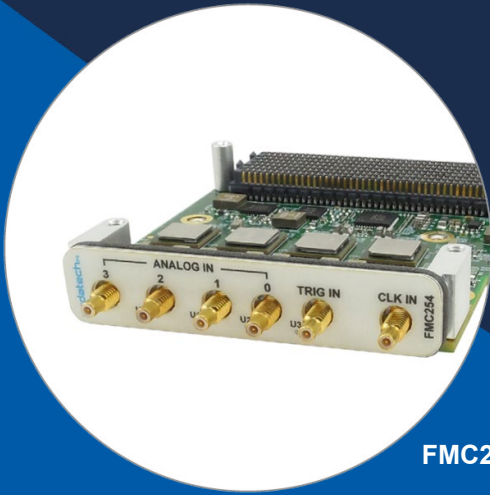# FMC254

FMC+

FMC+ Quad ADC 12-bit @ 1.6 GSPS

FMC254

Key Features

- Quad ADC12SJ1600 ADC 12-bit at 1.6GSPS

- Full-Power input bandwidth: 6GHz

- 4 JESD204C lanes from each ADC

- FPGA Mezzanine Card (FMC+) per VITA 57.4

- Excellent dynamic performance

- Front panel interface includes CLK In and Trig In

Benefits

- Ideal for Frequency Modulated Continuous Wave (FMCW) LiDAR systems

- Compatible with a broad range of Xilinx and Altera based FMC carriers from VadaTech and others

- Electrical, mechanical, software, and system-level expertise in house

- Full system supply from industry leader

- AS9100 and ISO9001 certified company

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FMC254

The FMC254 is an FPGA Mezzanine Card (FMC+) per VITA 57.4 specification. The board has quad TI ADC12SJ1600 which provides 12-bit resolution at 1.6 GSPS. This ADC is ideal for light detection and ranging (LiDAR) systems. The full-power input bandwidth also enables direct RF sampling of L-band and S-band.

The FMC254 provides four single ADC to allow interleaving among the four ADC. This is accomplished by skewing the sampling clock property among the four ADC.

The four analog input, clock and trigger interfaces of the FMC254 are routed via SSMC connectors. The internal clock frequency is programmable and the clock is capable of locking to an external reference.
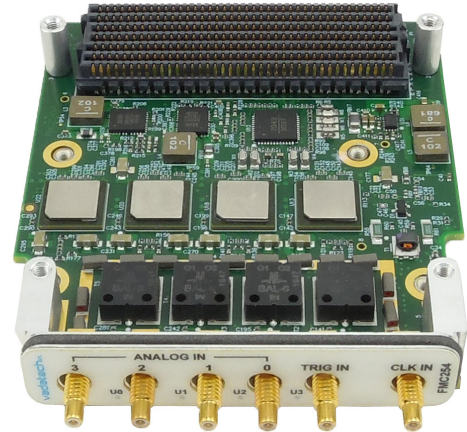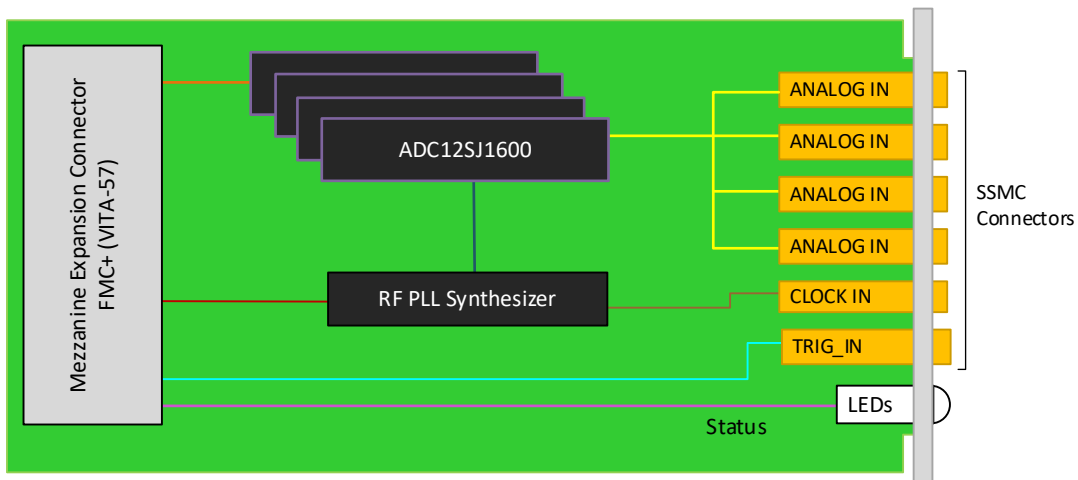

Figure 1: FMC254

Block Diagram

Figure 2: FMC254 Block Diagram

Front Panel

Figure 3: FMC254 Front Panel

Specifications

Architecture		
Physical	**Dimensions**	Width: 2.71" (69 mm)
		Depth: 3.70" (94 mm)
Type	**FMC+**	Quad ADC
Standards		
FMC	**VITA-57**	ANSI/VITA 57.4
Configuration		
Power	**FMC254**	~6 W
Environmental	**Temperature**	Operating temperature: -5° to 55° C, industrial and extended versions also available (See environmental spec sheet)
		Storage Temperature: –40° to +90°C
	Vibration	1G, 5 to 500 Hz on each axis
	Shock	30Gs on each axis
	Relative Humidity	5 to 95 per cent, non-condensing
Front Panel	**Interface Connectors**	6x SSMC
	LEDs	Status and user defined (total 5)
Software Support	**Operating System**	Agnostic
Conformal Coating		Humiseal 1A33 Polyurethane (Optional)
		Humiseal 1B31 Acrylic (Optional)
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	

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA, VPX and µTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), 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.

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Ordering Options

FMC254 – 000-000-G0J

		G = FMC Board Spacing
		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

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

** Edge of module for conduction cooled boards, consult factory for availability

Related Products

AMC595

- Xilinx Ultra Scale XCVU440 w/ QorIQ PPC2040
- 8 GB of DDR-4 (single bank of 64-bits)
- FMC support (with special connector)

FMC229

- Quad DAC 16-Bit @ 2.8 GSPS With Quadrature Modulator
- Single DAC39J84
- On board dual Wideband Quadrature Modulator

FMC220

- Analog Devices AD9234 dual 1 GSPS ADC
- The Analog inputs for the ADC are DC coupled
- Analog Devices AD9162/9164 6 GSPS RF DAC Supported by DAQ Series™ data acquisition software

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