

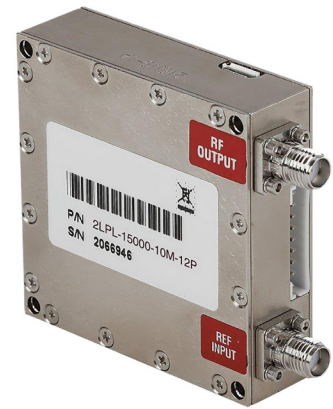
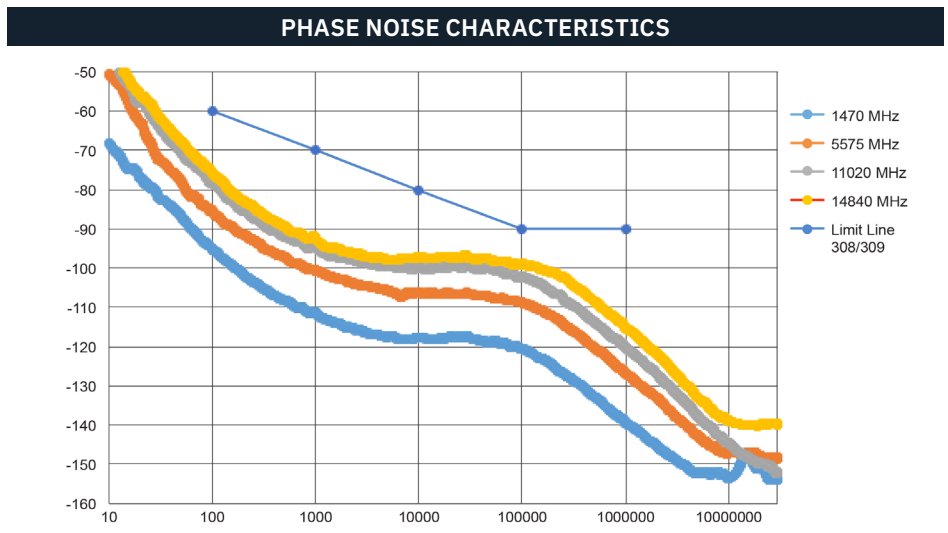
# 2LPL SERIES PHASE-LOCKED OSCILLATOR

**0.010 GHz to 15 GHz (Fixed Output)**  
**Extended Bands to 20.0 GHz**

SPECIFICATIONS	
Output frequency range capabilities	0.010 GHz to 15 GHz (Fixed Output)
Output power	+13 dBm minimum
Output harmonic	-25 dBc maximum
Subharmonics for 15 GHz to 20 GHz bands	-10 dBc maximum
Output spurious	-60 dBc maximum
Phase noise	See graph and table
Input reference frequency	1 MHz to 200 MHz (or 10 MHz optional reference output available)
Input reference power level*	0±3 dBm*
Input impedance	50 ohms
Load VSWR	1.5:1 nominal
DC power requirements	+7 volts to +24 volts at 3.5 W typical to 4 W maximum
Phase lock alarm	TTL High in lock, low out of lock

\*Internal/reference: 0.5 ppm at 0°C to 60°C output can be made available.

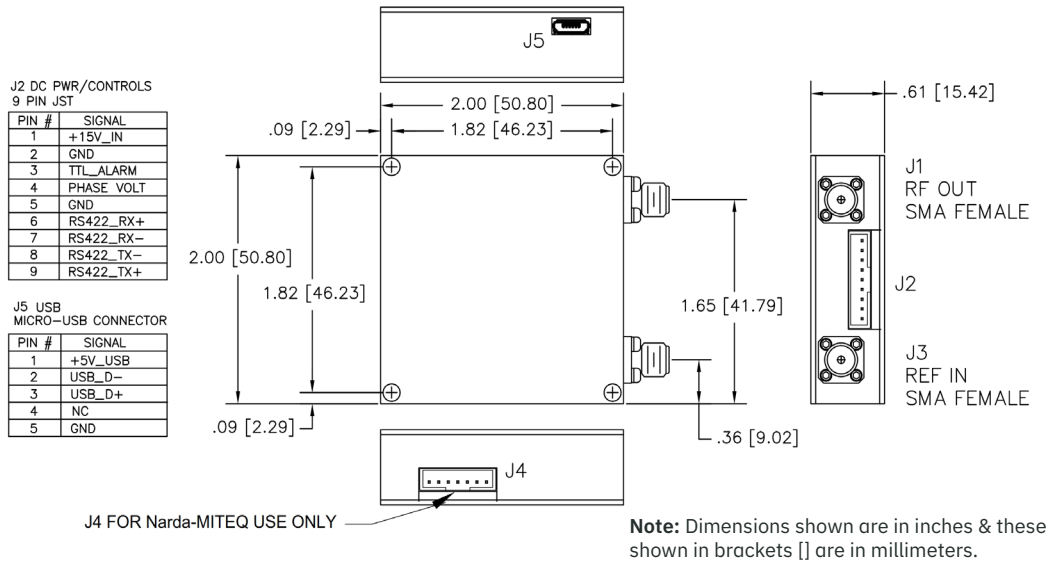
Phase Noise Specifications (dBc/Hz, Typical)	OFFSET (Hz)						
	10	100	1K	10K	100K	300K	1M
1470 MHz	-68	-95	-111	-117	-120	-127	-139
5575 MHz	-50	-85	-100	-106	-108	-112	-126
11020 MHz	-45	-78	-94	-99	-102	-107	-120
14840 MHz	-45	-75	-92	-97	-98	-101	-115



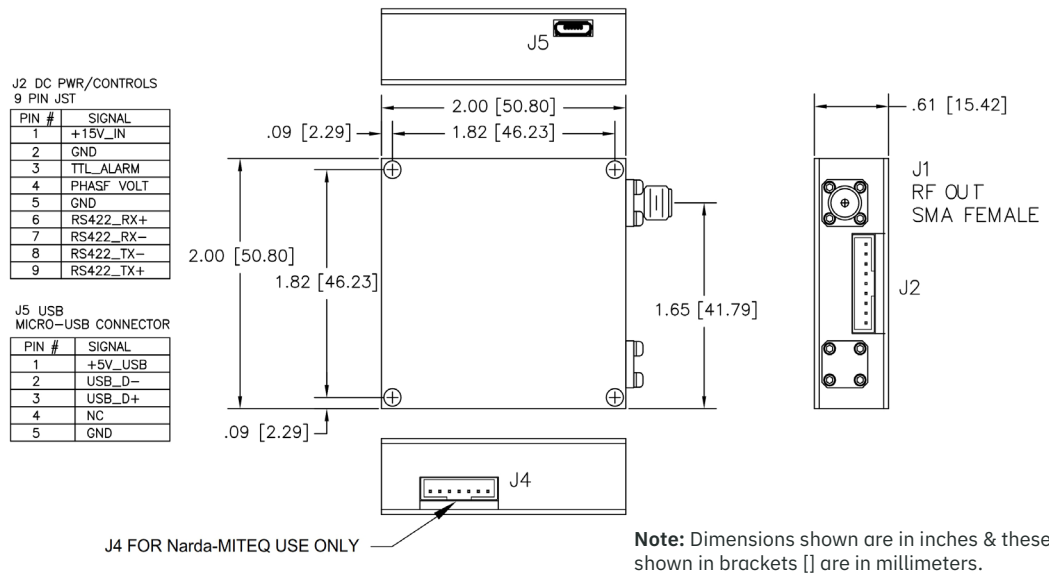
Narda-MITEQ 2LPL Series phase-locked source offers excellent phase noise and spurious performance in a miniature 2.0" width x 2.0" length x 0.61" height housing or 2.25" width x 2.25" length x 0.60" height and is available in fixed frequencies from 10 MHz to 15 GHz. Units can operate from either external reference, or internal TCXO with stability as low as 500 PPB. Flexible internal DC regulators allow operating DC from +7 VDC to +28 VDC.

MECHANICAL SPECIFICATIONS				
	STANDARD OUTLINE EXTERNAL REFERENCE	STANDARD OUTLINE INTERNAL REFERENCE	'A' OUTLINE EXTERNAL REFERENCE	'A' OUTLINE INTERNAL REFERENCE
Outline Drawing	218213	219069	227061-1	227061-2
Size	2.0" x 2.0" x 0.61"		2.25" x 2.25" x 0.60"	
Weight	< 100 g		< 125 g	
RF connectors	SMA female			
DC connectors	9-pin JST™ (mating connector PHR-9 or equivalent)			

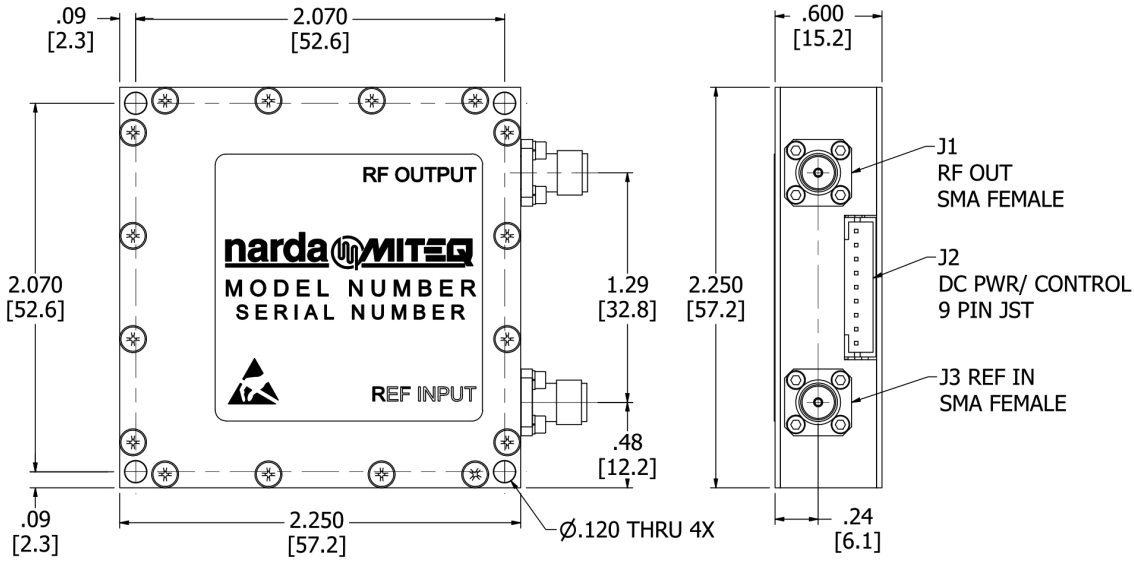
**OUTLINE DRAWING 218213 (Standard Outline)**



**OUTLINE DRAWING 219069 (Standard Outline with Internal Reference)**

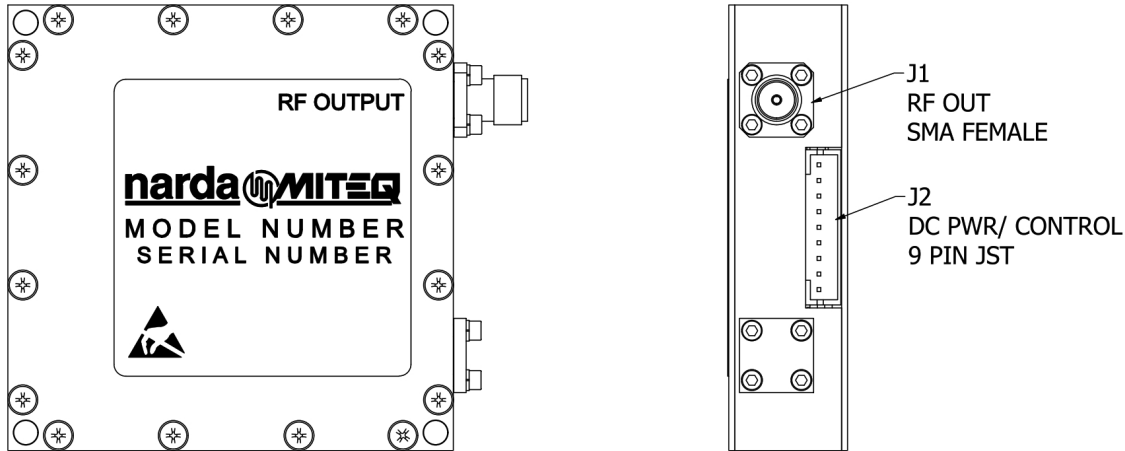


OUTLINE DRAWING 227061-1 ('A' Outline)



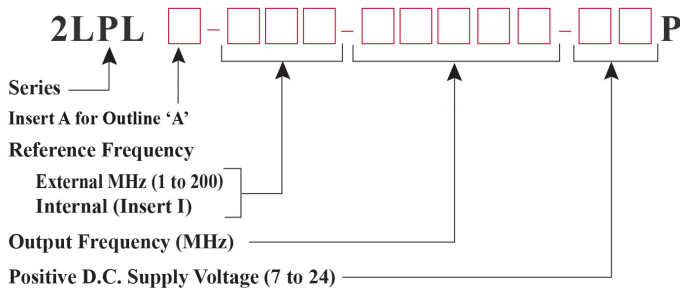
J2 DC PWR/CTNR		
PIN	SIGNAL	
	2LPLA	SLS2A
1	+VCC IN	+VCC IN
2	GND	GND
3	TTL ALARM	TTL ALARM
4	PHASE VOLT	PHASE VOLT
5	GND	GND
6	NC	RS422 RX+
7	NC	RS422 RX-
8	NC	RS422 TX+
9	NC	RS422 TX-

OUTLINE DRAWING 227061-2 ('A' Outline with Internal Reference)



J2 DC PWR/CTNR		
PIN	SIGNAL	
	2LPLA	SLS2A
1	+VCC IN	+VCC IN
2	GND	GND
3	TTL ALARM	TTL ALARM
4	PHASE VOLT	PHASE VOLT
5	GND	GND
6	NC	RS422 RX+
7	NC	RS422 RX-
8	NC	RS422 TX+
9	NC	RS422 TX-

## ORDERING INFORMATION



**Example:** Part Number 2LPL-10-13050-15P is a 2LPL Series phase-locked oscillator with 13.05 GHz output locked to 10 MHz reference and +15 volts DC supply voltage in a 2.0" x 2.0" x 0.61" package.

Part Number 2LPLA-I-13050-15P is a 2LPL Series phase-locked oscillator with 13.05 GHz output locked to an internal reference and operates from +15 volts DC supply voltage in a 2.25" x 2.25" x 0.60" package.

**Note:** Use only character length necessary.

## KEY FEATURES

- > Low cost
- > Phase locked to external standard or internal crystal reference
- > Built-in reference Cleanup
- > Low phase noise
- > Low G sensitivity
- > Small Package
- > 100% burn-in and temperature testing
- > Three-year warranty
- > +17 High output power options

## ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE	
Operating	-40°C to +80°C
Storage	-50°C to +100°C
Humidity	95% at 40°C non-condensing
Shock (survival)	30 g's, 10 ms pulse
Vibration (survival)	20 Hz to 2000 Hz random to 4 g's rms
G-sensitivity	1.5 PPb/g (worst axis)

### 2LPL Series Phase-Locked Synthesizer

© 2022 Narda-MITEQ | 06/2022

This material consists of Narda-MITEQ general capabilities information and does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Part 734.7-11. D-418 REV D/06.10.22

Narda-MITEQ is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

**narda**  **MITEQ**

435 Moreland Rd.  
Hauppauge, NY 11788  
t 631.231.1700 | f 631.231.1711  
componentsnm@nardamiteq.com