

FMC210

FMC High-speed ADC 10-bit @ 2.6 GSPS Module



FMC210

Key Features

- FPGA Mezzanine Card (FMC) per VITA-57
- Single module
- Single ADC EV10AS150B @ 2.6 GSPS
- 5 GHz Full Power Input Bandwidth (-3dB)
- True single core architecture (no calibration required)
- External Interleaving:
 - Gain Adjust
 - Offset Adjust
 - Sampling Delay Adjust
- Full scale Analog input Voltage Span 500 mVpp
- All front panel input/outputs are via SSMC:
 - Analog Input
 - Reference clock
 - Trig in/out
- Super low phase noise RF PLL Synthesizer
- RoHS compliant

Benefits

- Array of FMC's and FMC carriers available from VadaTech
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company



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The FMC210 is an FPGA Mezzanine Card per the VITA 57 specification with a high-speed ADC. The ADC converter utilizes the e2v EV10AS150B device which has a high linearity ADC. The module has a super low phase noise RF PLL Synthesizer for sampling.

The ADC device has single Tone Performance in 1st Nyquist (-1 dBFS): ENOB = 8.0 bit, SFDR = -57 dBFS at 2.6 GSPS, F_{in} = 495 MHz and ENOB = 7.9 bit, SFDR = -57 dBFS at 2.6 GSPS, F_{in} = 1295 MHz, with the single Tone Performance in 2nd Nyquist (-3 dB): ENOB = 7.9 bit, SFDR = -59 dBFS at 2.6 GSPS, F_{in} = 2,595 MHz.

The module has a low Bit Error Rate (BER) of 10 to -12 at 2.6 GSPS with no missing codes at 2.6 GSPS, 1st and 2nd Nyquist.

FMC210 has an on board PLL that generates the RF clock. The RF clock could be synced with an external clock or carrier clock.



Figure 1: FMC210

Block Diagram

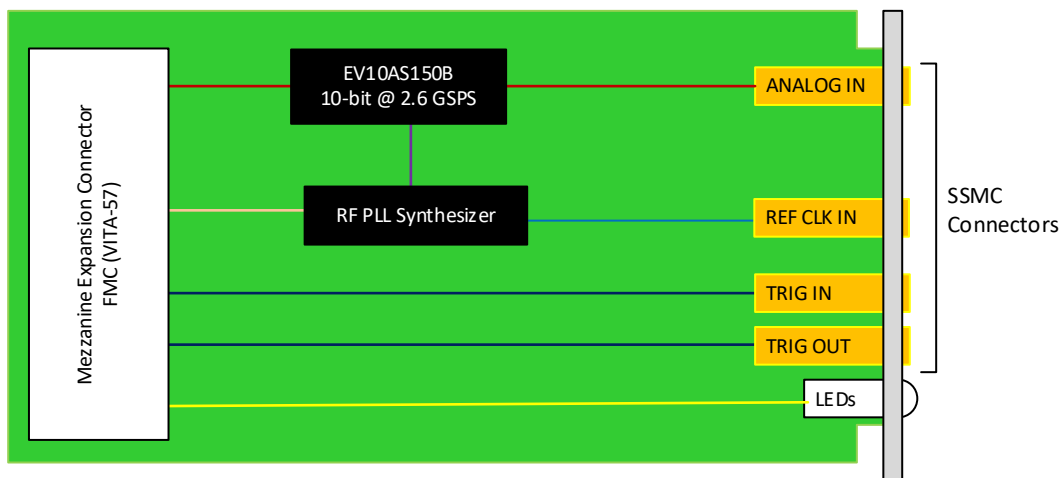


Figure 2: FMC210 Functional Block Diagram

Front Panel

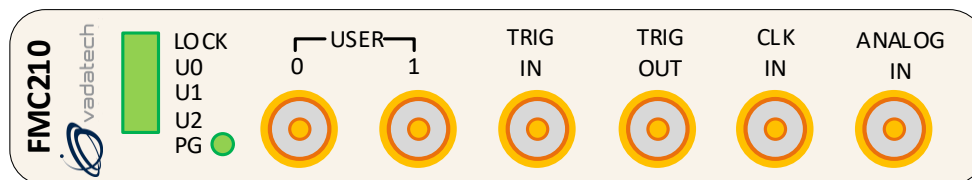


Figure 3: FMC210 Front Panel

Specifications

Architecture		
Physical	Dimensions	Single Module
		Width: 2.71" (69 mm)
		Depth: 3.01" (76.5 mm)
Type	FMC	Analog to Digital Converter (ADC) EV10AS150B
		Depth: 3.01" (76.5 mm)
Standards		
FMC	Type	ANSI/VITA 57.1-2008
Configuration		
Power	FMC210	10W
Environmental	Temperature	See Ordering Options
		Storage Temperature: -40° to +85°C
	Altitude	40,000 ft non-operating
	Vibration	1G, 5 to 500 Hz on each axis
	Shock	Operating 30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	Interface Connectors	4x SSMC Front Panel Connectors
		LEDs
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 ISO9001:2015 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

FMC210 – 000-000-GHJ

		G = FMC Board Spacing 0 = 10 mm (per VITA-57 specification) 1 = 17.5 mm **
		H = Operating Temperature 0 = Commercial 1 = Industrial
		J = Conformal Coating 0 = None 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Notes:

* Please contact VadaTech for other PLL Synthesizer Frequencies and input clocks.

** For use with carriers that require higher mating clearance, such as VadaTech AMC595. Requires full size AMC.

Related Products

AMC518



- AMC FPGA carrier for FMC per VITA 57
- Xilinx Zynq-7000 FPGA in FFG-900 package
- Supported by DAQ Series™ data acquisition software

AMC519



- AMC FPGA carrier for FMC per VITA-57
- Xilinx Artix-7 FPGA in FBG-676 package
- AMC Ports 0 and 1 as GbE to FPGA

FMC223



- FPGA Mezzanine Card (FMC) per VITA 57
- Single module AD9739 DAC 14-bit at 2.5 GSPS
- 2 Vpp differential Analog output swing

Contact

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