



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

PL41373/2330

Customer: _____	Tested By: <u>Jim Hopson</u>
SO No: _____	Temperature: <u>-25°C +25C +85C</u>
Model No: <u>ERDLVA-218-CW-75MV-93</u>	Date: <u>7/25/2023</u>
Serial No: <u>PL41373/2330</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	1.79:1 MAX	
3	Input Power:	23 dBm Max.	Pass	
4	VIDEO OUT TSS:	-42 dBm MAX	-42dBm	
5	VIDEO OUT Dynamic Range:	-40 to +20 dBm	-40 to +20 dBm	
6	VIDEO OUT Log Slope Fixed:	75 ± 10mV/dB	74.9-78.3mV/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	30mV	
9	VIDEO OUT Rise Time (10% to 90%):	25 ns MAX	18.3ns	
10	VIDEO OUT Settling Time:	±0.5dB within 25ns from 90%	<0.5dB	

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11	VIDEO OUT Recovery	500ns MAX	<500ns	PMI QA3
12	Video Frequency Flatness:	3.0 dB p-p MAX @ -20dBm	1.80dB 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	30us	
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	42mV	
22	VIDEO OUT Propagation Delay:	35 ns MAX from RF 10% to 10% video (excluding cable)	<25ns	
23	Power Supply	+12 V @ 250 mA MAX -12 V @ 250 mA MAX	+12 V @ 160 mA -12 V @ 70 mA	



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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 TESTED BY: Jim Hopson
 DATE: 07-24-23
 SERIAL NO: PL41373
 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)	3526
	SLOPE (mV/dB)	77.0

451	824	1197	1578	1971	2390	2778	3153	3549	3938	4312	4653	5032
6	-6	-18	-23	-15	19	22	12	23	27	16	-28	-35
0.08	-0.08	-0.24	-0.29	-0.19	0.25	0.29	0.16	0.30	0.35	0.20	-0.37	-0.45

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

4.67 GHz	INTERCEPT (mV)	3467
	SLOPE (mV/dB)	78.0

356	747	1105	1482	1885	2312	2704	3087	3486	3877	4267	4623	4993
11	11	-21	-34	-21	16	18	10	19	20	20	-14	-35
0.14	0.15	-0.27	-0.43	-0.27	0.20	0.22	0.13	0.25	0.26	0.25	-0.18	-0.44

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

7.33 GHz	INTERCEPT (mV)	3505
	SLOPE (mV/dB)	75.1

515	878	1253	1638	2014	2383	2722	3100	3499	3888	4276	4636	5012
12	-1	-1	9	10	3	-33	-30	-6	7	20	5	5
0.16	-0.01	-0.01	0.12	0.13	0.04	-0.44	-0.40	-0.09	0.10	0.27	0.06	0.07

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

10 GHz	INTERCEPT (mV)	3522
	SLOPE (mV/dB)	76.1

483	856	1230	1614	1996	2389	2751	3127	3530	3927	4305	4657	5024
7	-1	-8	-4	-3	9	-10	-14	8	24	21	-7	-21
0.09	-0.01	-0.10	-0.06	-0.04	0.12	-0.13	-0.19	0.10	0.32	0.28	-0.10	-0.28

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

12.67 GHz	INTERCEPT (mV)	3525
	SLOPE (mV/dB)	75.3

519	881	1255	1655	2029	2399	2750	3125	3528	3924	4301	4652	5018
7	-7	-10	13	10	4	-22	-24	3	22	22	-4	-14
0.10	-0.10	-0.13	0.17	0.14	0.05	-0.29	-0.31	0.03	0.29	0.29	-0.05	-0.19

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

15.33 GHz	INTERCEPT (mV)	3493
	SLOPE (mV/dB)	76.1

450	825	1195	1588	1973	2369	2726	3104	3504	3892	4274	4624	4988
1	-4	-15	-2	2	18	-6	-8	11	19	20	-10	-27
0.02	-0.06	-0.19	-0.03	0.03	0.23	-0.07	-0.11	0.15	0.25	0.27	-0.13	-0.35

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

18 GHz	INTERCEPT (mV)	3450
	SLOPE (mV/dB)	75.3

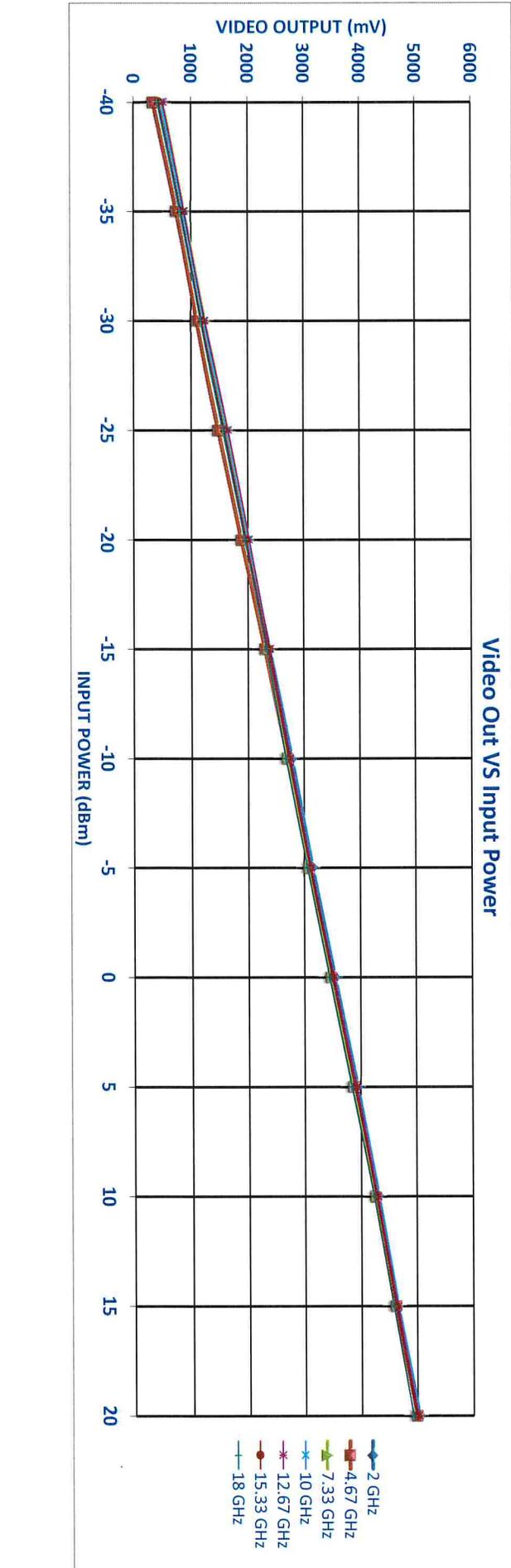
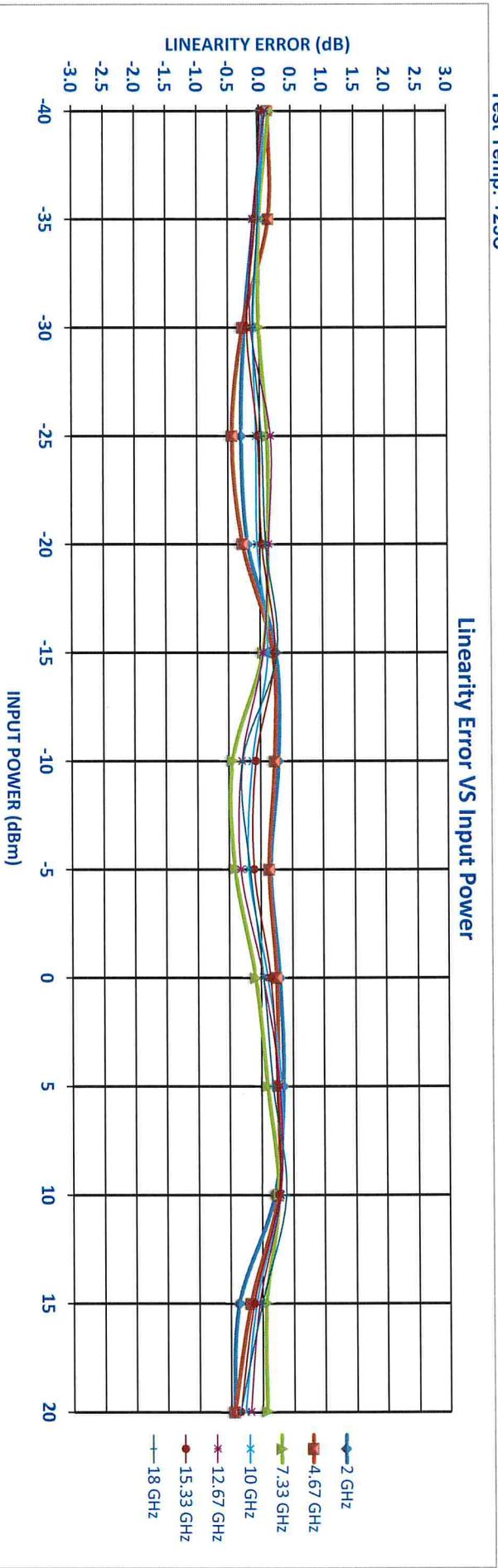
436	813	1183	1570	1951	2341	2676	3061	3453	3840	4232	4579	4929
-2	-2	-8	2	7	20	-21	-13	3	13	29	-1	-27
-0.03	-0.02	-0.11	0.03	0.09	0.27	-0.28	-0.17	0.04	0.18	0.38	-0.01	-0.36

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

Flatness P-P

Slope Avg(mv/dB)	76.1
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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 SERIAL NO: PL41373
 Test Temp: +25C





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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 TESTED BY: Jim Hopson
 DATE: 07-24-23
 SERIAL NO: PL41373
 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)	3550
	SLOPE (mV/dB)	77.3

464	837	1210	1591	1989	2410	2801	3177	3576	3968	4341	4680	5053
6	-7	-21	-26	-15	20	24	14	26	32	18	-29	-43
0.08	-0.09	-0.27	-0.34	-0.19	0.26	0.31	0.18	0.34	0.41	0.24	-0.38	-0.55

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

4.67 GHz	INTERCEPT (mV)	3491
	SLOPE (mV/dB)	78.2

376	762	1120	1501	1903	2334	2727	3111	3513	3907	4296	4650	5014
14	9	-24	-34	-23	16	18	11	22	25	23	-14	-42
0.18	0.11	-0.31	-0.44	-0.30	0.21	0.23	0.14	0.28	0.32	0.29	-0.18	-0.53

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

7.33 GHz	INTERCEPT (mV)	3536
	SLOPE (mV/dB)	75.2

544	902	1279	1667	2045	2408	2751	3130	3532	3924	4310	4668	5040
14	-4	-2	10	12	-1	-34	-30	-4	12	22	4	1
0.19	-0.05	-0.03	0.13	0.16	-0.01	-0.45	-0.40	-0.06	0.16	0.29	0.06	0.01

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

10 GHz	INTERCEPT (mV)	3558
	SLOPE (mV/dB)	76.0

529	891	1267	1656	2038	2420	2784	3161	3566	3966	4342	4691	5055
12	-6	-10	-1	1	3	-13	-17	8	28	24	-7	-23
0.16	-0.08	-0.13	-0.01	0.01	0.04	-0.18	-0.22	0.11	0.37	0.32	-0.09	-0.30

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

12.67 GHz	INTERCEPT (mV)	3555
	SLOPE (mV/dB)	75.3

556	908	1285	1687	2062	2425	2778	3154	3559	3958	4333	4682	5042
12	-12	-11	14	13	-1	-24	-25	4	26	25	-2	-19
0.17	-0.16	-0.15	0.19	0.17	-0.01	-0.32	-0.33	0.05	0.35	0.33	-0.03	-0.25

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

15.33 GHz	INTERCEPT (mV)	3530
	SLOPE (mV/dB)	75.9

496	866	1241	1639	2021	2403	2758	3137	3541	3933	4312	4660	5019
1	-8	-13	6	9	11	-13	-14	11	24	23	-8	-29
0.01	-0.11	-0.17	0.08	0.11	0.15	-0.17	-0.18	0.14	0.31	0.31	-0.11	-0.38

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

18 GHz	INTERCEPT (mV)	3494
	SLOPE (mV/dB)	74.9

501	865	1238	1634	2010	2382	2712	3098	3497	3887	4276	4621	4963
3	-8	-9	12	14	12	-33	-21	3	19	33	4	-29
0.04	-0.10	-0.12	0.17	0.19	0.15	-0.44	-0.29	0.04	0.25	0.44	0.05	-0.38

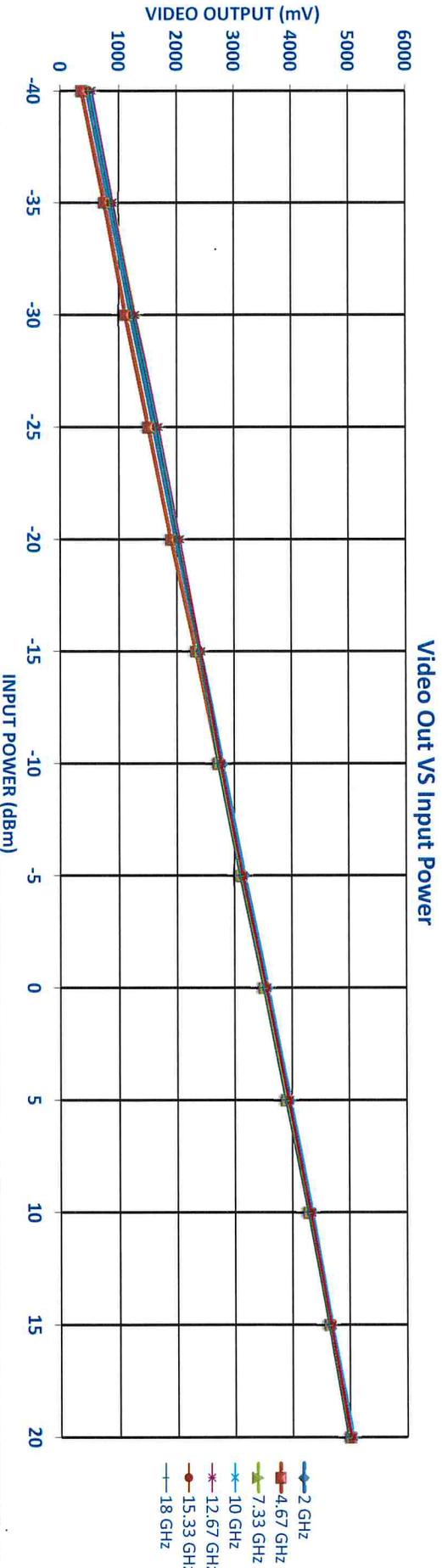
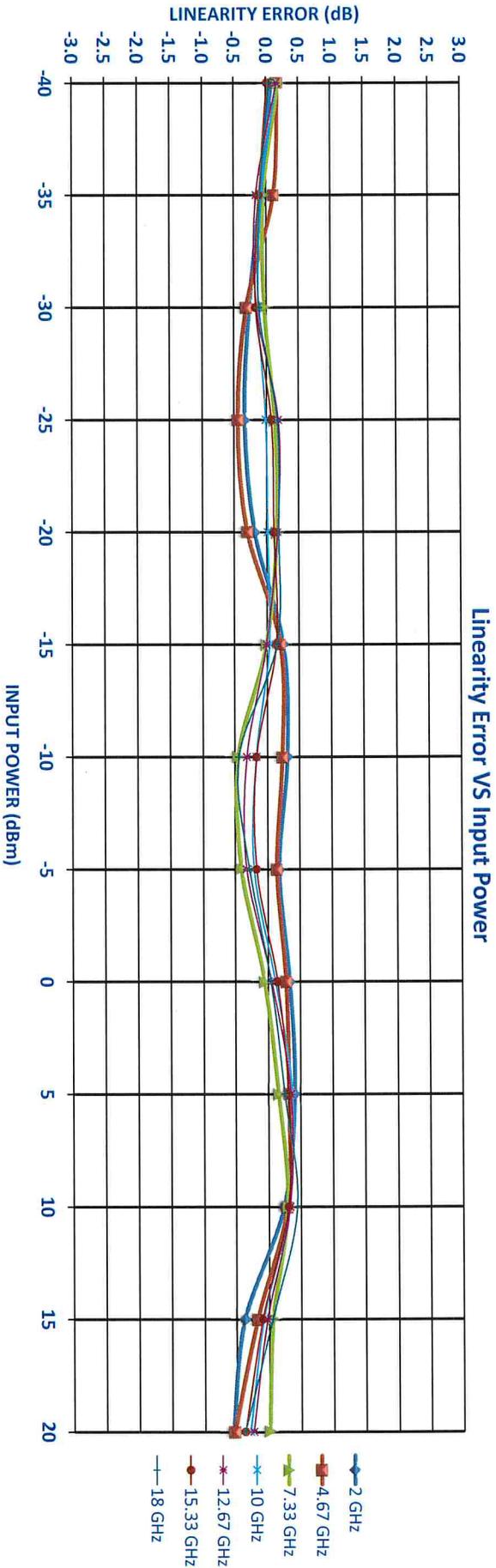
Measured Value (mV)
 Error (mV)
 LINEARITY ERROR (dB)

Flatness P-P

Slope Avg(mv/dB) 76.1

2.4	2.0	2.2	2.4	2.0	1.2	1.2	1.0	1.0	1.0	0.8	1.0	1.2
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 Test Temp: -25C





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LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 TESTED BY: Jim Hopson
 DATE: 07-24-23
 SERIAL NO: PL41373
 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)	3476
	SLOPE (mV/dB)	77.1

377	783	1145	1522	1922	2350	2748	3109	3494	3876	4252	4599	4991
-15	5	-18	-27	-12	30	43	18	18	14	5	-34	-27
-0.20	0.07	-0.24	-0.35	-0.16	0.39	0.55	0.24	0.23	0.19	0.06	-0.44	-0.35

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

4.67 GHz	INTERCEPT (mV)	3405
	SLOPE (mV/dB)	78.3

273	677	1036	1414	1820	2242	2665	3038	3420	3805	4198	4558	4943
-1	12	-20	-34	-19	11	43	24	15	8	10	-21	-28
-0.01	0.15	-0.26	-0.43	-0.25	0.14	0.55	0.31	0.19	0.11	0.13	-0.27	-0.36

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

7.33 GHz	INTERCEPT (mV)	3441
	SLOPE (mV/dB)	75.2

414	820	1185	1562	1946	2340	2681	3045	3427	3808	4202	4565	4955
-18	12	1	2	10	28	-7	-20	-14	-9	9	-4	10
-0.24	0.16	0.01	0.02	0.13	0.37	-0.10	-0.26	-0.18	-0.12	0.12	-0.05	0.13

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

10 GHz	INTERCEPT (mV)	3450
	SLOPE (mV/dB)	76.2

385	794	1157	1534	1924	2332	2700	3065	3452	3840	4225	4581	4959
-17	11	-7	-11	-2	25	12	-4	2	8	12	-13	-16
-0.22	0.15	-0.09	-0.14	-0.03	0.33	0.15	-0.06	0.02	0.11	0.16	-0.17	-0.21

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

12.67 GHz	INTERCEPT (mV)	3465
	SLOPE (mV/dB)	75.2

437	832	1202	1591	1972	2364	2710	3071	3458	3847	4229	4584	4963
-18	1	-5	7	12	28	-2	-18	-7	6	12	-9	-7
-0.24	0.01	-0.07	0.10	0.16	0.37	-0.03	-0.23	-0.09	0.08	0.16	-0.12	-0.09

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

15.33 GHz	INTERCEPT (mV)	3420
	SLOPE (mV/dB)	76.5

337	750	1108	1497	1893	2302	2679	3045	3427	3808	4196	4548	4925
-23	7	-17	-11	3	29	24	8	7	6	11	-19	-25
-0.30	0.10	-0.22	-0.14	0.04	0.39	0.31	0.10	0.09	0.07	0.14	-0.25	-0.33

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

18 GHz	INTERCEPT (mV)	3364
	SLOPE (mV/dB)	75.9

299	717	1072	1457	1854	2255	2623	2993	3363	3743	4141	4489	4858
-28	11	-14	-9	8	30	18	8	-1	-1	17	-14	-25
-0.37	0.14	-0.19	-0.12	0.11	0.39	0.24	0.11	-0.02	-0.01	0.23	-0.19	-0.33

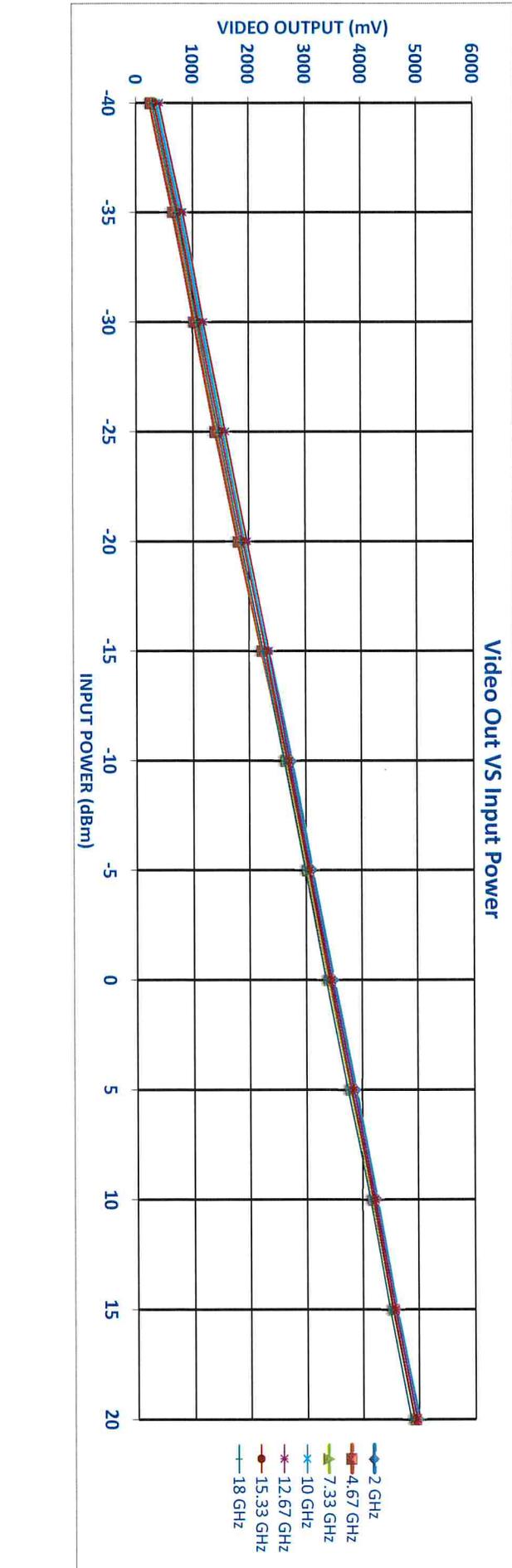
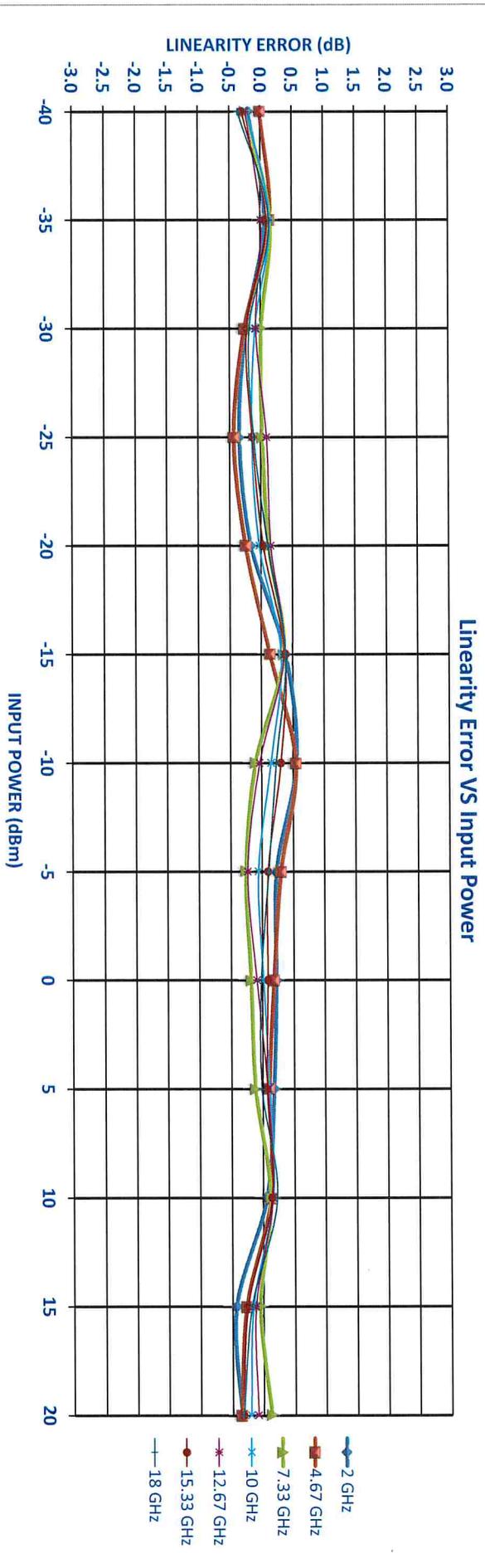
Measured Value (mV)
 Error (mV)
 LINEARITY ERROR (dB)

Flatness P-P

2.2	2.0	2.2	2.4	2.0	1.6	1.6	1.6	1.8	1.8	1.4	1.4	1.8
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Slope Avg(mv/dB) 76.4

LOG TRANSFER WITH FREQUENCY
 MODEL: ERDLVA-218-CW-75MV-93
 SERIAL NO: PL41373
 Test Temp: -85C



Model Number: ERDLVA-2G18G-CW-75MV
Serial Number: PL41373
Date: 7/25/2023

Temperature: +25C

VSWR GRAPH

