AMC584

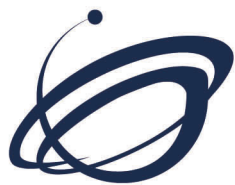## Virtex UltraScale+™ FPGA with Zone 3, AMC

AMC584

Key Features

- Xilinx XCVU13P UltraScale+

- Two banks of DDR-4 Memory

- Total of 16GB of DDR-4

- High-speed Zone 3 connector for I/O

- Five front-panel QSFP28 (5 x 100GbE)

- PCIe x16 to neighboring PinoutPlus™ cards

Benefits

- High-performance FPGA; 12,288 DSP slices and over 3 million logic cells

- Zone 3 connector board-to-board interconnect for multi-module configurations with AMC594

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

- Full system supply from industry leader

- AS9100 and ISO9001 certified company
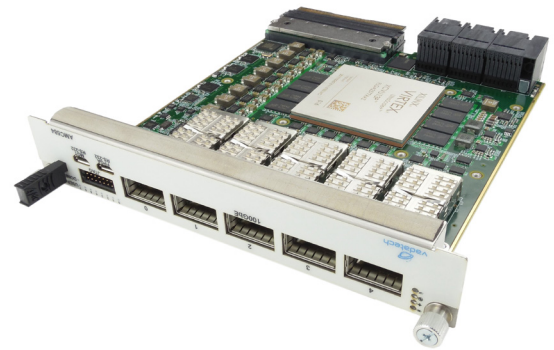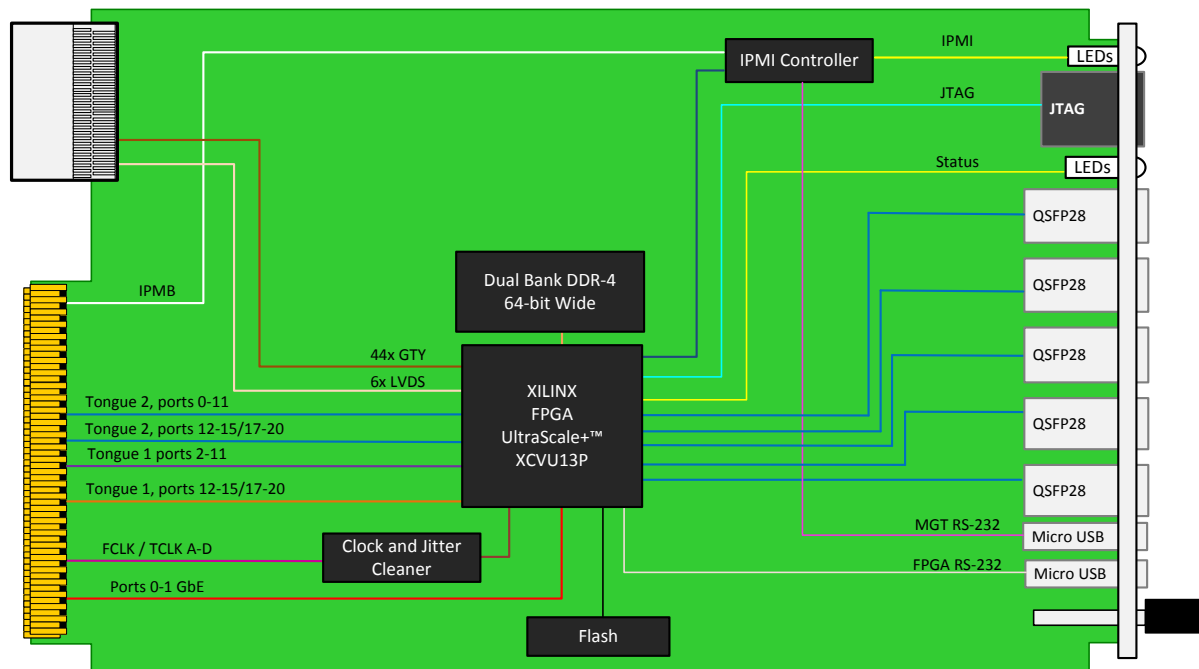

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AMC584

The AMC584 is an AMC double-module form factor card with Xilinx Virtex UltraScale+™XCVU13P FPGA with two banks of DDR4. The FPGA provides over 12,000 DSP slices and 3,780 thousand logic cells. The module has total of 16GB of DDR4 across the two banks.

The XCVU13P is routed to base and extended option regions (all the tongue one SERDES are routed). The module routes up to twenty lanes to Tongue 2 for PinoutPlus™ connection to neighbouring AMC (in a chassis supporting this option) such as the AMC750. The front panel QSFP28 allows data output of up to 5x 100 GbE over five standard connectors.

The module has a high-speed Zone 3 connector that provides the primary digital I/O routing. Multiple AMC594s can be connected to the AMC584 (e.g. for generating I/Q or multi-polarizations), or this I/O can be routed to further FPGA AMCs for additional processing. Contact sales for further information.

Block Diagram

Specifications

Architecture		
Physical	Dimensions	Double module, full-size
		Width: 5.85" (148.5 mm)
		Depth 7.11" (180.6 mm)
Type	AMC FPGA	XCVU13P

Standards		
AMC	Type	AMC.0, AMC.1, AMC.2 and AMC.3
Module Management	IPMI	IPMI version 2.0
PCIe (see option F)	Lanes	Via MUX: "Dual x4 (Tongue 1) and x8 (Tongue 2)" or "x16 (Tongue 2)"

Configuration		
Power	AMC584	TBD W (application specific)
Environmental	Temperature	Operating temperature: -5° to 45° C (55°C for limited time, performance restrictions may apply), industrial 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 30G on each axis
	Relative Humidity	5 to 95 per cent, non-condensing
Front Panel	Interface Connectors	QSFP28
		JTAG
		Dual micro USB for RS-232 (management and payload)
	LEDs	IPMI management control
		Debug (user defined) LED
	Mechanical	Hot swap ejector handle
Software Support	Operating System	Independent

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.

VadaTech does not provide licenses for the Vivado tool or Xilinx IP cores, so please contact Xilinx where these are required

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Ordering Options

AMC584 – 00C-D0F-00J

	D = Ports 12-15 and 17-20 Tongue 1	
	0 = Not connected to FPGA	
	1 = Connected to FPGA	
C = Front Panel	**F = PCIe Fabric Tongue 1**	**J = Temperature Range and Coating**
1 = Reserved	0 = No PCIe	0 = Commercial, no coating
2 = Reserved	1 = PCIe on ports 4-7	1 = Commercial, Humiseal 1A33 polyurethane
3 = Full-size	2 = PCIe on ports 8-11	2 = Commercial, Humiseal 1B31 acrylic
4 = Reserved	3 = PCIe on ports 4 -11	3 = Industrial, No coating
5 = Reserved		4 = Industrial, Humiseal 1A33 polyurethane
6 = Full-size, MTCA.1 (captive screw)		5 = Industrial, Humiseal 1B31 acrylic

Related Products

AMC594

- 8-bit ADC at up to dual 56 GSPS

- 2 x 56 or 4 x 28 GSPS channels

- Xilinx UltraScale™ XCVU190 FPGA with 16 GB of DDR-4 Memory

VT815

- 9U MTCA Chassis Platform, 12 slot, double-module

- Full redundancy

- High-bandwidth (20-lane) connections between adjacent slots

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

Contact

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