

# VT814

## 2U MTCA.4 Chassis with 6 AMC Slots



VT814

### Key Features

- MicroTCA rack mount or desktop chassis platform, 19" x 2U x 14.2" deep
- Compliant to MTCA.4 specifications with rear IO for High-Energy Physics and other applications
- Supports up to six MTCA.4 mid-size, double module AMCs and RTMs
- 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 MTCA connectors
- Single/dual 500 W AC or single/dual 796 W DC power standard, other options available
- Removable Air Filter, Power Modules, and Fan Tray
- Right-to-left cooling

### Benefits

- High performance density with 6 double module slots in a 2U height with 40GbE capability
- Design utilizes proven VadaTech subcomponents and engineering techniques
- AS9100 and ISO9001 certified company
- Full system supply from industry leader

**$\mu$ TCA<sup>®</sup>**

**40G**



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# VT814

The VT814 is a compact, cost-effective MTCA.4 chassis supporting a single MCH and redundant power. It supports six MTCA.4 AMC slots 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.

## Power Supplies

The VT814 has the option of single or dual 500 W AC power supply (UTC017) or 796 W 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.

12 chassis mounted temperature sensors monitor the intake and the outtake air temperature throughout the unit.

## Telco Alarm

The VT814 is fitted with a Telco alarm that constantly monitors the chassis for any anomalies and alert the user by LED indication on the Front Panel. It is located above the fan tray and can be directly accessed via a Micro DB-9 connector.

## 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 other MTCA chassis on the market, the VT814 has no active components on its back plane, making maintenance and servicing tasks more straightforward.

## Scorpion™ 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.



Figure 1: VT814 Chassis

# Backplane Connections

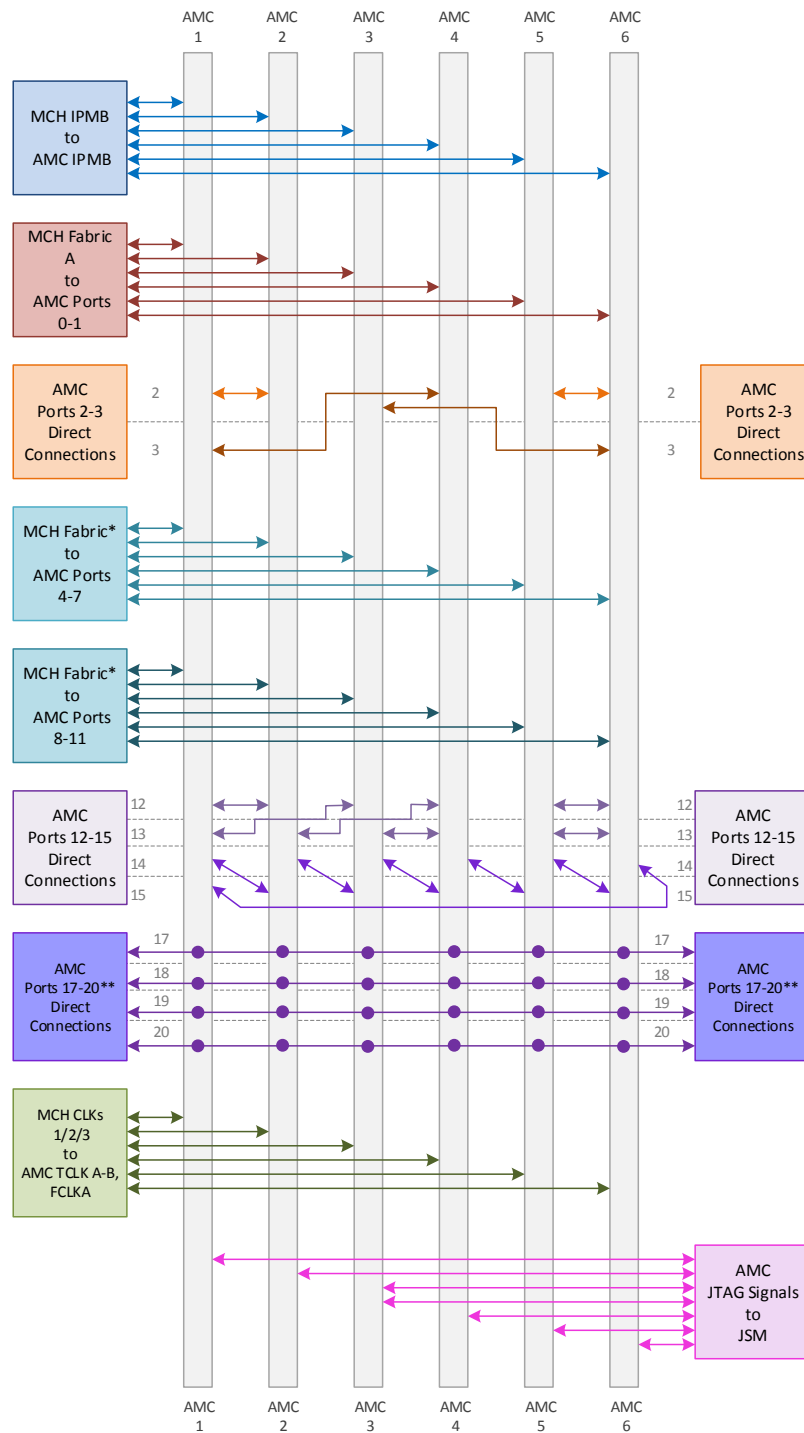


Figure 2: VT814 Backplane Connections

See Figure 2: \*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 Layout

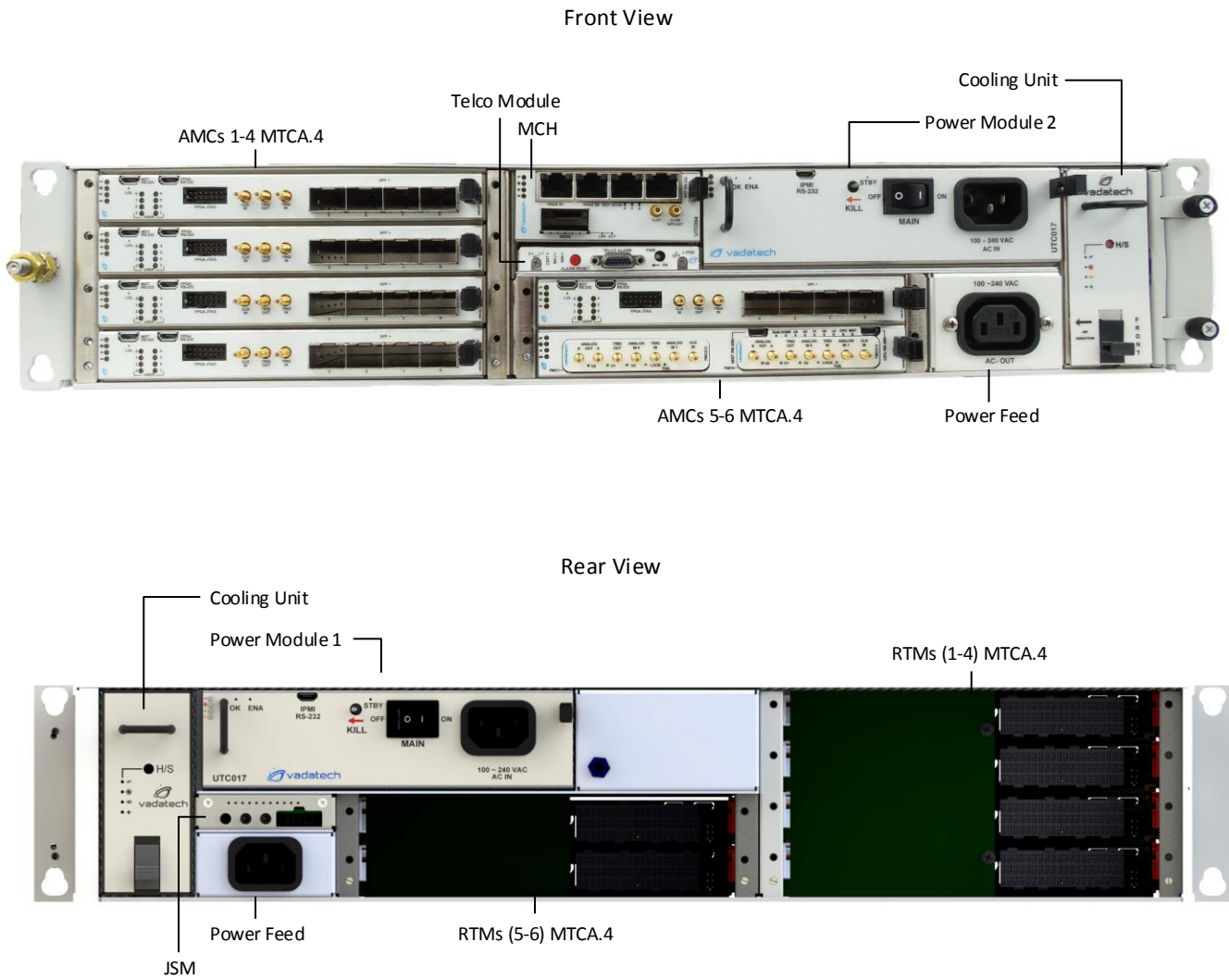


Figure 3: VT814 Chassis Layout

# Specifications

Architecture	
<b>Physical</b>	<b>Dimensions</b> Width: 19"
	Depth: 14.2"
	Height: 2U
<b>Type</b>	<b>Chassis</b> 6 MTCA.4 Slots with MRTMs
Standards	
<b>AMC</b>	<b>Type</b> AMC.0, AMC.1, AMC.2, AMC.3 and AMC.4
<b>MTCA</b>	<b>Type</b> PICMG 3.0 Rev 3.0
Configuration	
<b>Power</b>	<b>VT814</b> 500 W redundant AC, or 796 W redundant DC 85-265 V AC with frequency from 47-63 Hz
<b>Environmental</b>	<b>Temperature</b> Operating temperature: -5° to 55°C, industrial and extended versions also available. See <a href="#">environmental spec sheet</a>
	Storage Temperature: -40° to +70°C
	<b>Altitude</b> 10, 000 ft operating 40, 000 ft non-operating
	<b>Relative Humidity</b> 5 to 95% non-condensing
<b>Cooling</b>	Right to Left
Other	
<b>MTBF</b>	MIL Hand book 217-F@ TBD hrs
<b>Certifications</b>	Designed to meet FCC, CE and UL certifications, where applicable
<b>Standards</b>	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
<b>Warranty</b>	Two (2) years

## 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

## VT814 – ABC-000-0HJ

<b>A = Power Module</b>		
0 = Reserved 1 = Single 500 W AC (UTC017) 2 = Dual 500 W AC (UTC017) 3 = Single 796 W AC (UTC013) 4 = Dual 796 W AC (UTC013)		
<b>B = JSM</b>		<b>H = Temperature Range</b>
0 = No JSM 1 = JSM		0 = Commercial 1 = Industrial
<b>C = Chassis FRU Configuration for Power Modules</b>		<b>J = Conformal Coating</b>
0 = 1+1 Redundant (1 primary and 1 redundant PM) 1 = Non-Redundant (PM 1-3 slots and MCH, PM 2-3 slots and MCH)		0 = No coating 1 = Humiseal 1A33 polyurethane 2 = Humiseal 1B31 acrylic

## Related Products

AMC522



- Dual channel MAX5878 DAC with 500 MSPS @16-bit resolution
- Compliant to MTCA.4, double module, mid-size (full-size optional) with rear I/O
- Xilinx Kintex-7 FPGA

AMC720



- Intel® Xeon™ E3 processor
- Conduction cooled version available
- PCIe Gen2, Gen3 on v2 option

UTC017



- Double module, full size module per AMC.0
- Universal AC input (85-265 V AC), 500 W
- Very low ripple voltage on the +12 V

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