0.806
	Max	0.908	0.910
	Average	0.887	0.846
	Min	0.868	0.777
	Std Dev	0.014	0.054

Delta	Delta %	% of Limit Range
0.004	0.42%	0.19%
0.009	0.97%	0.44%
-0.014	-1.58%	0.72%
-0.013	-1.40%	0.63%
-0.001	-0.14%	0.06%
-0.009	-1.04%	0.47%
-0.023	-2.58%	1.13%
-0.089	-10.26%	4.47%
-0.109	-12.33%	5.47%
-0.091	-10.50%	4.56%
-0.087	-9.89%	4.37%
-0.072	-8.18%	3.59%
0.009	0.97%	5.47%
-0.041	-4.71%	2.17%
-0.109	-12.33%	0.06%
0.044	5.04%	2.10%

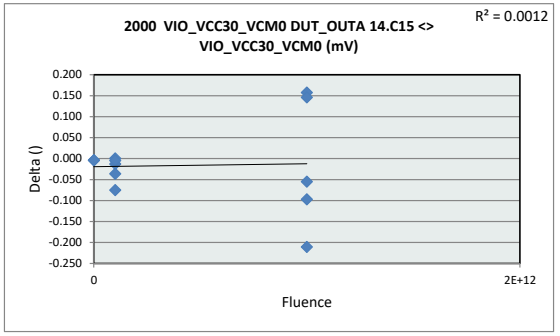


	1009_ICC_30V DUT_VCC 23.A2		
Max Limit	2		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.901	0.849	0.777
Average	0.906	0.880	0.788
Max	0.910	0.895	0.806
UL	2.000	2.000	2.000

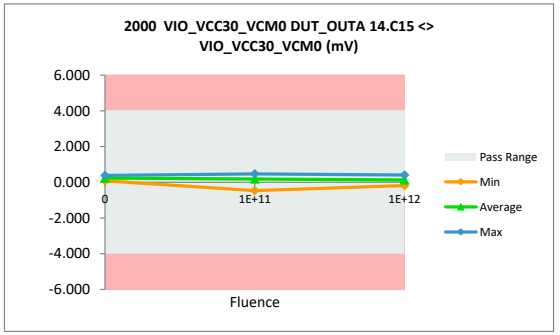


NDD Report
LM139AQML-SP

		2000_VIO_VCC30_VCM0 DUT_OU				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.088	0.084	-0.004	-4.48%	0.05%
0	2	0.388	0.385	-0.004	-0.92%	0.04%
1E+11	30	0.117	0.105	-0.013	-10.67%	0.16%
1E+11	31	0.470	0.471	0.001	0.14%	0.01%
1E+11	32	0.444	0.369	-0.075	-16.87%	0.94%
1E+11	33	0.458	0.454	-0.004	-0.92%	0.05%
1E+11	34	-0.431	-0.467	-0.036	8.37%	0.45%
1E+12	35	-0.184	-0.026	0.158	-85.95%	1.97%
1E+12	36	0.238	0.142	-0.097	-40.57%	1.21%
1E+12	37	0.028	-0.183	-0.210	-761.84%	2.63%
1E+12	38	0.366	0.312	-0.055	-14.95%	0.68%
1E+12	39	0.257	0.404	0.146	56.85%	1.83%
	Max	0.470	0.471	0.158	56.85%	2.63%
	Average	0.187	0.171	-0.016	-72.65%	0.84%
	Min	-0.431	-0.467	-0.210	-761.84%	0.01%
	Std Dev	0.279	0.288	0.099	219.51%	0.90%

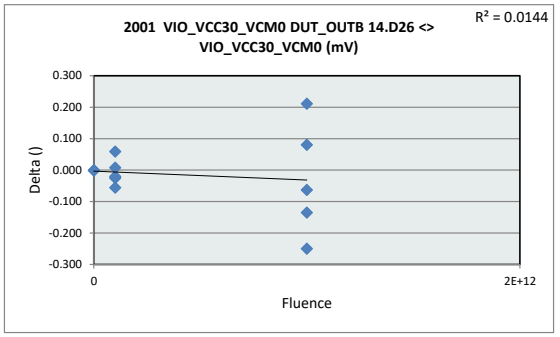


	2000_VIO_VCC30_VCM0 DUT_		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.084	-0.467	-0.183
Average	0.234	0.186	0.130
Max	0.385	0.471	0.404
UL	4.000	4.000	4.000

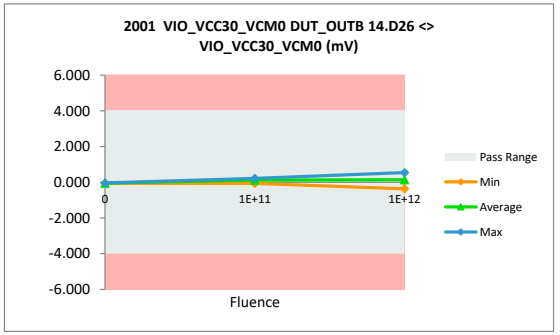


NDD Report
LM139AQML-SP

		2001_VIO_VCC30_VCM0 DUT_OU				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-0.034	-0.035	-0.001	1.56%	0.01%
0	2	-0.057	-0.059	-0.001	2.59%	0.02%
1E+11	30	0.239	0.183	-0.056	-23.39%	0.70%
1E+11	31	-0.039	-0.065	-0.026	65.62%	0.32%
1E+11	32	0.121	0.101	-0.020	-16.84%	0.25%
1E+11	33	0.163	0.222	0.059	36.06%	0.74%
1E+11	34	0.177	0.184	0.008	4.31%	0.10%
1E+12	35	0.318	0.255	-0.063	-19.91%	0.79%
1E+12	36	-0.116	-0.366	-0.250	216.49%	3.13%
1E+12	37	0.160	0.241	0.080	50.21%	1.01%
1E+12	38	0.333	0.545	0.211	63.28%	2.64%
1E+12	39	0.175	0.039	-0.135	-77.37%	1.69%
	Max	0.333	0.545	0.211	216.49%	3.13%
	Average	0.120	0.104	-0.016	25.22%	0.95%
	Min	-0.116	-0.366	-0.250	-77.37%	0.01%
	Std Dev	0.149	0.226	0.113	73.00%	1.03%

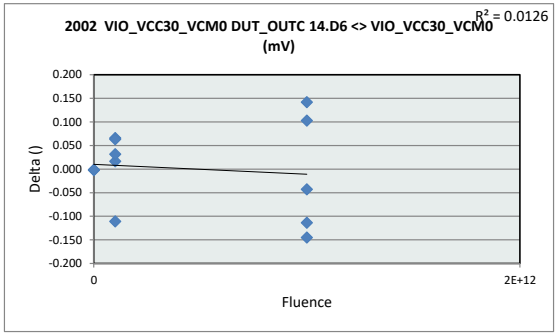


	2001_VIO_VCC30_VCM0 DUT_		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	-0.059	-0.065	-0.366
Average	-0.047	0.125	0.143
Max	-0.035	0.222	0.545
UL	4.000	4.000	4.000

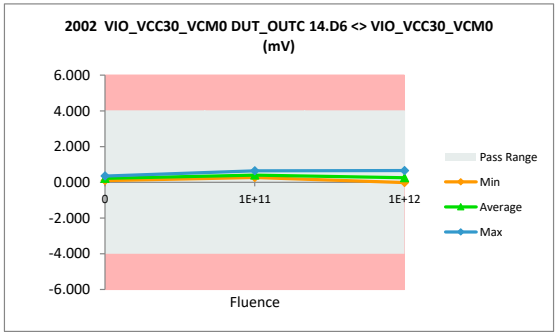


NDD Report
LM139AQML-SP

		2002_VIO_VCC30_VCM0 DUT_OU				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.097	0.094	-0.002	-2.40%	0.03%
0	2	0.350	0.349	-0.001	-0.40%	0.02%
1E+11	30	0.375	0.441	0.066	17.54%	0.82%
1E+11	31	0.625	0.641	0.017	2.65%	0.21%
1E+11	32	0.237	0.269	0.032	13.41%	0.40%
1E+11	33	0.469	0.358	-0.111	-23.64%	1.39%
1E+11	34	0.231	0.294	0.063	27.39%	0.79%
1E+12	35	0.130	-0.016	-0.145	-112.06%	1.81%
1E+12	36	0.193	0.150	-0.043	-22.21%	0.54%
1E+12	37	0.207	0.310	0.103	49.69%	1.29%
1E+12	38	0.516	0.657	0.142	27.53%	1.77%
1E+12	39	0.303	0.189	-0.114	-37.56%	1.42%
	Max	0.625	0.657	0.142	49.69%	1.81%
	Average	0.311	0.312	0.000	-5.01%	0.87%
	Min	0.097	-0.016	-0.145	-112.06%	0.02%
	Std Dev	0.161	0.201	0.090	41.77%	0.65%



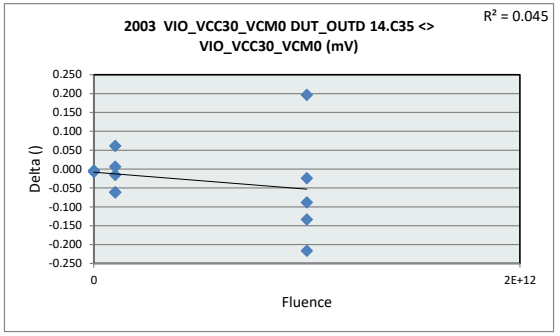
	2002_VIO_VCC30_VCM0 DUT_		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.094	0.269	-0.016
Average	0.222	0.401	0.258
Max	0.349	0.641	0.657
UL	4.000	4.000	4.000



NDD Report
LM139AQML-SP

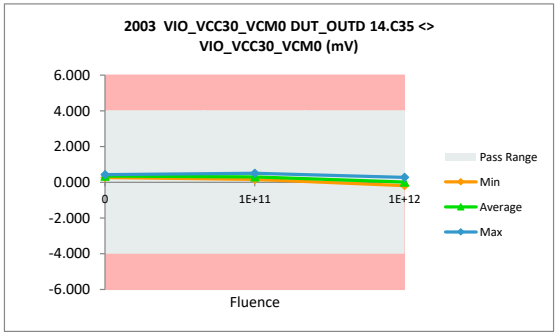
		2003_VIO_VCC30_VCM0 DUT_OU	
	Max Limit	4	4
	Min Limit	-4	-4
Fluence	Serial #	PRE NDD	POST NDD
0	1	0.270	0.267
0	2	0.439	0.432
1E+11	30	0.301	0.285
1E+11	31	0.568	0.507
1E+11	32	0.153	0.160
1E+11	33	0.313	0.375
1E+11	34	0.259	0.197
1E+12	35	-0.053	-0.186
1E+12	36	0.104	-0.112
1E+12	37	0.116	0.029
1E+12	38	-0.136	0.061
1E+12	39	0.299	0.275
	Max	0.568	0.507
	Average	0.219	0.191
	Min	-0.136	-0.186
	Std Dev	0.196	0.211

Delta	Delta %	% of Limit Range
-0.004	-1.30%	0.04%
-0.007	-1.59%	0.09%
-0.015	-5.02%	0.19%
-0.061	-10.76%	0.76%
0.007	4.32%	0.08%
0.061	19.62%	0.77%
-0.062	-23.83%	0.77%
-0.133	251.30%	1.67%
-0.216	-207.61%	2.70%
-0.088	-75.47%	1.10%
0.197	-144.54%	2.46%
-0.024	-8.02%	0.30%
0.197	251.30%	2.70%
-0.029	-16.91%	0.91%
-0.216	-207.61%	0.04%
0.101	108.96%	0.92%



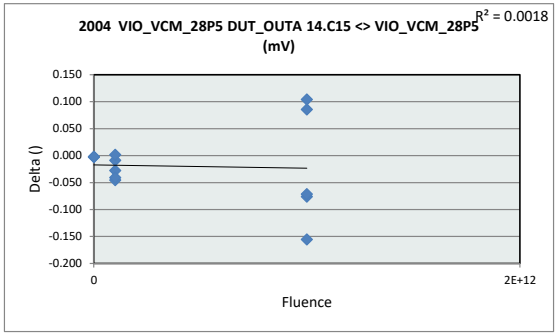
	2003_VIO_VCC30_VCM0 DUT_
Max Limit	4
Min Limit	-4

Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.267	0.160	-0.186
Average	0.349	0.305	0.013
Max	0.432	0.507	0.275
UL	4.000	4.000	4.000

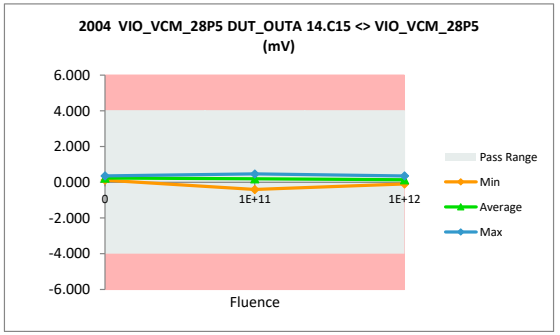


NDD Report
LM139AQML-SP

		2004_VIO_VCM_28P5 DUT_OUTA				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.122	0.119	-0.003	-2.44%	0.04%
0	2	0.361	0.359	-0.002	-0.61%	0.03%
1E+11	30	0.089	0.062	-0.028	-31.19%	0.35%
1E+11	31	0.480	0.471	-0.009	-1.86%	0.11%
1E+11	32	0.451	0.405	-0.045	-10.08%	0.57%
1E+11	33	0.424	0.425	0.001	0.34%	0.02%
1E+11	34	-0.359	-0.400	-0.041	11.34%	0.51%
1E+12	35	-0.113	-0.027	0.086	-75.95%	1.07%
1E+12	36	0.250	0.174	-0.076	-30.44%	0.95%
1E+12	37	0.062	-0.094	-0.155	-251.83%	1.94%
1E+12	38	0.378	0.306	-0.072	-18.96%	0.90%
1E+12	39	0.250	0.354	0.104	41.58%	1.30%
	Max	0.480	0.471	0.104	41.58%	1.94%
	Average	0.200	0.180	-0.020	-30.84%	0.65%
	Min	-0.359	-0.400	-0.155	-251.83%	0.02%
	Std Dev	0.253	0.260	0.069	75.08%	0.60%

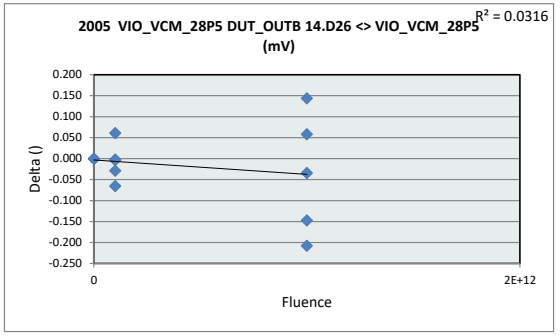


	2004_VIO_VCM_28P5 DUT_OU		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.119	-0.400	-0.094
Average	0.239	0.193	0.143
Max	0.359	0.471	0.354
UL	4.000	4.000	4.000

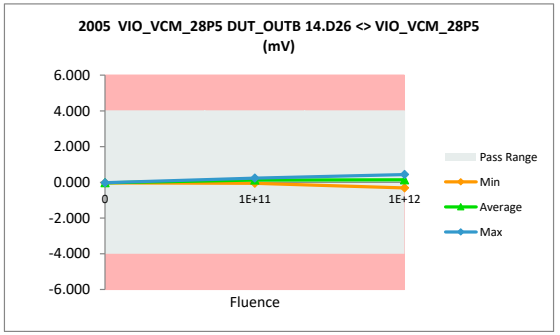


NDD Report
LM139AQML-SP

		2005_VIO_VCM_28P5 DUT_OUTE				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-0.034	-0.034	0.000	-0.09%	0.00%
0	2	-0.022	-0.023	-0.001	3.22%	0.01%
1E+11	30	0.244	0.178	-0.065	-26.81%	0.82%
1E+11	31	-0.031	-0.060	-0.029	93.60%	0.36%
1E+11	32	0.120	0.118	-0.002	-1.90%	0.03%
1E+11	33	0.176	0.237	0.061	34.46%	0.76%
1E+11	34	0.177	0.173	-0.004	-2.18%	0.05%
1E+12	35	0.351	0.316	-0.034	-9.78%	0.43%
1E+12	36	-0.107	-0.315	-0.208	193.55%	2.60%
1E+12	37	0.175	0.233	0.058	33.13%	0.73%
1E+12	38	0.288	0.432	0.144	49.91%	1.80%
1E+12	39	0.179	0.032	-0.147	-82.05%	1.84%
	Max	0.351	0.432	0.144	193.55%	2.60%
	Average	0.126	0.107	-0.019	23.75%	0.78%
	Min	-0.107	-0.315	-0.208	-82.05%	0.00%
	Std Dev	0.144	0.200	0.093	68.62%	0.86%



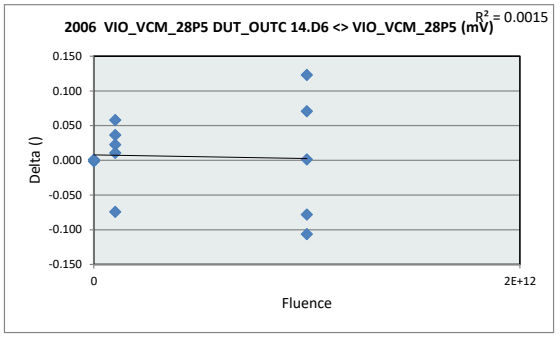
	2005_VIO_VCM_28P5 DUT_OU		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	-0.034	-0.060	-0.315
Average	-0.028	0.129	0.140
Max	-0.023	0.237	0.432
UL	4.000	4.000	4.000



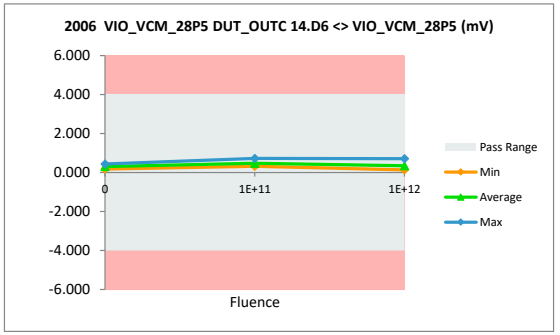
NDD Report
LM139AQML-SP

		2006_VIO_VCM_28P5 DUT_OUTC	
	Max Limit	4	4
	Min Limit	-4	-4

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.176	0.174	-0.001	-0.72%	0.02%
0	2	0.438	0.439	0.001	0.25%	0.01%
1E+11	30	0.440	0.476	0.036	8.30%	0.46%
1E+11	31	0.701	0.724	0.023	3.26%	0.29%
1E+11	32	0.309	0.319	0.011	3.51%	0.14%
1E+11	33	0.551	0.477	-0.074	-13.46%	0.93%
1E+11	34	0.326	0.384	0.058	17.86%	0.73%
1E+12	35	0.214	0.136	-0.078	-36.44%	0.98%
1E+12	36	0.278	0.280	0.001	0.54%	0.02%
1E+12	37	0.315	0.385	0.071	22.47%	0.88%
1E+12	38	0.584	0.708	0.123	21.08%	1.54%
1E+12	39	0.353	0.247	-0.106	-30.04%	1.33%
	Max	0.701	0.724	0.123	22.47%	1.54%
	Average	0.390	0.396	0.005	-0.28%	0.61%
	Min	0.176	0.136	-0.106	-36.44%	0.01%
	Std Dev	0.157	0.185	0.066	18.52%	0.53%



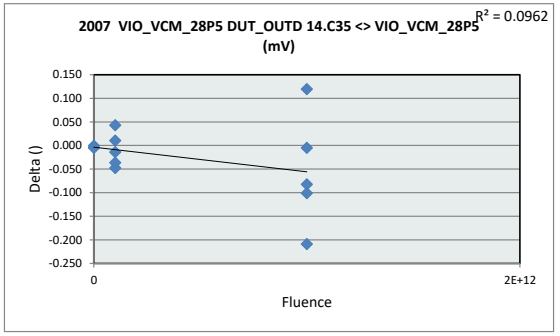
	2006_VIO_VCM_28P5 DUT_OU		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.174	0.319	0.136
Average	0.307	0.476	0.351
Max	0.439	0.724	0.708
UL	4.000	4.000	4.000



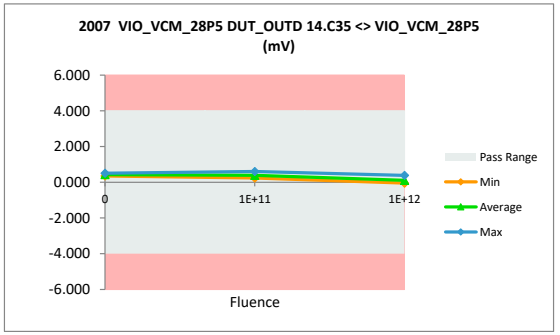
NDD Report
LM139AQML-SP

		2007_VIO_VCM_28P5 DUT_OUTD	
	Max Limit	4	4
	Min Limit	-4	-4
Fluence	Serial #	PRE NDD	POST NDD
0	1	0.355	0.354
0	2	0.512	0.506
1E+11	30	0.367	0.353
1E+11	31	0.654	0.606
1E+11	32	0.230	0.240
1E+11	33	0.394	0.437
1E+11	34	0.336	0.299
1E+12	35	0.037	-0.045
1E+12	36	0.195	-0.014
1E+12	37	0.222	0.120
1E+12	38	-0.019	0.101
1E+12	39	0.391	0.386
	Max	0.654	0.606
	Average	0.306	0.279
	Min	-0.019	-0.045
	Std Dev	0.188	0.204

Delta	Delta %	% of Limit Range
-0.001	-0.20%	0.01%
-0.005	-1.02%	0.07%
-0.014	-3.84%	0.18%
-0.048	-7.33%	0.60%
0.010	4.55%	0.13%
0.043	10.93%	0.54%
-0.036	-10.83%	0.45%
-0.082	-220.92%	1.03%
-0.209	-107.03%	2.61%
-0.101	-45.71%	1.27%
0.119	-638.10%	1.49%
-0.005	-1.29%	0.06%
0.119	10.93%	2.61%
-0.027	-85.07%	0.70%
-0.209	-638.10%	0.01%
0.081	186.60%	0.78%

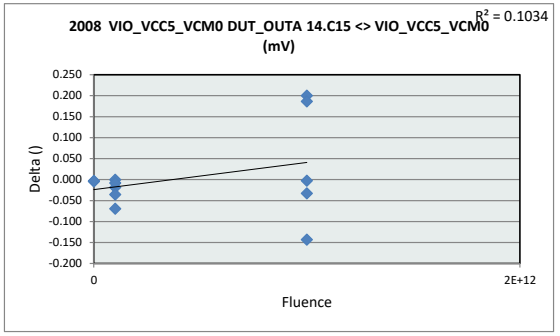


	2007_VIO_VCM_28P5 DUT_OU		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.354	0.240	-0.045
Average	0.430	0.387	0.110
Max	0.506	0.606	0.386
UL	4.000	4.000	4.000

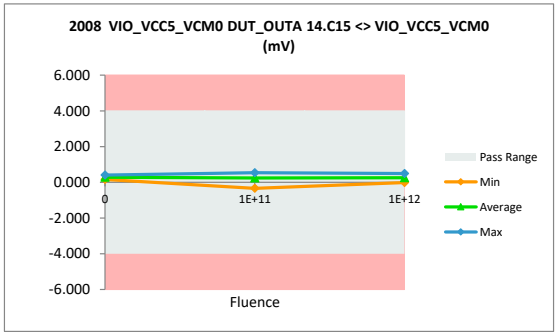


NDD Report
LM139AQML-SP

		2008_VIO_VCC5_VCM0 DUT_OUT				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.164	0.159	-0.005	-2.79%	0.06%
0	2	0.408	0.405	-0.003	-0.78%	0.04%
1E+11	30	0.149	0.130	-0.019	-12.60%	0.23%
1E+11	31	0.538	0.537	0.000	-0.03%	0.00%
1E+11	32	0.483	0.413	-0.069	-14.37%	0.87%
1E+11	33	0.477	0.469	-0.008	-1.67%	0.10%
1E+11	34	-0.304	-0.340	-0.035	11.63%	0.44%
1E+12	35	-0.087	0.113	0.200	-229.43%	2.50%
1E+12	36	0.284	0.252	-0.033	-11.48%	0.41%
1E+12	37	0.131	-0.012	-0.143	-109.06%	1.79%
1E+12	38	0.445	0.442	-0.003	-0.57%	0.03%
1E+12	39	0.310	0.496	0.187	60.26%	2.33%
	Max	0.538	0.537	0.200	60.26%	2.50%
	Average	0.250	0.255	0.006	-25.91%	0.73%
	Min	-0.304	-0.340	-0.143	-229.43%	0.00%
	Std Dev	0.254	0.259	0.097	74.32%	0.94%

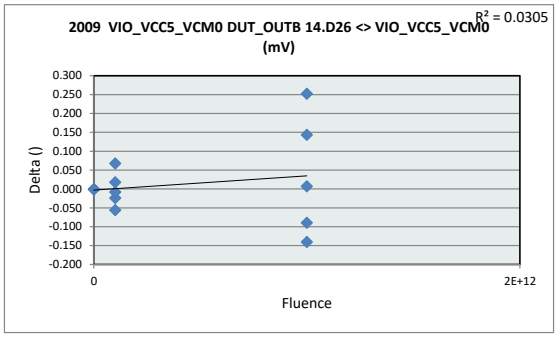


	2008_VIO_VCC5_VCM0 DUT_O		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.159	-0.340	-0.012
Average	0.282	0.242	0.258
Max	0.405	0.537	0.496
UL	4.000	4.000	4.000

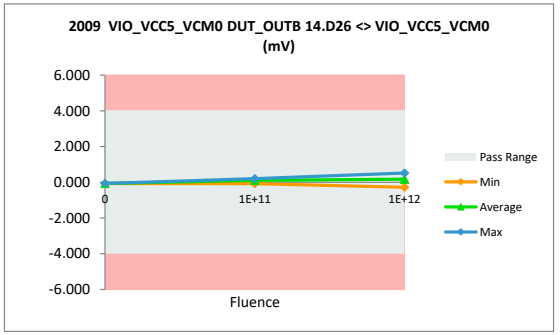


NDD Report
LM139AQML-SP

		2009_VIO_VCC5_VCM0 DUT_OUT				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-0.073	-0.072	0.000	-0.33%	0.00%
0	2	-0.065	-0.066	-0.001	2.06%	0.02%
1E+11	30	0.197	0.142	-0.056	-28.23%	0.70%
1E+11	31	-0.052	-0.075	-0.024	45.49%	0.29%
1E+11	32	0.098	0.090	-0.008	-8.24%	0.10%
1E+11	33	0.139	0.207	0.068	48.79%	0.85%
1E+11	34	0.145	0.163	0.018	12.43%	0.23%
1E+12	35	0.307	0.314	0.007	2.40%	0.09%
1E+12	36	-0.139	-0.279	-0.140	101.00%	1.75%
1E+12	37	0.144	0.288	0.144	100.02%	1.80%
1E+12	38	0.267	0.520	0.253	94.67%	3.16%
1E+12	39	0.126	0.037	-0.089	-70.76%	1.12%
	Max	0.307	0.520	0.253	101.00%	3.16%
	Average	0.091	0.106	0.014	24.94%	0.84%
	Min	-0.139	-0.279	-0.140	-70.76%	0.00%
	Std Dev	0.142	0.215	0.104	54.10%	0.97%

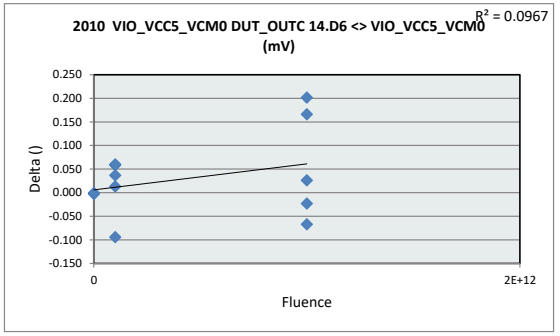


		2009_VIO_VCC5_VCM0 DUT_O		
	Max Limit	4		
	Min Limit	-4		
	Fluence	0	1E+11	1E+12
	LL	-4.000	-4.000	-4.000
	Min	-0.072	-0.075	-0.279
	Average	-0.069	0.105	0.176
	Max	-0.066	0.207	0.520
	UL	4.000	4.000	4.000

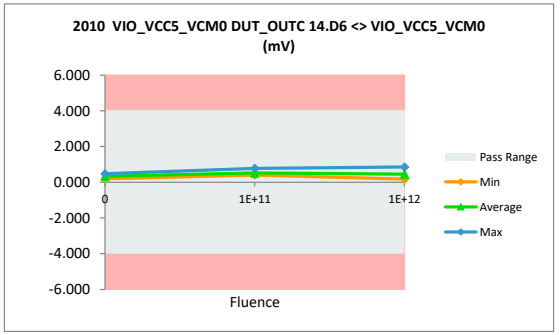


NDD Report
LM139AQML-SP

		2010_VIO_VCC5_VCM0 DUT_OUT				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.200	0.198	-0.003	-1.28%	0.03%
0	2	0.481	0.480	-0.001	-0.13%	0.01%
1E+11	30	0.500	0.559	0.058	11.69%	0.73%
1E+11	31	0.761	0.774	0.013	1.71%	0.16%
1E+11	32	0.367	0.404	0.037	10.04%	0.46%
1E+11	33	0.576	0.482	-0.094	-16.37%	1.18%
1E+11	34	0.346	0.406	0.060	17.30%	0.75%
1E+12	35	0.246	0.179	-0.067	-27.29%	0.84%
1E+12	36	0.306	0.332	0.026	8.59%	0.33%
1E+12	37	0.356	0.522	0.166	46.66%	2.08%
1E+12	38	0.656	0.858	0.202	30.74%	2.52%
1E+12	39	0.385	0.362	-0.023	-5.97%	0.29%
	Max	0.761	0.858	0.202	46.66%	2.52%
	Average	0.432	0.463	0.031	6.31%	0.78%
	Min	0.200	0.179	-0.094	-27.29%	0.01%
	Std Dev	0.168	0.202	0.085	19.79%	0.80%

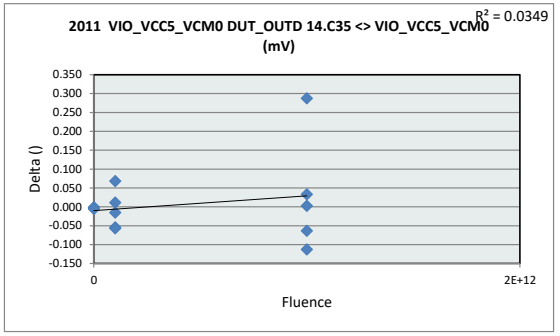


	2010_VIO_VCC5_VCM0 DUT_O		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.198	0.404	0.179
Average	0.339	0.525	0.451
Max	0.480	0.774	0.858
UL	4.000	4.000	4.000

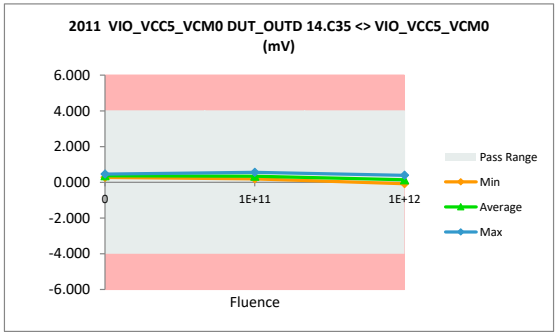


NDD Report
LM139AQML-SP

		2011_VIO_VCC5_VCM0 DUT_OUT				
	Max Limit	4	4			
	Min Limit	-4	-4			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.274	0.273	-0.001	-0.25%	0.01%
0	2	0.464	0.458	-0.006	-1.19%	0.07%
1E+11	30	0.322	0.307	-0.015	-4.66%	0.19%
1E+11	31	0.612	0.558	-0.054	-8.83%	0.68%
1E+11	32	0.183	0.194	0.012	6.32%	0.14%
1E+11	33	0.345	0.414	0.069	19.83%	0.86%
1E+11	34	0.289	0.233	-0.057	-19.67%	0.71%
1E+12	35	-0.017	-0.081	-0.063	370.20%	0.79%
1E+12	36	0.135	0.022	-0.113	-83.60%	1.41%
1E+12	37	0.156	0.159	0.003	1.78%	0.03%
1E+12	38	-0.072	0.215	0.287	-398.17%	3.59%
1E+12	39	0.357	0.390	0.033	9.33%	0.42%
	Max	0.612	0.558	0.287	370.20%	3.59%
	Average	0.254	0.262	0.008	-9.08%	0.74%
	Min	-0.072	-0.081	-0.113	-398.17%	0.01%
	Std Dev	0.192	0.181	0.100	165.86%	0.99%

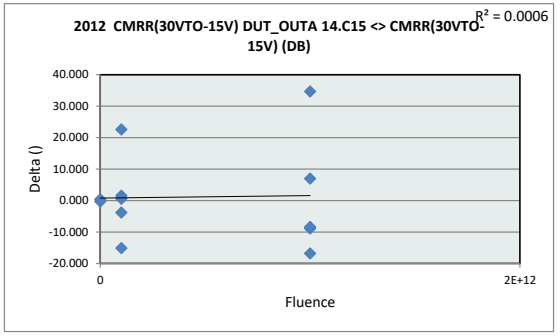


	2011_VIO_VCC5_VCM0 DUT_O		
Max Limit	4		
Min Limit	-4		
Fluence	0	1E+11	1E+12
LL	-4.000	-4.000	-4.000
Min	0.273	0.194	-0.081
Average	0.366	0.341	0.141
Max	0.458	0.558	0.390
UL	4.000	4.000	4.000

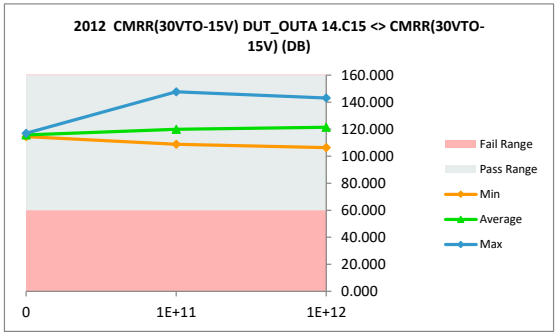


NDD Report
LM139AQML-SP

		2012_CMRR(30VTO-15V) DUT_O				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	114.730	114.487	-0.243	-0.21%	0.41%
0	2	116.544	116.981	0.437	0.37%	0.73%
1E+11	30	116.390	112.595	-3.795	-3.26%	6.33%
1E+11	31	125.035	147.672	22.637	18.10%	37.73%
1E+11	32	129.343	114.247	-15.095	-11.67%	25.16%
1E+11	33	114.580	116.141	1.562	1.36%	2.60%
1E+11	34	108.283	108.877	0.594	0.55%	0.99%
1E+12	35	108.324	143.043	34.719	32.05%	57.86%
1E+12	36	123.997	115.168	-8.830	-7.12%	14.72%
1E+12	37	114.691	106.341	-8.350	-7.28%	13.92%
1E+12	38	123.977	131.006	7.029	5.67%	11.72%
1E+12	39	128.282	111.468	-16.813	-13.11%	28.02%
	Max	129.343	147.672	34.719	32.05%	57.86%
	Average	118.681	119.836	1.154	1.29%	16.68%
	Min	108.283	106.341	-16.813	-13.11%	0.41%
	Std Dev	7.237	13.370	14.854	12.76%	17.70%

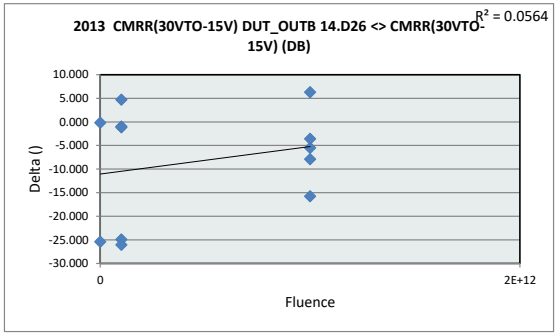


	2012_CMRR(30VTO-15V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	114.487	108.877	106.341
Average	115.734	119.907	121.405
Max	116.981	147.672	143.043
UL			

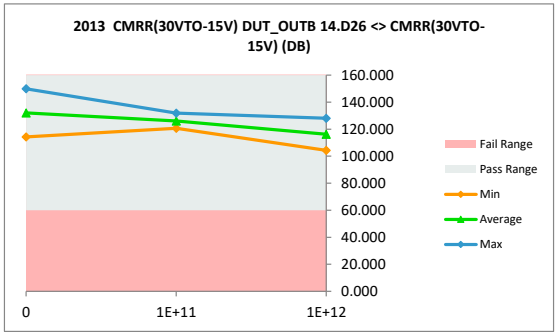


NDD Report
LM139AQML-SP

		2013_CMRR(30VTO-15V) DUT_O				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	175.262	149.870	-25.392	-14.49%	42.32%
0	2	114.442	114.254	-0.188	-0.16%	0.31%
1E+11	30	132.447	131.463	-0.984	-0.74%	1.64%
1E+11	31	127.205	131.918	4.712	3.70%	7.85%
1E+11	32	145.600	120.672	-24.928	-17.12%	41.55%
1E+11	33	123.047	121.885	-1.162	-0.94%	1.94%
1E+11	34	150.646	124.568	-26.077	-17.31%	43.46%
1E+12	35	115.038	109.528	-5.510	-4.79%	9.18%
1E+12	36	126.965	111.211	-15.754	-12.41%	26.26%
1E+12	37	121.787	128.059	6.272	5.15%	10.45%
1E+12	38	112.234	104.329	-7.906	-7.04%	13.18%
1E+12	39	131.676	128.078	-3.598	-2.73%	6.00%
	Max	175.262	149.870	6.272	5.15%	43.46%
	Average	131.362	122.986	-8.376	-5.74%	17.01%
	Min	112.234	104.329	-26.077	-17.31%	0.31%
	Std Dev	18.139	12.356	11.763	7.88%	16.77%

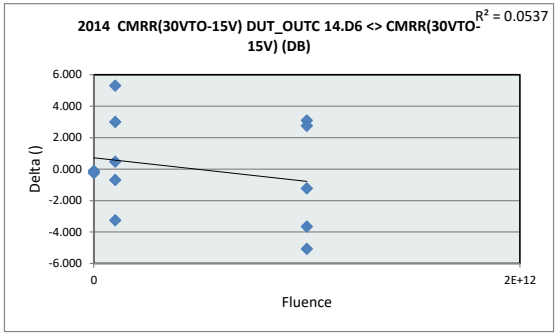


	2013_CMRR(30VTO-15V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	114.254	120.672	104.329
Average	132.062	126.101	116.241
Max	149.870	131.918	128.078
UL			

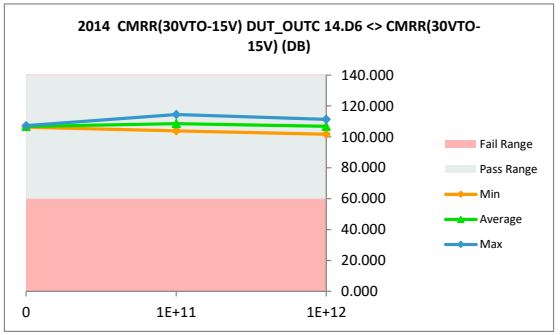


NDD Report
LM139AQML-SP

		2014 CMRR(30VTO-15V) DUT_O				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	107.402	107.286	-0.116	-0.11%	0.19%
0	2	106.519	106.273	-0.247	-0.23%	0.41%
1E+11	30	109.184	114.487	5.303	4.86%	8.84%
1E+11	31	107.655	106.968	-0.687	-0.64%	1.14%
1E+11	32	108.240	111.244	3.004	2.78%	5.01%
1E+11	33	107.137	103.891	-3.246	-3.03%	5.41%
1E+11	34	105.794	106.271	0.477	0.45%	0.80%
1E+12	35	106.784	101.718	-5.067	-4.74%	8.44%
1E+12	36	106.771	103.111	-3.660	-3.43%	6.10%
1E+12	37	104.714	107.808	3.094	2.95%	5.16%
1E+12	38	108.578	111.331	2.753	2.54%	4.59%
1E+12	39	111.292	110.065	-1.227	-1.10%	2.05%
	Max	111.292	114.487	5.303	4.86%	8.84%
	Average	107.506	107.538	0.032	0.02%	4.01%
	Min	104.714	101.718	-5.067	-4.74%	0.19%
	Std Dev	1.699	3.732	3.107	2.89%	3.04%

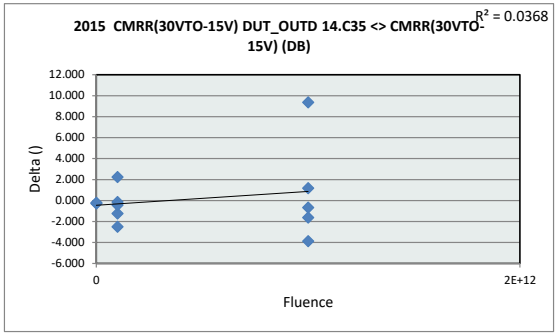


	2014 CMRR(30VTO-15V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	106.273	103.891	101.718
Average	106.779	108.572	106.807
Max	107.286	114.487	111.331
UL			

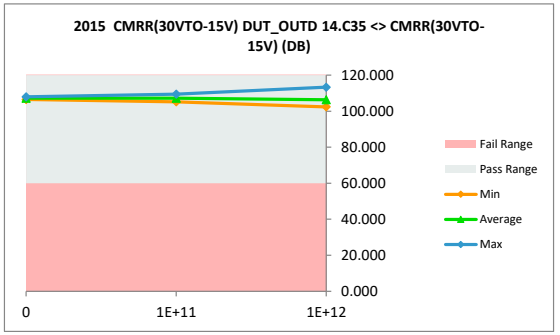


NDD Report
LM139AQML-SP

		2015 CMRR(30VTO-15V) DUT_O				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	106.777	106.493	-0.284	-0.27%	0.47%
0	2	108.179	107.969	-0.209	-0.19%	0.35%
1E+11	30	108.933	108.804	-0.129	-0.12%	0.22%
1E+11	31	106.639	105.404	-1.235	-1.16%	2.06%
1E+11	32	107.615	107.190	-0.425	-0.39%	0.71%
1E+11	33	107.191	109.434	2.243	2.09%	3.74%
1E+11	34	107.693	105.193	-2.500	-2.32%	4.17%
1E+12	35	106.222	102.348	-3.874	-3.65%	6.46%
1E+12	36	106.148	105.482	-0.665	-0.63%	1.11%
1E+12	37	104.903	106.093	1.190	1.13%	1.98%
1E+12	38	103.951	113.319	9.368	9.01%	15.61%
1E+12	39	106.020	104.403	-1.617	-1.53%	2.69%
	Max	108.933	113.319	9.368	9.01%	15.61%
	Average	106.689	106.844	0.155	0.17%	3.30%
	Min	103.951	102.348	-3.874	-3.65%	0.22%
	Std Dev	1.383	2.818	3.304	3.16%	4.31%

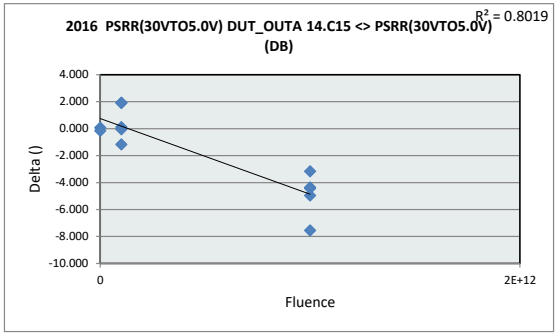


		2015 CMRR(30VTO-15V) DUT		
Max Limit				
Min Limit		60		
	Fluence	0	1E+11	1E+12
	LL	60.000	60.000	60.000
	Min	106.493	105.193	102.348
	Average	107.231	107.205	106.329
	Max	107.969	109.434	113.319
	UL			

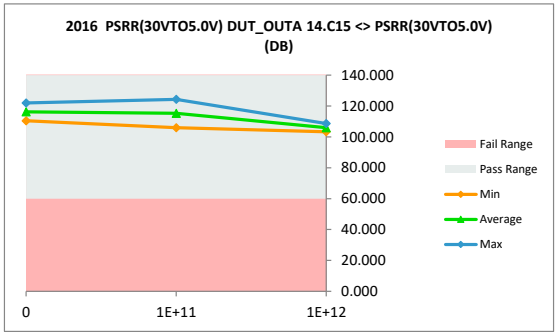


NDD Report
LM139AQML-SP

		2016 PSRR(30VTO5.0V) DUT_OU				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	110.376	110.448	0.072	0.07%	0.12%
0	2	122.162	122.004	-0.159	-0.13%	0.26%
1E+11	30	117.986	119.904	1.917	1.63%	3.20%
1E+11	31	111.356	111.463	0.107	0.10%	0.18%
1E+11	32	116.243	115.072	-1.172	-1.01%	1.95%
1E+11	33	122.396	124.303	1.906	1.56%	3.18%
1E+11	34	105.937	105.893	-0.044	-0.04%	0.07%
1E+12	35	108.286	105.115	-3.171	-2.93%	5.29%
1E+12	36	114.664	107.114	-7.550	-6.58%	12.58%
1E+12	37	107.659	103.300	-4.359	-4.05%	7.27%
1E+12	38	110.063	105.633	-4.430	-4.02%	7.38%
1E+12	39	113.595	108.631	-4.963	-4.37%	8.27%
	Max	122.396	124.303	1.917	1.63%	12.58%
	Average	113.394	111.573	-1.820	-1.65%	4.15%
	Min	105.937	103.300	-7.550	-6.58%	0.07%
	Std Dev	5.458	7.135	3.004	2.65%	4.04%

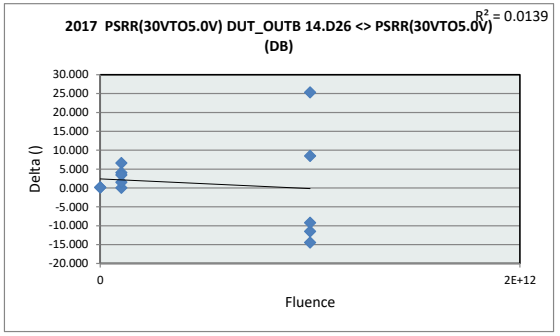


	2016 PSRR(30VTO5.0V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	110.448	105.893	103.300
Average	116.226	115.327	105.959
Max	122.004	124.303	108.631
UL			

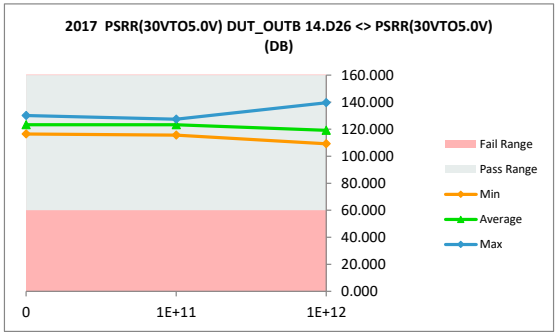


NDD Report
LM139AQML-SP

		2017 PSRR(30VTO5.0V) DUT_OU				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	116.243	116.419	0.176	0.15%	0.29%
0	2	130.005	130.161	0.156	0.12%	0.26%
1E+11	30	115.569	115.608	0.039	0.03%	0.07%
1E+11	31	125.847	127.381	1.534	1.22%	2.56%
1E+11	32	120.667	127.265	6.597	5.47%	11.00%
1E+11	33	120.314	124.379	4.064	3.38%	6.77%
1E+11	34	117.945	121.403	3.458	2.93%	5.76%
1E+12	35	126.939	112.485	-14.454	-11.39%	24.09%
1E+12	36	120.650	109.177	-11.473	-9.51%	19.12%
1E+12	37	123.691	114.501	-9.189	-7.43%	15.32%
1E+12	38	111.489	120.004	8.516	7.64%	14.19%
1E+12	39	114.247	139.552	25.305	22.15%	42.17%
	Max	130.005	139.552	25.305	22.15%	42.17%
	Average	120.301	121.528	1.227	1.23%	11.80%
	Min	111.489	109.177	-14.454	-11.39%	0.07%
	Std Dev	5.555	8.644	10.419	8.83%	12.42%

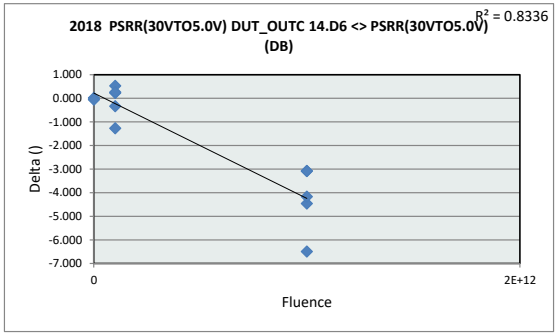


	2017 PSRR(30VTO5.0V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	116.419	115.608	109.177
Average	123.290	123.207	119.144
Max	130.161	127.381	139.552
UL			

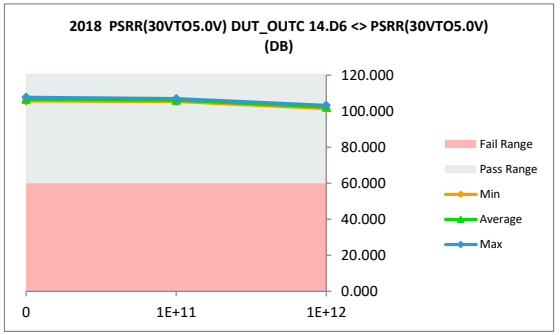


NDD Report
LM139AQML-SP

		2018 PSRR(30VTO5.0V) DUT_OU				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	107.676	107.696	0.020	0.02%	0.03%
0	2	105.656	105.604	-0.051	-0.05%	0.09%
1E+11	30	106.027	106.555	0.529	0.50%	0.88%
1E+11	31	105.287	105.516	0.229	0.22%	0.38%
1E+11	32	105.689	105.358	-0.331	-0.31%	0.55%
1E+11	33	107.420	106.151	-1.270	-1.18%	2.12%
1E+11	34	106.742	107.004	0.262	0.25%	0.44%
1E+12	35	106.637	102.181	-4.455	-4.18%	7.43%
1E+12	36	106.920	102.759	-4.161	-3.89%	6.94%
1E+12	37	104.510	101.437	-3.073	-2.94%	5.12%
1E+12	38	105.013	101.935	-3.079	-2.93%	5.13%
1E+12	39	109.711	103.218	-6.493	-5.92%	10.82%
	Max	109.711	107.696	0.529	0.50%	10.82%
	Average	106.441	104.618	-1.823	-1.70%	3.33%
	Min	104.510	101.437	-6.493	-5.92%	0.03%
	Std Dev	1.414	2.180	2.345	2.17%	3.64%

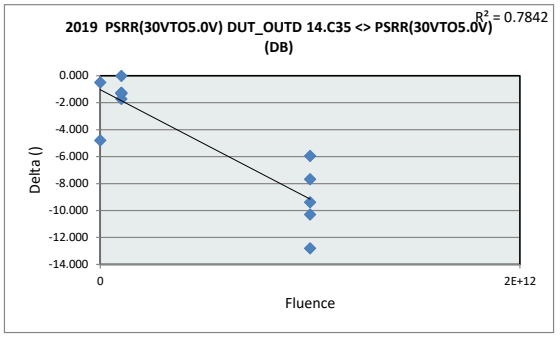


	2018 PSRR(30VTO5.0V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	105.604	105.358	101.437
Average	106.650	106.117	102.306
Max	107.696	107.004	103.218
UL			

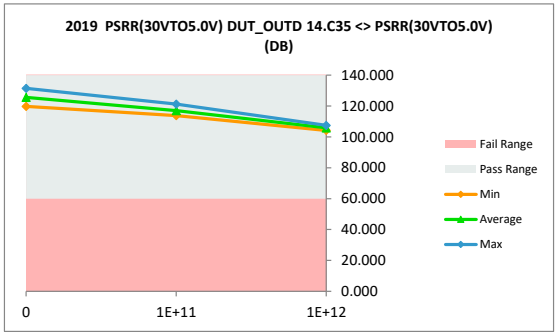


NDD Report
LM139AQML-SP

		2019 PSRR(30VTO5.0V) DUT_OU				
	Max Limit					
	Min Limit	60	60			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	136.261	131.456	-4.805	-3.53%	8.01%
0	2	120.257	119.754	-0.503	-0.42%	0.84%
1E+11	30	121.292	121.272	-0.020	-0.02%	0.03%
1E+11	31	115.008	113.733	-1.275	-1.11%	2.13%
1E+11	32	118.449	117.121	-1.328	-1.12%	2.21%
1E+11	33	117.795	116.076	-1.720	-1.46%	2.87%
1E+11	34	118.352	117.062	-1.290	-1.09%	2.15%
1E+12	35	116.860	107.479	-9.381	-8.03%	15.63%
1E+12	36	118.199	105.398	-12.801	-10.83%	21.33%
1E+12	37	115.943	105.649	-10.294	-8.88%	17.16%
1E+12	38	111.851	104.173	-7.678	-6.86%	12.80%
1E+12	39	112.668	106.715	-5.953	-5.28%	9.92%
	Max	136.261	131.456	-0.020	-0.02%	21.33%
	Average	118.578	113.824	-4.754	-4.05%	7.92%
	Min	111.851	104.173	-12.801	-10.83%	0.03%
	Std Dev	6.227	8.256	4.394	3.78%	7.32%

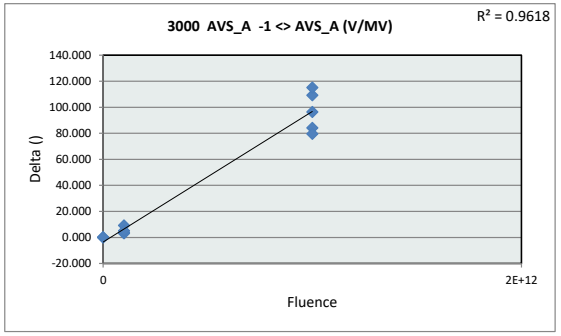


	2019 PSRR(30VTO5.0V) DUT_		
Max Limit			
Min Limit	60		
Fluence	0	1E+11	1E+12
LL	60.000	60.000	60.000
Min	119.754	113.733	104.173
Average	125.605	117.053	105.883
Max	131.456	121.272	107.479
UL			

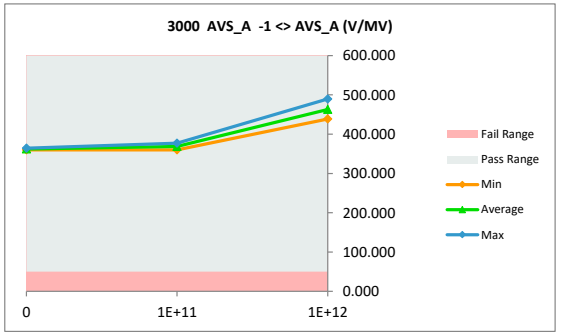


NDD Report
LM139AQML-SP

		3000 AVS_A -1 <> AVS_A (V/M				
	Max Limit					
	Min Limit	50	50			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	364.336	364.302	-0.034	-0.01%	0.07%
0	2	359.924	360.140	0.216	0.06%	0.43%
1E+11	30	363.146	366.607	3.461	0.95%	6.92%
1E+11	31	368.006	377.253	9.247	2.51%	18.49%
1E+11	32	356.799	359.975	3.176	0.89%	6.35%
1E+11	33	359.385	362.846	3.461	0.96%	6.92%
1E+11	34	371.206	376.265	5.058	1.36%	10.12%
1E+12	35	368.381	464.853	96.472	26.19%	192.94%
1E+12	36	359.372	443.585	84.213	23.43%	168.43%
1E+12	37	368.426	477.596	109.170	29.63%	218.34%
1E+12	38	374.548	489.685	115.137	30.74%	230.27%
1E+12	39	359.024	438.601	79.577	22.16%	159.15%
	Max	374.548	489.685	115.137	30.74%	230.27%
	Average	364.380	406.809	42.429	11.57%	84.87%
	Min	356.799	359.975	-0.034	-0.01%	0.07%
	Std Dev	5.665	51.474	49.034	13.32%	98.06%

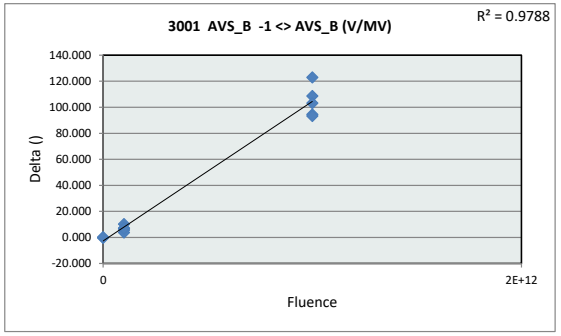


	3000 AVS_A -1 <> AVS_A (V/		
Max Limit			
Min Limit	50		
Fluence	0	1E+11	1E+12
LL	50.000	50.000	50.000
Min	360.140	359.975	438.601
Average	362.221	368.589	462.864
Max	364.302	377.253	489.685
UL			

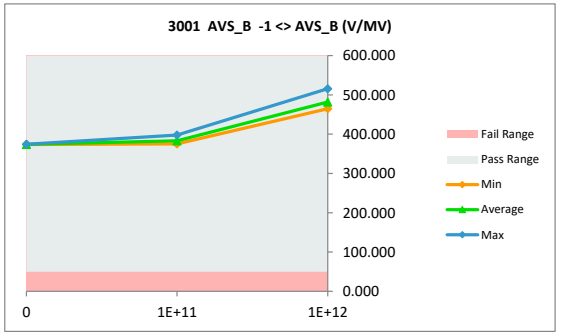


NDD Report
LM139AQML-SP

		3001 AVS_B -1 <> AVS_B (V/M				
	Max Limit					
	Min Limit	50	50			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	373.967	373.670	-0.297	-0.08%	0.59%
0	2	374.101	374.336	0.234	0.06%	0.47%
1E+11	30	373.529	379.268	5.739	1.54%	11.48%
1E+11	31	387.670	397.926	10.256	2.65%	20.51%
1E+11	32	371.156	375.020	3.864	1.04%	7.73%
1E+11	33	374.919	382.194	7.276	1.94%	14.55%
1E+11	34	375.088	382.051	6.962	1.86%	13.92%
1E+12	35	375.953	484.618	108.665	28.90%	217.33%
1E+12	36	371.109	465.660	94.550	25.48%	189.10%
1E+12	37	375.003	478.245	103.242	27.53%	206.48%
1E+12	38	392.654	515.720	123.066	31.34%	246.13%
1E+12	39	371.376	464.792	93.417	25.15%	186.83%
	Max	392.654	515.720	123.066	31.34%	246.13%
	Average	376.377	422.792	46.414	12.28%	92.93%
	Min	371.109	373.670	-0.297	-0.08%	0.47%
	Std Dev	6.725	53.935	51.945	13.70%	103.79%

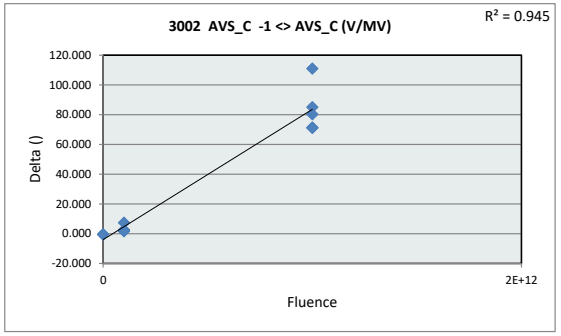


	3001 AVS_B -1 <> AVS_B (V/		
Max Limit			
Min Limit	50		
Fluence	0	1E+11	1E+12
LL	50.000	50.000	50.000
Min	373.670	375.020	464.792
Average	374.003	383.292	481.807
Max	374.336	397.926	515.720
UL			

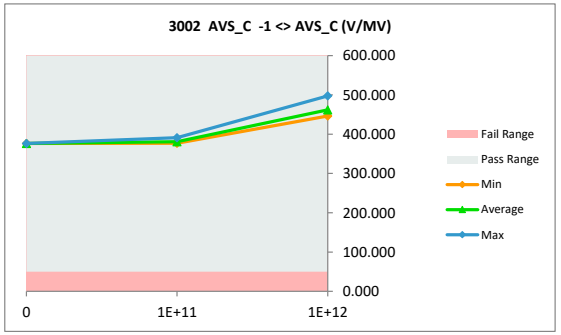


NDD Report
LM139AQML-SP

		3002 AVS_C -1 <> AVS_C (V/M				
	Max Limit					
	Min Limit	50	50			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	376.842	376.361	-0.482	-0.13%	0.96%
0	2	376.703	376.336	-0.367	-0.10%	0.73%
1E+11	30	376.295	378.696	2.401	0.64%	4.80%
1E+11	31	383.522	390.929	7.406	1.93%	14.81%
1E+11	32	375.314	376.916	1.602	0.43%	3.20%
1E+11	33	376.776	379.006	2.230	0.59%	4.46%
1E+11	34	376.679	378.880	2.201	0.58%	4.40%
1E+12	35	377.316	462.359	85.042	22.54%	170.08%
1E+12	36	374.988	446.364	71.376	19.03%	142.75%
1E+12	37	376.760	457.021	80.261	21.30%	160.52%
1E+12	38	386.445	497.423	110.978	28.72%	221.96%
1E+12	39	375.087	446.219	71.132	18.96%	142.26%
	Max	386.445	497.423	110.978	28.72%	221.96%
	Average	377.727	413.876	36.148	9.54%	72.58%
	Min	374.988	376.336	-0.482	-0.13%	0.73%
	Std Dev	3.527	44.396	43.209	11.37%	86.16%

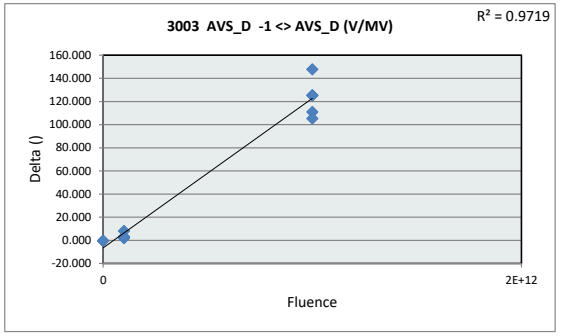


	3002 AVS_C -1 <> AVS_C (V/		
Max Limit			
Min Limit	50		
Fluence	0	1E+11	1E+12
LL	50.000	50.000	50.000
Min	376.336	376.916	446.219
Average	376.348	380.885	461.877
Max	376.361	390.929	497.423
UL			

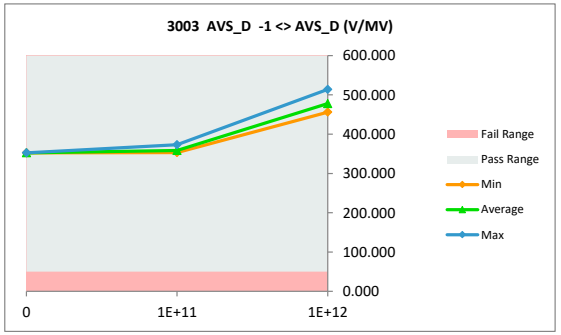


NDD Report
LM139AQML-SP

		3003 AVS_D -1 <> AVS_D (V/M				
	Max Limit					
	Min Limit	50	50			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	352.950	352.407	-0.543	-0.15%	1.09%
0	2	352.678	352.406	-0.272	-0.08%	0.54%
1E+11	30	352.080	354.418	2.338	0.66%	4.68%
1E+11	31	365.201	373.326	8.125	2.22%	16.25%
1E+11	32	350.968	352.965	1.997	0.57%	3.99%
1E+11	33	352.558	355.457	2.900	0.82%	5.80%
1E+11	34	352.514	355.534	3.020	0.86%	6.04%
1E+12	35	353.599	478.873	125.274	35.43%	250.55%
1E+12	36	350.848	461.886	111.038	31.65%	222.08%
1E+12	37	353.567	478.955	125.388	35.46%	250.78%
1E+12	38	366.214	514.051	147.836	40.37%	295.67%
1E+12	39	350.684	455.988	105.304	30.03%	210.61%
	Max	366.214	514.051	147.836	40.37%	295.67%
	Average	354.488	407.189	52.700	14.82%	105.67%
	Min	350.684	352.406	-0.543	-0.15%	0.54%
	Std Dev	5.335	64.173	62.853	17.63%	125.46%

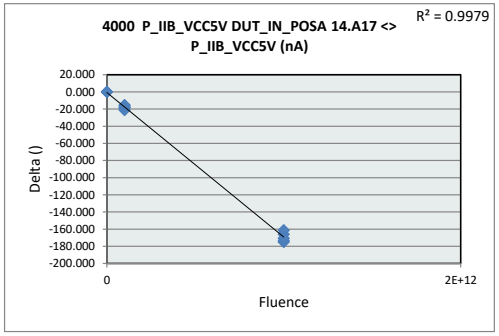


	3003 AVS_D -1 <> AVS_D (V/		
Max Limit			
Min Limit	50		
Fluence	0	1E+11	1E+12
LL	50.000	50.000	50.000
Min	352.406	352.965	455.988
Average	352.407	358.340	477.950
Max	352.407	373.326	514.051
UL			

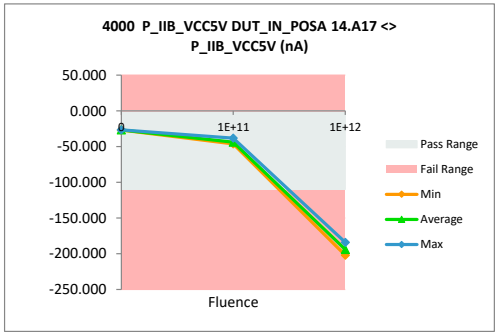


NDD Report
LM139AQML-SP

		4000_P_IIB_VCC5V DUT_IN_POS				
	Max Limit	-1	-1			
	Min Limit	-110	-110			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.587	-26.610	-0.023	0.09%	0.02%
0	2	-26.949	-26.851	0.099	-0.37%	0.09%
1E+11	30	-27.152	-45.327	-18.175	66.94%	16.67%
1E+11	31	-27.903	-46.343	-18.440	66.08%	16.92%
1E+11	32	-24.713	-45.843	-21.130	85.50%	19.39%
1E+11	33	-27.096	-43.530	-16.434	60.65%	15.08%
1E+11	34	-22.792	-38.146	-15.354	67.37%	14.09%
1E+12	35	-23.389	-189.300	-165.911	709.37%	152.21%
1E+12	36	-24.710	-199.432	-174.722	707.08%	160.30%
1E+12	37	-22.895	-183.996	-161.101	703.64%	147.80%
1E+12	38	-28.596	-202.066	-173.470	606.63%	159.15%
1E+12	39	-24.567	-195.134	-170.567	694.28%	156.48%
	Max	-22.792	-26.610	0.099	709.37%	160.30%
	Average	-25.612	-103.548	-77.936	313.94%	71.52%
	Min	-28.596	-202.066	-174.722	-0.37%	0.02%
	Std Dev	2.010	80.219	80.863	328.91%	74.17%

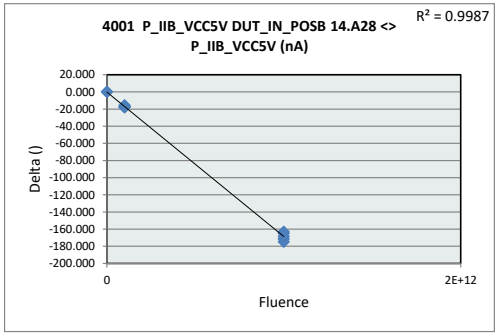


	4000_P_IIB_VCC5V DUT_IN_P		
Max Limit	-1		
Min Limit	-110		
Fluence	0	1E+11	1E+12
LL	-110.000	-110.000	-110.000
Min	-26.851	-46.343	-202.066
Average	-26.730	-43.838	-193.986
Max	-26.610	-38.146	-183.996
UL	-1.000	-1.000	-1.000

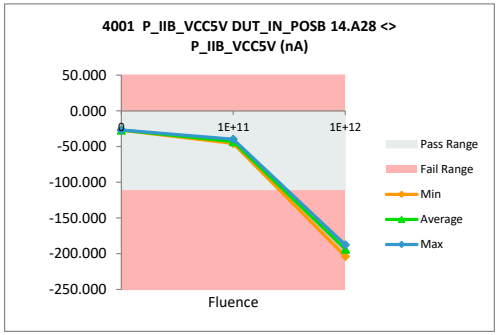


NDD Report
LM139AQML-SP

		4001_P_IIB_VCC5V DUT_IN_POS				
	Max Limit	-1	-1			
	Min Limit	-110	-110			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.742	-26.755	-0.013	0.05%	0.01%
0	2	-27.166	-27.048	0.118	-0.44%	0.11%
1E+11	30	-27.215	-42.780	-15.564	57.19%	14.28%
1E+11	31	-28.351	-45.719	-17.368	61.26%	15.93%
1E+11	32	-24.944	-43.012	-18.068	72.44%	16.58%
1E+11	33	-26.807	-43.997	-17.191	64.13%	15.77%
1E+11	34	-22.323	-39.736	-17.413	78.01%	15.98%
1E+12	35	-24.260	-187.402	-163.142	672.47%	149.67%
1E+12	36	-24.494	-195.806	-171.312	699.41%	157.17%
1E+12	37	-22.722	-187.678	-164.957	725.99%	151.34%
1E+12	38	-28.824	-203.672	-174.848	606.61%	160.41%
1E+12	39	-24.447	-192.979	-168.532	689.38%	154.62%
	Max	-22.323	-26.755	0.118	725.99%	160.41%
	Average	-25.691	-103.049	-77.357	310.54%	70.99%
	Min	-28.824	-203.672	-174.848	-0.44%	0.01%
	Std Dev	2.121	80.176	80.796	327.10%	74.11%

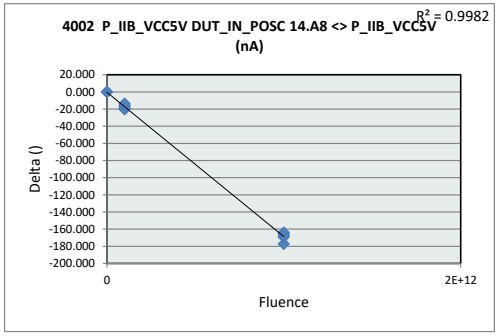


	4001_P_IIB_VCC5V DUT_IN_P		
Max Limit	-1		
Min Limit	-110		
Fluence	0	1E+11	1E+12
LL	-110.000	-110.000	-110.000
Min	-27.048	-45.719	-203.672
Average	-26.902	-43.049	-193.507
Max	-26.755	-39.736	-187.402
UL	-1.000	-1.000	-1.000

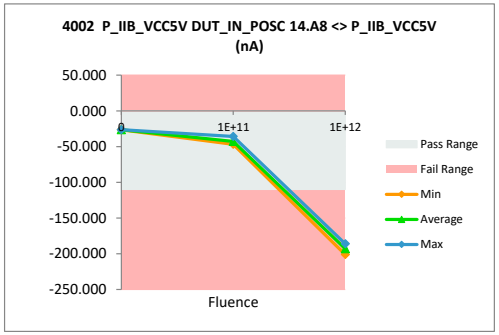


NDD Report
LM139AQML-SP

		4002_P_IIB_VCC5V DUT_IN_POS				
	Max Limit	-1	-1			
	Min Limit	-110	-110			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.307	-26.355	-0.047	0.18%	0.04%
0	2	-26.655	-26.565	0.091	-0.34%	0.08%
1E+11	30	-26.598	-44.168	-17.570	66.06%	16.12%
1E+11	31	-27.458	-46.760	-19.302	70.30%	17.71%
1E+11	32	-24.511	-44.752	-20.241	82.58%	18.57%
1E+11	33	-26.665	-42.698	-16.033	60.13%	14.71%
1E+11	34	-22.070	-35.739	-13.670	61.94%	12.54%
1E+12	35	-22.917	-188.706	-165.789	723.42%	152.10%
1E+12	36	-24.211	-201.242	-177.031	731.20%	162.41%
1E+12	37	-22.308	-186.159	-163.851	734.49%	150.32%
1E+12	38	-28.439	-197.531	-169.092	594.58%	155.13%
1E+12	39	-24.296	-191.410	-167.114	687.84%	153.32%
	Max	-22.070	-26.355	0.091	734.49%	162.41%
	Average	-25.203	-102.674	-77.471	317.70%	71.09%
	Min	-28.439	-201.242	-177.031	-0.34%	0.04%
	Std Dev	2.104	80.090	80.739	335.28%	74.06%

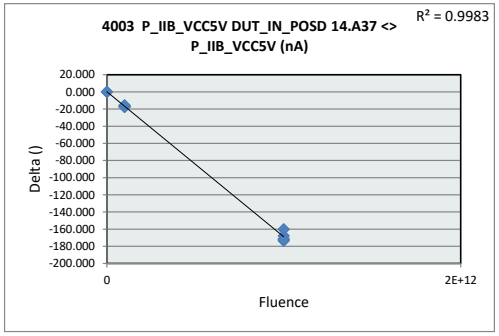


		4002_P_IIB_VCC5V DUT_IN_P		
	Max Limit	-1		
	Min Limit	-110		
	Fluence	0	1E+11	1E+12
	LL	-110.000	-110.000	-110.000
	Min	-26.565	-46.760	-201.242
	Average	-26.460	-42.824	-193.010
	Max	-26.355	-35.739	-186.159
	UL	-1.000	-1.000	-1.000

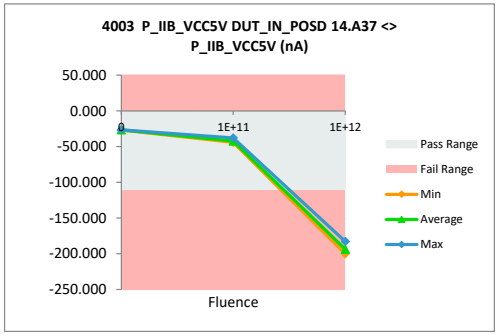


NDD Report
LM139AQML-SP

		4003_P_IIB_VCC5V DUT_IN_POS				
	Max Limit	-1	-1			
	Min Limit	-110	-110			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.497	-26.550	-0.053	0.20%	0.05%
0	2	-26.935	-26.844	0.091	-0.34%	0.08%
1E+11	30	-26.773	-43.105	-16.333	61.01%	14.98%
1E+11	31	-27.729	-43.986	-16.257	58.63%	14.91%
1E+11	32	-25.003	-42.179	-17.175	68.69%	15.76%
1E+11	33	-26.443	-43.855	-17.412	65.85%	15.97%
1E+11	34	-22.360	-37.899	-15.539	69.50%	14.26%
1E+12	35	-23.102	-190.674	-167.572	725.35%	153.74%
1E+12	36	-24.474	-197.864	-173.390	708.48%	159.07%
1E+12	37	-22.818	-182.827	-160.009	701.24%	146.80%
1E+12	38	-28.937	-200.091	-171.154	591.47%	157.02%
1E+12	39	-24.824	-197.066	-172.242	693.85%	158.02%
	Max	-22.360	-26.550	0.091	725.35%	159.07%
	Average	-25.491	-102.745	-77.254	311.99%	70.89%
	Min	-28.937	-200.091	-173.390	-0.34%	0.05%
	Std Dev	2.065	80.613	81.163	330.84%	74.45%



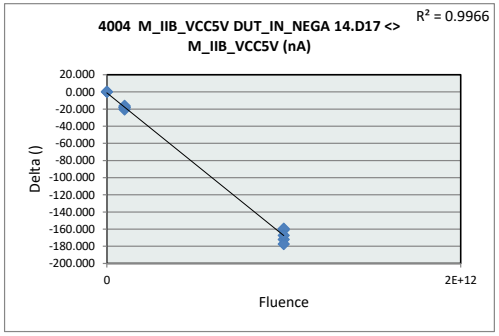
	4003_P_IIB_VCC5V DUT_IN_P		
Max Limit	-1		
Min Limit	-110		
Fluence	0	1E+11	1E+12
LL	-110.000	-110.000	-110.000
Min	-26.844	-43.986	-200.091
Average	-26.697	-42.205	-193.704
Max	-26.550	-37.899	-182.827
UL	-1.000	-1.000	-1.000



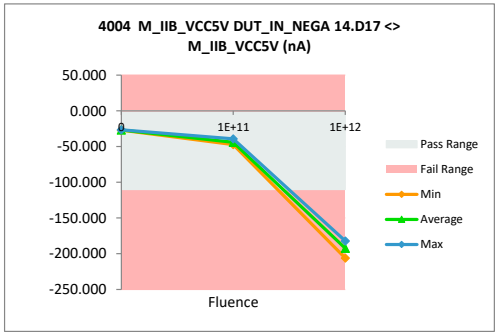
NDD Report
LM139AQML-SP

		4004_M_IIB_VCC5V DUT_IN_NE	
	Max Limit	-1	-1
	Min Limit	-110	-110

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.510	-26.565	-0.055	0.21%	0.05%
0	2	-27.090	-27.008	0.082	-0.30%	0.08%
1E+11	30	-26.747	-47.267	-20.519	76.72%	18.83%
1E+11	31	-27.896	-45.903	-18.007	64.55%	16.52%
1E+11	32	-24.871	-43.500	-18.629	74.90%	17.09%
1E+11	33	-26.785	-44.471	-17.686	66.03%	16.23%
1E+11	34	-22.642	-39.037	-16.394	72.41%	15.04%
1E+12	35	-23.247	-184.193	-160.946	692.33%	147.66%
1E+12	36	-25.272	-197.372	-172.100	680.98%	157.89%
1E+12	37	-22.591	-182.031	-159.440	705.75%	146.28%
1E+12	38	-28.604	-206.007	-177.403	620.21%	162.76%
1E+12	39	-24.587	-191.872	-167.284	680.36%	153.47%
	Max	-22.591	-26.565	0.082	705.75%	162.76%
	Average	-25.570	-102.935	-77.365	311.18%	70.99%
	Min	-28.604	-206.007	-177.403	-0.30%	0.05%
	Std Dev	2.024	79.369	79.914	323.61%	73.30%



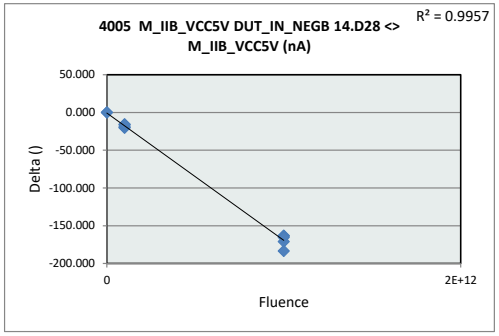
		4004_M_IIB_VCC5V DUT_IN_N		
	Max Limit	-1		
	Min Limit	-110		
	Fluence	0	1E+11	1E+12
	LL	-110.000	-110.000	-110.000
	Min	-27.008	-47.267	-206.007
	Average	-26.787	-44.035	-192.295
	Max	-26.565	-39.037	-182.031
	UL	-1.000	-1.000	-1.000



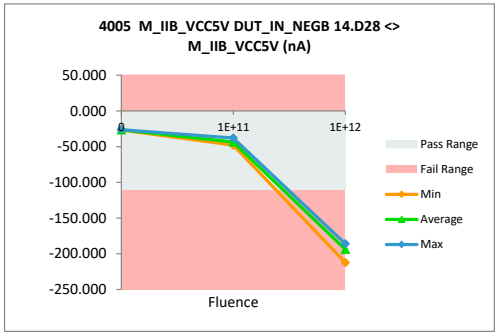
NDD Report
LM139AQML-SP

		4005_M_IIB_VCC5V DUT_IN_NE	
	Max Limit	-1	-1
	Min Limit	-110	-110

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.303	-26.358	-0.055	0.21%	0.05%
0	2	-26.974	-26.879	0.094	-0.35%	0.09%
1E+11	30	-26.590	-46.730	-20.140	75.74%	18.48%
1E+11	31	-28.068	-47.869	-19.801	70.55%	18.17%
1E+11	32	-24.660	-42.869	-18.208	73.84%	16.70%
1E+11	33	-26.638	-42.605	-15.967	59.94%	14.65%
1E+11	34	-22.300	-37.963	-15.664	70.24%	14.37%
1E+12	35	-22.916	-185.971	-163.055	711.53%	149.59%
1E+12	36	-24.154	-195.183	-171.029	708.09%	156.91%
1E+12	37	-22.495	-186.103	-163.608	727.32%	150.10%
1E+12	38	-28.812	-212.297	-183.485	636.83%	168.33%
1E+12	39	-24.111	-189.551	-165.440	686.15%	151.78%
	Max	-22.300	-26.358	0.094	727.32%	168.33%
	Average	-25.335	-103.365	-78.030	318.34%	71.60%
	Min	-28.812	-212.297	-183.485	-0.35%	0.05%
	Std Dev	2.194	80.391	81.021	333.25%	74.32%



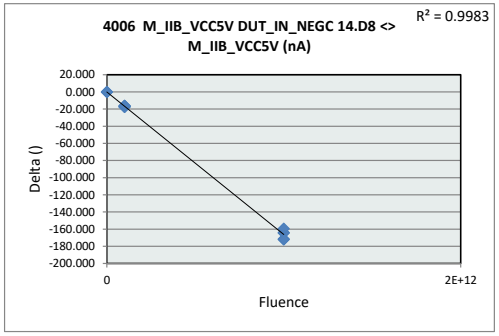
		4005_M_IIB_VCC5V DUT_IN_N		
	Max Limit	-1		
	Min Limit	-110		
Fluence		0	1E+11	1E+12
LL		-110.000	-110.000	-110.000
Min		-26.879	-47.869	-212.297
Average		-26.619	-43.607	-193.821
Max		-26.358	-37.963	-185.971
UL		-1.000	-1.000	-1.000



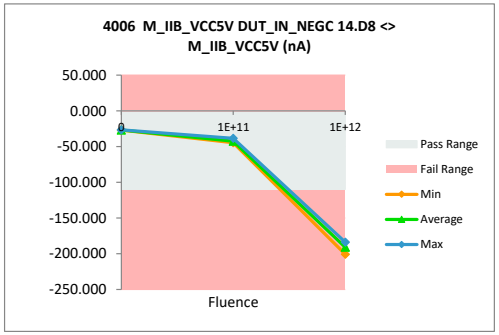
NDD Report
LM139AQML-SP

		4006_M_IIB_VCC5V DUT_IN_NE	
	Max Limit	-1	-1
	Min Limit	-110	-110

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.537	-26.587	-0.049	0.19%	0.05%
0	2	-27.022	-26.941	0.081	-0.30%	0.07%
1E+11	30	-26.747	-42.848	-16.101	60.20%	14.77%
1E+11	31	-28.017	-44.747	-16.730	59.71%	15.35%
1E+11	32	-24.612	-41.880	-17.268	70.16%	15.84%
1E+11	33	-26.708	-44.218	-17.510	65.56%	16.06%
1E+11	34	-22.304	-38.372	-16.068	72.04%	14.74%
1E+12	35	-22.690	-186.709	-164.019	722.88%	150.48%
1E+12	36	-24.914	-196.263	-171.349	687.75%	157.20%
1E+12	37	-22.497	-186.757	-164.261	730.15%	150.70%
1E+12	38	-28.706	-200.719	-172.013	599.23%	157.81%
1E+12	39	-24.446	-183.814	-159.368	651.92%	146.21%
	Max	-22.304	-26.587	0.081	730.15%	157.81%
	Average	-25.433	-101.655	-76.221	309.96%	69.94%
	Min	-28.706	-200.719	-172.013	-0.30%	0.05%
	Std Dev	2.181	79.075	79.725	327.73%	73.13%

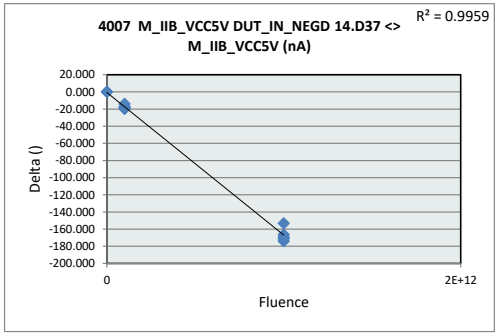


		4006_M_IIB_VCC5V DUT_IN_N		
	Max Limit	-1		
	Min Limit	-110		
	Fluence	0	1E+11	1E+12
	LL	-110.000	-110.000	-110.000
	Min	-26.941	-44.747	-200.719
	Average	-26.764	-42.413	-190.852
	Max	-26.587	-38.372	-183.814
	UL	-1.000	-1.000	-1.000

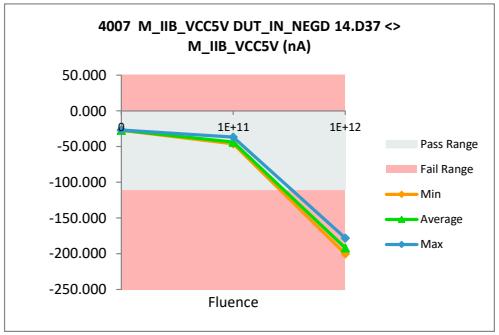


NDD Report
LM139AQML-SP

		4007_M_IIB_VCC5V DUT_IN_NE				
	Max Limit	-1	-1			
	Min Limit	-110	-110			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-26.718	-26.759	-0.041	0.15%	0.04%
0	2	-27.271	-27.175	0.096	-0.35%	0.09%
1E+11	30	-26.957	-44.273	-17.316	64.24%	15.89%
1E+11	31	-28.357	-46.193	-17.836	62.90%	16.36%
1E+11	32	-25.096	-44.880	-19.784	78.83%	18.15%
1E+11	33	-27.045	-45.957	-18.912	69.93%	17.35%
1E+11	34	-22.701	-36.812	-14.112	62.16%	12.95%
1E+12	35	-23.130	-197.296	-174.166	752.99%	159.79%
1E+12	36	-24.784	-191.199	-166.415	671.47%	152.67%
1E+12	37	-22.873	-192.319	-169.446	740.82%	155.45%
1E+12	38	-29.037	-200.257	-171.220	589.67%	157.08%
1E+12	39	-24.753	-177.972	-153.219	618.99%	140.57%
	Max	-22.701	-26.759	0.096	752.99%	159.79%
	Average	-25.727	-102.591	-76.864	309.32%	70.53%
	Min	-29.037	-200.257	-174.166	-0.35%	0.04%
	Std Dev	2.148	79.187	79.887	326.48%	73.28%

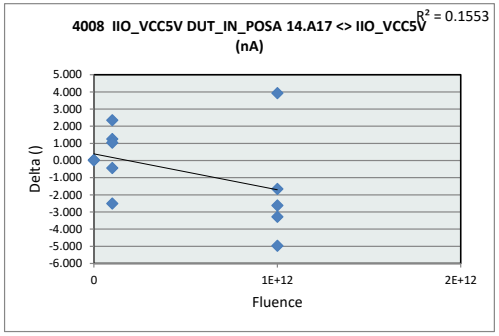


	4007_M_IIB_VCC5V DUT_IN_N		
Max Limit	-1		
Min Limit	-110		
Fluence	0	1E+11	1E+12
LL	-110.000	-110.000	-110.000
Min	-27.175	-46.193	-200.257
Average	-26.967	-43.623	-191.808
Max	-26.759	-36.812	-177.972
UL	-1.000	-1.000	-1.000

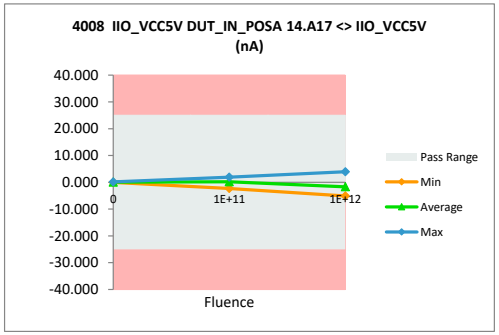


NDD Report
LM139AQML-SP

		4008 IIO_VCC5V DUT_IN_POSA				
	Max Limit	25	25			
	Min Limit	-25	-25			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-0.076	-0.045	0.031	-41.31%	0.06%
0	2	0.141	0.157	0.016	11.61%	0.03%
1E+11	30	-0.405	1.940	2.345	-578.70%	4.69%
1E+11	31	-0.007	-0.440	-0.433	5766.80%	0.87%
1E+11	32	0.158	-2.343	-2.501	-1583.87%	5.00%
1E+11	33	-0.310	0.941	1.252	-403.25%	2.50%
1E+11	34	-0.150	0.890	1.040	-694.04%	2.08%
1E+12	35	-0.142	-5.107	-4.965	3508.26%	9.93%
1E+12	36	0.562	-2.061	-2.622	-466.76%	5.24%
1E+12	37	-0.304	-1.965	-1.661	546.60%	3.32%
1E+12	38	0.008	3.941	3.933	49332.64%	7.87%
1E+12	39	0.020	-3.262	-3.283	-16269.19%	6.57%
	Max	0.562	3.941	3.933	49332.64%	9.93%
	Average	-0.042	-0.613	-0.571	3260.73%	4.01%
	Min	-0.405	-5.107	-4.965	-16269.19%	0.03%
	Std Dev	0.259	2.468	2.544	15434.25%	3.12%

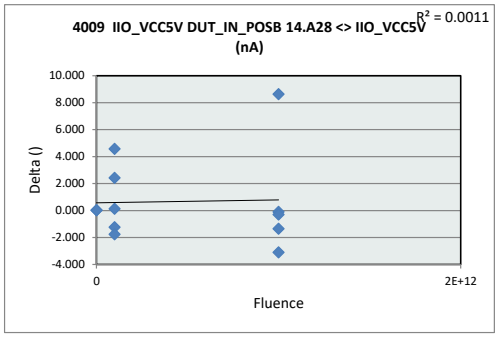


	4008 IIO_VCC5V DUT_IN_POS		
Max Limit	25		
Min Limit	-25		
Fluence	0	1E+11	1E+12
LL	-25.000	-25.000	-25.000
Min	-0.045	-2.343	-5.107
Average	0.056	0.198	-1.691
Max	0.157	1.940	3.941
UL	25.000	25.000	25.000

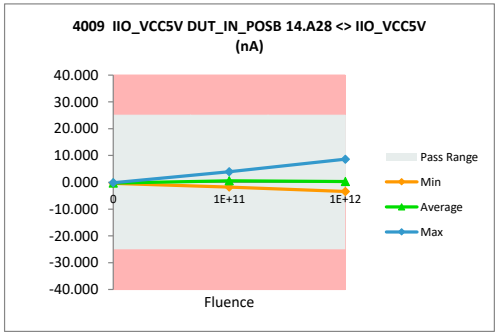


NDD Report
LM139AQML-SP

		4009_IIO_VCC5V DUT_IN_POSB				
	Max Limit	25	25			
	Min Limit	-25	-25			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	-0.439	-0.397	0.042	-9.57%	0.08%
0	2	-0.193	-0.169	0.024	-12.43%	0.05%
1E+11	30	-0.625	3.951	4.576	-731.73%	9.15%
1E+11	31	-0.283	2.150	2.434	-859.10%	4.87%
1E+11	32	-0.283	-0.143	0.140	-49.50%	0.28%
1E+11	33	-0.169	-1.392	-1.224	725.68%	2.45%
1E+11	34	-0.023	-1.773	-1.750	7496.07%	3.50%
1E+12	35	-1.344	-1.431	-0.087	6.47%	0.17%
1E+12	36	-0.340	-0.623	-0.283	83.20%	0.57%
1E+12	37	-0.227	-1.575	-1.348	594.10%	2.70%
1E+12	38	-0.011	8.625	8.636	-75672.74%	17.27%
1E+12	39	-0.336	-3.427	-3.092	921.40%	6.18%
	Max	-0.011	8.625	8.636	7496.07%	17.27%
	Average	-0.356	0.316	0.672	-5625.68%	3.94%
	Min	-1.344	-3.427	-3.092	-75672.74%	0.05%
	Std Dev	0.353	3.239	3.192	22168.34%	5.08%

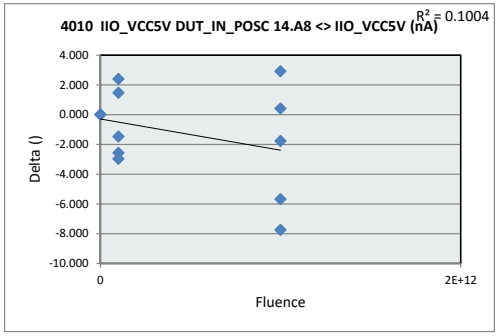


	4009_IIO_VCC5V DUT_IN_POS		
Max Limit	25		
Min Limit	-25		
Fluence	0	1E+11	1E+12
LL	-25.000	-25.000	-25.000
Min	-0.397	-1.773	-3.427
Average	-0.283	0.559	0.314
Max	-0.169	3.951	8.625
UL	25.000	25.000	25.000

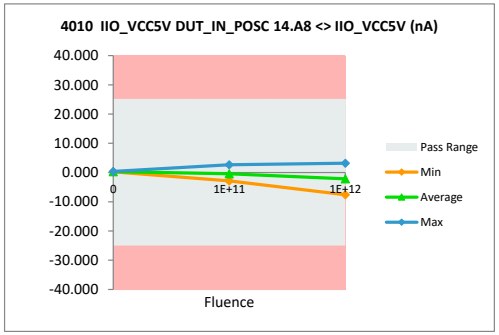


NDD Report
LM139AQML-SP

		4010 IIO_VCC5V DUT_IN_POSC				
	Max Limit	25	25			
	Min Limit	-25	-25			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.230	0.232	0.002	0.80%	0.00%
0	2	0.367	0.376	0.009	2.53%	0.02%
1E+11	30	0.149	-1.320	-1.469	-984.94%	2.94%
1E+11	31	0.559	-2.013	-2.572	-460.15%	5.14%
1E+11	32	0.101	-2.872	-2.973	-2941.17%	5.95%
1E+11	33	0.043	1.520	1.476	3413.77%	2.95%
1E+11	34	0.234	2.633	2.399	1023.26%	4.80%
1E+12	35	-0.228	-1.997	-1.769	777.22%	3.54%
1E+12	36	0.703	-4.979	-5.682	-808.00%	11.36%
1E+12	37	0.189	0.599	0.410	217.20%	0.82%
1E+12	38	0.266	3.187	2.921	1095.98%	5.84%
1E+12	39	0.150	-7.595	-7.746	-5152.51%	15.49%
	Max	0.703	3.187	2.921	3413.77%	15.49%
	Average	0.230	-1.019	-1.250	-318.00%	4.90%
	Min	-0.228	-7.595	-7.746	-5152.51%	0.00%
	Std Dev	0.239	3.133	3.175	2139.95%	4.57%



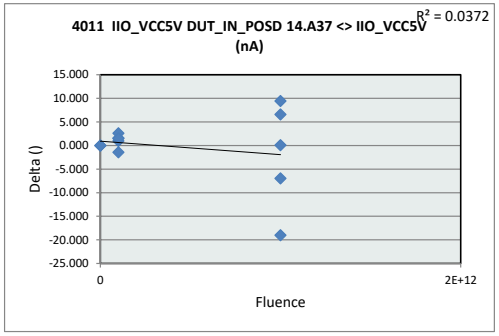
	4010 IIO_VCC5V DUT_IN_POS		
Max Limit	25		
Min Limit	-25		
Fluence	0	1E+11	1E+12
LL	-25.000	-25.000	-25.000
Min	0.232	-2.872	-7.595
Average	0.304	-0.410	-2.157
Max	0.376	2.633	3.187
UL	25.000	25.000	25.000



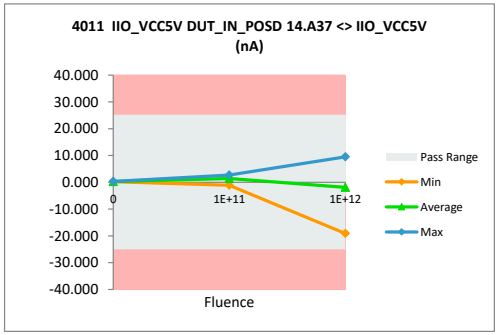
NDD Report
LM139AQML-SP

		4011_IIO_VCC5V DUT_IN_POSD	
	Max Limit	25	25
	Min Limit	-25	-25
Fluence	Serial #	PRE NDD	POST NDD
0	1	0.221	0.209
0	2	0.336	0.331
1E+11	30	0.184	1.168
1E+11	31	0.628	2.206
1E+11	32	0.093	2.701
1E+11	33	0.602	2.102
1E+11	34	0.341	-1.086
1E+12	35	0.028	6.622
1E+12	36	0.310	-6.665
1E+12	37	0.055	9.491
1E+12	38	0.100	0.166
1E+12	39	-0.071	-19.094
	Max	0.628	9.491
	Average	0.235	-0.154
	Min	-0.071	-19.094
	Std Dev	0.219	7.148

Delta	Delta %	% of Limit Range
-0.012	-5.65%	0.02%
-0.005	-1.48%	0.01%
0.984	533.98%	1.97%
1.579	251.53%	3.16%
2.608	2803.97%	5.22%
1.501	249.33%	3.00%
-1.428	-418.58%	2.86%
6.594	23694.79%	13.19%
-6.975	-2250.12%	13.95%
9.437	17226.78%	18.87%
0.066	66.25%	0.13%
-19.023	26743.46%	38.05%
9.437	26743.46%	38.05%
-0.390	5741.19%	8.37%
-19.023	-2250.12%	0.01%
7.108	10407.16%	11.24%

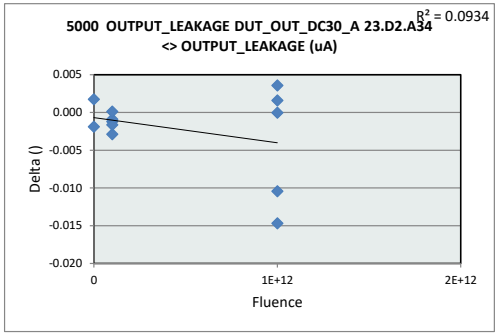


	4011_IIO_VCC5V DUT_IN_POS		
Max Limit	25		
Min Limit	-25		
Fluence	0	1E+11	1E+12
LL	-25.000	-25.000	-25.000
Min	0.209	-1.086	-19.094
Average	0.270	1.418	-1.896
Max	0.331	2.701	9.491
UL	25.000	25.000	25.000

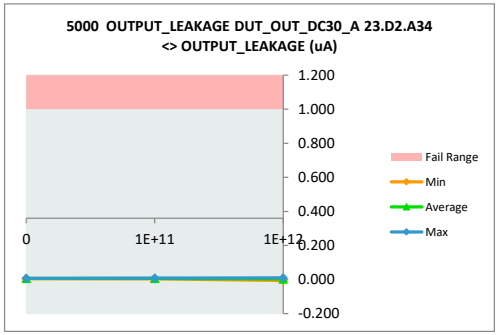


NDD Report
LM139AQML-SP

		5000_OUTPUT_LEAKAGE DUT_OU				
	Max Limit	1	1			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.006	0.007	0.002	30.84%	0.18%
0	2	0.007	0.005	-0.002	-27.83%	0.19%
1E+11	30	0.010	0.008	-0.001	-12.43%	0.12%
1E+11	31	0.005	0.004	-0.001	-18.00%	0.09%
1E+11	32	0.007	0.007	0.000	1.89%	0.01%
1E+11	33	0.009	0.006	-0.003	-31.77%	0.29%
1E+11	34	0.009	0.007	-0.002	-18.73%	0.16%
1E+12	35	0.009	-0.002	-0.010	-118.24%	1.04%
1E+12	36	0.005	0.005	0.000	-0.58%	0.00%
1E+12	37	0.006	0.010	0.004	56.49%	0.36%
1E+12	38	0.009	-0.006	-0.015	-160.83%	1.47%
1E+12	39	0.007	0.009	0.002	21.65%	0.16%
	Max	0.010	0.010	0.004	56.49%	1.47%
	Average	0.007	0.005	-0.002	-23.13%	0.34%
	Min	0.005	-0.006	-0.015	-160.83%	0.00%
	Std Dev	0.002	0.004	0.005	60.79%	0.45%

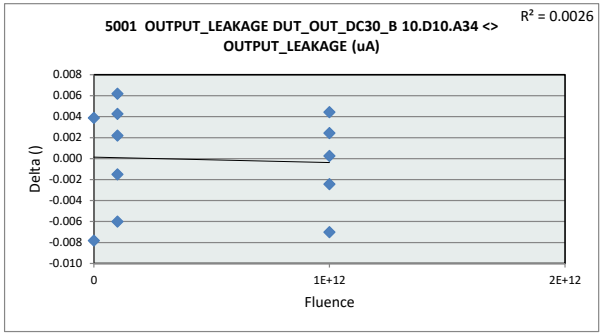


	5000_OUTPUT_LEAKAGE DUT_		
Max Limit	1		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.005	0.004	-0.006
Average	0.006	0.006	0.003
Max	0.007	0.008	0.010
UL	1.000	1.000	1.000

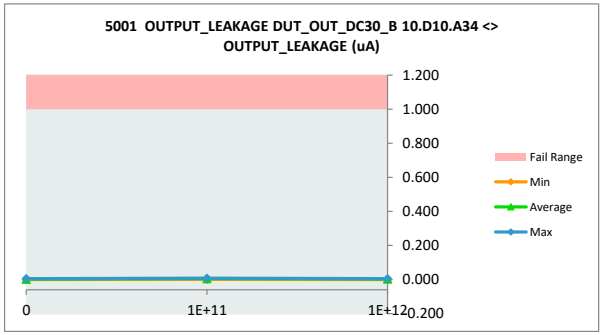


NDD Report
LM139AQML-SP

		5001_OUTPUT_LEAKAGE DUT_OU				
	Max Limit	1	1			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.008	0.000	-0.008	-100.43%	0.78%
0	2	0.001	0.005	0.004	275.99%	0.39%
1E+11	30	0.007	0.006	-0.002	-20.79%	0.15%
1E+11	31	0.002	0.008	0.006	374.09%	0.62%
1E+11	32	0.000	0.004	0.004	-4428.54%	0.43%
1E+11	33	0.007	0.001	-0.006	-81.73%	0.60%
1E+11	34	0.006	0.008	0.002	37.05%	0.22%
1E+12	35	0.001	0.006	0.004	364.16%	0.44%
1E+12	36	0.007	0.000	-0.007	-96.26%	0.70%
1E+12	37	0.004	0.004	0.000	6.54%	0.02%
1E+12	38	0.006	0.003	-0.002	-41.40%	0.24%
1E+12	39	0.001	0.004	0.002	190.02%	0.24%
	Max	0.008	0.008	0.006	374.09%	0.78%
	Average	0.004	0.004	0.000	-293.44%	0.40%
	Min	0.000	0.000	-0.008	-4428.54%	0.02%
	Std Dev	0.003	0.003	0.005	1314.02%	0.24%

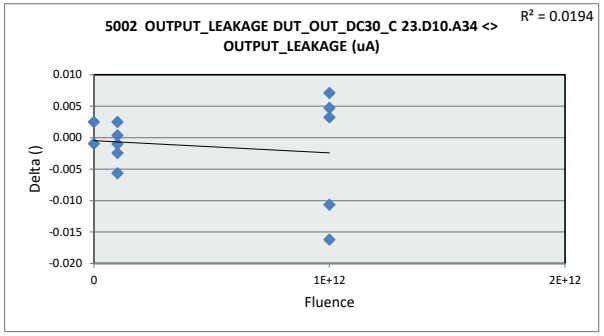


	5001_OUTPUT_LEAKAGE DUT_		
Max Limit	1		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.000	0.001	0.000
Average	0.003	0.005	0.003
Max	0.005	0.008	0.006
UL	1.000	1.000	1.000

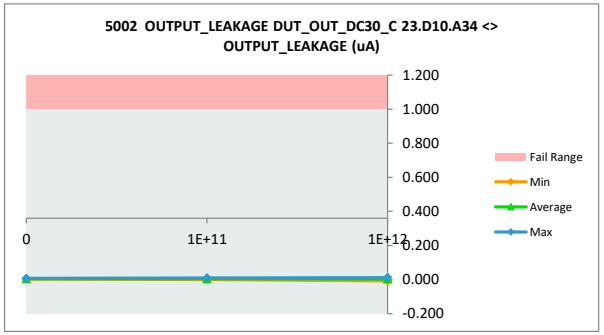


NDD Report
LM139AQML-SP

		5002_OUTPUT_LEAKAGE DUT_OU				
	Max Limit	1	1			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.005	0.007	0.003	55.02%	0.25%
0	2	0.004	0.003	-0.001	-26.45%	0.09%
1E+11	30	0.009	0.009	0.000	4.39%	0.04%
1E+11	31	0.003	0.001	-0.002	-81.76%	0.24%
1E+11	32	0.003	0.006	0.003	80.48%	0.25%
1E+11	33	0.008	0.003	-0.006	-67.82%	0.56%
1E+11	34	0.007	0.006	-0.001	-14.72%	0.10%
1E+12	35	0.007	-0.004	-0.011	-150.90%	1.07%
1E+12	36	0.002	0.007	0.005	263.12%	0.47%
1E+12	37	0.004	0.011	0.007	177.91%	0.71%
1E+12	38	0.008	-0.008	-0.016	-193.63%	1.62%
1E+12	39	0.006	0.010	0.003	50.04%	0.32%
	Max	0.009	0.011	0.007	263.12%	1.62%
	Average	0.005	0.004	-0.001	7.97%	0.48%
	Min	0.002	-0.008	-0.016	-193.63%	0.04%
	Std Dev	0.002	0.006	0.007	129.55%	0.47%

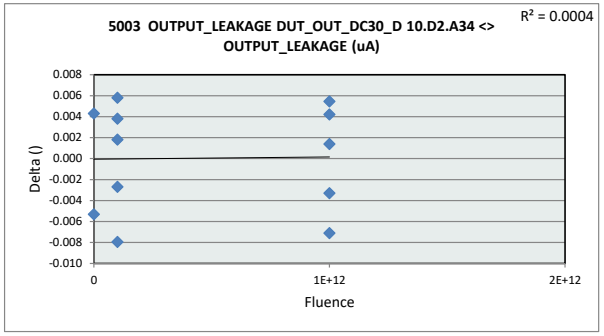


	5002_OUTPUT_LEAKAGE DUT_		
Max Limit	1		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.003	0.001	-0.008
Average	0.005	0.005	0.003
Max	0.007	0.009	0.011
UL	1.000	1.000	1.000

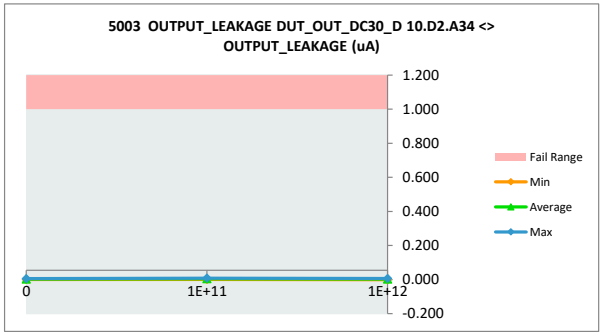


NDD Report
LM139AQML-SP

		5003_OUTPUT_LEAKAGE DUT_OU				
	Max Limit	1	1			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.006	0.000	-0.005	-92.92%	0.53%
0	2	0.001	0.006	0.004	306.97%	0.43%
1E+11	30	0.007	0.005	-0.003	-36.92%	0.27%
1E+11	31	0.002	0.008	0.006	262.13%	0.58%
1E+11	32	0.000	0.004	0.004	1113.53%	0.38%
1E+11	33	0.008	0.000	-0.008	-98.09%	0.79%
1E+11	34	0.005	0.007	0.002	36.95%	0.18%
1E+12	35	0.000	0.006	0.005	1349.48%	0.55%
1E+12	36	0.006	-0.001	-0.007	-114.21%	0.71%
1E+12	37	0.003	0.004	0.001	50.39%	0.14%
1E+12	38	0.005	0.001	-0.003	-71.59%	0.33%
1E+12	39	0.001	0.005	0.004	587.34%	0.42%
	Max	0.008	0.008	0.006	1349.48%	0.79%
	Average	0.004	0.004	0.000	274.42%	0.44%
	Min	0.000	-0.001	-0.008	-114.21%	0.14%
	Std Dev	0.003	0.003	0.005	496.07%	0.20%

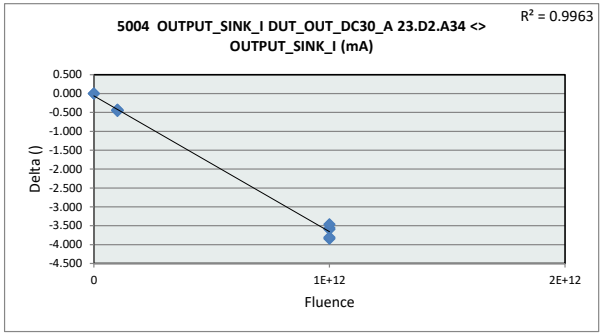


	5003_OUTPUT_LEAKAGE DUT_		
Max Limit	1		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.000	0.000	-0.001
Average	0.003	0.005	0.003
Max	0.006	0.008	0.006
UL	1.000	1.000	1.000

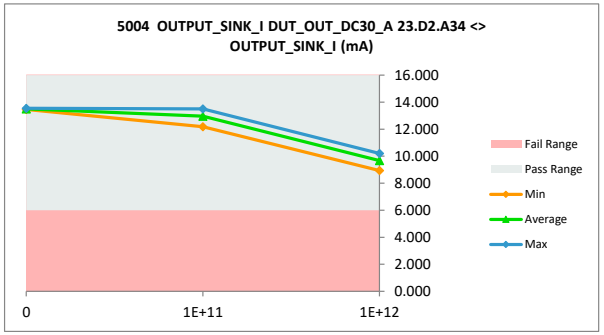


NDD Report
LM139AQML-SP

		5004_OUTPUT_SINK_I DUT_OUT				
	Max Limit					
	Min Limit	6	6			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	13.461	13.460	-0.001	-0.01%	0.02%
0	2	13.546	13.546	0.000	0.00%	0.00%
1E+11	30	13.574	13.115	-0.459	-3.39%	7.66%
1E+11	31	12.639	12.187	-0.452	-3.58%	7.54%
1E+11	32	13.947	13.505	-0.442	-3.17%	7.37%
1E+11	33	13.465	13.017	-0.449	-3.33%	7.48%
1E+11	34	13.435	13.009	-0.425	-3.16%	7.09%
1E+12	35	13.297	9.704	-3.593	-27.02%	59.89%
1E+12	36	14.014	10.167	-3.847	-27.45%	64.11%
1E+12	37	12.924	9.363	-3.561	-27.55%	59.35%
1E+12	38	12.397	8.936	-3.461	-27.92%	57.68%
1E+12	39	14.012	10.204	-3.809	-27.18%	63.48%
	Max	14.014	13.546	0.000	0.00%	64.11%
	Average	13.393	11.684	-1.708	-12.81%	28.47%
	Min	12.397	8.936	-3.847	-27.92%	0.00%
	Std Dev	0.516	1.837	1.728	12.96%	28.80%

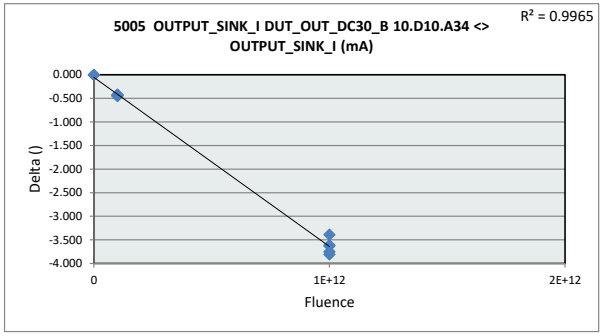


	5004_OUTPUT_SINK_I DUT_O		
Max Limit			
Min Limit	6		
Fluence	0	1E+11	1E+12
LL	6.000	6.000	6.000
Min	13.460	12.187	8.936
Average	13.503	12.966	9.675
Max	13.546	13.505	10.204
UL			

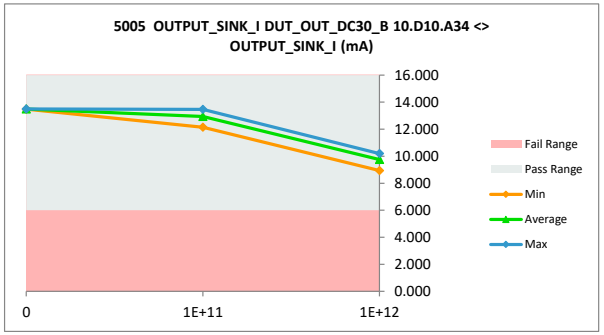


NDD Report
LM139AQML-SP

		5005_OUTPUT_SINK_I DUT_OUT				
	Max Limit					
	Min Limit	6	6			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	13.501	13.496	-0.005	-0.04%	0.08%
0	2	13.485	13.482	-0.003	-0.02%	0.04%
1E+11	30	13.592	13.145	-0.447	-3.29%	7.44%
1E+11	31	12.570	12.147	-0.423	-3.36%	7.05%
1E+11	32	13.912	13.469	-0.443	-3.19%	7.38%
1E+11	33	13.386	12.940	-0.446	-3.33%	7.43%
1E+11	34	13.438	13.012	-0.426	-3.17%	7.10%
1E+12	35	13.312	9.685	-3.627	-27.25%	60.45%
1E+12	36	13.946	10.138	-3.808	-27.30%	63.46%
1E+12	37	13.420	9.807	-3.612	-26.92%	60.20%
1E+12	38	12.325	8.937	-3.388	-27.49%	56.47%
1E+12	39	13.943	10.192	-3.751	-26.90%	62.52%
	Max	13.946	13.496	-0.003	-0.02%	63.46%
	Average	13.402	11.704	-1.698	-12.69%	28.30%
	Min	12.325	8.937	-3.808	-27.49%	0.04%
	Std Dev	0.501	1.786	1.722	12.84%	28.69%

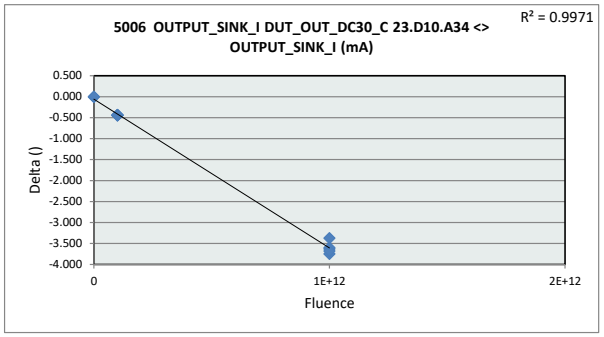


	5005_OUTPUT_SINK_I DUT_O		
Max Limit			
Min Limit	6		
Fluence	0	1E+11	1E+12
LL	6.000	6.000	6.000
Min	13.482	12.147	8.937
Average	13.489	12.943	9.752
Max	13.496	13.469	10.192
UL			

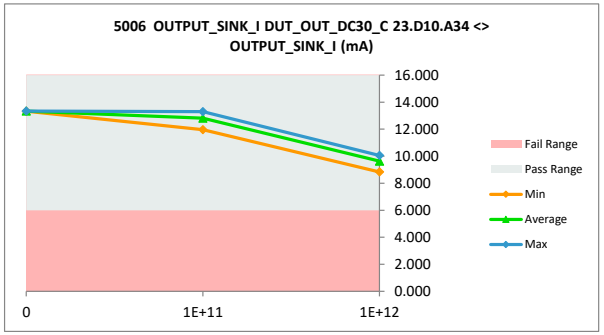


NDD Report
LM139AQML-SP

		5006_OUTPUT_SINK_I DUT_OUT				
	Max Limit					
	Min Limit	6	6			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	13.334	13.330	-0.004	-0.03%	0.06%
0	2	13.337	13.339	0.003	0.02%	0.04%
1E+11	30	13.444	13.004	-0.441	-3.28%	7.34%
1E+11	31	12.393	11.956	-0.437	-3.53%	7.29%
1E+11	32	13.750	13.304	-0.447	-3.25%	7.44%
1E+11	33	13.315	12.875	-0.440	-3.30%	7.33%
1E+11	34	13.376	12.945	-0.430	-3.22%	7.17%
1E+12	35	13.165	9.539	-3.626	-27.54%	60.43%
1E+12	36	13.771	10.025	-3.746	-27.20%	62.44%
1E+12	37	13.319	9.721	-3.597	-27.01%	59.95%
1E+12	38	12.203	8.832	-3.370	-27.62%	56.17%
1E+12	39	13.731	10.053	-3.678	-26.79%	61.30%
	Max	13.771	13.339	0.003	0.02%	62.44%
	Average	13.261	11.577	-1.684	-12.73%	28.08%
	Min	12.203	8.832	-3.746	-27.62%	0.04%
	Std Dev	0.492	1.778	1.704	12.86%	28.38%

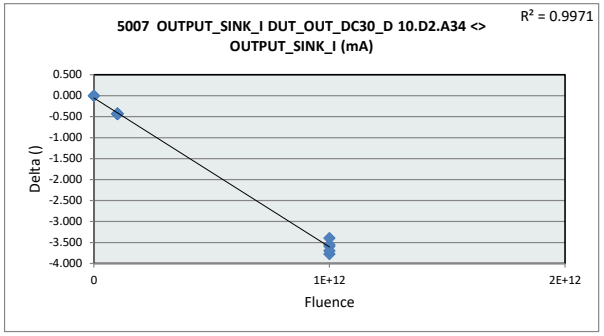


	5006_OUTPUT_SINK_I DUT_O		
Max Limit			
Min Limit	6		
Fluence	0	1E+11	1E+12
LL	6.000	6.000	6.000
Min	13.330	11.956	8.832
Average	13.335	12.817	9.634
Max	13.339	13.304	10.053
UL			

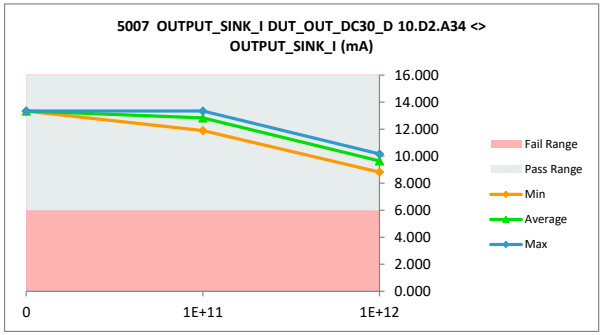


NDD Report
LM139AQML-SP

		5007_OUTPUT_SINK_I DUT_OUT				
	Max Limit					
	Min Limit	6	6			
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	13.349	13.346	-0.002	-0.02%	0.04%
0	2	13.334	13.336	0.002	0.01%	0.03%
1E+11	30	13.473	13.041	-0.432	-3.21%	7.20%
1E+11	31	12.324	11.899	-0.426	-3.45%	7.09%
1E+11	32	13.783	13.345	-0.437	-3.17%	7.28%
1E+11	33	13.325	12.884	-0.441	-3.31%	7.35%
1E+11	34	13.397	12.973	-0.425	-3.17%	7.08%
1E+12	35	13.200	9.610	-3.591	-27.20%	59.85%
1E+12	36	13.803	10.028	-3.775	-27.35%	62.92%
1E+12	37	13.185	9.627	-3.559	-26.99%	59.31%
1E+12	38	12.217	8.822	-3.396	-27.79%	56.59%
1E+12	39	13.864	10.168	-3.696	-26.66%	61.60%
	Max	13.864	13.346	0.002	0.01%	62.92%
	Average	13.271	11.590	-1.681	-12.69%	28.03%
	Min	12.217	8.822	-3.775	-27.79%	0.03%
	Std Dev	0.521	1.781	1.706	12.86%	28.42%



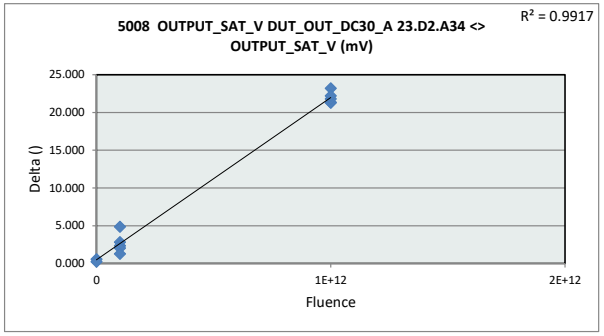
	5007_OUTPUT_SINK_I DUT_O		
Max Limit			
Min Limit	6		
Fluence	0	1E+11	1E+12
LL	6.000	6.000	6.000
Min	13.336	11.899	8.822
Average	13.341	12.828	9.651
Max	13.346	13.345	10.168
UL			



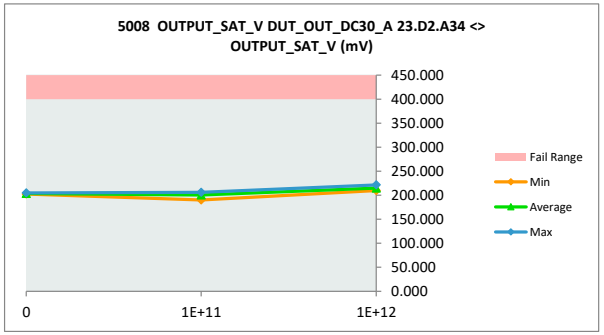
NDD Report
LM139AQML-SP

		5008_OUTPUT_SAT_V DUT_OUT	
	Max Limit	400	400
	Min Limit		
Fluence	Serial #	PRE NDD	POST NDD
0	1	204.218	204.781
0	2	202.274	202.514
1E+11	30	203.011	205.850
1E+11	31	201.020	203.377
1E+11	32	188.075	190.107
1E+11	33	204.143	205.428
1E+11	34	192.864	197.719
1E+12	35	193.580	214.881
1E+12	36	188.416	209.770
1E+12	37	195.937	217.738
1E+12	38	198.207	221.414
1E+12	39	188.369	210.577
	Max	204.218	221.414
	Average	196.676	207.013
	Min	188.075	190.107
	Std Dev	6.333	8.629

Delta	Delta %	% of Limit Range
0.563	0.28%	0.14%
0.241	0.12%	0.06%
2.838	1.40%	0.71%
2.357	1.17%	0.59%
2.032	1.08%	0.51%
1.285	0.63%	0.32%
4.855	2.52%	1.21%
21.301	11.00%	5.33%
21.354	11.33%	5.34%
21.801	11.13%	5.45%
23.207	11.71%	5.80%
22.208	11.79%	5.55%
23.207	11.79%	5.80%
10.337	5.35%	2.58%
0.241	0.12%	0.06%
10.348	5.37%	2.59%

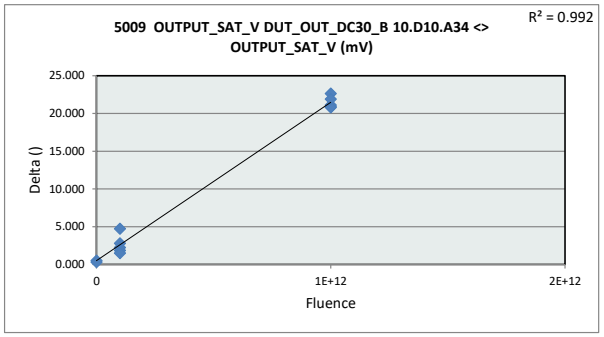


	5008_OUTPUT_SAT_V DUT_OU		
Max Limit	400		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	202.514	190.107	209.770
Average	203.647	200.496	214.876
Max	204.781	205.850	221.414
UL	400.000	400.000	400.000

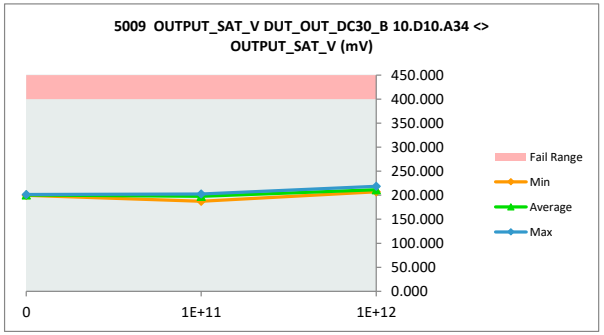


NDD Report
LM139AQML-SP

		5009_OUTPUT_SAT_V DUT_OUT				
	Max Limit	400	400			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	201.040	201.555	0.515	0.26%	0.13%
0	2	199.332	199.641	0.309	0.16%	0.08%
1E+11	30	199.894	202.697	2.804	1.40%	0.70%
1E+11	31	198.601	200.852	2.251	1.13%	0.56%
1E+11	32	185.547	187.423	1.877	1.01%	0.47%
1E+11	33	201.158	202.682	1.524	0.76%	0.38%
1E+11	34	190.567	195.307	4.740	2.49%	1.18%
1E+12	35	191.123	212.007	20.884	10.93%	5.22%
1E+12	36	186.015	207.140	21.125	11.36%	5.28%
1E+12	37	190.933	211.741	20.809	10.90%	5.20%
1E+12	38	195.900	218.557	22.657	11.57%	5.66%
1E+12	39	185.940	207.838	21.898	11.78%	5.47%
	Max	201.158	218.557	22.657	11.78%	5.66%
	Average	193.837	203.953	10.116	5.31%	2.53%
	Min	185.547	187.423	0.309	0.16%	0.08%
	Std Dev	6.165	8.253	10.099	5.33%	2.52%



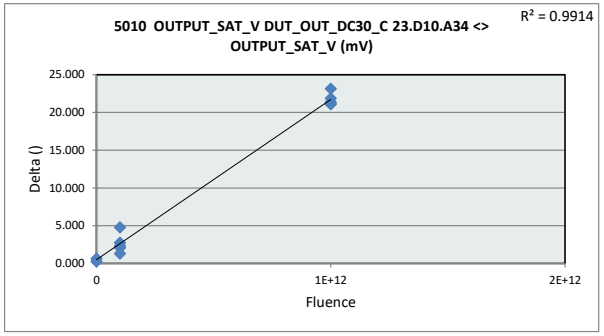
	5009_OUTPUT_SAT_V DUT_OU		
Max Limit	400		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	199.641	187.423	207.140
Average	200.598	197.792	211.457
Max	201.555	202.697	218.557
UL	400.000	400.000	400.000



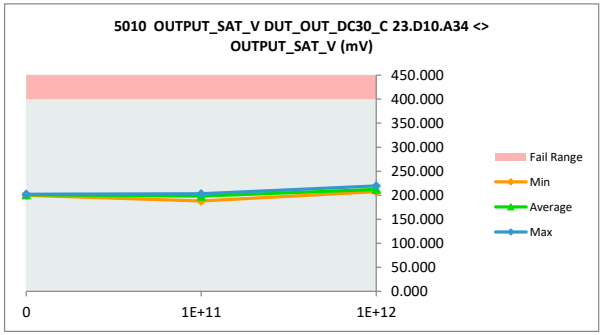
NDD Report
LM139AQML-SP

		5010_OUTPUT_SAT_V DUT_OUT	
	Max Limit	400	400
	Min Limit		
Fluence	Serial #	PRE NDD	POST NDD
0	1	201.465	202.095
0	2	199.812	200.072
1E+11	30	200.429	203.162
1E+11	31	199.155	201.468
1E+11	32	185.907	187.973
1E+11	33	201.581	202.874
1E+11	34	190.518	195.308
1E+12	35	191.495	212.858
1E+12	36	186.433	207.531
1E+12	37	191.279	212.392
1E+12	38	196.278	219.410
1E+12	39	186.721	208.593
	Max	201.581	219.410
	Average	194.256	204.478
	Min	185.907	187.973
	Std Dev	6.185	8.405

Delta	Delta %	% of Limit Range
0.629	0.31%	0.16%
0.260	0.13%	0.06%
2.733	1.36%	0.68%
2.313	1.16%	0.58%
2.066	1.11%	0.52%
1.293	0.64%	0.32%
4.790	2.51%	1.20%
21.363	11.16%	5.34%
21.098	11.32%	5.27%
21.114	11.04%	5.28%
23.132	11.79%	5.78%
21.872	11.71%	5.47%
23.132	11.79%	5.78%
10.222	5.35%	2.56%
0.260	0.13%	0.06%
10.221	5.38%	2.56%

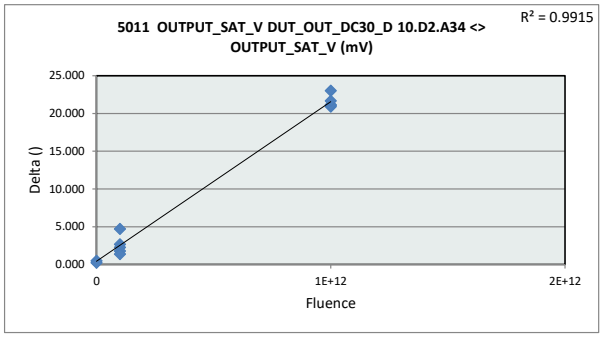


	5010_OUTPUT_SAT_V DUT_OU		
Max Limit	400		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	200.072	187.973	207.531
Average	201.083	198.157	212.157
Max	202.095	203.162	219.410
UL	400.000	400.000	400.000

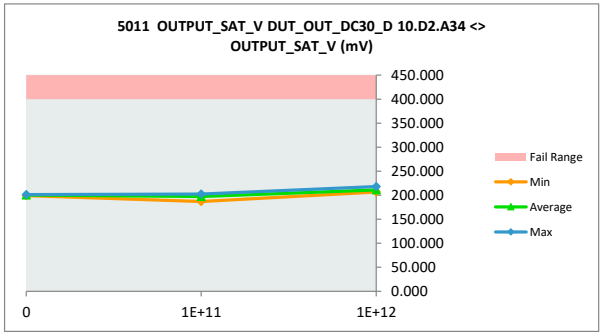


NDD Report
LM139AQML-SP

		5011_OUTPUT_SAT_V DUT_OUT				
	Max Limit	400	400			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	200.853	201.343	0.490	0.24%	0.12%
0	2	199.124	199.368	0.243	0.12%	0.06%
1E+11	30	199.571	202.257	2.687	1.35%	0.67%
1E+11	31	198.388	200.647	2.259	1.14%	0.56%
1E+11	32	185.120	186.899	1.779	0.96%	0.44%
1E+11	33	200.837	202.214	1.376	0.69%	0.34%
1E+11	34	189.863	194.562	4.699	2.48%	1.17%
1E+12	35	190.718	211.621	20.902	10.96%	5.23%
1E+12	36	185.560	206.698	21.138	11.39%	5.28%
1E+12	37	190.753	211.840	21.087	11.05%	5.27%
1E+12	38	195.099	218.110	23.011	11.79%	5.75%
1E+12	39	185.233	206.895	21.663	11.69%	5.42%
	Max	200.853	218.110	23.011	11.79%	5.75%
	Average	193.427	203.538	10.111	5.32%	2.53%
	Min	185.120	186.899	0.243	0.12%	0.06%
	Std Dev	6.273	8.308	10.181	5.38%	2.55%

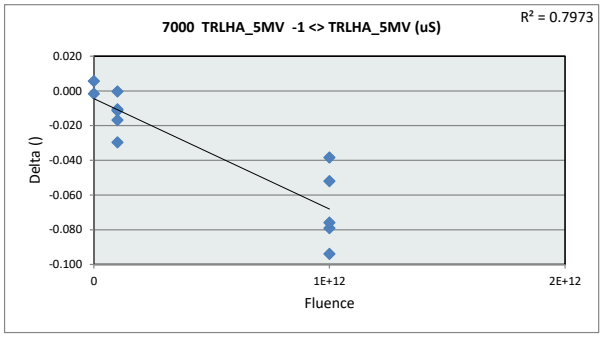


	5011_OUTPUT_SAT_V DUT_OU		
Max Limit	400		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	199.368	186.899	206.698
Average	200.355	197.316	211.033
Max	201.343	202.257	218.110
UL	400.000	400.000	400.000

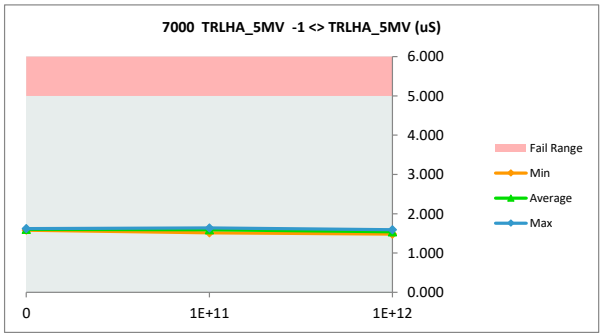


NDD Report
LM139AQML-SP

		7000 TRLHA_5MV -1 <> TRLHA				
	Max Limit	5	5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	1.582	1.581	-0.002	-0.10%	0.03%
0	2	1.618	1.623	0.006	0.36%	0.12%
1E+11	30	1.583	1.572	-0.011	-0.67%	0.21%
1E+11	31	1.650	1.639	-0.011	-0.69%	0.23%
1E+11	32	1.655	1.626	-0.030	-1.79%	0.59%
1E+11	33	1.631	1.615	-0.017	-1.03%	0.34%
1E+11	34	1.516	1.516	0.000	-0.02%	0.01%
1E+12	35	1.553	1.501	-0.052	-3.34%	1.04%
1E+12	36	1.626	1.547	-0.079	-4.86%	1.58%
1E+12	37	1.576	1.482	-0.094	-5.95%	1.88%
1E+12	38	1.657	1.581	-0.076	-4.58%	1.52%
1E+12	39	1.631	1.593	-0.038	-2.35%	0.77%
	Max	1.657	1.639	0.006	0.36%	1.88%
	Average	1.607	1.573	-0.034	-2.08%	0.69%
	Min	1.516	1.482	-0.094	-5.95%	0.01%
	Std Dev	0.044	0.052	0.034	2.13%	0.66%

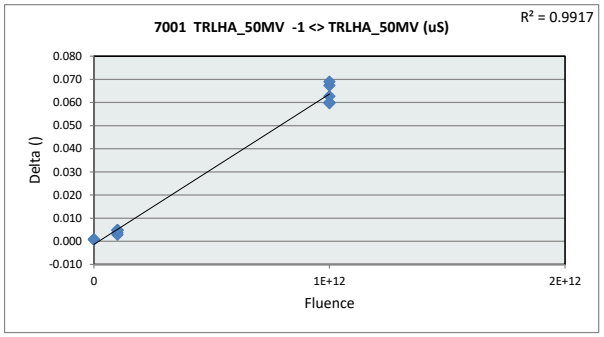


	7000 TRLHA_5MV -1 <> TRLH		
Max Limit	5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	1.581	1.516	1.482
Average	1.602	1.593	1.541
Max	1.623	1.639	1.593
UL	5.000	5.000	5.000

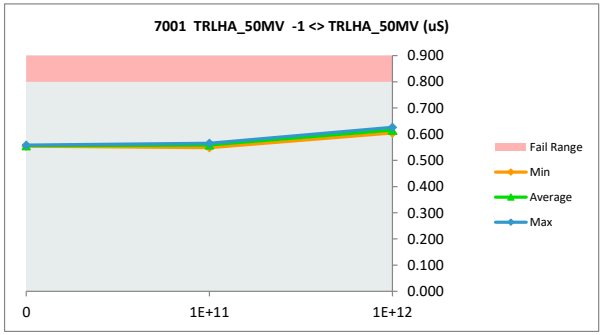


NDD Report
LM139AQML-SP

		7001_TRLHA_50MV_-1 <> TRLH/				
	Max Limit	0.8	0.8			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.557	0.558	0.001	0.16%	0.11%
0	2	0.553	0.554	0.001	0.12%	0.08%
1E+11	30	0.558	0.562	0.005	0.86%	0.60%
1E+11	31	0.556	0.560	0.004	0.68%	0.47%
1E+11	32	0.544	0.548	0.005	0.89%	0.61%
1E+11	33	0.555	0.558	0.003	0.51%	0.35%
1E+11	34	0.560	0.565	0.005	0.86%	0.60%
1E+12	35	0.558	0.618	0.060	10.75%	7.50%
1E+12	36	0.545	0.608	0.063	11.50%	7.84%
1E+12	37	0.559	0.626	0.067	12.05%	8.42%
1E+12	38	0.552	0.621	0.069	12.49%	8.62%
1E+12	39	0.545	0.605	0.060	10.96%	7.46%
	Max	0.560	0.626	0.069	12.49%	8.62%
	Average	0.554	0.582	0.028	5.15%	3.56%
	Min	0.544	0.548	0.001	0.12%	0.08%
	Std Dev	0.006	0.030	0.031	5.67%	3.91%

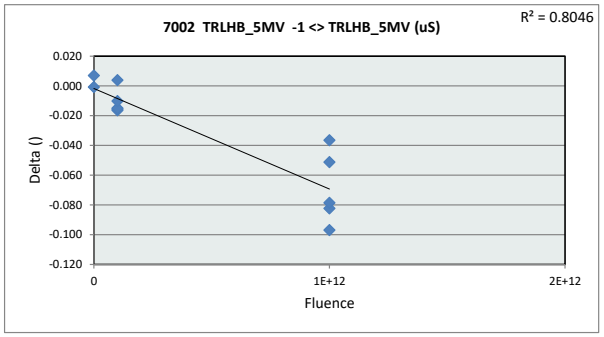


	7001_TRLHA_50MV_-1 <> TRL		
Max Limit	0.8		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.554	0.548	0.605
Average	0.556	0.559	0.616
Max	0.558	0.565	0.626
UL	0.800	0.800	0.800

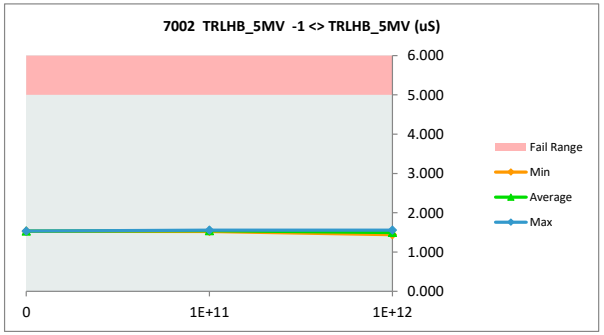


NDD Report
LM139AQML-SP

		7002_TRLHB_5MV -1 <> TRLHB				
	Max Limit	5	5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	1.528	1.528	-0.001	-0.05%	0.02%
0	2	1.527	1.534	0.007	0.46%	0.14%
1E+11	30	1.561	1.546	-0.016	-1.00%	0.31%
1E+11	31	1.537	1.521	-0.016	-1.06%	0.33%
1E+11	32	1.571	1.556	-0.015	-0.95%	0.30%
1E+11	33	1.556	1.546	-0.010	-0.65%	0.20%
1E+11	34	1.544	1.548	0.004	0.26%	0.08%
1E+12	35	1.571	1.489	-0.082	-5.23%	1.65%
1E+12	36	1.538	1.441	-0.097	-6.30%	1.94%
1E+12	37	1.549	1.497	-0.051	-3.31%	1.02%
1E+12	38	1.592	1.556	-0.036	-2.29%	0.73%
1E+12	39	1.573	1.494	-0.079	-5.00%	1.57%
	Max	1.592	1.556	0.007	0.46%	1.94%
	Average	1.554	1.521	-0.033	-2.09%	0.69%
	Min	1.527	1.441	-0.097	-6.30%	0.02%
	Std Dev	0.020	0.035	0.036	2.32%	0.68%



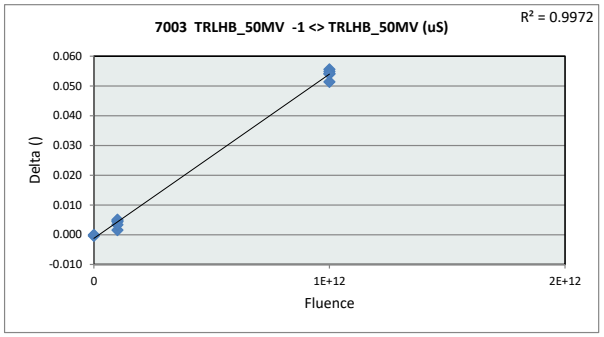
	7002_TRLHB_5MV -1 <> TRLH		
Max Limit	5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	1.528	1.521	1.441
Average	1.531	1.543	1.495
Max	1.534	1.556	1.556
UL	5.000	5.000	5.000



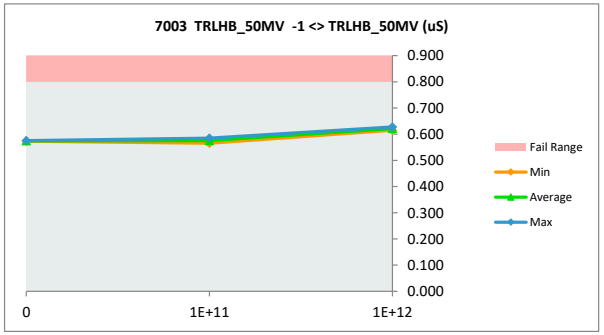
NDD Report
LM139AQML-SP

		7003_TRLHB_50MV_-1 <> TRLHI	
	Max Limit	0.8	0.8
	Min Limit		

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.574	0.573	0.000	-0.06%	0.04%
0	2	0.575	0.575	0.000	0.00%	0.00%
1E+11	30	0.572	0.577	0.004	0.77%	0.55%
1E+11	31	0.581	0.585	0.005	0.80%	0.58%
1E+11	32	0.560	0.565	0.005	0.91%	0.64%
1E+11	33	0.576	0.577	0.002	0.28%	0.20%
1E+11	34	0.569	0.573	0.003	0.60%	0.42%
1E+12	35	0.568	0.624	0.056	9.79%	6.95%
1E+12	36	0.565	0.620	0.055	9.71%	6.86%
1E+12	37	0.569	0.620	0.051	9.03%	6.42%
1E+12	38	0.574	0.628	0.054	9.42%	6.76%
1E+12	39	0.561	0.615	0.054	9.66%	6.77%
	Max	0.581	0.628	0.056	9.79%	6.95%
	Average	0.570	0.594	0.024	4.24%	3.02%
	Min	0.560	0.565	0.000	-0.06%	0.00%
	Std Dev	0.006	0.024	0.027	4.68%	3.31%

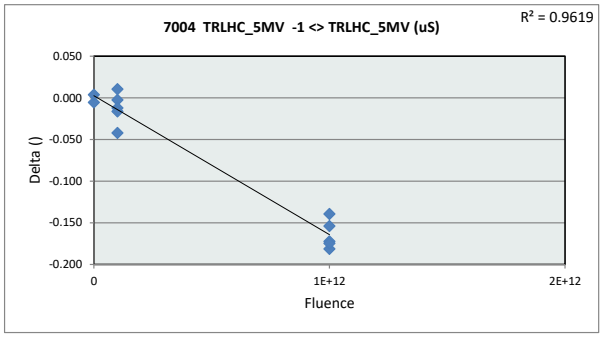


		7003_TRLHB_50MV_-1 <> TRL		
	Max Limit	0.8		
	Min Limit			
	Fluence	0	1E+11	1E+12
	LL			
	Min	0.573	0.565	0.615
	Average	0.574	0.575	0.621
	Max	0.575	0.585	0.628
	UL	0.800	0.800	0.800

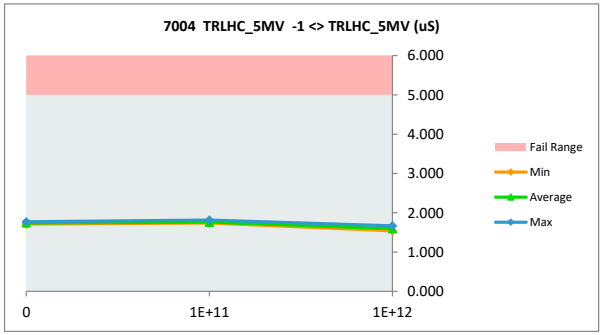


NDD Report
LM139AQML-SP

		7004 TRLHC_5MV -1 <> TRLHC				
	Max Limit	5	5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	1.714	1.709	-0.005	-0.32%	0.11%
0	2	1.764	1.768	0.004	0.22%	0.08%
1E+11	30	1.766	1.764	-0.003	-0.15%	0.05%
1E+11	31	1.826	1.813	-0.012	-0.67%	0.25%
1E+11	32	1.769	1.753	-0.016	-0.93%	0.33%
1E+11	33	1.783	1.741	-0.042	-2.37%	0.84%
1E+11	34	1.728	1.739	0.010	0.61%	0.21%
1E+12	35	1.721	1.539	-0.181	-10.54%	3.63%
1E+12	36	1.757	1.585	-0.172	-9.81%	3.45%
1E+12	37	1.733	1.593	-0.139	-8.05%	2.79%
1E+12	38	1.821	1.667	-0.154	-8.46%	3.08%
1E+12	39	1.769	1.594	-0.175	-9.88%	3.49%
	Max	1.826	1.813	0.010	0.61%	3.63%
	Average	1.763	1.689	-0.074	-4.20%	1.53%
	Min	1.714	1.539	-0.181	-10.54%	0.05%
	Std Dev	0.036	0.090	0.082	4.65%	1.58%



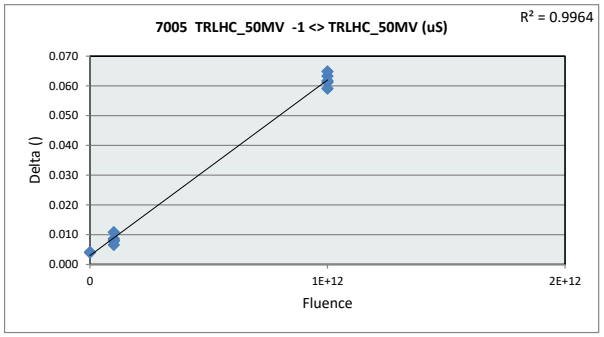
	7004 TRLHC_5MV -1 <> TRLH		
Max Limit	5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	1.709	1.739	1.539
Average	1.738	1.762	1.596
Max	1.768	1.813	1.667
UL	5.000	5.000	5.000



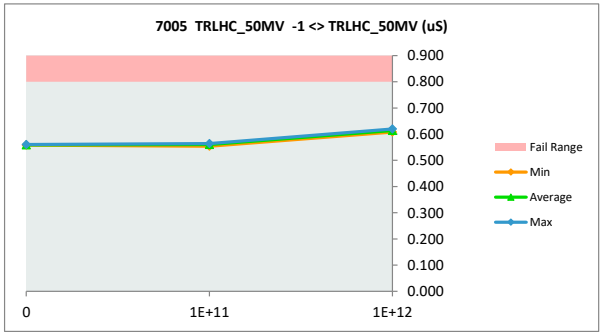
NDD Report
LM139AQML-SP

		7005 TRLHC_50MV -1 <> TRLHC	
	Max Limit	0.8	0.8
	Min Limit		

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.556	0.560	0.004	0.73%	0.51%
0	2	0.554	0.558	0.004	0.73%	0.51%
1E+11	30	0.554	0.562	0.008	1.42%	0.98%
1E+11	31	0.554	0.562	0.009	1.57%	1.09%
1E+11	32	0.546	0.554	0.008	1.49%	1.02%
1E+11	33	0.553	0.564	0.011	1.97%	1.36%
1E+11	34	0.554	0.561	0.007	1.19%	0.83%
1E+12	35	0.556	0.620	0.063	11.38%	7.92%
1E+12	36	0.547	0.608	0.061	11.20%	7.65%
1E+12	37	0.555	0.614	0.059	10.66%	7.39%
1E+12	38	0.554	0.619	0.065	11.70%	8.11%
1E+12	39	0.547	0.609	0.062	11.27%	7.71%
	Max	0.556	0.620	0.065	11.70%	8.11%
	Average	0.553	0.583	0.030	5.44%	3.76%
	Min	0.546	0.554	0.004	0.73%	0.51%
	Std Dev	0.004	0.028	0.028	5.14%	3.54%

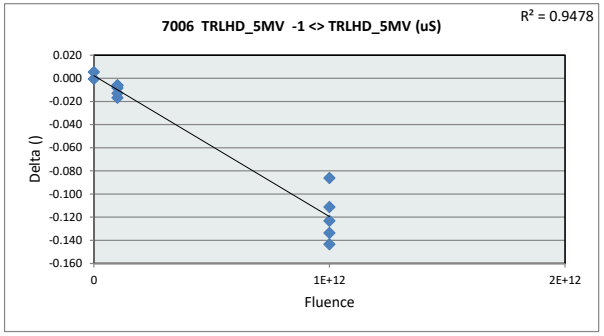


		7005 TRLHC_50MV -1 <> TRL		
	Max Limit	0.8		
	Min Limit			
	Fluence	0	1E+11	1E+12
	LL			
	Min	0.558	0.554	0.608
	Average	0.559	0.560	0.614
	Max	0.560	0.564	0.620
	UL	0.800	0.800	0.800

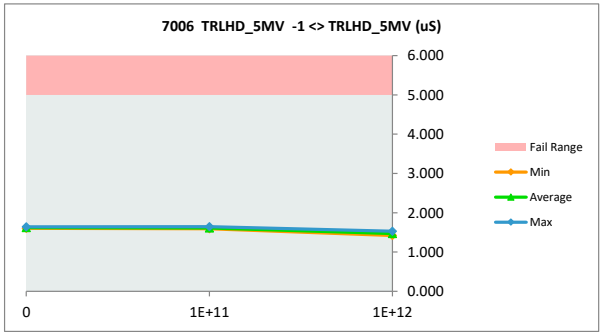


NDD Report
LM139AQML-SP

		7006 TRLHD_5MV -1 <> TRLHD				
	Max Limit	5	5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	1.604	1.604	0.000	-0.03%	0.01%
0	2	1.634	1.640	0.006	0.34%	0.11%
1E+11	30	1.612	1.604	-0.008	-0.51%	0.16%
1E+11	31	1.662	1.645	-0.017	-1.01%	0.33%
1E+11	32	1.611	1.598	-0.013	-0.80%	0.26%
1E+11	33	1.619	1.613	-0.006	-0.37%	0.12%
1E+11	34	1.597	1.591	-0.006	-0.37%	0.12%
1E+12	35	1.554	1.420	-0.134	-8.59%	2.67%
1E+12	36	1.603	1.460	-0.143	-8.94%	2.87%
1E+12	37	1.578	1.455	-0.123	-7.81%	2.46%
1E+12	38	1.572	1.486	-0.086	-5.48%	1.72%
1E+12	39	1.640	1.529	-0.111	-6.78%	2.22%
	Max	1.662	1.645	0.006	0.34%	2.87%
	Average	1.607	1.554	-0.054	-3.36%	1.09%
	Min	1.554	1.420	-0.143	-8.94%	0.01%
	Std Dev	0.030	0.079	0.060	3.78%	1.18%



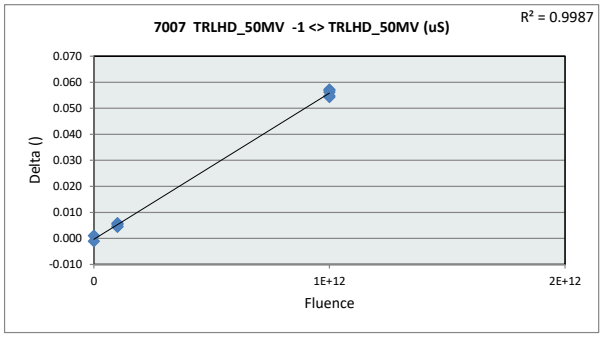
	7006 TRLHD_5MV -1 <> TRLH		
Max Limit	5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	1.604	1.591	1.420
Average	1.622	1.610	1.470
Max	1.640	1.645	1.529
UL	5.000	5.000	5.000



NDD Report
LM139AQML-SP

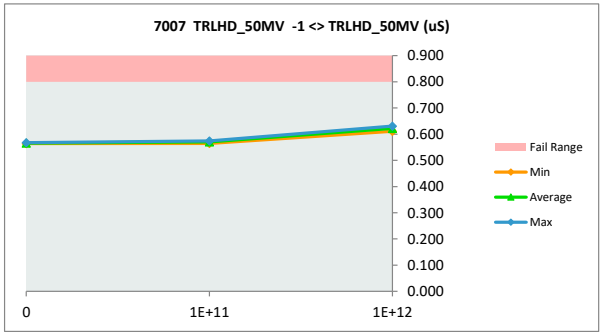
		7007_TRLHD_50MV_-1 <> TRLH	
	Max Limit	0.8	0.8
	Min Limit		

Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.567	0.568	0.001	0.18%	0.13%
0	2	0.565	0.564	-0.001	-0.19%	0.14%
1E+11	30	0.567	0.573	0.005	0.93%	0.66%
1E+11	31	0.568	0.574	0.006	1.03%	0.73%
1E+11	32	0.559	0.565	0.006	1.00%	0.70%
1E+11	33	0.568	0.572	0.005	0.80%	0.56%
1E+11	34	0.564	0.569	0.005	0.80%	0.56%
1E+12	35	0.570	0.627	0.057	10.03%	7.15%
1E+12	36	0.560	0.616	0.057	10.16%	7.10%
1E+12	37	0.569	0.625	0.056	9.87%	7.02%
1E+12	38	0.577	0.631	0.054	9.42%	6.79%
1E+12	39	0.556	0.611	0.055	9.83%	6.84%
	Max	0.577	0.631	0.057	10.16%	7.15%
	Average	0.566	0.591	0.025	4.49%	3.20%
	Min	0.556	0.564	-0.001	-0.19%	0.13%
	Std Dev	0.005	0.028	0.027	4.76%	3.34%



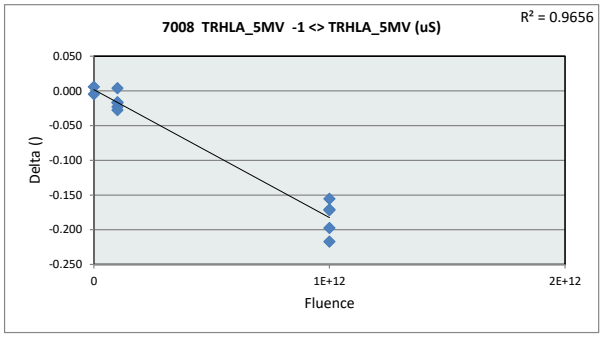
		7007_TRLHD_50MV_-1 <> TRL		
	Max Limit	0.8		
	Min Limit			

Fluence	0	1E+11	1E+12
LL			
Min	0.564	0.565	0.611
Average	0.566	0.570	0.622
Max	0.568	0.574	0.631
UL	0.800	0.800	0.800

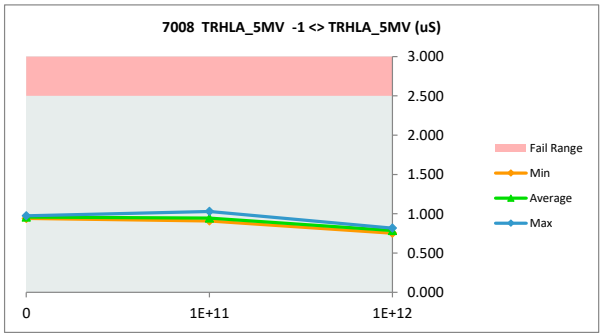


NDD Report
LM139AQML-SP

		7008 TRHLA_5MV -1 <> TRHLA				
	Max Limit	2.5	2.5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.979	0.975	-0.005	-0.48%	0.19%
0	2	0.935	0.940	0.006	0.62%	0.23%
1E+11	30	0.980	0.963	-0.017	-1.74%	0.68%
1E+11	31	0.939	0.916	-0.023	-2.45%	0.92%
1E+11	32	0.925	0.908	-0.016	-1.76%	0.65%
1E+11	33	0.936	0.908	-0.028	-2.96%	1.11%
1E+11	34	1.025	1.029	0.004	0.37%	0.15%
1E+12	35	1.007	0.790	-0.217	-21.57%	8.69%
1E+12	36	0.952	0.781	-0.171	-17.94%	6.83%
1E+12	37	0.972	0.816	-0.155	-15.98%	6.21%
1E+12	38	0.963	0.792	-0.172	-17.82%	6.87%
1E+12	39	0.949	0.752	-0.197	-20.80%	7.90%
	Max	1.025	1.029	0.006	0.62%	8.69%
	Average	0.964	0.881	-0.083	-8.54%	3.37%
	Min	0.925	0.752	-0.217	-21.57%	0.15%
	Std Dev	0.031	0.091	0.090	9.24%	3.53%

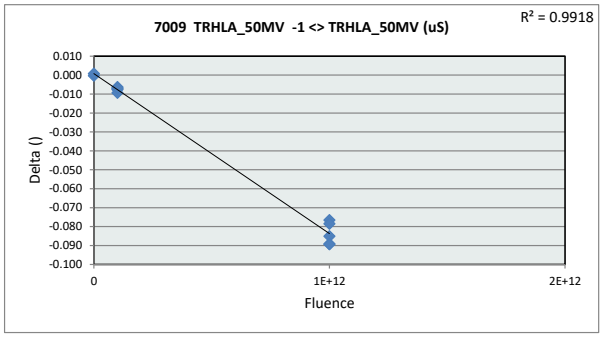


	7008 TRHLA_5MV -1 <> TRHL		
Max Limit	2.5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.940	0.908	0.752
Average	0.958	0.945	0.786
Max	0.975	1.029	0.816
UL	2.500	2.500	2.500

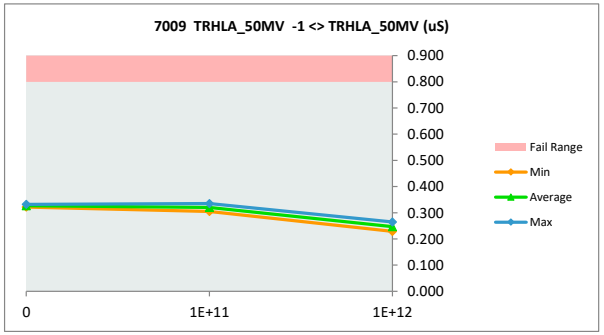


NDD Report
LM139AQML-SP

		7009 TRHLA_50MV -1 <> TRHL/				
	Max Limit	0.8	0.8			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.322	0.322	0.000	-0.09%	0.04%
0	2	0.331	0.332	0.001	0.25%	0.10%
1E+11	30	0.323	0.316	-0.008	-2.35%	0.95%
1E+11	31	0.328	0.321	-0.007	-2.17%	0.89%
1E+11	32	0.345	0.335	-0.009	-2.70%	1.16%
1E+11	33	0.331	0.324	-0.006	-1.90%	0.79%
1E+11	34	0.312	0.305	-0.007	-2.17%	0.85%
1E+12	35	0.319	0.242	-0.077	-23.99%	9.57%
1E+12	36	0.342	0.257	-0.085	-24.89%	10.64%
1E+12	37	0.318	0.229	-0.089	-28.03%	11.14%
1E+12	38	0.331	0.242	-0.089	-27.00%	11.16%
1E+12	39	0.343	0.265	-0.078	-22.86%	9.81%
	Max	0.345	0.335	0.001	0.25%	11.16%
	Average	0.329	0.291	-0.038	-11.49%	4.76%
	Min	0.312	0.229	-0.089	-28.03%	0.04%
	Std Dev	0.011	0.040	0.041	12.33%	5.07%

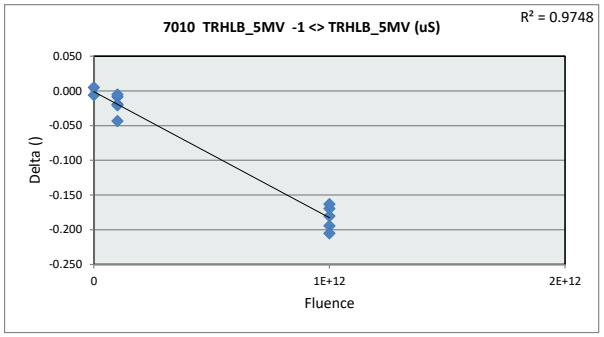


	7009 TRHLA_50MV -1 <> TRH		
Max Limit	0.8		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.322	0.305	0.229
Average	0.327	0.320	0.247
Max	0.332	0.335	0.265
UL	0.800	0.800	0.800

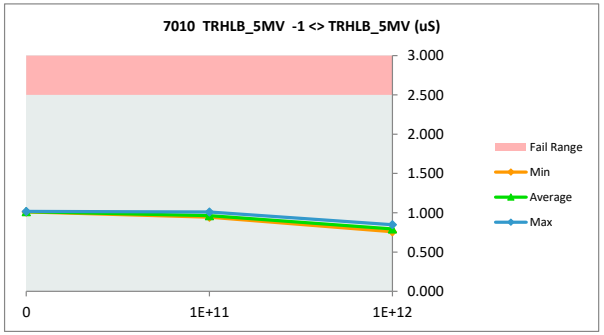


NDD Report
LM139AQML-SP

		7010 TRHLB_5MV -1 <> TRHLB				
	Max Limit	2.5	2.5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	1.017	1.011	-0.006	-0.61%	0.25%
0	2	1.012	1.017	0.005	0.50%	0.20%
1E+11	30	0.970	0.962	-0.009	-0.89%	0.34%
1E+11	31	1.029	1.010	-0.019	-1.89%	0.78%
1E+11	32	0.977	0.956	-0.021	-2.14%	0.84%
1E+11	33	0.987	0.943	-0.043	-4.40%	1.73%
1E+11	34	0.956	0.951	-0.005	-0.55%	0.21%
1E+12	35	0.939	0.758	-0.180	-19.22%	7.22%
1E+12	36	1.017	0.847	-0.170	-16.68%	6.78%
1E+12	37	0.961	0.766	-0.194	-20.24%	7.78%
1E+12	38	0.989	0.784	-0.205	-20.75%	8.21%
1E+12	39	0.976	0.813	-0.163	-16.73%	6.53%
	Max	1.029	1.017	0.005	0.50%	8.21%
	Average	0.986	0.901	-0.084	-8.63%	3.41%
	Min	0.939	0.758	-0.205	-20.75%	0.20%
	Std Dev	0.028	0.101	0.088	9.06%	3.49%



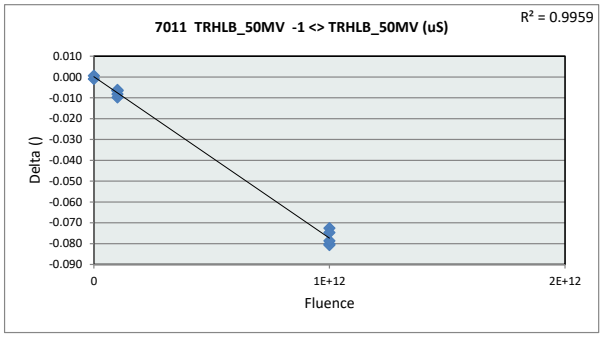
	7010 TRHLB_5MV -1 <> TRHL		
Max Limit	2.5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	1.011	0.943	0.758
Average	1.014	0.964	0.794
Max	1.017	1.010	0.847
UL	2.500	2.500	2.500



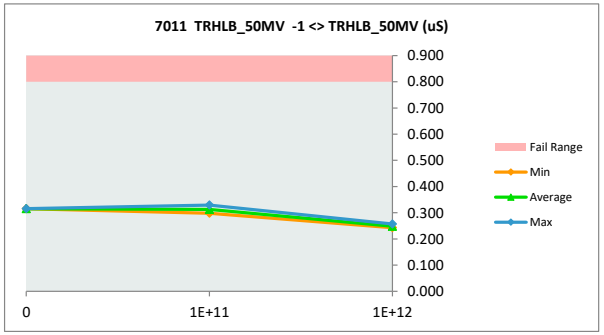
NDD Report
LM139AQML-SP

		7011_TRHLB_50MV_-1 <> TRHLB	
	Max Limit	0.8	0.8
	Min Limit		
Fluence	Serial #	PRE NDD	POST NDD
0	1	0.316	0.315
0	2	0.315	0.315
1E+11	30	0.322	0.312
1E+11	31	0.306	0.298
1E+11	32	0.336	0.329
1E+11	33	0.318	0.311
1E+11	34	0.320	0.313
1E+12	35	0.325	0.245
1E+12	36	0.329	0.248
1E+12	37	0.322	0.249
1E+12	38	0.317	0.243
1E+12	39	0.336	0.257
	Max	0.336	0.329
	Average	0.322	0.286
	Min	0.306	0.243
	Std Dev	0.009	0.034

Delta	Delta %	% of Limit Range
-0.001	-0.31%	0.12%
0.001	0.21%	0.08%
-0.010	-3.04%	1.22%
-0.008	-2.67%	1.02%
-0.007	-1.96%	0.82%
-0.007	-2.06%	0.82%
-0.006	-1.94%	0.77%
-0.080	-24.70%	10.03%
-0.081	-24.55%	10.09%
-0.073	-22.54%	9.07%
-0.075	-23.52%	9.33%
-0.079	-23.43%	9.83%
0.001	0.21%	10.09%
-0.035	-10.88%	4.44%
-0.081	-24.70%	0.08%
0.037	11.41%	4.64%

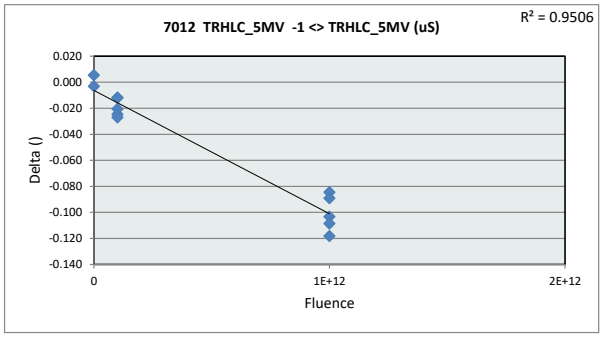


	7011_TRHLB_50MV_-1 <> TRH		
Max Limit	0.8		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.315	0.298	0.243
Average	0.315	0.313	0.248
Max	0.315	0.329	0.257
UL	0.800	0.800	0.800

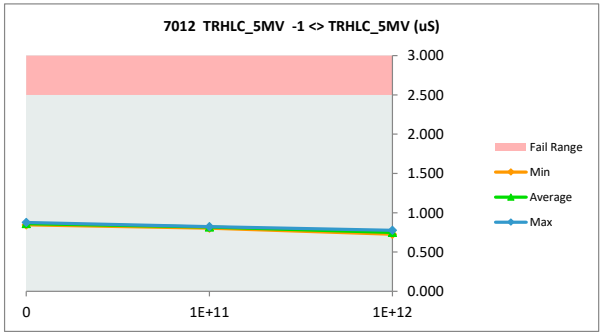


NDD Report
LM139AQML-SP

		7012 TRHLC_5MV -1 <> TRHLC				
	Max Limit	2.5	2.5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.879	0.876	-0.003	-0.35%	0.12%
0	2	0.840	0.846	0.006	0.66%	0.22%
1E+11	30	0.839	0.815	-0.025	-2.92%	0.98%
1E+11	31	0.823	0.803	-0.020	-2.48%	0.82%
1E+11	32	0.850	0.823	-0.027	-3.17%	1.08%
1E+11	33	0.835	0.823	-0.012	-1.43%	0.48%
1E+11	34	0.833	0.821	-0.012	-1.40%	0.47%
1E+12	35	0.860	0.776	-0.084	-9.81%	3.38%
1E+12	36	0.858	0.755	-0.103	-12.03%	4.13%
1E+12	37	0.835	0.726	-0.108	-12.99%	4.34%
1E+12	38	0.846	0.728	-0.118	-13.96%	4.73%
1E+12	39	0.848	0.759	-0.089	-10.49%	3.56%
	Max	0.879	0.876	0.006	0.66%	4.73%
	Average	0.846	0.796	-0.050	-5.87%	2.03%
	Min	0.823	0.726	-0.118	-13.96%	0.12%
	Std Dev	0.015	0.047	0.047	5.49%	1.82%



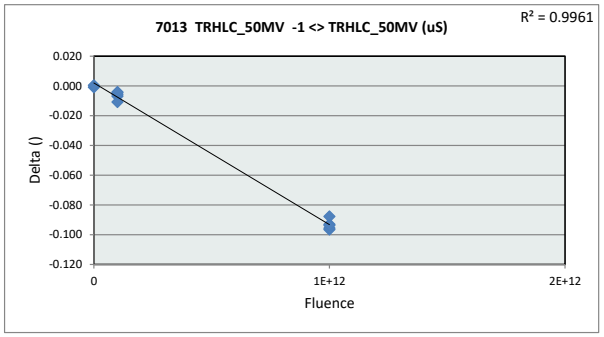
	7012 TRHLC_5MV -1 <> TRHL		
Max Limit	2.5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.846	0.803	0.726
Average	0.861	0.817	0.749
Max	0.876	0.823	0.776
UL	2.500	2.500	2.500



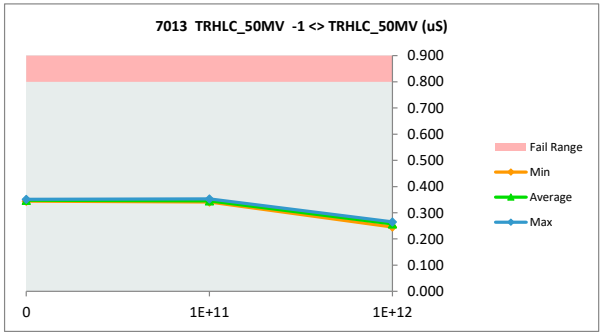
NDD Report
LM139AQML-SP

		7013 TRHLC_50MV -1 <> TRHLC	
	Max Limit	0.8	0.8
	Min Limit		
Fluence	Serial #	PRE NDD	POST NDD
0	1	0.345	0.344
0	2	0.351	0.351
1E+11	30	0.351	0.347
1E+11	31	0.350	0.343
1E+11	32	0.359	0.353
1E+11	33	0.352	0.341
1E+11	34	0.345	0.341
1E+12	35	0.342	0.245
1E+12	36	0.358	0.265
1E+12	37	0.345	0.258
1E+12	38	0.350	0.254
1E+12	39	0.358	0.264
	Max	0.359	0.353
	Average	0.351	0.309
	Min	0.342	0.245
	Std Dev	0.006	0.046

Delta	Delta %	% of Limit Range
-0.001	-0.26%	0.11%
0.000	0.10%	0.05%
-0.005	-1.33%	0.58%
-0.007	-1.98%	0.87%
-0.006	-1.67%	0.75%
-0.011	-3.06%	1.35%
-0.004	-1.20%	0.52%
-0.097	-28.22%	12.07%
-0.093	-25.97%	11.62%
-0.088	-25.42%	10.97%
-0.096	-27.34%	11.95%
-0.094	-26.20%	11.72%
0.000	0.10%	12.07%
-0.042	-11.88%	5.21%
-0.097	-28.22%	0.05%
0.046	13.06%	5.71%

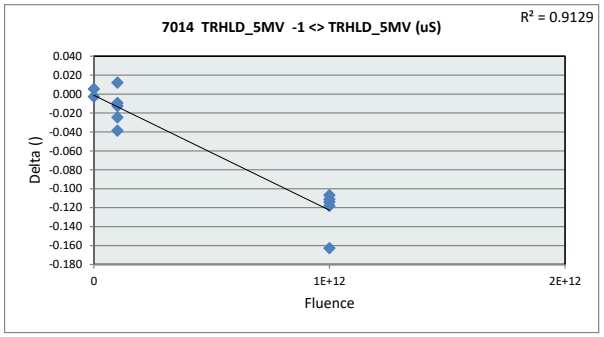


	7013 TRHLC_50MV -1 <> TRH		
Max Limit	0.8		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.344	0.341	0.245
Average	0.348	0.345	0.257
Max	0.351	0.353	0.265
UL	0.800	0.800	0.800

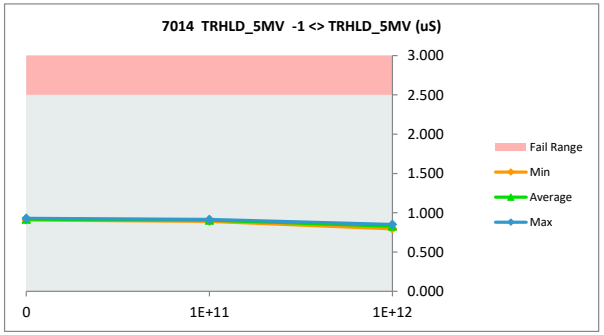


NDD Report
LM139AQML-SP

		7014 TRHLD_5MV -1 <> TRHLD				
	Max Limit	2.5	2.5			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.931	0.929	-0.003	-0.28%	0.10%
0	2	0.902	0.907	0.005	0.60%	0.22%
1E+11	30	0.926	0.913	-0.013	-1.38%	0.51%
1E+11	31	0.899	0.890	-0.009	-1.04%	0.37%
1E+11	32	0.940	0.915	-0.025	-2.62%	0.99%
1E+11	33	0.930	0.891	-0.039	-4.15%	1.55%
1E+11	34	0.901	0.913	0.012	1.34%	0.48%
1E+12	35	0.960	0.848	-0.111	-11.60%	4.45%
1E+12	36	0.943	0.836	-0.107	-11.32%	4.27%
1E+12	37	0.928	0.814	-0.114	-12.29%	4.56%
1E+12	38	1.013	0.851	-0.163	-16.05%	6.51%
1E+12	39	0.913	0.795	-0.118	-12.92%	4.72%
	Max	1.013	0.929	0.012	1.34%	6.51%
	Average	0.932	0.875	-0.057	-5.98%	2.39%
	Min	0.899	0.795	-0.163	-16.05%	0.10%
	Std Dev	0.032	0.045	0.061	6.32%	2.31%

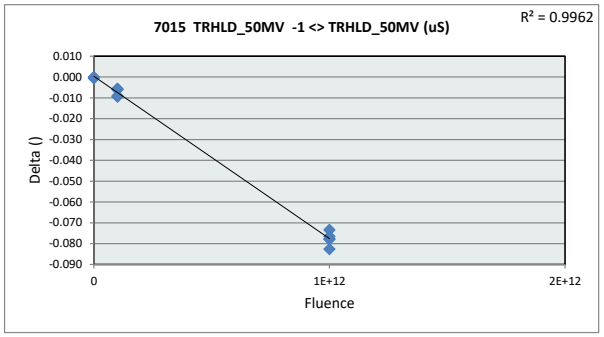


	7014 TRHLD_5MV -1 <> TRHL		
Max Limit	2.5		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.907	0.890	0.795
Average	0.918	0.904	0.829
Max	0.929	0.915	0.851
UL	2.500	2.500	2.500

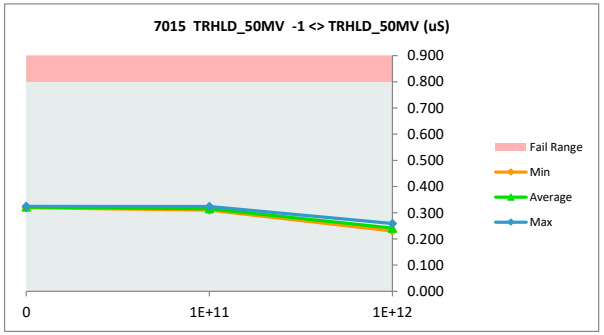


NDD Report
LM139AQML-SP

		7015_TRHLD_50MV_-1 <> TRHL				
	Max Limit	0.8	0.8			
	Min Limit					
Fluence	Serial #	PRE NDD	POST NDD	Delta	Delta %	% of Limit Range
0	1	0.320	0.319	-0.001	-0.16%	0.06%
0	2	0.324	0.324	0.000	0.02%	0.01%
1E+11	30	0.321	0.315	-0.006	-1.87%	0.75%
1E+11	31	0.319	0.310	-0.009	-2.93%	1.17%
1E+11	32	0.330	0.324	-0.006	-1.79%	0.74%
1E+11	33	0.321	0.316	-0.006	-1.74%	0.70%
1E+11	34	0.322	0.313	-0.009	-2.79%	1.12%
1E+12	35	0.311	0.233	-0.078	-25.01%	9.72%
1E+12	36	0.329	0.246	-0.083	-25.13%	10.32%
1E+12	37	0.316	0.238	-0.078	-24.65%	9.72%
1E+12	38	0.304	0.230	-0.073	-24.17%	9.17%
1E+12	39	0.335	0.259	-0.077	-22.81%	9.56%
	Max	0.335	0.324	0.000	0.02%	10.32%
	Average	0.321	0.286	-0.035	-11.09%	4.42%
	Min	0.304	0.230	-0.083	-25.13%	0.01%
	Std Dev	0.008	0.040	0.037	11.75%	4.68%



	7015_TRHLD_50MV_-1 <> TRH		
Max Limit	0.8		
Min Limit			
Fluence	0	1E+11	1E+12
LL			
Min	0.319	0.310	0.230
Average	0.322	0.315	0.241
Max	0.324	0.324	0.259
UL	0.800	0.800	0.800



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