FMC231

Quad ADC 16-bit @ 1 GSPS and Quad DAC 16-bit @ 2.8 GSPS, FMC

FMC231

Key Features

- Quad ADC 16-bit @ 1.0 GSPS (ADS54J60) or 16-bit @ 500 MSPS (ADS54J69)
- Quad DAC 16-bit @ 2.8 GSPS (DAC39J84)
- FPGA Mezzanine Card (FMC) per VITA 57.1
- Excellent dynamic performance
- Front panel interface includes CLK In and TRIG In

Benefits

- High dynamic range for versatility
- Ideal for Radar and Antenna Arrays, Broadband Wireless, Communication Test Equipment, Microware Receivers, SDR
- Compatible with a broad range of Xilinx- and Altera-based FMC carriers from VadaTech and others
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

FMC™

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FMC231

The FMC231 is an FPGA Mezzanine Card (FMC) per VITA 57 specification. The board has quad ADC (the ADC chips are dual channels) and quad DAC (the DAC chip is quad channel).

The Unit utilizes TI ADS54J60 (option for ADS54J69) providing 16-bit conversion rates of up to 1.0 GSPS and a DAC DAC39J84 providing 16-bit conversion rates of up to 2.8 GSPS.

The analog input/output, clock and trigger interface of the FMC231 are routed via SSMC connectors. The internal clock frequency is programmable and the clock is capable of locking to an external reference. Also, the module allows direct RF sampling clock as an option and it will bypass the onboard wideband PLL.

Figure 1: FMC231

Block Diagram

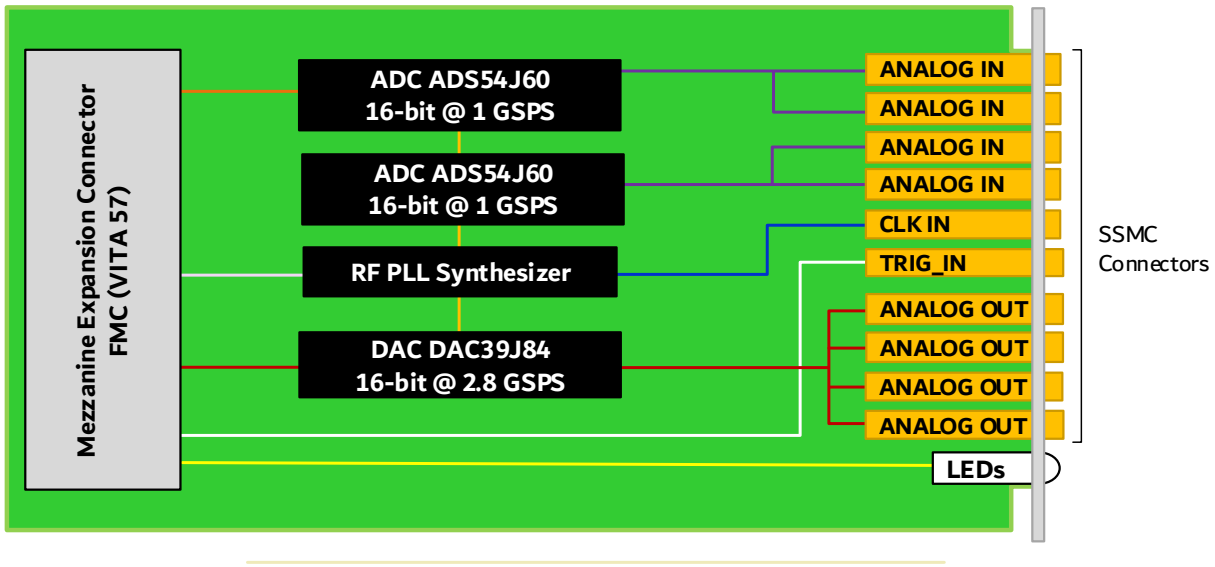

Figure 2: FMC231 Functional Block Diagram

Front Panel

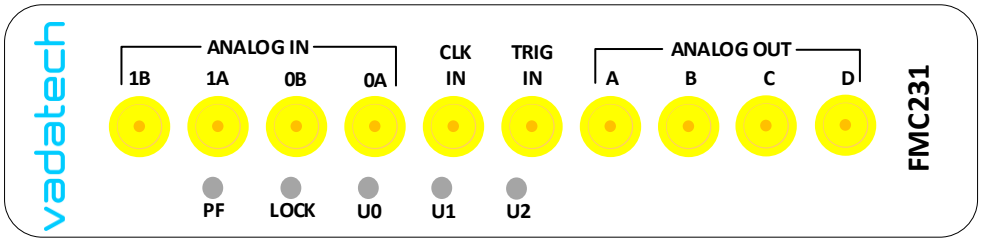

Figure 3: FMC231 Front Panel

Specifications

Architecture		
Physical	**Dimensions**	Single Module
		Width: 2.71” (69 mm)
		Depth: 3.01” (76.5 mm)
Type	**FMC**	Quad ADC and DAC, Single FMC
Standards		
FMC	**Type**	ANSI/VITA 57.1 - 2008
Configuration		
Power	**FMC231**	~10W
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +85°C
	Vibration	1G to 5-500 Hz on each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	10x SSMC
	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

FMC231 – ABC-000-G0J

A = ADC		G = FMC Board Spacing
0 = ADS54J60 (1 GSPS) 1 = ADS54J69 (500 MSPS)		0 = 10 mm (per VITA 57 specification) 1 = 17.5 mm*
B = DAC (DAC39J84)		
0 = No DAC 1 = DAC		
C = DAC output Bandwidth		**J = Temperature Range and Conformal Coating**
0 = 250 MHz to ~1.4 GHz 1 = 4.5 MHz to ~350 MHz 2 = 0.4 MHz to ~500 MHz		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 = Extended Industrial (–40° to +70°C), No coating 4 = Extended Industrial (–40° to +70°C), Humiseal 1A33 Polyurethane 5 = Extended Industrial (–40° 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:

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

**Conduction cooled; temperature is at edge of module. Consult factory for availability.

Related Products

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

AMC532

- AMC FPGA based on Altera Stratix-V (5SGXEA) in F1932 package
- VITA 57.1 FMC HPC Connector (compatible with LPC)
- All FMC LA, HA, HB pairs routed bi-directionally

FMC109

- FPGA Mezzanine Card (FMC) per VITA 57
- Single module
- Quad SPF/SPF+ cages for Quad Ports

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