

AMC583

AMC FPGA Dual FMC+ Carrier, Kintex UltraScale™ XCKU115 with P2040



AMC583

Key Features

- Xilinx UltraScale™ Kintex XCKU115 QorIQ PPC2040
- AMC Ports 4-11 are routed to FPGA per AMC.1, AMC.2 and AMC.4 (protocols such as PCIe, SRIO, 10GbE, 40GbE, etc. are FPGA programmable)
- AMC Ports 12-15 and 17-20 are routed to the FPGA
- AMC FCLKA, TCLKA, TCLKB, TCLKC and TCLKD are routed
- Clock jitter cleaner
- 8 GB of DDR-4 (two banks of DDR-4)
- Double module, mid-size AMC (full-size optional)
- IPMI 2.0 compliant

Benefits

- Xilinx UltraScale™ XCKU115 FPGA provides strong connectivity and processing power
- Dual FMC+ sites with broad choice of compatible network, A/D, D/A and RF FMCs
- Dual Banks of DDR4 memory allow larger buffer sizes while processing and queuing data to the host
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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AMC583

The AMC583 provides a very capable I/O processing engine, with a large UltraScale™ FPGA coupled to two FMC+ sites and supported by an on-board quad-core P2040 processor. The FPGA has over 5,500 DSP slices and supported by 8 GB of DDR4 (32-bits wide over two banks).

The XCKU115 connects to all FMC+ LA/HA/HB pairs, DP00 to DP23 (the module does not support HSPCe connector), balancing high-speed I/O with impressive processing power. The AMC583 is compliant to the AMC.1, AMC.2 and/or AMC.4 specification, and optionally supports direct AMC-to-AMC connections over ports 12-15 and 17-20.

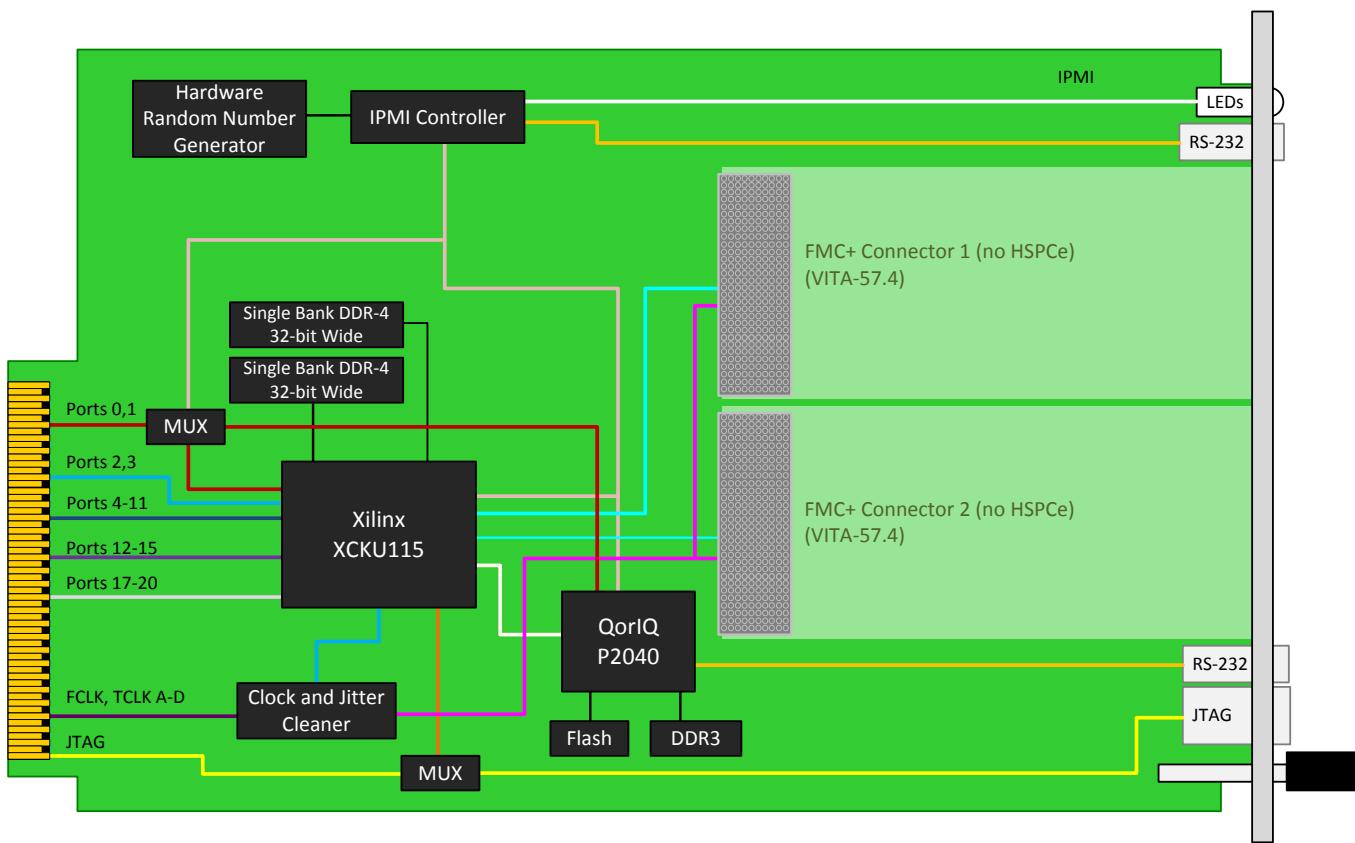
The quad core P2040 on-board host has x4 PCIe interface to the FPGA in addition to its local bus, and is supported by DDR3, Boot Flash and an SD Card. The user can select whether to route ports 0 and 1 of the AMC to the PPC or FPGA.

The dual FMC+ sites accept FMCs from VadaTech's extensive range of data acquisition, networking and RF units, and other 3rd party VITA-57.4 compliant modules.

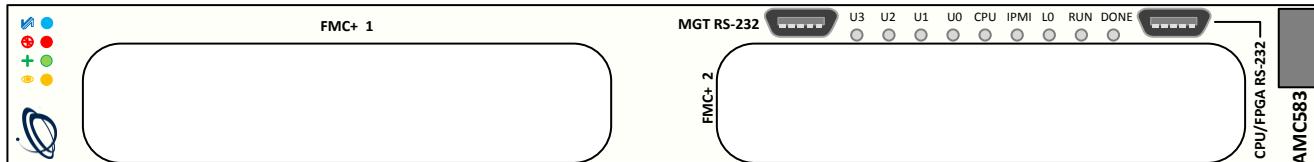
The AMC583 has Serial over LAN (SOL) per IPMI specification, with a hardware RNG for secure session.



Block Diagram



Front panel



Specifications

Architecture	
Physical	Dimensions Double module, mid-size (full-size optional) Width: 5.85" (148.5 mm) Depth 7.11" (180.6 mm)
Type	AMC FPGA Xilinx UltraScale™ XCKU115 FPGA with PPC2040 Dual bank of DDR4
Standards	
AMC	Type AMC.0, AMC.1, AMC.2 and AMC.4 (FPGA programmable)
Module Management	IPMI IPMI version 2.0
PCIe	Lanes Dual x4 via FPGA to AMC
SRIO/Aurora	Lanes Dual x4 via FPGA to AMC
Ethernet	10/40 GbE and GbE Dual 10/40 GbE via FPGA and Dual 1000-BaseBX from PPC
Configuration	
Power	AMC583 Carrier is ~50 W (without mezzanine) application specific
Environmental	Temperature Operating temperature: -5° to 45° C (55°C for limited time, performance restrictions may apply), industrial and extended versions also available (See environmental spec sheet) Storage Temperature: -40° to +85°C Vibration Operating 9.8 m/s ² (1G), 5 to 500Hz on each axis Shock Operating 30Gs on each axis Relative Humidity 5 to 95 per cent, non-condensing
Front Panel	Interface Connectors Dual FMC+ VITA-57.4 Micro USB for MGT RS-232 and CPU RS-232 LEDs IPMI management control 4 user defined LEDs Mechanical Hot swap ejector handle
Software Support	Operating System Linux
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 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

AMC583 – A0C-DEF-G0J

A = FPGA DDR4 Memory	D = Ports 12-15 and 17-20	G = Clock Holdover Stability
0 = Reserved 1 = 8 GB 2 = Reserved	0 = Not routed to FPGA 1 = Routed to FPGA	0 = Standard (XO) 1 = Stratum-3 (TCXO)
E = FPGA Speed		
	1 = Reserved 2 = High 3 = Highest	
C = Front Panel	F = PCIe Option	J = Temperature Range and Coating
1 = Reserved 2 = Mid-size 3 = Full-size 4 = Reserved 5 = Mid-size, MTCA.1 (captive screw) 6 = Full-size, MTCA.1 (captive screw)	0 = No PCIe 1 = PCIe on ports 4 – 7 2 = PCIe on ports 8 – 11 3 = PCIe on ports 4 – 11	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*

* Edge of module for conduction cooled boards

Related Products

UTC004



- Single module, full size per AMC.0
- Unified 1GHz quad-core CPU for MCMC (MicroTCA Carrier Management Controller), Shelf Manager, Clocking, and Fabric management
- Automatic fail-over with redundant UTC004s

VT892



- 7U µTCA System Platform
- 19" x 7U x 10.5" deep (with handles 12" deep)
- Full redundancy with dual MicroTCA Carrier Hub (MCH), dual Cooling Units and dual Power Modules

AMC725



- Xeon E3-1125 V2 Processor AMC, with Graphics Interface
- Intel® Xeon E3 (Gladden) 4C, 2 GHz
- 8 MB LLC processor and Cave Creek PCH

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