MODEL: GMDA-D1004 **S/N: PL26304** **DATE: 9/12/2019**

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 -65.8 dBm Pass ___X___ Fail _____

2. LOG SLOPE AND LINEARITY

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	0.39	X	
8	25.7	0.58	X	
12	25.9	0.60	X	
16	25.5	0.44	X	
18	25.3	0.40	X	

@ -54 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	24.8	0.45	X	
8	25.4	0.60	X	
12	25.6	0.91	X	
16	25.5	1.16	X	
18	24.9	0.57	X	

@ +85 deg C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
4	25.4	0.60	X	
8	25.7	0.81	X	
12	25.7	0.66	X	
16	25.3	0.68	X	
18	25.7	0.99	X	

MODEL: GMDA-D1004 **S/N: PL26304** **DATE: 9/12/2019**

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3. FLATNESS

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

System Flatness = 0.29 dB (See attached plot)
Vp-p = 53 mV (See attached plot)
Flatness = Vp-p – (System Flatness x 25)
Flatness = 45.75 mV Pass ___X___ Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5v Max
Measurement: 1.783v Pass ___X___ Fail _____

5. INPUT VSWR

Specification: 2.3:1 Max
Measurement @-20dBm input (See attached plot)
VSWR: 1.78:1 Pass ___X___ Fail _____

6. VIDEO RISE TIME

Specification: 30ns Max
Measurement: Freq = 10.0 GHz, RF Input –35dBm, PW = 1us, PRF 100KHz

Rise Time: 26.1ns Pass ___X___ Fail _____

7. LEADING AND TRAILINGE 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: 0.139us Pass ___X___ Fail _____

MODEL: GMDA-D1004 **S/N: PL26304** **DATE: 9/12/2019**

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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: 19 mV Pass X Fail _____

12. DC POWER

Specification: +12V to +15.5V, 400mA Max

-12V to -15.5V, 165mA Max

Measurement: +15.5V @ 304 mA Pass X Fail _____

-15.5V @ 68 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: J.Emperador Date: 9/12/2019

QA: [signature] Date: 9/19/19

	SIZE	CAGE CODE	DWG. NO.	REVISION
PMI	A	71A34	ETD000005	B2
	SCALE			SHEET 4 OF 10

LOG TRANSFER WITH FREQUENCY
MODEL: GMDA-D1004
TESTED BY: J.Emperador
TEST DATE: 9/12/2019
SERIAL NO: PL26304
TEST TEMP: +25C

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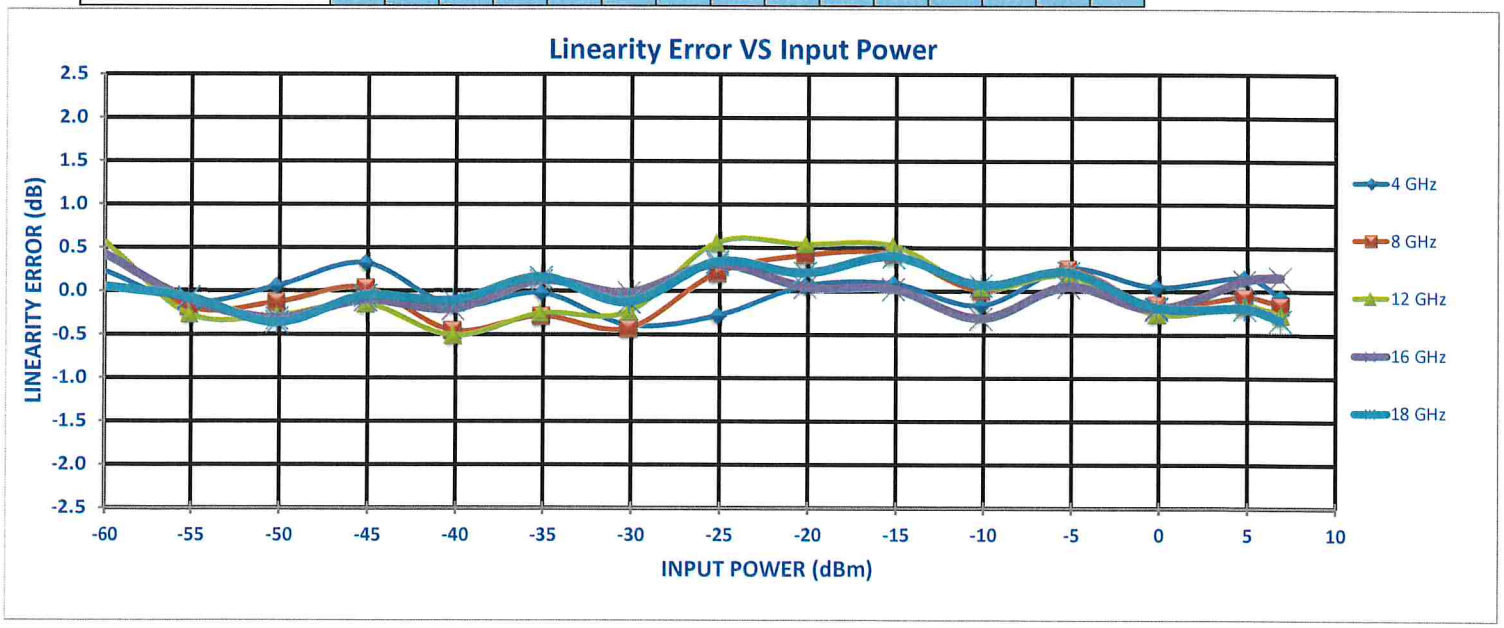
El Dorado Hills, CA 95762
Phone: 916-542-1401 Fax: 301-662-1731
Email: sales@pmi-rf.com | www.pmi-rf.com

Vos= -0.013

Frequency			-60.2	-55.2	-50.2	-45.2	-40.2	-35.2	-30.2	-25.2	-20.2	-15.2	-10.2	-5.18	-0.18	4.82	6.82	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	1570	56	173	304	437	551	681	798	927	1062	1189	1309	1446	1567	1696	1741	Measured Value (mV)
	SLOPE (mV/dB)	25.3	6	-3	1	8	-4	-1	-10	-7	1	2	-4	7	1	4	-2	Error (mV)
			0.24	-0.13	0.06	0.32	-0.17	-0.02	-0.39	-0.28	0.06	0.09	-0.16	0.26	0.05	0.15	-0.06	LINEARITY ERROR (dB)
8 GHz	INTERCEPT (mV)	1582	48	157	287	420	536	669	794	939	1073	1202	1320	1455	1573	1704	1753	Measured Value (mV)
	SLOPE (mV/dB)	25.7	15	-5	-3	1	-12	-7	-11	5	11	11	0	7	-4	-2	-4	Error (mV)
			0.58	-0.19	-0.14	0.03	-0.46	-0.29	-0.43	0.20	0.41	0.42	0.01	0.25	-0.16	-0.07	-0.17	LINEARITY ERROR (dB)
12 GHz	INTERCEPT (mV)	1590	47	154	283	416	536	672	802	952	1081	1210	1327	1460	1578	1710	1759	Measured Value (mV)
	SLOPE (mV/dB)	25.9	16	-7	-7	-4	-13	-7	-6	14	14	13	1	5	-7	-4	-7	Error (mV)
			0.60	-0.27	-0.28	-0.15	-0.51	-0.26	-0.24	0.55	0.54	0.52	0.04	0.18	-0.27	-0.17	-0.28	LINEARITY ERROR (dB)
16 GHz	INTERCEPT (mV)	1580	55	169	291	424	549	685	809	945	1066	1193	1312	1449	1570	1706	1758	Measured Value (mV)
	SLOPE (mV/dB)	25.5	11	-2	-8	-3	-5	3	-1	8	1	1	-8	1	-5	3	4	Error (mV)
			0.44	-0.10	-0.32	-0.11	-0.21	0.12	-0.02	0.31	0.05	0.02	-0.31	0.05	-0.21	0.12	0.16	LINEARITY ERROR (dB)
18 GHz	INTERCEPT (mV)	1583	65	188	307	441	566	699	818	956	1079	1210	1328	1458	1574	1700	1747	Measured Value (mV)
	SLOPE (mV/dB)	25.3	1	-2	-9	-1	-3	4	-3	9	5	10	2	6	-5	-5	-9	Error (mV)
			0.05	-0.07	-0.36	-0.06	-0.11	0.16	-0.13	0.34	0.21	0.40	0.07	0.22	-0.19	-0.20	-0.34	LINEARITY ERROR (dB)
	Flatness +/-dB		0.3	0.7	0.5	0.5	0.6	0.6	0.5	0.6	0.4	0.4	0.4	0.3	0.2	0.3	0.3	



	SIZE	CAGE CODE	DWG. NO.	REVISION
PMI	A	71A34	ETD000005	B2
	SCALE			SHEET 5 OF 10

LOG TRANSFER WITH FREQUENCY
MODEL: GMDA-D1004
TESTED BY: J.Emperador
TEST DATE: 9/12/2019
SERIAL NO: PL26304
TEST TEMP: -54C

PLANAR MONOLITHICS INDUSTRIES
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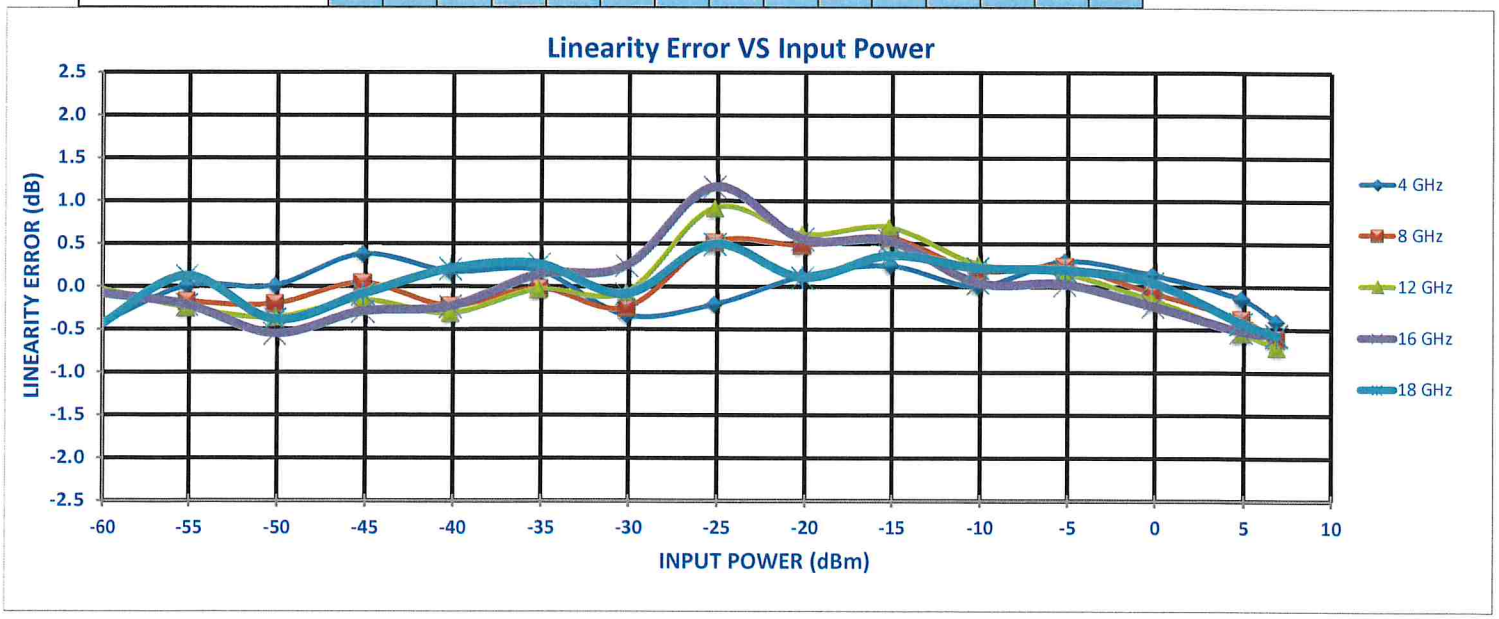
Vos= 0.011

Frequency			-60.2	-55.2	-50.2	-45.2	-40.2	-35.2	-30.2	-25.2	-20.2	-15.2	-10.2	-5.18	-0.18	4.82	6.82	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	1599	97	232	356	489	608	732	843	970	1102	1229	1347	1478	1598	1715	1758	Measured Value (mV)
	SLOPE (mV/dB)	24.8	-11	0	0	9	4	5	-8	-5	3	6	0	7	3	-4	-10	Error (mV)
			-0.45	0.00	0.01	0.38	0.18	0.18	-0.34	-0.21	0.12	0.24	0.01	0.29	0.14	-0.14	-0.41	LINEARITY ERROR (dB)
8 GHz	INTERCEPT (mV)	1612	85	209	335	468	588	720	841	987	1113	1242	1359	1487	1606	1725	1770	Measured Value (mV)
	SLOPE (mV/dB)	25.4	-2	-5	-5	1	-6	-1	-6	13	12	14	5	6	-2	-10	-15	Error (mV)
			-0.07	-0.18	-0.21	0.04	-0.23	-0.02	-0.25	0.51	0.48	0.57	0.18	0.23	-0.07	-0.38	-0.60	LINEARITY ERROR (dB)
12 GHz	INTERCEPT (mV)	1623	83	205	330	463	587	722	849	1002	1122	1252	1369	1494	1614	1732	1779	Measured Value (mV)
	SLOPE (mV/dB)	25.6	-1	-6	-9	-4	-8	-1	-2	23	15	18	7	4	-4	-14	-18	Error (mV)
			-0.02	-0.25	-0.36	-0.16	-0.31	-0.04	-0.07	0.91	0.61	0.69	0.26	0.15	-0.16	-0.54	-0.71	LINEARITY ERROR (dB)
16 GHz	INTERCEPT (mV)	1621	85	209	328	462	591	728	858	1009	1121	1248	1363	1490	1611	1731	1781	Measured Value (mV)
	SLOPE (mV/dB)	25.5	-2	-6	-14	-8	-6	4	6	30	14	14	1	1	-6	-13	-14	Error (mV)
			-0.08	-0.22	-0.55	-0.29	-0.24	0.14	0.24	1.16	0.55	0.53	0.04	0.03	-0.23	-0.52	-0.56	LINEARITY ERROR (dB)
18 GHz	INTERCEPT (mV)	1623	112	251	363	495	627	753	869	1008	1123	1254	1375	1499	1620	1733	1779	Measured Value (mV)
	SLOPE (mV/dB)	24.9	-11	3	-10	-2	5	7	-2	12	3	9	5	5	1	-10	-14	Error (mV)
			-0.46	0.12	-0.39	-0.09	0.21	0.26	-0.08	0.49	0.11	0.36	0.22	0.19	0.05	-0.42	-0.57	LINEARITY ERROR (dB)
	Flatness +/-dB		0.6	0.9	0.7	0.6	0.8	0.6	0.5	0.8	0.4	0.5	0.5	0.4	0.4	0.3	0.4	



	SIZE	CAGE CODE	DWG. NO.	REVISION
PMI	A	71A34	ETD000005	B2
	SCALE			SHEET 6 OF 10

LOG TRANSFER WITH FREQUENCY
MODEL: GMDA-D1004
TESTED BY: J.Emperador
TEST DATE: 9/12/2019
SERIAL NO: PL26304
TEST TEMP: +85C

PLANAR MONOLITHICS INDUSTRIES
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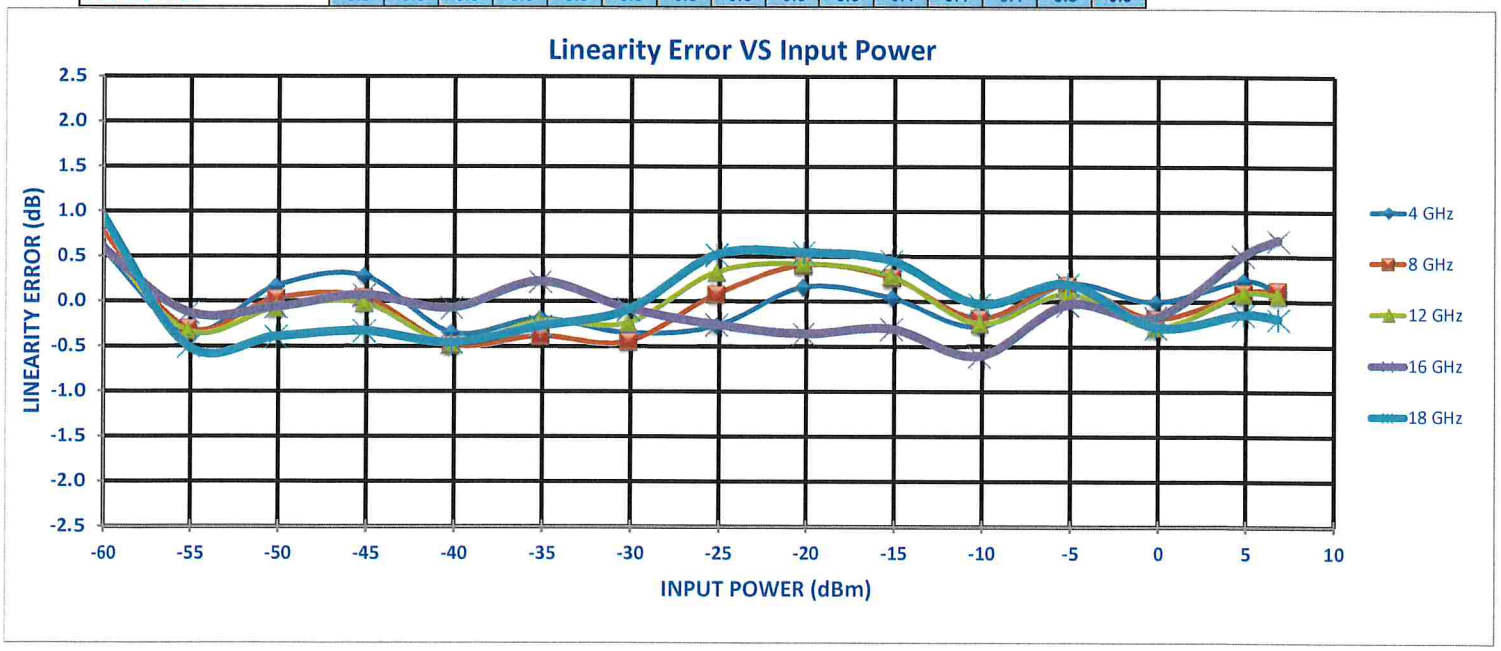
Vos= 0.019

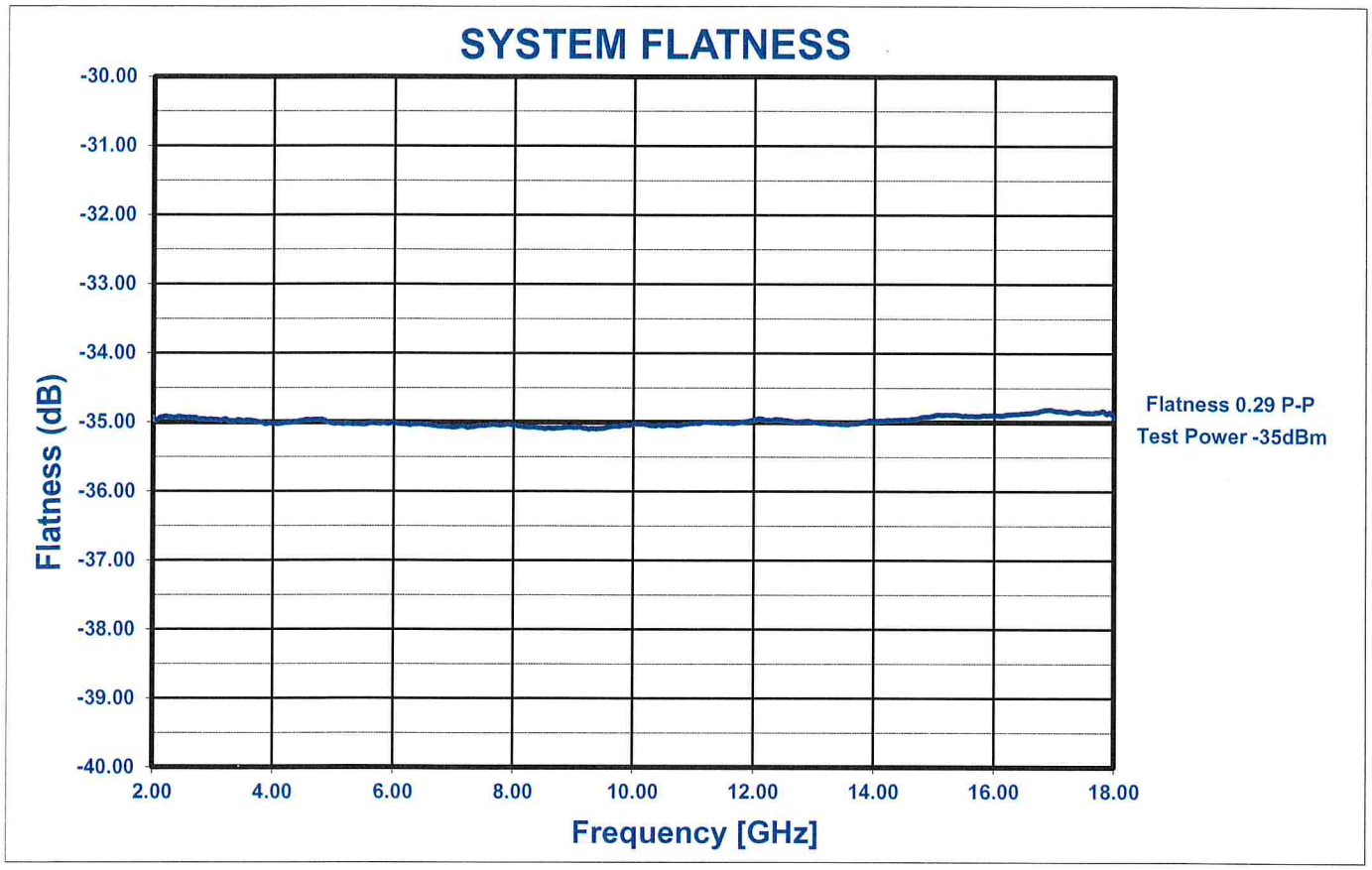
Frequency			-60.2	-55.2	-50.2	-45.2	-40.2	-35.2	-30.2	-25.2	-20.2	-15.2	-10.2	-5.18	-0.18	4.82	6.82	RF Input Power (dBm)
4 GHz	INTERCEPT (mV)	1589	75	178	318	448	559	690	813	942	1080	1204	1323	1462	1584	1717	1765	Measured Value (mV)
	SLOPE (mV/dB)	25.4	15	-9	4	7	-9	-5	-9	-7	4	1	-7	5	0	6	3	Error (mV)
			0.60	-0.34	0.17	0.28	-0.35	-0.19	-0.35	-0.27	0.16	0.04	-0.28	0.19	0.00	0.23	0.12	LINEARITY ERROR (dB)
8 GHz	INTERCEPT (mV)	1600	73	173	310	439	554	685	812	954	1091	1216	1333	1471	1590	1726	1778	Measured Value (mV)
	SLOPE (mV/dB)	25.7	21	-8	1	1	-12	-10	-12	2	10	7	-5	5	-5	2	3	Error (mV)
			0.81	-0.30	0.03	0.04	-0.48	-0.39	-0.45	0.07	0.40	0.26	-0.19	0.18	-0.19	0.10	0.12	LINEARITY ERROR (dB)
12 GHz	INTERCEPT (mV)	1606	76	179	314	444	561	696	824	967	1098	1223	1338	1475	1594	1732	1783	Measured Value (mV)
	SLOPE (mV/dB)	25.7	17	-9	-2	-1	-12	-6	-6	8	11	7	-6	2	-7	2	2	Error (mV)
			0.66	-0.33	-0.08	-0.02	-0.47	-0.22	-0.24	0.32	0.42	0.28	-0.25	0.08	-0.29	0.08	0.06	LINEARITY ERROR (dB)
16 GHz	INTERCEPT (mV)	1588	80	188	316	446	569	703	822	944	1068	1196	1315	1456	1579	1723	1778	Measured Value (mV)
	SLOPE (mV/dB)	25.3	15	-3	-2	2	-2	6	-2	-7	-9	-8	-15	-1	-4	13	17	Error (mV)
			0.61	-0.12	-0.07	0.07	-0.07	0.22	-0.08	-0.26	-0.36	-0.31	-0.61	-0.04	-0.18	0.51	0.68	LINEARITY ERROR (dB)
18 GHz	INTERCEPT (mV)	1586	67	157	288	418	543	676	809	953	1082	1208	1324	1458	1574	1706	1756	Measured Value (mV)
	SLOPE (mV/dB)	25.7	25	-13	-10	-8	-12	-7	-2	13	14	12	-1	5	-7	-4	-5	Error (mV)
			0.99	-0.50	-0.40	-0.33	-0.46	-0.28	-0.09	0.52	0.54	0.45	-0.03	0.19	-0.29	-0.14	-0.19	LINEARITY ERROR (dB)
	Flatness +/-dB		0.3	0.6	0.6	0.6	0.5	0.5	0.3	0.5	0.6	0.5	0.4	0.4	0.4	0.5	0.5	



	SIZE	CAGE CODE	DWG. NO.	REVISION
PMI	A	71A34	ETD000005	B2
	SCALE			SHEET 7 OF 10

MODEL: GMDA-D1004 **S/N: PL26304** **DATE: 9/12/2019**

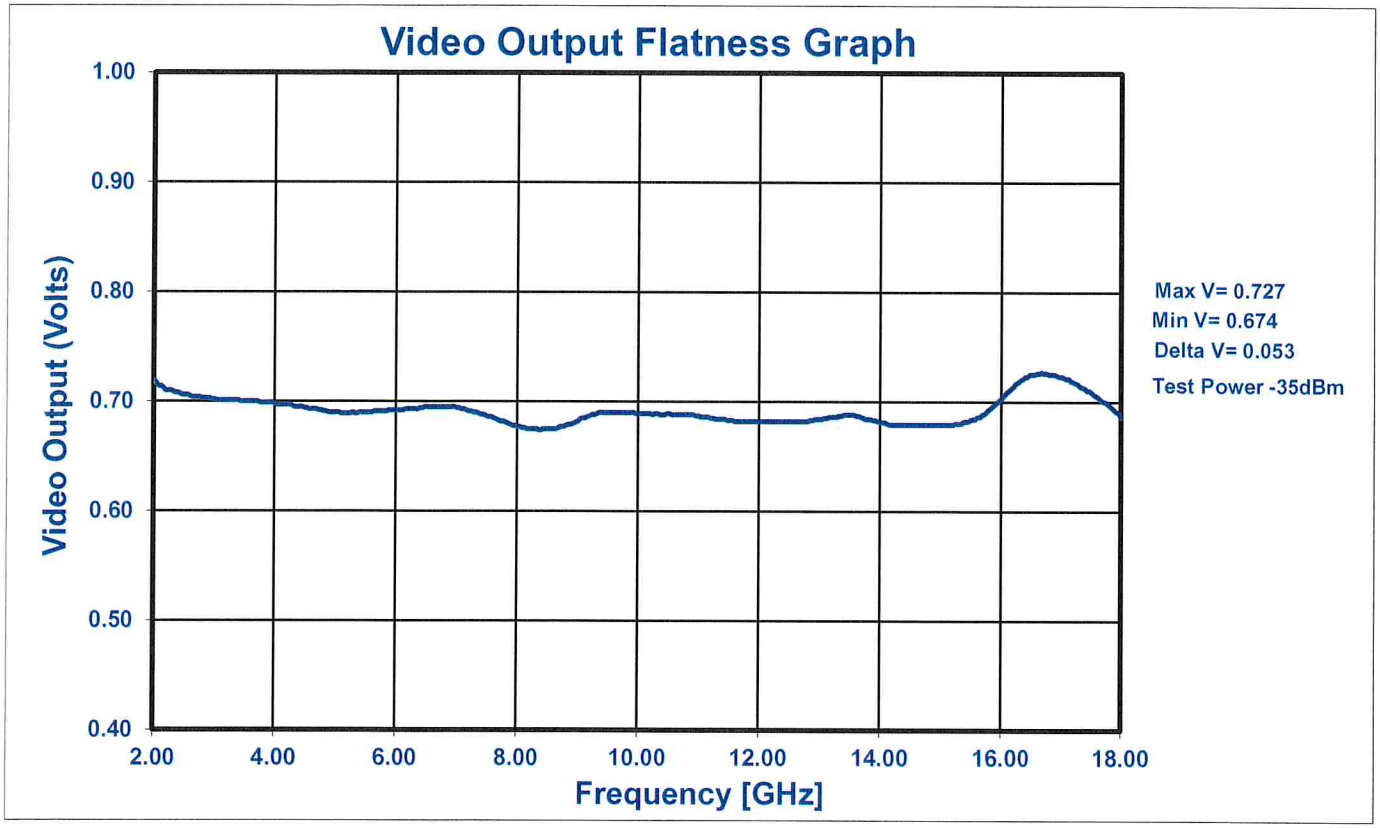
NOTE: ALL VIDEO OUTPUT MEASUREMENTS ARE MADE WITH 75 OHMS VIDEO LOAD



PMI	SIZE A	CAGE CODE 71A34	DWG. NO. ETD000005	REVISION B2
	SCALE			SHEET 8 OF 10

MODEL: GMDA-D1004 **S/N: PL26304** **DATE: 9/12/2019**

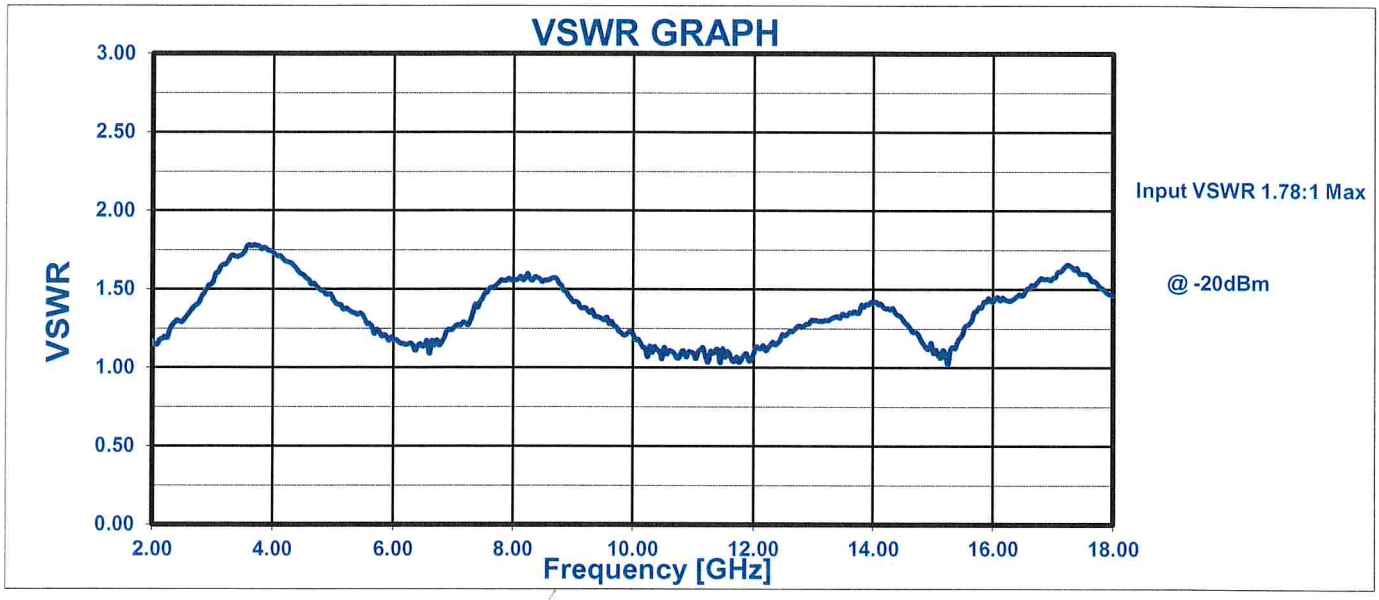
NOTE: ALL VIDEO OUTPUT MEASUREMENTS ARE MADE WITH 75 OHMS VIDEO LOAD



PMI	SIZE A	CAGE CODE 71A34	DWG. NO. ETD000005	REVISION B2
	SCALE			SHEET 9 OF 10

MODEL: GMDA-D1004 **S/N: PL26304** **DATE: 9/12/2019**

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



PMI	SIZE A	CAGE CODE 71A34	DWG. NO. ETD000005	REVISION B2
	SCALE			SHEET 10 OF 10