

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

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|---|------------------------|-------|
| <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> | TEST DATA SHEET | |
| | CONTRACT NO. | |
| | DRAWN: | JOHNM |
| | CHECKED: | JOHNM |
| | PROJ ENGR: | JOHNM |
| | PROG MGR: | |
| | MFG.ENGR: | |
| | QA ENGR: | |
| RELIABILITY: | | |
| CUSTOMER: | | |
| <p>DETECTOR LOG VIDEO AMPLIFIER PMI P/N GMDA-D1005-08R11R44</p> | | |

| | | | | |
|---|------------------|---------------------------|-----------------------------|--------------------|
|  | 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: -65.2 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 | 0.31 | X | |
| 1.125 | 25.0 | 0.24 | X | |
| 1.44 | 25.1 | 0.25 | X | |

Test Temp: -54°C (See attached Plot)

| Frequency (GHz) | Log Slope (mV / dB) | Log linearity (dB) | Pass | Fail |
|-----------------|---------------------|--------------------|------|------|
| 0.81 | 24.4 | 0.98 | X | |
| 1.125 | 24.2 | 0.96 | 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 | 25.4 | 0.97 | X | |
| 1.125 | 25.2 | 0.81 | X | |
| 1.44 | 25.2 | 0.65 | 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 = 9 mV (See attached plot)
 Flatness = Vp-p – (System Flatness x 25)

Flatness = 6 mV Pass X Fail _____

4. MAXIMUM OUTPUT VOLTAGE

Specification: +2.5 V Max
 Measurement: 1865 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: 13.1 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: 91 ns

Pass X Fail _____

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

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: 12.6 ns Pass X Fail _____

11. OFFSET VOLTAGE

Specification: ±50 mV Max
 +25°C Measurement: -23 mV Pass X Fail _____
 -54°C Measurement: -12 mV Pass X Fail _____
 +85°C Measurement: +1 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} QAS K. Klamm

Date: 10.24.24

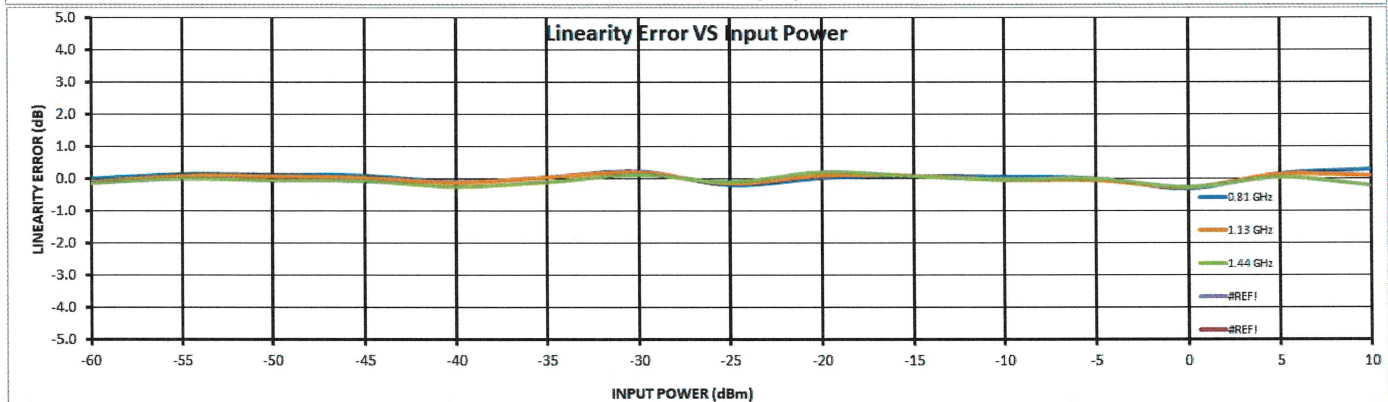
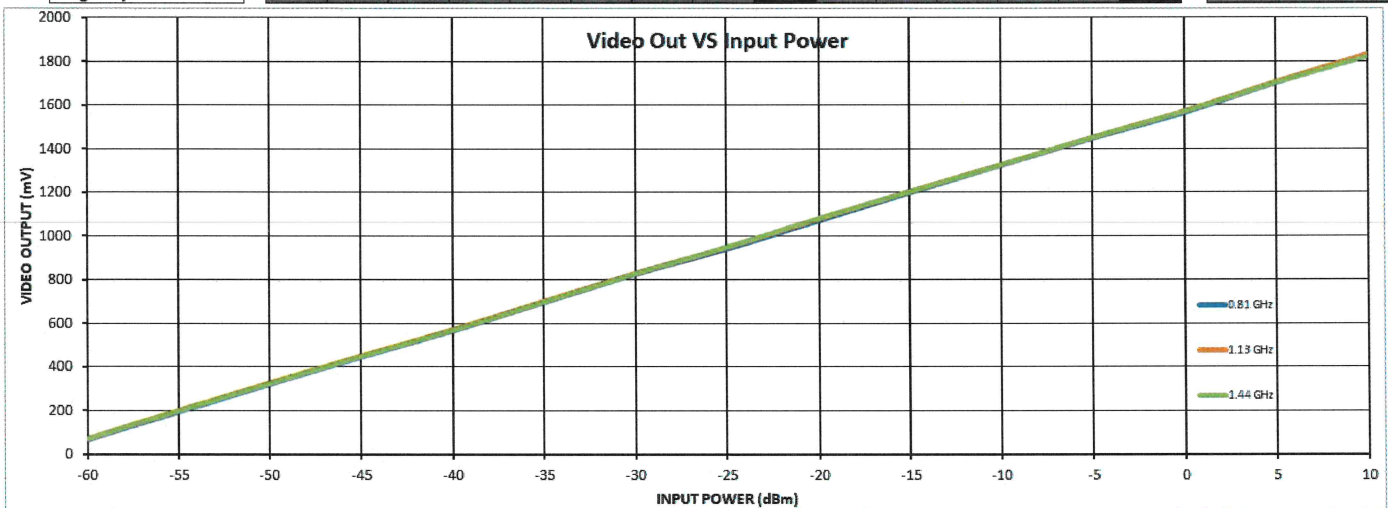
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|---|------------------|---------------------------|-----------------------------|--------------------|
|  | SIZE A | CAGE CODE 71A34 | DWG. NO. 27641800 | REVISION A1 |
| | SCALE | | | SHEET 4 OF 9 |

Transfer Response at +25°C

Model: GMDA-D1005-08R11R44
 Serial No.: PL49350
 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) | 68 | 197 | 322 | 447 | 568 | 697 | 827 | 942 | 1073 | 1200 | 1325 | 1449 | 1567 | 1704 | 1833 | Measured Value (mV) |
| | SLOPE (mV/dB) | 0 | 4 | 3 | 3 | -2 | 2 | 6 | -4 | 1 | 3 | 2 | 0 | -7 | 4 | 8 | ERROR (mV) |
| | LIN. ERR. (dB) | 0.02 | 0.16 | 0.13 | 0.11 | -0.07 | 0.07 | 0.25 | -0.17 | 0.04 | 0.10 | 0.08 | 0.02 | -0.28 | 0.17 | 0.31 | LINEARITY ERROR (dB) |
| 1.13 GHz | INTERCEPT (mV) | 71 | 201 | 326 | 450 | 572 | 701 | 830 | 947 | 1078 | 1203 | 1326 | 1450 | 1570 | 1705 | 1829 | Measured Value (mV) |
| | SLOPE (mV/dB) | -3 | 2 | 2 | 1 | -2 | 1 | 5 | -3 | 3 | 3 | -1 | -1 | -6 | 4 | 2 | ERROR (mV) |
| | LIN. ERR. (dB) | -0.10 | 0.09 | 0.08 | 0.03 | -0.10 | 0.06 | 0.21 | -0.12 | 0.11 | 0.10 | -0.03 | -0.04 | -0.24 | 0.15 | 0.10 | LINEARITY ERROR (dB) |
| 1.44 GHz | INTERCEPT (mV) | 69 | 198 | 322 | 447 | 568 | 697 | 828 | 948 | 1081 | 1203 | 1326 | 1452 | 1571 | 1704 | 1823 | Measured Value (mV) |
| | SLOPE (mV/dB) | -3 | 0 | -1 | -1 | -6 | -2 | 3 | -2 | 5 | 2 | 0 | 0 | -6 | 1 | -5 | ERROR (mV) |
| | LIN. ERR. (dB) | -0.13 | 0.01 | -0.04 | -0.06 | -0.24 | -0.09 | 0.13 | -0.09 | 0.22 | 0.08 | -0.02 | 0.01 | -0.25 | 0.05 | -0.20 | LINEARITY ERROR (dB) |
| Avg. Slope: 25.1 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 | 0.2 | Flatness dB: ±0.2 dB |

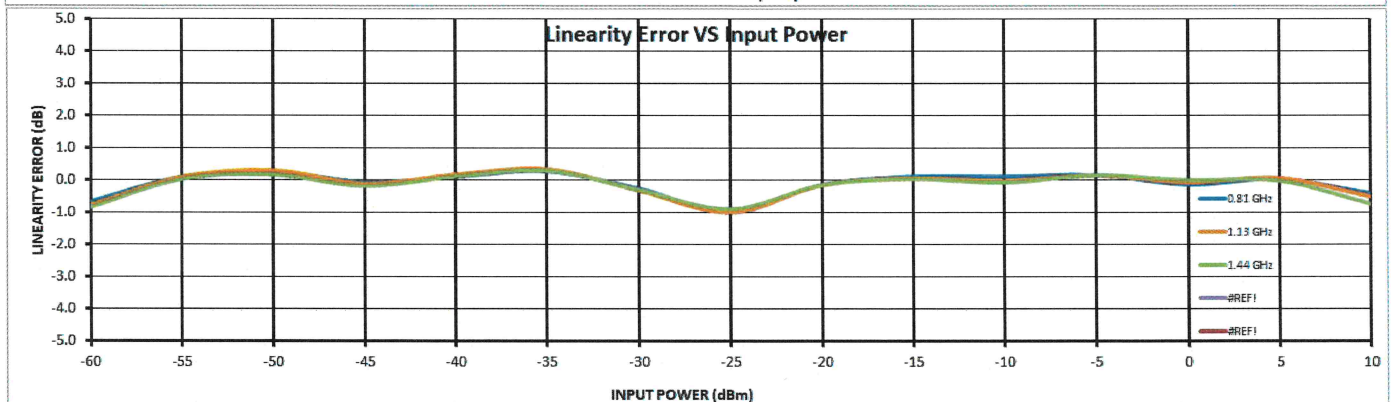
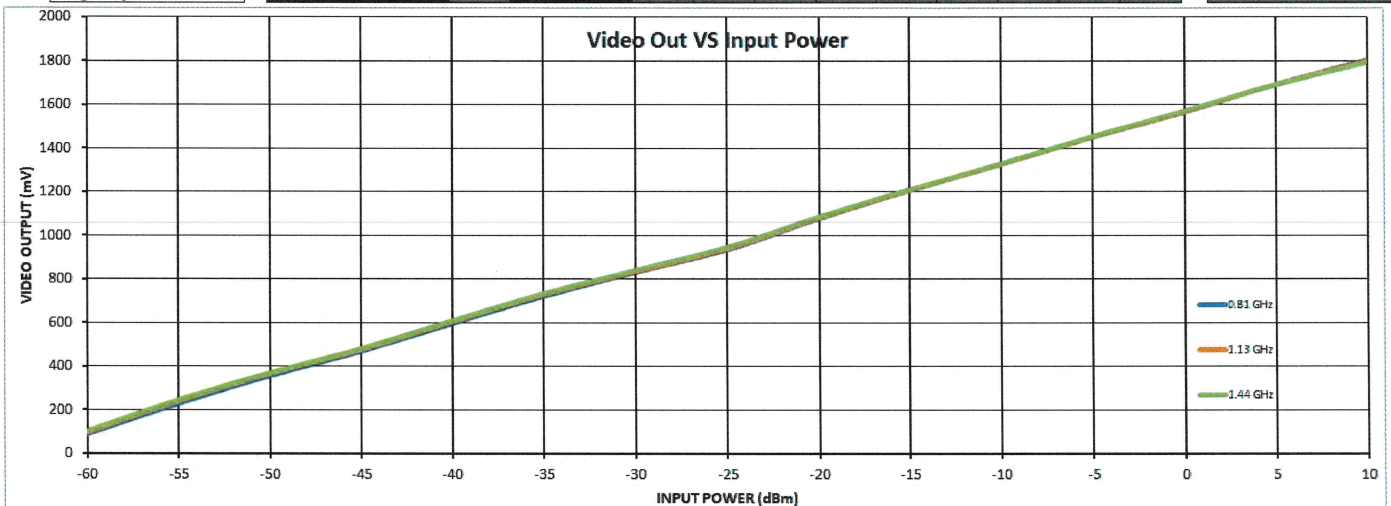


Transfer Response at -54°C

Model: GMDA-D1005-08R11R44
 Serial No.: PL49350
 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) | 88 | 229 | 355 | 469 | 595 | 721 | 830 | 934 | 1077 | 1205 | 1327 | 1450 | 1565 | 1691 | 1802 | Measured Value (mV) |
| | SLOPE (mV/dB) | -18 | 3 | 7 | -1 | 3 | 7 | -6 | -24 | -3 | 3 | 3 | 4 | -3 | 1 | -10 | ERROR (mV) |
| | LIN. ERR. (dB) | -0.65 | 0.13 | 0.29 | -0.04 | 0.13 | 0.29 | -0.24 | -0.98 | -0.11 | 0.13 | 0.13 | 0.17 | -0.11 | 0.05 | -0.40 | LINEARITY ERROR (dB) |
| 1.13 GHz | INTERCEPT (mV) | 100 | 242 | 368 | 479 | 607 | 732 | 837 | 942 | 1083 | 1209 | 1328 | 1453 | 1569 | 1693 | 1800 | Measured Value (mV) |
| | SLOPE (mV/dB) | -18 | 3 | 8 | -2 | 5 | 9 | -7 | -23 | -3 | 2 | 0 | 4 | -1 | 2 | -12 | ERROR (mV) |
| | LIN. ERR. (dB) | -0.76 | 0.11 | 0.31 | -0.10 | 0.19 | 0.36 | -0.30 | -0.96 | -0.13 | 0.08 | 0.00 | 0.16 | -0.04 | 0.08 | -0.49 | LINEARITY ERROR (dB) |
| 1.44 GHz | INTERCEPT (mV) | 103 | 245 | 369 | 481 | 609 | 734 | 840 | 946 | 1085 | 1210 | 1328 | 1454 | 1571 | 1691 | 1794 | Measured Value (mV) |
| | SLOPE (mV/dB) | -20 | 1 | 4 | -4 | 3 | 8 | -7 | -22 | -3 | 1 | -1 | 4 | 0 | 0 | -18 | ERROR (mV) |
| | LIN. ERR. (dB) | -0.84 | 0.04 | 0.18 | -0.17 | 0.13 | 0.32 | -0.29 | -0.90 | -0.13 | 0.05 | -0.06 | 0.17 | 0.02 | -0.01 | -0.74 | LINEARITY ERROR (dB) |
| Avg. Slope: 24.2 mV/dB | | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0.2 | Flatness dB: ±0.3 dB |

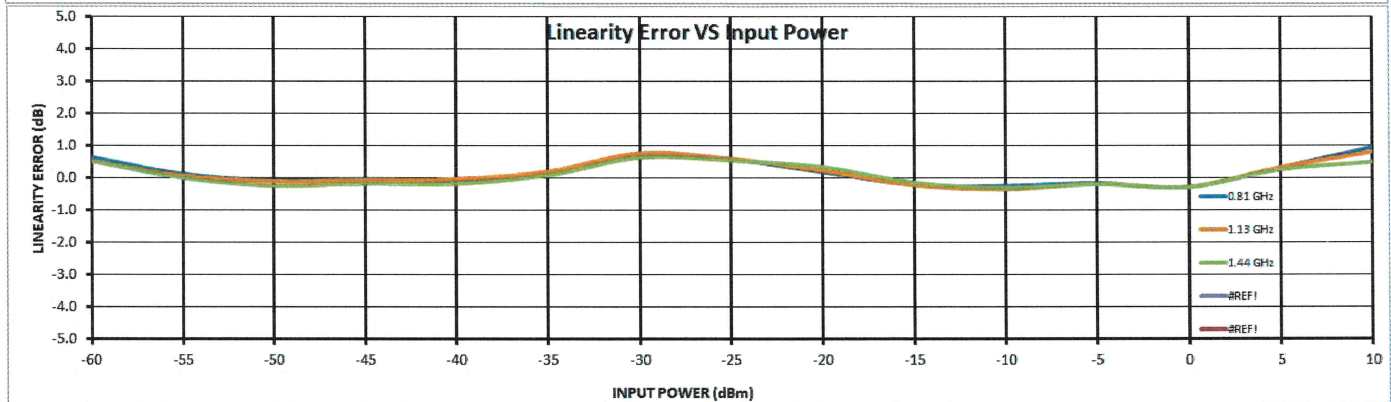
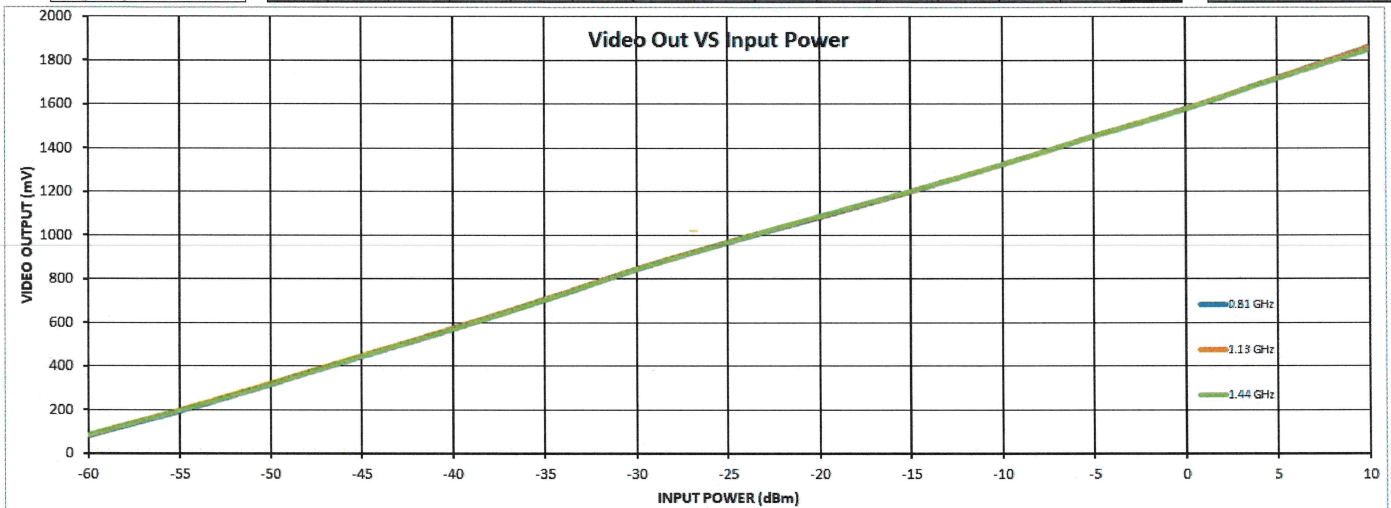


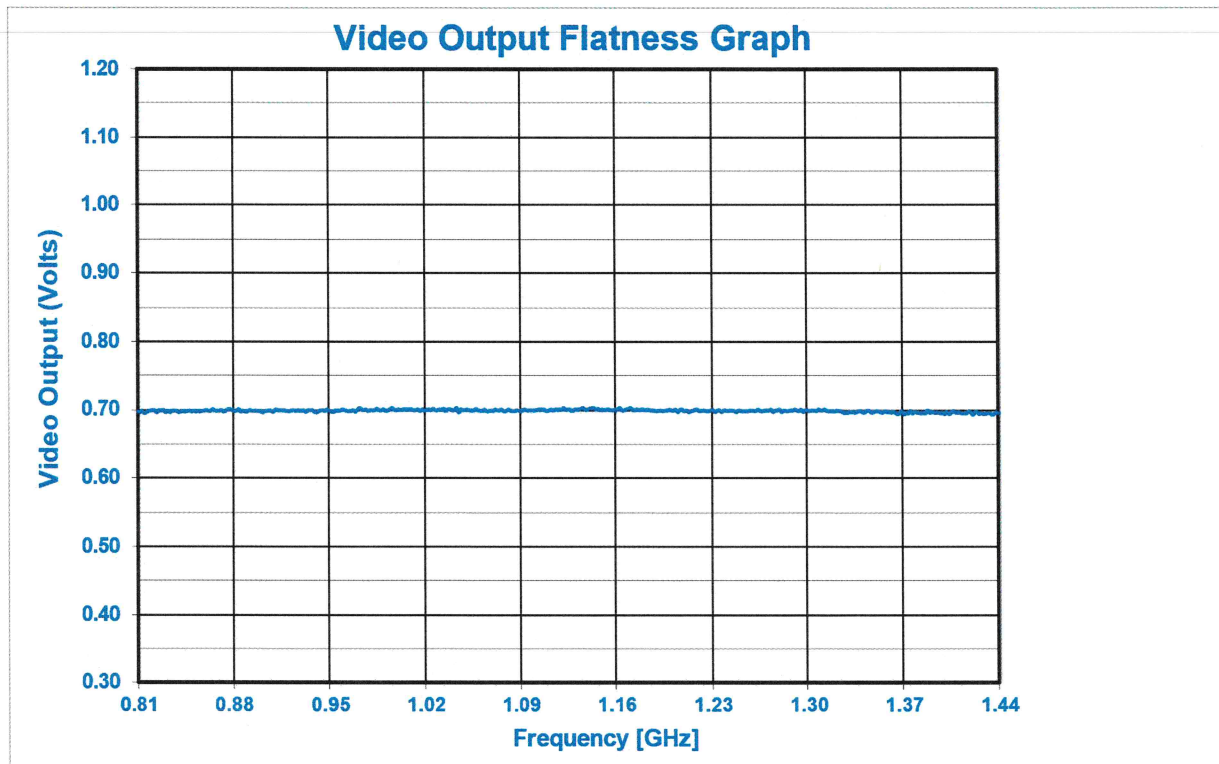
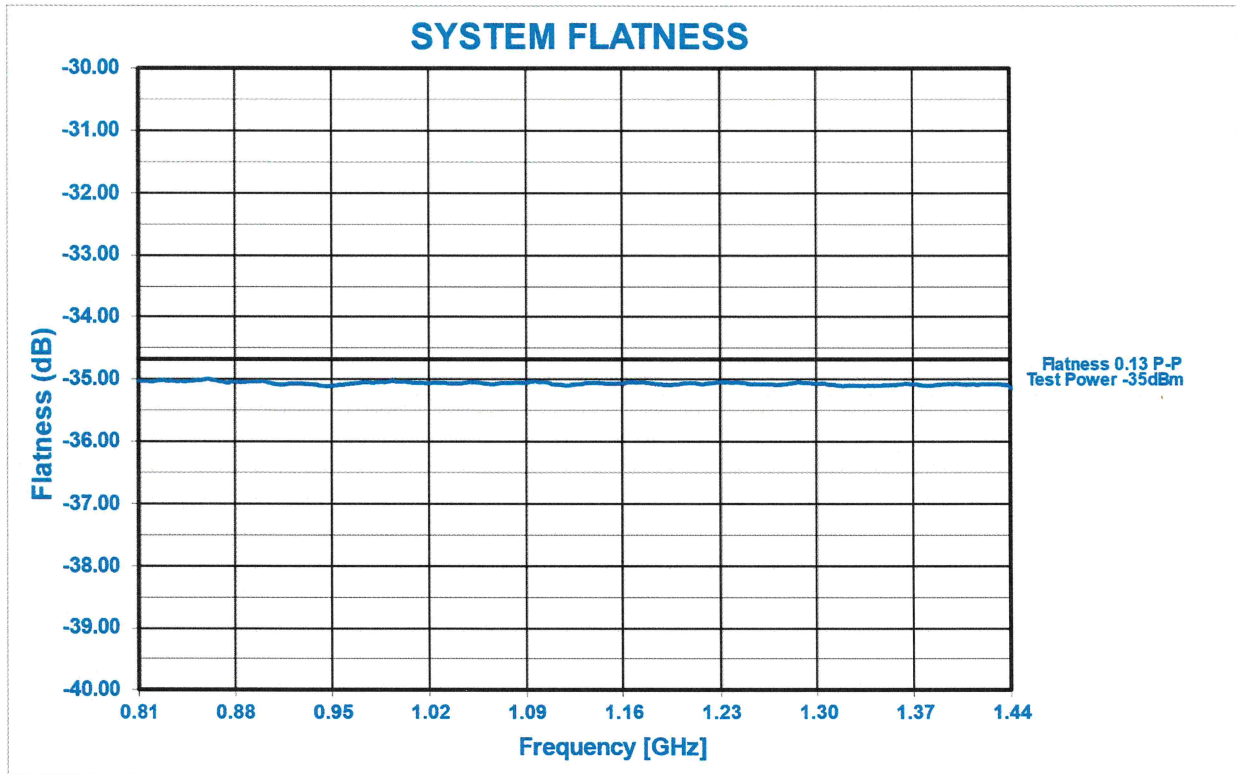
Transfer Response at +85°C

Model: GMDA-D1005-08R11R44
 Serial No.: PL49350
 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) | 80 | 194 | 316 | 444 | 570 | 703 | 844 | 967 | 1084 | 1201 | 1327 | 1456 | 1580 | 1722 | 1865 | Measured Value (mV) |
| | SLOPE (mV/dB) | 17 | 4 | -1 | 9 | -1 | 5 | 19 | 15 | 5 | -5 | -8 | -4 | -6 | 9 | 25 | ERROR (mV) |
| | LIN. ERR. (dB) | 0.65 | 0.14 | -0.05 | -0.01 | -0.04 | 0.20 | 0.75 | 0.60 | 0.20 | -0.19 | -0.22 | -0.14 | -0.26 | 0.34 | 0.97 | LINEARITY ERROR (dB) |
| 1.13 GHz | INTERCEPT (mV) | 86 | 201 | 323 | 450 | 577 | 709 | 849 | 971 | 1088 | 1203 | 1326 | 1456 | 1580 | 1721 | 1859 | Measured Value (mV) |
| | SLOPE (mV/dB) | 13 | 2 | -2 | -1 | 0 | 5 | 19 | 15 | 6 | -5 | -8 | -4 | -6 | 8 | 20 | ERROR (mV) |
| | LIN. ERR. (dB) | 0.52 | 0.08 | -0.09 | -0.05 | -0.02 | 0.21 | 0.76 | 0.60 | 0.24 | -0.20 | -0.33 | -0.17 | -0.26 | 0.33 | 0.81 | LINEARITY ERROR (dB) |
| 1.44 GHz | INTERCEPT (mV) | 84 | 197 | 317 | 445 | 571 | 704 | 844 | 968 | 1089 | 1203 | 1325 | 1454 | 1578 | 1718 | 1850 | Measured Value (mV) |
| | SLOPE (mV/dB) | 13 | 0 | -6 | -4 | -4 | 2 | 16 | 14 | 9 | -3 | -7 | -5 | -7 | 7 | 13 | ERROR (mV) |
| | LIN. ERR. (dB) | 0.53 | 0.01 | -0.23 | -0.16 | -0.17 | 0.10 | 0.65 | 0.56 | 0.35 | -0.13 | -0.30 | -0.18 | -0.27 | 0.28 | 0.51 | LINEARITY ERROR (dB) |
| Avg. Slope: 25.3 mV/dB | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.3 | Flatness dB: ±0.3 dB |





SIZE
A

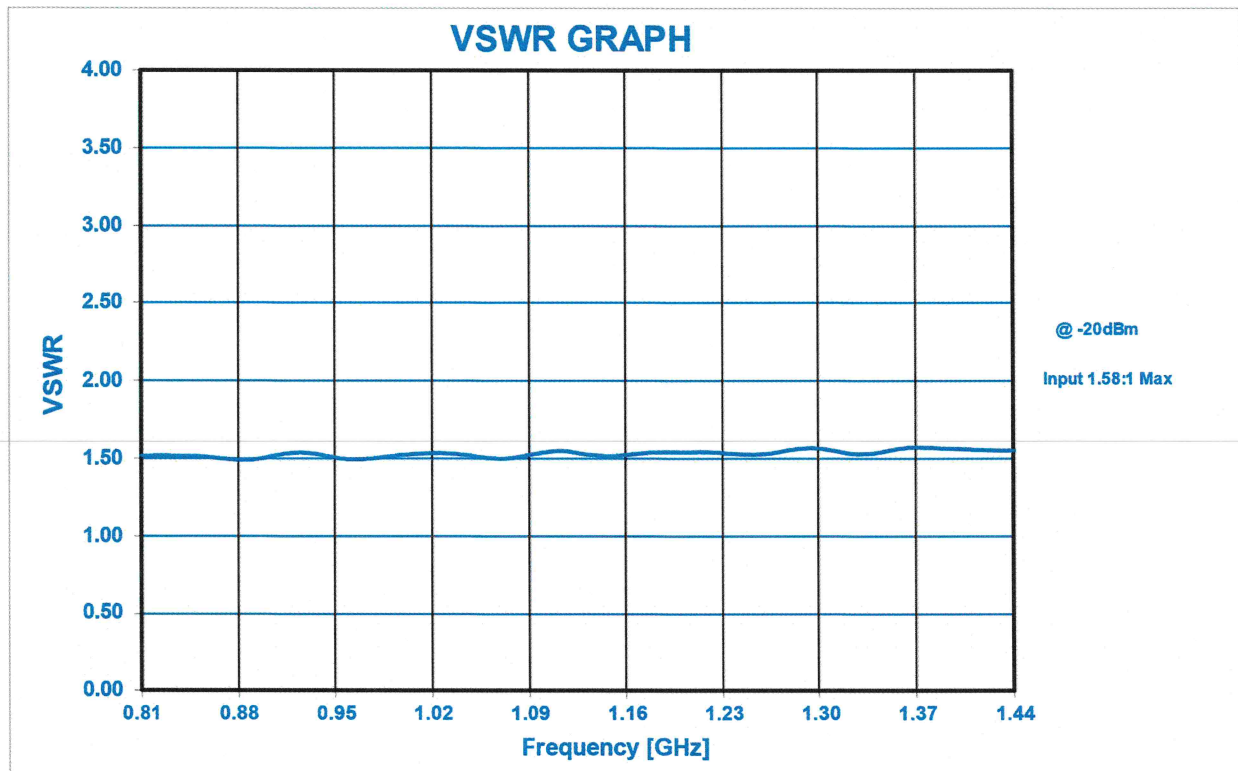
SCALE


CAGE CODE
71A34

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REVISION A1

SHEET 8 OF 9



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