EAMC-D102 Digitizer Board

General Description:

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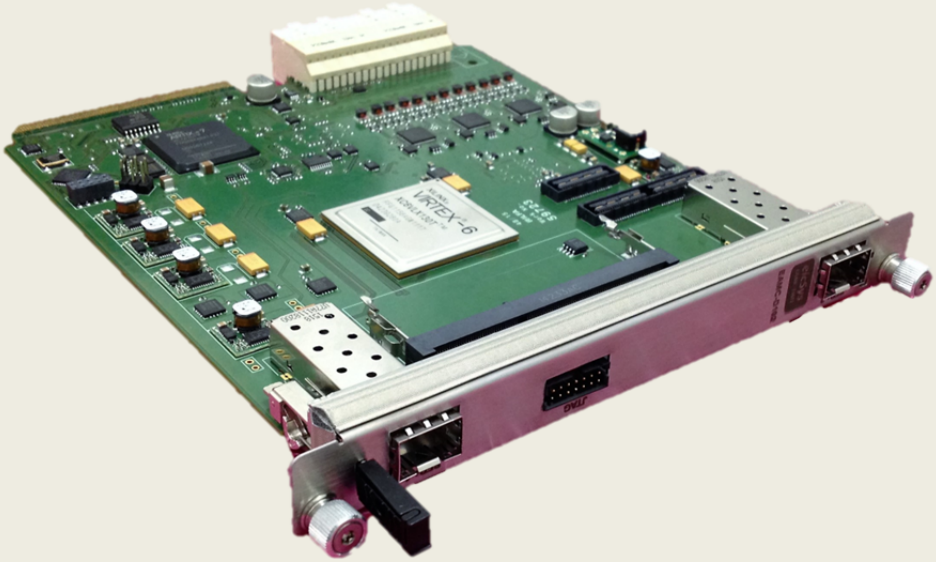
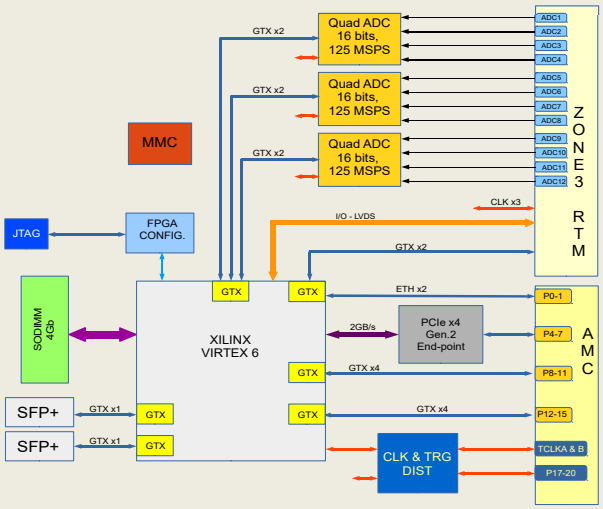
The EAMC-D102 is a high speed, high performance 12 ADC (Analog to Digital Converter) Advanced Mezzanine Card (AMC). The module is equipped with programmable, high precision, low jitter clock distribution. The AMC is compliant to MTCA.4 specification and provides 2 x PCIe Gen.2 end-points for redundant operation. The FPGA has an interface to the SODIMM memory (up to 4Gb) and allows for large buffer sizes to be stored during processing. Each ADC input goes to the Rear Transition Module (RTM) connector that complies with uTCA.4. Several boards can be combined into a single multichannel hardware system using fast backplane or fiber links. Provided hardware and software (firmware, drivers, EPICS interface, example applications) accelerate integration of the board into a data acquisition or control system.

eicSys offers customization of software/firmware according to customer specification.

Block diagram:





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Description			
Architecture			
Physical	Dimensions		Double width, mid-size AMC Module Width: 5.486” (148.5 mm) Depth: 7.110” (180.6 mm)
Standards	AMC.0, AMC.1, AMC.2, MTCA.4 Module Management		IPMI version 2.0, MMC V1.0 compatible
Combatibility	Zone3 classification Compatible AMC products		Class D1.0 ERTM-D102
Configuration			
Input/output	Frontpanel	➢ 2x SFP+ ➢ JTAG	
	Zone 3	➢ 12 x ADC channels, sampling frequency up 125MHz, 16-bit. ➢ 3 x clock inputs for ADC and FPGA ➢ 2 x MGT interface	
	AMC Connector	Ports 0-1 : Ethernet Ports 4-7 : PCIe Gen.2, x4 Ports 8-11 : PCIe Gen.2, x4 in red. system / MGT custom links Ports 12-15 : MGT custom links Ports 17-20 : clock, triggers TCLK_A, TCLK_B, FCLK	
Analog signals	ADC	➢ AD9656, 16-bit, 125 Msps ➢ differential AC or DC inputs ➢ 650MHz Full-Power Bandwidth S/H, limited to 150MHz (3dB)	
PCIe	2x PCIe x4 Gen. 2	➢ Port 4-7 ➢ Port 8-11	
Clock signals	Port 17-20	➢ TCLK B ➢ FCLK ➢ TX/RX	
	ZONE 3	➢ TCLK A	
Chipset		Virtex6 FPGA	
Memory		SODIMM DDR3 memory up to 4GB	
Electrical Property		<50 Watt	
Software support		Compatible to UniDAQ firmware package firmware upgrade through PCIe	
Environmental		Temp. range	Operation: 0°C to +70°C Storage: –40°C to +85°C
		Humidity	5-90%, non-condensing
Ordering Information		**EAMC-D102**	

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Developed by:
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