

MODEL: GMDA-D1004

S/N: PL51132

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 -66 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	25.0	0.38	X	
8	25.1	0.51	X	
12	25.3	0.55	X	
16	24.7	0.60	X	
18	24.4	0.54	X	

@ -54 deg C ( See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	25.0	0.41	X	
8	25.3	0.85	X	
12	25.4	0.97	X	
16	24.8	0.75	X	
18	24.4	0.73	X	

@ +85 deg C ( See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	25.8	0.37	X	
8	25.6	0.38	X	
12	25.7	0.43	X	
16	25.2	0.63	X	
18	25.2	0.50	X	

	SIZE A	CAGE CODE 71A34	DWG. NO. 27600005	REVISION B3
	SCALE			SHEET 2 OF 10

MODEL: GMDA-D1004

S/N: PL51132

DATE: 2/26/2025

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

**3. FLATNESS**

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

System Flatness = 0.83 dB (See attached plot)  
Vp-p = 50 mV (See attached plot)  
Flatness = Vp-p - (System Flatness x 25)  
Flatness = 29.25 mV      Pass X Fail \_\_\_\_\_

**4. MAXIMUM OUTPUT VOLTAGE**

Specification: +2.5v Max  
Measurement: 1.844v      Pass X Fail \_\_\_\_\_

**5. INPUT VSWR**

Specification: 2.3:1 Max  
Measurement @-20dBm input ( See attached plot)  
VSWR: 1.92:1      Pass X Fail \_\_\_\_\_

**6. VIDEO RISE TIME**

Specification: 30ns Max  
Measurement: Freq = 10.0 GHz, RF Input -35dBm, PW = 1us, PRF 100KHz  
Rise Time: 17ns      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: 0.151us      Pass X Fail \_\_\_\_\_

	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 3 OF 10

MODEL: GMDA-D1004

S/N: PL51132

DATE: 2/26/2025

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

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: -35 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: <sup>PMI</sup><sub>QA</sub> K. Manning

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: PL51132

TEST TEMP: +25C

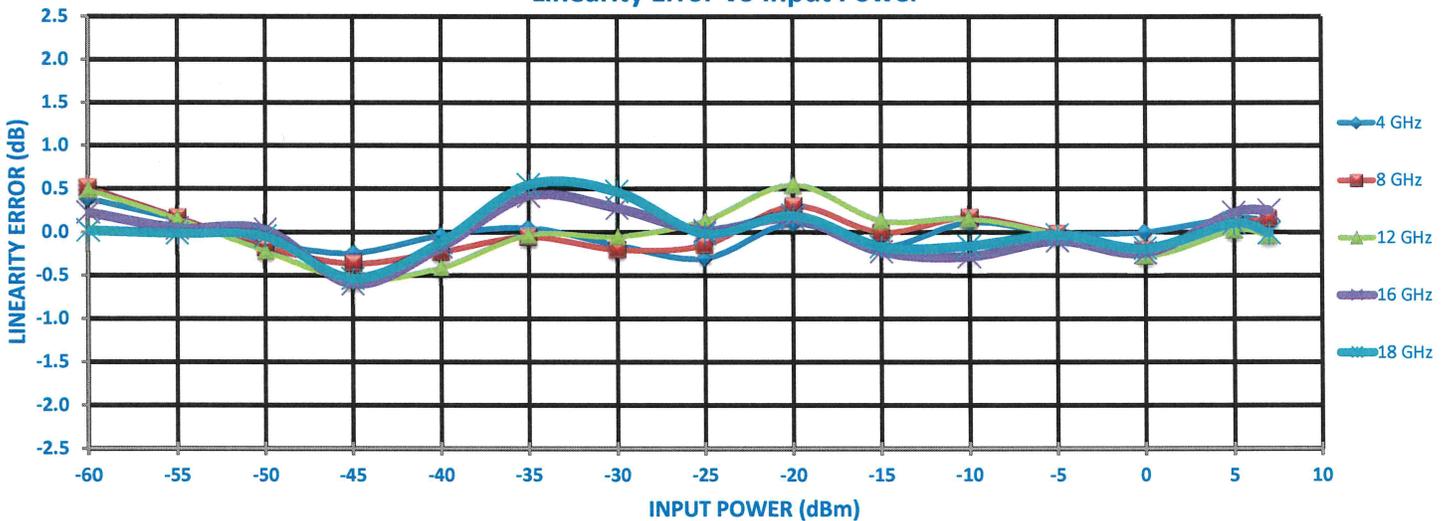


PLANAR MONOLITHICS INDUSTRIES  
 4921 Robert J. Mathews Parkway, Suite 1  
 El Dorado Hills, CA 95762  
 Phone: 916-542-1401 Fax: 301-662-1731  
 Email: sales@pmi-rf.com | www.pmi-rf.com

Vos= 0.016

Frequency		-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	1601															Measured Value (mV)
	SLOPE (mV/dB)	24.98															Error (mV)
		112	231	349	471	601	728	848	969	1104	1222	1354	1476	1601	1730	1779	LINEARITY ERROR (dB)
		10	4	-3	-6	-1	1	-4	-8	2	-4	3	0	0	4	3	
		0.38	0.15	-0.13	-0.24	-0.04	0.04	-0.15	-0.31	0.10	-0.18	0.11	-0.01	0.00	0.16	0.12	
		X															
8 GHz	INTERCEPT (mV)	1611															Measured Value (mV)
	SLOPE (mV/dB)	25.13															Error (mV)
		116	233	350	471	600	730	852	979	1116	1234	1364	1485	1606	1739	1791	LINEARITY ERROR (dB)
		13	4	-4	-9	-6	-1	-5	-4	8	0	4	0	-5	2	4	
		0.51	0.17	-0.18	-0.36	-0.23	-0.06	-0.20	-0.15	0.30	0.00	0.17	-0.02	-0.20	0.09	0.16	
		X															
12 GHz	INTERCEPT (mV)	1619															Measured Value (mV)
	SLOPE (mV/dB)	25.29															Error (mV)
		114	232	349	467	597	733	859	990	1127	1243	1370	1492	1612	1746	1795	LINEARITY ERROR (dB)
		12	4	-6	-14	-10	-1	-1	3	14	3	4	-1	-7	1	-1	
		0.49	0.15	-0.22	-0.55	-0.41	-0.04	-0.05	0.13	0.54	0.13	0.15	-0.02	-0.28	0.02	-0.04	
		X															
16 GHz	INTERCEPT (mV)	1621															Measured Value (mV)
	SLOPE (mV/dB)	24.69															Error (mV)
		145	264	387	495	629	767	887	1004	1131	1245	1367	1495	1615	1750	1800	LINEARITY ERROR (dB)
		6	1	1	-15	-4	10	7	0	4	-6	-7	-3	-6	6	6	
		0.23	0.04	0.03	-0.60	-0.17	0.42	0.28	0.01	0.16	-0.23	-0.29	-0.10	-0.24	0.22	0.25	
		X															
18 GHz	INTERCEPT (mV)	1597															Measured Value (mV)
	SLOPE (mV/dB)	24.37															Error (mV)
		135	256	377	487	619	757	877	987	1114	1227	1349	1474	1592	1721	1767	LINEARITY ERROR (dB)
		0	0	-1	-13	-3	13	11	0	5	-4	-4	-1	-5	2	0	
		0.02	-0.02	-0.05	-0.54	-0.12	0.54	0.47	-0.02	0.19	-0.17	-0.16	-0.03	-0.19	0.10	-0.01	
		X															
Flatness +/-dB		0.7	0.7	0.8	0.6	0.6	0.8	0.8	0.7	0.5	0.5	0.4	0.4	0.5	0.6	0.7	

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: PL51132  
 TEST TEMP: -54C



PLANAR MONOLITHICS INDUSTRIES  
 4921 Robert J. Mathews Parkway, Suite 1  
 El Dorado Hills, CA 95762  
 Phone: 916-542-1401 Fax: 301-662-1731  
 Email: sales@pmi-rf.com | www.pmi-rf.com

Vos= -0.035

Frequency

-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	---	---	---

RF Input Power (dBm)

4 GHz	INTERCEPT (mV)	1534
	SLOPE (mV/dB)	25.0

44	164	281	404	530	659	777	902	1045	1165	1292	1413	1534	1659	1703
9	4	-4	-6	-5	-1	-8	-8	10	5	7	4	0	0	-6
0.35	0.15	-0.17	-0.24	-0.20	-0.04	-0.32	-0.31	0.41	0.21	0.30	0.14	-0.02	-0.01	-0.25

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

8 GHz	INTERCEPT (mV)	1554
	SLOPE (mV/dB)	25.3

52	169	284	405	531	664	786	921	1070	1187	1310	1432	1552	1677	1719
14	5	-7	-12	-12	-6	-10	-1	21	12	9	4	-2	-3	-12
0.55	0.18	-0.27	-0.48	-0.49	-0.22	-0.40	-0.05	0.85	0.48	0.35	0.17	-0.08	-0.13	-0.47

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

12 GHz	INTERCEPT (mV)	1565
	SLOPE (mV/dB)	25.4

55	174	289	407	534	671	796	935	1082	1198	1319	1444	1563	1686	1728
13	5	-7	-16	-16	-6	-8	5	25	14	8	6	-2	-6	-15
0.51	0.20	-0.27	-0.62	-0.62	-0.22	-0.30	0.18	0.97	0.54	0.31	0.23	-0.08	-0.24	-0.58

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

16 GHz	INTERCEPT (mV)	1577
	SLOPE (mV/dB)	24.8

94	218	337	444	577	712	834	967	1100	1216	1331	1457	1576	1696	1737
3	3	-2	-19	-9	2	0	9	18	10	1	4	-1	-5	-14
0.12	0.13	-0.07	-0.75	-0.38	0.07	-0.01	0.36	0.73	0.41	0.06	0.14	-0.05	-0.21	-0.55

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

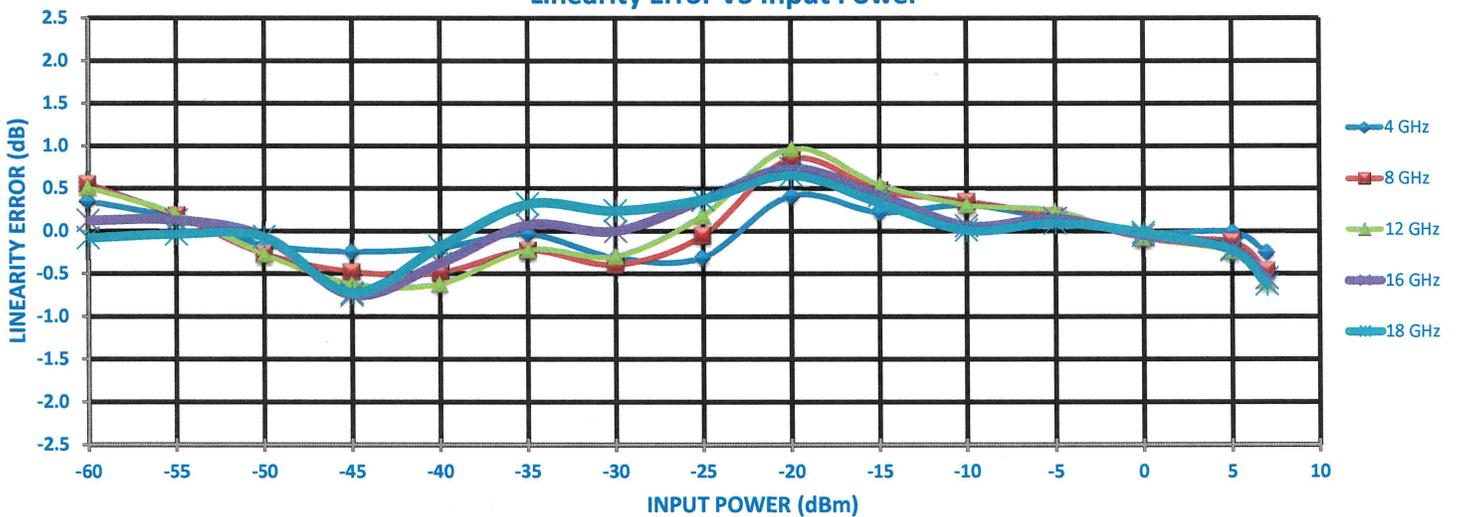
18 GHz	INTERCEPT (mV)	1567
	SLOPE (mV/dB)	24.4

102	225	346	452	587	721	841	966	1095	1209	1323	1447	1566	1683	1722
-2	-1	-2	-18	-5	8	6	9	16	8	0	2	-1	-6	-15
-0.08	-0.04	-0.07	-0.73	-0.19	0.31	0.23	0.36	0.65	0.33	0.01	0.09	-0.03	-0.23	-0.63

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

Flatness +/-dB	1.2	1.2	1.3	1	1.1	1.2	1.3	1.3	1.1	1	0.8	0.9	0.8	0.7	0.7
----------------	-----	-----	-----	---	-----	-----	-----	-----	-----	---	-----	-----	-----	-----	-----

Linearity Error VS Input Power



LOG TRANSFER WITH FREQUENCY  
 MODEL: GMDA-D1004  
 TESTED BY: Joshua Monley  
 TEST DATE: 2/26/2025  
 SERIAL NO: PL51132  
 TEST TEMP: +85C



PLANAR MONOLITHICS INDUSTRIES  
 4921 Robert J. Mathews Parkway, Suite 1  
 El Dorado Hills, CA 95762  
 Phone: 916-542-1401 Fax: 301-662-1731  
 Email: sales@pmi-rf.com | www.pmi-rf.com

Vos= 0.019

Frequency

-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	---	---	---

RF Input Power (dBm)

4 GHz	INTERCEPT (mV)	1648
	SLOPE (mV/dB)	25.8

108	231	353	481	612	746	871	995	1133	1257	1394	1519	1649	1779	1832
9	3	-4	-5	-3	2	-2	-7	1	-4	4	0	1	2	3
0.37	0.13	-0.15	-0.19	-0.12	0.07	-0.09	-0.29	0.05	-0.15	0.16	0.00	0.03	0.06	0.12

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

8 GHz	INTERCEPT (mV)	1652
	SLOPE (mV/dB)	25.6

123	248	371	495	627	762	886	1011	1143	1262	1397	1520	1646	1783	1841
5	3	-2	-6	-2	5	1	-2	2	-7	1	-4	-6	3	10
0.21	0.10	-0.09	-0.24	-0.08	0.20	0.04	-0.07	0.09	-0.26	0.02	-0.17	-0.24	0.11	0.38

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

12 GHz	INTERCEPT (mV)	1658
	SLOPE (mV/dB)	25.7

119	245	368	489	623	764	892	1019	1150	1268	1400	1525	1650	1788	1844
5	2	-4	-11	-6	7	6	4	7	-4	-1	-4	-8	1	6
0.19	0.08	-0.14	-0.43	-0.23	0.25	0.23	0.17	0.26	-0.16	-0.03	-0.17	-0.31	0.05	0.23

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

16 GHz	INTERCEPT (mV)	1649
	SLOPE (mV/dB)	25.2

138	265	390	504	639	780	901	1011	1141	1257	1386	1518	1643	1786	1842
3	4	2	-10	-1	14	9	-7	-4	-14	-11	-5	-6	10	16
0.11	0.14	0.10	-0.39	-0.04	0.55	0.35	-0.30	-0.14	-0.55	-0.44	-0.20	-0.25	0.42	0.63

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

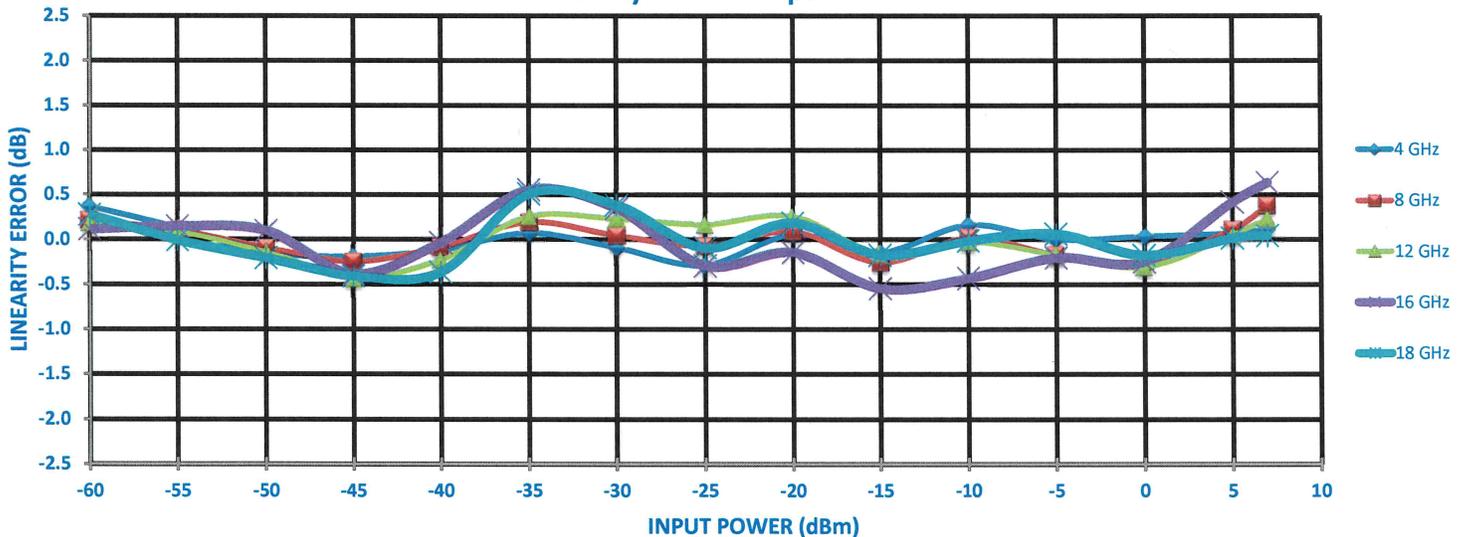
18 GHz	INTERCEPT (mV)	1609
	SLOPE (mV/dB)	25.2

103	222	343	464	591	739	862	976	1109	1226	1356	1484	1604	1735	1786
7	0	-5	-10	-9	13	10	-2	5	-4	0	2	-5	0	1
0.27	-0.01	-0.21	-0.41	-0.37	0.50	0.38	-0.09	0.18	-0.18	-0.02	0.06	-0.18	0.02	0.04

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

Flatness +/-dB	0.7	0.9	0.9	0.8	1	0.8	0.8	0.9	0.8	0.8	0.9	0.8	0.9	1.1	1.2
----------------	-----	-----	-----	-----	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Linearity Error VS Input Power



SIZE  
A  
SCALE

CAGE CODE  
71A34

DWG. NO.  
27600005

REVISION  
B3

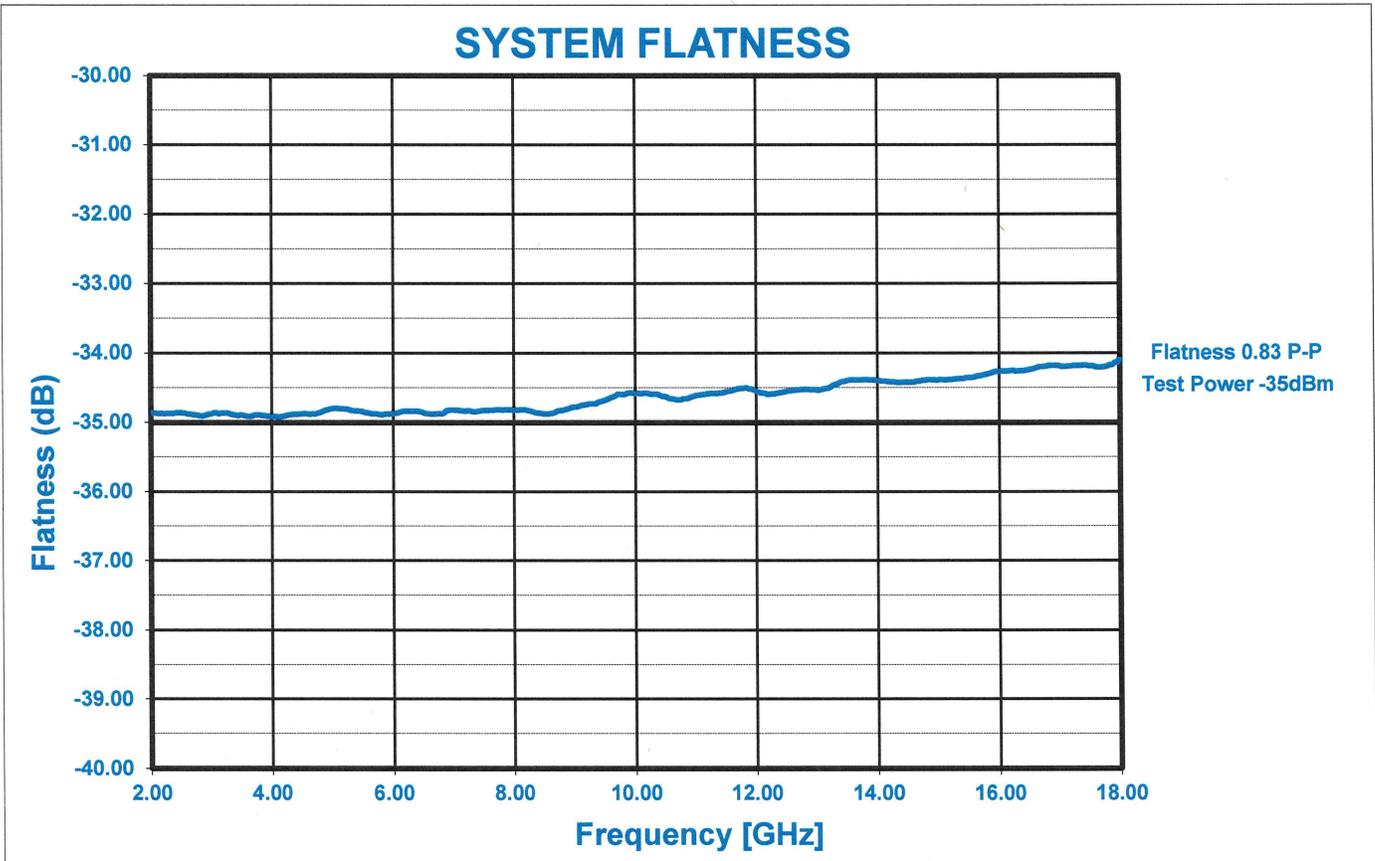
SHEET 7 OF 10

MODEL: GMDA-D1004

S/N: PL51132

DATE: 2/26/2025

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



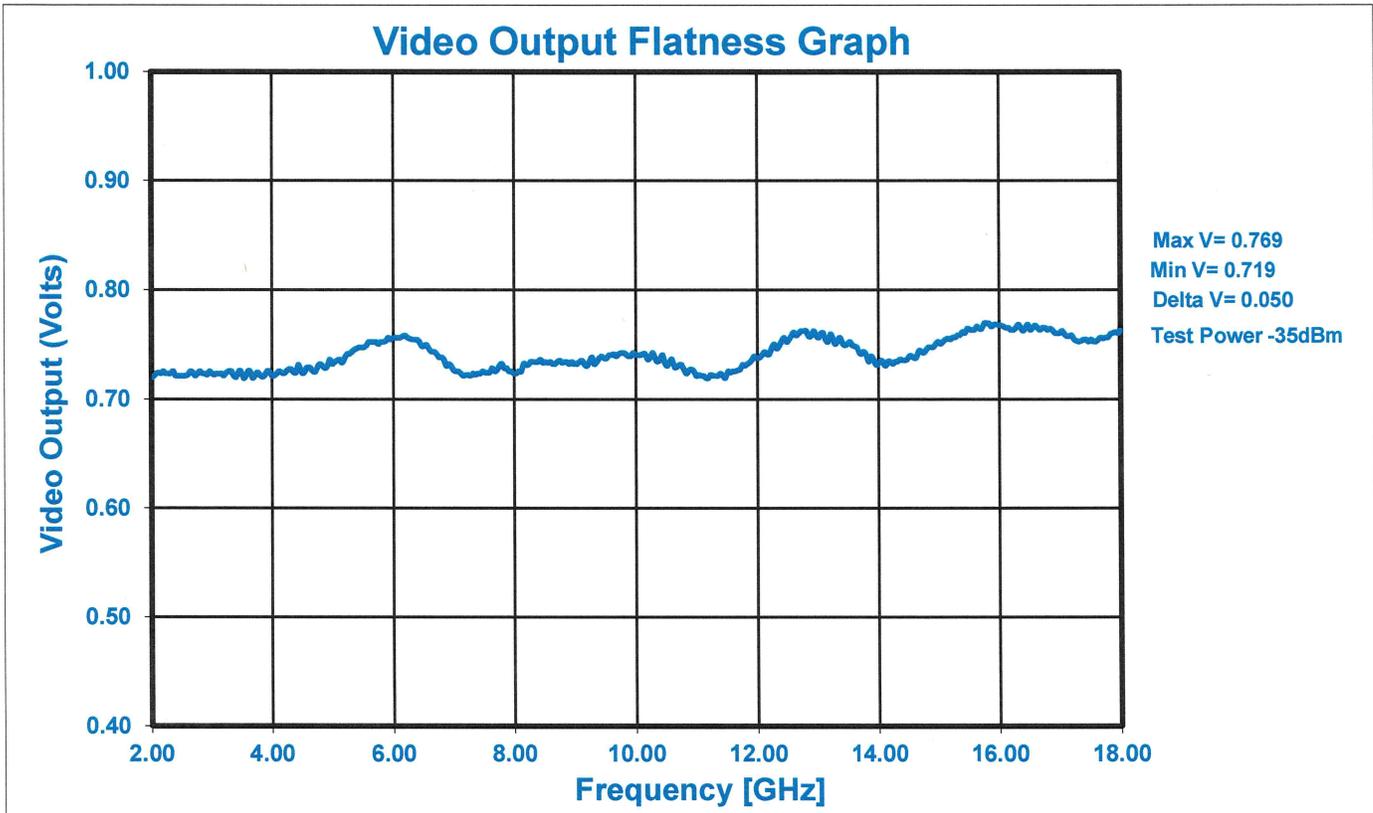
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 8 OF 10

MODEL: GMDA-D1004

S/N: PL51132

DATE: 2/26/2025

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



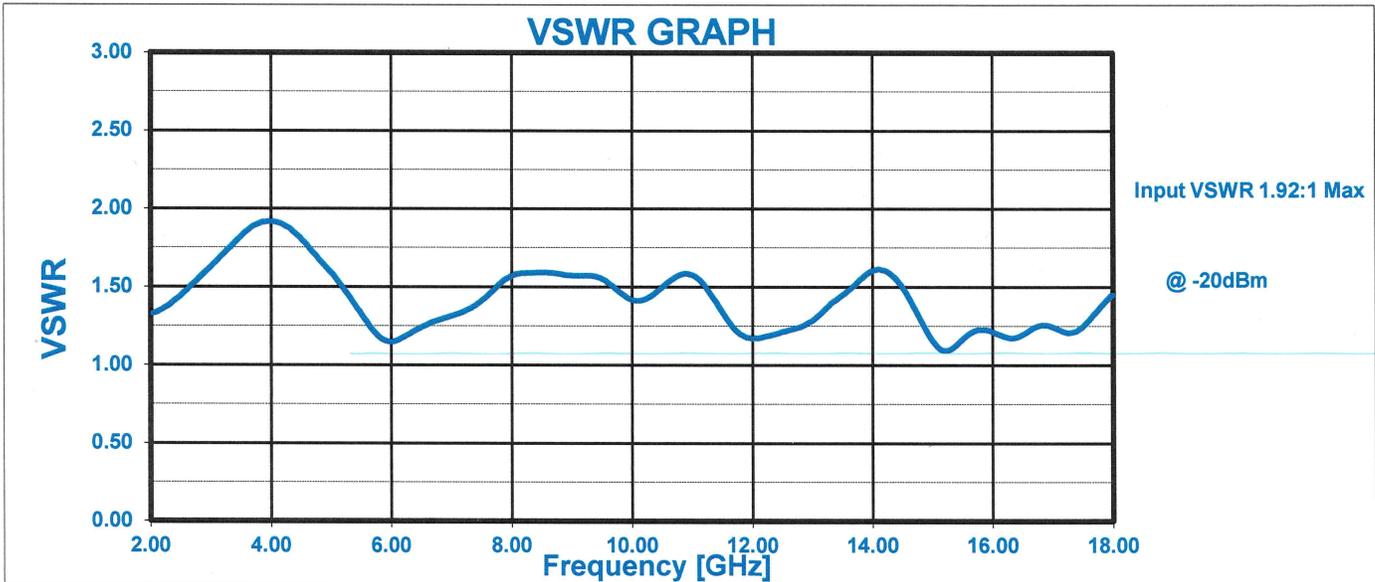
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 9 OF 10

MODEL: GMDA-D1004

S/N: PL51132

DATE: 2/26/2025

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



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