VT867

5U MTCA Chassis Platform with 12 AMC Slots

VT867

Key Features

- MTCA System Platform, 5U 19” Rack Mount compliant to EIA310
- Supports Up to 12 AMCs in single width/full-size
- 40GbE capable MicroTCA Chassis
- Full redundancy with dual MicroTCA Carrier Hub (MCH), dual Cooling Units and dual Power Modules
- High-speed routing on 36 layers
- FCLKA, TCLKA, TCLKB, TCLKC and TCLKD with advanced redundancy capability
- Radial I2C bus to each AMC
- Rear Mechanical Support, .375” Dia. Dagger Pin Receptacles

Benefits

- JTAG Switch Module (JSM) option
- Unique easy-glide strips provide smooth PSU insertion/extraction
- Electrical, mechanical, software, and system-level expertise in house
- AS9100 and ISO9001 certified company
- Full system supply from industry leader

µTCA®

40G

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VT867

The VT867 is a 5U MTCA Lightweight Aluminum chassis that provides 12 full-size AMC slots that can accept AMC.1, AMC.2, AMC.3 and/or AMC.4. It also provides FCLK, TCLKA, TCLKB, TCLKC and TCLKD to each slot with clock redundancy between the two MCH modules. The chassis has 40GbE capabilities.

The VT867 is capable of having redundant MCH, Power Modules, and Cooling Units for high availability. The CLK3 option can be configured for the Fabric clock, Telecom clock, or Fabric B. There is an option for Port 2 and 3 to be directly connected among the adjacent AMCs or to the fabric B (AMC.3 SATA/SAS switch option on the MCH). The chassis also routes Ports 12-15 to 17-20 of the adjacent slot.

The VT867 has a Telco Alarm as well as redundant FRU information devices and carrier locators.

Figure 1: VT867 Front View

Power Supplies

The VT867 has single or dual redundant power supplies which can be both 1000W AC or 1000W DC -48V. The AC input voltage is from 110 to 240V AC (frequency from 47 Hz to 63 Hz). The AC/DC input is from the back of the chassis. Unique easy-glide strips provide smooth PSU insertion/extraction.

Cooling and Temperature Sensors

The VT867 has dual intelligent Cooling Units. Full redundancy allows fail-safe operation should one of the Cooling Units becomes non-operational. The cooling airflow is from front to back. 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.

Figure 2: VT867 Rear View

Telco Alarm

The VT867 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 VT867 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.

40G Backplane

The 40GbE backplane does not have any active components, making serviceability easy. With 36 layers, the backplane utilizes Megtron 6 PCB material and uses back-drilling for superior signal integrity.

Advanced Clocking Option

The MTCA specification defines non-redundant and redundant clock networks for the three clocks as either CLK1, CLK2, CLK3 or CLK1A, CLK2, CLK1B respectively. However, this may not be enough to support all of the clocking needs of telco customers needing full redundancy across two pairs of clocks (such as a framing clock plus a bit clock or a GPS 1PPS signal plus bit clock).

The AMC 2.0 specification provides for four telco clocks (TCLKA through D) and a fabric clock (FCLKA) which the VT867 chassis leverages to provide enhanced clock redundancy. With the VT867 topology, it is possible to source/sink two AMC telco clocks, TCLKA/B, from/to the primary MCH (plus the FCLKA) and in addition source/sink two AMC telco clocks, TCLKC/D, from/to the secondary MCH for a total of all five AMC clocks being handled by the MTCA system.

Two additional clock update channels between the MCH modules are also provided which can be used for forwarding clocks as needed between them. Another benefit of this enhanced clock architecture is the ability to run PCIe with the fabric clock on FCLKA at the same time as the redundant telco clocking; which is something that is not possible with the original MTCA redundant clocking architecture.

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.

Chassis Layout

AMC1 FH	AMC2 FH	AMC3 FH	AMC4 FH	AMC5 FH	AMC6 FH	MCH1	MCH2	AMC7 FH	AMC8 FH	AMC9 FH	AMC10 FH	AMC11 FH	AMC12 FH

Figure 3: VT867 Front View

Figure 4: VT867 Rear View

Backplane Connections

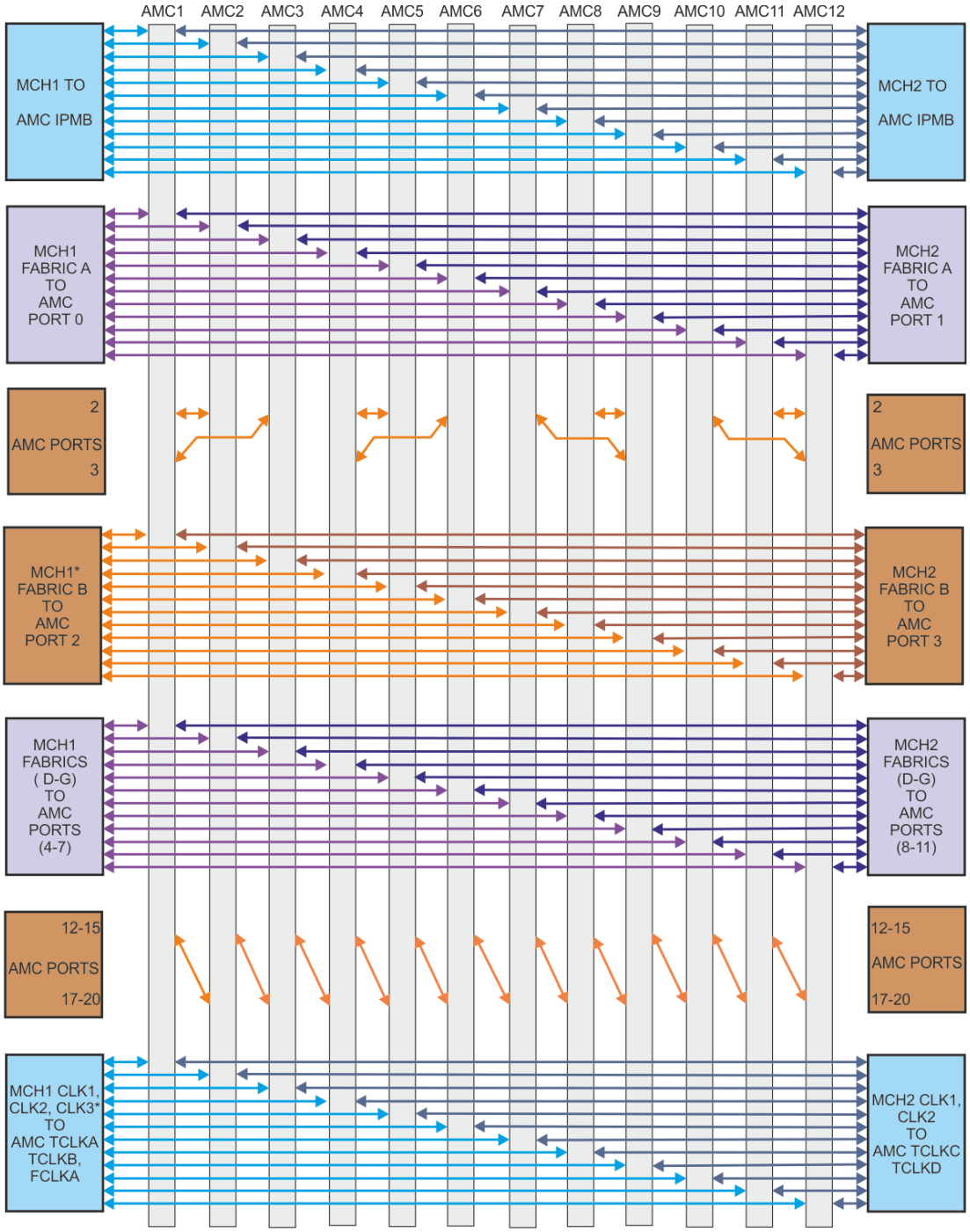

Figure 5: VT867 Backplane Connections

Specifications

Architecture		
Physical	**Dimensions**	Width: 19”
		Depth: 17.0”
		Height: 5U
Type	**MTCA Chassis**	12 AMC.0 (full-size slots)
Standards		
AMC	**Type**	AMC.0, AMC.1, AMC.2, AMC.3 and AMC.4
MTCA	**Type**	PICMG 3.0 Rev 3.0
Configuration		
Power	**VT867**	1000W, 110V to 240V AC with frequency from 47 to 63 Hz or 1000W, -48DC
Environmental	**Temperature**	Operating Temperature: 0° to 55°C
		Storage Temperature: –40° to +70°C
	Vibration/Shock	1.4 G per MIL-STD-167–1A/25 G per MIL-S-901D
	EMI	CE101, CE102, CS101, CS106, CS114, CS116 per MIL-STD-461F RE101, RE102, RS101, RS103 per MIL-STD-461F
	Altitude	10,000 ft operating
		40,000 ft non-operating
	Relative Humidity	5 to 95% non-condensing
Cooling		Front to Back
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

VT867 – ABC-D00-00J

A = Power Supply	D = JSM	
0 = 1000W AC single 1 = 1000W AC dual 2 = 1000W DC -48V single 3 = 1000W DC -48V dual	0 = No JSM 1 = JSM	
B = Ports 2 and 3		
1 = Direct connections 2 = To MCH		
C = MCH CLK3 Channels		**J = Conformal Coating**
1 = Telco 2 = FCLKA 3 = Fabric B		0 = No coating 1 = Humiseal 1A33 polyurethane 2 = Humiseal 1B31 acrylic

Related Products

AMC534

- Altera Stratix V GT FPGA in FFG-1517 package
- Dual zQSFP+ Ports to the front panel
- AMC Ports 4-7 and 8-11 are routed to FPGA per AMC.1, AMC.2 and AMC.4 (protocols such as PCIe, SRIO, XAUI, XLAUI, etc. are FPGA programmable)

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

UTC004

- Unified 1 GHz quad-core CPU for MicroTCA Carrier Management Controller (MCMC), Shelf Manager, Clocking, and Fabric management
- 1GbE base switch with dual 100/1000/10G uplink
- Full Layer 2 or 3 managed Ethernet switches

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