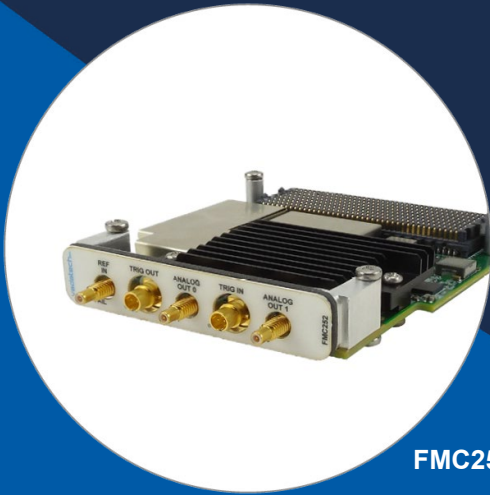# FMC252

Dual Channel DC to 9GHz Vector Signal Generator based on AD9166 FMC+

FMC252

Key Features

- FMC+ module per VITA57.4
- Dual Analog Devices AD9166
- Fully synchronize dual DAC
- 16-bit with update rate of 12GSPS
- DC to 9GHz in 2x NRZ mode
- DC to 2.5GHz in Baseband mode
- The quadrature DDS has digital upconverter
- Signal reconstruction up to 9Ghz
- Excellent dynamic range
- Front panel interface includes CLK In, Trig In and Trig Out

Benefits

- High dynamic range for versatility
- Ideal for Broadband communications systems, Wireless infrastructure, LTE, ATE, RADAR/Jamming
- Compatible with a broad range of Xilinx- and Intel/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

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FMC252

The FMC252 is an FMC+ per VITA 57.4 specification. The board has a dual channel DAC based on Analog Device AD9166. The two DAC are synchronized with respect to the RF clock inputs.

The AD9166 features:

- DC to 9GHz Vector Signal Generator
- Up to 4dBm output power
- 16-bit with core update rate up to 12GSPS
- DC to 2.5GHz in baseband mode
- DDS as digital upconverter

The module has Trig In/Out as well as clock input for external synchronizing.

See VadaTech ADI Offerings for the advantages of using our products during application development.
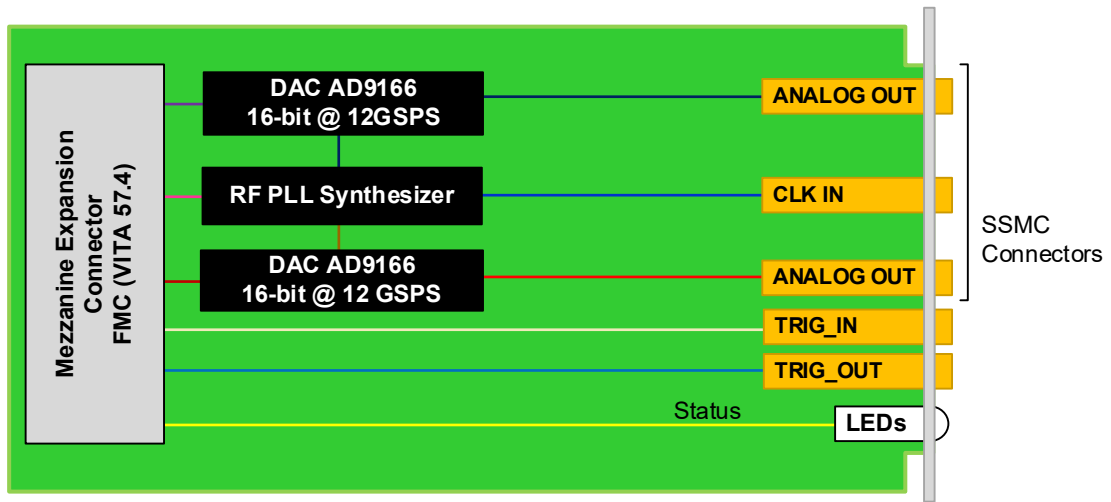

Figure 1: FMC252

Block Diagram

Figure 2: FMC252 Functional Block Diagram

Front Panel

Figure 3: FMC252 Front Panel

Specifications

Architecture		
Physical	**Dimensions**	Single module
		Width: 2.71" (69 mm)
		Depth 3.01" (76.5 mm)
Type	**FMC**	Dual-channel DAC, Single FMC+
Standards		
FMC	**VITA 57**	ANSI/VITA 57.4
Configuration		
Power	**FMC252**	~18W
Environmental	**Temperature**	See Ordering Options (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% non-condensing
Front Panel	**Interface Connectors**	3x SSMC and dual twin-x
	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

FMC252 – A00-000-00J

A = DAC output		J = Temperature Range and Conformal Coating
0 = DC-coupled 1 = AC-coupled		
		J = Temperature Range and Conformal Coating
		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.
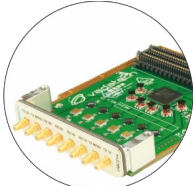
Related Products

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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