

# 2LPL SERIES PHASE-LOCKED OSCILLATOR



0.010 GHz to 15 GHz (IN BANDS)



## FEATURES

- Low cost
- Phase locked to external standard or internal crystal reference
- Built-in reference Cleanup
- Low phase noise
- Small package
- 100% burn-in and temperature testing
- Three-year warranty

The 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 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.



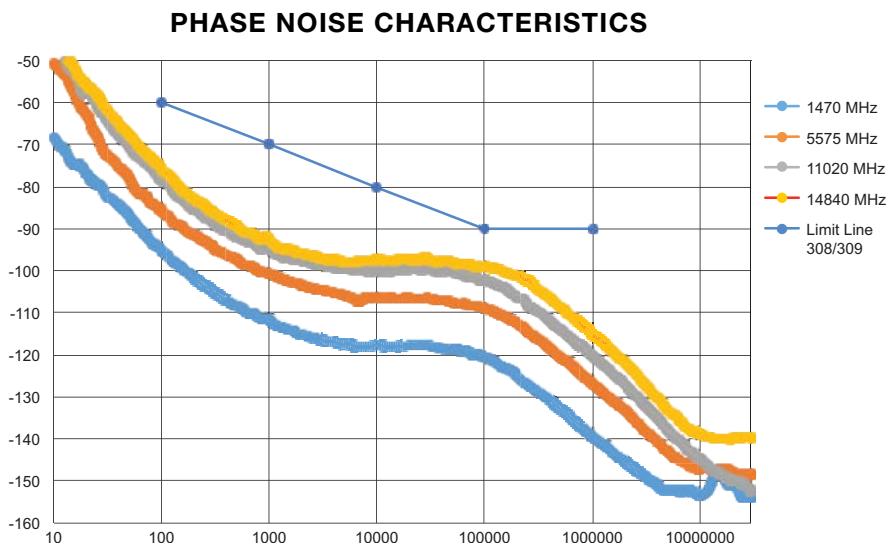
# 2LPL SERIES PHASE-LOCKED OSCILLATOR

## SPECIFICATIONS

Output frequency range	0.010 GHz to 15 GHz
Output power	+13 dBm minimum
Output harmonic	-25 dBc maximum
Output spurious	-60 dBc maximum
Phase noise	See graph and table
Input reference frequency	1 MHz to 200 MHz (or 10MHz 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 +28 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 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

## PHASE NOISE SPECIFICATIONS





## GENERAL SPECIFICATIONS

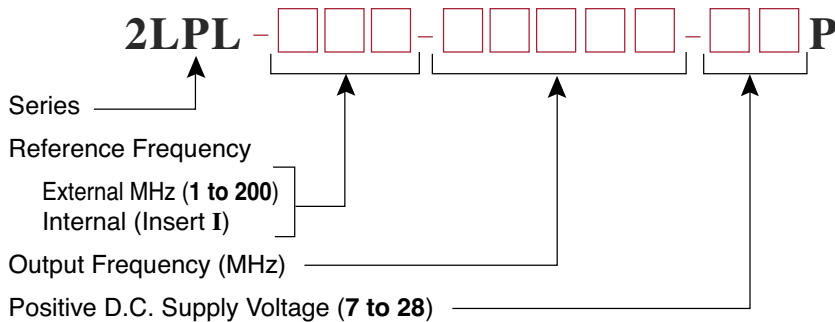
### MECHANICAL SPECIFICATIONS

Outline drawing ..... 218213 and 219069  
Size ..... 2.0" x 2.0" x 0.61"  
Weight ..... ≤ 100 grams  
RF connectors ..... SMA female  
DC connectors ..... 9-pin JST™ (mating connector PHR-9 or equivalent)

### ENVIRONMENTAL SPECIFICATIONS

Temperature  
Operating ..... -40 °C to +80 °C  
Storage ..... -50 °C to +100 °C  
Humidity ..... 95% at 40 °C noncondensing  
Shock (survival) ..... 30 g's, 10 ms pulse  
Vibration (survival) ..... 20 Hz to 2000 Hz  
random to 4 g's rms

## ORDERING INFORMATION



EXAMPLE: Part Number 2LPL-010-13050-15P 2LPL Series phase-locked oscillator with 13.05 GHz output locked to 10 MHz reference and +15 volts D.C. supply voltage.

# 2LPL SERIES PHASE-LOCKED OSCILLATOR

## OUTLINE DRAWING

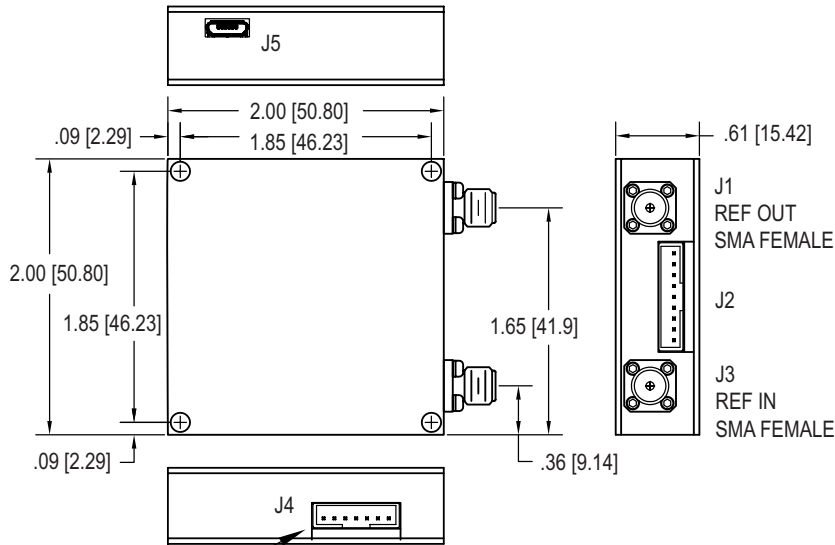
218213

J2 DC PWR/CONTROLS  
9 PIN JST

PIN #	SIGNAL
1	+15V_IN
2	GND
3	TTL_ALARM
4	PHASE_VOLT
5	GND
6	RS422_RX+
7	RS422_RX-
8	RS422_TX-
9	RS422_TX+

J5 USB  
MICRO-USB CONNECTOR

PIN #	SIGNAL
1	+5V_USB
2	USB_D-
3	USB_D+
4	NC
5	GND



J4 FOR L3 Narda-MITEQ USE ONLY

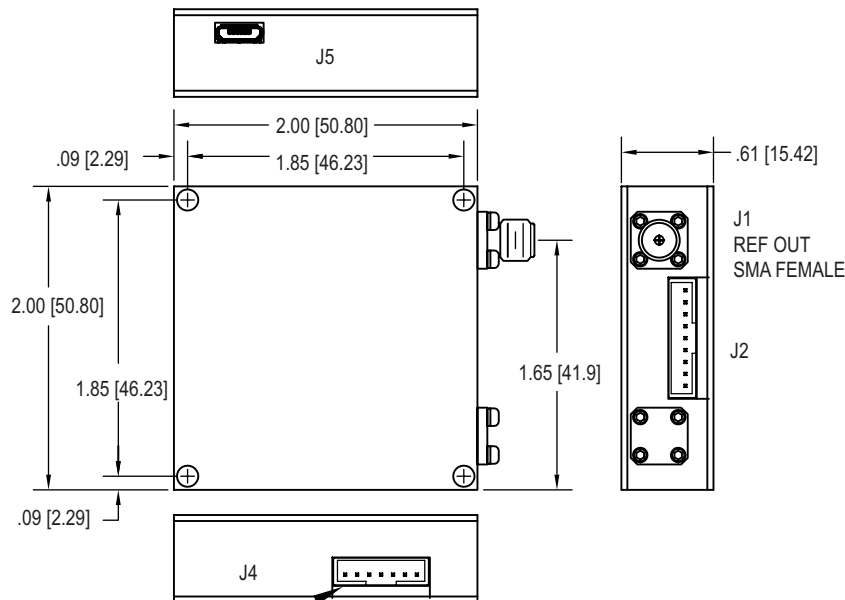
## 219069 (WITH INTERNAL REFERENCE)

J2 DC PWR/CONTROLS  
9 PIN JST

PIN #	SIGNAL
1	+15V_IN
2	GND
3	TTL_ALARM
4	PHASE_VOLT
5	GND
6	RS422_RX+
7	RS422_RX-
8	RS422_TX-
9	RS422_TX+

J5 USB  
MICRO-USB CONNECTOR

PIN #	SIGNAL
1	+5V_USB
2	USB_D-
3	USB_D+
4	NC
5	GND



J4 FOR L3 Narda-MITEQ USE ONLY

Note: Dimensions shown are in inches and those shown in brackets [ ] are in millimeters.

The material presented in this datasheet was current at the time of publication. L3 Narda-MITEQ's continuing product improvement program makes it necessary to reserve the right to change our mechanical and electrical specifications without notice. If either of these parameters is critical, please contact the factory to verify that the information is current.

This material consists of L3 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.  
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**narda**  **MITEQ**

435 Moreland Road

Hauppauge, NY 11788

Tel: 631-231-1700

Fax: 631-231-1711

Email: [componentsnm@L3T.com](mailto:componentsnm@L3T.com)

[www.nardamiteq.com](http://www.nardamiteq.com)