



### Features

- CPU: Baikal-T1, MIPS32 P5600 core with 900 MHz, 2 physical cores
- DDR3-1600 SDRAM 4 GB, soldered, with ECC support (8 bit)
- Flash drive: up to 16 GB
- StackPC extension connector
- PCI/104 extension connector
- Real-time clock with integrated lithium battery 3V
- Watchdog timer
- Operating temperature: 40°C ... + 85°C
- Weight: no more than 200 g
- Software compatibility: Linux (Debian 7.x)

### Overview

CPC 313 is a highly-integrated and power-efficient solution on MIPS32 platform designed for the use in real-time systems, manufacturing control, data acquisition and processing systems for harsh environments and mission-critical applications.

### Technical Specifications

#### CPU: Baikal-T1

- MIPS32 P5600 core
- Clock frequency: 900 MHz
- Number of physical cores: 2
- L1 cache 64 KB
- L2 cache 1 MB

#### RAM

- DDR3-1600 SDRAM 4 GB, soldered
- 32-bit data bus
- ECC support (8 bit)

#### Video ports

- Analog RGB up to 1920×1080 @ 50Hz
- LVDS 18 / 24 bit up to 1366×768 @ 60Hz

#### Audio ports

- Linear stereo input / output
- Stereo input for microphone connection

#### Flash Drive

- Up to 16 GB;
- Support of 1.5 Gb Gen I / 3 Gb Gen II / 6 Gb Gen III

#### StackPC extension connector

- Compatibility with PCIe/104
- 4×ports PCIe x1 Gen2 5 Gb/sec
- 1×PCIe port x4 Gen3 8 Gb/sec
- 2×ports USB 2.0 (Host)
- 1×SATA III port
- 2×Gbit Ethernet ports
- SMBus

#### PCI/104 extension connector

- PCI 32 bit / 33 MHz
- Compatibility with Rev 2.3 specification
- Support of up to 4-x Bus Master Devices

#### LAN ports

- 1×10Gbit Ethernet port
- 2×Gbit Ethernet ports
- individual insulation of each port against the system 1000V

#### USB ports (hosts)

- Support of USB 1.1, USB 2.0 (HS, FS, LS)
- Exchange speed up to 480 Mb/sec
- Connection of up to 6 devices

#### Serial ports

- COM1, COM2: RS-232 (Rx, Tx) up to 460 Kb/sec

#### GPIO port

- 8×lines, compatibility with the level 5 V

#### Watchdog timers

- Hardware watchdog timer, integrated into the CPU microchip with a programmable interval from 1 μs to 10 min

#### Real-Time Clock with integrated lithium battery 3 V

#### Software compatibility

- Linux (Debian 7.x)

#### Power supply voltage

- +5 B ± 5%

#### Consumption current

- 3000 mA

#### Operating temperature range

- -40...+85°C

#### Humidity

- 5...95%, at + 25°C, non-condensing

#### Shock-/Vibration resistance

- 50g / 5g

#### MTBF

- No less than 100 000 hours

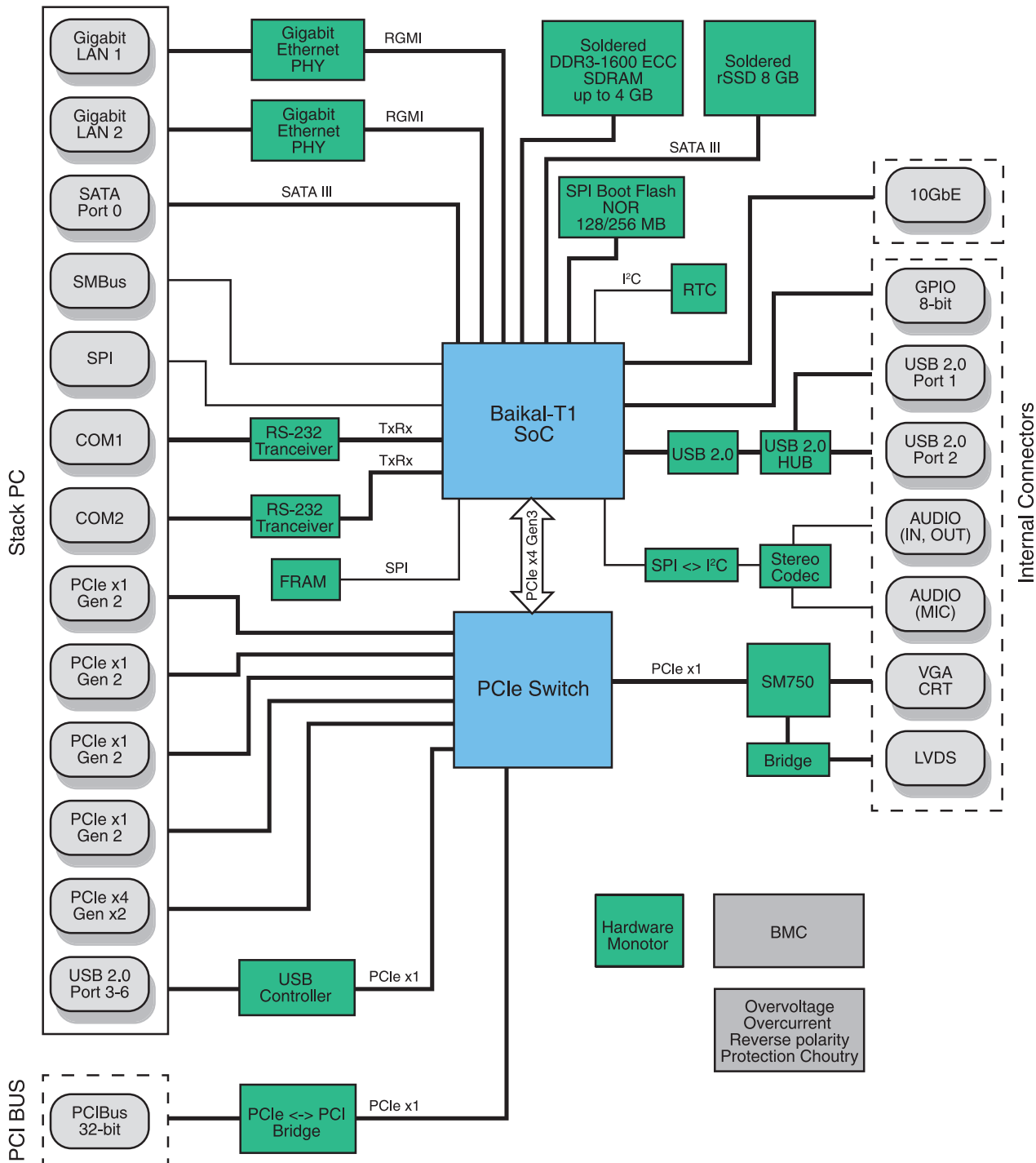
#### Dimensions:

- No more than 115,8 × 96,0 × 23,7 mm

#### Module weight

- No more than 200 g (including thermal distribution plate)

### Board Layout



# CPC313

PCI104 Baikal-T1 based SBC with StackPC extension connector



## Ordering Information

### CPC313 Configuration

#### CPC313 - 01 - \Options

##### Configurations

01 CPC313 CPU Module (StackPC-PCI),  
Baikal-T1 CPU MIPS32 P5600 core,  
1,2 GHz, 4 GB DDR3 SDRAM,  
10Gb Ethernet, 2×USB 2.0, SSD 16 GB,  
2×RS-232, 8×GPIO, AUDIO

##### Options

\COATED Conformal coating  
\LNX Linux (Debian 7.x)

#### CPC313 Available Options

Coating	
\COATED	Conformal coating
Operating System Presetting	
\LNX	Linux (Debian 7.x)

#### Delivery checklist

1. CPC313 CPU Module
2. Heatspreader
3. Packaging

## Corporate Offices

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Ver. 1.08.2017

Product specifications are subject to change without notice



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