### Specifications

**Processor & System**
- **CPU**: Quad-core Intel® Core™ i7-3612QE 2.1GHz, 6MB LLC cache, 35W TDP
- **Chipset**: Mobile Intel® QM77 Express Chipset
- **Memory**: Dual channel DDR3-1333 ECC soldered SDRAM, up to 8GB
- **BIOS**: AMI EFI on 64Mbit SPI flash
- **VITA Standards**:
  - VITA 46.0 VPX Base Standard
  - VITA 46.4 PCI Express on VPX Fabric Connector
  - VITA 46.9 PMC/XMC/Rear IO Fabric Signal Mapping to 3U/6U VPX
  - VITA 48.0 Ruggedized Enhanced Design Implementation Mechanical Base Specification
  - VITA 65 OpenVPX Architecture Framework for VPX Module Profile
  - MOD3-PAY-2F2T-14.2.5
  - MOD3-PAY-2F2U-14.2.3 (BOM option)
- **Slot Profile**: SLT3-PAY-2F2T-11.2.5
  - SLT3-PAY-2F2U-11.2.3 (BOM option)

**Connectivity**
- **XMC**: PCIe x8 Gen2 with rear IO to P2w1-X24s+X8d+X12d
- **Ethernet**: Two 1000BASE-T or two 1000BASE-BX to P1
- **Graphics**: Intel® HD Graphics 4000
- **USB**: Two USB 2.0 to P1
- **Serial Port**: Two RS-232/422 to P1
- **PCI Express**: 2x PCIe x4 Gen2 to P1, configurable to 1 x8 or 1 x4 + 4 x1
  - Supports DMA and Non-transparent Bridge for peer to peer communication

**Storage**
- **SBC**: Soldered 32GB SATA 3Gb/s boot flash
  - One SATA 6Gb/s ports to P1

**Operating System**
- **OS**: Red Hat Enterprise Linux 6.2
- **Wind River VxWorks 6.9**
- **Microsoft Windows 7 32/64-bit**
- **Microsoft Windows 7 Embedded**
  - (Please contact ADLINK for other OS support)

### Features
- Quad-core 3rd Generation Intel® Core™ i7 processor with QM77 Express Chipset
- DDR3-1333 soldered ECC SDRAM
- Two PCIe x4 Gen2 data plane to P1 with NTB
- Two 1000BASE-T or two 1000BASE-BX to P1
- One XMC.3 PCIe x8 Gen2 with Rear I/O to P2

### Miscellaneous
- **GPIO**: Six 5V tolerance PCH controlled GPIO to P1/P2
- **HW Monitor**: System reset or NMI with programmable interval
- **LEDs**: Power LED (green)
- **Watchdog Timer**: Reset button on front panel
- **Mechanical & Environmental**
  - **Form Factor**: 3U VPX 0.8”
  - **Operating Temperature**: -40°C to +75°C (at wedge lock)
  - **Vibration**: 5Hz-2KHz, 12Grms, random, each axis, operating
  - **Shock**: Sawtooth 40G, 11ms, each axis, operating
  - **Altitude**: 60,000 feet, operating
  - **Power Consumption**: 100% CPU, memory, VGA, SSD stress
    - 3612QE/M8G 41.7W
    - VS1 (12) 1.9A, VS2 (3.3): 0.8A, VS3 (5V): 3.2A
  - **Weight**: 515g
  - **EMI/EMC**: CE, FCC Class A

### Ordering Information

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description/Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPX3001/3612/M8/S32-R1</td>
<td>Quad-core Core™ i7-3612QE 35W with 8GB DDR3 ECC and 32GB SATA SSD soldered, card edge operating temp. -40°C to +75°C</td>
</tr>
<tr>
<td>VPX-R3001</td>
<td>RTM for VPX3001 with 2x 1000BASE-BX and VGA on front panel; 2x 1000BASE-T, 2x USB 2.0, SATA, 2x RS-232, GPIO pin headers, SMBus, JTAG XMC onboard</td>
</tr>
<tr>
<td>VPX3G10-R</td>
<td>XMC NVIDIA GT745M GPU card, conduction cooled</td>
</tr>
<tr>
<td>XMC-G745-R</td>
<td>XMC NVIDIA GT745M GPGPU card, conduction cooled</td>
</tr>
<tr>
<td>3U Test Frame</td>
<td>3U VPX test frame with tBP-VPX3000 backplane for users to validate VPX3001 functionality</td>
</tr>
</tbody>
</table>

http://www.adlinktech.com/VPX/
**VPX3001 Block Diagram**

**VPX-R3001 3U RTM**

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Location</th>
<th>GbE</th>
<th>Display</th>
<th>USB 2.0</th>
<th>SATA</th>
<th>XMC</th>
<th>COM</th>
<th>GPIO</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPX-R3001</td>
<td>Rear I/O</td>
<td>2x 1000BASE-BX</td>
<td>VGA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>On Board</td>
<td>2x 1000BASE-T</td>
<td></td>
<td>1000BASE-T</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2x RS-232</td>
<td>6</td>
</tr>
</tbody>
</table>

**Companion Production Information**

**VPX 3U Graphics Card**

- NVIDIA GeForce GT 745M GPU (Kepler refresh)
- 384 CUDA cores for maximum processing power
- Dual channel GDDR5 soldered memory, 2GB
- 16-lanes PCIe Gen3 (x16/x8/x4/x1) to P1
- Four single link DVI and One VGA to P2
- Support OpenVPX Profile: MOD3-PER-2F-16.3.1-3 and MOD3-PER-1F-16.3.2-2

**XMC Graphics Module**

- NVIDIA GeForce GT 745M GPU (Kepler refresh)
- 384 CUDA cores for maximum processing power
- Dual channel GDDR5 soldered memory, 2GB
- 16-lanes PCIe Gen3 (x16/x8/x4/x1) on P15
- Four single link DVI and One VGA ON p16

**3U VPX Test Frame**

- **Product Type**: Test Frame
- **Form Factor**: VPX 3U
- **Dimensions**: 142.6mm (H) x 209.9mm (W) x 276.28mm (D)
- **Blade Support**: Conduction cooled VPX 3U blades
- **Backplane Support**: Up to 9 slots
- **RTM Support**: Yes
- **Cooling**: Passive fins
- **Power**: User define

**Note:** All specifications are subject to change without further notice.