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

Customer: [redacted] **Tested By:** Jim Hopson

SO No: [redacted] **Temperature:** -40C TO +70C

Model No: ERDLVA-2G18G-65-70MV-70C **Date** 8/8/2024

Serial No: PL40511/2322 **Drawing No:** 27642040 **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	**2.04:1 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	**-71 dBm**	
5	VIDEO OUT Dynamic Range:	-65 to 0 dBm	**-65 to 0 dBm**	
6	VIDEO OUT Log Slope Fixed:	70 ± 3mV/dB	**72.7/69.0 mV/dB**	
7	VIDEO OUT Log Linearity:	±1.0 dB MAX @25C	**.85/-.62 dB MAX @25C**	
8	VIDEO OUT Log Accuracy:	±2.3 dB MAX @25C	**1.32/-1.35 dB MAX @25C**	
9	VIDEO OUT Absolute Log Accuracy:	±2.6 dB MAX Over Freq & temp	**1.60/-1.55 dB MAX Over Freq & temp**	
10	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On) @25C	**+45 mV**	
11	VIDEO OUT Rise Time (10% to 90%):	28 ns MAX	**27.5 ns**	
12	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	**123.1 ns**	
13	VIDEO OUT Settling Time:	50 ns With in ±70 mV of final value @-10 dBm	**< 50 ns**	

7311-F Grove Road Frederick, MD 21704 USA
Phone: (301)662-5019 Fax: (301)662-1731
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14	VIDEO OUT Recovery Time:	1 us MAX to within 1 dB of baseline for PW <10us & Power = -10dBm	**0.8 us**	PMI QA3
15	VIDEO OUT Video Frequency Flatness:	±2.0 dB MAX @25C	**1.26 MAX @25C**	
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	**Pass**	
		CW Immunity Time at CW = -40 dBm, ≤ 4 ms	**1.4 ms**	
		CW Recovery Time at CW = -40 dBm, ≤ 20 us	**< 20 us**	
17	Pulse droop	1dB Max for 300us pulse at or above -65dBm	**< 1 dB**	
18	VIDEO OUT Pulse Response, input Signal:	100 ns to 300 us	**100 ns to 300 us**	
19	VIDEO LOAD Impedance:	75 ±1 Ω	**75 Ω**	
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	**< 1 dB**	

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21	VIDEO OUT Noise Level (Vp-p):	160 mV max	**155 mV**	PMI QA3
22	VIDEO OUT Propagation Delay:	50 ns MAX from RF 50% to 10% video (excluding cable)	**35 ns typ**	
23	Power Supply	+15 V @ 500 mA MAX -15 V @ 100 mA MAX	**+15 V @ 320 mA** **-15 V @ 80 mA**	
24	Power Supply Ripple From DC to 10 MHz	100 mV MAX	**Pass**	

QA/QC Approval: K. Lutz Date: 4-13-24

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LOG TRANSFER VS. FREQUENCY
Model: ERDLVA-218-65-70MV-70
Tested By: Jim Hopson
Date: 08-8-24
Serial Number: PL40511
Test Temp: +25°C

Frequency

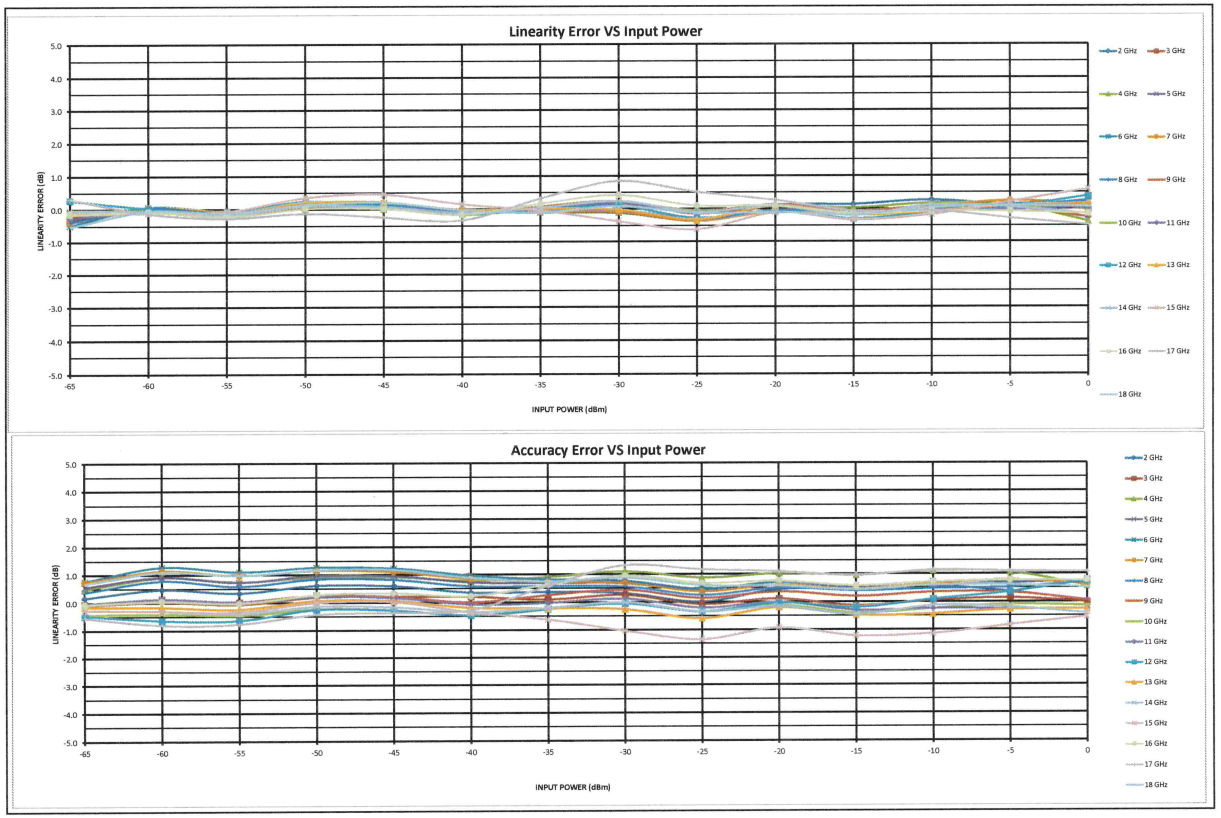
			-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
2 GHz	Intercept (mV)	4845	282	654	995	1365	1714	2047	2399	2746	3074	3456	3807	4165	4501	4827	Measured Value (mV)
	Slope (mV/dB)	69.82	-24	-1	-9	11	11	-5	-2	-4	-25	8	10	19	5	-18	Error (mV)
			-0.35	-0.02	-0.13	0.16	0.16	-0.07	-0.03	-0.06	-0.36	0.11	0.14	0.27	0.08	-0.25	0.36 Linearity Error (dB)
			0.17	0.48	0.34	0.62	0.60	0.35	0.37	0.32	0.00	0.45	0.46	0.57	0.36	0.01	0.62 Accuracy Error (dB)
3 GHz	Intercept (mV)	4826	267	630	973	1340	1686	2021	2379	2741	3068	3432	3765	4128	4485	4825	Measured Value (mV)
	Slope (mV/dB)	69.92	-14	-1	-8	10	6	-8	0	12	-10	4	-13	1	8	-1	Error (mV)
			-0.21	-0.01	-0.11	0.14	0.09	-0.12	0.00	0.18	-0.15	0.06	-0.18	0.01	0.12	-0.02	0.21 Linearity Error (dB)
			-0.04	0.14	0.03	0.27	0.20	0.20	0.09	0.25	-0.08	0.11	-0.14	0.04	0.13	-0.02	0.27 Accuracy Error (dB)
4 GHz	Intercept (mV)	4892	304	684	1023	1386	1736	2077	2436	2801	3135	3496	3842	4203	4550	4866	Measured Value (mV)
	Slope (mV/dB)	70.16	-28	2	-10	2	1	-9	0	14	-3	7	2	12	9	-26	Error (mV)
			-0.39	0.02	-0.15	0.03	0.02	-0.12	-0.01	0.20	-0.04	0.10	0.03	0.18	0.12	-0.37	0.39 Linearity Error (dB)
			0.49	0.91	0.74	0.92	0.91	0.78	0.90	1.11	0.87	1.02	0.96	1.11	1.06	0.57	1.11 Accuracy Error (dB)
5 GHz	Intercept (mV)	4865	309	685	1022	1390	1739	2073	2421	2771	3101	3467	3808	4168	4522	4881	Measured Value (mV)
	Slope (mV/dB)	69.74	-23	4	-7	12	12	-3	-3	-2	-21	-3	-11	0	6	16	Error (mV)
			-0.33	0.06	-0.11	0.17	0.17	-0.04	-0.05	-0.03	-0.30	-0.05	-0.16	0.00	0.08	0.23	0.33 Linearity Error (dB)
			0.56	0.92	0.73	0.98	0.96	0.72	0.69	0.68	0.39	0.61	0.48	0.61	0.66	0.78	0.98 Accuracy Error (dB)
6 GHz	Intercept (mV)	4865	324	710	1048	1410	1758	2090	2431	2777	3107	3474	3814	4176	4528	4880	Measured Value (mV)
	Slope (mV/dB)	69.34	-34	5	-3	12	13	-1	-7	-8	-25	-4	-11	4	10	15	Error (mV)
			-0.49	0.08	-0.05	0.17	0.19	-0.02	-0.10	-0.11	-0.35	-0.06	-0.16	0.06	0.14	0.22	0.49 Linearity Error (dB)
			0.77	1.28	1.10	1.26	1.23	0.97	0.83	0.77	0.47	0.71	0.56	0.73	0.75	0.77	1.28 Accuracy Error (dB)
7 GHz	Intercept (mV)	4861	322	700	1039	1402	1749	2082	2425	2772	3100	3467	3806	4171	4531	4870	Measured Value (mV)
	Slope (mV/dB)	69.42	-26	5	-4	12	12	-2	-6	-6	-25	-5	-13	5	18	9	Error (mV)
			-0.38	0.07	-0.05	0.18	0.18	-0.03	-0.09	-0.09	-0.36	-0.07	-0.19	0.07	0.25	0.14	0.38 Linearity Error (dB)
			0.74	1.13	0.97	1.15	1.10	0.85	0.74	0.69	0.37	0.61	0.45	0.65	0.79	0.63	1.15 Accuracy Error (dB)
8 GHz	Intercept (mV)	4858	296	676	1012	1381	1730	2063	2414	2763	3091	3460	3803	4159	4512	4876	Measured Value (mV)
	Slope (mV/dB)	69.78	-26	5	-8	12	12	-4	-2	-2	-23	-2	-8	-1	3	18	Error (mV)
			-0.38	0.07	-0.12	0.17	0.17	-0.05	-0.02	-0.02	-0.32	-0.03	-0.12	-0.02	0.04	0.26	0.38 Linearity Error (dB)
			0.37	0.79	0.59	0.85	0.83	0.58	0.59	0.57	0.25	0.51	0.40	0.48	0.52	0.71	0.85 Accuracy Error (dB)
9 GHz	Intercept (mV)	4847	263	622	966	1335	1686	2022	2390	2754	3083	3450	3788	4149	4499	4829	Measured Value (mV)
	Slope (mV/dB)	70.35	-11	-4	-12	6	5	-11	5	18	-5	10	-4	6	4	-18	Error (mV)
			-0.16	-0.06	-0.17	0.08	0.07	-0.15	0.08	0.25	-0.07	0.14	-0.05	0.08	0.06	-0.25	0.25 Linearity Error (dB)
			-0.10	0.02	-0.07	0.19	0.20	-0.01	0.25	0.44	0.13	0.37	0.19	0.34	0.33	0.04	0.44 Accuracy Error (dB)
10 GHz	Intercept (mV)	4816	240	592	938	1306	1653	1989	2355	2722	3049	3416	3747	4108	4469	4816	Measured Value (mV)
	Slope (mV/dB)	70.37	-2	-2	-7	9	4	-12	2	17	-7	8	-13	-4	5	0	Error (mV)
			-0.02	-0.02	-0.10	0.12	0.06	-0.17	0.03	0.25	-0.11	0.11	-0.19	-0.06	0.07	0.00	0.25 Linearity Error (dB)
			-0.43	-0.41	-0.47	-0.22	-0.27	-0.48	-0.25	-0.02	-0.35	-0.12	-0.40	-0.24	-0.09	-0.14	0.48 Accuracy Error (dB)
11 GHz	Intercept (mV)	4806	267	630	972	1336	1684	2017	2371	2732	3059	3424	3753	4109	4457	4808	Measured Value (mV)
	Slope (mV/dB)	69.55	-18	-3	-9	8	8	-7	-1	13	-8	9	-10	-1	-1	2	Error (mV)
			-0.26	-0.04	-0.12	0.11	0.11	-0.10	-0.01	0.18	-0.12	0.13	-0.14	-0.02	-0.02	0.03	0.26 Linearity Error (dB)
			-0.04	0.14	0.02	0.21	0.17	-0.08	-0.03	0.12	-0.21	0.00	-0.31	-0.23	-0.27	-0.26	0.31 Accuracy Error (dB)
12 GHz	Intercept (mV)	4852	237	576	926	1304	1652	1990	2356	2720	3050	3422	3761	4132	4500	4879	Measured Value (mV)
	Slope (mV/dB)	71.30	20	2	-4	17	9	-10	0	7	-19	-4	-21	-7	5	27	Error (mV)
			0.28	0.03	-0.06	0.24	0.12	-0.14	-0.01	0.10	-0.27	-0.06	-0.30	-0.10	0.06	0.38	0.38 Linearity Error (dB)
			-0.47	-0.63	-0.64	-0.25	-0.28	-0.46	-0.24	-0.05	-0.34	-0.03	-0.20	0.10	0.35	0.75	0.75 Accuracy Error (dB)
13 GHz	Intercept (mV)	4797	259	609	954	1326	1676	2008	2358	2705	3032	3410	3741	4094	4456	4807	Measured Value (mV)
	Slope (mV/dB)	69.72	-7	-5	-9	15	16	-1	1	-1	-22	7	-11	-6	7	10	Error (mV)
			-0.10	-0.08	-0.13	0.21	0.23	-0.01	0.01	-0.01	-0.32	0.10	-0.15	-0.09	0.10	0.14	0.32 Linearity Error (dB)
			-0.16	-0.16	-0.24	0.07	0.06	-0.20	-0.21	-0.26	-0.60	-0.20	-0.48	-0.44	-0.28	-0.27	0.60 Accuracy Error (dB)
14 GHz	Intercept (mV)	4808	251	599	943	1312	1660	1998	2359	2723	3050	3413	3743	4116	4462	4797	Measured Value (mV)
	Slope (mV/dB)	70.08	-2	-4	-11	8	5	-7	4	17	-6	6	-14	9	4	-11	Error (mV)
			-0.03	-0.06	-0.16	0.11	0.08	-0.10	0.05	0.25	-0.09	0.09	-0.20	0.12	0.06	-0.16	0.25 Linearity Error (dB)
			-0.27	-0.31	-0.40	-0.13	-0.17	-0.35	-0.20	0.00	-0.34	-0.16	-0.45	-0.13	-0.19	-0.42	0.45 Accuracy Error (dB)
15 GHz	Intercept (mV)	4747	251	599	947	1321	1673	1997	2329	2651	2979	3359	3689	4045	4417	4788	Measured Value (mV)
	Slope (mV/dB)	69.01	-10	-7	-4	25	32	11	-2	-25	-43	-8	-23	-12	15	41	Error (mV)
			-0.14	-0.10	-0.06	0.36	0.46	0.15	-0.03	-0.37	-0.62	-0.11	-0.33	-0.17	0.22	0.60	0.62 Linearity Error (dB)
			-0.27	-0.31	-0.34	-0.01	0.02	-0.36	-0.63	-1.03	-1.35	-0.93	-1.22	-1.14	-0.84	-0.54	1.35 Accuracy Error (dB)
16 GHz	Intercept (mV)	4891	265	624	969	1341	1696	2038	2417	2790	3122	3478	3816	4176	4530	4881	Measured Value (mV)
	Slope (mV/dB)	71.02	-9	-5	-15	2	2	-12	12	30	7	8	-9	-4	-5	-10	Error (mV)
			-0.13	-0.07	-0.21	0.02	0.02	-0.16	0.17	0.42	0.10	0.11	-0.13	-0.06	-0.08	-0.13	0.42 Linearity Error (dB)
			-0.07	0.05	-0.03	0.28	0.34	0.22	0.63	0.95	0.69	0.77	0.59	0.73	0.78	0.78	0.95 Accuracy Error (dB)
17 GHz	Intercept (mV)	4936	232	564	917	1291	1646	2003	2414	2816	3155	3501	3841	4205	4552	4901	Measured Value (mV)
	Slope (mV/dB)	72.72	23	-9	-19	-9	-18	-24	23	62	37	19	-4	-4	-20	-35	Error (mV)
			0.31	-0.12	-0.27	-0.12	-0.24	-0.33	0.32	0.85	0.51	0.27	-0.06	-0.05	-0.28	-0.48	0.85 Linearity Error (dB)
			-0.54	-0.81	-0.77	-0.43	-0.37	-0.28	0.59	1.32	1.16	1.10	0.95	1.14	1.09	1.07	1.32 Accuracy Error (dB)
18 GHz	Intercept (mV)	4857	317	697	1039	1403	1754	2084	2425	2785	3116	3465	3805	4167	4518	4862	Measured Value (mV)
	Slope (mV/dB)	69.28	-37	-3	-7	10	15	-2	-7	7	-9	-6	-13	3	7	5	Error (mV)
			-0.53	-0.04	-0.11	0.15	0.21	-0.02	-0.10	0.09	-0.13	-0.09	-0.18	0.04	0.11	0.07	0.53 Linearity Error (dB)
			0.67	1.09	0.97	1.16	1.17	0.88	0.74	0.88	0.60	0.58	0.43	0.60	0.60	0.51	1.17 Accuracy Error (dB)

Output Vos: 45.0 mV

Avg Slope:	70.1 mV/dB
Max Slope:	72.7 mv/dB
Min Slope:	69.0 mv/dB

324	710	1048	1410	1758	2090	2436	2816	3155	3501	3842	4205	4552	4901	Max Measured (mV)
232	564	917	1291	1646	1989	2329	2651	2979	3359	3689	4045	4417	4788	Min Measured (mV)
0.66	1.04	0.93	0.85	0.80	0.72	0.76	1.18	1.26	1.01	1.09	1.14	0.96	0.81	Flatness Error (+/-dB)

PL40511


Linearity Error VS Input Power
LINEARITY ERROR (dB)
INPUT POWER (dBm)
2 GHz
3 GHz
4 GHz
5 GHz
6 GHz
7 GHz
8 GHz
9 GHz
10 GHz
11 GHz
12 GHz
13 GHz
14 GHz
15 GHz
16 GHz
17 GHz
18 GHz
Accuracy Error VS Input Power
LINEARITY ERROR (dB)
INPUT POWER (dBm)
2 GHz
3 GHz
4 GHz
5 GHz
6 GHz
7 GHz
8 GHz
9 GHz
10 GHz
11 GHz
12 GHz
13 GHz
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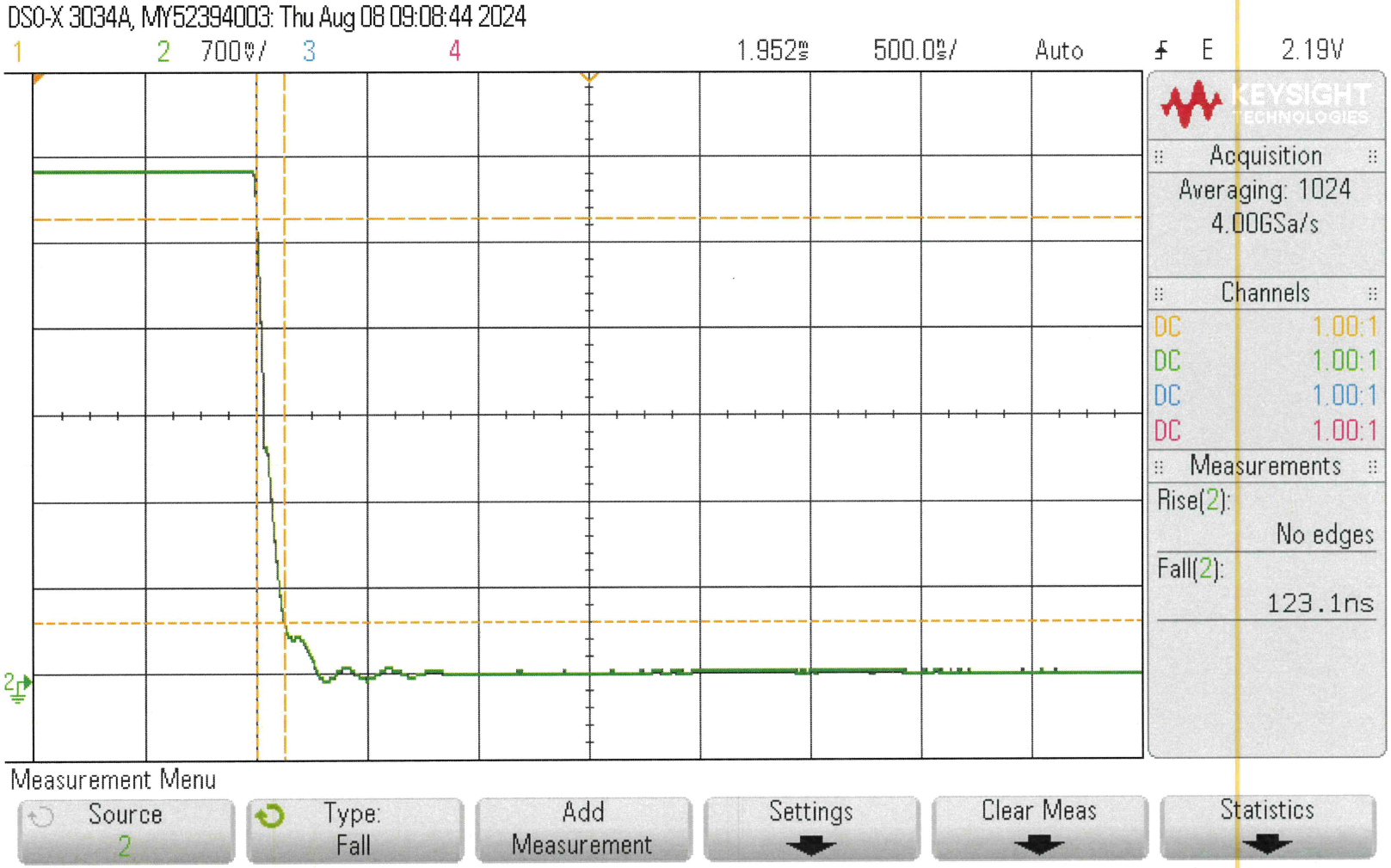
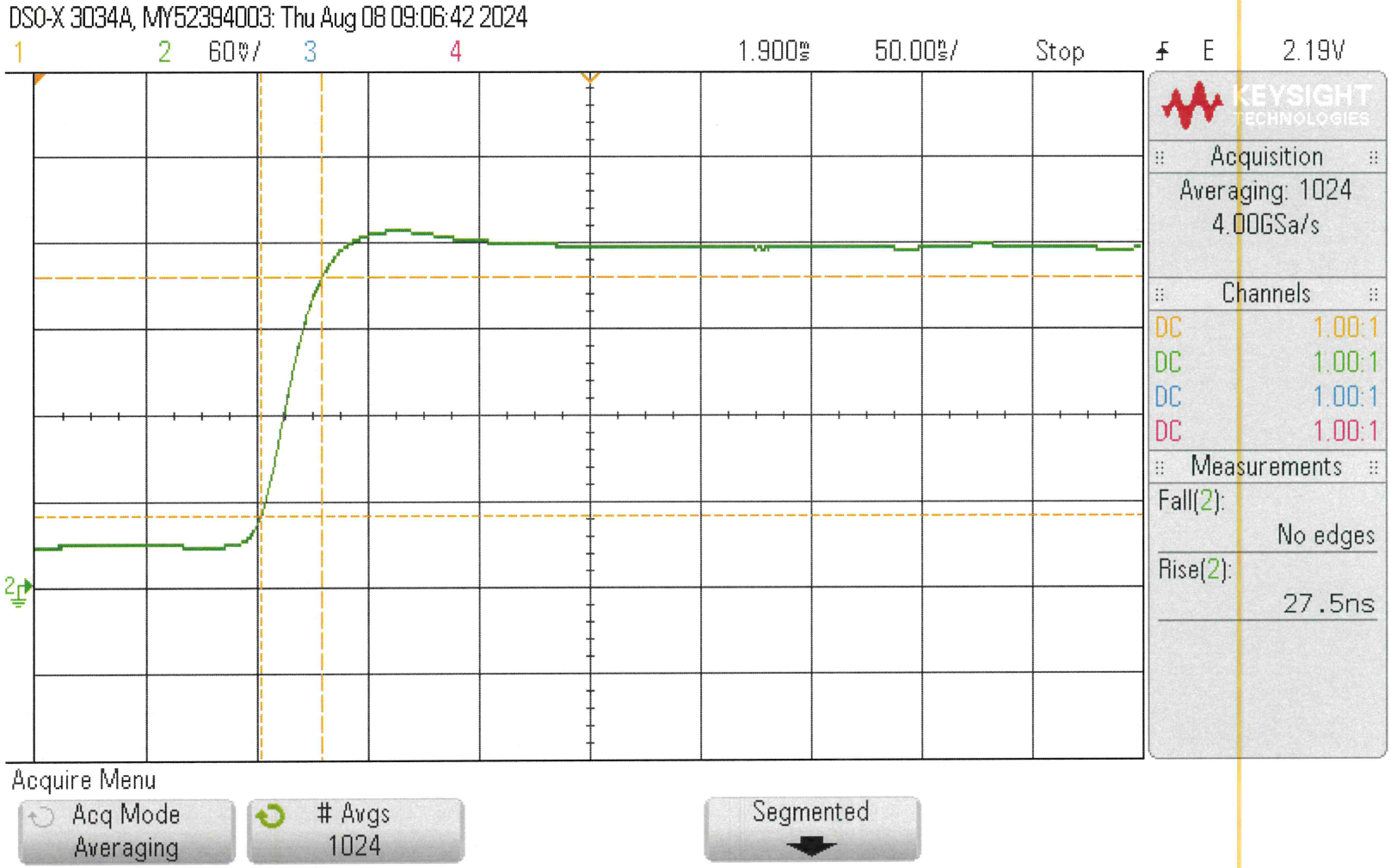
16 GHz
17 GHz
18 GHz

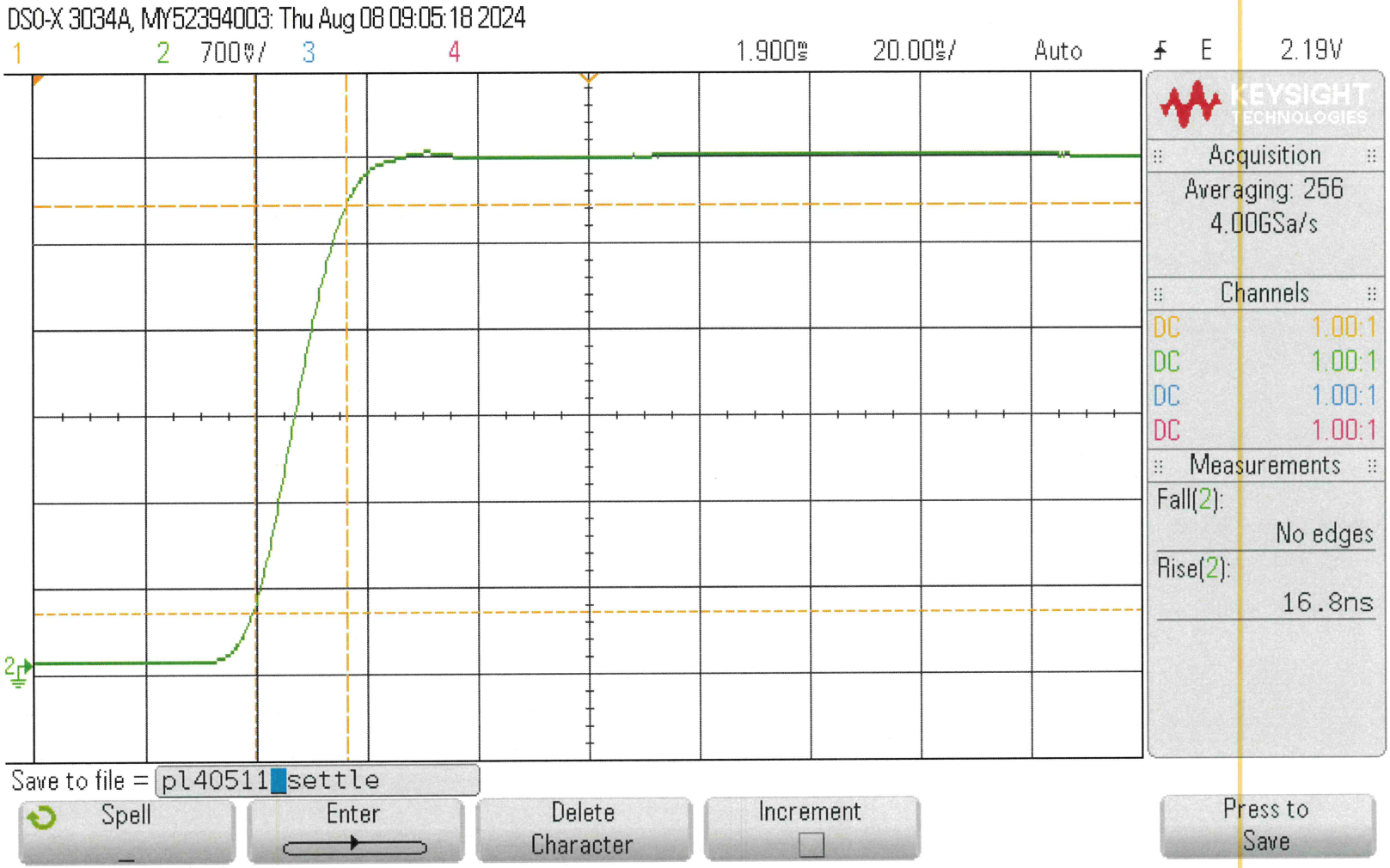
PL40511
Recovery



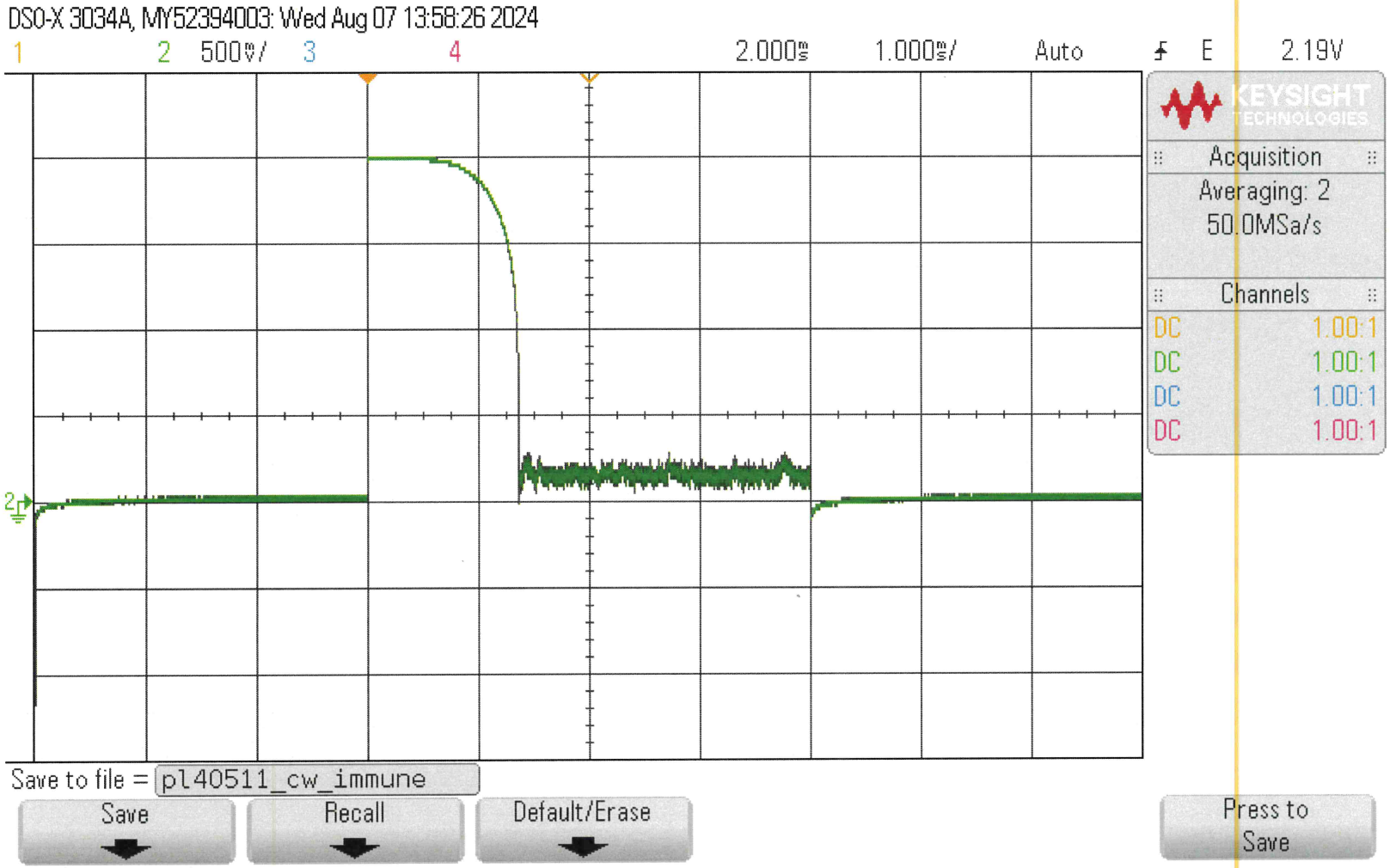
PL40511
Rise Time



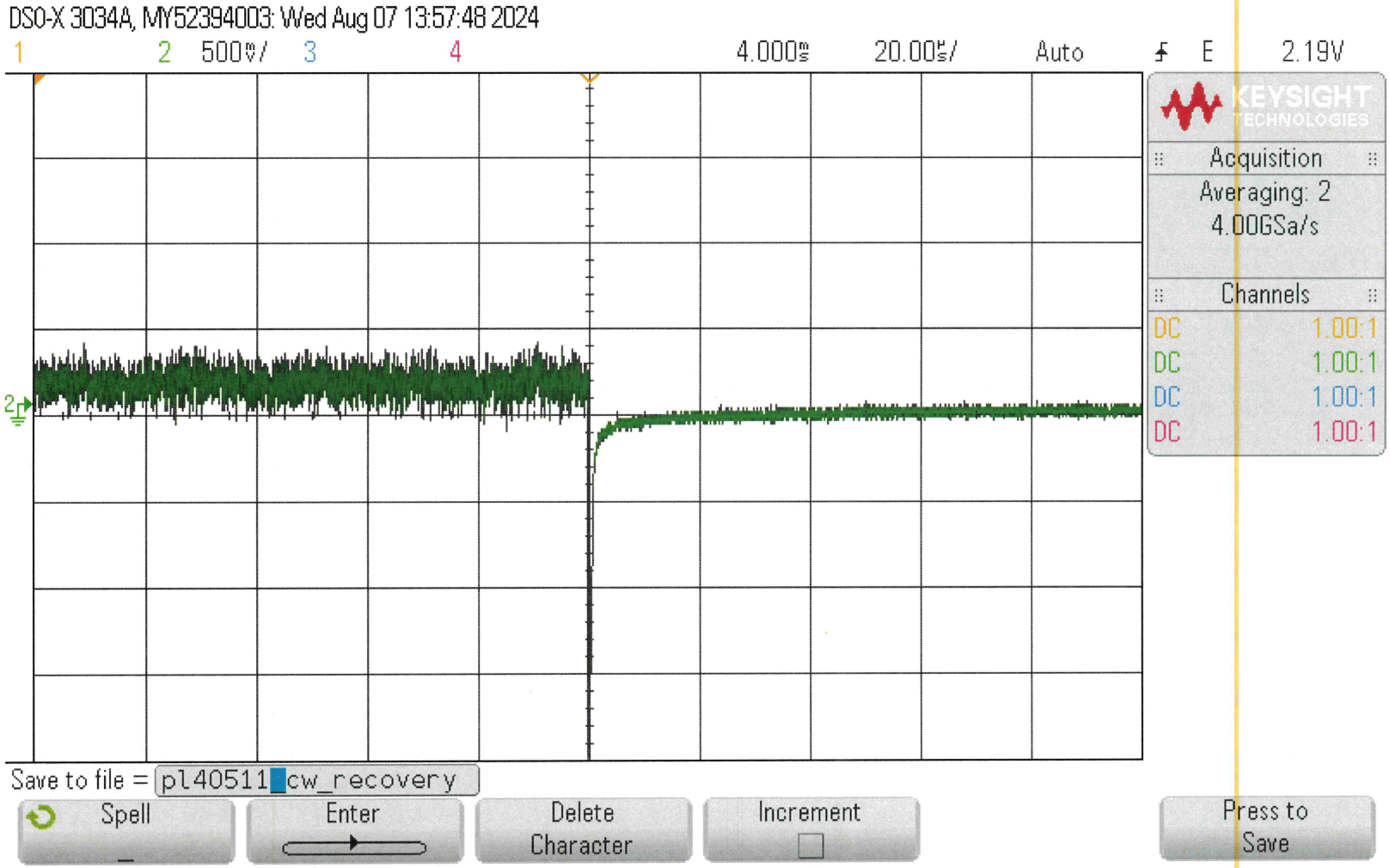
PL40511
settle



PL40511
CW Immune



PL40511
CW Recovery



Quantic PMI
PLANAR MONOLITHICS

PMI-Q-F-7008-1 Rev E
May 13, 2022

RMA REPAIR REPORT

RMA NO: 2405-085	PMI MODEL No.: 27342040 Customer MODEL No.: NA	SERIAL No: PL40511/2322
DATE RECEIVED: 05/22/2024	JOB NO: 20240307-R	WARRANTY [X] Yes [ ] No
CUSTOMER: HI Intelligence	CONTACT NAME: George Chang	TEL#: 916-542-1401
CUSTOMER RTV#: LJ-20008-4	RETURN P.O.: 20240307	
CUSTOMER COMPLAINT: Failed CW Recovery out of Spec.		Verified [X] Yes [ ] No
OBSERVATIONS: CW recovery out of spec, Channel 1 was bad.		
REPAIR ACTIONS: Changed out IC that was bad. Verified all other specs passing.		
SUSPECTED ROOT CAUSE: Unknown cause resulted in IC chip failing.		
INTERNAL CORRECTIVE ACTION REQUIRED [ ] Yes [X] No		CAR NUMBER:
QA Inspector: Arthur Zimmerman Final Inspection & Document Review IAW PMI-Q-P-7008 and PMI-Q-P-7017		DATE 08/12/2024

Quantic PMI
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