



Summary Data
For
ERDLVA-2G18G-65-70MV-70C

Customer: Raytheon
 SO No: 27642020
 Model No: ERDLVA-2G18G-65-70MV-70C
 Serial No: PL51101/2509

Tested By: Anton L.
 Temperature: -40°C TO +70°C
 Date 2/27/2025
 Drawing No: 27642020 Rev: A1

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	2 to 18 GHz	2 to 18 GHz	PMI QA3
2	VSWR:	2.2:1 MAX @ 50 Ω	1.84 :1 MAX	
3	Input Power:	(1) 1 W CW, Max. (2) 100 W Peak @ PW = 1 us & Duty Cycle = 1%, Max.	Pass	
4	VIDEO OUT TSS:	-71 dBm MAX	- 72.2 dBm	
5	VIDEO OUT Dynamic Range:	-65 to 0 dBm	-65 to 0 dBm	
6	VIDEO OUT Log Slope Fixed:	70 ± 3mV/dB	70.9 mV/dB	
			68.3 mV/dB	
7	VIDEO OUT Log Linearity:	±1.0 dB MAX @25C	0.64 dB	
			-0.54 dB	
8	VIDEO OUT Log Accuracy:	±2.3 dB MAX @25C	1.56 dB	
			-0.76 dB	
9	VIDEO OUT Absolute Log Accuracy:	±2.9 dB MAX Over Freq & temp	1.56 dB	
			-1.35 dB	
10	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On) @25C	14 mV	
11	VIDEO OUT Rise Time (10% to 90%):	28 ns MAX	21.3 ns	
12	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	152.2 ns	



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13	VIDEO OUT Settling Time:	50 ns With in ± 70 mV of final value @-10 dBm	31.3 ns	PMI QA3
14	VIDEO OUT Recovery Time:	1 us MAX to within 1 dB of baseline for PW <10us & Power = -10dBm	0.44 us	
15	VIDEO OUT Video Frequency Flatness:	± 2.0 dB MAX @25C	\pm 1.02 dB	
16	VIDEO OUT CW Immunity:	CW Immune Power TSS to -40 dBm	Pass	
		Pulse Peak Amplitude Loss; 2 dB MAX @ -40dBm CW	< 2 dB	
		Baseline shift 200mV @-40dBm CW	< 200 mV	
		CW Immunity Time at CW = -40 dBm, ≤ 4 ms	1.48 ms	
		CW Recovery Time at CW = -40 dBm, ≤ 20 us	<20 us	
17	Pulse droop	1dB Max for 300us pulse at or above -65dBm	<1dB	
18	VIDEO OUT Pulse Response, input Signal:	100 ns to 300 us	100 ns to 300 us	
19	VIDEO LOAD Impedance:	$75 \pm 1 \Omega$	75Ω	
20	VIDEO driver capability	100 ft RG11 into 75 ohm load	Pass	
21	Pulse density capability	10% duty cycle 100 ns, 70% duty cycle 300 us at peak power -10 dBm with 1 dB variable for pulse amplitude and baseline	Pass	



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22	VIDEO OUT Noise Level (Vp-p):	160 mV max	127.8 mV	PMI QA3
23	VIDEO OUT Propagation Delay:	50 ns MAX from RF 50% to 10% video (excluding cable)	< 50 ns	
24	Power Supply	+15 V @ 500 mA MAX -15 V @ 100 mA MAX	+15 V @ 330 mA -15 V @ 80 mA	
25	Power Supply Ripple From DC to 10 MHz	100 mV MAX	Pass	

QA/QC Approval: *K. Klamm*

Date: 2-28-25



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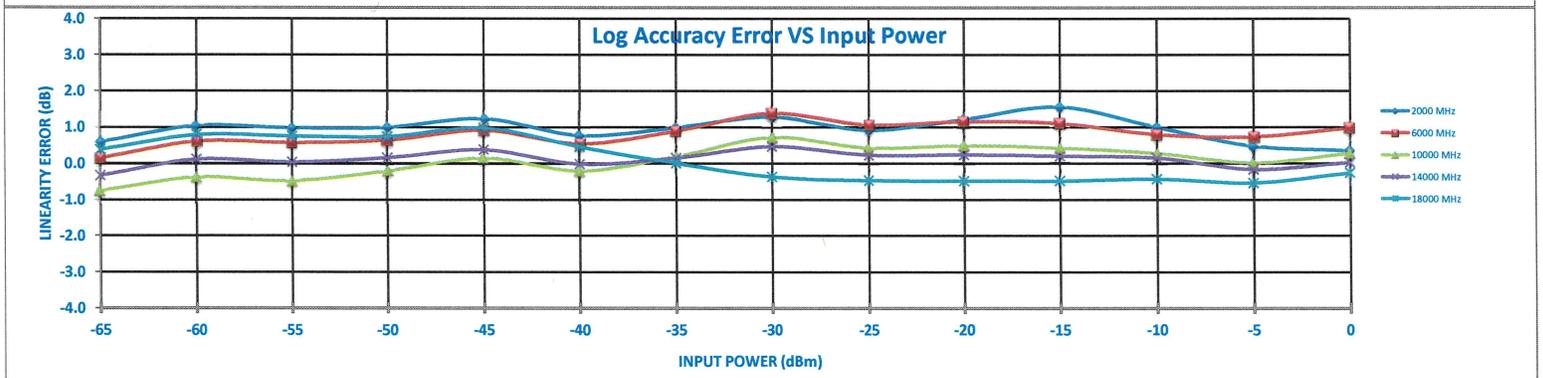
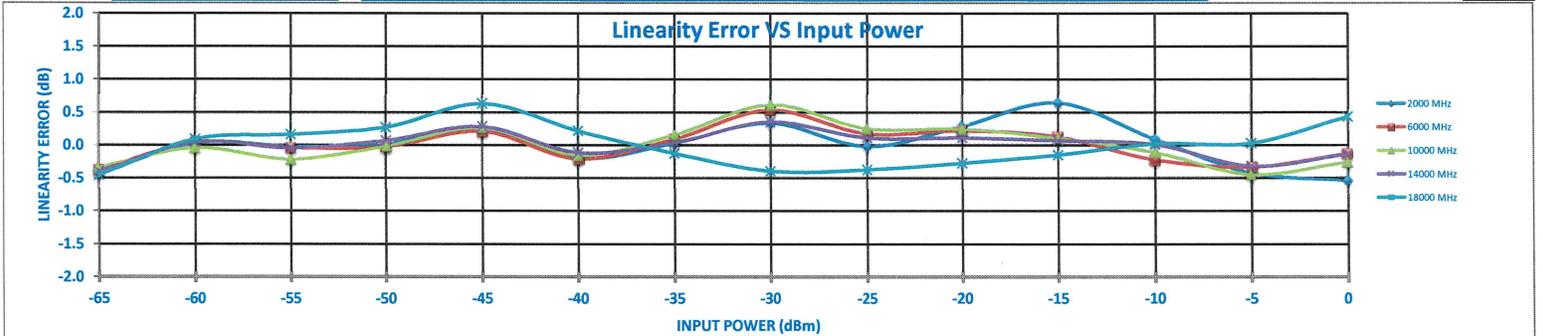
LOG TRANSFER WITH FREQUENCY

TESTED BY: Anton L.
MODEL: ERDLVA-2G18G-65-70MV-70C
SERIAL NO: PL51101/2509
DATE: 2/27/2025

Test Temp: 25 °C
Video Offset: 14 mV

Frequency		-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
2000 MHz	INTERCEPT (mV)	4947														Measured Value (mV)
	SLOPE (mV/dB)	69.8														Error (mV)
		382	763	1108	1459	1825	2142	2507	2877	3201	3571	3945	4255	4568	4909	LINEARITY ERROR (dB)
		-30	2	-2	0	18	-14	2	23	-2	20	45	6	-30	-38	ACCURACY ERROR (dB)
		-0.43	0.03	-0.03	0.01	0.25	-0.20	0.03	0.33	-0.02	0.28	0.64	0.09	-0.43	-0.54	
		0.59	1.04	0.97	0.99	1.23	0.76	0.99	1.28	0.91	1.21	1.56	0.99	0.47	0.35	
6000 MHz	INTERCEPT (mV)	4963														Measured Value (mV)
	SLOPE (mV/dB)	70.5														Error (mV)
		351	733	1080	1434	1803	2126	2500	2884	3211	3567	3913	4241	4586	4953	LINEARITY ERROR (dB)
		-27	3	-3	-2	15	-15	6	38	12	15	8	-16	-24	-10	ACCURACY ERROR (dB)
		-0.38	0.04	-0.04	-0.02	0.21	-0.21	0.09	0.53	0.17	0.21	0.12	-0.23	-0.34	-0.14	
		0.14	0.61	0.57	0.64	0.91	0.54	0.89	1.38	1.06	1.15	1.10	0.79	0.73	0.98	
10000 MHz	INTERCEPT (mV)	4922														Measured Value (mV)
	SLOPE (mV/dB)	70.9														Error (mV)
		288	664	1006	1375	1749	2074	2451	2838	3167	3521	3866	4205	4536	4904	LINEARITY ERROR (dB)
		-24	-7	-18	-9	18	-11	11	42	18	17	7	8	-22	-18	ACCURACY ERROR (dB)
		-0.34	-0.04	-0.22	-0.02	0.26	-0.16	0.15	0.61	0.25	0.24	0.10	-0.12	-0.45	-0.26	
		-0.76	-0.38	-0.49	-0.21	0.14	-0.21	0.18	0.72	0.43	0.49	0.43	0.28	0.01	0.28	
14000 MHz	INTERCEPT (mV)	4896														Measured Value (mV)
	SLOPE (mV/dB)	70.0														Error (mV)
		317	698	1042	1400	1765	2087	2448	2820	3153	3503	3850	4196	4523	4886	LINEARITY ERROR (dB)
		-28	3	-3	5	20	-9	2	24	7	7	4	0	-23	-10	ACCURACY ERROR (dB)
		-0.40	0.04	-0.05	0.07	0.28	-0.12	0.03	0.35	0.11	0.10	0.06	0.00	-0.33	-0.14	
		-0.34	0.11	0.03	0.15	0.37	-0.02	0.14	0.46	0.23	0.23	0.20	0.15	-0.17	0.02	
18000 MHz	INTERCEPT (mV)	4837														Measured Value (mV)
	SLOPE (mV/dB)	68.3														Error (mV)
		367	746	1092	1441	1807	2120	2438	2761	3104	3452	3802	4155	4497	4866	LINEARITY ERROR (dB)
		-32	6	11	18	43	14	-9	-27	-26	-19	-11	1	2	29	ACCURACY ERROR (dB)
		-0.46	0.09	0.16	0.27	0.63	0.21	-0.13	-0.40	-0.38	-0.28	-0.16	0.01	0.02	0.43	
		0.37	0.79	0.74	0.74	0.97	0.45	0.00	-0.38	-0.47	-0.50	-0.49	-0.44	-0.55	-0.27	

Flatness	+/- dB	0.67	0.71	0.73	0.60	0.54	0.49	0.49	0.88	0.77	0.85	1.02	0.72	0.64	0.62	1.02
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Summary Data For ERDLVA-2G18G-65-70MV-70C

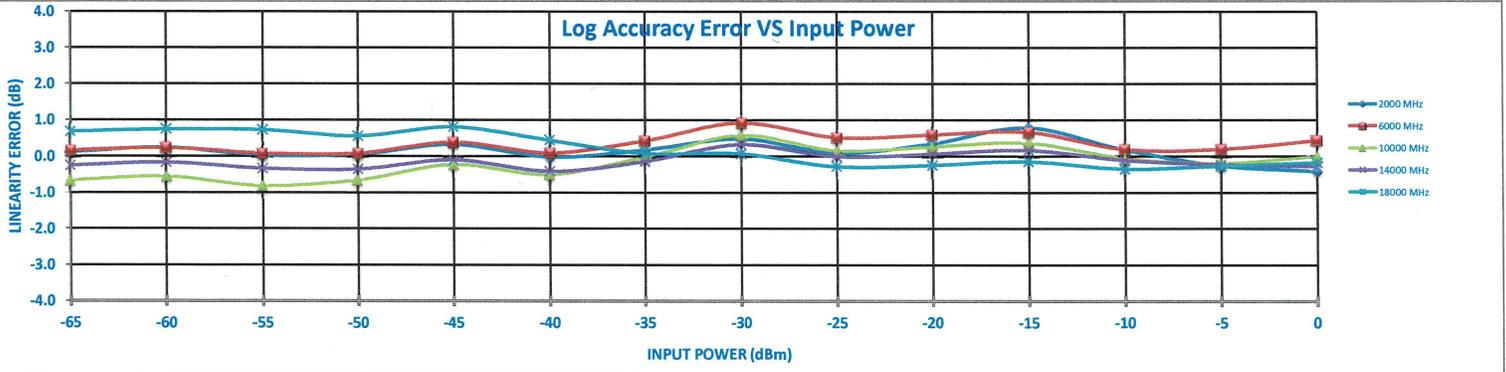
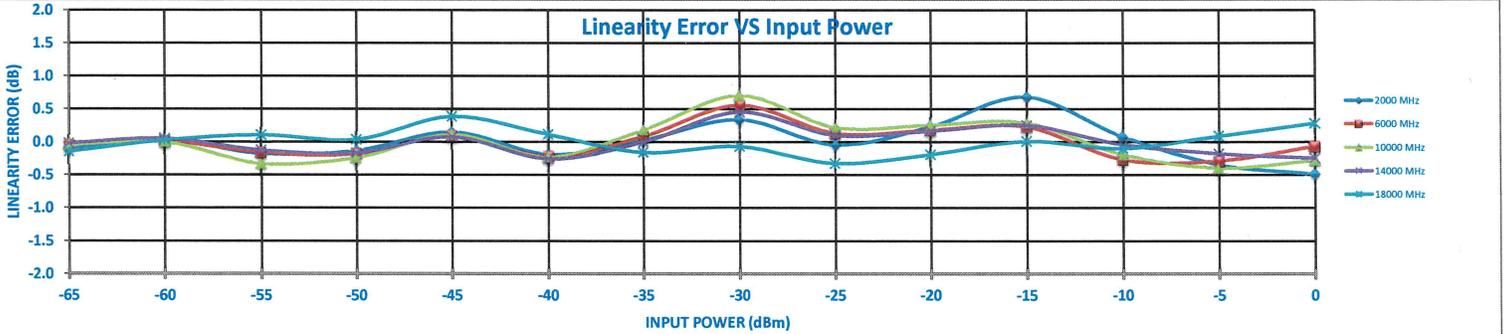
LOG TRANSFER WITH FREQUENCY

TESTED BY: Anton L.
MODEL: ERDLVA-2G18G-65-70MV-70C
SERIAL NO: PL51101/2509
DATE: 2/27/2025

Test Temp: -40 °C
Video Offset: 47 mV

Frequency		-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
2000 MHz	INTERCEPT (mV)	4968														Measured Value (mV)
	SLOPE (mV/dB)	70.4														Error (mV)
		385	747	1084	1439	1811	2139	2506	2880	3205	3576	3960	4269	4591	4933	LINEARITY ERROR (dB)
		-8	2	-13	-10	10	-13	2	24	-3	16	48	5	-25	-35	ACCURACY ERROR (dB)
		-0.11	0.03	-0.18	-0.14	0.15	-0.19	0.02	0.34	-0.05	0.23	0.68	0.07	-0.35	-0.49	
		0.11	0.24	0.02	0.05	0.32	-0.03	0.18	0.48	0.08	0.34	0.79	0.17	-0.27	-0.42	
6000 MHz	INTERCEPT (mV)	4998														Measured Value (mV)
	SLOPE (mV/dB)	70.9														Error (mV)
		388	746	1088	1441	1815	2147	2523	2911	3235	3593	3951	4270	4623	4993	LINEARITY ERROR (dB)
		-3	1	-12	-13	6	-16	6	39	9	12	16	-19	-21	-5	ACCURACY ERROR (dB)
		-0.04	0.01	-0.16	-0.18	0.09	-0.22	0.08	0.55	0.12	0.17	0.23	-0.27	-0.29	-0.07	
		0.15	0.23	0.07	0.08	0.38	0.09	0.42	0.92	0.51	0.58	0.66	0.18	0.19	0.43	
10000 MHz	INTERCEPT (mV)	4982														Measured Value (mV)
	SLOPE (mV/dB)	71.5														Error (mV)
		330	691	1025	1389	1772	2105	2492	2887	3210	3570	3930	4253	4596	4962	LINEARITY ERROR (dB)
		-5	0	-24	-17	8	-17	13	60	18	18	20	-18	-23	-20	ACCURACY ERROR (dB)
		-0.05	0.00	-0.33	-0.24	0.11	-0.23	0.18	0.70	0.22	0.25	0.29	-0.20	-0.40	-0.29	
		-0.67	-0.55	-0.82	-0.66	-0.23	-0.51	-0.02	0.58	0.15	0.26	0.36	-0.06	-0.20	-0.01	
14000 MHz	INTERCEPT (mV)	4960														Measured Value (mV)
	SLOPE (mV/dB)	70.8														Error (mV)
		359	718	1059	1410	1781	2111	2483	2869	3198	3556	3916	4249	4593	4942	LINEARITY ERROR (dB)
		-2	4	-9	-12	5	-19	0	32	7	11	17	-3	-13	-18	ACCURACY ERROR (dB)
		-0.02	0.05	-0.13	-0.17	0.07	-0.26	-0.01	0.45	0.10	0.16	0.25	-0.05	-0.19	-0.25	
		-0.26	-0.17	-0.34	-0.36	-0.10	-0.42	-0.15	0.32	-0.02	0.06	0.16	-0.12	-0.24	-0.29	
18000 MHz	INTERCEPT (mV)	4931														Measured Value (mV)
	SLOPE (mV/dB)	69.2														Error (mV)
		425	783	1134	1475	1845	2172	2499	2851	3179	3534	3894	4232	4591	4950	LINEARITY ERROR (dB)
		-10	2	7	2	26	8	-11	-5	-23	-14	1	-7	6	19	ACCURACY ERROR (dB)
		-0.15	0.03	0.10	0.03	0.38	0.11	-0.16	-0.07	-0.33	-0.20	0.01	-0.11	0.08	0.28	
		0.67	0.75	0.73	0.56	0.80	0.44	0.08	0.07	-0.28	-0.25	-0.15	-0.36	-0.27	-0.18	

Flatness	+/- dB	0.67	0.65	0.77	0.61	0.52	0.47	0.28	0.43	0.40	0.42	0.47	0.27	0.23	0.43	0.77
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Summary Data For ERDLVA-2G18G-65-70MV-70C

LOG TRANSFER WITH FREQUENCY

TESTED BY: Anton L.
MODEL: ERDLVA-2G18G-65-70MV-70C
SERIAL NO: PL51101/2509
DATE: 2/27/2025

Test Temp: 70 °C
Video Offset: 18 mV

Frequency

2000 MHz	INTERCEPT (mV)	4907
	SLOPE (mV/dB)	69.5

6000 MHz	INTERCEPT (mV)	4920
	SLOPE (mV/dB)	70.3

10000 MHz	INTERCEPT (mV)	4859
	SLOPE (mV/dB)	70.3

14000 MHz	INTERCEPT (mV)	4824
	SLOPE (mV/dB)	69.1

18000 MHz	INTERCEPT (mV)	4742
	SLOPE (mV/dB)	67.9

	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
357	736	1078	1429	1796	2111	2475	2846	3174	3540	3909	4223	4529	4859	
-30	1	-5	-1	18	-15	2	25	5	24	45	11	-31	-48	
-0.44	0.01	-0.07	-0.02	0.26	-0.21	0.02	0.36	0.07	0.34	0.64	0.16	-0.44	-0.69	
0.39	0.85	0.77	0.83	1.12	0.66	0.90	1.24	0.97	1.24	1.56	1.08	0.49	0.24	

	319	706	1051	1405	1774	2093	2469	2852	3182	3531	3872	4208	4545	4898
-33	2	-4	-1	16	-16	9	40	19	17	6	-9	-24	-22	
-0.47	0.03	-0.06	-0.02	0.23	-0.23	0.12	0.57	0.27	0.23	0.09	-0.13	-0.34	-0.31	
-0.16	0.42	0.39	0.49	0.80	0.40	0.81	1.33	1.08	1.11	1.02	0.86	0.72	0.80	

	265	637	978	1346	1720	2040	2406	2787	3123	3463	3804	4156	4482	4839
-25	-5	-16	7	24	-3	7	37	31	10	-1	0	-26	-30	
-0.36	-0.07	-0.22	0.02	0.34	-0.11	0.10	0.52	0.30	0.14	-0.01	0.00	-0.37	-0.29	
-0.94	-0.58	-0.67	-0.36	0.02	-0.37	-0.10	0.39	0.23	0.13	0.04	0.11	-0.19	-0.05	

	300	678	1023	1378	1744	2058	2410	2763	3101	3440	3784	4137	4455	4824
-33	0	-1	9	29	-2	5	12	5	-2	-3	4	-23	0	
-0.47	0.00	-0.01	0.13	0.43	-0.03	0.07	0.17	0.07	-0.03	-0.05	0.06	-0.34	0.00	
-0.43	0.01	-0.02	0.10	0.37	-0.11	-0.04	0.05	-0.08	-0.20	-0.24	-0.16	-0.58	-0.26	

	296	677	1014	1370	1731	2044	2355	2669	3022	3360	3709	4071	4406	4772
-32	9	6	23	44	18	-11	-36	-23	-24	-15	8	3	30	
-0.48	0.13	0.10	0.34	0.65	0.26	-0.16	-0.53	-0.33	-0.36	-0.22	0.11	0.05	0.44	
-0.49	0.00	-0.15	-0.02	0.18	-0.31	-0.83	-1.31	-1.22	-1.35	-1.33	-1.11	-1.28	-1.01	

RF Input Power (dBm)	
Measured Value (mV)	
Error (mV)	
LINEARITY ERROR (dB)	-0.69
ACCURACY ERROR (dB)	1.56

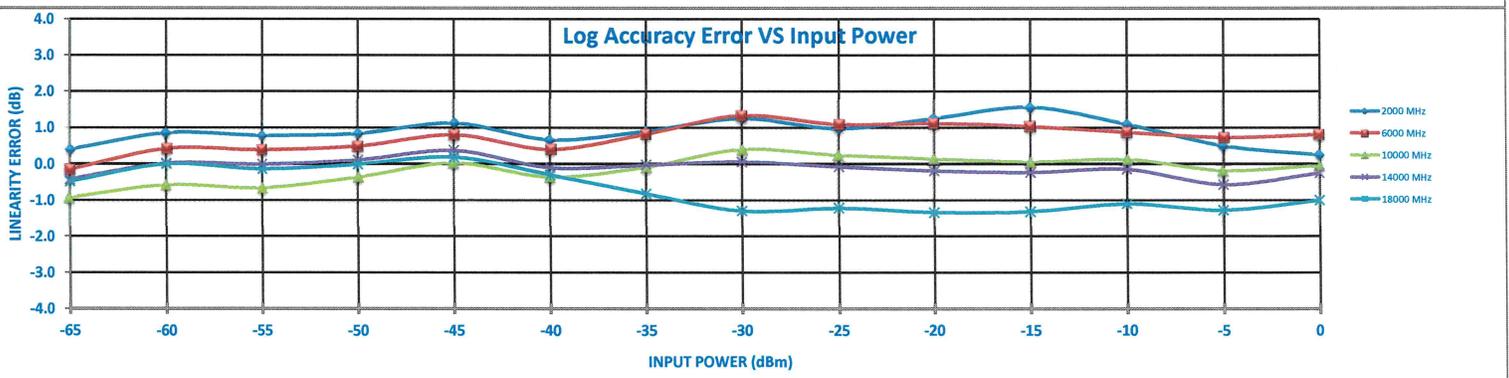
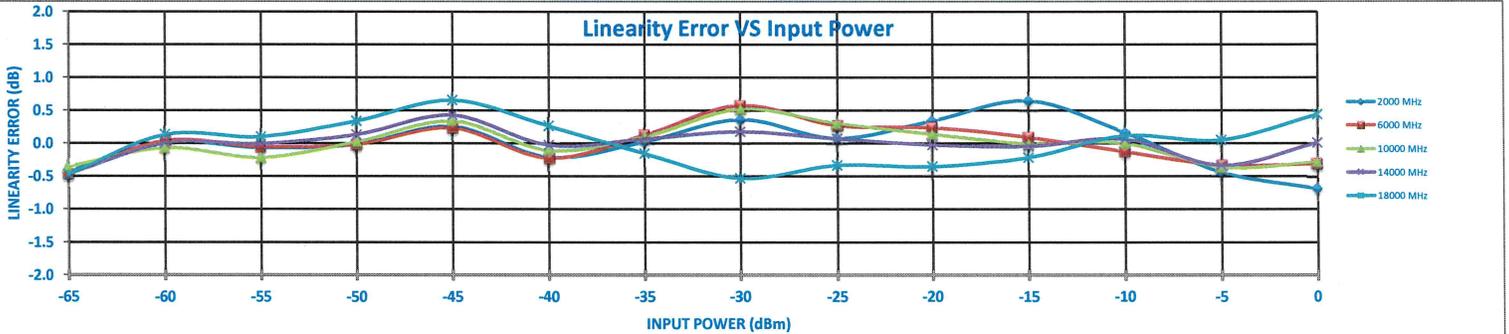
Measured Value (mV)	
Error (mV)	
LINEARITY ERROR (dB)	0.57
ACCURACY ERROR (dB)	1.33

Measured Value (mV)	
Error (mV)	
LINEARITY ERROR (dB)	0.52
ACCURACY ERROR (dB)	-0.94

Measured Value (mV)	
Error (mV)	
LINEARITY ERROR (dB)	-0.47
ACCURACY ERROR (dB)	-0.58

Measured Value (mV)	
Error (mV)	
LINEARITY ERROR (dB)	0.65
ACCURACY ERROR (dB)	-1.35

Flatness	+/- dB	0.66	0.71	0.72	0.60	0.55	0.51	0.86	1.32	1.15	1.30	1.44	1.09	1.00	0.91
															1.44

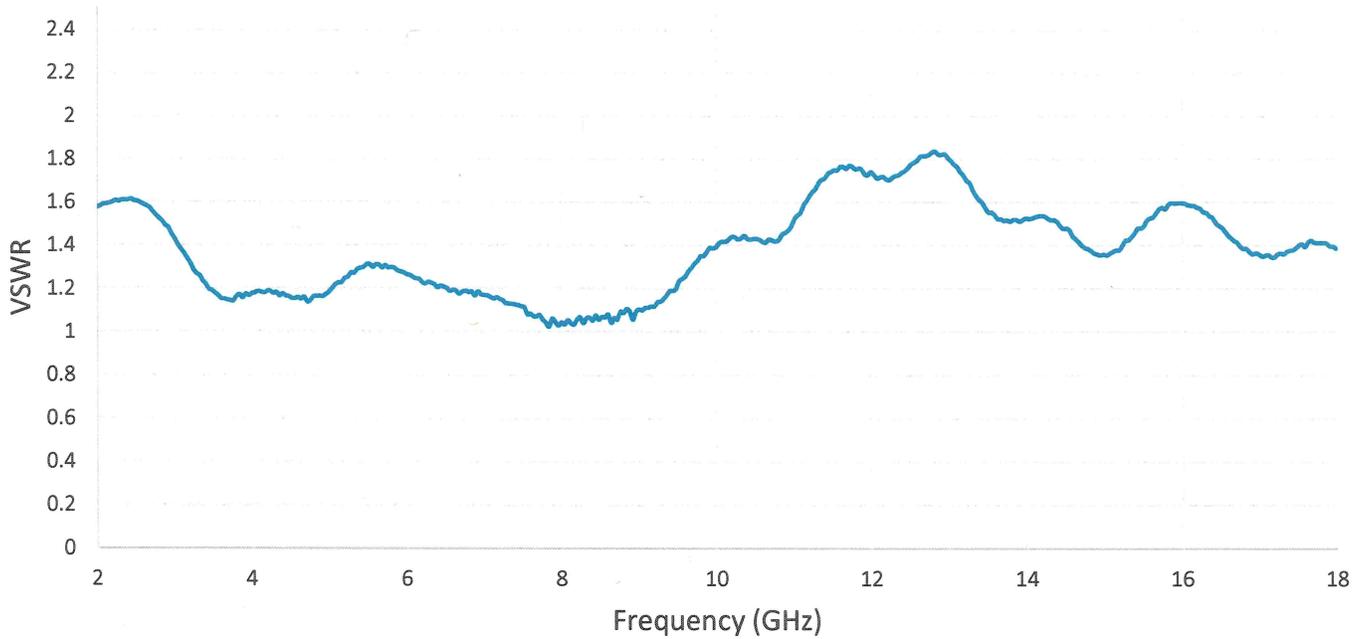




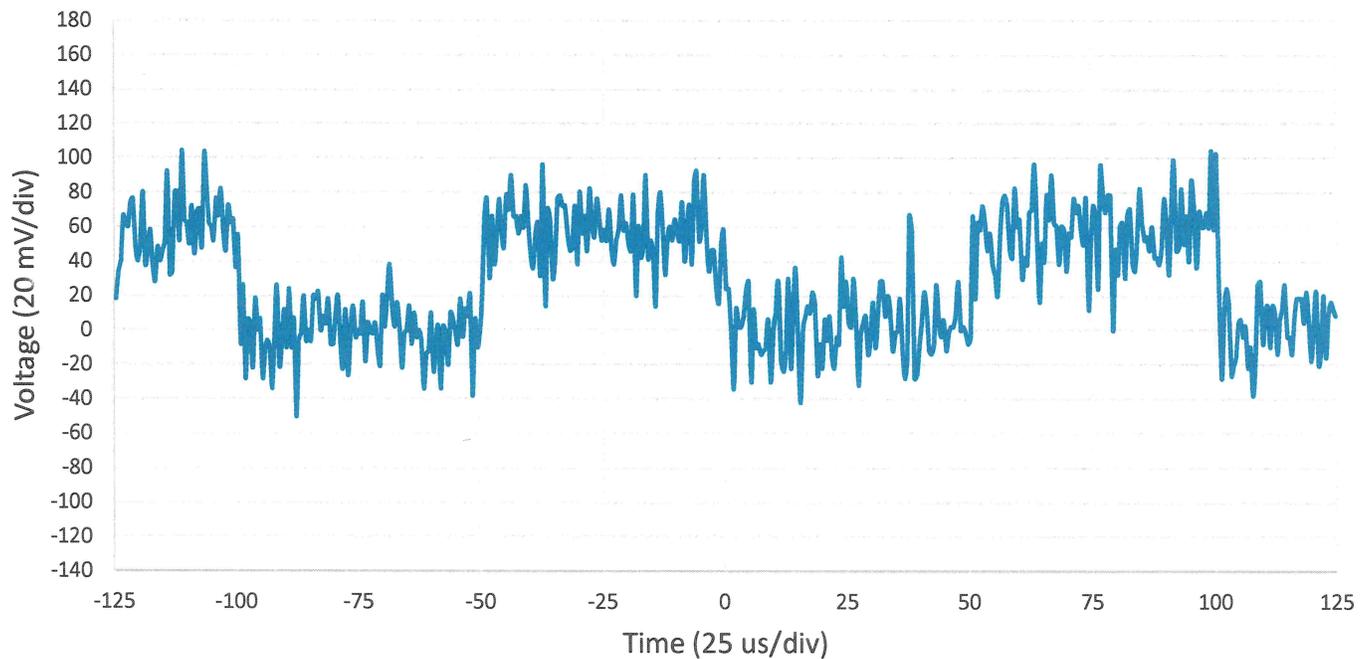
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PL51101/2509

VSWR 1.84:1



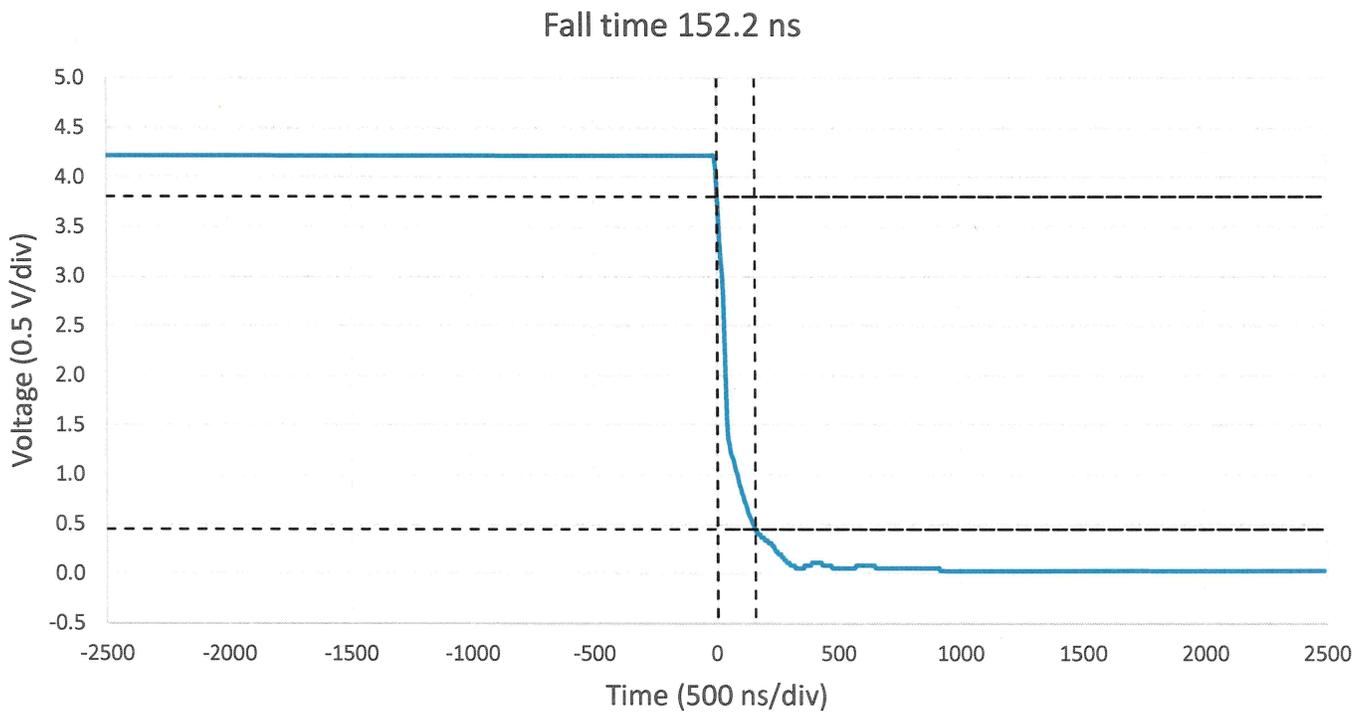
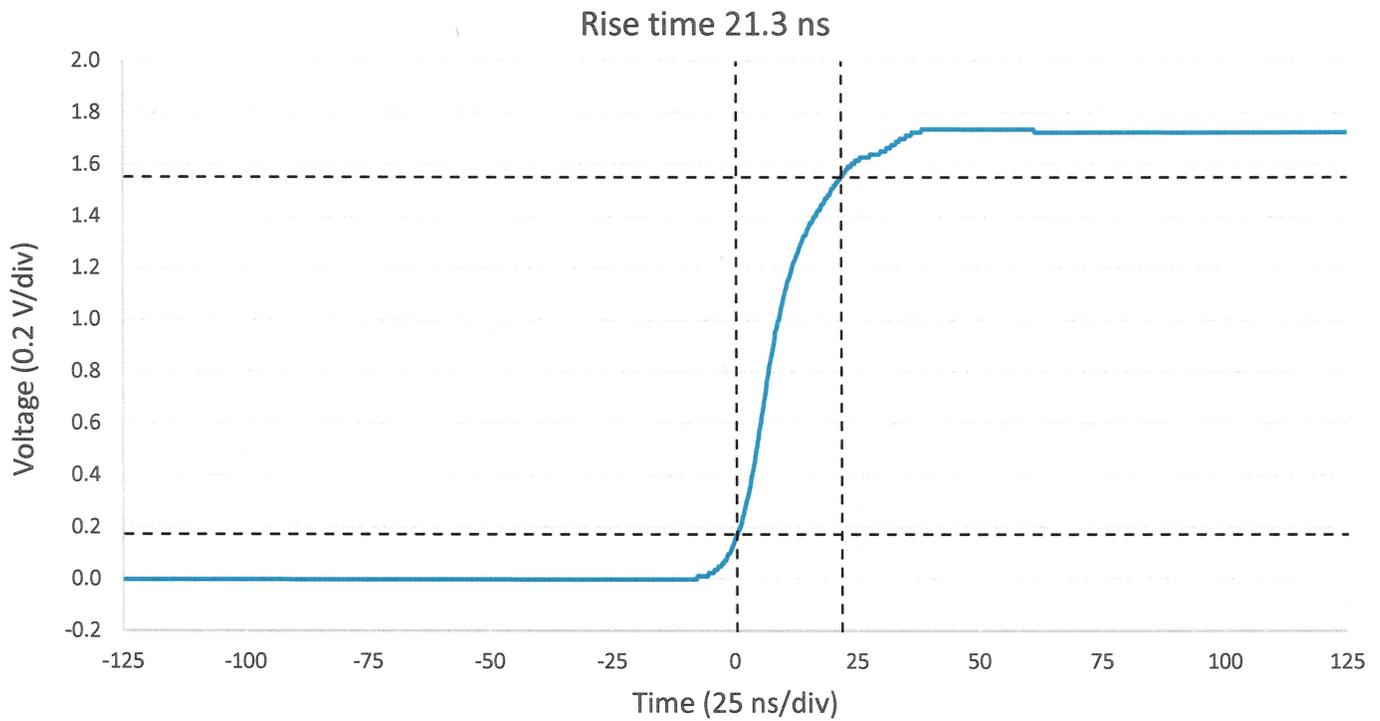
TSS @ -72.2 dBm





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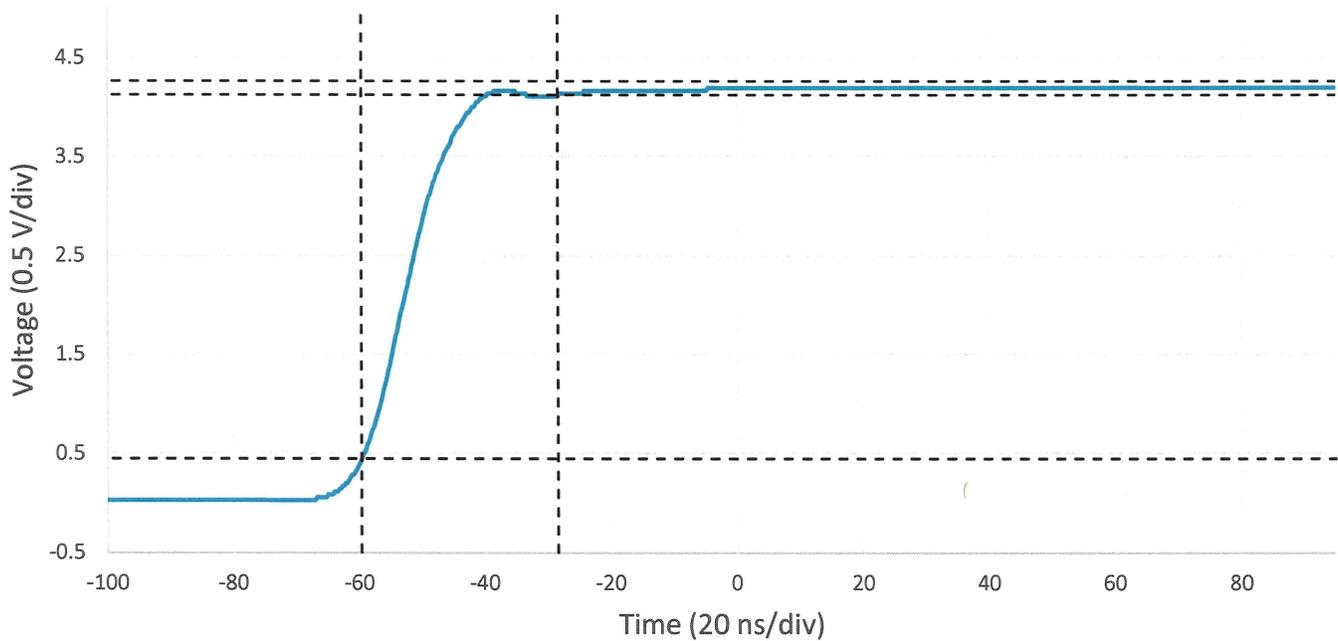




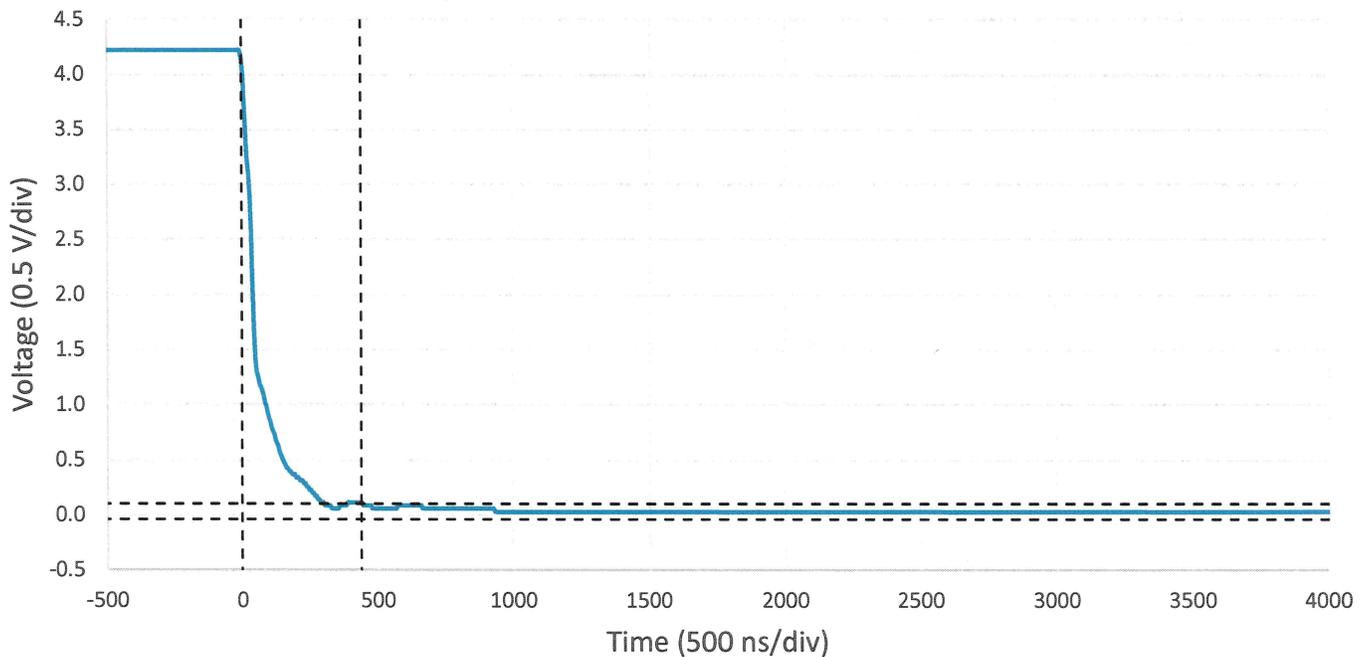
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Settle time 31.3 ns



Recovery time 440 ns

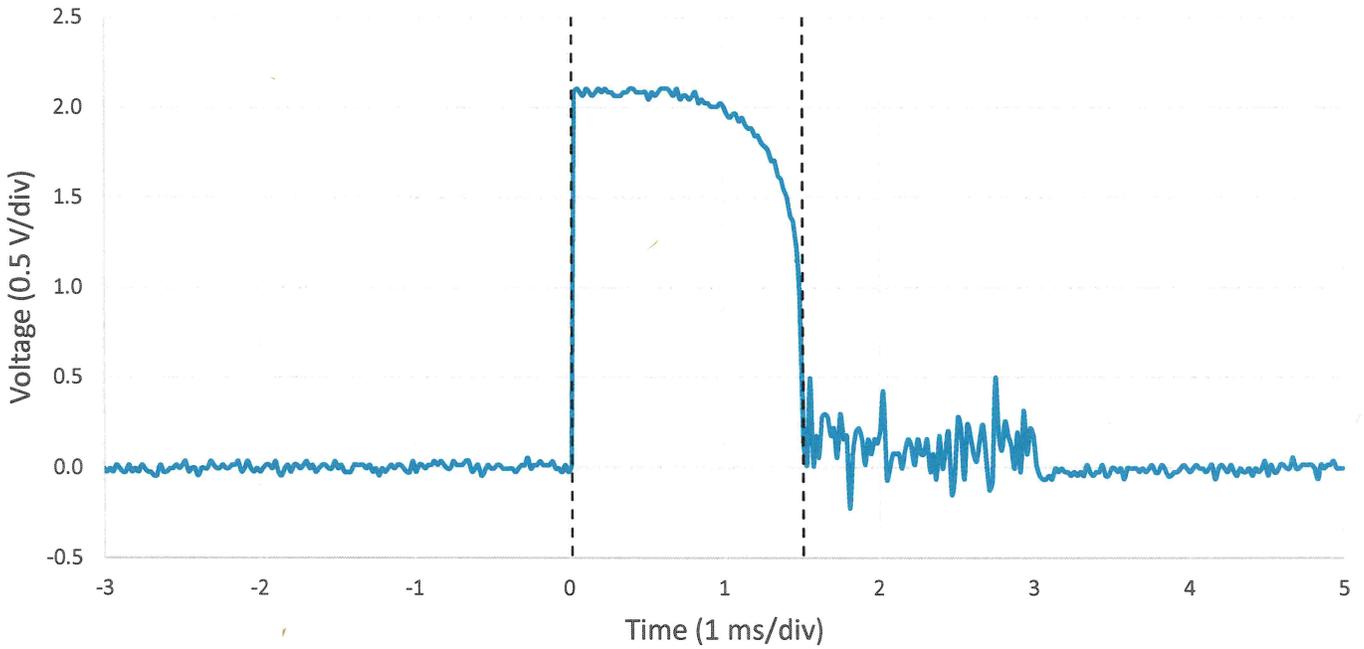




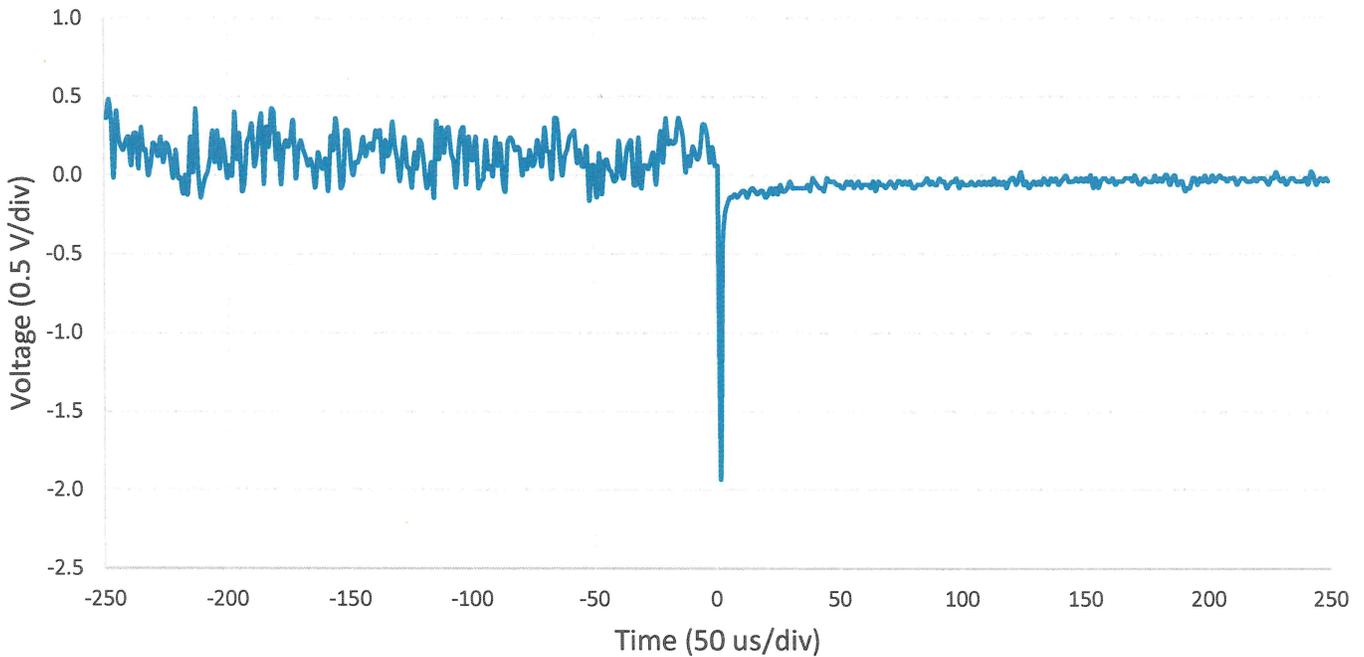
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PL51101/2509

CW Immunity 1.48 ms



CW Recovery Plot





**Summary Data
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ERDLVA-2G18G-65-70MV-70C**

PL51101/2509

RMS Noise 19.4 mV

