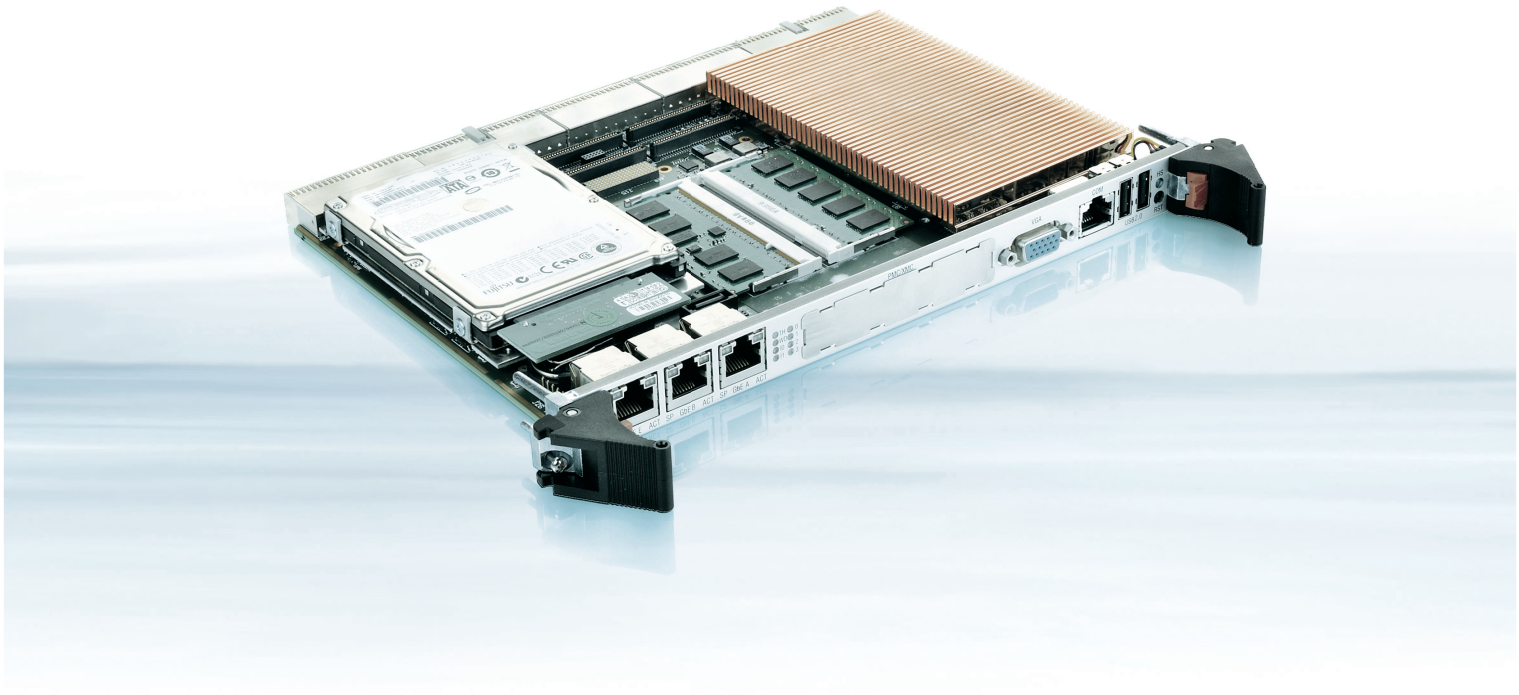
CP6004-SA



Intel® Core™ i7 THIRD GENERATION CompactPCI PROCESSOR BLADE

- Dual- and Quad-Core performance
- power saving
- highest versatility and excellent power management
- broad software support

POSSIBILITIES START HERE kontron

CP6004-SA

Intel® Core™ i7 THIRD GENERATION CompactPCI PROCESSOR BLADE

Benefit from the latest technology that achieves highest processor performance at optimized power consumption.

The power of up to four cores / eight threads enables virtualization and multithreading applications to run in full 64-bit mode using Enhanced Intel® Virtualization, Intel® HD Graphics, and Intel® Turbo Boost Technology.

Greater Performance / Watt

Compared to previous processor designs the 22nm quad-core Ivy Bridge technology allows much better performance at similar power consumption.

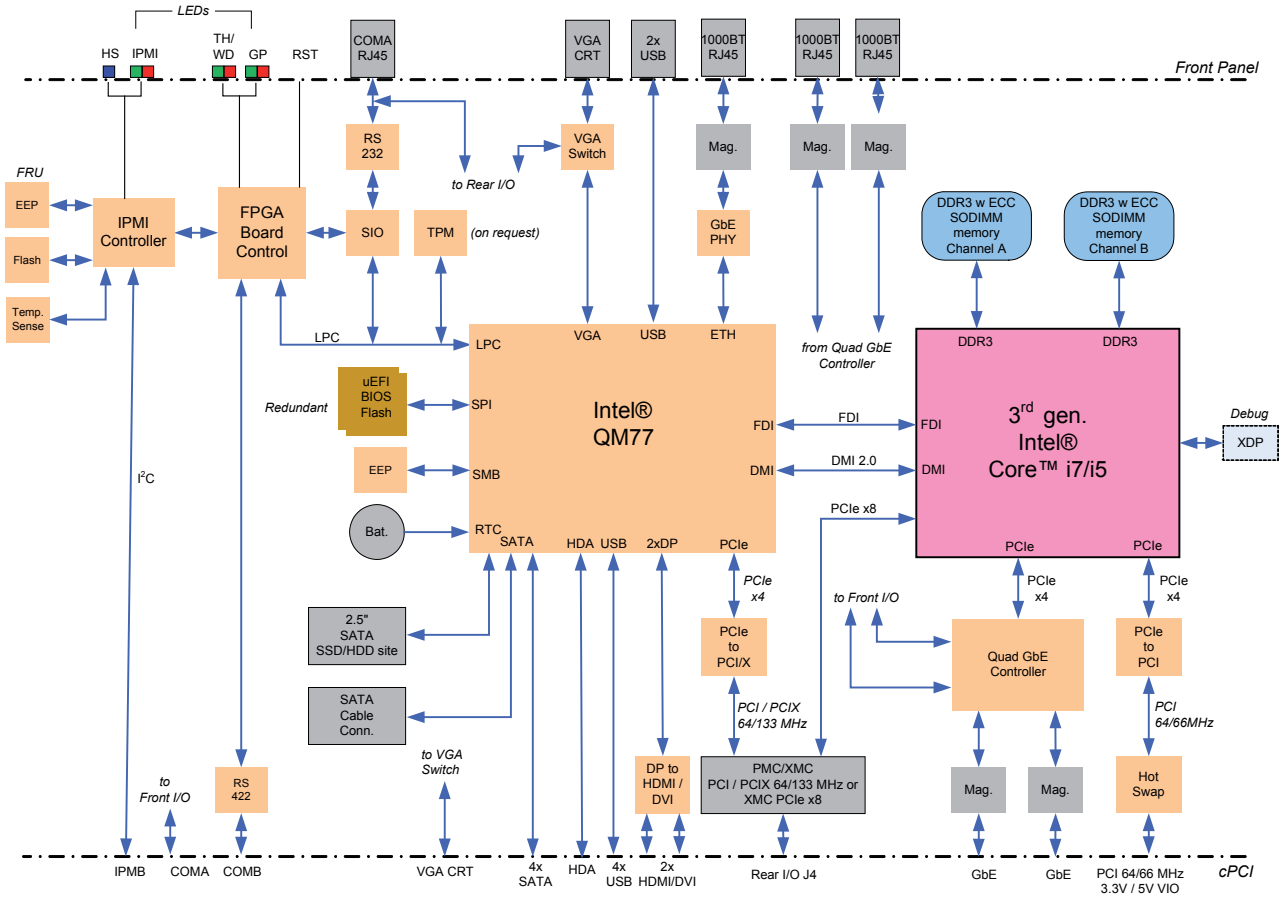
The PICMG 2.16-compliant Kontron CP6004-SA offers up to 16GB dual-channel 1600 MHz DDR3 ECC memory via two SODIMM sockets, providing up to 25 GB/sec data throughput. The CP6004-SA is designed for bandwidth intensive applications and thanks to hotswap support and IPMI (PICMG 2.9- compliant Intelligent 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

The highly integrated CP6004-SA features a XMC site according to XMC.3 supporting x8 PCI Express (alternatively a 64-bit/133MHz PCI PMC site), 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 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) provide comprehensive connectivity capabilities, enabling innovative applications today by offering enough room for the emerging next generation requirements. Highly versatile, the CP6004-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 CP6004-SA.

Longterm Availability

Delivering a stable product based on Intel®'s embedded product line, the CP6004-SA ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks, the CP6004-SA provides a broad range of software support to ease the process of product integration and maximize the competitive advantage of meeting the time-to-market window.



TECHNICAL INFORMATION

PROCESSOR		3rd Generation Intel® Core™ processor (22 nm manufacturing process, code name Ivy Bridge) Quad Core i7-3612QE (2.1 GHz), i7-3615QE (2.3 GHz); Dual Core i7 - 3555LE (2.5 GHz LV), i5-3610ME (2.7 GHz) Further processors available on project request
PLATFORM CONTROLLER HUB		Platform Controller Hub Intel® QM77
MEMORY	SYSTEM MEMORY NAND FLASH FLASH BIOS	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
FRONT PANEL FUNCTIONS	GIGABIT ETHERNET SERIAL PORT USB INTERFACE VGA RESET BUTTON MICRO SWITCH LEDs	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
ONBOARD INTERFACES	GIGABIT ETHERNET SATA NAND FLASH SERIAL PORTS CPCI BUS PMC/XMC REAR I/O	Two PICMG 2.16 rear I/O 1000BASE-T ports 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 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 64-bit / 133 MHz PMC slot, Pn1-Pn4, rear I/O Pn3 to J4, 3.3 volt V (I/O) Alternatively one XMC slot via P15, supporting XMC.3 x8 PCIExpress J3: PICMG 2.16, VGA, COM 1/2, 4x USB; J4: PMC rear I/O; J5: 4x SATA, HDA, battery, fan control
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
VIDEO CRT VGA	1	.1	-	1
USB 2.0	2	4	-	6
HDAUDIO	-	1	-	1
SERIAL	1	2	-	2
DVI/HDMI	-	2	-	2
ETHERNET	3	2	-	5
SATA	-	4	2	6
NAND FLASH	-	-	1	1
PMC / XMC	-	-	1/1	1/1
FAN CONTROL	-	2	-	2
BATTERY INPUT	-	1	-	1
SMB	-	1 optional	-	1 optional

COMPLIANCY		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
MTBF		182768 h according MIL-HDBK-217 FN2 Ground Benign 30° C 215050 h according Bellcore Issue 6 Ground Benign 30° C
GENERAL	DIMENSIONS WEIGHT	233 x 160 x 20.5 mm, 6U, 4HP 790 g
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: up to 50 or 60 watts (quad core versions), 50 watts or less (dual core versions)
ENVIRONMENTAL	OPERATING TEMP. STORAGE TEMP. CLIMATIC HUMIDITY ALTITUDE	0° C to +60° C, passive module heat sink, requires forced airflow cooling, extended on request -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
CPU BOARDS	
CP6004-SA-2.3Q-8-4R (PREFERRED VARIANT)	- Quad Core 2.3 GHz, Core i7-3615QE - 8 GByte SODIMM dual channel 1600 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C
CP6004-SA-2.3Q-8-4R-MK (PREFERRED VARIANT)	as above, including mounting kit for 2.5" HDD/SSD
CP6004-SA-2.7D-4-4R	- Dual Core 2.7 GHz, Core i5-3610ME - 4 GByte SODIMM dual channel 1600 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C
CP6004-SA-2.1Q-8-4R (ON REQUEST)	- Quad Core 2.1 GHz, Core i7-3612QE - 8 GByte SODIMM dual channel 1600 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C
CP6004-SA-2.5D-4-4R-E1X-C	- Dual Core 2.5 GHz, Core i7-3555LE (Low Voltage) - 4 GByte SODIMM dual channel 1600 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range -40° C to 70° C, conformal coating
ACCESSORIES	
HDD/SSD MOUNTING KIT	Mounting kit for 2.5" SATA-HDD/SSD onboard, mounting within 4HP, to be included in your CPU variant on request
FLASH-SATA	Various SSD products / sizes avaliable (not possible, if onboard HDD / SSD used)
REAR TRANSITION MODULES	
CP-RIO6-001	4HP Rear I/O Module for CP6004 with 2xDVI-D; 2x USB2.0; 2x GbE; headers for 2x COM, Flash, SATA, Fan
CP-RIO6-001-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-RIO6-001-HD-216	Similar to CP-RIO6-001-HD, but PICMG 2.16 compliant; without external Ethernet ports
CP-RIO6-001-HD-VGA	Similar to CP-RIO6-001-HD, but with VGA interface instead of DVI-D
CP-RIO6-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-RIO6-B-216	Similar to CP-RIO6-B, but PICMG 2.16 compliant; without external Ethernet ports
CP-RIO6-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-RIO6-A-216	Similar to CP-RIO6-A, but PICMG 2.16 compliant; without external Ethernet ports
SOFTWARE SUPPORT (ALL PACKAGES DOWNLOADABLE FROM WEB)	
WINDOWS	Documentation and Windows XP, XPe, 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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