

LOW PHASE NOISE PDRO



1 to 16 GHz

Low phase noise
50.8 × 47.8 × 15.7 mm package
Internal / external reference options
Fixed output frequency

The OPDRO50L is a phase-locked dielectric resonator oscillator with a fixed output frequency selected within 1 to 16 GHz. Reference frequency: 100 MHz. Output power: ≥ 10 dBm. Dimensions: 50.8 × 47.8 × 15.7 mm. Operating temperature: -40 to +70 °C.

TECHNICAL INFORMATION

OPDRO50L

Property	Value
Output frequency range	1-16 GHz; fixed frequency selected when ordering
Output power	≥10 dBm
Spurious suppression	≥70 dBc
Harmonic suppression	≥20 dBc
Reference frequency	100 MHz
Reference input power	≥+10 dBm
Reference phase noise	-170 dBc/Hz at 1 kHz offset
System phase-noise floor	-140 dBc/Hz at 100 Hz offset; -170 dBc/Hz at 1 kHz offset; -180 dBc/Hz at 10 kHz offset; -180 dBc/Hz at 100 kHz offset
Supply voltage	+12 V
Supply current	≤400 mA (external reference); ≤700 mA (internal reference)
Lock indication	TTL high when locked
Operating temperature	-40 to +70 °C
Storage temperature	-55 to +85 °C
Dimensions	50.8 × 47.8 × 15.7 mm
Ordering configuration	Fixed output frequency must be specified. Integer multiples of 100 MHz.

Specification Notes

At 16-32 GHz output, suppression of the component at 1/2 of the output frequency is ≥60 dBc. At 32-52 GHz, suppression of the components at 1/4, 2/4, 3/4 and 5/4 of the output frequency is ≥60 dBc.

The internal-reference outlines show 35.7 mm height, whereas the specification and ordering tables list 15.7 mm. Confirm configuration-specific dimensions.

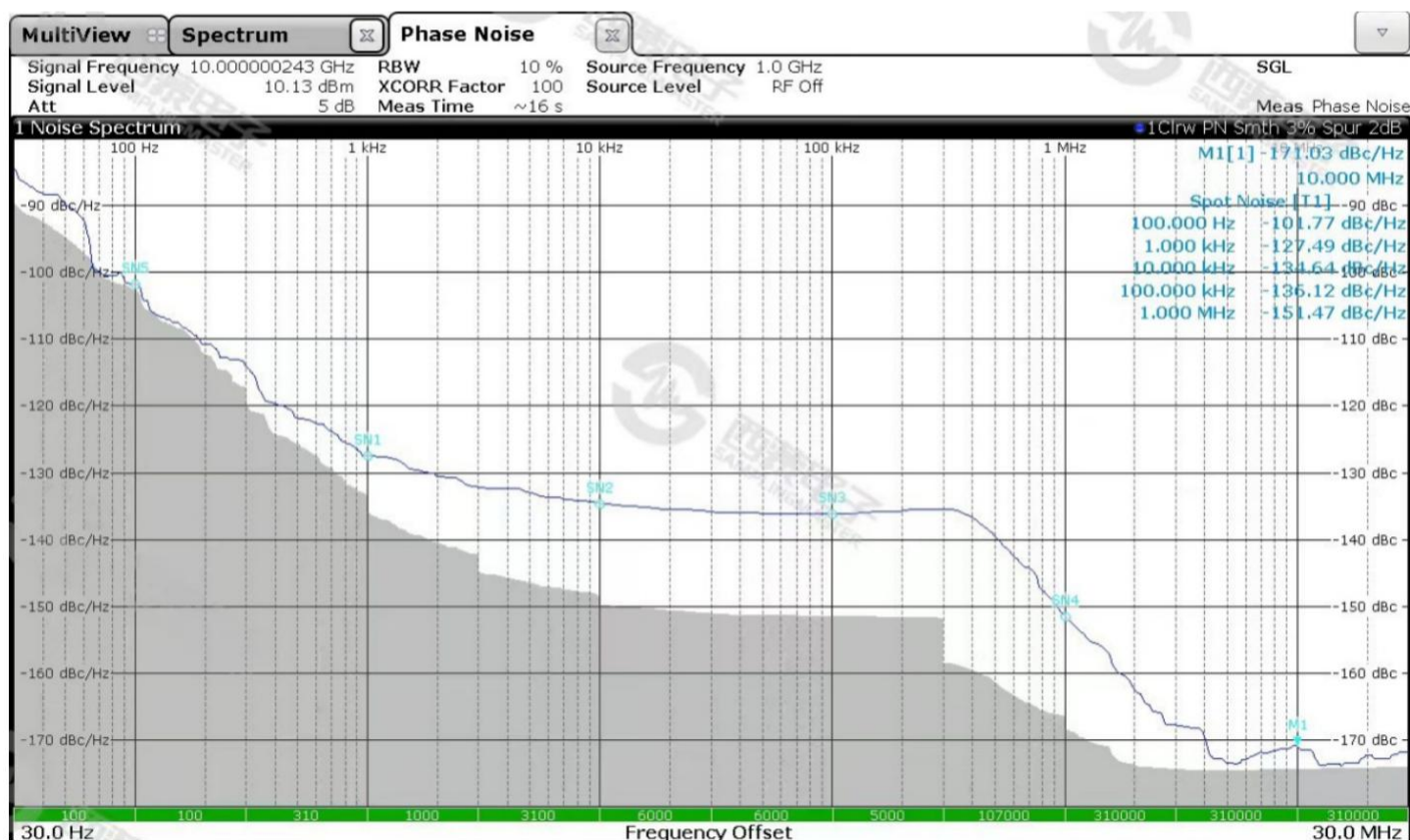
TECHNICAL INFORMATION

OPDRO50L | Phase Noise (dBc/Hz)

Output Frequency	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz
1 GHz	-120	-145	-154	-156	-174
5 GHz	-105	-131	-138	-139	-152
10 GHz	-99	-125	-132	-134	-148

Column headings specify frequency offset from the carrier. Output frequency is listed in the first column. Values and limit signs follow the source tables.

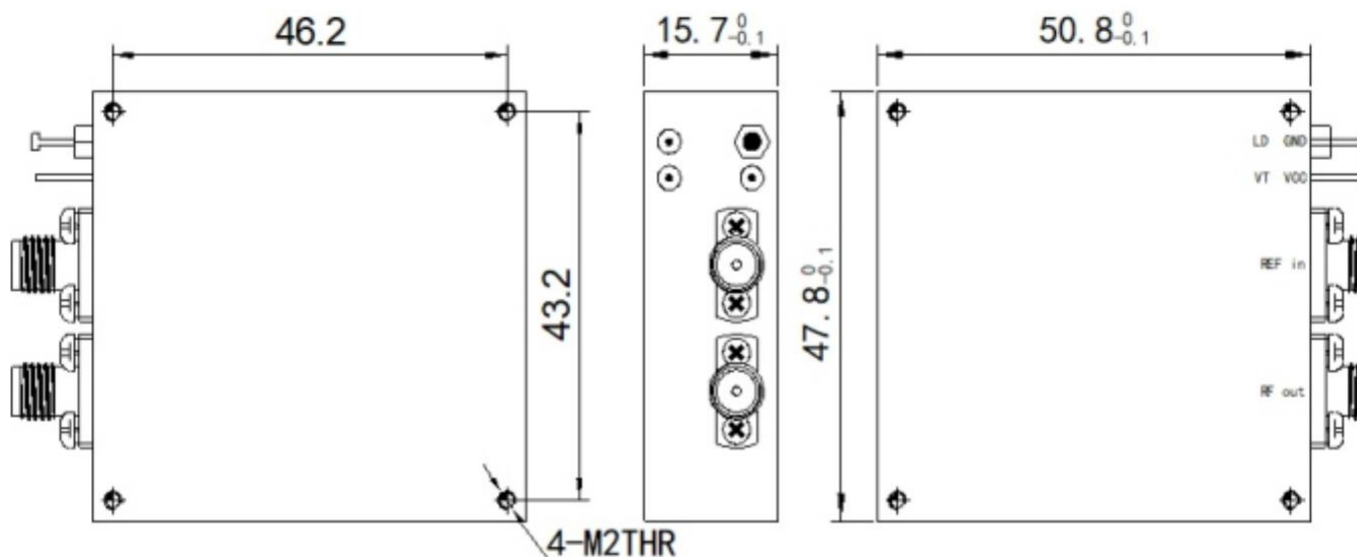
10 GHz Phase Noise Measurement



Source measurement example. Curves represent the illustrated test conditions.

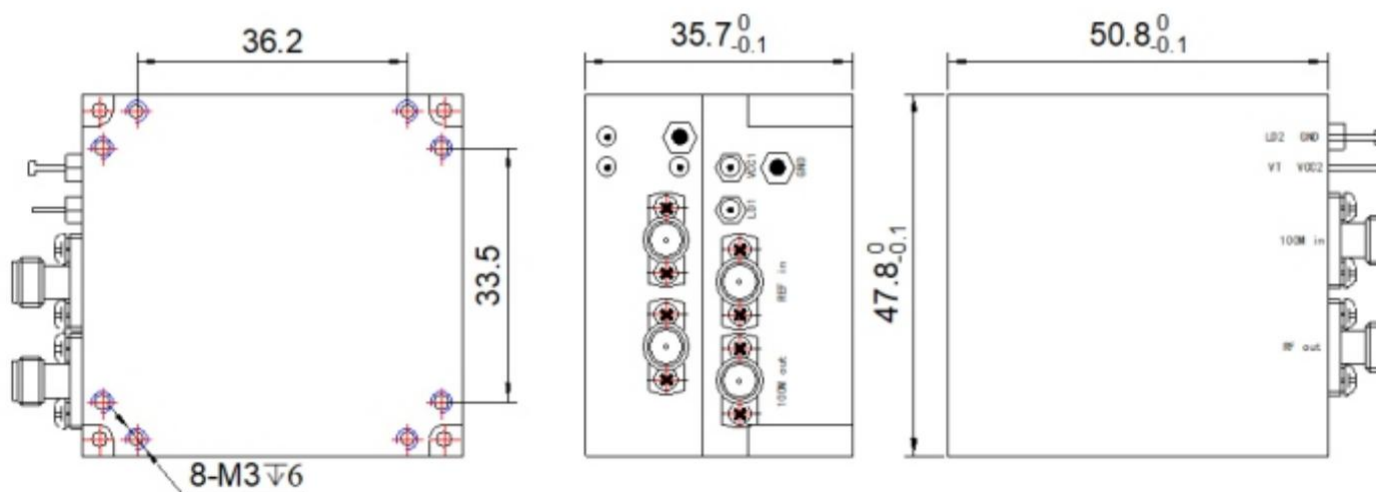
OUTLINE DIMENSIONS

OPDRO50L - External Reference



Dimensions in mm.

OPDRO50L - Internal Reference



Dimensions in mm.

ORDERING INFORMATION

Ordering Information

Ordering Code / Field	Description
OPDRO50L-XXXX-100-E/I-10	1-16 GHz
XXXX	Output frequency must be an integer multiple of the reference; confirm the required frequency before ordering.
100	100 MHz input reference
E / I	E: external reference; I: internal reference
10	10 dBm output power