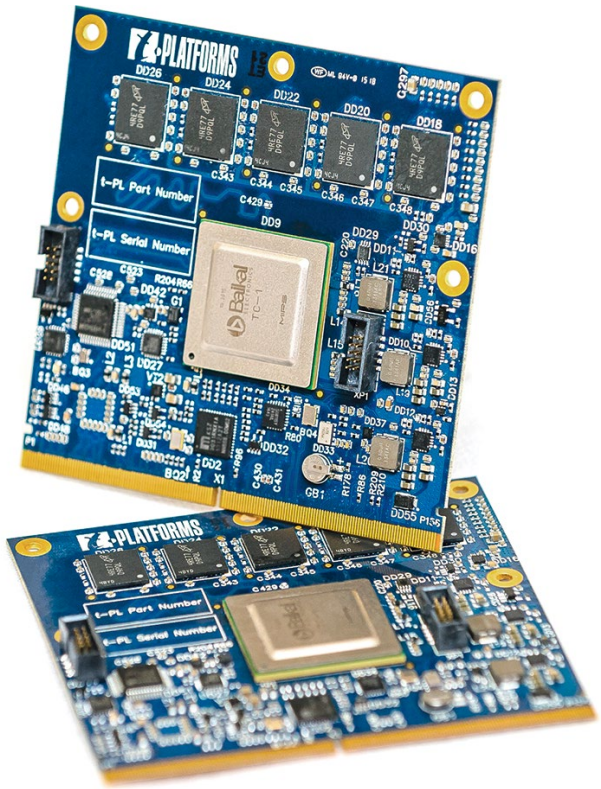
SF-BT1

A SMARC CPU module with the newest Russian dual-core Baikal-T1 processor

T-Platforms presents the SF-BT1 CPU module designed for developers of equipment based on the newest Russian Baikal-T1 processor.



The module is based on the SMARC specification that was created for development of low cost compact CPU modules that match high performance with low power consumption.

SF-BT1 modules serve to simplify the design of hardware based on Baikal-T1 CPU. They allow the developers to use all Baikal-T1 functionality without arduous PCB routing of processor interfaces, power lanes and auxiliary components.

Baikal-T1 processors that are the core of SF-BT1 modules use MIPS architecture and are manufactured with 28 nm technology. Thus, SF-BT1 modules are designed for developers of embedded devices that care about energy efficiency and compactness as much as they seek performance and network capabilities.

SF-BT1 modules can be used to create industrial automation systems, medical equipment and various instrumentation, active components of automated transportation control systems, telecommunication devices and many other systems. T-Platforms develop a line of high-tech products based on SF-BT1 modules that includes CNC systems, platforms for industrial automation and telemechanics, network switches etc.

The module offers a diverse set of interfaces for interaction with external components. This set includes interfaces for communication with active devices (10GbE and GbE, USB, PCIe) and interfaces for sensors, relays and other terminal equipment (GPIO, UART, I²C, SPI). JTAG and EJTAG interfaces are included for diagnostic and debug purposes.

Low power consumption enables SF-BT1 modules to be applied in various passive cooled devices. The newest Russian Baikal-T1 processor with modern performance level is also suitable for development of the systems with high requirements for information security.

Key features of SF-BT1 module

- Baikal-T1, 2 cores, up to 1.2 GHz, MIPS
- Up to 8 GB DDR3-1600 (ECC)
- 10GbE and 2×1GbE, 1×USB2.0, 2×SATA, 31×GPIO, (2+1)×SPI, 2×UART, 3×I²C, 1×PCIe Gen.3 x4

Specifications

Core system	
Processor	Baikal-T1, up to 1.2 GHz, 2 P5600 cores, MIPS
L2 cache	1 MB
RAM	2/4/8 GB DDR3-1600 with ECC
Nonvolatile memory	8 GB NAND Flash (option)
Network interfaces	
Ethernet	1 × 10GbE (XAUI, 10GBASE-KX4, 10GBASE-KR) 2 × 1GbE
I/O interfaces	
PCIe	1 × PCIe Gen.3 x4
SATA	2 × SATA 3.0
USB	1 × USB 2.0
Serial interfaces	(2+1) × SPI 2 × UART 3 × I^2C
GPIO	31 × GPIO
Additional interfaces	
Diagnostic and debug interfaces	JTAG EJTAG
Management interfaces	Power control System control
Other components	
Battery	Lithium MS412 battery for RTC
OS	
OS	Linux 3.19 and above
Power	
Power format	3.3 VDC
Mechanical specifications	
Basic specification	SMARC v1.1
Dimensions	82×80 mm, 5.7 mm thick
Carrier board slot	MXM 3

T-PLATFORMS

T-Platforms, JSC
113/1 Leninskiy Prospect, office B-705, Moscow, Russian Federation
tel: +7(495) 956 54 90 | fax: +7(495) 956 54 15 | **www.t-platforms.com**