TYPICAL CHARACTERISTICS
ON
PLO-48D8G-EXT

QUANTIC PMI MODEL PLO-48D8G-EXT IS AN EXTERNALLY REFERENCED PHASE LOCKED DIELECTRIC RESONATOR OSCILLATOR(PLDRO) WITH AN OUTPUT FREQUENCY OF 48.8 GHz.

Reported By: S. Lange
Tested By: S.Lange
Date: 05/07/2025

7309-A Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
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PRODUCT FEATURE

DESCRIPTION:
QUANTIC PMI MODEL PLO-48D8G-EXT IS AN EXTERNALLY REFERENCED PHASE LOCKED DIELECTRIC RESONATOR OSCILLATOR(PLDRO) WITH AN OUTPUT FREQUENCY OF 48.8 GHz.

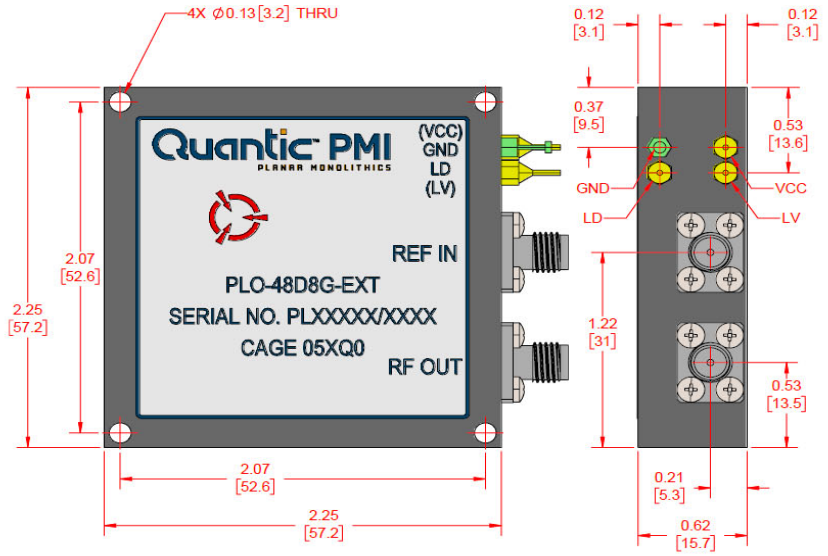
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	3/26/2026	

SPECIFICATIONS:

- OUTPUT FREQUENCY:..... 48.8 GHz
- REFERENCE FREQUENCY:..... 100 MHz (SINE WAVE)
- INPUT LEVEL:..... +3 TO +10 dBm
- OUTPUT LEVEL:..... +10 dBm MIN
- SPURIOUS:..... -60 dBc MAX
- HARMONICS:..... -20 dBc MAX
- LOAD VSWR:..... 1.5:1 MAX
- PHASE NOISE:..... -80 dBc MAX @ 100 Hz
  -93 dBc MAX @ 1 kHz
  -94 dBc MAX @ 10 kHz
  -102 dBc MAX @ 100 kHz
  -128 dBc MAX @ 1 MHz
- FREQUENCY STABILITY:..... SAME AS REFERENCE
- SUPPLY VOLTAGE:..... +12 V @ 500 mA TYP
- LOCK DETECTOR:..... TTL HIGH = LOCK
- REFERENCE PHASE NOISE:..... -137 dBc MAX @ 100 Hz
  -155 dBc MAX @ 1 kHz
  -160 dBc MAX @ 10 kHz
- CONNECTORS(IN/OUT):..... 2.4mm (RF OUT)
  SMA FEMALE (REF IN)
- FINISH:..... NICKEL PLATED

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -40°C TO +70°C (OPERATING)
  -50°C TO +80°C (STORAGE)



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN: S LANGE	3/26/2026
REDRAWN	
ISSUED	

Quantic PMI PLANAR MONOLITHICS
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WEB: WWW.QUANTICPMI.COM EMAIL: SALES@QUANTICPMI.COM
ISO 9001 CERTIFIED

TITLE: OUTLINE
PLO-48D8G-EXT

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27051200	A1

SCALE 2:1 SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ± DECIMALS .XX ± 0.02 .XXX ± 0.01 ANGLES ±

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

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Quantic PMI
PLANAR MONOLITHICS

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TEST DATA

TEST ITEM	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			25°C	-40°C	+70°C
1	Output Frequency	48.8 GHz	**48.8 GHz**	**48.8 GHz**	**48.8 GHz**
2	Reference Frequency	100 MHz (Sine Wave)	**100 MHz (Sine Wave)**		
3	Reference Input Level	+3 to +10 dBm	**+3 to +10 dBm**	**+3 to +10 dBm**	**+3 to +10 dBm**
4	Output Level	+10 dBm Min.	**15.1dBm**	**16.5dBm**	**13.9dBm**
5	Spurious	-60 dBc Max.	**-63.2dBc**	**-68.3dBc**	**-62.1dBc**
6	Load VSWR	1.5:1 Max.	**1.5:1 Max.**		
7	Output Phase Noise	-80 dBc Max. @ 100 Hz	**-82.3 dBc @ 100 Hz**		
		-93 dBc Max. @ 1 kHz	**-104.4 dBc @ 1 kHz**		
		-94 dBc Max. @ 10 kHz	**-109.7 dBc @ 10 kHz**		
		-102 dBc Max. @ 100 kHz	**-109.8 dBc @ 100 kHz**		
		-128 dBc Max. @ 1 MHz	**-130.9 dBc @ 1 MHz**		
8	Reference Phase Noise	-137 dBc Max. @ 100 Hz	**-137 dBc @ 100 Hz**		
		-155 dBc Max. @ 1 kHz	**-155 dBc @ 1 kHz**		
		-160 dBc Max. @ 10 kHz	**-160 dBc @ 10 kHz**		
9	Supply Voltage	+12 V @ 500 mA Typ.	**+12 V @ 349 mA**		
10	Lock Detector	TTL High = Lock	**TTL High = Lock**		

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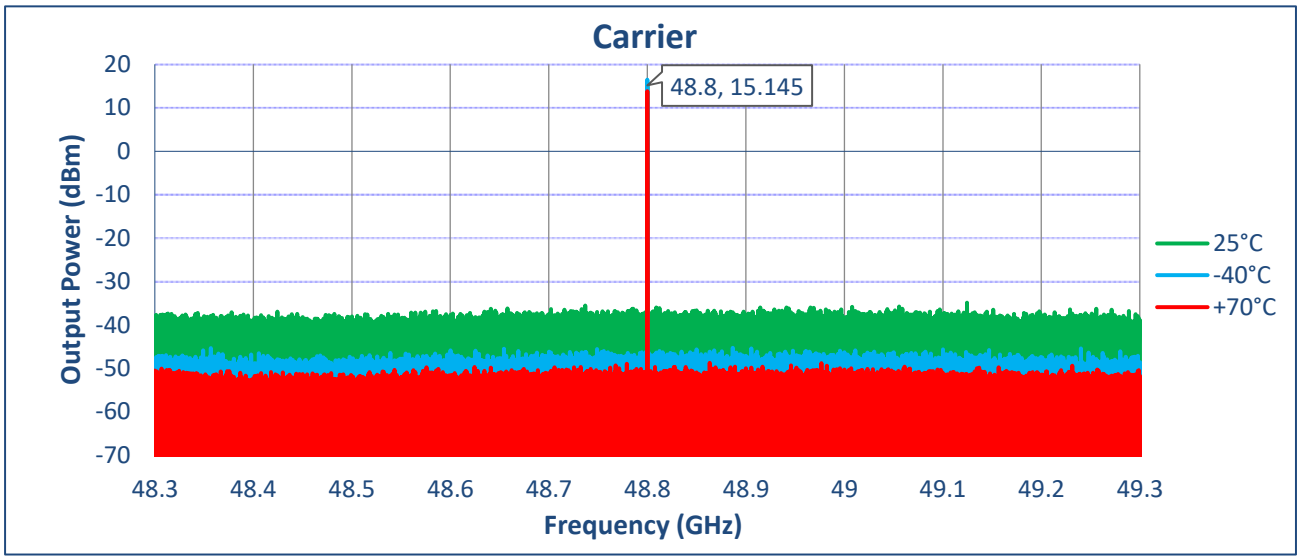

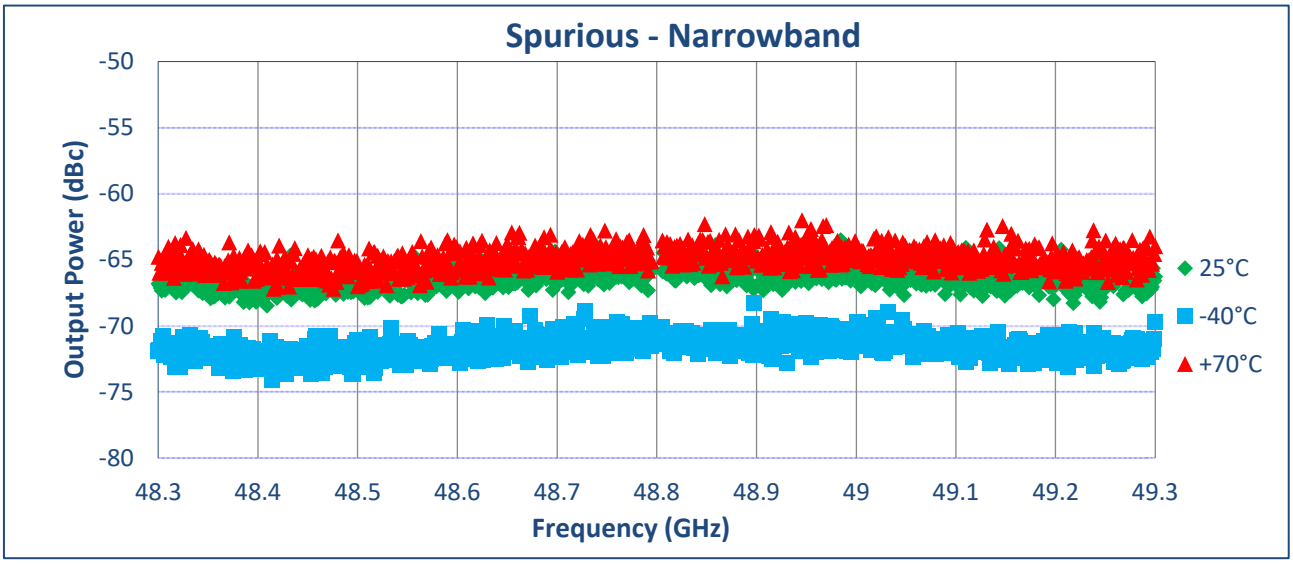

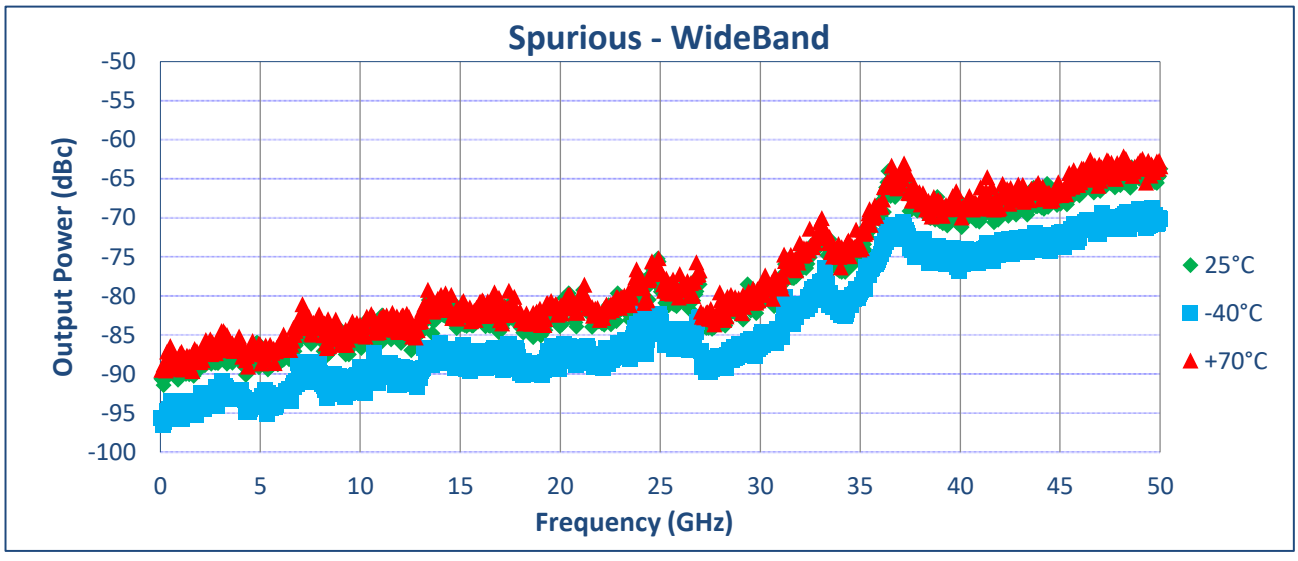

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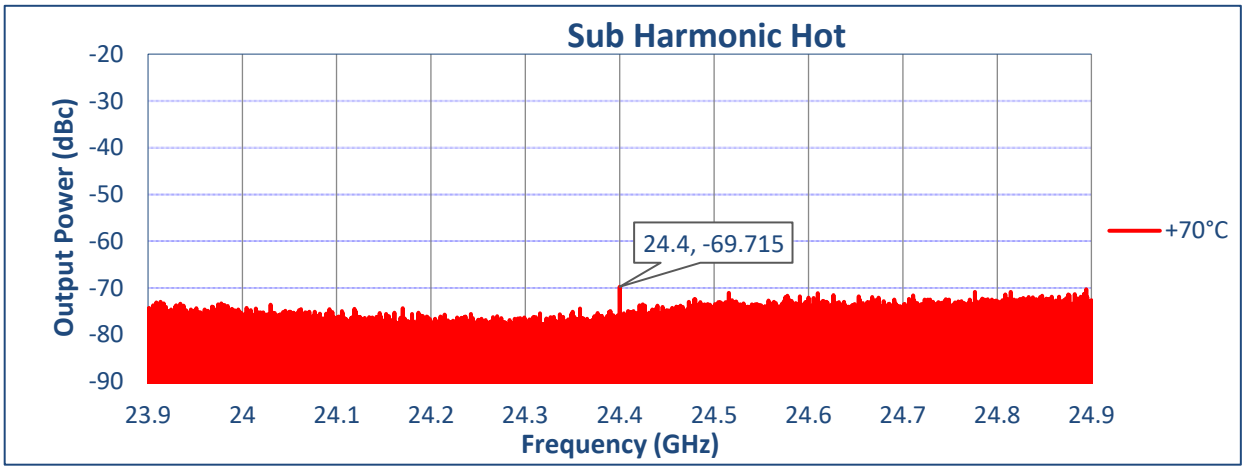
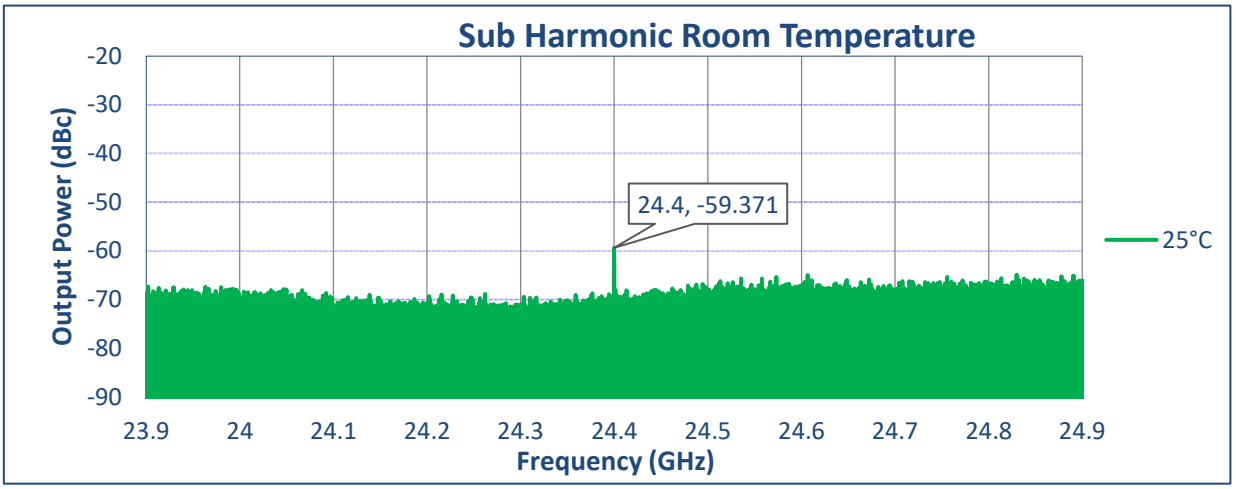
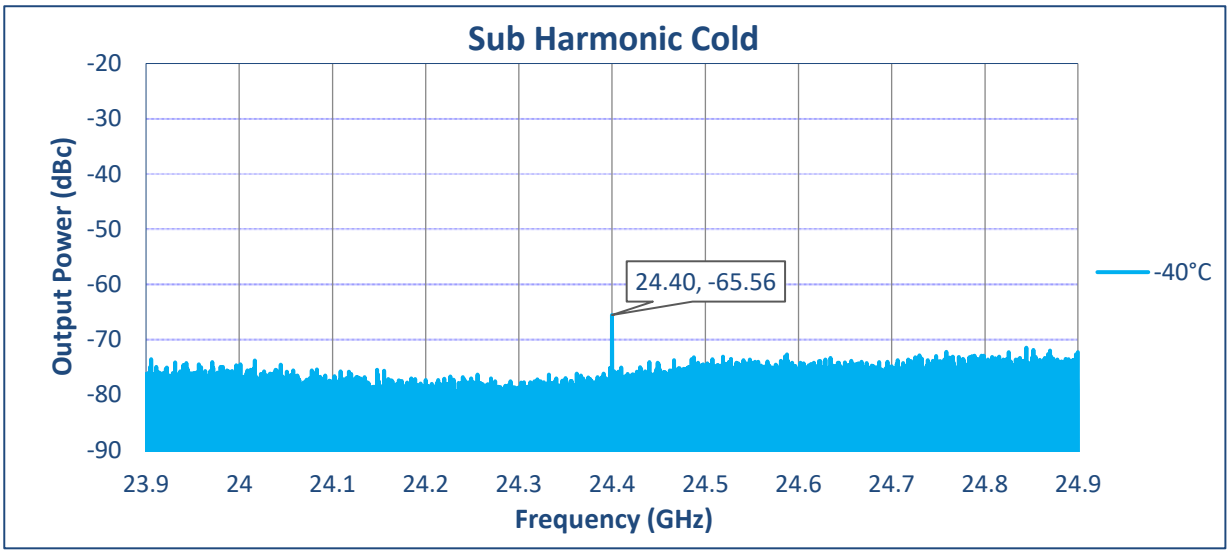
Sub Harmonics







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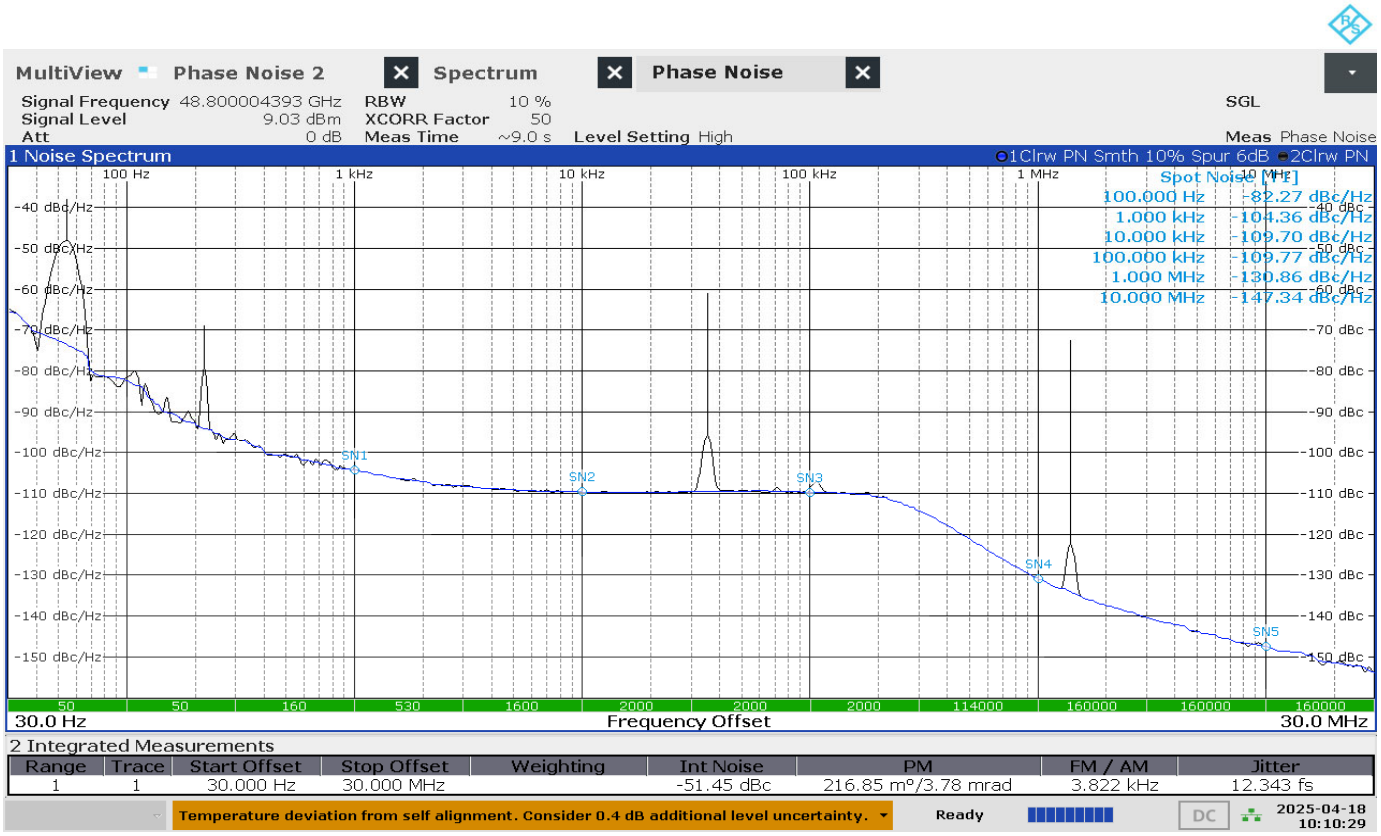
Phase Noise



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