



**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

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>PL38218/2245</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 QAS
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)	+0.70 dB -1.60 dB See Plot	
6	Log Linearity:	±0.5 dB Max @ +25°C ±0.75 dB Max @ -40°C to +85°C	0.42 dB -0.62 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 nS See Plot	
10	Fall Time:	500 ns Max (@ Pulse width 100usec input) (90% to 10%)	175 nS See Plot	
11	DC Offset: (Input 50 Ω terminated):	+95 mV +55/-100 mV (@ -40°C to +85°C)	+102 mV + 14 mV	
12	Input VSWR:	2.5:1 Max @ +23 dBm	1.15:1 See Plot	

4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax:
(916)265-2597
Email: sales@pmi-rf.com



**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

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. Hunter*

Date: 11-14-22



SUMMARY TEST DATA ON HADA-D2001

PL38218/2245

Log Linearity and Log Accuracy @ +25°C

<p>LOG TRANSFER WITH FREQUENCY MODEL: HADA-D2001 TESTED BY: EA Valdez TEST DATE: 11/04/22 SERIAL NO: PL38218 TEST TEMP: +25C</p>			DC Offset= 0.102 V										<p>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>																																																																	
<p>Frequency</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">0.5 GHz</td> <td style="background-color: #e0e0e0;">INTERCEPT (mV)</td> <td style="text-align: right;">2330</td> </tr> <tr> <td></td> <td style="background-color: #e0e0e0;">SLOPE (mV/dB)</td> <td style="text-align: right;">49.2</td> </tr> </table>			0.5 GHz	INTERCEPT (mV)	2330		SLOPE (mV/dB)	49.2	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="background-color: #e0e0e0;">-40</td><td style="background-color: #e0e0e0;">-35</td><td style="background-color: #e0e0e0;">-30</td><td style="background-color: #e0e0e0;">-25</td><td style="background-color: #e0e0e0;">-20</td><td style="background-color: #e0e0e0;">-15</td><td style="background-color: #e0e0e0;">-10</td><td style="background-color: #e0e0e0;">-5</td><td style="background-color: #e0e0e0;">0</td> </tr> <tr> <td style="background-color: #e0e0e0;">368</td><td style="background-color: #e0e0e0;">615</td><td style="background-color: #e0e0e0;">856</td><td style="background-color: #e0e0e0;">1094</td><td style="background-color: #e0e0e0;">1333</td><td style="background-color: #e0e0e0;">1584</td><td style="background-color: #e0e0e0;">1818</td><td style="background-color: #e0e0e0;">2090</td><td style="background-color: #e0e0e0;">2351</td> </tr> <tr> <td style="background-color: #e0e0e0;">7</td><td style="background-color: #e0e0e0;">8</td><td style="background-color: #e0e0e0;">3</td><td style="background-color: #e0e0e0;">-5</td><td style="background-color: #e0e0e0;">-12</td><td style="background-color: #e0e0e0;">-8</td><td style="background-color: #e0e0e0;">-20</td><td style="background-color: #e0e0e0;">6</td><td style="background-color: #e0e0e0;">21</td> </tr> <tr> <td style="background-color: #e0e0e0;">0.15</td><td style="background-color: #e0e0e0;">0.16</td><td style="background-color: #e0e0e0;">0.06</td><td style="background-color: #e0e0e0;">-0.11</td><td style="background-color: #e0e0e0;">-0.25</td><td style="background-color: #e0e0e0;">-0.15</td><td style="background-color: #e0e0e0;">-0.40</td><td style="background-color: #e0e0e0;">0.12</td><td style="background-color: #e0e0e0;">0.42</td> </tr> <tr> <td style="background-color: #e0e0e0;">0.36</td><td style="background-color: #e0e0e0;">0.30</td><td style="background-color: #e0e0e0;">0.12</td><td style="background-color: #e0e0e0;">-0.12</td><td style="background-color: #e0e0e0;">-0.34</td><td style="background-color: #e0e0e0;">-0.32</td><td style="background-color: #e0e0e0;">-0.64</td><td style="background-color: #e0e0e0;">-0.20</td><td style="background-color: #e0e0e0;">0.02</td> </tr> </table>										-40	-35	-30	-25	-20	-15	-10	-5	0	368	615	856	1094	1333	1584	1818	2090	2351	7	8	3	-5	-12	-8	-20	6	21	0.15	0.16	0.06	-0.11	-0.25	-0.15	-0.40	0.12	0.42	0.36	0.30	0.12	-0.12	-0.34	-0.32	-0.64	-0.20	0.02	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">Measured Value (mV)</td> <td colspan="2" style="background-color: #e0e0e0;">Error(dB)</td> </tr> <tr> <td style="background-color: #e0e0e0;">Error (mV)</td> <td style="background-color: #e0e0e0;">MAX</td> <td style="background-color: #e0e0e0;">MIN</td> </tr> <tr> <td style="background-color: #e0e0e0;">LINEARITY ERROR (dB)</td> <td style="text-align: center;">0.42</td> <td style="text-align: center;">-0.40</td> </tr> <tr> <td style="background-color: #e0e0e0;">LOGGING ACCURACY (dB)</td> <td style="text-align: center;">0.36</td> <td style="text-align: center;">-0.64</td> </tr> </table>			Measured Value (mV)	Error(dB)		Error (mV)	MAX	MIN	LINEARITY ERROR (dB)	0.42	-0.40	LOGGING ACCURACY (dB)	0.36	-0.64
0.5 GHz	INTERCEPT (mV)	2330																																																																												
	SLOPE (mV/dB)	49.2																																																																												
-40	-35	-30	-25	-20	-15	-10	-5	0																																																																						
368	615	856	1094	1333	1584	1818	2090	2351																																																																						
7	8	3	-5	-12	-8	-20	6	21																																																																						
0.15	0.16	0.06	-0.11	-0.25	-0.15	-0.40	0.12	0.42																																																																						
0.36	0.30	0.12	-0.12	-0.34	-0.32	-0.64	-0.20	0.02																																																																						
Measured Value (mV)	Error(dB)																																																																													
Error (mV)	MAX	MIN																																																																												
LINEARITY ERROR (dB)	0.42	-0.40																																																																												
LOGGING ACCURACY (dB)	0.36	-0.64																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">1 GHz</td> <td style="background-color: #e0e0e0;">INTERCEPT (mV)</td> <td style="text-align: right;">2345</td> </tr> <tr> <td></td> <td style="background-color: #e0e0e0;">SLOPE (mV/dB)</td> <td style="text-align: right;">49.2</td> </tr> </table>			1 GHz	INTERCEPT (mV)	2345		SLOPE (mV/dB)	49.2	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="background-color: #e0e0e0;">385</td><td style="background-color: #e0e0e0;">629</td><td style="background-color: #e0e0e0;">872</td><td style="background-color: #e0e0e0;">1110</td><td style="background-color: #e0e0e0;">1350</td><td style="background-color: #e0e0e0;">1601</td><td style="background-color: #e0e0e0;">1835</td><td style="background-color: #e0e0e0;">2105</td><td style="background-color: #e0e0e0;">2362</td> </tr> <tr> <td style="background-color: #e0e0e0;">8</td><td style="background-color: #e0e0e0;">6</td><td style="background-color: #e0e0e0;">3</td><td style="background-color: #e0e0e0;">-5</td><td style="background-color: #e0e0e0;">-11</td><td style="background-color: #e0e0e0;">-6</td><td style="background-color: #e0e0e0;">-19</td><td style="background-color: #e0e0e0;">6</td><td style="background-color: #e0e0e0;">17</td> </tr> <tr> <td style="background-color: #e0e0e0;">0.15</td><td style="background-color: #e0e0e0;">0.11</td><td style="background-color: #e0e0e0;">0.06</td><td style="background-color: #e0e0e0;">-0.10</td><td style="background-color: #e0e0e0;">-0.22</td><td style="background-color: #e0e0e0;">-0.12</td><td style="background-color: #e0e0e0;">-0.36</td><td style="background-color: #e0e0e0;">0.13</td><td style="background-color: #e0e0e0;">0.36</td> </tr> <tr> <td style="background-color: #e0e0e0;">0.70</td><td style="background-color: #e0e0e0;">0.58</td><td style="background-color: #e0e0e0;">0.44</td><td style="background-color: #e0e0e0;">0.20</td><td style="background-color: #e0e0e0;">0.00</td><td style="background-color: #e0e0e0;">0.02</td><td style="background-color: #e0e0e0;">-0.30</td><td style="background-color: #e0e0e0;">0.10</td><td style="background-color: #e0e0e0;">0.24</td> </tr> </table>										385	629	872	1110	1350	1601	1835	2105	2362	8	6	3	-5	-11	-6	-19	6	17	0.15	0.11	0.06	-0.10	-0.22	-0.12	-0.36	0.13	0.36	0.70	0.58	0.44	0.20	0.00	0.02	-0.30	0.10	0.24	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">Measured Value (mV)</td> <td colspan="2" style="background-color: #e0e0e0;">Error(dB)</td> </tr> <tr> <td style="background-color: #e0e0e0;">Error (mV)</td> <td style="background-color: #e0e0e0;">MAX</td> <td style="background-color: #e0e0e0;">MIN</td> </tr> <tr> <td style="background-color: #e0e0e0;">LINEARITY ERROR (dB)</td> <td style="text-align: center;">0.36</td> <td style="text-align: center;">-0.36</td> </tr> <tr> <td style="background-color: #e0e0e0;">LOGGING ACCURACY (dB)</td> <td style="text-align: center;">0.70</td> <td style="text-align: center;">-0.30</td> </tr> </table>			Measured Value (mV)	Error(dB)		Error (mV)	MAX	MIN	LINEARITY ERROR (dB)	0.36	-0.36	LOGGING ACCURACY (dB)	0.70	-0.30									
1 GHz	INTERCEPT (mV)	2345																																																																												
	SLOPE (mV/dB)	49.2																																																																												
385	629	872	1110	1350	1601	1835	2105	2362																																																																						
8	6	3	-5	-11	-6	-19	6	17																																																																						
0.15	0.11	0.06	-0.10	-0.22	-0.12	-0.36	0.13	0.36																																																																						
0.70	0.58	0.44	0.20	0.00	0.02	-0.30	0.10	0.24																																																																						
Measured Value (mV)	Error(dB)																																																																													
Error (mV)	MAX	MIN																																																																												
LINEARITY ERROR (dB)	0.36	-0.36																																																																												
LOGGING ACCURACY (dB)	0.70	-0.30																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">2 GHz</td> <td style="background-color: #e0e0e0;">INTERCEPT (mV)</td> <td style="text-align: right;">2341</td> </tr> <tr> <td></td> <td style="background-color: #e0e0e0;">SLOPE (mV/dB)</td> <td style="text-align: right;">49.1</td> </tr> </table>			2 GHz	INTERCEPT (mV)	2341		SLOPE (mV/dB)	49.1	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="background-color: #e0e0e0;">384</td><td style="background-color: #e0e0e0;">626</td><td style="background-color: #e0e0e0;">871</td><td style="background-color: #e0e0e0;">1108</td><td style="background-color: #e0e0e0;">1349</td><td style="background-color: #e0e0e0;">1598</td><td style="background-color: #e0e0e0;">1835</td><td style="background-color: #e0e0e0;">2101</td><td style="background-color: #e0e0e0;">2358</td> </tr> <tr> <td style="background-color: #e0e0e0;">7</td><td style="background-color: #e0e0e0;">6</td><td style="background-color: #e0e0e0;">3</td><td style="background-color: #e0e0e0;">-5</td><td style="background-color: #e0e0e0;">-10</td><td style="background-color: #e0e0e0;">-7</td><td style="background-color: #e0e0e0;">-15</td><td style="background-color: #e0e0e0;">5</td><td style="background-color: #e0e0e0;">17</td> </tr> <tr> <td style="background-color: #e0e0e0;">0.14</td><td style="background-color: #e0e0e0;">0.11</td><td style="background-color: #e0e0e0;">0.06</td><td style="background-color: #e0e0e0;">-0.11</td><td style="background-color: #e0e0e0;">-0.21</td><td style="background-color: #e0e0e0;">-0.14</td><td style="background-color: #e0e0e0;">-0.31</td><td style="background-color: #e0e0e0;">0.11</td><td style="background-color: #e0e0e0;">0.34</td> </tr> <tr> <td style="background-color: #e0e0e0;">0.68</td><td style="background-color: #e0e0e0;">0.56</td><td style="background-color: #e0e0e0;">0.42</td><td style="background-color: #e0e0e0;">0.16</td><td style="background-color: #e0e0e0;">-0.02</td><td style="background-color: #e0e0e0;">-0.04</td><td style="background-color: #e0e0e0;">-0.30</td><td style="background-color: #e0e0e0;">0.02</td><td style="background-color: #e0e0e0;">0.16</td> </tr> </table>										384	626	871	1108	1349	1598	1835	2101	2358	7	6	3	-5	-10	-7	-15	5	17	0.14	0.11	0.06	-0.11	-0.21	-0.14	-0.31	0.11	0.34	0.68	0.56	0.42	0.16	-0.02	-0.04	-0.30	0.02	0.16	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">Measured Value (mV)</td> <td colspan="2" style="background-color: #e0e0e0;">Error(dB)</td> </tr> <tr> <td style="background-color: #e0e0e0;">Error (mV)</td> <td style="background-color: #e0e0e0;">MAX</td> <td style="background-color: #e0e0e0;">MIN</td> </tr> <tr> <td style="background-color: #e0e0e0;">LINEARITY ERROR (dB)</td> <td style="text-align: center;">0.34</td> <td style="text-align: center;">-0.31</td> </tr> <tr> <td style="background-color: #e0e0e0;">LOGGING ACCURACY (dB)</td> <td style="text-align: center;">0.68</td> <td style="text-align: center;">-0.30</td> </tr> </table>			Measured Value (mV)	Error(dB)		Error (mV)	MAX	MIN	LINEARITY ERROR (dB)	0.34	-0.31	LOGGING ACCURACY (dB)	0.68	-0.30									
2 GHz	INTERCEPT (mV)	2341																																																																												
	SLOPE (mV/dB)	49.1																																																																												
384	626	871	1108	1349	1598	1835	2101	2358																																																																						
7	6	3	-5	-10	-7	-15	5	17																																																																						
0.14	0.11	0.06	-0.11	-0.21	-0.14	-0.31	0.11	0.34																																																																						
0.68	0.56	0.42	0.16	-0.02	-0.04	-0.30	0.02	0.16																																																																						
Measured Value (mV)	Error(dB)																																																																													
Error (mV)	MAX	MIN																																																																												
LINEARITY ERROR (dB)	0.34	-0.31																																																																												
LOGGING ACCURACY (dB)	0.68	-0.30																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">Flatness +/- dB</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.10</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.10</td> </tr> <tr> <td style="background-color: #e0e0e0;">Max Video Output Volts</td> <td style="text-align: center;">0.39</td> <td style="text-align: center;">0.63</td> <td style="text-align: center;">0.87</td> <td style="text-align: center;">1.11</td> <td style="text-align: center;">1.35</td> <td style="text-align: center;">1.60</td> <td style="text-align: center;">1.84</td> <td style="text-align: center;">2.11</td> </tr> <tr> <td style="background-color: #e0e0e0;">Min Video Output Volts</td> <td style="text-align: center;">0.37</td> <td style="text-align: center;">0.62</td> <td style="text-align: center;">0.86</td> <td style="text-align: center;">1.09</td> <td style="text-align: center;">1.33</td> <td style="text-align: center;">1.58</td> <td style="text-align: center;">1.82</td> <td style="text-align: center;">2.09</td> </tr> </table>			Flatness +/- dB	0.20	0.10	0.20	0.20	0.20	0.20	0.20	0.10	Max Video Output Volts	0.39	0.63	0.87	1.11	1.35	1.60	1.84	2.11	Min Video Output Volts	0.37	0.62	0.86	1.09	1.33	1.58	1.82	2.09	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td colspan="2" style="background-color: #e0e0e0;">Logging Linearity vs Frequency</td> <td colspan="2" style="background-color: #e0e0e0;">Error(dB)</td> </tr> <tr> <td colspan="2" style="background-color: #e0e0e0;">TOTAL LOG LINEARITY (dB)</td> <td style="background-color: #e0e0e0;">MAX</td> <td style="background-color: #e0e0e0;">MIN</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">0.42</td> <td style="text-align: center;">-0.40</td> </tr> </table>										Logging Linearity vs Frequency		Error(dB)		TOTAL LOG LINEARITY (dB)		MAX	MIN			0.42	-0.40																											
Flatness +/- dB	0.20	0.10	0.20	0.20	0.20	0.20	0.20	0.10																																																																						
Max Video Output Volts	0.39	0.63	0.87	1.11	1.35	1.60	1.84	2.11																																																																						
Min Video Output Volts	0.37	0.62	0.86	1.09	1.33	1.58	1.82	2.09																																																																						
Logging Linearity vs Frequency		Error(dB)																																																																												
TOTAL LOG LINEARITY (dB)		MAX	MIN																																																																											
		0.42	-0.40																																																																											
			<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td colspan="2" style="background-color: #e0e0e0;">Logging Accuracy vs Frequency</td> <td colspan="2" style="background-color: #e0e0e0;">Error(dB)</td> </tr> <tr> <td colspan="2" style="background-color: #e0e0e0;">TOTAL LOGGING ACCURACY (dB)</td> <td style="background-color: #e0e0e0;">MAX</td> <td style="background-color: #e0e0e0;">MIN</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">0.70</td> <td style="text-align: center;">-0.64</td> </tr> </table>										Logging Accuracy vs Frequency		Error(dB)		TOTAL LOGGING ACCURACY (dB)		MAX	MIN			0.70	-0.64																																																						
Logging Accuracy vs Frequency		Error(dB)																																																																												
TOTAL LOGGING ACCURACY (dB)		MAX	MIN																																																																											
		0.70	-0.64																																																																											

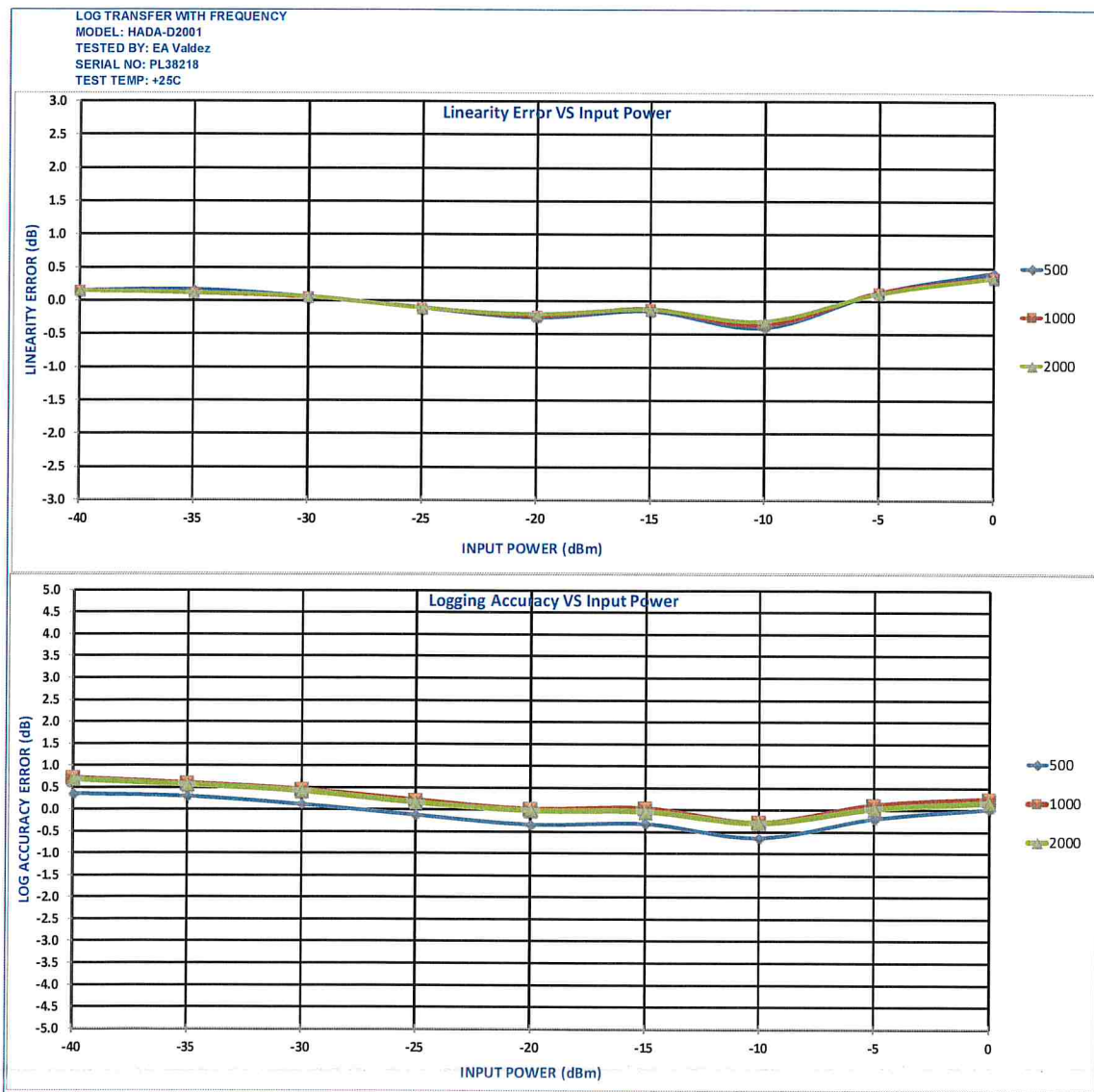
4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
 Email: sales@pmi-rf.com



SUMMARY TEST DATA ON HADA-D2001

PL38218/2245

Log Linearity and Log Accuracy @ +25°C



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com



**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

Log Linearity and Log Accuracy @ -40°C

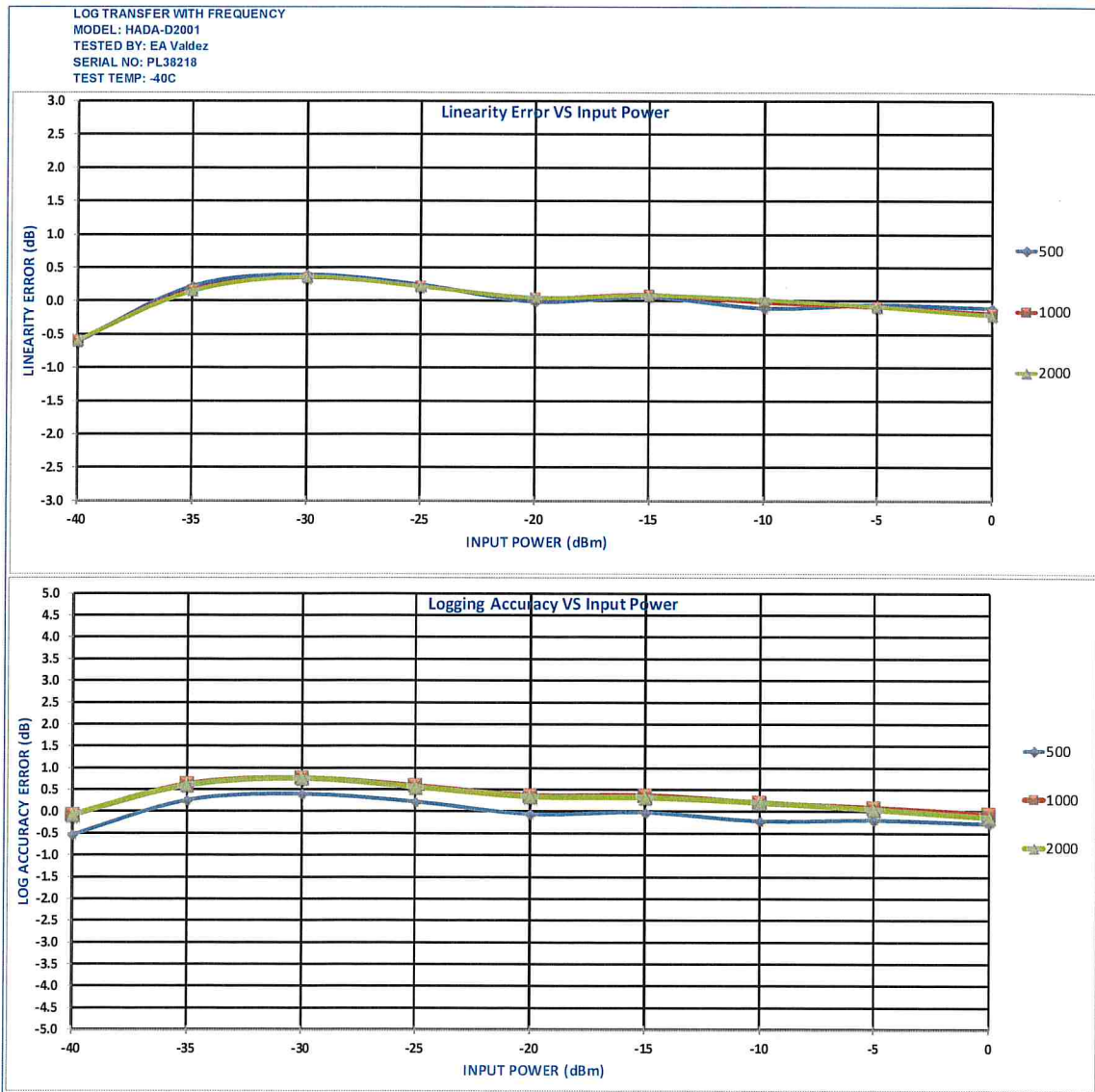
<p>LOG TRANSFER WITH FREQUENCY MODEL: HADA-D2001 TESTED BY: EA Vaklez TEST DATE: 11/04/22 SERIAL NO: PL38218 TEST TEMP: -40C</p>		DC Offset= 0.009 V								<p>PLANAR MONOLITHICS INDUSTRIES 4921 Robert J. Mathews Parkway Suit 1 El Dorado Hills, CA 95762 TEL: 916-542-1401 FAX: 916-265-2597 EMAIL: SALES@PMI-RF.COM</p>			
		-40	-35	-30	-25	-20	-15	-10	-5	0	RF Input Power (dBm)		
Frequency		323	613	870	1111	1347	1599	1839	2090	2336	Measured Value (mV) Error(dB)		
0.5 GHz	INTERCEPT (mV)										MAX MIN		
	SLOPE (mV/dB)										0.39 -0.62		
		-31	11	19	12	-1	3	-6	-3	-5	LINEARITY ERROR (dB)		
		-0.62	0.22	0.39	0.24	-0.01	0.06	-0.11	-0.06	-0.11	LOGGING ACCURACY (dB)		
		-0.54	0.26	0.40	0.22	-0.06	-0.02	-0.22	-0.20	-0.28	0.40 -0.54		
		-29	8	18	11	2	5	-1	-4	-9	Measured Value (mV) Error(dB)		
1 GHz	INTERCEPT (mV)										MAX MIN		
	SLOPE (mV/dB)										0.35 -0.59		
		-0.59	0.16	0.35	0.22	0.05	0.10	-0.02	-0.09	-0.18	LINEARITY ERROR (dB)		
		-0.08	0.62	0.76	0.58	0.36	0.36	0.20	0.08	-0.06	LOGGING ACCURACY (dB)		
		-346	630	888	1128	1367	1616	1860	2102	2343	Measured Value (mV) Error(dB)		
2 GHz	INTERCEPT (mV)										MAX MIN		
	SLOPE (mV/dB)										0.37 -0.59		
		-29	7	18	11	3	4	1	-4	-11	LINEARITY ERROR (dB)		
		-0.59	0.15	0.37	0.22	0.05	0.09	0.02	-0.09	-0.21	LOGGING ACCURACY (dB)		
		-0.08	0.60	0.76	0.56	0.34	0.32	0.20	0.04	-0.14	0.76 -0.14		
	Flatness +/- dB	0.20	0.20	0.20	0.20	0.20	0.20	0.10	0.10				
	Max Video Output Volts	0.35	0.63	0.89	1.13	1.37	1.62	1.86	2.10	2.35			
	Min Video Output Volts	0.32	0.61	0.87	1.11	1.35	1.60	1.84	2.09	2.34			
											Logging Linearity vs Frequency Error(dB)		
											MAX MIN		
											TOTAL LOG LINEARITY (dB)		
											0.39 -0.62		
											Logging Accuracy vs Frequency Error(dB)		
											MAX MIN		
											TOTAL LOGGING ACCURACY (dB)		
											0.76 -0.54		



SUMMARY TEST DATA ON HADA-D2001

PL38218/2245

Log Linearity and Log Accuracy @ -40°C



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com



SUMMARY TEST DATA ON HADA-D2001

PL38218/2245

Log Linearity and Log Accuracy @ +85°C

<p>LOG TRANSFER WITH FREQUENCY MODEL: HADA-D2001 TESTED BY: EA Vaklez TEST DATE: 11/04/22 SERIAL NO: PL38218 TEST TEMP: +85C</p>			<p>DC Offset= 0.014 V</p>								 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																																																										
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">-40</th> <th style="width: 5%;">-35</th> <th style="width: 5%;">-30</th> <th style="width: 5%;">-25</th> <th style="width: 5%;">-20</th> <th style="width: 5%;">-15</th> <th style="width: 5%;">-10</th> <th style="width: 5%;">-5</th> <th style="width: 5%;">0</th> </tr> </thead> <tbody> <tr><td>251</td><td>547</td><td>792</td><td>1033</td><td>1275</td><td>1522</td><td>1754</td><td>2033</td><td>2310</td></tr> <tr><td>-22</td><td>23</td><td>16</td><td>5</td><td>-5</td><td>-9</td><td>-29</td><td>-2</td><td>23</td></tr> <tr><td>-0.43</td><td>0.45</td><td>0.32</td><td>0.10</td><td>-0.09</td><td>-0.19</td><td>-0.58</td><td>-0.04</td><td>0.46</td></tr> <tr><td>-1.98</td><td>-1.06</td><td>-1.16</td><td>-1.34</td><td>-1.50</td><td>-1.56</td><td>-1.92</td><td>-1.34</td><td>-0.80</td></tr> </tbody> </table>								-40	-35	-30	-25	-20	-15	-10	-5	0	251	547	792	1033	1275	1522	1754	2033	2310	-22	23	16	5	-5	-9	-29	-2	23	-0.43	0.45	0.32	0.10	-0.09	-0.19	-0.58	-0.04	0.46	-1.98	-1.06	-1.16	-1.34	-1.50	-1.56	-1.92	-1.34	-0.80	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">RF Input Power (dBm)</th> </tr> </thead> <tbody> <tr> <td>Measured Value (mV)</td> <td>Error (dB)</td> </tr> <tr> <td>Error (mV)</td> <td>MAX MIN</td> </tr> <tr> <td>LINEARITY ERROR (dB)</td> <td>0.46 -0.58</td> </tr> <tr> <td>LOGGING ACCURACY (dB)</td> <td>-0.80 -1.98</td> </tr> </tbody> </table>			RF Input Power (dBm)		Measured Value (mV)	Error (dB)	Error (mV)	MAX MIN	LINEARITY ERROR (dB)	0.46 -0.58	LOGGING ACCURACY (dB)	-0.80 -1.98	
-40	-35	-30	-25	-20	-15	-10	-5	0																																																													
251	547	792	1033	1275	1522	1754	2033	2310																																																													
-22	23	16	5	-5	-9	-29	-2	23																																																													
-0.43	0.45	0.32	0.10	-0.09	-0.19	-0.58	-0.04	0.46																																																													
-1.98	-1.06	-1.16	-1.34	-1.50	-1.56	-1.92	-1.34	-0.80																																																													
RF Input Power (dBm)																																																																					
Measured Value (mV)	Error (dB)																																																																				
Error (mV)	MAX MIN																																																																				
LINEARITY ERROR (dB)	0.46 -0.58																																																																				
LOGGING ACCURACY (dB)	-0.80 -1.98																																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Frequency</th> <th style="width: 15%;">INTERCEPT (mV)</th> <th style="width: 15%;">SLOPE (mV/dB)</th> </tr> </thead> <tbody> <tr> <td>0.5 GHz</td> <td>2287</td> <td>50.4</td> </tr> <tr> <td>1 GHz</td> <td>2303</td> <td>50.3</td> </tr> <tr> <td>2 GHz</td> <td>2301</td> <td>50.2</td> </tr> </tbody> </table>			Frequency	INTERCEPT (mV)	SLOPE (mV/dB)	0.5 GHz	2287	50.4	1 GHz	2303	50.3	2 GHz	2301	50.2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>270</td><td>565</td><td>811</td><td>1051</td><td>1294</td><td>1541</td><td>1772</td><td>2052</td><td>2322</td> </tr> <tr> <td>-22</td><td>21</td><td>16</td><td>5</td><td>-4</td><td>-8</td><td>-28</td><td>0</td><td>19</td> </tr> <tr> <td>-0.44</td><td>0.43</td><td>0.32</td><td>0.10</td><td>-0.07</td><td>-0.16</td><td>-0.56</td><td>0.01</td><td>0.38</td> </tr> <tr> <td>-1.60</td><td>-0.70</td><td>-0.78</td><td>-0.98</td><td>-1.12</td><td>-1.18</td><td>-1.56</td><td>-0.96</td><td>-0.56</td> </tr> </tbody> </table>								270	565	811	1051	1294	1541	1772	2052	2322	-22	21	16	5	-4	-8	-28	0	19	-0.44	0.43	0.32	0.10	-0.07	-0.16	-0.56	0.01	0.38	-1.60	-0.70	-0.78	-0.98	-1.12	-1.18	-1.56	-0.96	-0.56	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>Measured Value (mV)</td> <td>Error (dB)</td> </tr> <tr> <td>Error (mV)</td> <td>MAX MIN</td> </tr> <tr> <td>LINEARITY ERROR (dB)</td> <td>0.43 -0.56</td> </tr> <tr> <td>LOGGING ACCURACY (dB)</td> <td>-0.56 -1.60</td> </tr> </tbody> </table>			Measured Value (mV)	Error (dB)	Error (mV)	MAX MIN	LINEARITY ERROR (dB)	0.43 -0.56	LOGGING ACCURACY (dB)	-0.56 -1.60
Frequency	INTERCEPT (mV)	SLOPE (mV/dB)																																																																			
0.5 GHz	2287	50.4																																																																			
1 GHz	2303	50.3																																																																			
2 GHz	2301	50.2																																																																			
270	565	811	1051	1294	1541	1772	2052	2322																																																													
-22	21	16	5	-4	-8	-28	0	19																																																													
-0.44	0.43	0.32	0.10	-0.07	-0.16	-0.56	0.01	0.38																																																													
-1.60	-0.70	-0.78	-0.98	-1.12	-1.18	-1.56	-0.96	-0.56																																																													
Measured Value (mV)	Error (dB)																																																																				
Error (mV)	MAX MIN																																																																				
LINEARITY ERROR (dB)	0.43 -0.56																																																																				
LOGGING ACCURACY (dB)	-0.56 -1.60																																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>Flatness +/- dB</td> <td>0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.10</td> </tr> <tr> <td>Max Video Output Volts</td> <td>0.27 0.57 0.81 1.05 1.29 1.54 1.77 2.05 2.32</td> </tr> <tr> <td>Min Video Output Volts</td> <td>0.25 0.55 0.79 1.03 1.28 1.52 1.75 2.03 2.31</td> </tr> </tbody> </table>			Flatness +/- dB	0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.10	Max Video Output Volts	0.27 0.57 0.81 1.05 1.29 1.54 1.77 2.05 2.32	Min Video Output Volts	0.25 0.55 0.79 1.03 1.28 1.52 1.75 2.03 2.31	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>Logging Linearity vs Frequency</td> <td>Error (dB)</td> </tr> <tr> <td></td> <td>MAX MIN</td> </tr> <tr> <td>TOTAL LOG LINEARITY (dB)</td> <td>0.46 -0.58</td> </tr> </tbody> </table>								Logging Linearity vs Frequency	Error (dB)		MAX MIN	TOTAL LOG LINEARITY (dB)	0.46 -0.58																																															
Flatness +/- dB	0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.10																																																																				
Max Video Output Volts	0.27 0.57 0.81 1.05 1.29 1.54 1.77 2.05 2.32																																																																				
Min Video Output Volts	0.25 0.55 0.79 1.03 1.28 1.52 1.75 2.03 2.31																																																																				
Logging Linearity vs Frequency	Error (dB)																																																																				
	MAX MIN																																																																				
TOTAL LOG LINEARITY (dB)	0.46 -0.58																																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>Logging Accuracy vs Frequency</td> <td>Error (dB)</td> </tr> <tr> <td></td> <td>MAX MIN</td> </tr> <tr> <td>TOTAL LOGGING ACCURACY (dB)</td> <td>-0.56 -1.98</td> </tr> </tbody> </table>			Logging Accuracy vs Frequency	Error (dB)		MAX MIN	TOTAL LOGGING ACCURACY (dB)	-0.56 -1.98																																																													
Logging Accuracy vs Frequency	Error (dB)																																																																				
	MAX MIN																																																																				
TOTAL LOGGING ACCURACY (dB)	-0.56 -1.98																																																																				

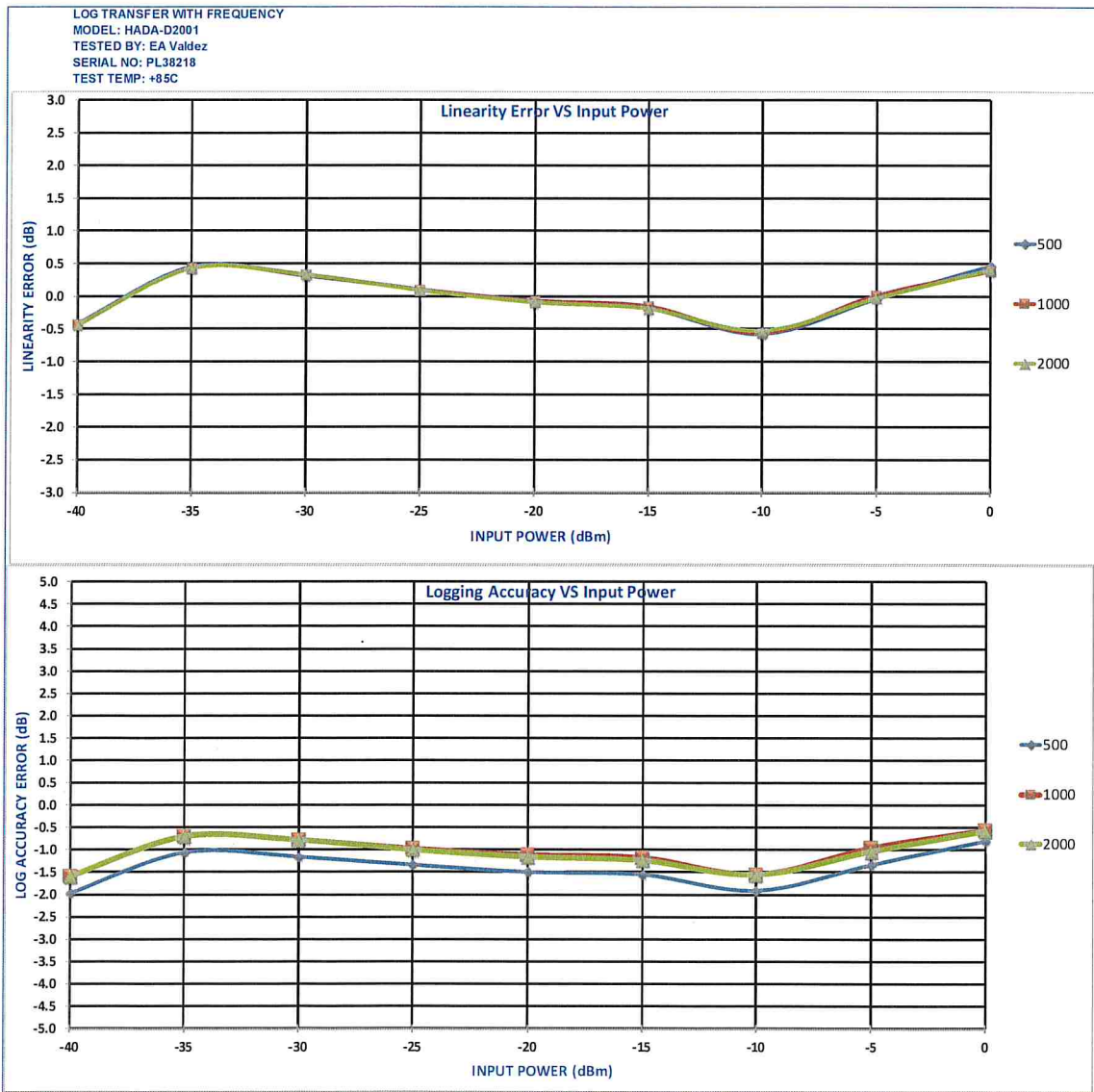
4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
 Email: sales@pmi-rf.com



SUMMARY TEST DATA ON HADA-D2001

PL38218/2245

Log Linearity and Log Accuracy @ +85°C



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

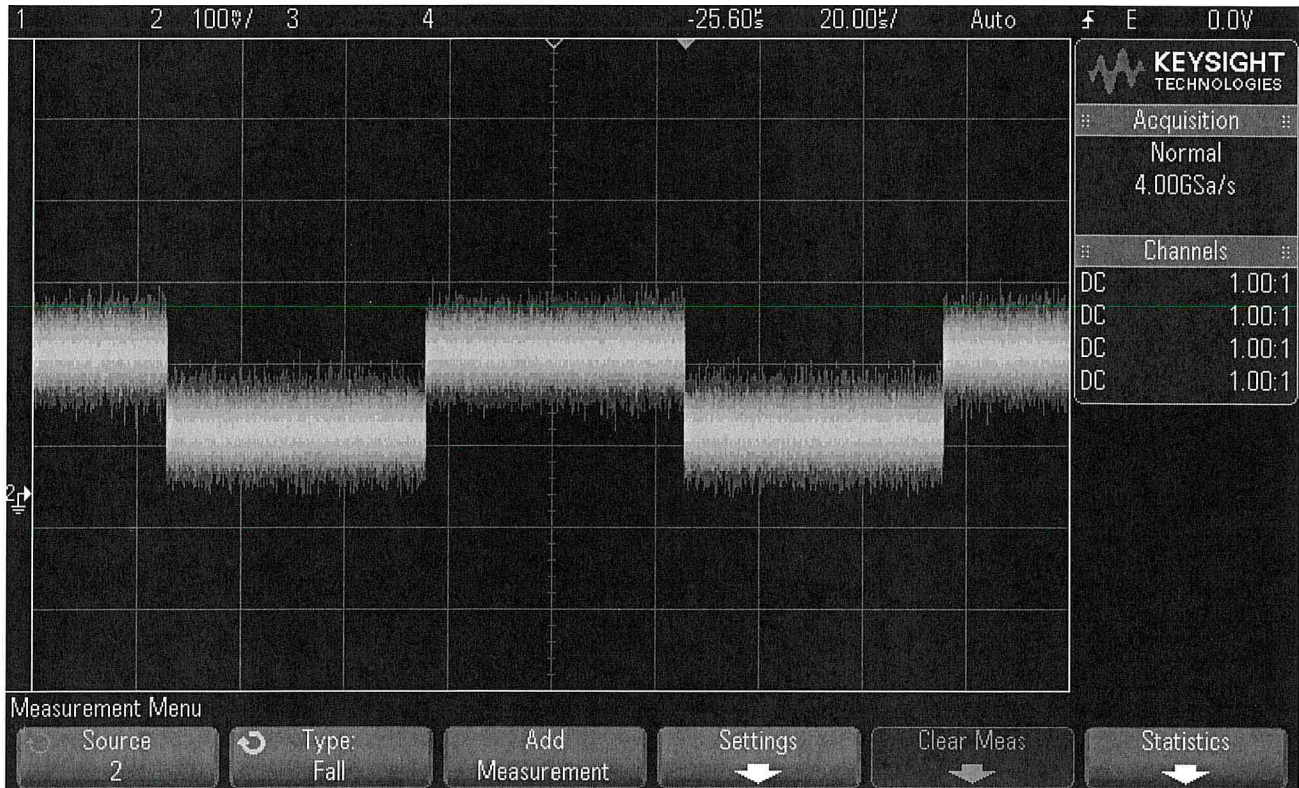


**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

TSS @ -45 dBm

DSO-X 3024A, MY54490369: Tue Nov 08 17:28:57 2022



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

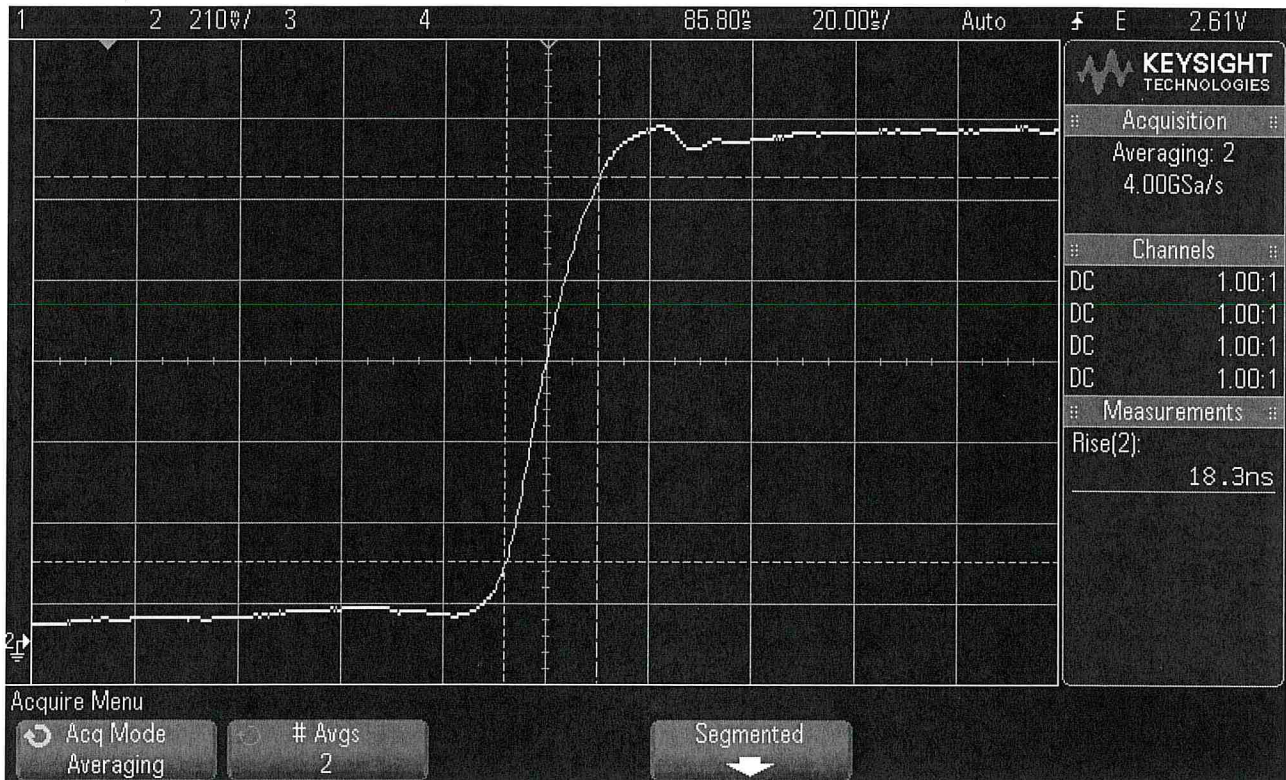


**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

Rise Time 18.3ns

DSO-X 3024A, MY54490369: Tue Nov 08 18:34:49 2022



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com

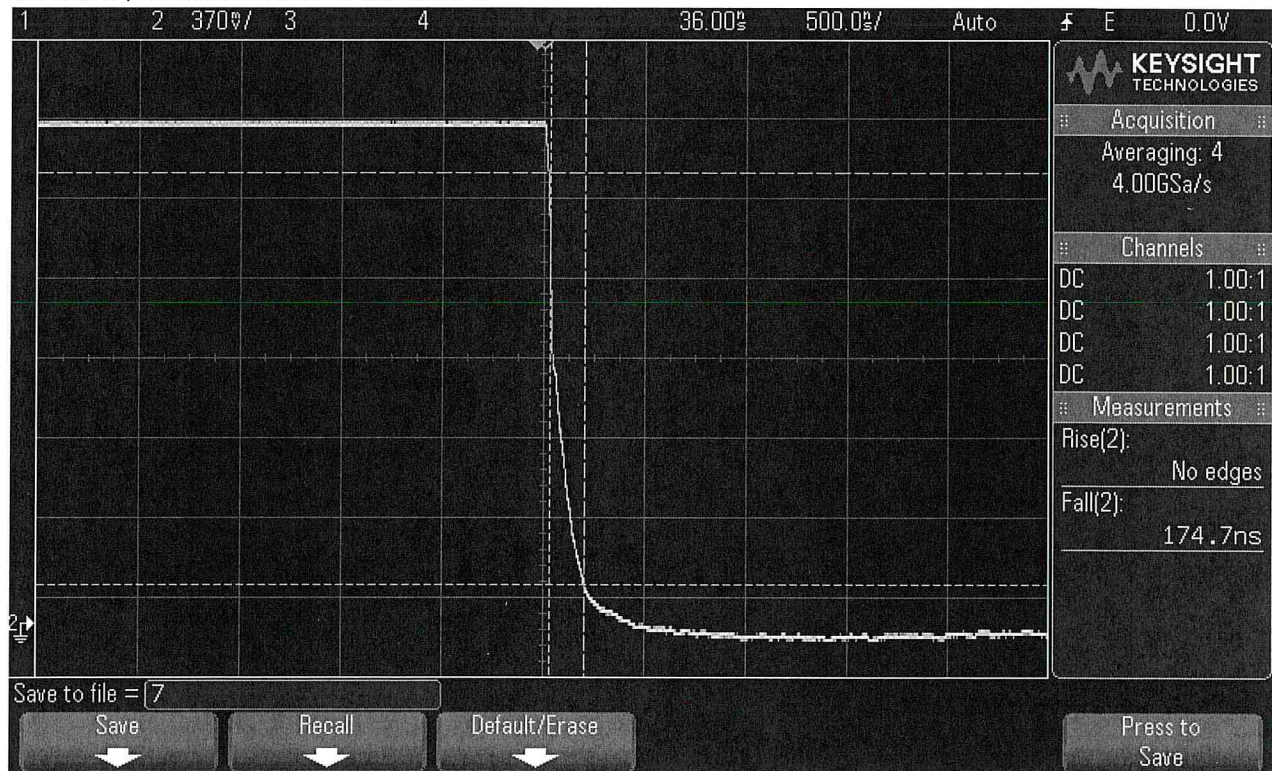


**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

Fall Time 174.7 nS

DSO-X 3024A, MY54490369, Tue Nov 08 12:25:00 2022



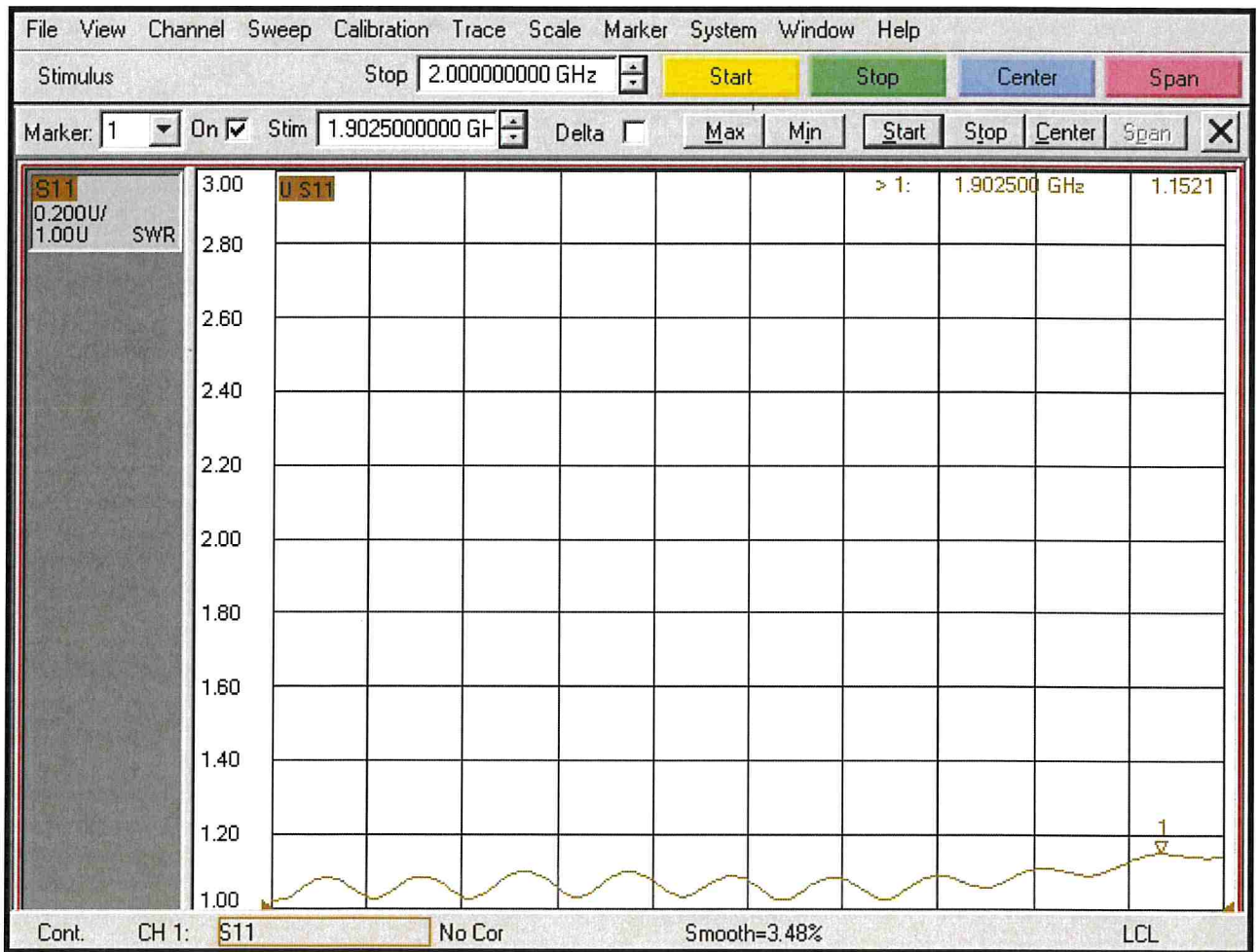
4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax:
(916)265-2597
Email: sales@pmi-rf.com



**SUMMARY TEST DATA
ON
HADA-D2001**

PL38218/2245

VSWR 1.15:1



4921 Robert J. Mathews Pkwy Suite 1, El Dorado Hills, CA 95762 USA Phone: (916)542-1401 Fax: (916)265-2597
Email: sales@pmi-rf.com