

MODEL: GMDA-D1004

S/N: PL49935

DATE: 2/26/2025

NOTE: ALL VIDEO OUTPUT MEASUREMENTS ARE MADE WITH 75 OHMS VIDEO LOAD

1. TSS

Specification: -65dBm Maximum

Measurement @ 18.0GHz, 2uS PW, 100KHz PRF

TSS -68.5 dBm Pass X Fail

2. LOG SLOPE AND LINEARITY

Video Load Measured: 75.2 Ohms

Video Cable Measured: 0.2 Ohms

Specification: Log slope 25 +/- 1mV / dB @ 25 deg. C

25 +/- 2mV / dB Over Temperature

Log Linearity +/-1.5 dB Max. @ 25 deg C

+/-2.0 dB Over Temperature

Measurement: Logging Range = -60dBm to +7dBm

@ 25 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	25.4	0.83	X	
8	25.7	1.01	X	
12	24.9	0.61	X	
16	24.6	0.61	X	
18	24.2	0.58	X	

@ -54 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	25.4	0.97	X	
8	25.1	0.68	X	
12	24.6	0.52	X	
16	24.2	0.62	X	
18	23.8	0.87	X	

@ +85 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	24.8	0.82	X	
8	25.4	0.46	X	
12	24.8	0.98	X	
16	24.6	0.90	X	
18	26.2	0.75	X	



SIZE

A

CAGE CODE

71A34

DWG. NO.

27600005

REVISION

B3

SCALE

SHEET 2 OF 10

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3. FLATNESS

Specification: 100mV Max
Measurement: @-35dBm Input

System Flatness = 0.83 dB (See attached plot)
Vp-p = 68 mV (See attached plot)
Flatness = Vp-p - (System Flatness x 25)
Flatness = 47.25 mV Pass X Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5v Max
Measurement: 1.871v Pass X Fail _____

5. INPUT VSWR

Specification: 2.3:1 Max
Measurement @-20dBm input (See attached plot)
VSWR: 2.05:1 Pass X Fail _____

6. VIDEO RISE TIME

Specification: 30ns Max
Measurement: Freq = 10.0 GHz, RF Input -35dBm, PW = 1us, PRF 100KHz
Rise Time: 18.2ns Pass X Fail _____

7. LEADING AND TRAILING EDGE

Specification: Per figure 5 on product feature DWG000005
Pass X Fail _____

8. REVERSE SHOOT AND SLOPE REVERSE

Specification: Per figure 6 on product feature DWG000005
Pass X Fail _____

9. RECOVERY TIME

Specification: 1us
Measurement: 0.116us Pass X Fail _____

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10. THROUGHPUT TIME

Specification: 30ns Max
Measurement: Freq 18.0GHz, PW = 100ns, PRF = 100KHz
-35dBm Input: 23ns Pass X Fail

11. OFFSET VOLTAGE

Specification: +/- 50mV Max
Measurement: -30 mV Pass X Fail

12. DC POWER

Specification: +12V to +15.5V, 400mA Max
 -12V to -15.5V, 165mA Max
Measurement: +15.5V @ 290 mA Pass X Fail
 -15.5V @ 60 mA Pass X Fail

13. VISUAL AND MECHANICAL INSPECTION

Specification: Per PMI product feature DWG000005
Finish: Pass X Fail
Dimensions: Pass X Fail
Marking and Identification: Pass X Fail

Torque Cover Screws to 1.2 in/lb. Inspect screws per criteria in
Figure 1-A on TRV000002: Pass X Fail

Tested by: Joshua Monley Date: 2/26/2025

QA: ^{PMI}Q43 H. K. K... Date: 2-28-25

	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 4 OF 10

LOG TRANSFER WITH FREQUENCY

MODEL: GMDA-D1004

TESTED BY: Joshua Monley

TEST DATE: 2/26/2025

SERIAL NO: PL49935

TEST TEMP: +25C

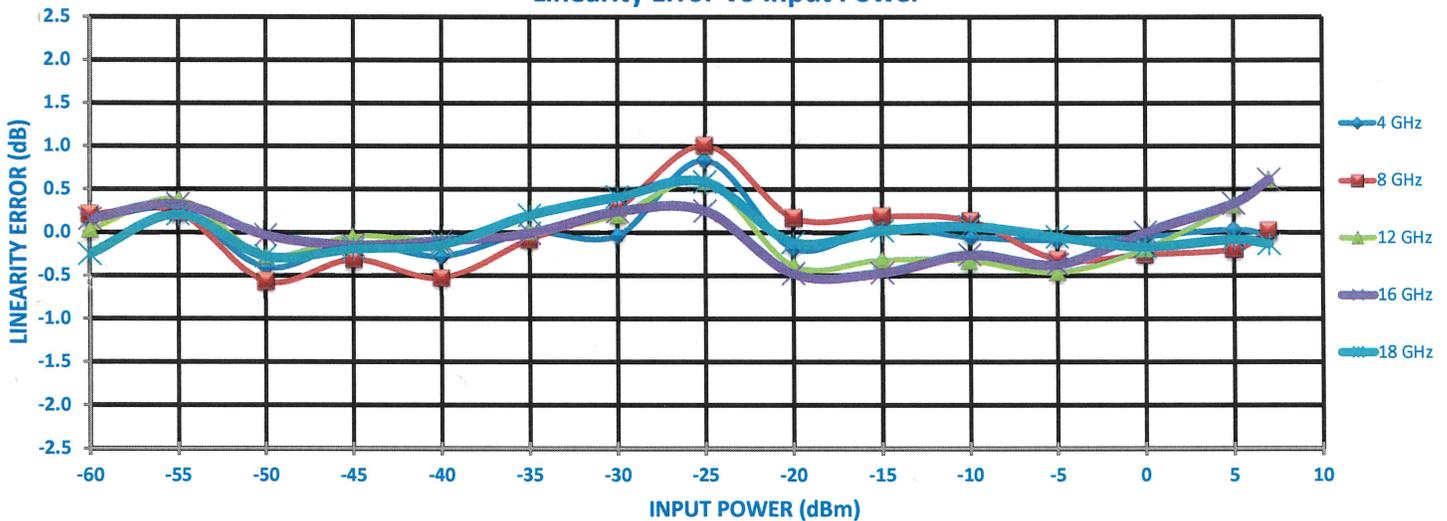


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 Phone: 916-542-1401 Fax: 301-662-1731
 Email: sales@pmi-rf.com | www.pmi-rf.com

Vos= -0.030

Frequency		-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	57 187 297 431 554 688 814 963 1064 1197 1321 1447 1575 1704 1753															Measured Value (mV)
	SLOPE (mV/dB)	3 6 -10 -3 -7 0 -1 21 -5 1 -2 -2 -1 1 -1															Error (mV)
		0.13 0.26 -0.41 -0.13 -0.28 0.00 -0.04 0.83 -0.19 0.05 -0.06 -0.10 -0.05 0.03 -0.04															LINEARITY ERROR (dB)
X																	
8 GHz	INTERCEPT (mV)	65 194 302 437 560 700 838 985 1092 1221 1348 1465 1595 1725 1782															Measured Value (mV)
	SLOPE (mV/dB)	5 6 -15 -8 -14 -2 7 26 4 5 3 -8 -7 -5 0															Error (mV)
		0.21 0.23 -0.57 -0.31 -0.53 -0.08 0.29 1.01 0.17 0.19 0.13 -0.31 -0.26 -0.20 0.02															LINEARITY ERROR (dB)
X																	
12 GHz	INTERCEPT (mV)	99 232 340 470 593 720 849 983 1083 1209 1333 1454 1585 1722 1779															Measured Value (mV)
	SLOPE (mV/dB)	1 9 -7 -1 -2 0 5 15 -10 -8 -8 -12 -5 8 15															Error (mV)
		0.03 0.38 -0.27 -0.05 -0.10 0.01 0.20 0.59 -0.39 -0.32 -0.33 -0.47 -0.20 0.31 0.61															LINEARITY ERROR (dB)
X																	
16 GHz	INTERCEPT (mV)	126 253 367 487 611 736 865 988 1093 1216 1344 1464 1596 1727 1783															Measured Value (mV)
	SLOPE (mV/dB)	4 8 -1 -4 -3 0 6 6 -12 -12 -6 -9 0 8 15															Error (mV)
		0.15 0.32 -0.04 -0.15 -0.10 -0.01 0.24 0.25 -0.48 -0.47 -0.26 -0.38 0.00 0.33 0.61															LINEARITY ERROR (dB)
X																	
18 GHz	INTERCEPT (mV)	108 240 349 472 594 723 849 974 1078 1202 1324 1442 1560 1683 1730															Measured Value (mV)
	SLOPE (mV/dB)	-6 5 -7 -5 -4 5 10 14 -3 0 1 -1 -4 -2 -3															Error (mV)
		-0.26 0.21 -0.28 -0.19 -0.15 0.19 0.41 0.58 -0.12 0.01 0.06 -0.06 -0.17 -0.08 -0.14															LINEARITY ERROR (dB)
X																	
Flatness +/-dB		1.3	1.3	1.4	1.1	1.1	0.9	1	0.5	0.6	0.5	0.5	0.4	0.7	0.9	1	

Linearity Error VS Input Power



SIZE
A

SCALE

CAGE CODE
71A34

DWG. NO.
27600005

REVISION
B3

SHEET 5 OF 10

LOG TRANSFER WITH FREQUENCY

MODEL: GMDA-D1004

TESTED BY: Joshua Monley

TEST DATE: 2/26/2025

SERIAL NO: PL49935

TEST TEMP: -54C



PLANAR MONOLITHICS INDUSTRIES
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Vos= -0.013

Frequency

-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
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RF Input Power (dBm)

4 GHz	INTERCEPT (mV)	1594
	SLOPE (mV/dB)	25.4

70	201	312	446	574	710	840	984	1084	1217	1342	1463	1593	1715	1765
-1	3	-13	-6	-5	4	7	25	-2	4	2	-4	-1	-6	-6
-0.06	0.11	-0.52	-0.24	-0.19	0.17	0.29	0.97	-0.09	0.15	0.08	-0.15	-0.03	-0.22	-0.25

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

8 GHz	INTERCEPT (mV)	1619
	SLOPE (mV/dB)	25.1

106	241	347	483	610	741	878	1007	1113	1242	1371	1486	1618	1738	1793
-4	5	-14	-4	-3	3	14	17	-3	1	4	-7	-1	-6	-2
-0.15	0.22	-0.57	-0.16	-0.11	0.10	0.55	0.68	-0.11	0.02	0.15	-0.28	-0.03	-0.25	-0.07

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

12 GHz	INTERCEPT (mV)	1613
	SLOPE (mV/dB)	24.6

131	264	375	503	632	756	886	1007	1109	1234	1360	1477	1613	1740	1797
-4	6	-7	-2	4	5	12	10	-11	-9	-7	-13	0	4	12
-0.17	0.23	-0.27	-0.07	0.17	0.21	0.48	0.40	-0.46	-0.38	-0.27	-0.52	0.01	0.16	0.48

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

16 GHz	INTERCEPT (mV)	1613
	SLOPE (mV/dB)	24.2

160	284	403	522	651	773	903	1014	1119	1239	1366	1482	1614	1737	1792
-3	0	-2	-3	5	6	15	5	-11	-11	-5	-10	1	3	10
-0.12	0.01	-0.07	-0.14	0.20	0.24	0.62	0.22	-0.44	-0.47	-0.22	-0.42	0.05	0.14	0.41

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

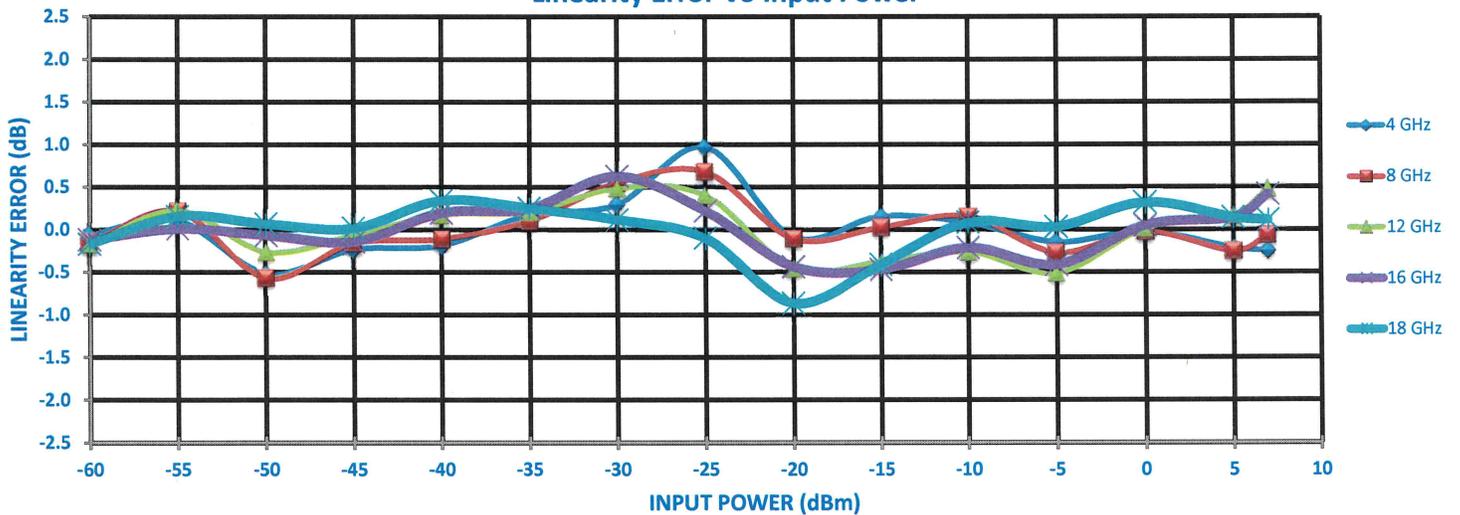
18 GHz	INTERCEPT (mV)	1590
	SLOPE (mV/dB)	23.8

155	282	399	517	644	761	877	991	1092	1222	1353	1471	1597	1712	1759
-4	4	1	0	8	6	3	-3	-21	-10	2	1	7	3	3
-0.17	0.15	0.06	0.01	0.34	0.24	0.11	-0.11	-0.87	-0.42	0.08	0.03	0.31	0.13	0.11

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Flatness +/-dB	1.8	1.6	1.8	1.5	1.5	1.2	1.2	0.6	0.7	0.5	0.6	0.4	0.5	0.5	0.7
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Linearity Error VS Input Power



	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 6 OF 10

LOG TRANSFER WITH FREQUENCY

MODEL: GMDA-D1004

TESTED BY: Joshua Monley

TEST DATE: 2/26/2025

SERIAL NO: PL49935

TEST TEMP: +85C



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Vos= 0.029

Frequency

-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
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RF Input Power (dBm)

4 GHz	INTERCEPT (mV)	1635
	SLOPE (mV/dB)	24.8

149	275	399	524	656	773	893	1000	1119	1249	1381	1513	1643	1768	1817
0	3	3	4	12	5	1	-16	-20	-14	-6	2	8	9	9
0.02	0.10	0.11	0.16	0.48	0.21	0.05	-0.63	-0.82	-0.58	-0.25	0.08	0.33	0.38	0.36

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

8 GHz	INTERCEPT (mV)	1676
	SLOPE (mV/dB)	25.4

157	282	402	524	664	786	919	1043	1156	1291	1425	1546	1680	1803	1856
5	3	-4	-7	4	-1	5	2	-12	-4	3	-3	4	0	3
0.20	0.12	-0.16	-0.27	0.16	-0.03	0.20	0.09	-0.46	-0.15	0.13	-0.11	0.17	0.02	0.10

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

12 GHz	INTERCEPT (mV)	1681
	SLOPE (mV/dB)	24.8

194	316	439	563	700	825	937	1050	1160	1293	1428	1550	1687	1815	1871
3	1	0	0	12	13	1	-10	-24	-16	-5	-7	6	10	16
0.13	0.04	-0.01	-0.01	0.50	0.53	0.04	-0.41	-0.98	-0.63	-0.19	-0.28	0.23	0.39	0.64

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

16 GHz	INTERCEPT (mV)	1682
	SLOPE (mV/dB)	24.6

205	325	446	571	714	839	946	1062	1167	1299	1429	1550	1686	1812	1867
1	-3	-5	-3	17	19	3	-4	-22	-13	-6	-9	4	7	13
0.02	-0.10	-0.19	-0.11	0.70	0.77	0.12	-0.17	-0.90	-0.54	-0.26	-0.35	0.18	0.30	0.53

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

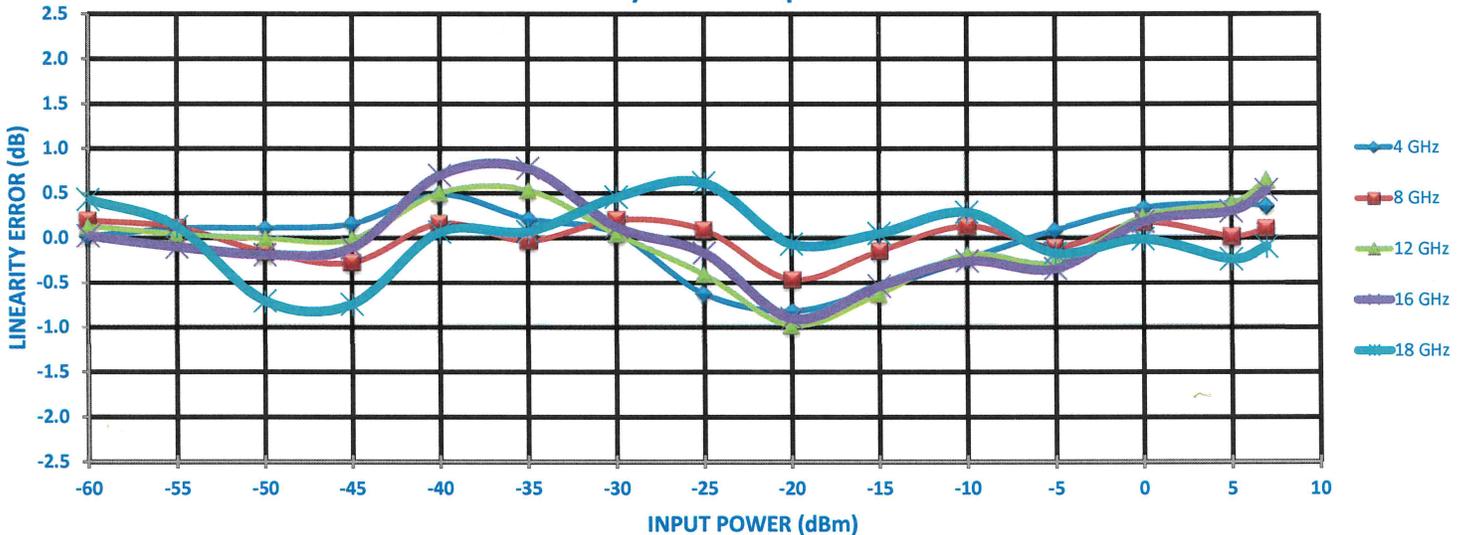
18 GHz	INTERCEPT (mV)	1701
	SLOPE (mV/dB)	26.2

142	265	374	504	656	787	928	1063	1176	1310	1447	1566	1701	1826	1882
11	3	-19	-20	2	2	12	16	-2	1	7	-5	0	-6	-3
0.43	0.12	-0.71	-0.75	0.06	0.07	0.45	0.61	-0.07	0.05	0.28	-0.17	-0.02	-0.24	-0.10

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Flatness +/-dB	1.2	1.2	1.4	1.3	1.1	1.3	1	1.2	1.1	1.2	1.3	1	1.1	1.1	1.3
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Linearity Error VS Input Power



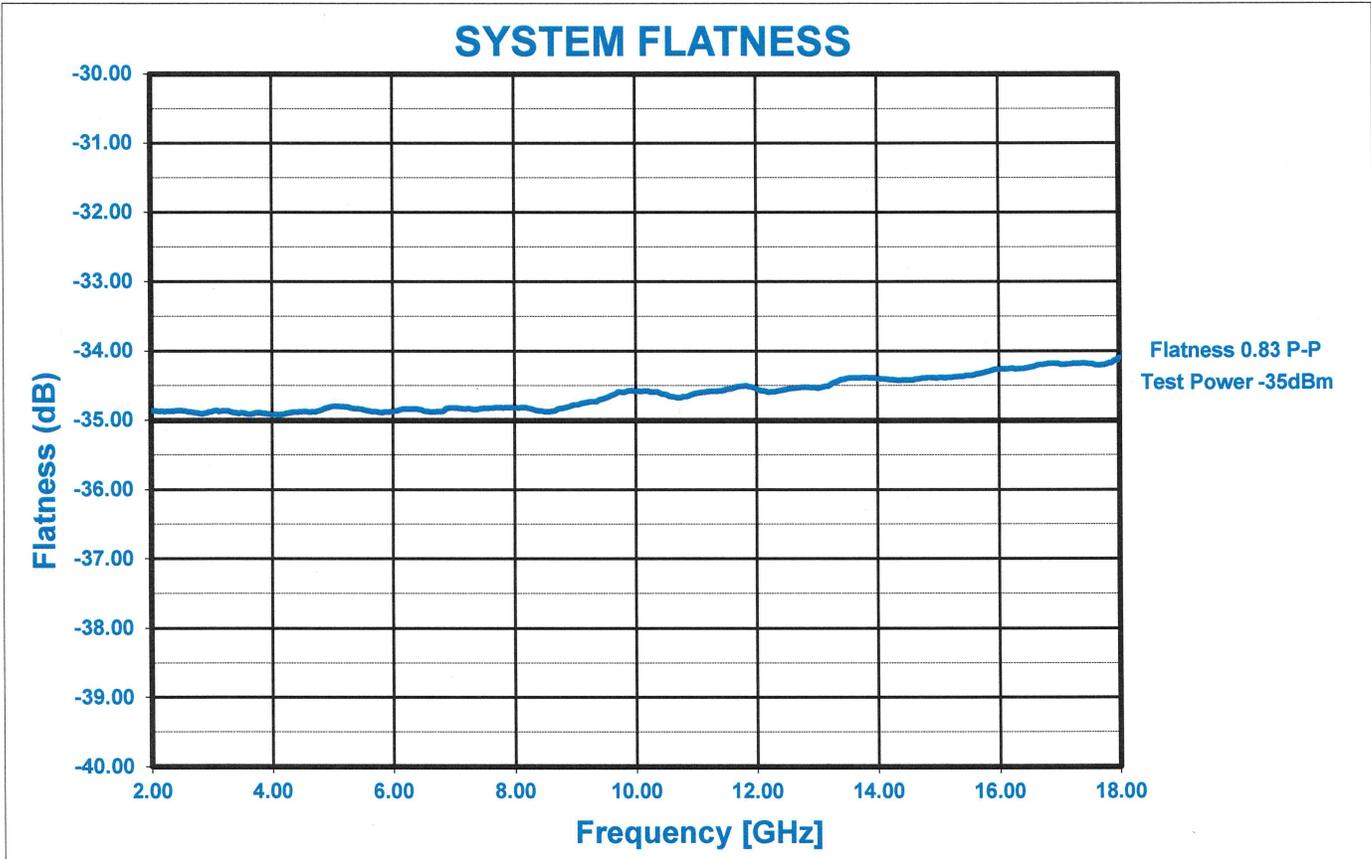
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 7 OF 10

MODEL: GMDA-D1004

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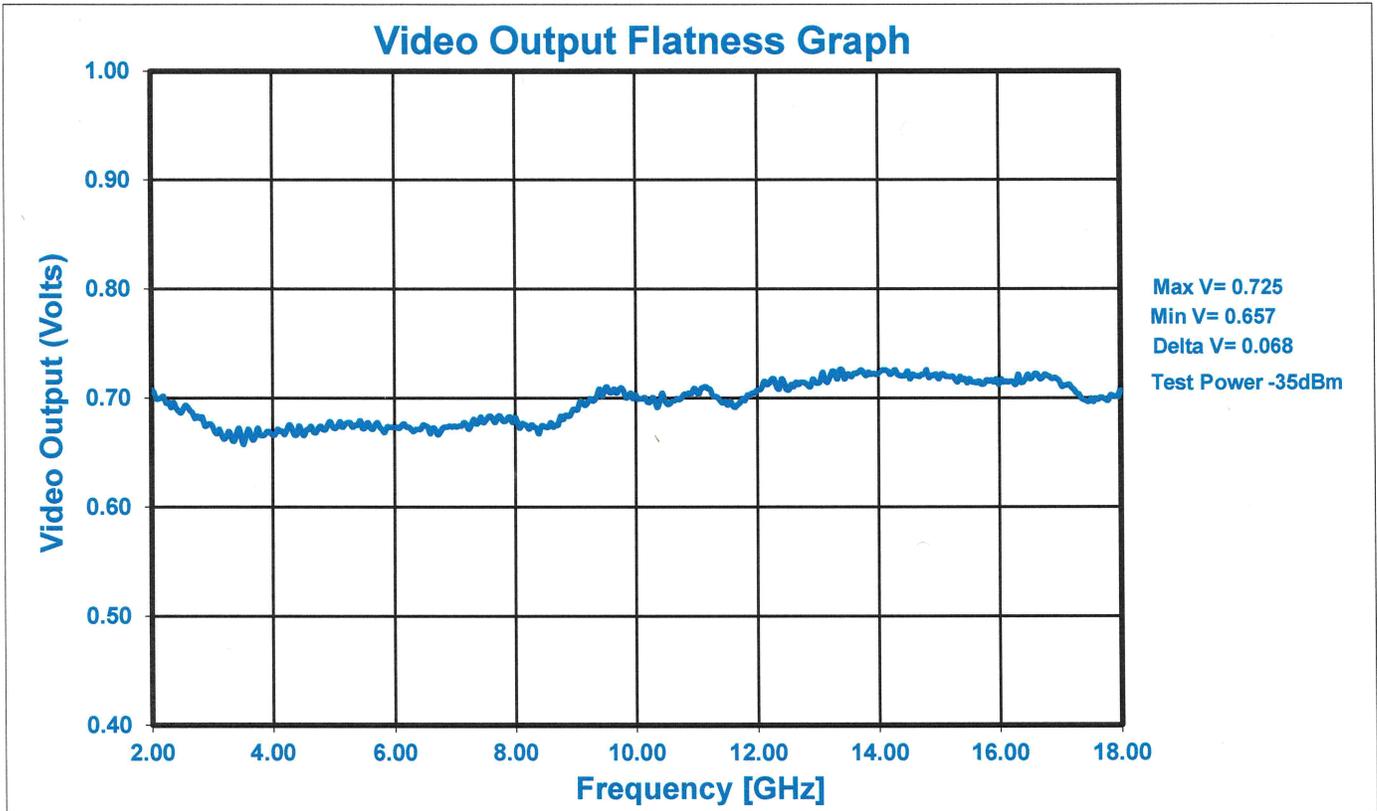
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	A	71A34	27600005	B3
	SCALE			SHEET 8 OF 10

MODEL: GMDA-D1004

S/N: PL49935

DATE: 2/26/2025

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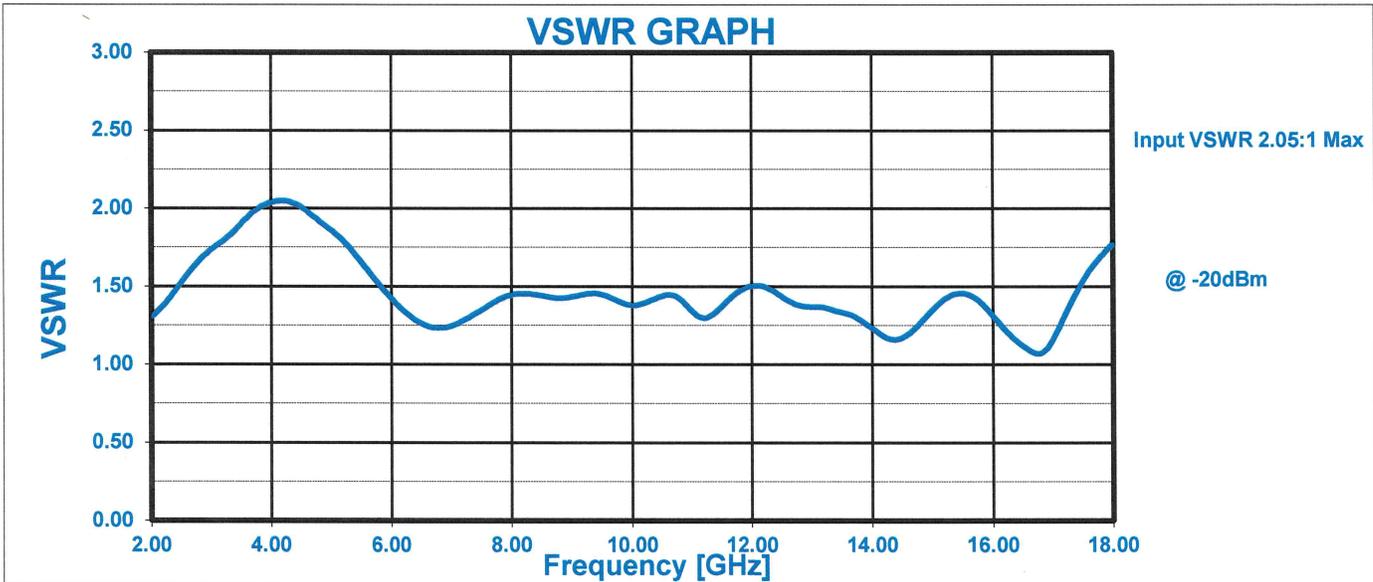
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 9 OF 10

MODEL: GMDA-D1004

S/N: PL49935

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	A	71A34	27600005	B3
	SCALE			SHEET 10 OF 10