



**SUMMARY TEST DATA
ON
ERDLVA-218-CW-75MV-93**

PL46225/2422

Customer: _____	Tested By: <u>Jim Hopson</u>
SO No: <u>-</u>	Temperature: <u>-25°C +25C +85C</u>
Model No: <u>ERDLVA-218-CW-75MV-93</u>	Date: <u>5/29/2024</u>
Serial No: <u>PL46225/2422</u>	Drawing No: <u>2764240</u> Rev: <u>A1</u>

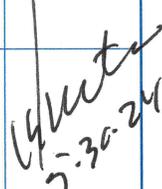
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	2 to 18 GHz	2 to 18 GHz	PMI QA3
2	VSWR:	2.5:1 MAX @ -20 dBm	1.99:1 MAX	
3	Input Power:	23 dBm Max.	Pass	
4	VIDEO OUT TSS:	-42 dBm MAX	-43dBm	
5	VIDEO OUT Dynamic Range:	-40 to +20 dBm	-40 to +20 dBm	
6	VIDEO OUT Log Slope Fixed:	75 ± 10mV/dB	74.7-77.5mV/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	45mV	
9	VIDEO OUT Rise Time (10% to 90%):	25 ns MAX	14.0ns	
10	VIDEO OUT Settling Time:	±0.5dB within 25ns from 90%	<0.5dB	

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Email: sales@pmi-rf.com



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11	VIDEO OUT Recovery	500ns MAX	400ns	
12	Video Frequency Flatness:	3.0 dB p-p MAX @ -20dBm	1.40dB p-p MAX @ -20dBm	
13	VIDEO OUT CW Immunity:	CW Immune Power -50 to -10 dBm	Pass	
		CW Attack Time 1500us	1300us	
		CW Release Time 250us	<100us	
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	31.8mV	
22	VIDEO OUT Propagation Delay:	35 ns MAX from RF 10% to 10% video (excluding cable)	<35ns	
23	Power Supply	+12 V @ 250 mA MAX -12 V @ 250 mA MAX	+12 V @ 170 mA -12 V @ 70 mA	

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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 TESTED BY: Jim Hopson
 DATE: 5-29-24
 SERIAL NO.: PL46225
 Test Temp: +25C

Frequency

-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20
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RF Input Power (dBm)

2 GHz	INTERCEPT (mV)	3436
	SLOPE (mV/DB)	75.3

377	803	1194	1580	1959	2300	2663	3087	3411	3793	4219	4556	4935
-46	3	18	27	29	-6	-20	28	-25	-20	30	-10	-8
-0.61	0.04	0.23	0.36	0.39	-0.08	-0.26	0.37	-0.33	-0.26	0.39	-0.13	-0.10

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

4.67 GHz	INTERCEPT (mV)	3434
	SLOPE (mV/DB)	77.7

308	716	1105	1502	1890	2251	2665	3092	3419	3806	4230	4580	4983
-19	0	1	10	9	-18	8	46	-15	-17	19	-19	-5
-0.25	0.00	0.01	0.12	0.12	-0.23	0.10	0.59	-0.20	-0.21	0.25	-0.25	-0.06

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

7.33 GHz	INTERCEPT (mV)	3465
	SLOPE (mV/DB)	75.0

428	845	1244	1624	1988	2327	2689	3103	3426	3814	4238	4588	4983
-37	5	29	34	23	-13	-26	13	-39	-26	23	-2	18
-0.50	0.06	0.38	0.45	0.30	-0.18	-0.35	0.17	-0.52	-0.35	0.31	-0.03	0.24

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

10 GHz	INTERCEPT (mV)	3484
	SLOPE (mV/DB)	76.1

403	829	1227	1607	1982	2330	2711	3125	3447	3849	4262	4612	5021
-39	7	25	24	19	-13	-12	21	-37	-15	17	-13	16
-0.51	0.09	0.33	0.32	0.25	-0.17	-0.16	0.28	-0.49	-0.20	0.23	-0.17	0.21

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

12.67 GHz	INTERCEPT (mV)	3433
	SLOPE (mV/DB)	74.7

404	828	1218	1597	1968	2301	2650	3067	3400	3771	4202	4549	4957
-39	11	27	33	30	-11	-36	8	-33	-36	22	-5	29
-0.53	0.15	0.36	0.44	0.40	-0.15	-0.48	0.10	-0.44	-0.48	0.29	-0.07	0.39

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

15.33 GHz	INTERCEPT (mV)	3432
	SLOPE (mV/DB)	76.6

339	758	1152	1539	1920	2262	2657	3075	3407	3783	4216	4568	4987
-29	7	18	22	20	-21	-9	26	-25	-32	17	-14	22
-0.38	0.09	0.23	0.28	0.26	-0.28	-0.12	0.33	-0.33	-0.42	0.23	-0.18	0.29

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

18 GHz	INTERCEPT (mV)	3349
	SLOPE (mV/DB)	75.0

326	740	1115	1505	1878	2207	2562	2975	3330	3685	4120	4479	4875
-25	14	15	30	28	-18	-38	0	-19	-39	21	5	26
-0.33	0.19	0.19	0.40	0.37	-0.24	-0.50	0.01	-0.26	-0.52	0.28	0.07	0.35

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

Flatness P-P	
Slope Avg(mv/DB)	75.8



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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 TESTED BY: Jim Hopson
 DATE: 5-29-24
 SERIAL NO.: PL46225
 Test Temp: +85C

Frequency

-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20
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RF Input Power (dBm)

2 GHz	INTERCEPT (mV)	3316
	SLOPE (mV/dB)	73.6

292	729	1124	1511	1893	2229	2595	2997	3270	3638	4067	4403	4786
-78	-10	17	36	50	18	15	49	-46	-46	15	-17	-3
-1.07	-0.13	0.23	0.49	0.68	0.24	0.21	0.67	-0.62	-0.63	0.20	-0.24	-0.04

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

4.67 GHz	INTERCEPT (mV)	3289
	SLOPE (mV/dB)	76.3

189	595	1002	1404	1790	2149	2571	2983	3257	3627	4058	4404	4810
-48	-24	2	22	27	4	45	75	-32	-44	6	-30	-5
-0.63	-0.31	0.02	0.29	0.35	0.06	0.59	0.99	-0.42	-0.57	0.08	-0.39	-0.07

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

7.33 GHz	INTERCEPT (mV)	3298
	SLOPE (mV/dB)	73.8

263	708	1107	1493	1870	2205	2583	2973	3243	3610	4044	4389	4789
-82	-6	24	40	48	14	23	44	-55	-57	8	-16	15
-1.11	-0.09	0.32	0.55	0.66	0.19	0.31	0.60	-0.74	-0.77	0.11	-0.22	0.20

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

10 GHz	INTERCEPT (mV)	3298
	SLOPE (mV/dB)	75.0

224	663	1064	1455	1842	2185	2585	2977	3246	3625	4051	4395	4810
-74	-10	16	32	44	12	37	54	-52	-48	4	-27	13
-0.99	-0.14	0.21	0.43	0.59	0.16	0.50	0.72	-0.69	-0.63	0.05	-0.37	0.17

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

12.67 GHz	INTERCEPT (mV)	3247
	SLOPE (mV/dB)	73.5

224	667	1064	1451	1835	2164	2529	2923	3196	3547	3983	4330	4744
-83	-8	22	41	58	19	17	43	-51	-67	1	-19	27
-1.13	-0.10	0.30	0.56	0.79	0.26	0.23	0.59	-0.69	-0.92	0.01	-0.26	0.37

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

15.33 GHz	INTERCEPT (mV)	3225
	SLOPE (mV/dB)	75.9

133	535	964	1361	1747	2095	2514	2916	3188	3540	3981	4332	4757
-57	-35	15	33	39	8	48	70	-37	-64	-3	-31	15
-0.76	-0.46	0.20	0.43	0.52	0.10	0.63	0.93	-0.49	-0.85	-0.04	-0.41	0.19

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

18 GHz	INTERCEPT (mV)	3123
	SLOPE (mV/dB)	74.5

104	474	900	1298	1672	2021	2404	2807	3107	3412	3862	4231	4627
-40	-43	11	37	38	15	26	56	-16	-83	-6	-9	14
-0.54	-0.57	0.15	0.49	0.51	0.20	0.34	0.76	-0.22	-1.12	-0.08	-0.12	0.19

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

Flatness P-P

2.6	3.4	3.0	2.8	3.0	2.8	2.6	2.6	2.2	3.0	2.8	2.4	2.4
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Slope Avg(mV/dB) 74.7



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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 TESTED BY: Jim Hopson
 DATE: 5-29-24
 SERIAL NO.: PL46225
 Test Temp: -25C

Frequency

-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20
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2 GHz	INTERCEPT (mV)	3550											
	SLOPE (mV/DB)	76.6											
	-30	8	22	25	19	-17	-47	-2	-4	7	41	-2	-20
	-0.39	0.11	0.29	0.33	0.25	-0.22	-0.62	-0.03	-0.06	0.08	0.54	-0.02	-0.26

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

4.67 GHz	INTERCEPT (mV)	3558											
	SLOPE (mV/DB)	78.7											
	394	813	1203	1599	1987	2352	2754	3176	3560	3960	4375	4727	5117
	-0.18	0.14	0.09	0.12	0.05	-0.32	-0.21	0.15	0.03	0.11	0.38	-0.15	-0.20

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

7.33 GHz	INTERCEPT (mV)	3598											
	SLOPE (mV/DB)	75.8											
	544	951	1362	1744	2095	2432	2783	3196	3576	3978	4391	4744	5125
	-0.28	0.08	0.51	0.54	0.17	-0.38	-0.75	-0.31	-0.29	0.01	0.46	0.11	0.14

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

10 GHz	INTERCEPT (mV)	3629											
	SLOPE (mV/DB)	76.5											
	552	958	1368	1751	2108	2453	2816	3227	3605	4024	4422	4777	5170
	-0.23	0.08	0.44	0.45	0.12	-0.37	-0.63	-0.25	-0.31	0.17	0.37	0.01	0.15

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

12.67 GHz	INTERCEPT (mV)	3563											
	SLOPE (mV/DB)	75.6											
	514	928	1329	1709	2072	2406	2742	3157	3547	3931	4353	4702	5096
	-0.31	0.16	0.46	0.49	0.29	-0.30	-0.85	-0.37	-0.21	-0.13	0.45	0.06	0.27

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

15.33 GHz	INTERCEPT (mV)	3572											
	SLOPE (mV/DB)	77.1											
	468	889	1290	1674	2044	2381	2752	3168	3559	3952	4373	4728	5132
	-0.26	0.20	0.41	0.39	0.18	-0.44	-0.63	-0.24	-0.17	-0.07	0.39	0.00	0.24

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

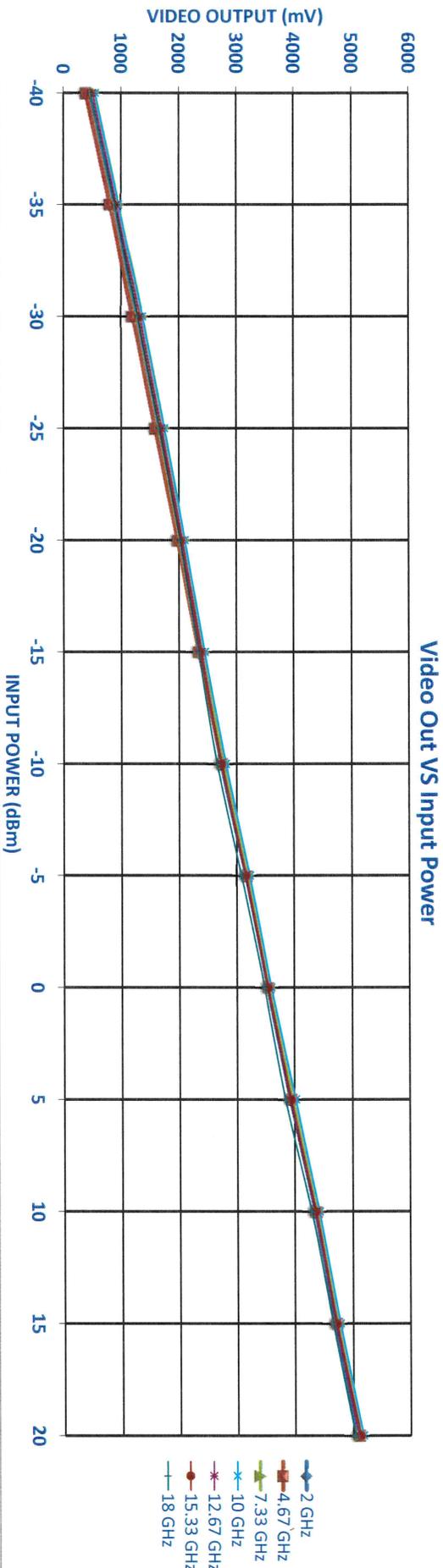
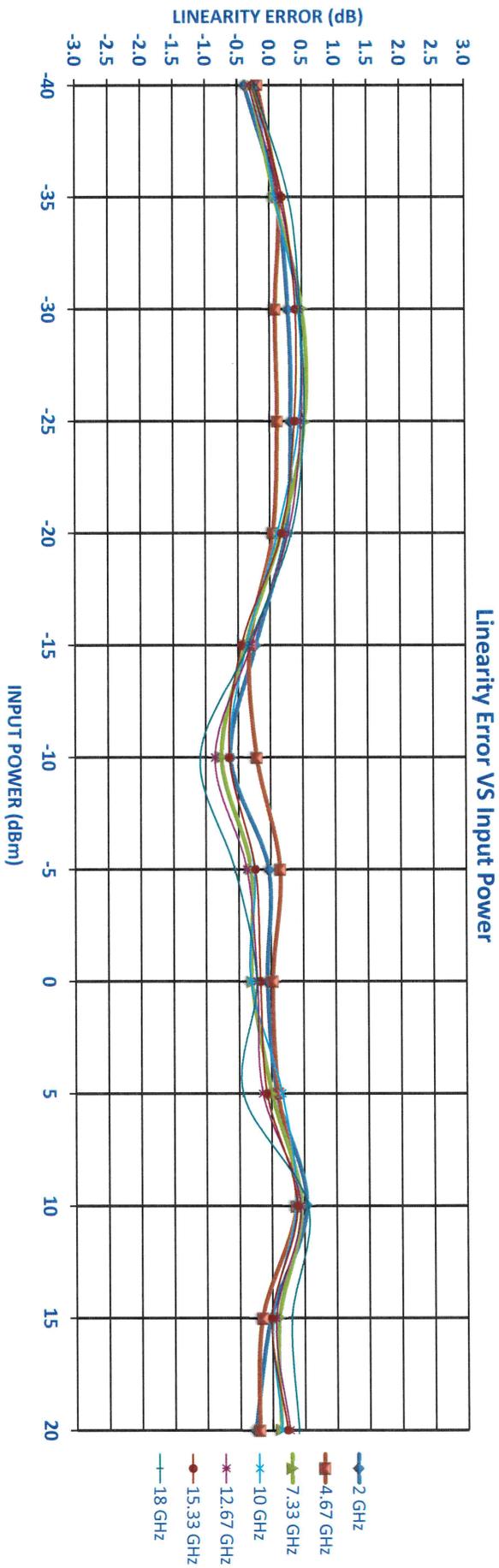
18 GHz	INTERCEPT (mV)	3499											
	SLOPE (mV/DB)	75.2											
	471	888	1277	1658	2019	2345	2665	3081	3482	3842	4293	4650	5034
	-0.24	0.30	0.47	0.53	0.33	-0.34	-1.08	-0.55	-0.22	-0.44	0.55	0.30	0.40

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

Flatness P-P

Slope Avg(mv/DB)	76.5
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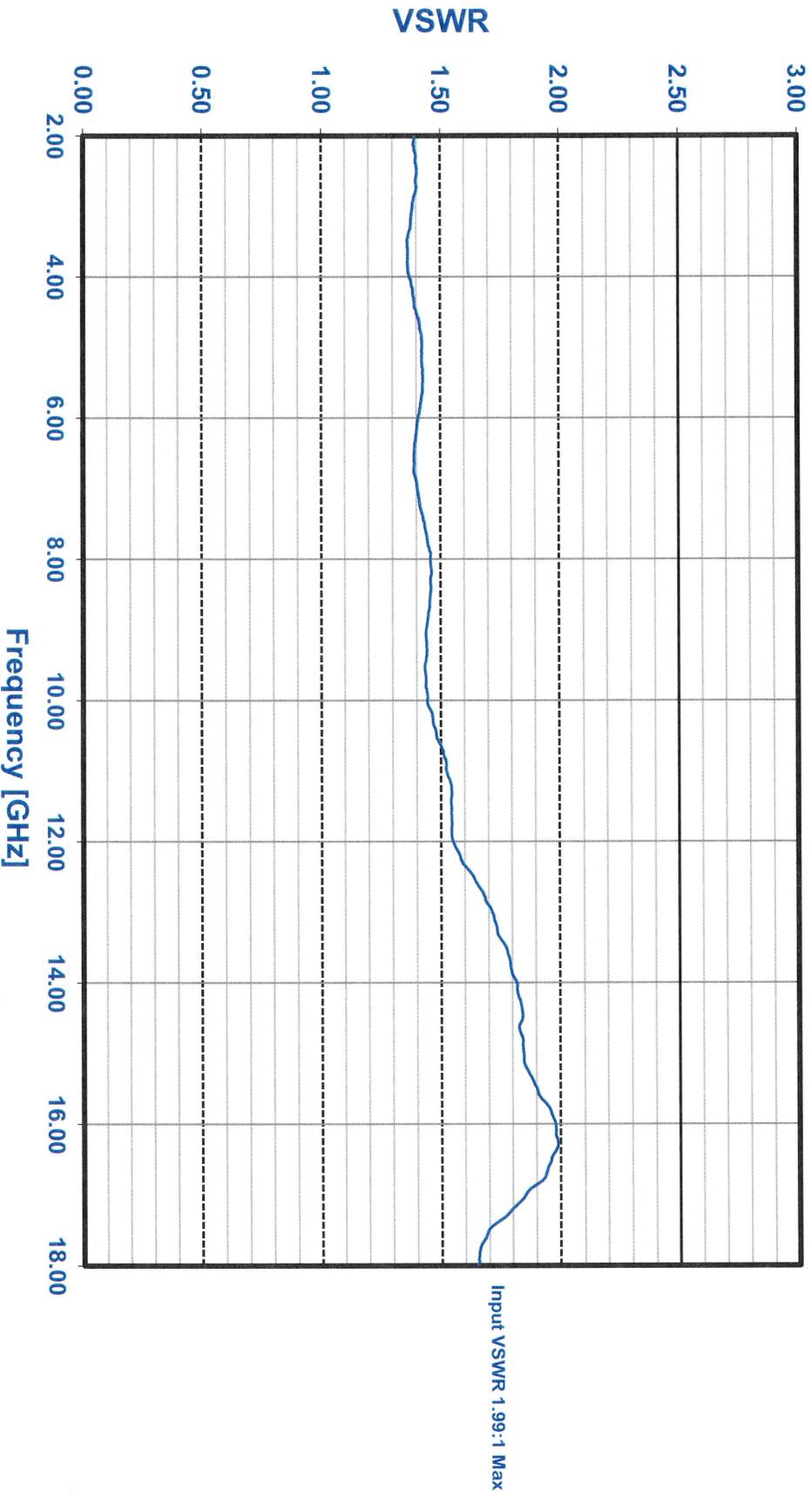
2.0	1.8	2.2	2.0	1.6	1.4	2.0	2.0	1.6	2.4	1.6	1.6	1.8
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Model Number: ERDLVA-2G18G-CW-75MW
Serial Number: PL46225
Date: 5/29/2024

Temperature: +25C

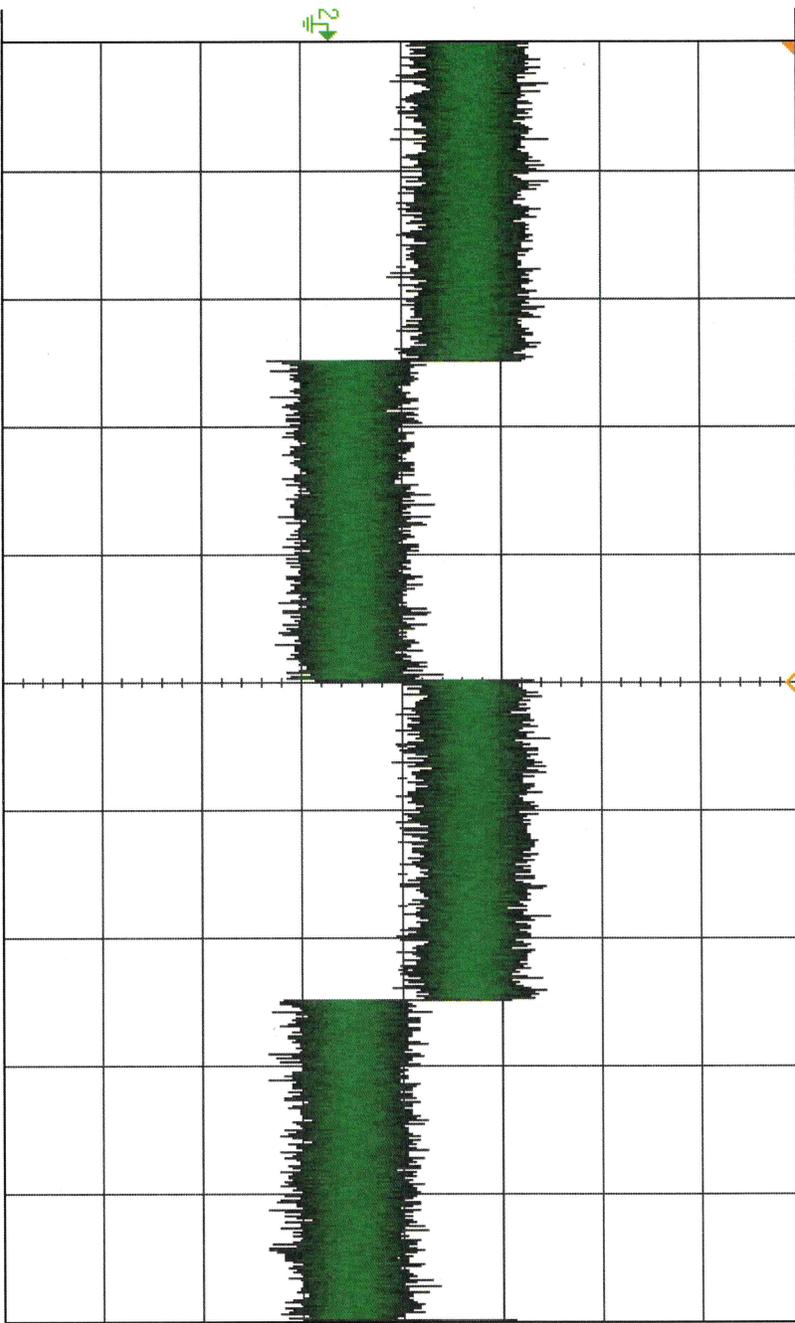
VSWR GRAPH



PL46225
TSS -43 dBm

DSO-X 3034A, MW52394003: Wed May 29 11:50:27 2024

1 2 180°/ 3 4 2.000ms 20.00ns/ Auto f E 2.11V



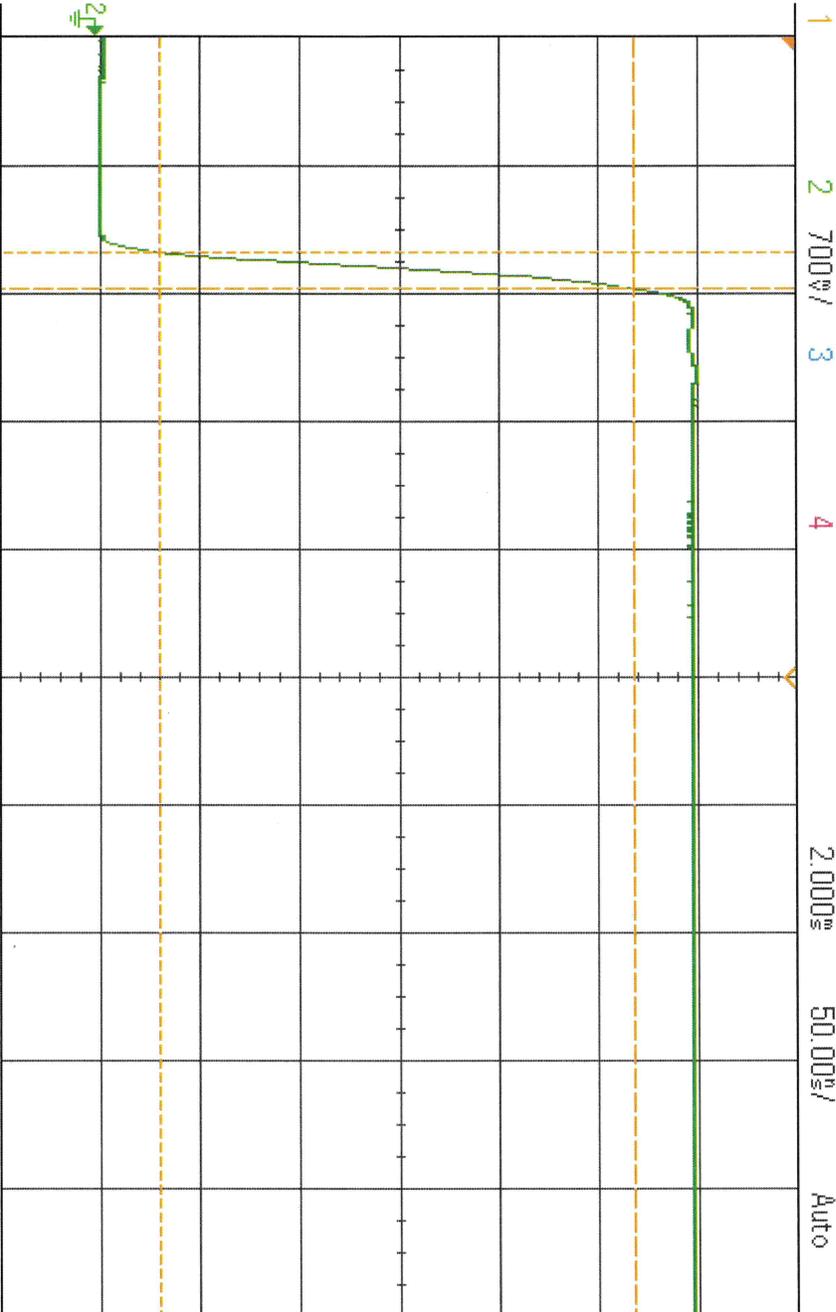
KEYSIGHT TECHNOLOGIES	
Acquisition	:
Normal	:
4.00GSa/s	:
Channels	:
DC	1.00:1

Cursors Menu
Mode
Off

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

P146225
Settle / Rise

DSO-X 3034A, MY52394003, Wed May 29 11:48:12 2024



2.000ns 50.00ns/ Auto f E 2.11V

Acquisition	
Averaging: B4	
4.00GSa/s	
Channels	
DC	1.00:1
Measurements	
AC RMS - FS[2]:	1.5757V
Fall[2]:	No edges
Rise[2]:	14.0ns

Measurement Menu

Source 2

Type: Rise

Add Measurement

Settings

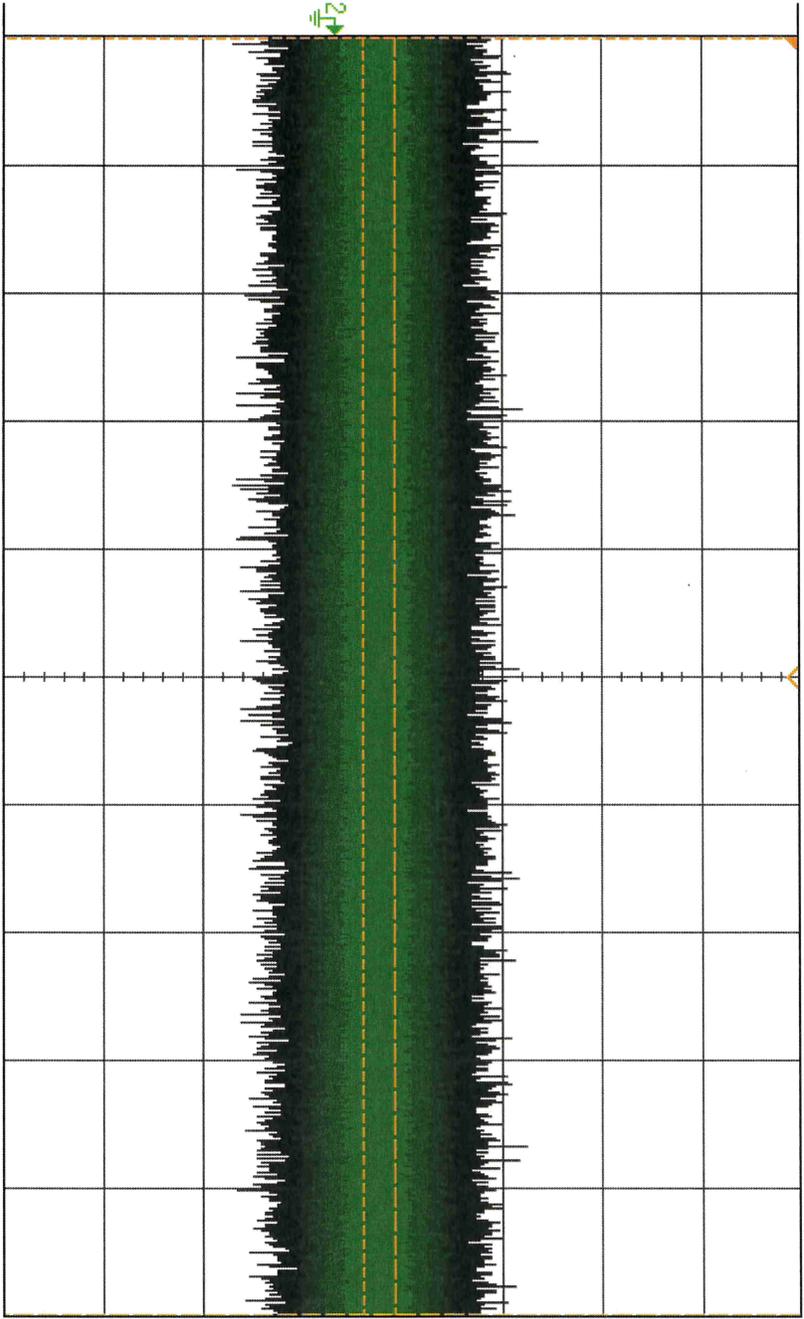
Clear Meas

Statistics

PL46225
RMS noise

DSO-X 3034A, MW52394003: Wed May 29 11:49:31 2024

1 2 100% / 3 4 2.000ms 200.0ns / Auto f E 2.11V



Measurement Menu

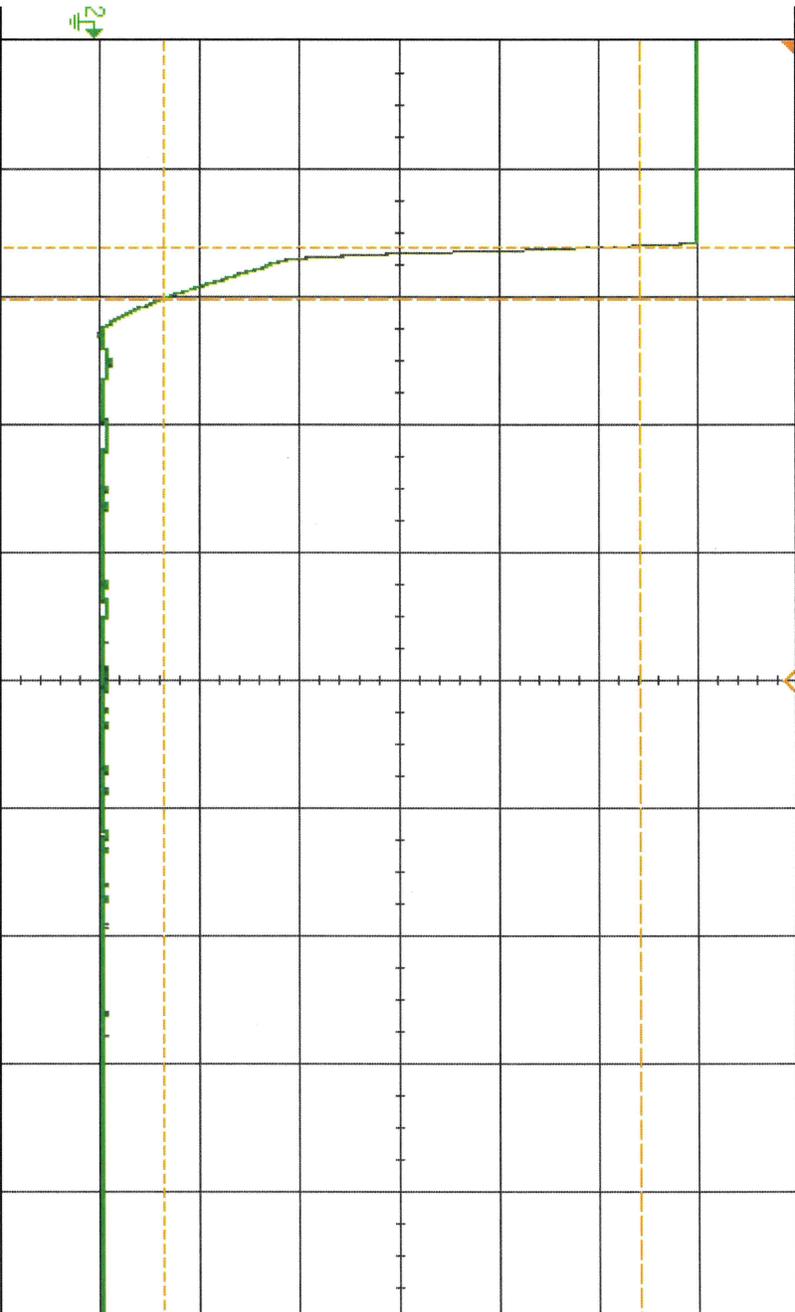
- Source 2
- Type: AC RMS - FS
- Add Measurement
- Settings
- Clear Meas
- Statistics

Channels	DC	DC	DC	DC
1	1.00:1	1.00:1	1.00:1	1.00:1
2	1.00:1	1.00:1	1.00:1	1.00:1
Measurements				
Fall(2):				<93ns
Rise(2):				<93ns
AC RMS - FS(2):				31.86mV

PL46225
RECOVERY

DSO-X 3034A, MW52394003, Wed May 29 11:44:11 2024

1 2 700V/ 3 4 2.052μs 500.0ns/ Auto f E 2.11V



Save to file = pl46225_recovery

Save

Recall

Default/Erase

Press to Save

MEASUREMENTS

Acquisition ::
Averaging: B4
4.00GSa/s

Channels ::

DC	1.00:1

Measurements ::

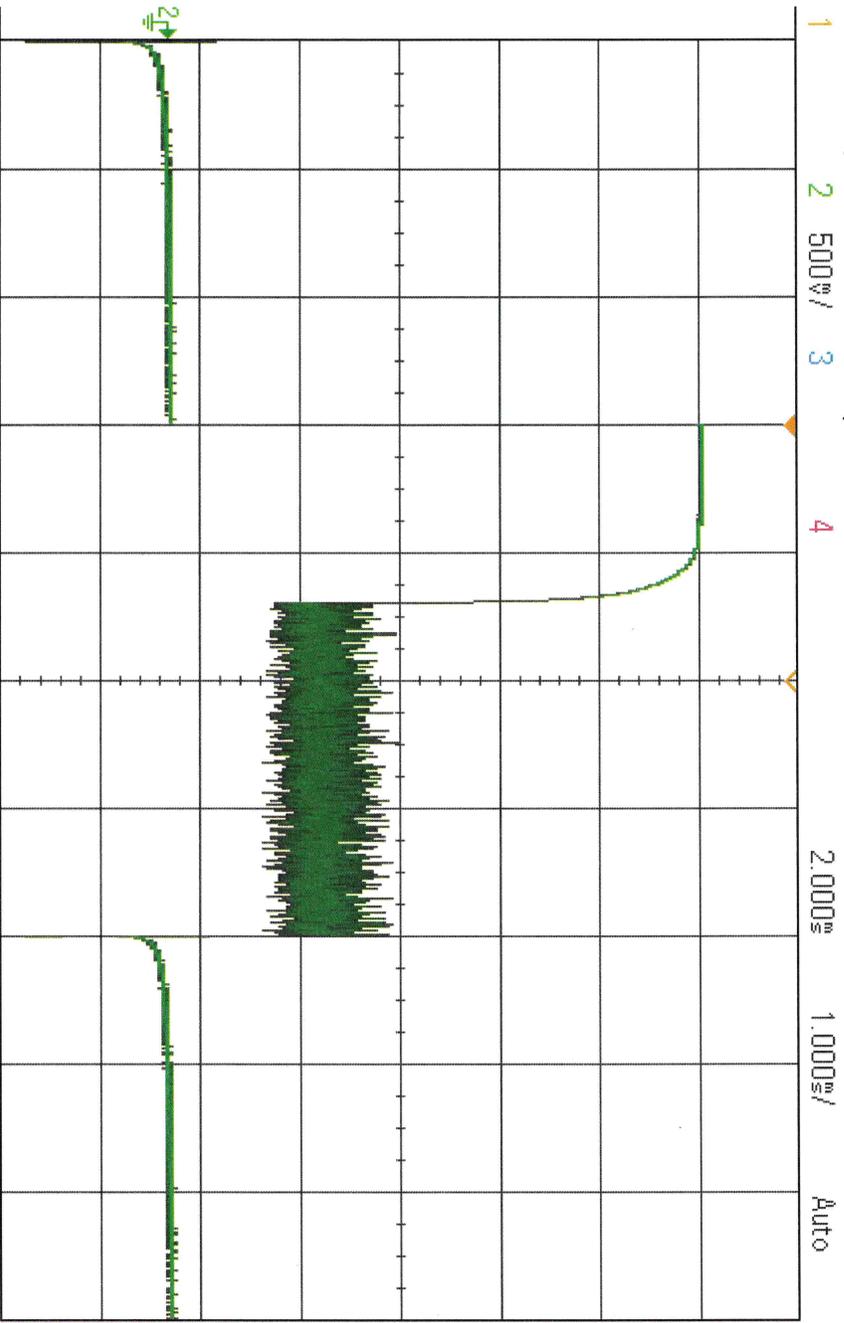
AC RMS - FS[2]: 1.5430V

Rise[2]: No edges

Fall[2]: 205.0ns

PL46225
CW Immune

DSO-X 3034A, IM52394003: Wed May 29 11:51:40 2024



1 2 500mV / 3 4 2.000ms 1.000ms / Auto f E 2.11V

KEYSIGHT TECHNOLOGIES

Acquisition ::
Averaging: 2
50.0MSa/s

Channels	
DC	1.00:1

Cursors Menu
Mode Off

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