Quantic PMI
PLANAR MONOLITHICS

SUMMARY TEST DATA ON HADA-D2002

Customer:
SO No:
2 Mode l No: HADA-D2002
Serial No: PL55552/2543

Tested By: Daniel W.
Temperat ure +25°C (Unl esoth erwisesp edfied)
Date: 2/9/2026
Drawing No: 27620222 Rev: A2

Test. Item No	PARAMETERS	SPECIFIED VALUE	TEST RESULTS +25°C	-40°	+85°C	QA QC
1	Frequency Range:	2.0 GHz – 18.0 GHz	2.0 GHz – 18.0 GHz			PMI QA3
2	TSS:	-40 dBm Min	-43.2 dBm	NA	NA	
3	Frequency Flatness:	±1.65 dB Max	± 0.68 dB	± 0.7 dB	± 0.68 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)	-0.32 dB / -0.82 dB @ 10GHZ 0.68 dB / -0.82 dB @ ALL OTHER FREQUENCY	0.16 dB / -1.92 dB	0.24 dB / -1.44 dB	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	0.19 dB / -0.22 dB	0.56 dB / -0.39 dB	0.44 dB / -0.38 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%)	17.2 ns			
10	Fall Time:	500 ns Max (@ Pulse width 100µs input) (90% to 10%)	92 ns			
11	DC Offset: (Input 50 Ω terminated)	+95 mV +55/- 100 mV	92 mV @ +25°c	50 mV @ -40°c	70 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.

4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

Quantic PMI
PLANAR MONOLITHICS

SUMMARY TEST DATA ON HADA-D2002

PL55552/2543

Test. Item No	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA QC
			+25°C	-40°	+85°C	
12	Input VSWR:	3.0:1 Max @ +23 dBm	1.51:1	NA	NA	PMI QA3
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. Bauman

Date: 2-10-26

4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C
MODEL: HADA-D2002
SERIAL NO: PL55552
TESTED BY: Daniel W.
DATE: 10/23/2025

GRAPH #1

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

Output Voltage Offset= 0.092 Volts

Frequency		
2 GHz	INTERCEPT (mV)	2119
	SLOPE (mV/dB)	49.6
6 GHz	INTERCEPT (mV)	2158
	SLOPE (mV/dB)	49.3
10 GHz	INTERCEPT (mV)	2123
	SLOPE (mV/dB)	50.3
14 GHz	INTERCEPT (mV)	2150
	SLOPE (mV/dB)	49.4
18 GHz	INTERCEPT (mV)	2163
	SLOPE (mV/dB)	49.9

RF Input Power (dBm)	-36	-31	-26	-21	-16	-11	-6	-1	4
2 GHz	331	584	830	1072	1325	1577	1829	2064	2316
	-2	3	1	-5	0	4	8	-5	-2
	-0.04	0.06	0.02	-0.11	-0.01	0.07	0.15	-0.11	-0.03
	-0.38	-0.32	-0.40	-0.56	-0.50	-0.46	-0.42	-0.72	-0.68
6 GHz	378	630	884	1122	1367	1623	1865	2098	2358
	-6	0	7	-1	-2	7	3	-11	3
	-0.11	0.00	0.15	-0.02	-0.05	0.14	0.05	-0.22	0.06
	0.56	0.60	0.68	0.44	0.34	0.46	0.30	-0.04	0.16
10 GHz	317	573	816	1059	1314	1565	1826	2068	2334
	3	8	0	-9	-5	-5	4	-5	10
	0.06	0.16	-0.01	-0.17	-0.10	-0.11	0.08	-0.10	0.19
	-0.66	-0.54	-0.68	-0.82	-0.72	-0.70	-0.48	-0.64	-0.32
14 GHz	366	619	872	1109	1354	1609	1856	2092	2352
	-4	2	8	-3	-5	3	3	-8	4
	-0.08	0.04	0.15	-0.05	-0.10	0.06	0.06	-0.17	0.09
	0.32	0.38	0.44	0.18	0.08	0.18	0.12	-0.16	0.04
18 GHz	367	620	871	1108	1354	1612	1867	2109	2371
	1	5	6	-7	-10	-2	3	-4	8
	0.03	0.09	0.12	-0.13	-0.21	-0.04	0.07	-0.09	0.16
	0.34	0.40	0.42	0.16	0.08	0.24	0.34	0.18	0.42
Flatness +/- dB	0.614	0.573	0.684	0.634	0.533	0.583	0.412	0.453	0.553
Max Video Output V	0.378	0.630	0.884	1.122	1.367	1.623	1.867	2.109	2.371
Min Video Output V	0.317	0.573	0.816	1.059	1.314	1.565	1.826	2.064	2.316

2 GHz	Measured Value (mV)	Error(dB)	
	Error (mV)	MAX	MIN
	LINEARITY ERROR (dB)	0.15	-0.11
	LOGGING ACCURACY (dB)	-0.32	-0.72

6 GHz	Measured Value (mV)	Error(dB)	
	Error (mV)	MAX	MIN
	LINEARITY ERROR (dB)	0.15	-0.22
	LOGGING ACCURACY (dB)	0.68	-0.04

10 GHz	Measured Value (mV)	Error(dB)	
	Error (mV)	MAX	MIN
	LINEARITY ERROR (dB)	0.19	-0.17
	LOGGING ACCURACY (dB)	-0.32	-0.82

14 GHz	Measured Value (mV)	Error(dB)	
	Error (mV)	MAX	MIN
	LINEARITY ERROR (dB)	0.15	-0.17
	LOGGING ACCURACY (dB)	0.44	-0.16

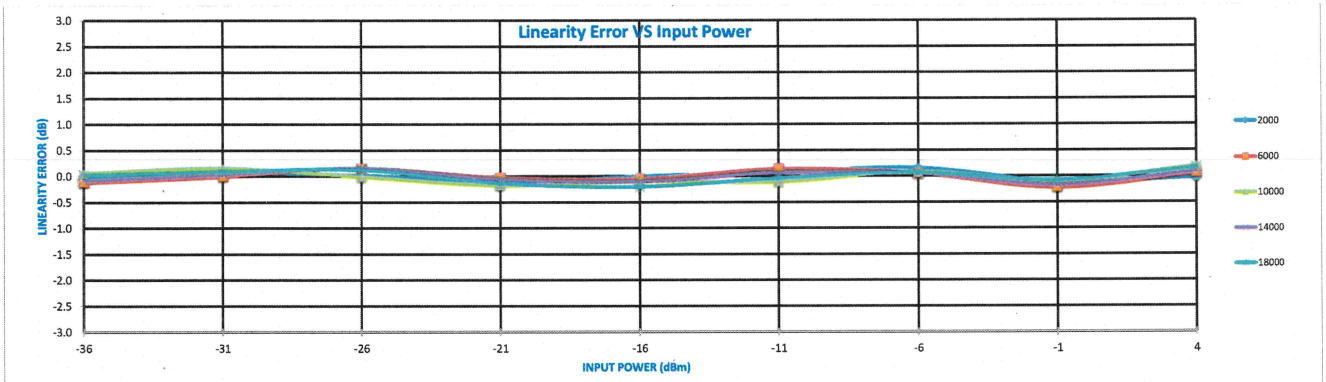
18 GHz	Measured Value (mV)	Error(dB)	
	Error (mV)	MAX	MIN
	LINEARITY ERROR (dB)	0.16	-0.21
	LOGGING ACCURACY (dB)	0.42	0.08

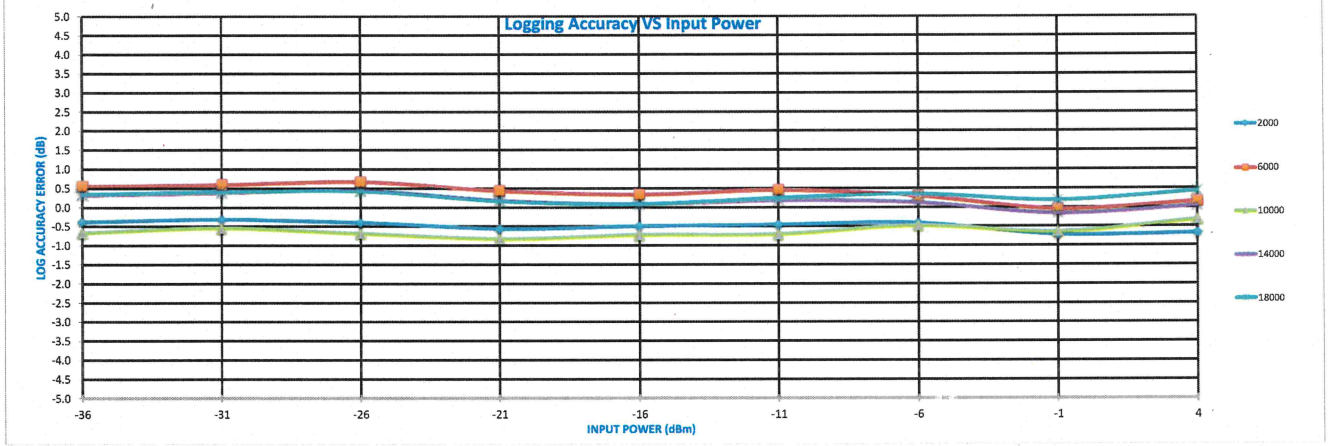
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
LOGGING LINEARITY ERROR (dB)	0.19	-0.22

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
LOGGING ACCURACY ERROR (dB)	0.68	-0.82

SUMMARY TEST DATA
ON
HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +25C
MODEL: HADA-D2002
SERIAL NO: PL55552
TESTED BY: Daniel W.





4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C
MODEL: HADA-D2002
SERIAL NO: PL55552
TESTED BY: Daniel W.
DATE: 10/23/2025

GRAPH #2

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

Output Voltage Offset= 0.05 Volts

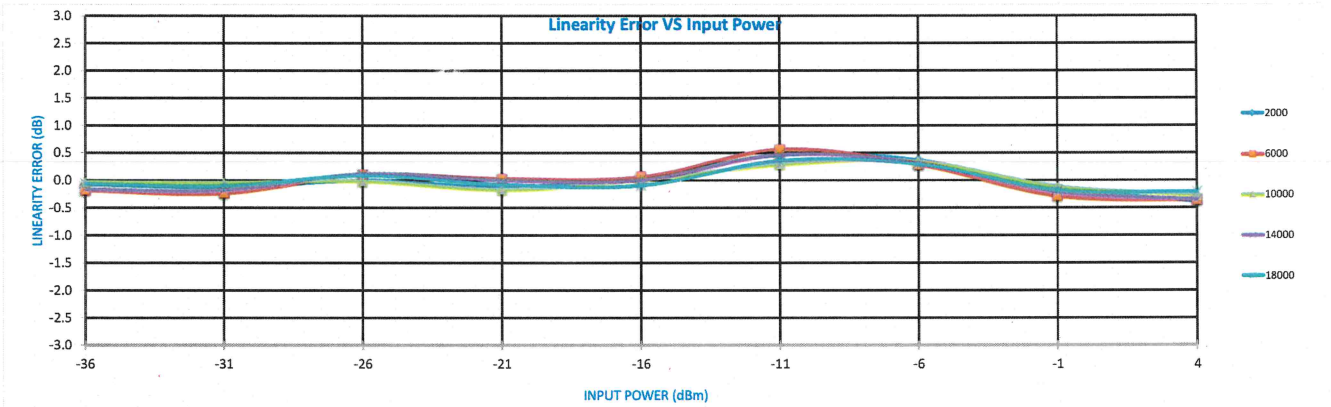
Frequency			-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)		
2 GHz	INTERCEPT (mV)	2077	311	553	804	1043	1296	1561	1801	2021	2254	Measured Value (mV)	Error(dB)	
	SLOPE (mV/dB)	49	-4	-6	0	-6	2	22	18	-7	-19	Error (mV)	MAX	MIN
			-0.07	-0.13	0.00	-0.12	0.05	0.46	0.36	-0.15	-0.39	LINEARITY ERROR (dB)	0.46	-0.39
			-0.78	-0.94	-0.92	-1.14	-1.08	-0.78	-0.98	-1.58	-1.92	LOGGING ACCURACY (dB)	-0.78	-1.92
6 GHz	INTERCEPT (mV)	2113	358	598	857	1096	1340	1607	1836	2051	2290	Measured Value (mV)	Error(dB)	
	SLOPE (mV/dB)	48.5	-9	-11	5	2	3	27	14	-14	-17	Error (mV)	MAX	MIN
			-0.18	-0.23	0.11	0.03	0.06	0.56	0.28	-0.28	-0.36	LINEARITY ERROR (dB)	0.56	-0.36
			0.16	-0.04	0.14	-0.08	-0.20	0.14	-0.28	-0.98	-1.20	LOGGING ACCURACY (dB)	0.16	-1.20
10 GHz	INTERCEPT (mV)	2076	292	539	788	1028	1284	1546	1796	2021	2261	Measured Value (mV)	Error(dB)	
	SLOPE (mV/dB)	49.5	-1	-2	-1	-8	0	15	17	-6	-13	Error (mV)	MAX	MIN
			-0.03	-0.04	-0.01	-0.17	0.00	0.29	0.34	-0.11	-0.27	LINEARITY ERROR (dB)	0.34	-0.27
			-1.16	-1.22	-1.24	-1.44	-1.32	-1.08	-1.08	-1.58	-1.78	LOGGING ACCURACY (dB)	-1.08	-1.78
14 GHz	INTERCEPT (mV)	2104	342	585	843	1081	1325	1591	1827	2045	2282	Measured Value (mV)	Error(dB)	
	SLOPE (mV/dB)	48.7	-8	-9	6	0	0	23	15	-10	-17	Error (mV)	MAX	MIN
			-0.16	-0.18	0.12	0.00	0.01	0.47	0.31	-0.21	-0.35	LINEARITY ERROR (dB)	0.47	-0.35
			-0.16	-0.30	-0.14	-0.38	-0.50	-0.18	-0.46	-1.10	-1.36	LOGGING ACCURACY (dB)	-0.14	-1.36
18 GHz	INTERCEPT (mV)	2107	333	577	832	1070	1315	1583	1826	2049	2293	Measured Value (mV)	Error(dB)	
	SLOPE (mV/dB)	49.2	-3	-5	4	-4	-5	17	14	-9	-11	Error (mV)	MAX	MIN
			-0.06	-0.10	0.08	-0.08	-0.10	0.35	0.29	-0.18	-0.22	LINEARITY ERROR (dB)	0.35	-0.22
			-0.34	-0.46	-0.36	-0.60	-0.70	-0.34	-0.48	-1.02	-1.14	LOGGING ACCURACY (dB)	-0.34	-1.14
	Flatness +/- dB		0.674	0.602	0.704	0.694	0.572	0.623	0.408	0.306	0.398			
	Max Video Output V		0.358	0.598	0.857	1.096	1.340	1.607	1.836	2.051	2.293			
	Min Video Output V		0.292	0.539	0.788	1.028	1.284	1.546	1.796	2.021	2.254			

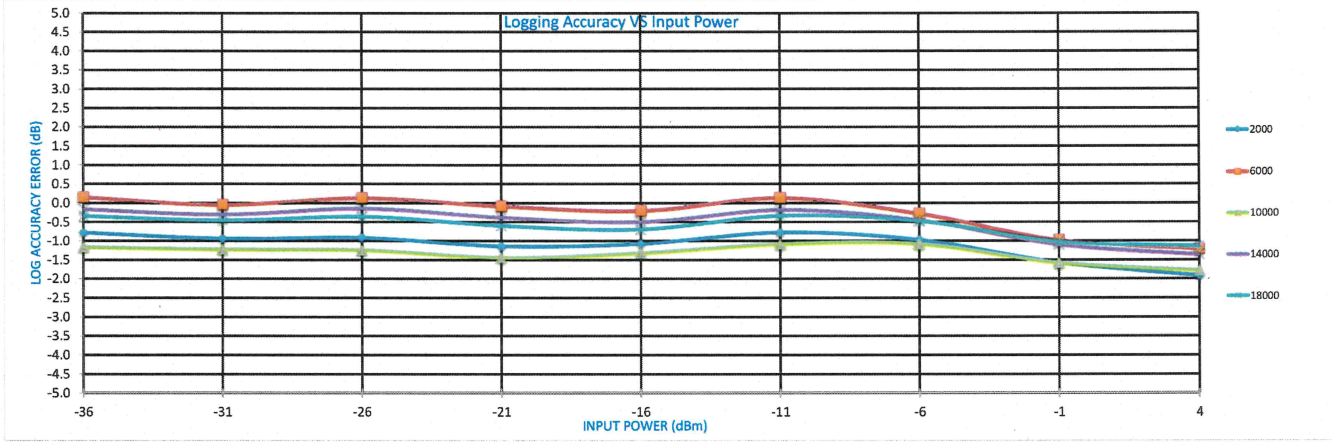
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
LOGGING LINEARITY ERROR (dB)	0.56	-0.39

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
LOGGING ACCURACY ERROR (dB)	0.16	-1.92

SUMMARY TEST DATA
ON
HADA-D2002

LOG TRANSFER WITH FREQUENCY @ -40C
MODEL: HADA-D2002
SERIAL NO: PL55552
TESTED BY: Daniel W.





4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C
MODEL: HADA-D2002
SERIAL NO: PL55552
TESTED BY: Daniel W.
DATE: 10/23/2025

GRAPH #3

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

Output Voltage Offset= 0.07 Volts

Frequency			-36	-31	-26	-21	-16	-11	-6	-1	4	RF Input Power (dBm)
2 GHz	INTERCEPT (mV)	2100	286	556	800	1044	1295	1538	1800	2046	2310	Measured Value (mV)
	SLOPE (mV/dB)	50.2	-7	12	5	-2	-2	-10	1	-4	9	Error (mV)
			-0.14	0.23	0.10	-0.04	-0.04	-0.20	0.02	-0.08	0.17	LINEARITY ERROR (dB)
			-1.28	-0.88	-1.00	-1.12	-1.10	-1.24	-1.00	-1.08	-0.80	LOGGING ACCURACY (dB)
6 GHz	INTERCEPT (mV)	2147	339	610	860	1096	1343	1588	1842	2088	2362	Measured Value (mV)
	SLOPE (mV/dB)	49.9	-10	12	12	-2	-5	-9	-5	-9	16	Error (mV)
			-0.20	0.23	0.24	-0.04	-0.09	-0.19	-0.10	-0.17	0.31	LINEARITY ERROR (dB)
			-0.22	0.20	0.20	-0.08	-0.14	-0.24	-0.16	-0.24	0.24	LOGGING ACCURACY (dB)
10 GHz	INTERCEPT (mV)	2113	278	548	792	1037	1289	1533	1803	2057	2339	Measured Value (mV)
	SLOPE (mV/dB)	51	0	15	4	-6	-8	-19	-4	-5	22	Error (mV)
			0.00	0.30	0.08	-0.11	-0.16	-0.38	-0.08	-0.09	0.44	LINEARITY ERROR (dB)
			-1.44	-1.04	-1.16	-1.26	-1.22	-1.34	-0.94	-0.86	-0.22	LOGGING ACCURACY (dB)
14 GHz	INTERCEPT (mV)	2128	320	592	841	1078	1324	1568	1825	2071	2342	Measured Value (mV)
	SLOPE (mV/dB)	49.9	-10	12	11	-1	-5	-11	-3	-7	14	Error (mV)
			-0.20	0.24	0.23	-0.03	-0.10	-0.21	-0.07	-0.14	0.28	LINEARITY ERROR (dB)
			-0.60	-0.16	-0.18	-0.44	-0.52	-0.64	-0.50	-0.58	-0.16	LOGGING ACCURACY (dB)
18 GHz	INTERCEPT (mV)	2136	319	591	838	1076	1322	1569	1836	2086	2346	Measured Value (mV)
	SLOPE (mV/dB)	50.3	-7	14	9	-4	-9	-14	2	0	9	Error (mV)
			-0.14	0.27	0.18	-0.08	-0.19	-0.27	0.04	0.01	0.18	LINEARITY ERROR (dB)
			-0.62	-0.18	-0.24	-0.48	-0.56	-0.62	-0.28	-0.28	-0.08	LOGGING ACCURACY (dB)
	Flatness +/- dB		0.607	0.617	0.676	0.587	0.537	0.547	0.418	0.418	0.517	
	Max Video Output V		0.339	0.610	0.860	1.096	1.343	1.588	1.842	2.088	2.362	
	Min Video Output V		0.278	0.548	0.792	1.037	1.289	1.533	1.800	2.046	2.310	

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.23	-0.20
LOGGING ACCURACY (dB)	-0.80	-1.28

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.31	-0.20
LOGGING ACCURACY (dB)	0.24	-0.24

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.44	-0.38
LOGGING ACCURACY (dB)	-0.22	-1.44

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.28	-0.21
LOGGING ACCURACY (dB)	-0.16	-0.64

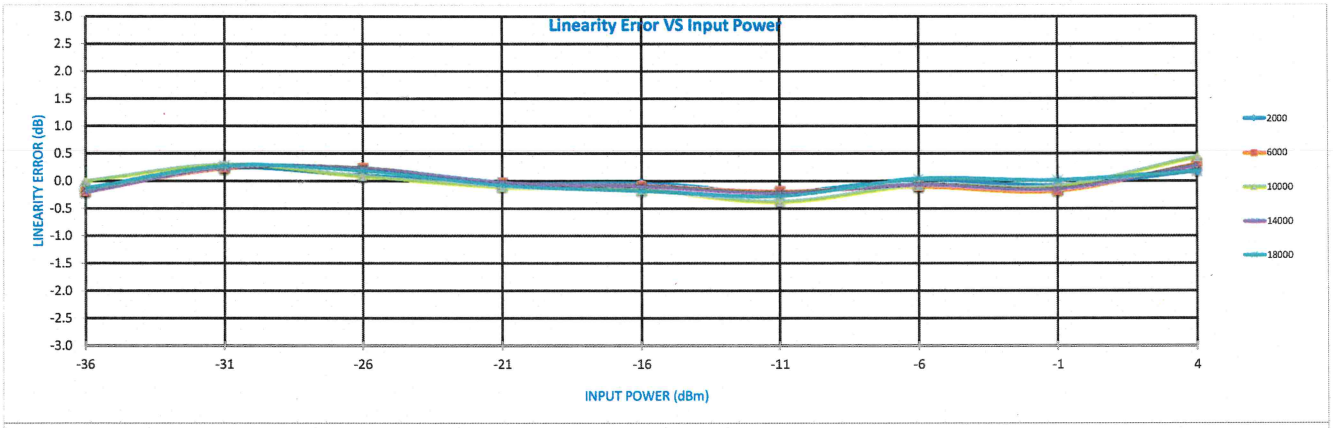
Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.27	-0.27
LOGGING ACCURACY (dB)	-0.08	-0.62

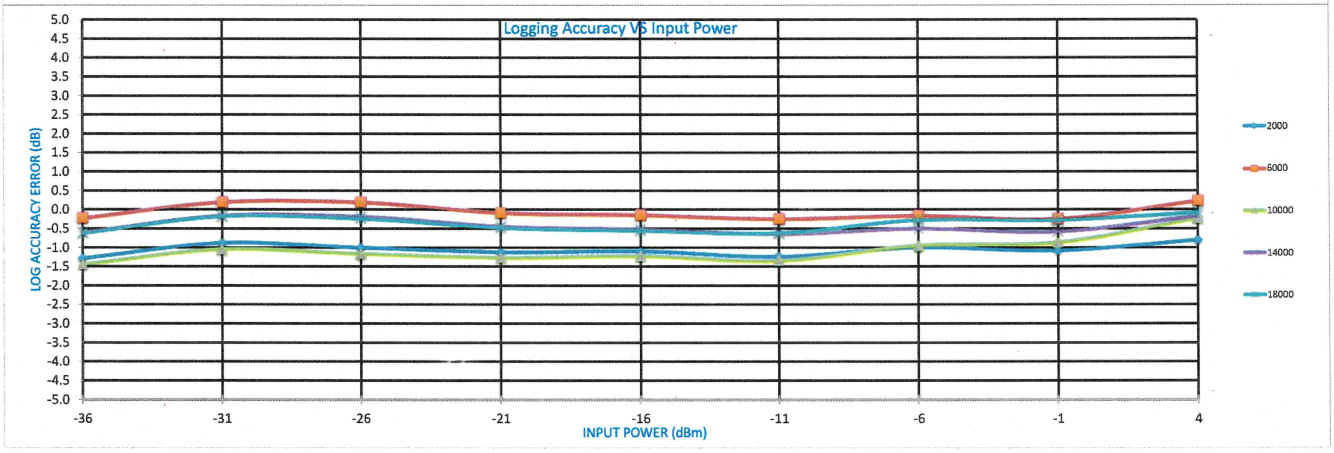
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
LOGGING LINEARITY ERROR (dB)	0.44	-0.38

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
LOGGING ACCURACY ERROR (dB)	0.24	-1.44

SUMMARY TEST DATA
ON
HADA-D2002

LOG TRANSFER WITH FREQUENCY @ +85C
MODEL: HADA-D2002
SERIAL NO: PL55552
TESTED BY: Daniel W.





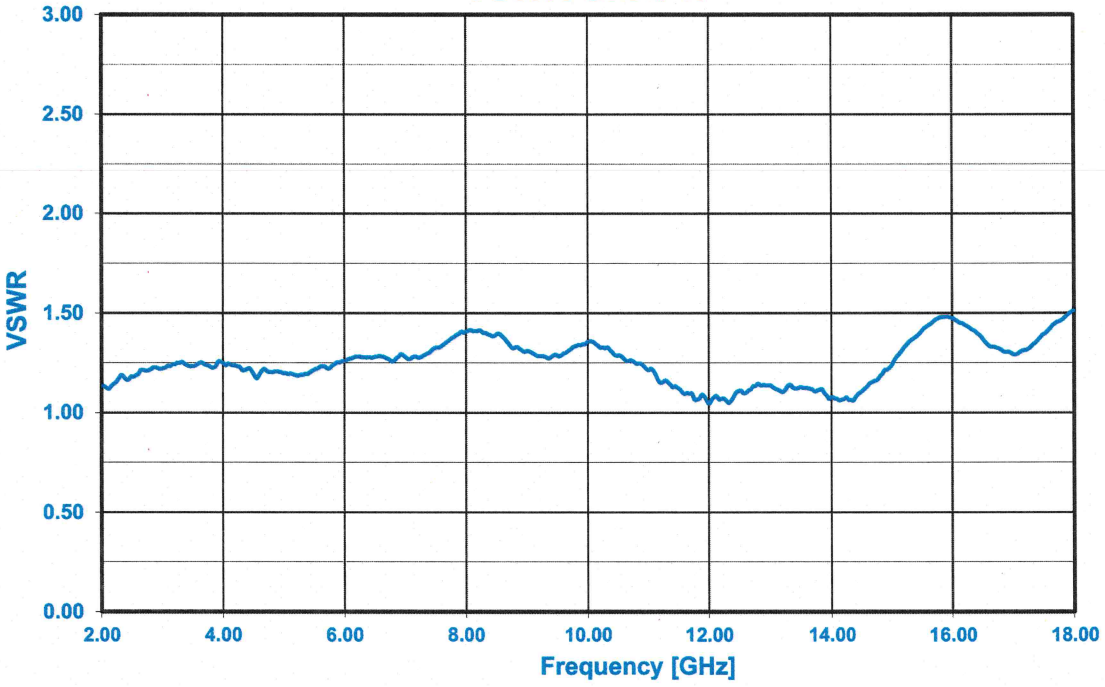
4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

Model Number: HADA-D2002
Serial Number: PL55552

Temperature: +25C

VSWR GRAPH

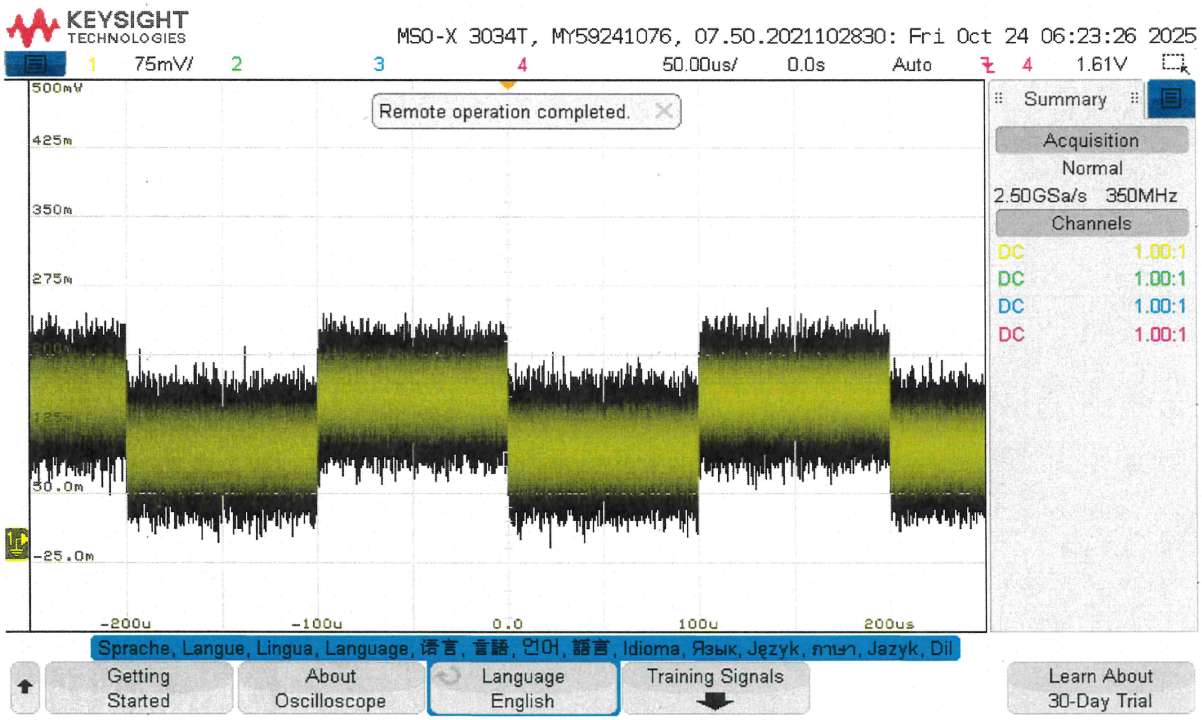


Input 1.513:1 Max

4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

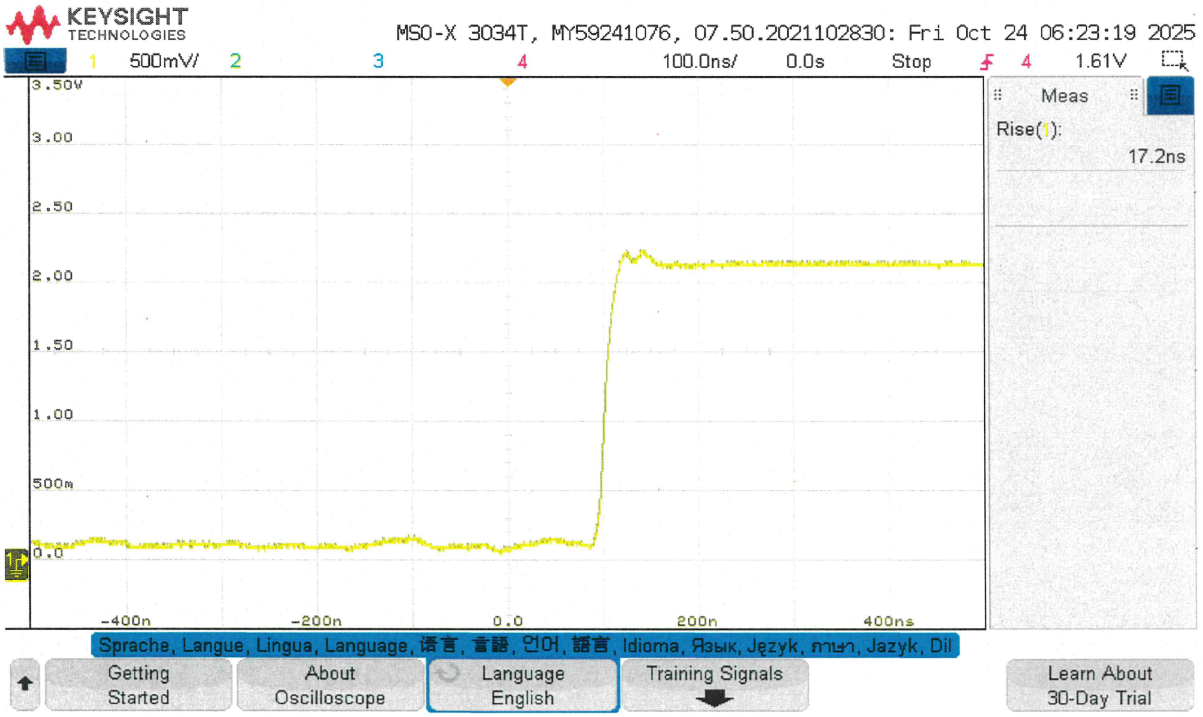
TSS = -43.2 dBm



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

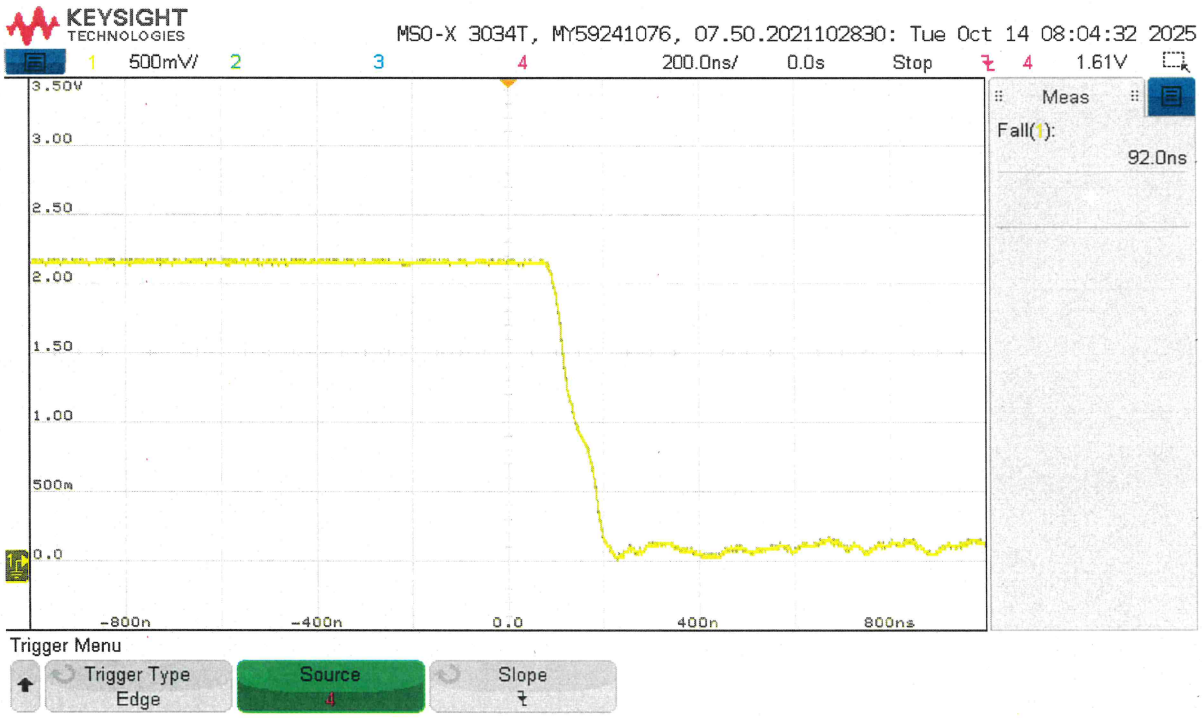
Rise Time = 17.2 ns



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

SUMMARY TEST DATA
ON
HADA-D2002

Fall Time = 92 ns



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com