

# FMC258

12 TX/RX Fiber MTP/MPO, FMC+



FMC258

## Key Features

- 12 full duplex transceivers on FMC+ module
- Supports link lengths up to 70 m (option for 100 m)
- Multi-rate capability, options up to 28.1 Gb/s per channel
- Total bi-directional bandwidth > 672 Gb/s
- On board Ultra-low Jitter Clock generator with two independent PLL

## Benefits

- Extremely compact fiber I/O
- Array of FMC's and FMC+ carriers available from VadaTech
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from the industry leader
- AS9100 and ISO9001 certified company



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# FMC258

The FMC258 is an FPGA Mezzanine Module per VITA 57.4 (FMC+) specification. It has a single Board-Mount Optical Assembly, providing 12 channel full-duplex transceivers with Clock Data Recovery (CDR) and front-panel Fiber I/O via MTP/MPO.

Transceivers are available in two speed grades, 10.6 Gb/s and 28.1 Gb/s per channel, both with multi-rate capability. The 10.6 Gb/s can drive 100 m over OM3 MM Fiber and 28.1 Gb/s can drive 100 m over the OM4 MM Fiber.

The module has an onboard Ultra-Low Jitter Clock Generator with two independent, fractional PLL. The clocking allows synchronization to an external clock input or onboard. Six clocks are routed to the GBT's on the FMC+ pinouts and two are routed to CLK0 and CLK1 for a total of 8 clock outputs.

The Module has 16 LEDs in Green/Yellow to allow for LNK/ACT, debugging or as defined by user.



Figure 1: FMC258

# Block Diagram

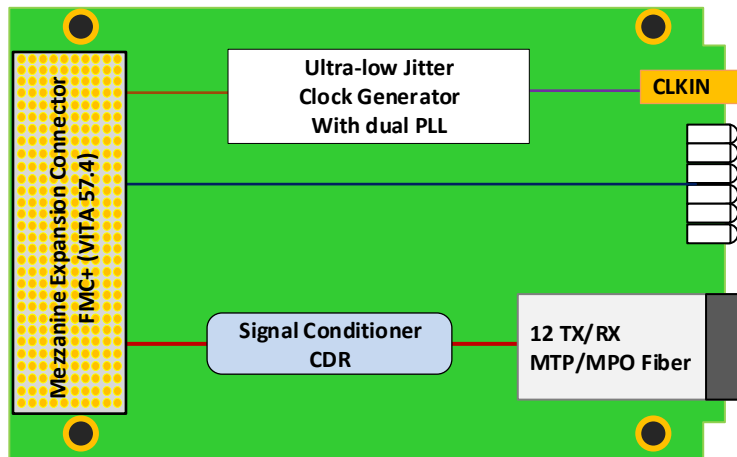


Figure 2: FMC258 Functional Block Diagram

# Front Panel

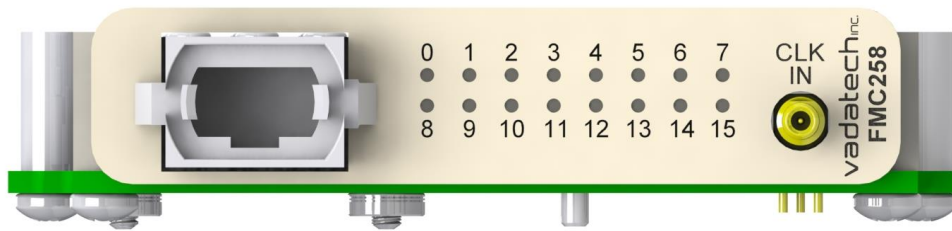


Figure 3: FMC258 Front Panel

# Specifications

Architecture	
Physical	<b>Dimensions</b> Single Module
	Width 2.71" (69 mm)
	Depth 3.01" (76.5 mm)
Type	<b>FMC</b> 12 channel fiber transceiver
Standards	
FMC	<b>VITA 57</b> ANSI/VITA 57.4
Configuration	
Power	<b>FMC258</b> 7W with CDR enabled
Environmental	<b>Temperature</b> See <a href="#">Ordering Options</a>
	Storage Temperature: -40° to +85°C
	<b>Vibration</b> Operating 9.8 m/s <sup>2</sup> (1G), 5 to 500 Hz on each axis
	<b>Shock</b> Operating 30G on each axis
	<b>Relative Humidity</b> 5 to 95% non-condensing
Front Panel	<b>Interface Connectors</b> 1x MTP/MPO
	<b>LEDs</b> 12 LNK/ACT
	4 Debug and/or user defined
Software Support	<b>Operating System</b> 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 ISO9001:2000 and AS9100B:2004 standards
Warranty	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

## FMC258 – AB0-000-G0J

<b>A = Transceiver Speed</b> 0 = 10.6 Gb/s (>240 Gb/s total bi-directional) 1 = 28.1 Gb/s (>672 Gb/s total bi-directional)		<b>G = FMC Board Spacing</b> 0 = 10 mm (per VITA 57 specification) 1 = 17.5 mm**
<b>B = Link Distance for 28.1 Gb/s</b> 0 = 70 Meter 1 = 100 Meter*		
		<b>J = Temperature Range and Coating</b> 0 = Commercial, No coating 1 = Commercial, Humiseal 1A33 polyurethane 2 = Commercial, Humiseal 1B31 acrylic 3 = Industrial, No coating 4 = Industrial, Humiseal 1A33 polyurethane 5 = Industrial, Humiseal 1B31 acrylic

Notes: \*Apply only to the 28.1 Gb/s with minimum order qty required (OM4 MM Fiber). The 10.6 Gb/s can drive 100 m by default over OM3 MM Fiber.

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

## Related Products

AMC516



- AMC FPGA carrier for FMC per VITA 57
- Xilinx Virtex-7 690T FPGA in FFG-1761 package with optional P2040
- Supported by DAQ Series™ data acquisition software

AMC530



- Altera Stratix IV Device EP4S100Gx in 1517 pin count (40 mm x 40 mm)
- On board PLL for buffering/multiplying and jitter cleaner
- Three banks of QDR-II+ each 72-bit wide

FMC210



- FPGA Mezzanine Card (FMC) per VITA 57
- Single ADC EV10AS150B @ 2.6 GSPS
- 5 GHz Full Power Input Bandwidth (–3 dB)

# Contact

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