**cPCI-6636**

*6U CompactPCI 6th Gen Intel® Xeon® E3 and Core™ i7/i3 Processor Blade*

**Features**
- Supports 6th Gen Intel® Xeon® E3 and Intel® Core™ i7/i3 processor
- Up to 32GB DDR4-2133 memory, soldered and SO-DIMM, optional ECC
- XMC connector support (8HP models)
- Up to 8x USB 3.0
- Up to 4x GbE to rear I/O
- SEMA 3.5 support

**Specifications**

**Processor & System**
- **CPU**
  - Intel® Xeon® E3-1505M v5, 2.8/3.7GHz, 4C/8T, GT2, 8M, 45W (35W by cTDP)
  - Intel® Core™ i7-6820EQ 2.8/3.5GHz, 4C/8T, GT2, 8M, 45W (non ECC)
  - Intel® Core™ i3-6100E 2.7GHz, 2C/4T, GT2, 3M, 35W
- **Chipset**
  - Intel® HM170 Chipset (w/o ECC)
  - Intel® CM236 Chipset (w/ ECC)
  - *cPCI-6636(D) default with CM236
  - *cPCI-6636DZ default with HM170
- **RAM**
  - Dual channel DDR4-2133 SDRAM, up to 32GB
  - One channel soldered onboard up to 16GB; one channel in SO-DIMM socket up to 16GB
  - ECC supported with CM236 Chipset
- **BIOS**
  - AMI UEFI BIOS, 64Mbit SPI serial flash memory
- **CompactPCI Bus**
  - PCI 64-bit/66MHz, 3.3V or 5V universal V I/O
  - cPCI-6636(D) supports operation in system and peripheral slots without CompactPCI bus communication (Satellite mode)
  - cPCI-6636DZ supports operation in host slot only
- **PICMG standards**
  - PICMG 2.0 CompactPCI Rev. 3.0
  - PICMG 2.1 Hot Swap Specification Rev. 2.0
  - PICMG 2.16 Packet Switching Backplane not supported by cPCI-6636DZ

**Connectivity**
- **XMC**
  - One XMC slot on cPCI-6636D/DZ
- **Ethernet**
  - Up to one Intel® PHY I219LM and three Intel® LAN controller I210IT
  - Two 10/100/1000BASE-T ports on front panel, switchable to rear
  - Two 10/100/1000BASE-T ports to J3 for PICMG 2.16
- **Graphics**
  - Integrated in Intel processor
  - Intel® HD Graphics 530 on Core™ i7/i3; Intel® HD Graphics P530 on Xeon® E3
  - Supports DirectX 12 and OpenGL 4.4 for Xeon® E3 and Open GL 4.5 for Core™ i7/i3
- **USB**
  - cPCI-6636DZ: eight USB 3.0 ports
  - cPCI-6636(D): three USB 3.0 ports
- **Serial Port**
  - cPCI-6636DZ: 3x RJ-45 on faceplate (converts to 6x RS-232 TX/RX)
  - cPCI-6636(D): 1x RJ-45 RS-232/422/485
- **Audio**
  - High Definition Audio signals to J3
Specifications

● Storage
  1x SATA 6Gb/s direct connector for 2.5” onboard drive
  1x SATA 6Gb/s 7-pin connector
  1x CFast slot on 1-slot version by default
  3x SATA to rear J3, J5

● Operating System
  OS
  Windows 10, 7 Pro (64-bit)
  RHEL 7.3 and above (64-bit)
  Ubuntu 16.10 (64-bit)
  Fedora 22 (64-bit)
  VxWorks 7 upon request
  (Please contact ADLINK for other OS support)

● Miscellaneous
  LEDs
  1x WDT on faceplate
  1x Power on faceplate
  1x HDD on faceplate

  Battery
  Coin cell lithium battery onboard for RTC CMOS

  Watchdog Timer
  System Reset and NMI, with programmable interval, 1-65535 seconds or minutes

  Hardware Monitor
  Monitors CPU temperature, system temperature, Vcore and DC voltage
  Supported by onboard SEMA 3.5 BMC

  TPM
  TPM 2.0 support on cPCI-6636 and cPCI-6636D

● Mechanical & Environmental
  Form Factor
  6U 4/8HP CompactPCI
  233.33mm x 160mm (LxW)
  cPCI-6636(D) equipped with J1, J2, J3 and J5
  cPCI-6636DZ equipped with J1, J2

  Operating Temperature
  0°C to 60°C
  Extended Temperature: -20°C to 70°C (SKU dependent, by screening)

  Storage Temperature
  -50°C to 100°C

  Relative Humidity
  95% non-condensing

  Shock
  20G peak-to-peak, 11ms duration, non-operating

  Vibration
  2Grms random vibration, 5-500Hz, each axis, operating

  Power Consumption
  Intel® Core™ i7-6820EQ with BIOS EIST Enabled, cTDP Normal in Win 7: TBD

  Weight
  Net weight with heatsink for cPCI-6636 (TBD)

● Safety & EMI
  Certifications
  CE/FCC
## I/O Table

<table>
<thead>
<tr>
<th></th>
<th>GbE</th>
<th>USB 2.0</th>
<th>USB 3.0</th>
<th>COM</th>
<th>DVI</th>
<th>VGA</th>
<th>XMC</th>
<th>SATA</th>
<th>CFast</th>
<th>CF</th>
<th>Mic-in</th>
<th>Line-out</th>
<th>PS/2</th>
<th>KB/MS</th>
<th>SD</th>
<th>SAS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SBC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>(2.5&quot;, 7-pin)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-6636 (4HP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 (DVI-I)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-6636D (8HP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>(2.5&quot;, 7-pin)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-6636DZ (8HP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>(2.5&quot;, 7-pin)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6002</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6002D</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6100</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>4(2)</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1(3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6110</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6650</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1(10-pin)</td>
<td>3</td>
<td></td>
<td></td>
<td>4</td>
<td>SFF-8088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2(10-pin)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RTM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6100</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cPCI-R6650</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceplate</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4(10-pin)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Tx, Rx signals only.
(2) Two from the front processor blade, two from the RTM onboard Ethernet controller I350-AM2.
(3) Converted from USB, Window OS installation not supported.
Ordering Information

**Processor Blades**

- **cPCI-6636SL/E3-1505M/M16-0**
  6U 4HP cPCI-6636SL with Intel® Xeon® E3-1505M v5 processor, one channel of onboard 16GB DDR4 ECC with 2x GbE, COM, DVI-I, 3x USB, 2.5" SATA

- **cPCI-6636SL/6820E/M16-16**
  6U 4HP cPCI-6636SL with quad-core Intel® Core™ i7-6820EQ processor, 16GB DDR4-2133 soldered and 16GB DDR4-2133 SODIMM, with 2x GbE, COM, DVI-I, 3x USB 3.0, 2.5" SATA and CFast; with J1, J2, J3, J5

- **cPCI-6636SLD/6820E/M16-16**
  6U 8HP cPCI-6636SLD with quad-core Intel® Core™ i7-6820EQ processor, 16GB DDR4-2133 soldered and 16GB DDR4-2133 SODIMM, with 2x GbE, COM, DVI-I, 3x USB 3.0, 2.5" SATA and XMC; with J1, J2, J3, J5

- **cPCI-6636SLDZ/6820E/M4-0**
  6U 8HP cPCI-6636SLDZ with quad-core Intel® Core™ i7-6820EQ processor, 4GB DDR4-2133 soldered, with 2x GbE, 6x COM, 2x VGA, 8x USB 3.0, 2.5" SATA and XMC; with J1, J2 only

**Rear Transition Modules**

(Only compatible with cPCI-6636(D) with J3, J5)

- **cPCI-R6002**
  4HP Rear I/O module with 2x GbE, 2x COM, 3x USB, SATA, DVI-I

- **cPCI-R6002D**
  8HP Rear I/O module with 2x GbE, 1x COM, 4x USB2.0, DVI-I, PS/2 and Mic-in, Line-out interfaces

- **cPCI-R6100**
  4HP Rear I/O module with 4x GbE, RJ-45 COM, 4x USB, DVI, VGA, PS/2

- **cPCI-R6110**
  4HP Rear I/O module with 2x GbE, 4x USB, VGA, PS/2

- **cPCI-R6650**
  6U 8HP Rear I/O module with 4x GbE, COM, 8x SAS, 2x DVI-D, 3x USB 2.0, PS/2, Audio

See 6U RTM selection guide for more options.