



**SUMMARY TEST DATA
ON
HADA-D2001**

PL38223/2245

Customer: _____	Tested By: <u>J. Monley</u>
SO No: _____	Temperature: <u>+25°C</u>
Model No: <u>HADA-D2001</u>	Date: <u>10/28/22</u>
Serial No: <u>PL38223/2245</u>	Drawing No: <u>27620201</u> Rev: <u>A1</u>

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)	+0.98 dB +0.82 dB See Plot	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	-0.28 dB -0.43 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%)	20.0 nS See Plot	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	164 nS See Plot	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	+128 mV +112 mV	
12	Input VSWR:	2.5:1 Max @ +23 dBm	1.16:1 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:

H. Venton

Date:

11-14-22



SUMMARY TEST DATA ON HADA-D2001

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Log Linearity and Log Accuracy @ +25°C

<p>LOG TRANSFER WITH FREQUENCY MODEL: HADA-D2001 TESTED BY: EA Vaklez TEST DATE: 11/03/22 SERIAL NO: PL38223 TEST TEMP: +25C</p>			DC Offset= 0.128 V										<p style="text-align: center; font-size: small;"> 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 </p>			
			RF Input Power (dBm)													
Frequency			-40	-35	-30	-25	-20	-15	-10	-5	0					
0.5 GHz	INTERCEPT (mV)	2357	371	638	881	1125	1367	1620	1849	2115	2358					
	SLOPE (mV/dB)	49.4	-11	9	5	3	-2	4	-14	5	1					
			-0.22	0.19	0.11	0.05	-0.05	0.08	-0.28	0.10	0.03					
			0.42	0.76	0.62	0.50	0.34	0.40	-0.02	0.30	0.16					
1 GHz	INTERCEPT (mV)	2368	383	649	894	1136	1380	1634	1862	2127	2365					
	SLOPE (mV/dB)	49.3	-12	8	5	1	-1	6	-12	5	-3					
			-0.24	0.16	0.12	0.03	-0.02	0.13	-0.25	0.12	-0.05					
			0.66	0.98	0.88	0.72	0.60	0.68	0.24	0.54	0.30					
2 GHz	INTERCEPT (mV)	2363	380	645	890	1132	1376	1628	1859	2122	2362					
	SLOPE (mV/dB)	49.3	-11	9	5	1	-1	4	-11	5	-1					
			-0.22	0.15	0.12	0.03	-0.02	0.09	-0.23	0.11	-0.03					
			0.60	0.90	0.80	0.64	0.52	0.66	0.18	0.44	0.24					
	Flatness +/- dB		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10					
	Max Video Output Volts		0.36	0.65	0.89	1.14	1.38	1.63	1.86	2.13	2.37					
	Min Video Output Volts		0.37	0.64	0.88	1.13	1.37	1.62	1.85	2.12	2.36					
												Measured Value (mV)			Error(dB)	
												Error (mV)		MAX	MIN	
												LINEARITY ERROR (dB)		0.19	-0.28	
												LOGGING ACCURACY (dB)		0.76	-0.02	
												Measured Value (mV)		Error(dB)		
												Error (mV)		MAX	MIN	
												LINEARITY ERROR (dB)		0.16	-0.25	
												LOGGING ACCURACY (dB)		0.98	0.24	
												Measured Value (mV)		Error(dB)		
												Error (mV)		MAX	MIN	
												LINEARITY ERROR (dB)		0.15	-0.23	
												LOGGING ACCURACY (dB)		0.90	0.18	
												Logging Linearity vs Frequency		Error(dB)		
												TOTAL LOG LINEARITY (dB)		0.19	-0.28	
												Logging Accuracy vs Frequency		Error(dB)		
												TOTAL LOGGING ACCURACY (dB)		0.98	-0.02	

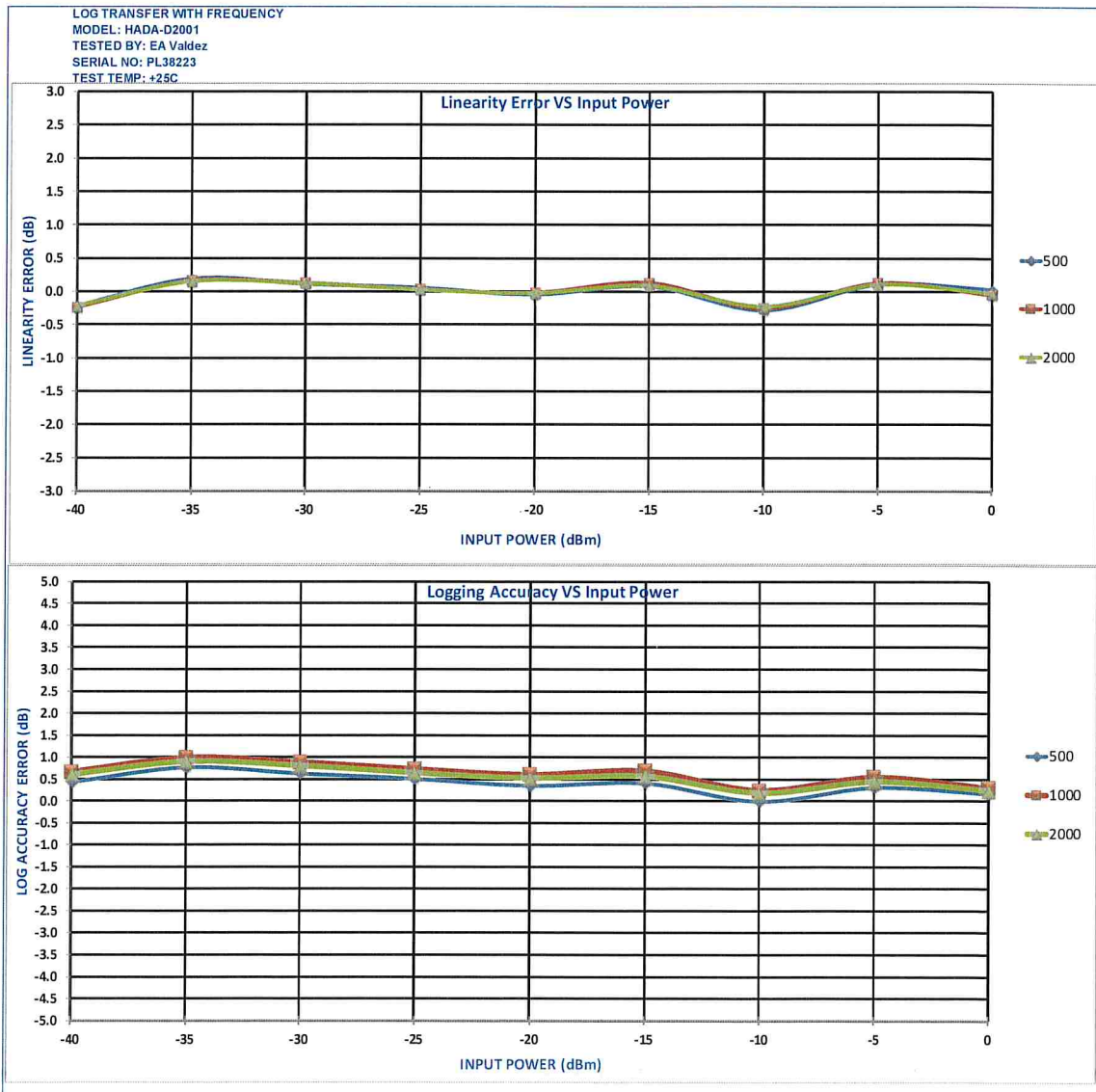
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SUMMARY TEST DATA ON HADA-D2001

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Log Linearity and Log Accuracy @ +25°C



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SUMMARY TEST DATA ON HADA-D2001

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Log Linearity and Log Accuracy @ -40°C

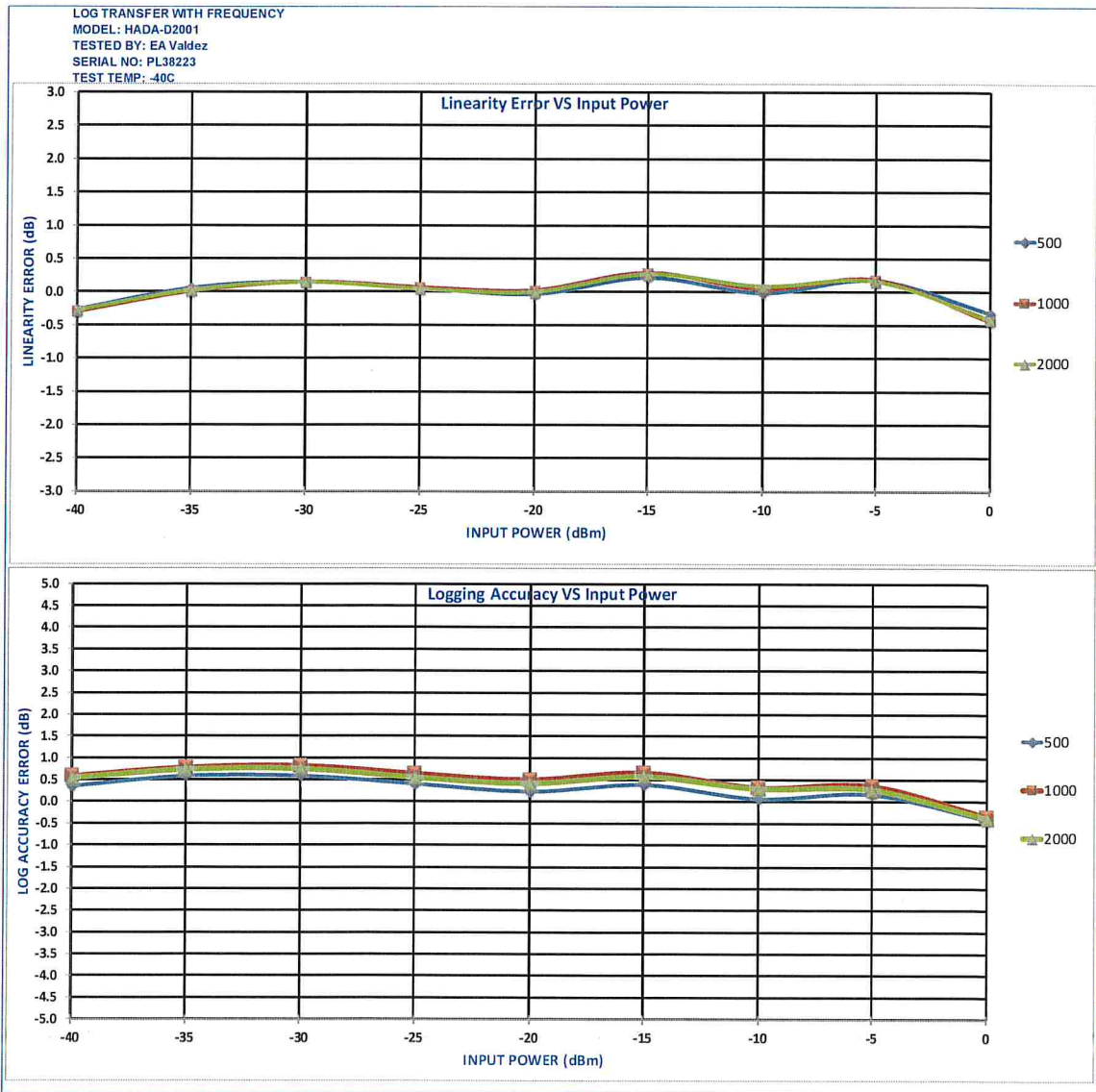
LOG TRANSFER WITH FREQUENCY			DC Offset= 0.094 V										RF Input Power (dBm)		
MODEL: HADA-D2001 TESTED BY: EA Vaklez TEST DATE: 11/03/22 SERIAL NO: PL38223 TEST TEMP: -40C			-40	-35	-30	-25	-20	-15	-10	-5	0				
0.5 GHz	INTERCEPT (mV)	2345	367	629	879	1120	1361	1619	1853	2108	2329				
	SLOPE (mV/dB)	49.1	-14	3	7	3	-2	11	-1	9	-16				
			-0.28	0.06	0.15	0.06	-0.04	0.22	-0.02	0.18	-0.32				
			0.34	0.58	0.58	0.40	0.22	0.38	0.06	0.16	-0.42				
1 GHz	INTERCEPT (mV)	2354	379	639	891	1132	1375	1633	1866	2118	2333				
	SLOPE (mV/dB)	49	-15	0	7	3	1	14	2	9	-21				
			-0.30	0.00	0.15	0.06	0.02	0.28	0.04	0.18	-0.43				
			0.58	0.78	0.82	0.64	0.50	0.66	0.32	0.36	-0.34				
2 GHz	INTERCEPT (mV)	2351	377	637	888	1128	1371	1629	1865	2114	2331				
	SLOPE (mV/dB)	49	-14	1	7	2	0	13	4	9	-20				
			-0.29	0.02	0.14	0.04	0.00	0.26	0.08	0.16	-0.41				
			0.54	0.74	0.76	0.56	0.42	0.58	0.30	0.26	-0.38				
Flatness +/- dB			0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.40	0.80		
Max Video Output Volts			0.38	0.64	0.88	1.13	1.38	1.63	1.87	2.12	2.33				
Min Video Output Volts			0.37	0.63	0.88	1.12	1.36	1.62	1.85	2.11	2.33				
												Measured Value (mV)		Error(dB)	
												Error (mV)		MAX MIN	
												LINEARITY ERROR (dB)		0.22 -0.32	
												LOGGING ACCURACY (dB)		0.58 -0.42	
												Measured Value (mV)		Error(dB)	
												Error (mV)		MAX MIN	
												LINEARITY ERROR (dB)		0.28 -0.43	
												LOGGING ACCURACY (dB)		0.82 -0.34	
												Measured Value (mV)		Error(dB)	
												Error (mV)		MAX MIN	
												LINEARITY ERROR (dB)		0.26 -0.41	
												LOGGING ACCURACY (dB)		0.76 -0.38	
												Logging Linearity vs Frequency		Error(dB)	
														MAX MIN	
												TOTAL LOG LINEARITY (dB)		0.28 -0.43	
												Logging Accuracy vs Frequency		Error(dB)	
														MAX MIN	
												TOTAL LOGGING ACCURACY (dB)		0.82 -0.42	



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Log Linearity and Log Accuracy @ -40°C



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SUMMARY TEST DATA ON HADA-D2001

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Log Linearity and Log Accuracy @ +85°C

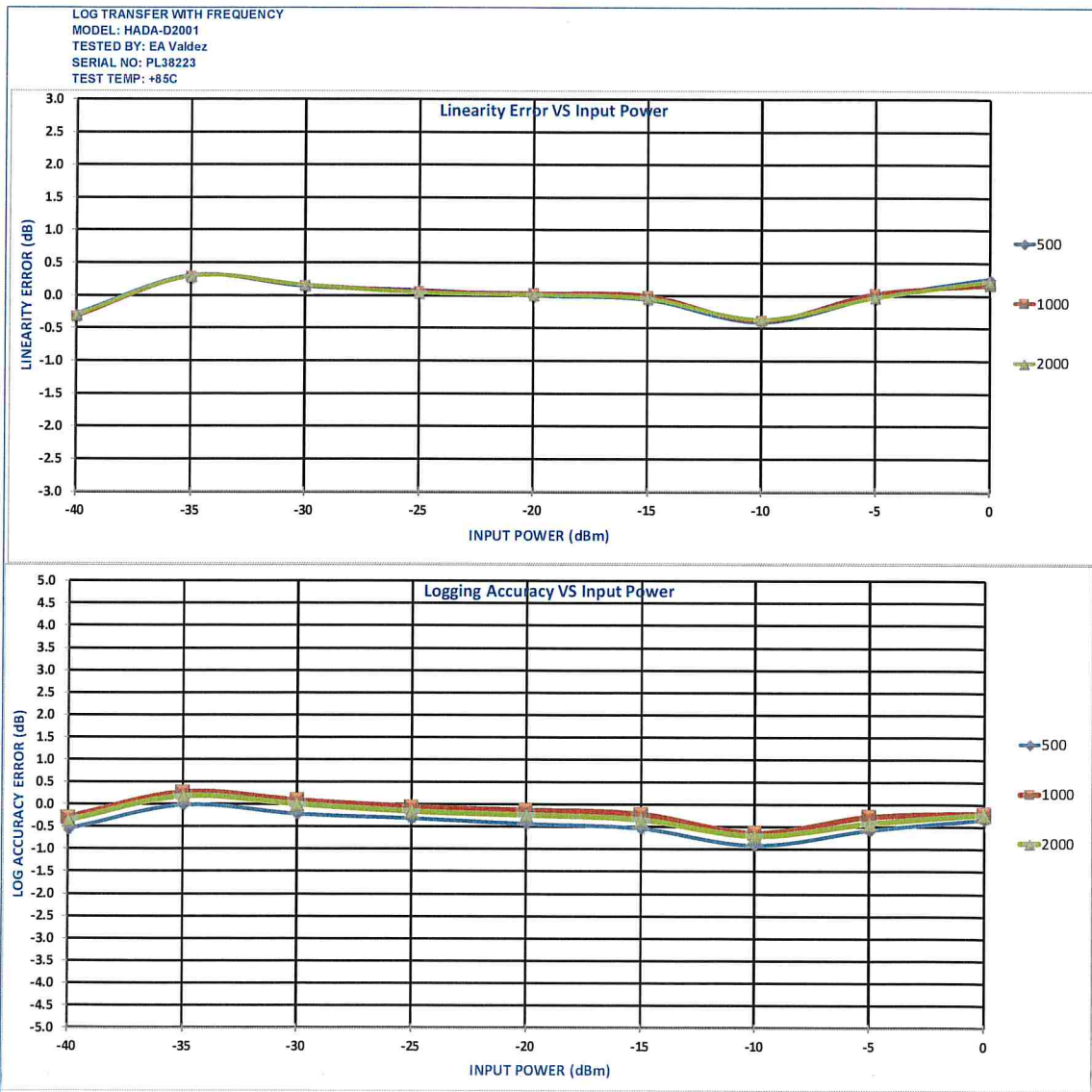
LOG TRANSFER WITH FREQUENCY													PLANAR MONOLITHICS INDUSTRIES 4921 Robert J. Mathews Parkway Suite 1 El Dorado Hills, CA 95762 TEL: 916-542-1401 FAX: 916-265-2597 EMAIL: SALES@PMI-RF.COM	
MODEL: HADA-D2001			DC Offset= 0.112 V										RF Input Power (dBm)	
TESTED BY: EA Vaklez													Measured Value (mV) Error(dB)	
TEST DATE: 11/04/22													Error (mV) MAX MIN	
SERIAL NO: PL38223													LINEARITY ERROR (dB) 0.30 -0.40	
TEST TEMP: +85C													LOGGING ACCURACY (dB) -0.02 -0.92	
Frequency													Measured Value (mV) Error(dB)	
0.5 GHz	INTERCEPT (mV)	2320	-40	-35	-30	-25	-20	-15	-10	-5	0	Error (mV) MAX MIN		
	SLOPE (mV/dB)	49.6	322	599	839	1084	1328	1573	1804	2071	2333	LINEARITY ERROR (dB)		
			-14	15	7	4	0	-3	-20	-1	13	LOGGING ACCURACY (dB)		
												Measured Value (mV) Error(dB)		
1 GHz	INTERCEPT (mV)	2332	-32	0.29	0.15	0.06	0.03	-0.01	-0.38	0.03	0.16	Error (mV) MAX MIN		
	SLOPE (mV/dB)	49.5	-0.29	0.30	0.14	0.08	0.00	-0.06	-0.40	-0.02	0.26	LINEARITY ERROR (dB)		
			-0.56	-0.02	-0.22	-0.32	-0.44	-0.54	-0.92	-0.58	-0.34	LOGGING ACCURACY (dB)		
												Measured Value (mV) Error(dB)		
2 GHz	INTERCEPT (mV)	2328	335	613	854	1097	1343	1589	1818	2086	2340	Error (mV) MAX MIN		
	SLOPE (mV/dB)	49.5	-16	14	8	3	1	0	-19	1	8	LINEARITY ERROR (dB)		
			-0.32	0.29	0.15	0.06	0.03	-0.01	-0.38	0.03	0.16	LOGGING ACCURACY (dB)		
												Measured Value (mV) Error(dB)		
												Error (mV) MAX MIN		
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Log Linearity and Log Accuracy @ +85°C



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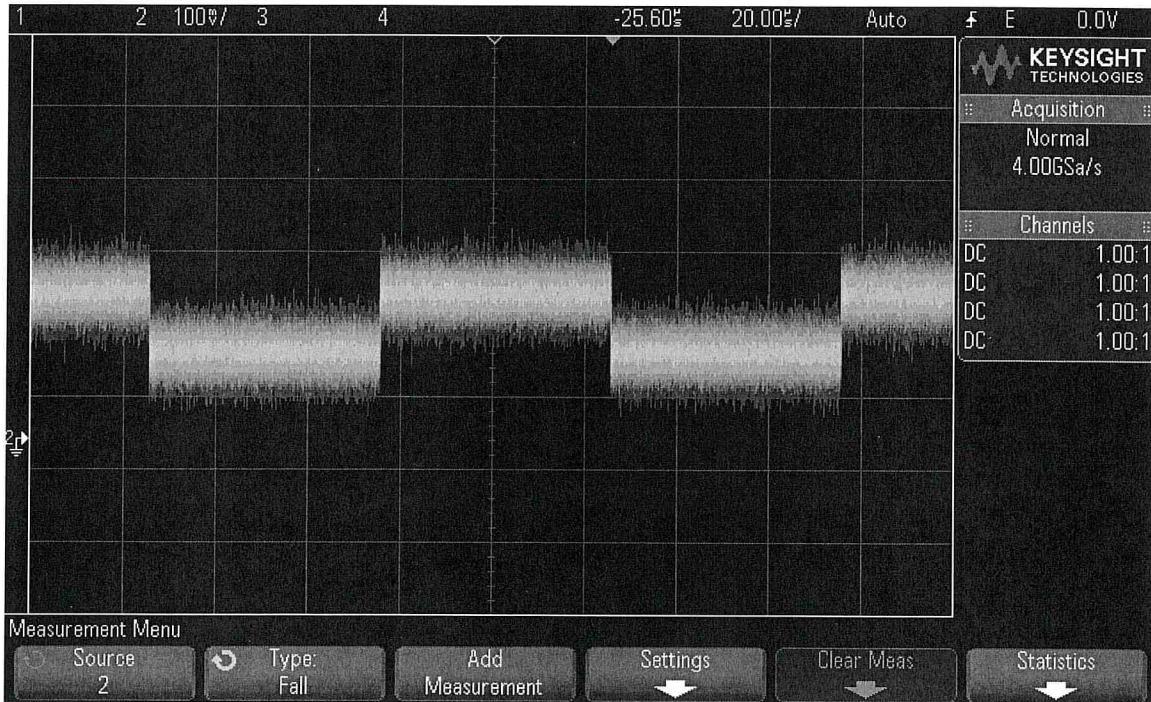


**SUMMARY TEST DATA
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PL38223/2245

TSS -45 dBm

DSO-X 3024A, MY54490369: Tue Nov 08 17:51:14 2022



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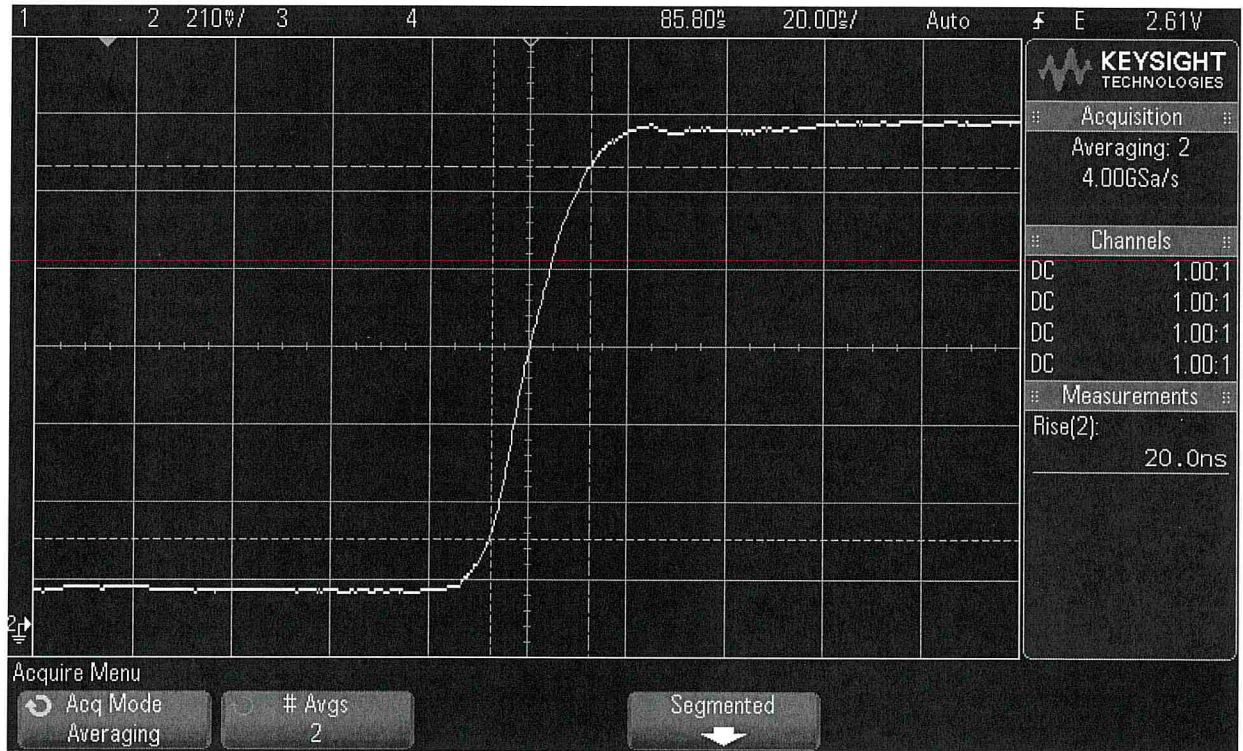


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PL38223/2245

Rise Time 20nS

DSO-X 3024A, MY54490369: Tue Nov 08 18:23:58 2022



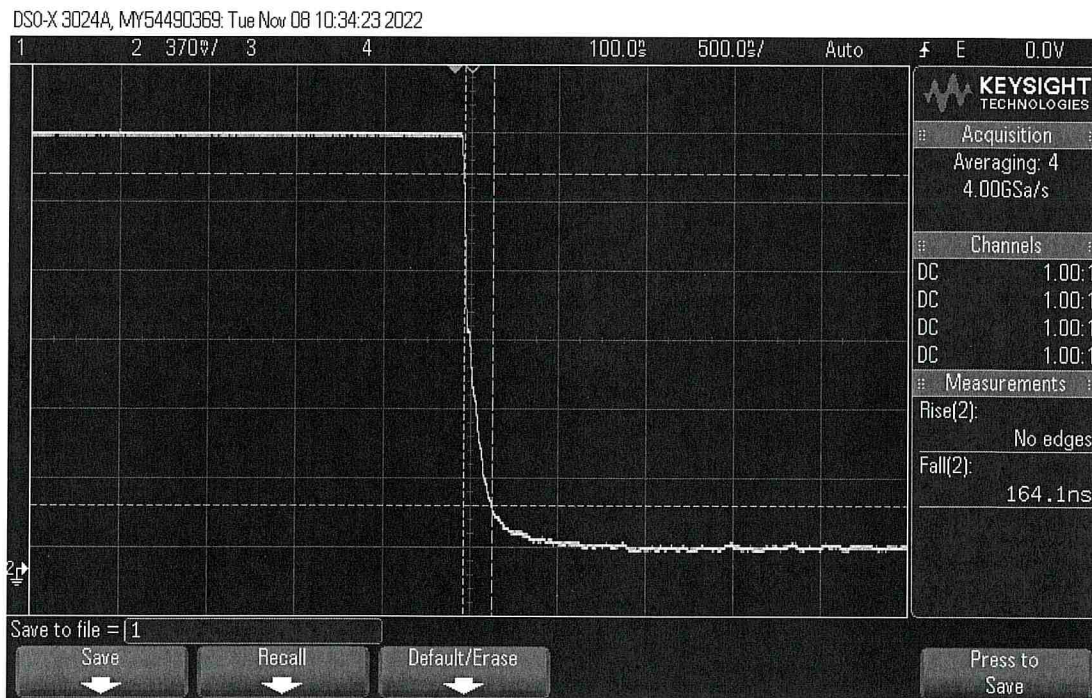
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**SUMMARY TEST DATA
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Fall Time 164nS



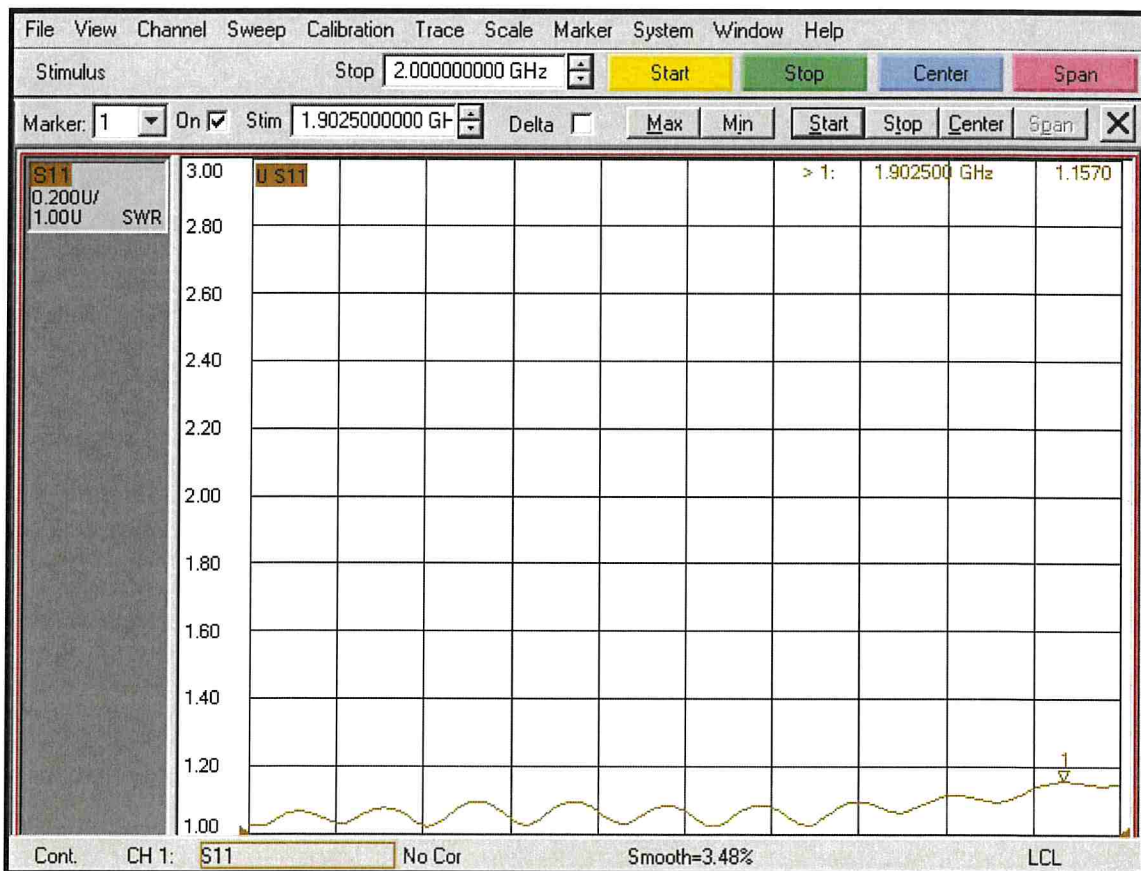
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VSWR 1.16:1



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