

OCTOBER 2009

VT890KEY FEATURES

- μTCA System Platform 19" x 7U x 10.5" deep (with handles 12" deep)
- Full redundancy with Quad MicroTCA Carrier Hub (MCH), Quad Cooling Units and Quad Power Modules
- Up to 24 AMCs: 8 full-size and 16 mid-size
- Allows for double width modules on any of it's bottom slots
- JSM Slot
- Dual star topology
- Radial I2C bus to each AMC
- High-speed routing on 26 layers
- High-speed μTCA connectors (12.5 GHz)
- Redundant FRU information devices
- Redundant Carrier Locator
- 1000W AC Power supply option
- Telco Alarm
- CLK1, CLK2 and CLK3
- No active components on the backplane
- ESD-Jack at the top front
- RoHS compliant

The VT890 is a 7U μTCA chassis that provides 8 AMC full-size and 16 mid-size that can accept any AMC.1, AMC.2, AMC.3 and/or AMC.4. It provides CLK1, CLK2, and CLK3 to each slot.

The VT890 allows the double-width modules on any of it's bottom slots.

The VT890 has full redundancy. It's capable of having redundant MCH, Power Modules, as well as redundant Cooling Units (CU) for high availability. Total of 4 MCH, 4 PM and 4 CU.

Option for redundant/non-redundant clock per μTCA specification. The CLK3 option can be configured for the Fabric clock as well as Telcom clock.

There is 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 VT890 has a Telco Alarm as well as Redundant FRU information devices and carrier locator.

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).



SPECIFICATIONS

Architecture		
		Height 7U
Physical	Dimensions	Width: 19"
		Depth 10.25" without the handles and 12" with the handles
Type	μTCA Chassis	Twenty four AMC.0 slots
Standards		
AMC	Type	AMC.0, AMC.1, AMC.2, AMC.3, and AMC.4
μTCA	Type	Telco Alarm, Dual MCH, Dual Power Module and Dual Intelligent Cooling units
Configuration		
Power	VT890	1000W supply
		110-240VAC with frequency from 47-63Hz
Environmental	Temperature	Operating Temperature: 0° to 55° C
		Storage Temperature: -40° to +70° C
	Altitude	10,000 ft. Operating
		40,000 ft. Non-Operating
Relative Humidity	5 to 95 percent, non-condensing	
Conformal Coating		Humiseal 1A33 Polyurethane
		Humiseal 1B31 Acrylic
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 NEBS	
Warranty	Two (2) years	
Trademarks and Logos	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.	

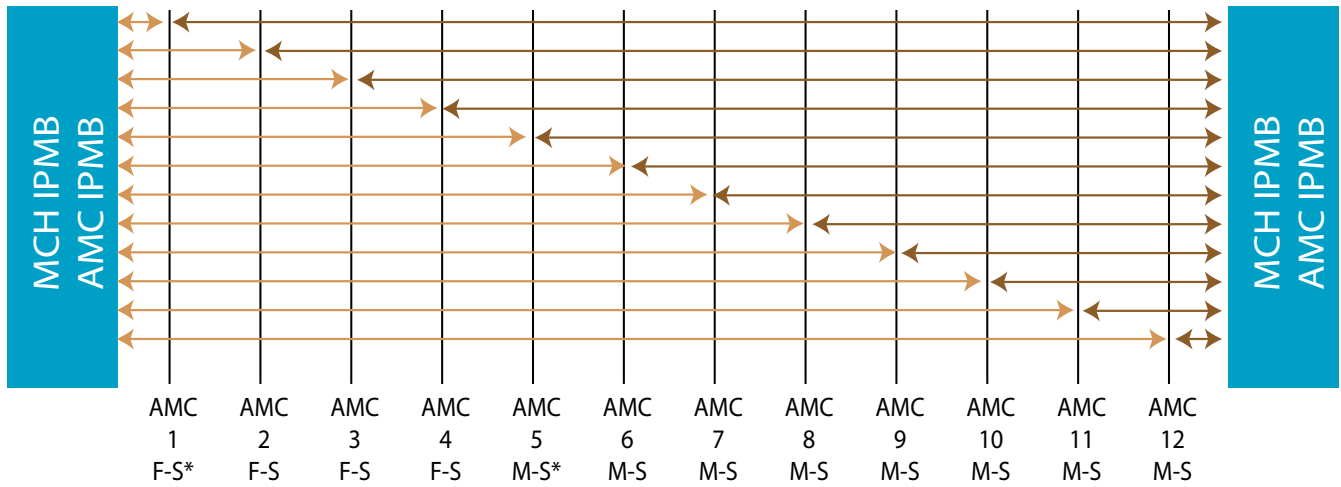
Table 1. Comparison chart between VadaTech 7U VT89x series

Model	No. of MCH Slots	No. of Power Module Slots	JSM Slot	Telco Alarm	No. of AMC FH* Slots	No. of AMC MH* Slots	No. of AMC CH* Slots	Dual Redundant Fan Tray	1000W Power Supply
VT890	4	4	Yes	Yes	8	16	0	Yes	Yes
VT891	2	2	No	Yes	12	0	0	Yes	Yes

*FH (Full-Height), MD (Mid-Height), CH (Compact-Height)

IPMB Bus

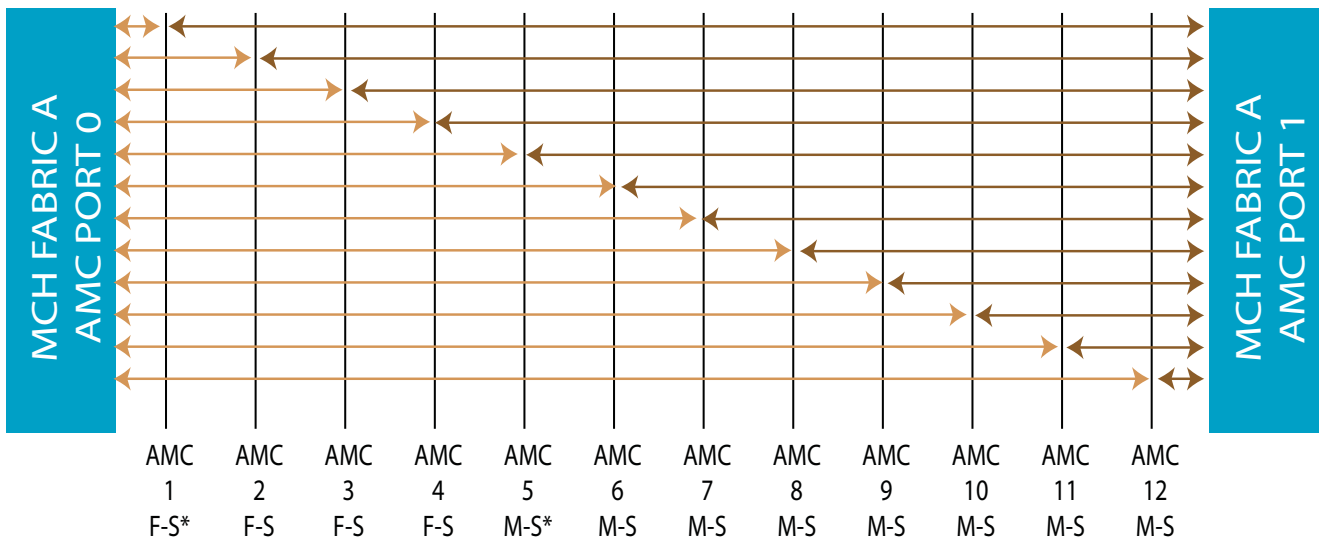
The I2C bus from each AMC is routed radially to each of the MCH.



*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 1. VT890 Topology for AMC I2C Bus

Ports 0 and 1

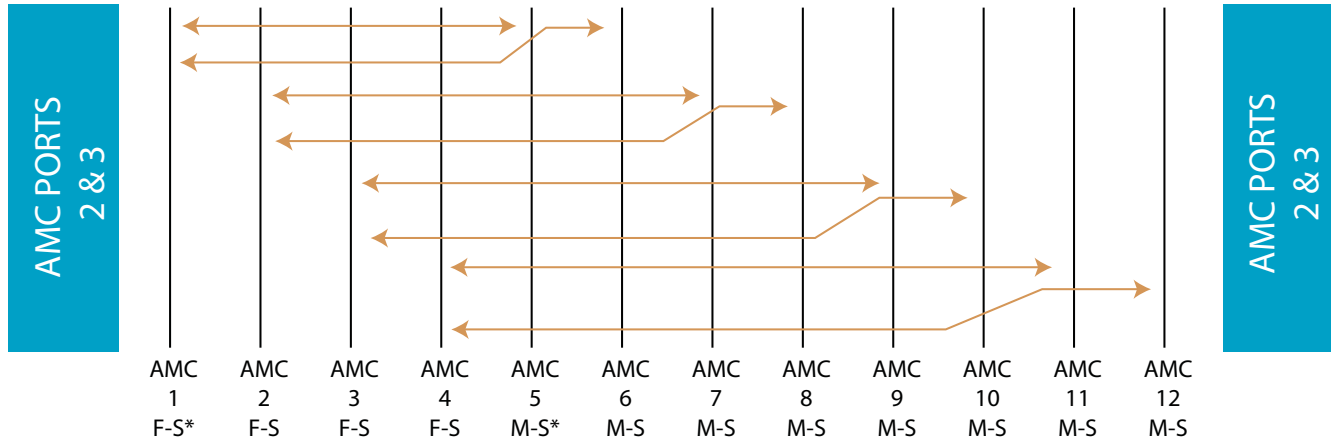


*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 2. VT890 Topology for AMC Ports 0 and 1

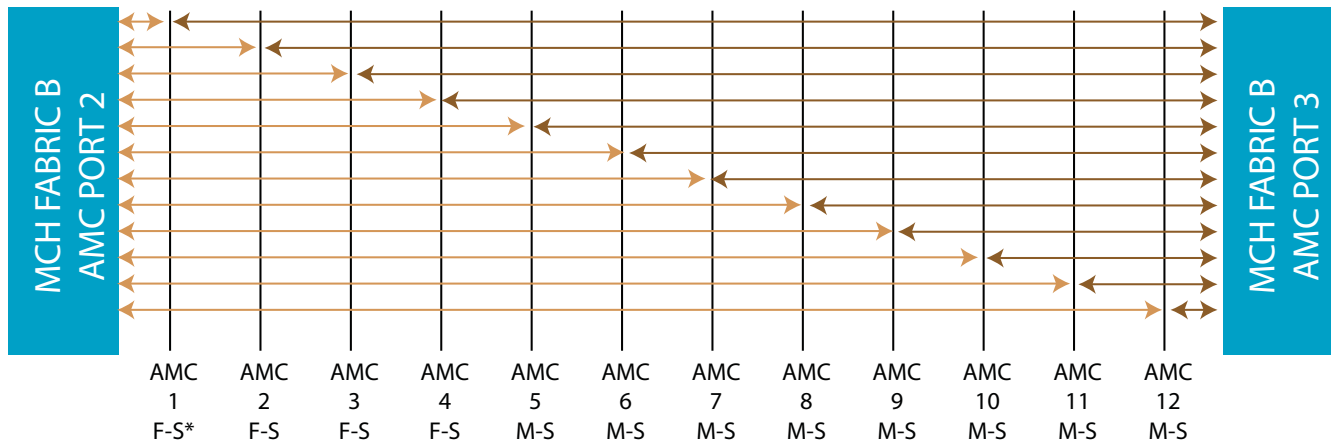
Ports 2 and 3

Topology for Ports 2 and 3 with direct connections among the slots (ordering option)



*F-S (Full-Size), *M-S (Mid-Size)

Topology for Ports 2 and 3 to MCH (ordering option with redundant CLK)

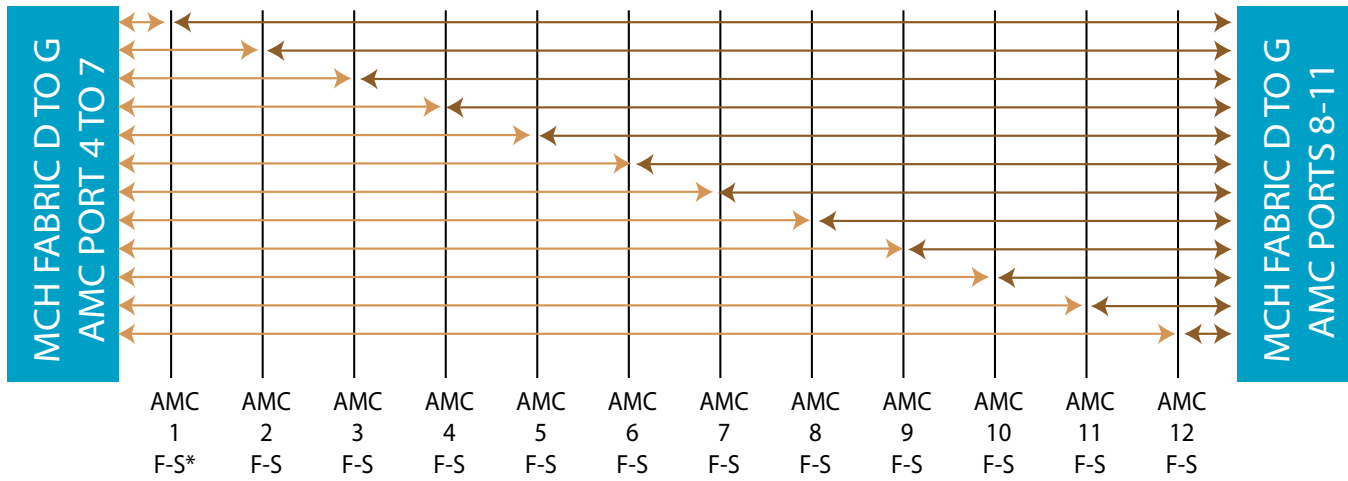


*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 3. VT890 Topology for AMC Ports 2 and 3

When CLK3 is non-redundant, Fabric B will be partially provided only on ports 1 to 6. CLK3 is routed on Fabric B on ports 7 to 12.

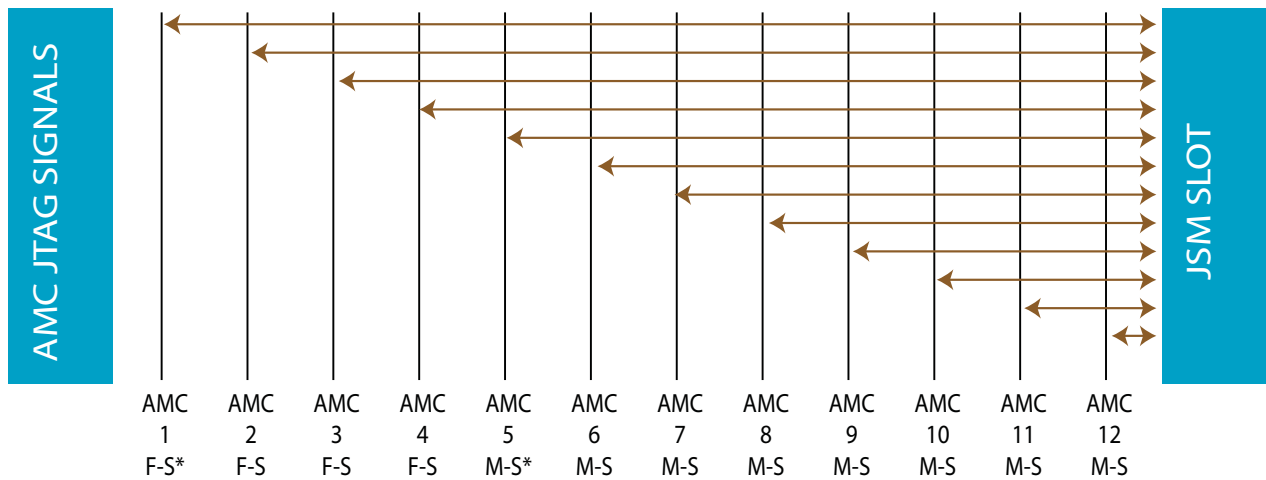
Ports 4-7 and 8-11



*F-S (Full-Size)

FIGURE 4. VT890 Topology for AMC Ports 4-7 and 8-11

AMC JTAG Signals



*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 5. VT890 Topology for AMC JTAG Signals

Clock Options

The μTCA specifies three clocks: CLK1, CLK2, and CLK3. It defines non-redundant and redundant clock networks. The non-redundant clock network connects CLK1, CLK2 and CLK3 of one MCH point-to-point to CLK1, CLK2 and CLK3 of the AMCs. CLK3 can follow the Telco clock or become the Fabric clock per AMC.1 specification. Fabric B will be partially provided only on ports 1 to 6 CLK3 is routed on Fabric B on ports 7 to 12.

The redundant clock network option connects the CLK1 of MCH1 and CLK1 of MCH2 point-to-point to each of the CLK1 and CLK3 respectively of each AMC.

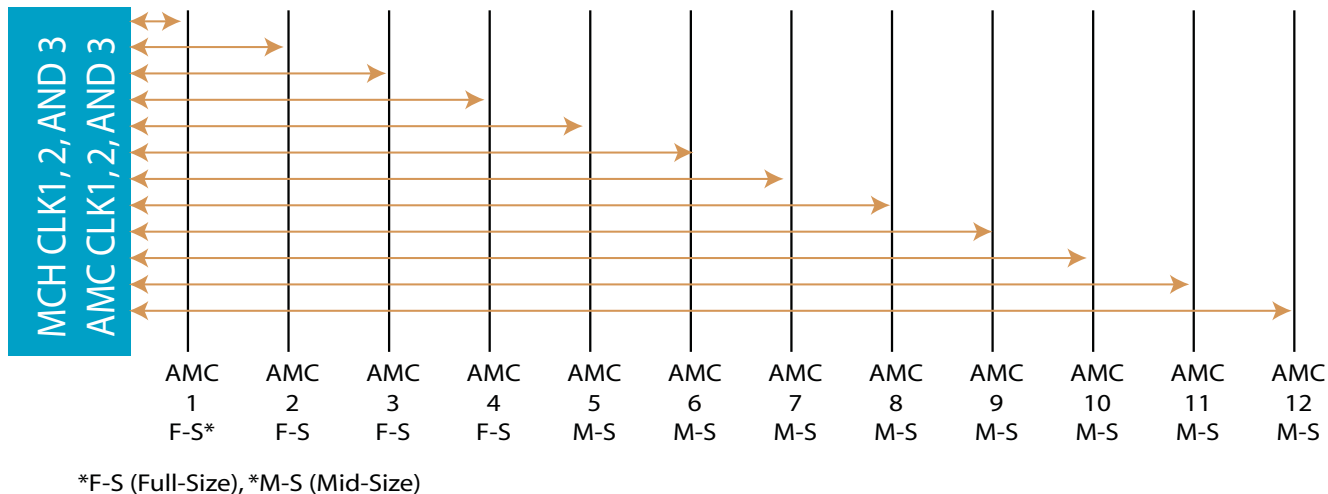


FIGURE 6. VT890 non-redundant clock Topology, CLK3 can run as Fabric Clock (i.e. PCIe clock)

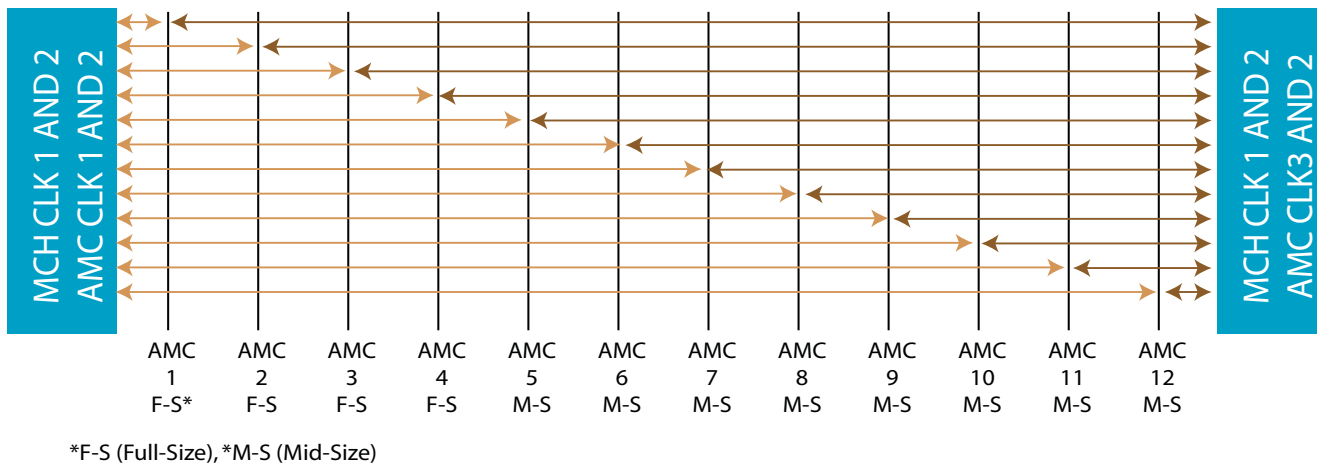


FIGURE 7. VT890 redundant clock Topology

Power supply

The VT863 has an option for a 1000W power supply. The input voltage is from 110-240 VAC (frequency from 47-63 Hz). The VT863 provides -48V connectors to the front of the chassis to power the Dual Power Modules. The AC input is from the back of the chassis. The AC supply has an on/off switch on front top center of the chassis.

Cooling and Temp Sensors

The VT863 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 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.

There are a total of 12 Temperature sensors in the chassis that monitor the intake and the outtake air temperature throughout the chassis.

Telco Alarm

The VT863 provides Telco Alarm functionality to alert about any anomaly within the chassis. The Telco Alarm is provide via a Micro DB-9 as well as LED's in the front to show any anomaly. The Telco Alarm has its own dedicated slot.

FRU Information and Carrier Locator

The VT863 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 it's private I2C bus.

No active components

With respect to other μTCA chassis in the market, the VT863 has no active components on its back plane. This allows ease of serviceability.

End to End Integrated Solution

VadaTech has the entire μTCA infrastructure: MicroTCA Carrier Hub (product UTC001, UTC002 or UTC004) and Power Module (UTC010, ~800W). Please consult the appropriate data sheet to obtain more information.

VadaTech can integrate any of its over 70 AMC modules, customer AMCs, as well as other third party AMCs into the chassis and deliver a complete system for deployment. Please contact VadaTech Sales for more information.

Use Case:

Populated with 8 full-size + 16 mid-size

PM	F	F	MCH	M	M	M	M	JSM	M	M	M	M	MCH	F	F	PM
PM	F	F	MCH	M	M	M	M	JSM	M	M	M	M	MCH	F	F	PM

Populated with 16 full-size (x is a 2HP filer panel)

PM	F	F	MCH	F	x	F	x	JSM	F	x	F	x	MCH	F	F	PM
PM	F	F	MCH	F	x	F	x	JSM	F	x	F	x	MCH	F	F	PM

Populated with a mix of double-width and single-width

PM	F	F	MCH	M	M	M	M	JSM	M	M	M	M	MCH	F	F	PM
PM	F		MCH		M	M	M	JSM		M	M	M	MCH			PM

ORDERING OPTIONS

VT890 - ABC - DE0 - 00J*

A = AC Power supply

- 0 = None
- 1 = 1000W

D = Ports 2 and 3 right half of the chassis

- 1 = Direct connection per Fig. 3
- 2 = To MCH

B = Ports 2 and 3 Left half of the chassis

- 1 = Direct connection per Fig. 3
- 2 = To MCH

E = CLK3 right half of the chassis

- 1 = Non-redundant (Telco)
- 2 = Non-redundant (Fabric CLK)
- 3 = Redundant

C = CLK3 left half of the chassis

- 1 = Non-redundant (Telco)
- 2 = Non-redundant (Fabric CLK)
- 3 = Redundant

J = Conformal Coating

- 0 = None
- 1 = Humiseal 1A33 Polyurethane
- 2 = Humiseal 1B31 Acrylic

*VadaTech has an MCH (UTC001, UTC002 and UTC004) and Power Module (UTC010, UTC012 and UTC013) as well as over 75 AMC modules. Contact your sales representative for an end-to-end integrated solution.



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