

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

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

<p>COMPANY CONFIDENTIAL: The information contained herein is the property of PMI. Its use or reproductions is prohibited except as provided for by prior written authorization.</p> <p>CONTRACT NO.</p> <p>DRAWN: JOHN M</p> <p>CHECKED: JOHN M</p> <p>PROJ ENGR: JOHN M</p> <p>PROG MGR:</p> <p>MFG ENGR:</p> <p>QA ENGR:</p> <p>RELIABILITY:</p> <p>CUSTOMER:</p>	<p>TEST DATA SHEET</p>
	<p>DETECTOR LOG VIDEO AMPLIFIER</p> <p>PMI P/N GMDA-D1005-08R11R44</p>

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: -65.9 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	25.2	0.47	X	
1.125	25.2	0.40	X	
1.44	25.2	0.57	X	

Test Temp: -54°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	24.3	0.95	X	
1.125	24.2	0.97	X	
1.44	24.1	0.90	X	

Test Temp: +85°C (See attached Plot)

Frequency (GHz)	Log Slope (mV / dB)	Log linearity (dB)	Pass	Fail
0.81	25.8	0.69	X	
1.125	25.7	0.59	X	
1.44	25.7	0.60	X	

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3. FLATNESS

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

System Flatness = 0.13 dB (See attached plot)
 Vp-p = 11 mV (See attached plot)
 Flatness = Vp-p – (System Flatness x 25)

Flatness = 8 mV Pass X Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5 V Max
 Measurement: 1897 mV

Pass X Fail _____

5. INPUT VSWR

Specification: 2.0:1 Max
 Measurement: -20 dBm input (See attached plot)
 VSWR: 1.52:1

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: 10.4 ns

Pass X Fail _____

7. LEADING AND TRAILING 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 _____

	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
	SCALE			SHEET 3 OF 9

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: 10.8 ns Pass X Fail _____

11. OFFSET VOLTAGE

Specification: ±50 mV Max

+25°C Measurement: -14 mV Pass X Fail _____

-54°C Measurement: -7 mV Pass X Fail _____

+85°C Measurement: +31 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: 

Date: 10.24.24

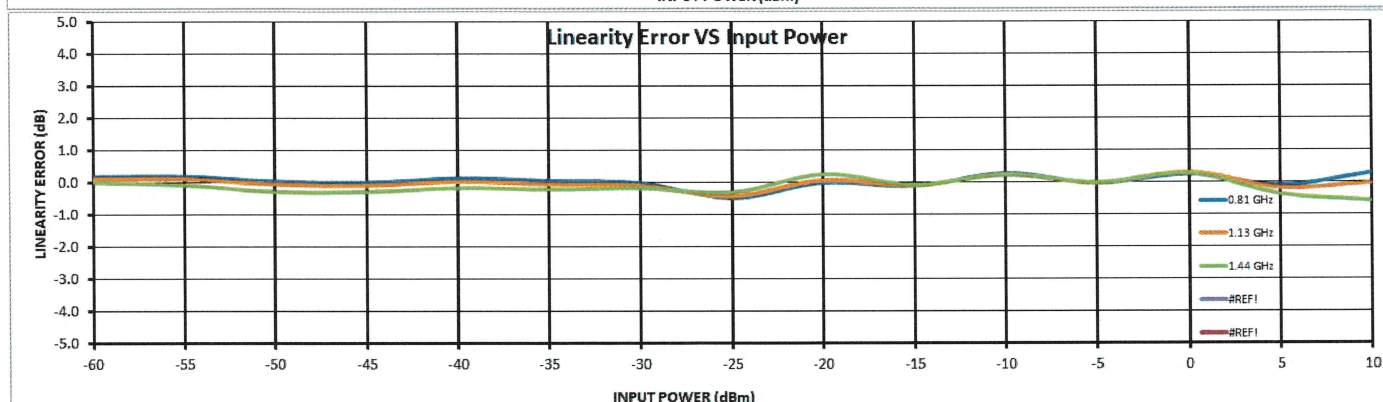
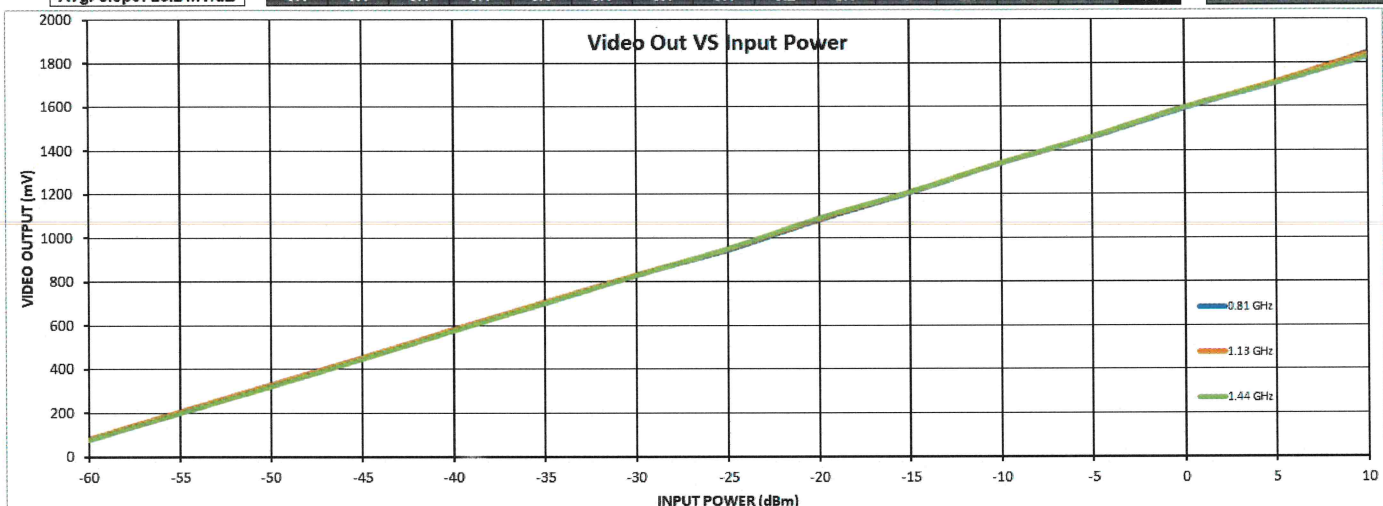
	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
	SCALE			SHEET 4 OF 9

Transfer Response at +25°C

Model: GMDA-D1005-08R11R44
 Serial No.: PL49347
 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)	1585															Measured Value (mV)
	SLOPE (mV/dB)	25.2															ERROR (mV)
	LIN. ERR. (dB)	0.47															LINEARITY ERROR (dB)
		80	206	328	453	582	706	830	944	1082	1205	1341	1459	1592	1709	1845	
		5	5	2	1	4	2	0	-12	0	-3	8	0	7	-2	8	
		0.21	0.21	0.06	0.03	0.15	0.08	0.00	-0.47	0.01	-0.10	0.30	-0.01	0.27	-0.08	0.32	
1.13 GHz	INTERCEPT (mV)	1589															Measured Value (mV)
	SLOPE (mV/dB)	25.2															ERROR (mV)
	LIN. ERR. (dB)	0.4															LINEARITY ERROR (dB)
		80	206	328	453	582	706	831	949	1087	1209	1343	1463	1597	1711	1841	
		3	3	-1	-2	1	-1	-2	-10	2	-2	6	0	8	-4	0	
		0.12	0.12	-0.04	-0.08	0.04	-0.04	-0.08	-0.40	0.07	-0.09	0.23	-0.01	0.31	-0.17	-0.01	
1.44 GHz	INTERCEPT (mV)	1589															Measured Value (mV)
	SLOPE (mV/dB)	25.2															ERROR (mV)
	LIN. ERR. (dB)	0.57															LINEARITY ERROR (dB)
		76	200	321	447	576	701	828	951	1091	1209	1343	1463	1596	1706	1827	
		0	-2	-7	-7	-4	-5	-4	-8	6	-2	6	0	7	-9	-14	
		0.01	-0.07	-0.28	-0.28	-0.17	-0.21	-0.18	-0.30	0.25	-0.07	0.24	0.00	0.27	-0.37	-0.57	
Avg. Slope: 25.2 mV/dB		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	0.1	0.1	0.4	Flatness dB: ±0.4 dB

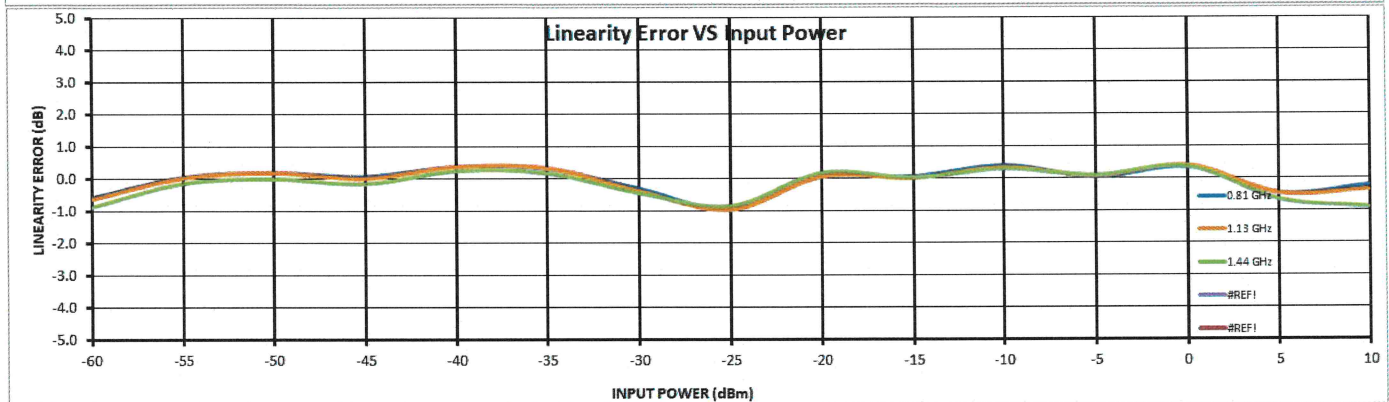
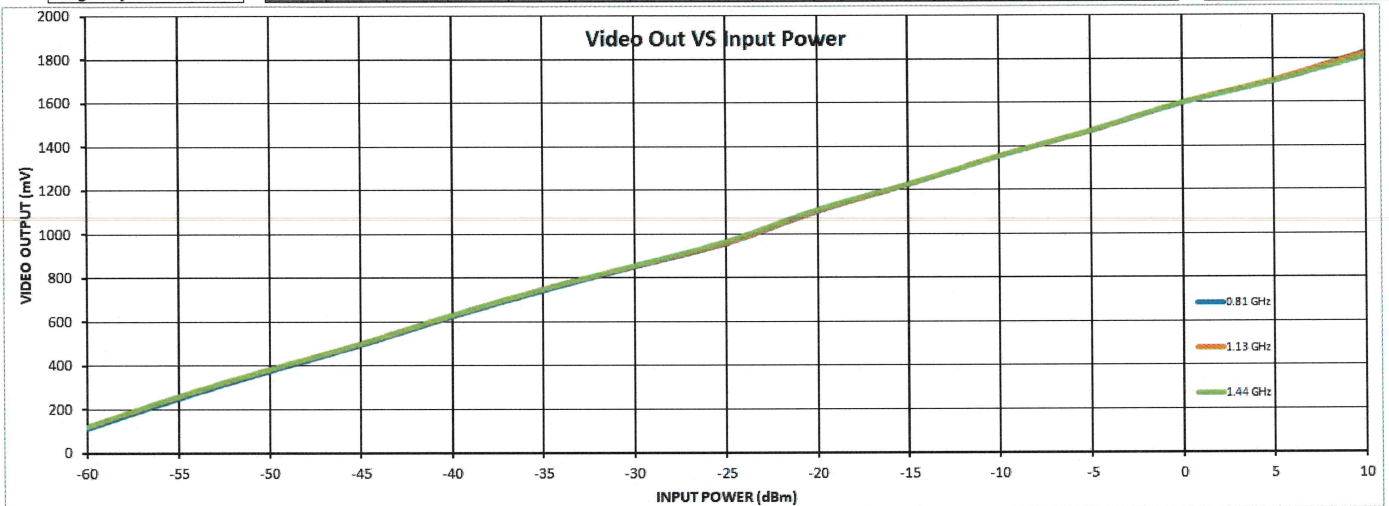


Transfer Response at -54°C

Model: GMDA-D1005-08R11R44
 Serial No.: PL49347
 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)	112	249	374	493	622	742	849	956	1101	1223	1353	1466	1595	1697	1825	Measured Value (mV)
	SLOPE (mV/dB)	-14	1	5	2	9	7	-7	-23	1	1	10	1	8	-11	-5	ERROR (mV)
	LIN. ERR. (dB)	-0.58	0.05	0.19	0.07	0.37	0.30	-0.30	-0.95	0.05	0.06	0.40	0.04	0.34	-0.47	-0.21	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	120	257	382	499	629	749	853	960	1106	1226	1355	1470	1599	1699	1823	Measured Value (mV)
	SLOPE (mV/dB)	-15	0	4	0	9	8	-9	-24	1	0	8	2	10	-12	-9	ERROR (mV)
	LIN. ERR. (dB)	-0.63	0.02	0.18	0.00	0.37	0.32	-0.39	-0.97	0.05	0.00	0.33	0.07	0.40	-0.48	-0.36	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	120	258	382	499	629	748	854	965	1110	1227	1364	1470	1597	1693	1808	Measured Value (mV)
	SLOPE (mV/dB)	-21	-4	0	-4	6	4	-11	-20	4	0	7	2	9	-16	-22	ERROR (mV)
	LIN. ERR. (dB)	-0.87	-0.15	-0.01	-0.16	0.23	0.16	-0.44	-0.84	0.17	0.02	0.28	0.09	0.36	-0.66	-0.90	LINEARITY ERROR (dB)
Avg. Slope: 24.2 mV/dB		0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0	0.1	0.1	0.1	0.4	Flatness dB: ±0.4 dB

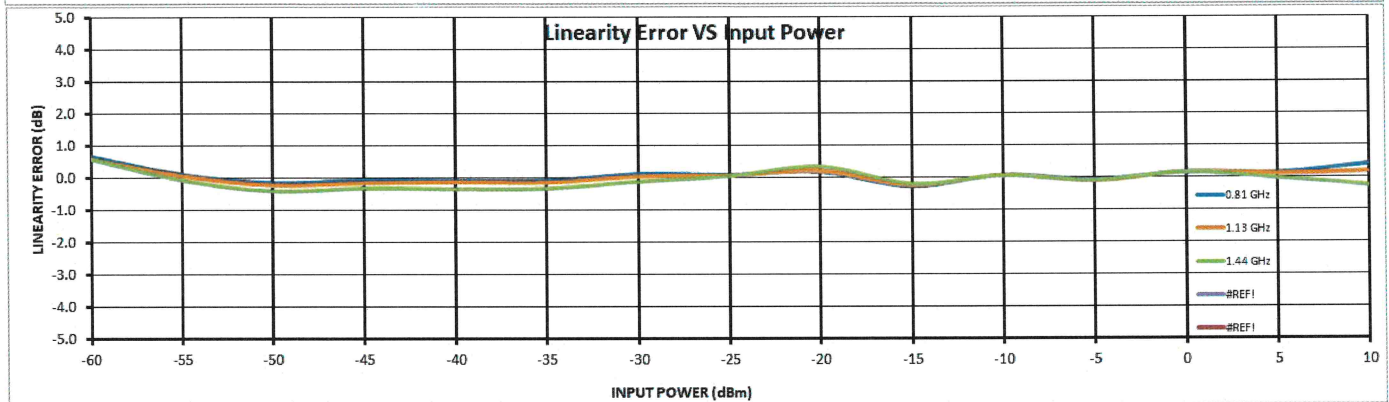
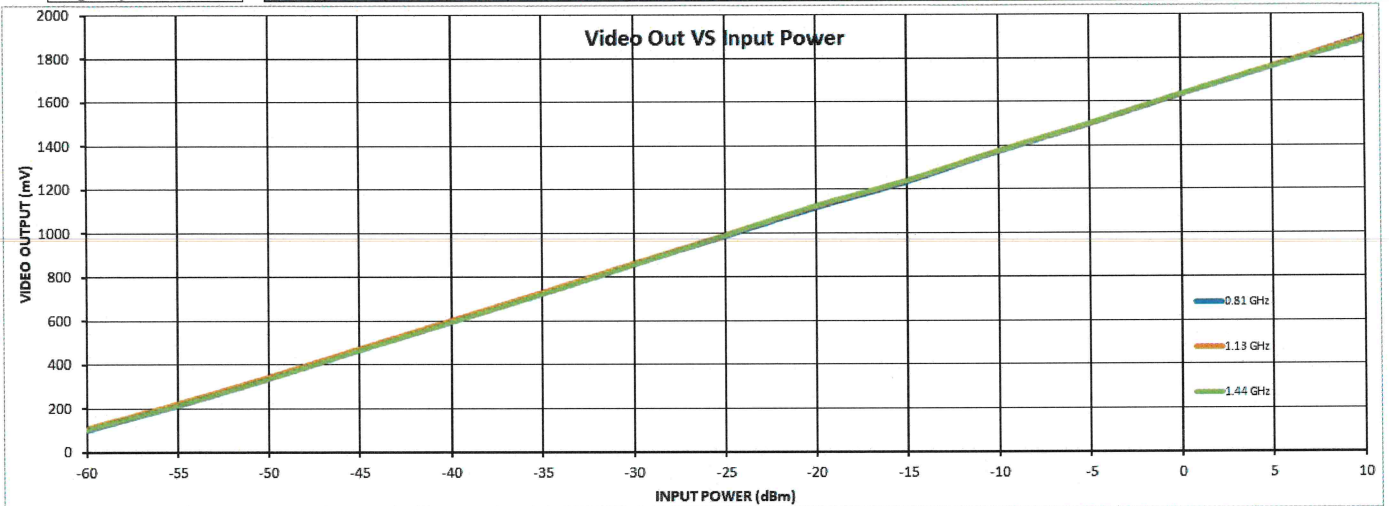


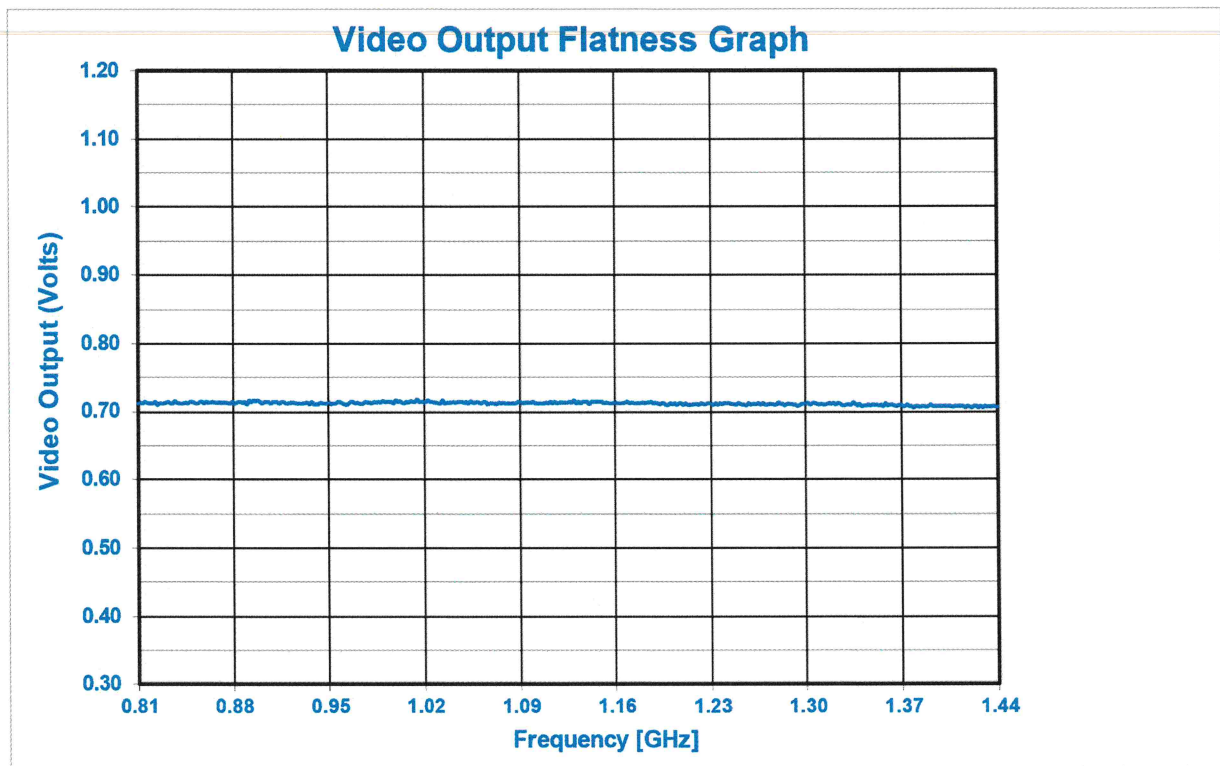
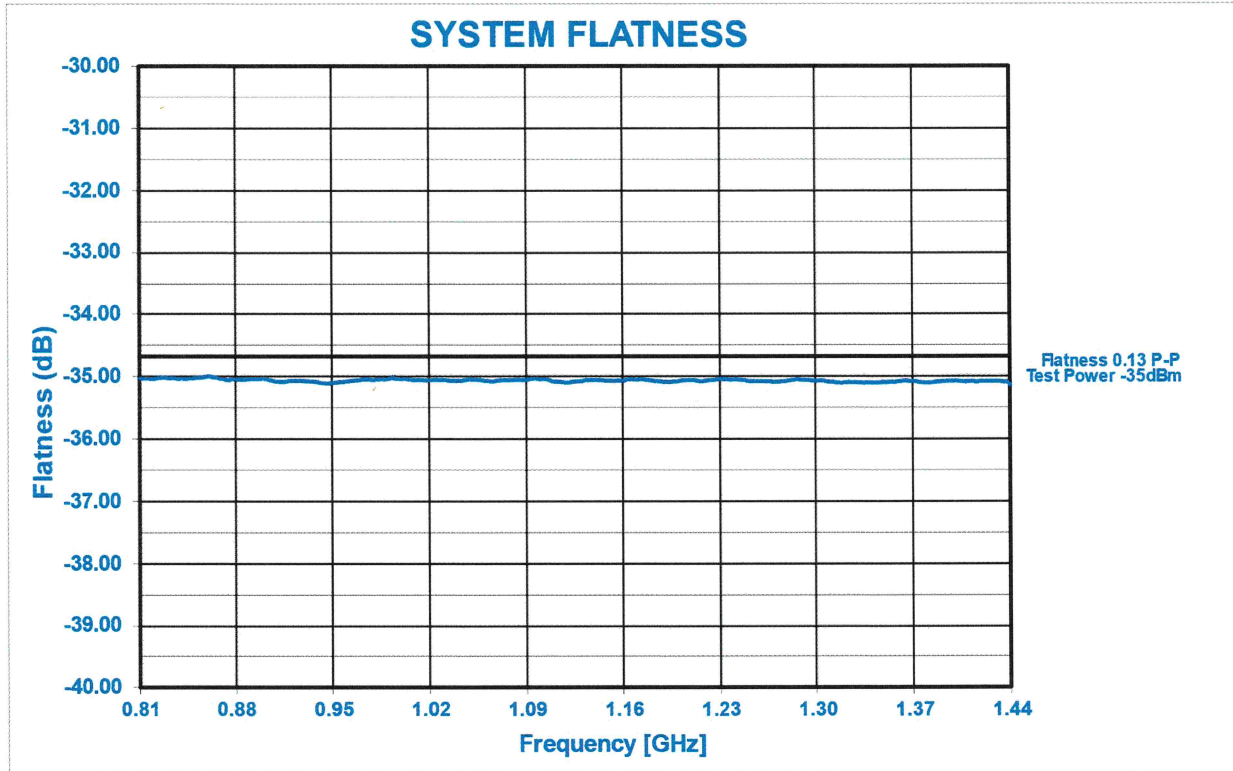
Transfer Response at +85°C


Model: GMDA-D1005-08R11R44
 Serial No.: PL49347
 Date: 10/23/24
 Tested By: J. Monley
 Test Temp: +85°C

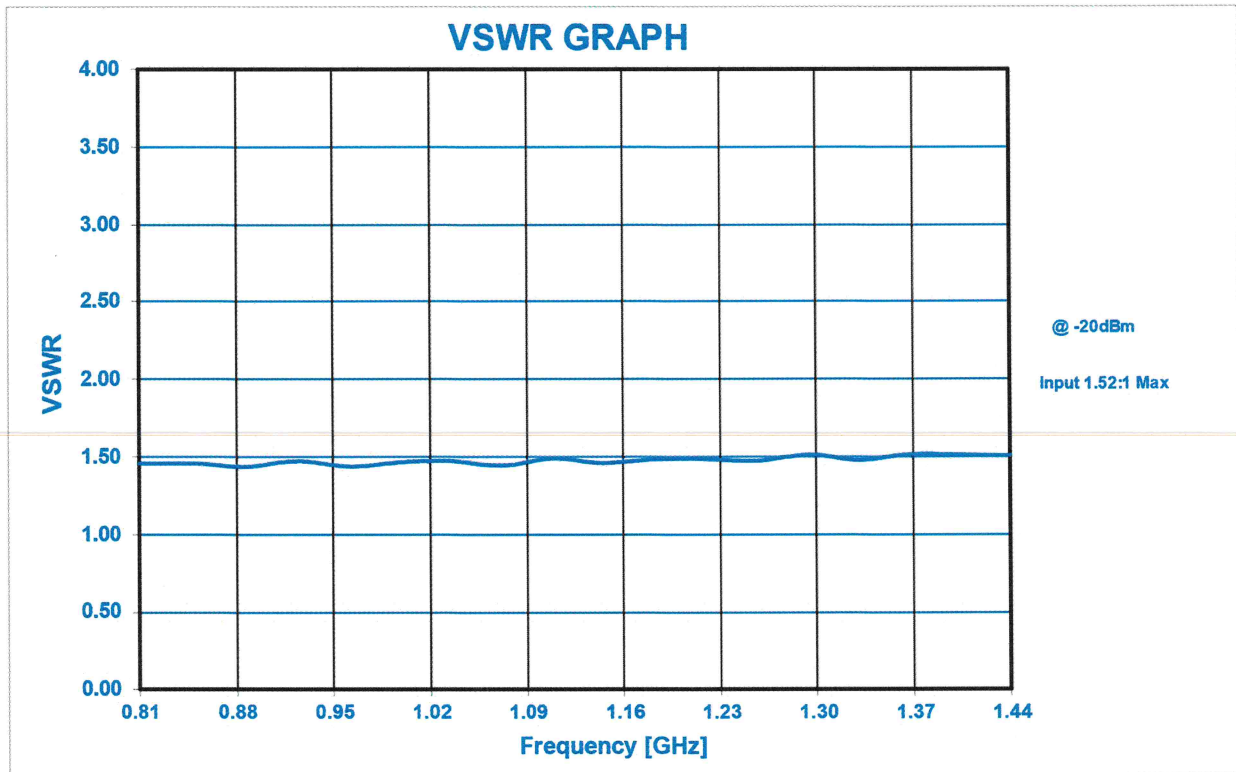



Frequency		-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	RF Input Power (dBm)
0.81 GHz	INTERCEPT (mV)	101	215	337	468	596	725	859	987	1118	1235	1373	1498	1633	1761	1897	Measured Value (mV)
	SLOPE (mV/dB)	18	3	-4	-2	-2	-2	3	2	5	-7	2	-2	4	4	11	ERROR (mV)
	LIN. ERR. (dB)	0.69	0.12	-0.15	-0.06	-0.09	-0.08	0.12	0.09	0.18	-0.28	0.08	-0.07	0.17	0.14	0.42	LINEARITY ERROR (dB)
1.13 GHz	INTERCEPT (mV)	106	221	342	472	601	729	862	991	1123	1240	1376	1500	1635	1762	1892	Measured Value (mV)
	SLOPE (mV/dB)	15	2	-6	-4	-3	-4	1	2	5	-6	2	-3	4	3	4	ERROR (mV)
	LIN. ERR. (dB)	0.59	0.07	-0.22	-0.15	-0.13	-0.14	0.04	0.07	0.21	-0.23	0.07	-0.10	0.16	0.11	0.17	LINEARITY ERROR (dB)
1.44 GHz	INTERCEPT (mV)	103	215	335	466	594	723	857	990	1126	1241	1376	1501	1636	1760	1883	Measured Value (mV)
	SLOPE (mV/dB)	15	-1	-10	-8	-8	-8	-3	2	9	-5	2	-2	4	0	-6	ERROR (mV)
	LIN. ERR. (dB)	0.60	-0.05	-0.39	-0.30	-0.32	-0.31	-0.10	0.07	0.35	-0.18	0.07	-0.07	0.17	-0.01	-0.23	LINEARITY ERROR (dB)
Avg. Slope: 25.7 mV/dB		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0.3	Flatness dB: ±0.3 dB





	SIZE A	CAGE CODE 71A34	DWG. NO. 27641800	REVISION A1
	SCALE			SHEET 8 OF 9



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