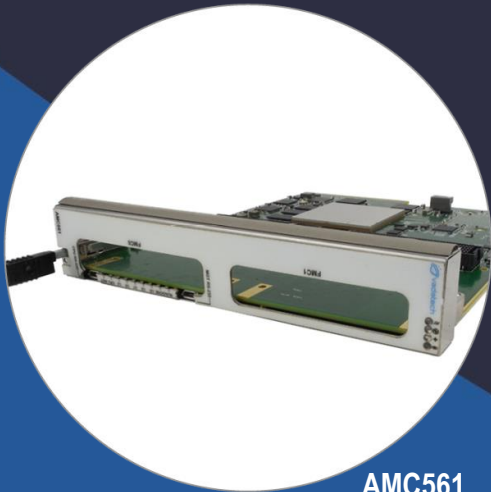


AMC561

FPGA Carrier for Dual FMC with Virtex-7, AMC



AMC561

Key Features

- AMC FPGA carrier for Dual FPGA Mezzanine Card (FMC) per VITA 57
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- Double module, mid-size (full-size optional)
- AMC Ports 4-7 are routed to FPGA per AMC.1, AMC.2 and AMC.4 (protocols such as PCIe, SRIO, XAUI, etc. are FPGA programmable)
- AMC FCLKA, TCLKA, TCLKB, TCLKC and TCLKD are routed
- M-LVDS to Ports 17-20 per MTCA.4
- Option for onboard Freescale QorIQ PPC2040
- Serial over LAN (SOL) with hardware Random Number Generator (RNG)

Benefits

- Dual FMC sites on a double module AMC
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- Bank of 64-bit DDR3 memory allows larger buffer sizes while processing and queuing data to the host
- Bank of 16-bit DDR3 memory (i.e. MicroBlaze memory option)
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

AdvancedMC™



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AMC561

The AMC561 is an AMC FPGA Carrier with dual FMC (VITA 57) interfaces. The AMC561 is compliant to the AMC.1, AMC.2 and/or AMC.4 specification. The unit has an onboard, re-configurable FPGA which interfaces directly to the AMC FCLKA, TCLKA-D, FMC DP0-9 and all FMC LA/HA/HB pairs. The FPGA has interface to DDR3 memory channels (64-bit wide and 16-bit wide).

Ports 12-15 support high-speed SERDES for direct board-to-board communication in compatible chassis, while Ports 17-20 support M-LVDS per MTCA.4.

The AMC561 has Dual FMC sites per VITA 57 allowing the versatility of various FMC modules to be implemented.

The optional onboard quad core P2040 can run at 1.2 GHz with 1 GB of DDR3, 128 MB of Boot Flash, and a 32 GB SD Card. The PPC has 4x PCIe interface to the FPGA in addition to its local bus. The PPC has its dual GbE routed to Ports 0 and 1 of the AMC via a mux to allow FPGA routing as well.

The AMC561 has Serial over LAN (SOL) per IPMI specification. It has a hardware RNG for secure session.

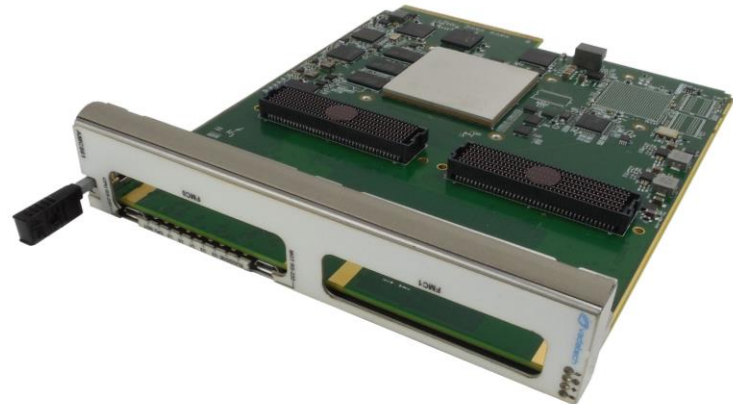


Figure 1: AMC561

Block Diagram

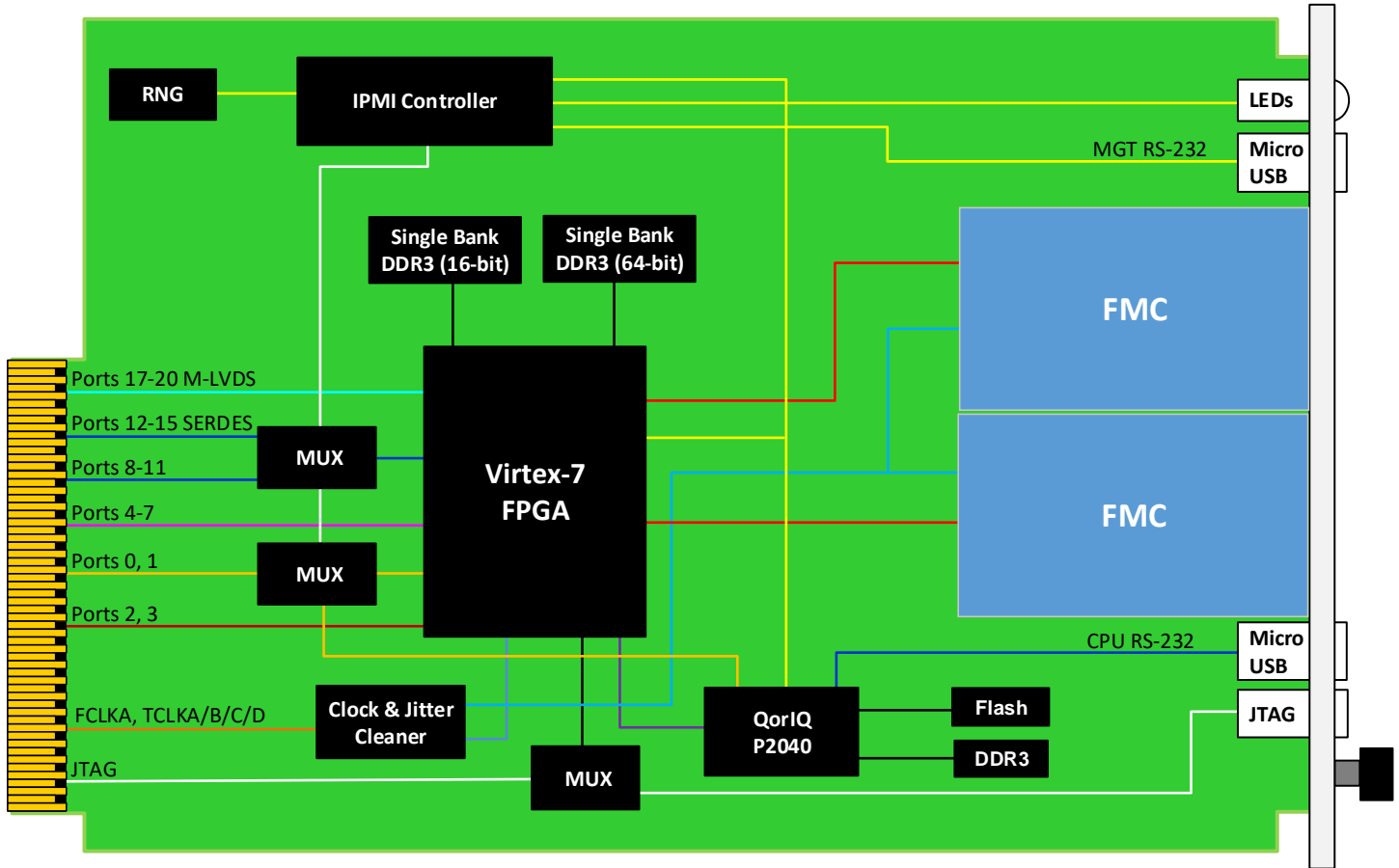


Figure 2: AMC561 Functional Block Diagram

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 Carrier	Xilinx Virtex-7 device, optional on-board CPU One bank of DDR3 (64-bit) Dual FMC slots
Standards		
AMC	Type	AMC.1, AMC.2 and AMC.4 (FPGA programmable)
Module Management	IPMI	IPMI v2.0
PCIe	Lanes	x4 via FPGA to AMC
SRIO/Aurora	Lanes	x4 via FPGA to AMC
Ethernet	10GbE and GbE	Dual 10GbE via FPGA and Dual 1000-BaseBX from PPC
Configuration		
Power	AMC561	Carrier is ~ 50W typical (without mezzanine) application specific
Environmental	Temperature	Operating Temperature: -5° to 55°C (air flow >400LFM) See Ordering Options and Environmental Spec Sheet Storage Temperature: -40° to +85°C
	Vibration	Operating 9.8 m/s ² (1G), 5 to 500 Hz
	Shock	30Gs on each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	Interface Connectors	Dual front panel FMC Micro USB connector for MGT RS-232 and CPU RS-232 JTAG
	LEDs	IPMI management control 4 user defined LEDs, 5 general status LEDs
	Mechanical	Hot-swap ejector handle
Software Support	Operating System	Linux, VxWorks and Windows
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 ISO9001:2015 and AS9100D standards
Warranty		Two (2) years, see VadaTech Terms and Conditions

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

AMC561 – ABC-0EF-G0J

A = FPGA DDR3 Memory 0 = 2 GB 1 = Reserved		G = Clock Holdover Stability 0 = Standard (XO) 1 = Stratum-3 (TCXO)
B = QorIQ CPU Sub-system 0 = No QorIQ (FPGA loaded via flash) 1 = P2040	E = FPGA Speed 1 = Reserved 2 = High* 3 = Highest	
C = Front Panel 1 = Reserved 2 = Mid-size 3 = Full-size 4 = Reserved 5 = Reserved 6 = Mid-size, MTCA.1/4 7 = Full-size, MTCA.1/4 8 = Reserved	F = PCIe Option 0 = No PCIe 1 = PCIe on Ports 4-7	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:

*Common configuration

**At the edge of the module for conduction-cooled boards.

For operational reasons VadaTech reserves the right to supply a higher speed FPGA device than specified on any particular order/delivery at no additional cost, unless the customer has entered into a Revision Lock agreement with respect to this product.

Related Products

VT899



- MTCA System Platform 5" x 7U x 9" (with handles 10" deep)
- Up to six AMCs: 6 full-size single width or 3 full-size double width
- Radial 12C bus to each AMC

FMC108



- FPGA Mezzanine Card (FMC) per VITA 57
- Two QSPF+ cages for 10GbE/SRIO/PCIe and Aurora
- Re-driver on both Ports for better signal quality

FMC223



- FMC per VITA 57
- Single module AD9739 DAC 14-bit @ 2.5 GSPS
- 2 Vpp differential Analog output swing

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