

FMC268

FMC ADC 12-bit @ 10.4 GSPS and
DAC 16-bit @ 12 GSPS

FMC268



vadatech
THE POWER OF VISION

Key Features

- ADC ADC12DJ5200
 - 8 JESD204C lanes from the ADC is routed to the FMC Connector
 - 12-bit @ 10.4 GSPS
 - Wide full power bandwidth supports IF sampling of signals
- DAC AD9164/AD9162
 - 16-bit @ 12 GSPS
- FPGA Mezzanine Card (FMC) per VITA 57
- Excellent dynamic performance
- Front panel interface includes CLK In, Trig In and Trig Out

Benefits

- High dynamic range for versatility in video/broadcast requirements
- Ideal for Broadband communications systems, Wireless infrastructure, LTE, ATE, RADAR/Jamming
- 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



FMC268

The FMC268 is an FMC per VITA 57 specification. The board has a dual channel ADC and single channel DAC.

The FMC268 utilizes TI ADC12DJ5200 ADC providing 12-bit conversion rates of up to 10.4 GSPS and a DAC AD9164 (option for AD9162) providing 16-bit conversion rates of up to 12 GSPS. The ADC in non-interleaving mode can have two separate inputs each at 5.2 GSPS.

The analog input/output, clock and trigger interfaces of the FMC268 are routed via SSMC connectors. The internal clock frequency is programmable and the clock is capable of locking to an external reference.

The module allows one of the inputs to be configured as Trigger Input or Output. Further the ADC TMSTP signal input source could be configured to come from the FPGA or the Trigger In.

The FMC268 has a front RF chain which include a programmable attenuator, RF amplifier, programmable attenuator followed by amplifier before it goes to the Balun. The RF chain is by passed with the F = 0 option. If the RF chain is on the front end of both ADC channels.

Figure 1: FMC268

Block Diagram

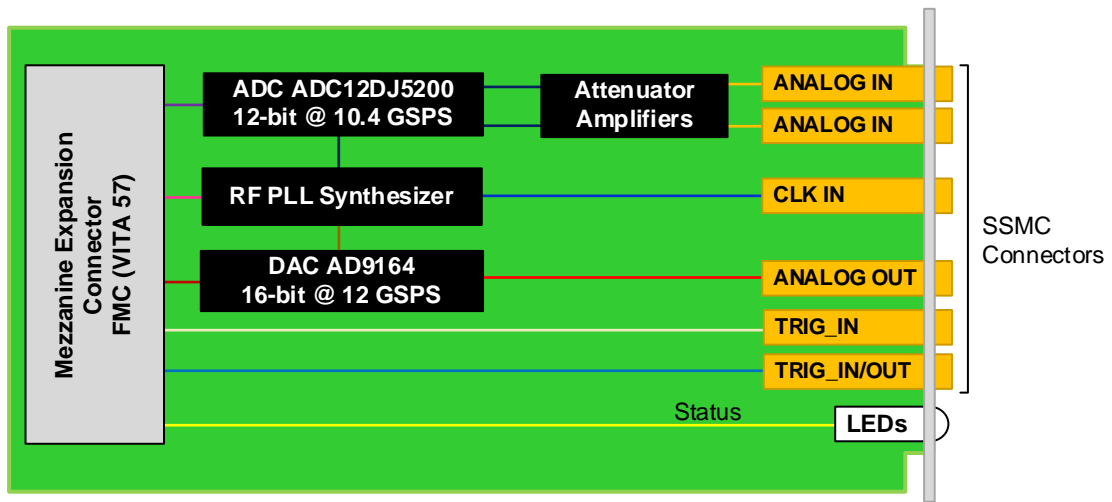


Figure 2: FMC268 Functional Block Diagram

Front Panel

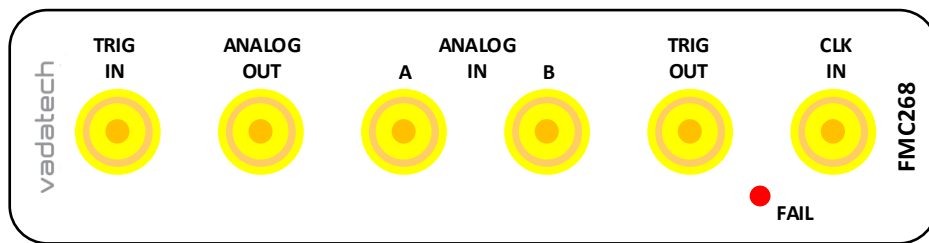


Figure 3: FMC268 Front Panel

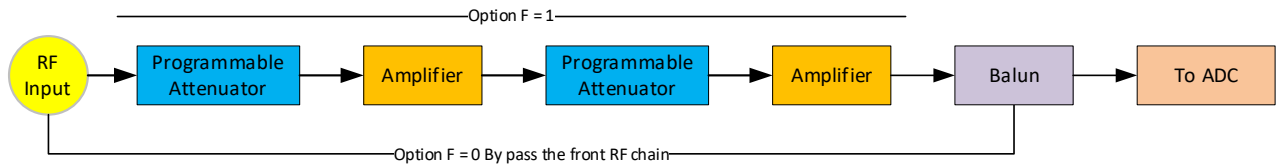


Figure 4: FMC268 Front end RF chain

Specifications

Architecture		
Physical	Dimensions	Single module Width: 2.71" (69 mm) Depth 3.01" (76.5 mm)
Type	FMC	Dual-channel ADC with DAC, Single FMC
Standards		
FMC	VITA-57	ANSI/VITA 57.1-2008
Configuration		
Power	FMC268	~10W
Environmental	Temperature	See ordering options (air flow requirements >400 LFM) and 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% non-condensing
Front Panel	Interface Connectors	6x 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 ISO9001:2000 and AS9100B:2004 standards
Warranty		Two (2) years

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

FMC268 – A0C-DE0-G0J

A = TRIG***	D = ADC Time Stamp source	G = FMC Board Spacing
0 = Output 1 = Input	0 = FPGA 1 = Trig In via front panel	0 = 10 mm (per VITA 57 specification) 1 = 17.5 mm*
	E = Front RF	
	0 = Bypass Front RF Chain 1 = Include the Front RF Chain	
C = DAC		J = Temperature Range and Conformal Coating
0 = AD9164 1 = AD9162		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 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° 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.

***One of the Triggers could be configured as input or output.

Related Products

AMC592



- AMC FPGA carrier for FMC per VITA 57
- Xilinx UltraScale™ XCKU115 FPGA
- Supported by DAQ Series™ data acquisition software

FMC214



- Dual complete transceiver signal chain solution using Analog Devices AD9361 transceiver
- Frequency range 70 MHz to 6 GHz with instantaneous bandwidth from 200 kHz to 56 MHz
- MIMO transceiver is Time Domain Duplex (TDD) and Frequency Domain Duplex (FDD) compatible

VPX592



- 3U FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 46 and VITA 57
- Xilinx Kintex UltraScale™ XCKU115 FPGA
- High-performance clock jitter cleaner

Contact

VadaTech Corporate Office

198 N. Gibson Road, Henderson, NV 89014

Phone: +1 702 896-3337 | Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhua Street, Neihu District, Taipei 114, Taiwan

Phone: +886-2-2627-7655 | Fax: +886-2-2627-7792

VadaTech European Sales Office

VadaTech House, Bulls Copse Road, Southampton, SO40 9LR

Phone: +44 2380 016403

info@vadatech.com | www.vadatech.com

Choose VadaTech

We are technology leaders

- First-to-market silicon
- Constant innovation
- Open systems expertise

We commit to our customers

- Partnerships power innovation
- Collaborative approach
- Mutual success

We deliver complexity

- Complete signal chain
- System management
- Configurable solutions

We manufacture in-house

- Agile production
- Accelerated deployment
- AS9100 accredited



vadatech
THE POWER OF VISION

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.

© 2019 VadaTech Incorporated. All rights reserved.
DOC NO. 4FM737-12 REV 01 | VERSION 1.6 – MAY/23