

**SUMMARY TEST DATA  
ON  
HADA-D2002**

Customer: \_\_\_\_\_  
SO No: \_\_\_\_\_  
Model No: HADA-D2002  
Serial No: PL5674 7 / 2 550

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 dBm	NA	NA	
3	Frequency Flatness:	±1.65 dB Max	± 0.57 dB	± 0.59 dB	± 0.64 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)	-0.22 dB / -0.7 dB @ 10GHZ 0.52 dB / -1.06 dB @ ALL OTHER FREQUENCY	0.92 dB / -0.84 dB	0.2 dB / -1.58 dB	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	0.25 dB / -0.34 dB	0.38 dB / -0.49 dB	0.49 dB / -0.43 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%)	18.8 ns			
10	Fall Time:	500 ns Max (@ Pulse width 100µs input) (90% to 10%)	93.2 ns			
11	DC Offset: (Input 50 Ω terminated)	+95 mV +55/-100mV	103 mV @ +25°C	93 mV @ -40°C	106 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.

**SUMMARY TEST DATA  
 ON  
 HADA-D2002**

PL56747/2550

Test. Item No	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA
			+25°C	-40°	+85°C	QC
12	Input VSWR:	3.0:1 Max @ +23 dBm	1.72:1	NA	NA	PMI QAR
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. Blawie*

Date: 2-10-26



# SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C  
 MODEL: HADA-D2002  
 SERIAL NO: PL56747  
 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= 0.103 Volts

Frequency										RF Input Power (dBm)		
2 GHz	INTERCEPT (mV)	2115									Measured Value (mV)	Error(dB)
	SLOPE (mV/dB)	50.1									Error (mV)	MAX MIN
											LINEARITY ERROR (dB)	0.25 -0.34
											LOGGING ACCURACY (dB)	-0.46 -1.06
6 GHz	INTERCEPT (mV)	2148									Measured Value (mV)	Error(dB)
	SLOPE (mV/dB)	49.5									Error (mV)	MAX MIN
											LINEARITY ERROR (dB)	0.19 -0.18
											LOGGING ACCURACY (dB)	0.32 -0.16
10 GHz	INTERCEPT (mV)	2131									Measured Value (mV)	Error(dB)
	SLOPE (mV/dB)	50.2									Error (mV)	MAX MIN
											LINEARITY ERROR (dB)	0.17 -0.23
											LOGGING ACCURACY (dB)	-0.22 -0.70
14 GHz	INTERCEPT (mV)	2162									Measured Value (mV)	Error(dB)
	SLOPE (mV/dB)	50									Error (mV)	MAX MIN
											LINEARITY ERROR (dB)	0.19 -0.24
											LOGGING ACCURACY (dB)	0.44 0.02
18 GHz	INTERCEPT (mV)	2165									Measured Value (mV)	Error(dB)
	SLOPE (mV/dB)	50.3									Error (mV)	MAX MIN
											LINEARITY ERROR (dB)	0.22 -0.30
											LOGGING ACCURACY (dB)	0.52 -0.12
Flatness +/- dB												
Max Video Output V												
Min Video Output V												

Logging Linearity vs Frequency		Error(dB)
		MAX MIN
LOGGING LINEARITY ERROR (dB)		0.25 -0.34

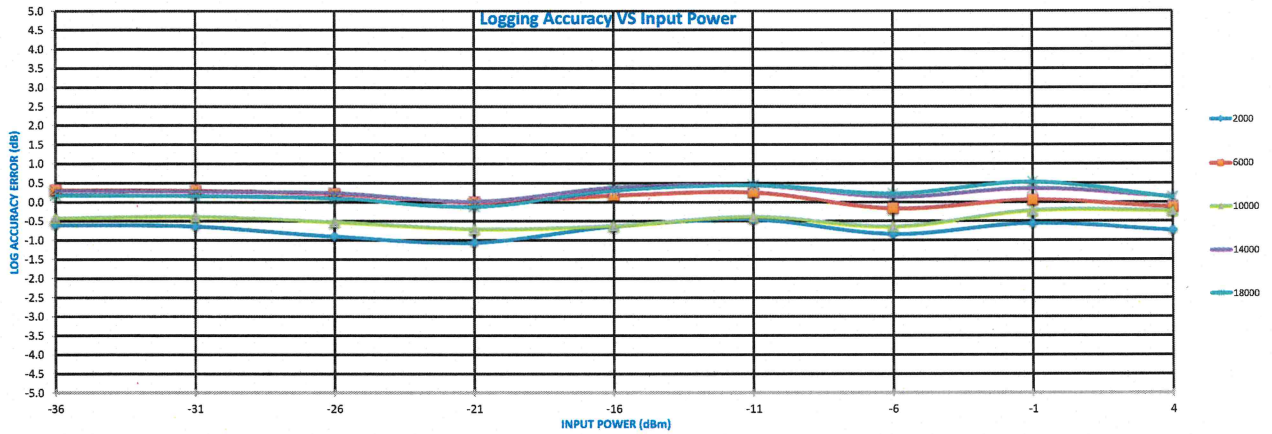
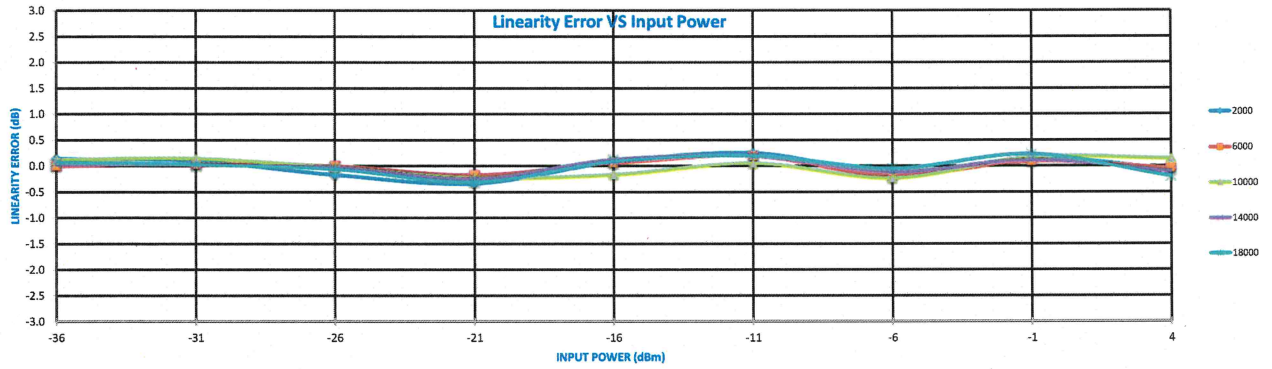
  

Logging Accuracy vs Frequency		Error(dB)
		MAX MIN
LOGGING ACCURACY ERROR (dB)		0.52 -1.06



# SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C  
MODEL: HADA-D2002  
SERIAL NO: PL56747  
TESTED BY: Justen Gayduchik





# SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C  
 MODEL: HADA-D2002  
 SERIAL NO: PL56747  
 TESTED BY: Justen Gayduchik  
 DATE: 12/11/2025



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 #2

Output Voltage Offset= 0.093 Volts

Frequency	INTERCEPT (mV)	2131
2 GHz	SLOPE (mV/dB)	49.7

Frequency	INTERCEPT (mV)	2164
6 GHz	SLOPE (mV/dB)	49

Frequency	INTERCEPT (mV)	2145
10 GHz	SLOPE (mV/dB)	50

Frequency	INTERCEPT (mV)	2176
14 GHz	SLOPE (mV/dB)	49.6

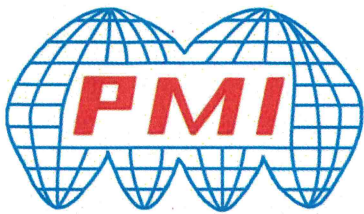
Frequency	INTERCEPT (mV)	2177
18 GHz	SLOPE (mV/dB)	50.1

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

	-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)
Measured Value (mV)	344	587	832	1072	1343	1603	1840	2091	2308	Measured Value (mV)
Error (mV)	3	-3	-6	-15	7	19	7	10	-22	Error (mV)
LINEARITY ERROR (dB)	0.06	-0.06	-0.13	-0.30	0.15	0.38	0.15	0.19	-0.44	MAX
LOGGING ACCURACY (dB)	-0.12	-0.26	-0.36	-0.56	-0.14	0.06	-0.20	-0.18	-0.84	MIN
Measured Value (mV)	396	636	888	1131	1388	1639	1879	2118	2339	Measured Value (mV)
Error (mV)	-3	-8	-1	-3	9	15	9	3	-21	Error (mV)
LINEARITY ERROR (dB)	-0.06	-0.16	-0.02	-0.07	0.18	0.30	0.19	0.07	-0.43	MAX
LOGGING ACCURACY (dB)	0.92	0.72	0.76	0.62	0.76	0.78	0.58	0.36	-0.22	MIN
Measured Value (mV)	349	596	847	1087	1343	1605	1849	2107	2332	Measured Value (mV)
Error (mV)	2	-1	0	-9	-3	9	3	12	-13	Error (mV)
LINEARITY ERROR (dB)	0.04	-0.02	0.01	-0.19	-0.06	0.18	0.07	0.23	-0.27	MAX
LOGGING ACCURACY (dB)	-0.02	-0.08	-0.06	-0.26	-0.14	0.10	-0.02	0.14	-0.36	MIN
Measured Value (mV)	390	631	885	1128	1394	1646	1892	2130	2350	Measured Value (mV)
Error (mV)	-2	-8	-2	-7	11	15	13	4	-24	Error (mV)
LINEARITY ERROR (dB)	-0.03	-0.17	-0.05	-0.14	0.22	0.31	0.27	0.07	-0.49	MAX
LOGGING ACCURACY (dB)	0.80	0.62	0.70	0.56	0.88	0.92	0.84	0.60	0.00	MIN
Measured Value (mV)	375	618	871	1112	1382	1639	1889	2134	2356	Measured Value (mV)
Error (mV)	2	-5	-3	-13	7	13	13	7	-21	Error (mV)
LINEARITY ERROR (dB)	0.04	-0.11	-0.06	-0.25	0.14	0.27	0.25	0.14	-0.43	MAX
LOGGING ACCURACY (dB)	0.50	0.36	0.42	0.24	0.64	0.78	0.78	0.68	0.12	MIN
Flatness +/- dB	0.523	0.493	0.564	0.594	0.513	0.433	0.523	0.433	0.483	
Max Video Output V	0.396	0.636	0.888	1.131	1.394	1.646	1.892	2.134	2.356	
Min Video Output V	0.344	0.587	0.832	1.072	1.343	1.603	1.840	2.091	2.308	

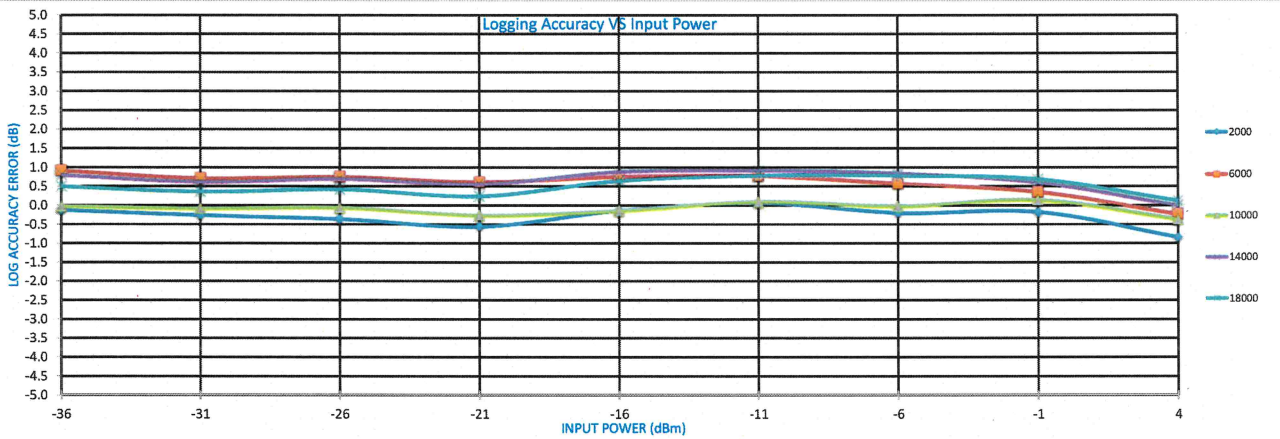
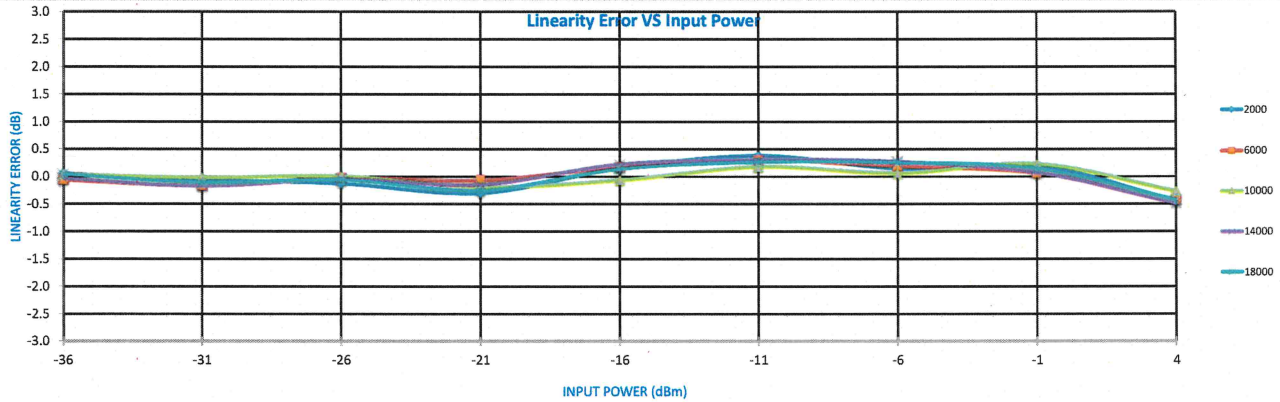
Logging Linearity vs Frequency	Error(dB)
	MAX
LOGGING LINEARITY ERROR (dB)	0.38
	MIN

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



# SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C  
MODEL: HADA-D2002  
SERIAL NO: PL56747  
TESTED BY: Justen Gayduchik





# SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C  
 MODEL: HADA-D2002  
 SERIAL NO: PL56747  
 TESTED BY: Justen Gayduchik  
 DATE: 12/11/2025



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 #3

Output Voltage Offset= 0.106 Volts

Frequency	INTERCEPT (mV)	2094
2 GHz	SLOPE (mV/dB)	50.1

Frequency	INTERCEPT (mV)	2138
6 GHz	SLOPE (mV/dB)	49.7

Frequency	INTERCEPT (mV)	2120
10 GHz	SLOPE (mV/dB)	50.4

Frequency	INTERCEPT (mV)	2135
14 GHz	SLOPE (mV/dB)	49.9

Frequency	INTERCEPT (mV)	2141
18 GHz	SLOPE (mV/dB)	50

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

	-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)
308	550	781	1021	1291	1549	1780	2047	2308		Measured Value (mV)
16	8	-11	-21	-2	6	-13	3	14		Error (mV)
0.33	0.16	-0.22	-0.43	-0.04	0.12	-0.27	0.07	0.28		MAX MIN
-0.84	-1.00	-1.38	-1.58	-1.18	-1.02	-1.40	-1.06	-0.84		LINEARITY ERROR (dB)
										LOGGING ACCURACY (dB)
360	603	845	1081	1341	1592	1821	2091	2353		Measured Value (mV)
10	5	-1	-14	-2	1	-19	3	17		Error (mV)
0.21	0.10	-0.03	-0.28	-0.04	0.01	-0.38	0.06	0.34		MAX MIN
0.20	0.06	-0.10	-0.38	-0.18	-0.16	-0.58	-0.18	0.06		LINEARITY ERROR (dB)
										LOGGING ACCURACY (dB)
324	568	806	1044	1300	1560	1797	2078	2346		Measured Value (mV)
18	10	-4	-18	-14	-6	-21	9	25		Error (mV)
0.36	0.20	-0.08	-0.35	-0.27	-0.11	-0.41	0.17	0.49		MAX MIN
-0.52	-0.64	-0.88	-1.12	-1.00	-0.80	-1.06	-0.44	-0.08		LINEARITY ERROR (dB)
										LOGGING ACCURACY (dB)
350	593	834	1070	1338	1590	1821	2090	2346		Measured Value (mV)
11	5	-4	-17	1	4	-15	5	11		Error (mV)
0.22	0.09	-0.08	-0.35	0.02	0.07	-0.30	0.09	0.22		MAX MIN
0.00	-0.14	-0.32	-0.60	-0.24	-0.20	-0.58	-0.20	-0.08		LINEARITY ERROR (dB)
										LOGGING ACCURACY (dB)
349	593	834	1070	1341	1597	1831	2104	2339		Measured Value (mV)
10	4	-5	-20	1	7	-9	14	-2		Error (mV)
0.20	0.08	-0.11	-0.39	0.02	0.14	-0.18	0.27	-0.03		MAX MIN
-0.02	-0.14	-0.32	-0.60	-0.18	-0.06	-0.38	0.08	-0.22		LINEARITY ERROR (dB)
										LOGGING ACCURACY (dB)
0.520	0.530	0.640	0.600	0.500	0.480	0.510	0.570	0.450		
0.360	0.603	0.845	1.081	1.341	1.597	1.831	2.104	2.353		
0.308	0.550	0.781	1.021	1.291	1.549	1.780	2.047	2.308		

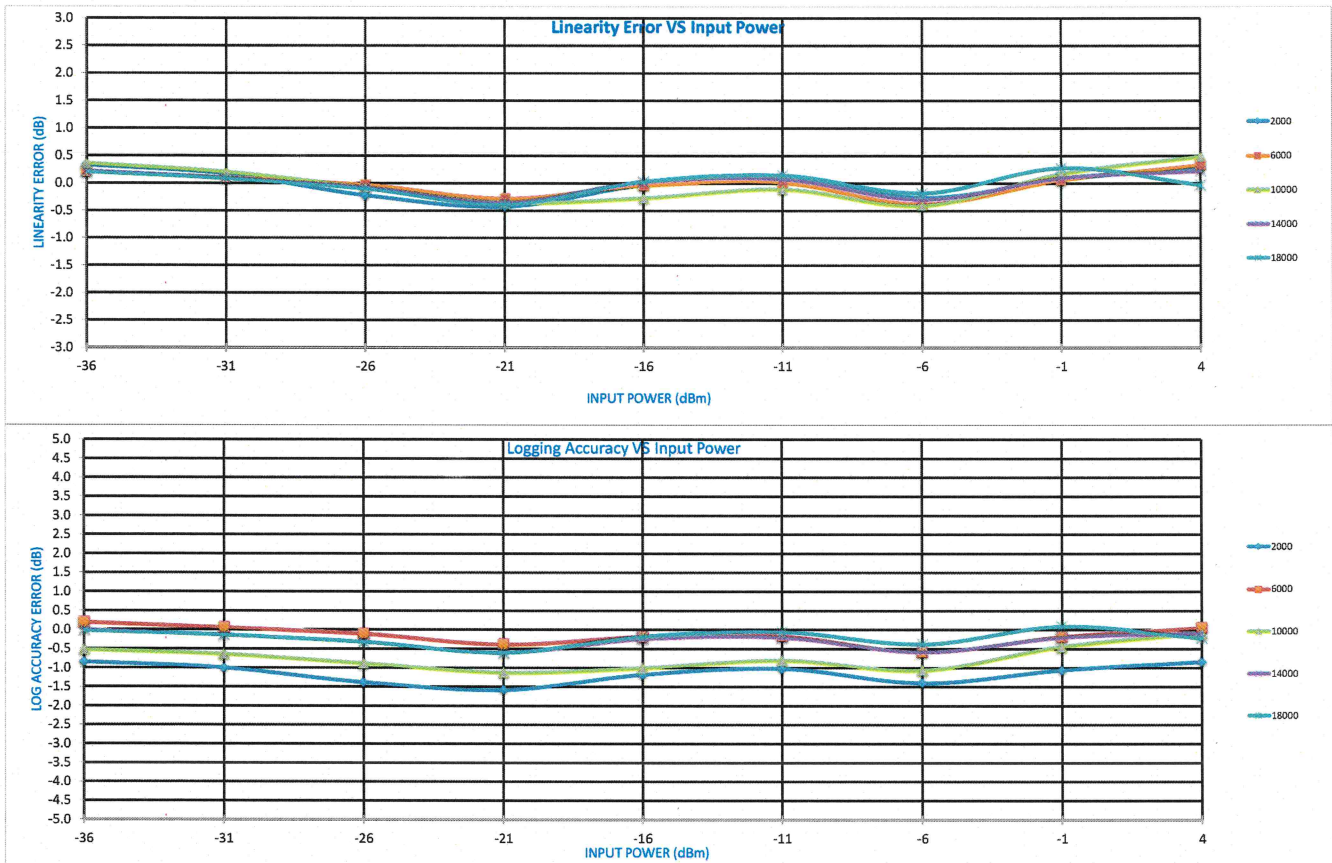
Logging Linearity vs Frequency	Error(dB)
	MAX MIN
LOGGING LINEARITY ERROR (dB)	0.49 -0.43

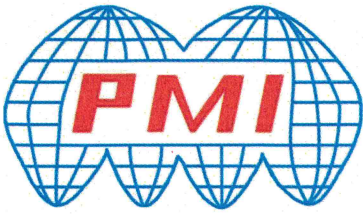
Logging Accuracy vs Frequency	Error(dB)
	MAX MIN
LOGGING ACCURACY ERROR (dB)	0.20 -1.58



# SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C  
MODEL: HADA-D2002  
SERIAL NO: PL56747  
TESTED BY: Justen Gayduchik

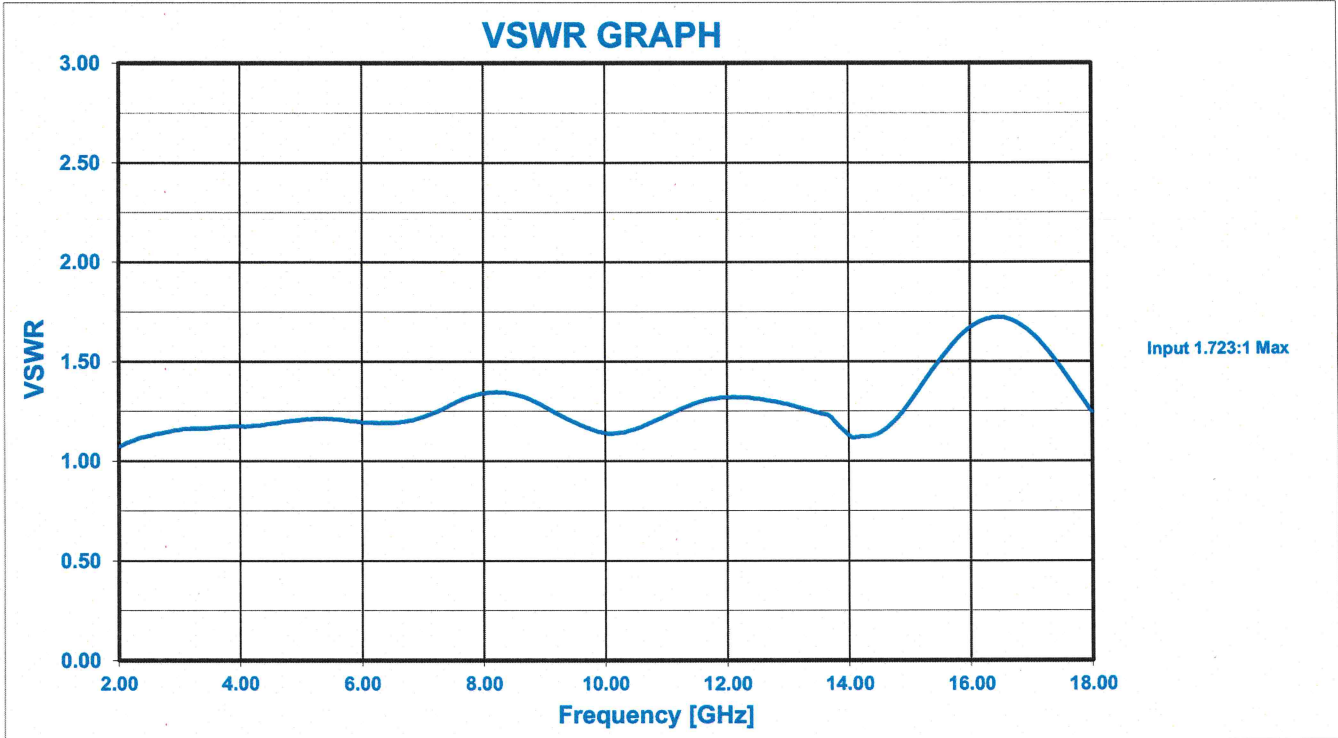




**SUMMARY TEST DATA  
ON  
HADA-D2002**

Model Number: HADA-D2002  
Serial Number: PL56747

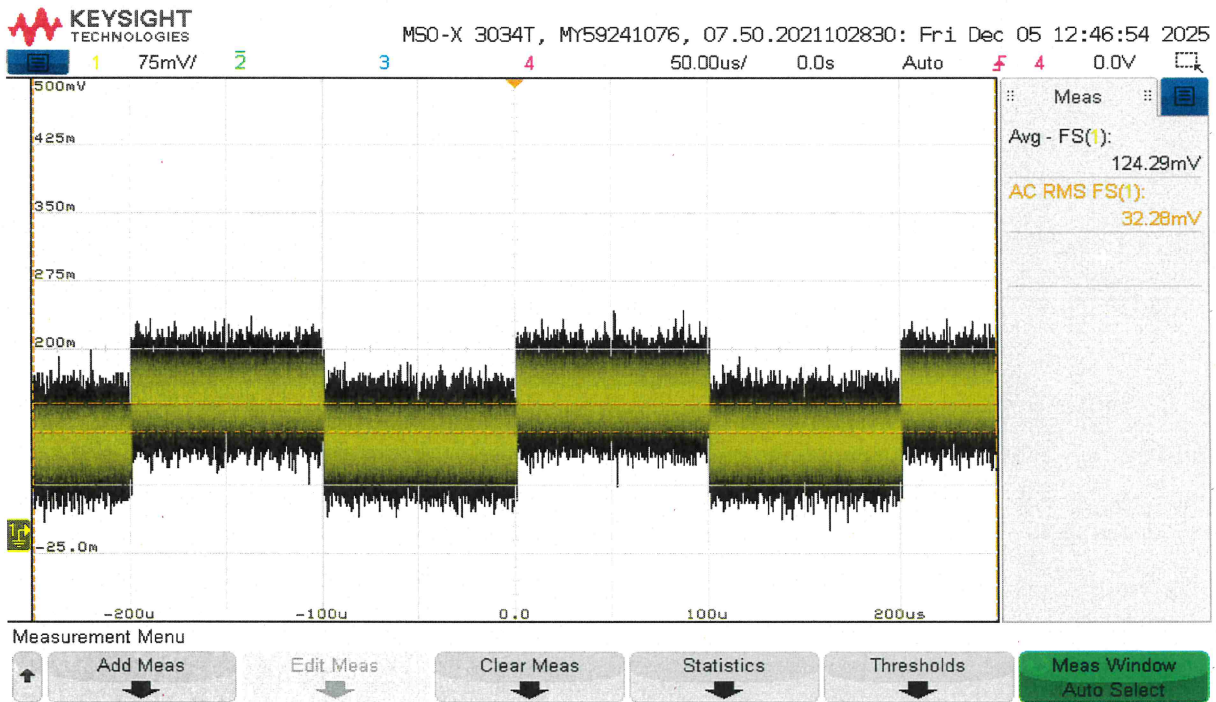
Temperature: +25C

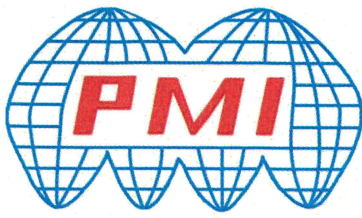




# SUMMARY TEST DATA ON HADA-D2002

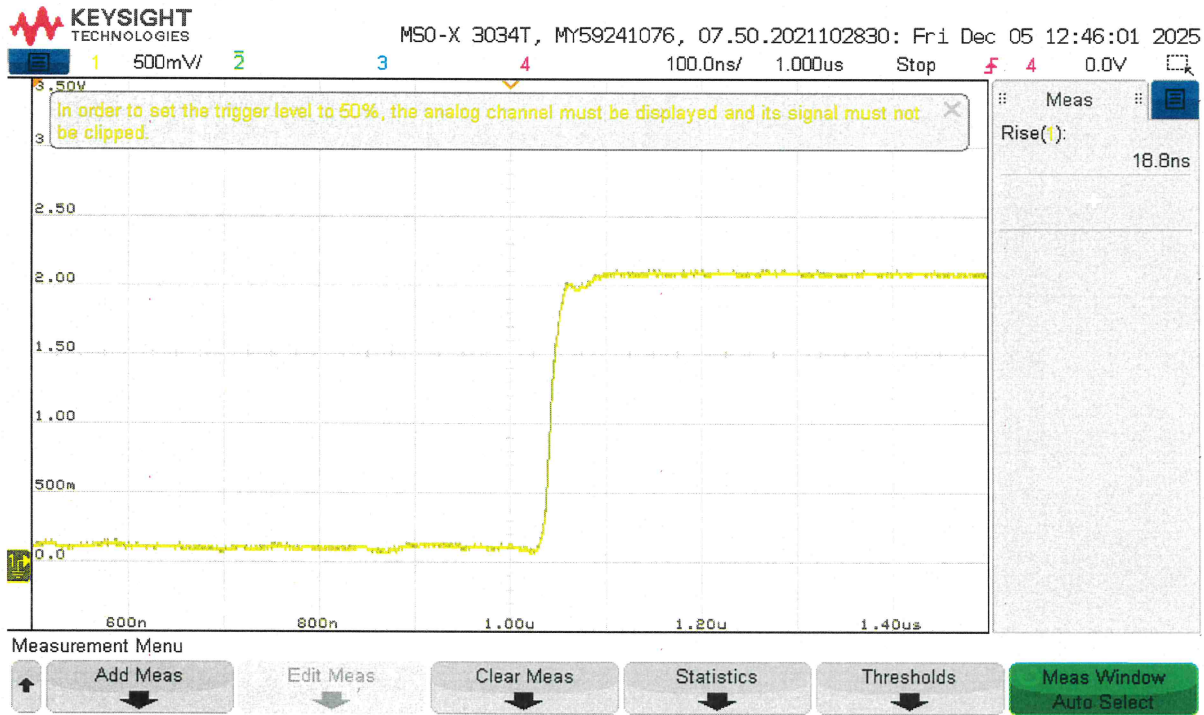
TSS = -42 dBm





# SUMMARY TEST DATA ON HADA-D2002

Rise Time = 18.8 ns





# SUMMARY TEST DATA ON HADA-D2002

Fall Time = 93.2 ns

