VRT550B

Rear Transition Module with QSFP+ and I/O Expansion for 6U VPX

Key Features
- 6U RTM VITA 46
- 5x QSFP+
- 2x GbE via RJ-45
- 3x SATA Ports, 6 Gbps
- Over 100 I/O to high density connector for expansion
- Health Management

Benefits
- Versatile I/O
- Reference design with VHDL source code speeds application development
- Full System supply from industry leader
- AS9100 and ISO9001 certified company
VRT550B

The VRT550B is a 6U VPX Rear Transition Module for use with the VPX550. The module has 5 x QSFP+, dual GbE via RJ-45 and three SATA connectors.

The unit has a high-density connector which can be used to stack I/O expansion modules, supporting additional rear-panel I/O when used with a 10 HP panel. The I/O’s can be customer specific such as RS485/RS422, RS-232, Isolated Input/Output, LVDS, etc.

The Module has full health Management.

Figure 1: VRT550B
Block Diagram

Figure 2: VRT550B Functional Block Diagram

Rear Panel

Figure 3: VRT550B (Option G=0)
## Specifications

### Architecture

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>6U, 1&quot; pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPGA</td>
<td>VPX RTM</td>
</tr>
</tbody>
</table>

### Configuration

- **Power**: VRT550B, 4W (without the I/O Expansion and Fibre Transceiver)
- **Memory**: None
- **Rear Panel**: 5x QSFP+, 2x RJ-45, 3x SATA 7-pole latching

### Onboard Interfaces

- None

### VPX Interfaces

- **Slot Profiles**: See [Ordering Options](#)
- **Rear IO**
  - **RP1**: 2x GbE
  - **RP2**: 3x 6 Gbps SATA, 40x SerDes

### Other

- **Power Supplies**: On RP0: 12V and 5V
- **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 ISO9001:2015 and AS9100D standards
- **Warranty**: Two (2) years, see [VadaTech Terms and Conditions](#)

### 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

VRT550B – A00-D00-GHJ

<table>
<thead>
<tr>
<th>A = QSFP+ TXCVRs*</th>
<th>D = I/O Expansion</th>
<th>G = Applicable Slot Profiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No QSFP+</td>
<td>0 = No I/O Expansion</td>
<td>0 = 5 HP</td>
</tr>
<tr>
<td>1 = SR</td>
<td>1 = Field I/O (DA640/DA641)</td>
<td>1 = 10 HP</td>
</tr>
<tr>
<td>2 = LR</td>
<td>2 = Reserved</td>
<td></td>
</tr>
<tr>
<td>3 = LC Style CWDM (LM4 140 Meter)</td>
<td>3 = Reserved</td>
<td></td>
</tr>
<tr>
<td>4 = LC Style CWDM (LR4 2KM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 = LC Style CWDM (LR4 10KM)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

H = Environmental
See Environmental Specification

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

Notes:
*All five Transceivers will be the same. Contact local sales office for mix of options.

Environmental Specification

<table>
<thead>
<tr>
<th>Option H</th>
<th>H = 0</th>
<th>H = 1</th>
<th>H = 2</th>
<th>H = 3</th>
<th>H = 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>AC1* (0°C to +55°C)</td>
<td>AC3* (-40°C to +70°C)</td>
<td>CC1* (0°C to +55°C)</td>
<td>CC3* (-40°C to +70°C)</td>
<td>CC4* (-40°C to +85°C)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>C1* (-40°C to +85°C)</td>
<td>C3* (-50°C to +100°C)</td>
<td>C1* (-40°C to +85°C)</td>
<td>C3* (-50°C to +100°C)</td>
<td>C3* (-50°C to +100°C)</td>
</tr>
<tr>
<td>Operating Vibration</td>
<td>V2* (0.04 g2/Hz max)</td>
<td>V2* (0.04 g2/Hz max)</td>
<td>V3* (0.1 g2/Hz max)</td>
<td>V3* (0.1 g2/Hz max)</td>
<td>V3 (0.1 g2/Hz max)</td>
</tr>
<tr>
<td>Storage Vibration</td>
<td>OS1* (20g)</td>
<td>OS1* (20g)</td>
<td>OS2* (40g)</td>
<td>OS2* (40g)</td>
<td>OS2* (40g)</td>
</tr>
</tbody>
</table>

Humidity 95% non-condensing 95% non-condensing 95% non-condensing 95% non-condensing 95% non-condensing

Notes:
*Nomenclature per ANSI/VITA 47. Contact local sales office for conduction cooled (H = 2, 3, 4)

Related Products

- 3U FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 46 and VITA 57
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- High-performance clock jitter cleaner

- 3U FPGA carrier for FMC per VITA 46 and VITA 57
- Xilinx Kintex-7 410T FPGA in FFG-900 package
- High-performance clock jitter cleaner
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DOC NO. 4FM737-12 REV 01 | VERSION 1.3 – JAN/20