

X-BAND FREQUENCY SYNTHESIZER

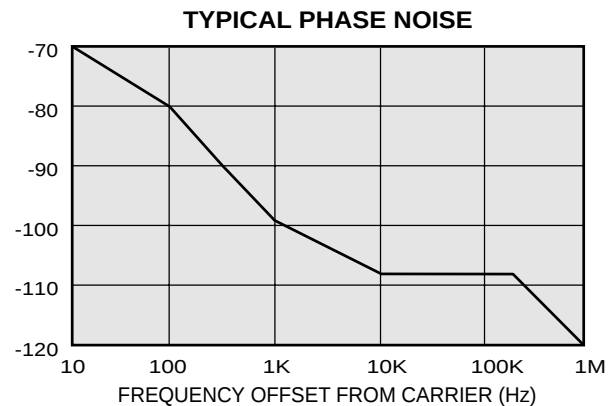
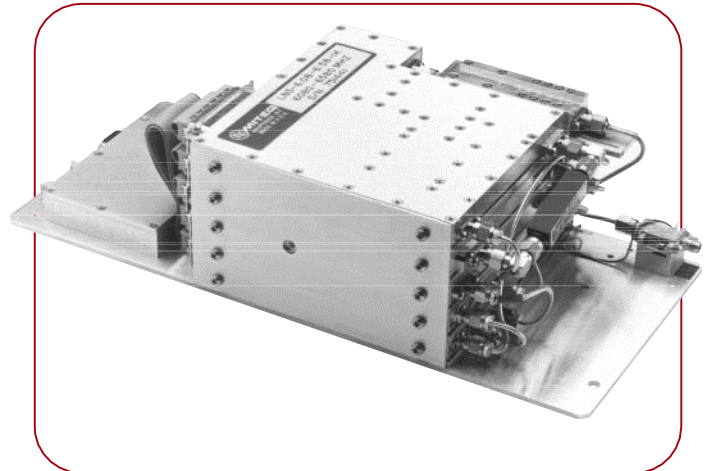
LNS SERIES: 7.20-7.70 GHz

FEATURES

- Low Phase Noise
- Rugged and reliable design
- Lock alarm/
tuning voltage test point
- Quick disconnect subminiature
D-type connector
- BCD input
- Low incidental FM

OPTIONS

- Parallel or RS422 serial interface
available
- Increased Output Power available
- Other step sizes available
- Auxiliary coupled output
- Extended temperature range



MITEQ's LNS series of high spectral purity frequency synthesizers is designed for applications where low phase noise performance is critical. The LNS is available in the three X-band frequency ranges, with step sizes to 1 kHz. Output power is +13 dBm typical, with higher power options available. Frequency control is via TTL parallel BCD format (standard), serial RS422 is also available. The LNS series has a standard lock alarm and a D subminiature connector for DC power.

MECHANICAL SPECIFICATIONS

Outline drawing	120001
Weight.....	4.6 pounds typical
RF connectors	SMA female
DC power/control connectors...	DC power subminiature D9P Control subminiature D25P

ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating	0 to +60°C
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

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ELECTRICAL SPECIFICATIONS

Output frequency range	7.20-7.70 GHz
Step size	Down to 1 kHz
Output power	+13 dBm minimum
Output power variation	±1.5 dB maximum
Input reference frequency	5 or 10 MHz
Input power level	0 ±3 dBm
Spurious outputs	
In-band	
0.6 – 300 Hz	-49 dBc minimum
300 – 1 MHz	-64 dBc minimum
1 – 30 MHz	-80 dBc minimum
Out-of-band	-65 dBc minimum
Phase noise	See graph
Offset from carrier	
10 Hz	-68 dBc
100 Hz	-80 dBc
1 kHz	-100 dBc
10 kHz	-105 dBc
100 kHz	-105 dBc
300 kHz	-105 dBc
1 MHz	-115 dBc
10 MHz	-140 dBc
Harmonic output	-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	BCD, TTL, parallel lines or serial RS422
Acquisition time (to phase lock)	10 ms typical 100 ms maximum
Summary alarm	In-lock TTL 1
VCO lock voltage	2 – 13 volts
DC power requirements	+20 /+15 volts, 1 amp maximum +5.2 volts, 1 amp maximum

ORDERING INFORMATION

LNS - - - - - **M** _____
 Start Freq. Stop Freq. Step Size (MHz/KHz) Ref. Freq. Interface
 (GHz) (GHz)

EXAMPLE: LNS-7.20-7.70-1K-10M S Part Number for frequency synthesizer covering 7.200GHz to 7.700 GHz with a step size of 1kHz and a reference of 10MHz serial control.

OUTLINE DRAWING

120001 LNS SERIES

