

FMC229 – FMC Quad DAC 16-bit @ 2.8 GSPS with Quadrature Modulator

FMC, Quad ADC 16-bit



KEY FEATURES

- FPGA Mezzanine Card (FMC) per VITA 57
- Quad DAC based on DAC39J84
 - 16-bit @ 2.8 GSPS
 - JESD204B
 - Wideband Digital Quadrature Modulator Correction
 - Digital Summation of Independent Complex Signals
 - Independent Complex Mixer with 48-bit NCO or +/-nxFs/8
 - Selectable 1x-16x Interpolation
- On-board dual Wideband Quadrature Modulator
- Trig In/Output
- CLK In
- RoHS compliant

Benefits of Choosing VadaTech

- 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

The FMC229 is an FPGA Mezzanine Card (FMC) per VITA 57 specification. The board utilizes TI DAC39J84 with Quad DAC at 16-bit @ 2.8 GSPS.

The module has a dual high performance broadband I/Q modulator with a fractional-N PLL and low noise multicore VCO's. The baseband inputs mix with the Local Oscillator (LO) generated internally or provided externally, and convert it to a single ended RF. The FMC229 allows both internal and external LO signals for the mixers. The internal LO is generated by an on-chip VCO. The front panel also has Trig In/Out and CLK In ports.

- General output LO range: 256.25 MHz to 4100 MHz (based on internal or external VCO)
- External VCO input frequency range: 250 MHz to 4200 MHz (-10 dBm to +10 dBm)
- A cut-off frequency of 650 MHz of the low pass filter on I and Q providing a maximum analog bandwidth of 1300 MHz (limited to 200 MHz with LO frequency at 4100 MHz)
- Typical RF output between 400 MHz to 4200 MHz.

BLOCK DIAGRAM

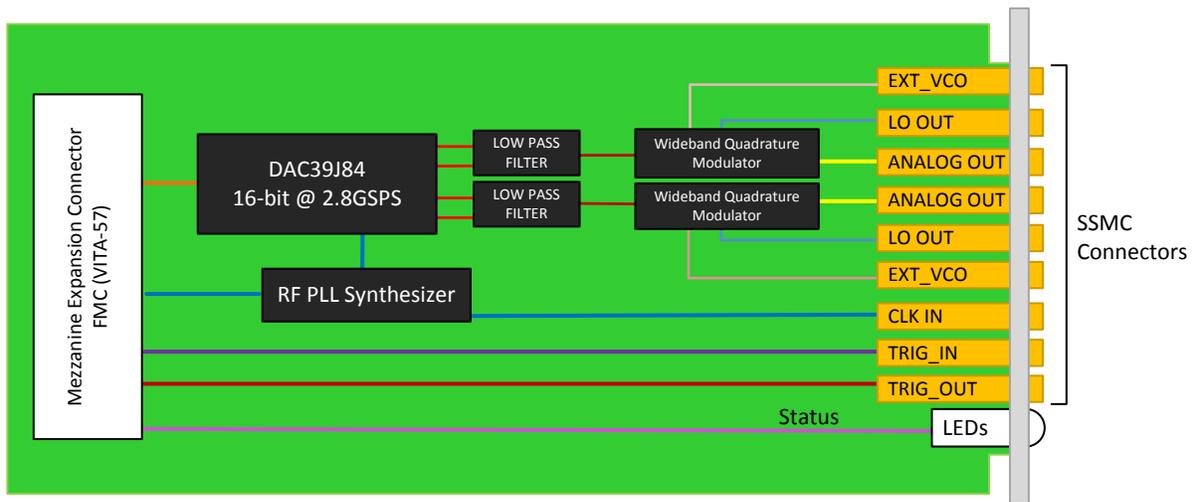


Figure 1: Block Diagram

SPECIFICATIONS

Architecture		
Physical	Dimensions	Single module
		Width 2.71" (69 mm)
		Depth 3.01" (76.5 mm)
Type	FMC	Quad DAC with Quadrature Modulator
		FMC connector
Standards		
FMC	VITA-57	ANSI/VITA 57.1-2008
Configuration		
Power	FMC229	7 W
Environmental	Temperature	Operating Temperature: -5° to 55° C
		Storage Temperature: -40° to +85° C
	Vibration	1G, 5 to 500 Hz on each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95 percent, non-condensing
Front Panel	Interface Connectors	9 SSMC
	LEDs	Status
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

FMC229 – 000 – 000 – G0J

G = FMC Board Spacing

- 0 = 10 mm (per VITA-57 specification)
- 1 = 17.5 mm *

J = Temperature Range and Coating

- 0 = Commercial, No coating
- 1 = Commercial, Humiseal 1A33 Polyurethane
- 2 = Commercial, Humiseal 1B31 Acrylic
- 3 = Industrial, No coating
- 4 = Industrial, Humiseal 1A33 Polyurethane
- 5 = Industrial, Humiseal 1B31 Acrylic
- 6 = Military, Humiseal 1A33 Polyurethane**
- 7 = Military, Humiseal 1B31 Acrylic**

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

** Edge of module for conduction cooled boards

RELATED PRODUCTS



AMC516 Virtex-7
FPGA



AMC532 Stratix-V
FPGA



FMC109 Quad
SFP+ FMC

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