



**SUMMARY TEST DATA
ON
ERDLVA-218-CW-75MV**

PL40782/2322

Customer: _____	Tested By: <u>Jim Hopson</u>
SO No: _____	Temperature: <u>-25°C +25C +85C</u>
Model No: <u>ERDLVA-218-CW-75MV</u>	Date: <u>05/31/2023</u>
Serial No: <u>PL40782/2322</u>	Drawing No: <u>27642440</u> Rev: <u>A1</u>

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:	2.5:1 MAX @ -20 dBm	1.53:1 MAX		
3	Input Power:	23 dBm Max.	Pass		
4	VIDEO OUT TSS:	-42 dBm MAX	-43dBm		
5	VIDEO OUT Dynamic Range:	-40 to +20 dBm	-40 to +20 dBm		
6	VIDEO OUT Log Slope Fixed:	75 ± 10mV/dB	74.1-79.0mV/dB		
7	VIDEO OUT Log Linearity:	±1.0 dB MAX @25C ±1.5 dB MAX @ Over Temperature	See attached Graphs		
8	VIDEO OUT DC Offset:	0 to 125 mV @25C	25mV		
9	VIDEO OUT Rise Time (10% to 90%):	25 ns MAX	16.3ns		
10	VIDEO OUT Settling Time:	±0.5dB within 25ns from 90%	<0.5dB		<i>Handwritten:</i> 5-31-23

4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com



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11	VIDEO OUT Recovery	500ns MAX	<500ns	PMI QA3
12	Video Frequency Flatness:	3.0 dB p-p MAX @ -20dBm	2.20dB p-p MAX @ -20dBm	
13	VIDEO OUT CW Immunity:	CW Immune Power -50 to -10 dBm	Pass	
		CW Attack Time 1500us	<1500us	
		CW Release Time 250us	<50us	
17	Pulse droop	1dB Max for 250us pulses	<1dB	
18	VIDEO OUT Pulse Response, input Signal:	100 ns to 300 us	100 ns to 300 us	
19	VIDEO LOAD Impedance:	93 ±1 Ω	93Ω	
21	VIDEO OUT Noise Level (RMS):	102 mV max	<50mV	
22	VIDEO OUT Propagation Delay:	35 ns MAX from RF 10% to 10% video (excluding cable)	<20ns typ	
23	Power Supply	+12 V @ 250 mA MAX -12 V @ 250 mA MAX	+12 V @ 160 mA -12 V @ 70 mA	Use 7-3123

LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV
 TESTED BY: Jim Hopson
 DATE: 05-30-23
 SERIAL NO: PL40782
 Test Temp: +25C



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Frequency

2 GHz	INTERCEPT (mV)	3379
	SLOPE (mV/dB)	74.2

-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20
381	771	1155	1551	1934	2260	2604	2998	3380	3785	4153	4446	4857
-28	-10	3	28	40	-5	-33	-10	1	35	32	-46	-7
-0.38	-0.13	0.04	0.38	0.54	-0.07	-0.44	-0.13	0.01	0.47	0.43	-0.63	-0.09

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

4.67 GHz	INTERCEPT (mV)	3404
	SLOPE (mV/dB)	79.0

268	631	1002	1420	1825	2192	2621	3039	3430	3830	4216	4561	4952
24	-8	-32	-9	1	-27	7	30	26	31	21	-29	-33
0.30	-0.10	-0.41	-0.12	0.01	-0.35	0.08	0.37	0.32	0.39	0.27	-0.36	-0.41

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

7.33 GHz	INTERCEPT (mV)	3427
	SLOPE (mV/dB)	76.7

353	742	1121	1525	1917	2259	2640	3037	3425	3822	4212	4562	4960
-6	0	-5	16	24	-17	-20	-6	-2	12	19	-15	0
-0.08	0.00	-0.06	0.21	0.32	-0.22	-0.26	-0.08	-0.02	0.16	0.24	-0.19	-0.01

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

10 GHz	INTERCEPT (mV)	3395
	SLOPE (mV/dB)	77.7

292	669	1040	1454	1854	2205	2611	3023	3409	3813	4201	4537	4916
7	-5	-23	3	14	-24	-6	17	14	30	29	-23	-33
0.09	-0.06	-0.29	0.03	0.18	-0.30	-0.08	0.22	0.19	0.38	0.38	-0.30	-0.43

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

12.67 GHz	INTERCEPT (mV)	3360
	SLOPE (mV/dB)	75.6

324	706	1079	1497	1885	2215	2579	2978	3353	3757	4143	4480	4855
-12	-8	-13	27	37	-11	-25	-4	-7	19	27	-14	-17
-0.16	-0.11	-0.17	0.36	0.49	-0.14	-0.33	-0.05	-0.09	0.25	0.36	-0.18	-0.22

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

15.33 GHz	INTERCEPT (mV)	3309
	SLOPE (mV/dB)	75.5

287	661	1031	1452	1841	2167	2523	2919	3287	3696	4087	4435	4822
-3	-7	-14	30	41	-10	-31	-13	-22	9	23	-6	3
-0.04	-0.09	-0.19	0.39	0.55	-0.13	-0.42	-0.17	-0.29	0.13	0.31	-0.08	0.04

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

18 GHz	INTERCEPT (mV)	3302
	SLOPE (mV/dB)	75.9

272	639	1008	1431	1821	2152	2514	2912	3282	3692	4085	4436	4817
4	-8	-18	26	36	-12	-29	-10	-20	11	25	-4	-2
0.06	-0.10	-0.24	0.34	0.48	-0.16	-0.38	-0.14	-0.26	0.15	0.33	-0.05	-0.02

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Flatness P-P

1.4	1.8	2.0	1.8	1.4	1.4	1.6	1.6	2.0	1.8	1.8	1.6	1.8
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Slope Avg(mv/dB)	76.4
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 El Dorado Hills, CA 95762
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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV
 TESTED BY: Jim Hopson
 DATE: 05-30-23
 SERIAL NO: PL40782
 Test Temp: +85C

-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20
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INTERCEPT (mV)	3323
SLOPE (mV/dB)	74.1

332	721	1097	1494	1881	2203	2554	2951	3326	3725	4089	4387	4805
-26	-7	-2	24	40	-8	-28	-2	3	31	24	-48	-1
-0.35	-0.10	-0.03	0.33	0.55	-0.11	-0.38	-0.02	0.04	0.42	0.33	-0.65	-0.01

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

4.67 GHz	INTERCEPT (mV)	3343
	SLOPE (mV/dB)	79.0

221	567	940	1355	1756	2126	2555	2987	3369	3766	4153	4498	4897
38	-11	-33	-13	-7	-32	2	39	26	28	20	-30	-26
0.48	-0.14	-0.42	-0.17	-0.09	-0.41	0.02	0.49	0.33	0.35	0.25	-0.38	-0.33

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

7.33 GHz	INTERCEPT (mV)	3361
	SLOPE (mV/dB)	76.9

288	671	1043	1448	1844	2185	2575	2980	3360	3754	4146	4496	4902
3	1	-11	10	21	-22	-17	4	-1	9	17	-18	4
0.04	0.02	-0.14	0.12	0.28	-0.29	-0.22	0.05	-0.01	0.12	0.22	-0.23	0.05

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

10 GHz	INTERCEPT (mV)	3317
	SLOPE (mV/dB)	78.0

223	576	948	1362	1760	2116	2530	2959	3336	3737	4125	4462	4847
27	-10	-29	-5	3	-31	-7	32	19	30	28	-26	-31
0.34	-0.13	-0.37	-0.06	0.04	-0.40	-0.09	0.41	0.24	0.38	0.35	-0.33	-0.39

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

12.67 GHz	INTERCEPT (mV)	3291
	SLOPE (mV/dB)	75.7

261	631	1000	1419	1809	2139	2511	2918	3287	3688	4073	4411	4792
-1	-9	-19	21	33	-16	-23	6	-4	18	25	-16	-14
-0.01	-0.12	-0.25	0.28	0.43	-0.21	-0.30	0.07	-0.05	0.24	0.32	-0.21	-0.18

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

15.33 GHz	INTERCEPT (mV)	3233
	SLOPE (mV/dB)	75.8

217	567	939	1360	1747	2081	2446	2851	3218	3623	4011	4363	4753
16	-13	-20	22	30	-15	-29	-3	-15	11	20	-7	4
0.21	-0.17	-0.26	0.29	0.40	-0.20	-0.38	-0.04	-0.20	0.14	0.26	-0.10	0.05

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

18 GHz	INTERCEPT (mV)	3218
	SLOPE (mV/dB)	76.5

193	524	899	1320	1707	2054	2427	2840	3208	3614	4004	4360	4745
33	-18	-25	13	18	-17	-26	4	-10	14	21	-5	-2
0.44	-0.23	-0.33	0.18	0.24	-0.22	-0.35	0.06	-0.13	0.18	0.28	-0.07	-0.03

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

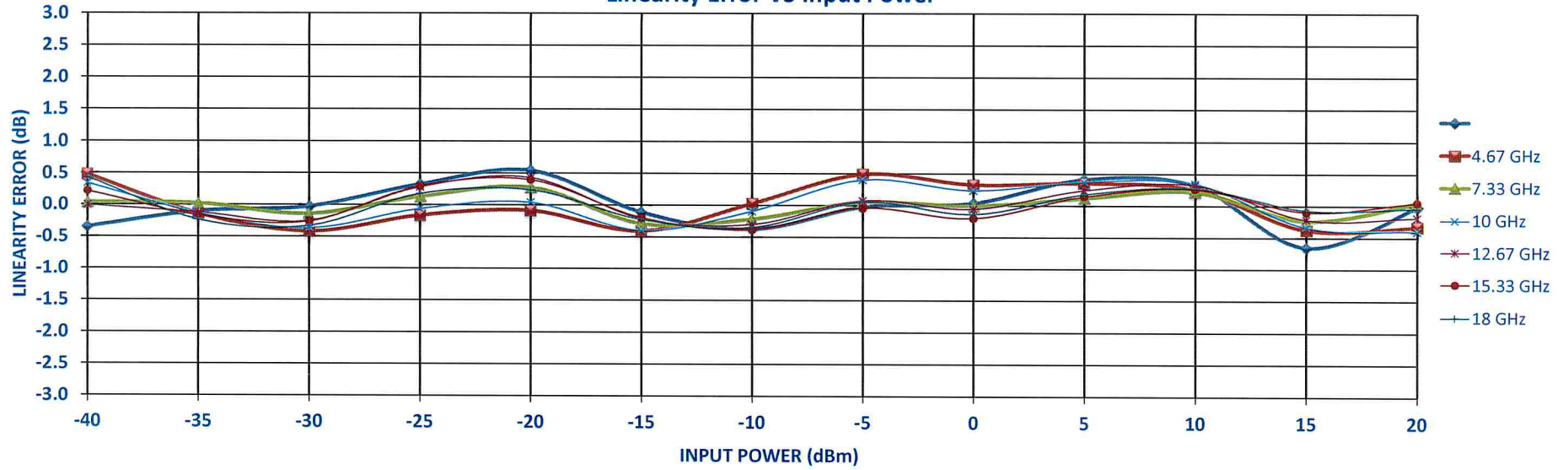
Flatness P-P

1.8	2.6	2.6	2.2	2.2	2.0	2.0	2.0	2.2	2.0	2.0	1.8	2.0
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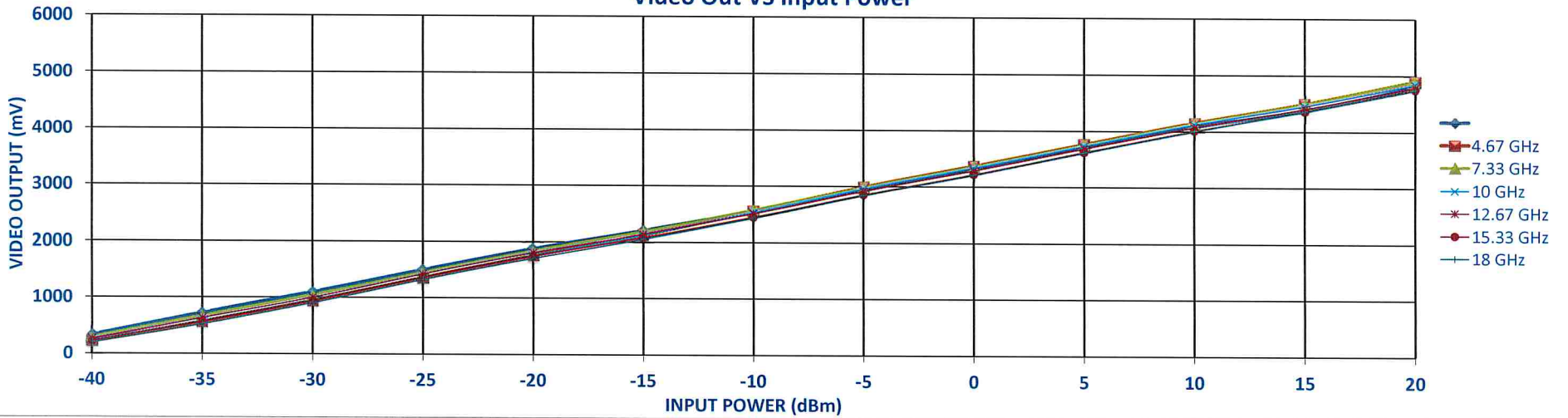
Slope Avg(mv/dB)	76.6
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LOG TRANSFER WITH FREQUENCY
MODEL: ERDLVA-218-CW-75MV
SERIAL NO: PL40782
Test Temp: +85C

Linearity Error VS Input Power



Video Out VS Input Power



LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV
 TESTED BY: Jim Hopson
 DATE: 05-30-23
 SERIAL NO: PL40782
 Test Temp: -25C



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Frequency

-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20
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2 GHz	INTERCEPT (mV)	3430
	SLOPE (mV/dB)	74.2

428	818	1210	1606	1986	2315	2651	3043	3431	3838	4210	4500	4900
-32	-13	7	32	41	-1	-36	-16	1	37	38	-43	-15
-0.43	-0.18	0.10	0.43	0.55	-0.02	-0.49	-0.21	0.02	0.50	0.51	-0.58	-0.20

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

4.67 GHz	INTERCEPT (mV)	3460
	SLOPE (mV/dB)	79.0

313	688	1060	1478	1887	2256	2682	3088	3486	3888	4273	4617	4997
12	-8	-31	-8	6	-19	12	23	26	33	23	-27	-42
0.15	-0.10	-0.39	-0.10	0.08	-0.25	0.15	0.29	0.33	0.42	0.30	-0.35	-0.54

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

7.33 GHz	INTERCEPT (mV)	3489
	SLOPE (mV/dB)	76.4

418	810	1200	1601	1987	2334	2702	3091	3488	3886	4274	4623	5009
-15	-5	3	22	26	-9	-23	-16	-1	15	21	-12	-8
-0.20	-0.06	0.04	0.29	0.34	-0.12	-0.30	-0.21	-0.01	0.20	0.28	-0.15	-0.10

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

10 GHz	INTERCEPT (mV)	3465
	SLOPE (mV/dB)	77.3

365	755	1134	1542	1941	2292	2685	3082	3478	3882	4268	4604	4972
-9	-6	-13	9	21	-14	-7	3	13	31	30	-20	-38
-0.12	-0.08	-0.17	0.11	0.28	-0.18	-0.09	0.04	0.17	0.40	0.39	-0.26	-0.49

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

12.67 GHz	INTERCEPT (mV)	3424
	SLOPE (mV/dB)	75.4

387	775	1156	1572	1956	2289	2643	3035	3417	3820	4208	4543	4909
-22	-11	-6	33	40	-4	-27	-12	-7	19	30	-11	-22
-0.29	-0.14	-0.09	0.43	0.53	-0.05	-0.36	-0.16	-0.09	0.26	0.40	-0.15	-0.30

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

15.33 GHz	INTERCEPT (mV)	3380
	SLOPE (mV/dB)	75.0

361	749	1125	1540	1927	2251	2592	2982	3355	3763	4157	4502	4882
-18	-5	-4	36	48	-4	-38	-23	-25	8	27	-3	1
-0.24	-0.07	-0.06	0.48	0.63	-0.05	-0.50	-0.30	-0.33	0.11	0.36	-0.05	0.02

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

18 GHz	INTERCEPT (mV)	3375
	SLOPE (mV/dB)	75.1

357	743	1117	1533	1921	2247	2588	2976	3350	3759	4155	4502	4874
-16	-5	-6	34	47	-2	-37	-24	-25	8	29	0	-3
-0.21	-0.07	-0.08	0.46	0.63	-0.03	-0.49	-0.32	-0.34	0.11	0.38	0.01	-0.04

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

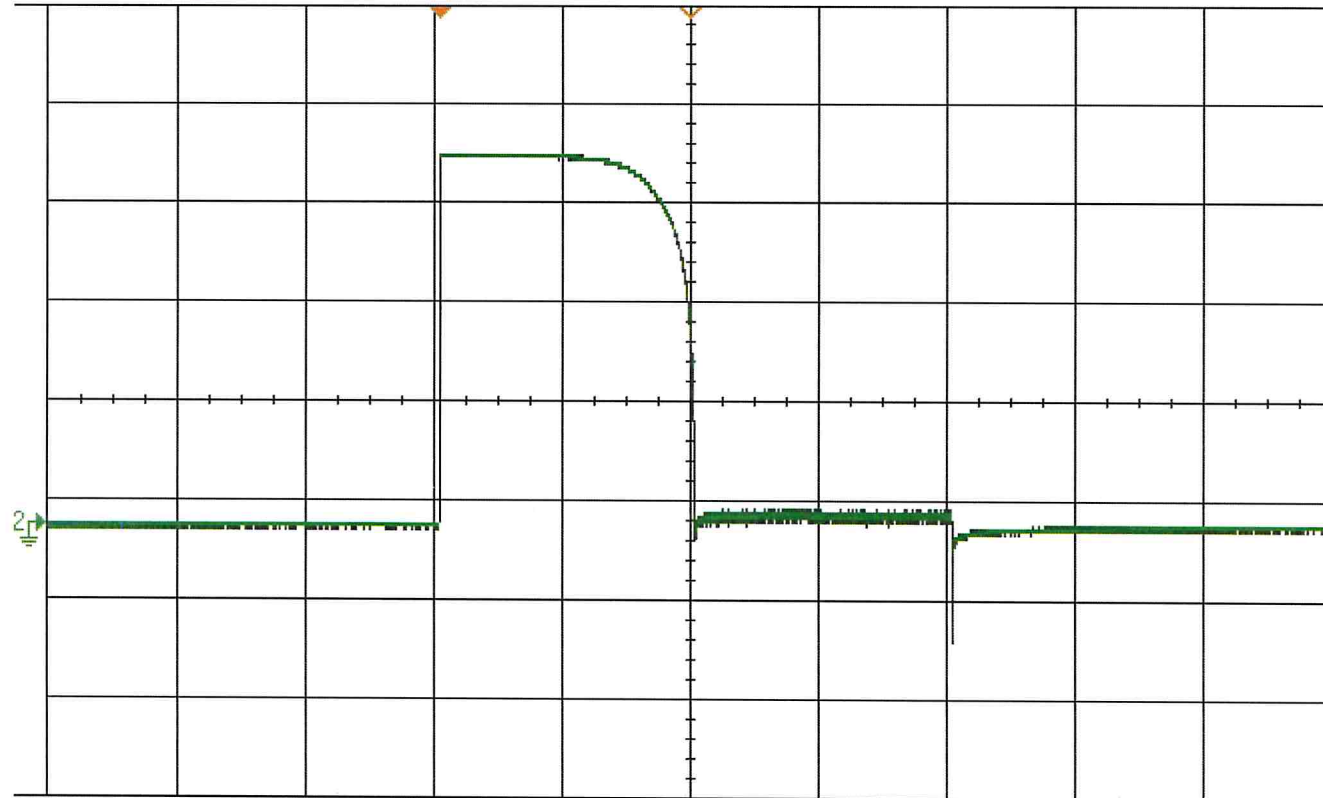
Flatness P-P

1.6	1.8	2.0	1.6	1.4	1.2	1.4	1.6	1.8	1.6	1.6	1.6	1.8
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Slope Avg(mv/dB) 76.0

DSO-X 3034A, MY52394003: Wed May 31 13:05:55 2023

1 2 500V/ 3 4 980.0ns 500.0ns/ Auto f 4 2.85V



Acquisition

Averaging: 2
100MSa/s

Channels

DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1

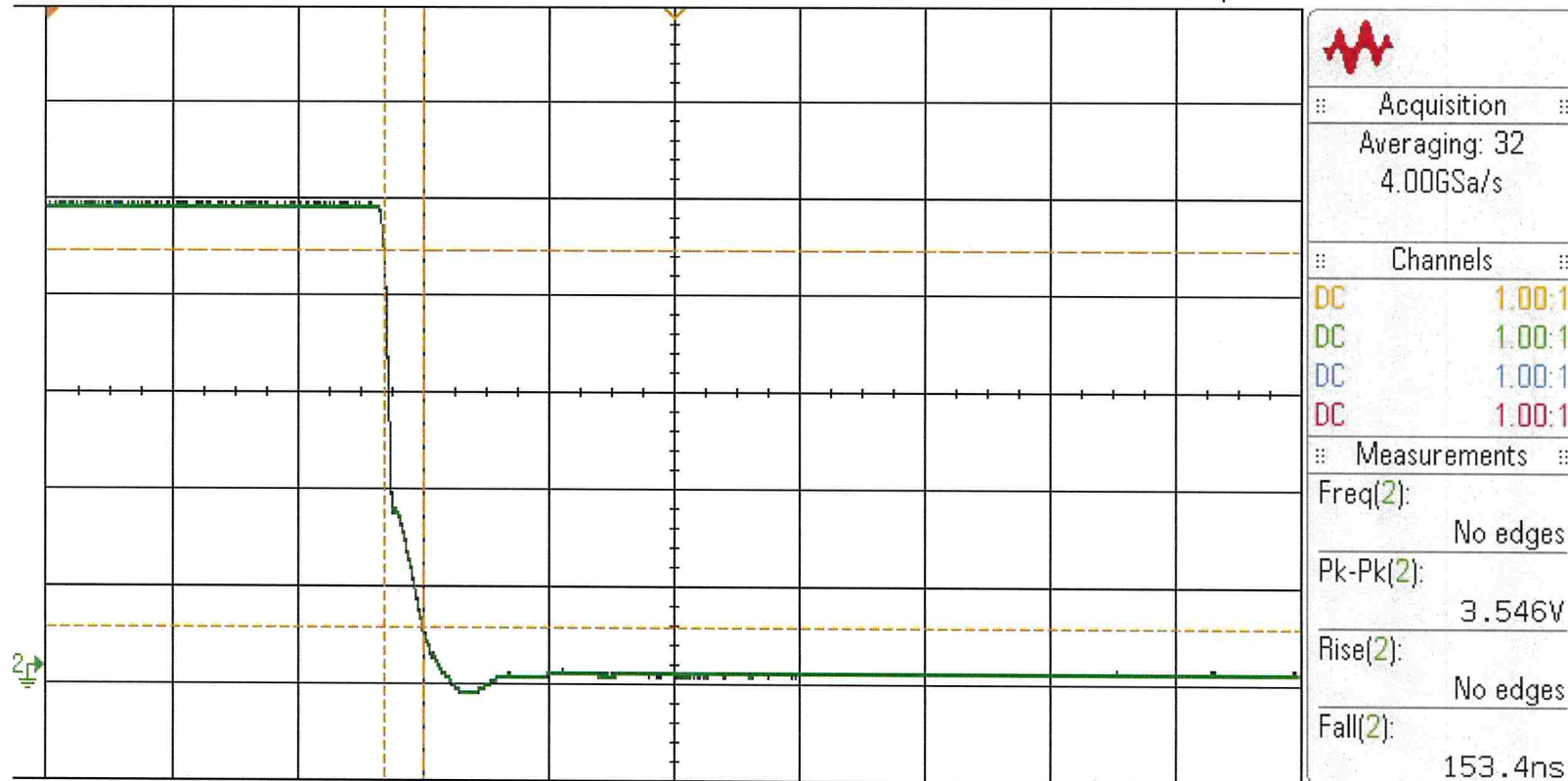
Cursors Menu

Mode
Off

To turn on cursors, press the [Cursors] key on the front panel.

DSO-X 3034A, MY52394003: Wed May 31 12:45:43 2023

1 2 700V/ 3 4 1.301µs 500.0%/ Stop 4 1.75V

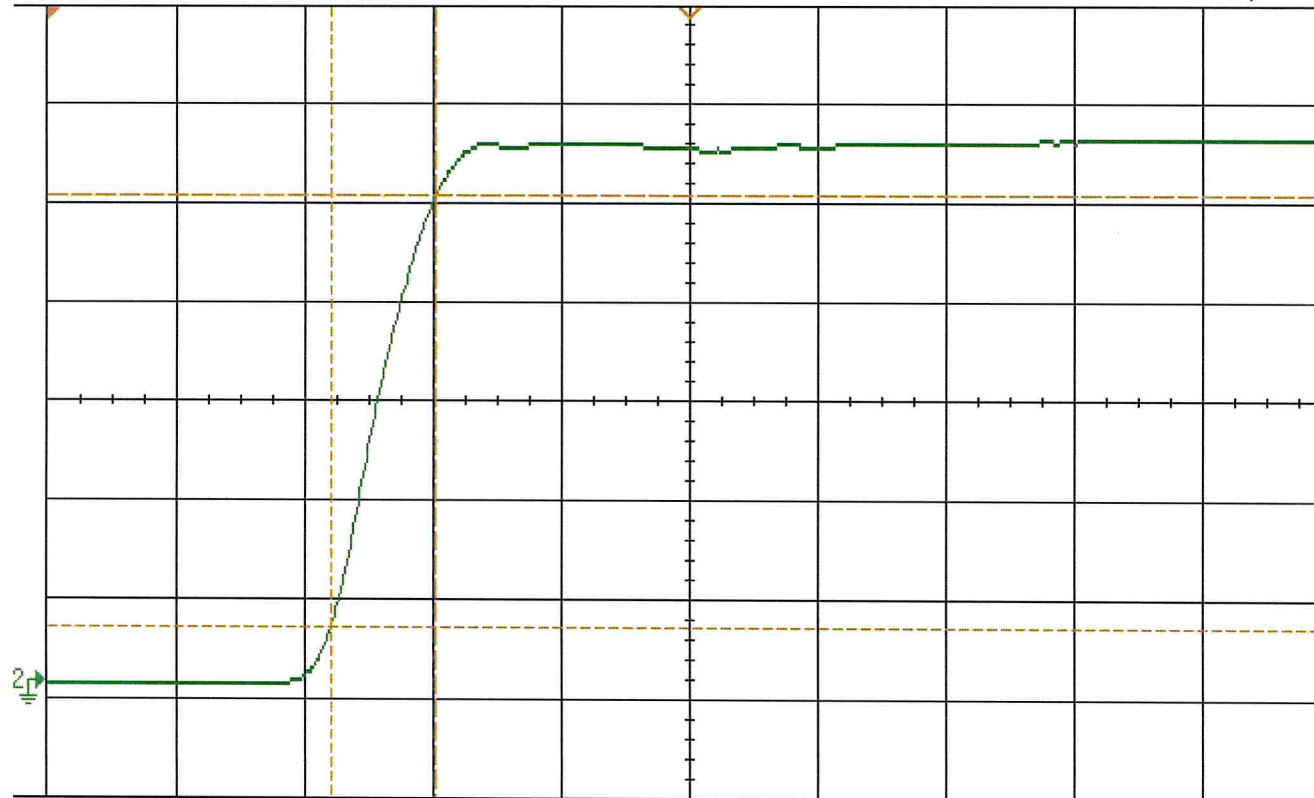


Measurement Menu

Source 2 Type: Fall Add Measurement Settings Clear Meas Statistics

DSO-X 3034A, MY52394003: Wed May 31 12:03:49 2023

1 2 600ns/ 3 4 1.200ns 20.00ns/ Stop f 4 1.75V



Acquisition

Averaging: 32
4.00GSa/s

Channels

DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1

Measurements

Freq(2): No edges

Pk-Pk(2): 3.317V

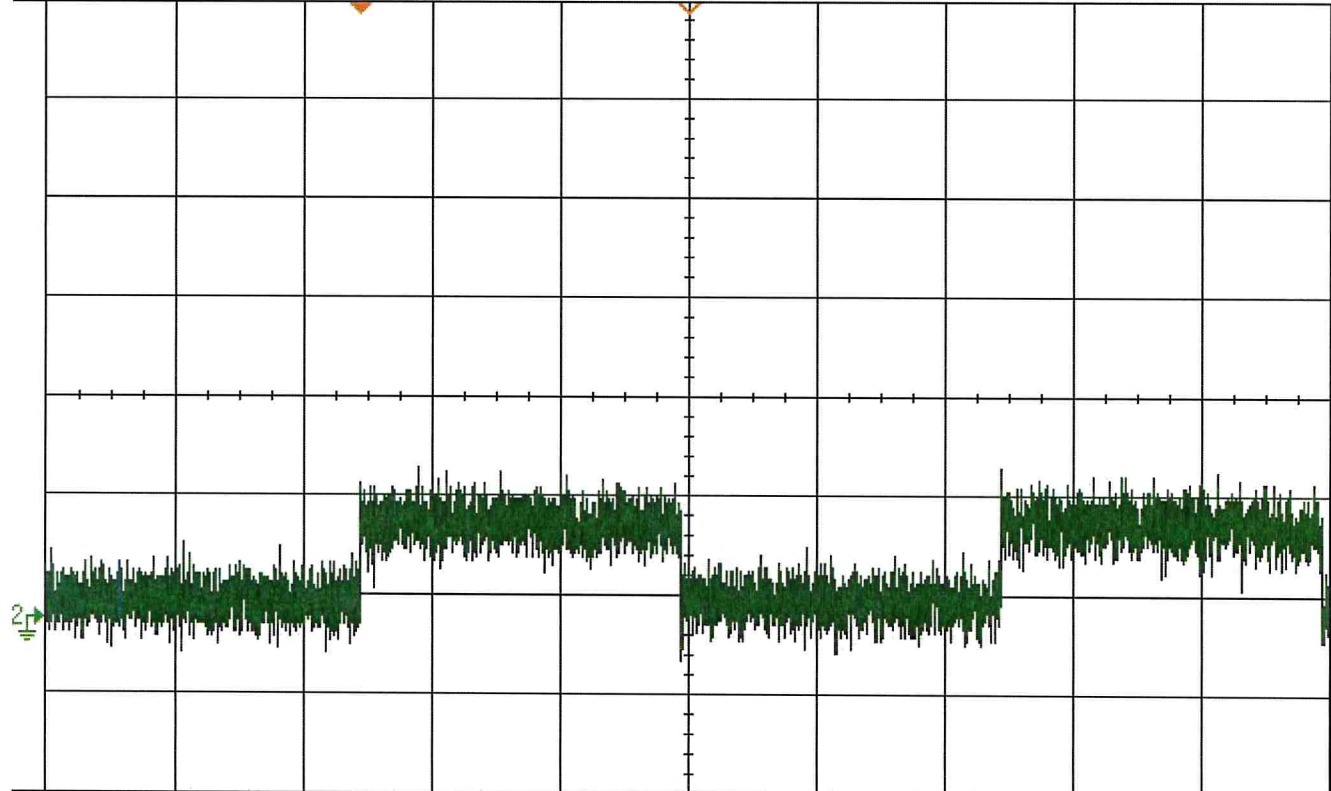
Rise(2): 16.3ns

Measurement Menu

Source 2 Type: Rise Add Measurement Settings Clear Meas Statistics

DSO-X 3034A, MY52394003: Wed May 31 13:51:38 2023

1 2 132% 3 4 51.40% 20.00% Stop f 4 1.77V



Acquisition

High Res
4.00GSa/s

Channels

DC	1.00:1
DC	1.00:1
DC	1.00:1
DC	1.00:1

Save to file = L40782_tss

Spell
p

Enter

Delete
Character

Increment

Press to
Save

Model Number: ERDLVA-2G18G-CW-75MV

Serial Number: PL40782

Date: 6/2/2023

Temperature: +25C

VSWR GRAPH

