

**TYPICAL CHARACTERISTICS  
ON  
PMI-AFD4-020080-23P-SMA-2**

**PMI MODEL PMI-AFD4-020080-23P-SMA-2 IS A 2.0 TO 8.0 GHz AMPLIFIER THAT PROVIDES A NOMINAL INPUT P1dB POWER LEVEL OF -6 dBm. SUPPLIED IN A SMALL HOUSING ONLY MEASURING 1.83" X 0.76" X 0.20". THIS MODEL PROVIDES THE FOLLOWING PERFORMANCE:**



**July 18, 2023**

**Tested & Reported By:  
E. Kretz**

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Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)

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ON  
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**OUTLINE DRAWING**

|        |                  |       |            |
|--------|------------------|-------|------------|
| SCALE: | US/UK/1125       | DATE: | 09/10/2020 |
| A1     | ORIGINAL RELEASE | AM/MS |            |

**DESCRIPTION:**  
PMI MODEL PMI-AFD4-020080-23P-SMA-2 IS A 2.0 TO 8.0 GHz AMPLIFIER THAT PROVIDES A NOMINAL INPUT P1dB POWER LEVEL OF -6 dBm. SUPPLIED IN A SMALL HOUSING ONLY MEASURING 1.83" X 0.76" X 0.20". THIS MODEL PROVIDES THE FOLLOWING PERFORMANCE:

**SPECIFICATIONS:**

- FREQUENCY RANGE:..... 2.0 TO 8.0 GHz
- GAIN:..... 32 dB MIN
- GAIN FLATNESS:..... ± 2.0 dB MAX
- INPUT P1dB:..... -6 dBm TYP, -6.5 dBm MIN
- NOISE FIGURE:..... 4.5 dB MAX
- VSWR INPUT/OUTPUT:..... 2.0 : 1 MAX
- DC POWER (NO RF INPUT):..... 600 mA NOMINAL, 650 mA MAX @ +15V
- CONNECTORS:..... SMA (F) (FIELD REPLACEABLE)
- FINISH:..... GOLD PLATED
- SIZE:..... 1.83" X 0.76" X 0.20"

**ENVIRONMENTAL RATINGS:**

- TEMPERATURE:..... 0°C TO +70°C (OPERATING)  
..... -25°C TO +95°C (STORAGE)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- VIBRATION:..... MIL-STD-202, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

|  |       |
|--|-------|
| <b>PMI CONFIDENTIAL AND PROPRIETARY</b>  |       |
| <b>Quantic PMI</b>   |       |
| <small>PLANAR MONOLITHICS</small>  |       |
| <small>10000 QUANTIC DRIVE, FREDERICK, MD 21704 USA<br/>TEL: (301) 662-5019 FAX: (301) 662-1731<br/>WWW.QUANTICPMI.COM</small> |       |
| APPROVED:  | DATE: |
| RELEASED:  | DATE: |
| DESIGNED:  | DATE: |
| REV:   | DATE: |
| SCALE:   | 1     |
| sheet 1 OF 1   |       |

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**TEST DATA SUMMARY @ +25° C**

| TEST ITEM NO. | PARAMETERS                 | SPECIFIED VALUE                       | Test Results  |
|---------------|----------------------------|---------------------------------------|---|
| 1             | Frequency Range:           | 2.0 - 8.0 GHz                         | <b>2.0 - 8.0 GHz</b>                                |
| 2             | Gain:                      | 32 dB Min.                            | <b>+33.9 dB Max.<br/>+32.4 dB Min.<br/>See Plot</b> |
| 3             | Gain Flatness:             | ±2.0 dB Max.                          | <b>±0.73 dB<br/>See Plot</b>                        |
| 4             | Noise Figure:              | 4.5 dB Max.                           | <b>3.9 dB<br/>See Plot</b>                          |
| 5             | Input P1dB:                | -6 dBm TYP.<br>-6.5 dBm MIN.          | <b>-5.9 dBm</b>                                     |
| 6             | VSWR: (IN/OUT)             | 2:1 Max.                              | <b>1.5:1 In<br/>1.8:1 Out<br/>See Plot</b>          |
| 7             | DC Power:<br>(NO RF INPUT) | 600 mA Nominal<br>650 mA MAX. @ +15 V | <b>600 mA</b>                                       |

**TEST DATA SUMMARY @ +70° C**

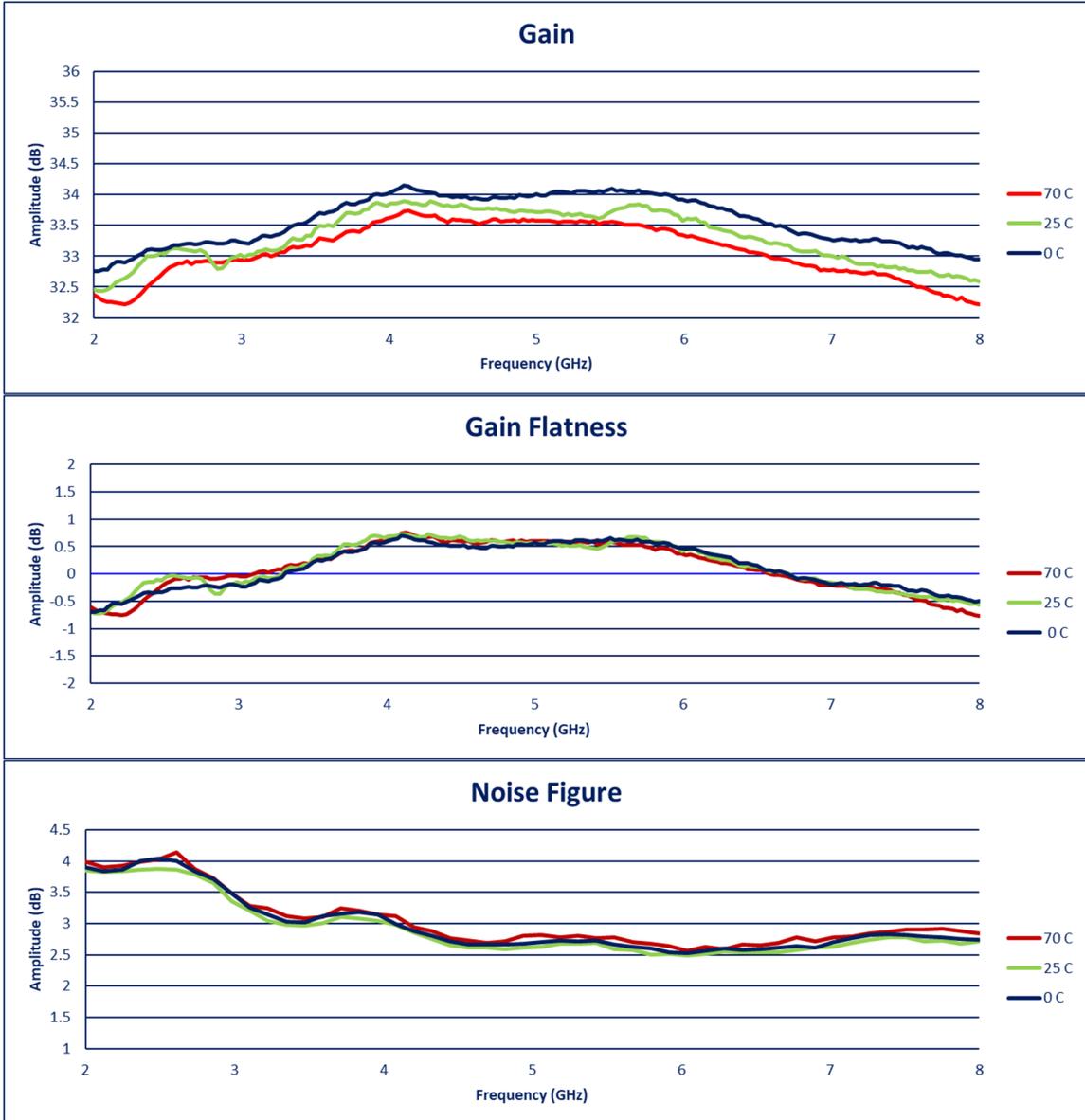
| TEST ITEM NO. | PARAMETERS                 | SPECIFIED VALUE                       | Test Results  |
|---------------|----------------------------|---------------------------------------|---|
| 1             | Frequency Range:           | 2.0 - 8.0 GHz                         | <b>2.0 - 8.0 GHz</b>                                |
| 2             | Gain:                      | 32 dB Min.                            | <b>+33.7 dB Max.<br/>+32.2 dB Min.<br/>See Plot</b> |
| 3             | Gain Flatness:             | ±2.0 dB Max.                          | <b>±0.76 dB<br/>See Plot</b>                        |
| 4             | Noise Figure:              | 4.5 dB Max.                           | <b>4.1 dB<br/>See Plot</b>                          |
| 5             | Input P1dB:                | -6 dBm TYP.<br>-6.5 dBm MIN.          | <b>-5.85 dBm</b>                                    |
| 6             | VSWR: (IN/OUT)             | 2:1 Max.                              | <b>1.5:1 In<br/>1.8:1 Out<br/>See Plot</b>          |
| 7             | DC Power:<br>(NO RF INPUT) | 600 mA Nominal<br>650 mA MAX. @ +15 V | <b>615 mA</b>                                       |

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**TEST DATA SUMMARY @ 0° C**

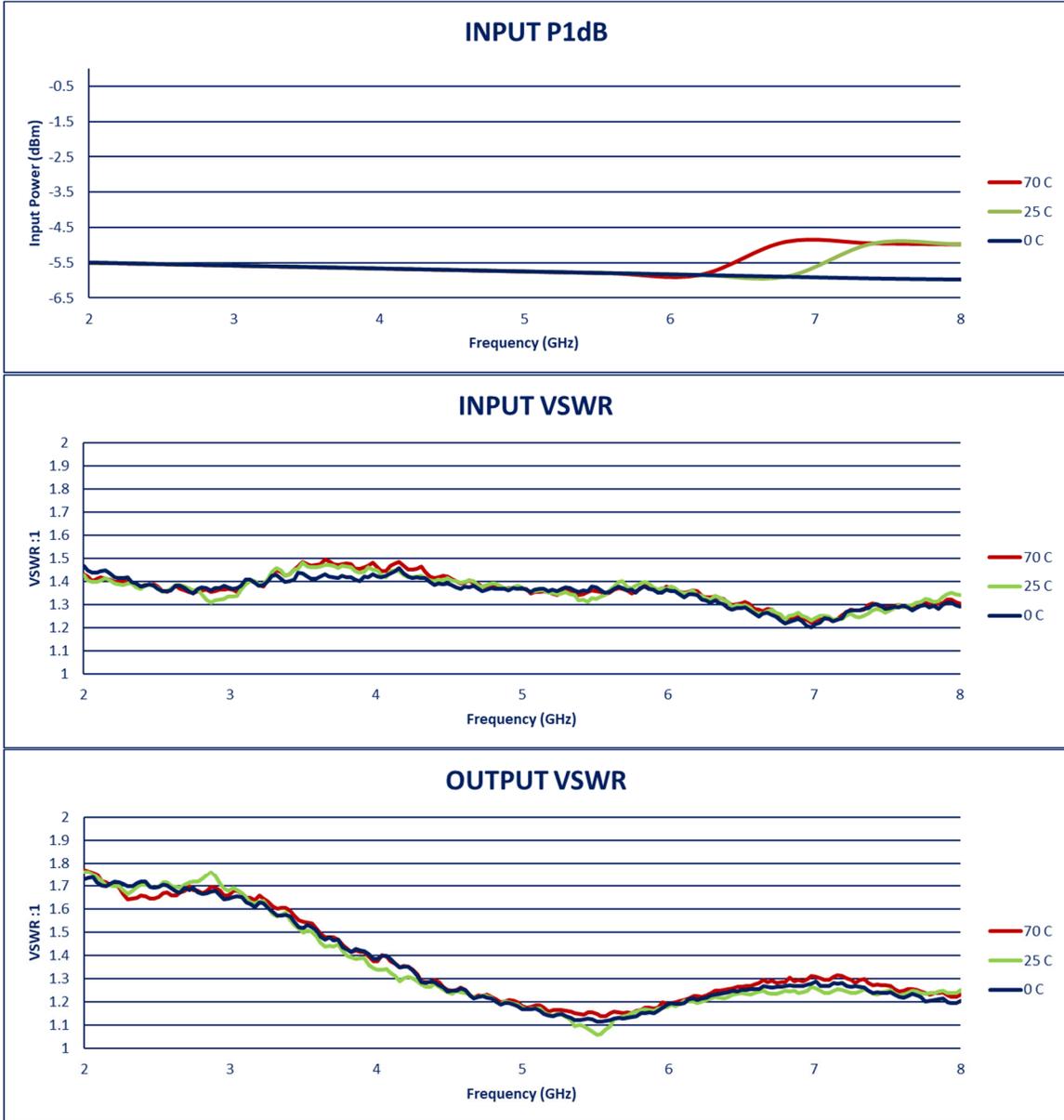
| <b>TEST ITEM NO.</b> | <b>PARAMETERS</b>          | <b>SPECIFIED VALUE</b>                | <b>Test Results</b>                                 |
|----------------------|----------------------------|---------------------------------------|---|
| 1                    | Frequency Range:           | 2.0 - 8.0 GHz                         | <b>2.0 - 8.0 GHz</b>                                |
| 2                    | Gain:                      | 32 dB Min.                            | <b>+34.1 dB Max.<br/>+32.8 dB Min.<br/>See Plot</b> |
| 3                    | Gain Flatness:             | ±2.0 dB Max.                          | <b>±0.7 dB<br/>See Plot</b>                         |
| 4                    | Noise Figure:              | 4.5 dB Max.                           | <b>4 dB<br/>See Plot</b>                            |
| 5                    | Input P1dB:                | -6 dBm TYP.<br>-6.5 dBm MIN.          | <b>-5.98 dBm</b>                                    |
| 6                    | VSWR: (IN/OUT)             | 2:1 Max.                              | <b>1.5:1 In<br/>1.7:1 Out<br/>See Plot</b>          |
| 7                    | DC Power:<br>(NO RF INPUT) | 600 mA Nominal<br>650 mA MAX. @ +15 V | <b>590 mA</b>                                       |

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