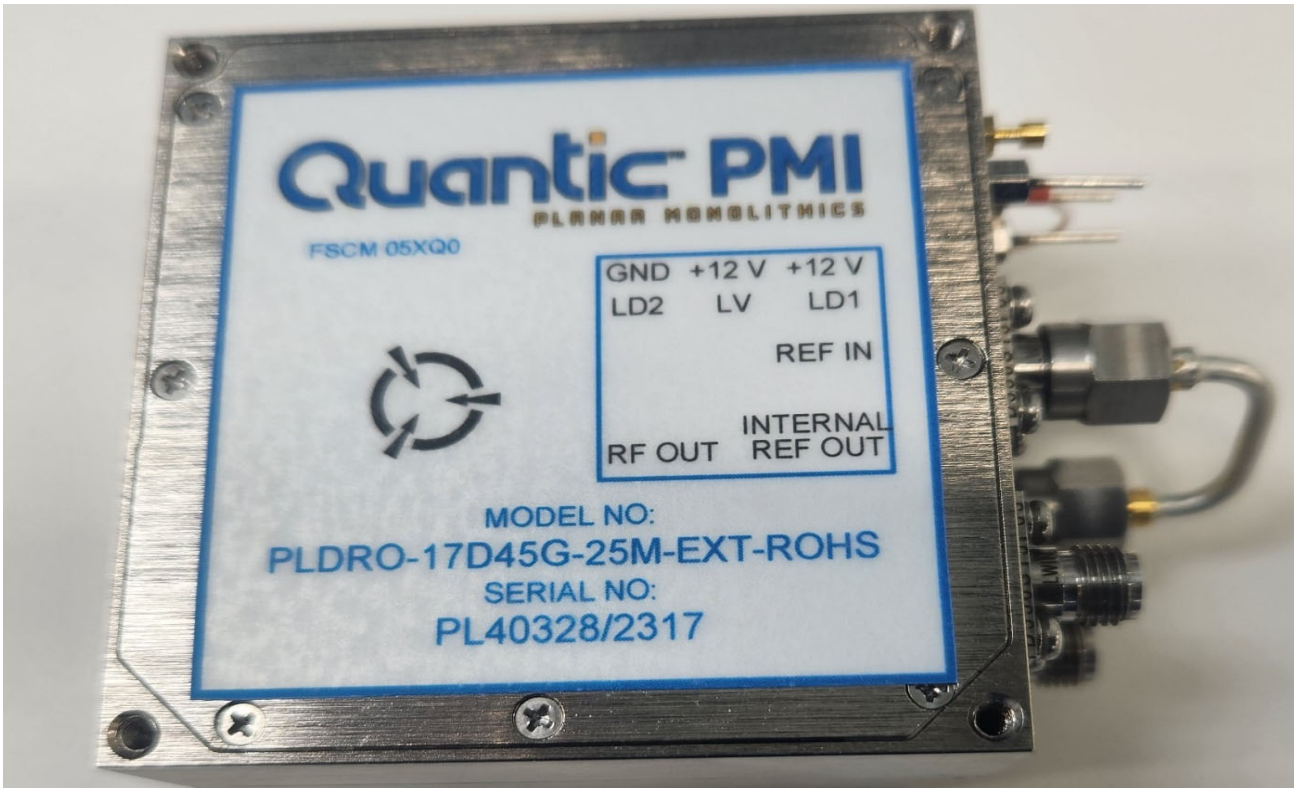
# TYPICAL CHARACTERISTICS
# ON
# PLDRO-17D45G-25M-EXT-ROHS

PMI MODEL NO. PLDRO-17D45G-25M-EXT-ROHS IS A PLDRO WITH AN OUTPUT FREQUENCY OF 17.450 GHz. THIS MODEL IS OUTFITTED WITH SMA CONNECTORS.




Reported By: Kevin Simms

Tested By: Kevin Craven

Date: May 4th, 2023

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# TYPICAL CHARACTERISTICS ON PLDRO-17D45G-25M-EXT-ROHS

## OUTLINE DRAWING

## DESCRIPTION

PMI MODEL NO. PLDRO-17D45G-25M-EXT-ROHS IS A PLDRO WITH AN OUTPUT FREQUENCY OF 17.450 GHz. THIS MODEL IS OUTFITTED WITH SMA CONNECTORS.

## SPECIFICATIONS

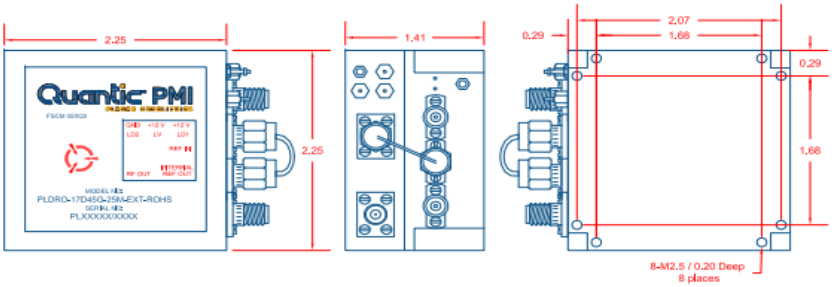
- OUTPUT FREQUENCY: ---------- 17.450 GHz
- REFERENCE FREQUENCY: --------- 25 MHz (EXTERNAL)
- OUTPUT POWER INTO 50 OHMs OVER THE OPERATIONAL TEMPERATURE : - +13 to +15 dBm
- NO LOCK BREAK PULLING VSWR: ---- 3.0:1 MIN
- OUTPUT DISCRETE SPURIOUS (10 MHz to 50 GHz): ---------- -75 dBc MAX
- OUTPUT HARMONICS: ---------- -25 dBc MAX
- SUB-HARMONICS: ---------- -60 dBc MAX (0.5 Fo, 1.5 Fo, 2.5 Fo, etc)
- OUTPUT SSB PHASE NOISE: -------- -40 dBc/Hz @ 10 Hz OFFSET
  -65 dBc/Hz @ 100 Hz OFFSET
  -80 dBc/Hz @ 1 kHz OFFSET
  -93 dBc/Hz @ 10 kHz OFFSET
  -103 dBc/Hz @ 100 kHz OFFSET
  -115 dBc/Hz @ 1 MHz OFFSET
  -128 dBc/Hz @ 10 MHz OFFSET
  -143 dBc/Hz @ 100 MHz OFFSET
- REFRENCE INPUT POWER: --------- +10 to -3 dBm
- REFRENCE INPUT SPURIOUS @ GREATER THAN 1 MHZ AWAY FROM THE CARRIER: ---------- -80 dBc MAX
- EXTERNAL REFERENCE SSB PHASE NOISE @ 25 MHz: ---------- -118 dBc/Hz @ 10 Hz OFFSET
  -137 dBc/Hz @ 100 Hz OFFSET
  -150 dBc/Hz @ 1 kHz OFFSET
  -165 dBc/Hz @ 10 kHz OFFSET
  -165 dBc/Hz @ 100 kHz OFFSET
  Wenzel P/N: 500-13837 or equivalent
- 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 MOUNTING PLATE: ---------- -40° to 75°C
- COLD START TEMPERATURE: ------- -45°C MAX
- RF CONNECTORS: ---------- SMA FEMALE
- PINS: ---------- SOLDERABLE
- FINISH: ---------- NICKEL PLATED

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

PMI CONFIDENTIAL AND PROPRIETARY

REVISIONS

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|---|---|---|---|---|
| | A1 | ORIGINAL RELEASE | 2/28/23 | |
| | | | | |
| | | | | |

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ISO 9001 CERTIFIED

| APPROVALS | DATE |
|---|---|
| DRAWN MDL | 2/28/23 |
| REDRAWN | |
| ISSUED | |

TITLE: OUTLINE
PLDRO-17D45G-25M-EXT-ROHS

| SIZE | FSCM NO. | DWG NO. | REV. |
|---|---|---|---|
| A | 05XQ0 | 27046020 | A1 |

SCALE N:S SHEET 1 OF 1

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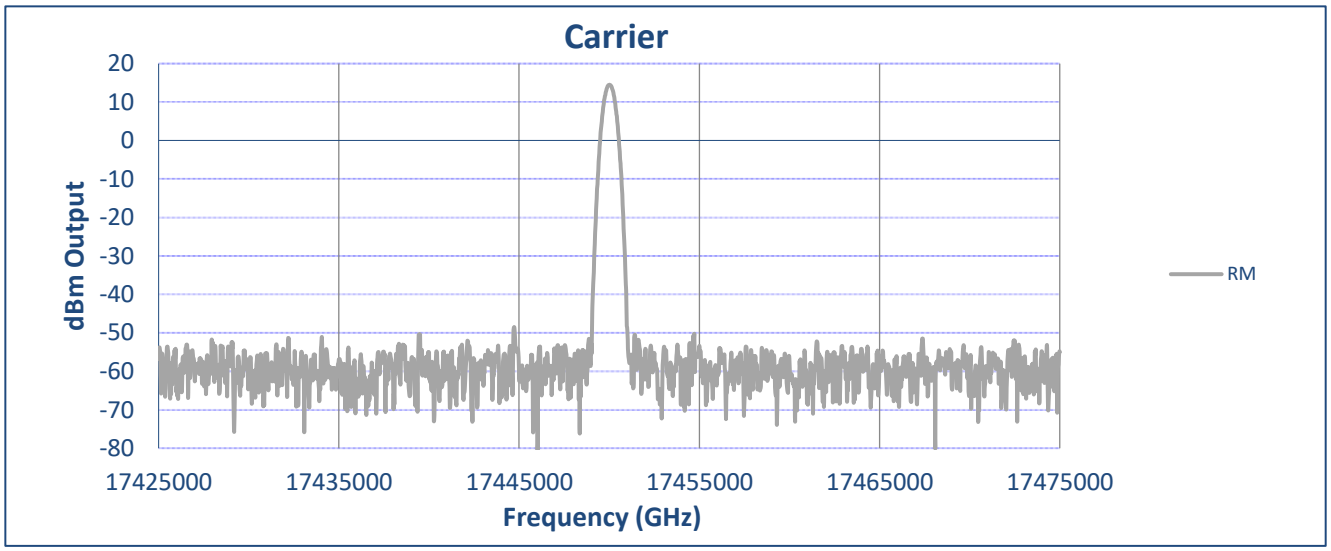
# TYPICAL CHARACTERISTICS ON PLDRO-17D45G-25M-EXT-ROHS

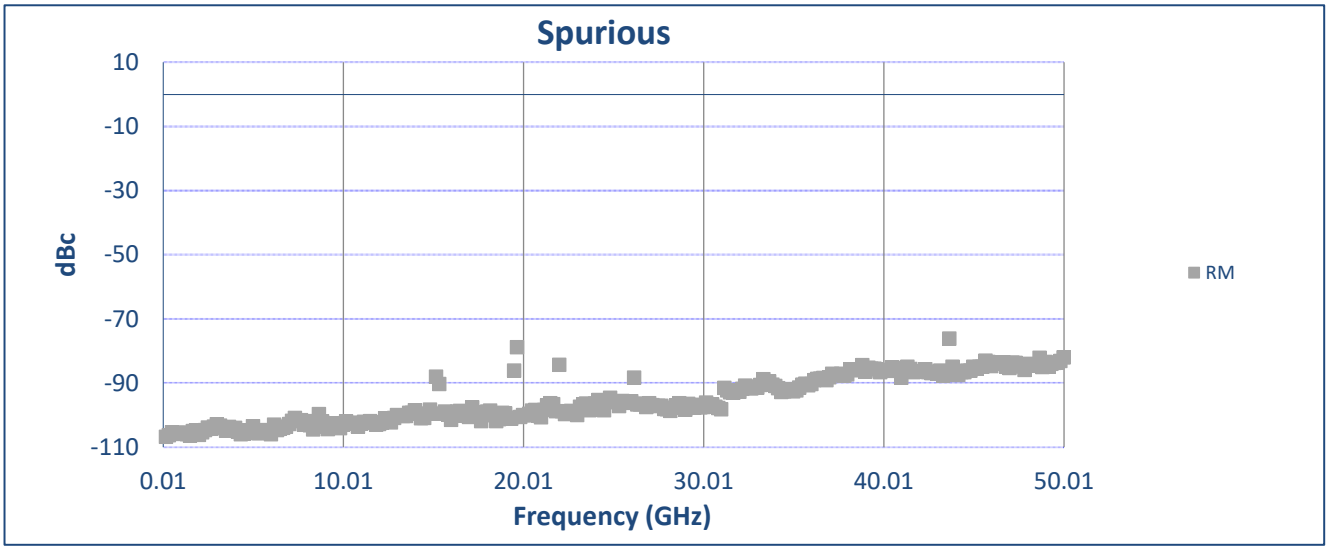
**+25°C**

| TEST ITEM | PARAMETERS | SPECIFIED VALUE | TEST RESULTS |
|---|---|---|---|
| **1** | Output Frequency | 17.45 GHz | **17.45 GHz** |
| **2** | Reference Frequency | 25 MHz External | **25 MHz External** |
| **3** | Output Power | 13 to 15 dBm | **13.8 dBm** |
| **4** | No Lock Break VSWR | 3:1 Min | **Pass** |
| **5** | Output Spurious (10 Mhz to 50 GHz) | -75 dBc Max | **-76.1 dBc** |
| **6** | Output Harmonics | -25 dBc Max | **-55.1dBc** |
| **7** | Sub Harmonics | -60 dBc Max (0.5*n Fo) | **<-60dBc** |
| **8** | Output Ssb Phase Noise | See Outline | **Pass, See Plot** |
| **9** | Reference Input Power | 10 to -3 dBm | **10 dBm** |
| **10** | Frequency Stability | Same As Reference | **Same As Reference** |
| **11** | Reference Input Spurious | -80 dBc Max | **Pass By Test Setup** |
| **12** | Reference Phase Noise | See Outline | **Pass, See Plot** |
| **13** | DC Supply | 12 +- 0.5 V, 500 mA | **12V @ 360 mA** |
| **14** | Lock Detector | TTL HIGH In Lock, TTL Low Out Lock | **Pass** |
| **15** | Phase Voltage Monitor Output | 0 to 12 V | **Pass** |
| **16** | Cold Start Temperature | -45 Degrees C Max | **Pass** |

## TYPICAL CHARACTERISTICS
## ON
## PLDRO-17D45G-25M-EXT-ROHS

**+25°C**

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## TYPICAL CHARACTERISTICS
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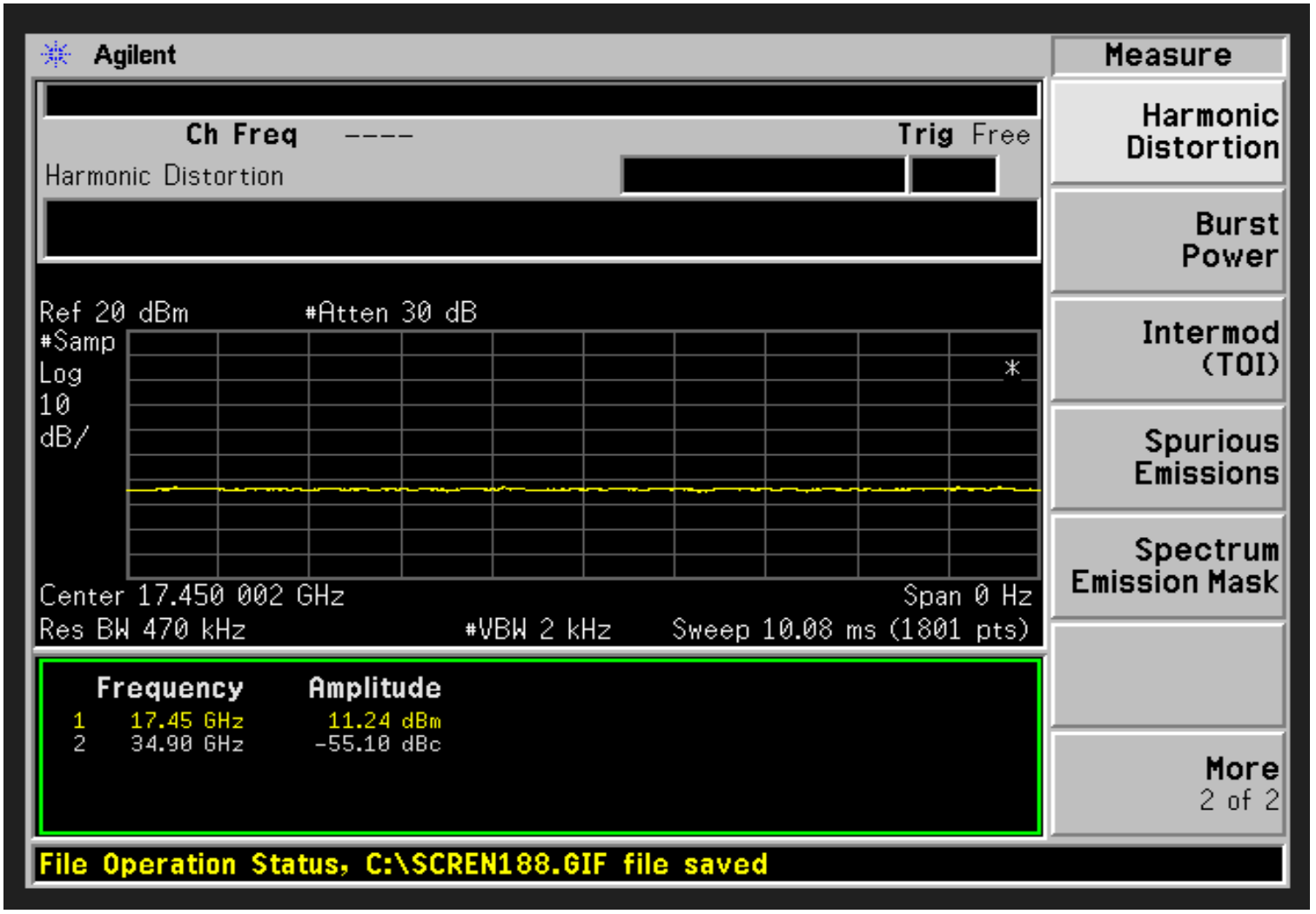
**+25°C**

**OUTPUT HARMONICS**

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# TYPICAL CHARACTERISTICS
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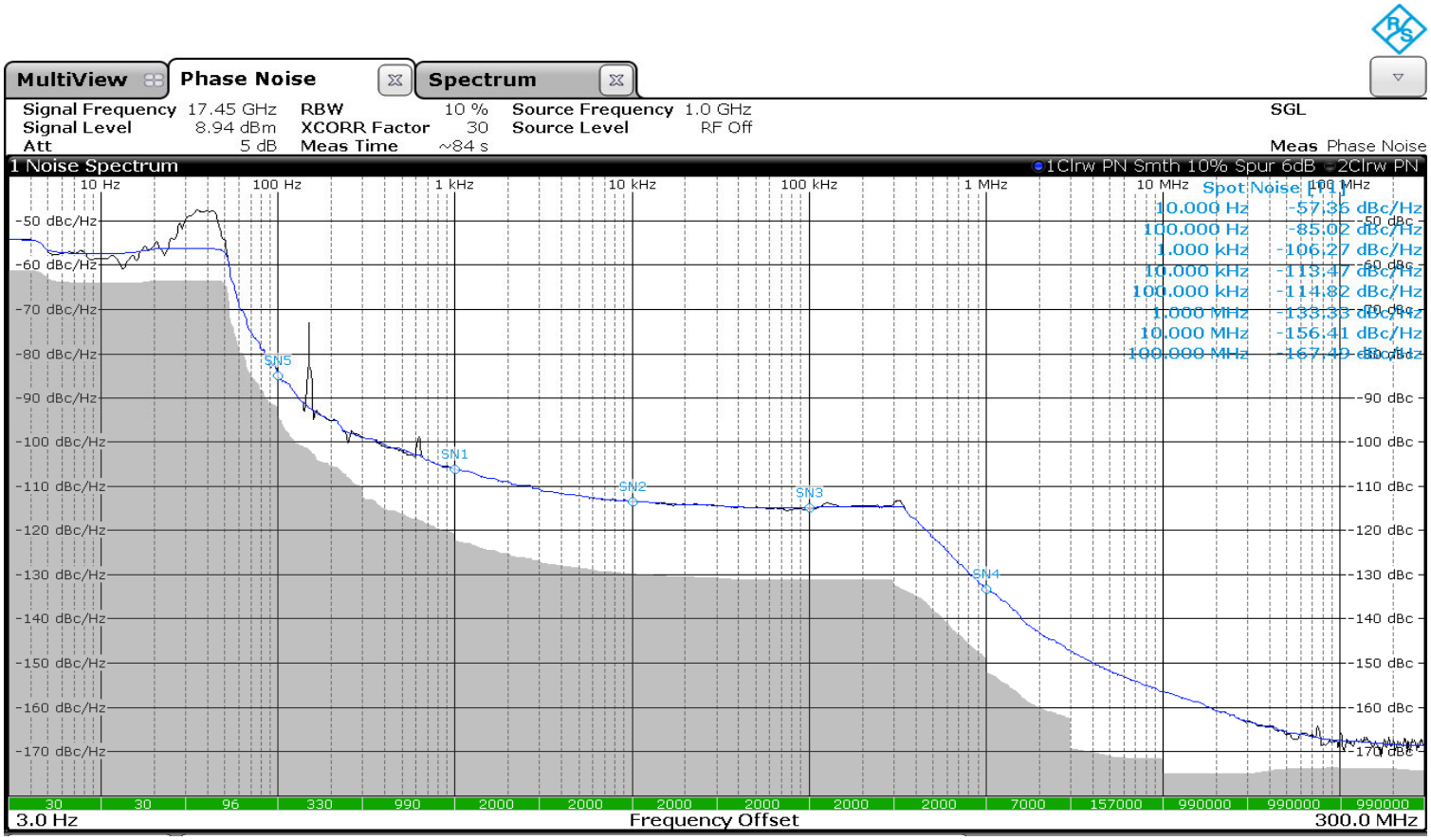
# PLDRO-17D45G-25M-EXT-ROHS

## 25°C Phase noise curve

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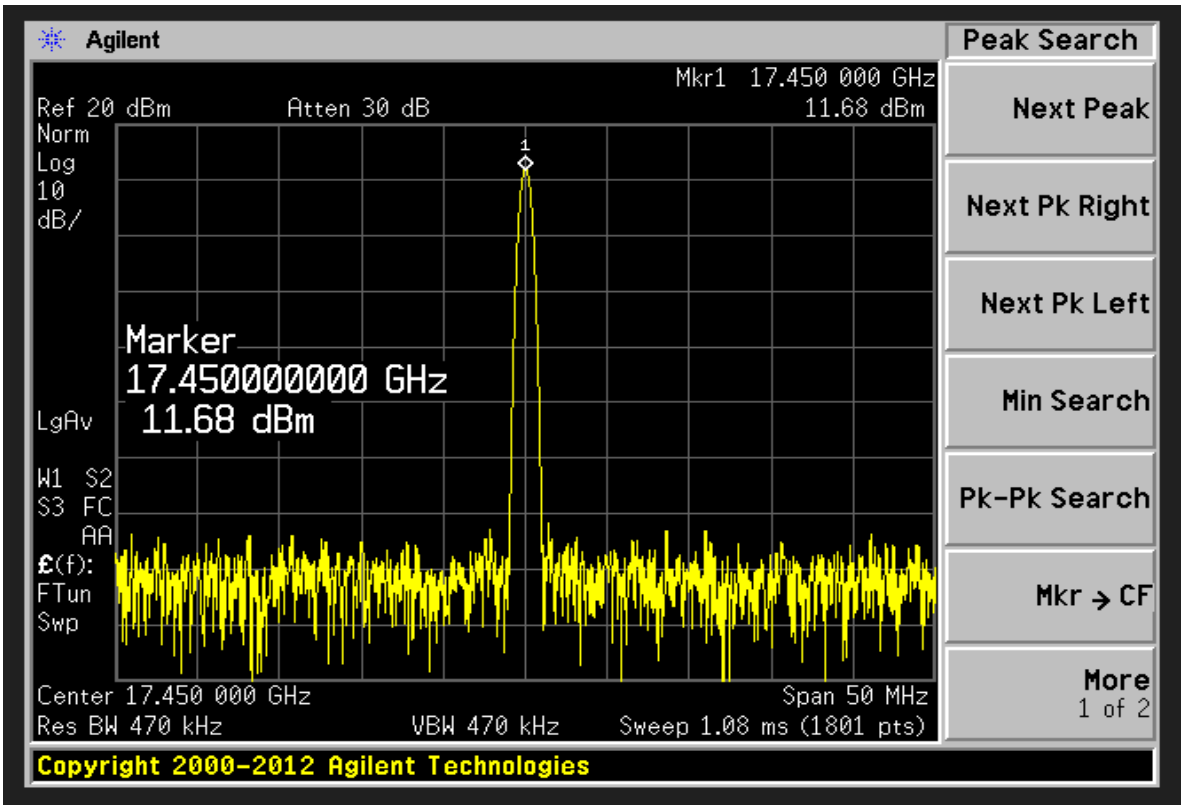
# TYPICAL CHARACTERISTICS ON PLDRO-17D45G-25M-EXT-ROHS

**-40°C**

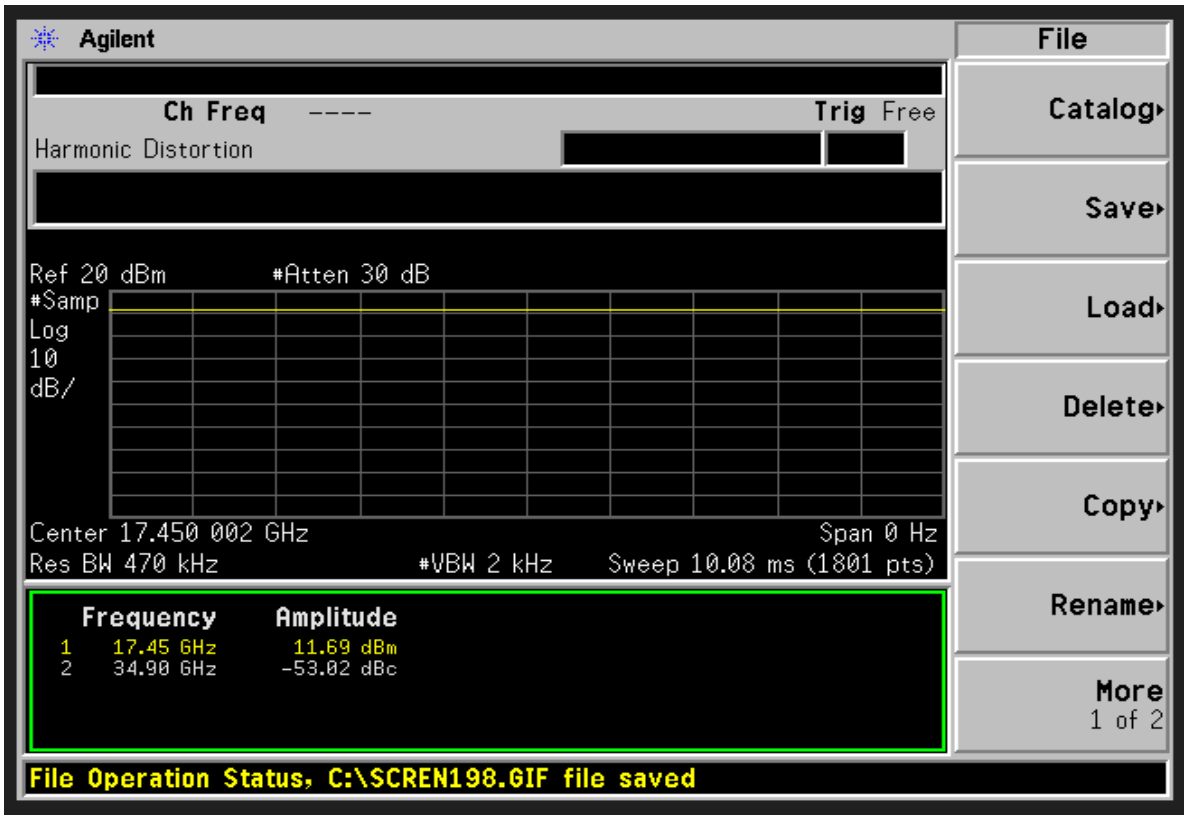
| TEST ITEM | PARAMETERS | SPECIFIED VALUE | TEST RESULTS |
|---|---|---|---|
| **1** | Output Frequency | 17.45 GHz | **17.45 GHz** |
| **2** | Reference Frequency | 25 MHz External | **25 MHz External** |
| **3** | Output Power | 13 to 15 dBm | **14.45dBm** |
| **4** | No Lock Break VSWR | 3:1 Min | **Pass** |
| **5** | Output Spurious (10 Mhz to 50 GHz) | -75 dBc Max | **Not tested at this temperature** |
| **6** | Output Harmonics | -25 dBc Max | **-53dBc** |
| **7** | Sub Harmonics | -60 dBc Max (0.5*n Fo) | **Not tested at this temperature** |
| **8** | Output Ssb Phase Noise | See Outline | **Not tested at this temperature** |
| **9** | Reference Input Power | 10 to -3 dBm | **10 dBm** |
| **10** | Frequency Stability | Same As Reference | **Not Tested** |
| **11** | Reference Input Spurious | -80 dBc Max | **Pass By Test Setup** |
| **12** | Reference Phase Noise | See Outline | **Pass By Test Setup** |
| **13** | DC Supply | 12 +- 0.5 V, 500 mA | **12V @ 430 mA** |
| **14** | Lock Detector | TTL HIGH In Lock, TTL Low Out Lock | **Pass** |
| **15** | Phase Voltage Monitor Output | 0 to 12 V | **0 to 12 V** |
| **16** | Cold Start Temperature | -45 Degrees C Max | **Pass By Design** |

## TYPICAL CHARACTERISTICS
## ON
## PLDRO-17D45G-25M-EXT-ROHS

**-40°C**




**carrier plot does not include cable loss**



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# TYPICAL CHARACTERISTICS ON PLDRO-17D45G-25M-EXT-ROHS

**+75°C**

| TEST ITEM | PARAMETERS | SPECIFIED VALUE | TEST RESULTS |
|---|---|---|---|
| **1** | Output Frequency | 17.45 GHz | **17.45 GHz** |
| **2** | Reference Frequency | 25 MHz External | **25 MHz External** |
| **3** | Output Power | 13 to 15 dBm | **13.52dBm** |
| **4** | No Lock Break VSWR | 3:1 Min | **Pass 3:1** |
| **5** | Output Spurious (10 Mhz to 50 GHz) | -75 dBc Max | **Not tested at this temperature** |
| **6** | Output Harmonics | -25 dBc Max | **Not tested at this temperature** |
| **7** | Sub Harmonics | -60 dBc Max (0.5*n Fo) | **Not tested at this temperature** |
| **8** | Output Ssb Phase Noise | See Outline | **Not tested at this temperature** |
| **9** | Reference Input Power | 10 to -3 dBm | **10 dBm** |
| **10** | Frequency Stability | Same As Reference | **Not Tested** |
| **11** | Reference Input Spurious | -80 dBc Max | **Pass By Test Setup** |
| **12** | Reference Phase Noise | See Outline | **Pass By Test Setup** |
| **13** | DC Supply | 12 +- 0.5 V, 500 mA | **12V @ 300 mA** |
| **14** | Lock Detector | TTL HIGH In Lock, TTL Low Out Lock | **Pass** |
| **15** | Phase Voltage Monitor Output | 0 to 12 V | **0 to 12 V** |
| **16** | Cold Start Temperature | -45 Degrees C Max | **Pass By Design** |

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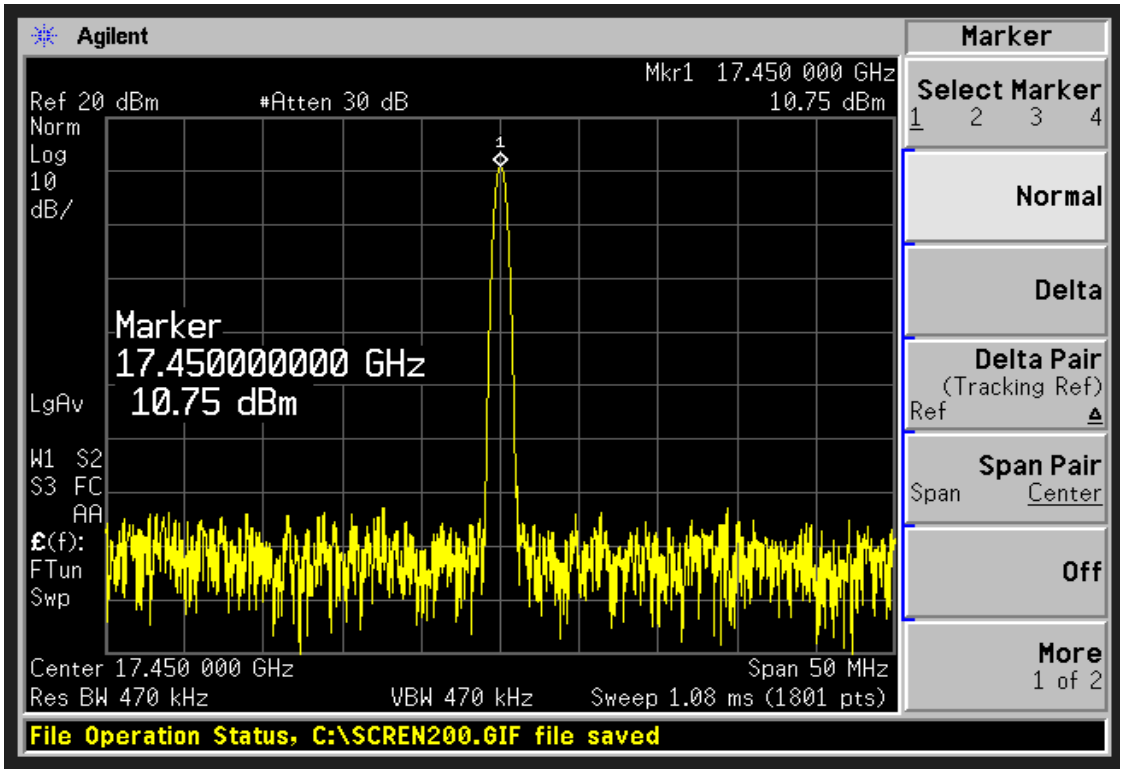
**+75°C**




**Carrier plot does not include cable loss**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