

SMS-AWG RF Arbitrary Waveform Generator

FEATURES

- Up to 1.1 GHz Bandwidth, 1st Nyquist Zone
- Accepts Text Based Waveform Files
- Integrated Low Noise DAC Clock
- Typical -55 dBc Spurious
- Small Rugged Package
- Optional Frequency Up-Conversion

APPLICATIONS

- EW / SIGINT
- Radar Test Equipment
- Microwave Radio
- Instrumentation Module



DESCRIPTION

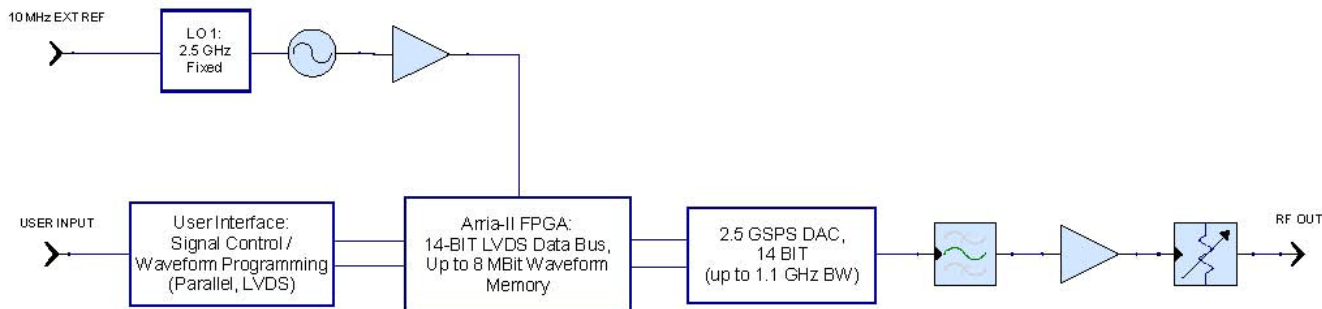
The SMS-AWG Digital Waveform Generator provides the capability to generate complex RF waveforms up to 26 GHz, by using a high speed 14 Bit DAC along with optional frequency translators. The internal IF core consist of a 2.5 GSPS DAC controlled by a high performance FPGA, and all associated control circuitry from 32 Mbit EEPROM data storage and Synthesizers for LO, Reference and Clock generation.

The advantage of this structure is that it allows the systems engineer a 'module' solution to generating fast Digital RF signals with Arbitrary Modulation for EW, SIGINT, and Radar applications. The user has the option of either predefining waveforms to be played back, or loading text based files (generated with software such as LabView or MATLAB) for dynamic RF synthesis.

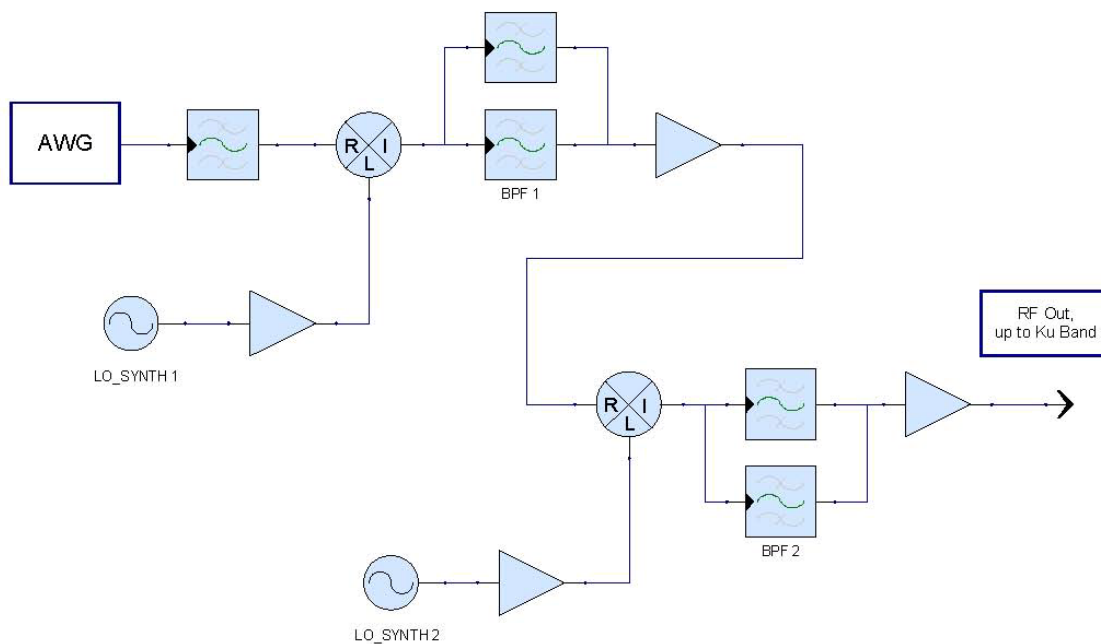
The internal 100 MHz Reference Oscillator can be phase locked to an external 10 / 100 MHz source, ensuring phase synchronicity with system design. The product has integrated filtering to reduce spurious signals down to -65 dBc, depending on bandwidth chosen. A compact, light weight aluminum housing provides a rugged enclosure and minimizes EMI susceptibility. An optional Frequency Converter can be inserted into the housing bottom deck to provide outputs up to 26 GHz.

SMS-AWG
RF Arbitrary Waveform Generator

SMS-AWG BLOCK DIAGRAM



SMS-AWG BLOCK DIAGRAM W/ UPCONVERTER (OPTIONAL)



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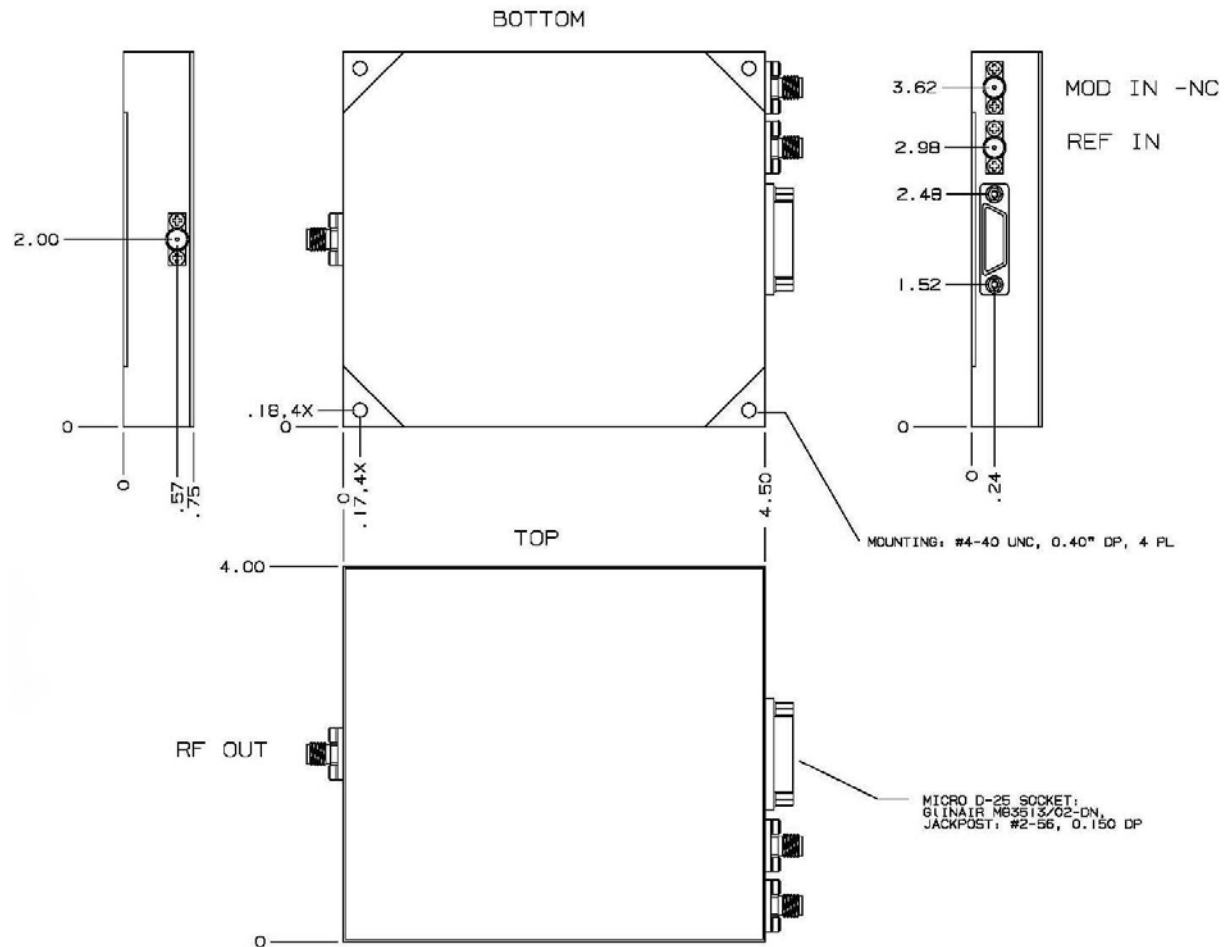
PERFORMANCE SPECIFICATIONS *

PARAMETER	VALUE	OPTIONS
Frequency Range	DC-1.1 GHz 1 st Nyquist Zone	Up to 40 GHz with Integrated Convertor
Memory	Up to 8 Mbit	
Programming Format	WF Text Files	
DAC Sample Rate	2.5 GSPS	
Modulation Bandwidth	Up to 1 GHz	Up to 2 GHz
Step Size	Down to 1 Hz	
Tuning Speed	<100 nSec.	
Output Power	+ 10 dBm	+ 20 dBm
Power Variation	+/- 2 dB	
Harmonics	-50 dBc	-70 dBc
Spurious	-55 dBc (Full Modulation)	-70 dBc (200 MHz Modulation)
Phase Noise (typical @ 1.1 GHz)		
1 kHz	-120 dBc/Hz	
10 kHz	-130 dBc/Hz	
100 kHz	-130 dBc/Hz	
1 MHz	-150 dBc/Hz	
Frequency Accuracy	Same as Reference, Ext.	1 ppm Internal
Input Reference Frequency	10 MHz/100 MHz	Internal Reference
Input Reference Power	-3 to +3 dBm	
Programming (LVTTTL)	Parallel N-bit, w/ Lock Det	
Supply Voltage	+5 VDC, 1,500 mA	
	+15 VDC, 150 mA	
Environmental		
Vibration	(as required)	
Shock	(as required)	
Operating Temp	-40 to +85 deg. C	
Physical	4.0" x 4.5" x .75", SMA(F) Micro-D 25/50 pin connector	Custom Package

* Other configurations available.

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PACKAGE OUTLINE:



Certificate # A2498US