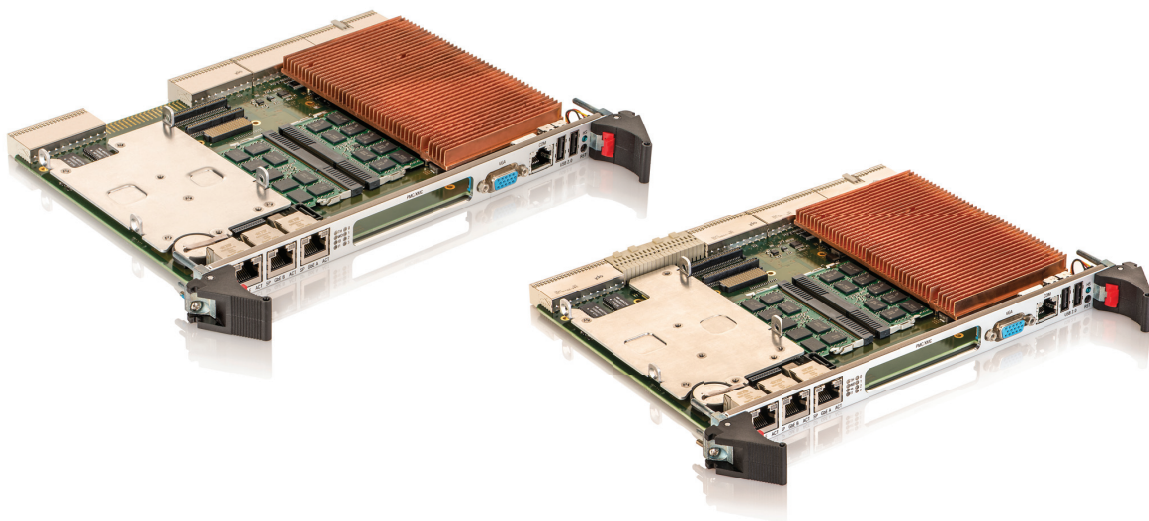


» CP6005(X)-SA «



Intel® 4th Generation Core™ i5/i7 CompactPCI® Processor Board

» High Performance Processor and Graphics

4th Generation Intel® Core™ i5/i7 processors with up to 16 GByte ECC memory

» High Speed Interconnections

Optionally dual 10 Gigabit/s Ethernet and PCIe Gen 3 on backplane

» Highest Versatility and Excellent Power Management

Comprehensive I/O capabilities: 1/10 GigEthernet, PCIe Gen.3, PMC/XMC, USB, VGA, DVI, RAID, SSD ...

» Broad Software Support

Complete Board Support Packages for On Board Hardware and Toolchain

CP6005(X)-SA

6U CompactPCI® processor board based on Intel® 4th generation Core™ i7/i5 processors - option for 10 Gigabit Ethernet & PCIe on the backplane

Beyond Existing Limits

With the powerful quad core Intel® Core™ i7/i5 4th generation processors, the Kontron CP6005(X)-SA processor family offers extraordinary performance per watt values and is an ideal backbone for powerful network intensive applications, providing virtualization (VT-X, VT-D) and highest graphics performance by up to 20 graphics cores supporting OpenCL 1.2 and OpenGL3.2 and 3 independent interfaces.

5 Gigabit Ethernet channels on the CP6005-SA provide well weighted data throughput for external and internal PICMG® 2.16 compliant Ethernet traffic. The Kontron processor board CP6005X-SA supports two additional 10 Gigabit Ethernet ports combined with PCI Express® 3.0 x4 on the backplane, all based on PICMG® 2.20 for high bandwidth requirements.

The Intel® Advanced Vector Extensions AVX 2.0 enhancements provide a huge performance improvement in floating-point-intensive computations which are a key part of digital signal and image processing applications such as medical imaging and radar or sonar.

Both PICMG 2.16-compliant Kontron CP6005-SA and CP6005X-SA processor boards offer up to 16GB dual channel 1600 MHz DDR3L 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.

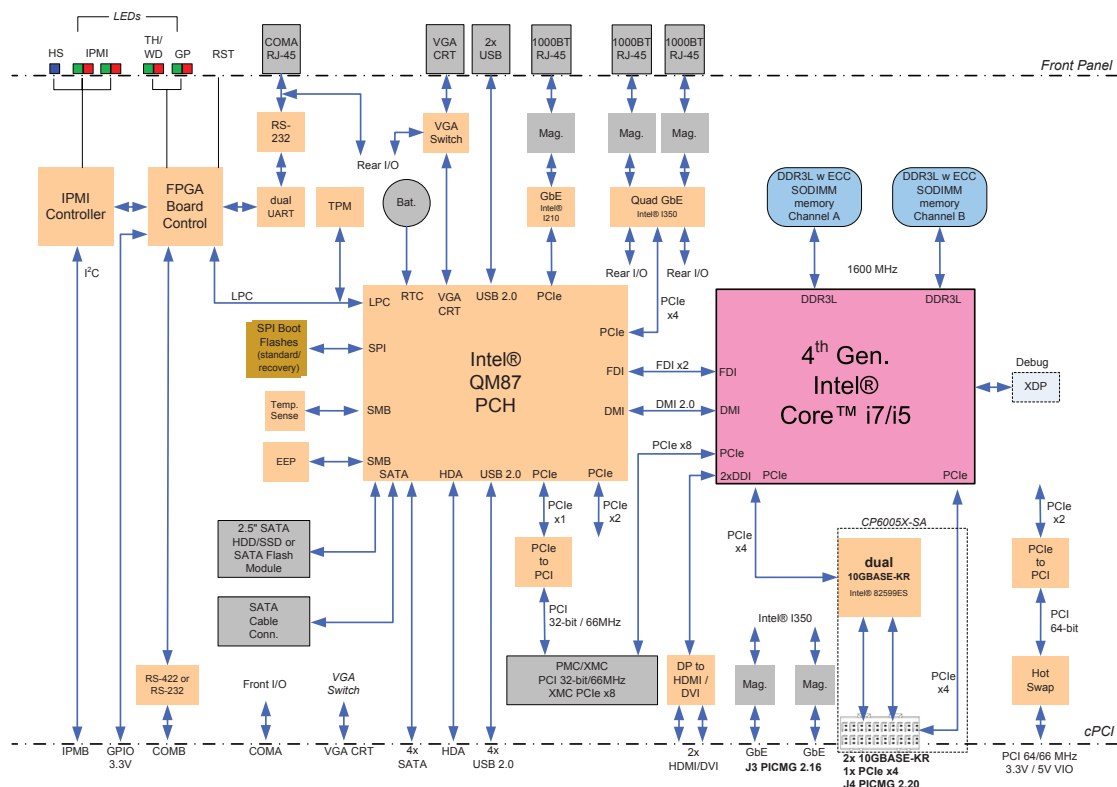
Unique Versatility

The Intel® Platform Controller Hub QM87 provides advanced I/O technology including USB and Serial ATA channels for an onboard 2.5-inch SATA hard disk or SSD and an industrial grade NAND Flash SSD device - all usable in a 4HP single slot.

The highly integrated CP6005(X)-SA features also an XMC site according to XMC.3 supporting x8 PCI Express® (alternatively a 64-bit/133MHz PCI PMC site) for various market available extensions. Based on the Kontron rear I/O concept, existing rear I/O transition modules are fully functional on the CP6005-SA, where the CP6005X-SA provides additional 10GbE and PCIe on the backplane for communication between CompactPCI® slots. Appropriate backplanes and systems are available.

Longterm Availability

Delivering a stable product based on Intel®'s embedded product line, the CP6005(X)-SA ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks, the CP6005(X)-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 4th Generation, code name 'Haswell'		
Platform Controller Hub	Intel® QM87		
Memory			
System Memory	Up to 16GB soldered dual channel DDR3L memory with ECC and data speed of up to 1600 MHz per channel		
NAND Flash	Socket for optional Kontron Solid State Drive up to 64GB SLC flash technology		
Flash BIOS	Two redundant 8 MByte SPI Flashes		
Front Panel Functions			
Gigabit Ethernet	3x 1000BASE-T Ethernet channels		
USB Interface	2x USB2.0 interface on USB-A host connector		
Serial	1x RS232 serial interface on RJ45 connector		
Analog Monitor	DSUB connector for analog monitors		
Micro Switch	For Hot Swap and reset		
Status LED	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 / NAND Flash	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 Port	COM1 (RS232) routed to front panel and rear I/O COM2 (RS232) routed to rear I/O only		
CompactPCI® 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 PCI Express®		
Rear IO			
Supervisory Functions Clock/Calendar	J3: 2x ETH acc. PICMG 2.16, 2x ETH, VGA, COM 1/2, 4x USB, GPIO, Speaker, fan sense J4: CP6005-SA: not assembled; CP6005X-SA 2x 10GBASE-KR, PCIe Gen3 x4 J5: 4x SATA, 2xHDMI, HDA, battery, fan control, additional GPIO 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	Trusted Platform Module (TPM) 1.2 for enhanced hardware and software based data and system security		
I/O Table Summary			
Description	Front IO	Rear IO	Onboard Connector
Video CRT	1	1	
DVI/HDMI		2	
USB2.0	2	4	
HD Audio		1	
Serial	1	2 (RS232, RS422)	
Ethernet	3	2 (4*)	
SATA	2	4	
SATA NAND Flash	1		1 (in 6 SATA incl)
PMC/XMC			1/1
Fan Control		2	
Battery Input		1	
SMB		1 optional	
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 185968 h MIL-HDBK-217 FN2 Ground Benign 30° 230420 h Bellcore Issue 6 Ground Benign 30° 233 x 160 x 20.5 mm, 6U, 4HP Approx. 800gr Phoenix EFI (BIOS) with POST codes, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation, LAN boot support Board identification number accessible via EEPROM, Support for Windows® 7, , Windows® Server 2008R2, Linux®, VxWorks (other OSs may be possible, please contact us for information) Up to 60 watts (quad core), up to 50 watts (dual core) or less, depending on CPU type 0°C to +60°C, passive module heat sink, requires forced airflow cooling, Extended temperature on request - 55°C to + 85°C (without battery or HDD) 93% RH at 40°C, non condensing (acc. to IEC 60068-2-78) 50,000 ft (15,240 m)		
MTBF			
Dimensions			
Weight			
Software Support			
Power Consumption			
Operating temp.			
Storage temp.			
Humidity			
Altitude			

Ordering Information

Article	Description
CPU Boards	
CP6005-SA-2.4Q-8	<ul style="list-style-type: none"> » Quad Core 2.4 GHz, Intel® Core™ i7-4700EQ » 8GB SODIMM dual channel DDR3L memory 1600 MHz with ECC » Backplane connector J4 not assembled » Temperature range 0 to +60°C » Standard air cooled
CP6005X-SA-2.4Q-8	<ul style="list-style-type: none"> » Quad Core 2.4 GHz, Intel® Core™ i7-4700EQ » 8GB SODIMM dual channel DDR3L memory 1600 MHz with ECC » Dual 10Gigabit/s and PCIe Gen3 x4 on backplane connector J4 (ZDPlus) » Temperature range 0 to +60°C » Standard air cooled
CP6005-SA-1.8Q-GT3-8	<ul style="list-style-type: none"> » Quad Core 1.8 GHz, Intel® Core™ i7-4860EQ, GT3 graphics » 8GB SODIMM dual channel DDR3L memory 1600 MHz with ECC » Backplane connector J4 not assembled » Temperature range 0°C to +60°C » Standard air cooled
CP6005-SA-2.7D-8	<ul style="list-style-type: none"> » Dual Core 2.7 GHz, Intel® Core™ i5-4400E » 8GB SODIMM dual channel DDR3L memory 1600 MHz with ECC » Backplane connector J4 not assembled » Temperature range 0°C to +60°C » Standard air cooled
CP6005-SA-2.7D-8-E1X	<ul style="list-style-type: none"> » Dual Core 2.7 GHz, Intel® Core™ i5-4400E » 8GB SODIMM dual channel DDR3L memory 1600 MHz with ECC » Backplane connector J4 not assembled » Temperature range -40°C to +70°C » Standard air cooled
Accessories	
Flash-SATA	Various Kontron SSD products / sizes available
CP-RAPID3	PICMG 2.20 based system for 6U CompactPCI high speed interconnects
Rear Transition Modules	Several versions on request
CP-RI06-001	4HP Rear I/O Module for CP6005(X)-SA 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 CP6005(X)-SA 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
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 CP6005(X)-SA 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 CP6005(X)-SA 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 downloadable from Web
Windows	Documentation and Windows driver kit (Windows 7 / 2008R2)
Linux	Linux Fedora and RedHat Board Support Package and documentation
Windriver Linux	Windriver Linux Board Support Package and documentation
VxWorks	VxWorks 6.9.x Board Support Package and documentation
QNX	QNX Board Support Package and documentation

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