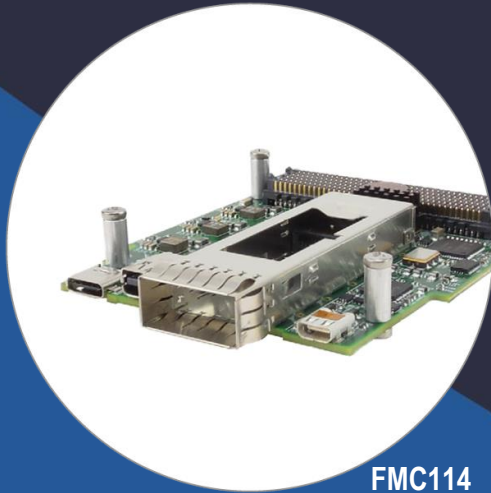


FMC114

HDMI Sink/Display Port Source with
USB 3.0 and QSFP28



FMC114

Key Features

- HDMI Sink
- Display port Source
- USB 3.0 Type C
- QSFP28
- Onboard Wideband PLL to set up any clock frequency

Benefits

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



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FMC114

The FMC114 is an FPGA Mezzanine Card (FMC) per VITA 57.1 standard. HDMI source, DisplayPort sink, USB +3.0, and a QSFP+ port are all incorporated within the unit's small footprint.

The HDMI sink has a 6 GSPS Clock Data Recovery (CDR). The input supports 4K2K60FPS and up to WUXGA 16-bit color depth or 1080p with higher refresh rate.

The DisplayPort sink has a DP1.4a repeater on the front end that supports rates of up to 8.1 Gbps. The module brings in the AUX Channels of the DP.

The 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 FMC114 has a low jitter PLL (jitter performance <100fs typical) to provide clocks. The PLL can generate clocks up to 800 MHz from input ranging from 8 KHz to 750 MHz.

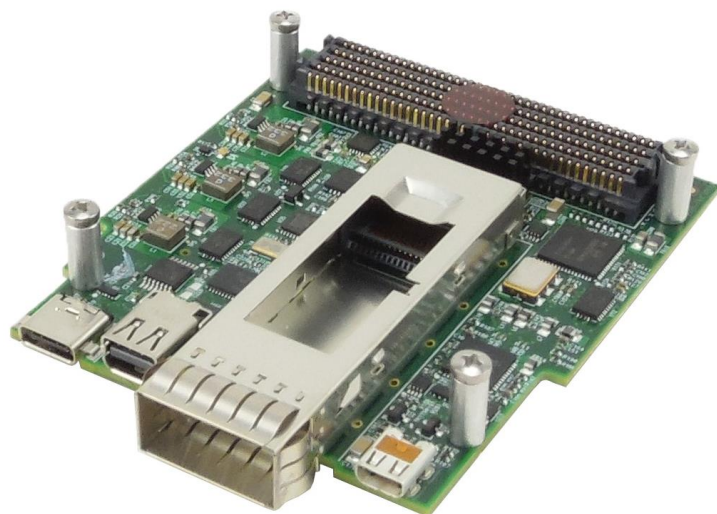


Figure 1: FMC114

Block Diagram

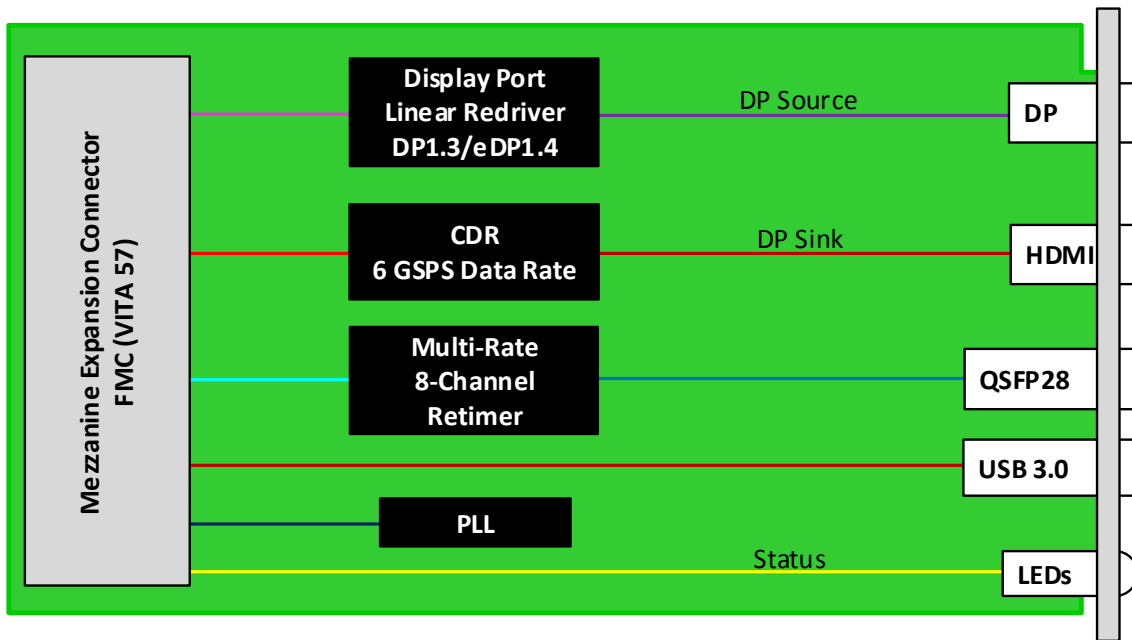


Figure 2: FMC114 Functional Block Diagram

Specifications

Architecture		
Physical	Dimensions	Single Module Width: 2.71" (69 mm) Depth: 3.01" (76.5 mm)
Type	FMC	Multi high speed I/O
Standards		
FMC	Type	ANSI/VITA 57.1 - 2008
Configuration		
Power	FMC114	6W
Environmental	Temperature	See Ordering Options Storage Temperature: -40° to +85°C
	Altitude	40,000 ft non-operating
	Vibration	Operating 9.8 m/s ² (1G), 5-500 Hz
	Shock	Operating 30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	Interface Connectors	USB type C, Dual DP, and QSFP28
	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

FMC114 – A00-000-G0J

A = QSFP28		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:

*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

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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