

# CPB914

## x86 Vortex86DX3™ based CPU Module in ETX format



### Overview

The x86 114 x 95 mm CPU Module in ETX format is designed for building highly reliable embedded energy-saving systems with compact overall dimensions.

### Features

- 800 MHz Vortex86DX3™ CPU, 2 cores
- RAM: soldered DDR3-800 SDRAM, 2 GB
- Bus frequency: 500 MHz
- Built-in non-volatile memory: 8 KB FRAM for storing configuration
- FLASH BIOS: 2 MB, modifiable within the system
- Operating temperature range: -40°C...+85°C
- Shock / Vibration resistance: 50g / 5g
- Software compatibility: Microsoft™ MS-DOS®6.22, FreeDOS , Linux Debian 8, QNX 6.x, Microsoft™ Windows 7 Embedded, Windows Embedded Standard 2009
- Weight: no more than 100g
- MTBF: no less than 50 000 h

### Technical Specifications

#### CPU

- Vortex86DX3™, 2 cores
- Clock frequency: 800 MHz
- 32-bit x86 core
- 32 bit memory bus
- L1 cache (32 KB)
- L2 cache (512 KB)
- MMX, SSE extensions

#### RAM

- Soldered, DDR3-800 SDRAM, 2 GB
- Bus frequency: 400 MHz

#### Embedded Graphics Co-Processor

- 2D accelerator
- Video memory capacity allocated from the main memory, up to 64 MB

#### Integrated HDA-compatible sound controller

#### Integrated non-volatile memory

- 8 KB FRAM for configuration storing
- With no battery, the CMOS settings are stored in FRAM (I2C)

#### FLASH BIOS

- 2 MB, modifiable within the system

#### Connector for MicroSD cards:

- Support of SD, SDHC, speed class 6 cards
- Volume up to 32 GB

#### FLASH drive

- Soldered drive, 8 GB, drive controller is connected to SATA interface
- Memory type used - NAND Flash (SLC)

#### I/O ports

- X1: 32-bit PCI bus, frequency: 33 MHz
- X1: connection of up to 4 devices USB 1.1/2.0 , support of booting from USB devices
- X1: linear stereo input/output, microphone input (mono)
- X2: 16-bit ISA bus 8/16 MHz
- X3: port for RGB display with the resolution of up to 1920x1440
- X3: port for LVDS panels with the resolution of up to 1920x1440
- X3: serial ports COM1 / COM2 (entire range of signals), compatibility with 16C550 / 16C552, exchange rate up to 3 Mbaud
- X3: PS/2 keyboard and mouse port
- X3: universal parallel LPT port
- X4: HDD connection port, 1 Primary channel, connection of up to 2 devices, support of Ultra-DMA 100
- X4: LAN 10/100 Mb port
- X4: I2C, 100/400 Kb port
- X4: SMB port

- X4: "Speaker Out" port for buzzer connection
- X4: "RTC battery" port for battery power supply connection

#### Real Time Clock

(battery power supply is fed by the carrier-board)

#### Console ports

- COM1 / COM2 / COM3

#### Digital Temperature Sensor

- Temperature measurement: from -55 to +125°C
- Resolution: 12 bit + sign
- Least significant digit value: 0.0625°C
- Conversion time: up to 1000 msec.

#### Watchdog Timer

- Programmable actuation interval: from 100 µs to 3 min

#### Software compatibility

- Microsoft™ MS-DOS®6.22, FreeDOS
- Linux Debian 8
- QNX 6.x
- Microsoft™ Windows 7 Embedded
- Windows Embedded Standard 2009

#### Power supply

- +4.75...+5.25 V
- +2.3...+3.3 V (battery power supply, used for the real time clock where the main power supply voltage is disabled)

#### Power consumption

- 6 W (5V @ 1.2A)

#### Operating temperature range

- -40°C ... + 85°C

#### Humidity

- up to 80% without the condensation

#### Shock / Vibration resistance

- 50g / 5g

#### MTBF

- No less than 50 000 hours

#### Dimensions:

- 114.0 x 95.0 x 14.0 mm

#### Weight

- No more than 100 g



Fastwel



Fastwel

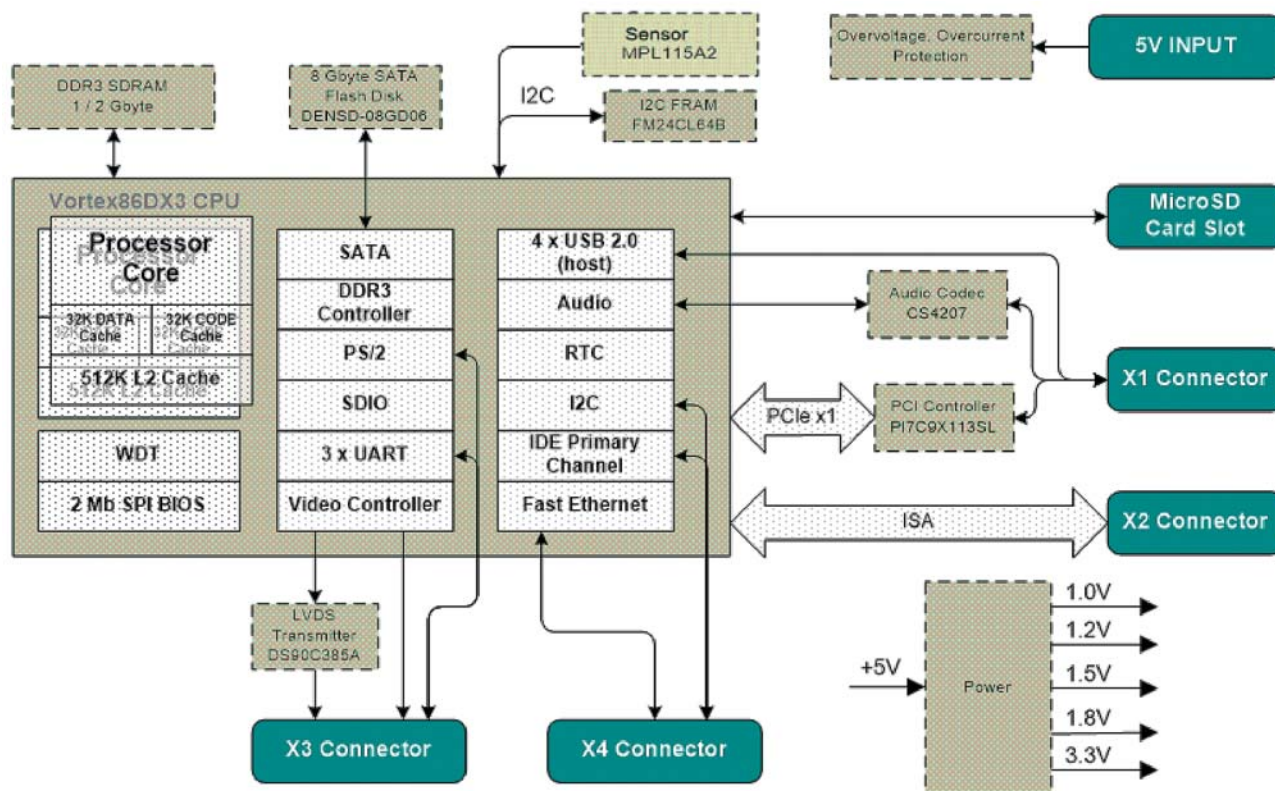


Fastwel

# CPB914

x86 Vortex86DX3™ based CPU Module in ETX format

## Connection Diagram



## Ordering Information

### CPB914 Configuration

#### CPB914 - 01 \Options

##### Configurations

01 CPB914 CPU Module, ETX format, Vortex86DX3 800 MHz 2 cores, 2 GB DDR3 SDRAM

##### Options

\Coated Conformal coating

#### Delivery checklist

CPB914 delivery checklist contains:

1. CPB914 CPU Module
2. Packaging

#### Additional accessories

KIB1282-0 – Carrier-board for ETX modules

## Corporate Offices

### FASTWEL GROUP Co., Ltd

108 Profsoyuznaya str.  
Moscow, Russia 117437  
Tel: +7 (495) 232-1681  
Fax: +7 (495) 232-1654  
E-mail: info@fastwel.com  
Web: www.fastwel.com

Ver. 1.3.2019

Product specifications are subject to change without notice

