

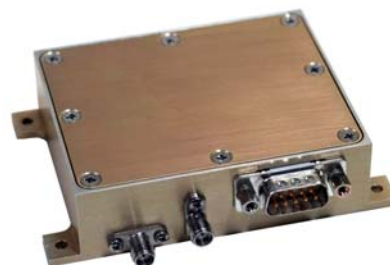
LOW NOISE SYNTHESIZER YIG BASED – 2.1 TO 5.0 GHz

FEATURES

Wide Frequency Coverage
Compact Size
Low Phase Noise & Spurious
Designed for Military Environments

APPLICATIONS

Ideal for ATE
Frequency Converters
SatCom
Telecom



DESCRIPTION

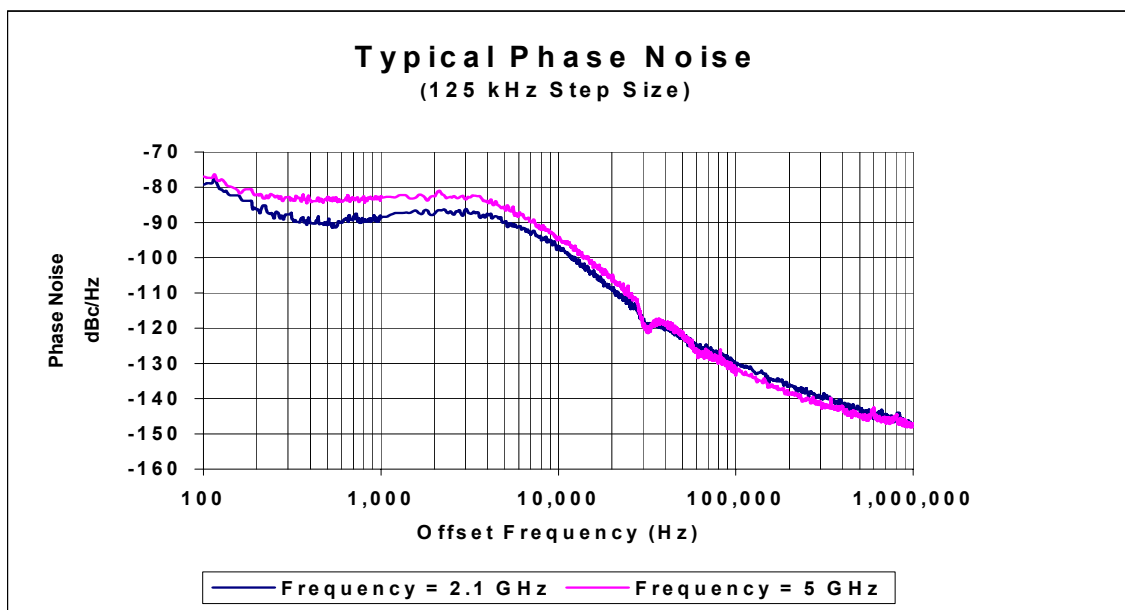
The SNY-0205-510-01 is a low noise, wide tuning range synthesizer in a compact size suitable for VXI or PXI applications. Extremely cost effective for the frequency coverage, this unit provides phase noise and spurious response that is unmatched in wide-band VCO based synthesizers. An optional feature is for the last frequency set prior to power turn-off being the start-up frequency at power turn-on.

Parameters	Model #	SYN-0205-510-01	
	Units	Specification Limit	
General			
Nominal Frequency Range	GHz	2.1 to 5.0	
Tuning Step Size	kHz	125	
Power Level	dBm, min.	17	
Power Variation (Freq & Temp.)	dB, max	± 2	
Harmonic Level	dBc, typ	-12	
Spurious Level (< 100 kHz from Carrier)	dBc, max	-70	
Switching Speed	mSec, typ.	100	
Output Impedance	Ohms	50	
Phase Noise	Offset Freq.	Typical	Maximum
SSB Phase Noise	100 Hz*	-77	-70
	1 kHz*	-85	-80
	10 kHz	-95	-90
	100 kHz	-131	-120
	1 MHz	-146	-140
Frequency Reference			
External	MHz	10	
PowerLevel	dBm	0 ± 3	
Input Impedance	Ohms	50	
Digital Interface			
Tuning Format	Serial / Parallel	Serial TTL/CMOS	
Serial Bits		16 bit Binary Channel, 3 wire (Preceeded by ASCII "C")	
Phase Lock Indicator	TTL	High=Lock	
DC Power			
Volts = +15.00	Amps, typ.	0.53	
Volts = +5.00	Amps, typ.	0.20	
Packaging & Environmental			
Operational CaseTemperature	Degrees C	0 TO +60	
Humidity	% RH, max	95	
Altitude	Feet ASL	10,000	
Weight	Oz., typ	12	
Size (See attached figure)	Inches	2.56 x 3.81 x 0.94	

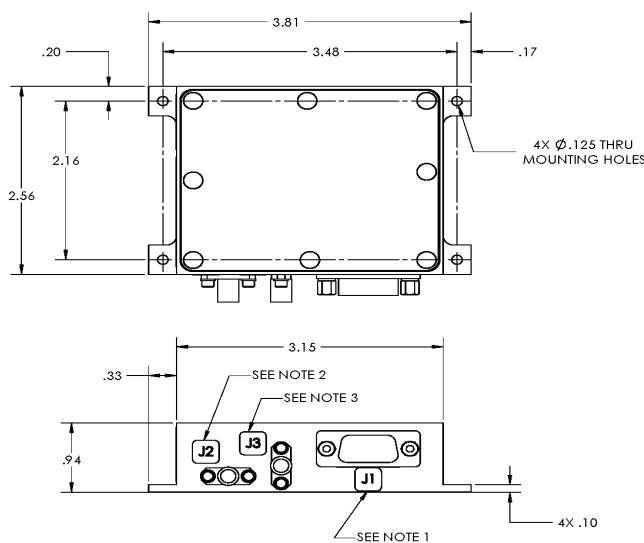
* Phase Noise at 100 Hz and 1 kHz is dependent on the performance of the 10 MHz reference signal.

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SSB Phase Noise Performance



Envelope Drawing



NOTES:

1. J1 - SEE CONNECTION TABLE:
9-PIN D-SUBMINIATURE CONNECTOR - MALE PINS
2. J2 - RF OUT:
SMA CONNECTOR - FEMALE RECEPTACLE
3. J3 - 10 MHz REF. INPUT:
SMA CONNECTOR - FEMALE RECEPTACLE

PIN FUNCTION (J1)

- | PIN | FUNCTION (J1) |
|-----|---------------|
| 1 | CLOCK |
| 2 | DATA |
| 3 | ENABLE |
| 4 | LOCK DET OUT |
| 5 | N/C |
| 6 | +1.5 VDC |
| 7 | +5 VDC |
| 8 | COMMON |
| 9 | LOGIC COMMON |

Customer Specific Applications

If you don't see what you need, contact us. MicroSource takes pride in being a world class, fast turn design center for microwave YIG based component, subsystems and synthesizers.