

MODEL: GMDA-D1004

S/N: PL49391

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 -65.2 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	25.3	0.58	X	
8	25.1	0.61	X	
12	25.6	0.96	X	
16	24.6	0.58	X	
18	24.4	0.80	X	

@ -54 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	25.1	0.71	X	
8	24.8	0.63	X	
12	25.2	0.85	X	
16	24.1	0.62	X	
18	24.2	0.88	X	

@ +85 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	26.1	0.50	X	
8	25.6	0.46	X	
12	26.1	0.76	X	
16	25.2	0.83	X	
18	24.9	0.61	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 = 48 mV (See attached plot)
Flatness = Vp-p - (System Flatness x 25)
Flatness = 27.25 mV Pass X Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5v Max
Measurement: 1.857v Pass X Fail _____

5. INPUT VSWR

Specification: 2.3:1 Max
Measurement @-20dBm input (See attached plot)
VSWR: 1.53:1 Pass X Fail _____

6. VIDEO RISE TIME

Specification: 30ns Max
Measurement: Freq = 10.0 GHz, RF Input -35dBm, PW = 1us, PRF 100KHz
Rise Time: 15.6ns 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: 0.125us 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: -43 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}QA3 K. Klamm

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: PL49391

TEST TEMP: +25C

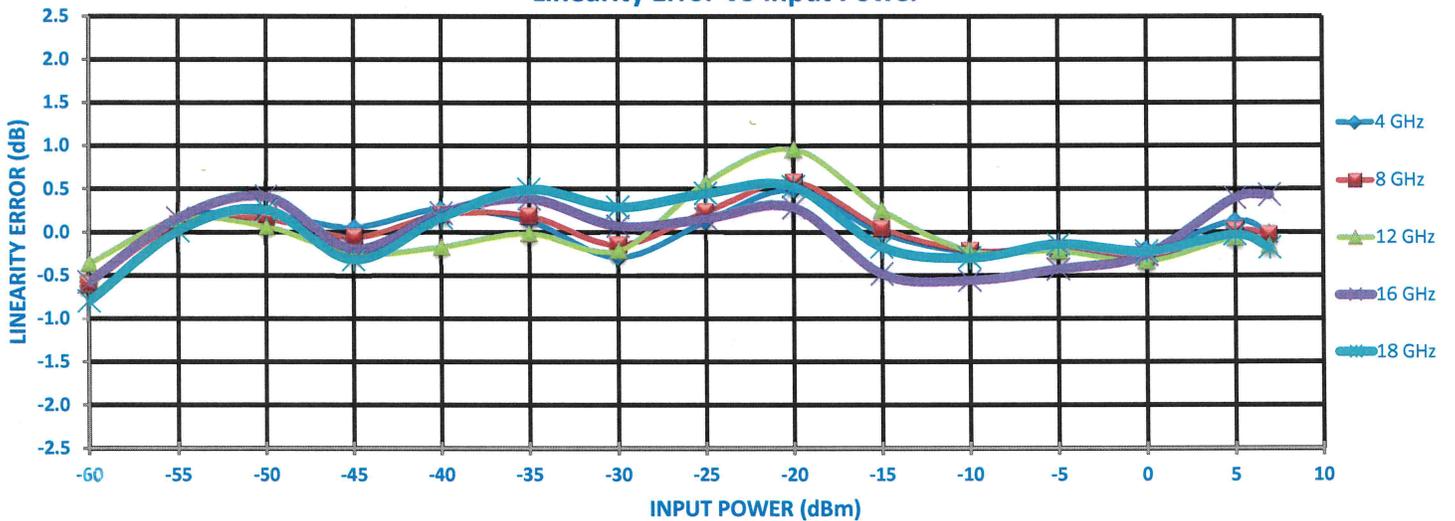


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Vos= -0.035

Frequency		-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	73 218 346 469 601 724 840 977 1113 1227 1348 1476 1602 1737 1784															Measured Value (mV)
	SLOPE (mV/dB)	-15 4 5 1 7 3 -7 3 12 0 -6 -5 -5 3 0															Error (mV)
		-0.58 0.14 0.20 0.05 0.27 0.12 -0.29 0.12 0.49 -0.01 -0.23 -0.18 -0.20 0.13 -0.01															LINEARITY ERROR (dB)
		X															
8 GHz	INTERCEPT (mV)	85 228 355 475 607 732 849 984 1118 1230 1349 1475 1598 1731 1780															Measured Value (mV)
	SLOPE (mV/dB)	-15 2 4 -1 5 5 -4 6 15 1 -5 -5 -7 0 -1															Error (mV)
		-0.61 0.10 0.16 -0.06 0.21 0.19 -0.15 0.24 0.58 0.04 -0.21 -0.19 -0.29 0.02 -0.03															LINEARITY ERROR (dB)
		X															
12 GHz	INTERCEPT (mV)	78 219 345 465 595 727 850 998 1136 1246 1362 1490 1615 1750 1799															Measured Value (mV)
	SLOPE (mV/dB)	-9 4 2 -6 -4 0 -5 15 25 6 -6 -6 -9 -2 -4															Error (mV)
		-0.36 0.15 0.07 -0.25 -0.17 -0.02 -0.21 0.57 0.96 0.25 -0.22 -0.22 -0.34 -0.06 -0.15															LINEARITY ERROR (dB)
		X															
16 GHz	INTERCEPT (mV)	112 253 382 490 623 750 865 990 1116 1220 1341 1467 1594 1733 1783															Measured Value (mV)
	SLOPE (mV/dB)	-14 4 10 -5 5 10 2 4 7 -12 -14 -11 -6 10 11															Error (mV)
		-0.58 0.16 0.41 -0.19 0.22 0.39 0.07 0.16 0.28 -0.48 -0.56 -0.43 -0.26 0.39 0.43															LINEARITY ERROR (dB)
		X															
18 GHz	INTERCEPT (mV)	108 250 378 486 620 750 867 993 1117 1222 1341 1467 1587 1714 1759															Measured Value (mV)
	SLOPE (mV/dB)	-20 0 6 -8 4 12 7 11 13 -4 -7 -3 -6 -1 -4															Error (mV)
		-0.80 0.01 0.26 -0.32 0.17 0.49 0.28 0.44 0.52 -0.18 -0.30 -0.14 -0.23 -0.03 -0.18															LINEARITY ERROR (dB)
		X															
Flatness +/-dB		0.8	0.7	0.7	0.5	0.6	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.6	0.7	0.8	

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: PL49391
 TEST TEMP: -54C



PLANAR MONOLITHICS INDUSTRIES
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Vos= -0.043

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)	1550
	SLOPE (mV/dB)	25.1

46	173	292	415	543	672	792	933	1066	1178	1294	1421	1548	1675	1719
1	2	-4	-6	-4	0	-5	10	18	5	-5	-3	-2	0	-6
0.02	0.09	-0.16	-0.26	-0.15	-0.01	-0.22	0.41	0.71	0.18	-0.19	-0.13	-0.06	0.01	-0.24

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

8 GHz	INTERCEPT (mV)	1553
	SLOPE (mV/dB)	24.8

63	189	307	426	558	686	807	946	1072	1183	1298	1424	1551	1677	1723
0	2	-5	-10	-2	2	-1	14	16	2	-7	-5	-2	0	-4
-0.01	0.07	-0.18	-0.39	-0.07	0.08	-0.05	0.55	0.63	0.10	-0.27	-0.20	-0.08	-0.01	-0.16

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

12 GHz	INTERCEPT (mV)	1573
	SLOPE (mV/dB)	25.2

64	189	307	424	555	688	814	964	1090	1201	1314	1442	1572	1696	1743
4	3	-5	-14	-9	-2	-2	21	21	6	-7	-5	-1	-3	-7
0.16	0.12	-0.20	-0.56	-0.37	-0.10	-0.10	0.85	0.85	0.25	-0.27	-0.20	-0.04	-0.12	-0.26

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

16 GHz	INTERCEPT (mV)	1550
	SLOPE (mV/dB)	24.1

100	226	349	455	589	717	834	959	1076	1180	1294	1420	1547	1676	1723
-5	0	3	-11	2	10	7	11	8	-9	-15	-9	-3	6	5
-0.22	0.01	0.12	-0.48	0.09	0.41	0.27	0.46	0.33	-0.35	-0.62	-0.38	-0.11	0.25	0.21

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

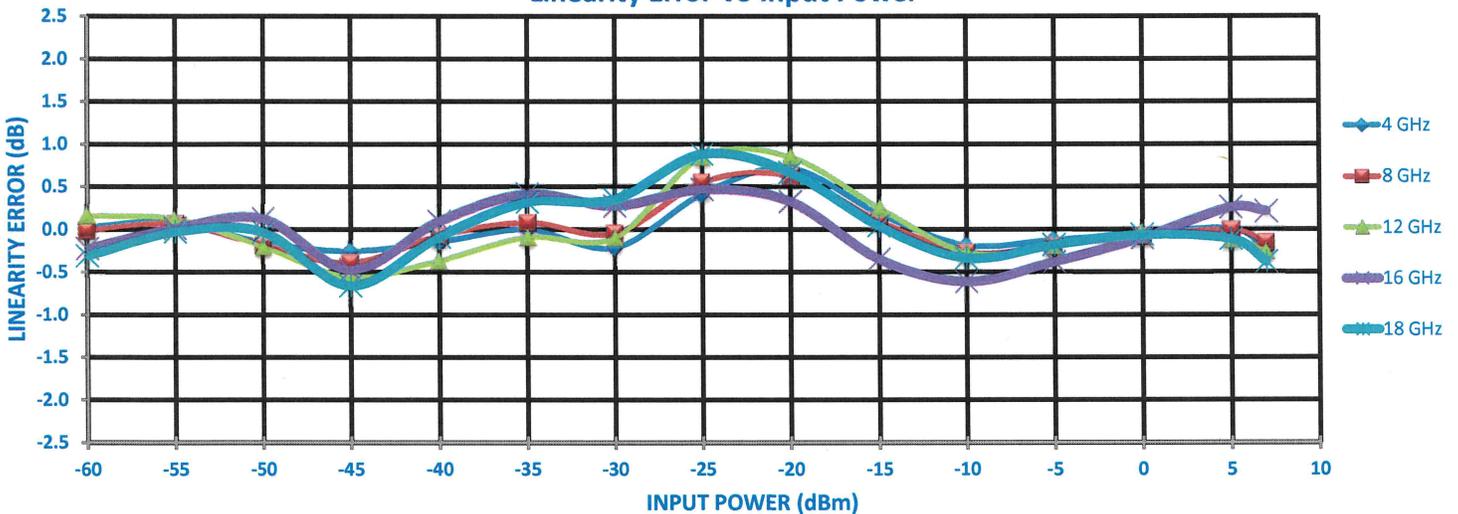
18 GHz	INTERCEPT (mV)	1555
	SLOPE (mV/dB)	24.2

93	221	342	448	583	714	836	970	1086	1192	1304	1429	1553	1673	1715
-8	-1	-1	-16	-2	8	8	21	16	1	-8	-4	-2	-3	-9
-0.31	-0.03	-0.04	-0.66	-0.09	0.31	0.35	0.88	0.66	0.04	-0.34	-0.18	-0.07	-0.12	-0.38

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

Flatness +/-dB	1.1	1.1	1.1	0.8	0.9	0.9	0.9	0.7	0.5	0.5	0.4	0.4	0.5	0.5	0.6
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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: PL49391
 TEST TEMP: +85C



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Vos= -0.002

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)	1654
	SLOPE (mV/dB)	26.1

93	224	351	478	612	744	863	1002	1146	1261	1385	1517	1649	1792	1844
3	3	0	-3	0	2	-9	-1	13	-2	-9	-7	-5	7	7
0.10	0.13	0.00	-0.13	0.01	0.08	-0.36	-0.02	0.50	-0.09	-0.33	-0.26	-0.20	0.29	0.28

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

8 GHz	INTERCEPT (mV)	1651
	SLOPE (mV/dB)	25.6

115	248	374	495	633	763	881	1017	1152	1264	1386	1517	1643	1784	1839
-3	2	0	-6	4	6	-4	4	12	-4	-10	-7	-8	5	9
-0.12	0.09	0.02	-0.25	0.15	0.24	-0.15	0.18	0.46	-0.16	-0.39	-0.26	-0.33	0.19	0.34

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

12 GHz	INTERCEPT (mV)	1667
	SLOPE (mV/dB)	26.1

108	238	363	484	620	757	880	1027	1166	1276	1396	1529	1658	1803	1857
4	4	-2	-11	-5	2	-6	11	20	-1	-11	-8	-9	5	7
0.16	0.14	-0.06	-0.42	-0.20	0.06	-0.22	0.42	0.76	-0.02	-0.42	-0.31	-0.36	0.20	0.27

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

16 GHz	INTERCEPT (mV)	1641
	SLOPE (mV/dB)	25.2

129	262	389	500	638	772	887	1014	1140	1245	1370	1502	1635	1782	1838
-2	5	6	-9	4	12	1	2	2	-19	-19	-13	-6	15	21
-0.08	0.20	0.25	-0.34	0.14	0.47	0.04	0.08	0.09	-0.74	-0.77	-0.53	-0.24	0.60	0.83

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

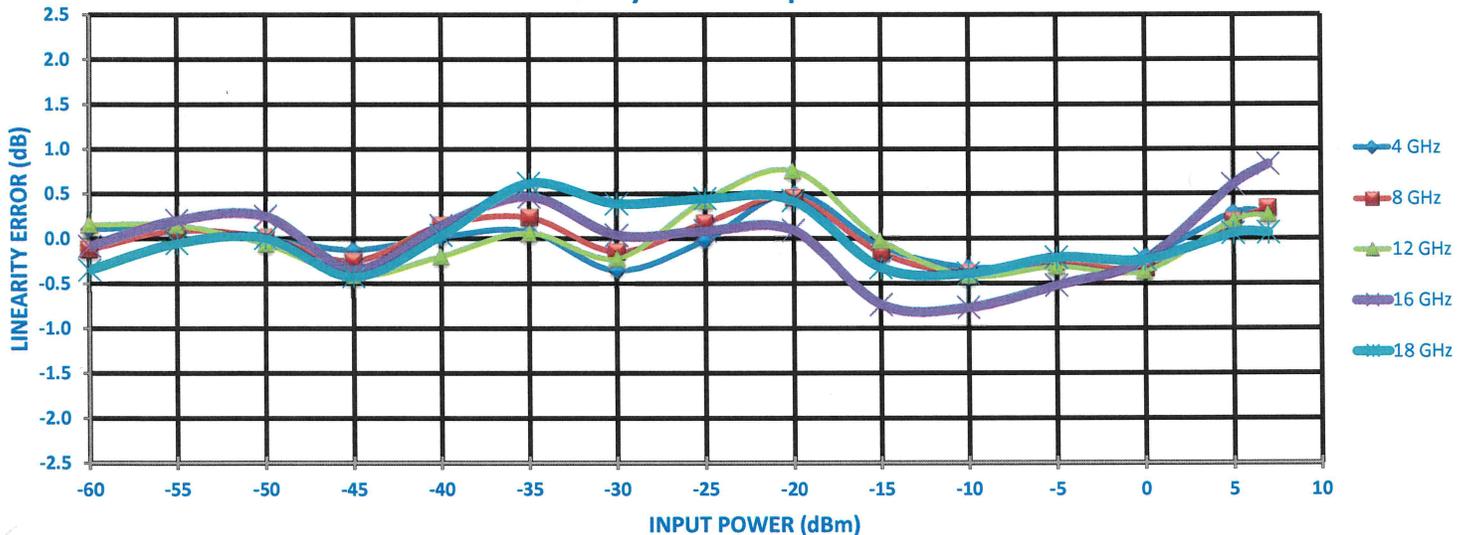
18 GHz	INTERCEPT (mV)	1615
	SLOPE (mV/dB)	24.9

111	243	369	483	619	758	877	1003	1127	1233	1356	1485	1609	1741	1791
-9	-1	0	-11	1	15	10	11	10	-8	-10	-5	-6	1	2
-0.35	-0.05	0.00	-0.42	0.03	0.61	0.39	0.44	0.42	-0.33	-0.39	-0.22	-0.24	0.06	0.06

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

Flatness +/-dB	0.7	0.8	0.8	0.4	0.5	0.6	0.5	0.5	0.8	0.9	0.8	0.9	1	1.2	1.3
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Linearity Error VS Input Power



SIZE
A

CAGE CODE
71A34

DWG. NO.
27600005

REVISION
B3

SCALE

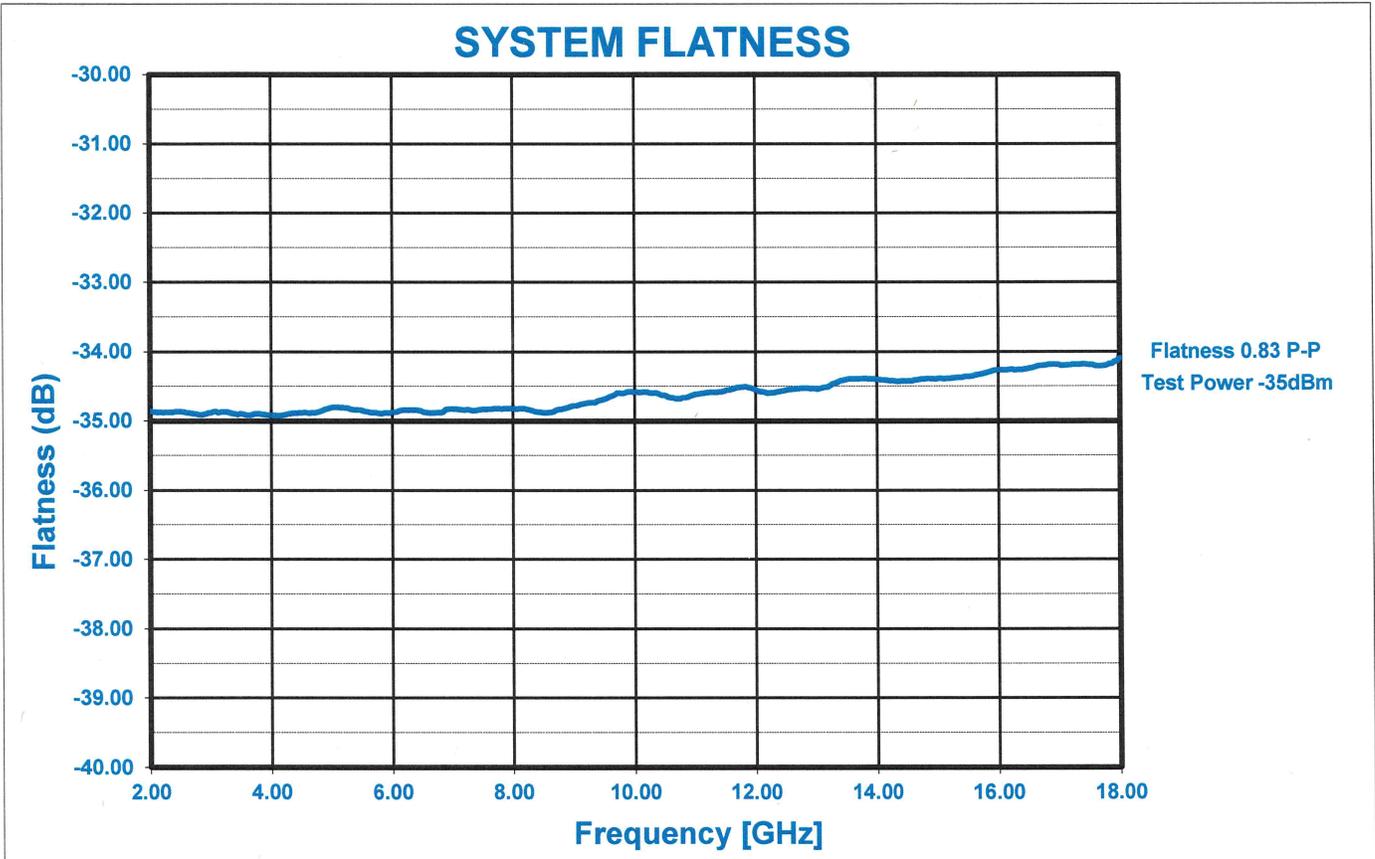
SHEET 7 OF 10

MODEL: GMDA-D1004

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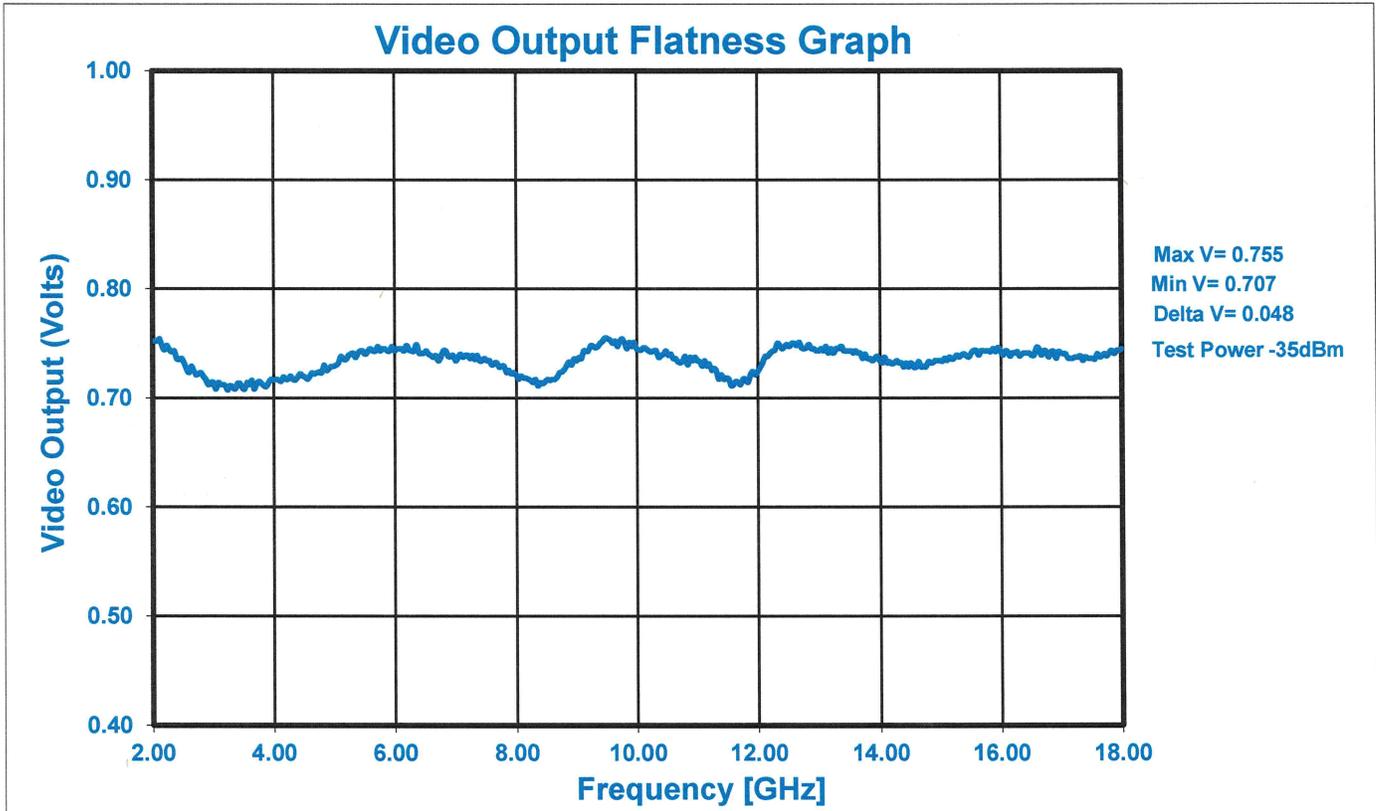
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 8 OF 10

MODEL: GMDA-D1004

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DATE: 2/26/2025

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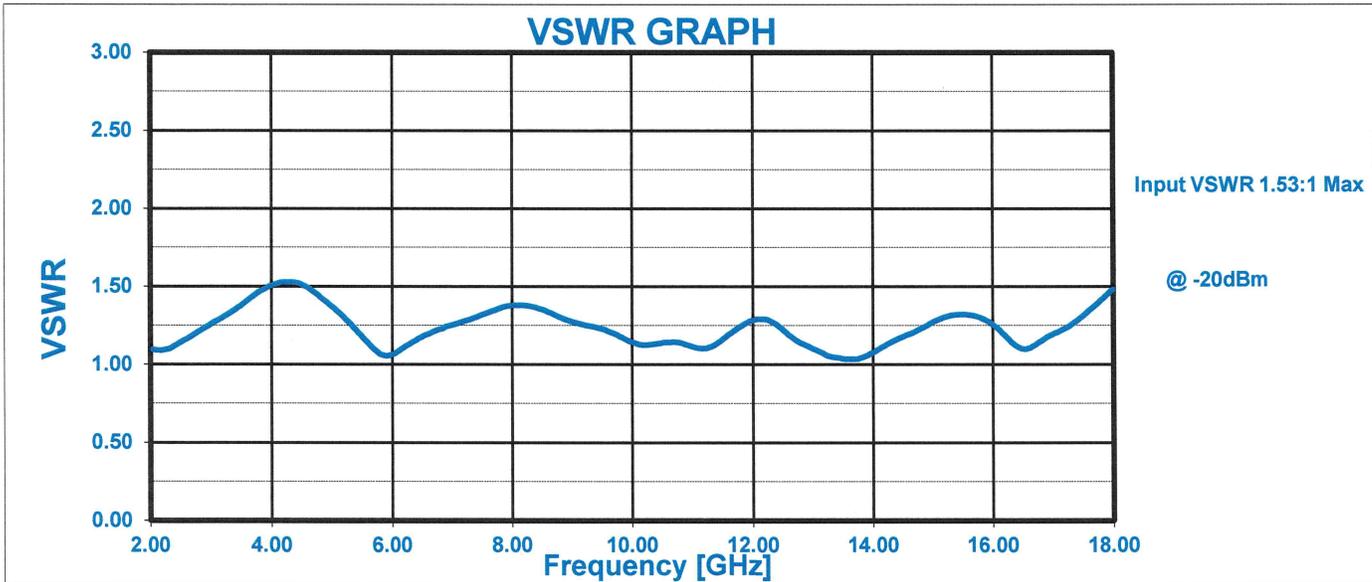
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 9 OF 10

MODEL: GMDA-D1004

S/N: PL49391

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	A	71A34	27600005	B3
	SCALE			SHEET 10 OF 10