

**TYPICAL CHARACTERISTICS
ON
PLDRO-18D6G-25M-EXT-ROHS**

PMI MODEL PLDRO-18D6G-25M-EXT-ROHS IS A PLDRO WITH AN OUTPUT FREQUENCY OF 18.6 GHz. THIS MODEL IS OUTFITTED WITH SMA CONNECTORS.



**Tested By
Kevin Cravin**

**Reported By
Robert Sirk**

**Date
11/30/2023**

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PRODUCT FEATURE

DESCRIPTION:

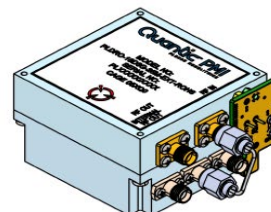
PMI MODEL PLDRO-18D6G-25M-EXT-ROHS IS A PLDRO WITH AN OUTPUT FREQUENCY OF 18.6 GHz. THIS MODEL IS OUTFITTED WITH SMA CONNECTORS.

SPECIFICATIONS:

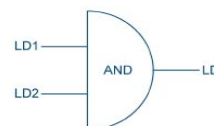
- OUTPUT FREQUENCY:..... 18.60 GHz
- REFERENCE FREQUENCY:..... 25 MHz (EXTERNAL)
- OUTPUT POWER INTO 50 OHMS OVER:..... +13 TO +15 dBm
- THE OPERATIONAL TEMPERATURE
- NO LOCK BREAK PULLING VSWR:..... 3.0:1 MAX
- OUTPUT DISCRETE SPURIOUS:..... -76 dBc MAX
- @ $\pm$ (10 MHz TO 2 GHz) AWAY FROM CARRIER
- OUTPUT HARMONICS:..... -20 dBc MAX
- OUTPUT SSB PHASE NOISE:..... -40 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.
- -65 dBc/Hz MAX @ 100 Hz OFFSET
- -95 dBc/Hz MAX @ 1 kHz OFFSET
- -105 dBc/Hz MAX @ 10 kHz OFFSET
- -110 dBc/Hz MAX @ 100 kHz OFFSET
- -125 dBc/Hz MAX @ 1 MHz OFFSET
- -135 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
- NOISE @ 25 MHz
- -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 $\pm$ 0.5 VDC, 500 mA MAX (@ 25°C)
- 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	10/19/01	
A2		ECN # 23-0229	10/19/01	

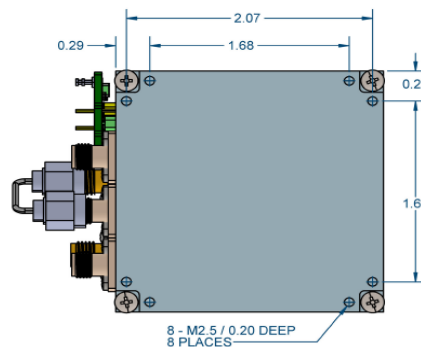
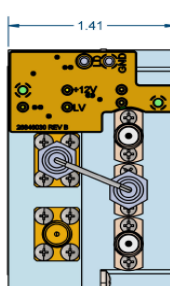
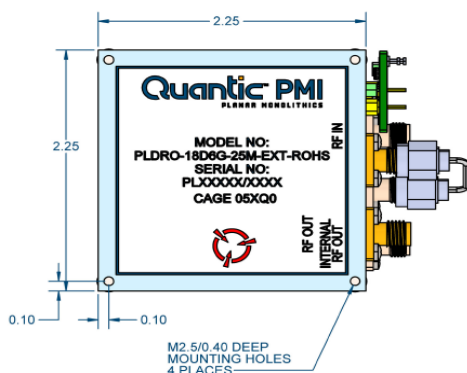


INPUT		OUTPUT
LD1	LD2	LD
TTL LOW	TTL LOW	TTL LOW
TTL LOW	TTL HIGH	TTL LOW
TTL HIGH	TTL LOW	TTL LOW
TTL HIGH	TTL HIGH	TTL HIGH



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DESIGNED	R. SIKK	8/10/00	OUTLINE	
REVIEWED			PLDRO-18D6G-25M-EXT-ROHS	
DESIGN			PMI	27047280
REVISION	B	05XQ0	27047280	REV A2
SCALE 1:1				SHEET 1 OF 2



NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
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**TYPICAL CHARACTERISTICS
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Test Data

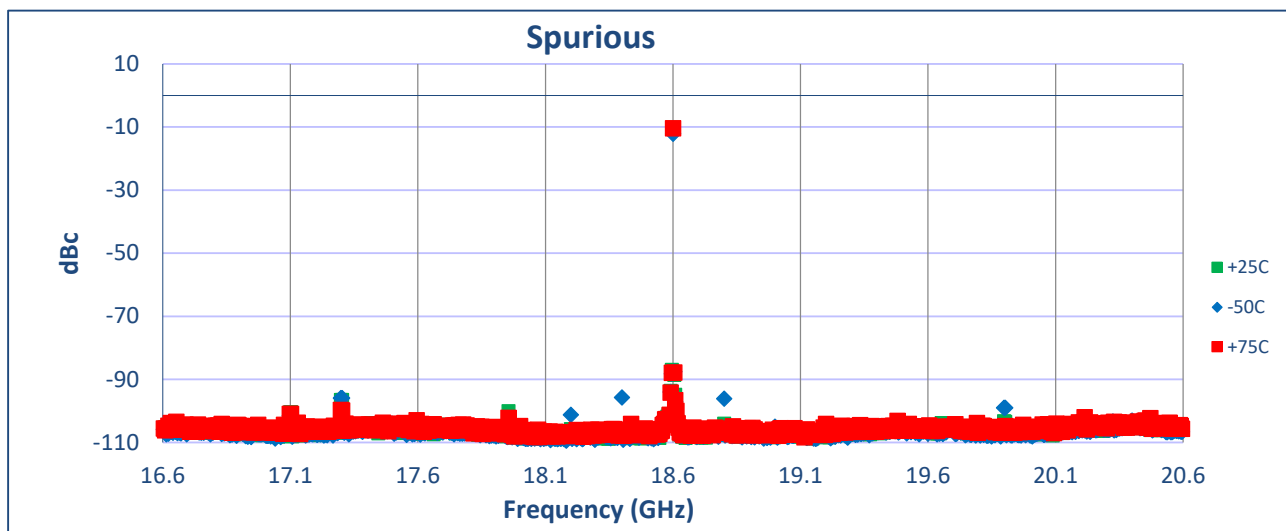
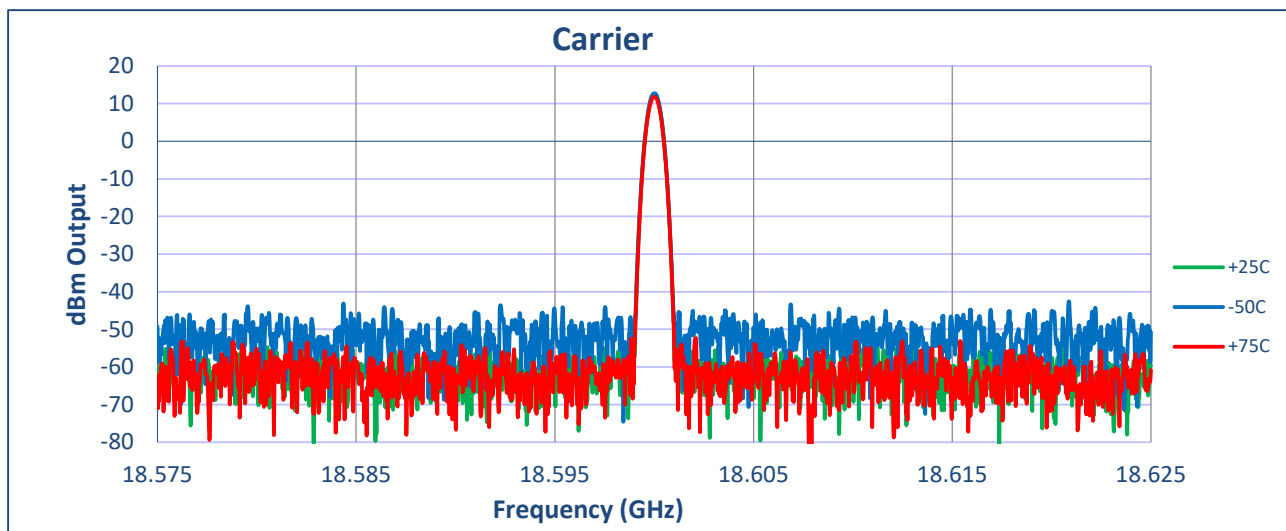
TEST ITEM	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			25°C	-50°C	75°C
1	Output Frequency	18.6 GHz	18.6 GHz	18.6 GHz	18.6 GHz
2	Reference Frequency	25 MHz	25 MHz	25 MHz	25 MHz
3	Input Power Level	+10 ±3 dBm	+10 ±3 dBm	+10 ±3 dBm	+10 ±3 dBm
4	No Lock Break VSWR	3:1 Max	Pass		
5	Output Power Level	+13 dBm Min	14.7 dBm	14.9 dBm	14 dBm
6	Output Spurious (10 MHz to 2 GHz)	-76 dBc Max	-93.7 dBc	-94.1 dBc	-94.3 dBc
7	Output Harmonics	-20 dBc Max	-37.02 dBc	-44.95 dBc	-53.82 dBc
8	Output SSB Phase Noise	-40 dBc/Hz @ 10 Hz Max -65 dBc/Hz @ 100 Hz Max -95 dBc/Hz @ 1 kHz Max -105 dBc/Hz @ 10 kHz Max -110 dBc/Hz @ 100 kHz Max -125 dBc/Hz @ 1 MHz Max -135 dBc/Hz @ ≥10 MHz Max	-57.8 dBc/Hz @ 10 Hz -93.04 dBc/Hz @ 100 Hz -112.3 dBc/Hz @ 1 kHz -115.77 dBc/Hz @ 10 kHz -120.23 dBc/Hz @ 100 kHz -142.68 dBc/Hz @ 1 MHz -158.36 dBc/Hz @ 10 MHz		
9	Reference Input Spurious	-80 dBc Max	-80 dBc Max		
10	External Reference Phase Noise	-110 dBc/Hz @ 10 Hz Max -137 dBc/Hz @ 100 Hz Max -156 dBc/Hz @ 1 kHz Max -165 dBc/Hz @ 10 kHz Max -168 dBc/Hz @ 100 kHz Max	-110 dBc/Hz @ 10 Hz Max -137 dBc/Hz @ 100 Hz Max -156 dBc/Hz @ 1 kHz Max -165 dBc/Hz @ 10 kHz Max -168 dBc/Hz @ 100 kHz Max		

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

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TEST ITEM	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			+25°C	-50°C	+75°C
11	Lock Detector	TTL High - In Lock; TTL Low - Out of Lock	TTL High - In Lock; TTL Low - Out of Lock	TTL High - In Lock; TTL Low - Out of Lock	TTL High - In Lock; TTL Low - Out of Lock
12	Supply Voltage	+12±0.5V @ 500mA Max (@ 25°C)	+12 ± 0.5V @ 420 mA	+12±0.5V @ 510 mA	+12±0.5V @ 380 mA
13	Phase Voltage Monitor Output	0V to +12V	0V to +12V	0V to +12V	0V to +12V
14	Cold Start Temperature:	-45°C Max	-45°C Max		

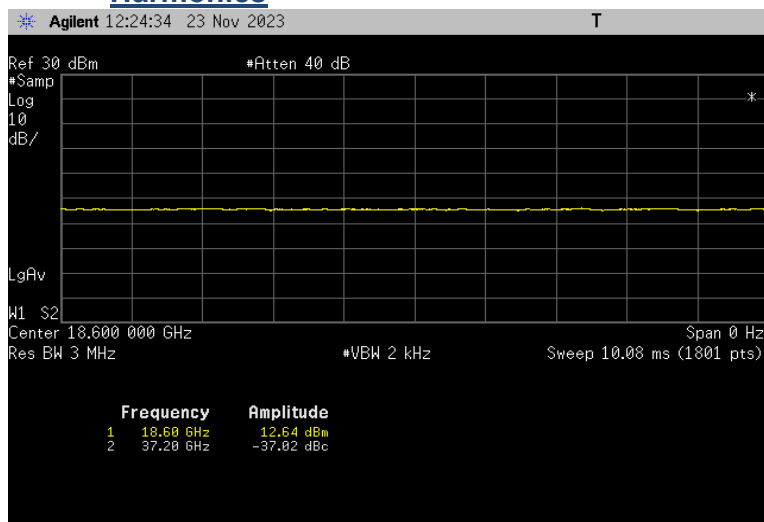
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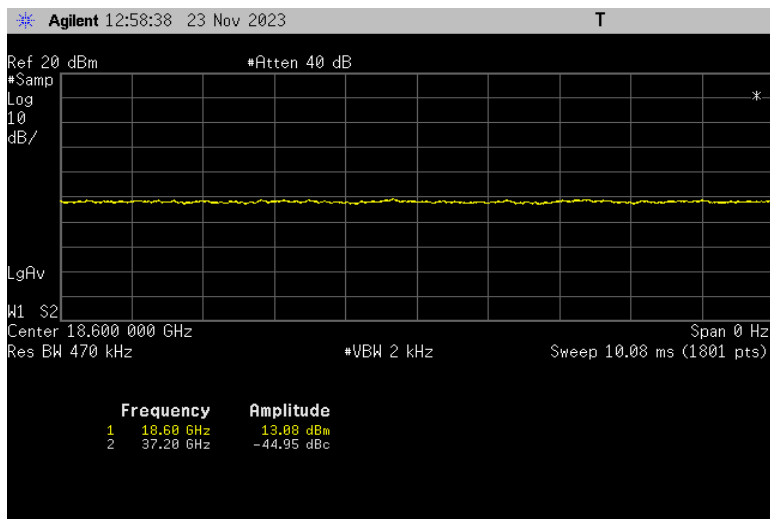
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Harmonics

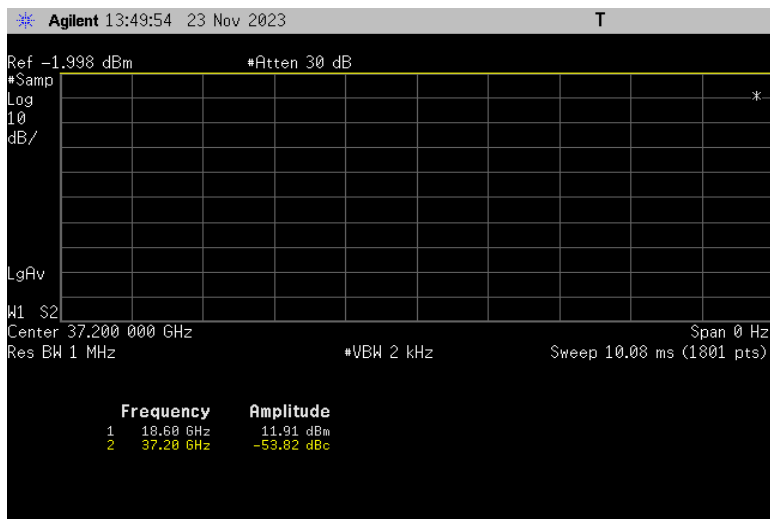
+25°C
-37.02 dBc



-50°C
-44.95 dBc



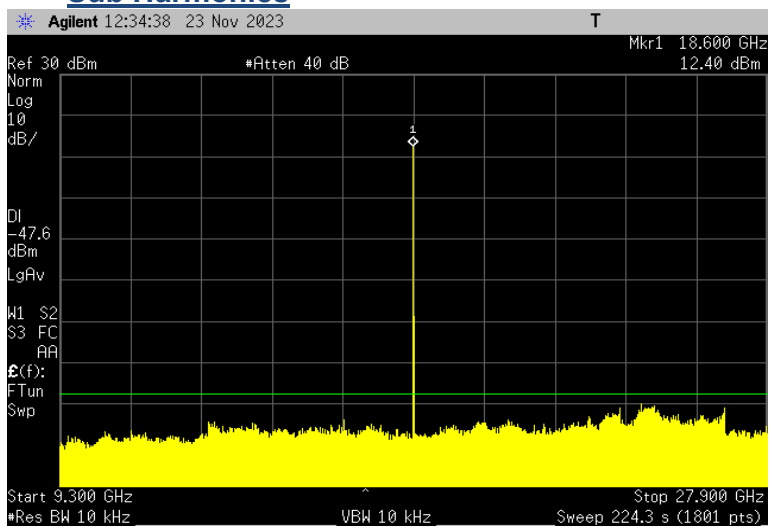
+75°C
-53.82 dBc



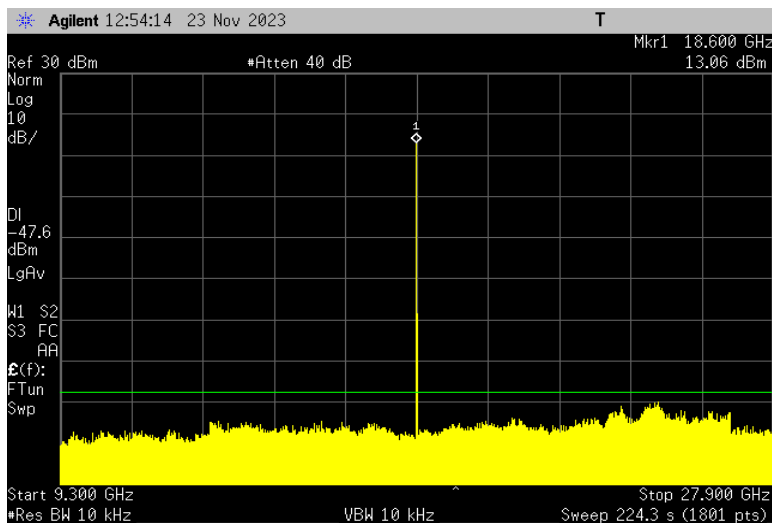
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Sub Harmonics

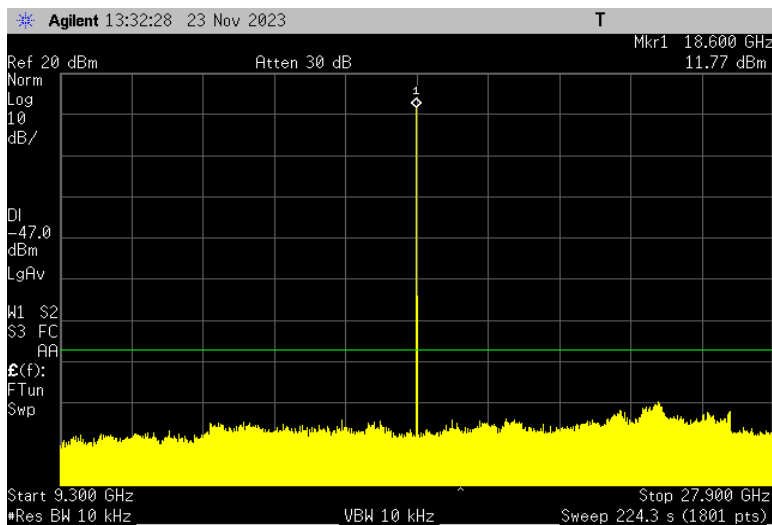
+25°C



-50°C



+75°C



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Phase Noise

