



**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL42787/2346

Customer: \_\_\_\_\_ Tested By: Anton L.  
 SO No: \_\_\_\_\_ Temperature: +25°C -40°C +85°C  
 Model No: HADA-D2001 Date: 11/17/23  
 Serial No: PL42787/2346 Drawing No: 27620201 Rev: A1

TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.5 GHz – 2.0 GHz	0.5 GHz – 2.0 GHz See Plot	<b>PMI QA3</b>
2	TSS:	-44 dBm Min @ -40°C to +85°	-46 dBm See Plot	
3	Frequency Flatness:	±0.75 dB Max	±0.30 dB See Plot	
4	Input / Output Characteristics: (93 Ω)	Y = 2350 + 50X [X: Input (dBm), Y: Output (mv)]	Pass	
5	Logging Accuracy	±1.5 dB Max (@ +25°C, 1.0 GHz) [-40 dBm ≤ INPUT ≤ 0 dBm] ±2.2 dB Max (Note)	+0.18 / -0.40 dB +1.02 / -0.96 dB See Plot	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	+0.28 / -0.39 dB +0.41 / -0.39 dB See Plot	
7	Maximum Input Power (CW):	+23 dBm	Pass	
8	Duty Cycle:	100%	Pass	
9	Rise Time:	30 ns Max (10% to 90%)	20.8 ns See Plot	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	163 ns See Plot	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	+66 mV @ +25°C +13 mV @ -40°C +51 mV @ +85°C	
12	Input VSWR:	2.5:1 Max @ +23 dBm	1.15:0 See Plot	
13	Propagation Delay:	60 ns Max	40 ns	

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14	Power Supply:	+12 ± 1VDC @ 125 mA Max -12 ± 1VDC @ 75 mA Max	120 mA 70 mA	PMI QA3
15	Warm Up Time:	2 Minutes Max	2 Minutes	

\*Notes: Includes Frequency Flatness. Input Power, Temperature Deviation and Deviation for DC Offset. The test shall be performed using RG-316 (or equivalent), 20cm, 93±0.5 Ohms terminated.

QA/QC Approval: H. Mathews Date: 11-29-23

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Log Linearity and Log Accuracy @ +25°C

DC Offset= 0.066 V

Frequency		
0.5 GHz	INTERCEPT (mV)	2325
	SLOPE (mV/dB)	50

1 GHz	INTERCEPT (mV)	2343
	SLOPE (mV/dB)	49.9

2 GHz	INTERCEPT (mV)	2348
	SLOPE (mV/dB)	50.2

Flatness +/- dB		
Max Video Output Volts		
Min Video Output Volts		

	-40	-35	-30	-25	-20	-15	-10	-5	0
	334	576	820	1054	1323	1587	1814	2074	2333
	11	3	-4	-20	-1	13	-10	0	8
	0.22	0.05	-0.07	-0.39	-0.02	0.26	-0.20	-0.01	0.17
	-0.32	-0.48	-0.60	-0.92	-0.54	-0.26	-0.72	-0.52	-0.34
	357	597	843	1080	1348	1609	1835	2093	2347
	9	0	-4	-16	3	14	-9	0	4
	0.18	-0.01	-0.08	-0.32	0.05	0.28	-0.18	-0.01	0.08
	0.14	-0.06	-0.14	-0.40	-0.04	0.18	-0.30	-0.14	-0.06
	353	593	839	1075	1346	1607	1838	2098	2355
	12	1	-4	-19	1	11	-9	0	7
	0.23	0.02	-0.08	-0.38	0.02	0.22	-0.17	0.01	0.13
	0.36	-0.14	-0.22	-0.50	-0.08	0.14	-0.24	-0.04	0.19
	0.20	0.20	0.20	0.30	0.30	0.20	0.20	0.20	0.20
	0.36	0.60	0.84	1.08	1.35	1.61	1.84	2.10	2.36
	0.33	0.58	0.82	1.05	1.32	1.59	1.81	2.07	2.33

RF Input Power (dBm)		
Measured Value (mV)		Error(dB)
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.26	-0.39
LOGGING ACCURACY (dB)	-0.26	-0.92

Measured Value (mV)		Error(dB)
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.28	-0.32
LOGGING ACCURACY (dB)	0.18	-0.40

Measured Value (mV)		Error(dB)
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.23	-0.38
LOGGING ACCURACY (dB)	0.14	-0.50

Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.28	-0.39

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB)	0.18	-0.92

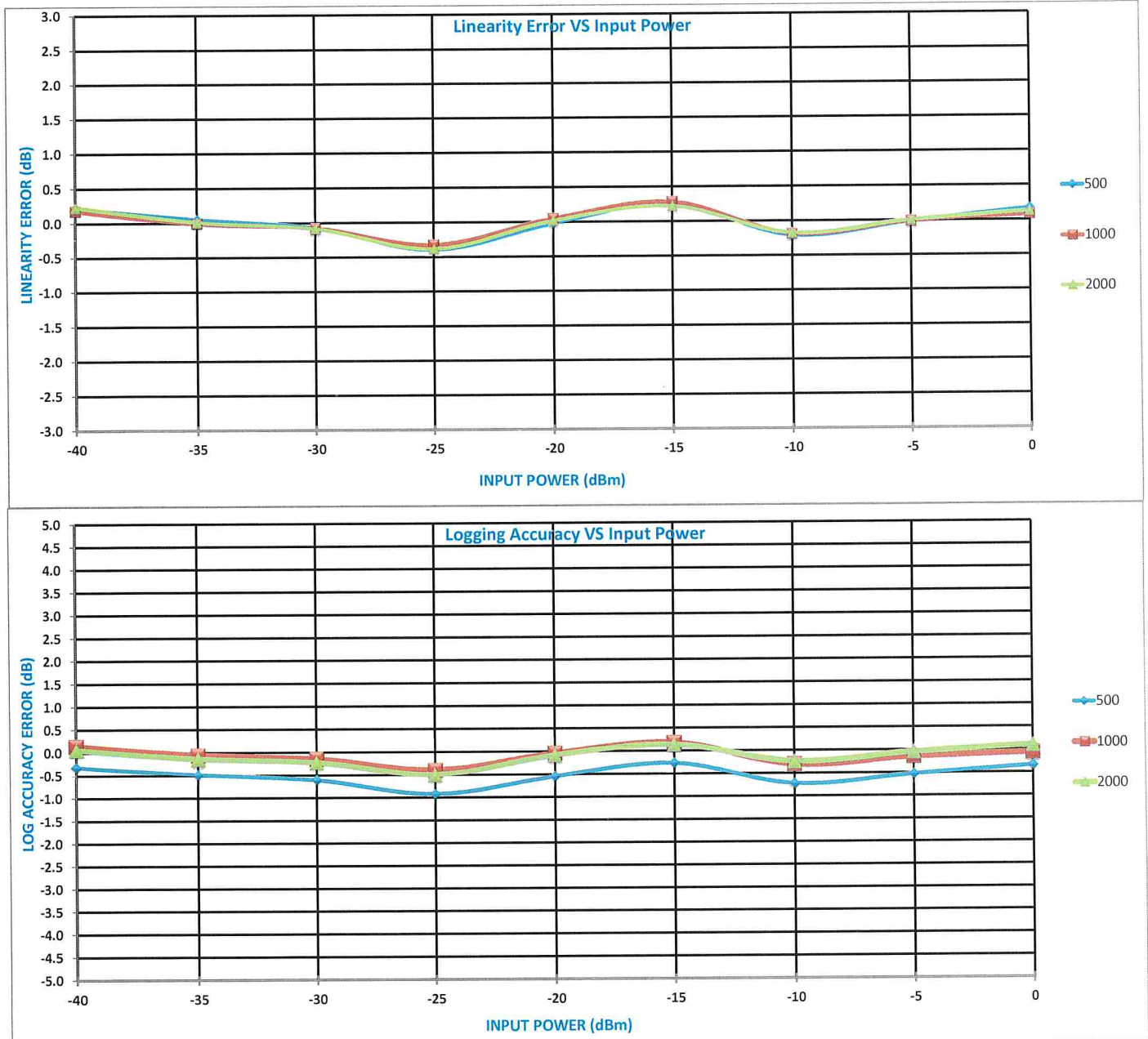
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# SUMMARY TEST DATA ON HADA-D2001

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## Log Linearity and Log Accuracy @ +25°C



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**SUMMARY TEST DATA  
ON  
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PL42787/2346

Log Linearity and Log Accuracy @ -40°C

DC Offset= 0.013 V

Frequency		
0.5 GHz	INTERCEPT (mV)	2316
	SLOPE (mV/dB)	49.6

1 GHz	INTERCEPT (mV)	2334
	SLOPE (mV/dB)	49.4

2 GHz	INTERCEPT (mV)	2346
	SLOPE (mV/dB)	49.7

Flatness +/- dB	
Max Video Output Volts	
Min Video Output Volts	

	-40	-35	-30	-25	-20	-15	-10	-5	0
	326	578	829	1066	1330	1590	1820	2063	2309
	-5	-1	2	-9	7	18	0	-5	-7
	-0.09	-0.02	0.04	-0.19	0.13	0.37	0.00	-0.10	-0.15
	-0.48	-0.44	-0.42	-0.68	-0.40	-0.20	-0.60	-0.74	-0.82
	354	601	853	1095	1358	1614	1844	2081	2322
	-5	-5	0	-5	11	20	3	-7	-12
	-0.11	-0.11	0.00	-0.10	0.23	0.41	0.07	-0.13	-0.25
	0.08	0.02	0.06	-0.10	0.16	0.28	-0.12	-0.38	-0.56
	355	602	854	1095	1361	1616	1854	2090	2338
	-2	-4	0	-5	9	16	5	-8	-8
	-0.04	-0.08	-0.01	-0.16	0.19	0.32	0.10	-0.15	-0.16
	0.10	0.04	0.06	-0.10	0.22	0.32	0.06	-0.20	-0.24
	0.30	0.20	0.30	0.30	0.30	0.30	0.30	0.30	0.30
	0.36	0.60	0.85	1.10	1.36	1.62	1.85	2.09	2.34
	0.33	0.58	0.83	1.07	1.33	1.59	1.82	2.06	2.31

**RF Input Power (dBm)**

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.37	-0.19
LOGGING ACCURACY (dB)	-0.20	-0.82

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.41	-0.25
LOGGING ACCURACY (dB)	0.28	-0.56

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.32	-0.16
LOGGING ACCURACY (dB)	0.32	-0.24

Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.41	-0.25

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB)	0.32	-0.82

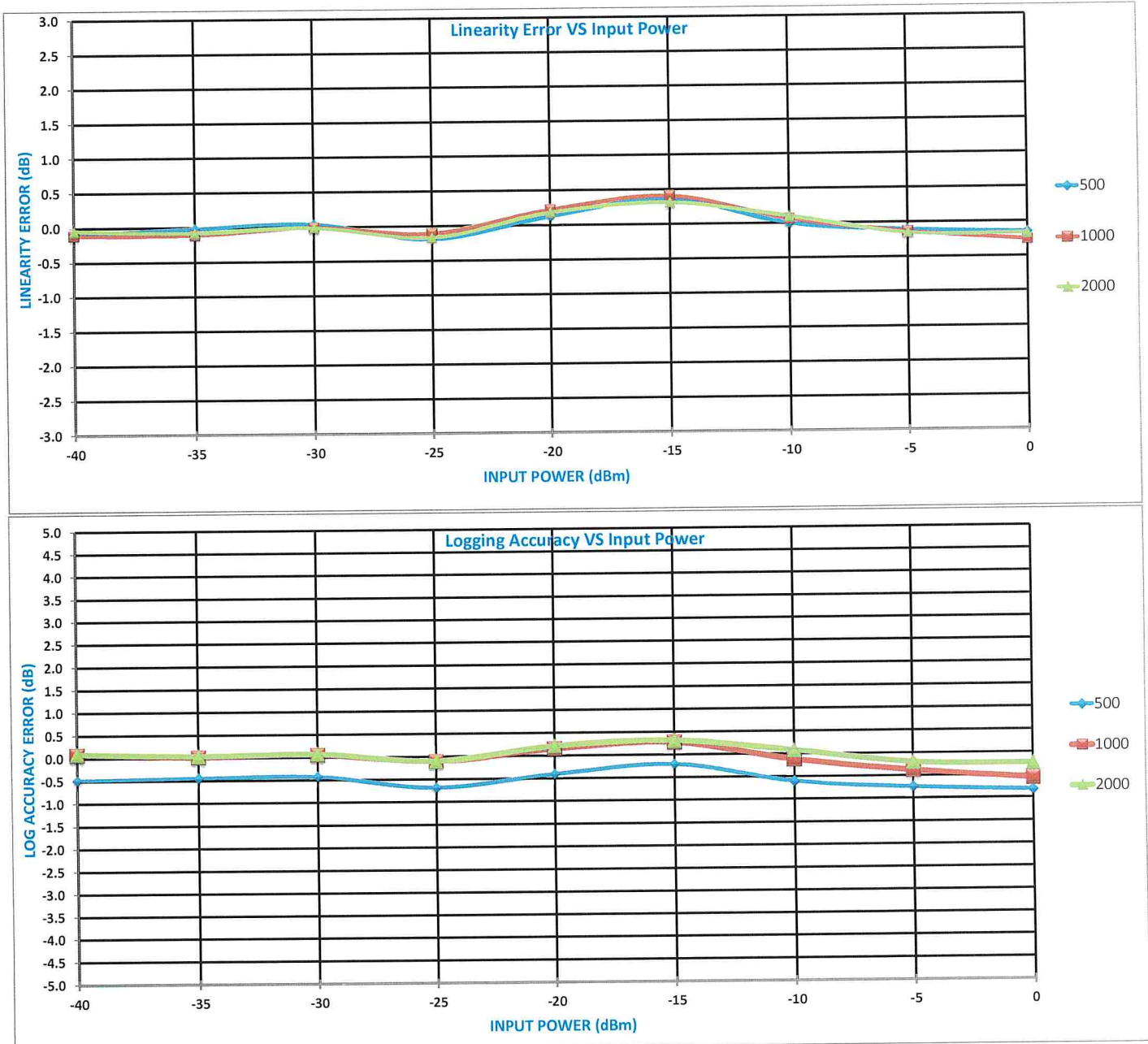
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# SUMMARY TEST DATA ON HADA-D2001

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## Log Linearity and Log Accuracy @ -40°C



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PL42787/2346

Log Linearity and Log Accuracy @ +85°C

DC Offset= 0.051 V

Frequency		
0.5 GHz	INTERCEPT (mV)	2360
	SLOPE (mV/dB)	51.3

1 GHz	INTERCEPT (mV)	2383
	SLOPE (mV/dB)	51.1

2 GHz	INTERCEPT (mV)	2391
	SLOPE (mV/dB)	51.4

Flatness +/- dB	
Max Video Output Volts	
Min Video Output Volts	

	-40	-35	-30	-25	-20	-15	-10	-5	0
	302	581	828	1065	1335	1601	1830	2099	2374
	-8	15	6	-14	0	10	-18	-5	14
	-0.15	0.29	0.11	-0.27	0.00	0.19	-0.35	-0.10	0.26
	-0.96	-0.38	-0.44	-0.70	-0.30	0.02	-0.40	-0.02	0.48
	330	607	856	1094	1364	1629	1854	2125	2391
	-9	12	6	-12	3	12	-18	-3	8
	-0.18	0.24	0.11	-0.23	0.06	0.24	-0.35	-0.05	0.16
	-0.40	0.14	0.12	-0.12	0.28	0.58	0.08	0.50	0.82
	329	606	855	1092	1365	1629	1860	2133	2401
	-7	13	6	-14	2	9	-17	-1	10
	-0.13	0.26	0.11	-0.28	0.03	0.17	-0.33	-0.02	0.19
	-0.42	0.12	0.10	-0.16	0.30	0.58	0.20	0.56	1.02
	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
	0.33	0.61	0.86	1.09	1.37	1.63	1.86	2.13	2.40
	0.30	0.58	0.83	1.07	1.34	1.60	1.83	2.10	2.37

RF Input Power (dBm)		
Measured Value (mV)		Error(dB)
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.29	-0.35
LOGGING ACCURACY (dB)	0.48	-0.96

Measured Value (mV)		Error(dB)
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.24	-0.35
LOGGING ACCURACY (dB)	0.82	-0.40

Measured Value (mV)		Error(dB)
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.26	-0.33
LOGGING ACCURACY (dB)	1.02	-0.42

Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.29	-0.35

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB)	1.02	-0.96

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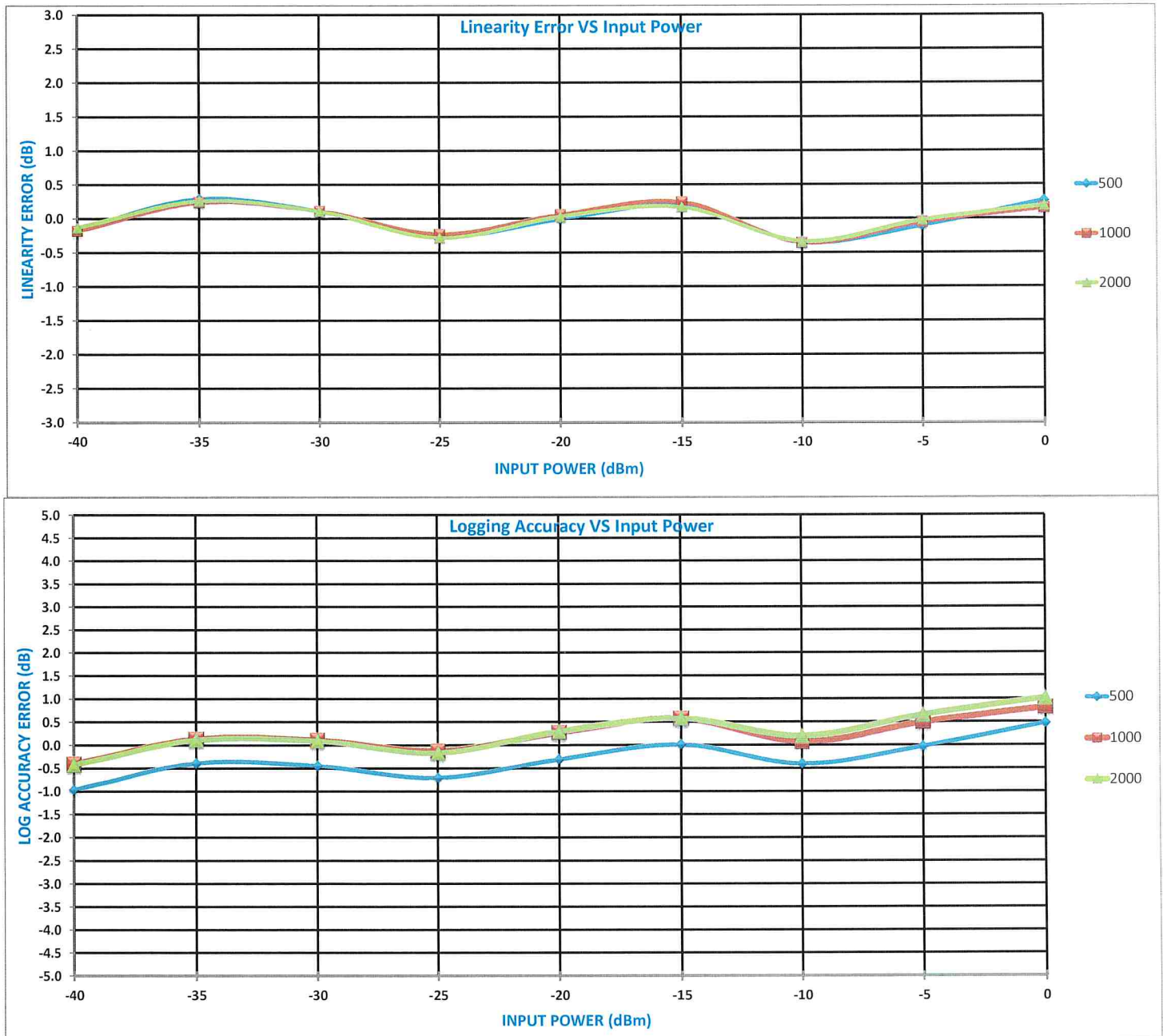




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Log Linearity and Log Accuracy @ +85°C



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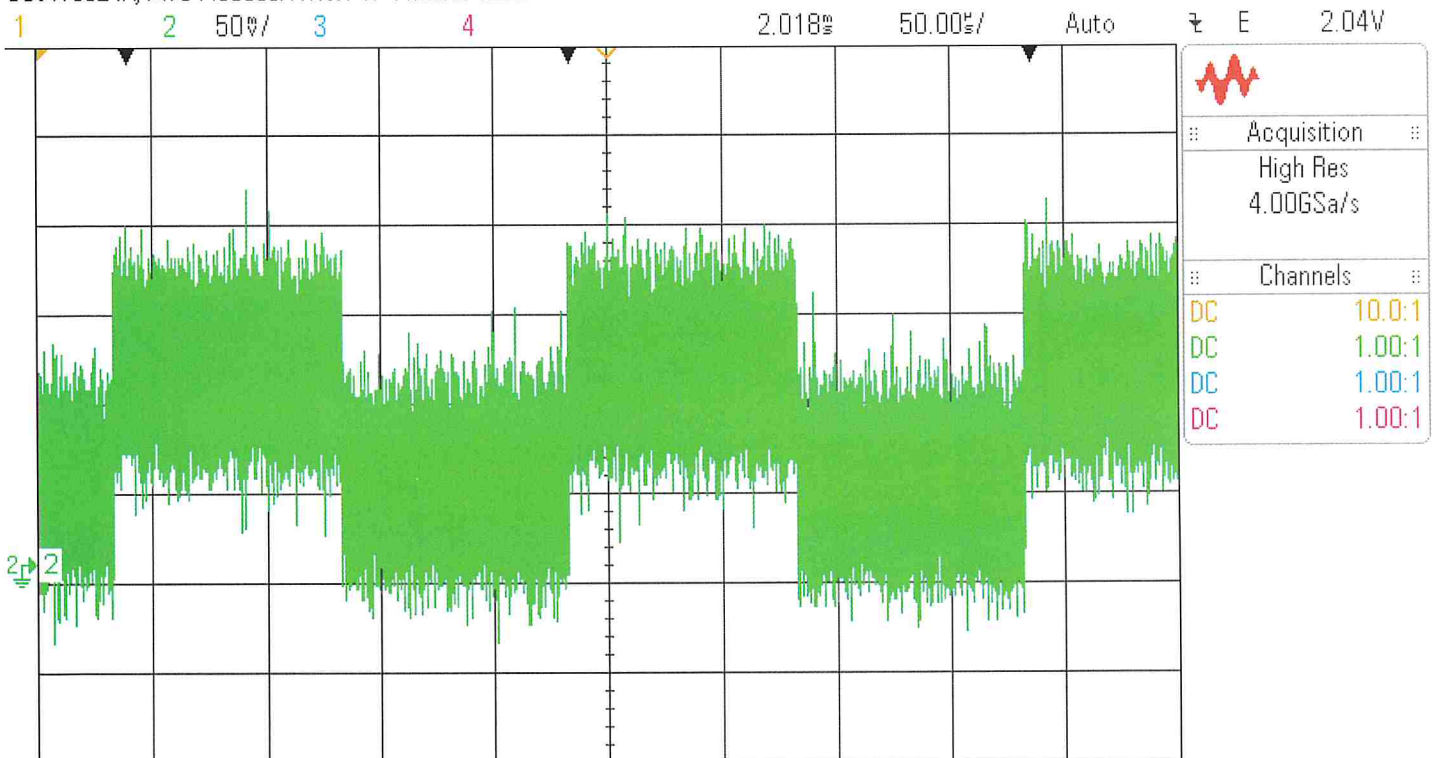


**SUMMARY TEST DATA  
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HADA-D2001**

PL42787/2346

TSS -46 dBm

DSO-X 3024A, MY54490369: Fri Nov 17 11:58:37 2023



Default Menu

Undo Default Setup    Default Setup    Factory Default    Secure Erase

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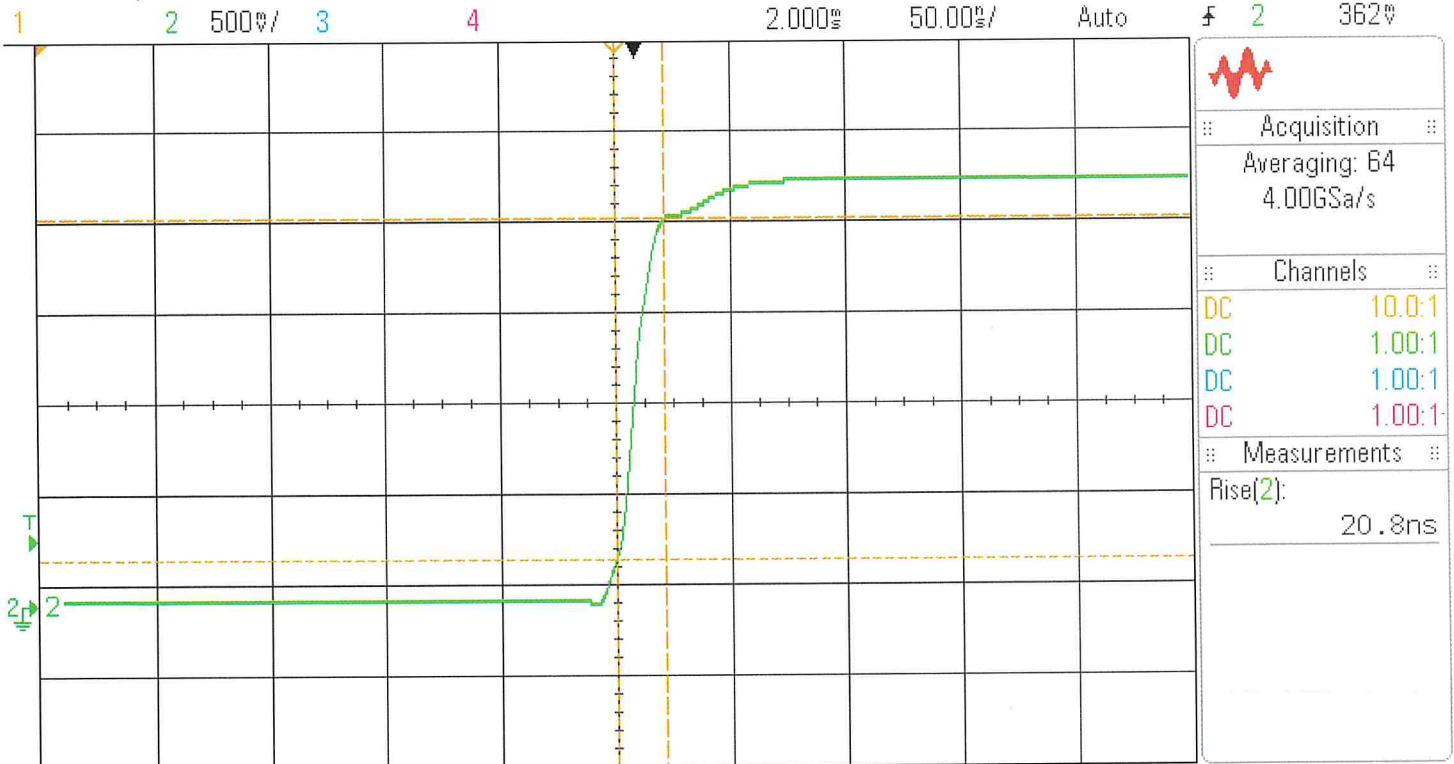


SUMMARY TEST DATA  
ON  
HADA-D2001

PL42787/2346

Rise Time 20.8 ns

DSO-X 3024A, MY54490369, Fri Nov 17 12:01:12 2023



Trigger Menu

Trigger Type: Edge  
 Source: 2  
 Slope: f

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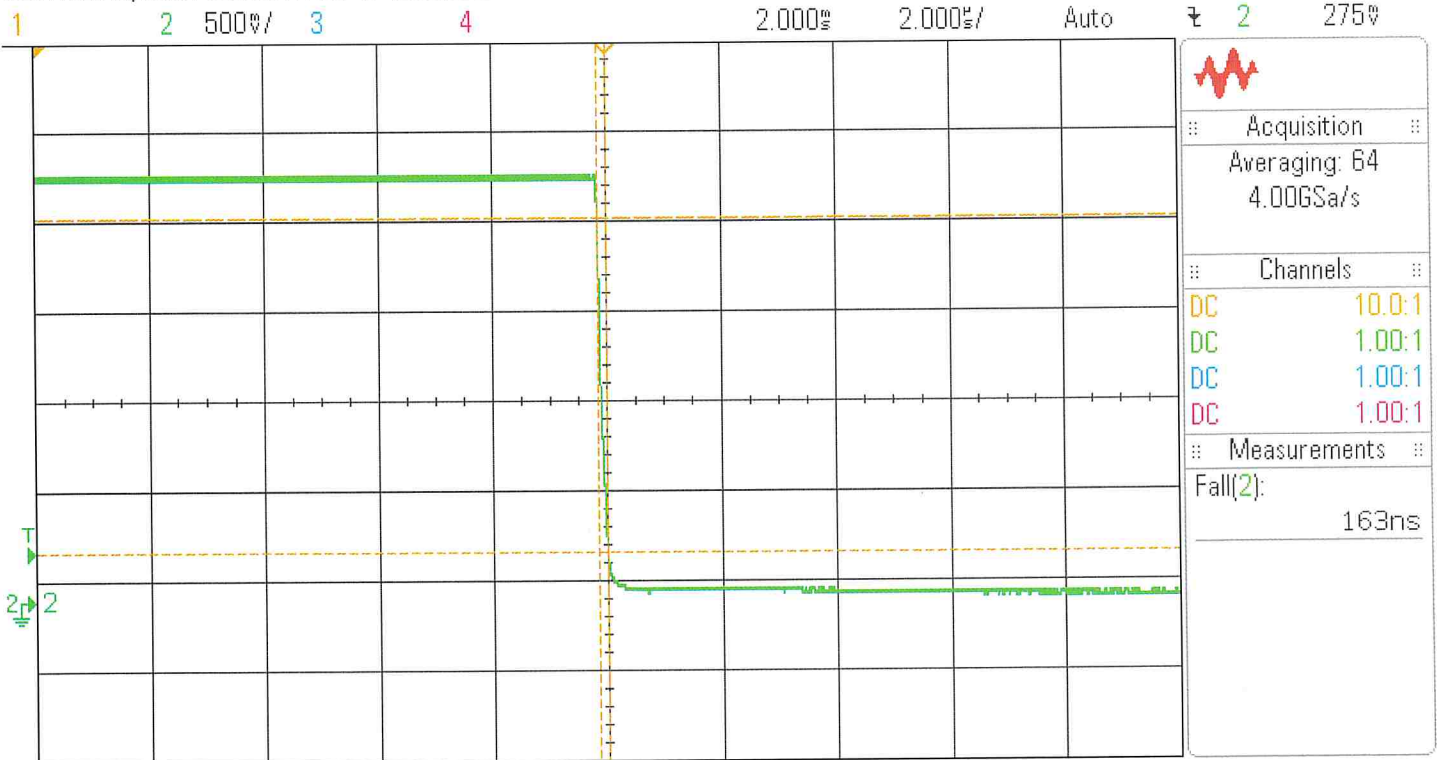


SUMMARY TEST DATA  
ON  
HADA-D2001

PL42787/2346

Fall Time 163 ns

DSO-X 3024A, MY54490369, Fri Nov 17 12:02:23 2023



Trigger Menu

Trigger Type Edge	Source 2	Slope ↓
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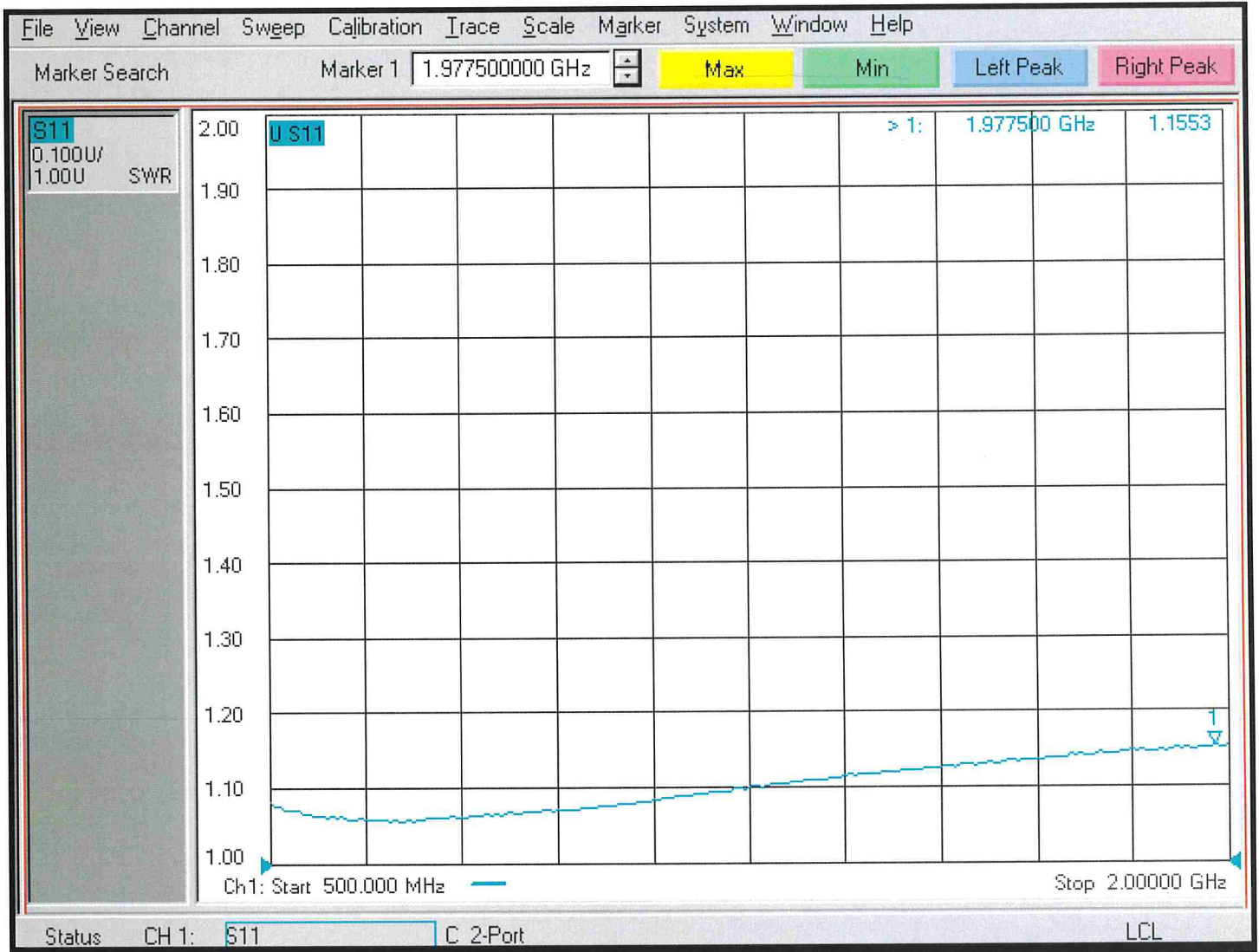




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VSWR 1.15:1



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