SUMMARY TEST DATA
ON
HADA-D2001

PL38214/2245

Customer: [redacted] **Tested By:** J. Monley
SO No: [redacted] **Temperature:** +25°C
Model No: HADA-D2001 **Date:** 10/28/22
Serial No: PL38214/2245 **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)	**+0.78 dB** **+0.96 dB See Plot**	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	**-0.26 dB -0.46 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%)	**19.5 nS See Plot**	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	**224 nS See Plot**	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	**+108 mV +88 mV**	
12	Input VSWR:	2.5:1 Max @ +23 dBm	**1.14:1 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. Mathews **Date:** 11-14-22

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SUMMARY TEST DATA
ON
HADA-D2001

PL38214/2245

Log Linearity and Log Accuracy @ +25°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/03/22
SERIAL NO: PL38214
TEST TEMP: +25C

DC Offset= 0.108 V

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Frequency		
0.5 GHz	INTERCEPT (mV)	2359
	SLOPE (mV/dB)	49.8
1 GHz	INTERCEPT (mV)	2376
	SLOPE (mV/dB)	49.8
2 GHz	INTERCEPT (mV)	2370
	SLOPE (mV/dB)	49.7

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

RF Input Power (dBm)	-40	-35	-30	-25	-20	-15	-10	-5	0
	372	621	866	1108	1351	1609	1848	2120	2369
Error (mV)	6	6	2	-6	-12	-3	-13	10	10
LINEARITY ERROR (dB)	0.12	0.12	0.03	-0.11	-0.23	-0.06	-0.26	0.20	0.19
LOGGING ACCURACY (dB)	0.44	0.42	0.32	0.16	0.02	0.18	-0.04	0.40	0.38
	389	636	883	1125	1369	1628	1867	2137	2381
Error (mV)	6	4	2	-5	-10	0	-11	10	5
LINEARITY ERROR (dB)	0.11	0.07	0.03	-0.11	-0.21	-0.01	-0.21	0.21	0.11
LOGGING ACCURACY (dB)	0.78	0.72	0.66	0.50	0.38	0.56	0.34	0.74	0.62
	387	634	881	1122	1368	1623	1864	2131	2376
Error (mV)	5	4	2	-5	-10	-2	-9	9	6
LINEARITY ERROR (dB)	0.11	0.07	0.04	-0.11	-0.20	-0.03	-0.18	0.19	0.12
LOGGING ACCURACY (dB)	0.74	0.68	0.62	0.44	0.32	0.46	0.28	0.62	0.52
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
	0.39	0.64	0.88	1.13	1.37	1.63	1.87	2.14	2.38
	0.37	0.62	0.87	1.11	1.35	1.61	1.85	2.12	2.37

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.20	-0.26
LOGGING ACCURACY (dB)	0.44	-0.04

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.21	-0.21
LOGGING ACCURACY (dB)	0.78	0.34

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.19	-0.20
LOGGING ACCURACY (dB)	0.74	0.28

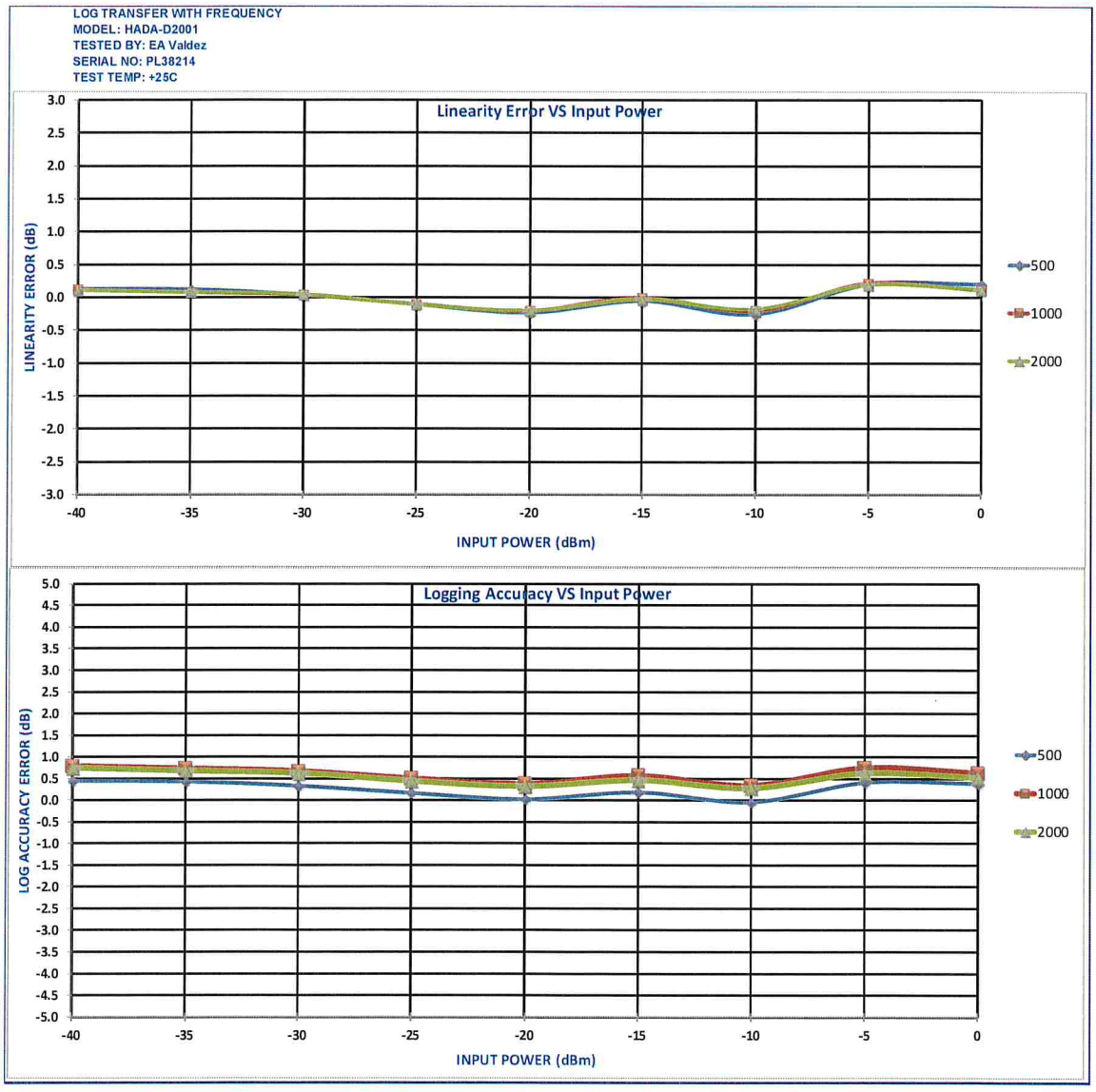
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.21	-0.26

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.78	-0.04

SUMMARY TEST DATA
ON
HADA-D2001

PL38214/2245

Log Linearity and Log Accuracy @ +25°C



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SUMMARY TEST DATA ON HADA-D2001

PL38214/2245

Log Linearity and Log Accuracy @ -40°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/03/22
SERIAL NO: PL38214
TEST TEMP: -40C

DC Offset= 0.088 V

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Frequency		
0.5 GHz	INTERCEPT (mV)	2343
	SLOPE (mV/dB)	49.2
1 GHz	INTERCEPT (mV)	2359
	SLOPE (mV/dB)	49.1
2 GHz	INTERCEPT (mV)	2356
	SLOPE (mV/dB)	49

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

RF Input Power (dBm)	-40	-35	-30	-25	-20	-15	-10	-5	0
	379	618	868	1109	1349	1609	1855	2107	2336
	5	-2	1	-4	-10	4	4	10	-7
	0.10	-0.05	0.03	-0.08	-0.20	0.08	0.08	0.20	-0.15
	0.58	0.36	0.36	0.18	-0.02	0.18	0.10	0.14	-0.28
	398	634	886	1127	1370	1629	1877	2122	2346
	4	-6	1	-4	-7	7	9	8	-13
	0.08	-0.11	0.02	-0.08	-0.13	0.14	0.19	0.17	-0.27
	0.96	0.68	0.72	0.54	0.40	0.58	0.54	0.44	-0.08
	398	633	886	1126	1368	1626	1875	2119	2342
	4	-6	2	-4	-7	6	11	8	-14
	0.08	-0.13	0.03	-0.07	-0.14	0.12	0.22	0.17	-0.28
	0.96	0.66	0.72	0.52	0.36	0.52	0.52	0.38	-0.16
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
	0.40	0.63	0.89	1.13	1.37	1.63	1.88	2.12	2.35
	0.38	0.62	0.87	1.11	1.35	1.61	1.86	2.11	2.34

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.20	-0.20
LOGGING ACCURACY (dB)	0.58	-0.28

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.19	-0.27
LOGGING ACCURACY (dB)	0.96	-0.08

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.22	-0.28
LOGGING ACCURACY (dB)	0.96	-0.16

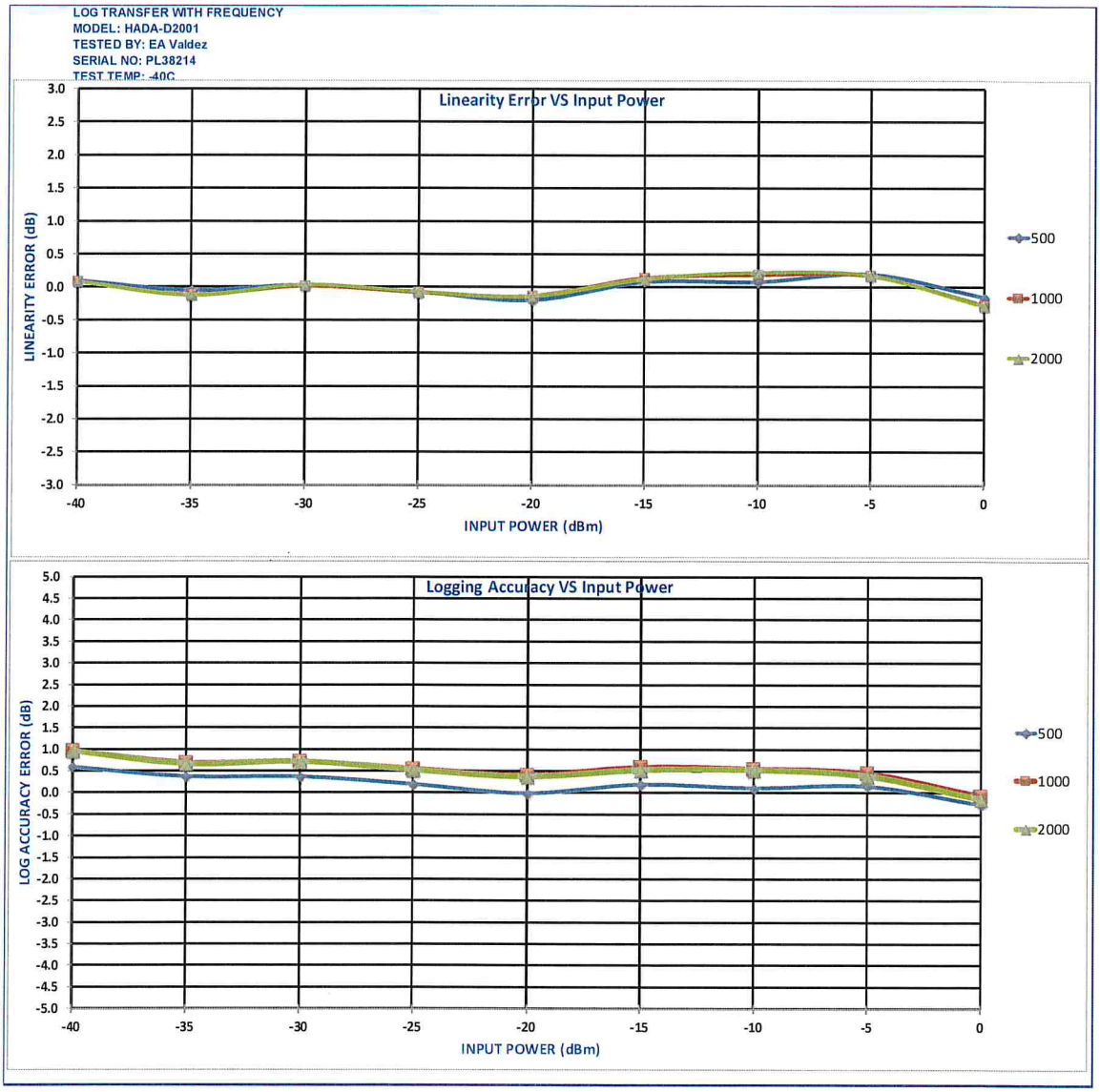
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.22	-0.28

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.96	-0.28

SUMMARY TEST DATA ON HADA-D2001

PL38214/2245

Log Linearity and Log Accuracy @ -40°C



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SUMMARY TEST DATA
ON
HADA-D2001

PL38214/2245

Log Linearity and Log Accuracy @ +85°C

LOG TRANSFER WITH FREQUENCY
MODEL: HADA-D2001
TESTED BY: EA Valdez
TEST DATE: 11/03/22
SERIAL NO: PL38214
TEST TEMP: +85C

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DC Offset= 0.061 V

Frequency			-40	-35	-30	-25	-20	-15	-10	-5	0
0.5 GHz	INTERCEPT (mV)	2326	300	576	819	1063	1308	1561	1798	2077	2346
	SLOPE (mV/dB)	50.5	-7	17	7	-1	-8	-8	-23	3	20
			-0.14	0.33	0.15	-0.02	-0.17	-0.16	-0.46	0.07	0.40
			-1.00	-0.48	-0.62	-0.74	-0.84	-0.78	-1.04	-0.46	-0.08
1 GHz	INTERCEPT (mV)	2344	318	594	838	1081	1328	1582	1819	2098	2359
	SLOPE (mV/dB)	50.5	-8	16	7	-2	-7	-6	-21	6	15
			-0.16	0.31	0.15	-0.04	-0.14	-0.11	-0.41	0.12	0.29
			-0.64	-0.12	-0.24	-0.38	-0.44	-0.36	-0.62	-0.04	0.18
2 GHz	INTERCEPT (mV)	2338	316	590	835	1077	1323	1576	1814	2090	2355
	SLOPE (mV/dB)	50.4	-7	15	8	-2	-8	-7	-20	4	17
			-0.14	0.30	0.16	-0.04	-0.15	-0.13	-0.41	0.07	0.33
			-0.68	-0.20	-0.30	-0.46	-0.54	-0.48	-0.72	-0.20	0.10
Flatness +/- dB			0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
Max Video Output Volts			0.32	0.59	0.84	1.08	1.33	1.58	1.82	2.10	2.36
Min Video Output Volts			0.30	0.58	0.82	1.06	1.31	1.56	1.80	2.08	2.35

RF Input Power (dBm)

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.40	-0.46
LOGGING ACCURACY (dB)	-0.08	-1.04

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.31	-0.41
LOGGING ACCURACY (dB)	0.18	-0.64

Measured Value (mV)	Error(dB)	
Error (mV)	MAX	MIN
LINEARITY ERROR (dB)	0.33	-0.41
LOGGING ACCURACY (dB)	0.10	-0.72

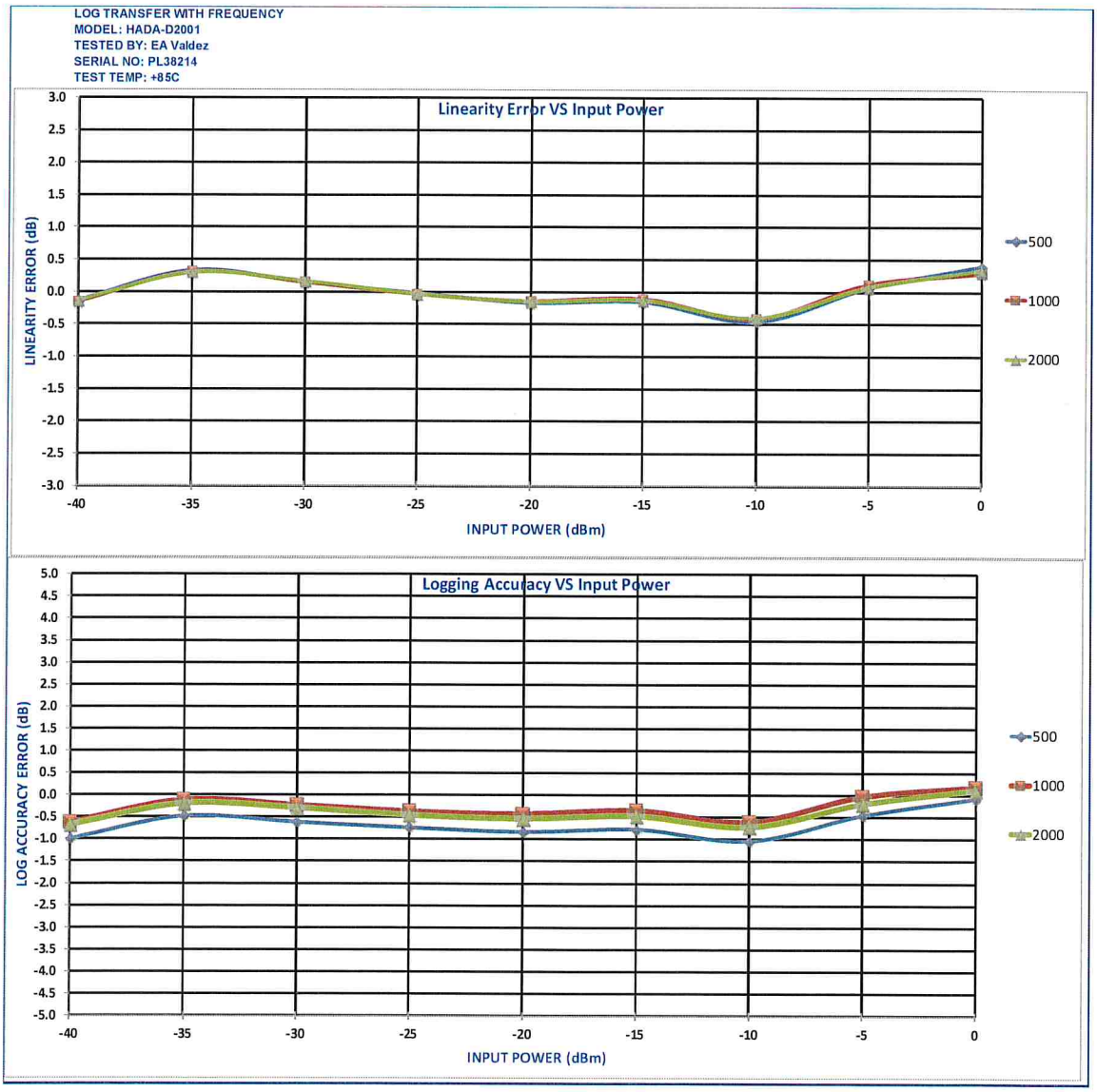
Logging Linearity vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOG LINEARITY (dB)	0.40	-0.46

Logging Accuracy vs Frequency	Error(dB)	
	MAX	MIN
TOTAL LOGGING ACCURACY (dB	0.18	-1.04

SUMMARY TEST DATA
ON
HADA-D2001

PL38214/2245

Log Linearity and Log Accuracy @ +85°C



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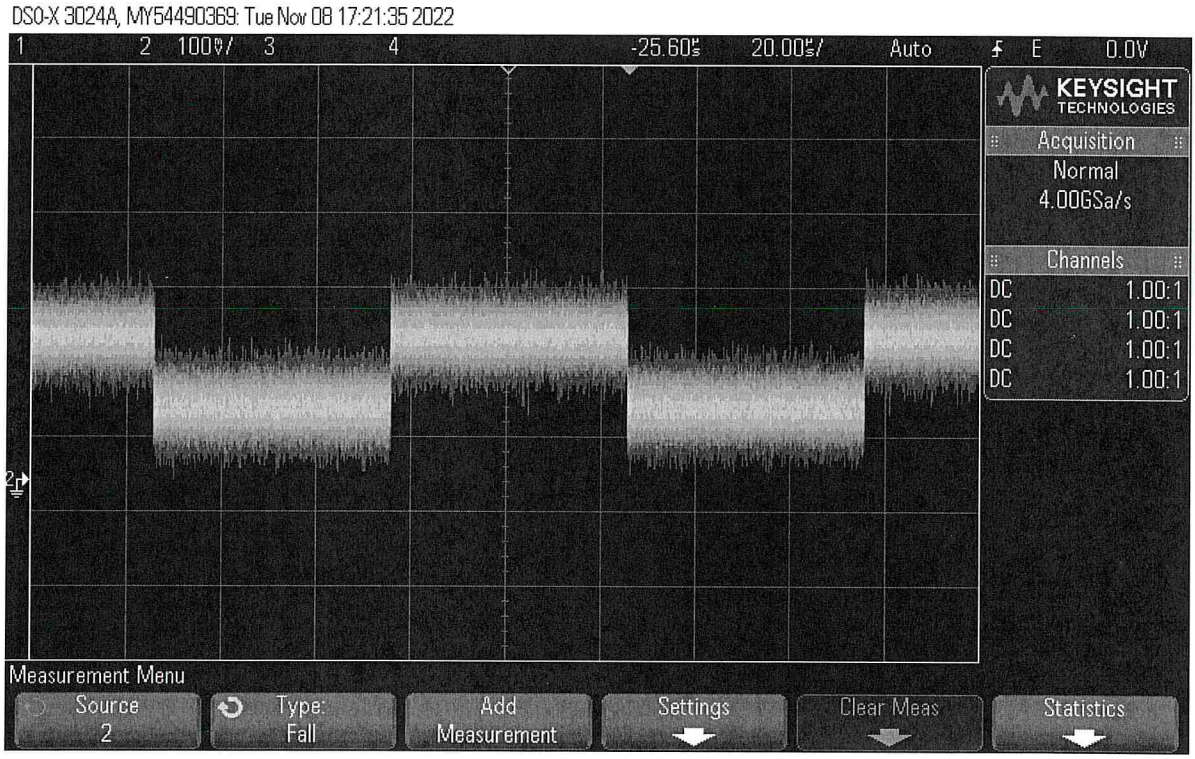
SUMMARY TEST DATA
ON
HADA-D2001

PL38214/2245

TSS @ -45 dBm



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SUMMARY TEST DATA
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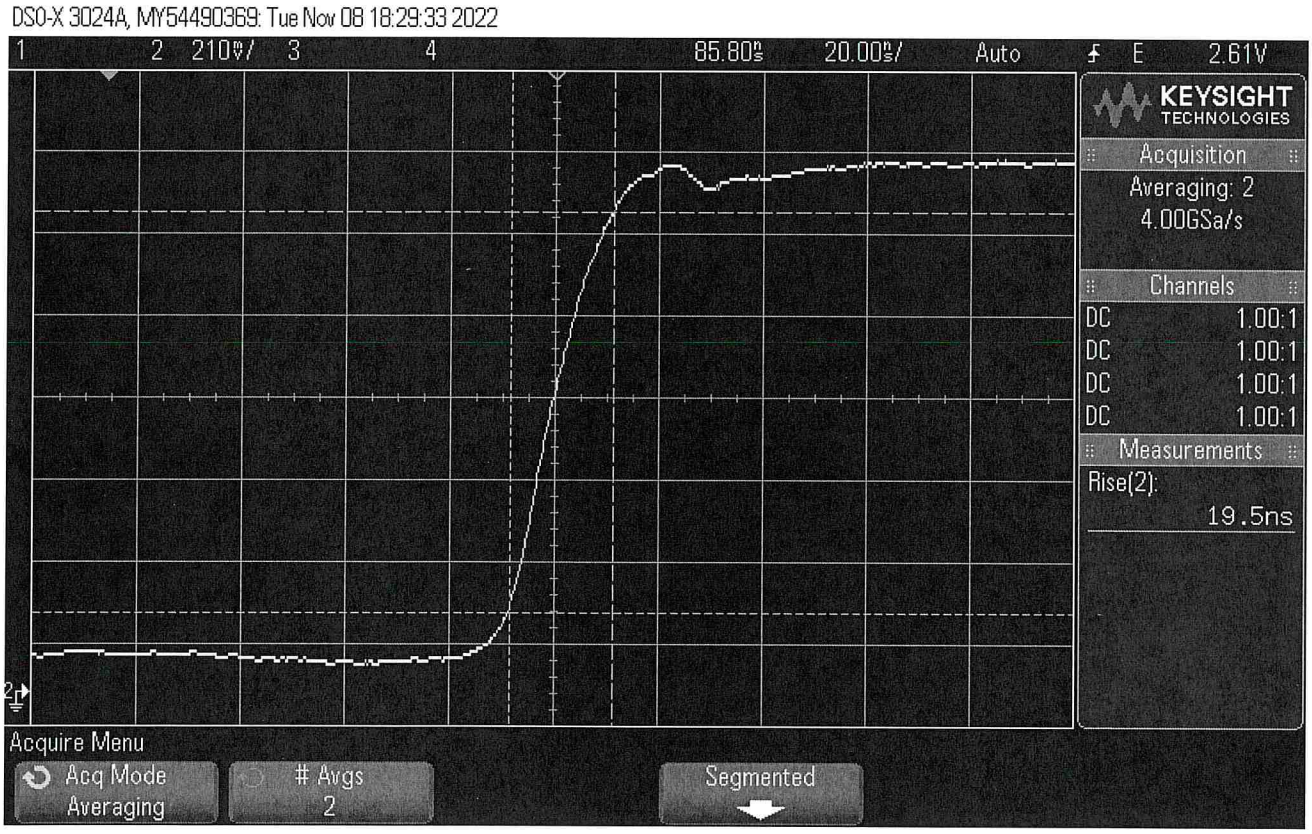
PL38214/2245

Rise Time 19.5nS



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SUMMARY TEST DATA
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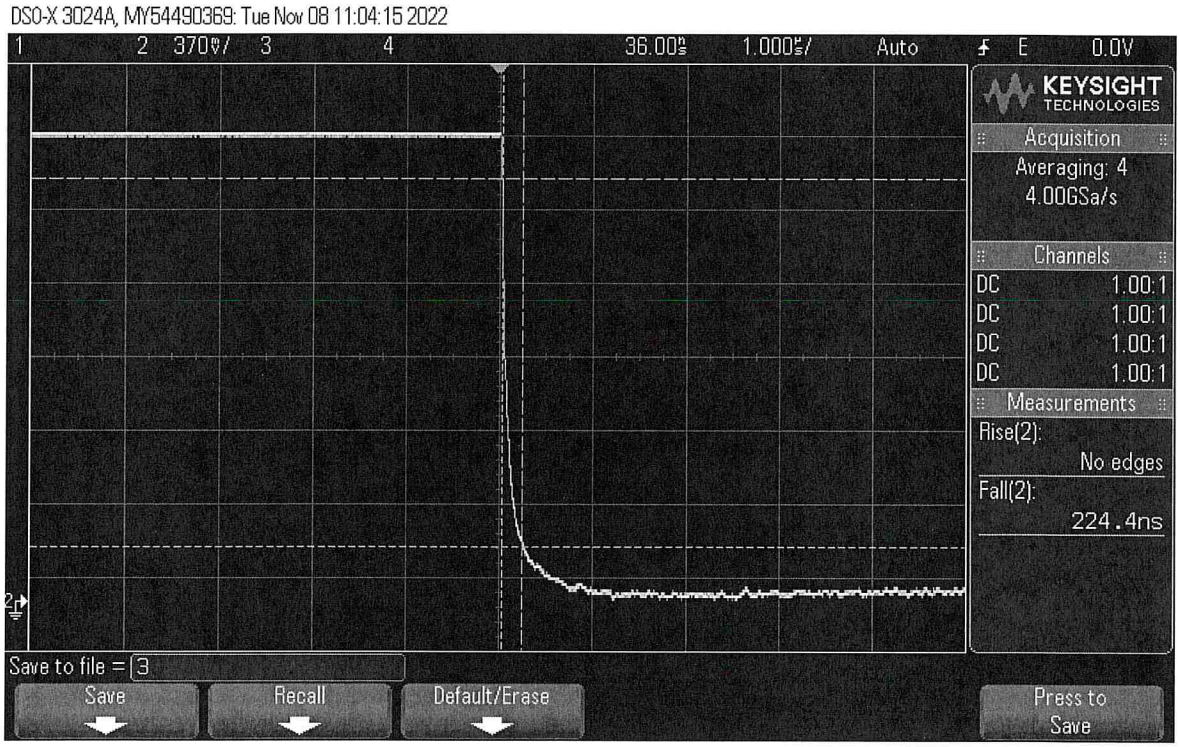
Fall Time 224.4nS



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SUMMARY TEST DATA
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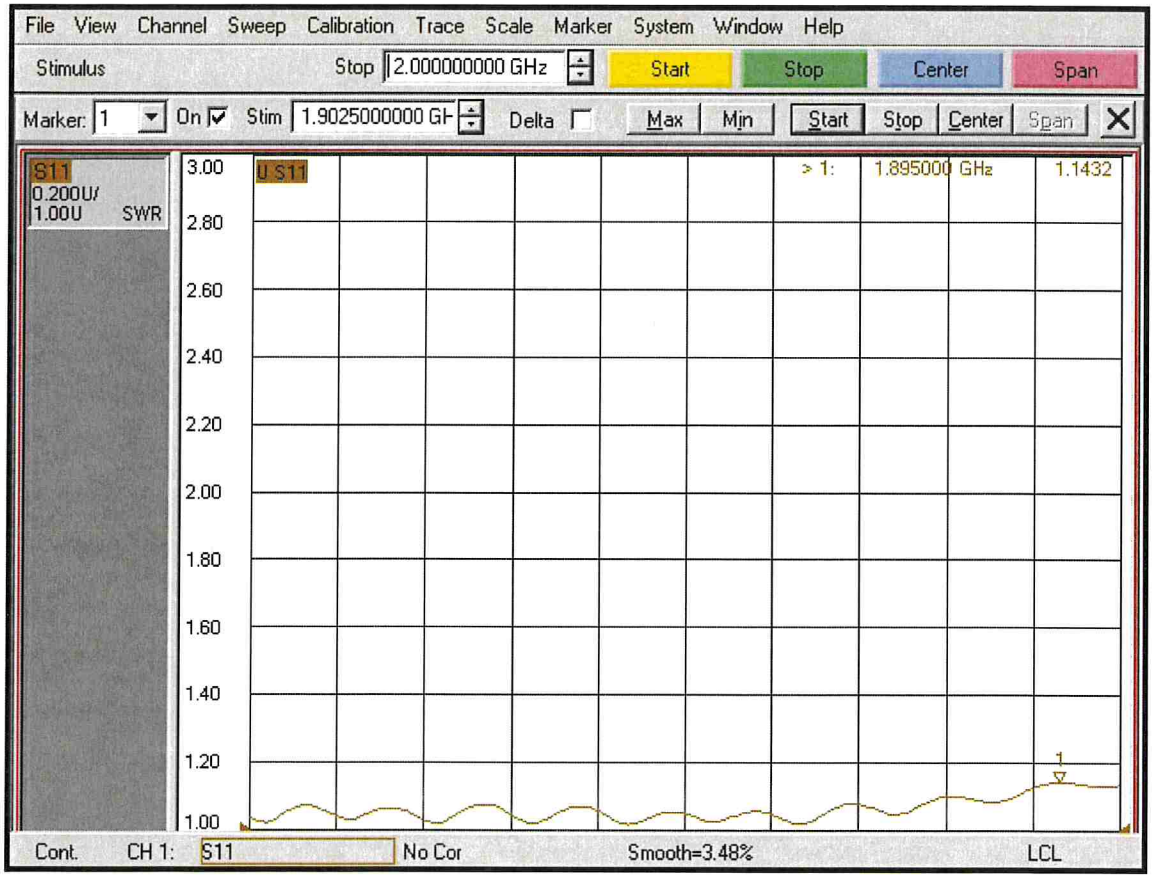
VSWR 114:1



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