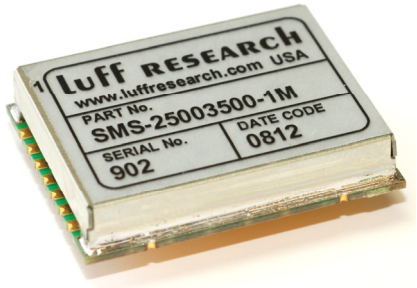
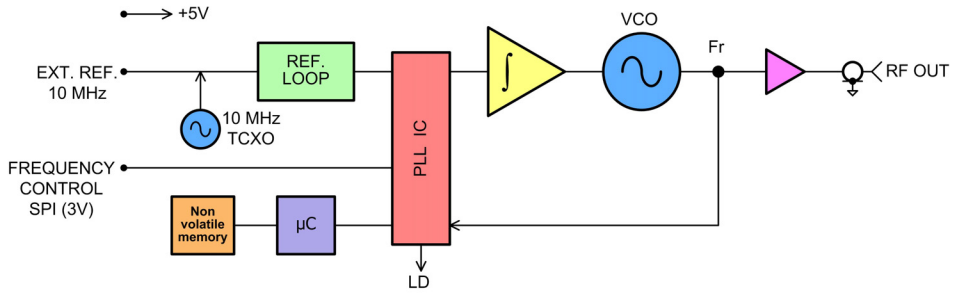
Model SMS: Surface Mount Synthesizers and Fixed Frequency Sources

Features



- **Frequencies synthesizers up to 8 GHz (up to octave bands)**
- **Fixed frequency sources up to 8 GHz (no programming needed)**
- **Reference frequency: external 10 MHz or internal TCXO**
- **Single 5V operation**
- **Low phase noise & spurious**
- **Customized configurations**

Block Diagram



Description

The new SMS surface mount frequency sources are aimed at integrated RF and microwave applications. The SMS design is a single PLL design that can be configured to be either programmable to step across a frequency range or as a fixed frequency source requiring no programming.

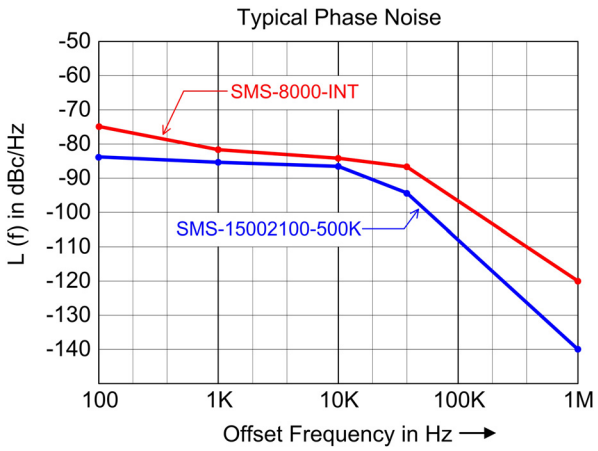
These units are very user friendly. They operate on either an external 10 MHz reference or on a high performance internal TCXO. In addition these units operate on only one single +5V supply.

The phase noise and spurious performance is excellent and with the output being buffered and filtered these units are a great addition to any system requiring a miniature frequency source.

The design is robust and in quantity is configured for reflow applications.

SMS Key Specifications

Output Frequency:	up to 8 GHz
Frequency Bandwidth:	up to an octave
Frequency Steps (typ.):	1 MHz
Spurious (max.):	-60 dBc
Harmonics (max.):	-20 dBc
Output Power (typ.):	+13 dBm
External Reference:	10 MHz (typical) 0 dBm ±3 dB
or Internal Reference:	±0.5 PPM (-10ºC to +70ºC)
Frequency control	
Synthesizer:	SPI (3V)
Fixed freq. source:	Not required
Switching Speed (typ.):	1 msec.
Alarm:	CMOS (3V)
Power Requirements:	+5.0 Vdc @ 200 mA
Size:	1.25" x 1.00" x 0.25"



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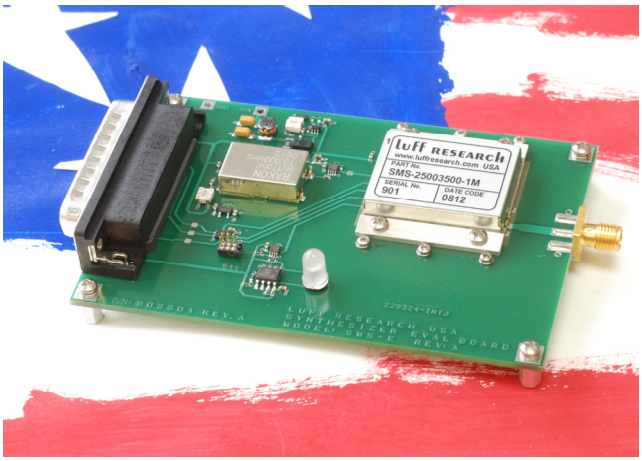
SMS Ordering Information

1. Frequency synthesizer defined by a part number structured as the follows:

   SMSxxxxyyyy-zzz
   xxxx = start frequency in MHz
   yyyy = end frequency in MHz
   zzz = 10 for 10 MHz external input ref. freq.
   or
   zzz = INT for internal ref. freq.

2. Fixed frequency source defined by a part number structured as the follows:

   SMSxxxx-zzz
   xxxx = output frequency in MHz
   zzz = 10 for 10 MHz external input ref. freq.
   or
   zzz = INT for internal ref. freq.



Model SMS-E Evaluation Board

The evaluation board comes with the desired SMS module mechanically attached so that it can be easily removed after it has been evaluated or tested. This evaluation board is intended to be used as a test fixture for the SMS modules.

For frequency control, the evaluation board has a SPI (5V) input to control the SMS synthesizer module. The SMS fixed frequency sources do not need programming.

For test purposes the evaluation board can be driven from the parallel printer port of a PC or a USB port. For the USB interface a USB to parallel convert module is required. This converter module is available from Analog Devices (p/n: EVAL-ADF4XXXZ-USB) and can be ordered from Digi-Key or Avnet Express. We can also supply this converter as an integral part of the evaluation board.

To order, please specify the evaluation board needed and the desired SMS module required.

For SPI or Parallel printer port input – P/N: SMS-E and SMSxxxxyyyy-zzz or
For USB input – P/N: SMS-E-USB and SMSxxxxyyyy-zzz.