CPC1311
Mezzanine CPU Module COM Express® mini, Type 10

Features
- CPU: E3845: 1.91 GHz, 4x cores (CPC1311-01, CPC1311-03); E3825: 1.33 GHz, 2x cores (CPC1311-02, CPC1311-04)
- L1-Cache (32 KB of instructions, 24 KB of data); L2-Cache 1024 KB
- RAM: DDR3L-1066/1333 SDRAM up to 4 GB with ECC support
- Watchdog timer: 1.2 sec …10 min
- Operating temperature range: −40°C up to + 85°C (for CPC1311-01, CPC1311-02) and 0°C to + 70°C (for CPC1311-03, CPC1311-04)
- Power supply: from COM-Express connector with extended range (from 4.75 V to 20 V)
- Power consumption: CPC1311-01, CPC1311-03 ~15 W; CPC1311-02, CPC1311-04 ~12 W
- OS support: Linux 3.8.0; QNX 6.6; Microsoft Windows Embedded Standard 8; Microsoft Windows Embedded Standard 7

Overview
The mezzanine CPU-module COM Express® mini, Type 10, 55 x 84 mm is designed for building of highly reliable embedded power-efficient systems with compact sizes. The module corresponds to the “PICMG® COM.0 COM Express® Module Base Specification Revision 2.1”

CPU
Intel Atom E3845: 1.91 GHz, 4x cores (CPC1311-01, CPC1311-03); Intel Atom E3825: 1.33 GHz, 2x cores (CPC1311-02, CPC1311-04)
- Support of IA 64-bit/32-bit architecture
- L1-Cache (32 KB of instructions, 24 KB of data)
- L2-Cache 1024 KB
- Support of Intel Streaming SIMD Extension 4.1 & 4.2 (SSE4.1 and 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

FLASH BIOS
- 64 MB SPI-Flash
- Modifiable within the system

eMMC Flash drive: 8 GB
- (versions CPC1311-01, CPC1311-03)

FRAM 8 KB (I2C port) for storing configuration

COM-Express COM.0 connector, Type 10
- 3(4) ports PCIe x1 (PCIe Base Spec. Rev 2.0), 5 GT/s
- 4xUSB 2.0 (host), 1xUSB 2.0 (client), 1xUSB 3.0 SuperSpeed (host)
- 2xSATA II (3-Gbps Gen. II)
- 1xGigabit Ethernet
- 1xSPI (External Boot)
- 1xLVDS/eDP; Digital Display Interface; DDI0 2560x1600 @ 50 Hz
- 1xLPC (Specification Rev. 1.1)
- Buses SMBus, I2C
- HD Audio, Speaker Out
- SDIO (combined with GPIO ports)
- 1xRS-232 (TTL, 64 Byte FIFO, up to 4 Mbps), 1xRS-232 (TTL, 64 Bytes FIFO, up to 1 Mbps)/CAN 2.0 B (TTL, up to 1 Mbps)
- RTC battery

Real-Time Clock
Monitor of seven power supply voltages on SMBUS
- Watchdog timer (WDT)
  - 1.2 sec … 10 min

Console I/O via serial ports (COM1/COM2)

MTBF
200 000 hours

Operating temperature range from −40°C up to +85°C
- From - 40ºC to + 85ºC (CPC1311-01, CPC1311-02)
- From 0ºC to + 70ºC (CPC1311-03, CPC1311-04)
(temperature control on heat spreader)

Power supply
- From COM-Express connector with an extended temperature range (4.75 V … 20 V)

Power consumption
- CPC1311-01, CPC1311-03 ~15 W
- CPC1311-02, CPC1311-04 ~12 W

Weight
- no more than 0.15 kg

Software compatibility
- Linux 3.8.0
- QNX 6.6
- Microsoft Windows Embedded Standard 8
- Microsoft Windows Embedded Standard 7
CPC1311
Mezzanine CPU Module COM Express® mini, Type 10

Board Layout

* eMMC Flash Drive: 6 GB (for versions CPC 1311-01, CPC 1311-03)
CPC1311
Mezzanine CPU Module COM Express® mini, Type 10

Ordering Information

CPC1311 Configuration

<table>
<thead>
<tr>
<th>Version</th>
<th>Temperature range</th>
<th>CPU</th>
<th>RAM</th>
<th>eMMC 8GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPC1311-01</td>
<td>-40°C ... +85°C</td>
<td>Intel Atom E3845 1.91 GHz, 4 cores</td>
<td>4 GB 1333DDR3L</td>
<td>+</td>
</tr>
<tr>
<td>CPC1311-02</td>
<td>0°C ... +70°C</td>
<td></td>
<td>2 GB 1066 DDR3L</td>
<td>-</td>
</tr>
<tr>
<td>CPC1311-03</td>
<td>-40°C ... +85°C</td>
<td>Intel Atom E3825 1.33 GHz, 2 cores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPC1311-04</td>
<td>0°C ... +70°C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other configurations are available upon request

Available options for CPC1311:
- LNX — Preinstalled Linux 3.8.0 (for versions with soldered eMMC)
- WIN7E — Preinstalled OS Windows Embedded Standard 7 (for versions with soldered eMMC)
- COATED — conformal coating option

Delivery checklist
- CPC1311-xx Module ready-assembled with a heat-spreading plate and 5 mm racks (4 pcs.)
- Installation kit:
  1. set of racks with a height of 8 mm — 4 pieces
  2. washers and screws for the racks (in order to fasten the module to the carrier-board) — 4 pieces for each
  3. jumper — 1 pcs
- Packaging

Additional accessories
- ACS30075 heatsink
- ACS30075-01 heatsink with a fan

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. 1.12.2015
Product specifications are subject to change without notice