

**SUMMARY TEST DATA
ON
HADA-D2002**

Customer: _____
SO No: _____
Model No: HADA-D2002
Serial No: PL55882/2548

Tested By: JW
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 QA
2	TSS:	-40 dBm Min	-43.5 dBm	NA	NA	
3	Frequency Flatness:	±1.65 dB Max	± 0.69 dB	± 0.66 dB	± 0.58 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 / -0.28 dB @ 10GHZ 1.24 dB / -0.28 dB @ ALL OTHER FREQUENCY	1 dB / -1.04 dB	0.44 dB / -1.06 dB	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +65°C	0.32 dB / -0.37 dB	0.53 dB / -0.41 dB	0.37 dB / -0.28 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%)	17.8 ns			
10	Fall Time:	500 ns Max (@ Pulse width 100µs input) (90% to 10%)	108.3 ns			
11	DC Offset: (Input 50 Ω terminated)	+95 mV +55/-100 mV	103 mV @ +25°c	89 mV @ -40°c	96 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.

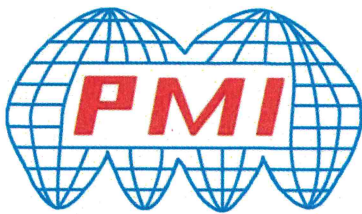
**SUMMARY TEST DATA
 ON
 HADA-D2002**

PL55882/2548

Test. Item No	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA
			+25°C	-40°	+85°C	QC
12	Input VSWR:	3.0:1 Max @ +23 dBm	1.58:1	NA	NA	PMI QA ²
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. Klauing*

Date: 2-10-26



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C
 MODEL: HADA-D2002
 SERIAL NO: PL55882
 TESTED BY: JWalker
 DATE: 11/24/2025



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	INTERCEPT (mV)	SLOPE (mV/dB)
2 GHz	2150	49.6
6 GHz	2190	49.4
10 GHz	2150	50
14 GHz	2169	49.8
18 GHz	2206	50.4

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

RF input Power (dBm)	Measured Value (mV)	Error(dB)
-36	351	MAX MIN
-31	613	0.32 -0.28
-26	858	0.44 -0.26
-21	1111	
-16	1372	
-11	1614	
-6	1860	
-1	2087	
4	2341	

RF input Power (dBm)	Measured Value (mV)	Error(dB)
-36	397	MAX MIN
-31	657	0.23 -0.37
-26	912	1.24 0.44
-21	1158	
-16	1411	
-11	1656	
-6	1895	
-1	2122	
4	2387	

RF input Power (dBm)	Measured Value (mV)	Error(dB)
-36	341	MAX MIN
-31	604	0.23 -0.27
-26	848	0.22 -0.28
-21	1101	
-16	1361	
-11	1601	
-6	1854	
-1	2086	
4	2351	

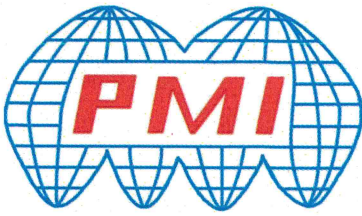
RF input Power (dBm)	Measured Value (mV)	Error(dB)
-36	365	MAX MIN
-31	627	0.24 -0.29
-26	879	0.70 0.10
-21	1127	
-16	1385	
-11	1626	
-6	1874	
-1	2105	
4	2368	

RF input Power (dBm)	Measured Value (mV)	Error(dB)
-36	386	MAX MIN
-31	647	0.09 -0.19
-26	900	1.20 0.72
-21	1146	
-16	1403	
-11	1652	
-6	1908	
-1	2146	
4	2410	

RF input Power (dBm)	Measured Value (mV)	Error(dB)
-36	0.562	
-31	0.397	
-26	0.642	
-21	0.572	
-16	0.502	
-11	0.552	
-6	0.542	
-1	0.602	
4	0.692	

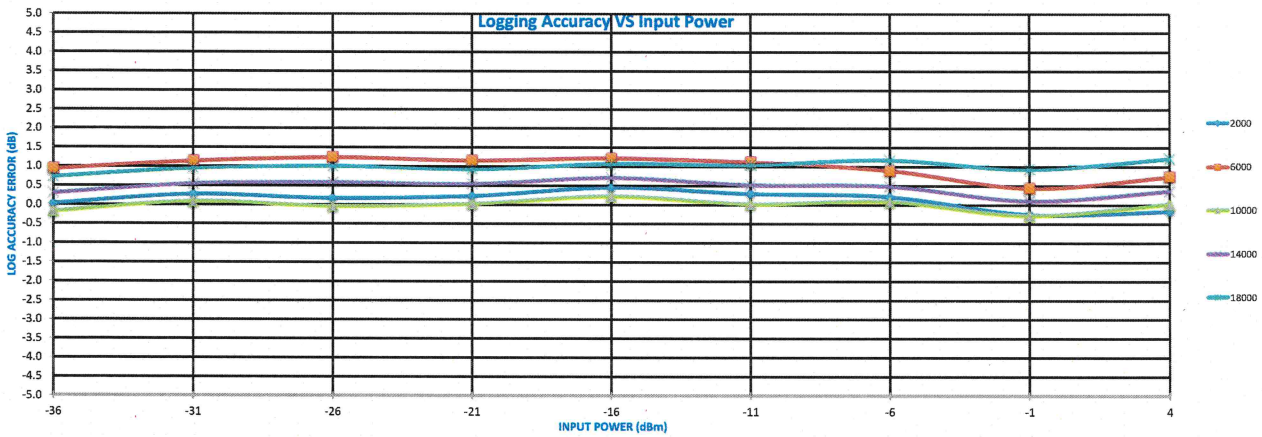
Logging Linearity vs Frequency	Error(dB)
MAX MIN	
LOGGING LINEARITY ERROR (dB)	0.32 -0.37

Logging Accuracy vs Frequency	Error(dB)
MAX MIN	
LOGGING ACCURACY ERROR (dB)	1.24 -0.28



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C
MODEL: HADA-D2002
SERIAL NO: PL55882
TESTED BY: JWalker





SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C
 MODEL: HADA-D2002
 SERIAL NO: PL55882
 TESTED BY: J.Walker
 DATE: 11/24/2025



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

GRAPH #2

Output Voltage Offset= 0.089 Volts

Frequency	Intercept (mV)	Slope (mV/dB)	-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)
2 GHz	2122	48.9	355	599	849	1097	1357	1610	1844	2059	2298	Measured Value (mV)
			-9	-9	-3	0	16	25	15	-15	-20	Error (mV)
			-0.18	-0.19	-0.07	0.01	0.33	0.51	0.30	-0.30	-0.41	MAX MIN
6 GHz	2158	48.5	399	641	900	1146	1394	1650	1876	2090	2338	Measured Value (mV)
			-12	-13	4	7	12	26	9	-20	-14	Error (mV)
			-0.25	-0.26	0.08	0.15	0.26	0.53	0.19	-0.40	-0.29	MAX MIN
10 GHz	2119	49.1	348	592	841	1089	1347	1596	1838	2058	2302	Measured Value (mV)
			-6	-7	-3	0	12	16	13	-12	-14	Error (mV)
			-0.11	-0.14	-0.06	-0.01	0.25	0.33	0.26	-0.25	-0.28	MAX MIN
14 GHz	2134	48.9	365	608	864	1109	1364	1615	1853	2070	2314	Measured Value (mV)
			-9	-10	2	2	13	19	13	-15	-15	Error (mV)
			-0.18	-0.21	0.03	0.04	0.26	0.39	0.26	-0.30	-0.31	MAX MIN
18 GHz	2169	49.6	384	625	882	1127	1380	1638	1882	2106	2363	Measured Value (mV)
			-1	-8	1	-2	4	14	10	-14	-5	Error (mV)
			-0.02	-0.16	0.03	-0.03	0.07	0.28	0.20	-0.28	-0.09	MAX MIN
Flatness +/- dB			0.521	0.500	0.602	0.582	0.480	0.551	0.449	0.490	0.664	Measured Value (mV)
Max Video Output V			0.399	0.641	0.900	1.146	1.394	1.650	1.882	2.106	2.363	Error (mV)
Min Video Output V			0.348	0.592	0.841	1.089	1.347	1.596	1.838	2.058	2.298	MAX MIN

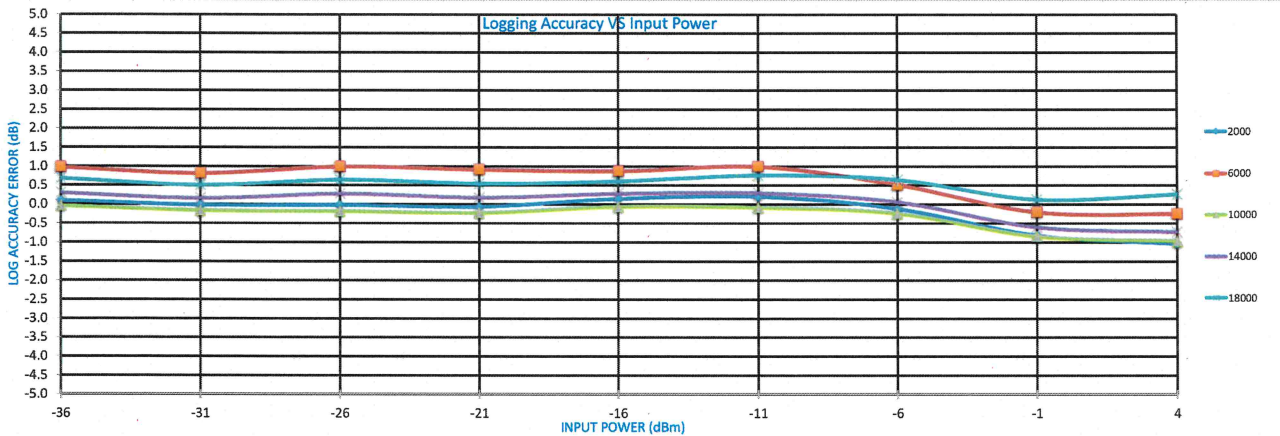
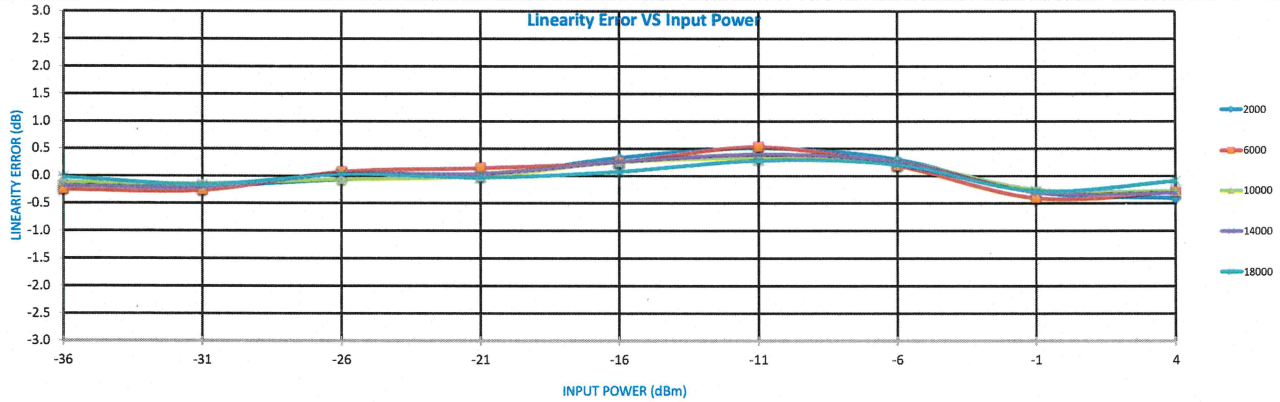
Logging Linearity vs Frequency		Error(dB)
		MAX MIN
LOGGING LINEARITY ERROR (dB)		0.53 -0.41

Logging Accuracy vs Frequency		Error(dB)
		MAX MIN
LOGGING ACCURACY ERROR (dB)		1.00 -1.04



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C
MODEL: HADA-D2002
SERIAL NO: PL55882
TESTED BY: JWalker





SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C
 MODEL: HADA-D2002
 SERIAL NO: PL55882
 TESTED BY: JWalker
 DATE: 11/24/2025



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= 0.096 Volts

Frequency	INTERCEPT (mV)	2107
2 GHz	SLOPE (mV/dB)	49.7

6 GHz	INTERCEPT (mV)	2153
	SLOPE (mV/dB)	49.6

10 GHz	INTERCEPT (mV)	2118
	SLOPE (mV/dB)	50.2

14 GHz	INTERCEPT (mV)	2132
	SLOPE (mV/dB)	49.8

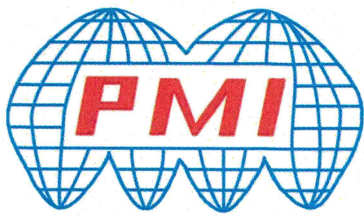
18 GHz	INTERCEPT (mV)	2156
	SLOPE (mV/dB)	50.2

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

	-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)	
	312	573	810	1062	1322	1556	1811	2047	2310	Measured Value (mV)	Error(dB)
	-5	7	-4	-1	11	-4	3	-10	5	Error (mV)	MAX MIN
	-0.11	0.14	-0.09	-0.02	0.21	-0.08	0.05	-0.20	0.09	LINEARITY ERROR (dB)	0.21 -0.20
	-0.76	-0.54	-0.80	-0.76	-0.56	-0.88	-0.78	-1.06	-0.80	LOGGING ACCURACY (dB)	-0.54 -1.06
	360	622	868	1112	1366	1602	1851	2089	2364	Measured Value (mV)	Error(dB)
	-8	6	4	1	7	-5	-4	-14	13	Error (mV)	MAX MIN
	-0.16	0.13	0.09	0.01	0.13	-0.11	-0.08	-0.28	0.26	LINEARITY ERROR (dB)	0.26 -0.28
	0.20	0.44	0.36	0.24	0.32	0.04	0.02	-0.22	0.28	LOGGING ACCURACY (dB)	0.44 -0.22
	313	573	810	1061	1320	1554	1814	2056	2337	Measured Value (mV)	Error(dB)
	1	10	-4	-4	5	-12	-3	-12	19	Error (mV)	MAX MIN
	0.01	0.20	-0.08	-0.07	0.09	-0.24	-0.06	-0.23	0.37	LINEARITY ERROR (dB)	0.37 -0.24
	-0.74	-0.54	-0.80	-0.78	-0.60	-0.92	-0.72	-0.88	-0.26	LOGGING ACCURACY (dB)	-0.26 -0.92
	332	594	837	1084	1341	1575	1832	2070	2343	Measured Value (mV)	Error(dB)
	-5	7	1	-1	7	-8	-1	-12	12	Error (mV)	MAX MIN
	-0.11	0.15	0.02	-0.02	0.14	-0.17	-0.01	-0.24	0.24	LINEARITY ERROR (dB)	0.24 -0.24
	-0.36	-0.12	-0.26	-0.32	-0.18	-0.50	-0.36	-0.60	-0.14	LOGGING ACCURACY (dB)	-0.12 -0.60
	346	608	850	1096	1355	1594	1861	2105	2360	Measured Value (mV)	Error(dB)
	-2	9	-1	-6	2	-10	6	-1	3	Error (mV)	MAX MIN
	-0.05	0.17	-0.01	-0.11	0.04	-0.20	0.12	-0.02	0.05	LINEARITY ERROR (dB)	0.17 -0.20
	-0.08	0.16	0.00	-0.08	0.10	-0.12	0.22	0.10	0.20	LOGGING ACCURACY (dB)	0.22 -0.12
	0.481	0.491	0.581	0.511	0.461	0.481	0.501	0.581	0.541		
	0.360	0.622	0.868	1.112	1.366	1.602	1.861	2.105	2.364		
	0.312	0.573	0.810	1.061	1.320	1.554	1.811	2.047	2.310		

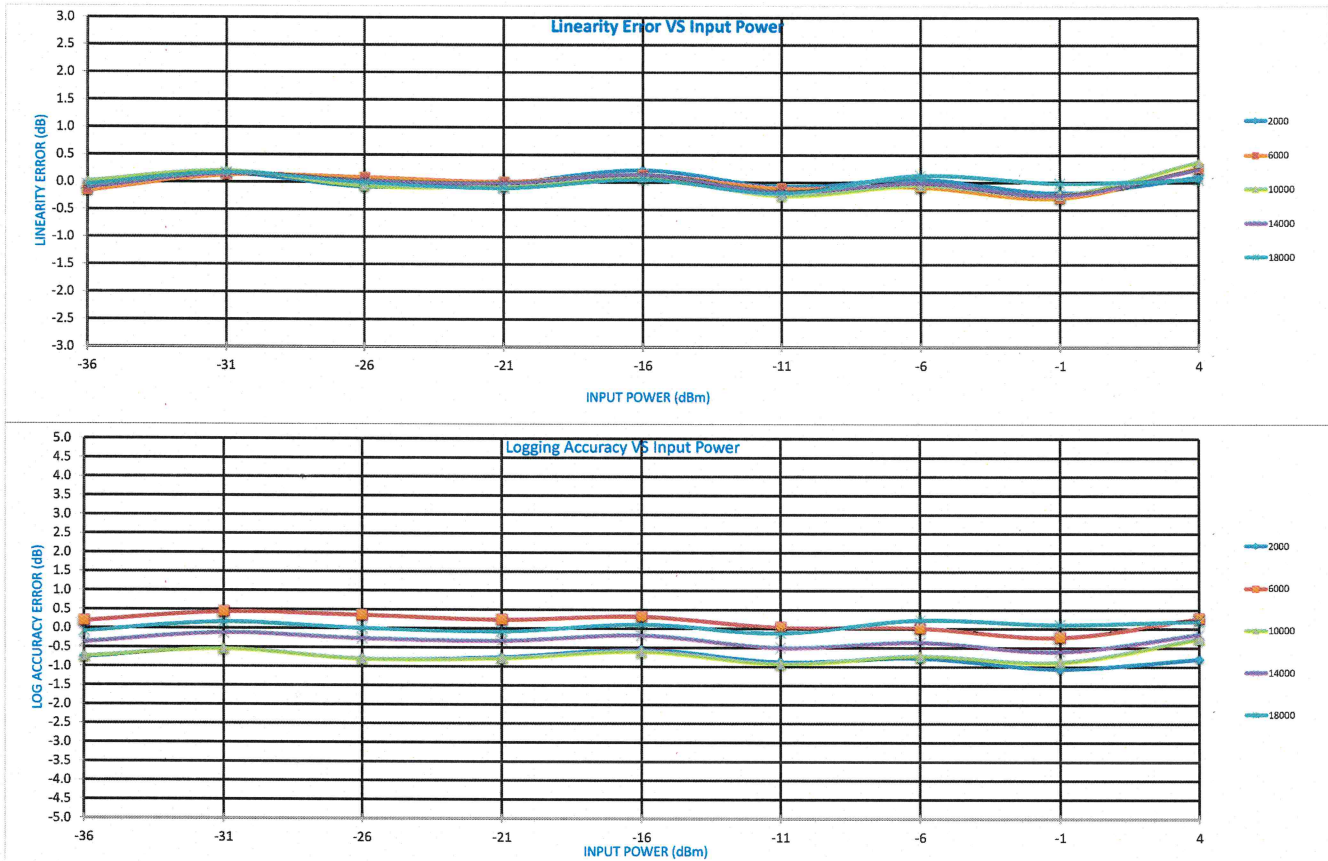
Logging Linearity vs Frequency	Error(dB)
	MAX MIN
LOGGING LINEARITY ERROR (dB)	0.37 -0.28

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



SUMMARY TEST DATA ON HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C
MODEL: HADA-D2002
SERIAL NO: PL55882
TESTED BY: JWalker

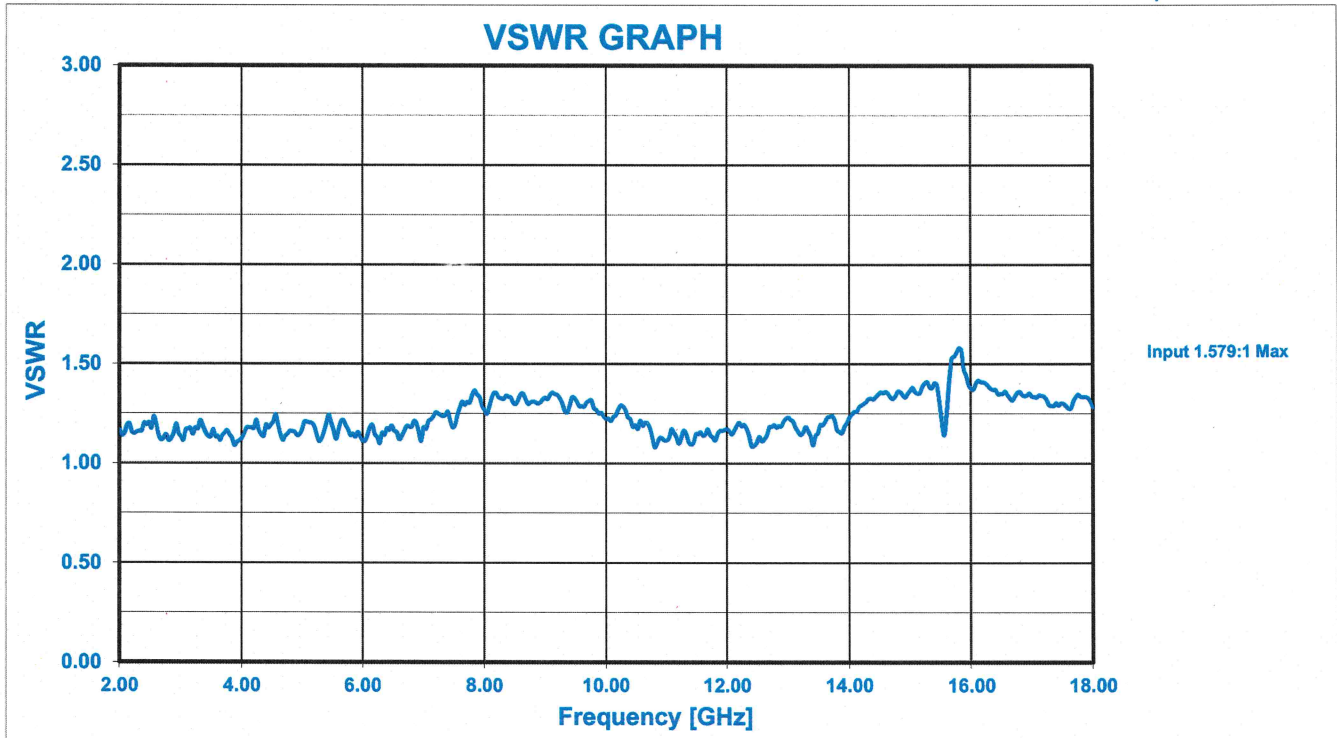




SUMMARY TEST DATA ON HADA-D2002

Model Number: HADA-D2002
Serial Number: PL55882

Temperature: +25C

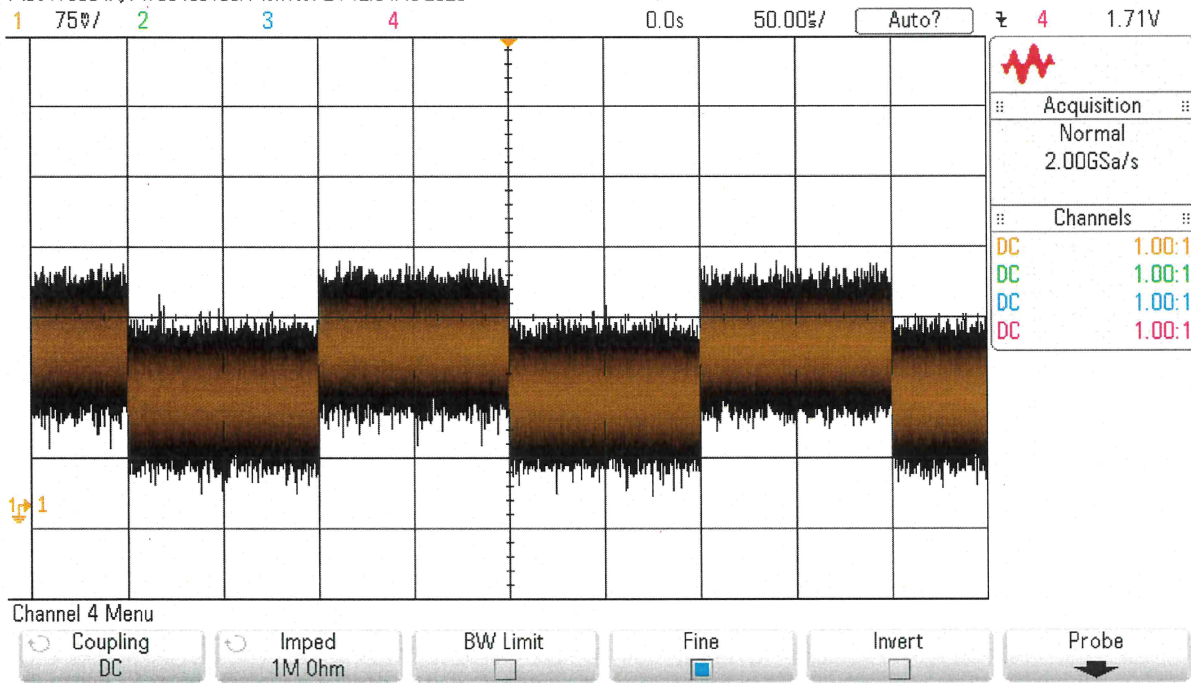




**SUMMARY TEST DATA
ON
HADA-D2002**

TSS = -43.5 dBm

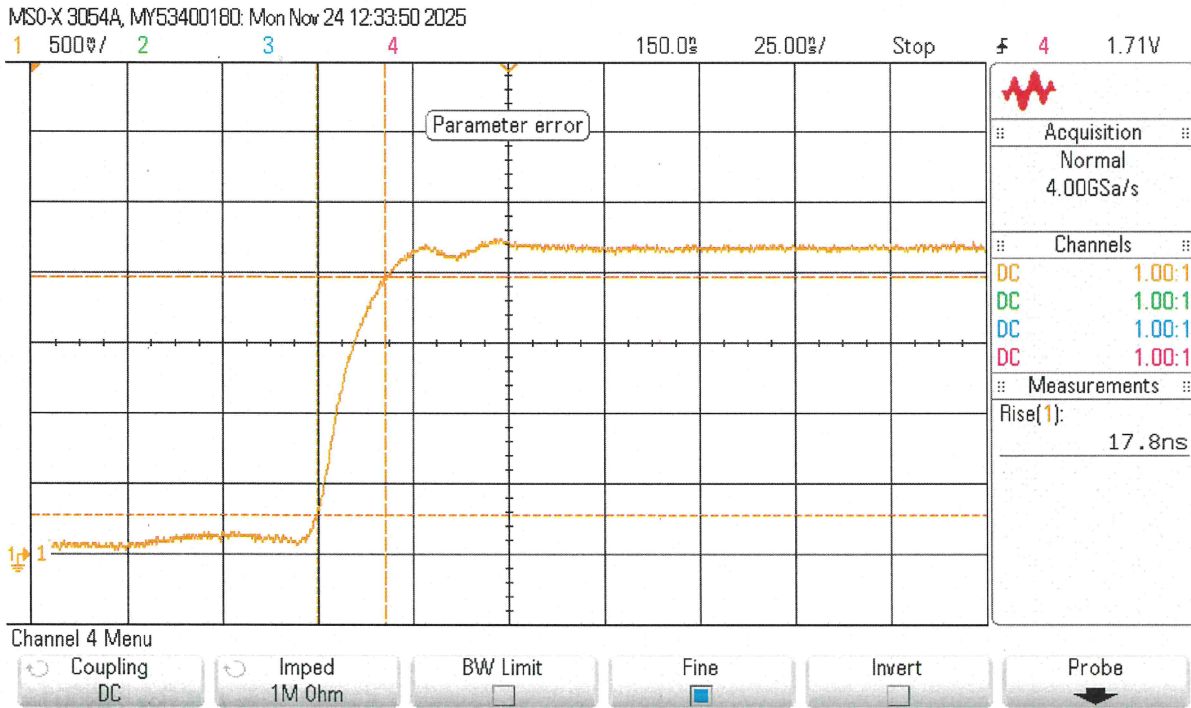
MSO-X 3054A, MY53400180: Mon Nov 24 12:34:49 2025





SUMMARY TEST DATA ON HADA-D2002

Rise Time = 17.8 ns





SUMMARY TEST DATA ON HADA-D2002

Fall Time = 108.3 ns

