

**SUMMARY TEST DATA
ON
HADA-D2002**

Customer: _____
SO No: _____
Model No: HADA-D2002
Serial No: PL56746/2550

Tested By: Justen Gayduchik
Temperature: +25°C (Unless otherwise specified)
Date: 2/9/2026
Drawing No: 27620222 Rev: A2

Test. Item No	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA
			+25°C	-40°	+85°C	QC
1	Frequency Range.	2.0 GHz – 18.0 GHz	2.0 GHz – 18.0 GHz			PMI QA3
2	TSS:	-40 dBm Min	-42.6 dBm	NA	NA	
3	Frequency Flatness:	±1.65 dB Max	± 0.48 dB	± 0.57 dB	± 0.59 dB	
4	Input / Output Characteristics: (93 Ω)	Y = 2150 + 50X [X: Input (dBm), Y: Output (mv)]	Pass	Pass	Pass	
5	Logging Accuracy	±1.5 dB Max (@ +25°C, 10 GHz)* [-36 dBm ≤ INPUT ≤ +4 dBm] ±3.1 dB Max (Note)	0.52 dB / -0.38 dB @ 10GHZ 0.78 dB / -0.48 dB @ ALL OTHER FREQUENCY	1.06 dB / -0.44 dB	0.92 dB / -0.92 dB	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	0.26 dB / -0.32 dB	0.35 dB / -0.34 dB	0.45 dB / -0.45 dB	
7	Maximum Input Power (CW):	+23 dBm	Pass	Pass	Pass	
8	Duty Cycle:	100%	Pass	Pass	Pass	
9	Rise Time:	30 ns Max (10% to 90%)	16.4 ns			
10	Fall Time:	500 ns Max (@ Pulse width 100µs input) (90% to 10%)	86.6 ns			
11	DC Offset: (Input 50 Ω terminated)	+95 mV +55/-100 mV	67 mV @ +25°c	79 mV @ -40°c	92 mV @ +85°c	

*Notes: Includes Frequency Flatness. Input Power, Temperature Deviation and Deviation for DC Offset. The test shall be performed using RG-62 (or equivalent), 5 meter, 93±0.5 Ohms terminated.

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			+25°C	-40°	+85°C	QC
12	Input VSWR:	3.0:1 Max @ +23 dBm	1.75:1	NA	NA	PMI QA?
13	Propagation Delay:	60 ns Max	Pass	Pass	Pass	
14	Power Supply:	+12 ± 1VDC @ 125 mA Max -12 ± 1VDC @ 75 mA Max	+12 ± 1VDC @ 120 mA Max -12 ± 1VDC @ 70 mA Max	NA	NA	
15	Warm Up Time:	2 Minutes Max	<2 Minutes	<2 Minutes	<2 Minutes	

QA/QC Approval: K. Klamm

Date: 2-10-26



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C
 MODEL: HADA-D2002
 SERIAL NO: PL56746
 TESTED BY: Justen Gayduchik
 DATE: 12/12/2025



PLANAR MONOLITHICS INDUSTRIES
 4921 Robert J. Mathews Parkway Suit 1
 El Dorado Hills, CA 95762
 TEL: 916-542-1401 FAX: 916-265-2597
 EMAIL: SALES@PMI-RF.COM

GRAPH #1

Output Voltage Offset= 0.067 Volts

Frequency

2 GHz	INTERCEPT (mV)	2156
	SLOPE (mV/dB)	50.7

6 GHz	INTERCEPT (mV)	2181
	SLOPE (mV/dB)	50.3

10 GHz	INTERCEPT (mV)	2161
	SLOPE (mV/dB)	51

14 GHz	INTERCEPT (mV)	2154
	SLOPE (mV/dB)	50.8

18 GHz	INTERCEPT (mV)	2178
	SLOPE (mV/dB)	51.3

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

										RF Input Power (dBm)								
	-36	-31	-26	-21	-16	-11	-6	-1	4	Measured Value (mV)	Error(dB)							
2 GHz	334	580	831	1081	1356	1611	1841	2106	2357	Measured Value (mV)	Error(dB)							
	5	-3	-6	-9	12	13	-10	1	-2	Error (mV)	MAX MIN							
	0.09	-0.06	-0.11	-0.19	0.23	0.26	-0.21	0.02	-0.04	LINEARITY ERROR (dB)	0.26 -0.21							
	-0.32	-0.40	-0.38	-0.38	0.12	0.22	-0.18	0.12	0.14	LOGGING ACCURACY (dB)	0.22 -0.40							
6 GHz	373	617	875	1127	1384	1634	1865	2127	2389	Measured Value (mV)	Error(dB)							
	2	-6	1	2	7	6	-14	-4	7	Error (mV)	MAX MIN							
	0.03	-0.11	0.02	0.03	0.14	0.12	-0.29	-0.08	0.14	LINEARITY ERROR (dB)	0.14 -0.29							
	0.46	0.34	0.50	0.54	0.68	0.68	0.30	0.54	0.78	LOGGING ACCURACY (dB)	0.78 0.30							
10 GHz	331	581	836	1087	1343	1602	1839	2113	2376	Measured Value (mV)	Error(dB)							
	5	1	1	-3	-2	2	-16	3	11	Error (mV)	MAX MIN							
	0.11	0.01	0.01	-0.07	-0.05	0.03	-0.32	0.06	0.21	LINEARITY ERROR (dB)	0.21 -0.32							
	-0.38	-0.38	-0.28	-0.26	-0.14	0.04	-0.22	0.26	0.52	LOGGING ACCURACY (dB)	0.52 -0.38							
14 GHz	326	577	830	1078	1348	1604	1839	2103	2358	Measured Value (mV)	Error(dB)							
	2	-1	-2	-8	8	10	-10	0	1	Error (mV)	MAX MIN							
	0.05	-0.02	-0.04	-0.16	0.15	0.19	-0.19	0.00	0.02	LINEARITY ERROR (dB)	0.19 -0.19							
	-0.48	-0.46	-0.40	-0.44	-0.04	0.08	-0.22	0.06	0.16	LOGGING ACCURACY (dB)	0.16 -0.48							
18 GHz	335	584	839	1090	1363	1624	1863	2138	2375	Measured Value (mV)	Error(dB)							
	5	-3	-4	-10	6	10	-7	11	-9	Error (mV)	MAX MIN							
	0.10	-0.05	-0.08	-0.20	0.12	0.20	-0.14	0.21	-0.17	LINEARITY ERROR (dB)	0.21 -0.20							
	-0.30	-0.32	-0.22	-0.20	0.26	0.48	0.26	0.76	0.50	LOGGING ACCURACY (dB)	0.76 -0.32							
										0.462	0.393	0.443	0.482	0.403	0.315	0.256	0.344	0.315
										0.373	0.617	0.875	1.127	1.384	1.634	1.865	2.138	2.389
										0.326	0.577	0.830	1.078	1.343	1.602	1.839	2.103	2.357

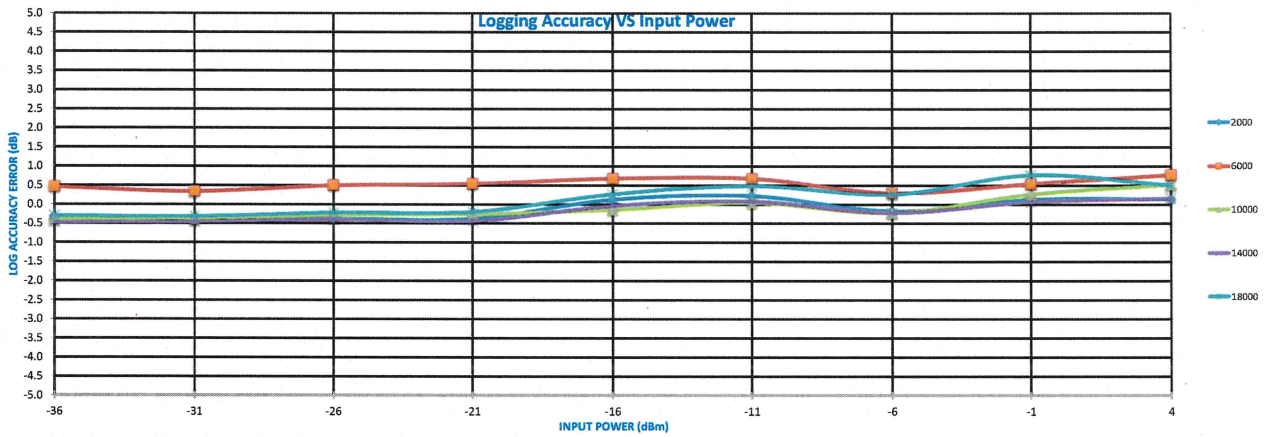
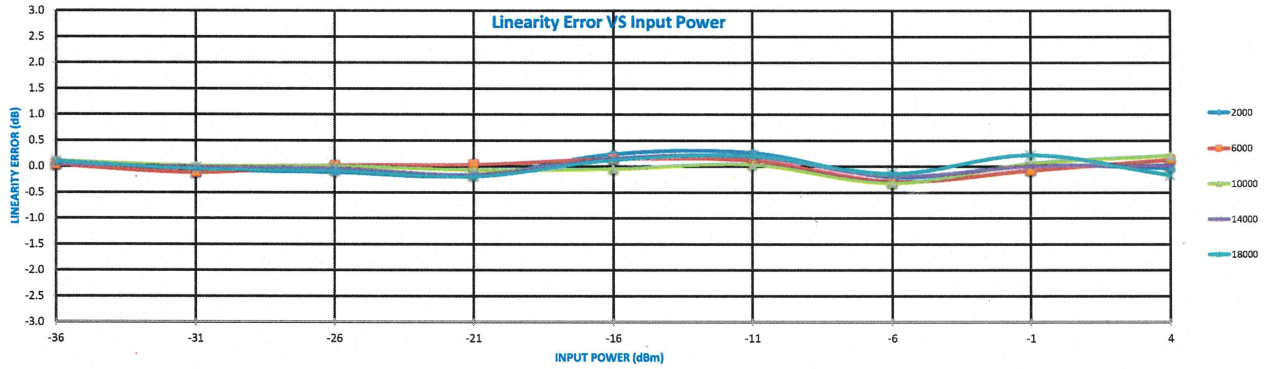
Logging Linearity vs Frequency		Error(dB)
		MAX MIN
LOGGING LINEARITY ERROR (dB)		0.26 -0.32

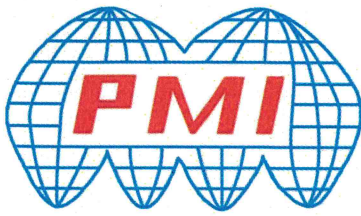
Logging Accuracy vs Frequency		Error(dB)
		MAX MIN
LOGGING ACCURACY ERROR (dB)		0.78 -0.48



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C
MODEL: HADA-D2002
SERIAL NO: PL56746
TESTED BY: Justen Gayduchik





SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C
 MODEL: HADA-D2002
 SERIAL NO: PL56746
 TESTED BY: Justen Gayduchik
 DATE: 12/11/2025



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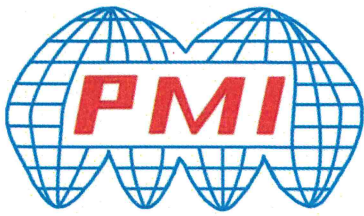
GRAPH #2

Output Voltage Offset= 0.079 Volts

Frequency	Intercept (mV)	Slope (mV/dB)	-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)	Measured Value (mV)	Error(dB)
2 GHz	2152	50	365	588	842	1095	1367	1620	1858	2101	2338	Measured Value (mV)	MAX	MIN
												Error (mV)	0.27	-0.34
												LINEARITY ERROR (dB)	0.35	-0.31
												LOGGING ACCURACY (dB)	0.40	-0.24
6 GHz	2178	49.5	403	628	886	1144	1400	1645	1885	2120	2368	Measured Value (mV)	MAX	MIN
												Error (mV)	1.06	0.36
												LINEARITY ERROR (dB)	1.06	0.36
												LOGGING ACCURACY (dB)	1.06	0.36
10 GHz	2152	50.2	357	585	843	1095	1351	1609	1853	2104	2347	Measured Value (mV)	MAX	MIN
												Error (mV)	0.22	-0.23
												LINEARITY ERROR (dB)	0.22	-0.23
												LOGGING ACCURACY (dB)	0.18	-0.30
14 GHz	2144	50	353	580	836	1087	1356	1610	1852	2096	2328	Measured Value (mV)	MAX	MIN
												Error (mV)	0.18	-0.33
												LINEARITY ERROR (dB)	0.31	-0.33
												LOGGING ACCURACY (dB)	0.20	-0.44
18 GHz	2168	50.8	352	580	837	1088	1361	1621	1868	2121	2361	Measured Value (mV)	MAX	MIN
												Error (mV)	0.29	-0.24
												LINEARITY ERROR (dB)	0.29	-0.24
												LOGGING ACCURACY (dB)	0.42	-0.40
Flatness +/- dB		0.509	0.479	0.499	0.569	0.489	0.359	0.329	0.250	0.399				
Max Video Output V		0.403	0.628	0.886	1.144	1.400	1.645	1.885	2.121	2.368				
Min Video Output V		0.352	0.580	0.836	1.087	1.351	1.609	1.852	2.096	2.328				

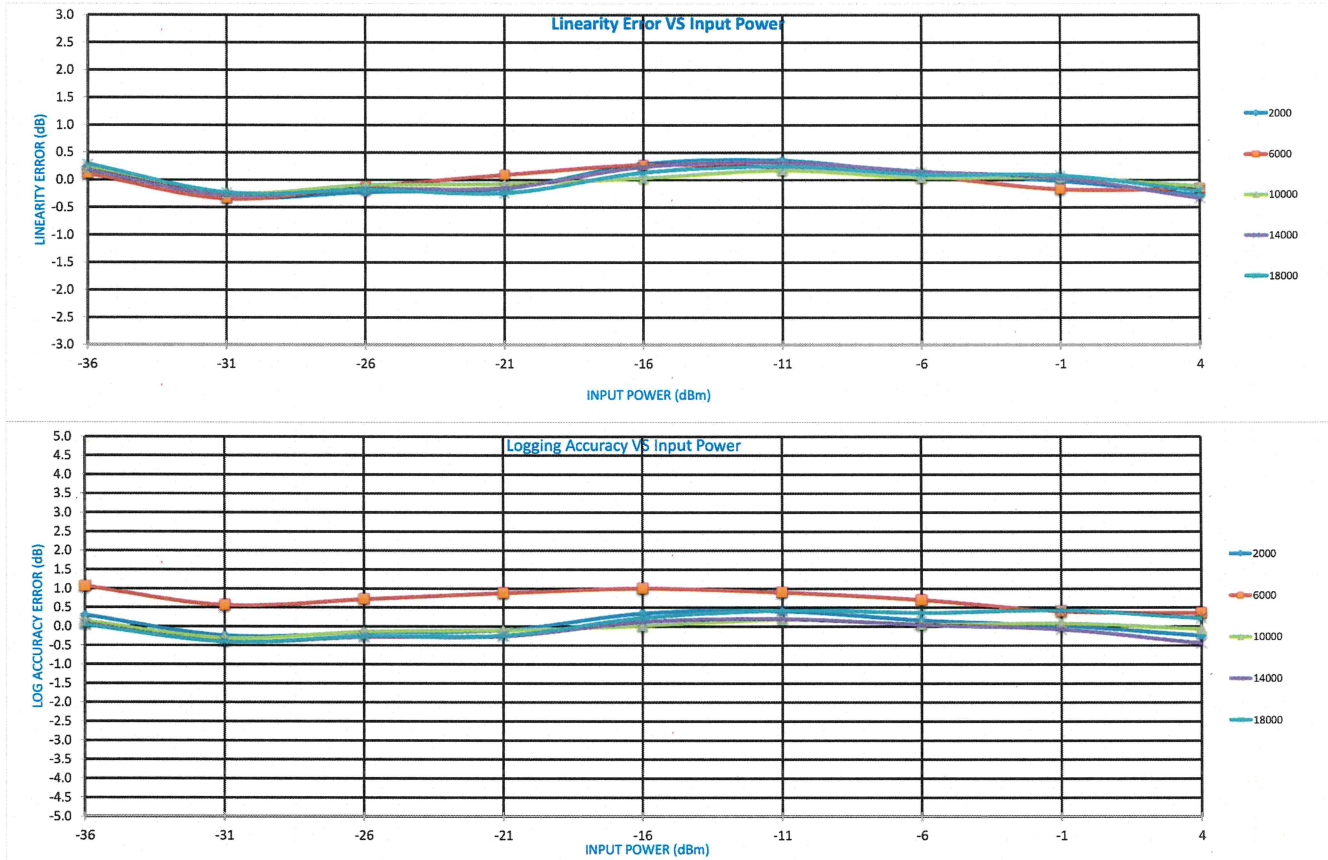
Logging Linearity vs Frequency	Error(dB)
	MAX
LOGGING LINEARITY ERROR (dB)	0.35
	MIN
	-0.34

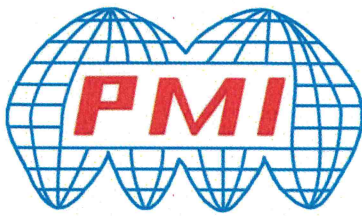
Logging Accuracy vs Frequency	Error(dB)
	MAX
LOGGING ACCURACY ERROR (dB)	1.06
	MIN
	-0.44



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C
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SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C
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 SERIAL NO: PL56746
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 DATE: 12/11/2025



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GRAPH #3

Output Voltage Offset= 0.092 Volts

Frequency	INTERCEPT (mV)	2142
2 GHz	SLOPE (mV/dB)	50.6

Frequency	INTERCEPT (mV)	2176
6 GHz	SLOPE (mV/dB)	50.2

Frequency	INTERCEPT (mV)	2157
10 GHz	SLOPE (mV/dB)	51

Frequency	INTERCEPT (mV)	2133
14 GHz	SLOPE (mV/dB)	50.6

Frequency	INTERCEPT (mV)	2159
18 GHz	SLOPE (mV/dB)	50.8

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

	-36	-31	-26	-21	-16	-11	-6	-1	4
339	573	815	1061	1336	1591	1821	2096	2357	
19	0	-11	-18	4	6	-17	5	13	
0.38	0.00	-0.22	-0.36	0.08	0.12	-0.34	0.09	0.25	
-0.22	-0.54	-0.70	-0.78	-0.28	-0.18	-0.58	-0.08	0.14	
384	615	865	1114	1372	1621	1852	2129	2396	
17	-3	-5	-7	0	-2	-22	3	19	
0.33	-0.07	-0.09	-0.14	0.00	-0.04	-0.45	0.07	0.38	
0.68	0.30	0.30	0.28	0.44	0.42	0.04	0.58	0.92	
343	580	828	1075	1333	1591	1829	2115	2384	
20	2	-4	-12	-9	-6	-23	9	23	
0.40	0.05	-0.09	-0.24	-0.18	-0.11	-0.44	0.17	0.45	
-0.14	-0.40	-0.44	-0.50	-0.34	-0.18	-0.42	0.30	0.68	
329	567	810	1054	1324	1579	1812	2085	2353	
17	2	-8	-17	0	2	-18	2	17	
0.34	0.05	-0.15	-0.33	0.01	0.05	-0.35	0.05	0.34	
-0.42	-0.66	-0.80	-0.92	-0.52	-0.42	-0.76	-0.30	0.06	
346	582	829	1075	1349	1610	1844	2128	2353	
15	-3	-10	-17	3	10	-10	20	-9	
0.30	-0.05	-0.19	-0.34	0.05	0.20	-0.20	0.40	-0.17	
-0.08	-0.36	-0.42	-0.50	-0.02	0.20	-0.12	0.56	0.06	
0.543	0.474	0.543	0.592	0.474	0.415	0.395	0.434	0.425	
0.384	0.615	0.865	1.114	1.372	1.621	1.852	2.129	2.396	
0.329	0.567	0.810	1.054	1.324	1.579	1.812	2.085	2.353	

RF Input Power (dBm)	Measured Value (mV)	Error(dB)
		MAX MIN
	0.38	-0.36
	0.38	-0.45
	0.14	-0.78

RF Input Power (dBm)	Measured Value (mV)	Error(dB)
		MAX MIN
	0.33	-0.45
	0.92	0.04

RF Input Power (dBm)	Measured Value (mV)	Error(dB)
		MAX MIN
	0.40	-0.44
	0.68	-0.50

RF Input Power (dBm)	Measured Value (mV)	Error(dB)
		MAX MIN
	0.34	-0.35
	0.06	-0.92

RF Input Power (dBm)	Measured Value (mV)	Error(dB)
		MAX MIN
	0.40	-0.34
	0.56	-0.50

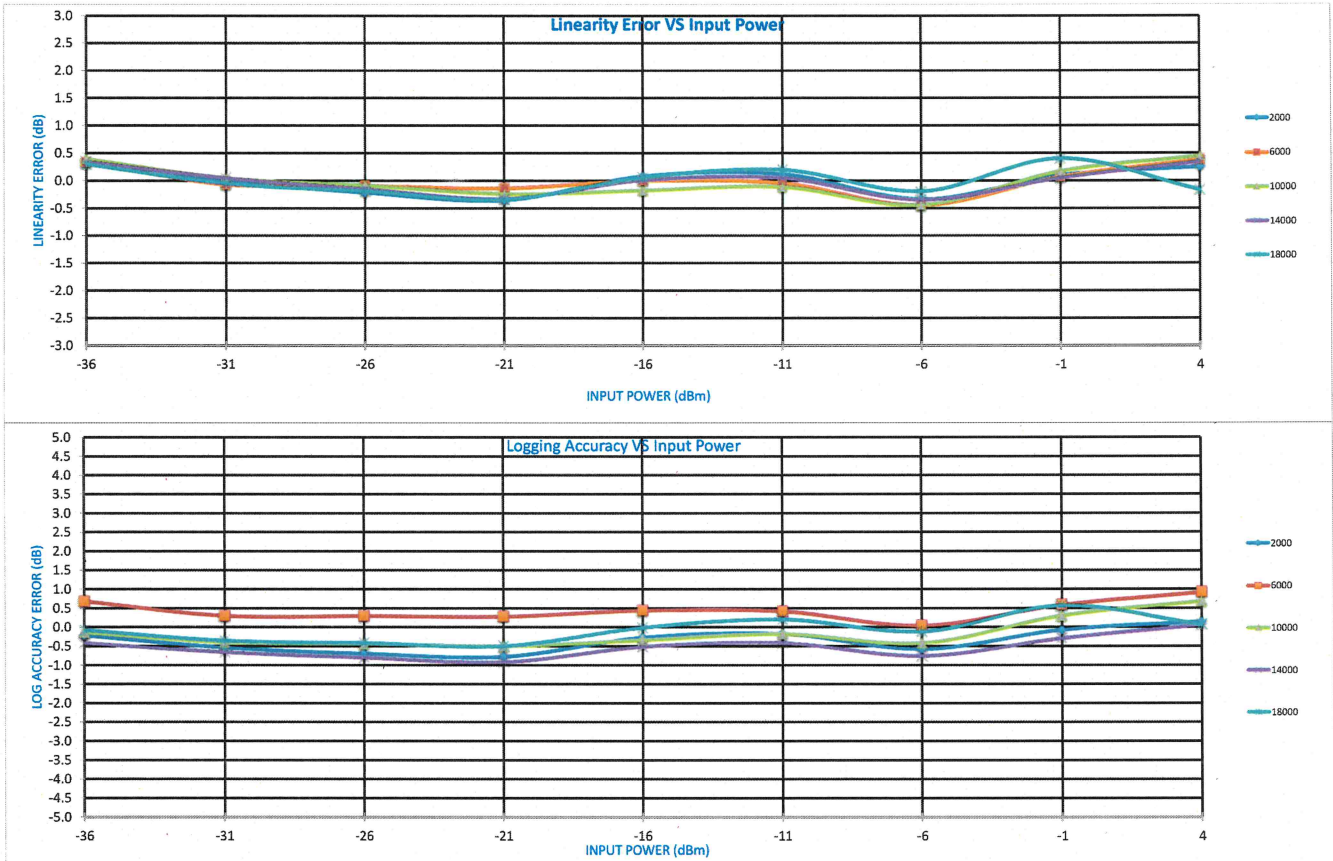
Logging Linearity vs Frequency	Error(dB)
	MAX MIN
LOGGING LINEARITY ERROR (dB)	0.45 -0.45

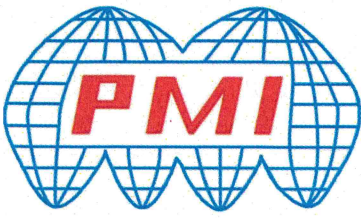
Logging Accuracy vs Frequency	Error(dB)
	MAX MIN
LOGGING ACCURACY ERROR (dB)	0.92 -0.92



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C
MODEL: HADA-D2002
SERIAL NO: PL56746
TESTED BY: Justen Gayduchik

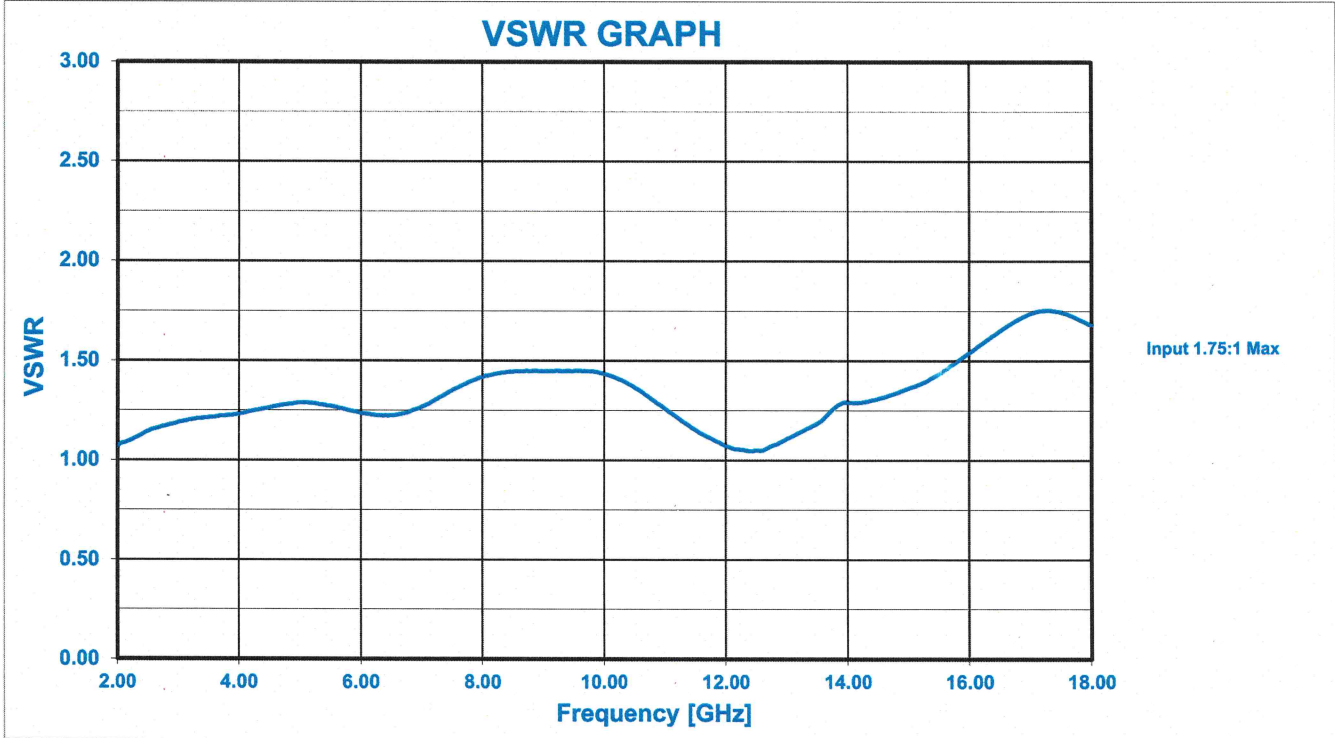


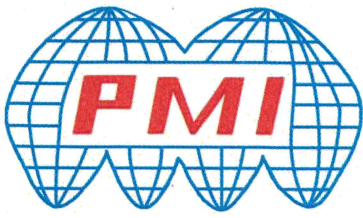


**SUMMARY TEST DATA
ON
HADA-D2002**

Model Number: HADA-D2002
Serial Number: PL56746

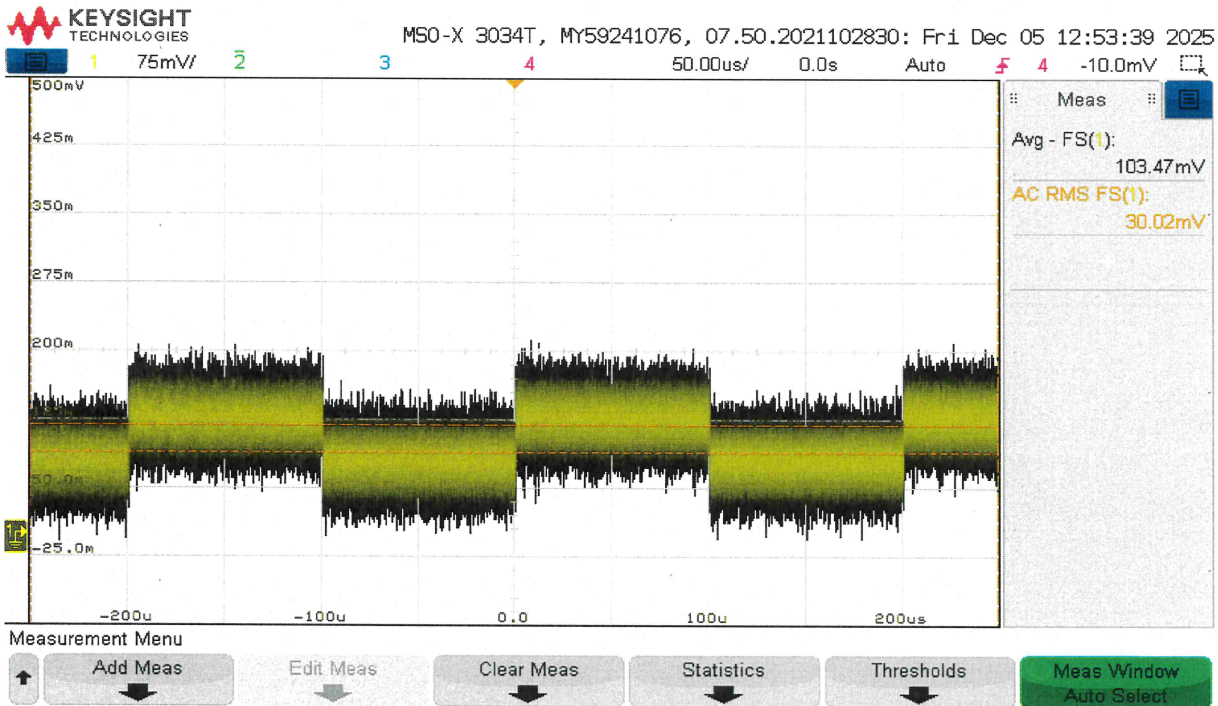
Temperature: +25C





SUMMARY TEST DATA ON HADA-D2002

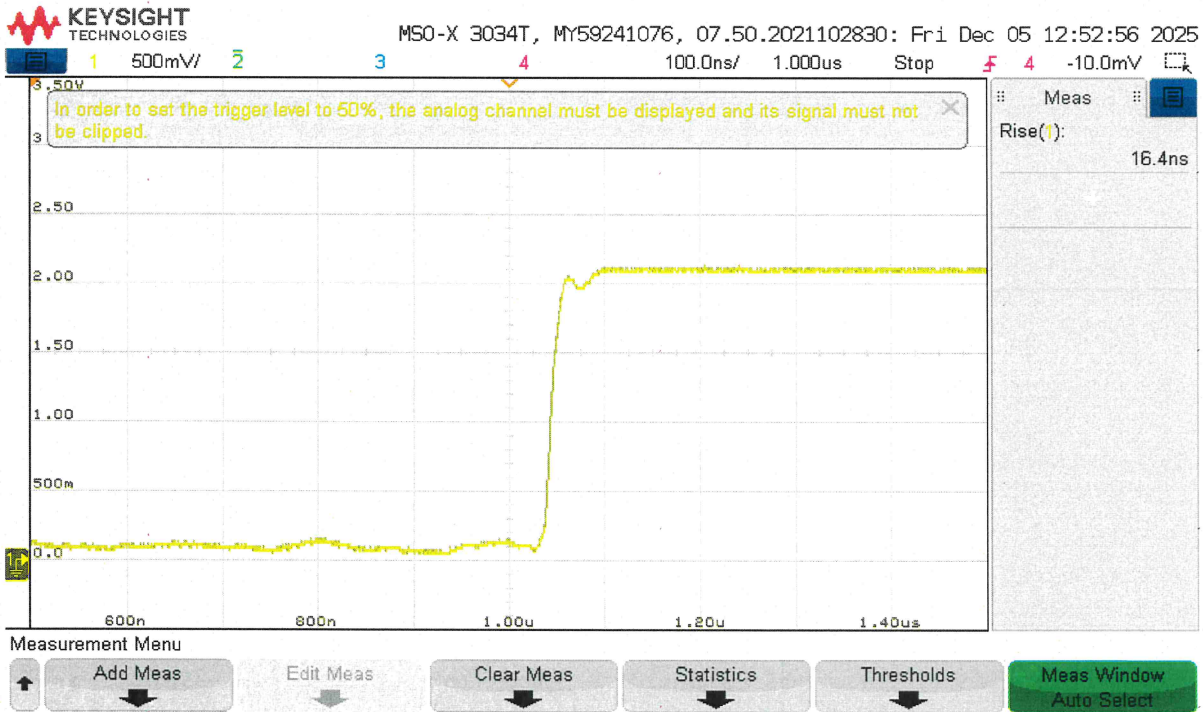
TSS = -42.6 dBm





**SUMMARY TEST DATA
ON
HADA-D2002**

Rise Time = 16.4 ns





SUMMARY TEST DATA ON HADA-D2002

Fall Time = 86.6 ns

