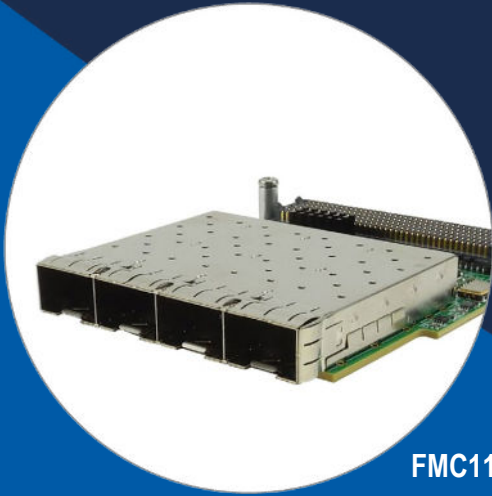


# FMC117

Quad zSFP+/SFP28 (protocol agnostic)



FMC117

## Key Features

- FPGA Mezzanine Card (FMC) compatible with VITA 57.1
- Four zSFP+/SFP28 cages
- Onboard Fractional PLL to generate any clock
- Protocol agnostic (i.e. 5GbE, 10Gb, 28G, Aurora, etc.)
- Compact assembly

## Benefits

- Single module provides Quad 10Gb, 28G
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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# FMC117

The FMC117 is a FPGA Mezzanine Card (FMC) compatible with VITA 57.1 FMC carriers. It has four zSFP+/SFP28 cages which allows for quad optics to be routed to DP0+/- to DP3+/-pins.

The FMC117 is protocol-agnostic and has a low jitter fractional PLL which can lock to CLK2 and CLK3 coming from the Carrier or be free running. The fractional PLL can generate two separate clocks to the two GBT clock pins and can provide two more additional clocks on CLK0 and CLK1 for the carrier.

The module has on board Multi-Rate Re-timer with Integrated Signal Conditioning, tuneable per lane. All channels lock independently from 20.2Gbps to 28.4 Gbps (including sub-rates such as 10.1376, 10.3125, 12.5, etc.). The module cannot run slower than 5.05Gbps. Adaptive Continuous Time Linear Equalizer (CTLE) with Adaptive Decision Feedback Equalizer (DFE).

***The FMC117 panel must be integrated as a monolithic panel with the carriers such as AMC, VPX, etc. The FMC117 does NOT come with an FMC panel.***

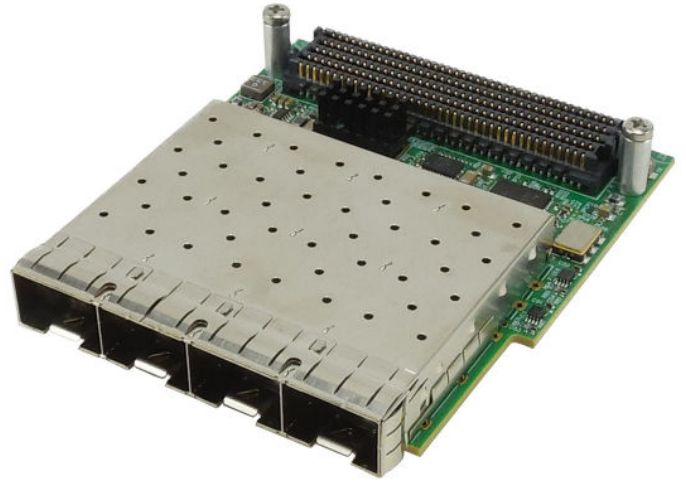


Figure 1: FMC117

## Block Diagram

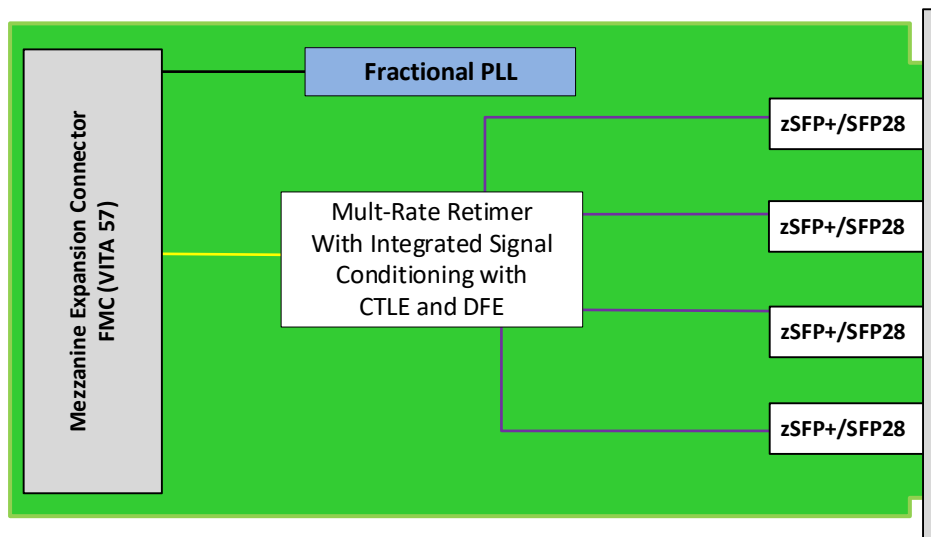


Figure 2: FMC117 Functional Block Diagram

# 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>	Quad zSFP+/SFP28
<b>Standards</b>		
<b>FMC</b>	<b>Type</b>	ANSI/VITA 57.1 – 2008 (exceeds standard height)
<b>Configuration</b>		
<b>Power</b>	<b>FMC117</b>	Transceiver dependent
<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>	Quad zSFP+/SFP28
		<b>LEDs</b> Status (on back of the board)
<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

## FMC117 – ABC-D00-G0J

A = Number of 25GBASE-SR Transceivers *	D = Number of 10GBASE-LR Transceivers *	G = FMC Board Spacing
0 = None X = Number of Transceivers	0 = None X = Number of Transceivers	0 = 10 mm (per VITA 57 specification) 1 = Reserved 2 = Reserved
B = Number of 25GBASE-LR Transceivers *		
0 = None X = Number of Transceivers		
C = Number of 10GBASE-SR Transceivers *		J = Temperature Range and Coating
0 = None X = Number of Transceivers		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: \* Enter number of transceivers required. Total A+B+C+D cannot exceed four. Please contact VadaTech sales for other transceiver options.

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

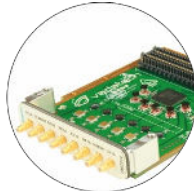
## Related Products

VPX592



- 3U FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 46 and VITA 57
- Xilinx Kintex UltraScale™ XCKU115 FPGA
- 20 GB of DDR4 Memory (2 banks of 64-bit wide, and single bank of 32-bit wide)

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

AMC585



- Xilinx UltraScale+ XCZU19EG FPGA
- Single FMC+ (VITA 57.4) site
- MPSoC with block RAM and UltraRAM

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- Accelerated deployment
- AS9100 accredited



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