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

PMI	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION 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: -65.7 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	25.4	0.34	X	
1.125	25.4	0.28	X	
1.44	25.3	0.33	X	

Test Temp: -54°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	25.2	0.85	X	
1.125	25.0	0.88	X	
1.44	24.8	0.73	X	

Test Temp: +85°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	25.8	1.05	X	
1.125	25.6	0.82	X	
1.44	25.6	0.80	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 = 10 mV (See attached plot)
Flatness = Vp-p – (System Flatness x 25)

Flatness = 7 mV Pass ___X___ Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5 V Max
Measurement: 1892 mV Pass ___X___ Fail _____

5. INPUT VSWR

Specification: 2.0:1 Max
Measurement: -20 dBm input (See attached plot)
VSWR: 1.58:1 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: 10.2 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: 86 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: 10.6 ns Pass X Fail _____

11. OFFSET VOLTAGE

Specification: ±50 mV Max
+25°C Measurement: 0 mV Pass X Fail _____
-54°C Measurement: -34 mV Pass X Fail _____
+85°C Measurement: +32 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 _____

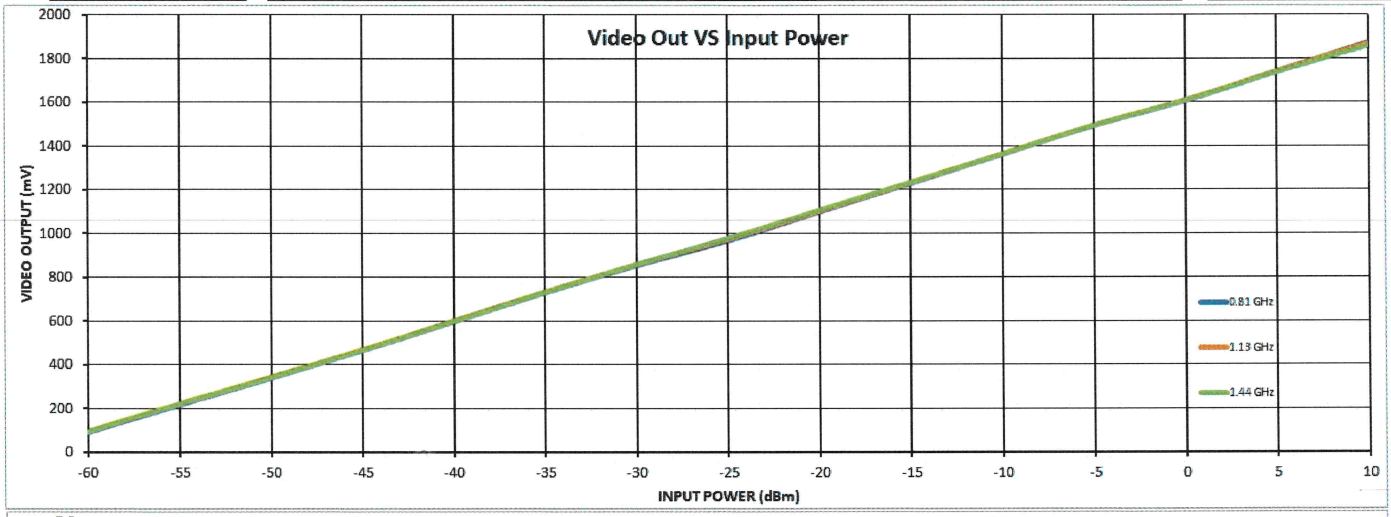
Tested by: Joshua Monley Date: 10/23/2024

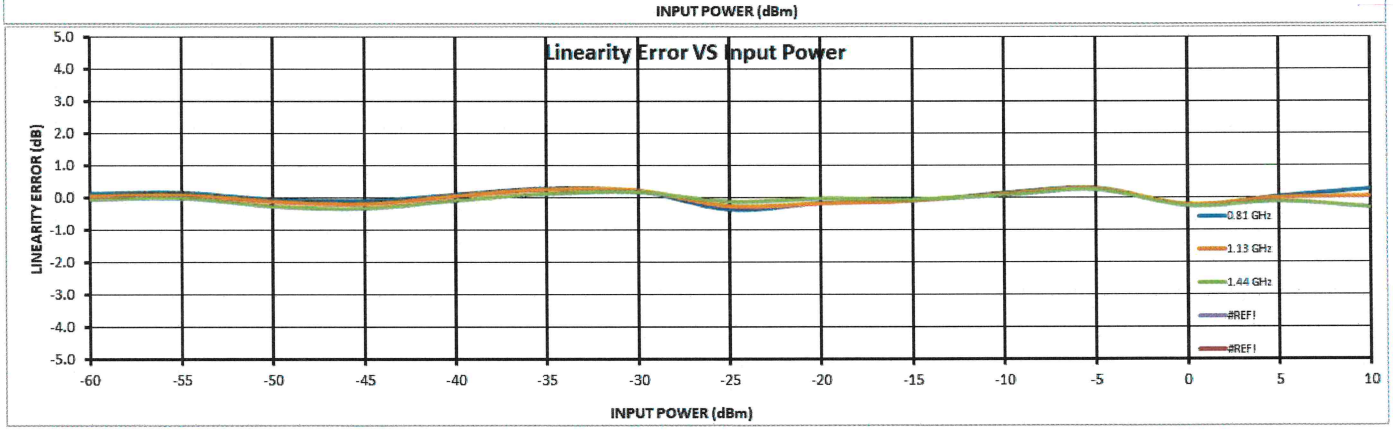
QA: PMI QA3 K. Klamm Date: 10.24.24

Transfer Response at +25°C

Model: GMDA-D1005-08R11R44
Serial No.: PL49351
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)	1610	88	216	338	464	596	728	853	966	1098	1227	1360	1491	1605	1739	1872	Measured Value (mV)
	SLOPE (mV/dB)	25.4	4	4	-1	-2	3	8	6	-9	-4	-2	4	8	-5	1	7	ERROR (mV)
	LIN. ERR. (dB)	0.34	0.14	0.17	-0.03	-0.08	0.11	0.30	0.22	-0.34	-0.15	-0.07	0.15	0.31	-0.21	0.06	0.29	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	1615	93	221	343	468	601	733	859	974	1103	1232	1364	1495	1610	1742	1870	Measured Value (mV)
	SLOPE (mV/dB)	25.4	1	2	-3	-5	1	7	6	-6	-4	-2	3	7	-5	0	1	ERROR (mV)
	LIN. ERR. (dB)	0.28	0.05	0.09	-0.10	-0.18	0.06	0.26	0.22	-0.25	-0.17	-0.08	0.12	0.28	-0.19	0.01	0.05	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	1614	93	221	341	466	599	731	859	978	1107	1233	1363	1494	1608	1738	1860	Measured Value (mV)
	SLOPE (mV/dB)	25.3	-1	0	-7	-8	-2	3	5	-3	-1	-1	2	6	-6	-3	-7	ERROR (mV)
	LIN. ERR. (dB)	0.33	-0.05	0.00	-0.26	-0.33	-0.08	0.13	0.19	-0.11	-0.02	-0.05	0.08	0.26	-0.24	-0.11	-0.29	LINEARITY ERROR (dB)
Avg. Slope: 25.4 mV/dB			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	Flatness dB: ±0.2 dB



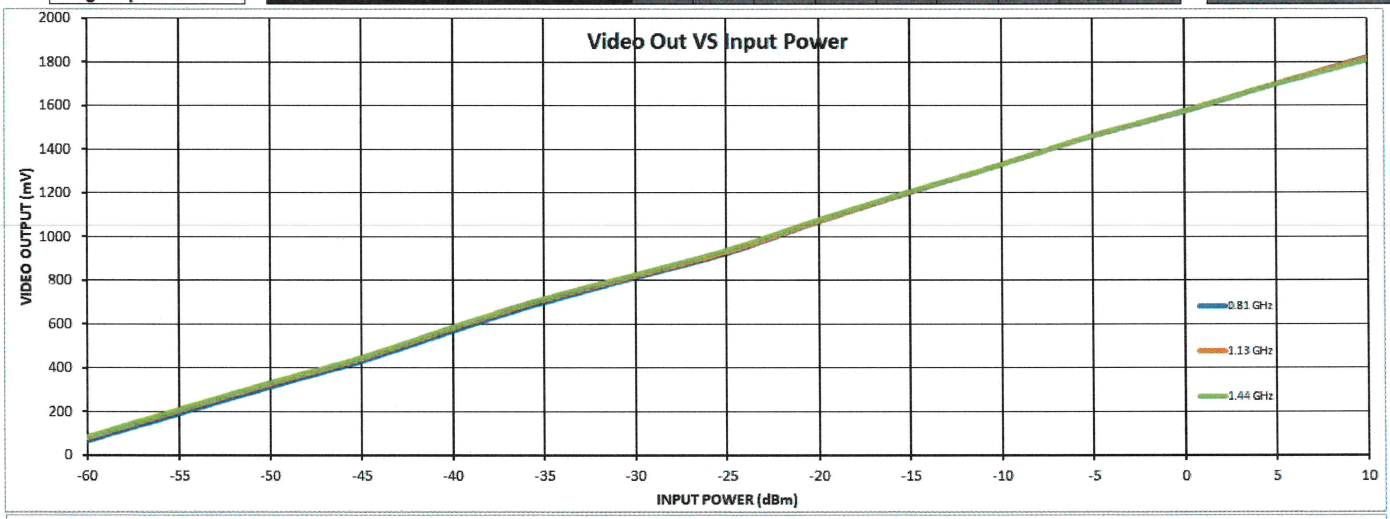


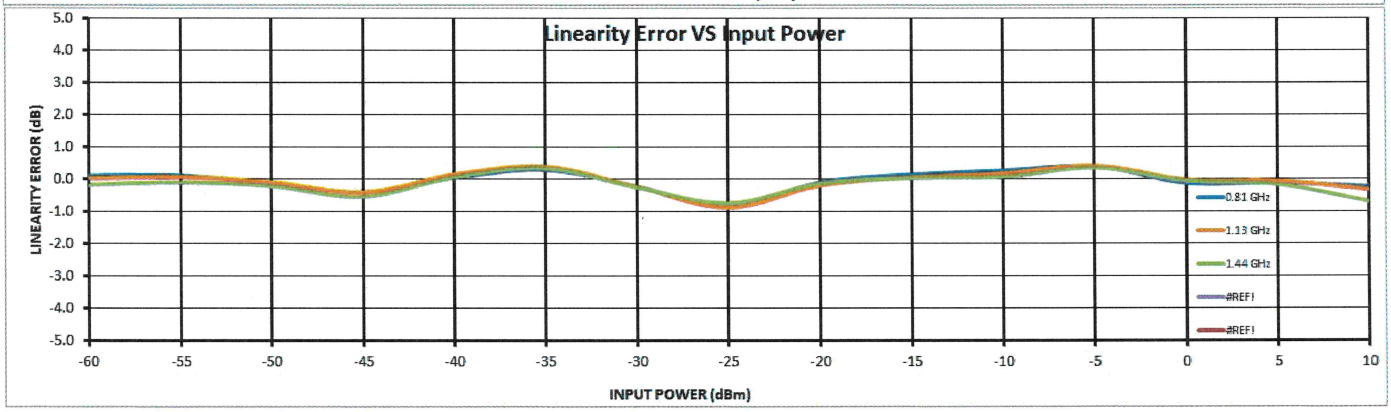
SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
SCALE			SHEET 5 OF 9

Transfer Response at -54°C

Model: GMDA-D1005-08R11R44
Serial No.: PL49351
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)	1574	66	192	312	431	568	700	813	923	1068	1200	1329	1458	1571	1697	1820	Measured Value (mV)
	SLOPE (mV/dB)	25.2	3	3	-3	-10	1	7	-5	-21	-2	4	7	10	-3	-3	-6	ERROR (mV)
	LIN. ERR. (dB)	0.85	0.12	0.12	-0.11	-0.39	0.05	0.30	-0.22	-0.85	-0.09	0.16	0.28	0.40	-0.11	-0.11	-0.22	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	1578	79	205	326	443	582	713	822	931	1073	1204	1332	1463	1577	1701	1819	Measured Value (mV)
	SLOPE (mV/dB)	25	0	1	-2	-10	4	10	-6	-22	-5	1	4	10	-1	-1	-8	ERROR (mV)
	LIN. ERR. (dB)	0.88	0.01	0.06	-0.10	-0.42	0.15	0.39	-0.24	-0.88	-0.20	0.05	0.17	0.41	-0.02	-0.06	-0.34	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	1578	86	212	333	449	588	719	828	940	1079	1207	1332	1463	1577	1698	1809	Measured Value (mV)
	SLOPE (mV/dB)	24.8	-4	-2	-5	-13	2	9	-6	-18	-3	1	2	9	-1	-4	-17	ERROR (mV)
	LIN. ERR. (dB)	0.73	-0.17	-0.09	-0.21	-0.53	0.07	0.36	-0.25	-0.73	-0.12	0.04	0.08	0.36	-0.04	-0.16	-0.68	LINEARITY ERROR (dB)
Avg. Slope: 25 mV/dB			0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	Flatness dB: ±0.4 dB

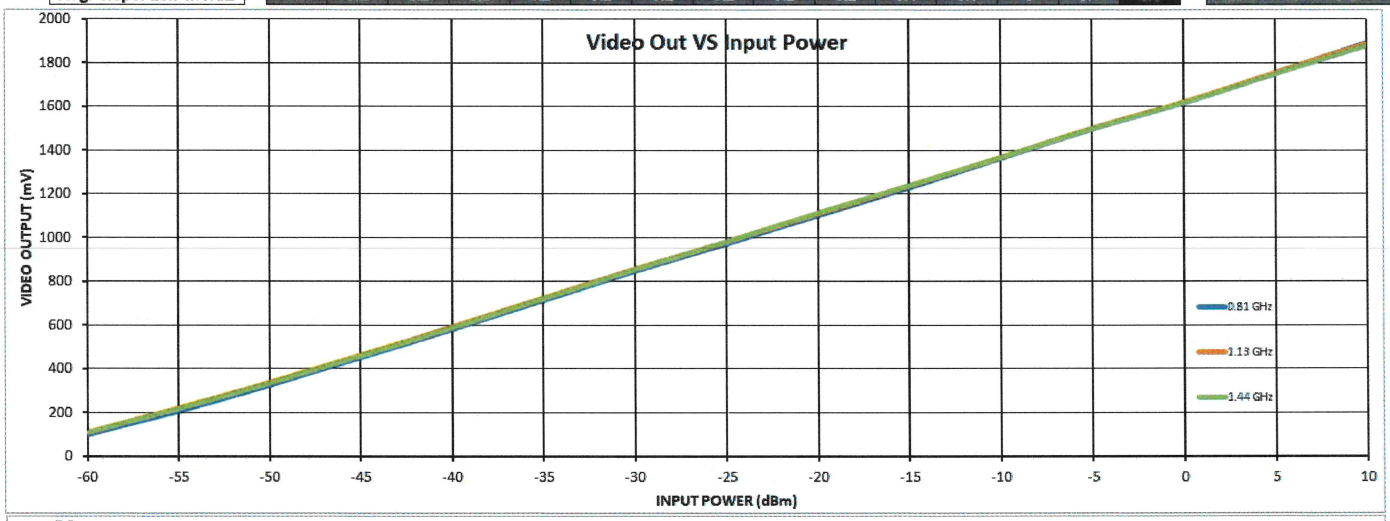


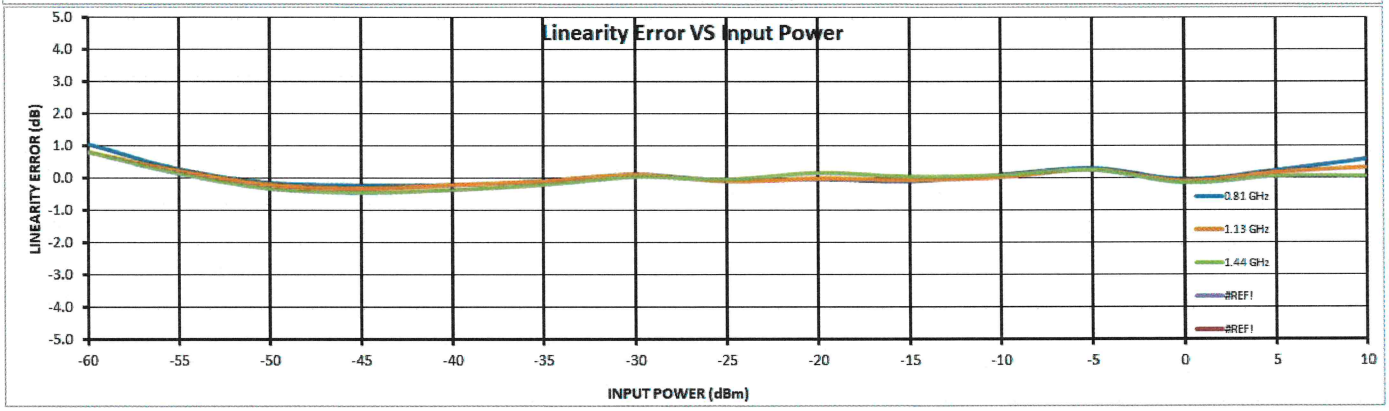


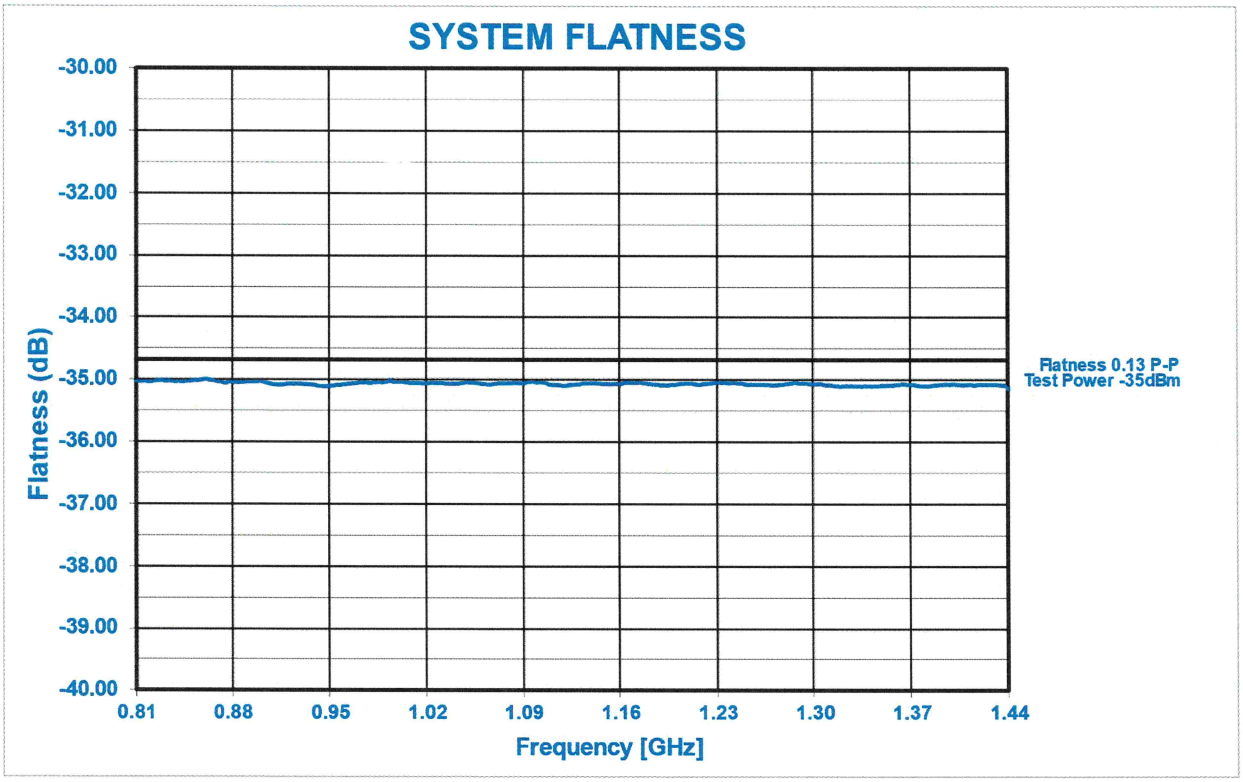
Transfer Response at +85°C

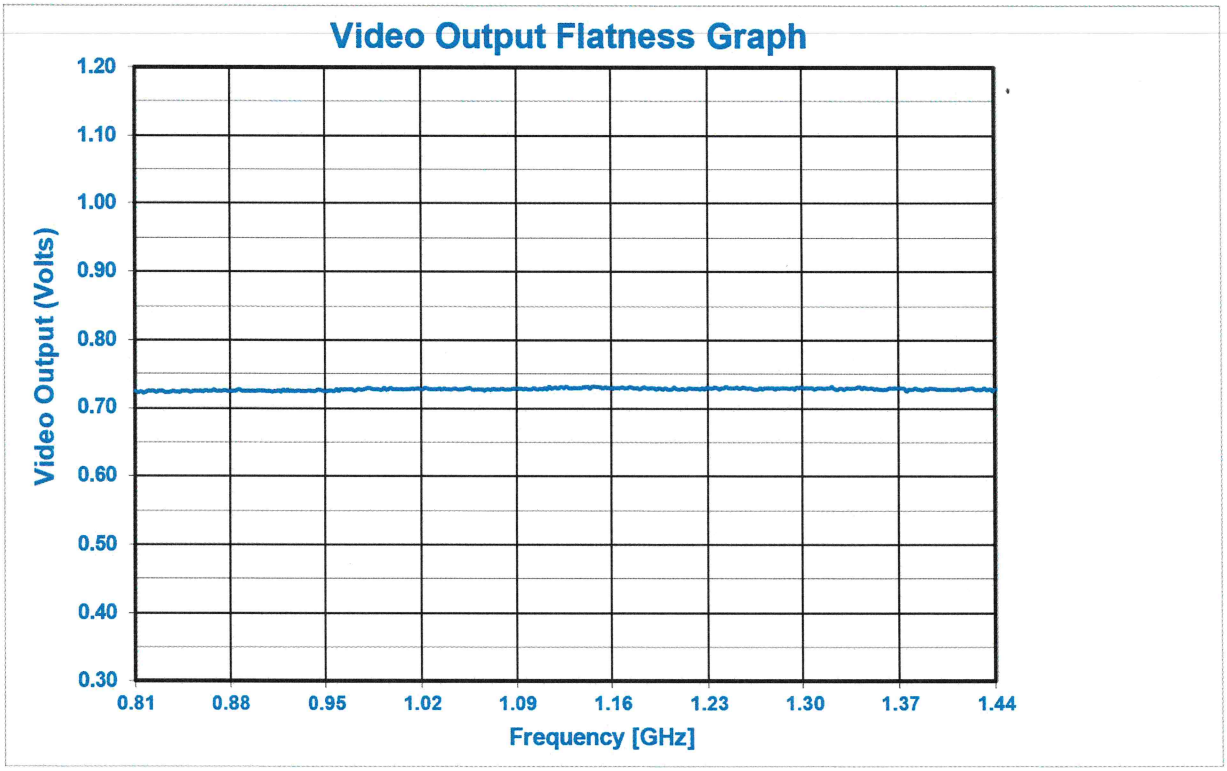
Model: GMDA-D1005-08R11R44
Serial No.: PL49351
Date: 10/23/24
Tested By: J. Monley
Test Temp: +85°C

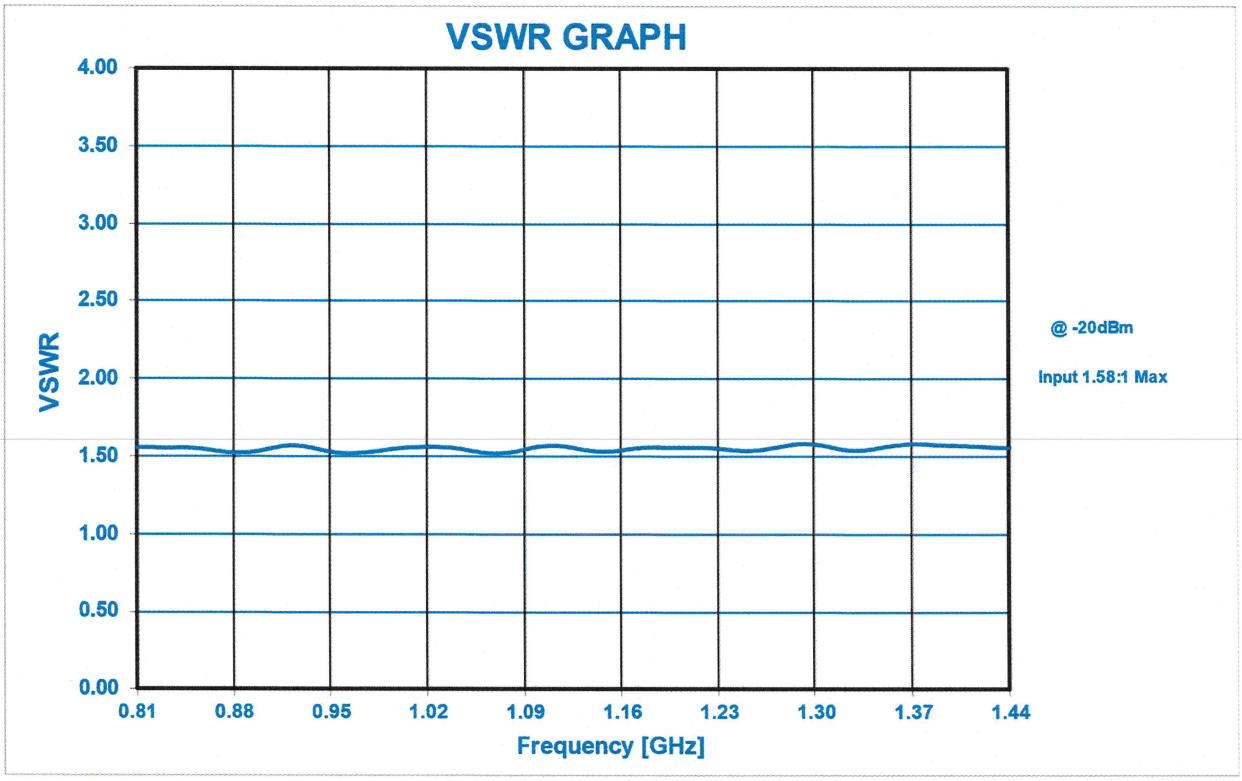
Frequency			-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	RF Input Power (dBm)
0.81 GHz	INTERCEPT (mV)	1619	100	209	327	454	583	715	849	973	1103	1230	1364	1498	1618	1754	1892	Measured Value (mV)
	SLOPE (mV/dB)	25.8	27	7	-4	-8	-5	-2	3	-2	-1	-2	3	8	-1	6	15	ERROR (mV)
	LIN. ERR. (dB)	1.05	1.05	0.28	-0.14	-0.21	-0.21	-0.08	0.12	-0.07	-0.03	-0.10	0.10	0.30	-0.04	0.24	0.60	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	1622	107	220	337	462	593	724	857	980	1110	1237	1367	1501	1620	1755	1887	Measured Value (mV)
	SLOPE (mV/dB)	25.6	21	6	-5	-8	-5	-2	3	-2	0	-1	1	7	-2	5	9	ERROR (mV)
	LIN. ERR. (dB)	0.82	0.82	0.24	-0.19	-0.31	-0.19	-0.08	0.12	-0.08	0.00	-0.04	0.04	0.27	-0.08	0.19	0.35	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	1621	107	218	334	459	589	721	855	981	1114	1239	1368	1500	1618	1751	1879	Measured Value (mV)
	SLOPE (mV/dB)	25.6	21	4	-8	-11	-9	-5	1	-1	4	1	2	6	-3	2	2	ERROR (mV)
	LIN. ERR. (dB)	0.8	0.80	0.14	-0.32	-0.44	-0.36	-0.20	0.04	-0.03	0.16	0.05	0.09	0.25	-0.14	0.06	0.07	LINEARITY ERROR (dB)
Avg. Slope: 25.7 mV/dB			0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0	0.1	0.3	Flatness dB: ±0.3 dB






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