GMDA-D1005-08R11R44 SERIAL NO: PL49354 DATE: 10/23/2024

DASH NO.	APPLICATION		REVISIONS			
	NEXT ASSY	USED ON	REV	DESCRIPTION	DATE	APPROVED
			A1	Revised	04/26/21	

REVISION STATUS	SHT NO. LETTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70

TEST DATA SHEET

CONTRACT NO.

DRAWN: JOHNM

CHECKED: JOHNM

PROJ ENGR: JOHNM

PROG MGR:

MFG.ENGR:

QA ENGR:

RELIABILITY:

CUSTOMER:

DETECTOR LOG VIDEO AMPLIFIER
PMI P/N GMDA-D1005-08R11R44

	SIZE	CAGE CODE	DWG. NO.	REVISION
PMI	A	71A34	27641800	A1
	SCALE			SHEET 1 OF 9

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

1. TSS

Specification: -65 dBm Maximum
Measurement: 1.44 GHz, 2us PW, 100 kHz PRF

TSS: -65.4 dBm Pass X Fail _____

2. LOG SLOPE AND LINEARITY

Specification:
Log slope: 25 ±1 mV/dB

Log Linearity: ±1.0 dB Max. @ 25°C
±1.5 dB Over Temperature

Measurement:
Logging Range: -60 dBm to +10 dBm

Test Temp: 25°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	25.1	0.28	X	
1.125	24.9	0.22	X	
1.44	24.8	0.21	X	

Test Temp: -54°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	24.8	1.09	X	
1.125	24.5	1.11	X	
1.44	24.3	1.02	X	

Test Temp: +85°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	25.6	1.26	X	
1.125	25.3	1.02	X	
1.44	25.2	0.89	X	

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

3. FLATNESS

Specification: 50 mV Max
Measurement: @ -35 dBm Input

System Flatness = 0.13 dB (See attached plot)
Vp-p = 14 mV (See attached plot)
Flatness = Vp-p – (System Flatness x 25)

Flatness = 11 mV Pass ___X___ Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5 V Max
Measurement: 1839 mV Pass ___X___ Fail _____

5. INPUT VSWR

Specification: 2.0:1 Max
Measurement: -20 dBm input (See attached plot)
VSWR: 1.54:1 Pass ___X___ Fail _____

6. VIDEO RISE TIME

Specification: 30ns Max
Measurement: Freq = 1.125 GHz, RF Input –35 dBm, PW = 1us, PRF 100 kHz
Rise Time: 11.4 ns Pass ___X___ Fail _____

7. LEADING AND TRAILINGE EDGE

Specification: Per figure 5 on product feature 27041580

Pass ___X___ Fail _____

8. REVERSE SHOOT AND SLOPE REVERSE

Specification: Per figure 6 on product feature 27041580

Pass ___X___ Fail _____

9. RECOVERY TIME

Specification: 500 ns
Measurement: 144 ns Pass ___X___ Fail _____

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

10. THROUGHPUT TIME

Specification: 30ns Max
Measurement: Freq 810 MHz, PW = 100ns, PRF = 100 kHz
-35 dBm Input: 12.8 ns Pass X Fail _____

11. OFFSET VOLTAGE

Specification: ±50 mV Max
+25°C Measurement: -3 mV Pass X Fail _____
-54°C Measurement: -35 mV Pass X Fail _____
+85°C Measurement: +9 mV Pass X Fail _____

12. DC POWER

Specification: +12 V to +15.5 V, 300 mA Max
-12 V to -15.5 V, 150 mA Max
Measurement: +15.5 V @ 140 mA Pass X Fail _____
-15.5 V @ 60 mA Pass X Fail _____

13. VISUAL AND MECHANICAL INSPECTION

Specification: Per PMI product Feature Drawing No. 27041580
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 Traveler
TBD: Pass X Fail _____

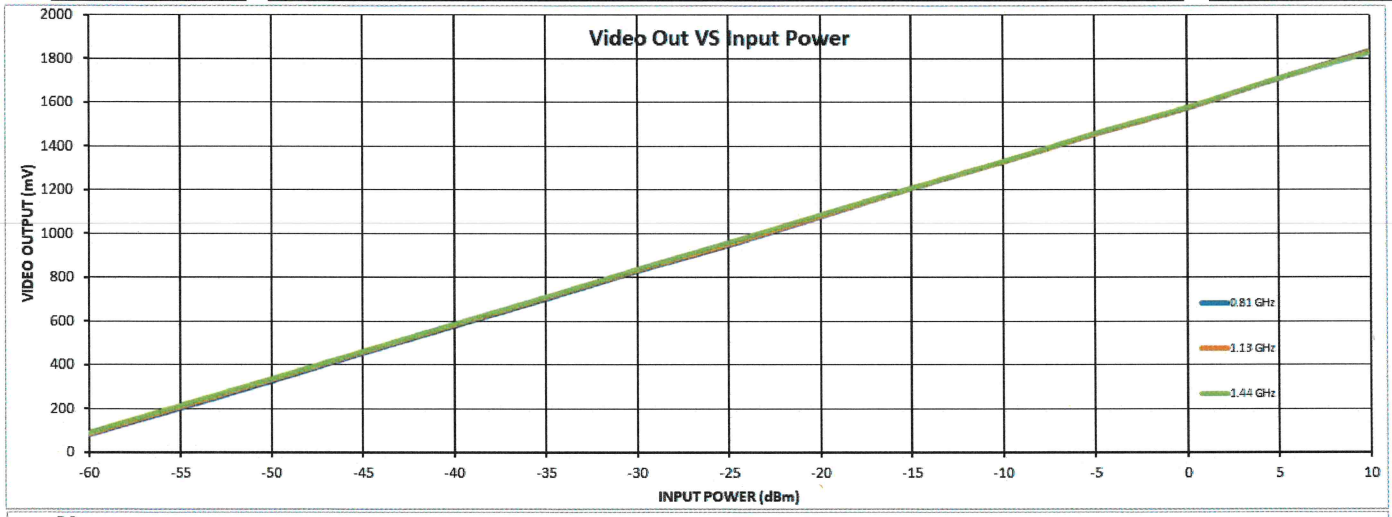
Tested by: Joshua Monley Date: 10/23/2024

QA: PMI QA3 K. Klamm Date: 10.24.24

Transfer Response at +25°C

Model: GMDA-D1005-08R11R44
Serial No.: PL49354
Date: 10/23/24
Tested By: J. Monley
Test Temp: +25°C

Frequency			-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	RF Input Power (dBm)
0.81 GHz	INTERCEPT (mV)	1578	79	202	325	453	577	700	828	946	1077	1206	1328	1454	1571	1708	1835	Measured Value (mV)
	SLOPE (mV/dB)	25.1	5	2	0	3	2	-1	2	-6	1	4	1	2	-7	5	7	ERROR (mV)
	LIN. ERR. (dB)	0.28	0.19	0.10	0.01	0.11	0.06	-0.03	0.08	-0.21	0.02	0.17	0.04	0.07	-0.26	0.21	0.28	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	1580	87	212	335	461	586	709	836	954	1083	1209	1328	1456	1574	1709	1832	Measured Value (mV)
	SLOPE (mV/dB)	24.9	1	1	0	1	2	1	3	-3	1	3	-3	1	-6	5	4	ERROR (mV)
	LIN. ERR. (dB)	0.22	0.03	0.05	-0.01	0.06	0.08	0.02	0.12	-0.13	0.05	0.11	-0.11	0.03	-0.22	0.20	0.14	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	1581	89	215	336	462	587	710	838	959	1087	1209	1329	1458	1576	1709	1826	Measured Value (mV)
	SLOPE (mV/dB)	24.8	-2	0	-3	-1	0	-2	2	-1	3	1	-4	1	-5	4	-4	ERROR (mV)
	LIN. ERR. (dB)	0.21	-0.06	0.01	-0.12	-0.05	-0.02	-0.07	0.09	-0.04	0.11	0.02	-0.15	0.04	-0.21	0.15	-0.14	LINEARITY ERROR (dB)
	Avg. Slope: 24.9 mV/dB		0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0	0.1	0.1	0	0.2	Flatness dB: ±0.3 dB

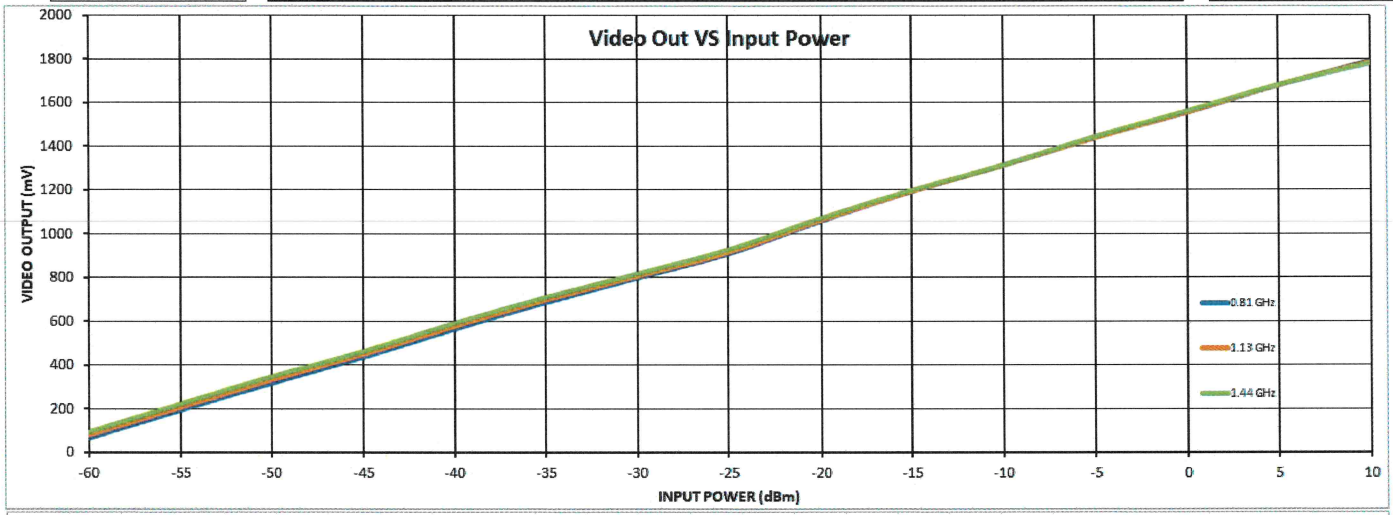


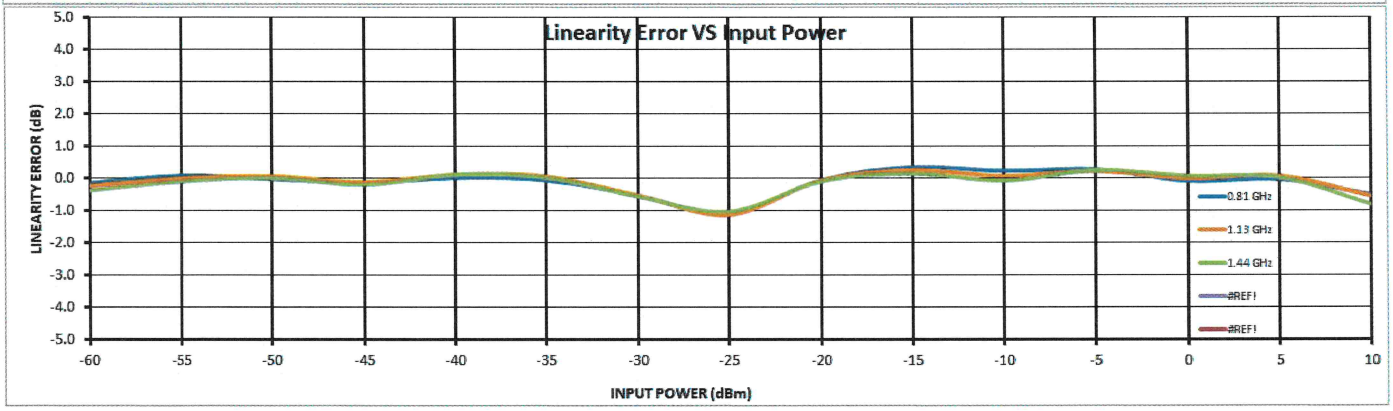
PMI	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
	SCALE			SHEET 5 OF 9

Transfer Response at -54°C

Model: GMDA-D1005-08R11R44
Serial No.: PL49354
Date: 10/23/24
Tested By: J. Monley
Test Temp: -54°C

Frequency			-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	RF Input Power (dBm)
0.81 GHz	INTERCEPT (mV)	1556	65	195	316	437	565	687	799	909	1059	1193	1314	1439	1554	1679	1791	Measured Value (mV)
	SLOPE (mV/dB)	24.8	-3	3	0	-3	1	-1	-13	-27	-1	9	6	7	-2	-1	-13	ERROR (mV)
	LIN. ERR. (dB)	1.09	-0.14	0.11	-0.01	-0.13	0.03	-0.05	-0.53	-1.09	-0.04	0.37	0.25	0.29	-0.07	-0.03	-0.51	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	1556	82	210	334	452	580	701	809	917	1065	1195	1313	1439	1556	1680	1787	Measured Value (mV)
	SLOPE (mV/dB)	24.5	-6	0	2	-3	3	2	-13	-27	-1	6	2	6	0	2	-13	ERROR (mV)
	LIN. ERR. (dB)	1.11	-0.23	0.00	0.07	-0.11	0.12	0.07	-0.52	-1.11	-0.06	0.26	0.08	0.23	0.01	0.08	-0.55	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	1556	92	220	344	460	589	708	815	925	1069	1196	1312	1441	1558	1678	1779	Measured Value (mV)
	SLOPE (mV/dB)	24.3	-9	-2	1	-5	3	1	-13	-25	-2	4	-1	6	2	1	-19	ERROR (mV)
	LIN. ERR. (dB)	1.02	-0.37	-0.09	0.02	-0.19	0.13	0.04	-0.55	-1.02	-0.08	0.16	-0.06	0.26	0.09	0.04	-0.80	LINEARITY ERROR (dB)
Avg. Slope: 24.5 mV/dB			0.6	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.1	0	0	0.1	0	0.2	Flatness dB: ±0.6 dB



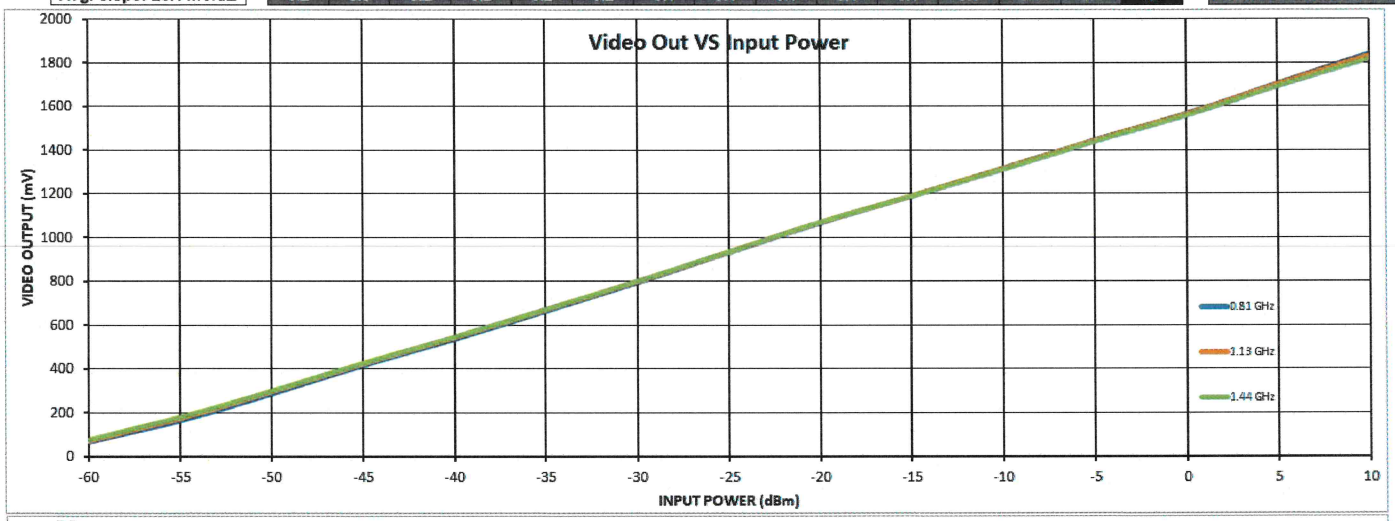


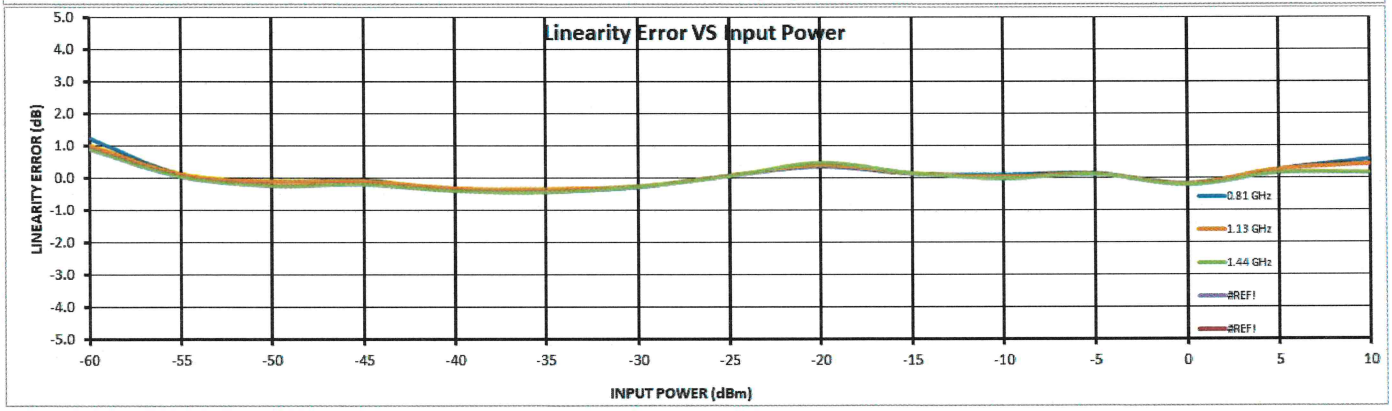
PMI	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
	SCALE			SHEET 6 OF 9

Transfer Response at +85°C

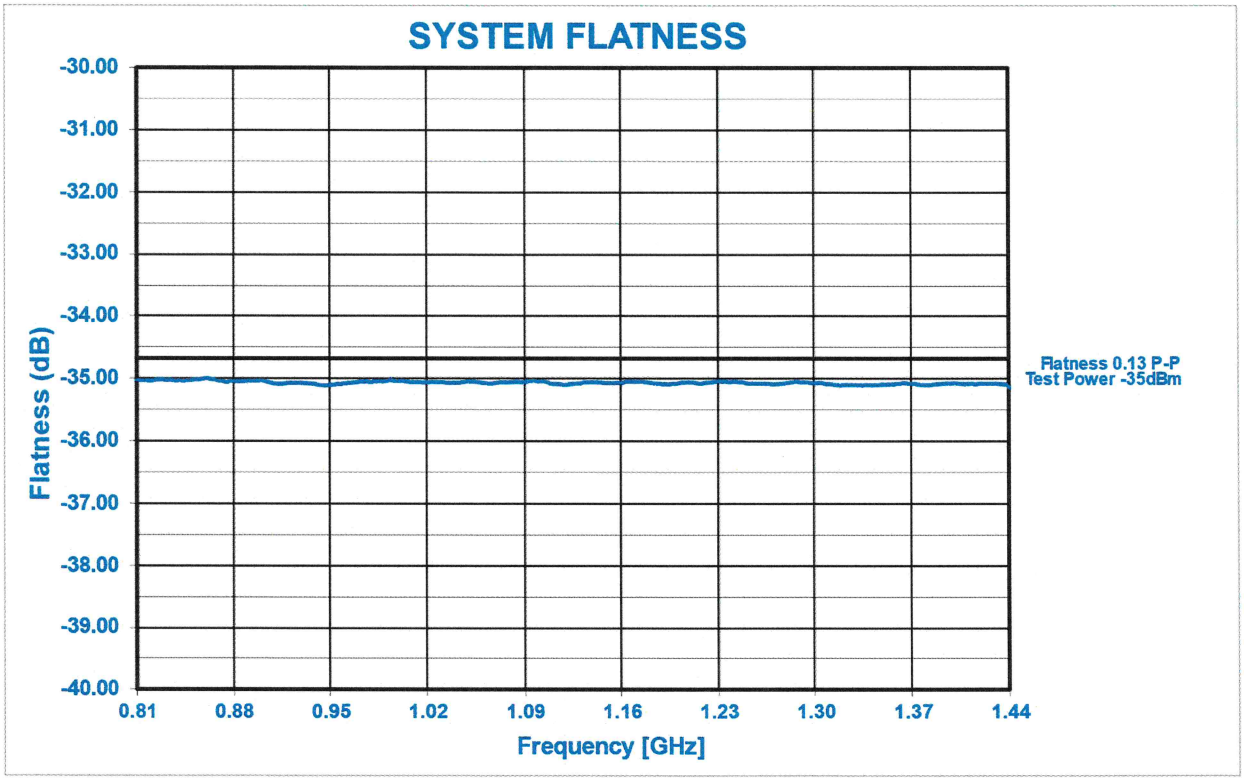
Model: GMDA-D1005-08R11R44
Serial No.: PL49354
Date: 10/23/24
Tested By: J. Monley
Test Temp: +85°C

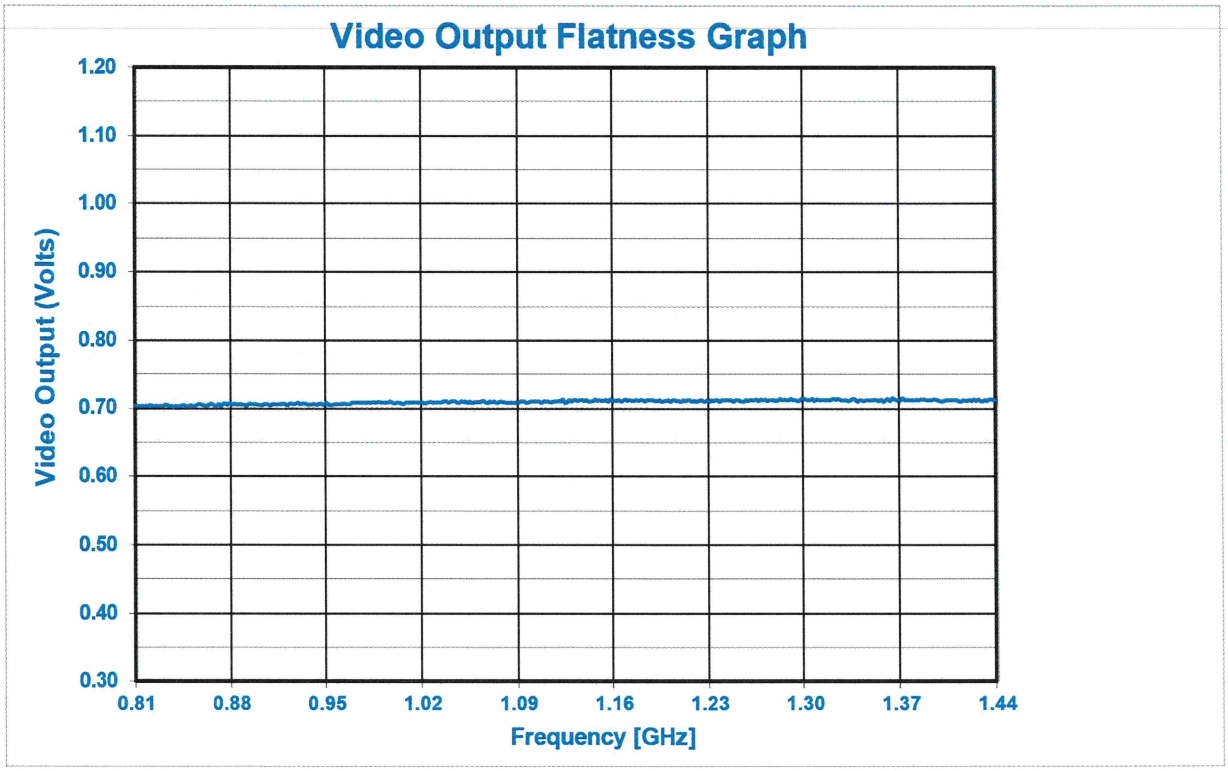
Frequency			-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	RF Input Power (dBm)
0.81 GHz	INTERCEPT (mV)	1568	66	165	287	416	536	663	794	931	1066	1188	1315	1444	1564	1703	1839	Measured Value (mV)
	SLOPE (mV/dB)	25.6	32	3	-2	-1	-9	-10	-7	2	9	4	3	4	-4	7	15	ERROR (mV)
	LIN. ERR. (dB)	1.26	1.26	0.13	-0.10	-0.05	-0.36	-0.39	-0.27	0.09	0.37	0.14	0.11	0.15	-0.15	0.28	0.60	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	1568	73	177	298	425	546	672	801	936	1071	1191	1315	1444	1563	1701	1832	Measured Value (mV)
	SLOPE (mV/dB)	25.3	26	3	-3	-2	-8	-9	-6	2	10	4	1	3	-5	7	11	ERROR (mV)
	LIN. ERR. (dB)	1.02	1.02	0.12	-0.10	-0.09	-0.32	-0.34	-0.25	0.08	0.40	0.14	0.03	0.12	-0.18	0.27	0.44	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	1563	74	179	298	425	546	671	801	935	1071	1189	1311	1440	1558	1693	1819	Measured Value (mV)
	SLOPE (mV/dB)	25.2	22	1	-5	-4	-9	-10	-6	2	12	4	0	3	-5	4	4	ERROR (mV)
	LIN. ERR. (dB)	0.89	0.89	0.06	-0.22	-0.17	-0.37	-0.41	-0.25	0.07	0.47	0.16	0.00	0.13	-0.19	0.17	0.17	LINEARITY ERROR (dB)
Avg. Slope: 25.4 mV/dB			0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	Flatness dB: ±0.4 dB

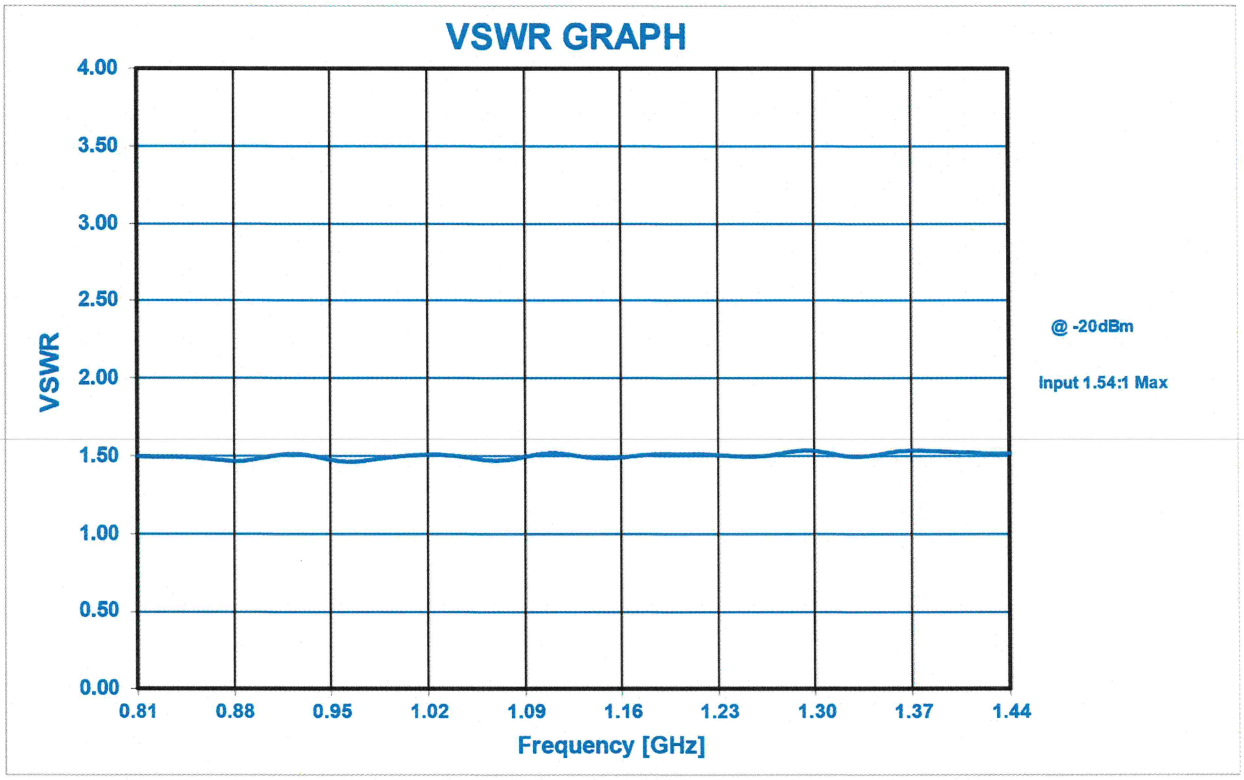




	SIZE	CAGE CODE	DWG. NO.	REVISION
PMI	A	71A34	27641800	A1
	SCALE			SHEET 7 OF 9


SYSTEM FLATNESS
-30.00
-31.00
-32.00
-33.00
-34.00
-35.00
-36.00
-37.00
-38.00
-39.00
-40.00
Flatness (dB)
0.81
0.88
0.95
1.02
1.09
1.16
1.23
1.30
1.37
1.44
Frequency [GHz]
Flatness 0.13 P-P
Test Power -35dBm


Video Output Flatness Graph
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
Video Output (Volts)
0.81
0.88
0.95
1.02
1.09
1.16
1.23
1.30
1.37
1.44
Frequency [GHz]



PMI	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
	SCALE			SHEET 9 OF 9