

MODEL: GMDA-D1004

S/N: PL51135

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	25.5	0.41	X	
8	25.8	0.37	X	
12	25.7	0.29	X	
16	25.0	0.48	X	
18	24.7	0.42	X	

@ -54 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	24.8	0.77	X	
8	25.1	0.94	X	
12	24.9	0.83	X	
16	24.3	0.78	X	
18	24.2	0.83	X	

@ +85 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	26.3	0.73	X	
8	25.8	0.67	X	
12	25.3	1.13	X	
16	25.6	0.80	X	
18	25.6	1.11	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 = 44 mV (See attached plot)
Flatness = Vp-p - (System Flatness x 25)
Flatness = 23.25 mV Pass X Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5v Max
Measurement: 1.861v Pass X Fail _____

5. INPUT VSWR

Specification: 2.3:1 Max
Measurement @-20dBm input (See attached plot)
VSWR: 1.60:1 Pass X Fail _____

6. VIDEO RISE TIME

Specification: 30ns Max
Measurement: Freq = 10.0 GHz, RF Input -35dBm, PW = 1us, PRF 100KHz
Rise Time: 16.8ns 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: 0.109us 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: 26 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. Klamminger 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: PL51135

TEST TEMP: +25C

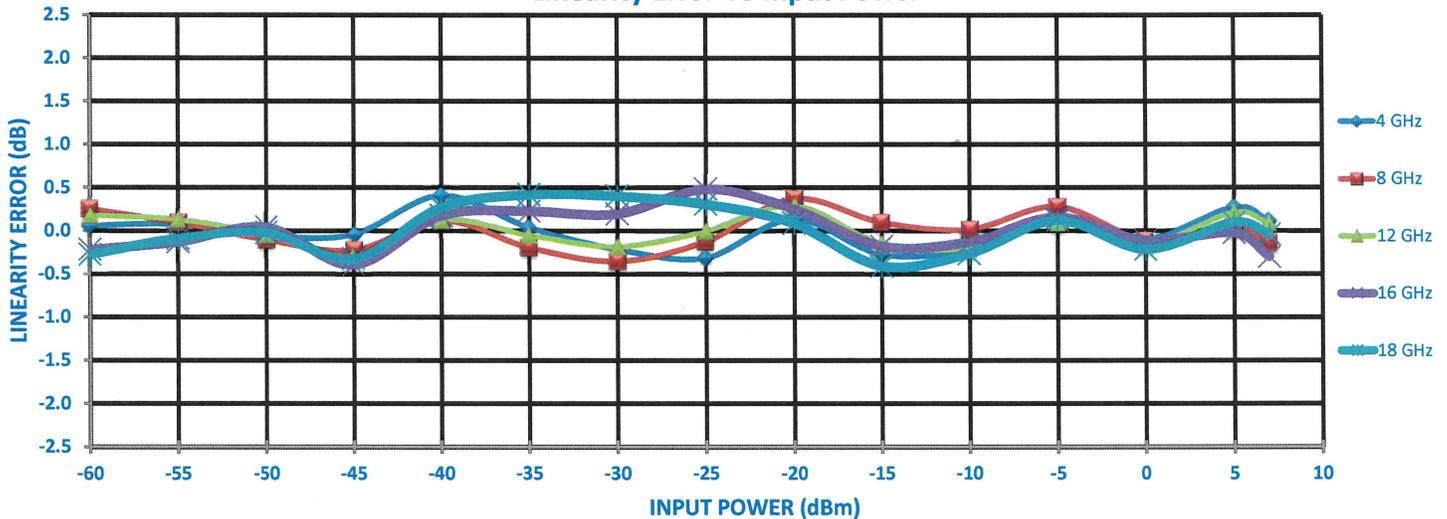


PLANAR MONOLITHICS INDUSTRIES
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 Phone: 916-542-1401 Fax: 301-662-1731
 Email: sales@pmi-rf.com | www.pmi-rf.com

Vos= 0.013

Frequency		-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	1640															Measured Value (mV)
	SLOPE (mV/dB)	25.50															Error (mV)
		111	239	363	491	630	748	869	994	1133	1250	1379	1516	1637	1774	1821	LINEARITY ERROR (dB)
		1	2	-2	-1	10	1	-6	-8	3	-7	-6	4	-3	7	3	
		0.05	0.07	-0.06	-0.04	0.41	0.03	-0.22	-0.32	0.13	-0.28	-0.22	0.15	-0.10	0.27	0.11	
		X															
8 GHz	INTERCEPT (mV)	1660															Measured Value (mV)
	SLOPE (mV/dB)	25.82															Error (mV)
		117	242	366	492	630	751	876	1011	1153	1275	1402	1538	1657	1790	1837	LINEARITY ERROR (dB)
		7	2	-3	-6	3	-5	-9	-3	10	2	0	7	-3	1	-4	
		0.25	0.09	-0.11	-0.23	0.12	-0.20	-0.36	-0.13	0.37	0.10	0.01	0.28	-0.11	0.04	-0.14	
		X															
12 GHz	INTERCEPT (mV)	1659															Measured Value (mV)
	SLOPE (mV/dB)	25.68															Error (mV)
		123	250	374	496	635	759	884	1017	1153	1270	1397	1533	1655	1793	1841	LINEARITY ERROR (dB)
		5	3	-1	-8	3	-1	-5	0	7	-4	-5	2	-4	5	2	
		0.18	0.13	-0.04	-0.29	0.12	-0.05	-0.18	-0.01	0.29	-0.15	-0.21	0.09	-0.16	0.21	0.08	
		X															
16 GHz	INTERCEPT (mV)	1648															Measured Value (mV)
	SLOPE (mV/dB)	24.96															Error (mV)
		145	272	401	515	654	780	904	1036	1155	1269	1395	1527	1645	1772	1815	LINEARITY ERROR (dB)
		-6	-3	1	-10	4	6	5	12	6	-5	-3	4	-3	-1	-8	
		-0.22	-0.13	0.04	-0.40	0.17	0.22	0.19	0.48	0.25	-0.18	-0.13	0.16	-0.12	-0.03	-0.30	
		X															
18 GHz	INTERCEPT (mV)	1613															Measured Value (mV)
	SLOPE (mV/dB)	24.67															Error (mV)
		126	254	379	495	633	760	883	1004	1122	1233	1360	1493	1608	1739	1785	LINEARITY ERROR (dB)
		-7	-2	-1	-8	7	10	10	7	2	-10	-7	3	-5	2	-1	
		-0.28	-0.09	-0.03	-0.33	0.27	0.41	0.40	0.30	0.08	-0.42	-0.27	0.12	-0.22	0.09	-0.05	
		X															
Fiatness +/-dB		0.7	0.6	0.7	0.5	0.5	0.6	0.7	0.8	0.6	0.8	0.8	0.9	0.9	1	1.1	

Linearity Error VS Input Power



SIZE
A

SCALE

CAGE CODE
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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: PL51135

TEST TEMP: -54C



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Vos= 0.026

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)	1571
	SLOPE (mV/dB)	24.8

102	209	320	444	579	702	821	948	1083	1197	1320	1453	1572	1700	1743
19	2	-11	-11	0	-1	-6	-3	8	-2	-3	6	1	5	-2
0.77	0.08	-0.45	-0.45	0.00	-0.05	-0.25	-0.13	0.32	-0.09	-0.13	0.23	0.03	0.19	-0.08

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

X

8 GHz	INTERCEPT (mV)	1596
	SLOPE (mV/dB)	25.1

117	221	332	453	589	713	837	973	1107	1226	1347	1477	1600	1722	1764
24	2	-12	-16	-5	-7	-8	3	12	5	1	6	4	0	-8
0.94	0.09	-0.48	-0.65	-0.22	-0.27	-0.32	0.11	0.46	0.21	0.04	0.23	0.14	0.01	-0.31

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

X

12 GHz	INTERCEPT (mV)	1600
	SLOPE (mV/dB)	24.9

127	233	346	463	601	725	849	982	1110	1225	1347	1478	1603	1728	1771
21	2	-9	-17	-3	-4	-4	4	8	-1	-4	3	3	4	-3
0.83	0.09	-0.37	-0.67	-0.13	-0.14	-0.16	0.18	0.32	-0.06	-0.16	0.11	0.13	0.15	-0.12

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

X

16 GHz	INTERCEPT (mV)	1595
	SLOPE (mV/dB)	24.3

150	257	376	485	625	749	871	1003	1118	1231	1352	1478	1598	1714	1753
10	-4	-7	-19	0	3	3	14	8	0	-1	4	3	-2	-12
0.41	-0.18	-0.27	-0.78	0.00	0.11	0.14	0.58	0.33	-0.02	-0.03	0.17	0.12	-0.10	-0.49

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

X

18 GHz	INTERCEPT (mV)	1577
	SLOPE (mV/dB)	24.2

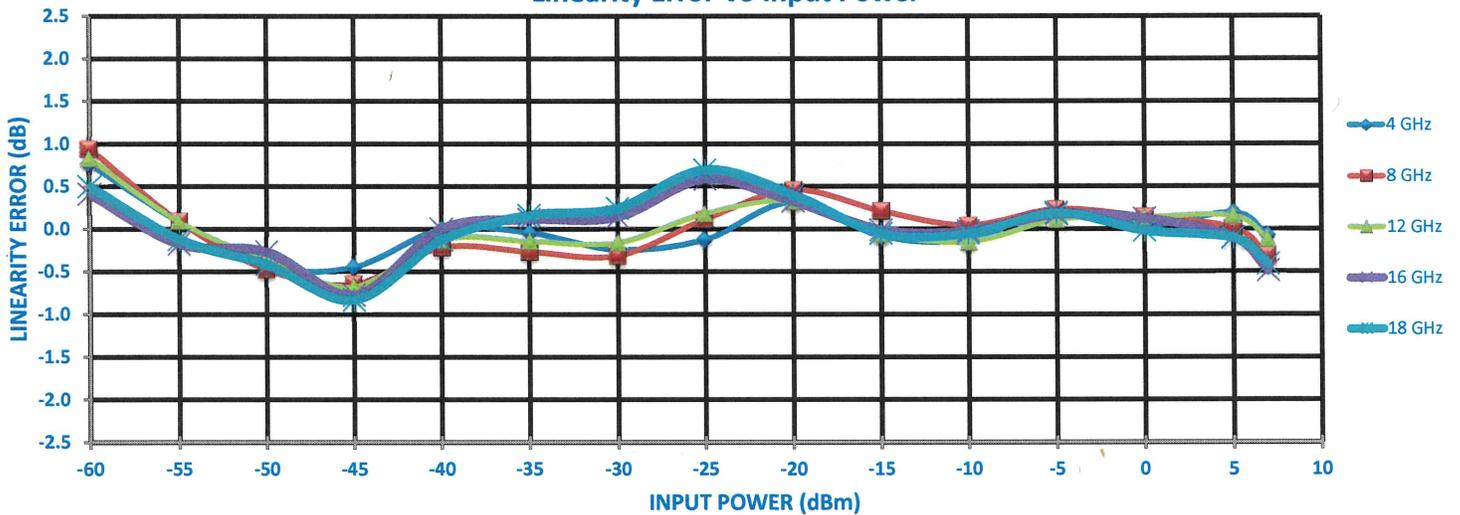
136	242	356	467	605	733	856	988	1102	1212	1333	1460	1576	1695	1736
12	-3	-10	-20	-3	4	6	17	10	-1	-1	5	-1	-3	-10
0.50	-0.13	-0.42	-0.83	-0.13	0.16	0.24	0.69	0.40	-0.06	-0.06	0.19	-0.02	-0.11	-0.41

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

X

Flatness +/-dB	0.9	0.9	1.1	0.8	0.9	0.9	1	1.1	0.7	0.7	0.6	0.5	0.6	0.6	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: PL51135

TEST TEMP: +85C



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Vos= -0.006

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)	1641
	SLOPE (mV/dB)	26.3

76	207	324	453	579	720	845	1004	1114	1241	1371	1510	1639	1780	1832
10	10	-4	-7	-12	-2	-9	19	-2	-7	-8	0	-2	7	7
0.39	0.38	-0.17	-0.25	-0.46	-0.09	-0.33	0.73	-0.08	-0.25	-0.30	-0.01	-0.09	0.27	0.25

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

8 GHz	INTERCEPT (mV)	1665
	SLOPE (mV/dB)	25.8

121	260	371	499	629	761	893	1038	1143	1268	1400	1528	1658	1804	1861
3	13	-5	-6	-5	-2	1	17	-7	-11	-8	-9	-7	10	15
0.11	0.50	-0.20	-0.23	-0.19	-0.07	0.05	0.67	-0.26	-0.41	-0.29	-0.33	-0.29	0.37	0.58

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

12 GHz	INTERCEPT (mV)	1649
	SLOPE (mV/dB)	25.3

135	275	388	509	641	767	890	1025	1125	1247	1377	1513	1645	1796	1855
2	16	2	-3	3	2	-1	7	-19	-23	-20	-10	-4	20	29
0.08	0.62	0.09	-0.12	0.10	0.09	-0.05	0.29	-0.75	-0.92	-0.78	-0.40	-0.18	0.80	1.13

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

16 GHz	INTERCEPT (mV)	1663
	SLOPE (mV/dB)	25.6

131	269	381	500	630	767	897	1032	1138	1259	1395	1526	1661	1805	1863
6	16	0	-9	-8	1	3	10	-12	-19	-12	-9	-2	14	21
0.24	0.62	-0.01	-0.36	-0.29	0.05	0.12	0.39	-0.48	-0.76	-0.45	-0.34	-0.08	0.54	0.80

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

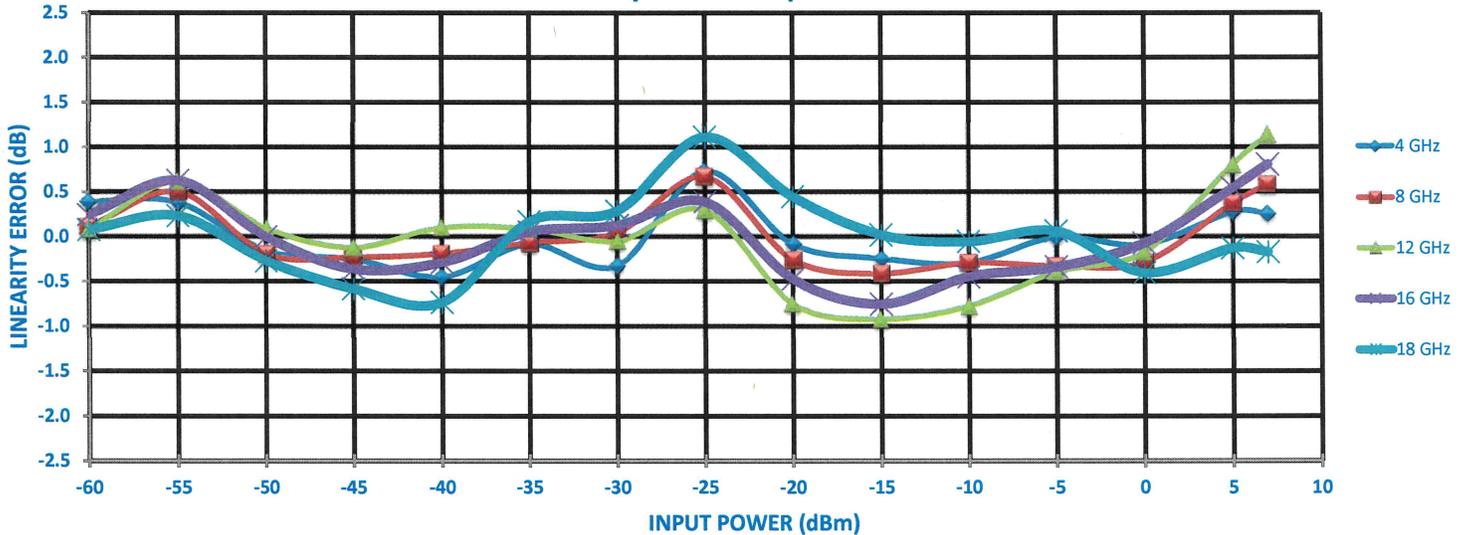
18 GHz	INTERCEPT (mV)	1619
	SLOPE (mV/dB)	25.6

86	218	333	453	577	728	859	1008	1119	1236	1362	1493	1609	1744	1794
2	6	-7	-15	-19	4	7	28	11	0	-2	2	-10	-3	-5
0.07	0.23	-0.27	-0.58	-0.74	0.16	0.28	1.11	0.44	0.02	-0.06	0.06	-0.41	-0.13	-0.18

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

Flatness +/-dB	1.1	1.3	1.2	1.1	1.2	0.9	1	0.7	0.6	0.6	0.7	0.7	1	1.2	1.3
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Linearity Error VS Input Power



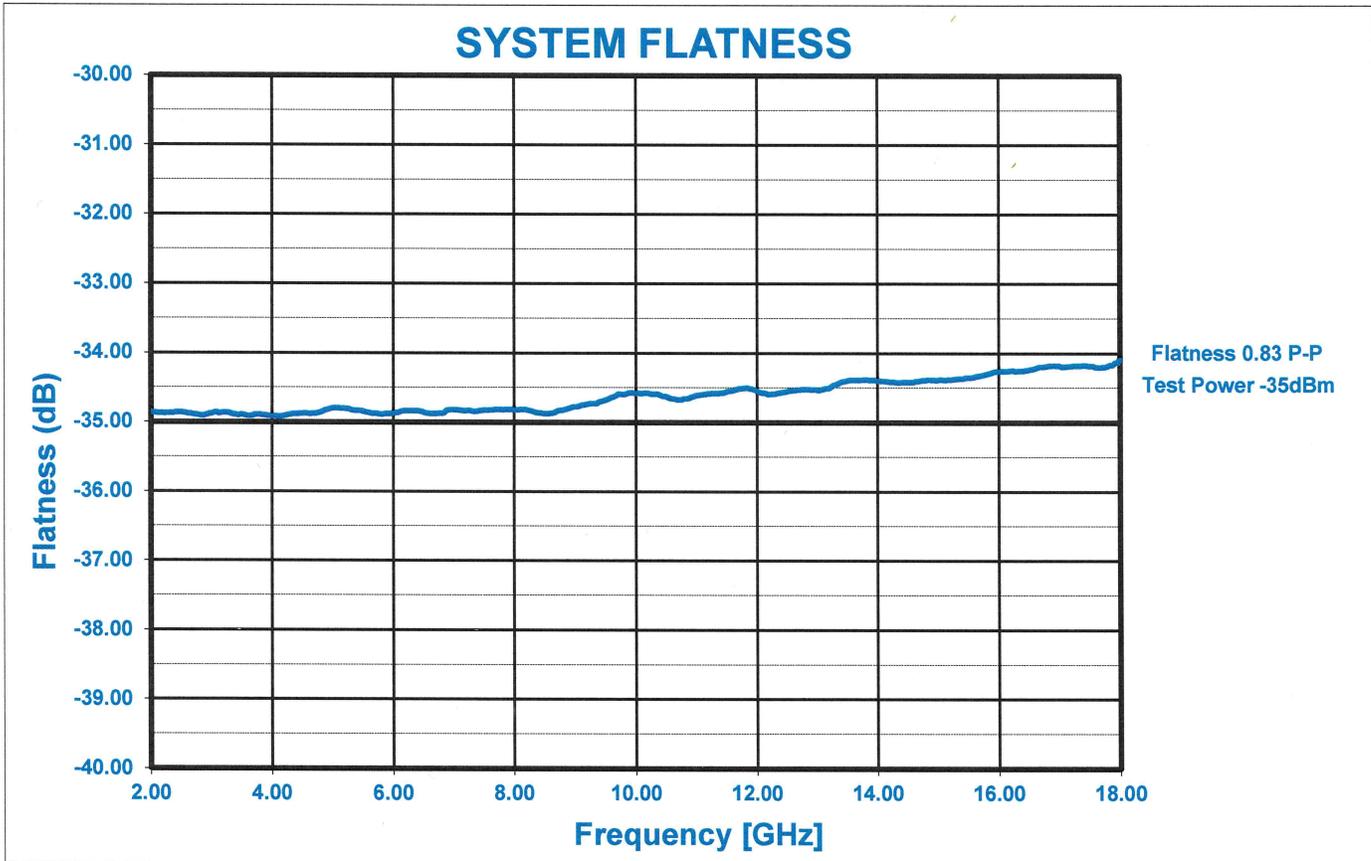
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 7 OF 10

MODEL: GMDA-D1004

S/N: PL51135

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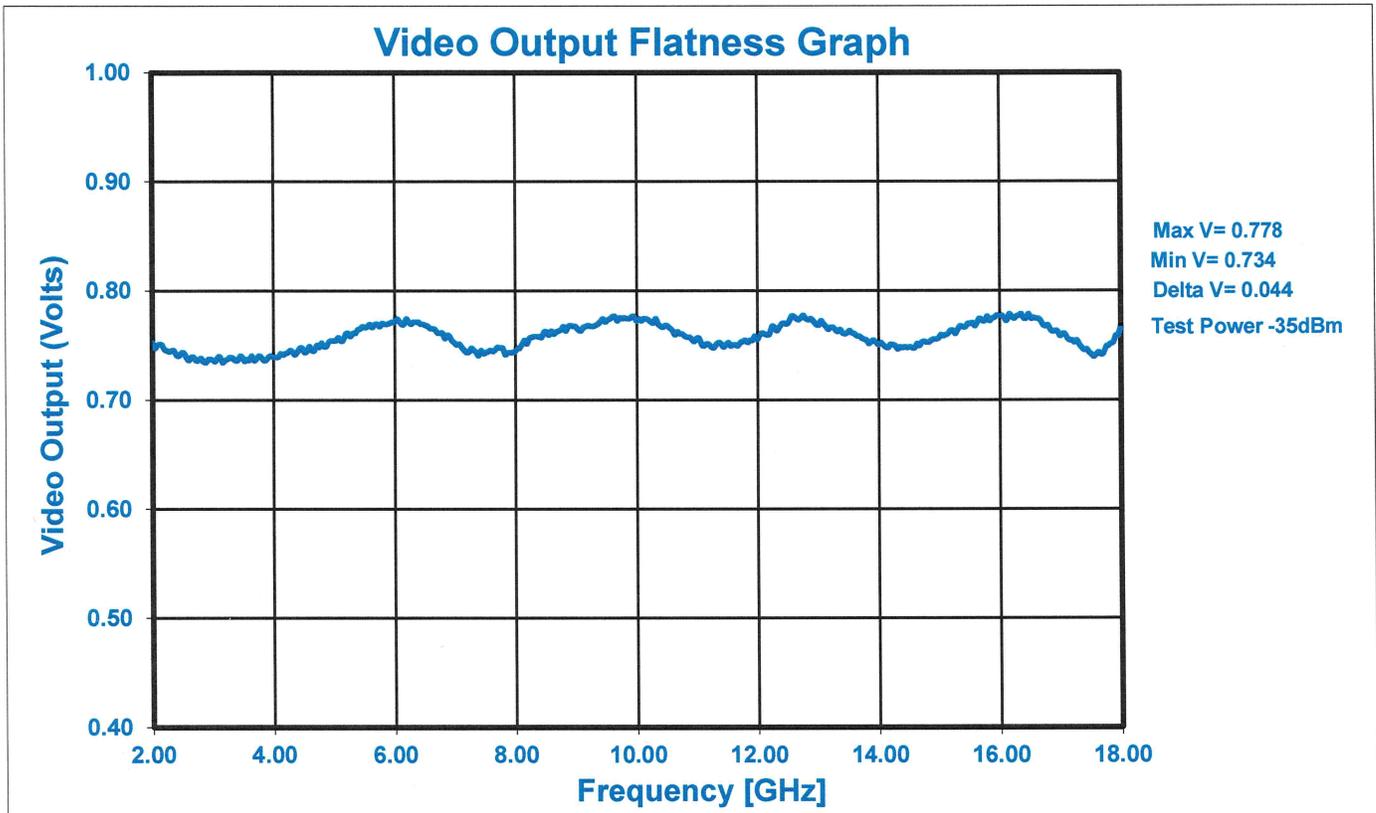
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 8 OF 10

MODEL: GMDA-D1004

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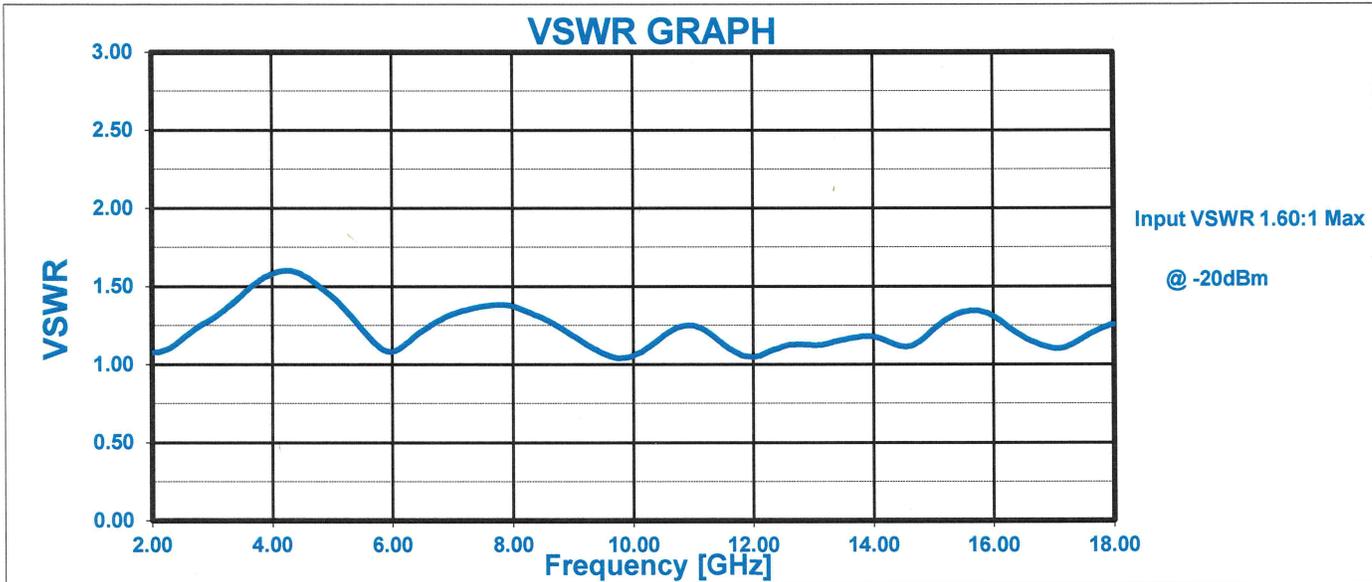
	SIZE	CAGE CODE	DWG. NO.	REVISION
	A	71A34	27600005	B3
	SCALE			SHEET 9 OF 10

MODEL: GMDA-D1004

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