

# FMC112

## Dual QSFP28



FMC112

## Key Features

- Dual QSFP28
- Onboard Wideband PLL to setup any clock frequency
- Dual Clock input from the Carrier to the PLL
- PLL on board able to lock to the Carrier Clock

## Benefits

- Single module to provide multiple serialized data
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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# FMC112

The FMC112 is an FPGA Mezzanine Card (FMC) per VITA 57.1 standard.

The dual QSFP28 has a Multi-rate re-timer and Signal Conditioning on the front end. Each channel locks independently up to 28.4 Gbps with an adaptive Decision Feedback Equalizer (DFE).

The FMC112 has a low jitter PLL (Jitter performance <100fs typical) that can generate clocks up to 800 MHz. The input clocks to PLL can range from 8 KHz to 750 MHz. The PLL can lock to the clock coming from the Carrier (two clocks come from the carrier to the FMC).

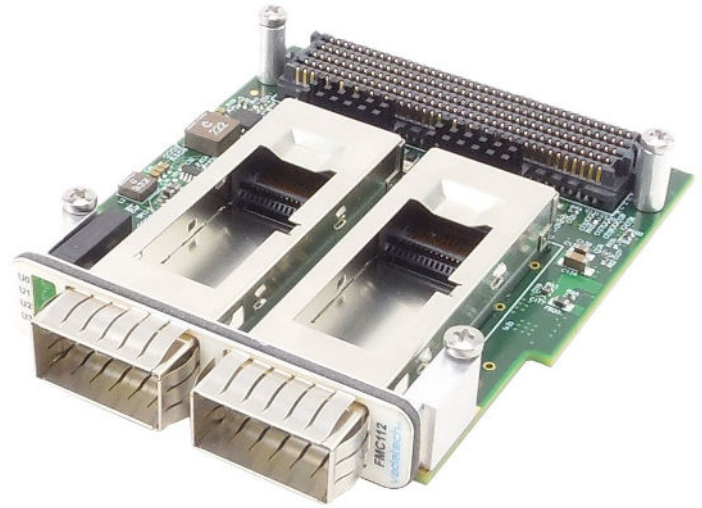


Figure 1: FMC112

## Block Diagram

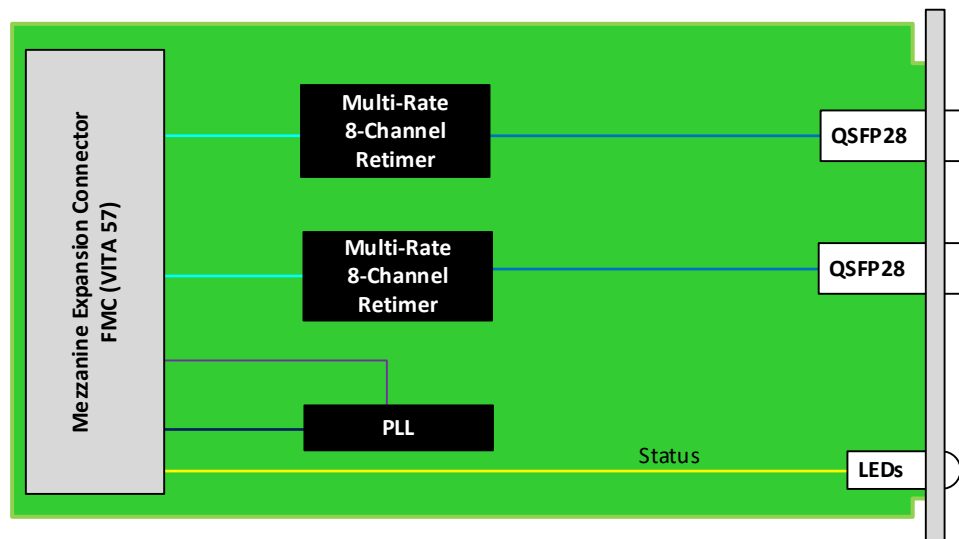


Figure 2: FMC112 Functional Block Diagram

# Specifications

<b>Architecture</b>		
<b>Physical</b>	<b>Dimensions</b>	Single Module
		Width: 2.71" (69 mm)
		Depth: 3.01" (76.5 mm)
<b>Type</b>	<b>FMC</b>	QSFP28
<b>Standards</b>		
<b>FMC</b>	<b>Type</b>	ANSI/VITA 57.1 - 2008
<b>Configuration</b>		
<b>Power</b>	<b>FMC112</b>	6W without the Transceivers
<b>Environmental</b>	<b>Temperature</b>	See <a href="#">Ordering Options</a>
		Storage Temperature: -40° to +85°C
	<b>Altitude</b>	40,000 ft non-operating
	<b>Vibration</b>	Operating 9.8 m/s <sup>2</sup> (1G), 5-500 Hz
	<b>Shock</b>	Operating 30Gs each axis
<b>Relative Humidity</b>		5 to 95% non-condensing
<b>Front Panel</b>	<b>Interface Connectors</b>	QSFP28
	<b>LEDs</b>	Status
<b>Software Support</b>	<b>Operating System</b>	Agnostic
<b>Other</b>		
<b>MTBF</b>	MIL Hand book 217-F@ TBD hrs	
<b>Certifications</b>	Designed to meet FCC, CE and UL certifications, where applicable	
<b>Standards</b>	VadaTech is certified to both the ISO9001:2015 and AS9100D standards	
<b>Warranty</b>	Two (2) years, see <a href="#">VadaTech Terms and Conditions</a>	

## 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

## FMC112 – A00-000-G0J

A = QSFP28 TXCVRs*		G = FMC Board Spacing
0 = No QSFP28 1 = 40 Gb (SR) 2 = 100 Gb (SR) 3 = 40 Gb WDM (SR) 4 = 100 G WDM (SR) 5 = 40 Gb (LR) 6 = 100 G (LR) 7 = Reserved 8 = Reserved		0 = 10 mm (per VITA 57 specification) 1 = 17.5 mm**
		J = Temperature Range and 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:

\*Two transceivers are included in the delivery.

\*\*For use with carriers that require higher mating clearance, such as VadaTech AMC595.

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

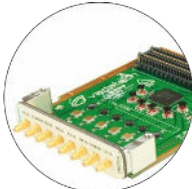
## Related Products

VT951



- MicroTCA rugged 1U 19" rackmount chassis platform
- Designed to meet MIL-STD-810F, MIL-STD-901D for shock/vibration
- Designed to meet MIL-STD-461E for EMI

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

AMC599



- Xilinx UltraScale™ XCKU115 FPGA
- Dual ADC 12-bit @ 6.4 GSPS or quad ADC at 3.2 GSPS
- Dual DAC 16-bit @ 12 GSPS (AD9162 or AD9164)

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- Partnerships power innovation
- Collaborative approach
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## We deliver complexity

- Complete signal chain
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- Configurable solutions

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- Accelerated deployment
- AS9100 accredited



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DOC NO. 4FM737-12 REV 01 | VERSION 1.3 – APR/20



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