FMC263

Mixed Signal Front End with Quad RF DAC and Quad RF ADC

FMC263

Key Features

- Based on Analog Device AD9081
- Quad RF DAC at 12 GSPS 16-bit
- Quad RF ADC at 4 GSPS 12-bit
- Option for Direct RF sampling clock input up to 12GHz
- 8 lanes of JESD204B/JESD204C interface to the host carrier (note for max performance JESD204C with speed of 24.75Gbps is utilized)
- FPGA Mezzanine Card (FMC) per VITA 57
- Clock input for synchronization via front or rear

Benefits

- High dynamic range for versatility
- Ideal for wireless communication, Microwave point to point, E-Band and 5G mmWave, Phased array radar and EW
- Compatible with a broad range of Xilinx- and Altera-based FMC/FMC+ carriers from VadaTech and others
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader

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The FMC263 is an FMC per VITA 57 specification. The FMC263 has a single AD9081 Device from Analog Devices which provides Quad DAC at 12 GSPS/16-bit and Quad ADC at 4 GSPS/12-bit. The ADC has 7.5GHz Analog Input full power bandwidth (-3db). The DAC has a useable Analog bandwidth of 8GHz.

The module has a clock input via front panel which allows synchronization to an external clock. The FMC263 allows the synchronization clock to also come from the carrier. The FMC263 interfaces via 8 lanes of JESD204B/JESD204C to the host carrier (note for max performance JESD204C with speed of 24.75Gbps is utilized).

The module has a direct RF sampling clock option up to 12GHz clock input.

The module has 10 SSMC Connectors for its ADC/DAC and a clock input.

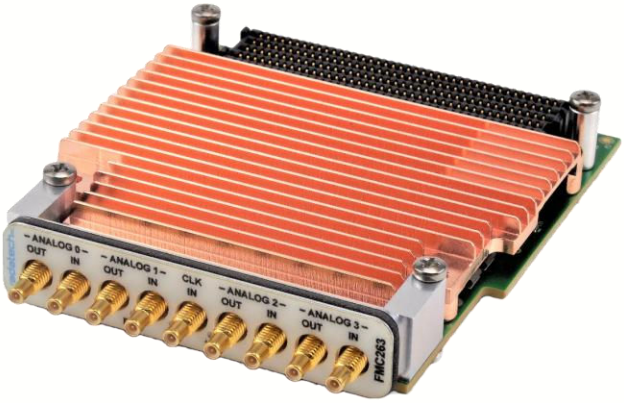


Figure 1: FMC263 with heatsink

Figure 2: FMC263 without Heatsink

Block Diagram

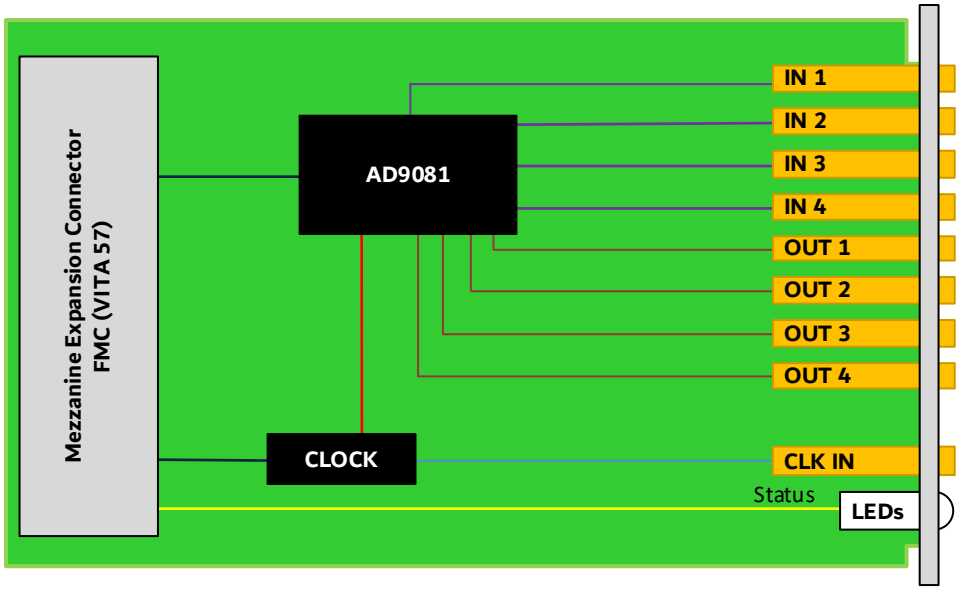


Figure 1: FMC263 Functional Block Diagram

Specifications

Architecture		
Physical	**Dimensions**	Single Module
		Width: 2.71” (69 mm)
		Depth: 3.01” (76.5 mm)
Type	**FMC**	Quad ADC/DAC
Standards		
FMC	**Type**	ANSI/VITA 57.4
Configuration		
Power	**FMC263**	13W
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +85°C
	Altitude	40,000 ft non-operating
	Vibration	Operating 9.8 m/s2 (1G), 5-500 Hz
	Shock	Operating 30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	10 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 ISO9001:2015 and AS9100D standards	
Warranty	Two (2) years, see VadaTech Terms and Conditions	

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

FMC263 – AB0-000-00J

A = AD9081 option		
0 = AD9081BBPZ-4D4AC 1 = AD9081BBPZ-4D4AB (MOQ Required)		
B = RF sampling clock		
0 = PLL based (VCXO 122.88MHz) 1 = Direct RF 2 = PLL based (VCXO 100MHz)		
C = Front end Balun		**J = Temperature Range and Conformal Coating**
0 = 500 KHz to 9 GHz (Marki 1:2 ratio) 1 = 400 MHz to 3 GHz (Anaren) 2 = 500 KHz to 9 GHZ (Marki 1:1 ratio)		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:

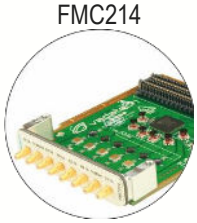
*Conduction cooled; temperature is at edge of module. Consult factory for availability.

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

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