FMC116

Octal zSFP+/SFP28 (protocol agnostic)

FMC116

Key Features

- FPGA Mezzanine Card (FMC) compatible with VITA 57.1
- Eight 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 octal 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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FMC116

The FMC116 is a FPGA Mezzanine Card (FMC) compatible with VITA 57.1 FMC carriers. It has eight zSFP+/SFP28 cages which allows for octal optics to be routed to DP0+/- to DP7+/-pins.

The FMC116 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 unit does not follow VITA 57 mechanical height specifications. A custom monolithic panel is required to allow for the extended height opening of the zSFP+/SFP28 cages for integration with the carrier.

Note: VadaTech can supply a custom front panel to fit any of our FMC carriers. VPX module (10 HP panel) or AMC module (8 HP panel).
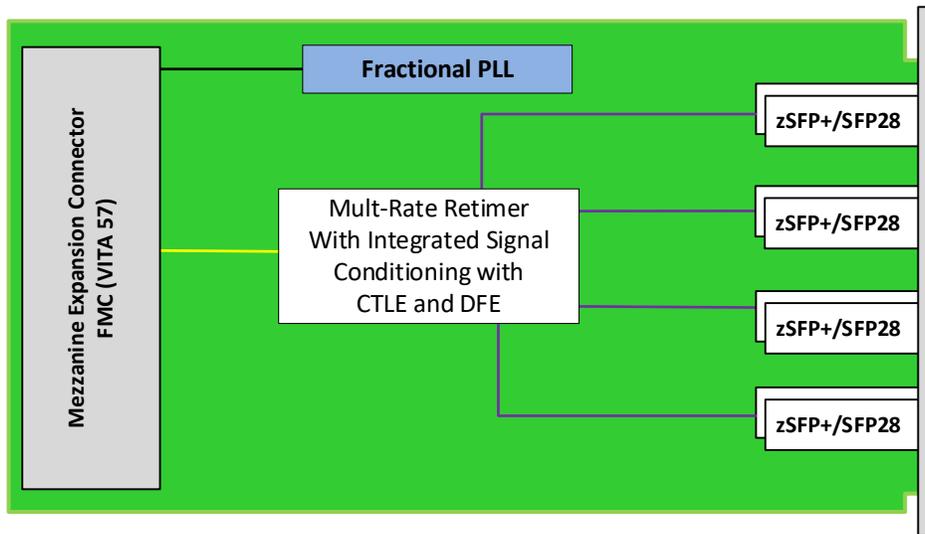

Figure 1: FMC116 (mounted on VPX)

Block Diagram

Figure 2: FMC116 Functional Block Diagram

FMC116 – Octal zSFP+/SFP28 (protocol agnostic)

Specifications

Architecture		
Physical	**Dimensions**	Single Module
		Width: 2.71" (69 mm)
		Depth: 3.01" (76.5 mm)
Type	**FMC**	Octal zSFP+/SFP28
Standards		
FMC	**Type**	ANSI/VITA 57.1 – 2008 (exceeds standard height)
Configuration		
Power	**FMC116**	Transceiver dependent
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**	Octal zSFP+/SFP28
	LEDs	Status (on back of the board)
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

FMC116 – 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 eight. 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

Contact

Choose VadaTech

We are technology leaders

- First-to-market silicon
- Constant innovation
- Open systems expertise

We commit to our customers

- Partnerships power innovation
- Collaborative approach
- Mutual success

We deliver complexity

- Complete signal chain
- System management
- Configurable solutions

We manufacture in-house

- Agile production
- Accelerated deployment
- AS9100 accredited

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