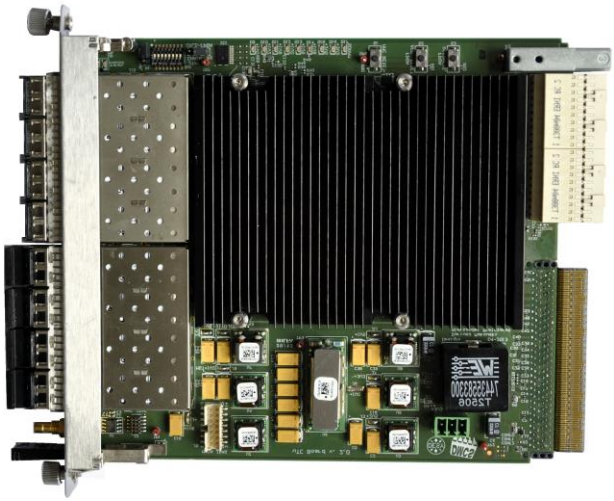
vadatech
THE POWER OF VISION

µTCA.4 Kintex-7 Data Processing AMC – CM045

MicroTCA.4 FPGA, Kintex-7



µTCA®

KEY FEATURES

- Double module AMC compliant to MicroTCA.4
- Class D1.2 compatible
- High-speed Kintex-7 FPGA
- 16 GB DDR3 SDRAM
- Octal SFP+ via the front panel
- PCIe x4 Gen 3
- Two channels of GbE
- Ten direct low latency connections to backplane
- Four low latency connections to RTM
- LVDS parallel bus to RTM
- Partial reconfiguration and firmware upgrade support
- Advanced diagnostic, monitoring and debugging

Benefits of Choosing VadaTech

- High performance Kintex-7 FPGA
- High end stabilizing control with powerful digital signal processing capability
- Compatible with application-specific Class D1.2 RTMs
- Low latency, with multiple front and RTM connections
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company

The CM045 AMC-based Controller board is a general purpose high-performance low-latency data processing unit designed according to the PICMG MTCA.4 specifications. The module provides processing power, data memory, communication links and reference clock signals. The CM045 is ideal for LLRF (Low Level Radio Frequency) cavity field stabilizing control for standing-wave linear accelerators, as well as other applications requiring low latency and high speed digital signal processing.

The FPGA on the CM045 supports a number of Low Latency Links (LLLs) available on the front panel, at the backplane and a Rear Transition Module (RTM) Zone 3 connector, at multi-Gbps speeds. Since the control algorithms could be improved with time, the device supports in-system firmware upgrade, using IPMI and a fast serial link.

VadaTech can modify this product to meet special customer requirements. Contact us to discuss your application.

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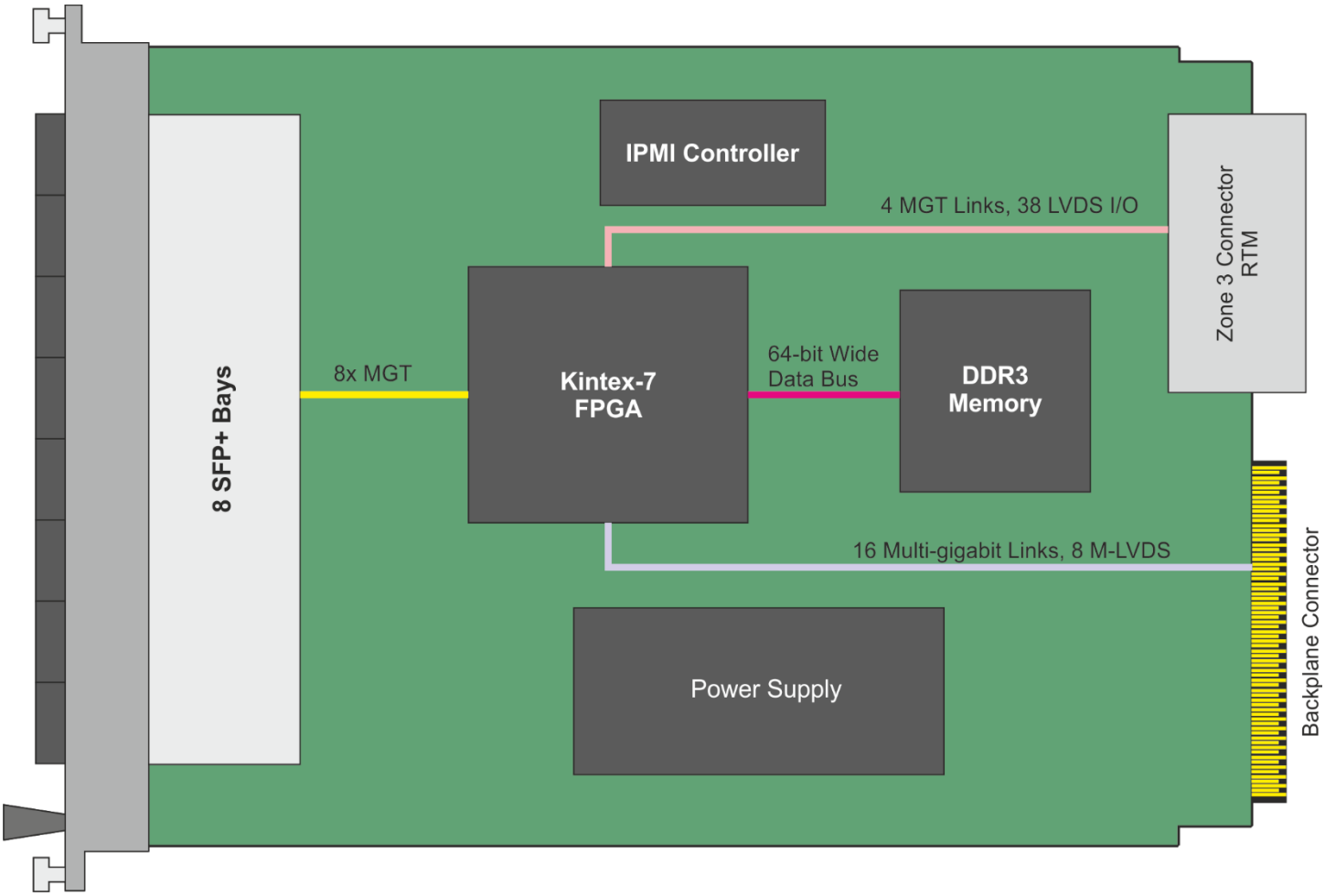
VadaTech Incorporated • 198 N. Gibson Road, Henderson, NV 89014 • Tel: (702) 896-3337 • Fax (702) 896-0332
Email: info@vadatech.com • www.vadatech.com

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



FRONT PANEL

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SPECIFICATIONS

Architecture		
Physical	Dimensions	Double module, mid-size
		Width: 5.486" (148.5 mm)
		Depth 7.11" (180.6 mm)
Type	AMC Data Processing Module	Xilinx Kintex-7 Device
		DDR3 memory
Standards		
AMC	Type	AMC.1, AMC.2, and AMC.4 (FPGA programmable)
Module Management	IPMI	IPMI version 2.0
PCIe	Lanes	4x
Ethernet	GbE	1000-BaseT
Configuration		
Power	AMC512	< 50 W
Environmental	Temperature	Operating Temperature: -5° to 55°C (air flow > 400LFM) industrial and military versions also available (See environmental spec sheet)
		Storage Temperature: –40° to +85°C
	Vibration	Operating 9.8 m/s^2 (1.0 G), 5 to 500Hz
	Shock	30Gs on each axis
	Relative Humidity	5 to 90 per cent, non-condensing
Front Panel	Interface Connectors	Front panel 8 channel SFP+
	LEDs	IPMI management control
	Mechanical	Hot swap ejector handle
Conformal Coating		Humiseal 1A33 Polyurethane Optional)
		Humiseal 1B31 Acrylic (Optional)
Other		
MTFB	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	
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ORDERING OPTIONS

CM045 – 000 – DE0 – 0HJ

D = FPGA Type
0 = Reserved
1 = XC7K355T
2 = XC7K420T

E = FPGA Speed
0 = Reserved
1 = Low
2 = High

H = Temperature Range
0 = Commercial (–5° to +55° C)
1 = Industrial (–20° to +70° C)
2 = Military (–40° to 85° C)*

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

*Edge of module for conduction-cooled boards

RELATED PRODUCTS

VT813 4400W
MTCA.4 Chassis

AMC520 ADC
MTCA.4 Module

VT812 2U
MTCA.4 Chassis

CONTACT US

VadaTech Corporate Office

198 N. Gibson Road,
Henderson, NV 89014
Email: info@vadatech.com
Telephone: +1 702 896-3337
Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhu Street, Neihu District,
Taipei 114,Taiwan
Email: info@vadatech.com
Telephone: +886-2-2627-7655
Fax: +886-2-2627-7792

VadaTech European Sales Office

Ocean Village Innovation Centre, Ocean Way,
Ocean Village, Southampton, SO14 3JZ
Email: info@vadatech.com
Telephone: +44 2380 381982
Fax: +44 2380 381983

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