FMC219 – FMC High-speed Dual DAC 14-bit at 2.5 GSPS with Wide-band PLL on board

FMC, High Speed Dual DAC

KEY FEATURES

- FPGA Mezzanine Card (FMC) per VITA 57
- Dual AD9739 DAC 14-bit at 2.5 GSPS
- 2 Vpp differential analog output swing
- Programmable DSP clock
- Front panel GPIO (5 LVDS, or 10 single ended)
- 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
- Single module
- Connection via SSMC
  - Analog out
  - Reference clock input
  - TRIG input

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 system supply from industry leader
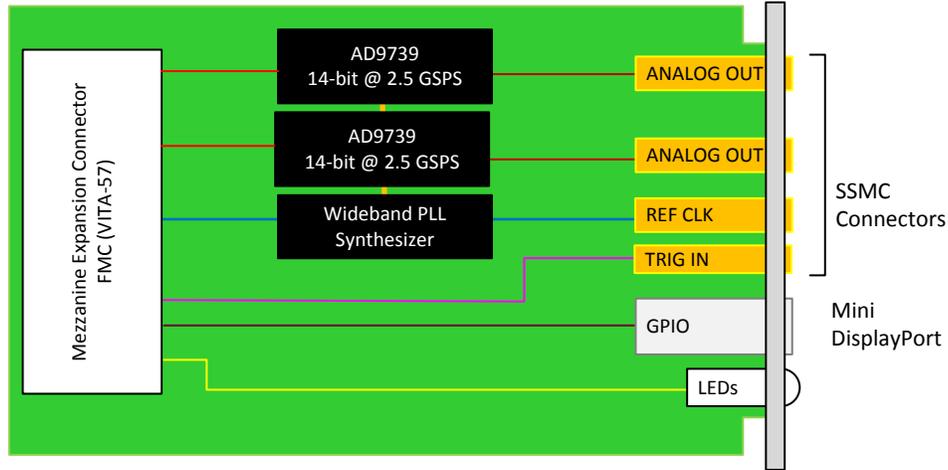- AS9100 and ISO9001 certified company

The FMC219 is an FPGA Mezzanine Module per VITA 57 specification. The FMC219 has dual DAC 14-bit at 2.5 GSPS. The DAC converter utilizes the Analog Devices AD9739.

The FMC219 is designed for synthesizing of broadband signals, with enhanced linearity and band flatness performances. The two DAC are cable of synchronization with incoming data between the two. The module has an on board wide-band low-jitter clock generation. The PLL could also synchronize to an external clock input or the on board clock.
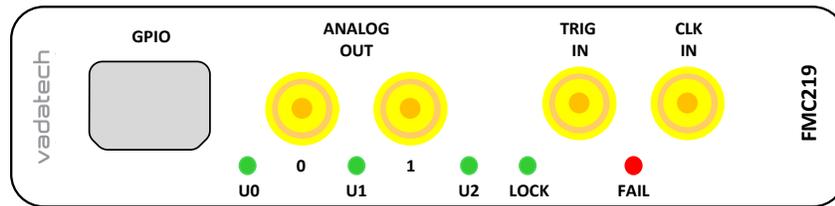
The Analog output can be programmed for +/- 1V.

BLOCK DIAGRAM

FRONT PANEL

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SPECIFICATIONS

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

Standards			
FMC	VITA-57	ANSI/VITA 57.1-2008	

Configuration			
Power	FMC219	6 W	
Environmental	Temperature	Operating Temperature: -5° to 45° C, (55°C for limited time, performance restrictions may apply), industrial and military versions also available (See environmental spec sheet)	
		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	Analog out, Trig IN and Reference Clock in via SSMC, GPIO via mini DisplayPort	
	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

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www.vadatech.com

info@vadatech.com

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ORDERING OPTIONS

FMC219 – 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 = No coating
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

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

RELATED PRODUCTS

**AMC516 Virtex-7 FPGA
AMC Carrier for FMC**

**AMC532 Altera 5SGXEA FPGA
AMC Carrier for FMC**

**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

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info@vadatech.com