



**SUMMARY TEST DATA
ON
HADA-D2001**

PL38215/2245

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>PL38215/2245</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)	+0.92 dB +1.04 dB See Plot	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	-0.25 dB -0.64 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%)	18.5 nS See Plot	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	219.4 nS See Plot	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	+118 mV + 86 mV	
12	Input VSWR:	2.5:1 Max @ +23 dBm	1.19:1 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. Nutter

Date:

11-14-22



**SUMMARY TEST DATA
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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: 11/04/22 SERIAL NO: PL38215 TEST TEMP: +25C</p>		DC Offset= 0.118 V										 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>Frequency</p>												<p>RF Input Power (dBm)</p>				
0.5 GHz	INTERCEPT (mV)											Measured Value (mV)		Error(dB)		
	SLOPE (mV/dB)											Error (mV)		MAX	MIN	
													LINEARITY ERROR (dB)		0.18	-0.25
													LOGGING ACCURACY (dB)		0.82	0.34
1 GHz	INTERCEPT (mV)											Measured Value (mV)		Error(dB)		
	SLOPE (mV/dB)											Error (mV)		MAX	MIN	
													LINEARITY ERROR (dB)		0.16	-0.22
													LOGGING ACCURACY (dB)		1.08	0.60
2 GHz	INTERCEPT (mV)											Measured Value (mV)		Error(dB)		
	SLOPE (mV/dB)											Error (mV)		MAX	MIN	
													LINEARITY ERROR (dB)		0.14	-0.19
													LOGGING ACCURACY (dB)		0.92	0.46
<p>Flatness +/- dB</p>												Logging Linearity vs Frequency		Error(dB)		
Max Video Output Volts														MAX	MIN	
Min Video Output Volts												TOTAL LOG LINEARITY (dB)		0.18	-0.25	
												Logging Accuracy vs Frequency		Error(dB)		
														MAX	MIN	
												TOTAL LOGGING ACCURACY (dB)		1.08	0.34	

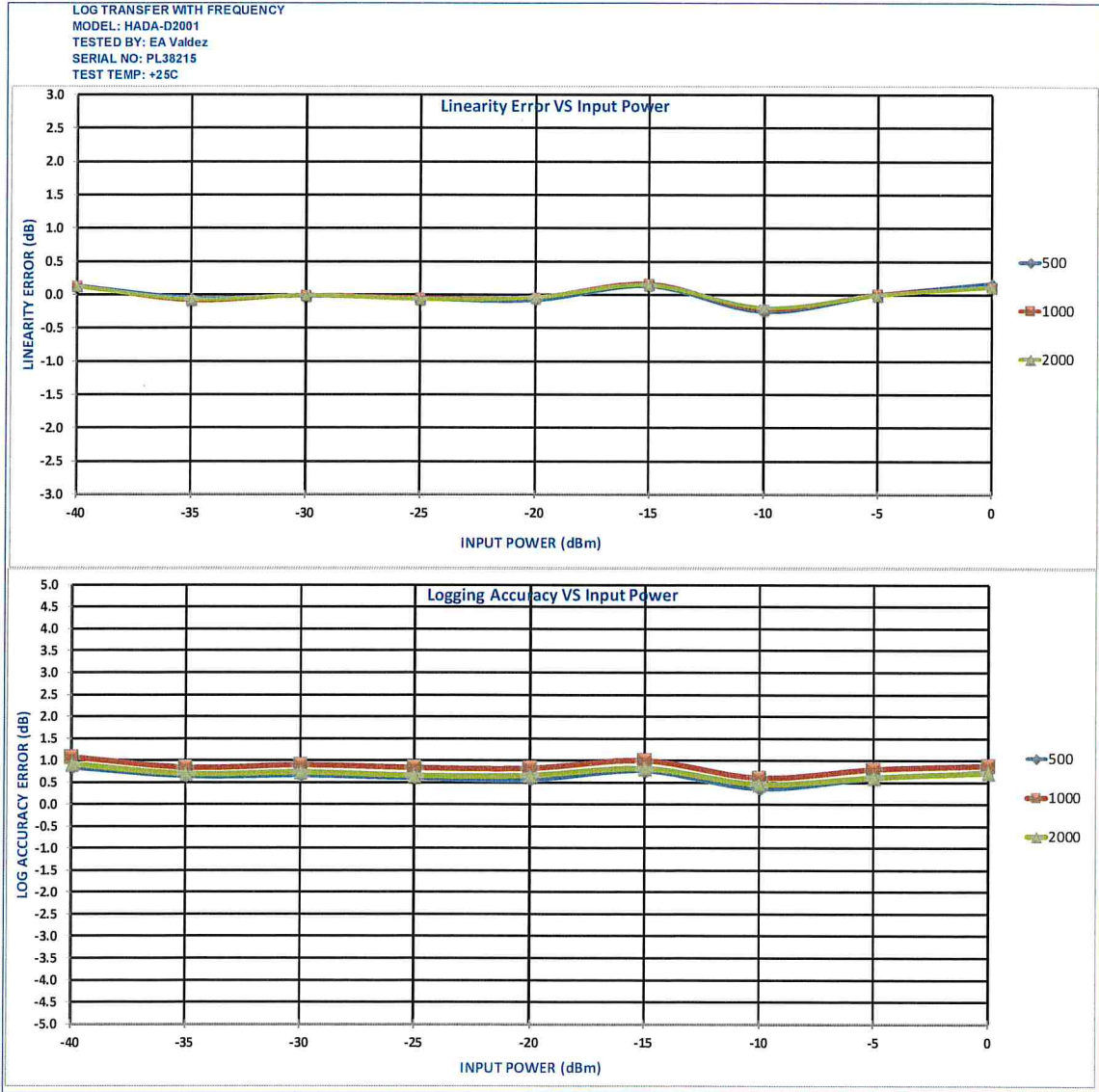
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SUMMARY TEST DATA ON HADA-D2001

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Log Linearity and Log Accuracy @ +25°C



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SUMMARY TEST DATA ON HADA-D2001

PL38215/2245

Log Linearity and Log Accuracy @ -40°C

LOG TRANSFER WITH FREQUENCY			DC Offset= 0.086 V										RF Input Power (dBm)		
MODEL: HADA-D2001 TESTED BY: EA Vaklez TEST DATE: 11/04/22 SERIAL NO: PL38215 TEST TEMP: -40C													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		
Frequency			-40	-35	-30	-25	-20	-15	-10	-5	0				
0.5 GHz	INTERCEPT (mV)	2364	388	623	882	1129	1376	1636	1872	2112	2358	Measured Value (mV)			
	SLOPE (mV/dB)	49.4	2	-10	1	1	1	14	2	-5	-6	Error (mV)			
			0.04	-0.21	0.03	0.02	0.02	0.28	0.05	-0.10	-0.12	LINEARITY ERROR (dB)			
			0.76	0.46	0.64	0.58	0.52	0.72	0.44	0.24	0.16	LOGGING ACCURACY (dB)			
1 GHz	INTERCEPT (mV)	2376	402	637	897	1145	1394	1652	1889	2124	2365	Measured Value (mV)			
	SLOPE (mV/dB)	49.3	-1	-12	1	2	5	16	6	-6	-11	Error (mV)			
			-0.01	-0.25	0.02	0.05	0.09	0.32	0.12	-0.11	-0.23	LINEARITY ERROR (dB)			
			1.04	0.74	0.94	0.90	0.88	1.04	0.78	0.48	0.30	LOGGING ACCURACY (dB)			
2 GHz	INTERCEPT (mV)	2370	396	631	891	1137	1387	1645	1885	2118	2358	Measured Value (mV)			
	SLOPE (mV/dB)	49.4	0	-12	1	1	4	15	8	-5	-12	Error (mV)			
			0.00	-0.24	0.03	0.01	0.08	0.31	0.17	-0.11	-0.25	LINEARITY ERROR (dB)			
			0.92	0.62	0.82	0.74	0.74	0.90	0.70	0.36	0.18	LOGGING ACCURACY (dB)			
Flatness +/- dB			0.10	0.10	0.20	0.20	0.20	0.20	0.20	0.10	0.10				
Max Video Output Volts			0.40	0.64	0.90	1.15	1.39	1.65	1.89	2.12	2.37				
Min Video Output Volts			0.39	0.62	0.88	1.13	1.38	1.64	1.87	2.11	2.36				
												Logging Linearity vs Frequency		Error (dB)	
												TOTAL LOG LINEARITY (dB)		MAX MIN	
												TOTAL LOG LINEARITY (dB)		0.32 -0.25	
												Logging Accuracy vs Frequency		Error (dB)	
												TOTAL LOGGING ACCURACY (dB)		MAX MIN	
												TOTAL LOGGING ACCURACY (dB)		1.04 0.16	

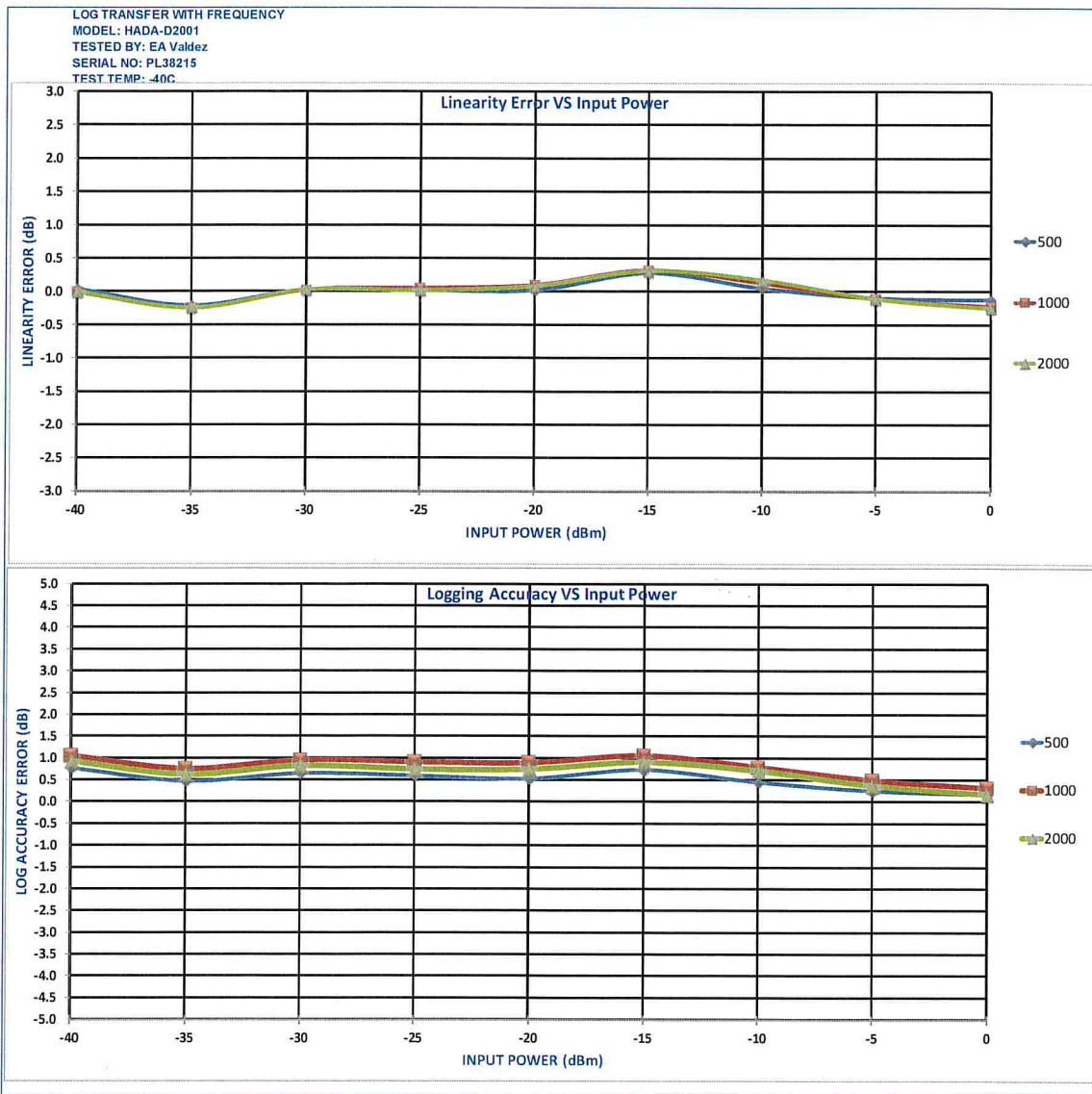
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SUMMARY TEST DATA ON HADA-D2001

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Log Linearity and Log Accuracy @ -40°C



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SUMMARY TEST DATA ON HADA-D2001

PL38215/2245

Log Linearity and Log Accuracy @ +85°C

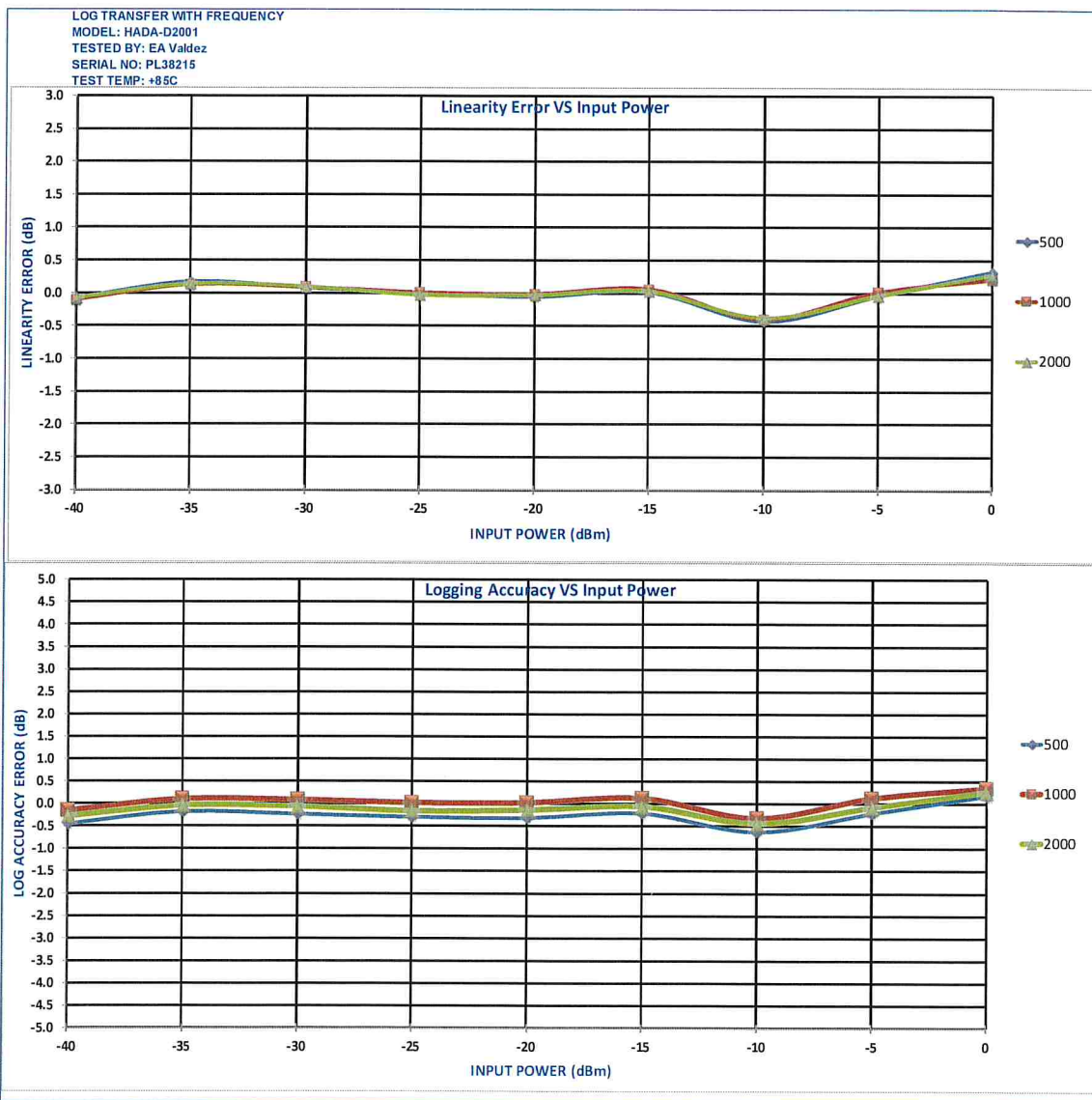
LOG TRANSFER WITH FREQUENCY			DC Offset= 0.075 V										RF Input Power (dBm)										
MODEL: HADA-D2001 TESTED BY: EA Vaklez TEST DATE: 11/03/22 SERIAL NO: PL38215 TEST TEMP: +85C													PLANAR MONOLITHICS INDUSTRIES 4921 Robert J. Mathews Parkway Suit 1 El Dorado Hills, CA 95762 TEL: 916-542-1401 FAX: 916-265-2597 EMAIL: SALES@PMI-RF.COM										
Frequency	INTERCEPT (mV)	SLOPE (mV/dB)	-40	-35	-30	-25	-20	-15	-10	-5	0	Measured Value (mV)	Error (dB)										
0.5 GHz	2342	50.3	327	591	838	1085	1334	1589	1818	2089	2359	MAX	MIN										
			-4	9	4	0	-3	1	-22	-2	17	LINEARITY ERROR (dB)	0.33 -0.43										
			-0.08	0.17	0.08	0.00	-0.05	0.02	-0.43	-0.04	0.33	LOGGING ACCURACY (dB)	0.18 -0.64										
			-0.46	-0.18	-0.24	-0.30	-0.32	-0.22	-0.64	-0.22	0.18												
1 GHz	2356	50.2	342	605	854	1101	1351	1606	1834	2106	2367	MAX	MIN										
			-5	7	4	0	-1	3	-20	1	11	LINEARITY ERROR (dB)	0.21 -0.40										
			-0.10	0.13	0.09	0.01	-0.02	0.06	-0.40	0.02	0.21	LOGGING ACCURACY (dB)	0.34 -0.32										
			-0.16	0.10	0.08	0.02	0.02	-0.12	-0.32	0.12	-0.34												
2 GHz	2349	50.2	335	598	847	1092	1343	1597	1828	2096	2363	MAX	MIN										
			-1	7	5	-1	-1	1	-19	-2	14	LINEARITY ERROR (dB)	0.28 -0.37										
			-0.08	0.14	0.10	-0.03	-0.03	0.03	-0.37	-0.04	0.28	LOGGING ACCURACY (dB)	0.26 -0.44										
			-0.28	-0.04	-0.06	-0.16	-0.17	-0.06	-0.44	0.08	0.26												
Flatness +/- dB			0.10	0.10	0.20	0.20	0.20	0.20	0.20	0.20	0.10												
Max Video Output Volts			0.34	0.61	0.85	1.10	1.35	1.61	1.83	2.11	2.37												
Min Video Output Volts			0.33	0.59	0.84	1.09	1.33	1.59	1.82	2.09	2.36												
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TOTAL LOG LINEARITY (dB)		0.33	-0.43																				
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TOTAL LOGGING ACCURACY (dB)		0.34	-0.64																				



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Log Linearity and Log Accuracy @ +85°C



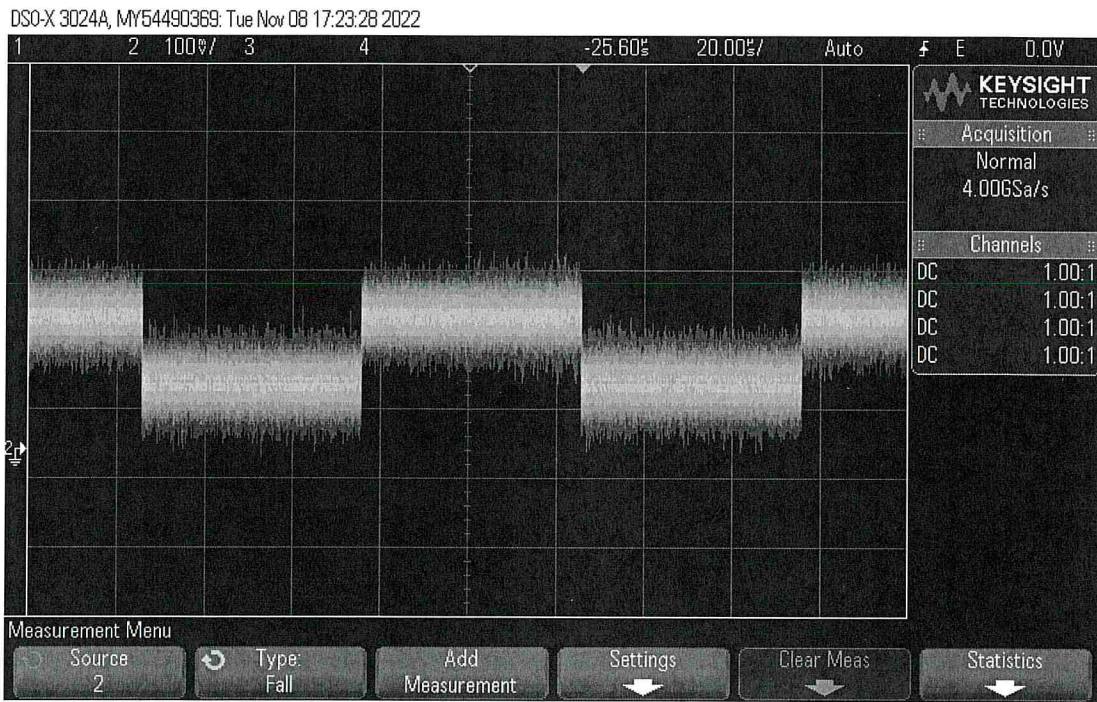
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TSS @ -45 dBm



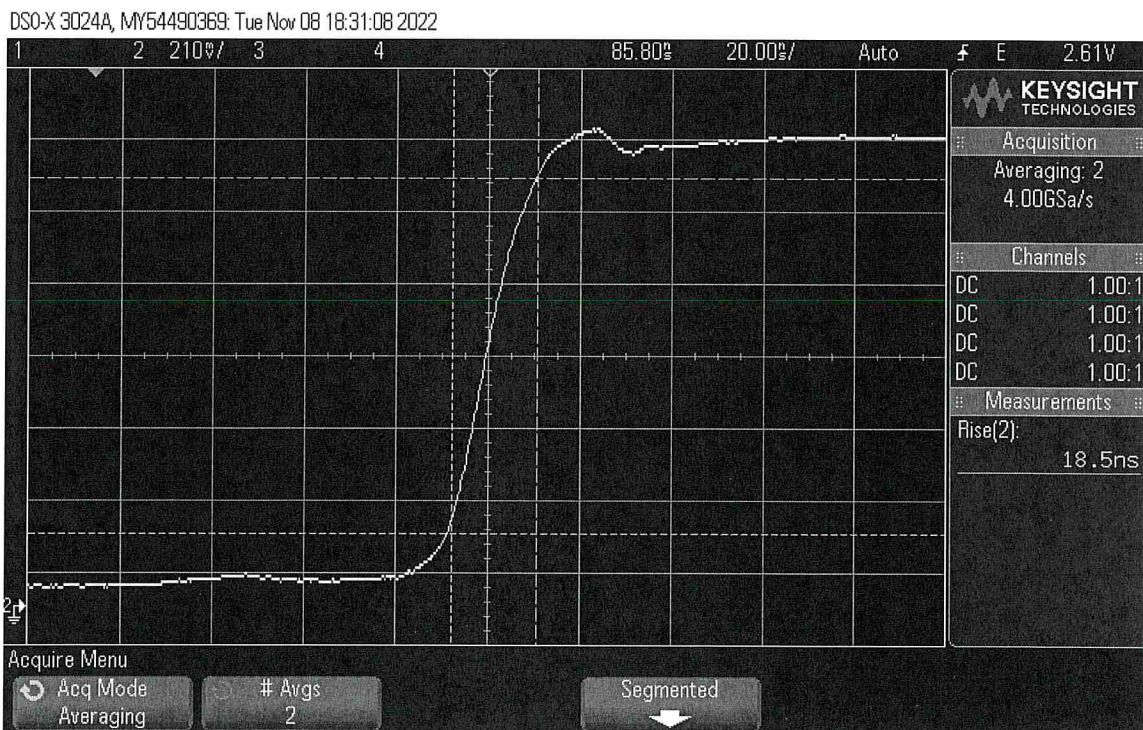
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Rise Time 18.5nS



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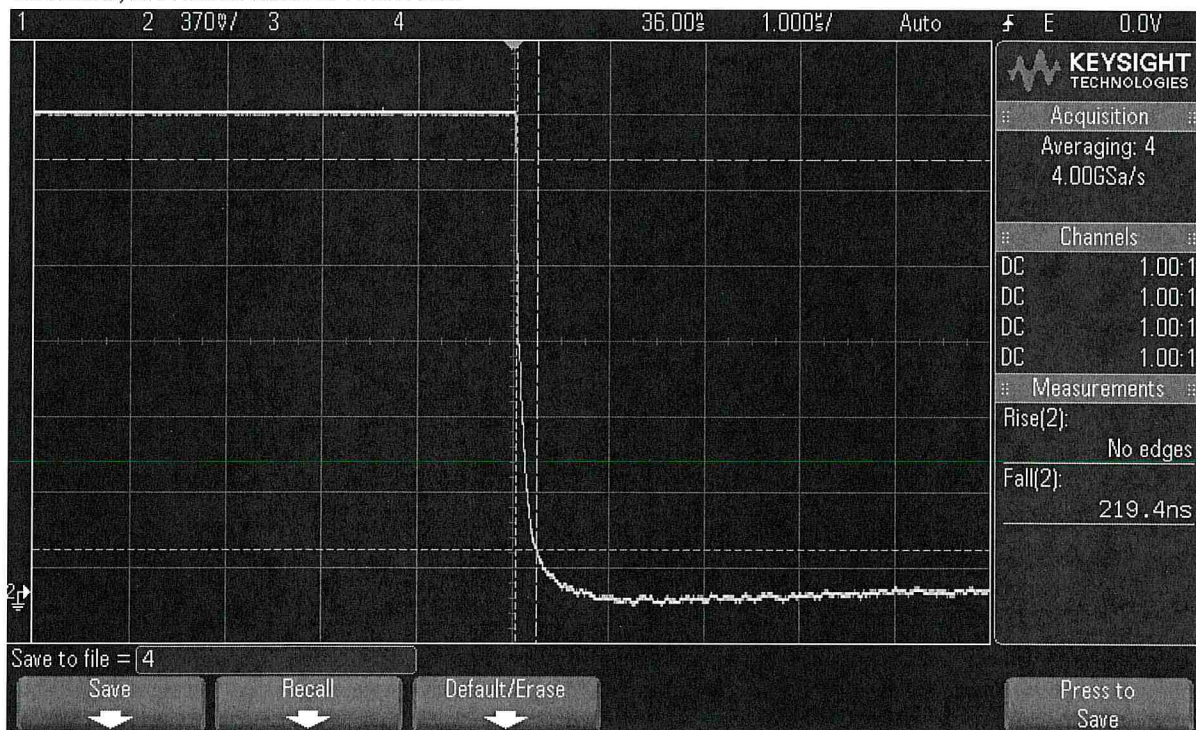


**SUMMARY TEST DATA
ON
HADA-D2001**

PL38215/2245

Fall Time 219.4nS

DSO-X 3024A, MY54490369, Tue Nov 08 11:19:51 2022



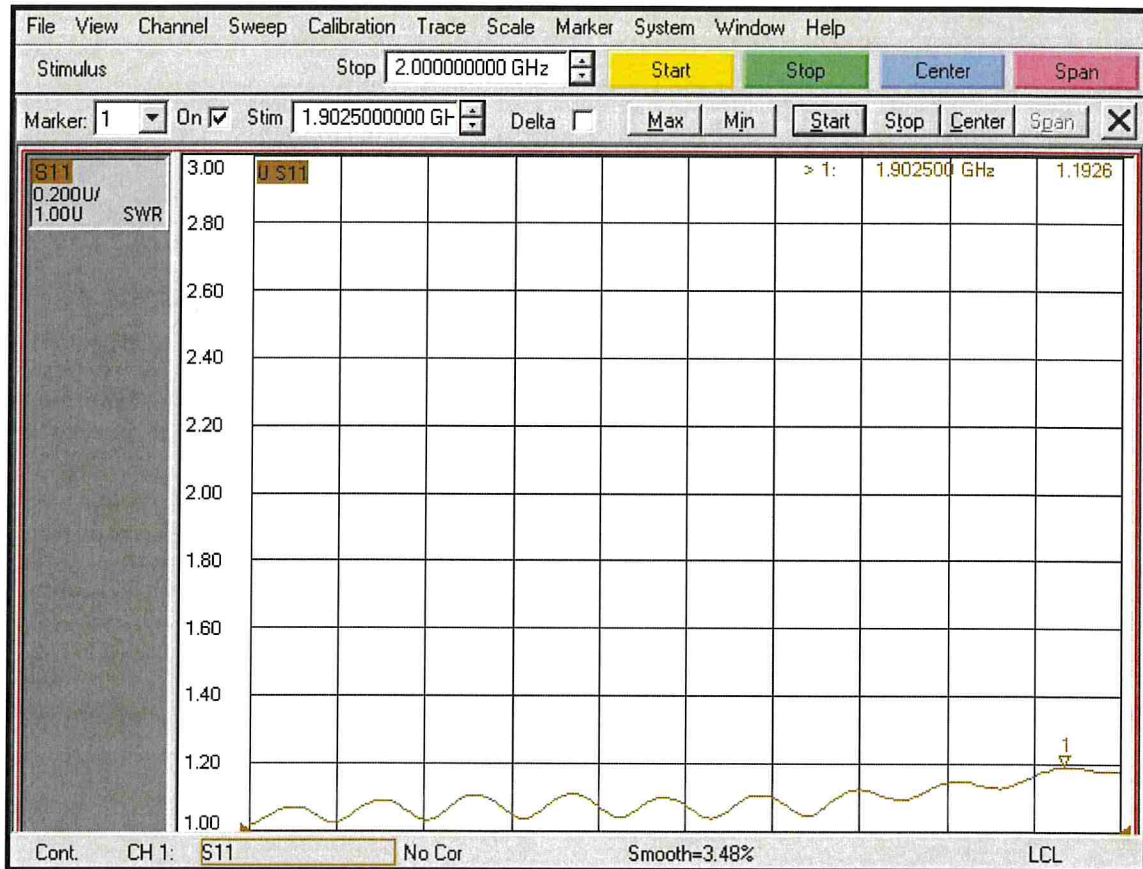
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VSWR 1.19:1



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