CPC1301

Fastwel
Creating the Future!

COM Express Module based on Intel® Core® 2 Duo CPU

- Intel® Core® 2 Duo/Core Duo/Core Solo CPUs with 533/667 MHz FSB
- COM Express Type II pinout
- Up to 4 GB DDR2 dual channel memory
- CRT and LVDS
- 5 ×1 or 1 ×4 and 1 ×1 PCI-Express
- ×16 PCI Express graphics interface
- Gigabit Ethernet port
- I2c bus
- Eight USB 2.0 ports
- Two Serial ATA, one IDE Ultra ATA/100 interface
- Operating temperature:
  0°C to +70°C — commercial
  –40°C to +85°C — industrial

Best solutions to fit your demands!

(ES) Equipements Scientifiques SA - Département Modules & Systèmes Informatiques - 127 rue de Buzenval BP 26 - 92380 Garches
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COM Express module based on Intel® Core® 2 Duo CPU

PRELIMINARY VERSION

Features

- Intel® Core® 2 Duo/Core Duo/Core Solo CPUs with 533/667 MHz FSB
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Overview

CPC1301 is a COM Express Module based on Intel® Core® 2 Duo/Core Duo/Core Solo CPUs up to 2.16 GHz with 533/667 MHz front side bus and Intel chipset comprising 945GM GMCH and ICH7M. Memory interface supports dual DDR2 SDRAM through two SODIMM sockets with total capacity of up to 4 GB.

Multimedia functions are supported by interfaces for CRT-monitor, flat panels with dual LVDS interface and AC'97 audio codec. External graphic adapters can be connected through x16 PCI Express interface.

Gigabit Ethernet channel makes this board perfect for developing communication intensive applications.

Peripheral devices can be connected to CPC1301 through PCI Express interfaces, 8 high-speed USB 2.0 ports, LPC, AC'97.

CPC1301 storage subsystem supports two SATA and one IDE Ultra ATA/100 disk drives.

CPC1301 supports Suspend-to-RAM mode.

For performance evaluation and application stack development, Fastwel provides development board — KIB1280, which gives access to all features of CPC1301 and facilitates software and hardware design.

Additional reliability of CPC1301 is provided by hardware monitoring, watchdog timer, reserved CMOS memory and a set of system monitoring features.

CPC1301 operates in industrial (–40°C to +85°C) and commercial (0°C to +70°C) temperature ranges.

Technical Specifications

System

- CPUs:
  - Intel® Core® 2 Duo processor up to 2.16 GHz, up to 4 MB cache L2, 667 MHz FSB
  - Intel® Core® Duo processor up to 2.0 GHz, up to 2 MB cache L2, 533/667 MHz FSB
  - Intel® Core® Solo (Intel® Celeron® M) processor up to 1.83 GHz, up to 2 MB cache L2, 533/667 MHz FSB
- Chipset: 945GM GMCH & ICH7M
- Up to 4 GB DDR2 SDRAM, two SODIMM sockets
- CPU temperature and voltage control sensors
- Reserved CMOS memory
- MTBF: 140 000 hours

BIOS

Phoenix® BIOS with
- LAN Boot
- USB Boot
- Multi Boot
- Quick Boot

Graphics

- Video controller integrated into 945GM
- Video memory up to 64 MB shared with system
- Analog display interface supports resolutions up to 2048×1536 @ 75 Hz
- Dual LVDS
- TV-Out

Storage

- One IDE Ultra ATA/100 interface connector
- Two Serial ATA interfaces

Software support

- Fastwel DOS™ (MS™ DOS compatible)
- Windows XP Embedded
- Linux® 2.6.11

I/O Interfaces & Expansion

- One Gigabit Ethernet port 10/100/1000 Mb/s
- One x16 PCI Express interface
- 5 x1 PCI-Express, also configurable as 4 x1 and 1 x4
- 32-bit PCI interface
- AC'97 interface
- LPC interface
- Express Card interface support
- Eight USB 2.0 ports

Mechanical

- Dimensions: 95×125 mm (3.74"×4.92")
- Weight: 0.15 kg

Power requirements

- +12 V @ 4 A and +5 V @ 1 A

Environmental conditions

- Operating temperature:
  –40°C to +85°C — industrial
  0°C to +70°C — commercial
- Storage temperature: –50°C to +95°C
- Humidity: 95% noncondensing
- Shock/Vibration: 50G/2G
- Cooling: heat spreader

Compliancy

- PICMG COM.0. COM Express Module Base Specification Rev. 1.0. Pin-out type II

List of Deliverables

- CPC1301 Module
- Screws set
- Heat spreader for CPU and GMCH hub
- CD with drivers and documentation

Warranty

- 3 years for parts and labor

CPC1301 with heat spreader

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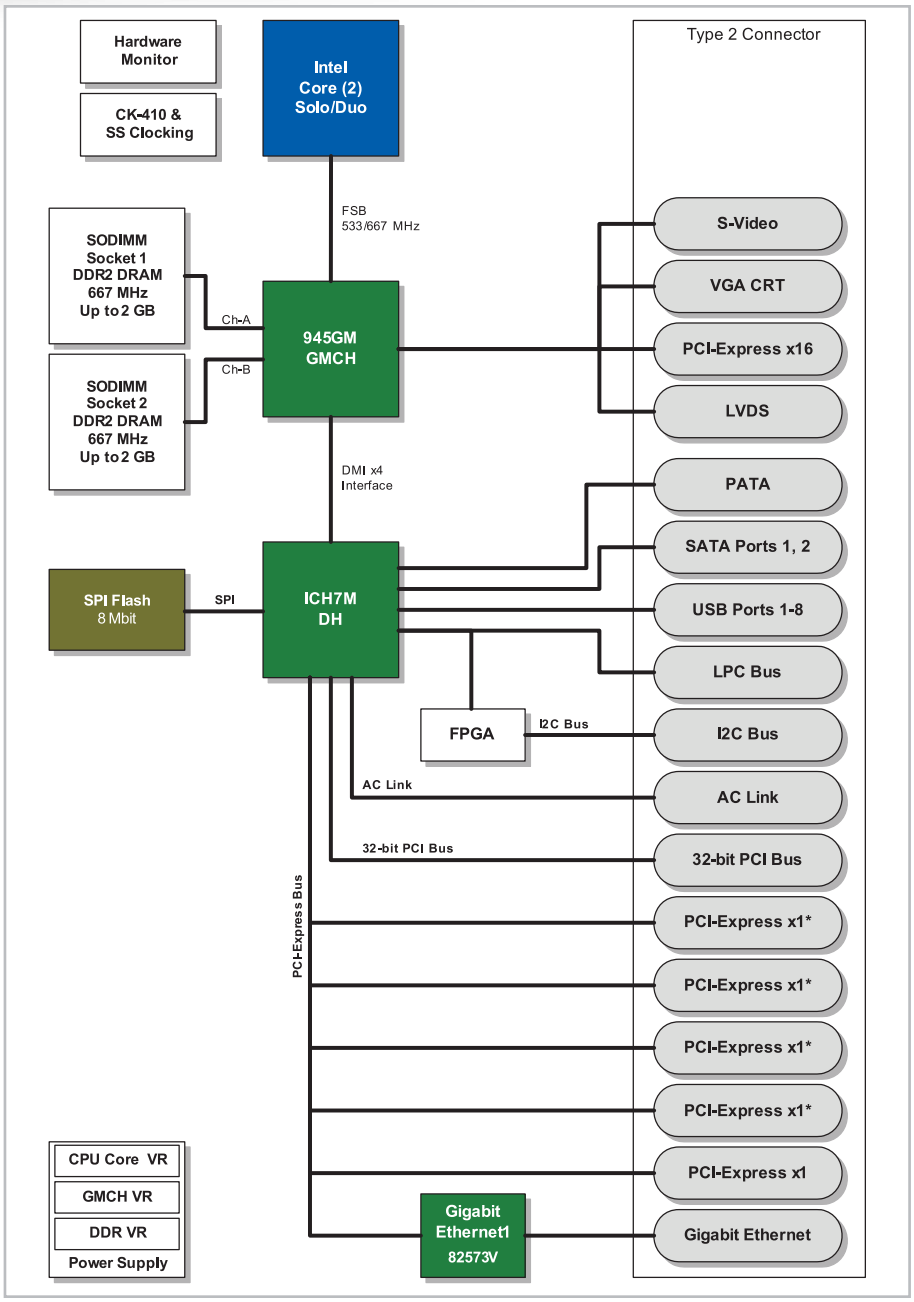
Board Layout



*Four ×1 PCI-Express channels can be integrated into one ×4 channel

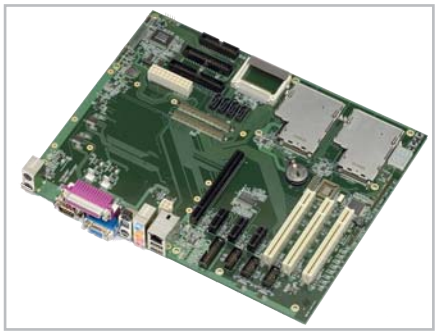
KIB1280

ATX form-factor compaliant carrier board for ComExpress/ComExpress Extended Type II pinout modules.

Interfaces

- VGA, S-Video, LVDS
- 1×GbEthernet 10/100/1000-Base-T RJ45
- 1×16 PCI Express, 3×1 PCI Express, 3×PCI
- 6×USB2.0
- IDE UltraATA, 4×SATA, CF Type I/II socket with IDE interface
- 2×COM232, LPT, FDD, PS/2
- 2×Express™ Card slots
- Audio line-in/out, MIC
- IrDA, LPC interface, SMBUS, PLCC, fan connector, control&signalling interfaces and LEDs, ATX power supply.

Please read User manual for complete product description.



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Ordering Information

CPC1301 Configuration

CPC1301 - 01 - C2D1.5 - I \Options

Device Type

CPC1301	CPC1301 COM Express Intel® Core® Module, Intel® 945GM chipset, DDR2 SODIMM, Gigabit Ethernet, LVDS, PCI-Express, 8 USB, 2 SATA

Processor

CD1.66	Intel® Core Duo 1.66 GHz LV
CS1.06	Intel® Celeron M 423 1.06 GHz
C2D1.5	Intel® Core 2 Duo 1.5 GHz

SODIMM Memory Module

SC-SODIMM-DDR2-1024	1024 MB, Single channel (C - commercial, I - industrial)
DC-SODIMM-DDR2-2048	2048 MB, Dual channel (C - commercial, I - industrial)
DC-SODIMM-DDR2-4096	4096 MB, Dual channel (C - commercial, I - industrial)

Temperature Ranges

I	Industrial Range, –40…+85°C
C	Commercial Range, 0…+70°C

Options

\xxx	Choose available options from the table

CPC1301 Available Options

Coating	
\COATED	Protective Coating
Operating System Presetting	
\FDOS	Fastwel DOS
\XPE	Windows XP Embedded
\LNX	Linux 2.4.20, 2.6.11
Radiator	
\R3	Ribbed radiator, no fan, lengthwise orientation OSX77
\R3F	Ribbed radiator, fan, lengthwise orientation OSX77
\R4	Ribbed radiator, no fan, widthwise orientation OSX77
\R4F	Ribbed radiator, fan, widthwise orientation OSX77

Other configurations and options are available upon request.

Example

CPC1301-01-C2D1.5- DC-SODIMM-DDR2-4096-I\COATED\XPE\R1F

CPC1301 COM Express Intel® Core® 2 Duo Module, Intel® 945GM chipset,
DDR2 SODIMM, Gigabit Ethernet, LVDS, 5 ×1 PCI-Express, 8 USB, 2 SATA
Intel® Core 2 Duo 1.5 GHz
4096 MB DDR2 SDRAM in SODIMM sockets, Dual channel, Industrial
Protective coating
Windows XP Embedded
Ribbed radiator, fan, lengthwise orientation

Ver. 0.2 2009

Product specifications are subject to change without notice

Applications

Mobile

Industrial Automation

Communications

Embedded

PCI EXPRESS® COM Express READY FOR RoHS CE TÜV CERT EN ISO 9001:2000 Zertifikat: 75.100.9545 TÜV Rheinland InterCert

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