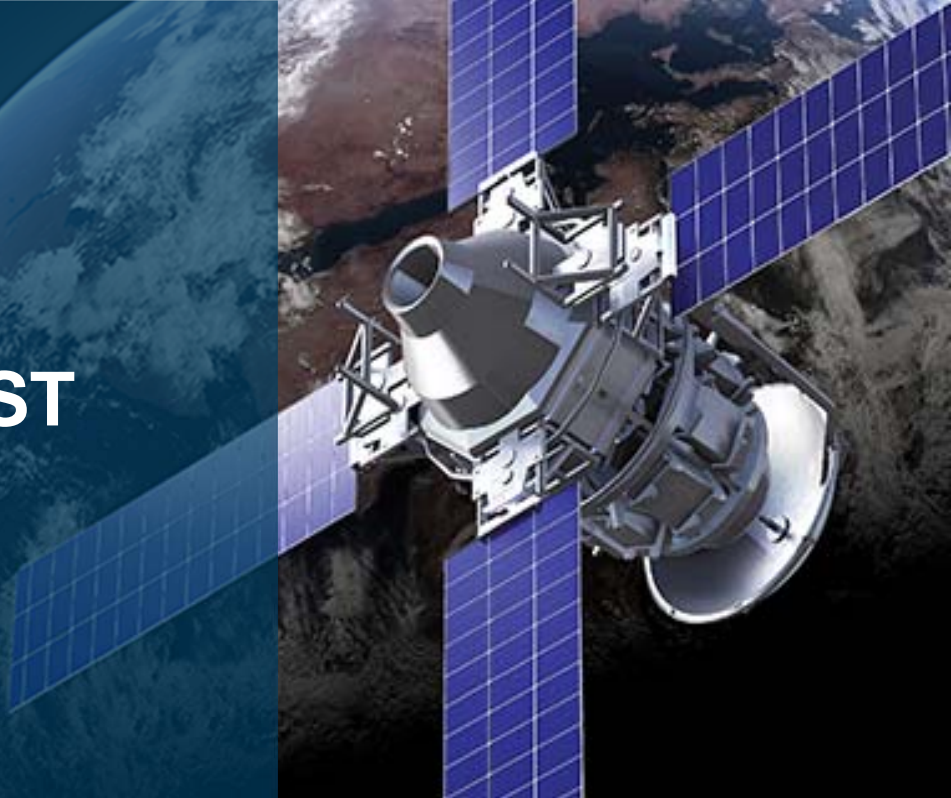




AHEAD OF WHAT'S POSSIBLE™

# HIGH DOSE RADIATION TEST REPORT ADL6010S

February 2018  
Generic



Radiation Test Report	
Product:	ADL6010S
Gamma:	0,100k
Gamma Source:	Co60/TM1019 Condition A
Dose Rate:	106 Rad/s
Facilities:	VPT RAD
Tested:	1/31/18

The RADTEST® DATA SERVICE is a compilation of radiation test results on Analog Devices' Space grade products. It is designed to assist customers in selecting the right product for applications where radiation is a consideration. Many products manufactured by Analog Devices, Inc. have been shown to be radiation tolerant to most tactical radiation environments. Analog Devices, Inc. does not make any claim to maintain or guarantee these levels of radiation tolerance without lot qualification test.

It is the responsibility of the Procuring Activity to screen products from Analog Devices, Inc. for compliance to Nuclear Hardness Critical Items (HCI) specifications.

**Warning:**

Analog Devices, Inc. does not recommend use of this data to qualify other product grades or process levels. Analog Devices, Inc. is not responsible and has no liability for any consequences, and all applicable Warranties are null and void if any Analog Devices product is modified in any way or used outside of normal environmental and operating conditions, including the parameters specified in the corresponding data sheet. Analog Devices, Inc. does not guarantee that wafer manufacturing is the same for all process levels.

		Isy Vs=5V (mA)		Output Offset Voltage (mV)	
	SN	0k	100k	0k	100k
CTRL	11	1.859	1.856	2.186	2.139
	5	1.946	1.945	5.6	7.8
	6	1.972	1.972	2.86	4.258
	7	1.991	1.992	3.032	4.392
	8	1.975	1.973	3.191	4.773
Min		1.9460	1.9450	2.8600	4.2580
Max		1.9910	1.9920	5.6000	7.8000
Mean		1.9710	1.9705	3.6708	5.3058
Std Dev.		0.0186	0.0193	1.2932	1.6771
mean - 3 sigma		1.9151	1.9125	-0.2090	0.2745
mean + 3 sigma		2.0269	2.0285	7.5505	10.3370
Limit: <3mA			Limit: ±50mV		

		Vout Rfin =500MHz +10dBm (V)		Vout Rfin =500MHz -10dBm (V)	
WAFER	SN	0k	100k	0k	100k
CTRL	11	2.081	2.248	0.1730	0.1880
	5	2.209	2.242	0.182	0.186
	6	2.194	2.244	0.183	0.189
	7	2.206	2.236	0.181	0.183
	8	2.203	2.233	0.177	0.182
Min		2.1940	2.2330	0.1770	0.1820
Max		2.2090	2.2440	0.1830	0.1890
Mean		2.2030	2.2388	0.1808	0.1850
Std Dev.		0.0065	0.0051	0.0026	0.0032
mean - 3 sigma		2.1836	2.2234	0.1729	0.1755
mean + 3 sigma		2.2224	2.2541	0.1886	0.1945
Limit: 2V- 2.5V			Limit: <0.35V		

		Slope 500MHz (V/Vpeak)		Intercept 500MHz (V)	
WAFER	SN	0k	100k	0k	100k
CTRL	11	2.1200	2.2910	-0.0510	-0.0570
	5	2.252	2.286	-0.058	-0.059
	6	2.235	2.285	-0.055	-0.055
	7	2.25	2.283	-0.06	-0.061
	8	2.251	2.281	-0.064	-0.063
Min		2.2350	2.2810	-0.0640	-0.0630
Max		2.2520	2.2860	-0.0550	-0.0550
Mean		2.2470	2.2838	-0.0593	-0.0595
Std Dev.		0.0080	0.0022	0.0038	0.0034
mean - 3 sigma		2.2229	2.2771	-0.0706	-0.0697
mean + 3 sigma		2.2711	2.2904	-0.0479	-0.0493
Limit: 2- 2.5 V/Vpeak			Limit: +/-0.15V		

		Vout Rfin =1GHz +10dBm (V)		Vout Rfin =1GHz -10dBm (V)	
WAFER	SN	0k	100k	0k	100k
CTRL	11	2.136	2.198	0.206	0.213
	5	2.172	2.196	0.21	0.213
	6	2.158	2.199	0.212	0.217
	7	2.166	2.193	0.209	0.211
	8	2.162	2.188	0.206	0.209
Min		2.1580	2.1880	0.2060	0.2090
Max		2.1720	2.1990	0.2120	0.2170
Mean		2.1645	2.1940	0.2093	0.2125
Std Dev.		0.0060	0.0047	0.0025	0.0034
mean - 3 sigma		2.1466	2.1799	0.2018	0.2023
mean + 3 sigma		2.1824	2.2081	0.2168	0.2227
Limit: 2V- 2.5V			Limit: <0.35V		

WAFER	SN	Slope 1GHz (V/Vpeak)		Intercept 1GHz (V)	
		0k	100k	0k	100k
CTRL	11	2.141	2.205	-0.0180	-0.0170
	5	2.175	2.203	-0.016	-0.016
	6	2.159	2.202	-0.012	-0.013
	7	2.171	2.2	-0.017	-0.017
	8	2.17	2.198	-0.021	-0.021
Min		2.1590	2.1980	-0.0210	-0.0210
Max		2.1750	2.2030	-0.0120	-0.0130
Mean		2.1688	2.2008	-0.0165	-0.0168
Std Dev.		0.0068	0.0022	0.0037	0.0033
mean - 3 sigma		2.1482	2.1941	-0.0276	-0.0267
mean + 3 sigma		2.1893	2.2074	-0.0054	-0.0068
Limit: 2- 2.5 V/Vpeak			Limit: +/-0.15V		

WAFER	SN	Vout Rfin =5GHz +10dBm (V)		Vout Rfin =5GHz -10dBm (V)	
		0k	100k	0k	100k
CTRL	11	2.2900	2.2580	0.2340	0.2310
	5	2.263	2.274	0.234	0.234
	6	2.244	2.281	0.236	0.239
	7	2.243	2.262	0.231	0.233
	8	2.234	2.236	0.227	0.227
Min		2.2340	2.2360	0.2270	0.2270
Max		2.2630	2.2810	0.2360	0.2390
Mean		2.2460	2.2633	0.2320	0.2333
Std Dev.		0.0122	0.0198	0.0039	0.0049
mean - 3 sigma		2.2094	2.2039	0.2203	0.2185
mean + 3 sigma		2.2826	2.3226	0.2437	0.2480
Limit: 1.8V - 2.7V			Limit: <0.35V		

WAFER	SN	Slope 5GHz (V/Vpeak)		Intercept 5GHz (V)	
		0k	100k	0k	100k
CTRL	11	2.2920	2.2580	-0.0100	-0.0090
	5	2.262	2.273	-0.006	-0.007
	6	2.238	2.275	-0.002	-0.003
	7	2.242	2.26	-0.007	-0.007
	8	2.237	2.237	-0.011	-0.01
Min		2.2370	2.2370	-0.0110	-0.0100
Max		2.2620	2.2750	-0.0020	-0.0030
Mean		2.2448	2.2613	-0.0065	-0.0068
Std Dev.		0.0117	0.0175	0.0037	0.0029
mean - 3 sigma		2.2096	2.2088	-0.0176	-0.0154
mean + 3 sigma		2.2799	2.3137	0.0046	0.0019
Limit: 1.8 - 2.65 V/Vpeak			Limit: +/- 0.1V		

WAFER	SN	Vout Rfin =10GHz +10dBm (V)		Vout Rfin =10GHz -10dBm (V)	
		0k	100k	0k	100k
CTRL	11	2.0780	2.0900	0.2160	0.2180
	5	2.067	2.106	0.218	0.221
	6	2.056	2.111	0.22	0.225
	7	2.049	2.097	0.215	0.22
	8	2.032	2.094	0.211	0.217
Min		2.0320	2.0940	0.2110	0.2170
Max		2.0670	2.1110	0.2200	0.2250
Mean		2.0510	2.1020	0.2160	0.2208
Std Dev.		0.0147	0.0079	0.0039	0.0033
mean - 3 sigma		2.0070	2.0784	0.2043	0.2108
mean + 3 sigma		2.0950	2.1256	0.2277	0.2307
Limit: 1.8V - 2.6V			Limit: <0.35V		

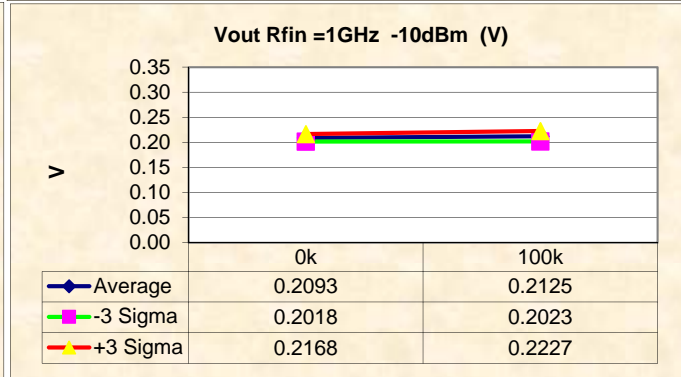
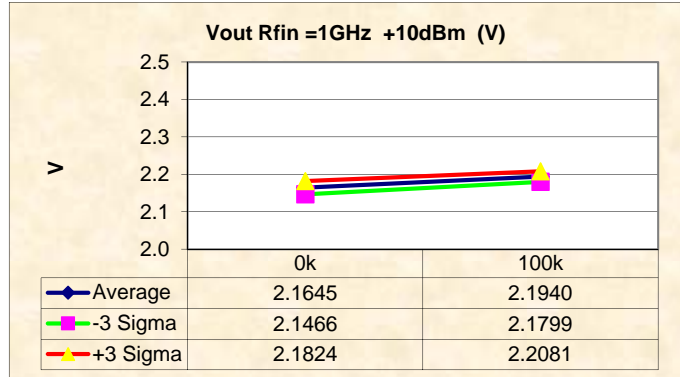
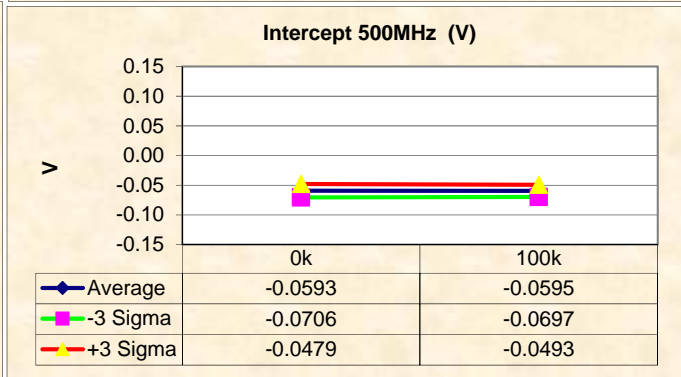
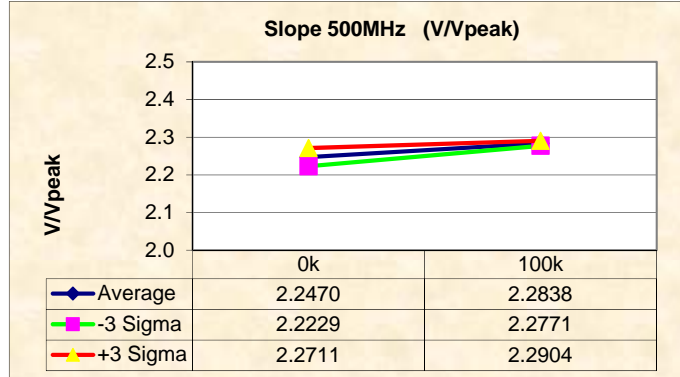
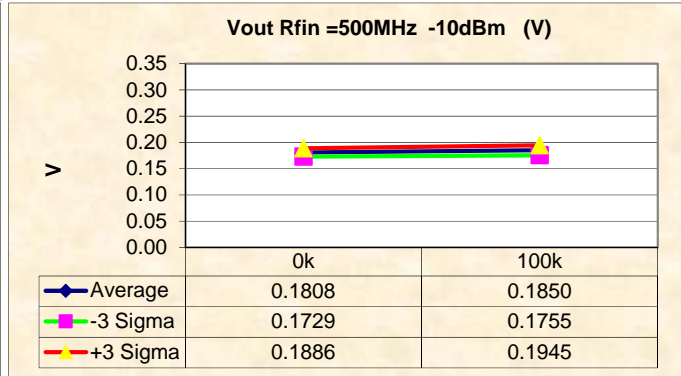
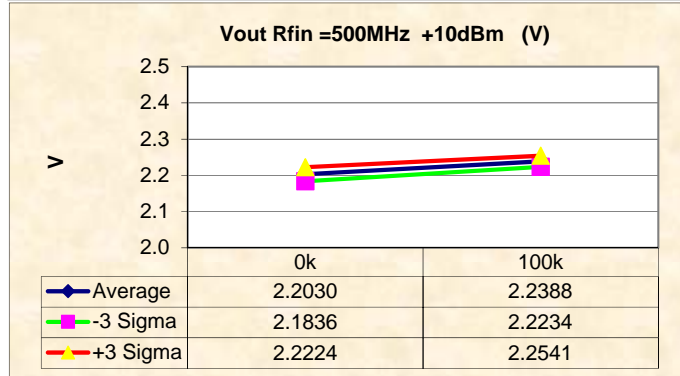
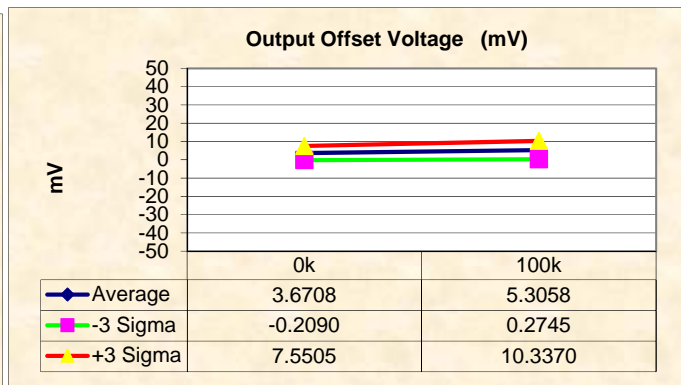
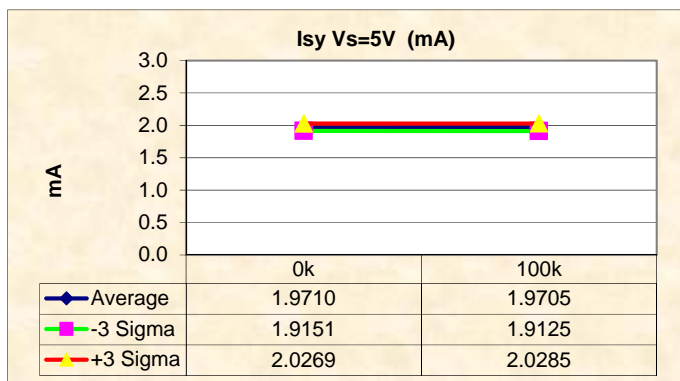
WAFER	SN	Slope 10GHz (V/Vpeak)		Intercept 10GHz (V)		
		0k	100k	0k	100k	
CTRL	11	2.0770	2.0860	-0.0030	-0.0030	
	5	2.063	2.1	0.0003366	-0.001	
	6	2.048	2.101	0.004	0.003	
	7	2.046	2.093	0.000254969	-0.002	
	8	2.032	2.092	-0.002	-0.005	
	Min	2.0320	2.0920	-0.0020	-0.0050	
	Max	2.0630	2.1010	0.0040	0.0030	
	Mean	2.0473	2.0965	0.0006	-0.0013	
	Std Dev.	0.0127	0.0047	0.0025	0.0033	
	mean - 3 sigma	2.0092	2.0825	-0.0068	-0.0112	
	mean + 3 sigma	2.0853	2.1105	0.0081	0.0087	
			Limit: 1.8 - 2.5 V/Vpeak		Limit: +/-0.1V	

WAFER	SN	Vout Rfin =15GHz +10dBm (V)		Vout Rfin =15GHz -10dBm (V)		
		0k	100k	0k	100k	
CTRL	11	2.3040	2.4460	0.2370	0.2510	
	5	2.315	2.453	0.239	0.252	
	6	2.318	2.48	0.243	0.259	
	7	2.26	2.448	0.235	0.253	
	8	2.225	2.427	0.228	0.248	
	Min	2.2250	2.4270	0.2280	0.2480	
	Max	2.3180	2.4800	0.2430	0.2590	
	Mean	2.2795	2.4520	0.2363	0.2530	
	Std Dev.	0.0451	0.0218	0.0064	0.0045	
	mean - 3 sigma	2.1443	2.3866	0.2171	0.2394	
	mean + 3 sigma	2.4147	2.5174	0.2554	0.2666	
			Limit: 1.8V - 3V		Limit: <0.35V	

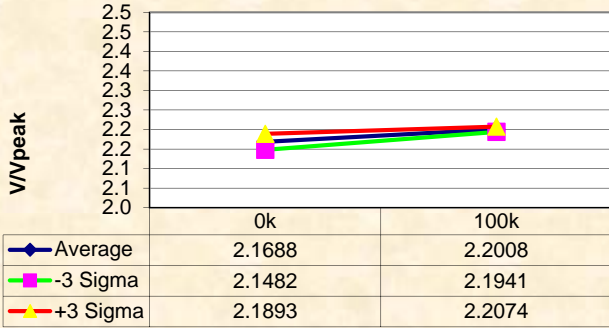
WAFER	SN	Slope 15GHz (V/Vpeak)		Intercept 15GHz (V)		
		0k	100k	0k	100k	
CTRL	11	2.3050	2.4480	-0.0080	-0.0120	
	5	2.314	2.453	-0.008	-0.012	
	6	2.313	2.476	-0.004	-0.007	
	7	2.256	2.447	-0.003	-0.007	
	8	2.227	2.43	-0.009	-0.011	
	Min	2.2270	2.4300	-0.0090	-0.0120	
	Max	2.3140	2.4760	-0.0030	-0.0070	
	Mean	2.2775	2.4515	-0.0060	-0.0093	
	Std Dev.	0.0432	0.0190	0.0029	0.0026	
	mean - 3 sigma	2.1478	2.3944	-0.0148	-0.0171	
	mean + 3 sigma	2.4072	2.5086	0.0028	-0.0014	
			Limit: 1.8 - 3 V/Vpeak		Limit: +/-0.1V	

WAFER	SN	Vout Rfin =20GHz +10dBm (V)		Vout Rfin =20GHz -10dBm (V)		
		0k	100k	0k	100k	
CTRL	11	1.8790	1.9150	0.1820	0.1860	
	5	1.816	1.963	0.178	0.192	
	6	1.829	1.997	0.182	0.2	
	7	1.868	2.017	0.182	0.197	
	8	1.848	2.012	0.177	0.193	
	Min	1.8160	1.9630	0.1770	0.1920	
	Max	1.8680	2.0170	0.1820	0.2000	
	Mean	1.8403	1.9973	0.1798	0.1955	
	Std Dev.	0.0227	0.0244	0.0026	0.0037	
	mean - 3 sigma	1.7722	1.9242	0.1719	0.1844	
	mean + 3 sigma	1.9083	2.0703	0.1876	0.2066	
			Limit: 1.7V - 2.6V		Limit: <0.35V	

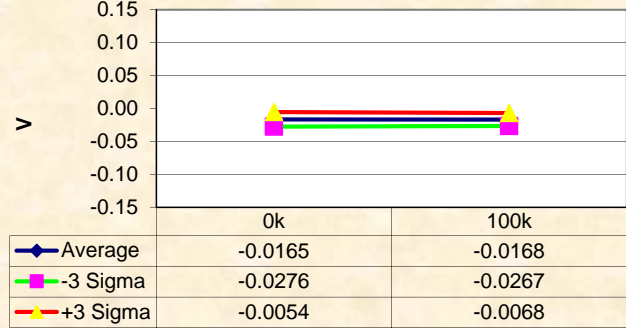
WAFER	SN	Slope 20GHz (V/Vpeak)		Intercept 20GHz (V)	
		0k	100k	0k	100k
CTRL	11	1.8890	1.9260	-0.0220	-0.0210
	5	1.822	1.973	-0.018	-0.019
	6	1.832	2.003	-0.014	-0.015
	7	1.875	2.028	-0.019	-0.019
	8	1.86	2.027	-0.024	-0.024
Min		1.8220	1.9730	-0.0240	-0.0240
Max		1.8750	2.0280	-0.0140	-0.0150
Mean		1.8473	2.0078	-0.0188	-0.0193
Std Dev.		0.0245	0.0259	0.0041	0.0037
mean - 3 sigma		1.7737	1.9301	-0.0311	-0.0303
mean + 3 sigma		1.9208	2.0854	-0.0064	-0.0082
Limit: 1.7 - 2.6 V/Vpeak			Limit: +/-0.15V		



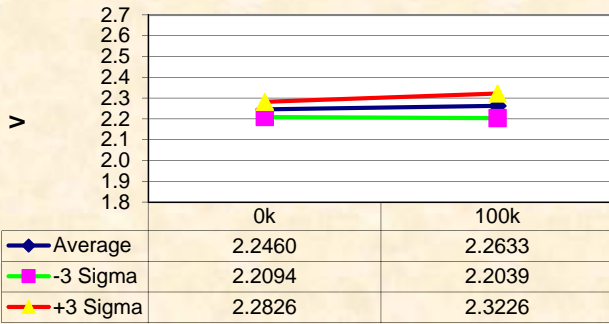
**Slope 1GHz (V/Vpeak)**



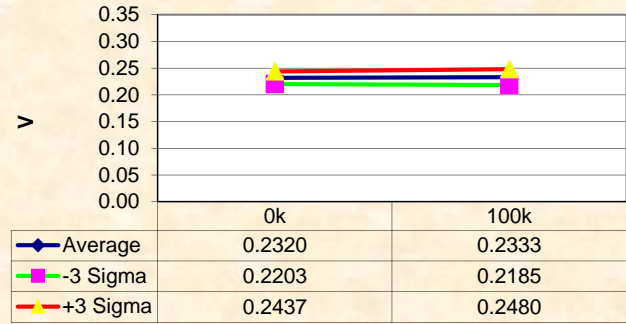
**Intercept 1GHz (V)**



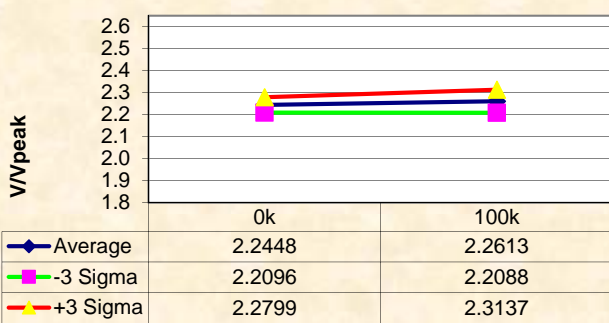
**Vout Rfin =5GHz +10dBm (V)**



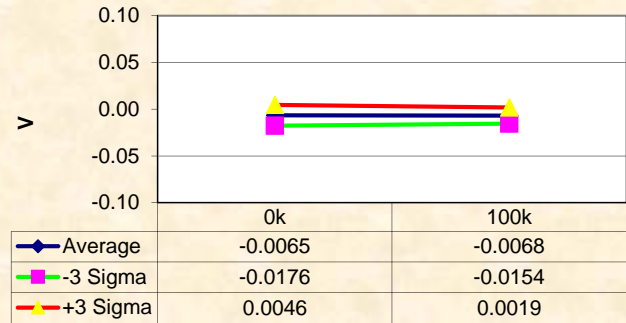
**Vout Rfin =5GHz -10dBm (V)**



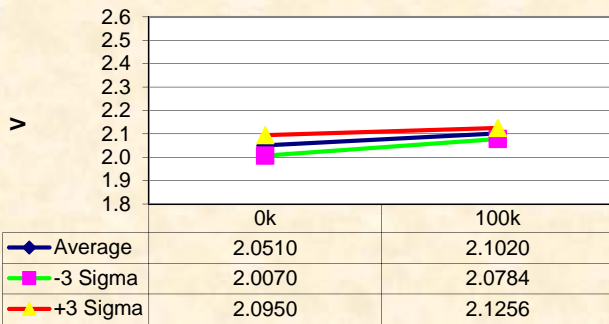
**Slope 5GHz (V/Vpeak)**



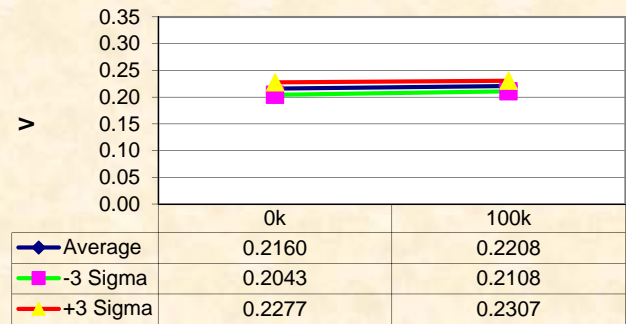
**Intercept 5GHz (V)**



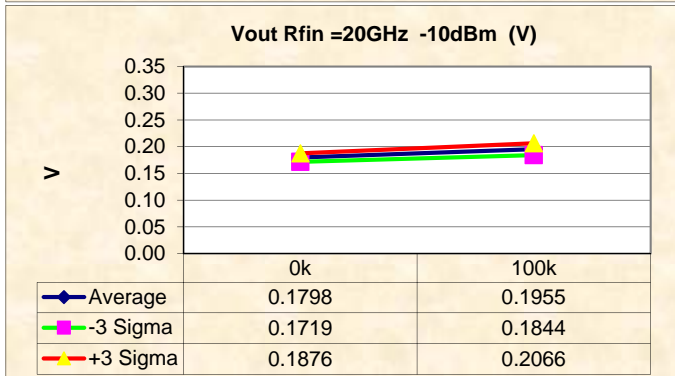
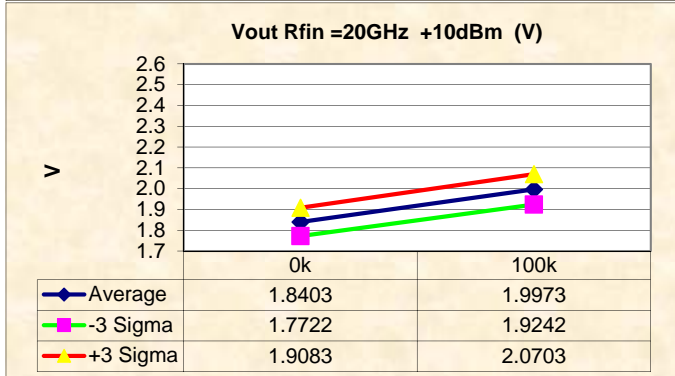
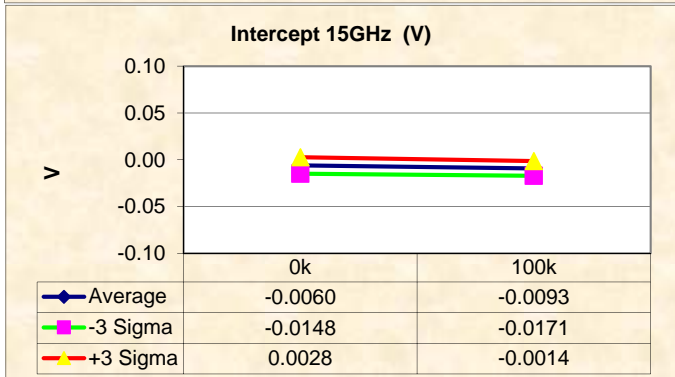
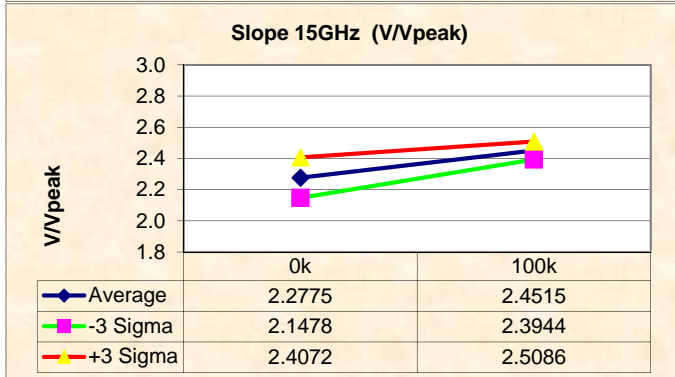
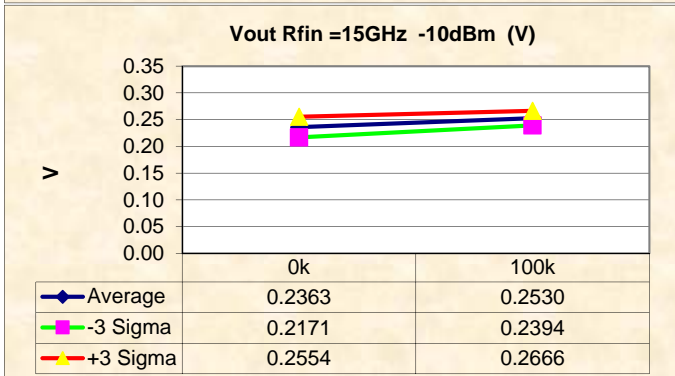
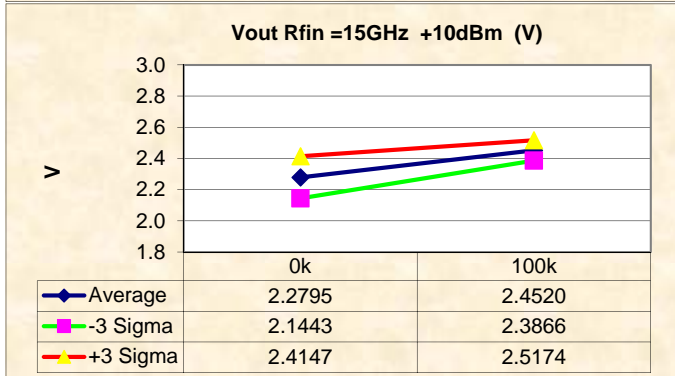
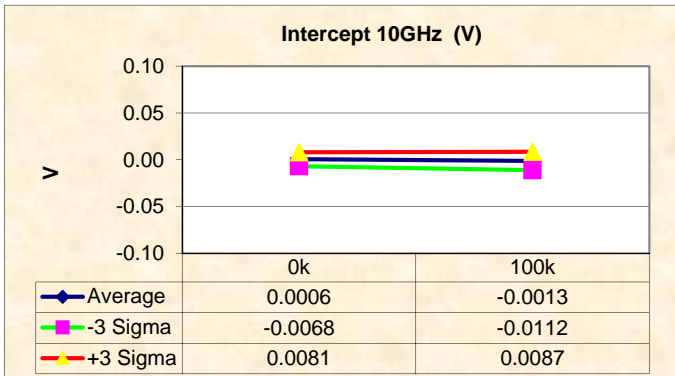
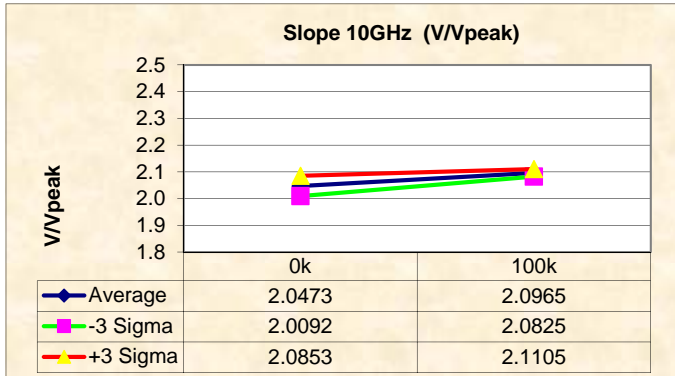
**Vout Rfin =10GHz +10dBm (V)**



**Vout Rfin =10GHz -10dBm (V)**

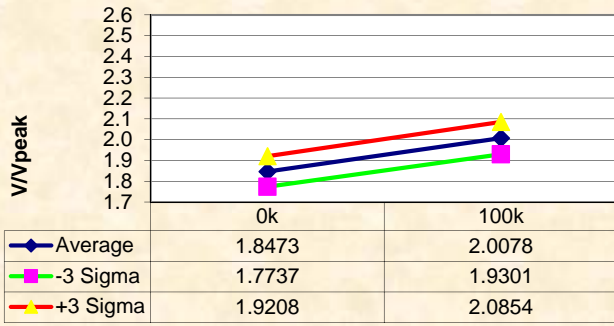








**Slope 20GHz (V/Vpeak)**



**Intercept 20GHz (V)**

