SUMMARY TEST DATA
ON
HADA-D2001

PL38217/2245

Customer:		**Tested By:**	J. Monley
SO No:		**Temperature:**	+25°C
Model No:	HADA-D2001	**Date:**	10/28/22
Serial No:	PL38217/2245	**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	**±0.10 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)	**+0.82 dB** **+0.60 dB See Plot**	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	**-0.28 dB -0.49 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%)	**17 nS See Plot**	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	**226 nS See Plot**	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	**+ 89 mV + 89 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. Martens **Date:** 11-14-22

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SUMMARY TEST DATA
ON
HADA-D2001

PL38217/2245

Log Linearity ang log Flatness @ +25°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/03/22
SERIAL NO: PL38217
TEST TEMP: +25C

PLANAR MONOLITHICS INDUSTRIES
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DC Offset= 0.089 V

Frequency			-40	-35	-30	-25	-20	-15	-10	-5	0
			RF Input Power (dBm)								
0.5 GHz	INTERCEPT (mV)	2368	377	631	883	1124	1365	1623	1857	2121	2379
	SLOPE (mV/dB)	49.8	-1	4	7	-1	-8	1	-14	1	11
			-0.03	0.08	0.14	-0.01	-0.17	0.02	-0.28	0.03	0.21
			0.54	0.62	0.66	0.48	0.30	0.46	0.14	0.42	0.58
1 GHz	INTERCEPT (mV)	2377	386	639	891	1133	1376	1633	1868	2131	2384
	SLOPE (mV/dB)	49.7	-2	3	6	-1	-6	2	-12	3	7
			-0.03	0.06	0.12	-0.01	-0.13	0.04	-0.24	0.05	0.14
			0.72	0.78	0.82	0.66	0.52	0.66	0.36	0.62	0.68
2 GHz	INTERCEPT (mV)	2371	382	634	886	1127	1370	1627	1863	2124	2378
	SLOPE (mV/dB)	49.7	-1	3	6	-1	-7	2	-11	2	7
			-0.02	0.05	0.12	-0.03	-0.14	0.04	-0.22	0.04	0.15
			0.64	0.68	0.72	0.54	0.40	0.54	0.26	0.48	0.56
	Flatness +/- dB		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Max Video Output Volts		0.39	0.64	0.89	1.13	1.38	1.63	1.87	2.13	2.38
	Min Video Output Volts		0.38	0.63	0.88	1.12	1.37	1.62	1.86	2.12	2.38

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.21	-0.28
LOGGING ACCURACY (dB)	0.66	0.14

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.14	-0.24
LOGGING ACCURACY (dB)	0.82	0.36

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.15	-0.22
LOGGING ACCURACY (dB)	0.72	0.26

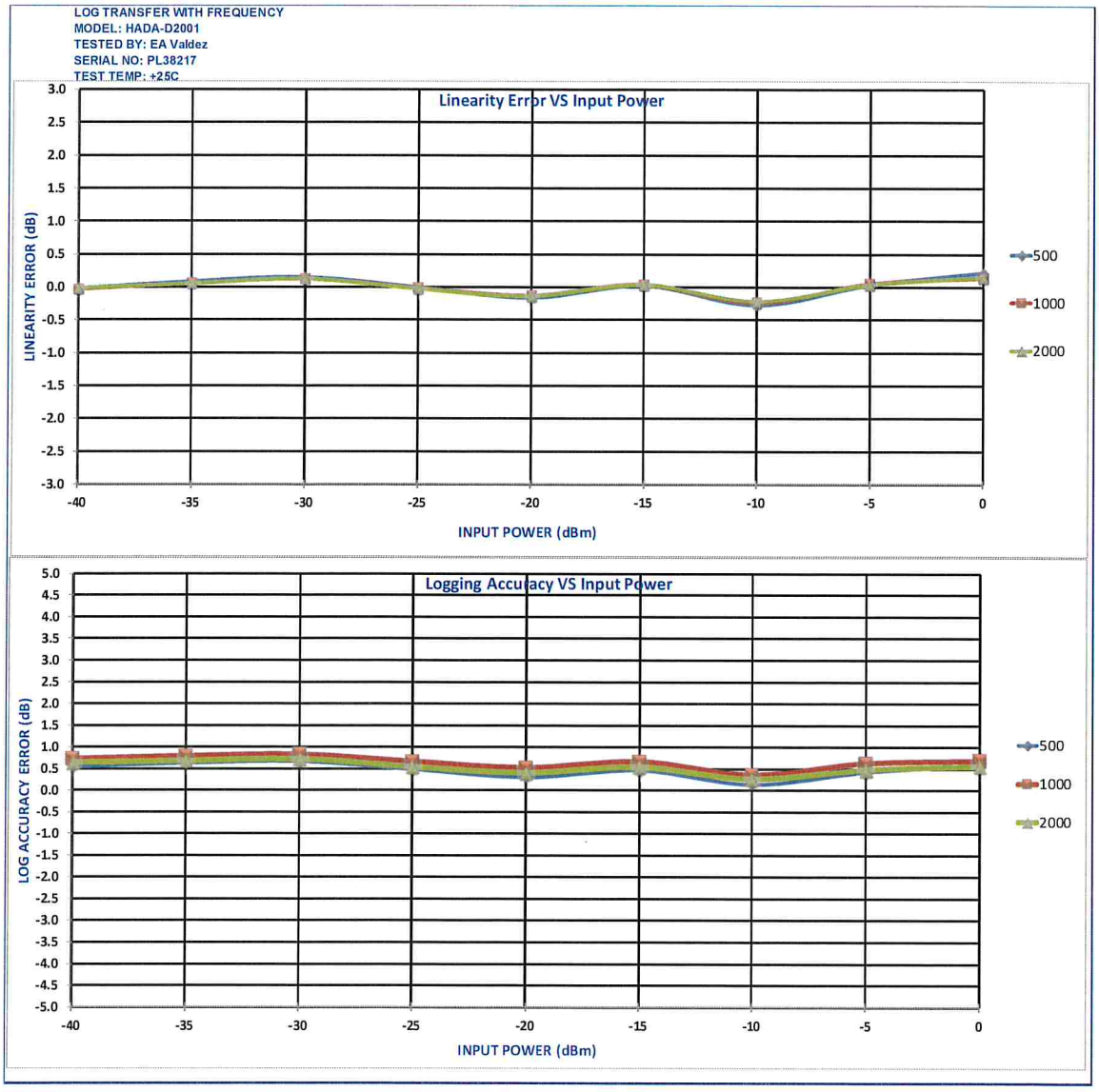
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.21	-0.28

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.82	0.14

SUMMARY TEST DATA
ON
HADA-D2001

PL38217/2245

Log Linearity ang log Flatness @ +25°C



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SUMMARY TEST DATA ON HADA-D2001

PL38217/2245

Log Linearity ang log Flatness @ -40°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/03/22
SERIAL NO: PL38217
TEST TEMP: -40C

DC Offset= -0.005 V

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Frequency		
0.5 GHz	INTERCEPT (mV)	2343
	SLOPE (mV/dB)	49.8
1 GHz	INTERCEPT (mV)	2354
	SLOPE (mV/dB)	49.6
2 GHz	INTERCEPT (mV)	2349
	SLOPE (mV/dB)	49.6

RF Input Power (dBm)	-40	-35	-30	-25	-20	-15	-10	-5	0
	329	604	867	1109	1349	1606	1847	2088	2334
	-24	2	17	10	1	9	1	-7	-9
	-0.48	0.05	0.33	0.20	0.02	0.18	0.03	-0.13	-0.19
	-0.42	0.08	0.34	0.18	-0.02	0.12	-0.06	-0.24	-0.32
	344	617	880	1122	1365	1620	1863	2099	2339
	-24	1	15	9	4	11	6	-7	-15
	-0.49	0.01	0.31	0.18	0.08	0.22	0.11	-0.13	-0.30
	-0.12	0.34	0.60	0.44	0.30	0.40	0.26	-0.02	-0.22
	340	613	876	1117	1360	1616	1860	2095	2334
	-24	1	16	8	3	11	7	-5	-15
	-0.49	0.01	0.31	0.17	0.06	0.22	0.14	-0.13	-0.31
	-0.20	0.26	0.52	0.34	0.20	0.32	0.20	-0.10	-0.32
Flatness +/- dB	0.20	0.10	0.10	0.10	0.20	0.10	0.20	0.10	0.10
Max Video Output Volts	0.34	0.62	0.86	1.12	1.37	1.62	1.86	2.10	2.34
Min Video Output Volts	0.33	0.60	0.87	1.11	1.35	1.61	1.85	2.09	2.33

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.33	-0.48
LOGGING ACCURACY (dB)	0.34	-0.42

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.31	-0.49
LOGGING ACCURACY (dB)	0.60	-0.22

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.31	-0.49
LOGGING ACCURACY (dB)	0.52	-0.32

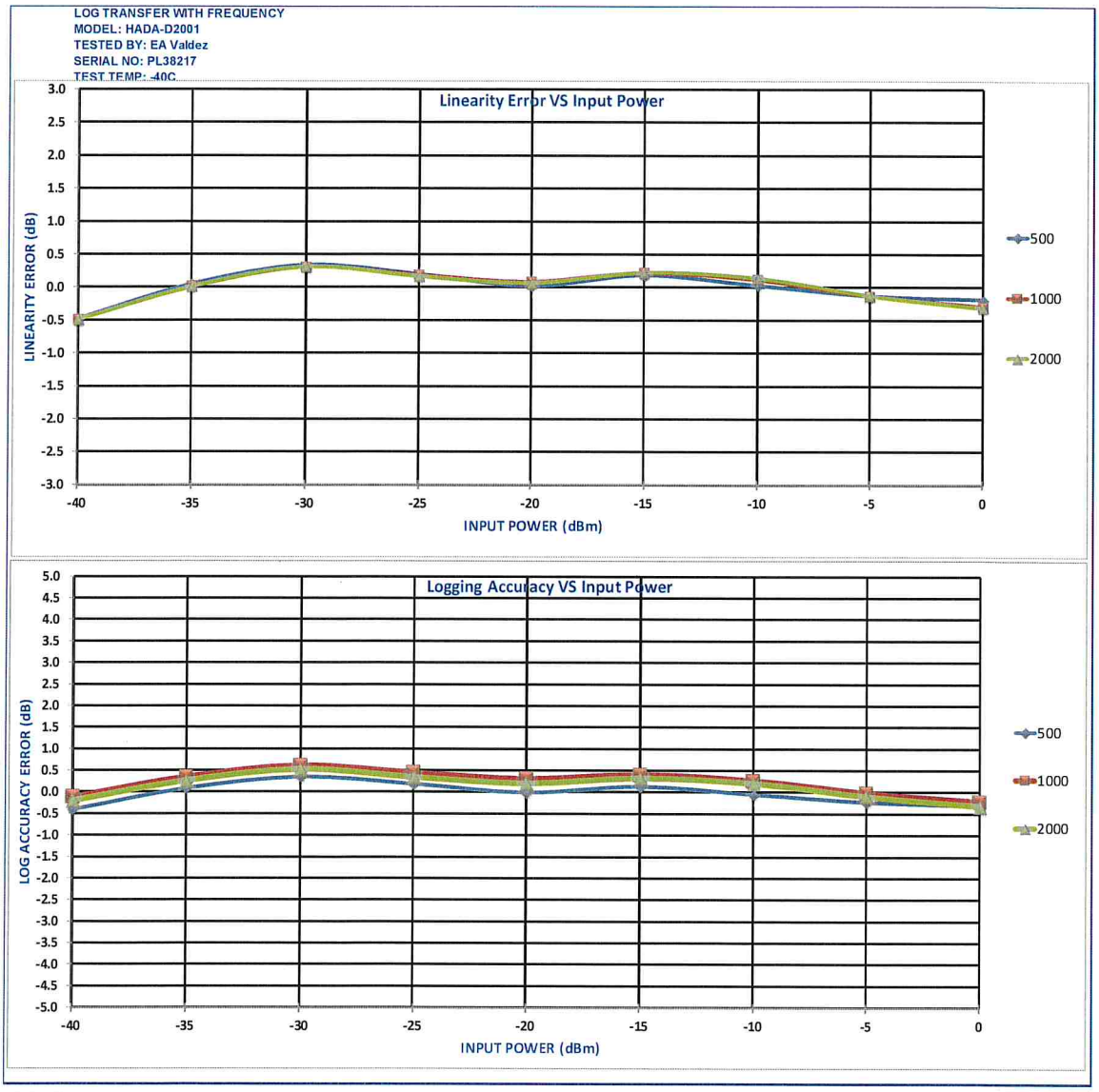
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.33	-0.49

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.60	-0.42

SUMMARY TEST DATA
ON
HADA-D2001

PL38217/2245

Log Linearity ang log Flatness @ -40°C



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SUMMARY TEST DATA
ON
HADA-D2001

PL38217/2245

Log Linearity ang log Flatness @ +85°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/04/22
SERIAL NO: PL38217
TEST TEMP: +85C

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DC Offset= 0.089 V

Frequency			-40	-35	-30	-25	-20	-15	-10	-5	0
			RF Input Power (dBm)								
0.5 GHz	INTERCEPT (mV)	2335	340	598	842	1083	1326	1580	1812	2088	2359
	SLOPE (mV/dB)	49.9	2	11	5	-4	-10	-6	-24	2	24
			0.05	0.21	0.10	-0.07	-0.21	-0.12	-0.48	0.05	0.47
			-0.20	-0.04	-0.16	-0.34	-0.48	-0.40	-0.76	-0.24	0.18
1 GHz	INTERCEPT (mV)	2347	351	609	853	1094	1339	1594	1825	2101	2366
	SLOPE (mV/dB)	49.9	2	10	4	-4	-9	-4	-22	4	19
			0.03	0.20	0.09	-0.09	-0.18	-0.07	-0.45	0.08	0.39
			0.02	0.18	0.06	-0.12	-0.22	-0.12	-0.50	0.02	0.32
2 GHz	INTERCEPT (mV)	2341	348	605	849	1089	1334	1587	1821	2094	2363
	SLOPE (mV/dB)	49.9	3	10	5	-5	-9	-6	-21	2	22
			0.05	0.20	0.09	-0.10	-0.19	-0.12	-0.43	0.04	0.44
			-0.04	0.10	-0.02	-0.22	-0.32	-0.26	-0.58	-0.12	0.26
	Flatness +/- dB		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Max Video Output Volts		0.35	0.61	0.85	1.09	1.34	1.59	1.83	2.10	2.37
	Min Video Output Volts		0.34	0.60	0.84	1.08	1.33	1.58	1.81	2.09	2.36

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.47	-0.48
LOGGING ACCURACY (dB)	0.18	-0.76

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.39	-0.45
LOGGING ACCURACY (dB)	0.32	-0.50

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.44	-0.43
LOGGING ACCURACY (dB)	0.26	-0.58

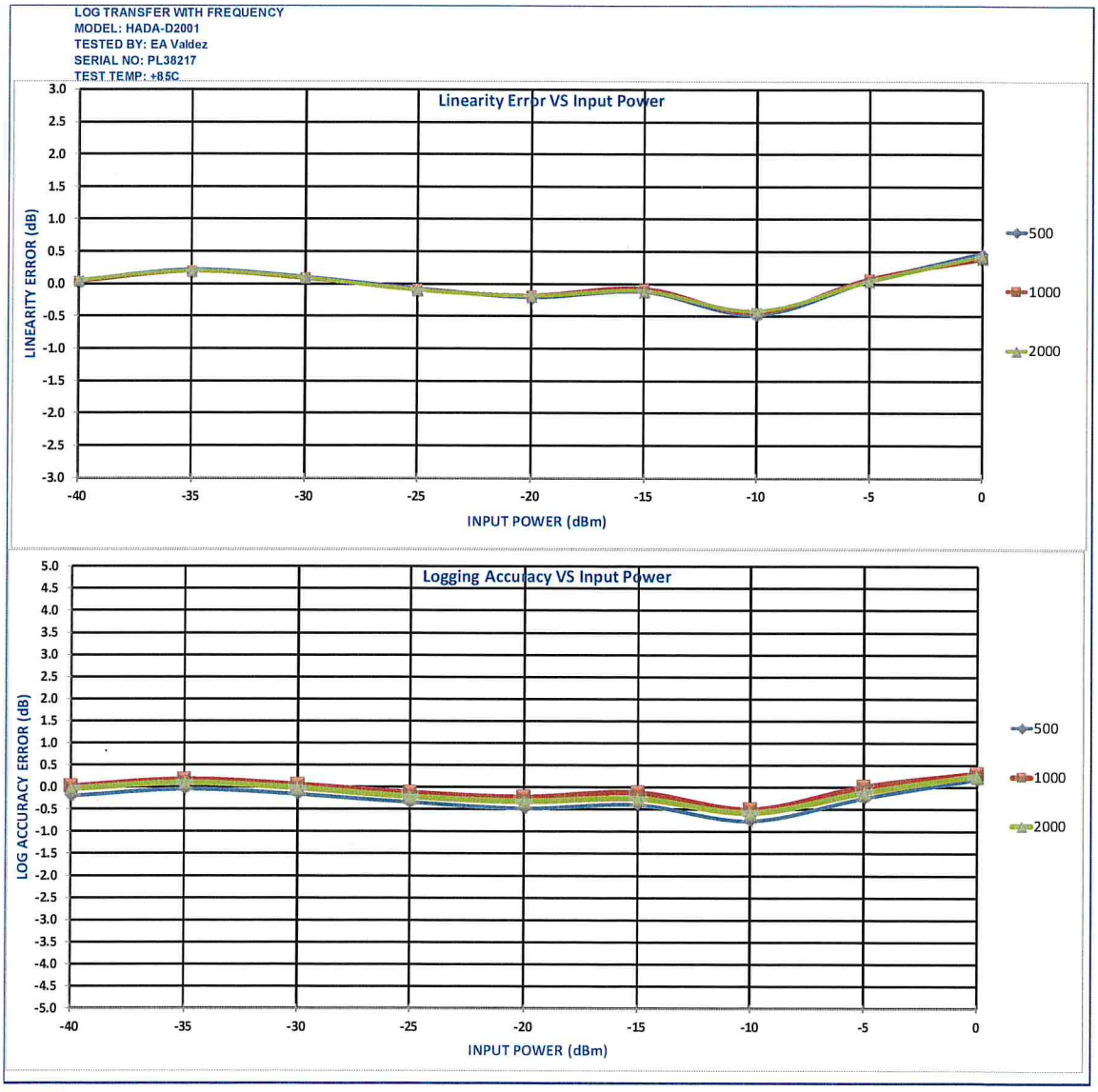
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.47	-0.48

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.32	-0.76

SUMMARY TEST DATA
ON
HADA-D2001

PL38217/2245

Log Linearity ang log Flatness @ +85°C



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SUMMARY TEST DATA
ON
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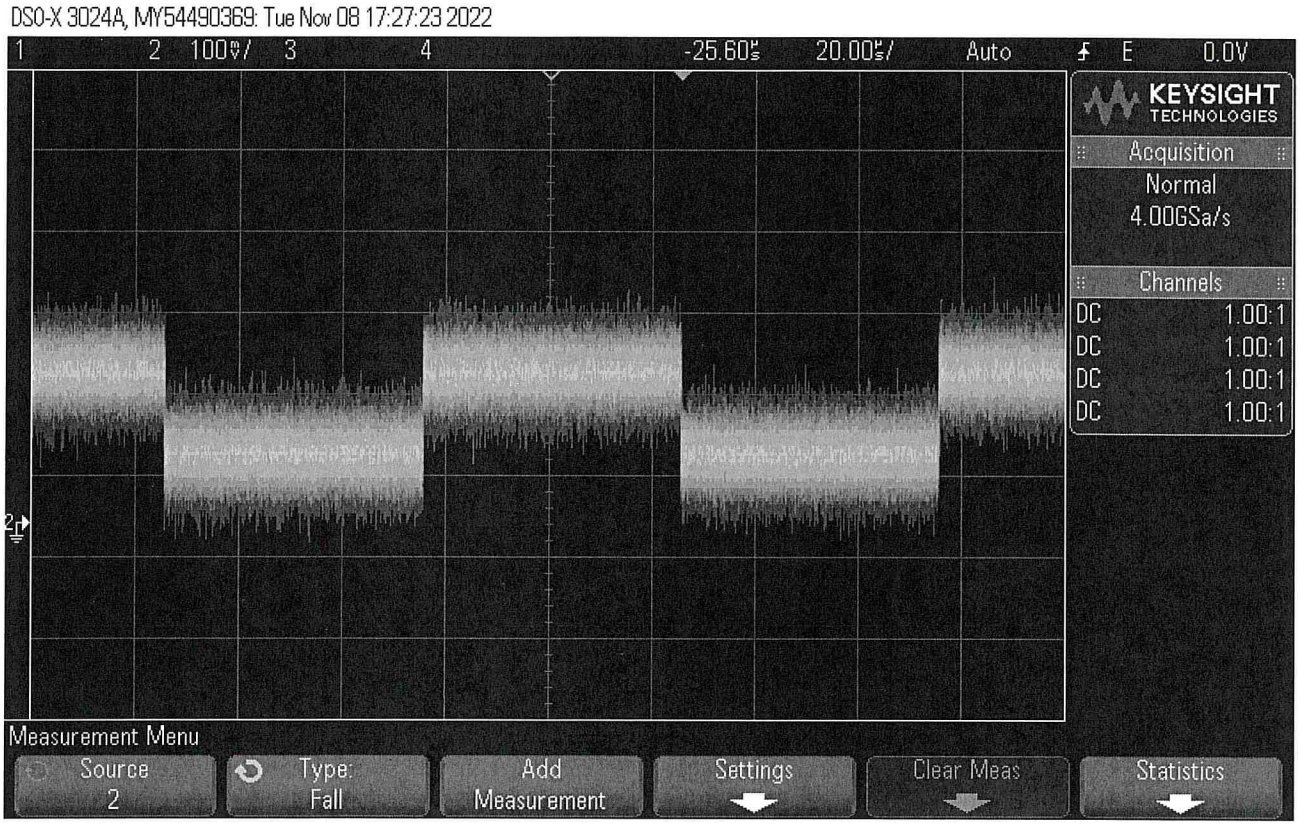
PL38217/2245

TSS @ -45 dBm



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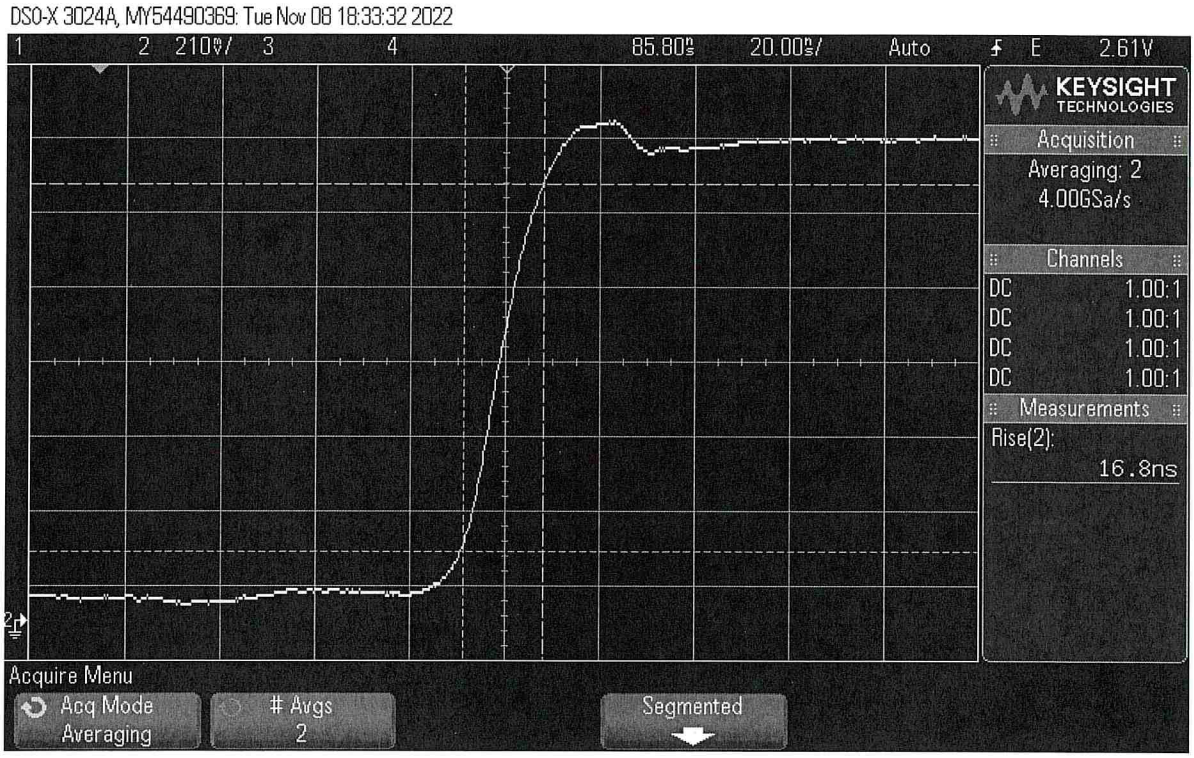
Rise Time 16.8nS



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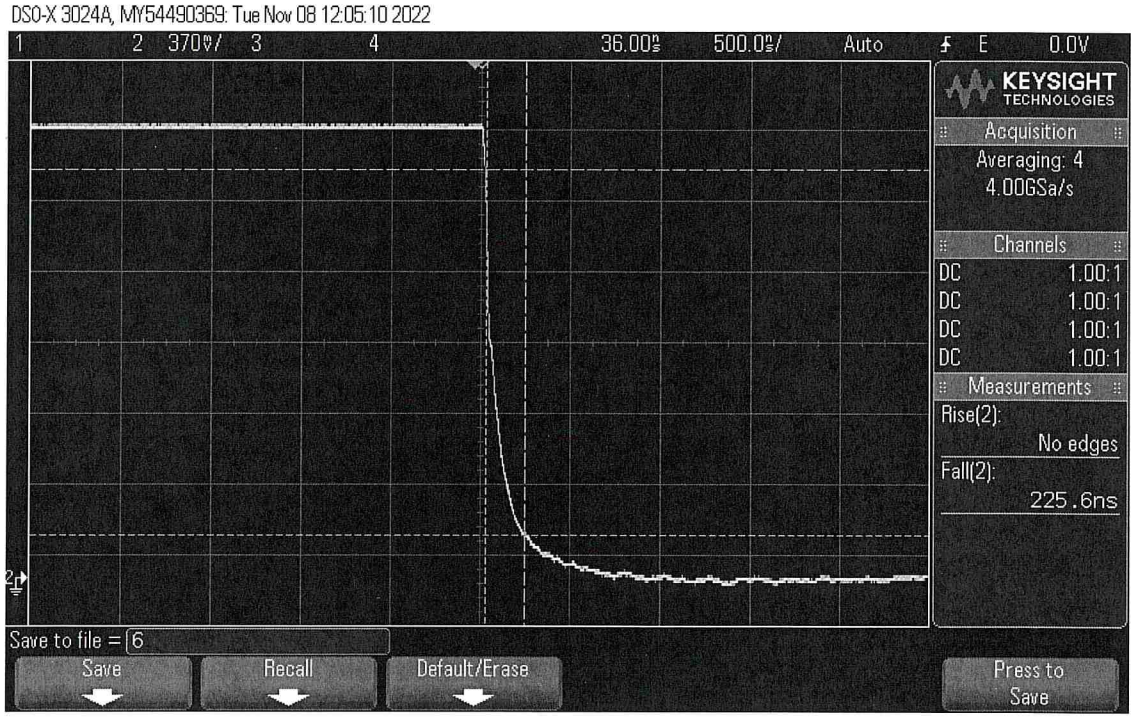
Fall Time 225.6nS



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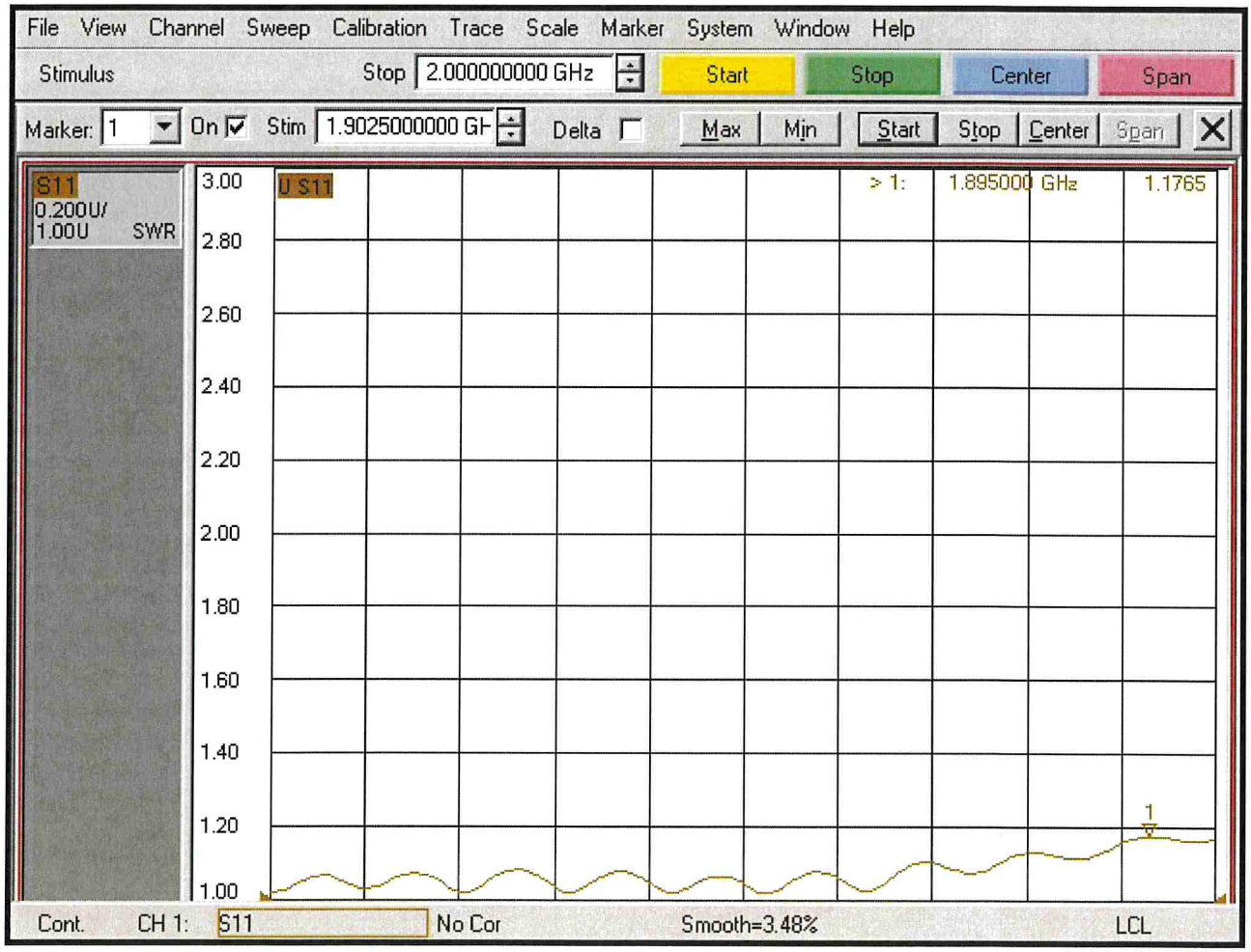
VSWR 1.18:1



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