



Features

- XMC/PMC expansion modules support (x8 PCI-E GEN2 + 64-bit/133 MHz PCI-X)
- 4xGigabit Ethernet controllers (two ports switchable between P16 XMC connector and backplane, two ports available at the front panel)
- 10xUSB 2.0 ports with HS, FS and LS support (four on front panel, four via RIO, two on P16 XMC)
- 4xSATA ports (one for 1.8" HDD, one at P16 XMC, two via RIO)
- 2xDisplayport interfaces (one on front panel, one via RIO)
- 1xDVI-I on front panel
- 1xDVI-D via RIO
- HD Audio via RIO and P16 XMC
- LPC via RIO, P16 socket

Overview

Fastwel CPC503 CPU module is a highly integrated x86-compatible solution in 6U cPCI format.

It is designed for use in real time applications, in process control, in high-speed data acquisition and processing systems.

The module is intended for systems operating in rugged environment, requiring high performance, reliability and flexibility in support for diverse expansion interfaces.

The module supports XMC/PMC expansion modules as well as Rear I/O modules.

CPC503 conforms to the following PICMG/VITA specifications:

- PICMG 2.0 Compact PCI r3.0
- PICMG 2.1 Hot Swap r.2.0
- PICMG 2.3 PMC I/O r.1.0
- PICMG 2.16 Packet Switching Backplane r.10
- ANSI/VITA 39, PCI-X on PMC
- ANSI/VITA 42.0, XMC
- ANSI/VITA 42.3, XMC PCI Express Protocol Standard

Technical Specifications

System

- CPU:
 - Core i7-2715QE, 2.1 GHz, 6 MB L4 Cache,
 - Core i7-2655LE, 2.2 GHz LV, 4 MB L2 Cache
 - Core i7-2610UE, 1.5 GHz ULV, 4 MB L2 Cache
- Chipset: PCH QM67 (includes standard peripherals of IBM PC AT platform)
- DDR3 SDRAM 1333 MHz with ECC, up to 8 GB, dual channel, soldered
- FRAM: 256 Kbit, RAM 256 B for BIOS Setup parameters storage; realized on SPI bus
- Watchdog Timer: integrated programmable watchdog timer
- MTBF: not less than 100000 hours (TBA)

Flash BIOS

- 16 Mbit SPI-Flash

Graphics

- DVI-I interface (VGA, 2048x1536 @75Hz), DVI-D (1920x1200 @60Hz) on front panel
- DisplayPort interface (up to 2560x1600 @60Hz) on front panel
- DisplayPort interface (up to 2560x1600 @60Hz) via Rear IO module
- Simultaneous operation of two interfaces

Storage

- NAND Flash-Disk: Integrated 4-channel NAND controller, up to 100 MB/sec, connected to SATA6 interface
- Serial ATA:
 - One channel available at P16 XMC connector
 - One channel is used for connection of onboard 1.8" HDD
 - Two channels available via Rear IO module

Software support

- Linux 2.6
- QNX 4.25, 6.4
- VxWorks 6.8

Interfaces

- PCI Bus:
 - Routed to Compact PCI J1/J2 connectors

- 64-bit / 66 MHz
- PI7C9X130 PCI-E-to-PCI-X bridge
- HotSwap support
- Non-system slot operation (Non-Transparent Bridge mode)
- LPC Bus:
 - available via P16 XMC connector
 - available at Rear IO module
- PCI Express:
 - PCI-E 2.0 support (up to 5 GT/s)
 - Routed to P15 XMC connector, up to x8 devices
 - Routed to CPCI J3/P3 connector, up to x4 devices
 - XMC conforms to ANSI/VITA 42.3 specification
- SMBus:
 - Conforms to SMBus 2.0 specification
 - Speed up to 100 Kbit/sec
- SPI Interface: FRAM support, up to 25 MHz
- Ethernet: via PCI Express x4 Gen2 interface. Four 10/100/1000 ports: two ports switchable between P16 XMC connector and Rear IO, two ports available at the front panel. PICMG 2.16 support. Server network controller
- USB: 1.1, 2.0 support, up to four devices connected to front panel connectors
 - Two ports routed to P16 XMC connector
 - Four ports available via Rear IO
- Real-time clock (RTC): CR2032 3V lithium battery backup
- LED Indicators: two user programmable LEDs – startup status/Hot swap indicator, SATA activity
- Hardware Monitor:
 - Realized via PEI/SMBus interfaces
 - Three power voltages monitoring
 - CPU and PCB temperatures monitoring
- Audio: HD Audio interface available via P16 XMC connector and Rear IO

XMC/PMC Expansion Modules Support

- One XMC/PMC module can be installed onboard
- PCI-X 64-bit/133 MHz bus routed to P1-P4 PMC connectors (ANSI/VITA 39, PCI-X on PMC)
- PMC I/O P4 routed to Rear IO (PICMG 2.0)
- PCI-E x8 Gen2 bus routed to P15 XMC connector (ANSI/VITA 42.3, XMC PCI Express Protocol Standard)
- Additional interfaces (one SATA, two USB, LPC, HD-Audio, two Gb Ethernet) routed to P16 XMC connector

Mechanical

- Dimensions: 212.5x266.05 mm (8.37"x10.47")
- Weight: 0.720 kg

Power

+5 V 8 A; +12 V 1 A; -12 V 1 A; +3.3 V 10 A

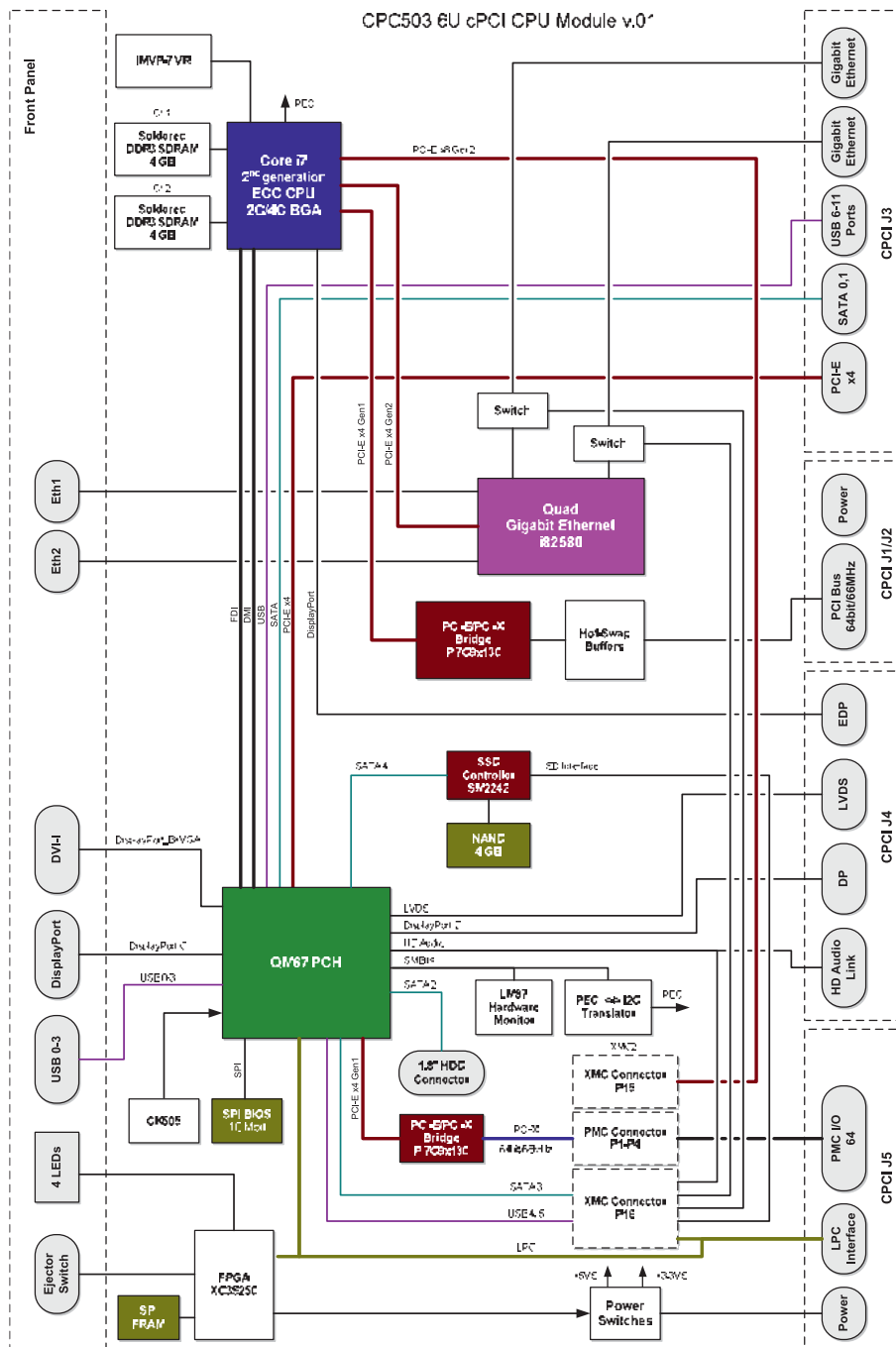
Environmental conditions

- Operating temperature:
 - 0°C to +70°C – commercial
 - 40°C to +85°C – industrial
- Shock/vibration: 50g/5g

Warranty

- 3 years for parts and labor

Board Layout



Applications



Aerospace



Transportation



Process Control



Communications

Ordering Information

CPC503 Configuration

CPC503 - 01 \Options

Device Type

CPC503-01	8GB RAM, 4GB NAND Flash, support for PCI-X on PMC
CPC503-01	4GB RAM, 4GB NAND Flash, support for PCI-X on PMC
CPC503-01	4GB RAM, no NAND Flash, no support for PCI-X on PMC

Options

\xxx Choose available options from the table

CPC503 Available Options

Coating	
\COATED	Protective coating

Other configurations and options are available upon request.

Example

CPC503-01\COATED

3U CompactPCI SBC, Intel Core i7, 8GB RAM, 4GB NAND Flash, support for PCI-X on PMC
Protective coating

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Product specifications are subject to change without notice