µTCA Chassis with 12 AMC slots

VT860

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KEY FEATURES

- µTCA System Platform 19" x 5U x 10.5" deep (with handles 12" deep)
- Full redundancy with dual MicroTCA Carrier Hub (MCH), dual Cooling Units and dual Power Modules
- Up to twelve AMCs: four full-size, six mid-size and two compact-size
- 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
- JTAG Switch Module (JSM) slot with front port access
- CLK1, CLK2 and CLK3
- No active components on the backplane
- ESD-Jack at the top front
- RoHS compliant

The VT860 is a 5U µTCA chassis that provides four AMC full-size, six mid-size and two compact slots that can accept any AMC.1, AMC.2, AMC.3 and/or AMC.4. It provides CLK1, CLK2, and CLK3 to each slot in addition to the JTAG signals.

The VT860 has full redundancy. It's capable of having redundant MCH, Power Modules, as well as redundant Cooling Units for high availability.

There is an 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 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 has a JTAG Switch Module (JSM) slot per µTCA specification. This provides transparent communication between the front JTAG port and the selected AMC device.The VT860 has a Telco Alarm as well as Redundant FRU information devices and carrier locators.

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

µTCA™

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SPECIFICATIONS

Architecture		
		Height 5U
Physical	Dimensions	Width: 19”
		Depth 10.25” without the handles and 12” with the handles
Type	µTCA Chassis	Twelve AMC.0 slots
Standards		
AMC	Type	AMC.0, AMC.1, AMC.2, AMC.3, and AMC.4
µTCA	Type	JSM, Telco Alarm, Dual MCH, Dual Power Module and Dual Intelligent Cooling units
Configuration		
Power	VT860	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.	

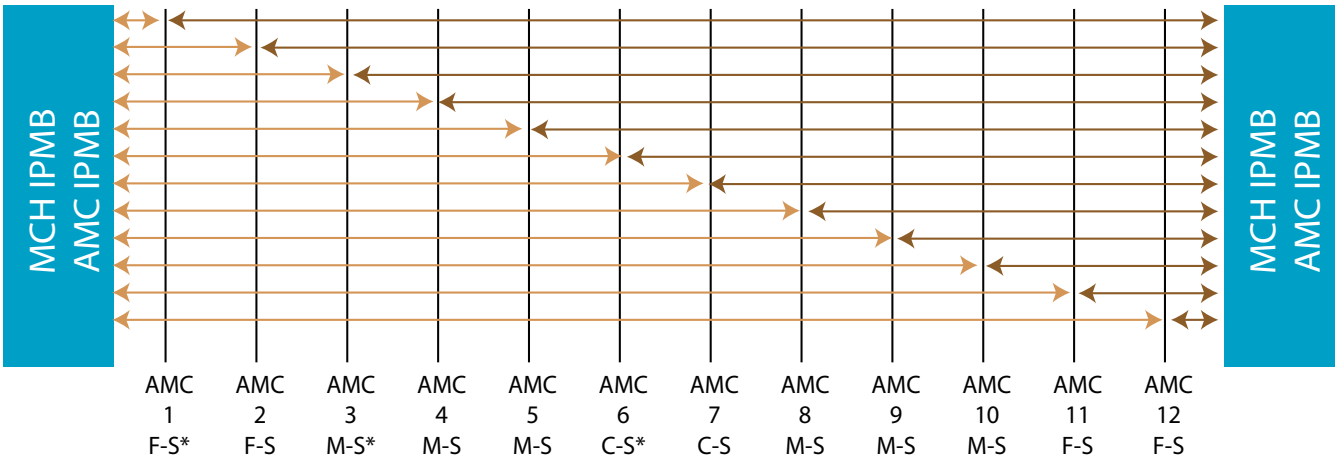
Table 1. Comparison chart between VadaTech 5U VT86x series

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	Advance Clock Redun-dancy
VT860	2	2	Yes	Yes	4	6	2	Yes	Yes	No
VT861	1	1	No	No	12	0	0	Yes	Yes	No
VT862	2	2	No	Yes	10	0	0	Yes	Yes	No
VT863	2	2	No	Yes	6	6	0	Yes	Yes	No
VT864	2	2	No	Yes	10	0	0	Yes	Yes	Yes

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

IPMB Bus

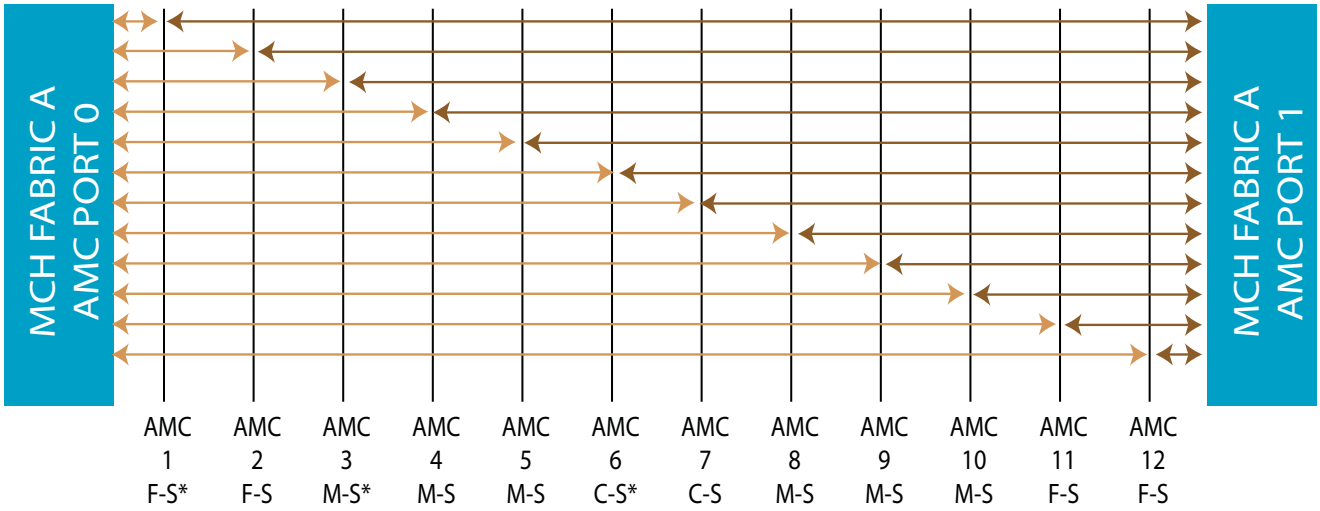
The I2C bus from each AMC is routed radially to each of the MCH.



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

FIGURE 1. VT860 Topology for AMC I2C Bus

Ports 0 and 1

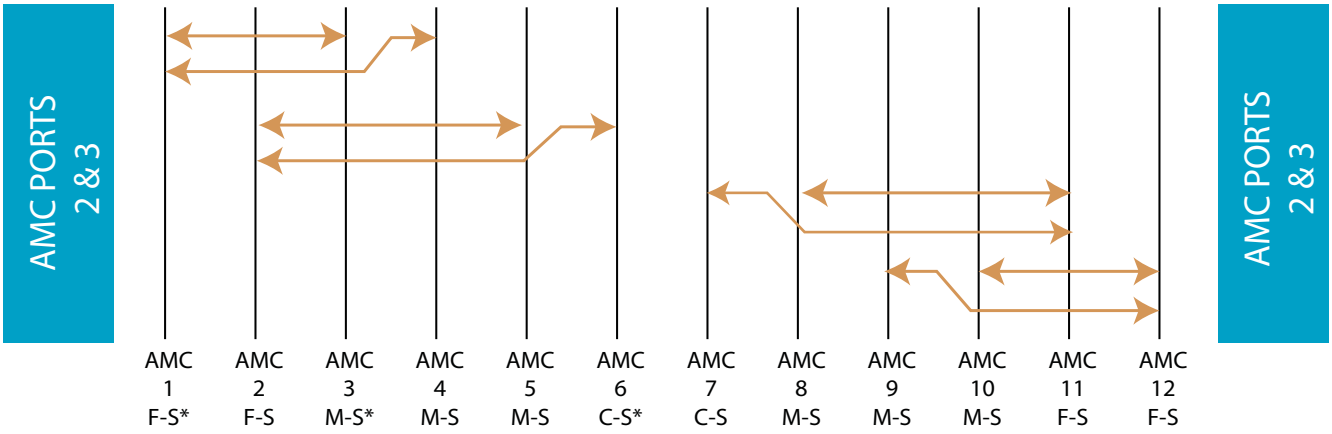


*F-S (Full-Size), *M-S (Mid-Size), *C-S (Compact-Size)

FIGURE 2. VT860 Topology for AMC Ports 0 and 1

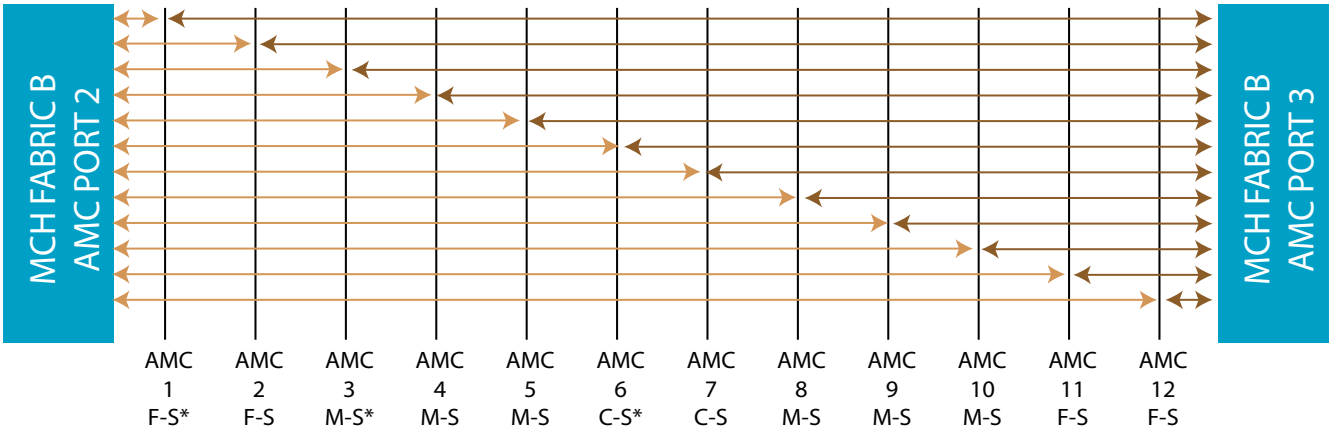
Ports 2 and 3

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



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

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

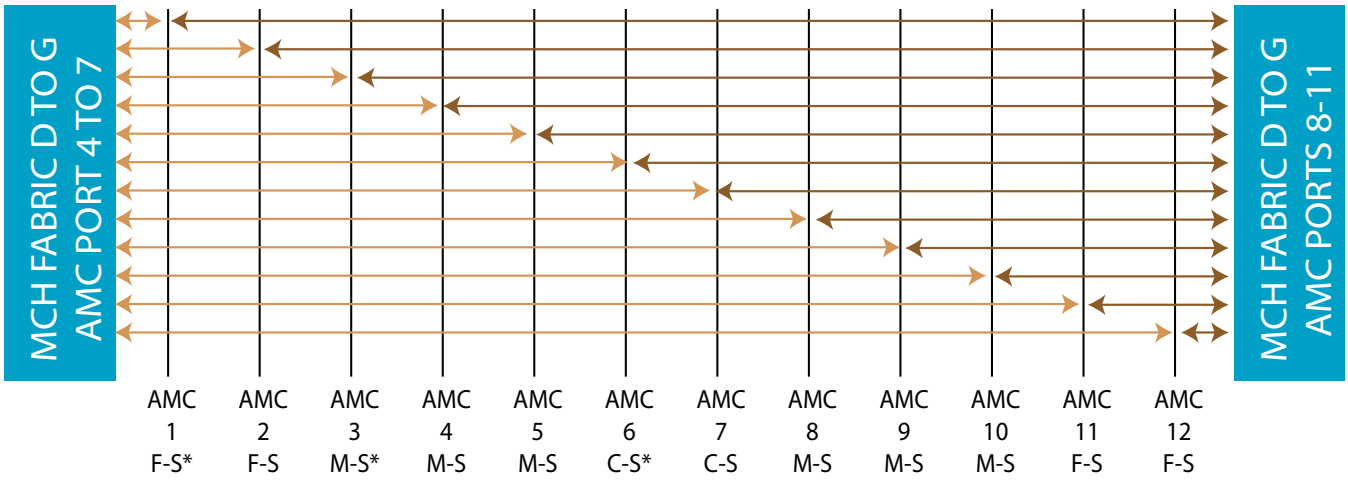


*F-S (Full-Size), *M-S (Mid-Size), *C-S (Compact-Size)

FIGURE 3. VT860 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.

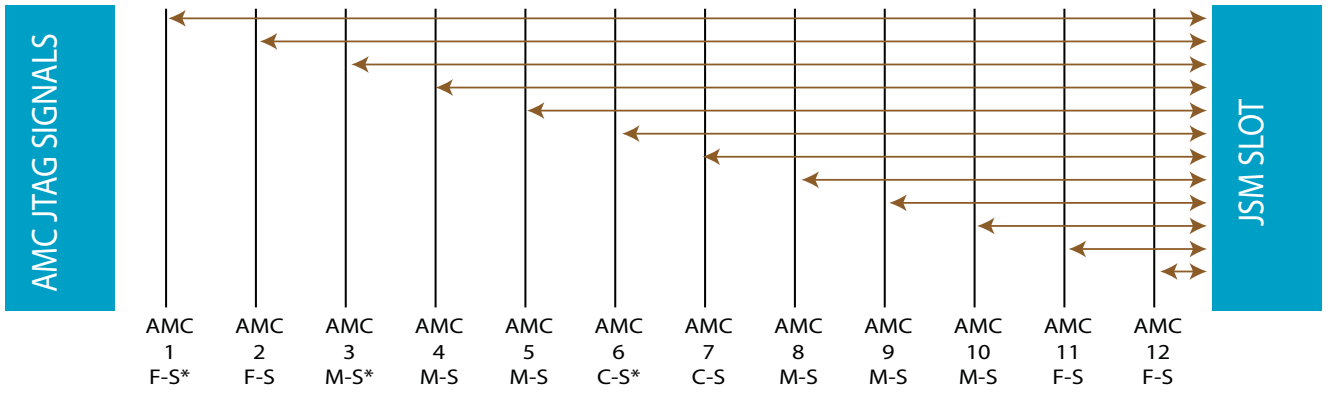
Ports 4-7 and 8-11



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

FIGURE 4. VT860 Topology for AMC Ports 4-7 and 8-11

AMC JTAG Signals



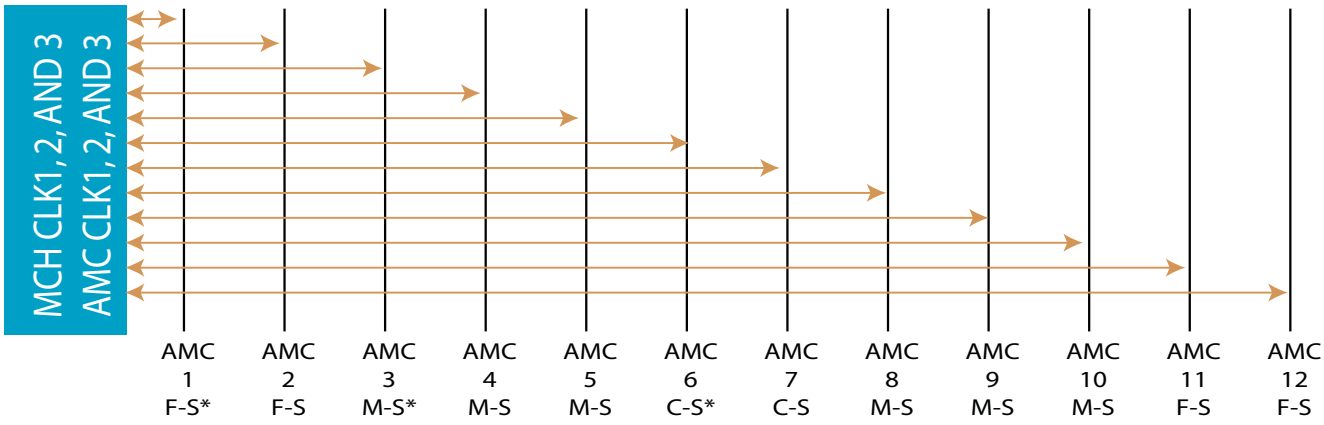
*F-S (Full-Size), *M-S (Mid-Size), *C-S (Compact-Size)

FIGURE 5. VT860 Topology for AMC JTAG Signals

Clock Options

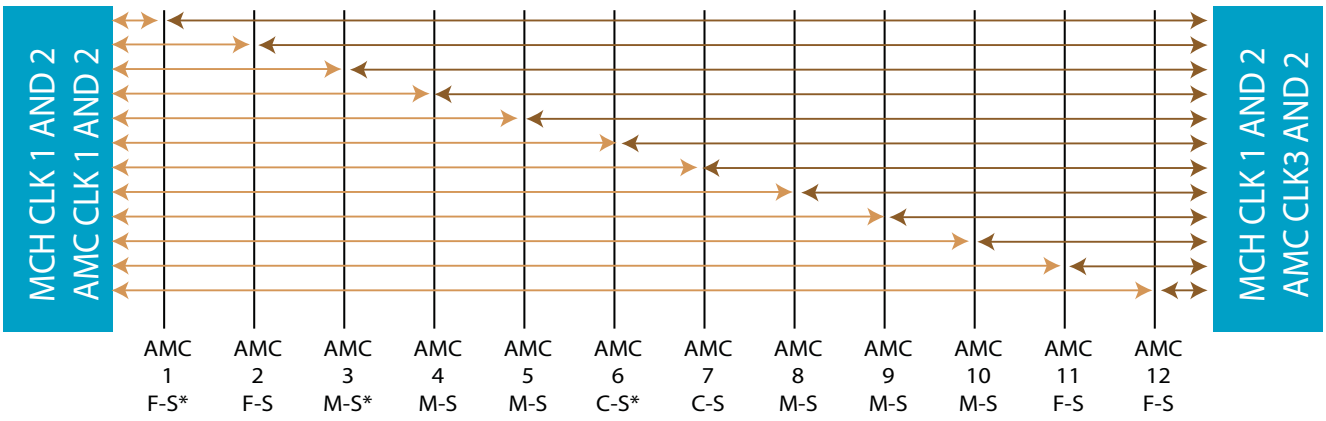
The µTCA specifies three clocks: CLK1, CLK2, and CLK3. It defines non-redundant and redundant clock networks. The non-redundant clock network connects CLK1, CLK2 and CLK3 of one MCH point-to-point to CLK1, CLK2 and CLK3 of the AMCs. CLK3 can follow the Telco clock or become the Fabric clock per AMC.1 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.



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

FIGURE 6. VT860 non-redundant clock Topology, CLK3 can run as Fabric Clock (i.e. PCIe clock)



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

FIGURE 7. VT860 redundant clock Topology

Power supply

The VT860 has an option for a 1000W power supply. The input voltage is from 110-240 VAC (frequency from 47-63 Hz). The VT860 provides -48Vconnectors 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 VT860 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 VT860 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 VT860 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.

No active components

Unlike other µTCA chassis in the market, the VT860 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), Power Module (UTC010, ~800W) and JSM (UTC007). Please consult the appropriate data sheet to obtain more information.

VadaTech can integrate any of its over 75 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.

ORDERING OPTIONS

VT860 - ABC - 000 - 00J*

A = AC Power supply

0 = None
1 = 1000W

B = Ports 2 and 3

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

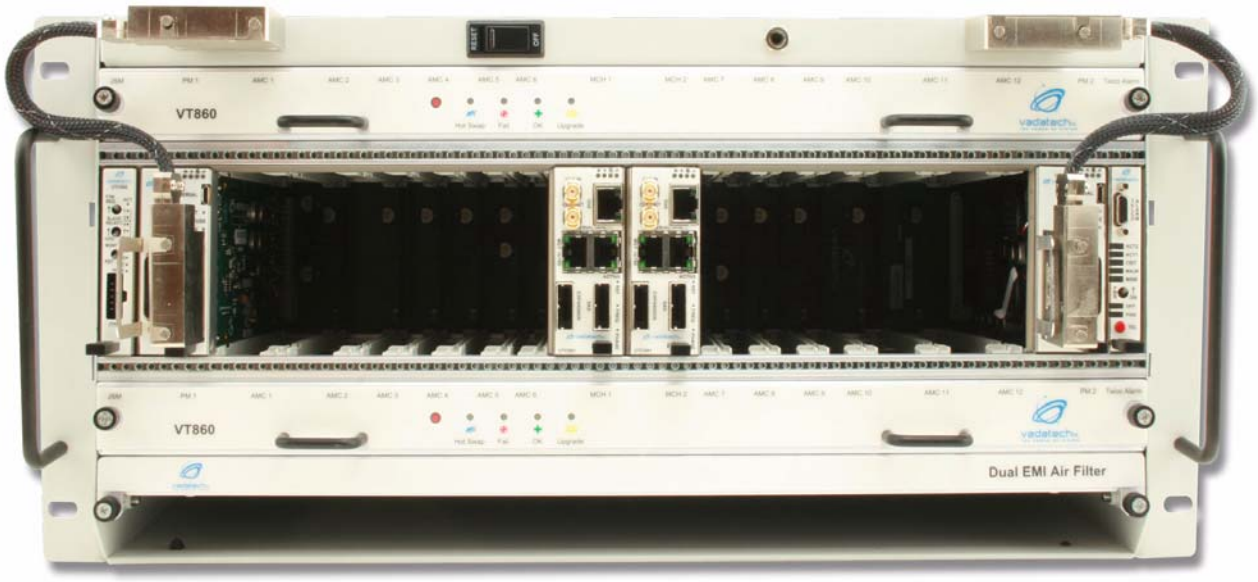
C = CLK3

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 MCH (UTC001, UTC002 and UTC004), Power Module (UTC010 and UTC012) and JSM (UTC007) as well as over 75 AMC modules. Contact your sales representative for an end-to-end integrated solution.



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