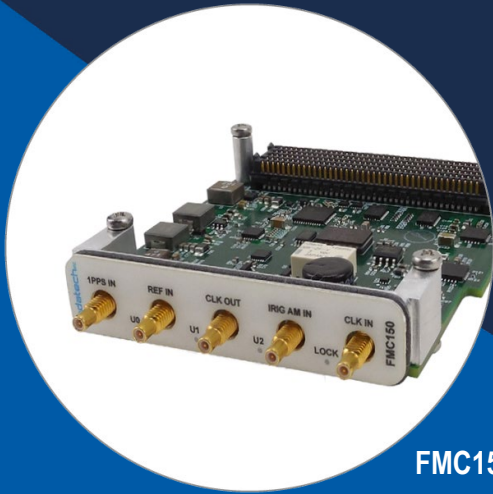# FMC150

FMC IRIG-B Module

FMC150

Key Features

- FPGA Mezzanine Card (FMC) compatible with VITA 57.1
- Single-module
- Input for 1PPS, 10 MHz or IRIG-B
- Module or DC level shift IRIG-B per 200-04
- Encode the year (2 digits) through second of the preceding 1PPS
- On board Dual DPLL/IEEE 1588 1 PPS Synchronize and Jitter Cleaner
- RoHS compliant

Benefits

- 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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FMC150

The FMC150 is an FPGA Mezzanine Module per VITA 57 specification. The FMC150 has a 1PPS, 10 MHz Sine Wave or IRIG-B input.

The FMC150 provides the signals to the FPGA from which the firmware will decoded the IRIG-B data to set second's year digits only.

The 3 inputs will be used along with front end parts and the FPGA to control a time-decade clock that will have 16 BCD digits: 1 digit of the year of the decade, 3 digits of days, 2 digits of hours, 2 digits of minutes, 2 digits of seconds and 6 digits of microseconds.

The module has on board Dual DPLL/IEEE 1588 with 1PPS Synchronize and Jitter Cleaner. The Dual DPLL synchronizes 1Hz to 750MHz, providing frequency with jitter cleaning of noisy references. Complies with ITU-T G.8286 and Telcordia GR-253. The module has Automatic and manual holdover, and reference switch over providing zero delay and hitless/phase buildout operation.

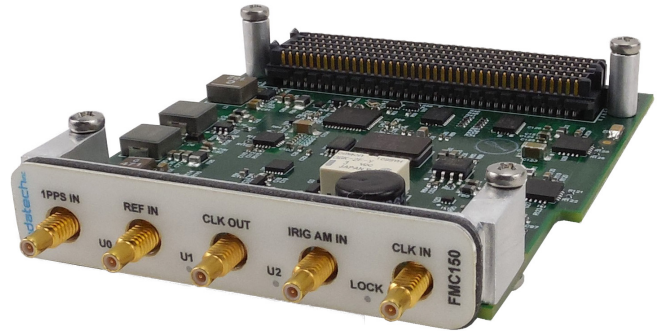The Module outputs any clock output frequency thru its on board PLL.
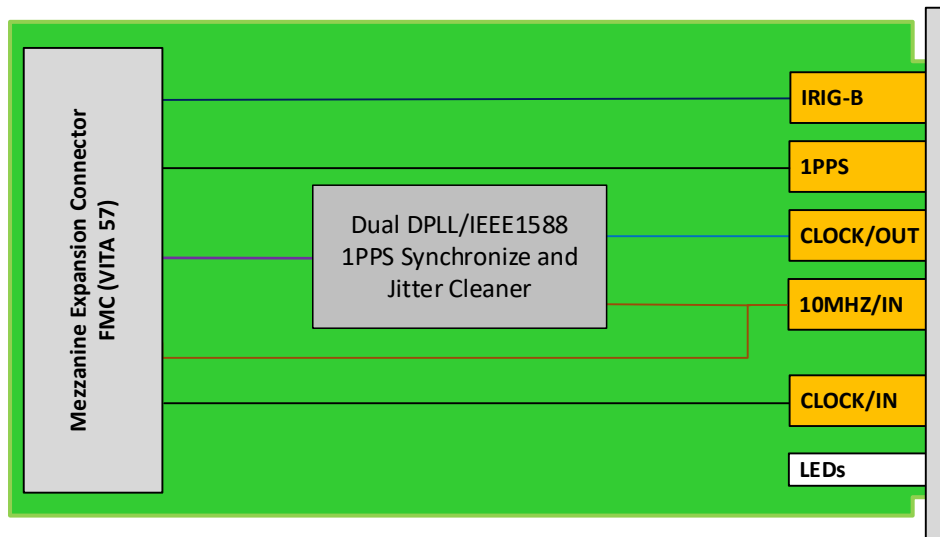

Figure 1: FMC150

Block Diagram

Figure 2: FMC150 Functional Block Diagram

Front Panel

Figure 3: FMC150 Front Panel

Specifications

Architecture		
Physical	**Dimensions**	Single Module
		Width: 2.71" (69 mm)
		Depth: 3.01" (76.5 mm)
Type	**FMC**	IRIG-B
Standards		
FMC	**Type**	ANSI/VITA 57.1 – 2008
Configuration		
Power	**FMC150**	3W
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +85°C
	Altitude	40,000 ft non-operating
	Vibration	Operating 9.8 m/s2 (1G), 5-500 Hz
	Shock	Operating 30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	
	LEDs	Status
Software Support	**Operating System**	Agnostic
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 ISO9001:2015 and AS9100D standards	
Warranty	Two (2) years, see VadaTech Terms and Conditions	

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

FMC150 – 000-000-0HJ

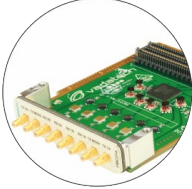|		
		H = Operating Temperature
		0 = Commercial 1 = Industrial
		J = Conformal Coating
		0 = None 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Related Products

VPX592

- 3U FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 46 and VITA 57
- Xilinx Kintex UltraScale™ XCKU115 FPGA
- 20 GB of DDR4 Memory (2 banks of 64-bit wide, and single bank of 32-bit wide)

FMC214

- Dual complete transceiver signal chain solution using Analog Devices AD9361 transceiver
- Frequency range 70 MHz to 6 GHz with instantaneous bandwidth from 200 kHz to 56 MHz
- MIMO transceiver is Time Domain Duplex (TDD) and Frequency Domain Duplex (FDD) compatible

AMC585

- Xilinx UltraScale+ XCZU19EG FPGA
- Single FMC+ (VITA 57.4) site
- MPSoC with block RAM and UltraRAM

Contact

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