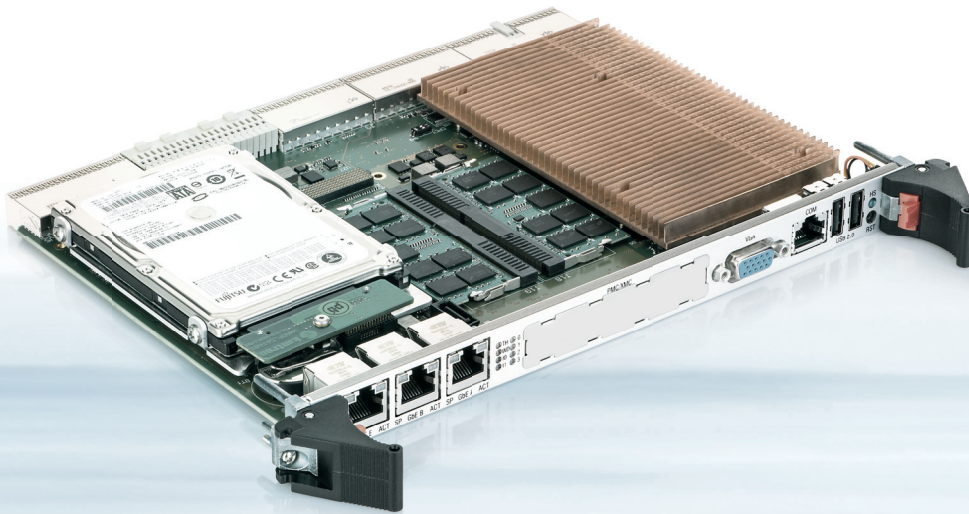


# CP6004X-SA

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## Intel® Core™ i7 THIRD GENERATION CompactPCI PROCESSOR BLADE WITH 10GBE / PCI Express

- ▶ new high speed interconnections
- ▶ quad-core performance
- ▶ highest versatility and excellent power management
- ▶ broad software support

POSSIBILITIES START HERE



# 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

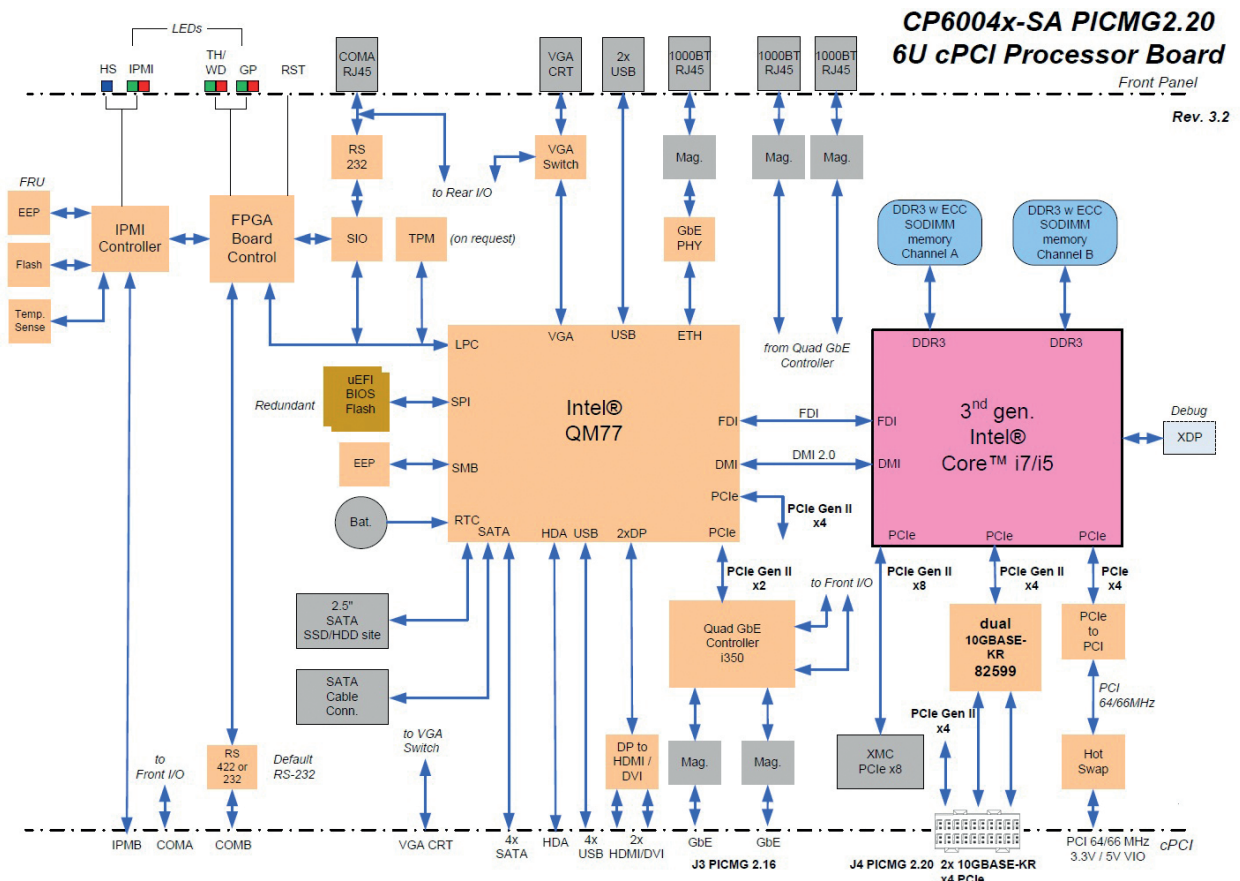
The powerful 22nm quad-core Intel® Core™ i7 3rd generation processor is the backbone for network intensive applications, providing virtualisation and highest graphics performance. The PICMG 2.16-compliant Kontron CP6004X-SA offers up to 16 GByte dual channel 1600 MHz DDR3 ECC memory via two SODIMM sockets, providing up to 25 GByte/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

<b>PROCESSOR</b>		3rd Generation Intel® Core™ processor (22 nm manufacturing process, code name Ivy Bridge) Quad Core i7-3615QE (2.3 GHz)																																																								
<b>PLATFORM CONTROLLER HUB</b>		Platform Controller Hub Intel® QM77																																																								
<b>MEMORY</b>	<b>SYSTEM MEMORY</b>	Dual channel DDR3 memory with ECC and data speed of up to 1600 MHz per channel, and up to 16 GByte on two SODIMM sockets Up to 64 GByte NAND Flash Module option (SSD) Two redundant 8 MByte SPI Flashes																																																								
<b>FRONT PANEL FUNCTIONS</b>	<b>GIGABIT ETHERNET</b> <b>SERIAL PORT</b> <b>USB INTERFACE</b> <b>VGA</b> <b>RESET BUTTON</b> <b>MICRO SWITCH</b> <b>LEDS</b>	Three 1000BASE-T Ethernet on the FP One RS232 interface on RJ45 connector Two USB 2.0 ports, 4-pin standard USB host One 15-Pin D-Sub connector for analog monitors One reset button For Hot Swap 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																																																								
<b>ONBOARD INTERFACES</b>	<b>GIGABIT ETHERNET</b>  <b>SATA</b>  <b>PCI EXPRESS®</b> <b>NAND FLASH</b> <b>SERIAL PORTS</b>  <b>CPCI BUS</b>    <b>XMC</b> <b>REAR I/O</b>	Two PICMG 2.16 rear I/O 1000BASE-T ports, Two 10G BASE-KR Ethernet channels to J4 (based on PICMG 2.20) 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 One port available for mounting an optional NAND Flash module COM1 (RS232) routed to front panel and rear I/O COM2 (RS232) routed to rear I/O only PICMG 2.0 Rev. 3.0 compatible, 64-bit / 66 MHz Universal V(I/O) 5 V or 3.3 V signalling Operating in system slot as system master and in peripheral slot in PCI passive mode (no communication to CompactPCI bus) One XMC slot via P15, supporting XMC.3 x8 PCI Express® 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																																																								
<b>SUPERVISORY FUNCTIONS, CLOCK/CALENDAR</b>		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																																																								
<b>IPMI</b>		IPMI 1.5-compliant for IPMI based management and CompactPCI System Management PICMG 2.9 R1.0																																																								
<b>TPM</b>		Optional Trusted Platform Module (TPM) 1.2 for enhanced hardware and software based data and system security																																																								
<b>I/O TABLE SUMMARY</b>	<b>DESCRIPTION</b> <b>VIDEO CRT VGA</b> <b>USB 2.0</b> <b>HDAUDIO</b> <b>SERIAL</b> <b>DVI/HDMI</b> <b>ETHERNET</b> <b>PCI-E</b> <b>SATA</b> <b>NAND FLASH</b> <b>XMC</b> <b>FAN CONTROL</b> <b>BATTERY INPUT</b> <b>SMB</b>	<table border="1"> <thead> <tr> <th>Front I/O</th> <th>Rear I/O</th> <th>Onboard Connector</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>-</td> <td>1</td> </tr> <tr> <td>2</td> <td>4</td> <td>-</td> <td>6</td> </tr> <tr> <td>-</td> <td>1</td> <td>-</td> <td>1</td> </tr> <tr> <td>1</td> <td>2</td> <td>-</td> <td>2</td> </tr> <tr> <td>-</td> <td>2</td> <td>-</td> <td>2</td> </tr> <tr> <td>3</td> <td>4</td> <td>-</td> <td>7</td> </tr> <tr> <td>-</td> <td>Gen 2.0 x4</td> <td>-</td> <td>Gen 2.0 x4</td> </tr> <tr> <td>-</td> <td>4</td> <td>2</td> <td>6</td> </tr> <tr> <td>-</td> <td>-</td> <td>1</td> <td>1</td> </tr> <tr> <td>-</td> <td>-</td> <td>1</td> <td>1</td> </tr> <tr> <td>-</td> <td>2</td> <td>-</td> <td>2</td> </tr> <tr> <td>-</td> <td>1</td> <td>-</td> <td>1</td> </tr> <tr> <td>-</td> <td>1 optional</td> <td>-</td> <td>1 optional</td> </tr> </tbody> </table>	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
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-	1 optional	-	1 optional																																																							
<b>COMPLIANCY</b>		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																																																								
<b>MTBF</b>		179482 h MIL-HDBK-217 FN2 Ground Benign 30° 211510 h Bellcore Issue 6 Ground Benign 30°																																																								
<b>GENERAL</b>	<b>DIMENSIONS</b> <b>WEIGHT</b>	233 x 160 x 20.5 mm, 6U, 4HP 799 g																																																								
<b>SOFTWARE SUPPORT</b>		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)																																																								
<b>POWER CONSUMPTION</b>		Maximum: 63 W																																																								
<b>ENVIRONMENTAL</b>	<b>OPERATING TEMP.</b> <b>STORAGE TEMP.</b> <b>CLIMATIC HUMIDITY</b> <b>ALTITUDE</b>	0° C to +60° C, passive module heat sink, requires forced airflow cooling -40° C to +85° C Without hard disk and without battery 93 % RH at 40° C, non condensing (acc. to IEC 60068-2-78) 50,000 ft (15,240 m)																																																								

## ▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
<b>CPU BOARDS</b>	
CP6004X-SA-2.3Q-8G	<ul style="list-style-type: none"> <li>- Quad Core 2.3 GHz, Core i7-3615QE</li> <li>- 8 GByte SODIMM dual channel 1600 MHz with ECC</li> <li>- Standard front &amp; rear I/O, XMC socket</li> <li>- Dual 10G BASE-KR &amp; PCIe backplane interface</li> <li>- Temperature range 0° C to 60° C</li> </ul>
<b>ACCESSORIES</b>	
CP6004-MK2.5 SATA	Mounting kit for 2.5" SATA-HDD/SSD onboard, mounting within 4HP
FLASH-SATA	Various SSD products / sizes available (not possible, if onboard HDD / SSD used)
CP-RAPID3	19" system with 10GbE full mesh backplane and PCIe support for system extensions
<b>REAR TRANSITION MODULES</b>	
CP-RI06-001	4HP Rear I/O Module for CP6004 with 2xDVI-D; 2x USB2.0; 2x GbE; headers for 2x COM, Flash, SATA, Fan
CP-RI06-001-HD	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 2x USB, 2x GbE; Audio, 2x COM, 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 2x USB, 2x GbE; Audio, 2x COM, 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
<b>SOFTWARE SUPPORT (ALL PACKAGES DOWNLOAD- ABLE FROM WEB)</b>	
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

## ▶ CORPORATE OFFICES

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