VT874

MTCA Conduction Cooled Chassis with 3 AMCs

VT874

Key Features

- MTCA.3 Conduction Cooled System Platform
- Up to 3 mid-size AMCs
- Front Input/Output (I/O) Panel Connector layout per customer requirement (option per MIL-DTL-M38999)
- Designed to meet MIL-STD-810F for shock/vibration and MIL-STD-461E for EMI
- Single MCH and Power Module slot
- Designed for rugged defense, industrial, and outdoor applications
- Radial I2C bus to each AMC
- High-speed routing
- FRU information devices with chassis locator
- No active components on the backplane
- Base plate mounting via a ten 10-32 UNC-B insert bolt pattern
- Additional secondary mounting provision via a ten 10-32 UNC-B insert bolt pattern on top panel
- Side Wall Provision for custom Heat Sink Mounting to optimize thermal solution for application

Benefits

- Compact-size conduction cooled chassis platform
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- Electrical, mechanical, software, and system-level expertise in house
- AS9100 and ISO9001 certified company
- Full system supply from industry leader

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The VT874 provides three AMC mid-size slots that can accept any AMC.1, AMC.2, AMC.3 and/or AMC.4 with accompanying clamshells for conduction cooling.

The VT874 is designed for the rugged extremes of avionics, naval, and ground vehicles applications. It can withstand extreme environmental conditions such as temperature, shock, vibration, corrosion and EMI. The unit can also be utilized in other rugged applications such as pole-mount communications, energy sector rigs/stations etc. Each chassis side wall includes a 7.2" x 4.7" pocket to mount a heat sink via a six 8-32 UNC-B insert bolt pattern. Provision allows for an optimum heat sink/cold wall thermal design for both the AMC payload configuration and deployed environment.

The front cover panel accommodates MIL style M38999 connectors and can be customized to meet each customer's unique requirements. Contact VadaTech to discuss your application.

Figure 1: VT874

FRU Information and Carrier Locator

The VT874 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.

Conduction Cooled Chassis and Front Cover

The VT874 is made from lightweight aluminum 6061-T6 and includes a hinged front cover, allowing it to remain intact while serviced in the field. Conduction cooling is achieved through precision-machined card guides in the side walls. The cover utilizes stainless steel captive hardware and self-locking heli-coils to withstand maximum shock and vibration.

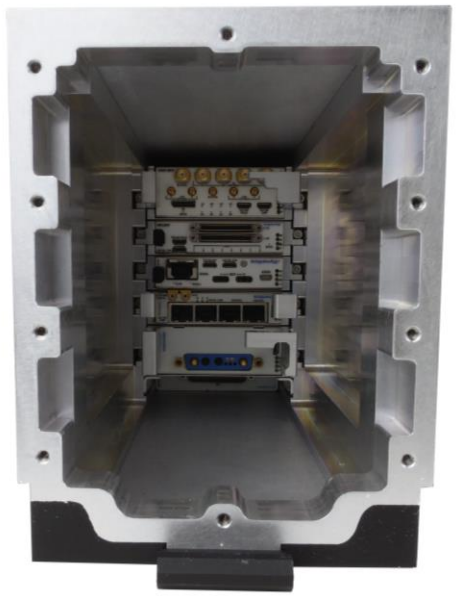


Figure 2: VT874 Internal View

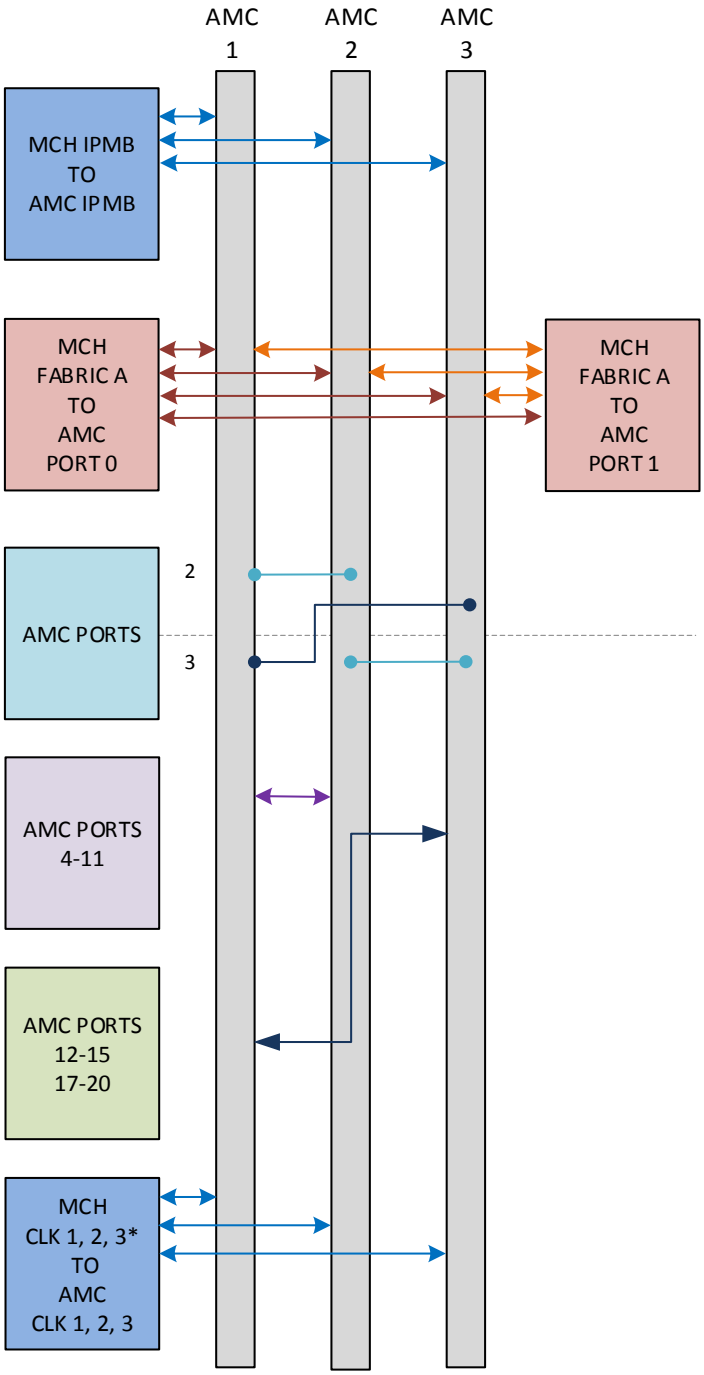
No Active Components

Unlike other MTCA chassis, the VT874 has no active components on its back plane. This allows for ease of serviceability.

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.

Backplane Connections



* MTCA specifies three clocks CLK1, CLK2 and CLK3. The CLK3 can be routed to each AMC slots as Fabric clock (PCIe clock or HCSL) or as Telco clock.

Figure 3: VT874 Backplane Connection

Specifications

Architecture		
Physical	**Dimensions**	Width: 5.00”
		Depth: 16.9”
		Height: 6.5”
Weight	**Empty Chassis**	11.5lbs
	Modules	Typical AMC module with CC clamshell weight is 1.2-1.5 lbs
Type	**MTCA Chassis**	3 AMC.0 (single module) 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	**VT874**	Power module inputs such as UTC011 (conduction cooled version)
Environmental	**Temperature**	Operating Temperature: -40° to +85°C
		Storage Temperature: –45° to +95°C
	Vibration	MIL-STD-810F Method 514.4 Procedure 1, Cat.4 propeller, Cat. 5 Jet aircraft Cat.6 helicopter
	Shock	MIL-STD-810F Method 516.4 Procedure 1 20 G, ½ sine, 11 ms
	Altitude	Operating: 40,000 ft 9w/o Payload).
	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 ISO9001:2015 and AS9100D 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

VT874 – 00C-000-00J

C = MCH CLK3 Channel		**J = Conformal Coating**
0 = FCLKA 1 = Reserved		0 = No coating 1 = Humiseal 1A33 polyurethane 2 = Humiseal 1B31 acrylic

Related Products

AMC713

- Processor AMC with Freescale QorIQ P5010/P5020
- Up to16 GB DDR3 with ECC
- PCIe Gen2 on Ports 4-7 and 8-11 per AMC.1

UTC003

- Single-width, full-height module per AMC.0
- 400 MHz RISC CPU with 64 MB DDR for MCMC (MicroTCA Carrier Management Controller) and Shelf Manager
- Redundant boot system to ensure fail-safe upgrades

UTC011

- Single-width, full-height module per AMC.0
- Dual 10 to 36V DC input for 241W option and 18 to 36V DC input for 460W option
- Support for power module redundancy

Contact

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