SUMMARY TEST DATA
ON
HADA-D2001

PL38219/2245

Customer:		**Tested By:**	**J. Monley**
SO No:		**Temperature:**	**+25°C**
Model No:	**HADA-D2001**	**Date:**	**10/28/22**
Serial No:	**PL38219/2245**	**Drawing No:**	**27620201** **Rev:** **A1**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.5 GHz – 2.0 GHz	**0.5 GHz – 2.0 GHz See Plot**	PMI QA3
2	TSS:	-44 dBm Min @ -40°C to +85°	**-45 dBm See Plot**	
3	Frequency Flatness:	±0.75 dB Max	**±0.20 dB See Plot**	
4	Input / Output Characteristics: (93 Ω)	Y = 2350 + 50X [X: Input (dBm), Y: Output (mv)]	**Pass**	
5	Logging Accuracy	±1.5 dB Max (@ +25°C, 1.0 GHz)* [-40 dBm ≤ INPUT ≤ 0 dBm] ±2.2 dB Max (Note)	**+0.26 dB** **-1.56 dB See Plot**	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	**-0.28 dB -0.42 dB See Plot**	
7	Maximum Input Power (CW):	+23 dBm	**Pass**	
8	Duty Cycle:	100%	**Pass**	
9	Rise Time:	30 ns Max (10% to 90%)	**20 nS See Plot**	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	**166 nS See Plot**	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	**+ 94 mV + 31 mV**	
12	Input VSWR:	2.5:1 Max @ +23 dBm	**1.18:1 See Plot**	

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13	Propagation Delay:	60 ns Max	**40 nS**	PMI QA3
14	Power Supply:	+12 ± 1VDC @ 125 mA Max -12 ± 1VDC @ 75 mA Max	**90 mA** **40 mA**	✓
15	Warm Up Time:	2 Minutes Max	**2 Minutes**	✓

*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. Hutton **Date:** 11-14-22

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SUMMARY TEST DATA ON HADA-D2001

PL38219/2245

Log Linearity and Log Accuracy @ +25°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/07/22
SERIAL NO: PL38219
TEST TEMP: +25C

PLANAR MONOLITHICS INDUSTRIES
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DC Offset= 0.094 V

Frequency		
0.5 GHz	INTERCEPT (mV)	2340
	SLOPE (mV/dB)	50.2
1 GHz	INTERCEPT (mV)	2353
	SLOPE (mV/dB)	50.1
2 GHz	INTERCEPT (mV)	2350
	SLOPE (mV/dB)	50.1
	Flatness +/- dB	
	Max Video Output Volts	
	Min Video Output Volts	

RF Input Power (dBm)	-40	-35	-30	-25	-20	-15	-10	-5	0
	344	584	830	1079	1329	1588	1824	2099	2349
	12	1	-4	-6	-7	1	-14	10	9
	0.24	0.02	-0.08	-0.12	-0.14	0.01	-0.28	0.19	0.17
	-0.12	-0.32	-0.40	-0.42	-0.42	-0.24	-0.52	-0.02	-0.02
	358	597	846	1094	1346	1604	1839	2113	2358
	10	-1	-3	-6	-5	3	-13	10	5
	0.21	-0.03	-0.06	-0.12	-0.09	0.05	-0.26	0.20	0.09
	0.16	-0.06	-0.08	-0.12	-0.08	0.08	-0.22	0.26	0.16
	356	595	843	1091	1343	1600	1838	2108	2355
	11	-1	-4	-6	-5	2	-11	9	5
	0.21	-0.02	-0.07	-0.12	-0.09	0.04	-0.22	0.17	0.10
	0.12	-0.10	-0.14	-0.18	-0.14	0.00	-0.24	0.16	0.10
	0.10	0.10	0.20	0.10	0.20	0.20	0.10	0.10	0.10
	0.36	0.60	0.85	1.09	1.35	1.60	1.84	2.11	2.36
	0.34	0.58	0.83	1.08	1.33	1.59	1.82	2.10	2.35

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.24	-0.28
LOGGING ACCURACY (dB)	-0.02	-0.52

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.21	-0.26
LOGGING ACCURACY (dB)	0.26	-0.22

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.21	-0.22
LOGGING ACCURACY (dB)	0.16	-0.24

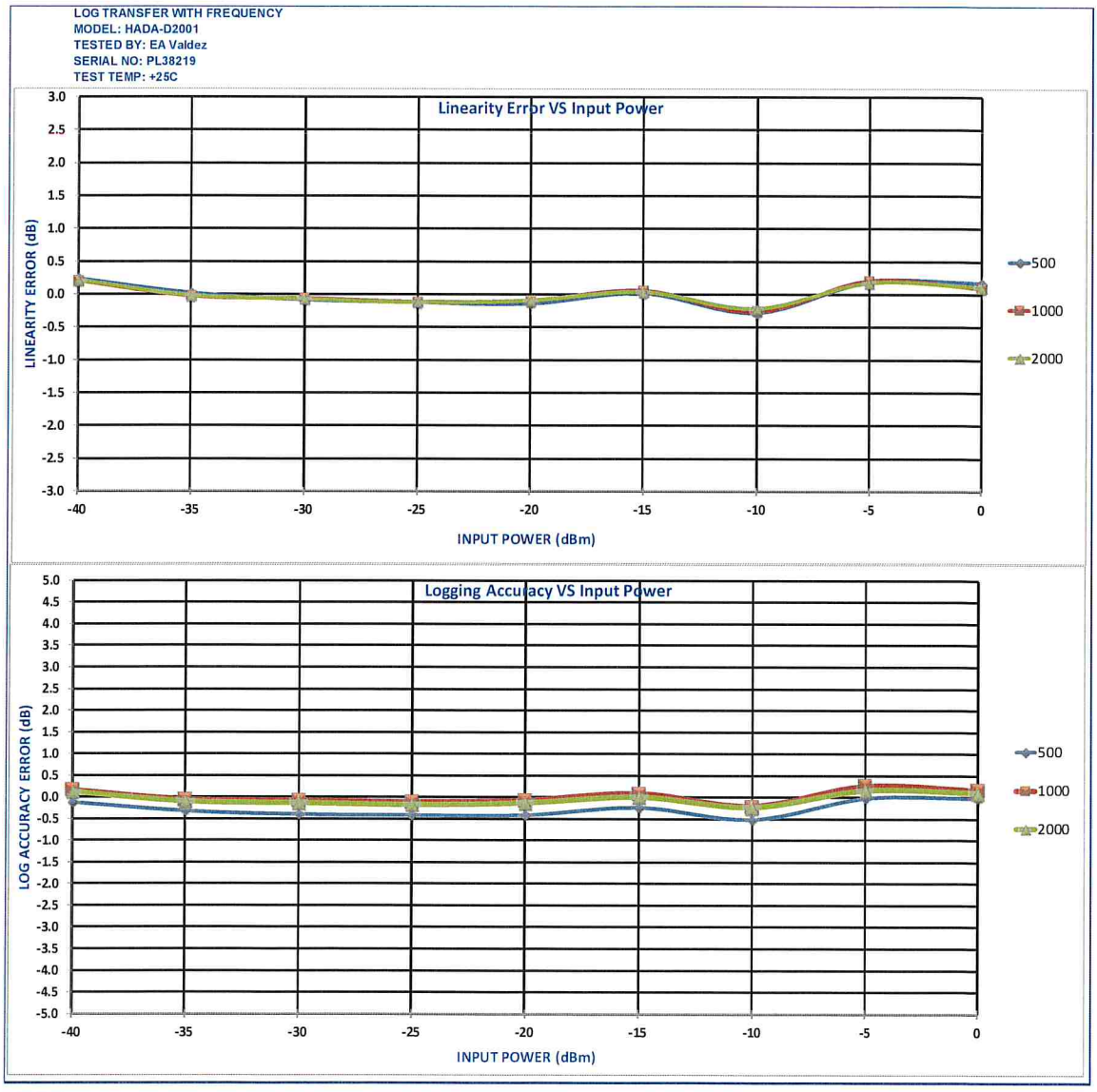
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.24	-0.28

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.26	-0.52

SUMMARY TEST DATA
ON
HADA-D2001

PL38219/2245

Log Linearity and Log Accuracy @ +25°C



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SUMMARY TEST DATA ON HADA-D2001

PL38219/2245

Log Linearity and Log Accuracy @ -40°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/07/22
SERIAL NO: PL38219
TEST TEMP: -40C

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TEL: 916-542-1401 FAX: 916-265-2597
EMAIL: SALES@PMI-RF.COM

DC Offset= 0.029 V

Frequency		
0.5 GHz	INTERCEPT (mV)	2341
	SLOPE (mV/dB)	50.4
1 GHz	INTERCEPT (mV)	2353
	SLOPE (mV/dB)	50.2
2 GHz	INTERCEPT (mV)	2351
	SLOPE (mV/dB)	50.2

RF Input Power (dBm)	-40	-35	-30	-25	-20	-15	-10	-5	0
	322	575	834	1086	1333	1596	1837	2099	2327
	-5	-4	3	3	-1	10	-1	9	-14
	-0.10	-0.07	0.07	0.05	-0.02	0.20	-0.02	0.19	-0.29
	-0.56	-0.50	-0.32	-0.30	-0.34	-0.08	-0.26	-0.02	-0.46
	338	589	850	1101	1351	1613	1854	2111	2333
	-6	-7	3	3	2	13	3	9	-20
	-0.13	-0.13	0.07	0.06	0.04	0.26	0.06	0.18	-0.40
	-0.24	-0.22	0.00	0.02	0.02	0.26	0.08	0.22	-0.34
	338	588	849	1099	1349	1610	1854	2109	2331
	-6	-7	3	2	2	12	5	9	-20
	-0.11	-0.13	0.07	0.05	0.03	0.23	0.09	0.17	-0.40
	-0.24	-0.24	-0.02	-0.02	-0.02	0.20	0.08	0.18	-0.38
Flatness +/- dB	0.20	0.10	0.20	0.20	0.20	0.20	0.20	0.10	0.10
Max Video Output Volts	0.34	0.59	0.85	1.10	1.35	1.61	1.85	2.11	2.33
Min Video Output Volts	0.32	0.58	0.83	1.09	1.33	1.60	1.84	2.10	2.33

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.20	-0.29
LOGGING ACCURACY (dB)	-0.02	-0.56

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.26	-0.40
LOGGING ACCURACY (dB)	0.26	-0.34

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.23	-0.40
LOGGING ACCURACY (dB)	0.20	-0.38

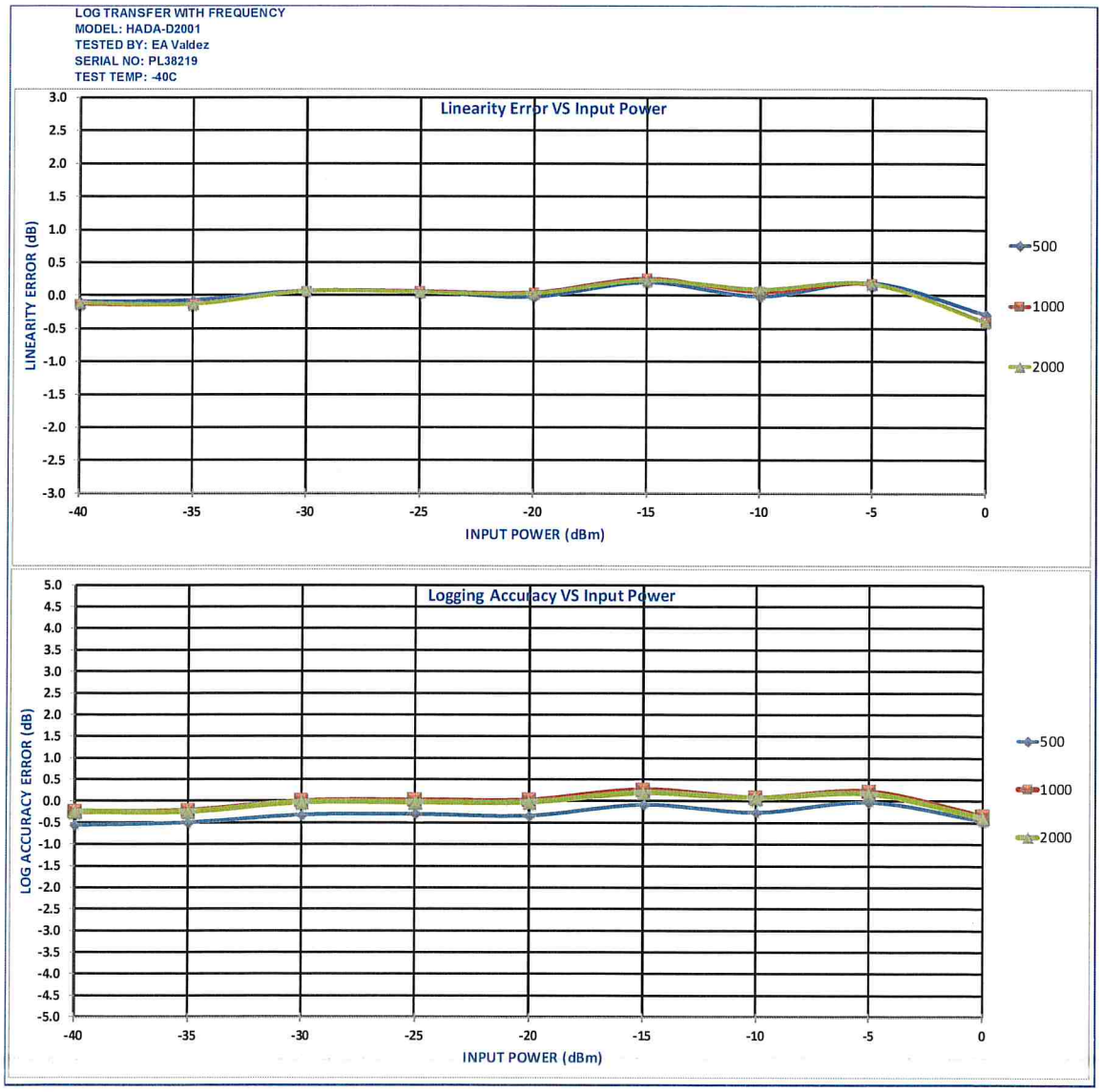
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.26	-0.40

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.26	-0.56

SUMMARY TEST DATA
ON
HADA-D2001

PL38219/2245

Log Linearity and Log Accuracy @ -40°C



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SUMMARY TEST DATA ON HADA-D2001

PL38219/2245

Log Linearity and Log Accuracy @ +85°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/07/22
SERIAL NO: PL38219
TEST TEMP: +85C

DC Offset= 0.031 V

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

Frequency		
0.5 GHz	INTERCEPT (mV)	2289
	SLOPE (mV/dB)	50.7
1 GHz	INTERCEPT (mV)	2305
	SLOPE (mV/dB)	50.6
2 GHz	INTERCEPT (mV)	2301
	SLOPE (mV/dB)	50.6
	Flatness +/- dB	
	Max Video Output Volts	
	Min Video Output Volts	

RF Input Power (dBm)	-40	-35	-30	-25	-20	-15	-10	-5	0
	255	528	772	1023	1274	1524	1761	2035	2307
	-7	13	3	1	-1	-5	-21	-1	18
	-0.13	0.26	0.07	0.02	-0.03	-0.10	-0.42	-0.02	0.35
	-1.90	-1.44	-1.56	-1.54	-1.52	-1.52	-1.78	-1.30	-0.86
	272	545	790	1040	1292	1544	1778	2054	2316
	-8	12	4	1	0	-1	-20	3	11
	-0.16	0.23	0.07	0.01	-0.01	-0.03	-0.40	0.05	0.23
	-1.56	-1.10	-1.20	-1.20	-1.16	-1.12	-1.44	-0.92	-0.68
	270	542	788	1036	1289	1539	1776	2048	2315
	-7	12	5	0	0	-3	-19	0	14
	-0.15	0.23	0.09	-0.01	0.00	-0.06	-0.38	0.00	0.28
	-1.60	-1.16	-1.24	-1.28	-1.22	-1.22	-1.48	-1.04	-0.70
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
	0.27	0.55	0.79	1.04	1.29	1.54	1.78	2.05	2.32
	0.26	0.53	0.77	1.02	1.27	1.52	1.76	2.04	2.31

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.35	-0.42
LOGGING ACCURACY (dB)	-0.86	-1.90

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.23	-0.40
LOGGING ACCURACY (dB)	-0.68	-1.56

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.28	-0.38
LOGGING ACCURACY (dB)	-0.70	-1.60

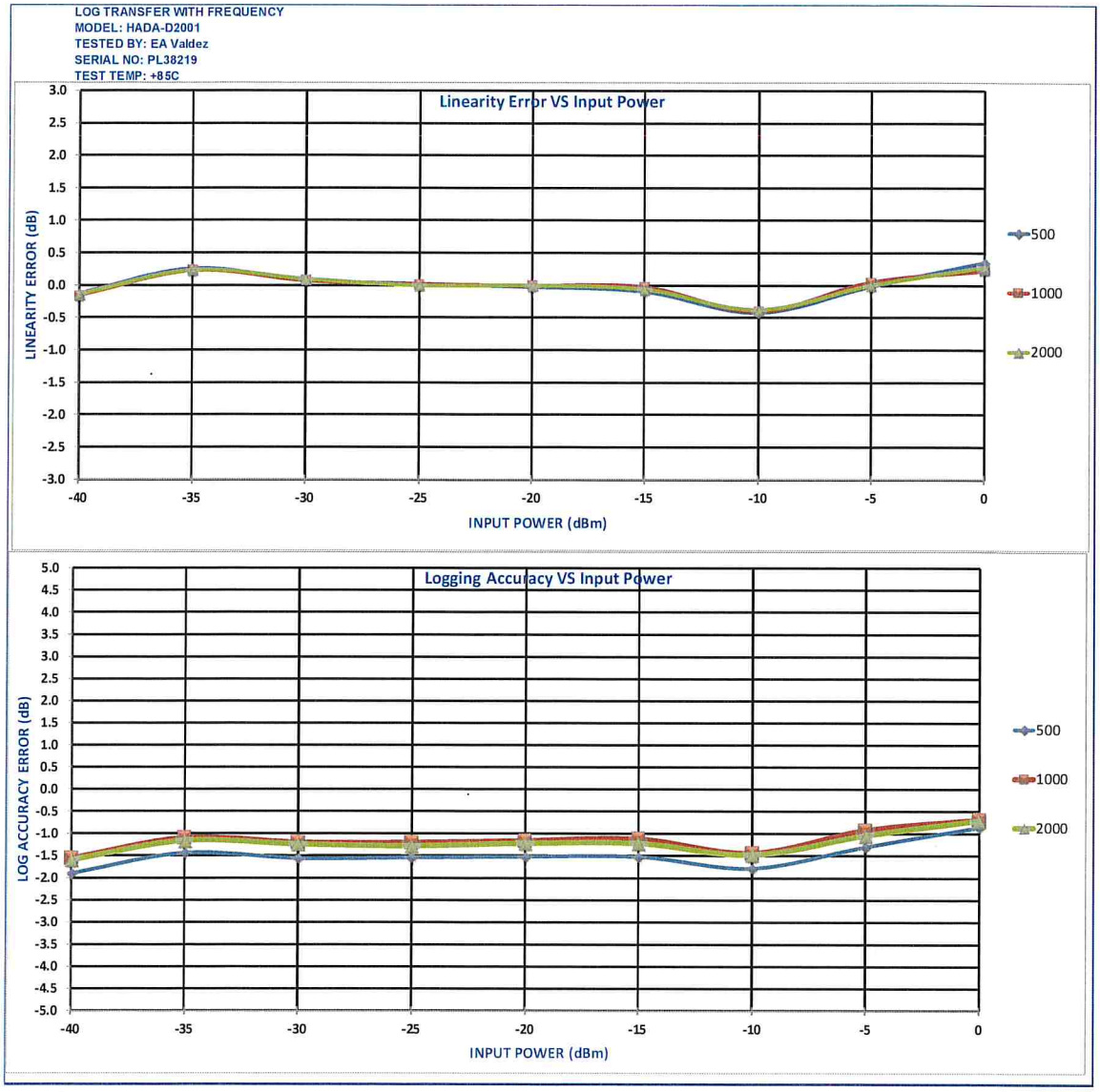
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.35	-0.42

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	-0.68	-1.90

SUMMARY TEST DATA
ON
HADA-D2001

PL38219/2245

Log Linearity and Log Accuracy @ +85°C



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SUMMARY TEST DATA
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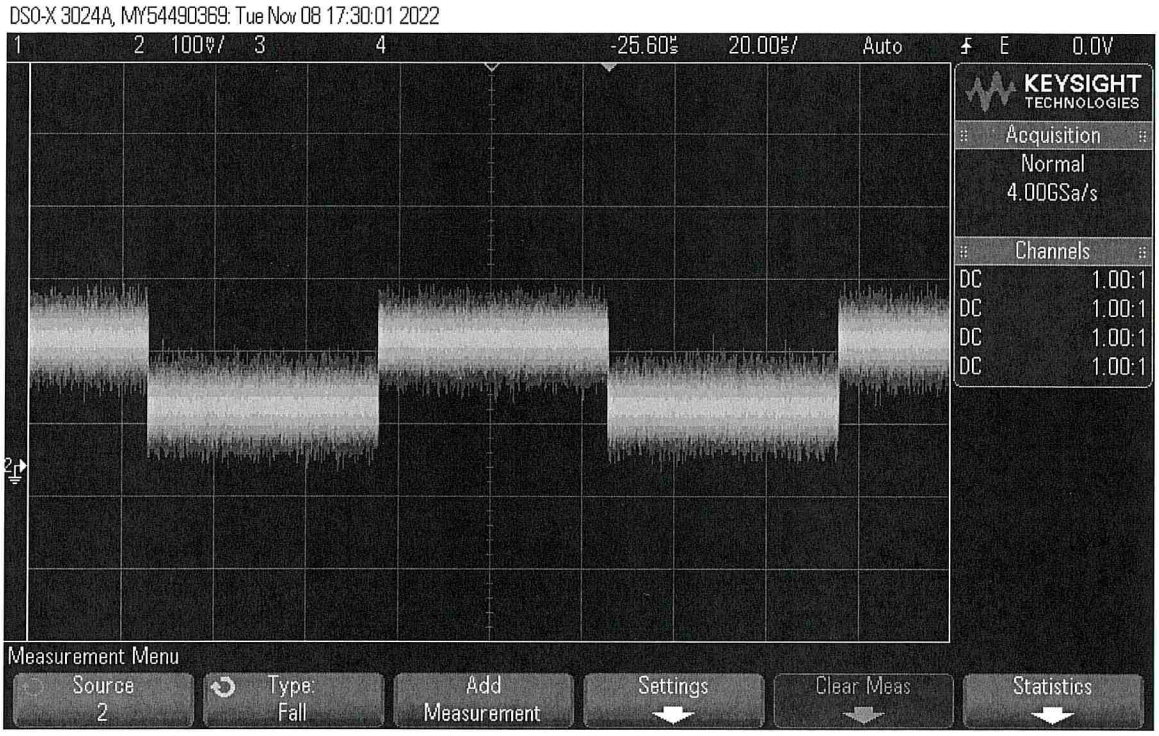
PL38219/2245

TSS -45 dBm



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SUMMARY TEST DATA
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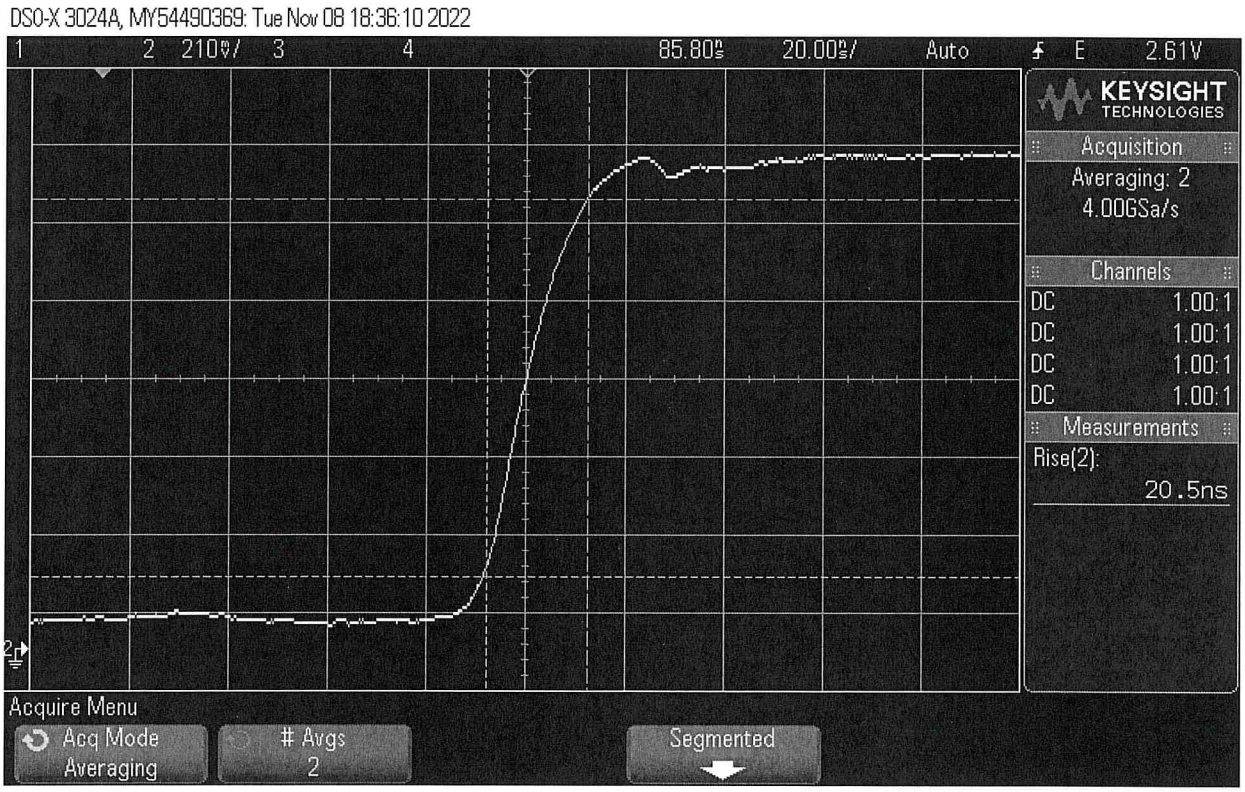
PL38219/2245

Rise Time 20.5nS



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SUMMARY TEST DATA
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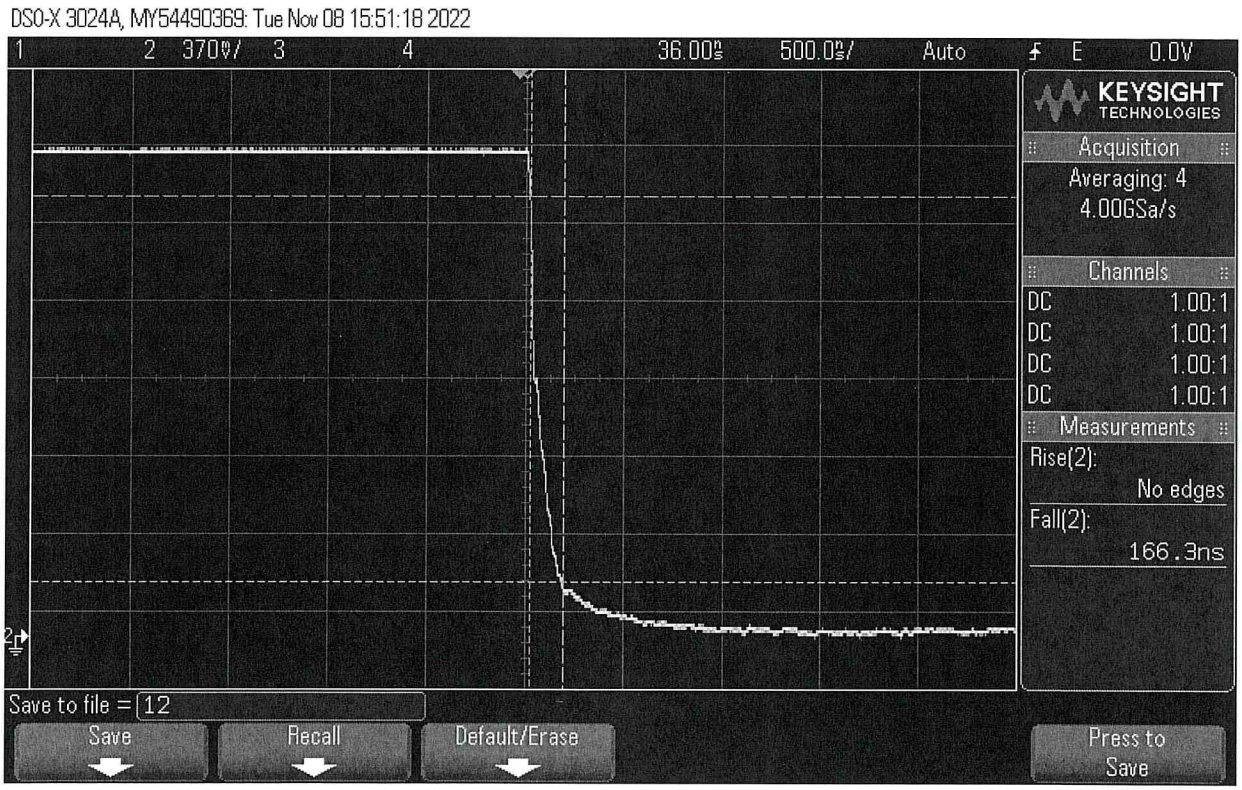
Fall Time 166.3nS



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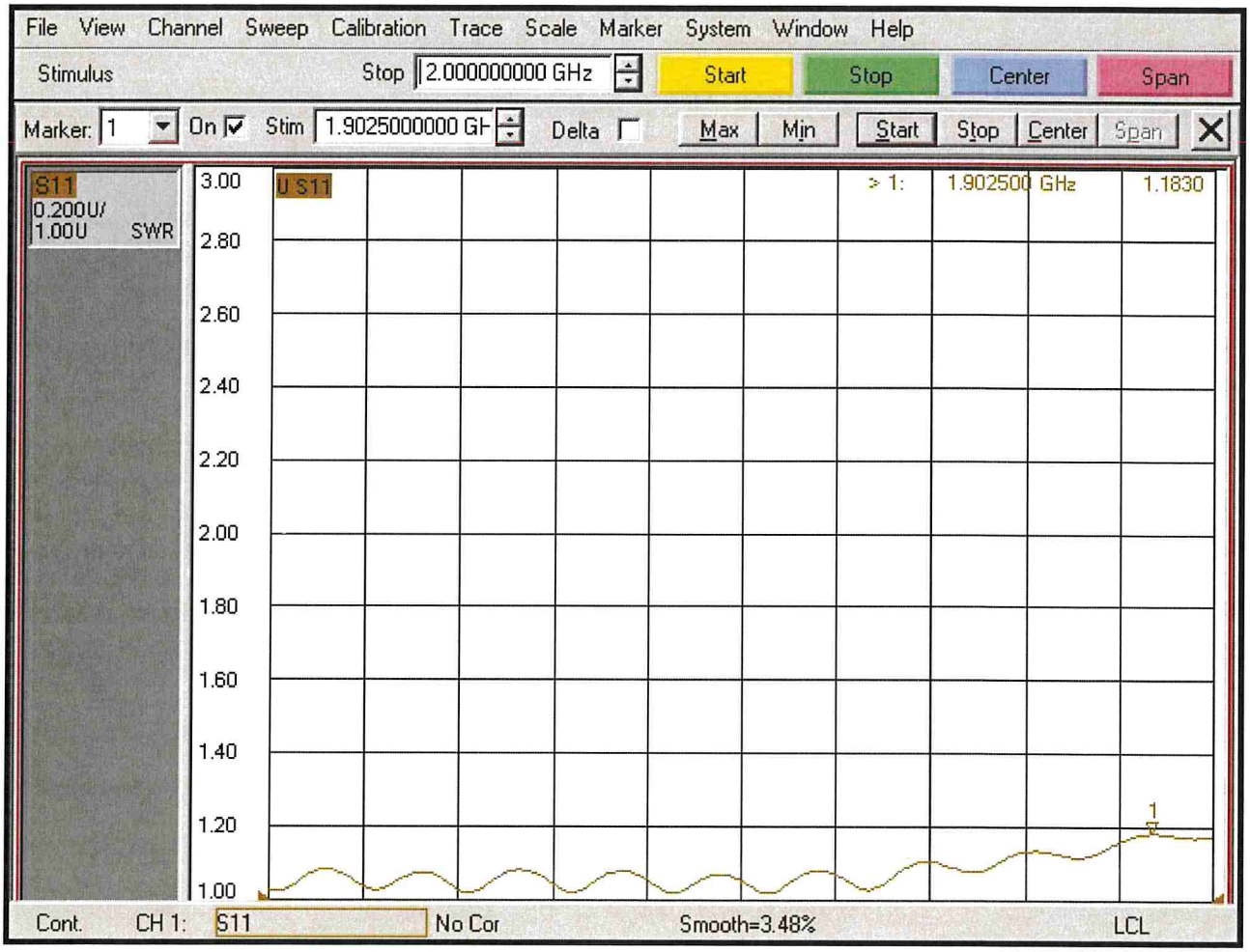
VSWR 1.18:1



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