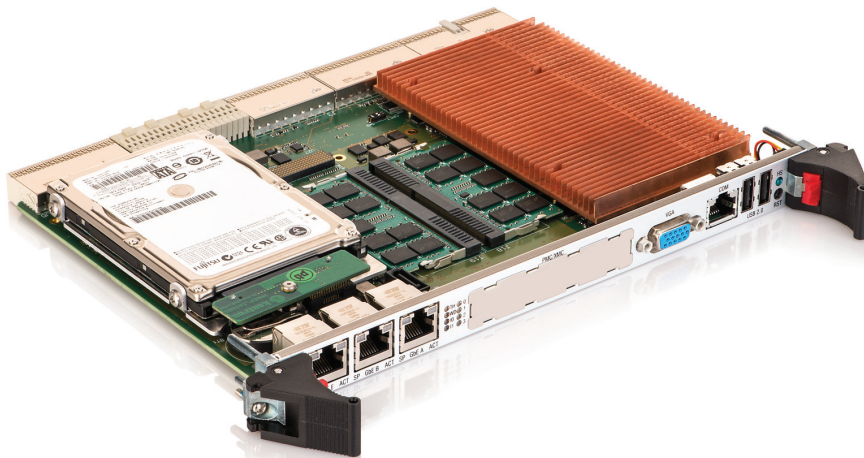


» CP6004X-SA «



Intel® Core™ i7 Third Generation CompactPCI Processor Blade with 10GbE / PCI Express

» **New High Speed Interconnections:**

10 Gigabit Ethernet & PCI Express provided to Backplane based on PICMG 2.20 Spec.

» **Quad-Core Performance:**

Third Generation Intel® Core™ i7 processor with up to 16 GByte DDR3 memory including ECC support

» **Highest Versatility and Excellent Power Management:**

Comprehensive I/O capabilities: DVI/HDMI, GigEthernet, XMC, USB, VGA, SATA RAID, SATA NAND Flash compliant to standards

» **Broad Software Support:**

Complete Board Support Packages for On Board Hardware and Toolchain

CP6004X-SA

6U CompactPCI at a glance with quad core processors, 10 Gigabit Ethernet and PCI Express on the backplane.

Data Throughput Unlimited

Dual channel 10 Gigabit Ethernet combined with PCI Express 2.0 x4 on the backplane set the base for communication intensive applications. The CP6004X-SA provides up to 20 Gigabit raw data throughput through Ethernet and a similar bandwidth over PCI Express, all based on the PICMG 2.20 specification.

Greater Performance/Watt

The powerful 22nm quad-core Intel® Core i7 3rd generation processor is the backbone for network intensive applications, providing virtualisation and highest graphics performance. The PICMG 2.16-compliant Kontron CP6004X-SA offers up to 16GB dual channel 1600 MHz DDR3 ECC memory via two SODIMM sockets, providing up to 25 GB/sec data throughput. Thanks to hotswap support and IPMI (PICMG 2.9-compliant Intelligent Platform Management Interface) the CPU board meets the highest demands for the management of high availability applications. Many of these are data and tele-communications applications, but also include highly sensitive, security related solutions as well as image processing systems in medical technology and other vertical industries.

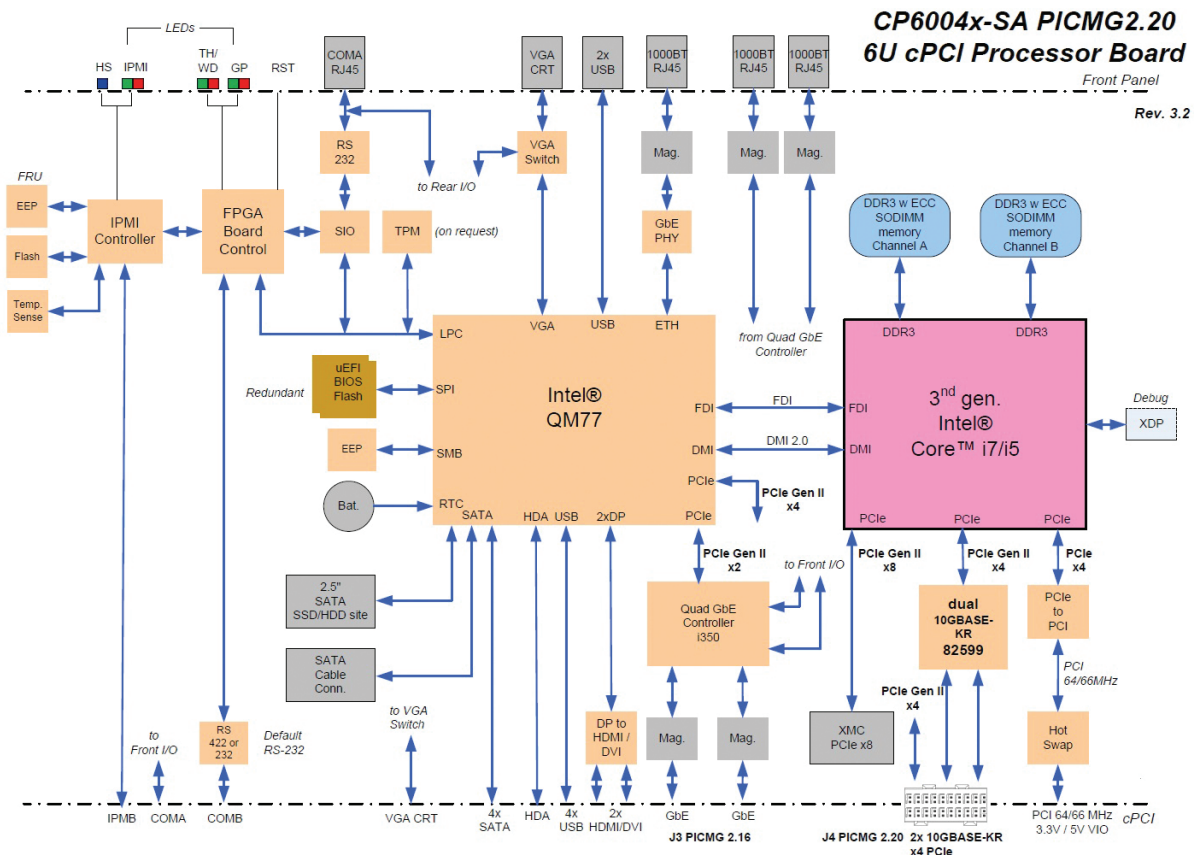
Unique Versatility

Compliant to the CP6004-SA, the highly integrated CP6004X-SA features a XMC site according to XMC.3 supporting x8 PCI Express, an onboard

2.5-inch SATA hard disk or SSD and an industrial grade NAND Flash device - all usable in a 4HP single slot. The Intel® Platform Controller Hub QM77 provides advanced I/O technology including USB 2.0 and several Serial ATA channels. Five independent Gigabit Ethernet ports (3x ports at the front and 2x for full PICMG 2.16 support) plus a dual 10G Ethernet channel to the backplane provide comprehensive connectivity capabilities. Highly versatile, the CP6004X-SA can be used in a system or peripheral slot. A rich set of LEDs at the front panel for debug and diagnostic, as well as full rear I/O connectivity completes the CP6004X-SA.

Longterm Availability

Delivering a stable product based on Intel®'s embedded product line, the CP6004X-SA ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks, the CP6004X-SA provides a broad range of software support to ease the process of product integration and maximize the competitive advantage of meeting the timeto-market window.



Technical Information

Processor

3rd Generation Intel® Core™ processor (22nm manufacturing process, code name Ivy Bridge)
Quad Core i7-3615QE (2.3 GHz)

Platform Controller Hub

Platform Controller Hub Intel® QM77

Memory

System Memory

Dual channel DDR3 memory with ECC and data speed of up to 1600 MHz per channel, and up to 16 GB on two SODIMM sockets

NAND Flash

Up to 64 GB NAND Flash Module option (SSD)

Flash BIOS

Two redundant 8 MByte SPI Flashes

Front Panel Functions

Gigabit Ethernet

Three 1000BASE-T Ethernet on the FP

Serial Port

One RS232 interface on RJ45 connector

USB interface

Two USB 2.0 ports, 4-pin standard USB host

VGA

One 15-Pin D-Sub connector for analog monitors

Reset button

One reset button

Micro Switch

For Hot Swap

LEDs

Eight bicolor (red and green) control and status LEDs
Two IPMI LEDs
One Watchdog and one thermal LED
Four GP LEDs
One blue hot Swap LED

Onboard Interfaces

Gigabit Ethernet

Two PICMG 2.16 rear I/O 1000BASE-T ports, Two 10G BASE-KR Ethernet channels to J4 (based on PICMG 2.20)

SATA

Four ports fixed to rear I/O
One port routed to a standard SATA connector
One port available for mounting an optional 2.5" HDD or SSD
PCIe 2.0 x4 to rear I/O

PCI Express

NAND Flash

One port available for mounting an optional NAND Flash module

Serial Ports

COM1 (RS232) routed to front panel and rear I/O
COM2 (RS232) routed to rear I/O only

CPCI Bus

PICMG 2.0 Rev. 3.0 compatible, 64-bit / 66 MHz
Universal V(I/O) 5V or 3.3V signalling
Operating in system slot as system master and in peripheral slot in PCI passive mode (no communication to CompactPCI bus)

XMC

One XMC slot via P15, supporting XMC.3 x8 PCIExpress

Rear I/O

J3: PICMG 2.16, VGA, COM 1/2, 4x USB
J4: 2x 10GbE, PCIe 2.0 x4
J5: 4x SATA, HDA, battery, fan control, HDMI

Supervisory Functions, Clock/Calendar

Watchdog, software configurable, 125 msec to 256 sec, generates IRQ or hardware reset.
Hardware monitor for thermal control, fan speed, and all onboard voltages
RTC battery backup

IPMI

IPMI 1.5-compliant for IPMI based management and CompactPCI System Management PICMG 2.9 R1.0

TPM

Optional Trusted Platform Module (TPM) 1.2 for enhanced hardware and software based data and system security

I/O Table Summary

Description

Front I/O	Rear I/O	Onboard Connector	Total
1	1	-	1
2	4	-	6
-	1	-	1
1	2	-	2
-	2	-	2
3	4	-	7
-	Gen 2.0 x4	-	Gen 2.0 x4
-	4	2	6
-	-	1	1
-	-	1	1
-	2	-	2
-	1	-	1
-	1 optional	-	1 optional

Technical Information (continued)

Compliance

CompactPCI Core Specification PICMG 2.0 Rev. 3.0
 CompactPCI Hot Swap Specification PICMG 2.1 R2.0
 CompactPCI System Management PICMG 2.9 R1.0
 CompactPCI Packet Switching Backplane PICMG 2.16 R1.0

Designed to meet or exceed:

Safety: UL 1950, UL 94, CSA 22.2 No 950, EN 60950, IEC 950
 EN 55022 / EN 55024, EN 50081-1 / EN 6100-6-2

Based on CompactPCI Packet Serial Mesh Backplane PICMG 2.20 Rev. 1.0

MTBF

179482 h MIL-HDBK-217 FN2 Ground Benign 30°
 211510 h Bellcore Issue 6 Ground Benign 30°

General**Dimensions**

233 x 160 x 20.5 mm, 6U, 4HP

Weight

799g

Software Support

AMI EFI (BIOS) with POST codes, setup console redirection to serial port (VT100 mode) with CMOS setup access, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation
 LAN boot support
 Board identification number accessible via EEPROM
 Support for Windows® 7, XP, XP Embedded, Windows® Server 2008R2, Linux®
 (other OSs may be possible, please contact us for information)

Power Consumption

Maximum: 63W

Environmental**Operating temp.**

0°C to +60°C, passive module heat sink, requires forced airflow cooling

Storage temp.

-40°C to +85°C Without hard disk and without battery

Climatic Humidity

93% RH at 40°C, non condensing (acc. to IEC 60068-2-78)

Altitude

50,000 ft (15,240 m)

Ordering Information

Article

CPU Boards

[CP6004X-SA-2.3Q-8G](#)

Description

- » Quad Core 2.3 GHz, Core i7-3615QE
- » 8GB SODIMM dual channel 1600 MHz with ECC
- » Standard front & rear I/O, XMC socket
- » Dual 10G BASE-KR & PCIe backplane interface
- » Temperature range 0°C to 60°C

Accessories

[CP6004-MK2.5 SATA](#)[Flash-SATA](#)[CP-RAPID3](#)

Mounting kit for 2.5" SATA-HDD/SSD onboard, mounting within 4HP

Various SSD products / sizes available (not possible, if onboard HDD / SSD used)

19" system with 10GbE full mesh backplane and PCIe support for system extensions

Rear Transition Modules

[CP-RI06-001](#)[CP-RI06-001-HD](#)

4HP Rear I/O Module for CP6004 with 2xDVI-D; 2x USB2.0; 2x GbE; headers for 2x COM, Flash, SATA, Fan

4HP Rear I/O Module for CP6004 with 1xDVI-D; 2x USB2.0; 2x GbE; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, Fan

[CP-RI06-001-HD-216](#)

Similar to CP-RI06-001-HD, but PICMG 2.16 compliant; without external Ethernet ports

[CP-RI06-001-HD-VGA](#)

Similar to CP-RI06-001-HD, but with VGA interface instead of DVI-D

[CP-RI06-B](#)

4HP Rear I/O Module for CP6004 with 2xUSB, 2xGbE; Audio, 2xCOM, DVI, HDMI, Connectors for USB Flash, 4x SATA, Fan

[CP-RI06-B-216](#)

Similar to CP-RI06-B, but PICMG 2.16 compliant; without external Ethernet ports

[CP-RI06-A](#)

4HP Rear I/O Module for CP6004 with 2xUSB, 2xGbE; Audio, 2xCOM, VGA, Connectors for USB Flash, 4x SATA, Fan

[CP-RI06-A-216](#)

Similar to CP-RI06-A, but PICMG 2.16 compliant; without external Ethernet ports

Software Support (All packages downloadable from Web)

[Windows](#)

Documentation and Windows, 7, Server 2008-R2 driver kit

[Linux](#)

Linux (Redhat, Fedora, Windriver) Board Support Package

[VxWorks](#)

VxWorks 6.x Board Support Package

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