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: PL40184/2322 **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	**1.97:1 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	**72.0/69.3 mv/db**	
7	VIDEO OUT Log Linearity:	±1.0 dB MAX @25C	**.67/-.46 db**	
8	VIDEO OUT Log Accuracy:	±2.3 dB MAX @25C	**1.17/1.07 db**	
9	VIDEO OUT Absolute Log Accuracy:	±2.9 dB MAX Over Freq & temp	**±1.7 dB MAX Over Freq & temp**	
10	VIDEO OUT DC Offset:	0 ±70 mV (RF Input Terminated & DC Power On) @25C	**39 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	**116.6 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
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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	**±0.93 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	**145 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: H. Lutz **Date:** 6.13.24

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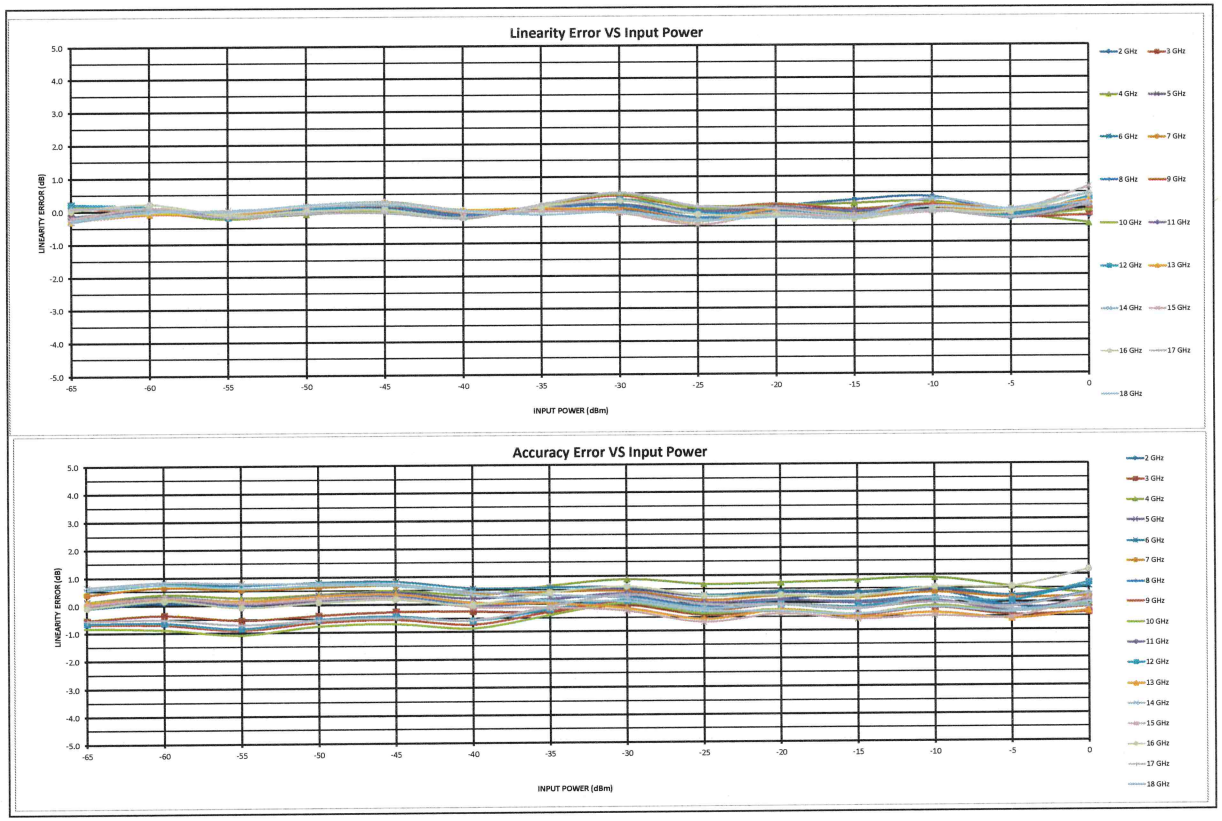
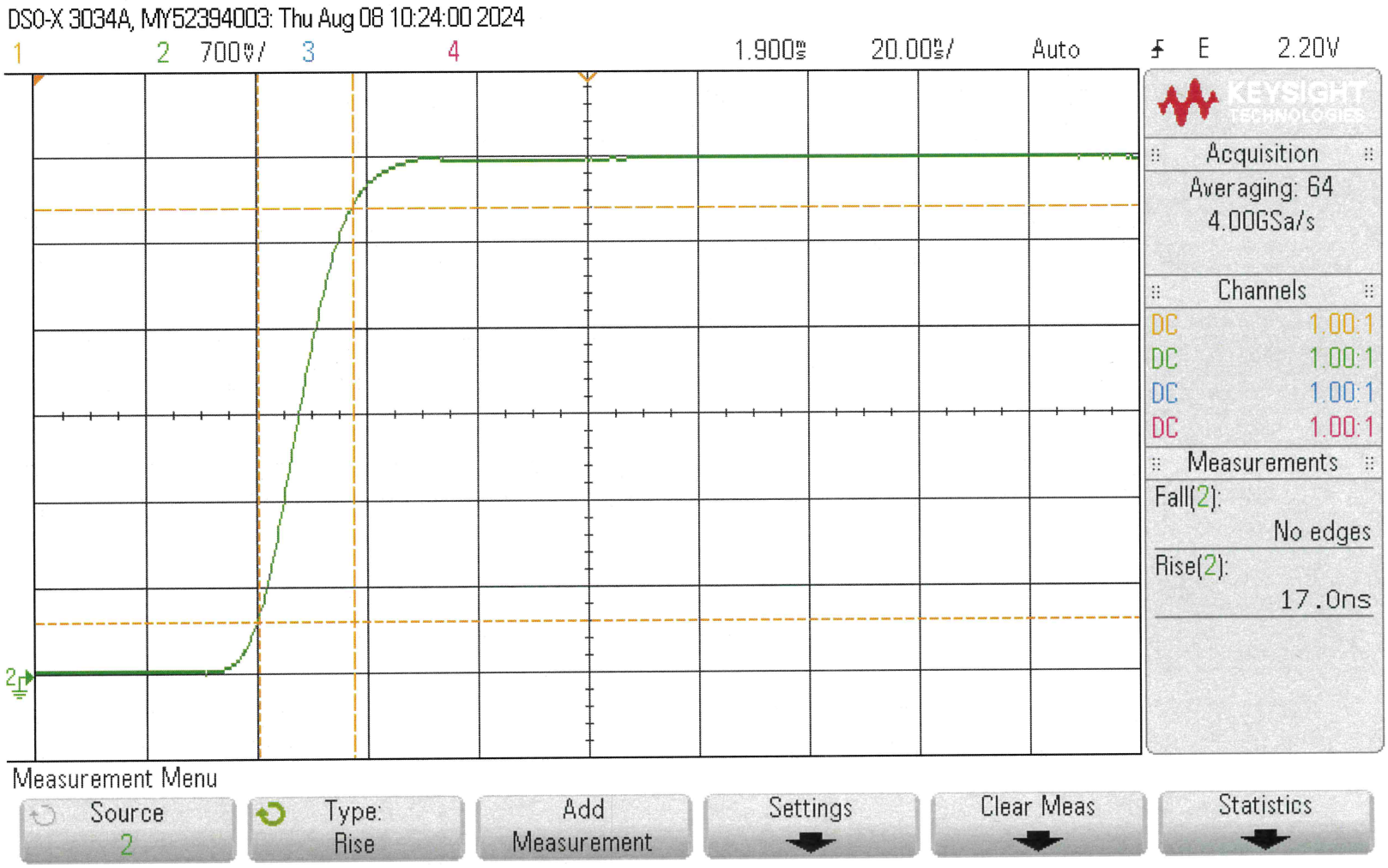
LOG TRANSFER VS. FREQUENCY
Model: ERDLVA-218-65-70MV-70
Tested By: Jim Hopson
Date: 8-8-24
Serial Number: PL40184
Test Temp: +25°C

Frequency			-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)	
2 GHz	Intercept (mV)	4908	303	670	1017	1382	1741	2074	2434	2789	3120	3500	3868	4227	4542	4893	Measured Value (mV)	
	Slope (mV/dB)	70.62	-14	0	-7	5	11	-9	-2	0	-22	5	20	26	-12	-15	Error (mV)	
			-0.20	-0.01	-0.09	0.08	0.16	-0.12	-0.03	0.00	-0.31	0.07	0.28	0.36	-0.18	-0.21	0.36	Linearity Error (dB)
			-0.10	0.09	0.00	0.16	0.24	-0.05	0.04	0.06	-0.25	0.12	0.33	0.40	-0.14	-0.18	0.40	Accuracy Error (dB)
3 GHz	Intercept (mV)	4882	273	639	979	1344	1706	2041	2410	2780	3108	3471	3813	4185	4520	4879	Measured Value (mV)	
	Slope (mV/dB)	70.76	-10	2	-12	0	8	-11	4	20	-5	4	-8	10	-9	-3	Error (mV)	
			-0.14	0.03	-0.17	-0.01	0.11	-0.16	0.06	0.29	-0.08	0.05	-0.11	0.15	-0.12	-0.05	0.29	Linearity Error (dB)
			-0.52	-0.35	-0.54	-0.37	-0.25	-0.25	-0.30	-0.06	-0.42	-0.29	-0.45	-0.19	-0.45	-0.37	0.54	Accuracy Error (dB)
4 GHz	Intercept (mV)	4957	319	690	1035	1396	1759	2100	2477	2847	3187	3543	3903	4262	4592	4926	Measured Value (mV)	
	Slope (mV/dB)	71.09	-17	-2	-12	-7	1	-13	8	23	7	8	12	16	-10	-31	Error (mV)	
			-0.24	-0.02	-0.17	-0.09	0.01	-0.19	0.11	0.32	0.10	0.11	0.17	0.22	-0.14	-0.44	0.44	Linearity Error (dB)
			0.13	0.37	0.25	0.36	0.50	0.32	0.65	0.88	0.69	0.73	0.82	0.90	0.57	0.29	0.90	Accuracy Error (dB)
5 GHz	Intercept (mV)	4935	318	684	1027	1394	1755	2091	2460	2821	3154	3517	3869	4232	4564	4946	Measured Value (mV)	
	Slope (mV/dB)	70.88	-10	2	-10	3	9	-9	6	12	-9	-1	-3	6	-17	11	Error (mV)	
			-0.14	0.02	-0.14	0.04	0.13	-0.13	0.08	0.17	-0.13	-0.01	-0.04	0.08	-0.24	0.15	0.24	Linearity Error (dB)
			0.11	0.29	0.14	0.33	0.44	0.19	0.41	0.52	0.23	0.36	0.34	0.47	0.17	0.57	0.57	Accuracy Error (dB)
6 GHz	Intercept (mV)	4930	347	717	1067	1428	1783	2118	2473	2826	3158	3521	3872	4236	4569	4947	Measured Value (mV)	
	Slope (mV/dB)	70.20	-20	-1	-2	8	12	-4	0	2	-17	-5	-5	8	-10	17	Error (mV)	
			-0.29	-0.02	-0.03	0.11	0.17	-0.06	0.00	0.03	-0.25	-0.07	-0.07	0.11	-0.14	0.24	0.29	Linearity Error (dB)
			0.52	0.76	0.71	0.81	0.83	0.57	0.59	0.59	0.28	0.42	0.38	0.53	0.24	0.59	0.83	Accuracy Error (dB)
7 GHz	Intercept (mV)	4915	337	709	1055	1415	1772	2105	2461	2816	3145	3509	3857	4224	4563	4920	Measured Value (mV)	
	Slope (mV/dB)	70.10	-21	0	-4	5	12	-6	0	4	-17	-4	-6	10	-1	5	Error (mV)	
			-0.30	0.00	-0.06	0.08	0.17	-0.08	0.00	0.06	-0.24	-0.05	-0.09	0.15	-0.02	0.08	0.30	Linearity Error (dB)
			0.38	0.64	0.54	0.63	0.68	0.39	0.42	0.45	0.10	0.25	0.17	0.36	0.16	0.21	0.68	Accuracy Error (dB)
8 GHz	Intercept (mV)	4912	308	676	1017	1385	1746	2078	2444	2803	3130	3497	3847	4211	4544	4929	Measured Value (mV)	
	Slope (mV/dB)	70.64	-12	2	-10	5	13	-8	4	10	-16	-2	-5	5	-15	17	Error (mV)	
			-0.18	0.03	-0.14	0.07	0.18	-0.12	0.06	0.14	-0.23	-0.03	-0.08	0.08	-0.21	0.24	0.24	Linearity Error (dB)
			-0.03	0.18	0.00	0.21	0.31	0.01	0.18	0.26	-0.11	0.08	0.03	0.18	-0.11	0.33	0.33	Accuracy Error (dB)
9 GHz	Intercept (mV)	4907	262	614	953	1326	1686	2026	2411	2790	3120	3487	3833	4200	4532	4893	Measured Value (mV)	
	Slope (mV/dB)	71.58	8	2	-17	-2	0	-18	10	31	3	12	0	9	-17	-14	Error (mV)	
			0.11	0.03	-0.24	-0.02	0.01	-0.24	0.13	0.43	0.04	0.17	0.00	0.13	-0.23	-0.19	0.43	Linearity Error (dB)
			-0.68	-0.70	-0.91	-0.63	-0.54	-0.73	-0.28	0.08	-0.25	-0.06	-0.17	0.02	-0.28	-0.18	0.91	Accuracy Error (dB)
10 GHz	Intercept (mV)	4902	252	601	941	1316	1675	2016	2403	2785	3112	3475	3816	4190	4528	4899	Measured Value (mV)	
	Slope (mV/dB)	71.72	12	2	-16	0	0	-17	11	34	3	7	-10	5	-16	-3	Error (mV)	
			0.16	0.03	-0.23	0.00	0.00	-0.24	0.15	0.48	0.04	0.10	-0.15	0.07	-0.22	-0.05	0.48	Linearity Error (dB)
			-0.82	-0.88	-1.07	-0.77	-0.69	-0.87	-0.40	0.01	-0.37	-0.23	-0.41	-0.12	-0.34	-0.09	1.07	Accuracy Error (dB)
11 GHz	Intercept (mV)	4903	307	678	1020	1378	1737	2072	2441	2810	3139	3499	3843	4203	4531	4911	Measured Value (mV)	
	Slope (mV/dB)	70.46	-16	3	-8	-2	5	-13	4	21	-3	5	-3	4	-20	8	Error (mV)	
			-0.23	0.04	-0.11	-0.03	0.07	-0.18	0.06	0.29	-0.04	0.07	-0.05	0.06	-0.28	0.11	0.29	Linearity Error (dB)
			-0.04	0.21	0.04	0.11	0.18	-0.08	0.14	0.36	0.01	0.11	-0.03	0.06	-0.30	0.08	0.36	Accuracy Error (dB)
12 GHz	Intercept (mV)	4932	265	619	957	1334	1695	2036	2418	2793	3124	3487	3835	4209	4556	4956	Measured Value (mV)	
	Slope (mV/dB)	72.03	15	9	-13	4	5	-14	7	22	-7	-4	-16	-2	-15	24	Error (mV)	
			0.21	0.13	-0.18	0.05	0.07	-0.20	0.10	0.31	-0.09	-0.06	-0.22	-0.03	-0.21	0.34	0.34	Linearity Error (dB)
			-0.64	-0.63	-0.85	-0.52	-0.41	-0.59	-0.18	0.12	-0.20	-0.06	-0.14	0.15	0.06	0.71	0.85	Accuracy Error (dB)
13 GHz	Intercept (mV)	4865	318	681	1027	1392	1750	2081	2432	2773	3098	3473	3809	4173	4511	4883	Measured Value (mV)	
	Slope (mV/dB)	69.65	-20	-5	-7	9	19	2	5	-3	-26	1	-11	4	-6	18	Error (mV)	
			-0.28	-0.07	-0.11	0.14	0.28	0.03	0.07	-0.04	-0.37	0.01	-0.16	0.06	-0.08	0.26	0.37	Linearity Error (dB)
			0.11	0.25	0.14	0.30	0.37	0.05	0.01	-0.16	-0.57	-0.26	-0.51	-0.36	-0.58	-0.32	0.58	Accuracy Error (dB)
14 GHz	Intercept (mV)	4882	356	723	1072	1425	1776	2109	2453	2798	3125	3486	3828	4210	4534	4895	Measured Value (mV)	
	Slope (mV/dB)	69.30	-21	-1	2	8	13	-1	-3	-5	-24	-10	-14	21	-1	13	Error (mV)	
			-0.30	-0.01	0.03	0.12	0.19	-0.01	-0.04	-0.07	-0.35	-0.14	-0.20	0.31	-0.02	0.19	0.35	Linearity Error (dB)
			0.65	0.84	0.78	0.77	0.74	0.45	0.31	0.19	-0.18	-0.08	-0.24	0.16	-0.25	-0.15	0.84	Accuracy Error (dB)
15 GHz	Intercept (mV)	4870	311	683	1022	1385	1741	2070	2422	2766	3090	3464	3803	4165	4514	4917	Measured Value (mV)	
	Slope (mV/dB)	69.92	-14	8	-2	11	17	-3	-1	-6	-32	-8	-18	-6	-6	47	Error (mV)	
			-0.20	0.12	-0.04	0.16	0.25	-0.05	-0.01	-0.09	-0.46	-0.11	-0.26	-0.08	-0.09	0.67	0.67	Linearity Error (dB)
			0.01	0.28	0.07	0.21	0.24	-0.11	-0.13	-0.26	-0.68	-0.39	-0.59	-0.47	-0.54	0.16	0.68	Accuracy Error (dB)
16 GHz	Intercept (mV)	4957	304	675	1011	1376	1736	2076	2459	2828	3156	3511	3860	4238	4592	4988	Measured Value (mV)	
	Slope (mV/dB)	71.62	2	15	-7	0	2	-16	9	20	-10	-13	-22	-2	-7	31	Error (mV)	
			0.03	0.21	-0.09	0.00	0.03	-0.22	0.12	0.28	-0.14	-0.19	-0.31	-0.03	-0.09	0.44	0.44	Linearity Error (dB)
			-0.08	0.16	-0.08	0.08	0.17	-0.02	0.40	0.62	0.25	0.28	0.21	0.56	0.57	1.17	1.17	Accuracy Error (dB)
17 GHz	Intercept (mV)	4918	271	627	967	1332	1691	2037	2424	2807	3135	3488	3831	4198	4541	4927	Measured Value (mV)	
	Slope (mV/dB)	71.61	8	6	-12	-5	-4	-16	12	37	7	2	-13	-4	-19	9	Error (mV)	
			0.11	0.08	-0.17	-0.08	-0.06	-0.23	0.17	0.52	0.10	0.03	-0.18	-0.05	-0.26	0.13	0.52	Linearity Error (dB)
			-0.55	-0.52	-0.71	-0.54	-0.47	-0.57	-0.10	0.32	-0.04	-0.05	-0.20	-0.01	-0.16	0.30	0.71	Accuracy Error (dB)
18 GHz	Intercept (mV)	4874	350	716	1060	1420	1772	2101	2438	2790	3119	3471	3816	4186	4527	4905	Measured Value (mV)	
	Slope (mV/dB)	69.33	-18	2	-1	13	18	0	-9	-4	-22	-16	-18	6	0	31	Error (mV)	
			-0.25	0.03	-0.01	0.18	0.26	0.00	-0.13	-0.06	-0.31	-0.23	-0.26	0.08	0.00	0.45	0.45	Linearity Error (dB)
			0.57	0.74	0.61	0.70	0.68	0.33	0.10	0.08	-0.27	-0.29	-0.41	-0.18	-0.35	-0.01	0.74	Accuracy Error (dB)
Output Vos:		39.0 mV																
Avg Slope:		70.7 mV/dB	356	723	1072	1428	1783	2118	2477	2847	3187	3543	3903	4262	4592	4988	Max Measured (mV)	
Max Slope:		72.0 mv/dB	252	601	941	1316	1675	2016	2403	2766	3090	3464	3803	4165	4511	4879	Min Measured (mV)	
Min Slope:		69.3 mv/dB	0.74	0.86	0.93	0.79	0.76	0.72	0.52	0.57	0.69	0.56	0.71	0.69	0.57	0.77	Flatness Error (+/-dB)	

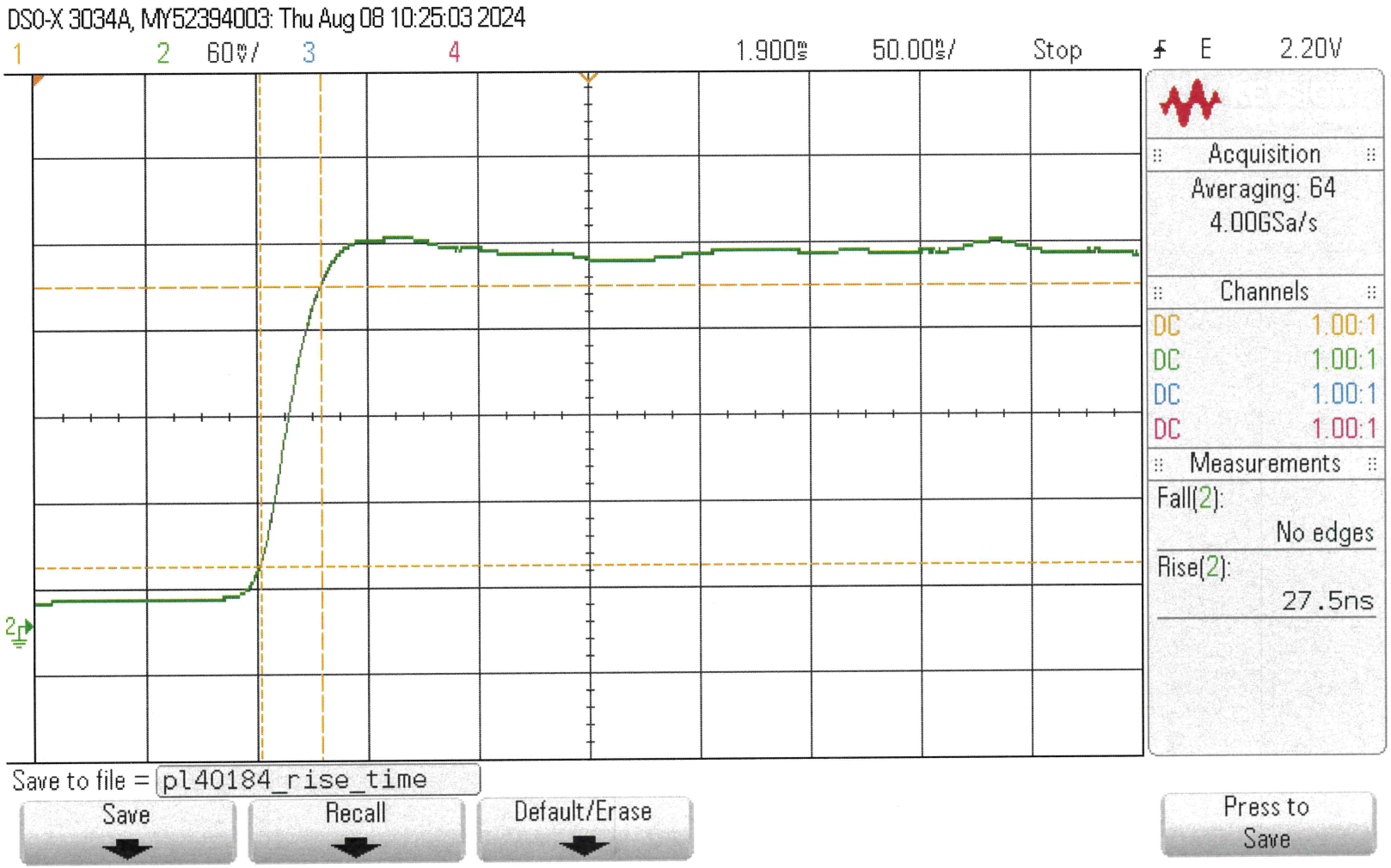
PL401184


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)

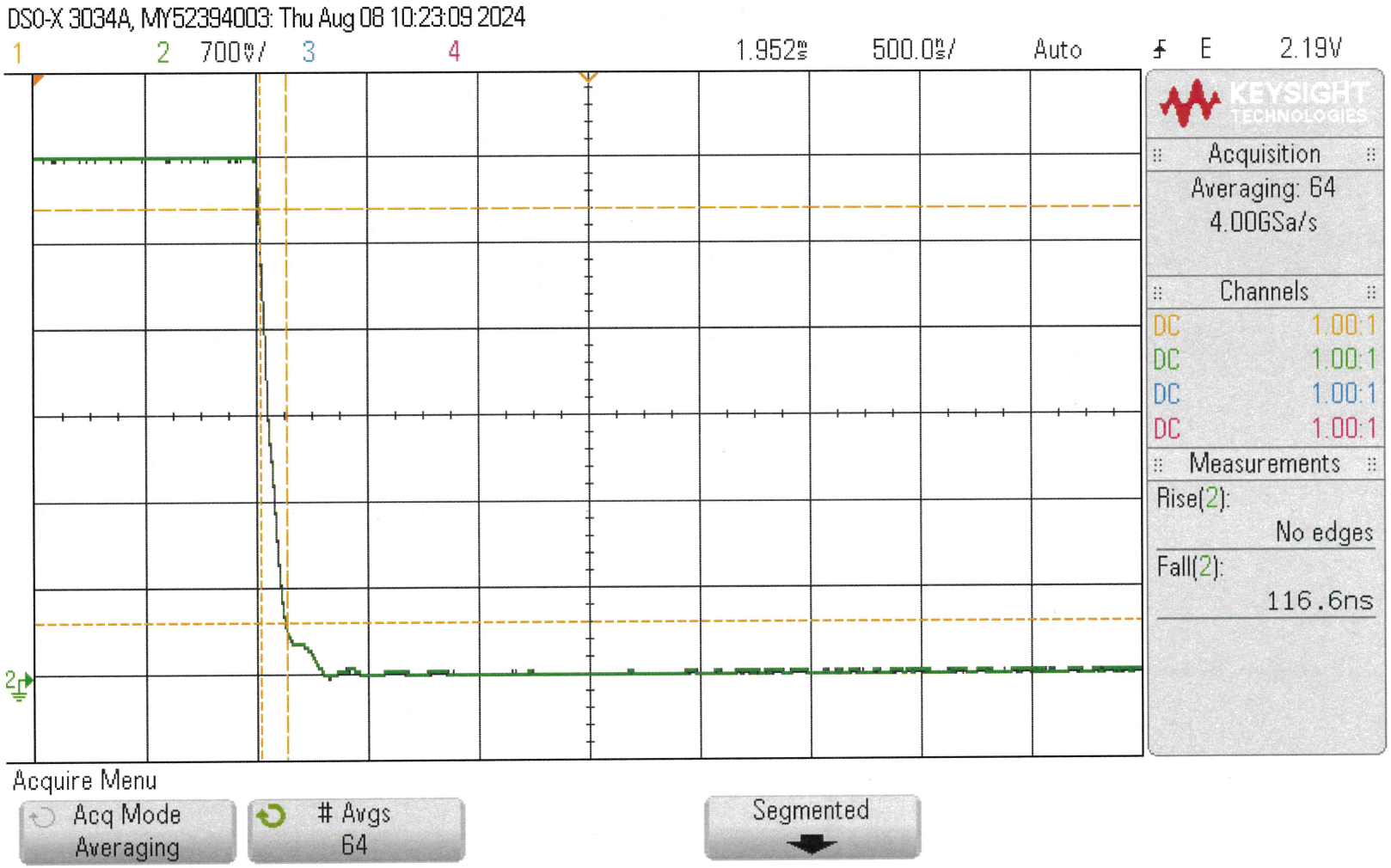
PL40184
settle



PL40184
RiseTime

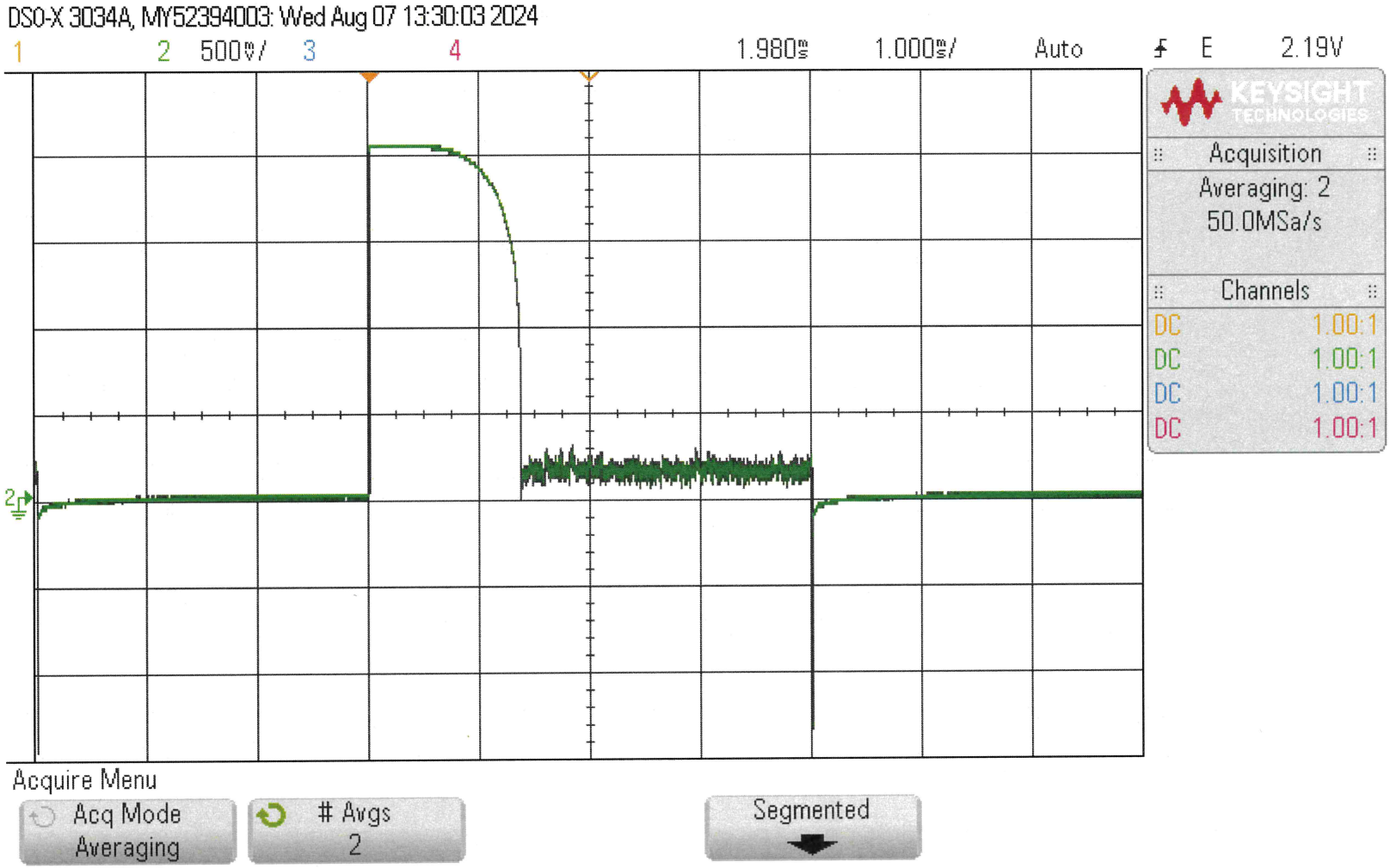


PL40184
Recovery

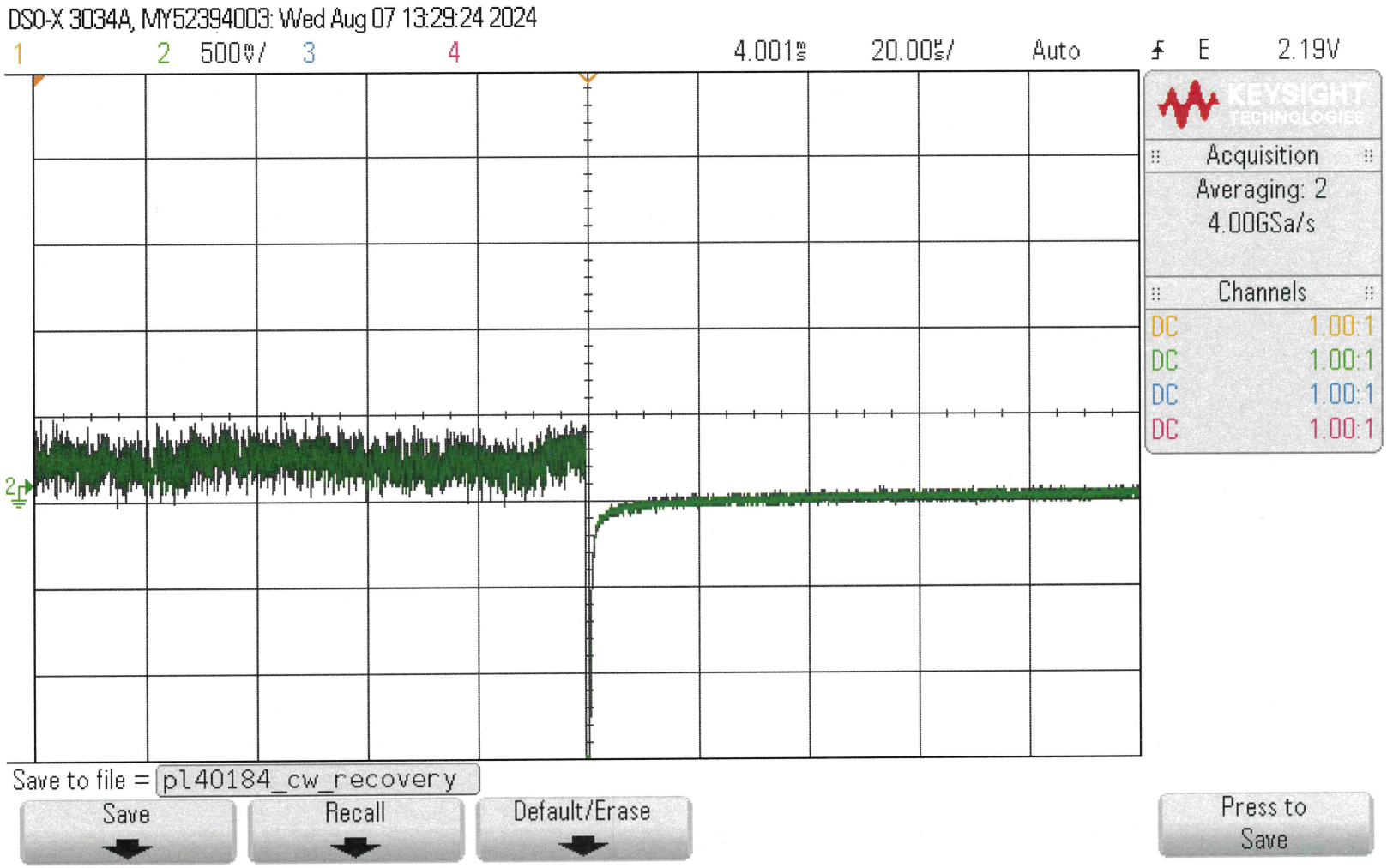


PL40184

CW Immune



PL 40184
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: PL40184/2322
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: Flatness		Verified [X] Yes [ ] No
OBSERVATIONS: Flatness was right at spec., Linearity was +/- 1.1 db. Spec is +/- 1.0 db.		
REPAIR ACTIONS: Retuned RF flatness for overall unit flatness and linearity for better spec margin. Adjusted video as needed and verified all other specs.		
SUSPECTED ROOT CAUSE: Customer correlation with PMI.		
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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