cPCI-3630 Series

3U CompactPCI Quad-Core Intel Atom® Processor X Series Blade

Features

- Low power quad-core Intel Atom® x7-E3950 Processor (formerly Apollo Lake I)
- Up to 8GB DDR3L-1600 ECC soldered memory
- Optional onboard 32GB SSD support
- Smart Embedded Management Agent (SEMA) for system health monitoring
- Optional additional GbE ports with MIL-STD M12 connectors
- EN 50155 compliant for railway applications

Specifications

- Processor & System
  - CPU
    Quad-core Intel Atom® x7-E3950 SoC processor, 1.6GHz, TDP 12W
    Dual-core Intel Atom® x5-E3930 SoC processor, 1.3GHz, TDP 6.5W
  - Memory
    Dual channel DDR3L-1600 ECC soldered, up to 8GB
  - BIOS
    AMI EFI BIOS, dual 16M bytes SPI flash memory
  - CompactPCI Bus
    PCI 32-bit, 33/66MHz, 3.3V or 5V universal V(I/O)
    Supports operation in system slot as master or in peripheral slot as stand-alone blade without connectivity to CompactPCI bus (Satellite mode)
  - PICMG standards
    PICMG 2.0 CompactPCI R3.0
    PICMG 2.1 Hot Swap R2.0

- Connectivity
  - XMC
    PCIe x1 XMC site on 2nd or 3rd layer daughter board
  - Ethernet
    Two 10/100/1000BASE-T Gigabit Ethernet Ports on faceplate by Intel® I210 controllers, switchable to J2
    Two additional GbE in M12 MIL-STD connectors on layer 2 daughter board by Intel® 82574L (cPCI-3630T, cPCI-3630TR)
  - Graphics
    Integrated in Intel® processor
    One VGA on faceplate switchable to rear transition module by BIOS option
    Additional two DisplayPort support up to 4096x2160p by using cPCI-3630G
  - Serial Port
    Optional serial port on selected dual-slot SKUs (cPCI-3630D, cPCI-3630G, cPCI-3630T, cPCI-3630TR)
    Two serial ports routed to rear transition module
  - PS/2
    Optional PS/2 keyboard mouse on cPCI-3630D, cPCI-3630G
  - USB
    One USB 3.0 on front panel 1st layer
    One USB 2.0 routed to rear transition module
    Two additional USB 2.0 on cPCI-3630D, cPCI-3630M
  - Audio
    Optional Mic-in, Line-out on cPCI-3630D
Specifications

● Storage
  Blade
  One onboard 32GB SSD in 4HP version. Offering 32GB SSD/CFAST/mSATA on daughter board by option for 8HP version
  One Serial ATA direct connector for 2.5” onboard HDD on selected SKUs (shared with SATA to RTM)

  RTM
  Two SATA 3Gb/s port routed to RTM (shared with cPCI-3630 layer 2 SATA port)

● Operating System
  OS
  Windows 10 64-bit
  Yocto 2.0
  Wind River VxWorks 7.0 (by request)
  QNX 7.0 (by request)
  (Please contact ADLINK for other OS support)

● Miscellaneous
  LED
  Power, WDT, Storage Drive, Thermal, General Purpose
  LEDs are reserved to rear by BOM option (contact ADLINK for assistance)

  Battery
  Coin cell lithium battery onboard for RTC backup power
  (optional Gold Capacitor)

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

  Hardware Monitor
  Monitors CPU temperature, system temperature, Vcore and DC voltage by SEMA

  Security
  Trusted Platform Module TPM 2.0

● Mechanical & Environmental
  Form Factor
  3U 4HP/8HP CompactPCI
  100mm x 160mm (L x W)

  Operating Temperature
  ENS0155 Tx
  Standard: -40°C to 70°C (fanless)
  Extreme: -40°C to +85°C (screened, with forced air flow)

  Storage Temperature
  ENS0155 Tx
  -50°C to +100°C

  Relative Humidity
  95% non-condensing

  Shock
  ENS0155:2017/IEC61373 Edition 2.0:2010, Category 1 class B Body mounted

  Vibration
  ENS0155:2017/IEC61373 Edition 2.0:2010, Category 1 class B Body mounted

  Altitude
  4000m, MIL-STD-810G w/Change 1, Method 500.6, Procedure II

  Power Consumption
  23.75W by cPCI-3630/E3950/M8G
  15.50W by cPCI-3630/E3930/M8G

  Weight
  cPCI-3630TR: Net weight 480g with heatsink

● Safety & EMI
  Certification
  CE/FCC
  EMC Directive 2014/30/EU (EN55032 / EN55024)
  EMC Directive 2014/30/EU (EN50121-3-2)
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<th>Display</th>
<th>USB</th>
<th>COM</th>
<th>PS/2 KB/MS</th>
<th>Storage(2)</th>
<th>SSD</th>
<th>Audio</th>
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**SBC**

- **cPCI-3630** (4HP)
- **cPCI-3630D** (BHP)
- **cPCI-3630G** (BHP)
- **cPCI-3630M** (BHP)
- **cPCI-3630N** (4HP)
- **cPCI-3630S** (BHP)
- **cPCI-3630T** (BHP)
- **cPCI-R3610(T)**

**Faceplate**

- 2 (RJ-45)
- 1 VGA
- 1 (3.0)
- 2 (2.0)
- 1 (DB9)
- 1 (SATA)
- Optional
- 1 (Line-in)
- 1 (Line-out)

**Onboard**

- 1 (SATA)
- Optional
- 1 (Line-in)
- 1 (Line-out)

**RTM**

- 2 (RJ-45)
- 1 VGA
- 1 (2.0)
- 2 (DB9)
- 1 (SATA)

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(1) Two RJ-45 connectors from Intel® I210 GbE controllers and two M12 MIL-STD connectors from Intel® 82574L GbE controllers
(2) SATA port is shared with rear transition module SATA port
(3) Switchable to front or rear by BIOS selection
(4) Available by soldering SSD with DB-3SSD adapter board, or replacing the daughter board with CFast or mSATA options.
(5) Share SATA with cPCI-3630 main board SATA
Ordering Information

CPU Board

- **cPCI-3630/E3950/M4G/S32**
  1-slot (4HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 2x GbE and onboard 32GB SSD

- **cPCI-3630D/E3950/M4G**
  2-slot (8HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 2x GbE, COM (RS-232/422/485), 2x USB 2.0, PS/2 keyboard mouse, line-in, line-out, and SATA connector

- **cPCI-3630G/E3950/M4G**
  2-slot (8HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 2x GbE, 2x DP, COM in RJ-45, PS/2 KB/MS, USB 2.0

- **cPCI-3630M/E3950/M4G**
  2-slot (8HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 2x GbE, one 100-pin connector with signal of 2x DP, 2x COM, PS/2 KB/MS, audio, 2x USB 2.0 and mating testing cable

- **cPCI-3630N/E3950/M4G/S32**
  1-slot (4HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, no I/O only LEDs (Power, HDD, WDT, GP, GbE LEDs), and onboard 32GB SSD

- **cPCI-3630S/E3950/M4G**
  2-slot (8HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 2x GbE, XMC site on Layer-2

- **cPCI-3630T/E3950/M4G**
  2-slot (8HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 2x GbE in RJ-45 and 2x GbE in MIL-STD M12 connectors, COM (RS-232/422/485), and SATA connector

- **cPCI-3630TR/E3950/M4G**
  (available by request)
  2-slot (8HP) 3U CompactPCI blade with Intel Atom® x7-E3950 processor, 4GB DDR3L-1600 soldered memory, supports VGA, USB 3.0, 4x GbE in RJ-45 connectors, COM (RS-232/422/485), and SATA connector

Rear Transition Module

- **cPCI-R3610**
  8HP Rear I/O module with 2x GbE, 1x USB 2.0, VGA, 2x COM, 1x SATA 3Gb/s, 50mm depth

- **cPCI-R3610T**
  8HP Rear I/O module with 2x GbE, 1x USB 2.0, VGA, 2x COM, 1x SATA 3Gb/s, 80mm depth

Contact us for different CPU, memory and storage combinations.