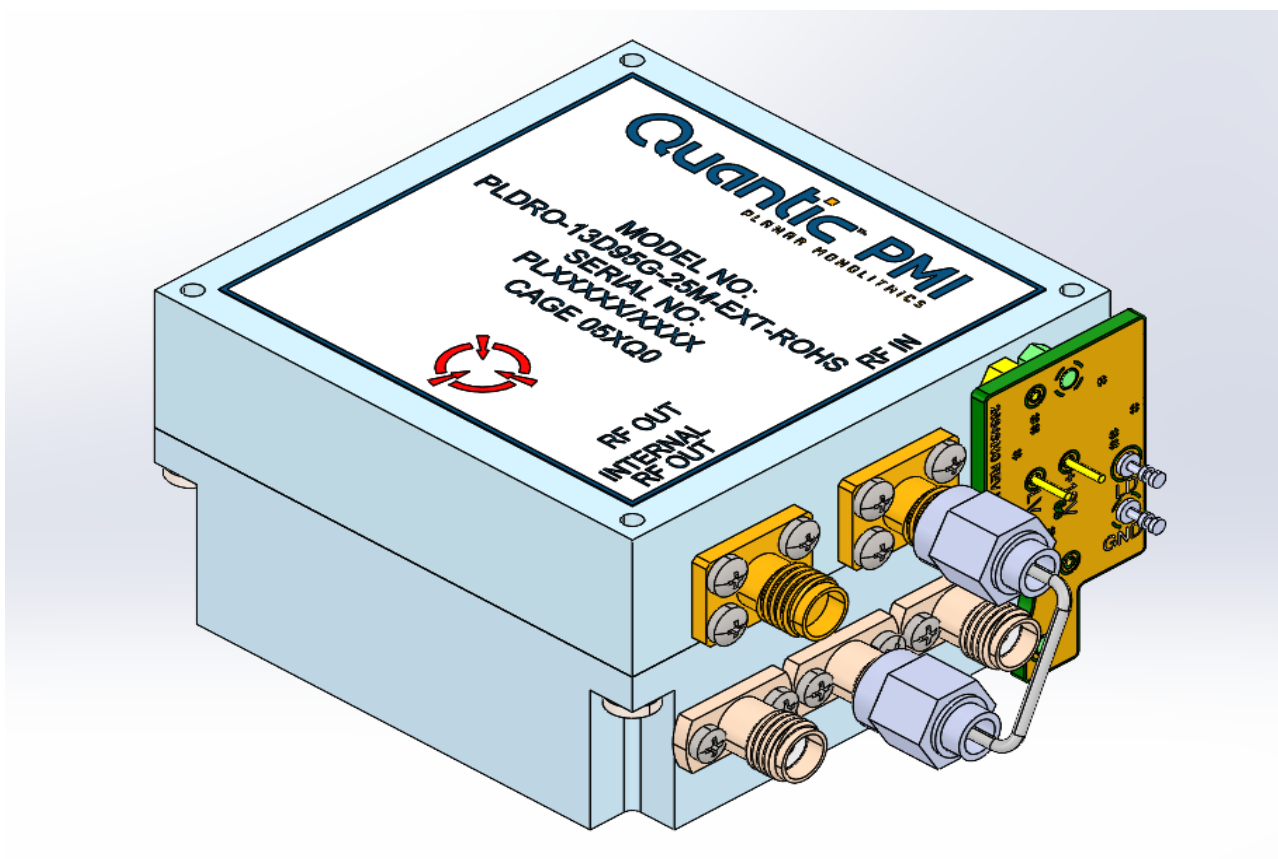


**TYPICAL CHARACTERISTICS  
ON  
PLDRO-13D95G-25M-EXT-ROHS**

**PMI MODEL PLDRO-13D95G-25M-EXT-ROHS IS A PLDRO WITH AN OUTPUT FREQUENCY  
OF 13.950 GHz. THIS MODEL IS OUTFITTED WITH SMA CONNECTORS.**



**Tested By**

**Reported By  
Robert Sirk**

**Date**

# TYPICAL CHARACTERISTICS ON PLDRO-13D95G-25M-EXT-ROHS

## PRODUCT FEATURE

### DESCRIPTION:

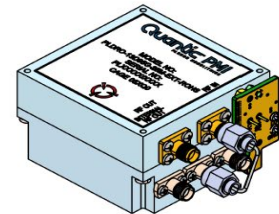
PMI MODEL PLDRO-13D95G-25M-EXT-ROHS IS A PLDRO WITH AN OUTPUT FREQUENCY OF 13.950 GHz. THIS MODEL IS OUTFITTED WITH SMA CONNECTORS.

### SPECIFICATIONS:

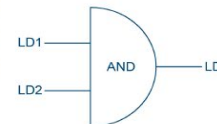
- OUTPUT FREQUENCY:..... 13.950 GHz
- REFERENCE FREQUENCY:..... 25 MHz (EXTERNAL)
- OUTPUT POWER INTO 50 OHMS OVER:..... +13 TO +15 dBm
- THE OPERATIONAL TEMPERATURE
- NO LOCK BREAK PULLING VSWR:..... 3.0:1 MAX
- OUTPUT DISCRETE SPURIOUS:..... -76 dBc MAX  
@ ± (10 MHz TO 2 GHz) AWAY FROM CARRIER
- OUTPUT HARMONICS:..... -20 dBc MAX
- OUTPUT SSB PHASE NOISE:..... -46 dBc/Hz MAX @ 10 Hz OFFSET  
PHASE NOISE BETWEEN TWO SPECIFIED POINTS  
SHALL BE LOWER THAN THE STRAIGHT LINE  
DRAWN BETWEEN THE TWO POINTS ON A dB vs LOG  
FREQUENCY PLOT.  
-71 dBc/Hz MAX @ 100 Hz OFFSET  
-101 dBc/Hz MAX @ 1 kHz OFFSET  
-111 dBc/Hz MAX @ 10 kHz OFFSET  
-116 dBc/Hz MAX @ 100 kHz OFFSET  
-131 dBc/Hz MAX @ 1 MHz OFFSET  
-141 dBc/Hz MAX @ ≥10 MHz OFFSET
- REFERENCE INPUT POWER:..... +10 ±3 dBm
- REFERENCE INPUT SPURIOUS @ > 1MHz:..... -80 dBc MAX  
AWAY FROM THE CARRIER
- EXTERNAL REFERENCE SSB PHASE :..... -110 dBc/Hz MAX @ 10 Hz OFFSET  
-137 dBc/Hz MAX @ 100 Hz OFFSET  
-156 dBc/Hz MAX @ 1 kHz OFFSET  
-165 dBc/Hz MAX @ 10 kHz OFFSET  
-168 dBc/Hz MAX @ 100 kHz OFFSET
- DC POWER SUPPLY INPUT :..... +12 +/- 0.5 VDC, 500 mA MAX
- LOCK INDICATOR OUTPUT :..... TTL HIGH FOR IN-LOCK  
TTL LOW FOR OUT-OF-LOCK
- PHASE VOLTAGE MONITOR OUTPUT :..... 0 TO +12 VDC
- OPERATIONAL TEMPERATURE AT :..... -50°C TO +75°C  
MOUNTING PLATE
- COLD START TEMPERATURE :..... -45°C MAX
- RF CONNECTORS :..... SMA FEMALE
- PINS :..... SOLDERABLE
- FINISH :..... NICKEL PLATED

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

| ZONE | REV | DESCRIPTION      | DATE      | APPROVED |
|------|-----|------------------|-----------|----------|
|      | A1  | ORIGINAL RELEASE | 3/26/2023 |          |

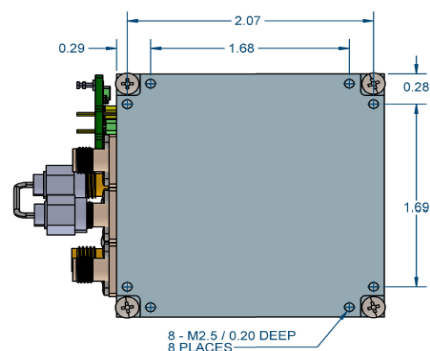
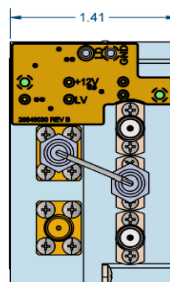
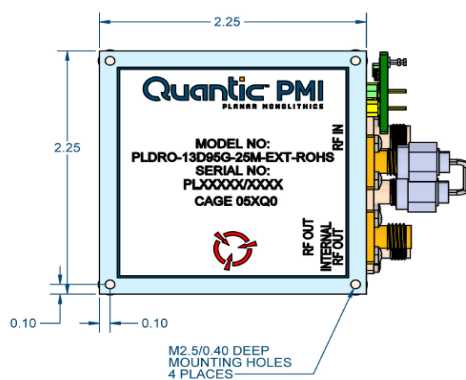


| INPUT    |          | OUTPUT   |
|----------|----------|----------|
| LD1      | LD2      | LD       |
| TTL LOW  | TTL LOW  | TTL LOW  |
| TTL LOW  | TTL HIGH | TTL LOW  |
| TTL HIGH | TTL LOW  | TTL LOW  |
| TTL HIGH | TTL HIGH | TTL HIGH |



PMI CONFIDENTIAL AND PROPRIETARY

| APPROVALS |         | DATE      | TITLE     |                           |
|-----------|---------|-----------|-----------|---------------------------|
| DESIGN    | R. SIKK | 3/26/2023 | OUTLINE   | PLDRO-13D95G-25M-EXT-ROHS |
| REVISION  |         |           | DATE      | REV                       |
|           |         |           | B. 05XQ0  | 27047240                  |
|           |         |           | SCALE 1:1 | SHEET 1 OF 2              |



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

| APPROVALS |         | DATE      | TITLE     |                           |
|-----------|---------|-----------|-----------|---------------------------|
| DESIGN    | R. SIKK | 3/26/2023 | OUTLINE   | PLDRO-13D95G-25M-EXT-ROHS |
| REVISION  |         |           | DATE      | REV                       |
|           |         |           | B. 05XQ0  | 27047240                  |
|           |         |           | SCALE 1:1 | SHEET 2 OF 2              |

**TYPICAL CHARACTERISTICS  
ON  
PLDRO-13D95G-25M-EXT-ROHS**

**Test Data**

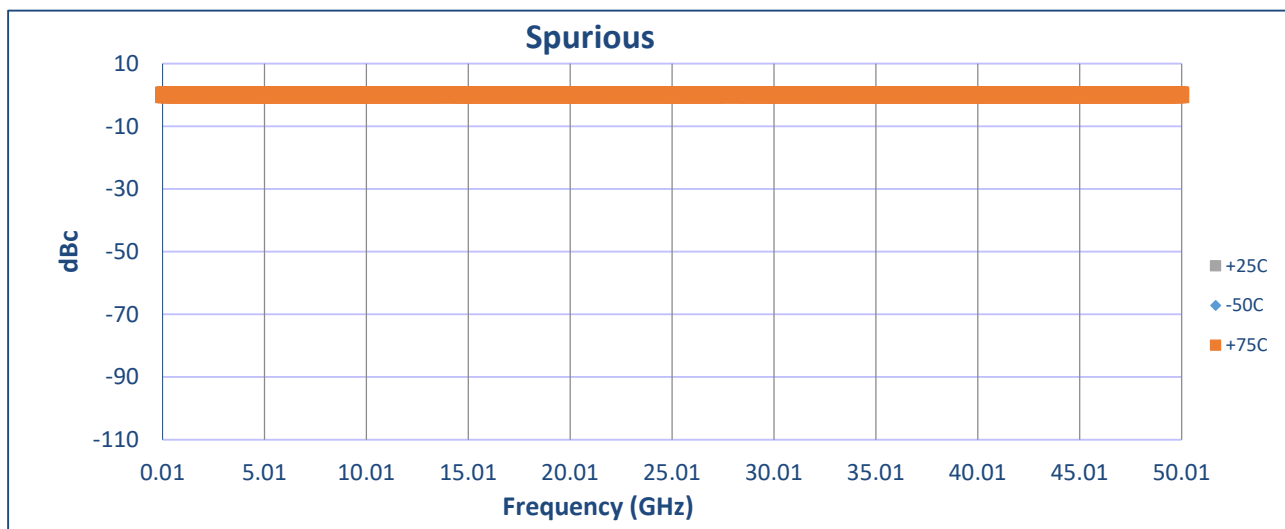
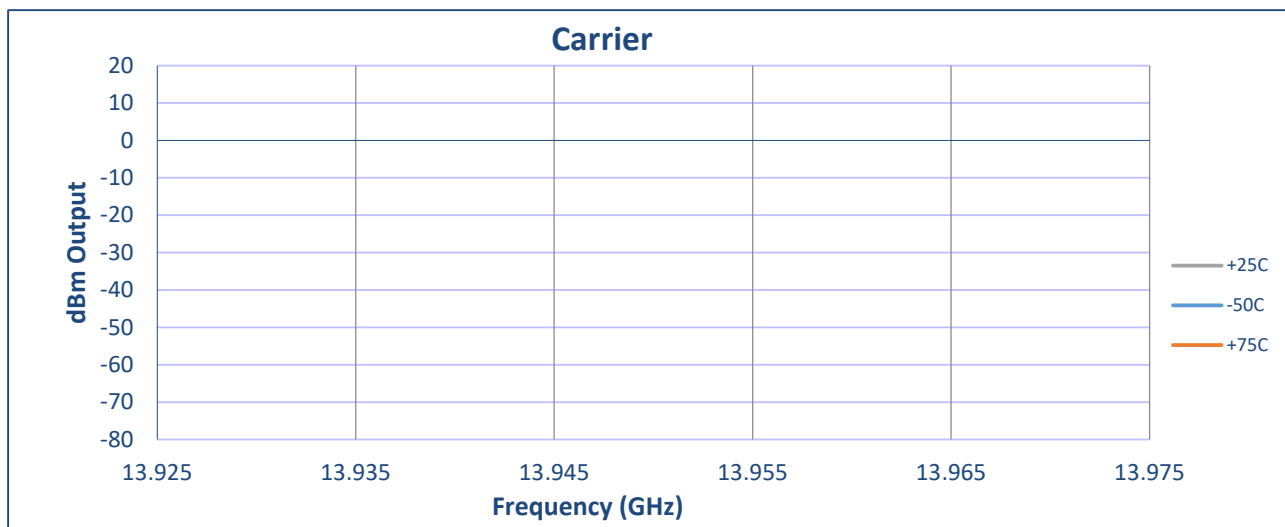
| TEST ITEM | PARAMETERS                         | SPECIFIED VALUE                                                                                                                                                                               | TEST RESULTS                                                                                                                            |            |            |
|-----------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
|           |                                    |                                                                                                                                                                                               | 25°C                                                                                                                                    | -50°C      | 75°C       |
| 1         | Output Frequency                   | 13.950 GHz                                                                                                                                                                                    | 13.950 GHz                                                                                                                              | 13.950 GHz | 13.950 GHz |
| 2         | Reference Frequency                | 25 MHz                                                                                                                                                                                        | 25 MHz                                                                                                                                  | 25 MHz     | 25 MHz     |
| 3         | Input Power Level                  | +10 ±3 dBm                                                                                                                                                                                    | +10 ±3 dBm                                                                                                                              | +10 ±3 dBm | +10 ±3 dBm |
| 4         | No Lock Break VSWR                 | 3:1 Max                                                                                                                                                                                       | Pass By Design                                                                                                                          |            |            |
| 5         | Output Power Level                 | +13 dBm Min                                                                                                                                                                                   | Peak of carrier                                                                                                                         |            |            |
| 6         | Output Spurious (10 MHz to 50 GHz) | -76 dBc Max                                                                                                                                                                                   | 0 dBc                                                                                                                                   | 0 dBc      | 0 dBc      |
| 7         | Output Harmonics                   | -20 dBc Max                                                                                                                                                                                   | Harmonic Mode on Spectrum                                                                                                               |            |            |
| 8         | Output SSB Phase Noise             | -46 dBc/Hz @ 10 Hz Max<br>-71 dBc/Hz @ 100 Hz Max<br>-101 dBc/Hz @ 1 kHz Max<br>-111 dBc/Hz @ 10 kHz Max<br>-116 dBc/Hz @ 100 kHz Max<br>-131 dBc/Hz @ 1 MHz Max<br>-141 dBc/Hz @ ≥10 MHz Max | See Plots                                                                                                                               |            |            |
| 9         | Reference Input Spurious           | -80 dBc Max                                                                                                                                                                                   | -80 dBc Max                                                                                                                             |            |            |
| 10        | External Reference Phase Noise     | -110 dBc/Hz @ 10 Hz Max<br>-137 dBc/Hz @ 100 Hz Max<br>-156 dBc/Hz @ 1 kHz Max<br>-165 dBc/Hz @ 10 kHz Max<br>-168 dBc/Hz @ 100 kHz Max                                                       | -110 dBc/Hz @ 10 Hz Max<br>-137 dBc/Hz @ 100 Hz Max<br>-156 dBc/Hz @ 1 kHz Max<br>-165 dBc/Hz @ 10 kHz Max<br>-168 dBc/Hz @ 100 kHz Max |            |            |

\*Spurious maximum measured value includes both wideband sweep spurs and sidebands close to carrier.

**TYPICAL CHARACTERISTICS  
ON  
PLDRO-13D95G-25M-EXT-ROHS**

| TEST<br>ITEM | PARAMETERS                      | SPECIFIED VALUE                              | TEST RESULTS                                    |                                                 |                                                 |
|--------------|---------------------------------|----------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
|              |                                 |                                              | 25°C                                            | -50°C                                           | 75°C                                            |
| 11           | Lock Detector                   | TTL High - In Lock;<br>TTL Low - Out of Lock | TTL High - In Lock;<br>TTL Low - Out of<br>Lock | TTL High - In Lock;<br>TTL Low - Out of<br>Lock | TTL High - In Lock;<br>TTL Low - Out of<br>Lock |
| 12           | Supply Voltage                  | +12±0.5V @ 500mA<br>Max                      | <b>+12 ± 0.5V<br/>@ mA</b>                      | <b>+12±0.5V<br/>@ mA</b>                        | <b>+12±0.5V<br/>@ mA</b>                        |
| 13           | Phase Voltage<br>Monitor Output | 0V to +12V                                   | 0V to +12V                                      | 0V to +12V                                      | 0V to +12V                                      |
| 14           | Cold Start<br>Temperature:      | -45°C Max                                    | <b>-45°C Max</b>                                |                                                 |                                                 |

**TYPICAL CHARACTERISTICS  
ON  
PLDRO-13D95G-25M-EXT-ROHS**



**TYPICAL CHARACTERISTICS  
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**Phase Noise**