



**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

<b>Customer:</b> _____	<b>Tested By:</b> <u>Joshua Monley</u>
<b>SO No:</b> _____	<b>Temperature:</b> <u>+25°C -40°C +85°C</u>
<b>Model No:</b> <u>HADA-D2001</u>	<b>Date:</b> <u>1/23/2025</u>
<b>Serial No:</b> <u>PL47258/2504</u>	<b>Drawing No:</b> <u>27620201</u> <b>Rev:</b> <u>A1</u>

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.5 GHz – 2.0 GHz	<b>0.5 GHz – 2.0 GHz</b> See Plot	<b>PMI</b> <b>QA3</b>
2	TSS:	-44 dBm Min @ -40°C to +85°	<b>-44.3 dBm</b> See Plot	
3	Frequency Flatness:	±0.75 dB Max	<b>±0.2 dB</b> See Plot	
4	Input / Output Characteristics: (93 Ω)	Y = 2350 + 50X [X: Input (dBm), Y: Output (mv)]	<b>Pass</b>	
5	Logging Accuracy	±1.5 dB Max (@ +25°C, 1.0 GHz) [-40 dBm ≤ INPUT ≤ 0 dBm] ±2.2 dB Max (Note)	<b>+0.16 / -0.56 dB</b> <b>+0.42 / -1.76 dB</b> See Plot	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	<b>+0.41 / -0.44 dB</b> <b>+0.62 / -0.55 dB</b> See Plot	
7	Maximum Input Power (CW):	+23 dBm	<b>Pass</b>	
8	Duty Cycle:	100%	<b>Pass</b>	
9	Rise Time:	30 ns Max (10% to 90%)	<b>25.3 ns</b> See Plot	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	<b>147 ns</b> See Plot	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	<b>+47 mV @ +25°C</b> <b>-38 mV @ -40°C</b> <b>+86 mV @ +85°C</b>	
12	Input VSWR:	2.5:1 Max @ +23 dBm	<b>1.28:1</b> See Plot	
13	Propagation Delay:	60 ns Max	<b>40 ns</b>	

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14	Power Supply:	+12 ± 1VDC @ 125 mA Max -12 ± 1VDC @ 75 mA Max	<b>85 mA</b> <b>40 mA</b>	PMI QA3
15	Warm Up Time:	2 Minutes Max	<b>2 Minutes</b>	/

\*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: *K. Klamm*

Date: 1-28-25



## SUMMARY TEST DATA ON HADA-D2001

PL47258/2504

Log Linearity and Log Accuracy @ +25°C

LOG TRANSFER WITH FREQUENCY  
 MODEL: HADA-D2001  
 TESTED BY: Joshua Monley  
 TEST DATE: 01/23/2025  
 SERIAL NO: PL47258  
 TEST TEMP: +25C

Graph #1

DC Offset= 0.047 V



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Frequency	INTERCEPT (mV)	2330
0.5 GHz	SLOPE (mV/dB)	50.2

1 GHz	INTERCEPT (mV)	2343
	SLOPE (mV/dB)	50.1

2 GHz	INTERCEPT (mV)	2343
	SLOPE (mV/dB)	50.2

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

	-40	-35	-30	-25	-20	-15	-10	-5	0
	311	595	836	1066	1325	1573	1807	2085	2344
	-12	21	11	-10	-2	-5	-22	6	14
	-0.25	0.41	0.22	-0.20	-0.04	-0.09	-0.43	0.11	0.27
	-0.78	-0.10	-0.28	-0.68	-0.50	-0.54	-0.86	-0.30	-0.12
	328	608	850	1080	1338	1587	1822	2099	2356
	-10	19	10	-10	-3	-4	-20	6	13
	-0.21	0.38	0.21	-0.21	-0.06	-0.09	-0.40	0.13	0.25
	-0.44	0.16	0.00	-0.40	-0.24	-0.26	-0.56	-0.02	0.12
	327	605	847	1077	1334	1584	1819	2100	2358
	-3	15	10	-11	-5	-5	-22	8	15
	-0.16	0.38	0.20	-0.22	-0.10	-0.12	-0.44	0.16	0.30
	-0.46	0.10	-0.05	-0.46	-0.32	-0.32	-0.82	0.09	0.18
	0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	0.33	0.61	0.85	1.08	1.34	1.59	1.82	2.10	2.36
	0.31	0.60	0.84	1.07	1.33	1.57	1.81	2.09	2.34

**RF Input Power (dBm)**

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.41 -0.43
LOGGING ACCURACY (dB)	-0.10 -0.86

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.38 -0.40
LOGGING ACCURACY (dB)	0.16 -0.56

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.38 -0.44
LOGGING ACCURACY (dB)	0.16 -0.62

Logging Linearity vs Frequency	Error(dB)
	MAX MIN
TOTAL LOG LINEARITY (dB)	0.41 -0.44

Logging Accuracy vs Frequency	Error(dB)
	MAX MIN
TOTAL LOGGING ACCURACY (dB)	0.16 -0.86

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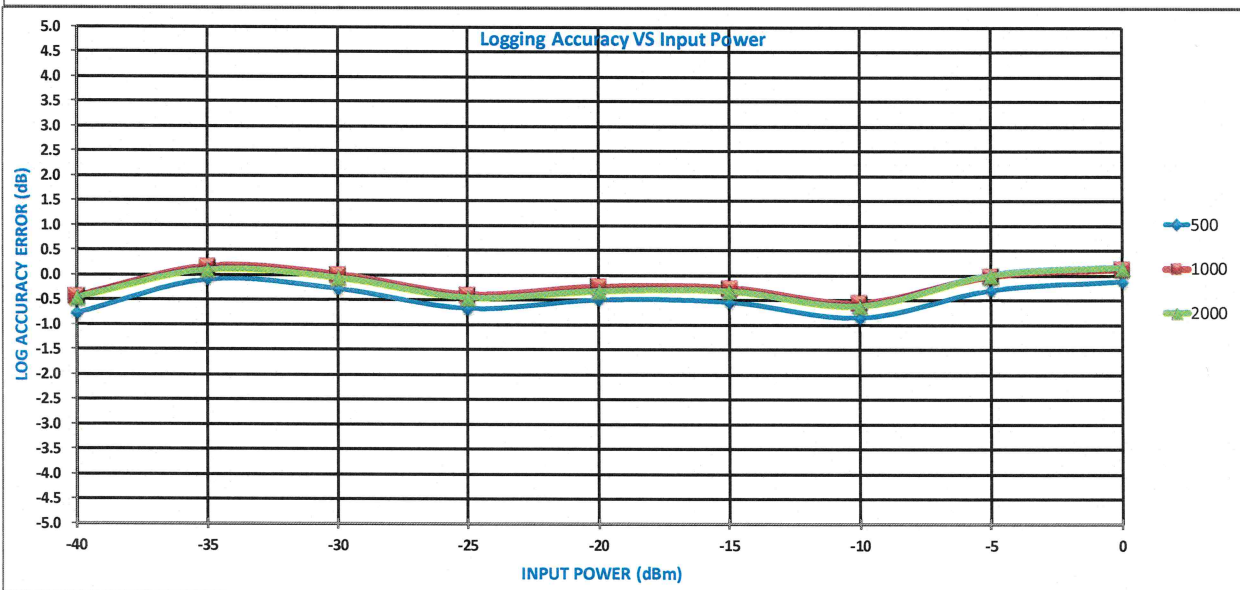
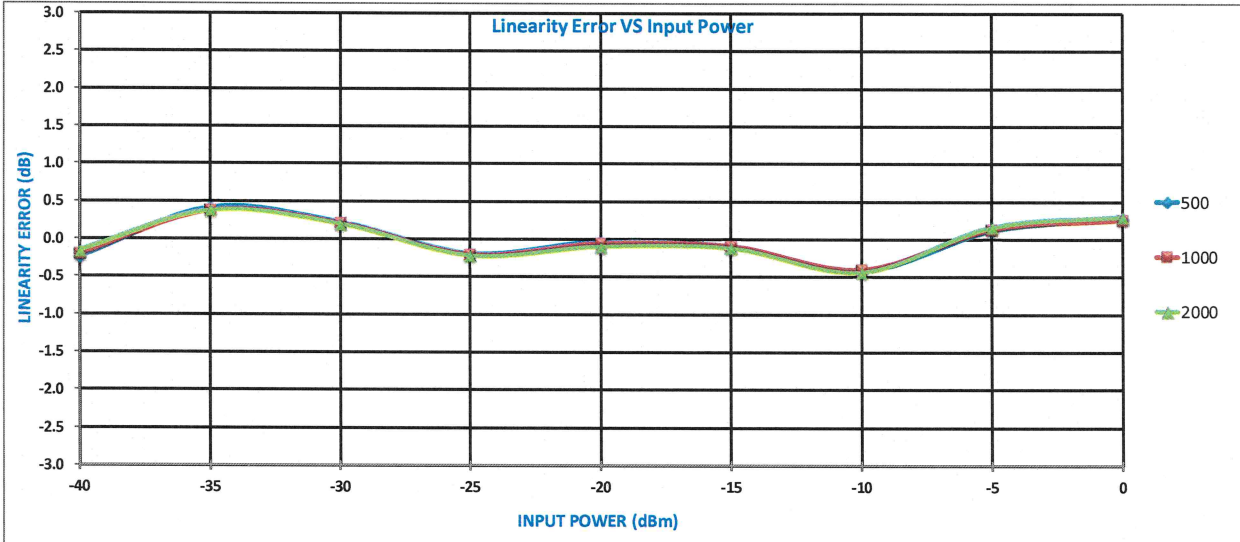


**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

Log Linearity and Log Accuracy @ +25°C

LOG TRANSFER WITH FREQUENCY  
MODEL: HADA-D2001  
TESTED BY: Joshua Monley  
SERIAL NO: PL47258  
TEST TEMP: +25C



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## SUMMARY TEST DATA ON HADA-D2001

PL47258/2504

Log Linearity and Log Accuracy @ -40°C

LOG TRANSFER WITH FREQUENCY  
 MODEL: HADA-D2001  
 TESTED BY: Joshua Monley  
 TEST DATE: 01/23/2025  
 SERIAL NO: PL47258  
 TEST TEMP: -40C

Graph #2

DC Offset= -0.038 V



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Frequency	INTERCEPT (mV)	2274
0.5 GHz	SLOPE (mV/dB)	49.8

1 GHz	INTERCEPT (mV)	2287
	SLOPE (mV/dB)	49.7

2 GHz	INTERCEPT (mV)	2287
	SLOPE (mV/dB)	49.8

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

	-40	-35	-30	-25	-20	-15	-10	-5	0
	262	544	790	1024	1282	1630	1788	2033	2267
	-19	14	11	-5	4	3	-8	8	-7
	-0.38	0.27	0.21	-0.09	0.08	0.06	-0.16	0.16	-0.15
	-1.76	-1.12	-1.20	-1.52	-1.36	-1.40	-1.64	-1.34	-1.66
	282	559	805	1041	1297	1546	1786	2047	2277
	-17	11	9	-4	4	4	-4	8	-10
	-0.35	0.23	0.18	-0.08	0.07	0.08	-0.09	0.16	-0.21
	-1.36	-0.82	-0.90	-1.18	-1.06	-1.08	-1.28	-1.06	-1.46
	281	556	802	1037	1292	1542	1783	2048	2279
	-12	-12	0	-5	7	2	-5	10	-6
	-0.29	0.23	0.18	-0.10	0.02	0.04	-0.12	0.20	-0.16
	-1.98	-0.89	-0.86	-1.28	-1.16	-1.16	-1.34	-1.04	-1.42
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
	0.28	0.56	0.81	1.04	1.30	1.55	1.79	2.05	2.28
	0.26	0.54	0.79	1.02	1.28	1.53	1.77	2.03	2.27

RF Input Power (dBm)

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.27 -0.38 x
LOGGING ACCURACY (dB)	-1.12 -1.76

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.23 -0.35
LOGGING ACCURACY (dB)	-0.82 -1.46

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.23 -0.29
LOGGING ACCURACY (dB)	-0.88 -1.42

Logging Linearity vs Frequency	Error(dB)
	MAX MIN
TOTAL LOG LINEARITY (dB)	0.27 -0.38

Logging Accuracy vs Frequency	Error(dB)
	MAX MIN
TOTAL LOGGING ACCURACY (dB)	-0.82 -1.76

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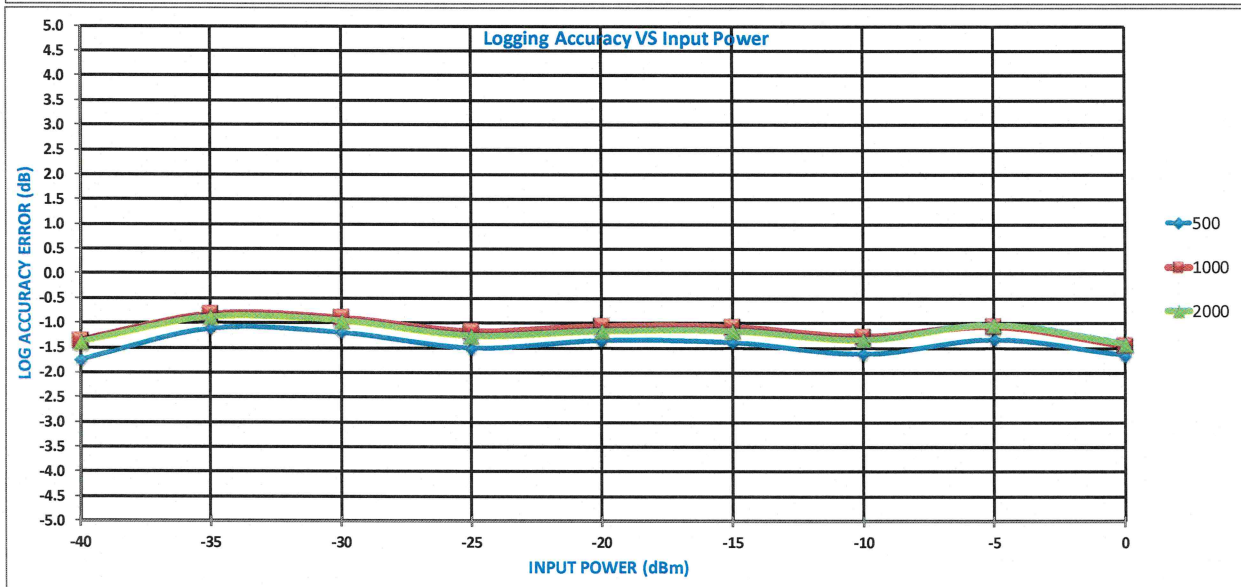
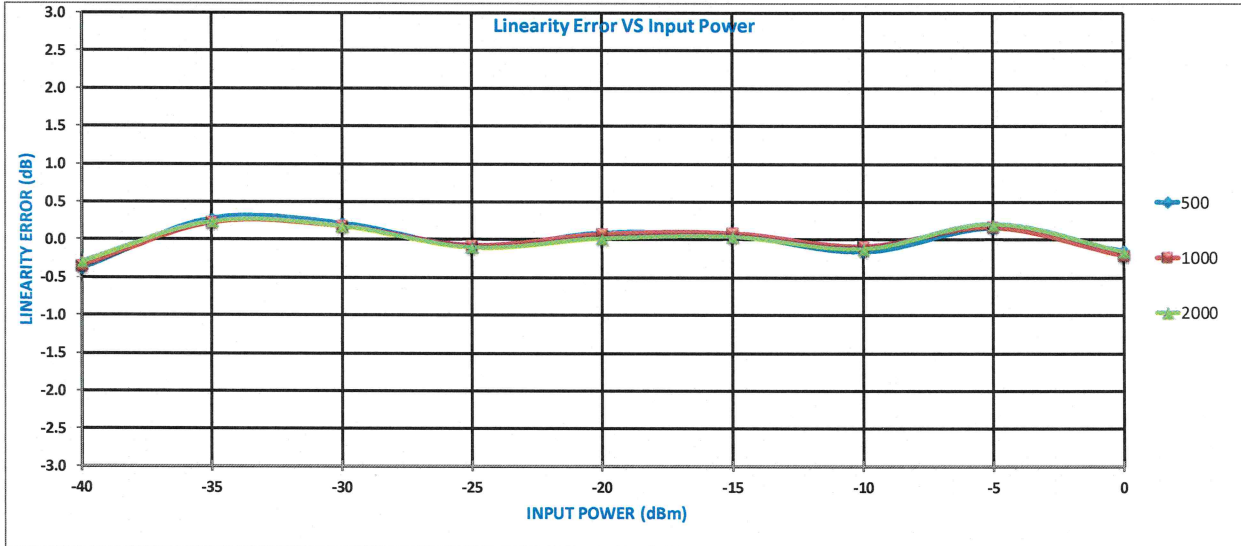


**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

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

LOG TRANSFER WITH FREQUENCY  
MODEL: HADA-D2001  
TESTED BY: Joshua Monley  
SERIAL NO: PL47258  
TEST TEMP: -40C



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**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

Log Linearity and Log Accuracy @ +85°C

LOG TRANSFER WITH FREQUENCY  
MODEL: HADA-D2001  
TESTED BY: Joshua Monley  
TEST DATE: 01/23/2025  
SERIAL NO: PL47258  
TEST TEMP: +85C

Graph #3

DC Offset= 0.086 V



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Frequency	INTERCEPT (mV)	2324
0.5 GHz	SLOPE (mV/dB)	50.2

1 GHz	INTERCEPT (mV)	2339
	SLOPE (mV/dB)	50.2

2 GHz	INTERCEPT (mV)	2340
	SLOPE (mV/dB)	50.2

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

	-40	-35	-30	-25	-20	-15	-10	-5	0
	312	591	826	1055	1314	1559	1795	2073	2354
	-4	24	8	-14	-6	-12	-27	0	30
	-0.08	0.48	0.16	-0.28	-0.12	-0.24	-0.53	0.01	0.61
	-0.76	-0.18	-0.48	-0.90	-0.72	-0.82	-1.10	-0.54	0.08
	329	606	842	1070	1328	1575	1812	2091	2367
	-3	23	8	-15	-8	-11	-25	3	28
	-0.06	0.46	0.16	-0.29	-0.15	-0.23	-0.50	0.06	0.56
	-0.42	0.12	-0.16	-0.60	-0.44	-0.50	-0.76	-0.18	0.34
	330	605	840	1068	1325	1573	1810	2093	2371
	0	24	7	-15	-8	-13	-27	4	31
	0.00	0.47	0.15	-0.31	-0.20	-0.26	-0.55	0.09	0.62
	-0.30	0.10	-0.20	-0.64	-0.53	-0.54	-0.80	-0.14	0.42
	0.20	0.10	0.20	0.10	0.10	0.20	0.20	0.20	0.20
	0.33	0.61	0.84	1.07	1.33	1.58	1.81	2.09	2.37
	0.31	0.59	0.83	1.06	1.31	1.56	1.80	2.07	2.35

RF Input Power (dBm)

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.61 -0.53
LOGGING ACCURACY (dB)	0.08 -1.10

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.56 -0.50
LOGGING ACCURACY (dB)	0.34 -0.76

Measured Value (mV)	Error(dB)
Error (mV)	MAX MIN
LINEARITY ERROR (dB)	0.62 -0.55 x
LOGGING ACCURACY (dB)	0.42 -0.80

Logging Linearity vs Frequency	Error(dB)
	MAX MIN
TOTAL LOG LINEARITY (dB)	0.62 -0.55

Logging Accuracy vs Frequency	Error(dB)
	MAX MIN
TOTAL LOGGING ACCURACY (dB)	0.42 -1.10

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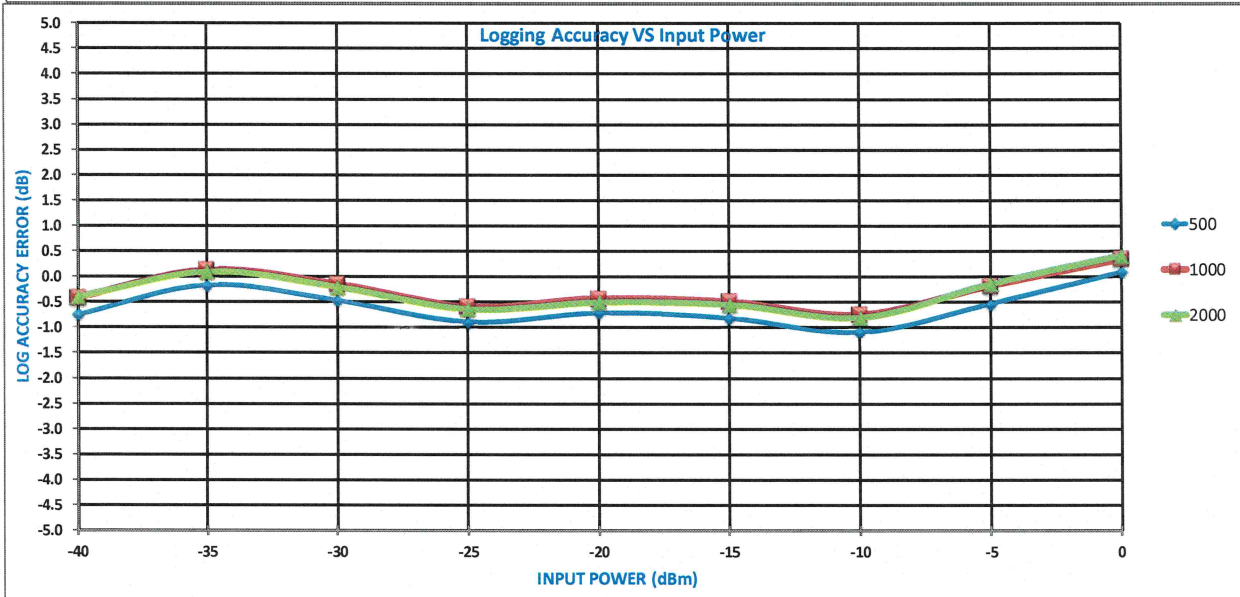
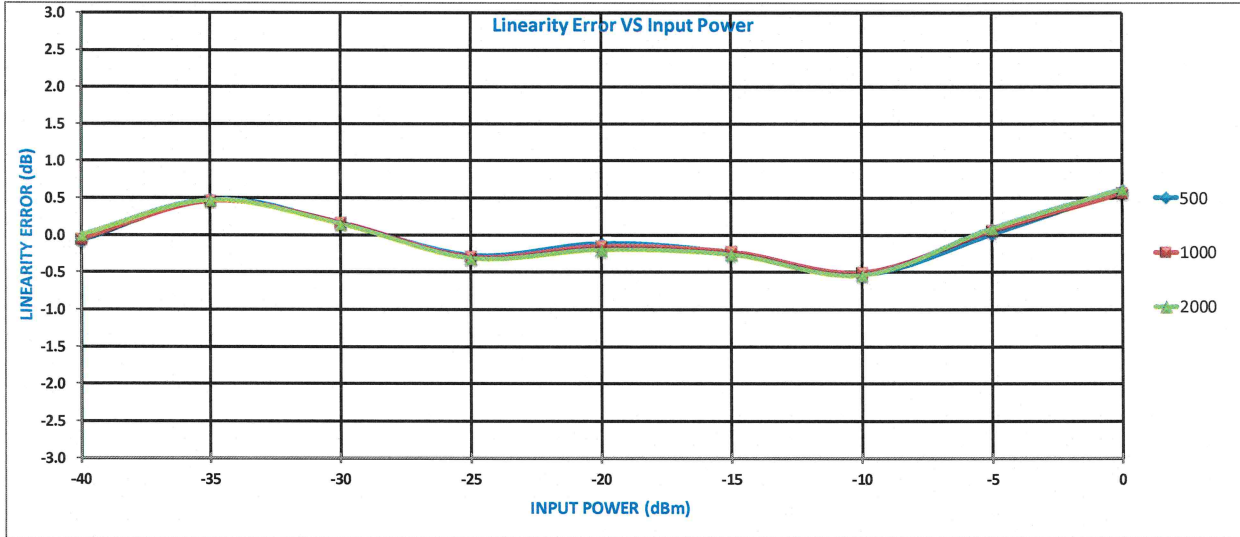


# SUMMARY TEST DATA ON HADA-D2001

PL47258/2504

## Log Linearity and Log Accuracy @ +85°C

LOG TRANSFER WITH FREQUENCY  
MODEL: HADA-D2001  
TESTED BY: Joshua Monley  
SERIAL NO: PL47258  
TEST TEMP: +85C



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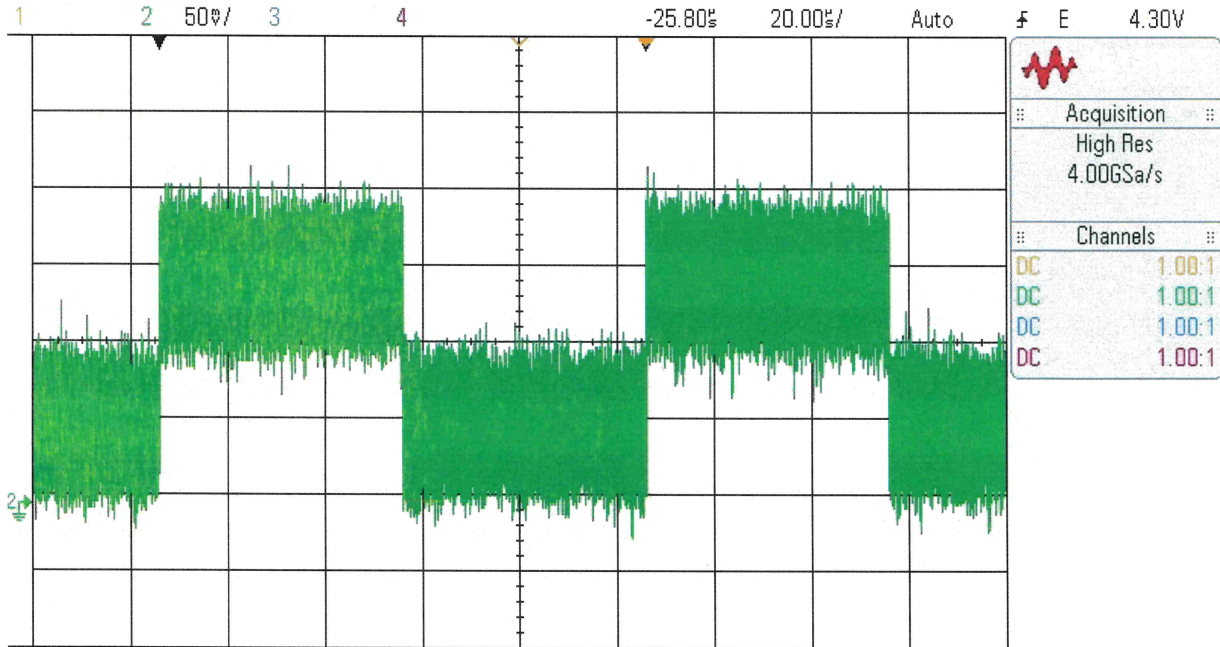


**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

TSS -44.3 dBm

MSO-X 3054A, MY53400180: Tue Jan 21 14:49:48 2025



Acquire Menu

Acq Mode High Res # Avgs 1

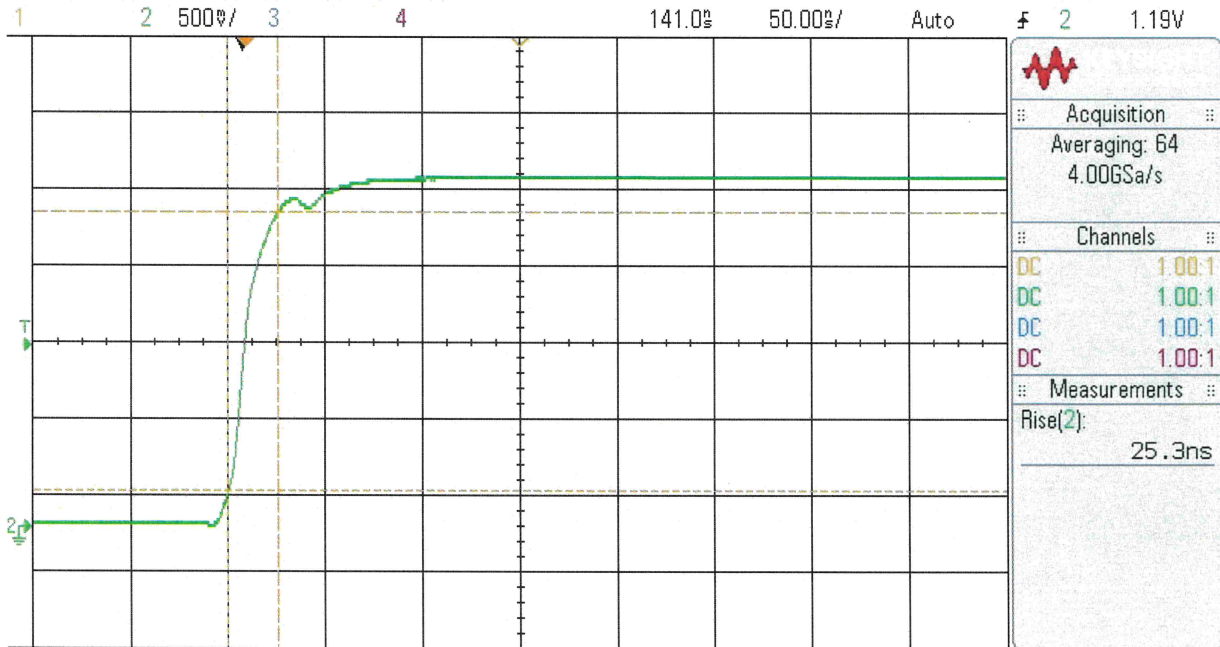


**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

Rise Time

MSO-X 3054A, MY53400180: Tue Jan 21 14:40:44 2025



Clear Measurements Menu

Clear Meas 1 Rise(2)	Clear Meas 2 <None>	Clear Meas 3 <None>	Clear Meas 4 <None>	Clear All
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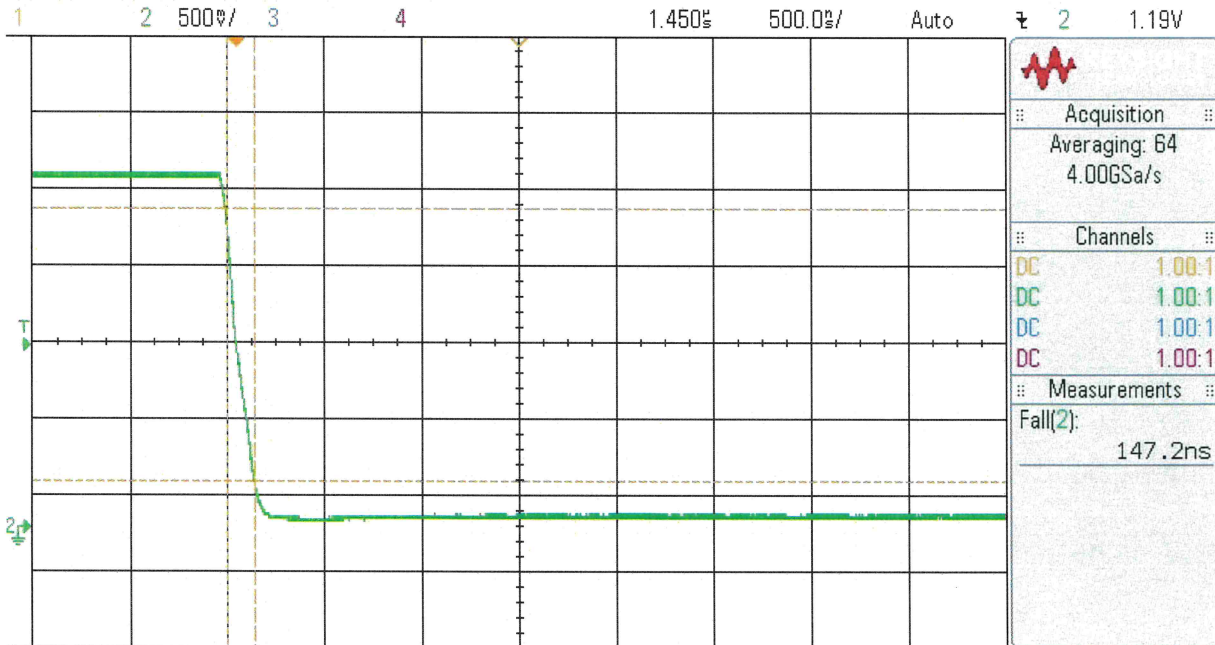


**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

Fall Time

MSO-X 3054A, MY53400180: Tue Jan 21 14:28:00 2025



Clear Measurements Menu

- Clear Meas 1  
Fall(2)
- Clear Meas 2  
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- Clear Meas 3  
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- Clear Meas 4  
<None>
- Clear  
All

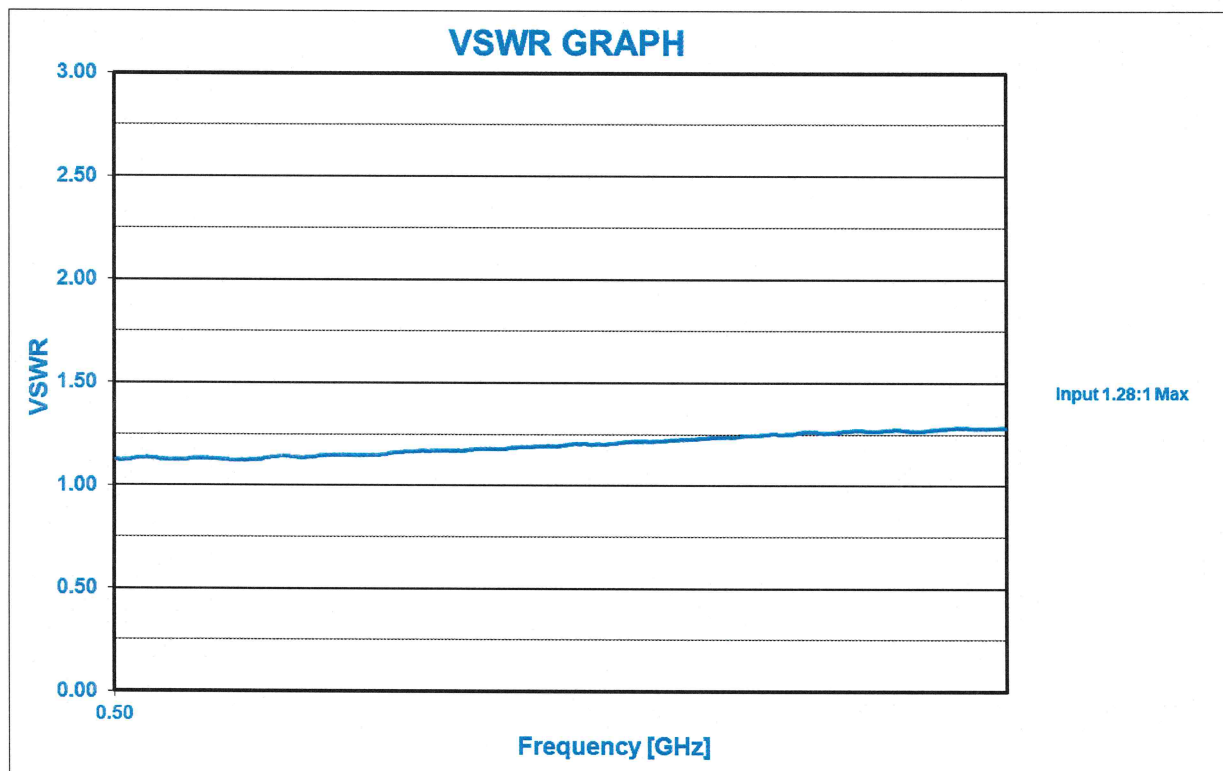
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**SUMMARY TEST DATA  
ON  
HADA-D2001**

PL47258/2504

VSWR



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