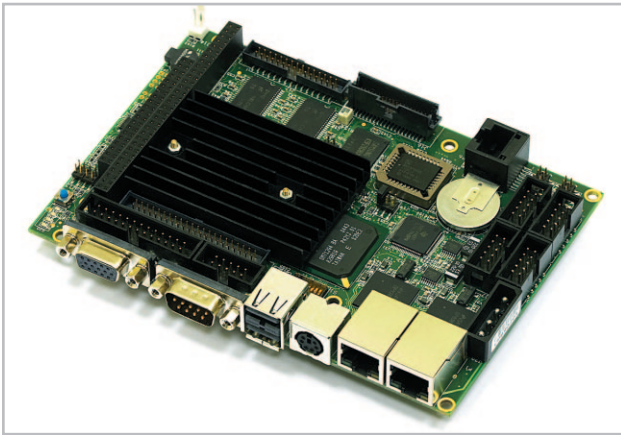# CPB902
3.5" Highly Integrated Low Power SBC

Features

- STPC Vega 200 MHz CPU onboard
- Up to 128 MB SDRAM soldered onboard
- Two Fast Ethernet ports
- Six COM ports
- Two USB ports
- PC/104 expansion bus (ISA 16-bit)
- SVGA, LVDS (for CPB902-04)
- Flash disk
- Low power consumption
- Operating temperature range: –40°C to +85°C

Overview

CPB902 is a sub-compact single board computer with full PC functionality. The board is based on STPC Vega 200 MHz CPU with 32/128 MB of SDRAM.

All components including CPU, SDRAM and 32 MB solid-state disk are soldered onboard thus providing superior shock/vibration resistance.

Two Fast Ethernet, six COM and two USB ports enable CPB902 to communicate with various peripheral devices.

CPB902 has soldered solid state disk and CF socket as onboard storage options, and one ATA interface for external HDD connection.

The board has very compact size (107×147 mm) and has only 6 watt of power consumption, which makes it highly suitable for embedded and mobile designs.

The board can withstand shock up to 50g and vibration up to 5g in 3 dimensions while operating under temperatures from –40°C to +85°C.

Technical Specifications

System

- STPC Vega 200 MHz CPU, 32-bit x86 PII core, 64-bit coprocessor, 64-bit memory bus
- 32/128 MB soldered DDR SDRAM system memory
- Two watchdog timers with LED indication
- Real time clock with Li battery
- System configuration settings stored in CMOS+SFRAM
- Saving essential user data in SFRAM in case of power failure
- MTBF: 150000 hours

BIOS

- Flash-based BIOS
- Reserved BIOS
- System parameters saving in emergency cases
- In-system modification

Graphics

- Video memory 8 MB
- Analog display support
- LCD (TFT or DSTN) panels support, resolution up to 1024×768
- DualApp and DualView modes support
- LVDS interface (for CPB902-04)
- SVGA interface (for CPB902-04)

Storage

- 32 MB solid-state disk (up to 1 GB upon OEM request) soldered onboard
- Two IDE interfaces
- CompactFlash™ Type I/II socket
- One ATA/66 interface
- Floppy disk interface

Software support

- Fastwel DOS™ (MS™ DOS compatible)
- QNX® V4.20, 6.0®
- RTOS32
- Linux®
- Windows CE

Interfaces

- Two Fast Ethernet ports 10/100 Mb/s
- Two USB 1.1 ports
- PC/104 header
- Six serial ports: COM1 – RS-232, 3 wires; COM2 – RS-232, complete; COM3-COM6 – RS-232/422/485; high speed NS16C550 compatible, 921 Kb/s; FIFO buffer for each channel 64 bytes
- Parallel port: SPP/ECP/EPP compatible; connector shared with FDD
- PS/2 keyboard and mouse interface
- LCD display and matrix keyboard ports
- Opto-isolated remote Reset/IRQ
- FBUS port; Fastwel-I/O modules support
- Two user LEDs

Mechanical

- Dimensions: 107×147×26 mm (4.1"× 5.7"×1.0")
- Weight: 0.220 kg

Power requirements

- 5 V @ 1.2 A (Max power consumption)

Environmental conditions

- Operating temperature: –40°C to +85°C
- Storage temperature: –55°C to +85°C
- Humidity: 0% to 95%, noncondensing
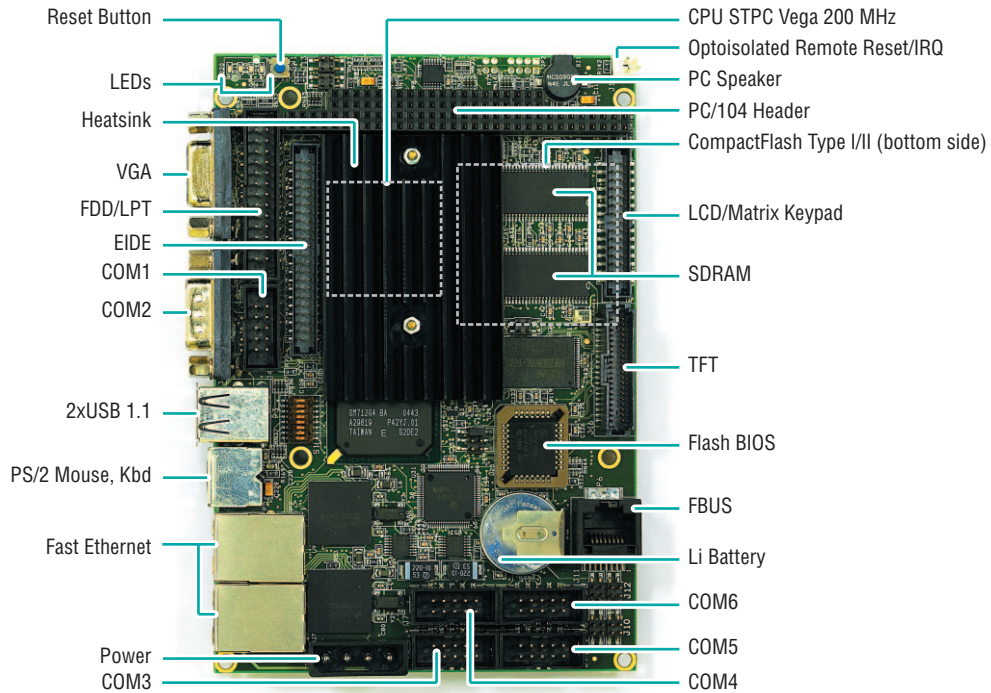- Shock/Vibration: 50G/5G

Warranty

- 3 years for parts and labor

List of deliverables

- CPB902 module
- Mounting accessories set
- CD-ROM with documentation and service SW

Fastwel

CPB902
3.5" Highly Integrated Low Power SBC

Board Layout

Reset Button
LEDs
Heatsink
VGA
FDD/LPT
EIDE
COM1
COM2
2xUSB 1.1
PS/2 Mouse, Kbd
Fast Ethernet
Power
COM3

CPU STPC Vega 200 MHz
Optoisolated Remote Reset/IRQ
PC Speaker
PC/104 Header
CompactFlash Type I/II (bottom side)
LCD/Matrix Keypad
SDRAM
TFT
Flash BIOS
FBUS
Li Battery
COM6
COM5
COM4

Ordering Information

CPB902 Configuration

CPB902 - 04 \Options

Device Type

CPB902   STPC Vega 200 MHz; SDRAM; FFD 32 MB; 2×Fast Ethernet; 6×RS-232/422/485, –40…+85°C

Configurations

04   128 MB RAM, SVGA, LVDS
05   32 MB RAM, no SVGA, no LVDS

Options

\xxx   Choose available options from the table

Example

CPB902-04\CF1024\COATED\WCE\CC902
STPC Vega 200 MHz; 128 MB SDRAM; FFD 32 MB; 2×Fast Ethernet;
SVGA; LVDS; 6×RS-232/422/485; –40…+85°C
1024 MB Compact Flash;
Protective coating;
Windows CE;
Mounting cage

CPB902 Available Options

Compact Flash Module	
\CF1024	1024 MB Compact Flash, industrial
\CF2G	2 GB Compact Flash, industrial
\CF4G	4 GB Compact Flash, industrial
\CF8G	8 GB Compact Flash, industrial
\CF16G	16 GB Compact Flash, industrial
Coating	
\COATED	Protective coating
Operating System Presetting	
\FDOS	Fastwel DOS
\QNX	QNX 6
\WCE	Windows CE
\LNX	Linux 2.4.20
Accessories	
CC902	Mounting cage. Can be installed into a cabinet or on a DIN-rail. Allows installation of one PC/104 expansion module and PS 902
PS902	DC-DC converter, 18-36 V to +5 V
ACS00011	FCD25F LPT connection cable, IDC26 DB25
ACS0002	FC26-60 FDD connection cable, IDC26 IDC26
CDM01	FDD connection adapter
CVM01	VGA monitor or TFT/STN panel adapter module
CVM02	Sharp LQ104V1DG51 LCD panel connection module

Other configurations and options are available upon request.

Corporate Offices

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TÜV Rheinland InterCert