AMC315

Zynq UltraScale+ FPGA, AMC

Key Features

• Xilinx UltraScale+ XCZU7EV FPGA
• Double module, full-size
• Five USB 1.1 Fiber Links via SFF
• Dual USB 1.1 as copper per USB Link
• 8 GB of 64-bit wide DDR4 Memory (single bank) with ECC to the PS Side
• Dual 4 GB 32-bit wide DDR4 to the PL Side
• SD Card
• 128 MB of boot Flash

Benefits

• Zynq UltraScale+ MPSoC
• Electrical, mechanical, software, and system-level expertise in house
• Full system supply from industry leader
• AS9100 and ISO9001 certified company
AMC315

The AMC315 is an AMC FPGA module with Zynq UltraScale+ EV part. The AMC is compliant to AMC.1, AMC.2, AMC.3 and AMC.4 specifications. It is based on Xilinx UltraScale+ XCZU7EV MPSoC FPGA with USB 1.1 interface to each of the Fiber Optics as end point devices.

The Module has a single bank of 8GB of DDR-4 64-bit wide with ECC to the PS and in addition dual bank of x32 DDR-4 to the PL for a total of 8GB.

The module brings out dual USB 1.1 from each of the Optical link to the front panel for a total of 10USB ports.

Figure 1: AMC315
Block Diagram

8GB of DDR-4 x64 with ECC
Dual Bank of DDR-4 x32 4GB/each

Ports 0/1
Ports 4 to 11

SD Card

IPMI Controller

Xilinx FPGA
Zynq UltraScale+

VT081 Style Optic to Copper
VT081 Style Optic to Copper
VT081 Style Optic to Copper
VT081 Style Optic to Copper
VT081 Style Optic to Copper

2x to Each Of the VT081

10x USB

SFF

RS-232
RJ-45

Figure 2: AMC315 Functional Block Diagram
Specifications

Architecture

<table>
<thead>
<tr>
<th>Physical</th>
<th>Dimensions</th>
<th>Double module, full-size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width</td>
<td>5.85&quot; (148.5 mm)</td>
</tr>
<tr>
<td></td>
<td>Depth</td>
<td>7.11&quot; (180.6 mm)</td>
</tr>
</tbody>
</table>

Type

AMC FPGA

Xilinx Zynq UltraScale+

Standards

AMC Type

AMC.0, AMC.1, AMC.2, AMC.3 and AMC.4

Module Management

IPMI

IPMI v2.0

GbE Lanes

Port 0 and 1

PCIe Lanes

x8 (4-7/8-11) per option F

10GbE/40GbE/SRIO

4-7, 8-11 per option F

Configuration

Power

AMC315

~25W

To RTM

No RTM

Environmental Temperature

See Ordering Options and Environmental Spec Sheet

Storage Temperature: −40° to +85°C

Vibration

Operating 9.8 m/s² (1G), 5 to 500 Hz on each axis

Shock

Operating 30G on each axis

Relative Humidity

5 to 95% non-condensing

Front Panel Interface Connectors

Five SFF optics coming in as USB 1.1

Dual Micro USB for MGT RS-232 and CPU RS-232

10x USB to USB 1.1 coming from the optics (2x per optics)

GbE via RJ-45

LEDs

IPMI management control

Debug (user defined) LED

Mechanical

Hot-swap ejector handle

Software Support Operating System

Linux

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

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

AMC315 – 00C-D0F-00J

<table>
<thead>
<tr>
<th>D = SD Card</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = SD Card (32 GB)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = SD Card (64GB)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C = Front Panel</th>
<th>F = PCIe Fabric</th>
<th>J = Temperature Range and Coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Reserved</td>
<td>0 = No PCIe</td>
<td>0 = Commercial (-5° to +55°C), No coating</td>
</tr>
<tr>
<td>2 = Reserved</td>
<td>1 = PCIe on Ports 4-7</td>
<td>1 = Commercial (-5° to +55°C), Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td>3 = Full-size</td>
<td>2 = PCIe on Ports 8-11</td>
<td>2 = Commercial (-5° to +55°C), Humiseal 1B31 Acrylic</td>
</tr>
<tr>
<td>4 = Reserved</td>
<td>3 = PCIe on Ports 4-11</td>
<td>3 = Industrial (-20° to +70°C), No coating</td>
</tr>
<tr>
<td>5 = Reserved</td>
<td></td>
<td>4 = Industrial (-20° to +70°C), Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td>6 = Full-size, MTCA.1 (captive screw)</td>
<td></td>
<td>5 = Industrial (-20° to +70°C), Humiseal 1B31 Acrylic</td>
</tr>
</tbody>
</table>

Notes: **Conduction cooled; temperature is at edge of module. Consult factory for availability. For operational reasons VadaTech reserves the right to supply a higher speed FPGA device than specified on any particular order/delivery at no additional cost, unless the customer has entered into a Revision Lock agreement with respect to this product.

Related Products

VT813
- MTCA.4 Chassis Platform with rear I/O
- 19" x 8U x 14.9" deep (with handles 16.23" deep)
- Full redundancy with dual MicroTCA Carrier Hubs

AMC314
- Xilinx UltraScale+ XCZU7EV FPGA
- 4x Video Stream from the RTM
- Dual USB 2.0 from the RTM to FPGA

UTC006
- 3rd Gen MicroTCA Carrier Hub (MCH)
- Double module, full size per AMC.0 and MTCA.4
- Multiple Fabric Options (PCIe Gen3, 40G and others) and Full Layer 3 managed Ethernet switch
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

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