



**SUMMARY TEST DATA  
ON  
PAT-3D1G3D5G-CD-SFF-NF**

PL23226/1831

Customer: \_\_\_\_\_ Tested By: A. Lopez  
 SO No: \_\_\_\_\_ Temperature: +25°C  
 Model No: PAT-3D1G3D5G-CD-SFF-NF Date: 10/25/18  
 Serial No: PL23226/1831 Drawing No: 27634320 Rev: A1

| TEST. ITEM NO      | PARAMETERS                          | SPECIFIED VALUE   | TEST RESULTS                  | QA QC      |  |
|--------------------|-------------------------------------|---|-------------------------------|------------|--|
| 1                  | Frequency Range:                    | 3.1 TO 3.5 GHz  | 3.1 TO 3.5 GHz<br>(See Plot)  | PMI<br>QA1 |  |
| 2                  | Input Power:                        | +10 dBm CW  | +22dBm<br>(See Graph)         |            |  |
| 3                  | Power Handling<br>(Without Damage): | 0.5 W Peak Power<br>256us Pulse Width, 0.06 Duty Factor.  | Pass By Design                |            |  |
| Low Loss State:    |                                     |   |                               |            |  |
| 4                  | Insertion Loss:                     | 1.10 dB MAX (BI-DIRECTIONAL)  | 0.82 - 0.83dB<br>(See Plot)   |            |  |
| 5                  | Variation In Loss:                  | ± 0.2 dB Over Any 10 MHz  | ±0.00025dB                    |            |  |
| 6                  | Vswr:                               | 1.20 : 1 MAX  | 1.19:1<br>(See Plot)          |            |  |
| 7                  | Insertion Loss Matching:            | ± 0.2 dB From Golden Unit   | ± 0.1 dB                      |            |  |
| 8                  | Phase Matching:                     | ± 3° From Golden Unit   | 0° / -0.937°                  |            |  |
| Attenuation State: |                                     |   |                               |            |  |
| 9                  | Attenuation:                        | 30 dB ± 1.0 dB (BI-DIRECTIONAL)   | 30.18 – 30.91dB               |            |  |
| 10                 | Variation In Attenuation:           | ± 0.2 dB Over Any 10 MHz  | ± 0.0018dB                    |            |  |
| 11                 | Vswr:                               | 1.25 : 1 MAX  | 1.24:1<br>(See Plot)          |            |  |
| 12                 | Insertion Loss Matching:            | ± 0.20 dB From Golden Unit  | ± 0.19 dB                     |            |  |
| 13                 | Phase Matching:                     | ± 3° From Golden Unit   | 1.40° / 2.25°                 |            |  |
| Noise Figure:      |                                     |   |                               |            |  |
| 14                 | Low Loss State:                     | 1.10 dB MAX. (BI-DIRECTIONAL)   | 0.83dB                        |            |  |
| 15                 | Attenuation State:                  | 30 dB ±1.0 dB MAX.  | 30.91 dB                      |            |  |
| 16                 | Switching Speed:                    | 0.5 us MAX  | 0.420 us                      |            |  |
| 17                 | Logic Levels:                       | PIN D > PIN E: Low Loss State<br>PIN E > PIN D: Attenuation State<br>(INPUT INTO 26LS32 RECEIVER) | Pass                          |            |  |
| 18                 | Dc Power Supply:                    | +15V @ 250 mA MAX<br>-15V @ 100 mA MAX  | +15V @ 124 mA<br>-15V @ 15 mA |            |  |

QA/QC Approval: \_\_\_\_\_

PMI  
QA1

Date: \_\_\_\_\_

10/26/18

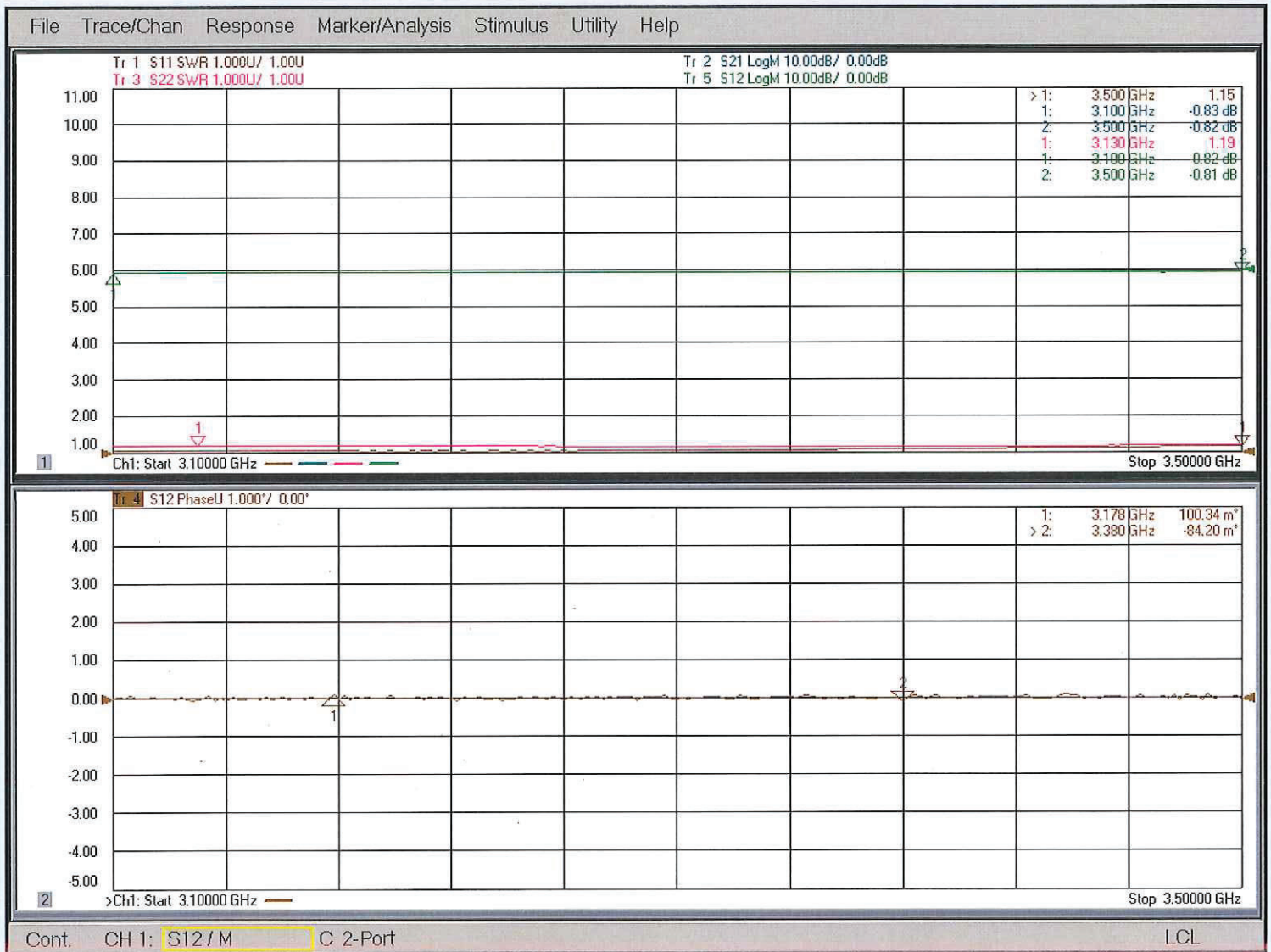
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 Phone: (301) 662-5019 Fax: (301) 662-1731  
 Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)



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**Low Loss State (Bi-Directional), Return Loss and Phase**



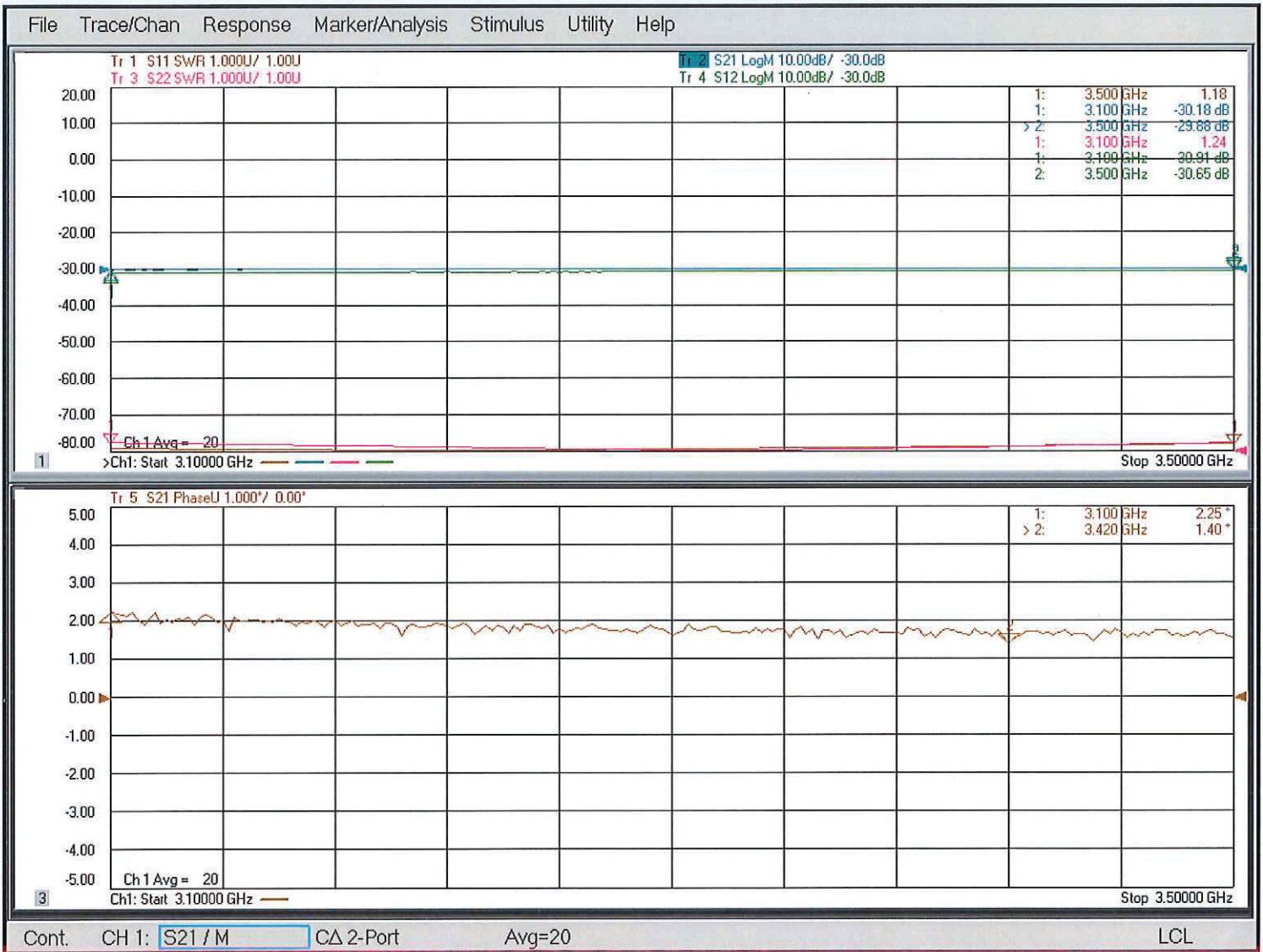
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**Attenuation State (Bi-Directional), Return Loss and Phase**



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## DESCRIPTION

PMI MODEL PAT-3D1G3D5G-CD-SFF-NF IS A BI-DIRECTIONAL VARIABLE ATTENUATOR THAT OPERATES BETWEEN 3.1 AND 3.5 GHz. AT THE LOW LOSS STATE THE INSERTION LOSS IS BETTER THAN 1.1 dB, AND IN THE ATTENUATION STATE THERE IS 30 dB OF LOSS.

## SPECIFICATIONS

- FREQUENCY RANGE: 3.1 TO 3.5 GHz
- INPUT POWER: +10 dBm CW
- POWER HANDLING (WITHOUT DAMAGE): 0.5 W PEAK POWER  
256us pulse width, 0.06 duty factor.
- LOW LOSS STATE:  
INSERTION LOSS: 1.10 dB MAX (BI-DIRECTIONAL)  
VARIATION IN LOSS: ± 0.2 dB OVER ANY 10 MHz  
VSWR: 1.20 : 1 MAX
- ATTENUATION STATE:  
ATTENUATION: 30 dB ± 1.0 dB (BI-DIRECTIONAL)  
VARIATION IN ATTENUATION: ± 0.2 dB OVER ANY 10 MHz  
VSWR: 1.25 : 1 MAX  
INSERTION LOSS MATCHING: ± 0.20 dB FROM GOLDEN UNIT  
PHASE MATCHING: ± 3° FROM GOLDEN UNIT
- NOISE FIGURE:  
LOW LOSS STATE: 1.10 dB MAX. (BI-DIRECTIONAL)  
ATTENUATION STATE: 30 dB ± 1.0 dB MAX.
- SWITCHING SPEED: 0.5 us MAX
- LOGIC LEVELS: PIN D > PIN E: LOW LOSS STATE  
PIN E > PIN D: ATTENUATION STATE (INPUT INTO 26LS32 RECEIVER)
- DC POWER SUPPLY:  
+V: +15V @ 250 mA MAX  
-V: -15V @ 100 mA MAX
- SIZE: 5.87" x 2.50" x 1.40"
- FINISH: PAINTED BLUE

## ENVIRONMENTAL RATINGS

- TEMPERATURE: -55 °C TO +85 °C (OPERATING)  
-65 °C TO +125 °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 OPERATING TEMPERATURE

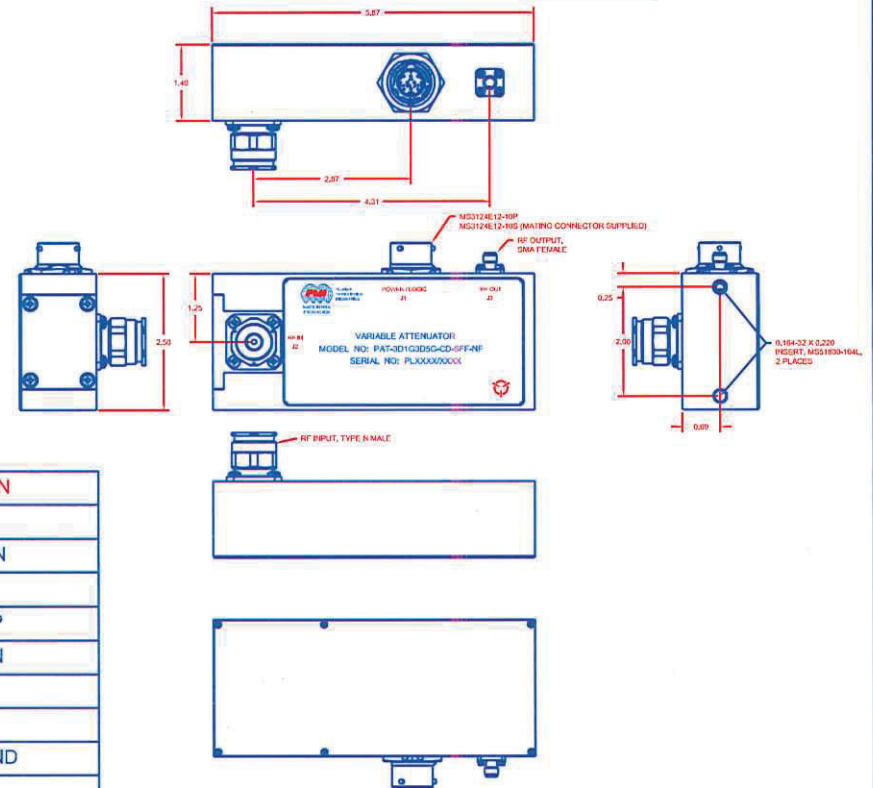
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

**PMI CONFIDENTIAL AND PROPRIETARY**

ALL DIMENSIONS ARE IN INCHES [mm]  
TOLERANCES:  
X.XX ±0.020  
X.XXX ±0.010

| REVISIONS |      |                  |           |          |
|-----------|------|------------------|-----------|----------|
| ZONE      | REV. | DESCRIPTION      | DATE      | APPROVED |
|           | A1   | ORIGINAL RELEASE | 4/29/2018 |          |
|           |      |                  |           |          |
|           |      |                  |           |          |

## MECHANICAL OUTLINE



| PIN | FUNCTION    |
|-----|-------------|
| A   | +15V        |
| B   | DC RETURN   |
| C   | -15V        |
| D   | CTL LOGIC P |
| E   | CTL LOGIC N |
| F   | N/C         |
| G   | N/C         |
| H   | CHASSIS GND |
| J   | N/C         |
| K   | N/C         |

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| APPROVALS |     | DATE    | TITLE                  |          |          | REV.   |
|-----------|-----|---------|------------------------|----------|----------|--------|
| DRAWN     | DPD | 6/22/10 | PRODUCT FEATURE        |          |          |        |
| REDRAWN   | JPU | 4/29/18 | PAT-3D1G3D5G-CD-SFF-NF |          |          |        |
| ISSUED    |     |         | SIZE                   | FSCM NO. | DWG NO.  |        |
|           |     |         | A                      | 05XQ0    | 27034320 | A1     |
|           |     |         | SCALE                  | N:S      | SHEET    | 1 OF 1 |