VT817

1U MicroTCA.4 Chassis Platform, PCIe Expansion

VT817

Key Features

- MTCA.4 PCIe Expansion chassis platform
  19” x 1U x 14.2” deep
- Compliant to MTCA.4 specifications with rear IO for High-Energy Physics and other applications
- Supports up to two MTCA.4 mid-size, double module AMCs and RTMs
- Integrated shelf manager
- Ports 4-7 and 8-11 are routed to the two AMC slots from the PCIe switch
- Front panel PCIe Gen3 ports (x4, x8 or x16) through quad SFF-8644 connectors
- Right-to-left cooling

Benefits

- PCIe Expansion chassis for MicroTCA.4 in a compact 1U size
- Flexible fibre/copper installation options
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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The VT817 is a convenient low-cost MicroTCA.4 PCIe Gen3 Expansion solution. The shelf offers two AMC slots and an integrated MCH. The front panel ports accept PCIe Gen3 inputs from VadaTech's PCI123 PCIe Gen3 board. In use with the PCI123, the VT817 can link x16 PCIe Gen3 to an Industrial PC. There are options for single PCIe input x16, dual PCIe inputs using x8 links or quad PCIe inputs using x4 links.

Each AMC slot routes to the PCIe Switch as dual x4 or single x8.

The Module routes TCLKA/B/C/D as well CLK3 as 100 MHz. HCSL.

The double module AMC slots meet the MicroTCA.4 specification for applications that require rear I/O and signal conditioning. Applications include High Energy Physics, video processing, defense, and network security.

Figure 1: VT817 Front View

Power Supplies

The VT817 uses a removable 400W AC or 460W DC power supply. It is located to the rear of the chassis.

Cooling and Temperature Sensors

The VT817 has an intelligent Cooling Unit. The cooling airflow is from right to left. The removable Air Filter has a switch to detect its presence and can be monitored for when it needs to be replaced.

Figure 2: VT817 Rear View

Backplane

A mid-plane for the shelf management with the front panel I/O plugs into the passive backplane.

JSM

There is an optional JTAG Switch Module (JSM) to provide JTAG access to the front panel.

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.

Block Diagram

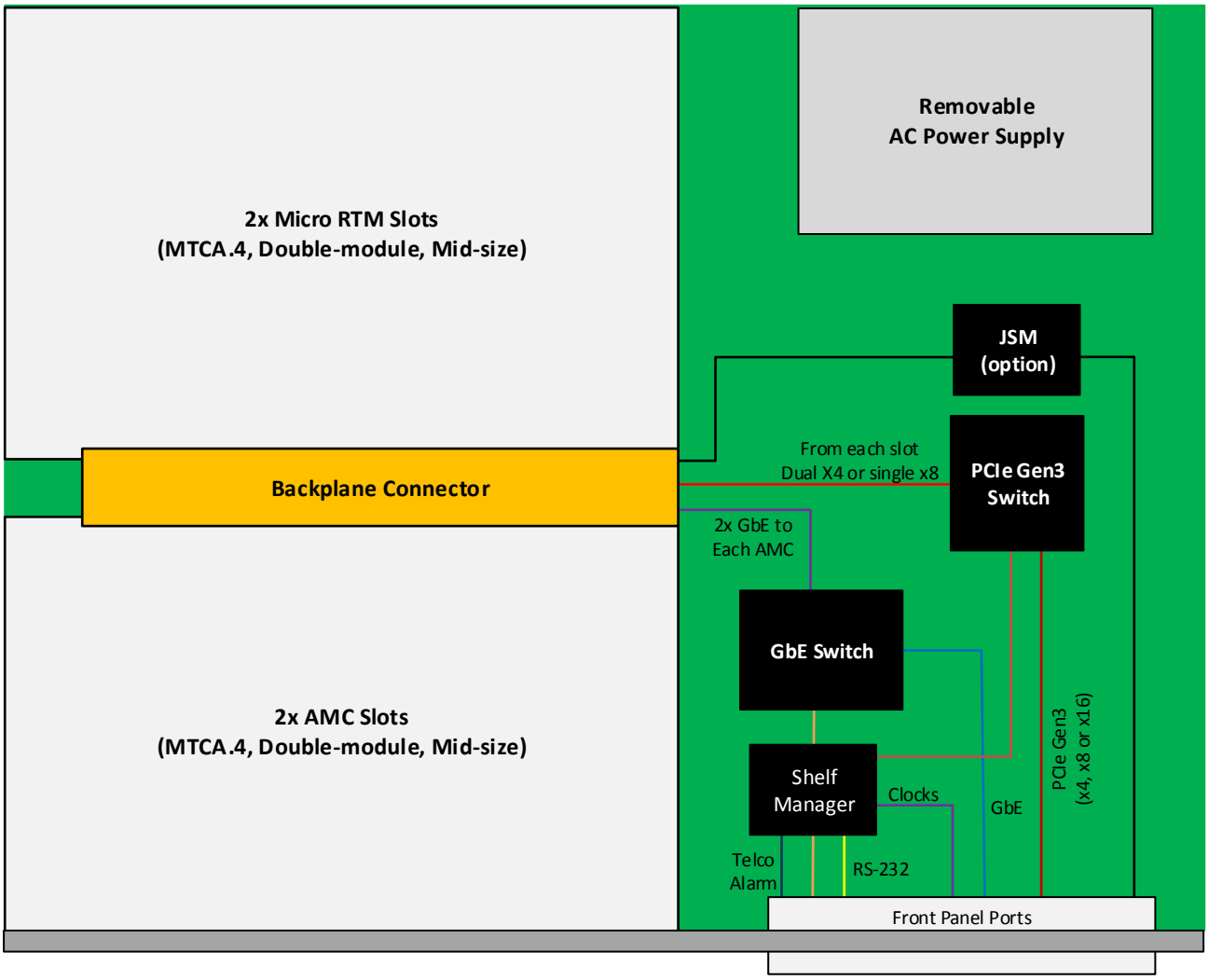

Figure 3: VT817 Functional Block Diagram

Backplane Connections

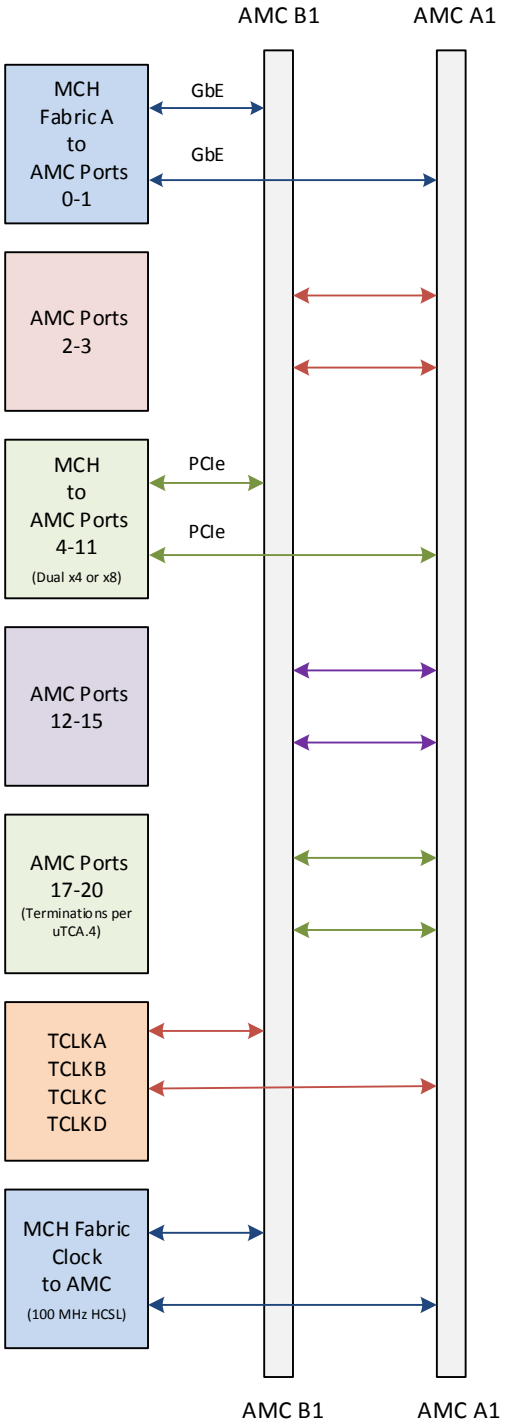

Figure 4: VT817 Backplane Connections

Specifications

Architecture		
Physical	**Dimensions**	Height: 1U
		Width: 19”
		Depth 14.2”
Type	**MicroTCA Chassis**	Two MTCA.4 Slots with MRTMs
		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
MTCA	**Type**	PICMG 3.0 Rev 3.0
Configuration		
Power	**VT817**	400W universal AC with frequency from 47-63 Hz)
		460W –36V to –75V DC
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +70°C
	Altitude	10,000 ft operating
		40,000 ft non-operating
	Relative Humidity	5 to 95% non-condensing
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	One (1) year, see VadaTech Terms and Conditions	

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

VT817 – A00-0EF-GHJ

A = Power Supply		G = Module Slot Size
0 = AC (400W) 1 = DC -36V to -75V (460W)		0 = Dual double module mid-size slots 1 = One full-size double module slot (slot A1 not used) 2 = Dual Single module mid-size slots 3 = One full-size single module slot (slot A1 not used)
	E = Telecom/GPS Clock	**H = Temperature Range**
	0 = No Clock 1 = Telecom TCXO* 2 = GPS VCTCXO* (30.72 MHz)** 3 = GPS VCTCXO* (10.00 MHz)** 4 = Clock distribution only 5 = GPS VCTCXO* (50.00 MHz)** 6 = Reserved	0 = Commercial 1 = Industrial
	F = JTAG Switch Module (JSM)	**J = Conformal Coating**
	0 = No JSM 1 = JSM	0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Notes: *The Crystal Oscillator is Stratum-3; for lower cost solution contact VadaTech Sales.
** Frequencies from 8 MHz to 52 MHz are available.

Related Products

AMC523

- Dual DAC 16-bit @ 250 MSPS (MAX5878, user programmable for lower sampling rate)
- Xilinx Kintex-7 FPGA XC7K410T in FFG900 package
- Supported by DAQ Series™ data acquisition software

MRT523

- MicroTCA.4 RTM for the AMC523
- Twelve channel ADC 16-bit @ 125 MSPS utilizing AD9653 device routed to AMC523
- Two analog outputs from AMC523's DACs Mezzanine

PCI123

- PCIe Gen3 (x16) Bus Expansion module
- Connects to root complex node board using up/down stream ports
- Options for (1x) of x16 PCIe, (2x) of x8 PCIe or (4x) of x4 PCIe utilizing SFF-8644 connectors

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