AMC Module for I/O Bus Expansion

AMC103

KEY FEATURES

- AMC.1 compliant
- Single-width, half-height* (mid-height and full-height options available)
  - *Patent-pending design allows standard front panel I/O connectivity in a half-height AMC compliant form factor
- PCIe x4 lanes
- Upstream/Downstream orientation with fiber or copper option (see ordering options)
- Fully IPMI 2.0 compliant
- RoHS compliant
- OS support for:
  - Linux
  - Windows
  - Solaris
  - VxWorks

In response to the limited number of mezzanine cards that can be placed on the typical AdvancedTCA module, VadaTech introduces the AMC103. The AMC103 is a high-speed 10Gbps bridge from the host PCIe bus to VadaTech’s other carrier products such as the ATC103/104/105/106/107/108 or ATC109. The different carriers host different I/O modules such as PMC/PrPMC, AMC, PCI-X and PCIe edge modules. This concept allows any of the available I/O modules in these standard form factors to be integrated quickly and easily into an AdvancedTCA shelf without the need to route the different bus signals through the AdvancedTCA backplane.

The AMC103 is a single-width AdvancedMC™(AMC) based on the AMC.1 specification. The AMC103 provides a PCIe x4 link in fiber or copper.

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

#### Architecture

<table>
<thead>
<tr>
<th>Physical</th>
<th>Dimensions</th>
<th>Single-Width, Half-Height (with Mid or Full Height-options)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width</td>
<td>2.98 in. (73.5 mm)</td>
</tr>
<tr>
<td></td>
<td>Depth</td>
<td>7.8 in. (181.5 mm)</td>
</tr>
</tbody>
</table>

#### Type

| AMC Expansion Module | AMC module for I/O bus expansion |

#### Standards

<table>
<thead>
<tr>
<th>AMC</th>
<th>Type</th>
<th>AMC.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Management</td>
<td>iPMI</td>
<td>iPMI Version 2.0</td>
</tr>
<tr>
<td>PCIe</td>
<td>Lanes</td>
<td>x4</td>
</tr>
</tbody>
</table>

#### Configuration

<table>
<thead>
<tr>
<th>Power</th>
<th>Copper</th>
<th>3W maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fiber</td>
<td>5W maximum</td>
</tr>
</tbody>
</table>

#### Environmental

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Operating Temperature: 0° to 65° C (Air flow requirement is to be greater than 200 LFM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>Storage Temperature: -40° to +90° C</td>
</tr>
<tr>
<td>Vibration</td>
<td>1G, 5-500Hz each axis</td>
</tr>
<tr>
<td>Shock</td>
<td>30Gs each axis</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>5 to 95 percent, non-condensing</td>
</tr>
</tbody>
</table>

#### Front Panel

<table>
<thead>
<tr>
<th>Interface Connectors</th>
<th>Fiber ports with LC connectors and LX or SX transceiversrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Copper ports with IB-4x Infiniband style cable</td>
</tr>
<tr>
<td>LEDs</td>
<td>iPMI Management Control</td>
</tr>
<tr>
<td></td>
<td>Link</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Hot Swap Ejector Handle</td>
</tr>
</tbody>
</table>

#### Software Support

| Operating Systems | Linux, Windows, Solaris and VxWorks |

#### Other

<table>
<thead>
<tr>
<th>MTBF</th>
<th>MIL Spec 217-F &gt;491,000 Hrs. (Copper)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certifications</td>
<td>Designed to meet FCC, CE and UL certifications where applicable</td>
</tr>
<tr>
<td>Standards</td>
<td>VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards</td>
</tr>
<tr>
<td>Compliance</td>
<td>RoHS and NEBS</td>
</tr>
<tr>
<td>Warranty</td>
<td>Two (2) years</td>
</tr>
<tr>
<td>Trademarks and Logos</td>
<td>The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedMC™ and the AdvancedTCA™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.</td>
</tr>
<tr>
<td>Notes</td>
<td>The Half-Height front panel is a patent-pending design. Contact your Sales representative for more information.</td>
</tr>
</tbody>
</table>
AMC Module for I/O Bus Expansion

**FIGURE 1.** AMC103 Functional Block Diagram

**FIGURE 2.** AMC103 Front Panel
FIGURE 4. An Example of using the AMC103 with the PCIe up/down stream ports

ORDERING OPTIONS

**AMC103 - ABC - 000 - 00J**

A = Interface
1 = LC/SX transceivers (850 nm)
2 = LC/LX transceivers (1310 nm)
3 = Copper

B = Front Interface Orientation
1 = Upstream
2 = Downstream

C = Front Panel
1 = Half-Height
2 = Mid-Height
3 = Full-Height

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

The cables can be routed to other RTMS or to various VadaTechs boards for uplink or down link.

VadaTech’s ATC Carrier Board ATC103/104/105/106/107/108/109

VadaTech’s AMC103 Connects to Root Complex Node Board

Uplink/Down Link

ATC103/104/105/106/107/108/109

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Dual Ethernet Controller AMC.1 Compliant x4 Lanes

ATCA Carrier

PMc AMC PCIe VME cPCI or PCI-X

Transition Module

PCIe x 4 10 Gbps - Fat Pipe

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