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

Customer: [redacted]
SO No: [redacted]
Model No: ERDLVA-2G18G-65-70MV-70C
Serial No: PL40186/2317

Tested By: Jim Hopson
Temperature: -40C TO +70C
Date 8/8/2024
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	**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	**71.6/68.3 mv/db**	
7	VIDEO OUT Log Linearity:	±1.0 dB MAX @25C	**.70/-.59 db**	
8	VIDEO OUT Log Accuracy:	±2.3 dB MAX @25C	**1.16/-1.15 db**	
9	VIDEO OUT Absolute Log Accuracy:	±2.9 dB MAX Over Freq & temp	**±1.54 dB MAX Over Freq & temp**	
10	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On) @25C	**60 mV**	
11	VIDEO OUT Rise Time (10% to 90%):	28 ns MAX	**27.3 ns**	
12	VIDEO OUT Fall Time (90% to 10%):	300 ns MAX	**117 ns**	
13	VIDEO OUT Settling Time:	50 ns With in ±70 mV of final value @-10 dBm	**< 50ns**	

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	**< 1us**	PMI QA3
15	VIDEO OUT Video Frequency Flatness:	±2.0 dB MAX @25C	**±1.12 dB MAX @25C**	
16	VIDEO OUT CW Immunity:	CW Immune Power TSS to -40 dBm	**Pass**	
		Pulse Peak Amplitude Loss; 2 dB MAX @ -40dBm CW	**<2dB**	
		Baseline shift 200mV @-40dBm CW	**< 200mV**	
		CW Immunity Time at CW = -40 dBm, ≤ 4 ms	**1.4ms**	
		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 ±1 Ω	**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**	
22	VIDEO OUT Noise Level (Vp-p):	160 mV max	**153 mV**	

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23	VIDEO OUT Propagation Delay:	50 ns MAX from RF 50% to 10% video (excluding cable)	**< 50 ns**	PMI QA3
24	Power Supply	+15 V @ 500 mA MAX -15 V @ 100 mA MAX	**+15 V @ 310 mA** **15 V @ 80 mA**	
25	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: 8-8-24
Serial Number: PL40186
Test Temp: +25°C

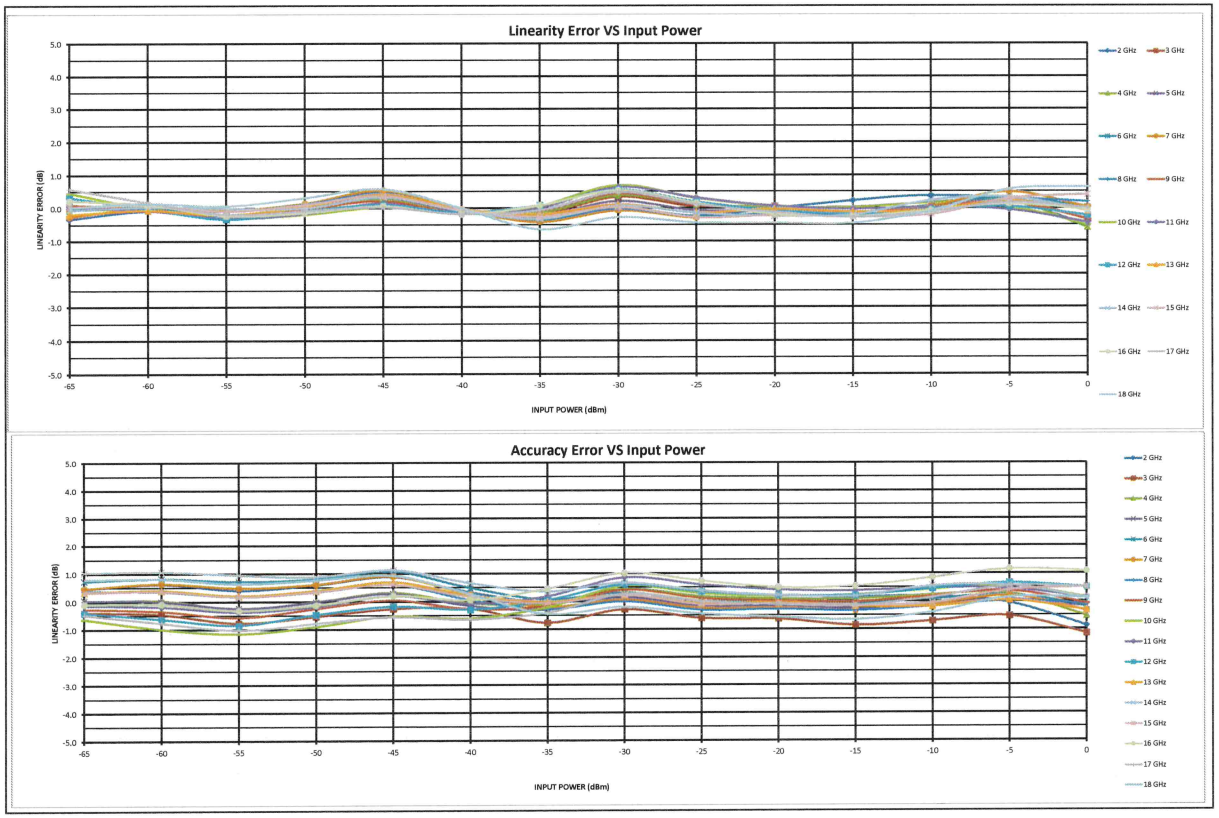
Frequency

			-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)
2 GHz	Intercept (mV)	4799	327	687	1020	1382	1750	2060	2382	2746	3072	3430	3788	4140	4472	4763	Measured Value (mV)
	Slope (mV/dB)	68.45	-23	-5	-14	6	31	-1	-21	0	-16	0	16	25	15	-36	Error (mV)
			-0.33	-0.07	-0.21	0.08	0.46	-0.01	-0.31	0.01	-0.23	0.00	0.23	0.37	0.22	-0.53	0.53 Linearity Error (dB)
			0.46	0.63	0.40	0.60	0.88	0.33	-0.05	0.17	-0.15	-0.01	0.13	0.18	-0.06	-0.88	0.88 Accuracy Error (dB)
3 GHz	Intercept (mV)	4768	268	612	938	1303	1671	1994	2332	2714	3040	3387	3719	4078	4439	4744	Measured Value (mV)
	Slope (mV/dB)	69.27	2	0	-20	-2	20	-3	-12	24	4	4	-10	3	17	-24	Error (mV)
			0.03	0.00	-0.29	-0.02	0.29	-0.05	-0.17	0.35	0.05	0.06	-0.15	0.04	0.25	-0.35	0.35 Linearity Error (dB)
			-0.39	-0.45	-0.77	-0.53	-0.25	-0.25	-0.77	-0.28	-0.61	-0.63	-0.86	-0.71	-0.53	-1.15	1.15 Accuracy Error (dB)
4 GHz	Intercept (mV)	4828	296	646	974	1340	1711	2033	2380	2765	3094	3437	3785	4143	4496	4787	Measured Value (mV)
	Slope (mV/dB)	69.68	-3	-1	-22	-4	18	-8	-9	27	8	2	2	12	16	-41	Error (mV)
			-0.04	-0.02	-0.31	-0.06	0.27	-0.11	-0.13	0.39	0.11	0.03	0.03	0.17	0.23	-0.59	0.59 Linearity Error (dB)
			0.01	0.04	-0.26	0.00	0.32	-0.06	-0.08	0.45	0.17	0.09	0.09	0.22	0.29	-0.54	0.54 Accuracy Error (dB)
5 GHz	Intercept (mV)	4815	298	644	975	1339	1708	2026	2365	2743	3071	3419	3762	4120	4480	4811	Measured Value (mV)
	Slope (mV/dB)	69.57	5	3	-14	2	24	-6	-15	15	-5	-5	-9	1	13	-4	Error (mV)
			0.07	0.04	-0.20	0.03	0.34	-0.09	-0.22	0.22	-0.07	-0.07	-0.14	0.01	0.19	-0.06	0.34 Linearity Error (dB)
			0.04	0.01	-0.24	-0.02	0.28	-0.16	-0.29	0.13	-0.16	-0.17	-0.24	-0.11	0.06	-0.19	0.29 Accuracy Error (dB)
6 GHz	Intercept (mV)	4812	346	701	1042	1396	1764	2071	2390	2756	3083	3432	3775	4133	4492	4813	Measured Value (mV)
	Slope (mV/dB)	68.48	-15	-2	-4	8	34	-2	-25	-2	-17	-10	-10	6	22	1	Error (mV)
			-0.21	-0.03	-0.05	0.12	0.49	-0.03	-0.37	-0.02	-0.25	-0.15	-0.14	0.09	0.33	0.01	0.49 Linearity Error (dB)
			0.73	0.83	0.72	0.80	1.08	0.49	0.07	0.32	0.01	0.02	-0.06	0.08	0.23	-0.16	1.08 Accuracy Error (dB)
7 GHz	Intercept (mV)	4799	328	689	1026	1383	1752	2055	2372	2739	3066	3415	3756	4118	4490	4801	Measured Value (mV)
	Slope (mV/dB)	68.53	-17	2	-4	10	37	-3	-29	-4	-20	-13	-15	4	34	2	Error (mV)
			-0.25	0.02	-0.06	0.15	0.53	-0.04	-0.42	-0.06	-0.29	-0.20	-0.22	0.06	0.49	0.03	0.53 Linearity Error (dB)
			0.47	0.65	0.49	0.61	0.91	0.26	-0.19	0.07	-0.23	-0.22	-0.33	-0.14	0.20	-0.33	0.91 Accuracy Error (dB)
8 GHz	Intercept (mV)	4804	321	669	1004	1364	1731	2041	2367	2734	3061	3412	3756	4115	4477	4817	Measured Value (mV)
	Slope (mV/dB)	68.98	1	4	-6	9	31	-4	-23	0	-18	-12	-13	1	18	13	Error (mV)
			0.01	0.06	-0.09	0.13	0.45	-0.05	-0.33	-0.01	-0.27	-0.18	-0.19	0.01	0.26	0.19	0.45 Linearity Error (dB)
			0.37	0.37	0.17	0.34	0.61	0.06	-0.26	0.00	-0.30	-0.27	-0.33	-0.18	0.02	-0.10	0.61 Accuracy Error (dB)
9 GHz	Intercept (mV)	4842	277	620	952	1323	1692	2018	2375	2763	3090	3433	3778	4141	4502	4819	Measured Value (mV)
	Slope (mV/dB)	70.35	8	-1	-20	-1	16	-10	-4	32	7	-2	-8	3	12	-23	Error (mV)
			0.11	-0.01	-0.29	-0.02	0.23	-0.14	-0.06	0.45	0.10	-0.02	-0.12	0.04	0.17	-0.32	0.45 Linearity Error (dB)
			-0.26	-0.34	-0.57	-0.25	0.05	-0.27	-0.15	0.42	0.11	0.03	-0.02	0.19	0.37	-0.08	0.57 Accuracy Error (dB)
10 GHz	Intercept (mV)	4871	251	575	912	1278	1652	1995	2371	2773	3102	3443	3795	4157	4515	4834	Measured Value (mV)
	Slope (mV/dB)	71.58	33	-1	-22	-14	3	-12	6	50	21	4	-2	2	2	-37	Error (mV)
			0.46	-0.01	-0.30	-0.19	0.04	-0.17	0.08	0.70	0.29	0.05	-0.03	0.03	0.03	-0.51	0.70 Linearity Error (dB)
			-0.63	-0.98	-1.15	-0.89	-0.53	-0.60	-0.21	0.56	0.28	0.18	0.23	0.42	0.56	0.14	1.15 Accuracy Error (dB)
11 GHz	Intercept (mV)	4864	286	631	966	1328	1703	2032	2398	2794	3124	3459	3805	4161	4508	4833	Measured Value (mV)
	Slope (mV/dB)	70.48	4	-4	-21	-12	11	-13	1	45	22	5	-2	2	-3	-31	Error (mV)
			0.05	-0.06	-0.30	-0.17	0.15	-0.18	0.01	0.63	0.31	0.07	-0.02	0.03	-0.05	-0.44	0.63 Linearity Error (dB)
			-0.13	-0.18	-0.37	-0.18	0.21	-0.07	0.18	0.86	0.60	0.41	0.37	0.48	0.46	0.13	0.86 Accuracy Error (dB)
12 GHz	Intercept (mV)	4875	267	600	933	1308	1677	2017	2388	2777	3107	3446	3794	4159	4522	4859	Measured Value (mV)
	Slope (mV/dB)	71.24	23	0	-23	-5	8	-8	7	40	13	-4	-12	-3	3	-16	Error (mV)
			0.32	0.00	-0.33	-0.06	0.11	-0.11	0.09	0.55	0.19	-0.05	-0.17	-0.05	0.05	-0.22	0.55 Linearity Error (dB)
			-0.40	-0.62	-0.84	-0.46	-0.17	-0.29	0.04	0.62	0.36	0.22	0.21	0.45	0.66	0.50	0.84 Accuracy Error (dB)
13 GHz	Intercept (mV)	4807	319	672	1007	1368	1738	2052	2385	2750	3077	3429	3767	4115	4479	4802	Measured Value (mV)
	Slope (mV/dB)	68.86	-13	-4	-13	4	29	-1	-12	8	-9	-1	-7	-4	16	-5	Error (mV)
			-0.18	-0.06	-0.19	0.05	0.42	-0.02	-0.18	0.12	-0.13	-0.02	-0.11	-0.05	0.23	-0.08	0.42 Linearity Error (dB)
			0.34	0.41	0.22	0.40	0.71	0.21	-0.01	0.23	-0.08	-0.02	-0.17	-0.18	0.04	-0.32	0.71 Accuracy Error (dB)
14 GHz	Intercept (mV)	4837	367	718	1058	1402	1768	2083	2410	2781	3109	3446	3792	4166	4516	4832	Measured Value (mV)
	Slope (mV/dB)	68.71	-4	4	0	1	23	-5	-22	6	-10	-17	-14	16	23	-5	Error (mV)
			-0.05	0.06	0.00	0.01	0.34	-0.08	-0.32	0.08	-0.15	-0.24	-0.21	0.24	0.33	-0.07	0.34 Linearity Error (dB)
			1.03	1.07	0.95	0.89	1.14	0.66	0.35	0.68	0.38	0.22	0.19	0.55	0.58	0.11	1.14 Accuracy Error (dB)
15 GHz	Intercept (mV)	4831	318	670	1004	1365	1731	2049	2382	2750	3075	3426	3770	4123	4504	4859	Measured Value (mV)
	Slope (mV/dB)	69.48	3	8	-6	8	26	-3	-17	3	-19	-16	-19	-13	20	28	Error (mV)
			0.05	0.11	-0.08	0.11	0.38	-0.04	-0.25	0.05	-0.28	-0.22	-0.27	-0.19	0.29	0.40	0.40 Linearity Error (dB)
			0.33	0.38	0.17	0.36	0.61	0.17	-0.05	0.23	-0.10	-0.07	-0.13	-0.06	0.40	0.50	0.61 Accuracy Error (dB)
16 GHz	Intercept (mV)	4904	289	638	970	1332	1703	2041	2417	2805	3134	3466	3817	4187	4557	4900	Measured Value (mV)
	Slope (mV/dB)	71.25	16	9	-15	-10	5	-13	7	38	11	-13	-18	-5	9	-4	Error (mV)
			0.22	0.12	-0.22	-0.14	0.07	-0.19	0.09	0.54	0.16	-0.18	-0.26	-0.07	0.13	-0.06	0.54 Linearity Error (dB)
			-0.09	-0.08	-0.31	-0.12	0.21	0.06	0.45	1.02	0.74	0.51	0.54	0.85	1.16	1.09	1.16 Accuracy Error (dB)
17 GHz	Intercept (mV)	4858	262	590	921	1286	1650	1992	2357	2753	3083	3423	3768	4137	4514	4859	Measured Value (mV)
	Slope (mV/dB)	71.35	41	12	-13	-5	2	-12	-4	35	8	-8	-20	-8	12	1	Error (mV)
			0.58	0.17	-0.19	-0.07	0.03	-0.17	-0.06	0.49	0.12	-0.12	-0.28	-0.11	0.17	0.01	0.58 Linearity Error (dB)
			-0.47	-0.77	-1.02	-0.78	-0.55	-0.65	-0.41	0.27	0.01	-0.11	-0.16	0.14	0.55	0.50	1.02 Accuracy Error (dB)
18 GHz	Intercept (mV)	4789	350	700	1036	1394	1754	2056	2354	2721	3051	3392	3733	4100	4486	4832	Measured Value (mV)
	Slope (mV/dB)	68.32	2	10	5	21	40	0	-44	-18	-30	-30	-31	-6	39	43	Error (mV)
			0.03	0.15	0.07	0.31	0.58	0.00	-0.64	-0.27	-0.44	-0.44	-0.45	-0.08	0.57	0.63	0.64 Linearity Error (dB)
			0.79	0.81	0.63	0.77	0.94	0.27	-0.45	-0.18	-0.45	-0.55	-0.66	-0.39	0.15	0.11	0.94 Accuracy Error (dB)

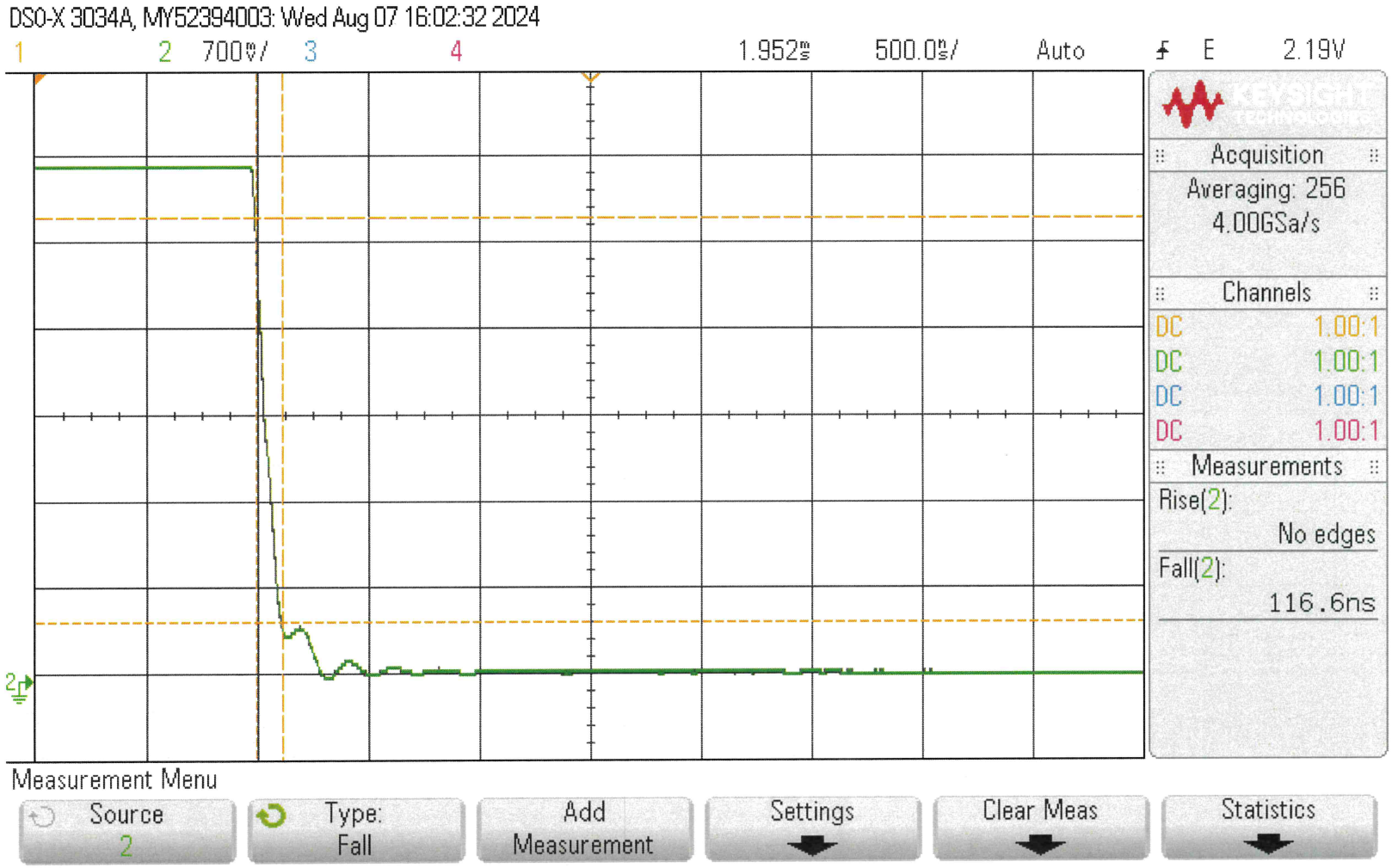
Output Vos: 60.0 mV

Avg Slope:	69.7 mV/dB	367	718	1058	1402	1768	2083	2417	2805	3134	3466	3817	4187	4557	4900	Max Measured (mV)
Max Slope:	71.6 mv/dB	251	575	912	1278	1650	1992	2332	2714	3040	3387	3719	4078	4439	4744	Min Measured (mV)
Min Slope:	68.3 mv/dB	0.83	1.03	1.05	0.89	0.85	0.65	0.61	0.65	0.67	0.57	0.70	0.78	0.85	1.12	Flatness Error (+/-dB)

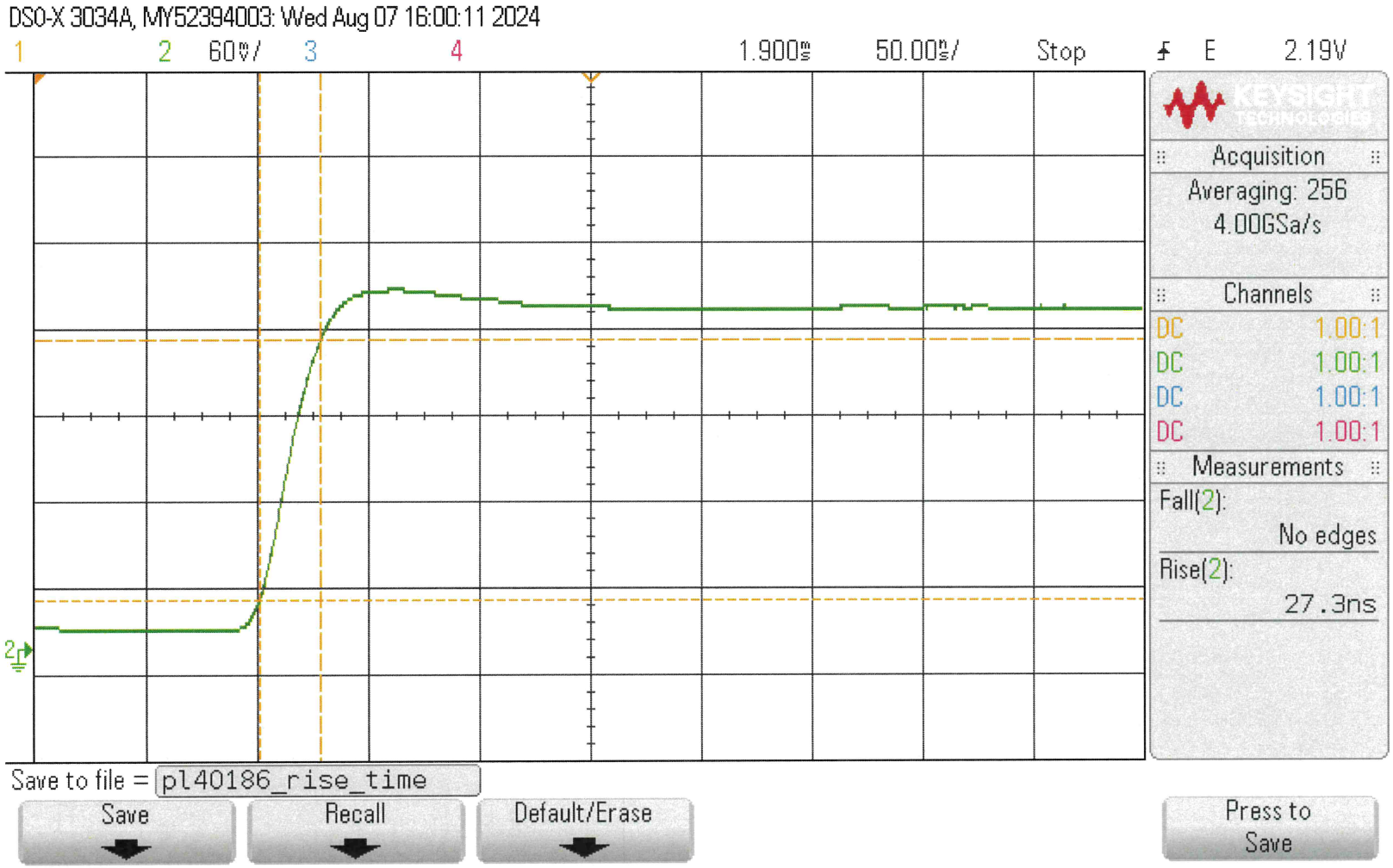
PL40186


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)

PL40186
Recovery



PL40186
Rise Time



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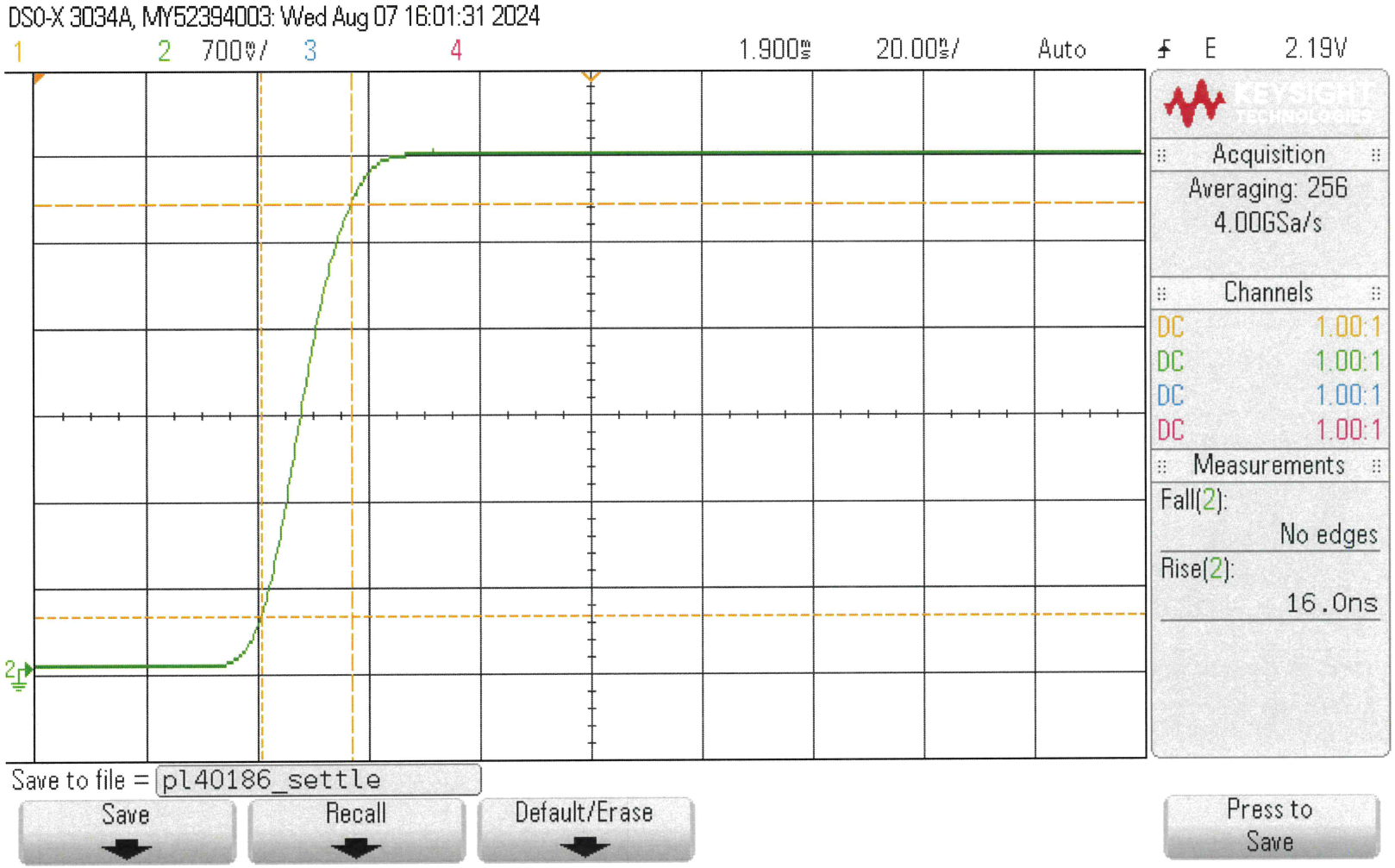
settle



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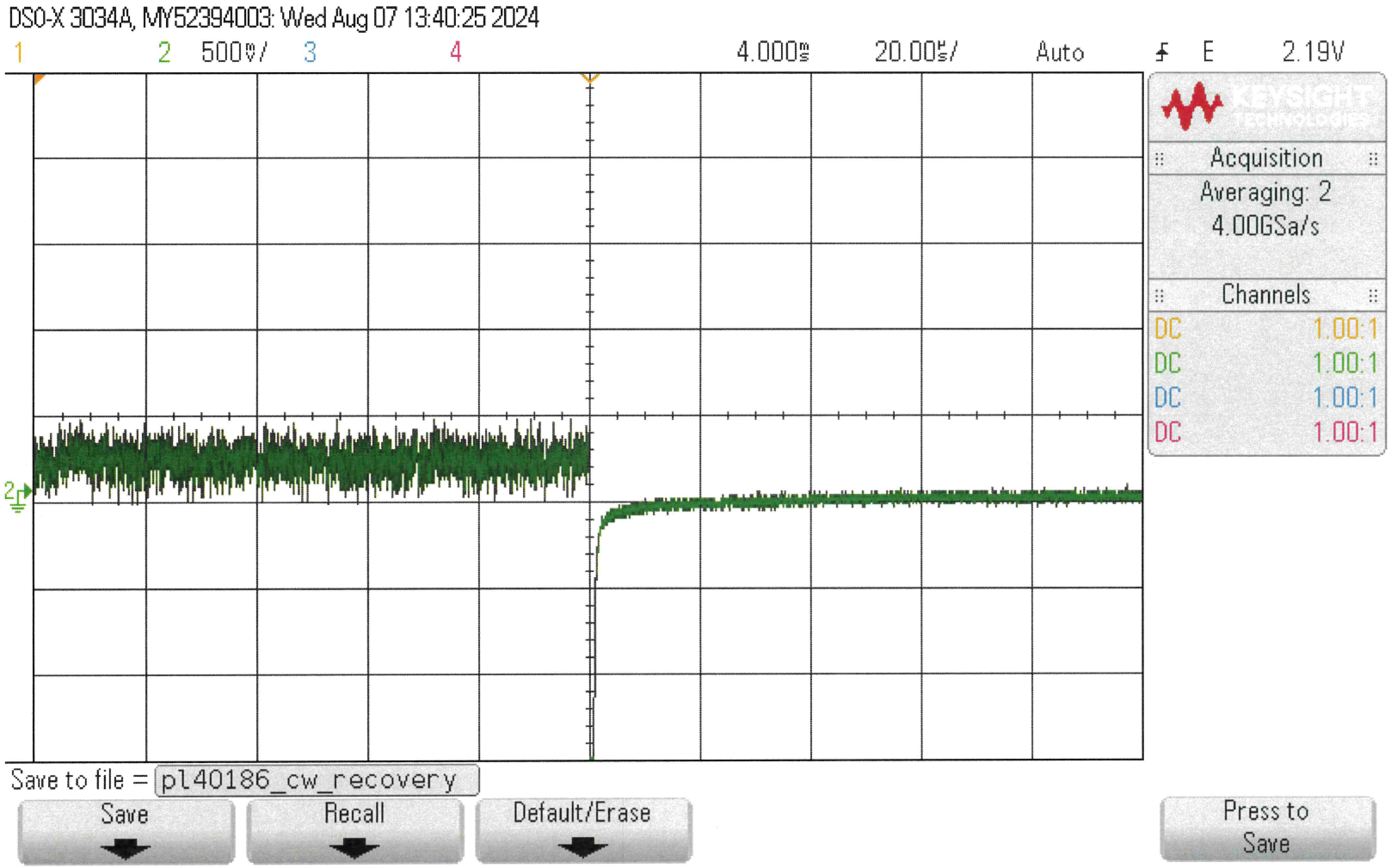
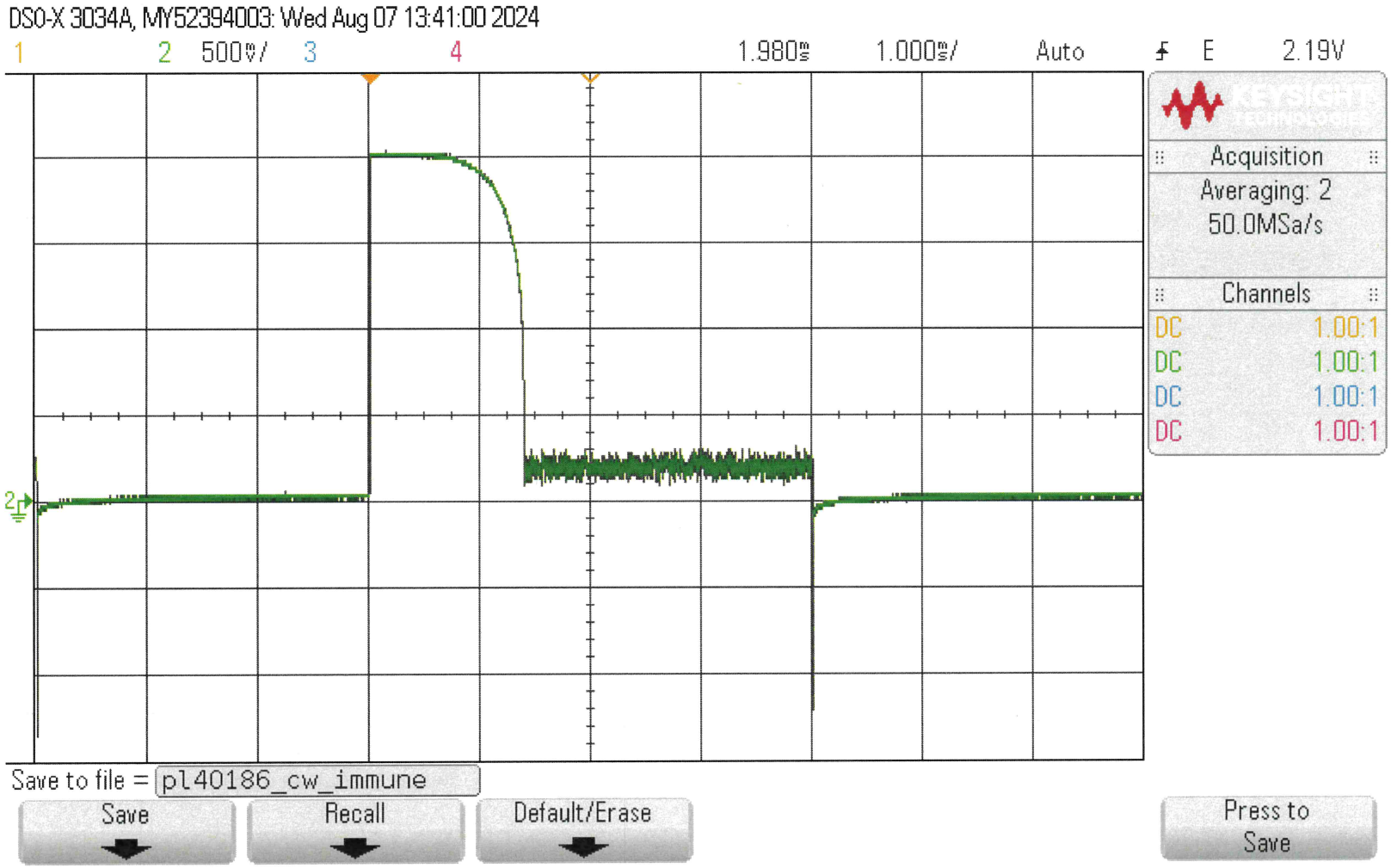
CW Recovery



PL40186
CW Immune



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: PL40186/2322
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. Retuned RF and Video for better margin. 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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