FMC High-speed DAC 14-bit at 2.5 GSPS Module
FMC221

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KEY FEATURES

- FPGA Mezzanine Card (FMC) per VITA-57

- Single width

- Single DAC 14-bit at 2.5 GSPS

- 2Vpp Differential Analog Output Swing

- Programmable DSP Clock

- Dynamic performance:

  - - 8 QAM carriers @ 400MHz IF: -71dBc
    - 16QAM carriers @ 400MHz IF: -68dBc
    - 32QAM carriers @ 400MHz IF: -65dBc
    - 72QAM carriers @ 600MHz IF: -61DbC

- Single Tone NSD @ 2.4GSPS:

  - - 166 dBm/Hz @ 100MHz IF
    - 162 dBm/Hz @ 1 GHz IF

- Connection via MMCX
    - Analog out
    - Ref clock input
    - Trig input
    - Trig output
    - GPIO

- RoHS compliant

The FMC221 is an FPGA Mezzanine Module per VITA 57 specification. The FMC221 has a single DAC 14-bit at 2.5 GSPS.

The DAC converter utilizes the Analog Devices AD9739.

The FMC221 is designed for synthesizing of broadband signals, with enhanced linearity and band flatness performances.

The analog output current can be programmed over a range of 8.66mA to 31.66mA.

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).

SPECIFICATIONS

| Architecture		
Physical	**Dimensions**	Single-width
		Width: 69mm
		Depth: 76.5mm
Type	**FMC**	Single DAC
		Single FMC slot
Standards		
FMC	**VITA57**	ANSI/VITA 57.1-2008
Configuration		
Power	**FMC221**	4W
Environmental	**Temperature**	Operating Temperature: 0° to 65° C (Air flow requirement is to be greater than 600 LFM)
		Storage Temperature: -40° to +90° C
	Vibration	1G, 5-500Hz each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95 percent, non-condensing
Front Panel	**Interface Connectors**	MMCX
	LEDs	Status
Other		
MTBF	MIL Handbook 217-F > TBD.	
Certifications	Designed to meet FCC, CE and UL certifications where applicable	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Compliance	RoHS and NEBS	
Warranty	Two (2) years.	
Trademarks and Logos	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedMC[TM] and the AdvancedTCA[TM] logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.	
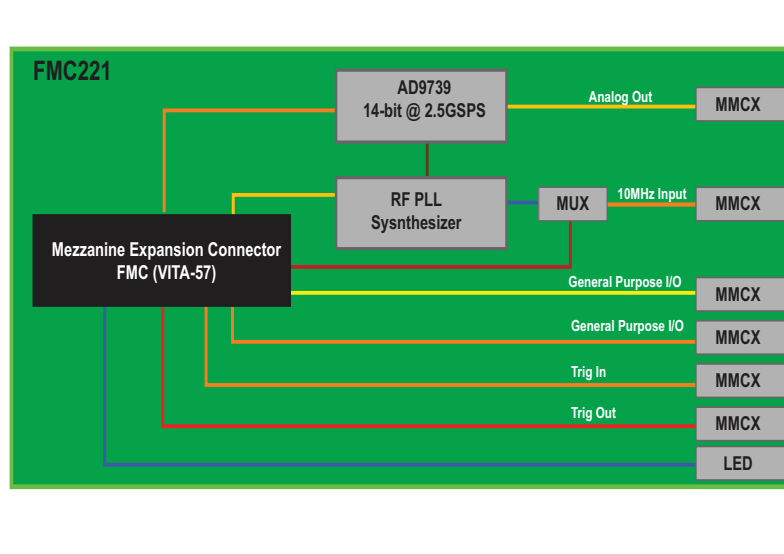
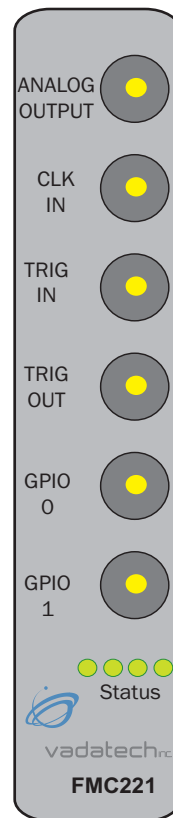**FIGURE 1.** FMC221 Functional Block Diagram

FIGURE 2. FMC221 Front panel

ORDERING OPTIONS

FMC221 - AB0 - 000 - 0HJ

A = RF PLL Synthesizer*

    0 = 1.8GHz for sampling at 1.8GSPS
    1 = 2.5GHz for sampling at 2.5GSPS
    2 = 1.28GHz for sampling at 1.28GSPS
    3 = 2.0GHz for sampling at 2.0GSPS
    4 = 2.1GHz for sampilng at 2.1GSPS
    5 = 1.6GHz for sampling at 1.6GSPS

B = Input Clock*

    0 = 10 MHz
    1 = 100 MHz

H = Operating Temp

    0 = Commercial
    1 = Industrial

J = Conformal Coating

    0 = None
    1 = Humiseal 1A33 Polyurethane
    2 = Humiseal 1B31 Acrylic

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