VT972
FPGA Processing Utilizing Xilinx ZYNQ FPGA with Integrated I/O

Key Features

- Xilinx FPGA ZYNQ XQZ045
- Integrated Dual core ARM Processor
- 16GB of DDR-3 Memory
- 128MB Flash
- Six Ethernet Ports
- 20 x RS-482 Transmit
- 20 x RS-482 Receive
- 8 x RS-232
- 3 x CAN Bus
- 40 x GPIO
- 2 x isoSPI
- 3 x USB
- 5 x Temperature Sensors
- All I/O routed to the backplane
- All power generations are redundant
- Rugged conduction cooled module

Benefits

- 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
VT972

The VT972 is a rugged, conduction cooled module in custom form factor (available conduction cooled only). The module has a Xilinx ZYNQ XQZ045 with 16GB of DDR-3 Memory. The module has extensive I/O integrated, which includes:

- Six Ethernet ports 10/100/1000-Base-T
- 20 x RS-482 Transmit
- 20 x RS-482 Receiver
- 8 x RS-232
- 3 x CAN Bus
- 40 x GPIO
- 3 x USB
- 5 x Temperature Sensors
- 128MB Flash
- 2 x IsoSPI

All I/O are routed to the backplane connector. The module has redundant power generation for each power rail for full redundancy. The backplane connector is an Amphenol Rugged Brushed Contact LRM.

The module comes only in rugged conduction cooled version and operates with input power of 18V-36V DC (typical 24V).
Figure 3: VT972 Functional Block Diagram
## Specifications

### Architecture

<table>
<thead>
<tr>
<th>Physical</th>
<th>Dimensions</th>
<th>Width: 8.6”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Depth: 9.2”</td>
</tr>
</tbody>
</table>

| Height: 1” |

<table>
<thead>
<tr>
<th>Type</th>
<th>Conduction Cooled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per ANSI/VITA 47 option selected</td>
</tr>
</tbody>
</table>

### Configuration

<table>
<thead>
<tr>
<th>Power</th>
<th>VT972 15W FPGA load dependent (18-36V DC power input)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Temperature</td>
<td>See Ordering Options</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>–45° to +100°C</td>
</tr>
<tr>
<td>Vibration</td>
<td>Operating 9.8 m/s² (1G), 5 to 500 Hz on each axis</td>
</tr>
<tr>
<td>Shock</td>
<td>Operating 325G/2 ms, 160G/1 ms</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>5 to 95% non-condensing</td>
</tr>
</tbody>
</table>

### Rear Connection

| Interface Connectors | Amphenol Rugged Brushed Contact LRM |
| Mechanical          | Custom form factor, conduction cooled |

### Software Support

| Operating System | Linux |

### Other

<table>
<thead>
<tr>
<th>MTBF</th>
<th>MIL Hand book 217-F@ TBD hrs</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 ISO9001:2015 and AS9100D standards</td>
</tr>
<tr>
<td>Warranty</td>
<td>One (1) year, see VadaTech Terms and Conditions</td>
</tr>
</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

VT972 – 000-000-0HJ

<table>
<thead>
<tr>
<th>Option H</th>
<th>H = 2</th>
<th>H = 3</th>
<th>H = 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</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>C3* (-50°C to +100°C)</td>
</tr>
<tr>
<td>Operating Vibration</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>OS2* (40g)</td>
<td>OS2* (40g)</td>
<td>OS2* (40g)</td>
</tr>
<tr>
<td>Humidity</td>
<td>95% non-condensing</td>
<td>95% non-condensing</td>
<td>95% non-condensing</td>
</tr>
</tbody>
</table>

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

Environmental Specification

H = Environmental
See Environmental Specification

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

VT878
- Conduction cooled two-module chassis
- Compact and robust design
- Designed for bulkhead mount in ground or air vehicle

VPX007
- Versatile Layer 2 managed Ethernet switch
- Total of 24 Ports of 10GbE
- Up to eight SFP+ Ports on the front panel

VT988
- 16 ADC for synchronous capture
- Xilinx Virtex-7 XC7VX485T FPGA
- NVidia Jetson TX2 System on Module
Choose VadaTech

We are technology leaders
• First-to-market silicon
• Constant innovation
• Open systems expertise

We commit to our customers
• Partnerships power innovation
• Collaborative approach
• Mutual success

We deliver complexity
• Complete signal chain
• System management
• Configurable solutions

We manufacture in-house
• Agile production
• Accelerated deployment
• AS9100 accredited

Specifcation subject to change without notice.

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