

VT873 – μ TCA Conduction Cooled Chassis 1/2 ATR with 6 AMCs

μ TCA 1/2 ATR, 6 AMCs



KEY FEATURES

- μ TCA.3 Conduction Cooled System Platform
- 1/2 Short Air Transport Rack (ATR)
- Per ARNIC404A, with NO internal fan (12.62" deep without handle)
- Customized Front Input/Output (I/O) Panel
- Connector layout per customer requirement (option per MIL-DTL-M38999)
- Meets MIL-STD-810F for shock/vibration
- Meets MIL-STD-461E for EMI
- Single MCH and Power Module slot
- Up to 6 mid-size AMCs
- Radial I2C bus to each AMC
- High-speed routing on 26 layers
- FRU information devices with chassis locator
- CLK1, CLK2 and CLK3
- No active components on the backplane
- Secondary mounting provision to allow the chassis to be secured to a base plate

Benefits of Choosing VadaTech

- Compact-size conduction cooled chassis platform
- Rugged design meeting MIL-STD-810F for shock and vibration and MIL-STD-461E for EMI
- Designed for rugged defense, industrial, and outdoor applications
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company

The VT873 is μ TCA.3 1/2 ATR Short chassis that provides six 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 VT873 is designed for the rugged extremes of avionics, naval, and ground vehicles applications. However, the unit is also utilized in outdoor and other rugged applications, including pole-mount communications, energy sector rigs/stations, and more. The VT873 is designed to withstand extreme environmental conditions such as temperature, shock, vibration, corrosion, EMI and altitudes to 25,000 feet (cold plate dependent).

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

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FRU INFORMATION AND CARRIER LOCATOR

The VT873 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

Conduction cooling is achieved through precision-machined card guides in the side walls. The VT873 is made from lightweight aluminum 6061-T6 and includes a hinged front cover, allowing it to remain intact while serviced in the field. The cover utilizes stainless steel captive hardware and self-locking heli-coils to withstand maximum shock and vibration.

NO ACTIVE COMPONENTS

Unlike other μ TCA chassis in the market, the VT873 has no active components on its back plane. This allows ease of serviceability.

SCORPIONWARE™ 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

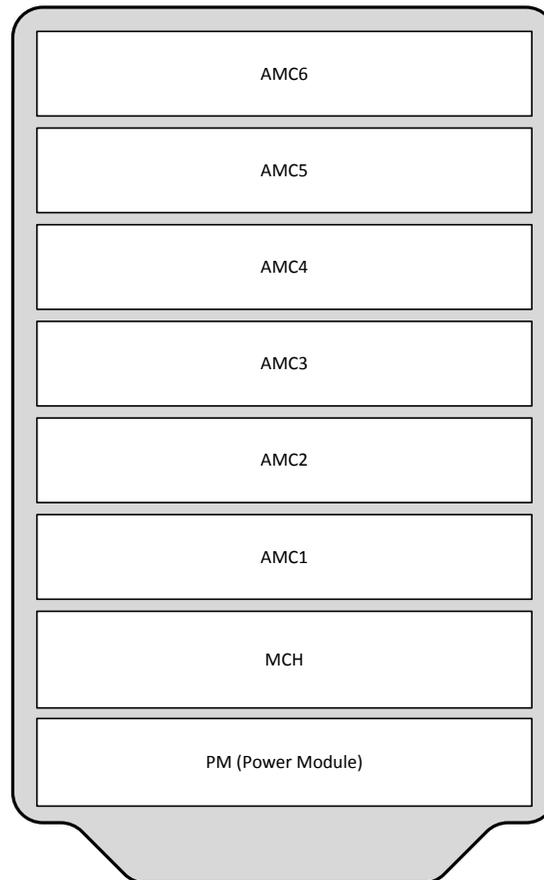


Figure 1: Chassis Layout - Front View

FRONT PANEL

The VT873 provides two types of front panel.

- Figure 2 shows the standard front panel (option A=0), which provides I/O ports.
- Figure 3 shows the storage type front panel (ordering option A=1) which provides access to top 3 AMC slots, in addition to the I/O ports.

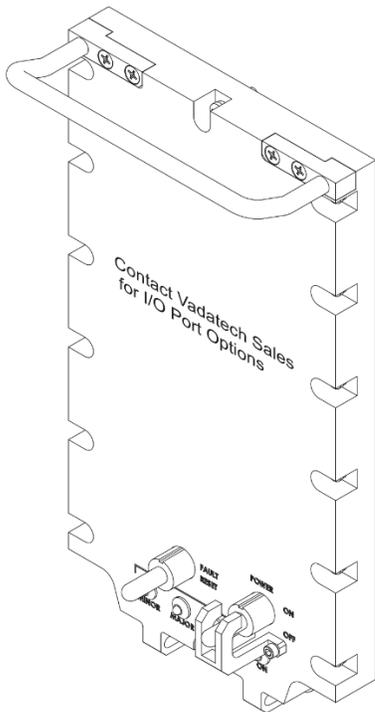


Figure 2: Front Panel Example with Access to I/O Ports Only

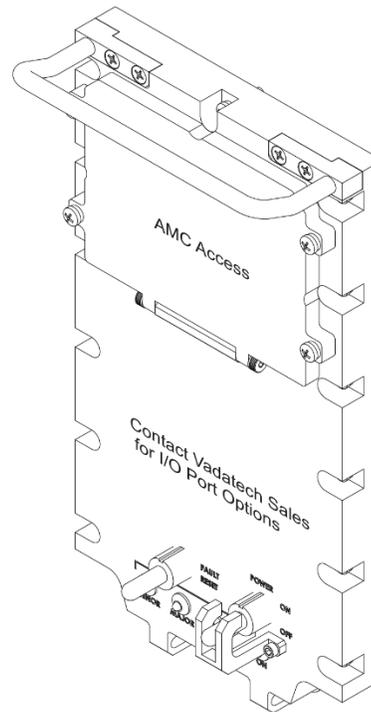
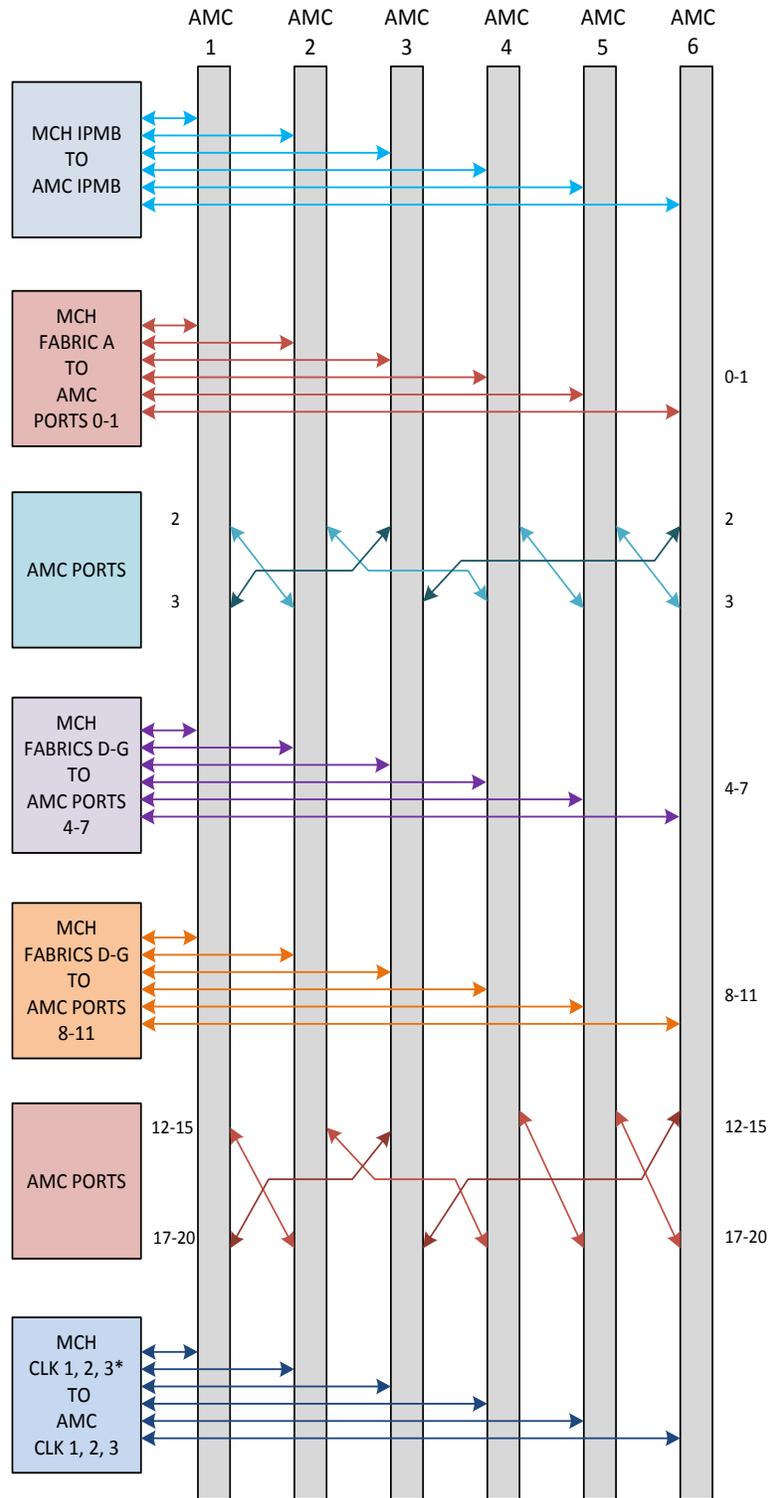


Figure 3: Front Panel Example with Access to I/O Ports and AMCs

The graphics do not show any I/O ports on the front panel as they are designed per customer request. Contact Vadatech sales team to discuss your front panel I/O port requirements.

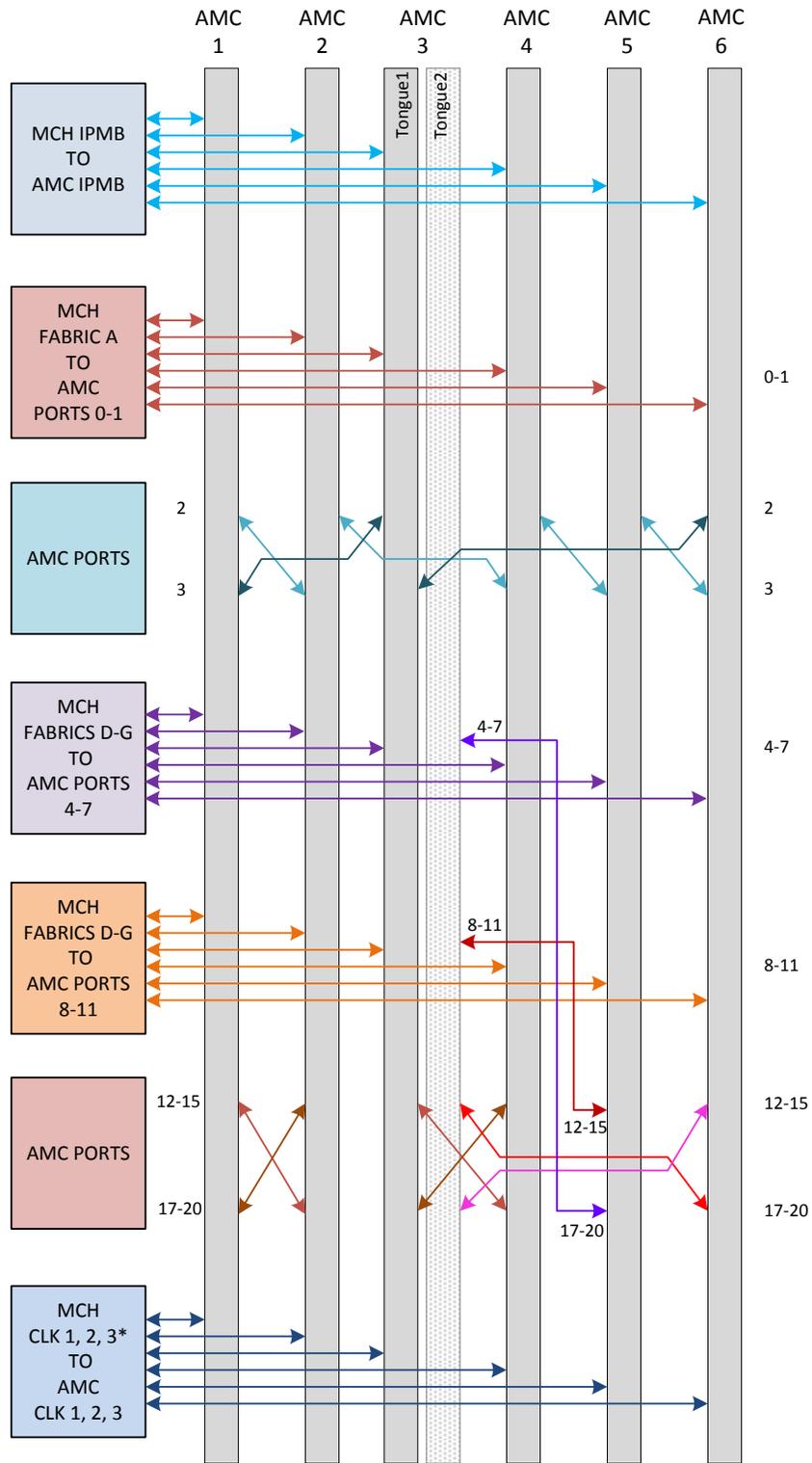
BACKPLANE CONNECTIONS



* The CLK3 is routed to each AMC slots as Fabric clock (PCIe clock 100 MHz HCSL) .

Figure 4: Backplane Routing for Standard Option (A=0)

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* The CLK3 is routed to each AMC slots as Fabric clock (PCIe clock 100 MHz HCSL) .

Figure 5: Backplane Routing for Storage Option (A=1)

SPECIFICATIONS

Architecture		
Physical	Dimensions	1/2 Short ATR per ARINC 404A (4.99" x 12.62" x 9.4", without handles)
Type	μ TCA Chassis	6 AMC.0 full-size (single module) slots
Standards		
AMC	Type	AMC.0, AMC.1, AMC.2, AMC.3 and AMC.4
μTCA	Type	μ TCA.3
Configuration		
Power	VT873	Power module inputs such as UTC011 (conduction cooled version)
Weight	Empty Chassis	
	Modules	Typical AMC module with CC clamshell weight is 1.2-1.5 lbs
Environmental	Temperature	Operating Temperature: -40° to 80° 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, 20G, 1/2 sine, 11 ms
	Altitude	15,000 ft operating with no external fan with 105W dissipation 40,000 ft non-operating
	Relative Humidity	5 to 95 percent, non-condensing
Conformal Coating		Humiseal 1A33 Polyurethane (Optional) Humiseal 1B31 Acrylic (Optional)
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
Compliance		RoHS and MIL-STD
Warranty		Two (2) years

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and μ TCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), 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

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ORDERING OPTIONS

VT873 – A00 – 000 – 00J

A = Backplane Routing*

0 = Standard (See Figure 4)

1 = Storage (See Figure 5)

J = Conformal Coating

0 = None

1 = Humiseal 1A33 Polyurethane

2 = Humiseal 1B31 Acrylic

* The I/O port access on the chassis front panel are designed per customer request, contact Vadatech sales team to discuss your I/O port requirements. For option A=0 see Figure 2 and option A=1 see Figure 3, for the more information on front panel examples, discuss with your sales representative for more details.

RELATED PRODUCTS



UTC041 Conduction Cooled MCH



UTC011 Conduction Cooled Power Module



VT877 1U μ TCA Conduction Cooled 3 AMCs Chassis

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