

OCTOBER 2010

KEY FEATURES

- AMC FPGA carrier for FPGA Mezzanine Card (FMC) per VITA-57
- AMC Ports 2-3 and 4-11 are routed to FPGA (protocols such as PCIe, SRIO, XAUI, etc. are FPGA programmable)
- Xilinx Virtex-6 FPGA in FF1759 package
- AMC FCLKA, TCLKA, TCLKB, TCLKC and TCLKD are routed
- On board PLL for buffering/multiplying and jitter cleaner
- Option for up to 2GB of DDR-III memory
- Option for QDR-II+
- Option for on board Freescale QorIQ PPC1020 with DDR-III
- RoHS compliant

The AMC513 is an AMC FPGA Carrier with an FMC (VITA 57) interface. The AMC513 is compliant to the AMC.1, AMC.2 and/or AMC.4 specification. The unit has an on-board, re-configurable FPGA which interfaces directly to the AMC Ports 2-3, 4-11, FCLKA, TCLKA, TCLKB, TCLKC, and TCLKD. The FPGA has an interface to the DDR-III memory (64-bit wide) and option for QDR-II+ (36 and 72-bit wide). This allows for large buffer sizes to be stored during processing as well as for queuing the data to the host.

The AMC513 has a single FMC connector per VITA-57. This allows having a single Carrier with multiple-different FMC modules in the system.

The on board PPC can run at 800MHz with 512 Mbytes of DDR-III, 8Mbytes of boot flash and 128MBytes of user Flash. The PPC has an x4 PCIe interface to the FPGA in addition to it's local bus. The PPC has it's dual GbE routed to ports 0 and 1 of the AMC.

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).

AdvancedMC™

AMC FPGA Carrier with FMC Interface

SPECIFICATIONS

Architecture		
Physical	Dimensions	Single-width, Full-Height
		Width: 2.89 in. (73.5 mm)
		Depth: 7.11 in. (180.6 mm)
Type	AMC FPGA Carrier	Xilinx FGPA Virtex-6 Devices
		PLL multiplier/divider with jitter cleaner
		Single FMC slot
		DDR-III and QDR-II+
Standards		
AMC	Type	AMC.1, AMC.2, and AMC.4 (FPGA programmable)
Module Management	IPMI	IPMI Version 2.0
PCIe	Lanes	x4 or x8
SRIO	Lanes	Dual x4
XAUI	Lanes	Dual port XAUI
Aurora	Lanes	Dual x4
Ethernet	GbE	Dual 1000-BaseBX from PPC or FPGA
Configuration		
Power	AMC513	Carrier is 40W without the Mezzanine
Environmental	Temperature	Operating Temperature: 0° to 65° C (Air flow requirement is to be greater than 400 LFM)
		Storage Temperature: -40° to +90° C
	Vibration	1G, 5-500Hz each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95 percent, non-condensing
Front Panel	Interface Connectors	Front panel FMC
	LEDs	IPMI Management Control
		8 user defined LED
	Mechanical	Hot Swap Ejector Handle
Software Support	Operating Systems	Linux, Windows, Solaris and VxWorks
Other		
MTBF	MIL Handbook 217-F > TBD.	
Certifications	Designed to meet FCC, CE and UL certifications where applicable	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Compliance	RoHS and NEBS	
Warranty	Two (2) years.	
Trademarks and Logos	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedMC™ and the AdvancedTCA™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.	

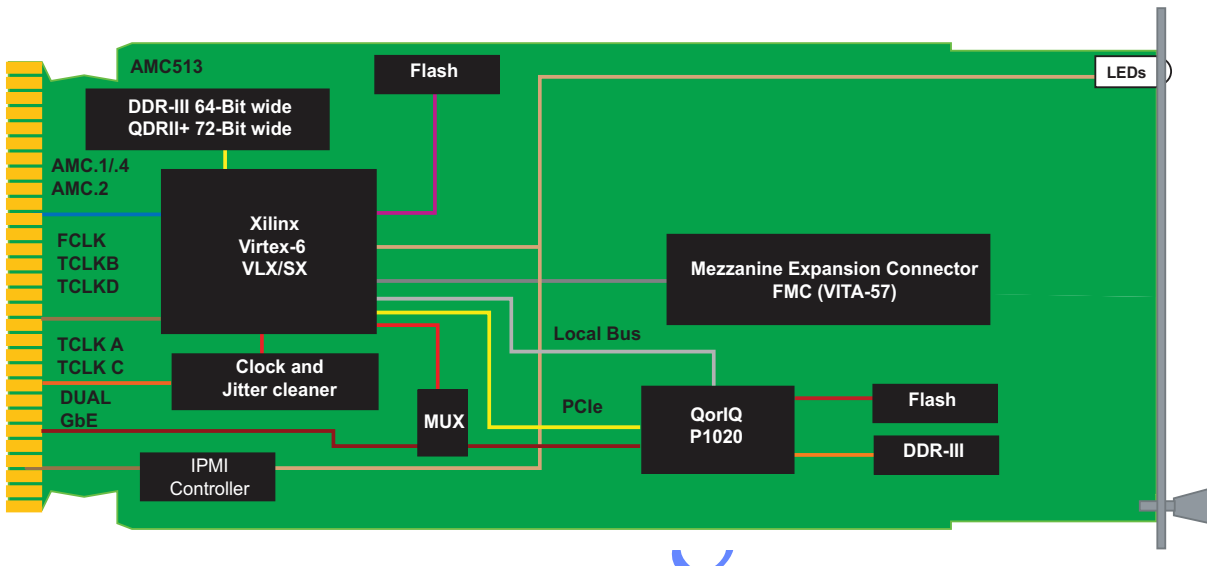
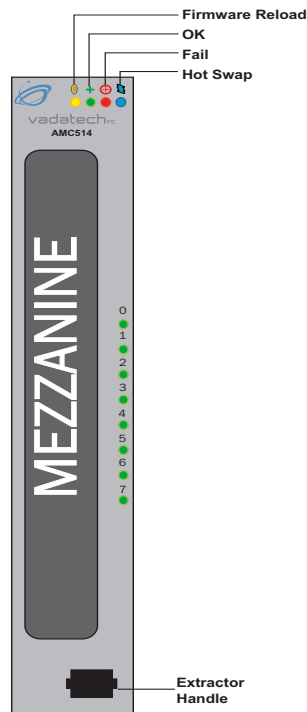


FIGURE 1. AMC513 Functional Block Diagram

FIGURE 2. AMC513 Front Panel



ORDERING OPTIONS

AMC513 - ABC - DEF - GHJ

A = DDR-III Memory

- 0 = None
- 1 = 1Gbytes
- 2 = 2Gbytes

B = QDR-II+ Memory

- 0 = None
- 1 = 2 x 36 (single chip)
- 2 = 2 x 72 (two chips)
- 3 = Reserved

C = Front Panel

- 1 = Reserved
- 2 = Mid-Height
- 3 = Full-Height

D = QorIQ CPU

- 0 = None (FPGA is loaded via the Flash)
- 1 = Reserved
- 2 = Reserved
- 3 = Reserved
- 4 = 1020 @800MHz (FPGA is loaded by CPU)

E = FPGA

- 1= Reserved
- 2= Reserved
- 3= Reserved
- 4= XC6VLX240T
- 5= XC6VLX365T
- 6= XC6VLX550T
- 7= XC6VSX475T
- 8 = Reserved

F = FPGA SPEED

- 1 = Low
- 2 = High

G = PCIe option

- 0 = No PCIe (ports 4-11)
- 1 = PCIe on ports 4-7
- 2 = PCIe on ports 8-11

H = Operating Temp

- 0 = Commercial
- 1 = Industrial

J = Conformal Coating

- 0 = None
- 1 = Humiseal 1A33 Polyurethane
- 2 = Humiseal 1B31 Acrylic

