

# FMC119

## FMC Quad 5/2.5/1GBASE-T with 100/10BASE-T Copper



FMC119

## Key Features

- FPGA Mezzanine Card (FMC) per VITA 57
- Single module
- Quad 5GBASE-T, 2.5GBASE-T, 1000BASE-T, 100BASE-TX, 10BASE-T
- A wide variety of interfaces to MAC  
USXGMII/XFI/RXAUI/5GBASE-R/2500BASE-X/SGMII
- IEEE 1588v2 Time Stamping and Synchronous Ethernet
- MACsec function – full 802.1ae compliance supporting default cipher suite GCM-AES-128

## Benefits

- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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# FMC119

The FMC119 is an FPGA Mezzanine Card per VITA 57 specification. The FMC119 has a quad RJ-45 which can support 10/100/1000/2.5/5GBASE-T over copper with Category 6, 6A and 7 twisted-pair cable. The module interfaces to the MAC with multiple protocols such as USXGMII/XFI/RXAUI/5GBASE-R/2500BASE-X/SGMII.

The Module supports transceiver-MAC to magnetics with IEEE802.3az for all supported data rate (10/100/1000/2.5G/5GBASE-T).

The module supports MACsec with full 802.1ae compliance supporting default cipher suite GCM-AES-128. The module has integral FIFOs to absorb MACsec processing overhead and can support both cut-through and store forward modes.

Further the module is capable of IEEE1588v2 time stamping and Synchronous Ethernet.



Figure 1: FMC119



Figure 2: FMC119 without Heatsink

# Block Diagram

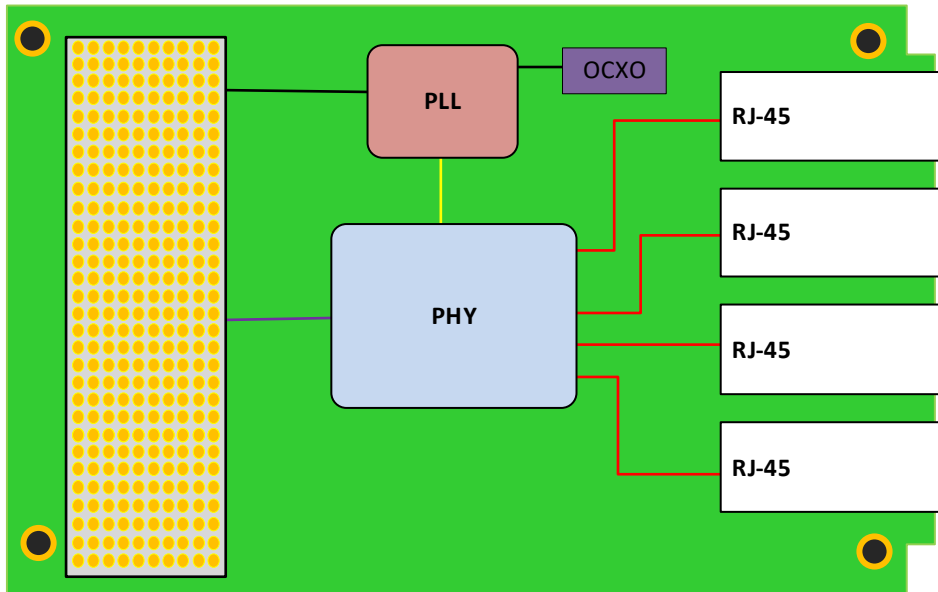


Figure 3: FMC119 Functional Block Diagram

# Specifications

Architecture		
<b>Physical</b>	<b>Dimensions</b>	Single Module Width: 2.71" (69 mm) Depth: 3.011" (76.5 mm)
<b>Type</b>	<b>FMC</b>	Quad Port 10GbE Copper Single FMC slot
Standards		
<b>FMC</b>	<b>Type</b>	ANSI/VITA 57.1 – 2008
Configuration		
<b>Power</b>	<b>FMC119</b>	10W
<b>Environmental</b>	<b>Temperature</b>	Operating temperature: -40° to 85°C (air flow requirements >400 LFM) 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
	<b>Shock</b>	30Gs each axis
	<b>Relative Humidity</b>	5 to 95% non-condensing
<b>Front Panel</b>	<b>Interface Connectors</b>	Quad RJ-45 connectors
	<b>LEDs</b>	None
Other		
<b>MTBF</b>		MIL Handbook 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

## FMC119 – 000-000-G0J

		<b>G = FMC Board Spacing</b> 0 = 10 mm (per VITA 57 specification) 1 = Reserved 2 = Reserved
		<b>J = Temperature Range and Coating</b> 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:**

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

## Related Products

AMC517



- AMC FPGA carrier for FMC per VITA 57
- Xilinx Virtex-7 410T FPGA in FFG-900 package with optional P2040
- Supported by DAQ Series™ data acquisition software

AMC532



- AMC FPGA based on Altera Stratix-V (5SGXEA) in F1932 package
- VITA 57.1 FMC HPC Connector (compatible with LPC)
- All FMC LA, HA, HB pairs routed bi-directionally

FMC210



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

# Contact

## VadaTech Corporate Office

198 N. Gibson Road, Henderson, NV 89014

Phone: +1 702 896-3337 | Fax: +1 702 896-0332

## Asia Pacific Sales Office

7 Floor, No. 2, Wenhua Street, Neihu District, Taipei 114, Taiwan

Phone: +886-2-2627-7655 | Fax: +886-2-2627-7792

## VadaTech European Sales Office

VadaTech House, Bulls Copse Road, Southampton, SO40 9LR

Phone: +44 2380 016403

[info@vadatech.com](mailto:info@vadatech.com) | [www.vadatech.com](http://www.vadatech.com)

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DOC NO. 4FM737-12 REV 01 | VERSION 1.3 – APR/23