AMC903

Triple Sine Wave Local Oscillator (LO) with attenuation control

AMC903

Key Features

- Triple OCXO Sine Wave output channels
- Programmable attenuator and amplifier per channel
- Filtered and amplified output
- Attenuation configuration via Port 0 (GbE) or front panel serial port
- Single-module mid-size (option for full-size)

Benefits

- Programmable gain/attenuation provides signal conditioning such as may be needed for ADC/DAC clocks
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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AMC903

The AMC903 outputs three sine wave clocks via SSMC connectors. The analog signals are attenuated, amplified, filtered and amplified again before being output via SSMC connectors. The attenuation is dynamic and user configurable by an on-board management processor, which is accessed through the backplane port 0 (GbE) or front panel RS-232 interface.

The Modules utilize Ultra Low Phase Noise OCXO with a noise floor as low as -178dBc/Hz. The module is designed for applications that demand extremely low noise sources, including the reference oscillator for phase-locked loop in microwave spectrum.

VadaTech can provide the LO with customer specific frequencies. The default configuration is 60.000000 MHz, 64.000000 MHz and 312.000000 MHz. Typical maximum output power is about 22 dBm per clock output.
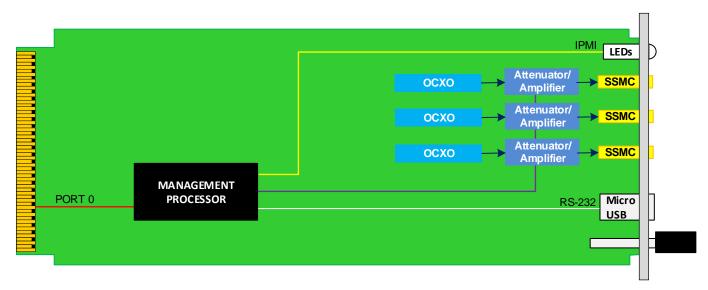

Figure 1: AMC903

Block Diagram

Figure 2: AMC903 Functional Block Diagram

Specifications

Architecture		
Physical	**Dimensions**	Single module, mid-size (full-size option available)
		Width: 2.89" (73.5 mm)
		Depth 7.11" (180.6 mm)
Type	**AMC Analog**	Triple Sine wave clock output
Configuration		
Power	**AMC903**	20W at start up and after warm up 10W
Environmental	**Temperature**	See ordering options
		Storage Temperature: –40° to +85°C
	Vibration	Operating 9.8 m/s^2 (1G), 5 to 500 Hz on each axis
	Shock	Operating 30G on each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	3x SSMC and 1x micro USB
	LEDs	Status
	Mechanical	Hot swap ejector handle
Software Support	**Operating System**	N/A
Other		
MTBF		MIL Hand book 217-F@ TBD hrs
Certifications		Designed to meet FCC, CE and UL certifications, where applicable
Standards		VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
Warranty		Two (2) years

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

AMC903 – ABC-DE0-00J

A = First Frequency**	D = Third Frequency**	
0 = 60.000000 MHz 1 = Reserved 2 = Reserved 3 = Reserved	0 = 312.000000 MHz 1 = Reserved 2 = Reserved 3 = Reserved	
B = Second Frequency**	**E = OCXO Phase Noise**	
0 = 64.000000 MHz 1 = Reserved 2 = Reserved 3 = Reserved	0 = Typical 1 = Reserved 2 = Lowest (improvement by ~5dBc/Hz) 3 = Reserved	
C = Front Panel Size		**J = Temperature Range and Coating**
1 = Reserved 2 = Mid-size 3 = Full-size 4 = Reserved 5 = Mid-size, MTCA.1/.4 (captive screws) 6 = Full-size MTCA.1/.4 (captive screws)		0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic 6 = Extended (–40° to +85°C), Humiseal 1A33 Polyurethane* 7 = Extended (–40° to +85°C), Humiseal 1B31 Acrylic*

Notes: *Edge of module for conduction-cooled boards (contact VadaTech Sales for details)

**Customers could specify different frequencies, please contact VadaTech Sales

Related Products

AMC526

- Dual AD9625 ADC, 12-Bit @ 2.6 GSPS in single module, mid-size
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- Quad bank QDR-II+ memory (576 Mb total) and 1Gb DDR3

AMC527

- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- Quad bank QDR-II+ memory (576 Mb total) and 1 GB DDR3
- Internal, external or backplane clock with on-board wide-band PLL

AMC592

- AMC FPGA carrier for FMC per VITA 57
- Xilinx UltraScale™ XCKU115 FPGA
- Supported by DAQ Series™ data acquisition software

Contact

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