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THE POWER OF VISION

AMC Artix-7 FPGA Carrier for FMC – AMC519

AMC Artix-7 FPGA Carrier

AdvancedMC™

KEY FEATURES

- AMC FPGA carrier for FMC per VITA-57
- Xilinx Artix-7 FPGA in FBG-676 package
- AMC Ports 0 and 1 as GbE to FPGA
- AMC Ports 4 and 8 are routed to FPGA per AMC.1, AMC.2 and AMC.4 (protocols such as PCIe, SRIO, GbE, etc. are FPGA programmable)
- Clock jitter cleaner
- IPMI 2.0 compliant

Benefits of Choosing VadaTech

- Dual banks of DDR3 memory allows buffering and queuing during processing
- Lower power consumption
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- AS9100 and ISO9001 certified company

The AMC519 is an AMC FPGA Carrier for FMC per VITA 57. The module is compliant to the AMC.1, AMC.2 and/or AMC.4 specification. It has an on-board, re-configurable FPGA which interfaces directly to the AMC FCLKA, TCLKA-D, FMC DP0-3 and all FMC LA/HA/HB pairs. The FPGA has interfaces to two DDR3 memory channels (each 16-bit wide) providing a total of 512 Mbytes. This allows for large buffer sizes to be stored during processing as well as for queuing the data to the host.

With a FMC site per VITA 57, each AMC519 in the system has a whole array of mezzanine options available in the marketplace.

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REFERENCE DESIGN

VadaTech provides a reference design implementation for our FPGAs complete with VHDL source code and configuration binaries. The reference design focuses on the I/O ring of the FPGA to demonstrate low-level operation of the interconnections between the FPGA and other circuits on the board and/or backplane. It is geared to prove out the hardware for engineering/factory diagnostics and customer acceptance of the hardware, but it does not strive to implement a particular end application.

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.

BLOCK DIAGRAM

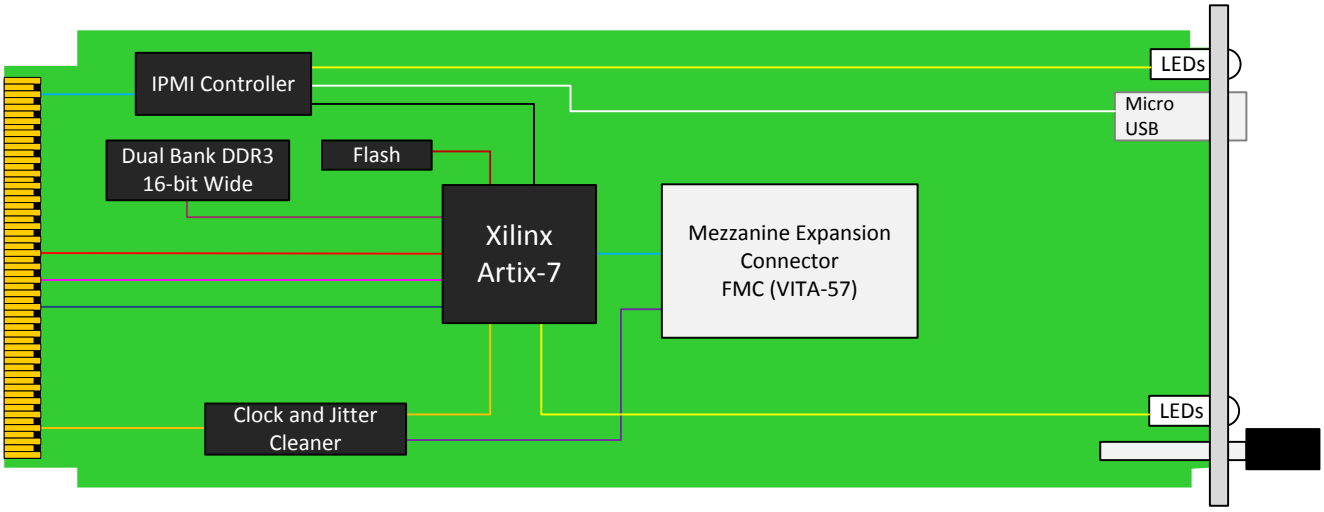

Figure 1: AMC519 Functional Block Diagram

SPECIFICATIONS

Architecture		
Physical	Dimensions	Single module, mid-size
		Width: 2.89" (73.5 mm)
		Depth: 7.11" (180.6 mm)
Type	AMC FPGA Carrier	Xilinx FPGA Artix-7 Device
		Single FMC slot
		Dual banks of DDR3 (16-bit each)
Standards		
AMC	Type	AMC.1, AMC.2, and AMC.4 (FPGA programmable)
Module Management	IPMI	IPMI version 2.0
PCIe	Lanes	x1 lane via FPGA to AMC
SRIO	Lanes	x1 lane via FPGA to AMC
Configuration		
Power	AMC519	Carrier is ~8W (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 (1.0G), 5 to 500Hz
	Shock	30Gs on each axis
	Relative Humidity	5 to 95 per cent, non-condensing
Front Panel	Interface Connectors	Front panel FMC
	LEDs	IPMI management control
		4 user defined LEDs
	Mechanical	Hot swap ejector handle
Software Support	Operating System	Linux, VxWorks and Windows
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	
Trademarks and Disclaimer	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice	

ORDERING OPTIONS

AMC519 – 00C – DEF – GHJ

C = Front Panel Size
1 = Reserved
2 = Mid-size
3 = Full-size

D = FPGA
0 = Reserved
1 = XC7A200T

E = FPGA Speed
1 = Low
2 = High
3 = Highest

F = PCIe Option
0 = None
1 = PCIe on Port 4
2 = PCIe on Port 8
3 = PCIe on Ports 4 and 8

G = Clock Holdover Stability
0 = Standard (XO)
1 = Stratum-3 (TCXO)

H = Temperature Range
0 = Commercial (–5° to +45° C)
1 = Industrial (–20° to +70° C)
2 = Extended (–40° to +85° C)*

J = Conformal Coating
0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

*Edge of Module for conduction-cool boards

RELATED PRODUCTS

VT899 Cube Chassis

FMC223 High Speed FMC for DAC

UTC020 1000W Power Module

CONTACT US

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