CPB909

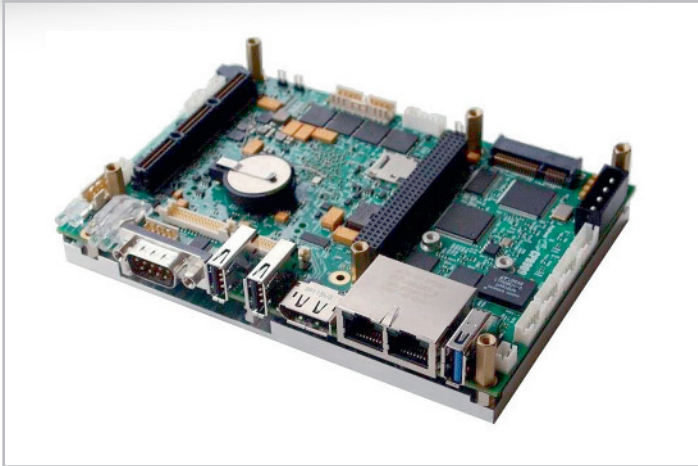## Intel Atom E38xx-based SBC with StackPC Expansion Connector in 3.5" Form-Factor

Features

- CPU Intel Atom E38xx (1.33-1.91 GHz)
- DDR3L-1066/1333 SDRAM up to 4 GB with ECC support
- Integrated graphics controller, 2D/3D – accelerator
- FLASH BIOS: 64 Mb SPI-Flash
- PS/2 keyboard and mouse port
- Compatibility with OS: Linux, QNX, Microsoft Windows Embedded Standard 7, Microsoft Windows Embedded Standard 8
- Operating temperature range: From – 40°C to +85°C
- Power supply: +5 V

Overview

CPB909 – Highly integrated Intel Atom E38xx-based SBC with StackPC Expansion Connector in 3.5" form-factor designed for mission critical applications. Due to StackPC connector (StackPC: 4×1 PCI-Express, 6×USB 2.0, 2×SATA II, 2×USB 2.0, 2×SATA II, 2×RS-232, LPC, SMbus) the functionality of CPB909 could be extended with the Fastwel StackPC peripheral modules.

Technical Specifications

CPU Intel Atom E38xx (1.33-1.91 GHz):

- 2 or 4 CPU cores;
- Support of IA 64-bit/32-bit architecture;
- L1-Cache (32 Kbyte instructions, 24 Kbyte data);
- L2-Cache 1024 Kbyte;
- Support of Intel Streaming SIMD Extension 4.1 & 4.2 (SSE4.1 и SSE4.2);
- Intel VT-x;
- (Intel Digital Random Number Generator);
- Support of Intel SpeedStep Technology;
- Support of Deep Power Down Technology (C7);
- Support of Intel Burst Technology.

RAM:

DDR3L-1066/1333 SDRAM up to 4 GB with ECC support; 64-bit data bus.

Integrated graphics controller:

- 2D/3D – accelerator;
- VGA output (resolution up to 2560x1600 60Hz);
- DisplayPort – 2x ports (resolution of up to 2560x1600 60Hz);
- LVDS – 2x ports (resolution of up to 1920x1200 60HZ 18/24bit).

PCI bus:

- Support of specification v.3.0 32 bit / 33MHz;
- Support of up to 4 bus master devices.

PCI-E bus:

- Support of specification v.2.0;
- Support of up to 5 devices in x1 mode (5Gb/sec);
- Support of Mini PCI Express cards.

LPC bus:

- Support of specification v.1.1.

SMBUS:

- Support of specification v.2.0;
- Speed of up to 100 Kb/sec.

FLASH BIOS:

- 64 Mb SPI-Flash;
- Modifiable within the system.

SATA interface
(is switched with CFast connector):

- Support of specification v.2.6;

SSD SATA Flash disk:

- up to 8 GB (SLC NAND Flash).

Connector for CFast storage hoppers.

Connector for MicroSD storage hoppers.

FRAM 32 Kbyte (SPI port) for user data storage.

2x LAN 10/100/1000Mb controllers.

USB ports:

- Support of USB 1.1 (12Mb/sec), USB 2.0 (480Mb/sec), USB 3.0 (5Gb/sec);
- Connection of up to 5 devices (USB 2.0);
- Single USB 3.0 device.

Serial ports:

- COM1, COM2: RS232 (up to 115k baud);
- COM3 – COM6: RS485/422 optoisolation up to 500V (up to 921k baud);
- COM7, COM8: RS232 (up 4M baud);
- Console I/O via serial ports (COM1,COM2).

Digital I/O port:

- 16 individually programmed I/O lines.

Optoisolated input of external reset/interrupt:

- Isolation of up to 500V.

PS/2 keyboard and mouse port.

Audio support:

- HD Audio codec;
- Linear input (stereo);
- Linear output (stereo);
- MIC (mono).

Real Time Clock:

- Powered from lithium battery CR2032 (3V);
- Possibility to connect an external power supply source.

Watchdog timer:

- WDT1 with a fixed actuation interval;
- WDT2 with program setting possibility.

Operating temperature range:

- From - 40°C to +85°C.

Power supply:

- +5 V;

Consumed power:

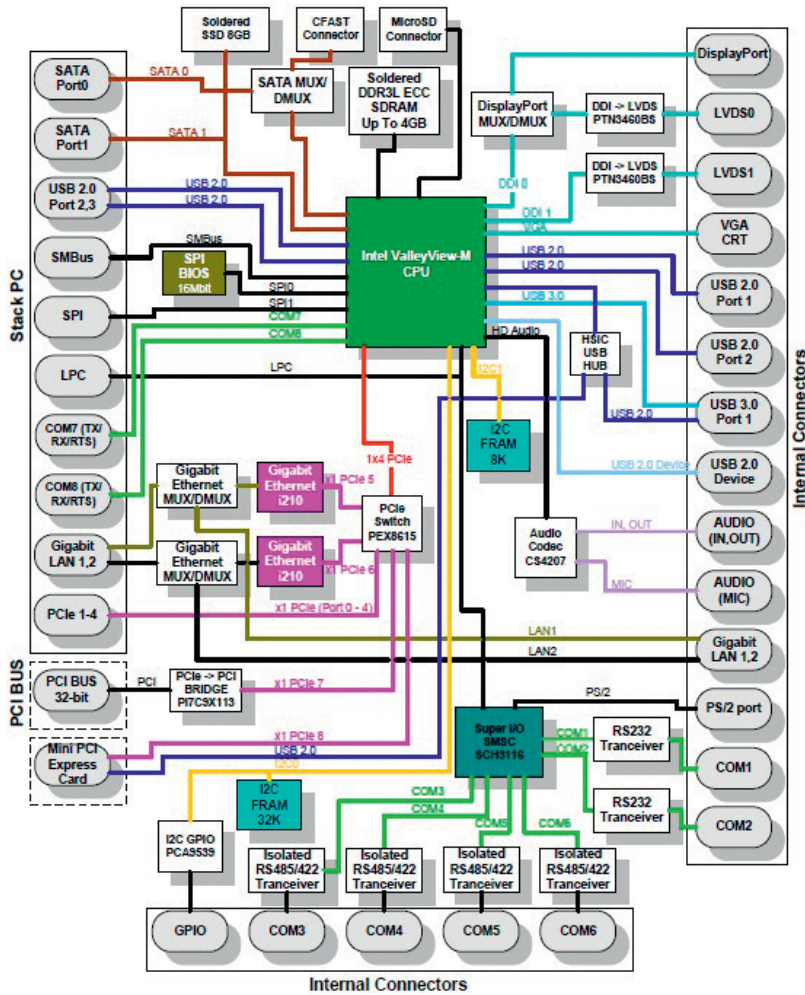- CPB909-01 TBD;
- CPB909-02 TBD.

Compatibility with OS:

- Linux ;
- QNX ;
- Microsoft Windows Embedded Standard 8;
- Microsoft Windows Embedded Standard 7.

CPB909

Intel Atom E38xx-based SBC with StackPC Expansion Connector in 3.5" Form-Factor

Block Diagram

Internal Connectors

Ordering Information

CPB909 Configuration

Device Type

CPB909 Configuration:
CPB909-01: 4 GB RAM, 8 GB NAND, Intel Atom E3845
(Quad Core);
CPB909-02: 2 GB RAM, 4 GB NAND, Intel Atom E3825
(Dual Core).

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