vadatech
THE POWER OF VISION

2U µTCA.4 Chassis with 6 AMC Slots – VT814

2U µTCA.4 Chassis, 6 AMCs

40G

KEY FEATURES

- MicroTCA rack mount or desktop chassis platform, 19" x 2U x 14.2" deep
- Compliant to µTCA.4 specifications with rear IO for High-Energy Physics and other applications
- Supports up to six µTCA.4 mid-size, double module AMCs and RTMs
- Right-to-left cooling
- Single MicroTCA Carrier Hub (MCH) and flexible Power Module options. Full integration is also available.
- Routing on 26-layer passive backplane using high-speed 12.5 GHz µTCA connectors
- Removable Air Filter, Power Modules, and Fan Tray
- Single/dual 500W AC or single/dual 796W DC power standard, other options available
- Telco Alarm and rear-mounted JSM
- RoHS compliant

Benefits of Choosing VadaTech

- High performance density with 6 double module slots in a 2U height with 40GbE capability
- Design utilizes proven VadaTech subcomponents and engineering techniques
- 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 VT814 is a compact, cost-effective µTCA.4 chassis supporting a single MCH and redundant power. It supports six µTCA.4 AMCs plus RTMs in a compact 2U form factor. Backplane connectivity supports up to PCIe Gen x8 to each AMC.

The VT814 supports a single MCH and redundant Power Modules. There are no active components on the backplane and the unit has dual redundant FRU information and Carrier Locators.

The backplane design equalises clock delays across the AMC slots, minimizing the requirement for skew correction in high-energy physics applications.

The compact design and PCIe Gen3 x8 support mean the VT814 is well suited to deployed applications with high connectivity requirements.

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

VadaTech Incorporated • 11540 South Eastern Avenue, Henderson, NV 89052 • Tel: (702) 896-3337 • Fax (702) 896-0332
Email: info@vadatech.com • www.vadatech.com

POWER MODULES

The VT814 has the option of single or dual 500W AC power supply (UTC017) or 796W DC supply (UTC013). One power module is located in the front of the chassis and the other is located in the rear.

COOLING AND TEMPERATURE SENSORS

The VT814 has an intelligent Cooling Unit. The cooling airflow is from right to left. The removable Air Filter has an optical switch to detect its presence and can be monitored for when it needs to be replaced.

There are a total of 12 Temperature sensors in the chassis that monitor the intake and the outtake air temperature throughout the chassis.

TELCO ALARM

The VT814 provides Telco Alarm functionality to alert about any anomaly within the chassis. The Telco Alarm is provided via a Micro DB-9 as well as LEDs in the front to show any anomaly. The Telco Alarm has its own dedicated slot.

FRU INFORMATION AND CARRIER LOCATOR

The VT814 has dual redundant FRU information and Carrier Locators. The Carrier Locator is assigned by mechanical dip switches which are easily accessible. The MCH reads the Locator via its private I2C bus.

NO ACTIVE COMPONENTS

Unlike some other µTCA chassis on the market, the VT814 has no active components on the backplane. This supports ease of serviceability.

SCORPIONWARE™ SOFTWARE

VadaTech's Scorpionware software can be used to access information about the current state of the Shelf or the Carrier, obtain information such as the FRU population, or monitor alarms, power management, current sensor values, and the overall health of the Shelf. The software GUI is very powerful, providing a Virtual Carrier and FRU construct for a simple, effective interface.

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.

BACKPLANE CONNECTIONS

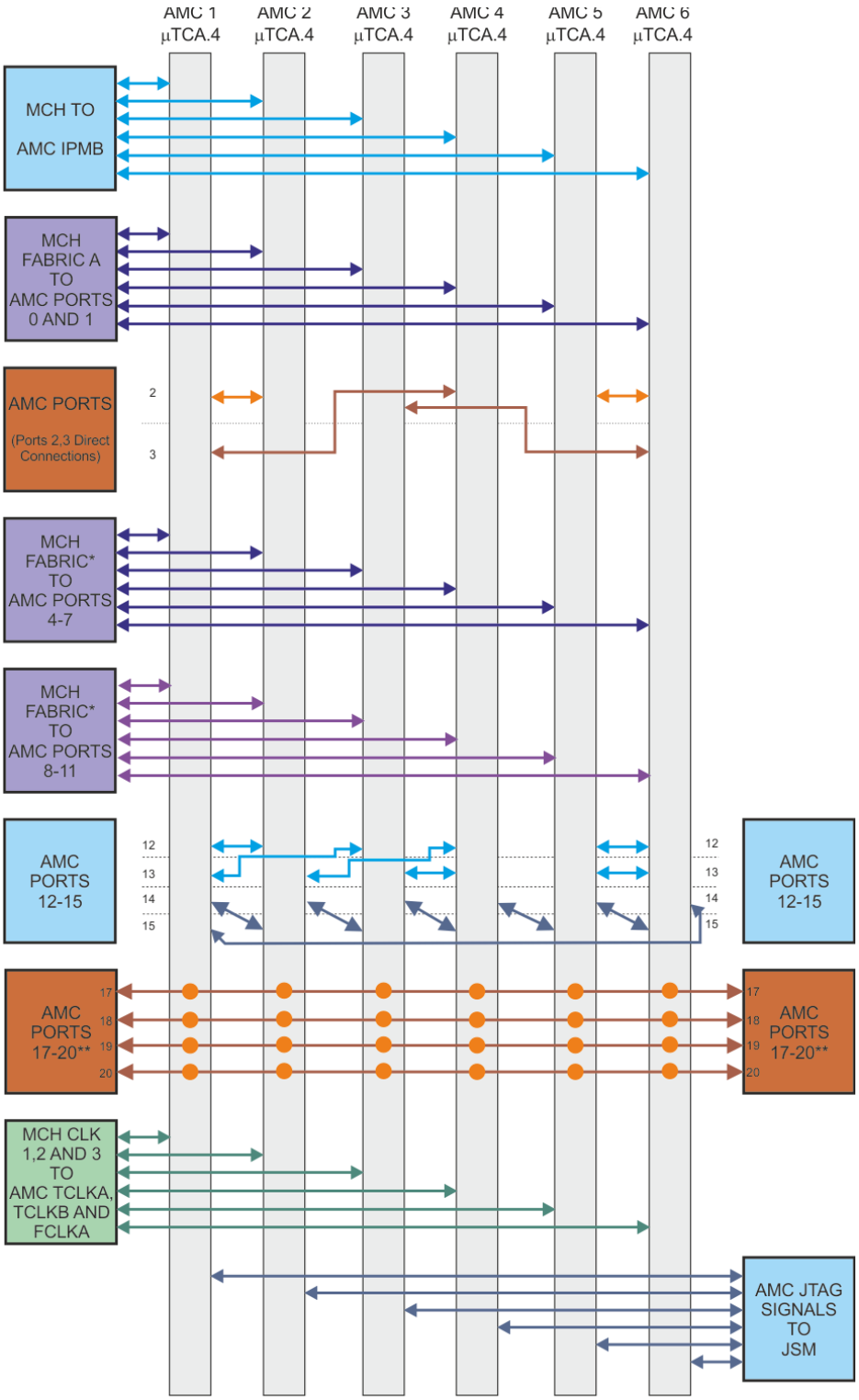


Figure 1: VT814 Backplane Connections

* With the appropriate MCH fitted the PCIe Fabric has 12 ports of x4 (48 lanes total). This can be chosen to run all the ports as x8 (on ports 4 to 11) or single/dual x4.

** AMC Ports 17-20 have termination on both ends of the routing path.

CHASSIS CONFIGURATION

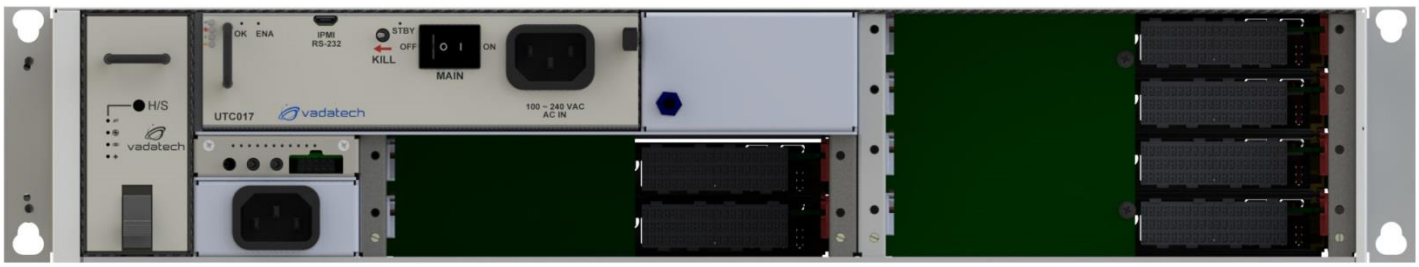
<table>
<tr><td>AMC 1
MTCA.4</td><td rowspan="2">MCH</td><td rowspan="2" colspan="2">PSU 2</td></tr>
<tr><td>AMC 2
MTCA.4</td></tr>
<tr><td>AMC 3
MTCA.4</td><td colspan="2">AMC 5
MTCA.4</td><td rowspan="2">PWR
FEED</td></tr>
<tr><td>AMC 4
MTCA.4</td><td colspan="2">AMC 6
MTCA.4</td></tr>
</table>

Figure 2: Front View

<table>
<tr><td colspan="2" rowspan="2">PSU 1</td><td rowspan="2"></td><td>RTM 1
MTCA.4</td></tr>
<tr><td>RTM 2
MTCA.4</td></tr>
<tr><td>JSM</td><td colspan="2">RTM 5
MTCA.4</td><td>RTM 3
MTCA.4</td></tr>
<tr><td rowspan="2">PWR
FEED</td><td colspan="2">RTM 6
MTCA.4</td><td>RTM 4
MTCA.4</td></tr>
</table>

Figure 3: Rear View

REAR CHASSIS PHOTO



SPECIFICATIONS

Architecture		
Physical	Dimensions	Height 2U
		Width 19”
		Depth 14.2”
Type	µTCA Chassis	Six µTCA.4 Slots with µRTMs
		Telco Alarm, JSM, Single MCH, Single/Dual Power Module and Intelligent Cooling Unit
Standards		
AMC	Type	AMC.0, AMC.1, AMC.2, AMC.3 and AMC.4
µTCA	Type	PICMG 3.0 Rev 3.0
Power	VT814	500W redundant AC, or 796W redundant DC
		85-265VAC with frequency from 47-63Hz
Environmental	Temperature	Operating Temperature: 0° to 55° C
		Storage Temperature: –40° to +70° C
	Altitude	10,000 ft operating
		40,000 ft non-operating
	Relative Humidity	5 to 95 percent, non-condensing
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	
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

VT814 – ABC – 000 – 0HJ

A = Power Module
0 = Reserved
1 = Single 500W AC (UTC017)
2 = Dual 500W AC (UTC017)
3 = Single 796W DC (UTC013)
4 = Dual 796W DC (UTC013)

B = JTAG Switch Module
0 = Without JSM
1 = With JSM

C = Chassis FRU Configuration for Power Modules
0 = 1+1 Redundant (One primary and one redundant PM)
1 = Non-Redundant (PM1 – 3 slots and MCH, PM2 – 3 slots and MCH)

H = Temperature Range
0 = Commercial
1 = Industrial

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

COMMON CONFIGURATIONS

VT814-210-000-000

RELATED PRODUCTS

AMC522 250 MSPS A/D Converter

AMC720 Core i Processor

UTC 017 500W AC Power Module

CONTACT US

VadaTech Corporate Office

198 N. Gibson Rd.
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