

# SLS2 SERIES FREQUENCY SYNTHESIZER



0.010 GHz to 15 GHz (IN BANDS)



## FEATURES

- Low cost
- 10 dB below INTELSAT phase noise mask
- Ideal for use in dual conversion up and down converters
- 1 kHz standard step size
- Available in octave wide bands
- External reference cleanup

## OPTIONS

- Custom frequency bands
- Custom step sizes
- Programmable varying reference frequency

L3 Narda-MITEQ's SLS2 series of high spectral purity synthesizers offer a low price alternative for L, S, C and Ku-bands with the lowest phase noise. With standard 1 kHz step size output at all bands the SLS2 series synthesizers are ideal for dual conversion up and down converters. With +13 dBm output power and 60 dBc spurious suppression, the SLS2 series support the most stringent system applications. Consuming less than 4 Watt maximum from (+7 to 28 V) DC supply.



# SLS2 SERIES FREQUENCY SYNTHESIZER

## SPECIFICATIONS

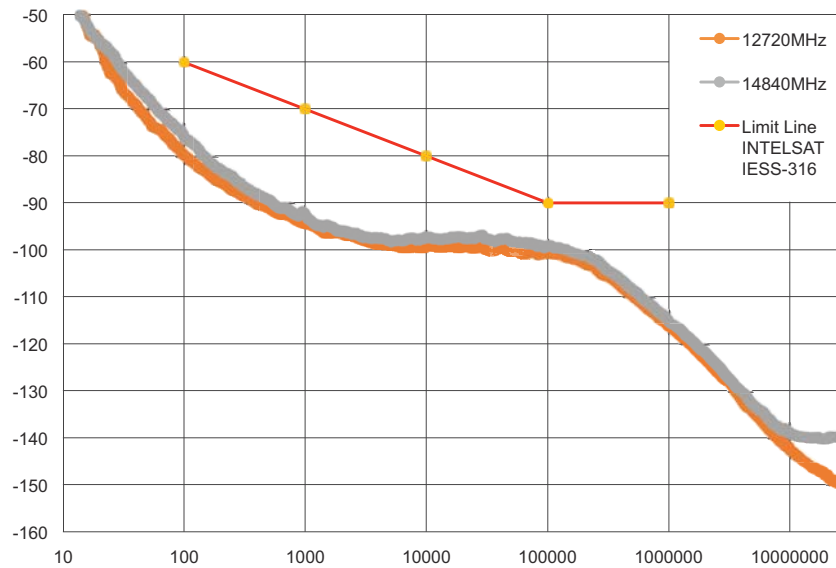
Output frequency range capabilities	0.010 GHz to 15 GHz (In Bands)
Examples of standard frequency bands  (Contact factory for custom frequency bands)	1 GHz to 2 GHz  2 GHz to 4 GHz  3 GHz to 6 GHz  4 GHz to 8 GHz  9 GHz to 11 GHz  10.405 GHz to 11.450 GHz  11.450 GHz to 12.570 GHz  12.720 GHz to 14.840 GHz
Step size	1 kHz (custom step sizes available)
Output power	+13 dBm minimum
Output power variation	± 2 dBm
Output harmonic in narrow band	-20 dBc maximum
Output harmonic in octave bandwidths	-15 dBc maximum
Output spurious	-60 dBc maximum
Phase noise	See graph
Input reference frequency Standard 10 MHz custom	10 MHz (Custom reference frequencies available from 1 MHz to 200 MHz). Also available is programmable varying reference.
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, 4 W maximum Single rail supply
Phase lock alarm	TTL High in lock, low out of lock
Frequency control	Serial RS-422 (4 wire) USB

PHASE NOISE SPECIFICATIONS (dBc/Hz), typical	OFFSET (Hz)						
	10	100	1K	10K	100K	300K	1M
12700 MHz	-42	-77	-94	-99	-100	-105	-116
14840 MHz	-42	-75	-92	-97	-98	-104	-115



## PHASE NOISE SPECIFICATIONS

### PHASE NOISE CHARACTERISTICS



## GENERAL SPECIFICATIONS

### MECHANICAL SPECIFICATIONS

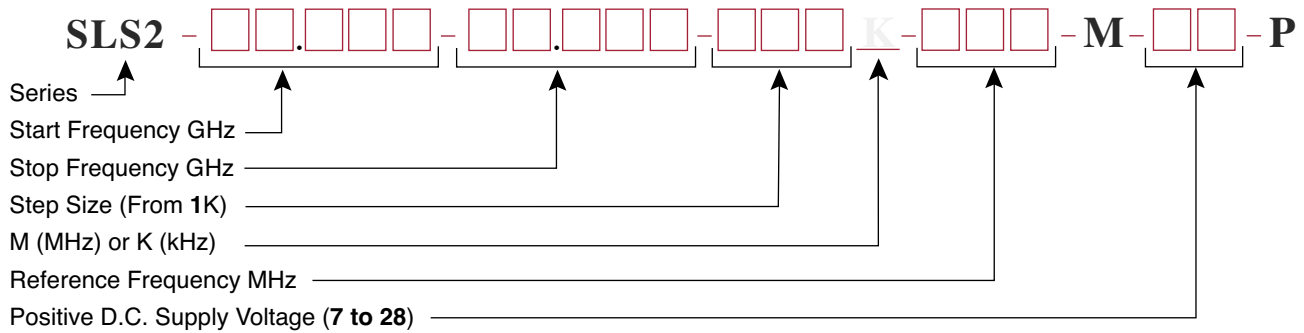
Outline drawing ..... 218213  
Size ..... 2.0" x 2.0" x 0.61"  
Weight ..... ≤ 100 grams  
RF connectors ..... SMA female  
DC connectors..... 9-pin JST™ (mating connector PHR-9 or equivalent)

### 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

# SLS2 SERIES FREQUENCY SYNTHESIZER

## ORDERING INFORMATION



**EXAMPLE:** Part Number SLS2-12.70-14.480-1K-010M-08P part number for frequency synthesizer covering 12.720 GHz to 14.480 GHz with a step size of 1 kHz and a reference frequency of 10 MHz with +8 volts D.C. supply voltage.

## OUTLINE DRAWING

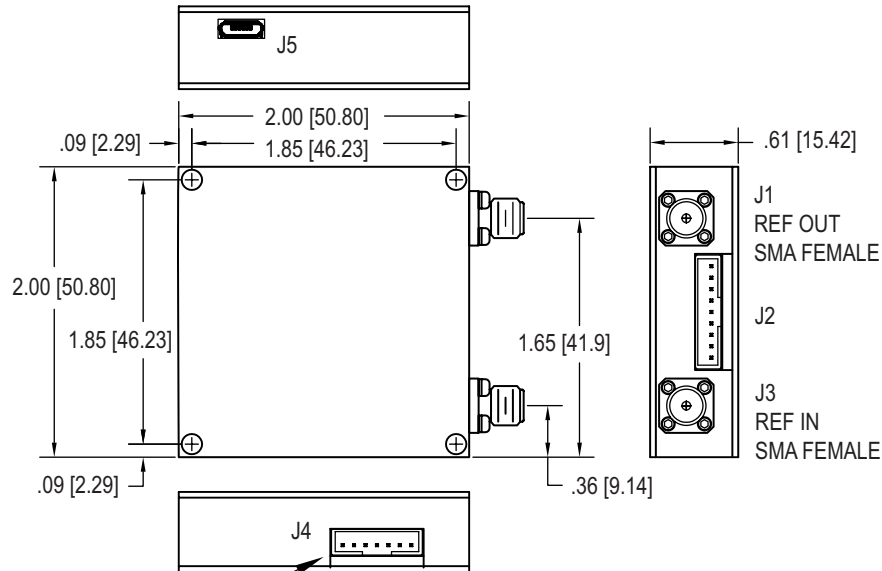
218213

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



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.

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