

VT848

1U MTCA Chassis with 10 AMC Slots



VT848

Key Features

- 1U MTCA Chassis Platform 19" x 1U x 23.6" deep
- Up to ten mid-size AMC slots with integrated MCH
- AMC.2 and AMC.3 compliant
- Telecom/GPS Clock on TCLKA, TCLKB, TCLKC and TCLKD and Fabric Clock on FCLK
- Redundant Cooling Units (CU)
- Removable Power supply, Air Filter and Fan Trays
- Telco Alarm and Carrier Locator
- Optional JTAG Switch Module (JSM)

Benefits

- Dual redundant AC or DC power supplies
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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VT848

The VT848 is a 1U MTCA chassis with ten mid-size AMC slots that supports 10GbE on Ports 4-7 and 8-11. It provides FLCK, TCLKA, TCLKB, TCLKC and TCLKD to each AMC. The unit has six egress ports via SFP+ connectors for 10GbE in addition to three 10/100/1000 Ports for the GbE.

The VT848 has redundant power supplies as well as redundant Cooling Units for high availability. The power supplies, Air Filter and Fan Trays are all hot-swappable. The air flow is from right to left with some rear exhaust. The air filter is removable from the front.

The chassis has an optional JTAG Switch Module (JSM) slot per the MTCA specification. This provides transparent communication between the front JTAG port and the selected AMC device.

The VT848 has an integrated MCH. It implements IPMI management, FRU management, and shelf environment management for power, thermal, E-keying, etc.



Figure 1: VT848 Front View



Figure 2: VT848 Rear View

Power Supply

The VT848 provides single or dual redundant AC or DC power supplies located in the rear of the chassis. The AC versions are 1100W with 110 to 240V AC (frequency from 47 Hz to 63 Hz) input voltage. The DC versions are 936W with -36V to -75V input voltage.

Cooling and Temperature Sensors

The VT848 has Dual Intelligent Cooling Units. This redundancy allows fail-safe operation in case one of the Cooling Units becomes non-operational. The cooling airflow is from bottom to top. The removable air filter has a 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.

Managed Layer 2 Switches

The 10GbE/1GbE are fully Layer 2 managed switch fabric routes dual 10GbE/1GbE to each of the AMC slots.

Telecom, GPS and Fabric Clocks

The MTCA specification defines a set of clocks for Telecom and non-Telecom applications. The VadaTech VT848 has the most sophisticated clocking distribution in the market to meet the most stringent requirements such as wireless infrastructure, high speed A/D, etc. The VT848 has three types of clocks defined:

- Telecom clock
- GPS clock
- Fabric clock

Telco Alarm

The VT848 is fitted with a Telco alarm that constantly monitors the chassis for any anomalies and alerts the user by LED indication on the Front Panel. It has its own dedicated slot and can be directly accessed via a Micro DB-9 connector.

FRU Information and Carrier Locator

The VT848 has dual redundant FRU information and Carrier Locators which can be set so that each chassis has a unique ID.

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

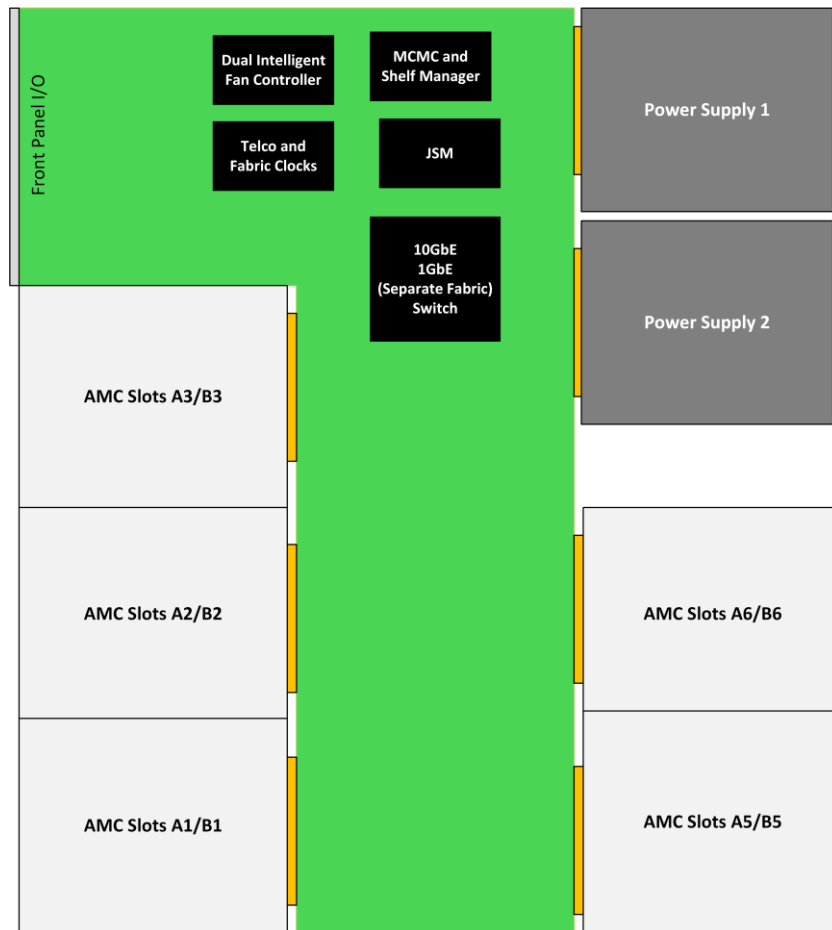


Figure 3: VT848 Block Diagram

Front Panel

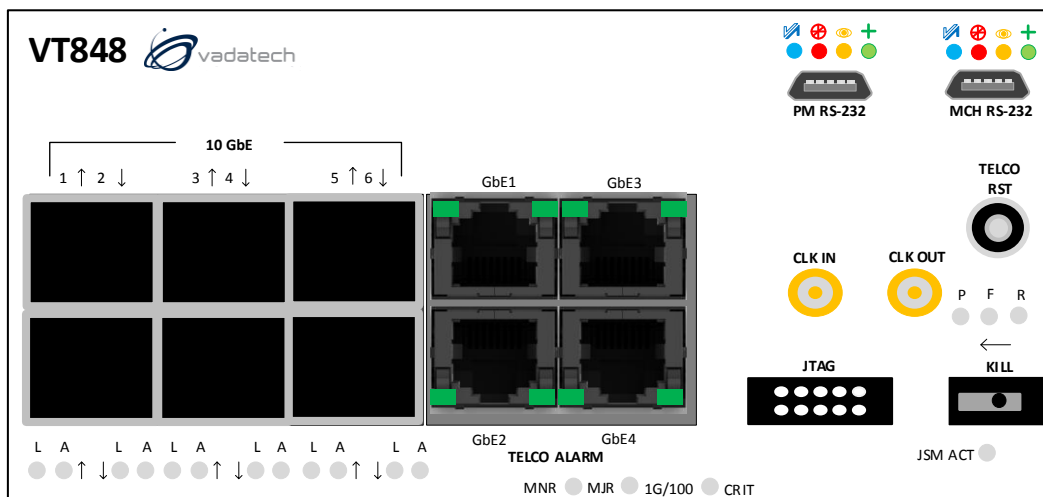


Figure 4: VT848 Front Panel

Backplane Connectors

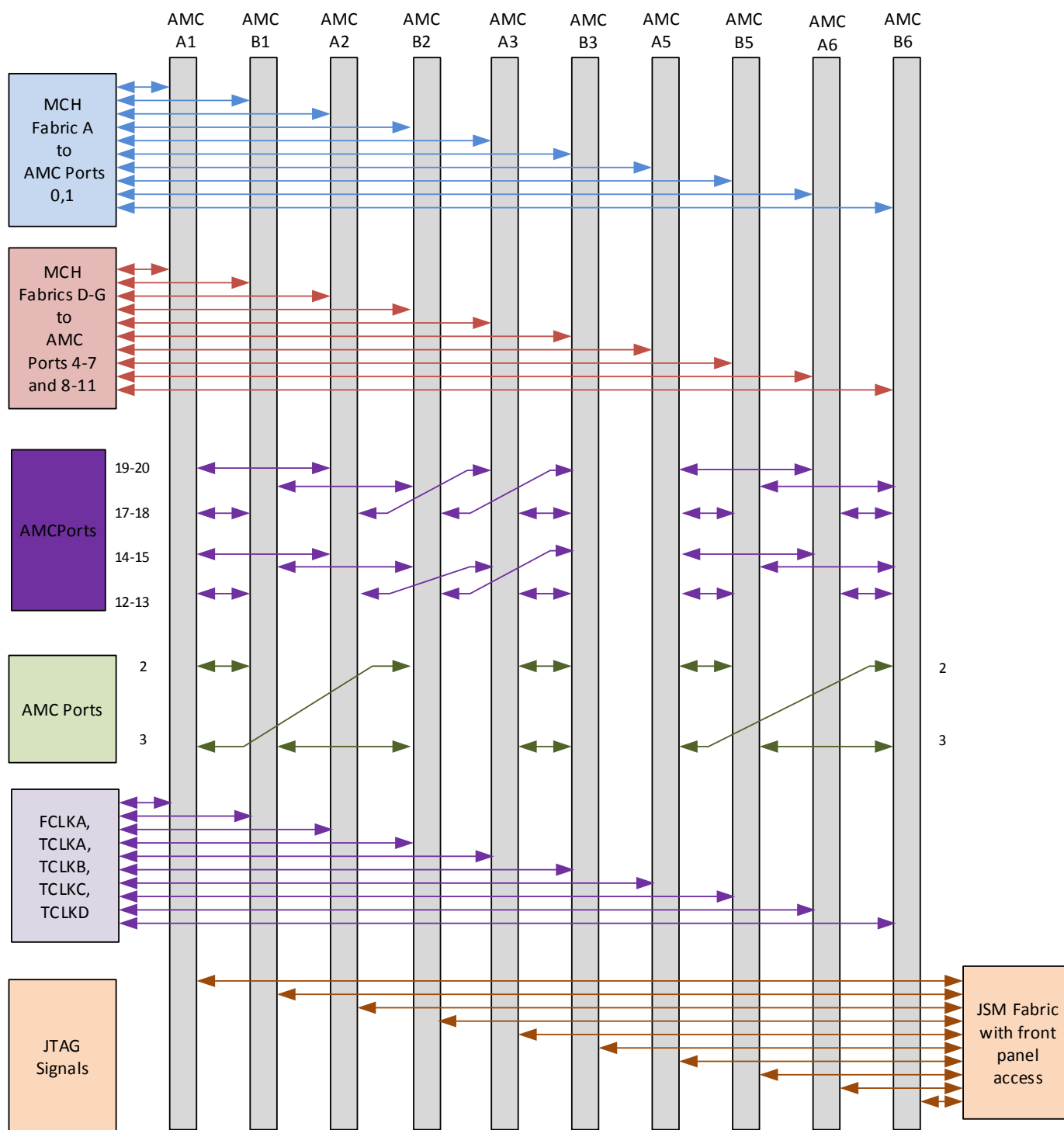


Figure 5: VT848 Backplane Connections

Chassis Layout

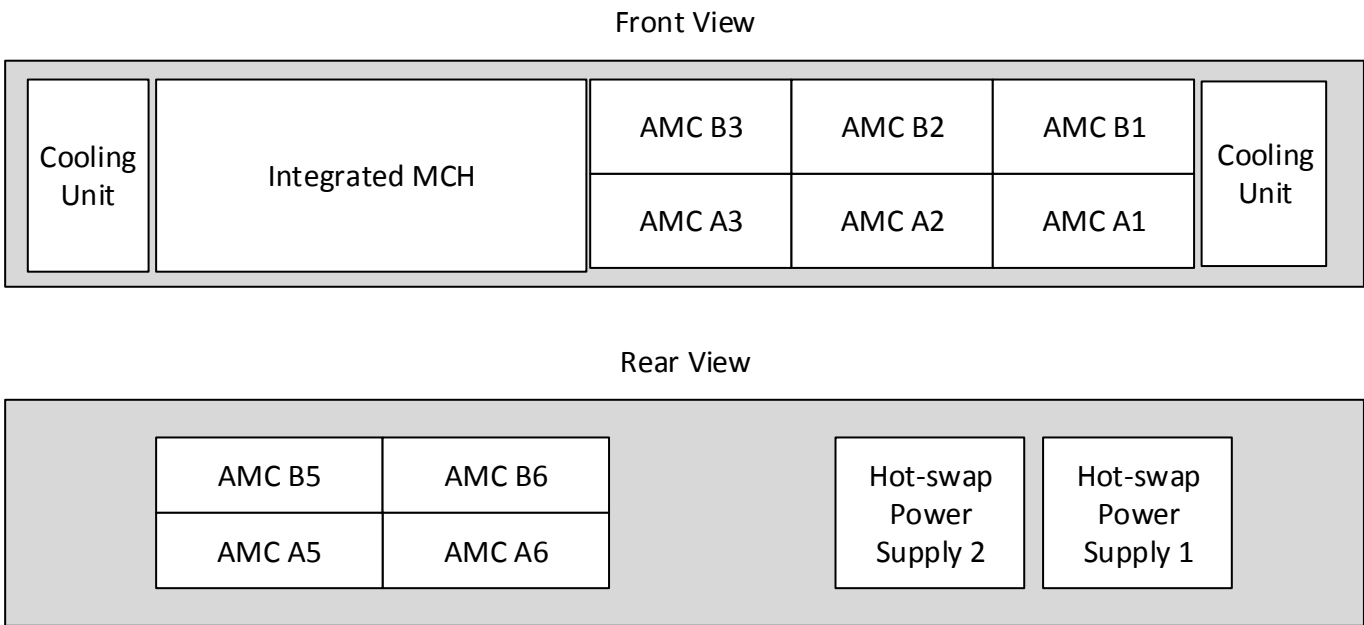


Figure 6: VT848 Chassis Layout

Specifications

Architecture		
Physical	Dimensions	Height: 1U
		Width: 19"
		Depth: 23.6" (600 mm)
Type	MTCA Chassis	10 AMC.0 mid-size slots (or 5 full-size slots)
Standards		
AMC	Type	AMC.0, AMC.2 and AMC.3
MTCA	Type	MicroTCA.0
GbE	1000-BX	Dual GbE SerDes per AMC
10 GbE	Lanes	Each AMC slot has dual XAUI interface routed
Telco Clock	MLVDS	Per AMC.0 specifications for TCLKA, TCLKB, TCLKC and TCLKD
Fabric Clock	HCSL	Per AMC.1 100 MHz HCSL
Module Management	IPMI	IPMI v2.0
Configuration		
Power	VT848	1100W, 110V to 240V AC with frequency from 47 to 63 Hz
Environmental	Temperature	See Ordering Options
		Storage Temperature: -40° to +70°C
	Vibration	0.5Gs RMS, 20 Hz to 20000 Hz random (operational): 6Gs RMS (non-operational)
	Shock	30Gs on each axis
Relative Humidity		5 to 95% non-condensing
Front Panel	Ports	6 SFP+, 4 RJ-45, x2 RS-232,
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

VT848 – ABC-D00-GHJ

A = Management Software	D = SFP+ TXCVRs (6 total)	G = Power Supply***
1 = MCMC 2 = MCMC and Shelf Manager	0 = No TXCVRs 1 = 10GBase-SR 2 = 10GBase-LR	0 = Single AC 1100W 1 = Dual AC 1100W 2 = Single DC -36V to -75V (900W) 3 = Dual DC -36V to -75V (900W)
B = Telecom/GPS Clock		H = Operating Temperature
0 = No Telecom/GPS Clock 1 = Telecom, TCXO* 2 = GPS TCVCXO** 30.72MHz** 3 = GPS TCVCXO** 10.00MHz** 4 = Clock Distribution only 5 = Reserved		1 = Commercial 2 = Industrial
C = 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 solutions contact VadaTech Sales.

**Frequencies from 8 MHz to 52 MHz are available.

***When installing two power supplies, they will run as redundant when the total power demand is less than a single supply.

Related Products

AMC515



- AMC FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 57
- AMC Ports 4-11 are routed to FPGA (protocols such as PCIe, SRIO, XAUI, etc. are FPGA programmable)
- Xilinx Virtex-7 XC7V2000T in 1925 package

AMC534



- Altera Stratix V GT FPGA in FFG-1517 package
- Dual zQSFP+ ports to the front panel
- Front panel Port 0 at 100G, Port 1 at up to 40G

AMC626



- Host Bus Adapter (HBA) for external SATA III (6.0 Gbps) or SAS-3 (12 Gbps) drives
- AMC.1 compliant, PCIe Gen3 x8 or x4
- Support for 8 SAS/SATA ports

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