

# FMC159

## Quad Channel Baseband ADC with Eight RS-485/RS-422



FMC159

## Key Features

- Four channels ADC based on LTC2325-16
- 16-bit @ 5 MSPS per channel
- Internal calibration and onboard reference voltage
- Eight channels RS-485/RS-422 with software configurable termination per port
- Standard VITA 57 FMC

## Benefits

- Utilizing commercially-available, standard high-density connector for ease of cabling
- Factory calibration
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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# FMC159

The FMC159 is an FPGA Mezzanine Card (FMC) per VITA 57.1 standard, offering a small footprint and providing serial I/O and baseband data acquisition. It includes eight RS-485/RS-422 balanced input/outputs via a High-Density Connector (HDC), with termination being configurable per port.

The unit also includes four channels of ADC input (LTC2325-16) via an RF High-Density connector together with onboard reference voltage and EEPROM for calibration data. A single trigger input allows data acquisition to be synchronized across all channels, while an onboard PLL generates a sampling clock that can be synchronized to either the front panel or backplane clock.



Figure 1: FMC159

# Block Diagram

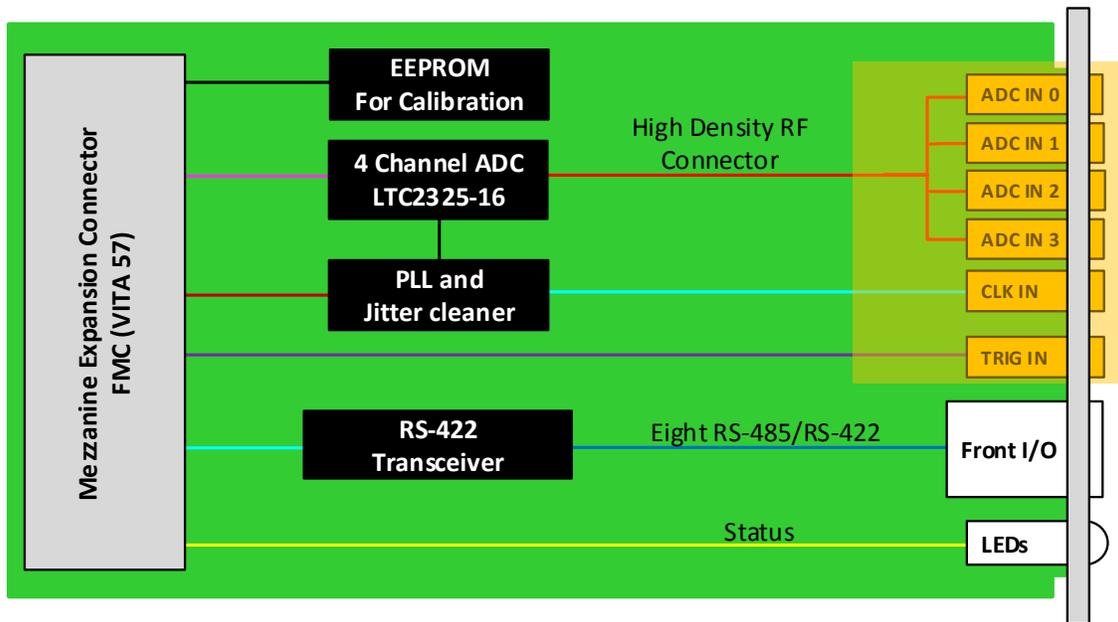


Figure 2: FMC159 Functional Block Diagram

# Specifications

Architecture	
<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> Digitizer and Serial IO
Standards	
<b>FMC</b>	<b>Type</b> ANSI/VITA 57.1
Configuration	
<b>Power</b>	<b>FMC159</b> 2W
<b>Environmental</b>	<b>Temperature</b> See <a href="#">Ordering Options</a> Storage Temperature: -40° to +85°C <b>Altitude</b> TBD <b>Vibration</b> TBD <b>Shock</b> TBD <b>Relative Humidity</b> 5 to 95% non-condensing
<b>Front Panel</b>	<b>Interface Connectors</b> RF High-Density Connector and I/O via High-Density Connector <b>LEDs</b> Status
<b>Software Support</b>	<b>Operating System</b> Agnostic
Other	
<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

## FMC159 – A00-000-G0J

A = RF Front End (all four Ports)		G = FMC Board Spacing
0 = DC to 2.5 MHz (low pass filter) with 1K impedance 1 = Reserved 2 = Reserved 3 = 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

AMC592



- AMC FPGA carrier for FMC per VITA 57
- Xilinx UltraScale™ XCKU115 FPGA
- Supported by DAQ Series™ data acquisition software

FMC155



- Multiple I/O in single FMC form-factor
- LVDS, RS-422, and singled-ended +3.3V
- 16x LVDS input/outputs with speed up to 350 MHz and programmable crossbar circuit routing

VPX592



- 3U FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 46 and VITA 57
- Xilinx Kintex UltraScale™ XCKU115 FPGA
- High-performance clock jitter cleaner

# 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 1.4 – JAN/20