PCI108
PCIe x4 Gen3 Carrier for XMC with Active Cooling

Key Features
- PCIe x4 Gen3 with re-timer to ensure performance
- Active cooling with on-board Health Management CPU
- Supports XMC power up to 70W
- RS-232 and JTAG access to the XMC module
- XMC I/O to the rear
- Support for VITA 42 and VITA 61

Benefits
- High bandwidth to XMC
- I/O interface to rear
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company
PCI108

The PCI108 is a PCIe Gen3 x4 XMC Carrier with active cooling. The module has on-board health management CPU that scans the XMC I2C bus to discover temperature sensors, then uses the temperature sensors to actively control the fan speed. If the XMC modules does not have any temperature sensors the user can set the fan speed manually via an easy-to-use menu accessible via RS-232.

The active cooling allows the XMC module to dissipate up to 70W.

The PCIe Gen3 lanes pass thru two connectors (the PCIe edge and the XMC) which impact the signal integrity of the signal. To compensate for any loss of signal the PCI108 has a PCIe Gen3 x4 re-timer. This will provide excellent signal integrity to the host as well as to the XMC module, allowing the module to run at full PCIe Gen3 rather than training down to PCIe Gen1/Gen2.

Further, the module provides easy access to the XMC JTAG signals as well as the on-board health management CPU RS-232 via I/O connector to the faceplate.

Module has ordering option per VITA 42 or VITA 62.
Figure 1: Functional block diagram
## Specifications

<table>
<thead>
<tr>
<th>Architecture</th>
<th>Dimensions</th>
<th>Single Module</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width</td>
<td>4.36&quot; (110.74 mm)</td>
</tr>
<tr>
<td></td>
<td>Depth</td>
<td>12.283&quot; (311.98 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>PCI Carrier</th>
</tr>
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<tbody>
<tr>
<td>Standards</td>
<td>PCI Carrier for XMC</td>
</tr>
</tbody>
</table>

| PCie                     | Lanes       | x4 Gen3 |

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Power</th>
<th>PCI108 ~3W without the XMC; cooling XMC up to 70W (Application specific)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>Temperature</td>
<td>See Ordering Options</td>
</tr>
<tr>
<td>Vibration</td>
<td>Operating 9.8 m/s² (1G), 5 to 500 Hz</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>Operating 30Gs on each axis</td>
<td></td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>5 to 95% non-condensing</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Front Panel</th>
<th>Interface Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XMC JTAG</td>
</tr>
<tr>
<td></td>
<td>XMC I/O</td>
</tr>
<tr>
<td></td>
<td>CPU RS-232</td>
</tr>
<tr>
<td></td>
<td>Power OK</td>
</tr>
</tbody>
</table>

| Software Support         | Operating System     | N/A |

<table>
<thead>
<tr>
<th>Other</th>
<th>MTBF</th>
<th>MIL Hand book 217-F@ TBD hrs</th>
</tr>
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<tbody>
<tr>
<td>Certifications</td>
<td>Designed to meet FCC, CE and UL certifications, where applicable</td>
<td></td>
</tr>
<tr>
<td>Standards</td>
<td>VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards</td>
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</tr>
<tr>
<td>Warranty</td>
<td>Two (2) years, see VadaTech Terms and Conditions</td>
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</tbody>
</table>

### INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), 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.
Ordering Options

PCI108 – A00-000-0HJ

A = XMC Connector
0 = VITA 42
1 = VITA 61

H = Temperature Range
0 = Commercial (−5° to +55°C)
1 = Industrial (−20° to +70°C)

J = Conformal Coating
0 = No coating
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

Related Products

PCI123
● PCIe Gen3 (x16) Bus Expansion module
● Options for (1x) of x16 PCIe, (2x) of x4 PCIe or (4x) of x4 PCIe utilizing SFF-8644 connectors
● Allows the use of standard copper or fiber cabling

PCI592
● PCIe FPGA carrier for FMC+ per VITA 57
● Xilinx Kintex UltraScale™ XCKU115 FPGA
● Active cooling for FPGA and FMC+

PCI597
● Dual PCIe x16 to Xilinx UltraScale+™ VU13P FPGA
● 72 fiber transceivers egress ports
● Optical speed choice of 10G or 28G per link
Contact

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