



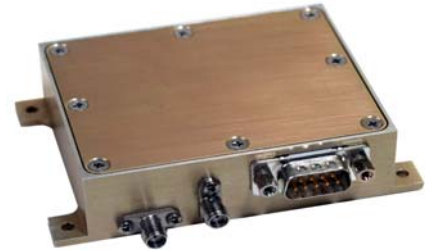
# Wideband Low Noise Synthesizer Module 2.1 TO 5.0 GHz

## FEATURES

Wide Frequency Coverage  
Compact Size  
Low Phase Noise & Spurious

## APPLICATIONS

Ideal for ATE  
Frequency Converters  
SatCom  
Telecom



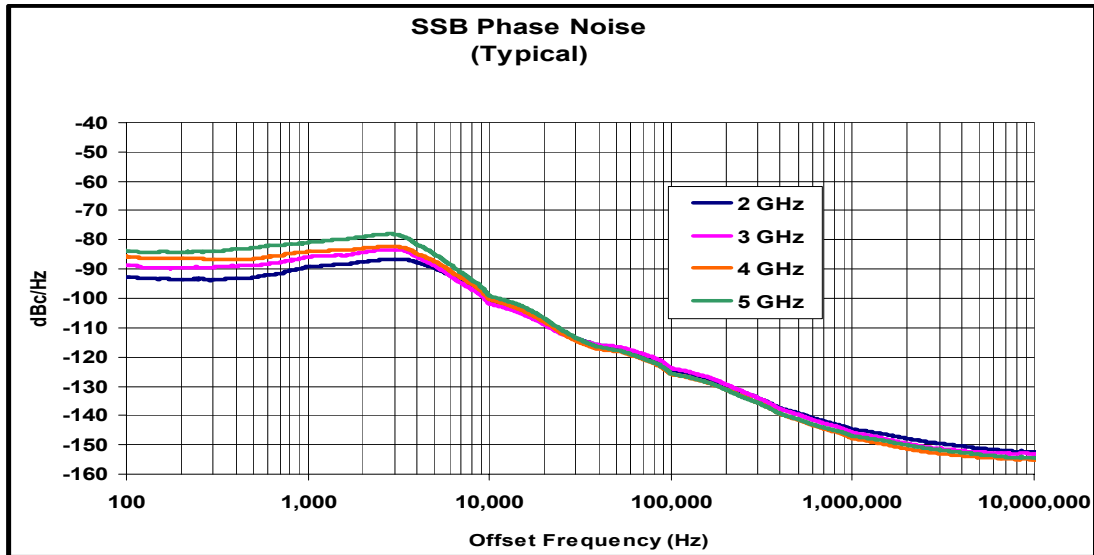
## DESCRIPTION

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.

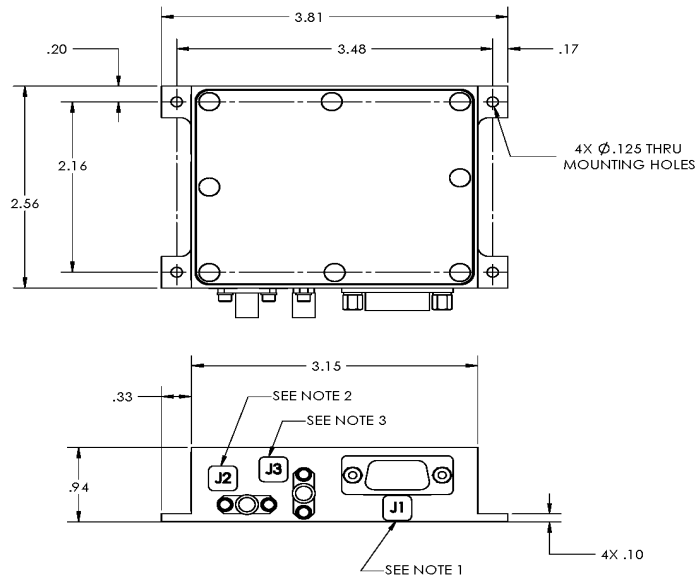
Parameters	Model #	SNY-0205-510-01	
	Units	Specification Limit	
<b>General</b>			
Nominal Frequency Range	GHz	2.1 to 5.0	
Tuning Step Size	kHz	125	
Power Level	dBm, min.	17	
Power Variation (Freq & Temp.)	dB, max	± 2	
Harmonic Level	dBc, typ	-12	
Spurious Level (> 100 kHz from Carrier)	dBc, max	-70	
Switching Speed	mSec, typ.	100	
Output Impedance	Ohms	50	
<b>Phase Noise</b>			
	<b>Offset Freq.</b>	Typical	Maximum
SSB Phase Noise	100 Hz*	dBc/Hz	-82 -77
	1 kHz*	dBc/Hz	-80 -75
	10 kHz	dBc/Hz	-100 -96
	100 kHz	dBc/Hz	-125 -121
	1 MHz	dBc/Hz	-146 -142
<b>Frequency Reference</b>			
External	MHz	10	
PowerLevel	dBm	0 ± 3	
Input Impedance	Ohms	50	
<b>Digital Interface</b>			
Tuning Format	Serial	Serial TTL/CMOS	
Serial Bits		16 bit Binary Channel, 3 wire (Preceeded by ASCII "C")	
Phase Lock Indicator	TTL	High=Lock	
<b>DC Power</b>			
Volts = +15.00	Amps, typ.	0.53	
Volts = +5.00	Amps, typ.	0.20	
<b>Packaging &amp; Environmental</b>			
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.

# Wideband Low Noise Synthesizer Module 2.1 TO 5.0 GHz



## 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)
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.*