

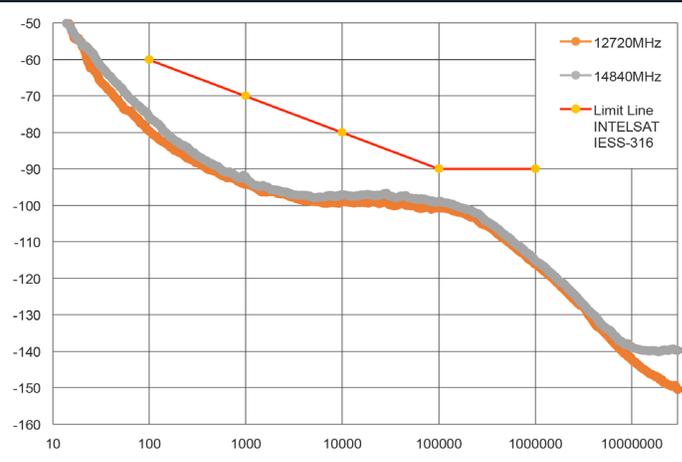
# SLS2 SERIES FREQUENCY SYNTHESIZER

**0.010 GHz to 15 GHz (In Bands)**  
**Extended Bands to 20.0 GHz**

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 Multi-octaves also available
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
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 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 +24 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) or USB*
*USB is not available on 'A' models (2.25" x 2.25" x 0.60")	

PHASE NOISE SPECIFICATIONS							
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 CHARACTERISTICS

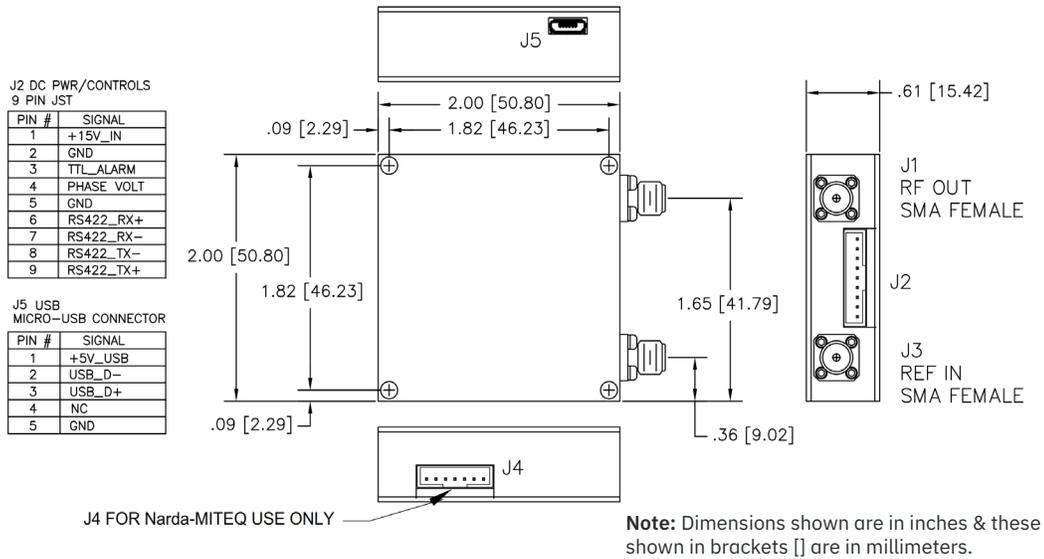


Narda-MITEQ SLS2 Series of high spectral purity synthesizers offer a low price alternative for L, S, C and Ku-bands with the lowest phase noise. With standard 1 kHz step size output at all bands the SLS2 series synthesizers are ideal for dual conversion up and down converters. With +13 dBm output power 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.

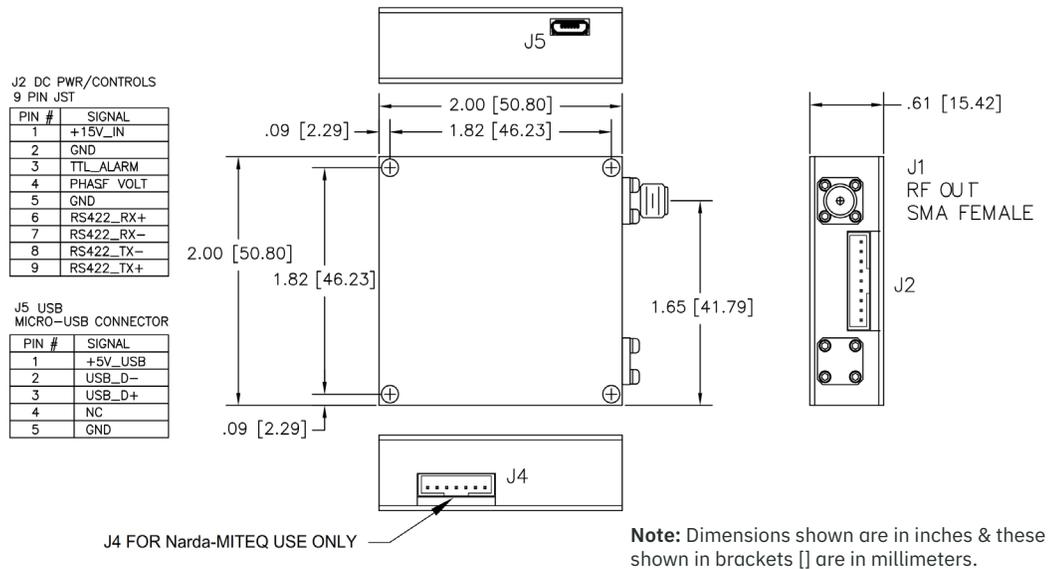
## MECHANICAL SPECIFICATIONS

	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)			

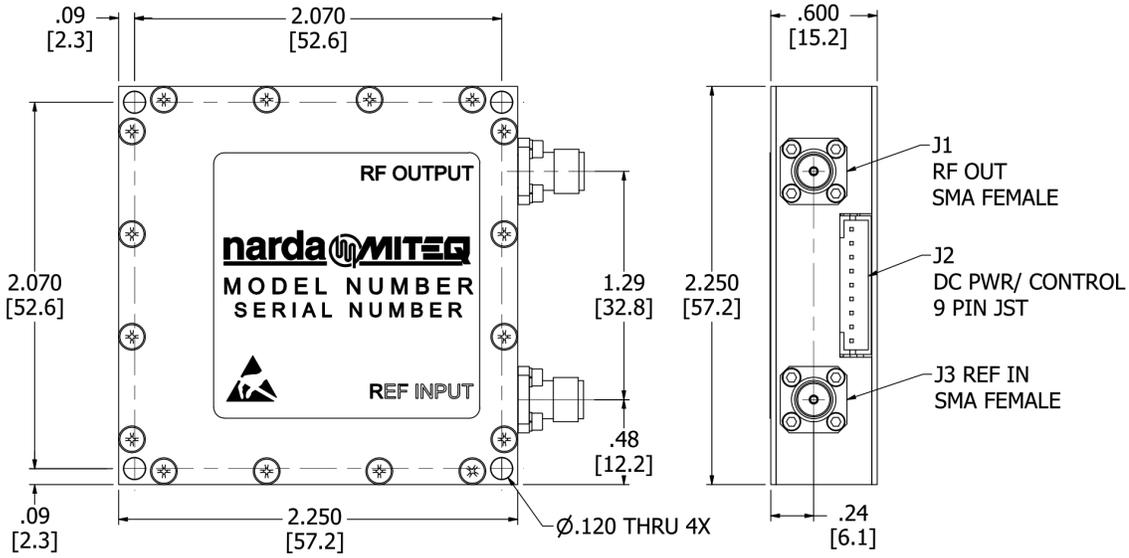
## OUTLINE DRAWING 218213 (Standard Outline)



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

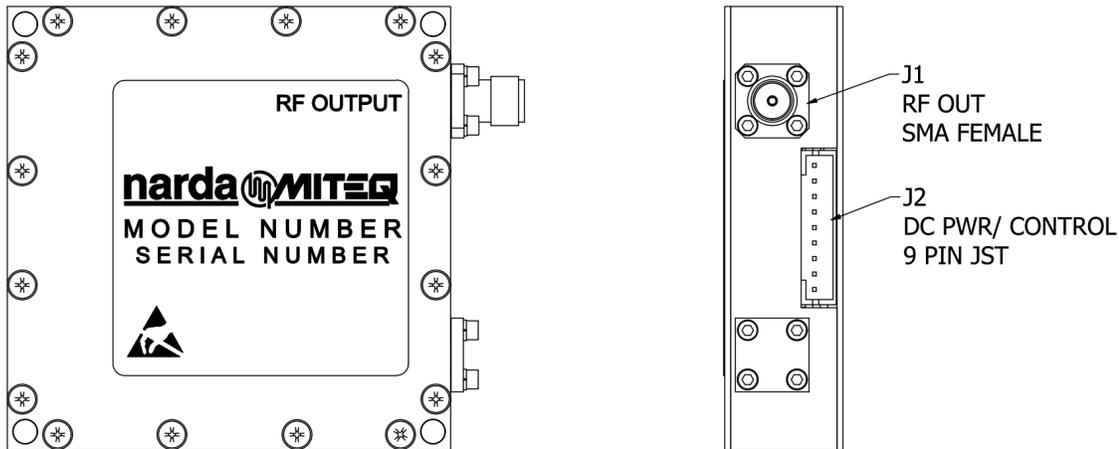


OUTLINE DRAWING 227061-1 ('A' Outline)



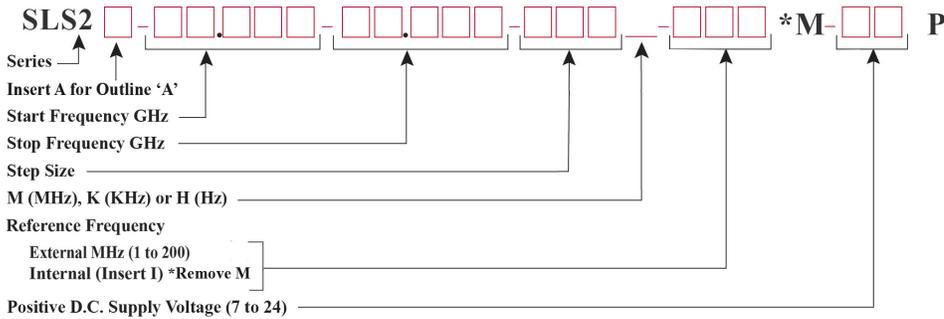
J2 DC PWR/CTNR		
PIN	SIGNAL	
	2LPLA	SLS2A
1	+VCC IN	+VCC IN
2	GND	GND
3	TTL ALARM	TTL ALARM
4	PHASE VOLT	PHASE VOLT
5	GND	GND
6	NC	RS422 RX+
7	NC	RS422 RX-
8	NC	RS422 TX+
9	NC	RS422 TX-

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 SLS2-12.70-14.48-1K-10M-8P is for a 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 in a 2.0" x 2.0" x 0.61" package.

Part Number SLS2A-12.70-14.480-1K-I-8P is for a frequency synthesizer covering 12.720 GHz to 14.480 GHz with a step size of 1 kHz and a 10 MHz internal reference with +8 volts DC supply in a 2.25" x 2.25" x 0.60" package.

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

## KEY 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
- > Built-in reference cleanup or internal reference
- > Low G sensitivity

## OPTIONS

- > Custom frequency bands
- > Custom step sizes
- > 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)

### SL2 Series Frequency Synthesizer

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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.

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