

S2LS SERIES S-BAND FREQUENCY SYNTHESIZER

S2LS SERIES: 2.250 – 2.750 GHz

FEATURES

- 20 % bandwidth
- Step size: 62.5k, 50k, 100k, 125 kHz
- 5 dB better than INTELSAT phase noise
- Lowest power dissipation in industry
- Standard L-band modem conversion units
- MIL-STD-188-164A microphonic compliant
- ETSI 300019-1-4 compliant

OPTIONS

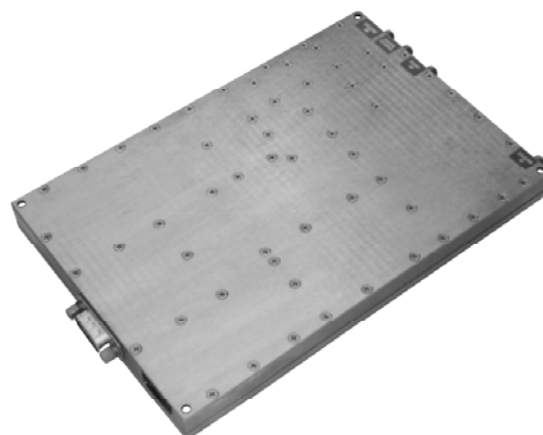
- Custom frequency bands
- Fixed LO frequencies options
- Custom step sizes
- Custom packaging

MECHANICAL SPECIFICATIONS

Outline drawing	145334
Size	7.5"x5"x0.71"
Weight.....	1.0 pounds typical
RF connectors	SMA female
DC power connector	DEM 9P
Control connector.....	20-pin header

ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating	-10 to +65°C (Note 6)
Storage.....	-55 to +95°C
Humidity	Up to 95% at 40°C noncondensing
Shock (nonoperational).....	30 Gs, 10 ms pulse
Vibration (survival).....	20 to 2000 Hz random to .04 G ² /Hz
Altitude.....	Up to 13,500 feet
100% testing	Frequency range Output power Discrete power Spectral purity Phase bursts Alarm and monitors
100% screening	Temperature cycle/monitor



GUI INTERFACE (for serial programming):

Now available at

<http://amps.miteq.com/Amps2007/synthesizers/SynthControl.zip>

MITEQ's S2LS series of S-band low phase noise synthesizers offer a low price alternative for S band INTELSAT satellite communications applications. In addition to the 125 kHz step size output at S-band, the S2LS series synthesizers provide a standard second output at L-band used as the second conversion LO for dual conversion up- and downconverters. With 5 watt power dissipation, +13 dBm output power and 65 dBc spurious suppression, the S2LS series will support the most stringent system applications.

S2LS SERIES S-BAND FREQUENCY SYNTHESIZER

ELECTRICAL SPECIFICATIONS

Output frequency range (Note 1)	Tunable	Fixed LO (Note 2)
	2.250 – 2.750 GHz	1150 MHz
Step size	62.5 kHz, 50 kHz, 100 kHz, 125 kHz (Note 3)	
Output power	+13 dBm minimum	+13 ±2 dBm
Output power variation	±1.5 dB maximum	
Input reference frequency	10 MHz OR 5 MHz (Note 4)	
Input power level	0 ±3 dBm	
Spurious outputs		
In-band	-65 dBc minimum	-80 dBc minimum
Out-of-band	-65 dBc minimum	-70 dBc minimum
Phase noise	See graph (Note 5)	
Offset from carrier	@ 2.75 GHz	@ 1380 MHz
10 Hz	-63 dBc	-77 dBc
100 Hz	-73 dBc	-87 dBc
1 kHz	-81 dBc	-97 dBc
10 kHz	-91 dBc	-100 dBc
100 kHz	-106 dBc	-100 dBc
1 MHz	-130 dBc	-125 dBc
10 MHz	-145 dBc	-140 dBc
Harmonic output	-15 dBc typical	-20 dBc typical
Output impedance	50 ohm nominal	
Load VSWR	1.5:1 maximum, all phases	
Regulation	±5%	
Noise and ripple	10 mV p-p maximum	
Frequency control	RS485 (4 wire)	
Acquisition time (to phase lock)	40 ms typical 100 ms maximum	
Summary alarm	In lock TTL 1	
VCO lock voltage	2 – 10 volts	
DC power requirements	+15 volts, 0.18 amps Typical +5.2 volts, 0.55 amps Typical	
Outline drawing	145334	

ORDERING INFORMATION:

S2LS- **M**

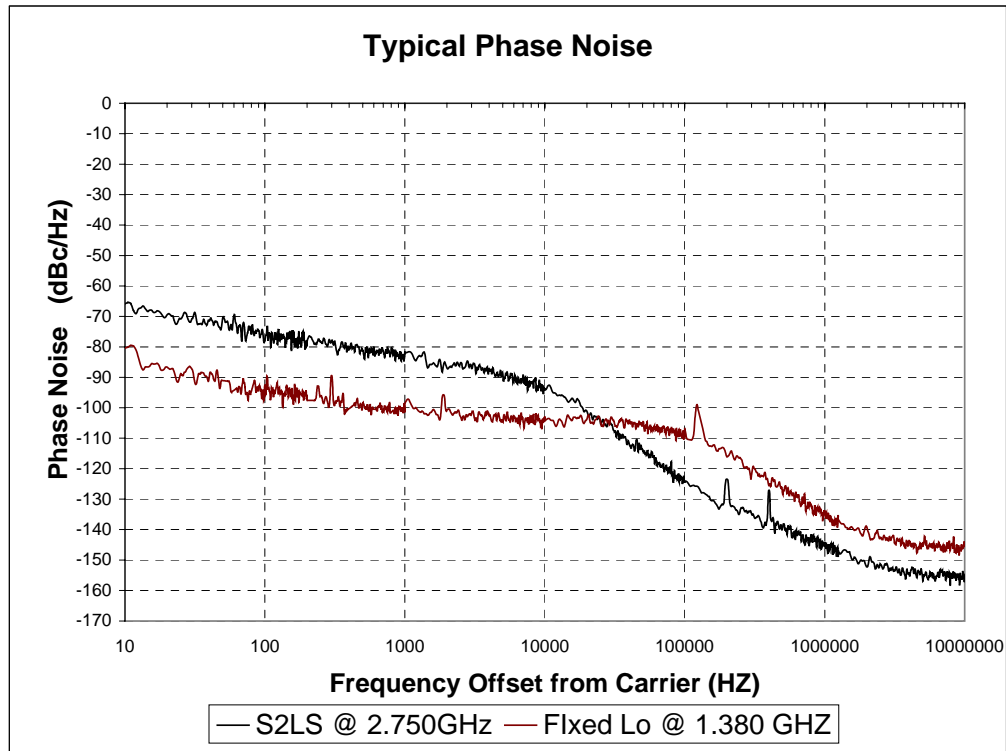
Start Freq. Stop Freq. Step Size M or K LO Frequency Ref. Frequency

(MHz/KHz) (MHz)

Example: S2LS-2.25-2.70-125K-1150-5M part number for frequency synthesizer covering 2.250 to 2.750 GHz with a step size of 125 KHz, a LO frequency of 1150 MHz, and a reference frequency of 5 MHz.



S-BAND FREQUENCY SYNTHESIZER



OUTLINE DRAWING

S2LS SERIES OUTLINE:

