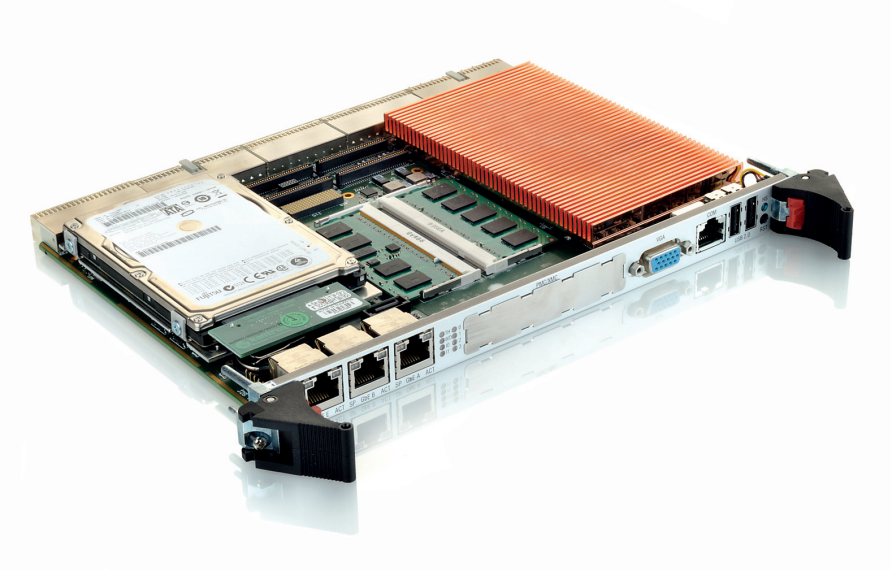
kontron

» CP6003-SA «



Intel® Core™ i7 Second Generation CompactPCI® Processor Blade

» **Dual- and Quad-Core Performance:**
Second Generation Intel® Core™ i7 processor with up to 16 GByte DDR3 memory including ECC support

» **Power Saving:**
Latest 32nm Technology for low power budgets

» **Highest Versatility and Excellent Power Management:**
Comprehensive I/O capabilities: PCIe, GigEthernet, PMC/XMC, USB, VGA, SATA RAID, SATA NAND Flash ...

» **Broad Software Support:**
Complete Board Support Packages for On Board Hardware and Toolchain

CP6003-SA

Intel® Core™ i7/i5 Second 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 32nm quad-core Sandy Bridge technology allows much better performance at similar power consumption. The PICMG 2.16-compliant Kontron CP6003-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 CP60003-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.

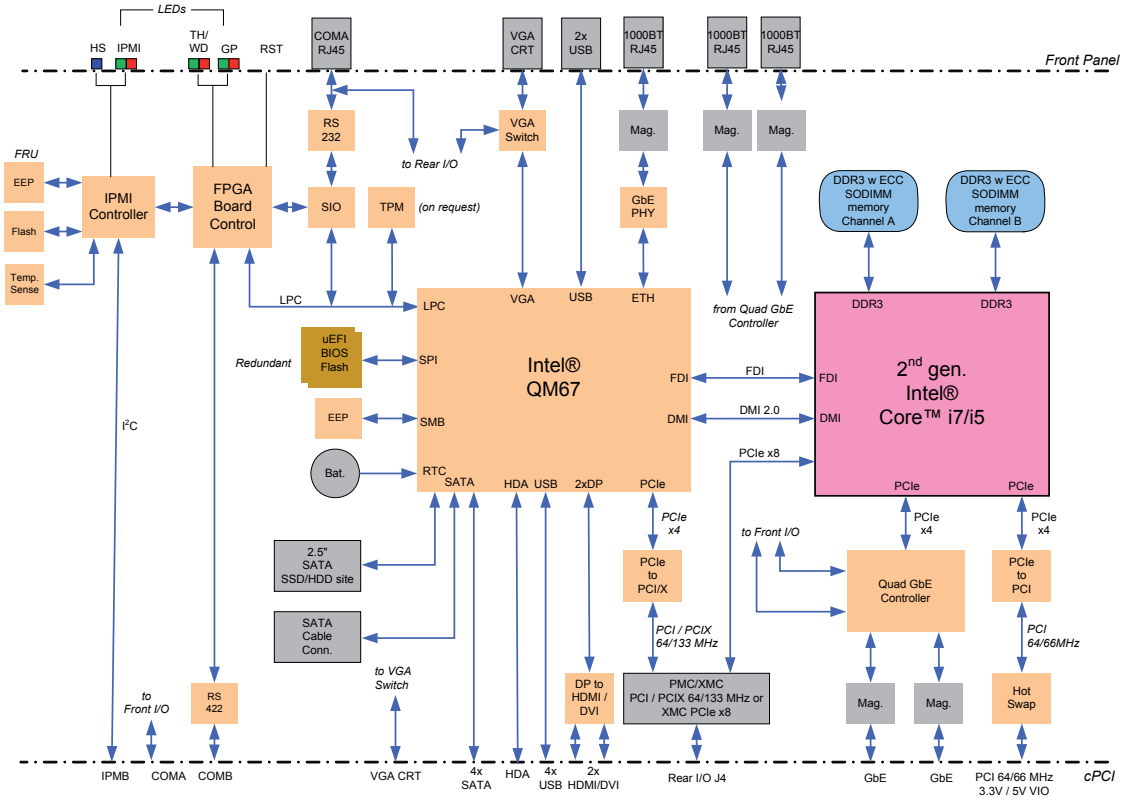
Unique Versatility

The highly integrated CP6003-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® QM67 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 CP6003-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 CP6003-SA.

Longterm Availability

Delivering a stable product based on Intel®'s embedded product line, the CP6003-SA ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks, the CP6003-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	Intel® Core™ i7/i5 Processor Second Generation (32 nm manufacturing process)up to 2.1 GHz quad core, up to 2.5 GHz dual core
Platform Controller Hub	Intel® QM67
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 32 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
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
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 (RS422) routed to rear I/O only; optionally RS232 routed to rear I/O only (separate ordering code)
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)
PMC/XMC	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
Rear I/O	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
SBM	-	1 optional	-	1 optional

Technical Information (continued)

Compliancy	CompactPCI® Core Specifi cation PICMG 2.0 Rev. 3.0 CompactPCI® Hot Swap Specifi cation 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	188089 h acc. MIL-HDBK-217 FN2 Ground Benign 30°C 218585 h acc. Bellcore Issue 6 Ground Benign 30°C
General	
Dimensions	233 x 160 x 20.5 mm, 6U, 4HP
Weight	775g
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 60 watts (quad core), 50 watts (dual core) or less, depending on CPU type
Environmental	
Operating temp.	0°C to +60°C, passive module heat sink, requires forced airflow cooling, extended with low voltage processor on request
Storage temp.	-55°C to + 85°C (without battery or HDD)
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	Description	
CPU Boards		
CP6003-SA-Q2.1-4G	» Quad Core 2.1 GHz, Core i7-2715QE » 4GB SODIMM dual channel 1333 MHz with ECC	» Standard front & rear I/O, PMC/XMC » Temperature range 0°C to 60°C
CP6003-SA-Q2.1-8G	» Quad Core 2.1 GHz, Core i7-2715QE » 8GB SODIMM dual channel 1333 MHz with ECC	» Standard front & rear I/O, PMC/XMC » Temperature range 0°C to 60°C
CP6003-SA-2.5-4G	» Dual Core 2.5 GHz, Core i5-2515E » 4GB SODIMM dual channel 1333 MHz with ECC	» Standard front & rear I/O, PMC/XMC » Temperature range 0°C to 60°CC
CP6003-SA-2.5-8G	» Dual Core 2.5 GHz, Core i5-2515E » 8GB SODIMM dual channel 1333 MHz with ECC	» Standard front & rear I/O, PMC/XMC » Temperature range 0°C to 60°C
CP6003-SA-2.2-4G-E1x	» Dual Core 2.2 GHz, Core i7-2655LE » 4GB SODIMM dual channel 1333 MHz with ECC	» Standard front & rear I/O, PMC/XMC » Temperature range -40°C to 70°C
Accessories		
CP6003-MK2.5 SATA	Mounting kit for 2.5" SATA-HDD/SSD onboard, mounting within 4HP	
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 CP6003 with 2x DVI-D; 2xUSB2.0; 2x GbE; headers for 2x COM, Flash, SATA, fan	
CP-RIO6-001-HD	4HP Rear I/O Module for CP6003 with 1x DVI-D; 2x USB2.0; 2x GbE; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, fan	
CP-RIO6-001-HD-216	4HP Rear I/O Module for CP6003 with 1x DVI-D; 2x USB2.0; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, fan	
CP-RIO6-001-HD-VGA	4HP Rear I/O Module for CP6003 with 1x VGA; 2x USB2.0; 2x GbE; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, fan	
CP-RIO6-B	4HP Rear I/O Module for CP6003 with 2x USB, 2x GbE; Audio, COM1, DVI, HDMI, Connectors for USB Flash, 4x SATA, Fan, 0°C to 60°C	
CP-RIO6-B-216	4HP Rear I/O Module for CP6003 with 2x USB, Audio, COM1, DVI, HDMI, Connectors for USB Flash, 4x SATA, Fan, 0°C to 60°C, PIMG2.16 Support	
CP-RIO6-A	4HP Rear I/O Module for CP6003 with 2x USB, 2x GbE, Audio, COM1, VGA, Connectors for USB Flash, 4x SATA, Fan, 0°C to 60°C	
CP-RIO6-A216	4HP Rear I/O Module for CP6003 with 2x USB, Audio, COM1, VGA, Connectors for USB Flash, 4x SATA, Fan, 0°C to 60°C, PICMG 2.16 Support	
Software Support		
KIT-CP6003	Documentation and Windows driver kit	
WXPE-BSP-CP6003	Windows XP Embedded BSP CP6003	
LIN-BSP-CP6003	Linux BSP CP6003	
VXW-BSP-CP6003	VxWorks BSP 6.x SMP support	

CORPORATE OFFICES

Europe, Middle East & Africa

Lise-Meitner-Str. 3-5
86156 Augsburg
Germany

Tel.: +49 (0) 821 4086-0
Fax: +49 (0) 821 4086 111
sales@kontron.com

North America

14118 Stowe Drive
Poway, CA 92064-7147
USA

Tel.: +1 888 294 4558
Fax: +1 858 677 0898
info@us.kontron.com

Asia Pacific

17 Building,Block #1, ABP.
188 Southern West 4th Ring Road
Beijing 100070, P.R.China

Tel.: +86 10 63751188
Fax: +86 10 83682438
info@kontron.cn

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