

FMC214 – FMC 70 MHz to 6 GHz Dual Versatile Wideband Transceiver (MIMO)

70 MHz to 6 GHz, RF Synthesizer



KEY FEATURES

- 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
- FPGA Mezzanine Card (FMC) per VITA 57
- Multiplexed 2x RF inputs on each RF channel
- On-board clocking or external clock with multi-card synchronization capability
- Low Pin Count (LPC) 160-pin connector
- RoHS compliant

Benefits of Choosing VadaTech

- Ideal for LTE and SDR applications with wideband range versatility
- High modulation accuracy with ultralow noise
- Array of FMC's and FMC carriers available from VadaTech
- 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 FMC214 is a FPGA Mezzanine Card (FMC) per VITA 57.1 standard, offering small footprint and low power dual fully featured wideband Rx/Tx channels.

The FMC214 combines RF front end, frequency synthesizers for Rx and for Tx, mixed-signal baseband section and flexible digital interface to host processor through the LPC connector. The FMC214 operates within the 70 MHz to 6.0 GHz frequency range, covering most licensed and unlicensed bands, and provides an instantaneous bandwidth programmable from 200 KHz to 56 MHz. The clocking is via the FMC connector or an internal clock. Its features make the FMC214 an ideal choice for the development and/or deployment of advanced RF solutions. This Multiple Input Multiple Output (MIMO), module is the most versatile FMC in the market.

Utilizing an AD9361 RF transceiver, the chip offers high performance noise figure and linearity. Each receive (RX) subsystem includes independent automatic gain control (AGC), quadrature correction, dc offset correction, and digital filtering.

BLOCK DIAGRAM

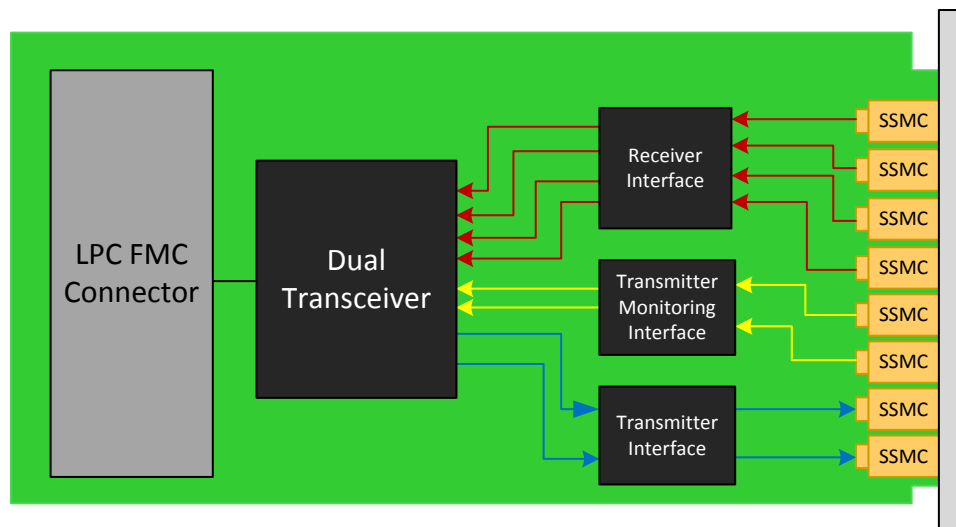


Figure 1: Block Diagram

FMC214 – FMC 70 MHz to 6 GHz Dual Versatile Wideband Transceiver (MIMO)

SPECIFICATIONS

Architecture		
Physical	Dimensions	Single module
		Width 2.71" (69 mm)
		Depth 3.01" (76.5 mm)
Type	FMC	Dual wideband transceiver, AD9361
		FMC connector
Standards		
FMC	VITA 57	ANSI/VITA 57.1-2008
Configuration		
Power	FMC214	2W
Performance	Broadband transmitter	TX EVM: \leq -40dB
		TX noise: \leq -17dBm/Hz noise floor
		TX monitor: \geq 66 dB dynamic range with 1 dB accuracy
		Integrated synthesizers
Environmental	Vibration	2.4 Hz maximum LO step size
		1G, 5 to 500 Hz on each axis
		Shock
		30Gs each axis
Front Panel	Temperature	Operating Temperature: -5° to 55° C (air flow requirements >400 LFM))
		Storage Temperature: -40° to +85° C
		Relative Humidity
		5 to 95 percent, non-condensing
Conformal Coating	Interface Connectors	8x SSMC Front Panel Connector
		LEDs
Other	Status	Humiseal 1A33 Polyurethane (Optional)
		Humiseal 1B31 Acrylic (Optional)
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 μ TCA 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

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ORDERING OPTIONS

FMC214 – 000 – 000 – 0HJ

H = Operating Temperature

0 = Commercial

1 = Industrial

J = Conformal Coating

0 = None

1 = Humiseal 1A33 Polyurethane

2 = Humiseal 1B31 Acrylic

RELATED PRODUCTS



AMC515 Virtex-7
FPGA



FMC108 Dual
QSFP+ FMC



FMC223 Dual
14-bit D/A

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