FMC223 – FMC High-speed DAC 14-bit at 2.5 GSPS Module, Multi I/O

FMC, High Speed DAC

KEY FEATURES

- FPGA Mezzanine Card (FMC) per VITA 57
- Single module AD9739 DAC 14-bit at 2.5 GSPS
- 2 Vpp differential Analog output swing
- Programmable DSP clock
- Dynamic performance
  - 8 QAM carriers @ 400 MHz IF –71 dBc
  - 16 QAM carriers @ 400 MHz IF –68 dBc
  - 32 QAM carriers @ 400 MHz IF –65 dBc
  - 72 QAM carriers @ 600 MHz IF –61 dBc
- Single tone NSD @ 2.4 GSPS
  - 166 dBm/Hz @ 100 MHz IF
  - 162 dBm/Hz @ 1 GHz IF
- Connection via MMCX for Analog Out and Reference Clock Input
- Connection via LVDS for TRIG In/Out and GPIO
- RoHS compliant

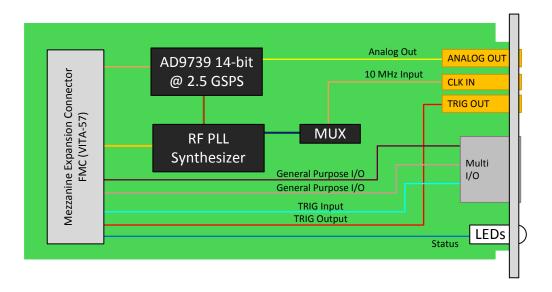## Benefits of Choosing VadaTech

- Array of FMC's and FMC carriers available from VadaTech
- Ideal for RADAR and other applications requiring GSPS level performance
- 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 FMC223 is an FPGA Mezzanine Module per VITA 57 specification. The FMC223 has a single DAC 14-bit at 2.5 GSPS. The DAC converter utilizes the Analog Devices AD9739.
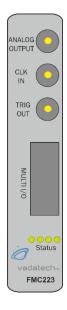
The FMC223 is designed for synthesizing of broadband signals, with enhanced linearity and band flatness performance. The Analog output current can be programmed over a range of 8.66 mA to 31.66 mA.

The Module utilizes a Display Port connector to bring in a clock input, user input, user output and trig input all in differential format.

BLOCK DIAGRAM

FRONT PANEL

SPECIFICATIONS

Architecture			
Physical	Dimensions	Single module	
		Width 2.71" (69 mm)	
		Depth 3.01" (76.5 mm)	
Type	FMC	Single DAC AD9739	
		Single FMC slot	

Standards		
FMC	VITA-57	ANSI/VITA 57.1-2008

Configuration		
Power	FMC221	4 W
Environmental	Temperature	Operating Temperature: -5° to 55° C (air flow requirements >400 LFM))
		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	MMCX
	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 µTCA 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.

Trademarks and Disclaimer

The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.

FMC223 – FMC High-speed DAC 14-bit at 2.5 GSPS Module, Multi I/O

ORDERING OPTIONS

FMC223 – AB0 – D00 – GHJ

A = RF PLL Synthesizer*
0 = 1.8 GHz for sampling at 1.8 GSPS
1 = 2.5 GHz for sampling at 2.5 GSPS
2 = 1.28 GHz for sampling at 1.28 GSPS
3 = 2.0 GHz for sampling at 2.0 GSPS
4 = 2.1 GHz for sampling at 2.1 GSPS
5 = 1.6 GHz for sampling at 1.6 GSPS

B = Input Clock
0 = 10 MHz
1 = 100 MHz

D = Input Impedance
0 = 75Ω Input Impedance
1 = 50Ω Input Impedance

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

* Contact VadaTech for more information on other PLL synthesizer frequencies and input clocks
** For use with carriers that require higher mating clearance, such as VadaTech AMC595. Requires full size AMC.

COMMON CONFIGURATIONS
FMC223-300-000-000

RELATED PRODUCTS

**AMC515 Virtex-7
FPGA**

**AMC530 Altera
FPGA**

**FMC210
ADC 10-bit 2.6 GSPS**

CONTACT US

VadaTech Corporate Office

198 N. Gibson Rd.
Henderson, NV 89014
Email: info@vadatech.com
Telephone: +1 702 896-3337
Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhu Street, Neihu District,
Taipei 114,Taiwan
Email: info@vadatech.com
Telephone: +886-2-2627-7655
Fax: +886-2-2627-7792

VadaTech European Sales Office

VadaTech House, Bulls Copse Road,
Southampton, SO40 9LR
Email: info@vadatech.com
Telephone: +44 2380 016403