

SMS-ACX

Broadband RF Converter/Exciter

FEATURES

- 10 MHz – 14 GHz Output Frequency
- Up to 1 GHz Modulation Bandwidth
- Down to 1 Hz Step Size
- Fast 100 μ S Switching Speed
- Low Phase Noise Option:
-110 dBc/Hz @ 10 kHz offset
- Compact Size: 4.70" x 4.65" x 1.68"

APPLICATIONS

- **Digital RF Memory (DRFM)**
- EW / SIGINT
- Radar Systems
- Arbitrary/Linear FM Chirp
- In-Phase/Quadrature Modulation
- Instrumentation or Embedded Application



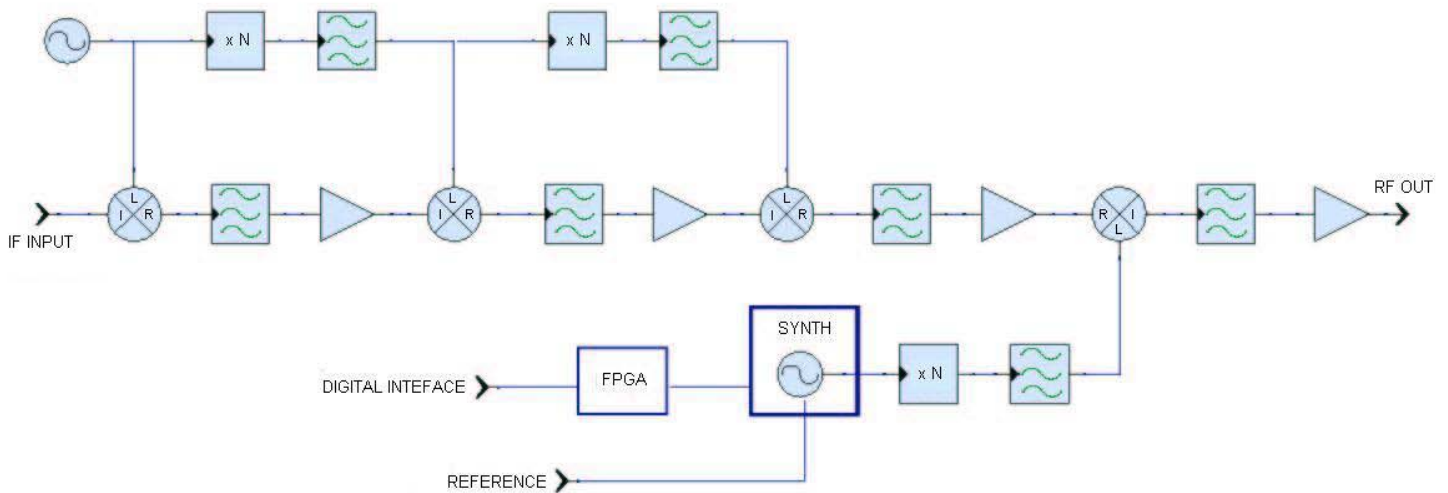
DESCRIPTION

Spinnaker Microwave's SMS-ACX RF Converter/Exciter is capable of up-converting an IF signal with arbitrary phase, frequency, and amplitude and quickly placing it at an output frequency ranging from 10 MHz to 14 GHz. The IF signal can have up to 1 GHz of modulation bandwidth and either be generated internally via a DDS / DAC or externally received (depending on customer needs). By utilizing multiple mixing stages and Spinnaker Microwave's proprietary up-then-down topology, the SMS-ACX RF Converter/Exciter can effectively meet the most difficult phase noise, spurious and switching speed requirements while maintaining a minimal package size and small step size. Options include up to 40 GHz output frequency, 10 μ S switching speed, and low phase noise (-110 dBc / Hz @ 10 kHz offset). The SMS-ACX RF Converter/Exciter provides an extremely cost/space effective solution to generating complex arbitrary waveforms or linear FM chirp signals for DRFM, test instrumentation, or module embedded applications.

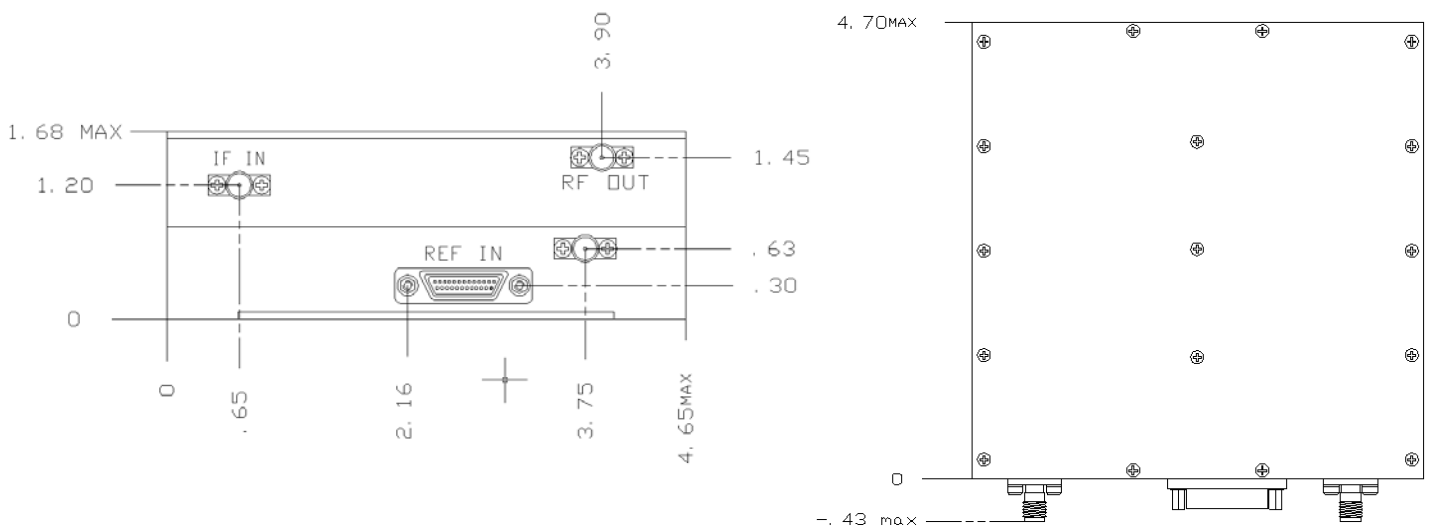
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SIMPLIFIED BLOCK DIAGRAM



OUTLINE DRAWING



FRONT VIEW

TOP VIEW

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PERFORMANCE SPECIFICATIONS *

PARAMETER	VALUE (TYPICAL)	OPTIONS
OutputFrequencyRange	10 MHz - 14 GHz	Up to 40 GHz
Modulation Signal Bandwidth	10 MHz – 1 GHz	
Step Size	1 MHz	1 Hz
IF Signal	Internal (via DDS/DAC) or External (via Synth or AWG)	
Modulation Type	Linear/Arbitrary FM, I/Q, AM, Pulse, External Arbitrary	
Switching Speed	<100 μ S	< 10 μ S
Conversion Gain	+10 dBm	Variable
Spurious Rejection	-50 dBc	-60 dBc
Harmonic Rejection	-20 dB	-30dB
Phase Noise @ 10 GHz, 10 kHz Offset	-70 dBc/Hz	-110 dBc/Hz
Output Third-Order Intercept Point	+15 dBm	
Reference Frequency	10 or 100 MHz	Internal or External
Group Delay Variation	5nS	Customer Specified
Maximum Amplitude Modulation Depth	30%	
PhaseAdjustmentRange	0° - 360°	
Power Supply	+/-5 V, +15 V DC (< 20W Power Consumption)	
Operating Temperature	-40°C to +85°C	
Control	LVTTTL Serial or Parallel Word	
Dimensions (L x W x H)	4.70 x 4.65 x 1.68 Inches	Custom Package
Weight	2.3 Pounds	
Military Screening	Optional Shock, Vibration, Environmental, Hermetic Seal	

* Other configurations available, consult factory



For more Information Contact:

Spinnaker Microwave Inc.
3281 Kifer Rd
Santa Clara CA, 95051
408-732-9828

www.spinnakermicro.com



Certificate # A2498US