The VT870 is a 3/4 ATR μTCA Short Tall chassis that provides four AMC mid-size and four compact slots that can accept any AMC.1, AMC.2, AMC.3 and/or AMC.4. It provides Fabric clock (CLK3) to each slot.

The VT870 is designed for avionics, space and ground vehicles applications. The VT870 is designed to withstand extreme environmental conditions such as temperature, shock, vibration, chemical, EMI and altitude.

The VT870 is made from lightweight aluminium 6061-T6. The top is removable and utilized stainless steel captive hardware and self-locking helicoils to withstand maximum shock and vibration.

Conduction cooling is through precision-machine card guides in the sidewalls. The front panel accommodates MIL style M38999 connectors. The front panel can be customized to meet each customer’s unique requirements.

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

### Architecture

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Height</td>
<td>277mm</td>
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### Physical Dimensions

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<tbody>
<tr>
<td>Width</td>
<td>190.5mm</td>
</tr>
<tr>
<td>Depth</td>
<td>320.5mm</td>
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</table>

### Type

- **µTCA Chassis**: 8 AMC.0 slots

### Standards

- **AMC**
  - Type: AMC.0, AMC.1, AMC.2, AMC.3, and AMC.4
- **µTCA**
  - Type: Telco Alarm, Single MCH, Power Module and SFM (System Management Module)

### Configuration

- **Power**: VT870
  - Single PM (consult UTC011 data sheet for the power module)

### Environmental

- **Temperature**
  - Operating Temperature: -40° to 80° C
  - Storage Temperature: -45° to +95° C
- **Vibration**: MIL-STD-810E Method 514.4 Procedure 1, Cat. 4 propeller, Cat. 5 Jet aircraft Cat. 6 helicopter (to be tested and verified, by August 2009)
- **Shock**: MIL-STD-810 Method 516.4 Procedure 1 20g, 1/2 sine, 11 msec. (to be tested and verified by August 2009)
- **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
- 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. AdvancedTCATM and the AdvancedMCTM logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.
IPMB Bus
The I2C bus from each AMC is routed radially to the MCH.

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

**FIGURE 1. VT870 Topology for AMC I2C Bus**

Ports 0 and 1

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

**FIGURE 2. VT870 Topology for AMC Ports 0**
**Ports 2 and 3**

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

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

Topology for Ports 2 to MCH (ordering option)

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

**FIGURE 3.** VT870 Topology for AMC Ports 2 and 3
Ports 4-7

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

**FIGURE 4.** VT870 Topology for AMC Ports 4-7 with direct connect across two slots

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

**FIGURE 5.** VT870 Topology for AMC Ports 4-7
Clock Options

The μTCA specifies CLK3 for possible use as Fabric clock. VT870 routes CLK3 to each of the AMC slots as Fabric clock.

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

**FIGURE 6.** VT870 CLK3 can run as Fabric Clock (i.e. PCIe clock)
Power supply

The VT870 has an option for a conduction cool Power Module (PM). The input voltage depends on the PM. If utilizing VadaTech UTC011 power module the input voltage is from 10V to 36V.

Cooling and Temp Sensors

The VT870 has a System Management Module (SFM). The SFM allows, if desired for high altitude, to have external Fan to cool the Chassis. The SFM monitors the external FAN by reading it’s TACH input. It has temp sensor on board to monitor the internal temp of the chassis.

Telco Alarm

The VT870 provides Telco Alarm functionality to alert about any anomaly within the chassis. Only the Minor, Major and Critical Alarm LED are routed to the front of the chassis for notification.

FRU Information and Carrier Locator

The VT870 has FRU information and Carrier Locator. 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 VT870 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 UTC003), Power Module (UTC011), etc. 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.
μTCA Conduction Cooled Chassis with 8 AMC slots

ORDERING OPTIONS

VT870 - ABO - 000 - 00J*

A = Ports 4-7
  1 = All ports to MCH
  2 = Direct connection per Fig. 4

B = Ports 2 and 3
  1 = To MCH
  2 = Direct connection per Fig. 3

J = Conformal Coating
  0 = None
  1 = Humiseal 1A33 Polyurethane
  2 = Humiseal 1B31 Acrylic

*VadaTech has an MCH (UTC003 and Power Module (UTC011) as well as over 70 AMC modules. Contact your sales representative for an end-to-end integrated solution.