

FMC154

Local Oscillator (LO) with Input Reference, FMC



FMC154

Key Features

- AD9164 @ update rate of 10 GSPS with 16-bit DAC
- Direct Digital Synthesizer (DDS)
- Local Oscillator via DDS
- Local Oscillator via PLL
- FPGA Mezzanine Card (FMC) per VITA-57
- Input clock reference
- On board 100 MHz OCXO
- Status LED
- RoHS compliant

Benefits

- FMC form factor programmable LO for radar and EW
- Agile LO synthesis for advanced scan/chirp requirements
- All FMC carriers provided with a reference design with VHDL source code and configuration binaries
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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FMC154

The FMC154 is an FPGA Mezzanine Module per VITA 57 specification that can be mounted on air and conduction-cooled carriers. The module provides a programmable Local Oscillator (LO) source via PLL and DDS using the Analog Devices AD9164 DDS. The flexibility and fast update rate make this module suitable for agile LO synthesis in frequency hopping and FM chirp radar systems.

The FMC154 can provide an LO output of up to 3 GHz via a wideband PLL, locked to either an external source or a reference from the FMC carrier. The PLL output is via a user-programmable low-pass filter.

The AD9164 provides direct digital synthesis using a 16-bit DAC running at 5 GSPS. The device supports automatic linear and nonlinear frequency sweeps, with phase tuning and frequency tuning to 20 pHz steps. The sampling clock can be synchronized to the input clock.



Block Diagram

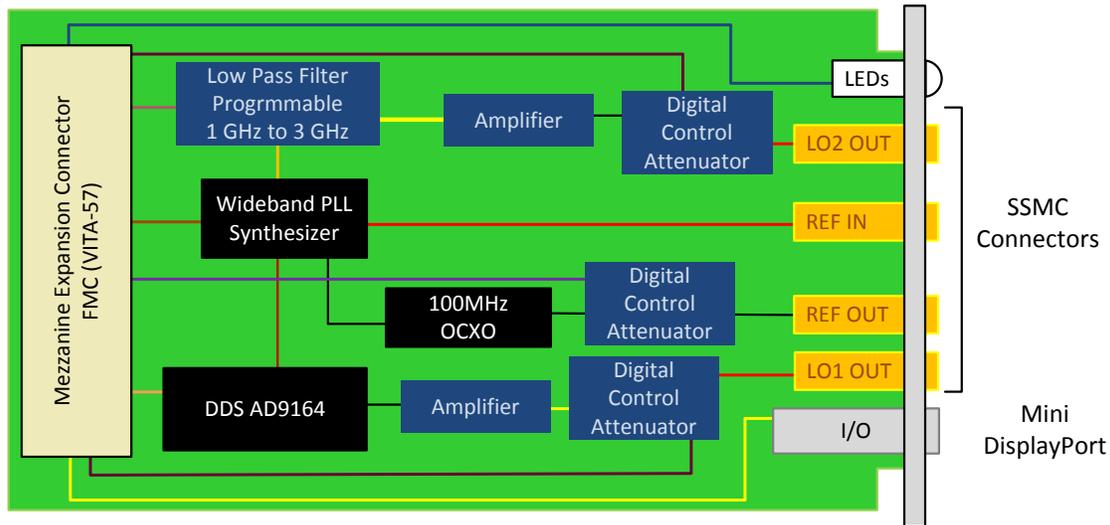


Figure 1: FMC154 Functional Block Diagram

Front Panel

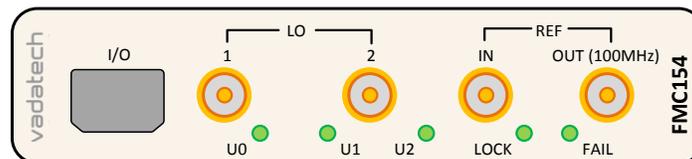


Figure 2: FMC154 Front Panel

Specifications

Architecture		
Physical	Dimensions	Single module
		Width: 2.71" (69 mm)
		Depth 3.01" (76.5 mm)
Type	FMC	Clock Generation, Single FMC
Standards		
FMC	VITA-57	ANSI/VITA 57.1-2008
Configuration		
Power	FMC154	5 W
Environmental	Temperature	Operating temperature: -5° to 55° C (air flow requirements >400 LFM)
		Storage Temperature: -40° to +85°C
	Vibration	1G, 5 to 500 Hz on each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95 per cent, non-condensing
Front Panel	Interface Connectors	4x SSMC and Mini DP
	LEDs	Status and User defined
Software Support	Operating System	Agnostic
Conformal Coating		Humiseal 1A33 Polyurethane (Optional)
		Humiseal 1B31 Acrylic (Optional)
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 ATCA and μ TCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), 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.

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Ordering Options

FMC154 – 000 – 000 – 00J

		J = Conformal Coating 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 = Reserved 7 = Reserved

Related Products

FMC210



- FPGA Mezzanine Card (FMC) per VITA-57
- Single ADC EV10AS150B @2.5 GSPS
- 5 GHz Full Power Input Bandwidth (-3dB)

FMC229



- FPGA Mezzanine Card (FMC) per VITA 57
- Wideband Digital Quadrature Modulator
- Quad DAC16-bit @ 2.8 GSPS

AMC516



- AMC FPGA carrier for FMC per VITA-57
- Xilinx Virtex-7 690T FPGA in FFG-1761 package with optional P2040
- Supported by DAQ Series™ data acquisition software

Contact

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