

SMS-VME

Multiple LO Source for Microwave Tuners

FEATURES

- VME Compatible Package
- 4.7 – 9.0 GHz Output
- Fixed and/or Agile LO Outputs
- 25 μ Sec Tuning Speed
- - 66 dBc Spurious
- Down to 1 Hz Step Size



APPLICATIONS

- **Microwave Radio**
- EW / SIGINT
- Radar Systems
- Laboratory Test Module

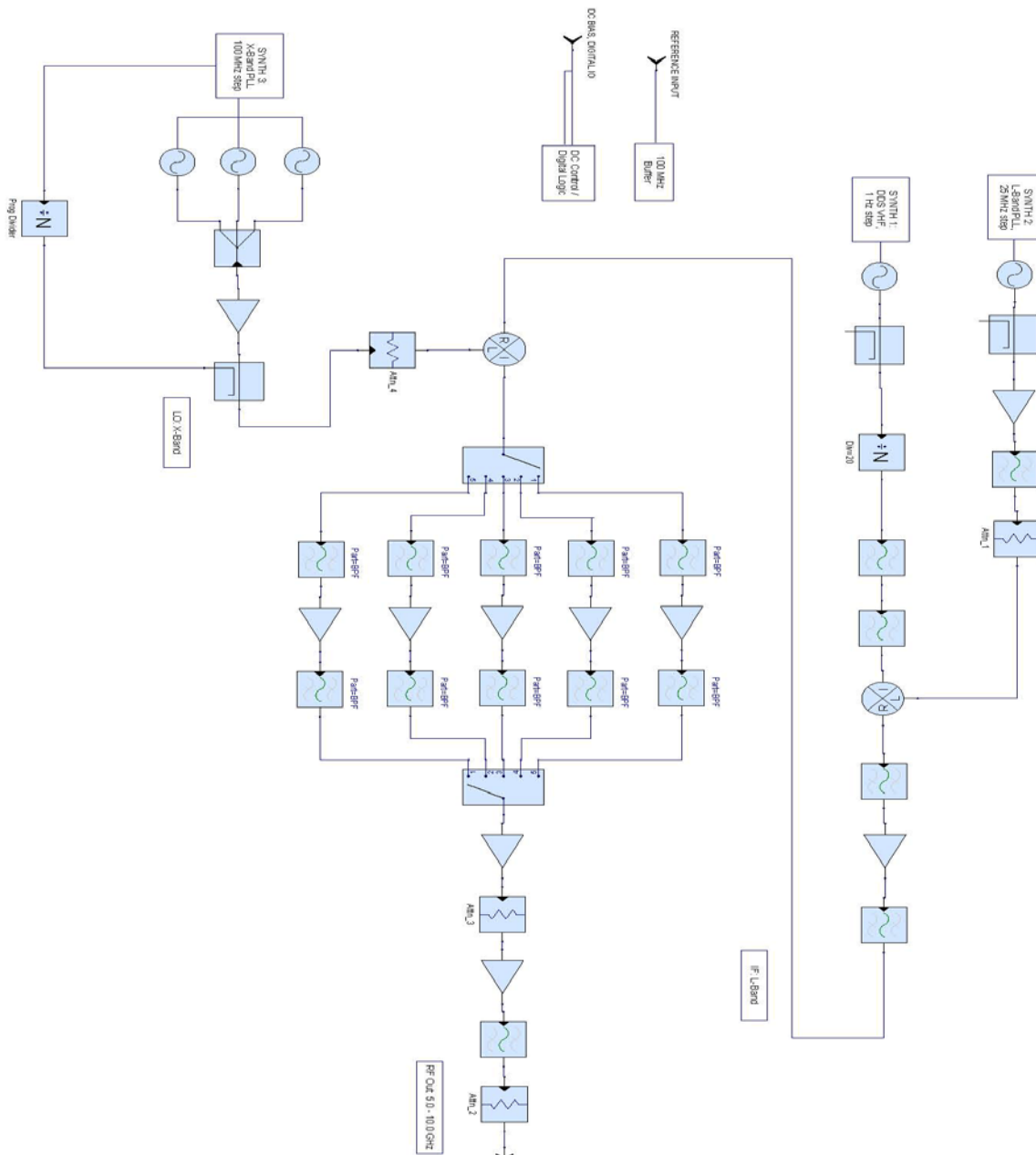
DESCRIPTION

The SMS-VME synthesizer was designed to act as a broadband microwave Local Oscillator source for use in Microwave Tuner applications. It has a flexible two stage up-conversion synthesis plan allowing easy modifications to its output frequency to match the requirements of broadband microwave tuners. Up to 3 independent fixed frequency LO's can be added to the same package, thus offering a complete LO solution for microwave radio. A 16 step programmable loop filter bank ensures settling time speed and phase noise consistency over the entire band. The design utilizes the latest MMIC components including VCO's, Multipliers, and Amplifiers to shrink size, eliminate hand tuning, and minimize parts count. The result is a low cost, lightweight integrated module that can perform in the harshest environments.

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Simplified Block Diagram:



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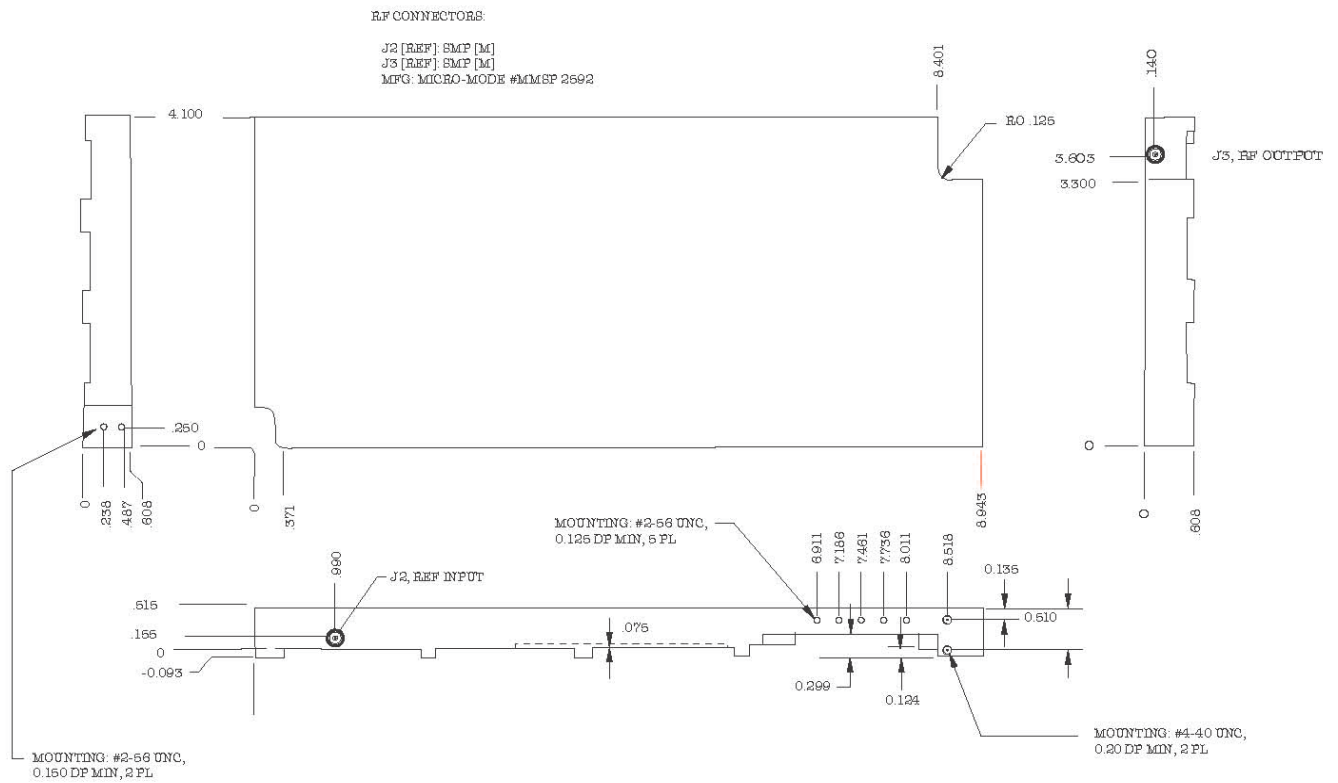
PERFORMANCE SPECIFICATIONS *

PARAMETER	VALUE	OPTIONS
Frequency Range	4.7 - 9.0 GHz	1 - 20 GHz
Bandwidth	4.3 GHz	up to 18 GHz
Fixed LO's	Up to 3 Phase Coherent	1-18 GHz
Step Size	50 kHz	1 Hz
Tuning Speed	< 25 μ Sec	450 nSec
Output Power	+ 10 dBm	+ 15 dBm
Power Variation	+/- 2 dB, over frequency	
Harmonics	-20 dBc	
Spurious	-66 dBc	-70 dBc
Phase Noise (typical @ 10 GHz)	Offset Phase Noise	0.2° @10 GHz
100Hz	-85dBc/Hz	
1 kHz	-95 dBc/Hz	
10 kHz	-105 dBc/Hz	
100 kHz	-105 dBc/Hz	
1 MHz	-115 dBc/Hz	
Frequency Accuracy	same as reference	
Internal / Ext Reference Frequency	100 MHz	10MHz
Input Reference Power	0 to +6 dBm	
Programming (LVTTTL)	SPI serial	User defined
Supply Voltage	+5 VDC, 1650 mA	
	+12 VDC, 150 mA	
Environmental		
Vibration and Shock	(as required)	
Operating Temp	-20 to +75 °C	-45 to +85 °C
Physical	9.0" x 4.1" x 0.51", SMP (M)	
	Micro-D 25 pin connector	custom package

* Other configurations available, consult factory

SMS-VME Multiple LO Source for Microwave Tuner

Mechanical Outline:



Certificate # A2498US