

TQMT1042

Higher Performance and Less Power Consumption with the new 64-Bit Multi-Core Processors

The TQMT1042 embedded module embodies the next generation of the well-known TQMP1020/2020 QorIQ™ product family.

The QorIQ™ T1 processor family inaugurates new applications in industry and communications.

With four e5500 (64-bit) cores and a clock rate of up to 4x 1400 MHz, the TQ modules using QorIQ™ processors provide the best ratio between processing speed and power loss. The 28 nm technology significantly reduces the power consumption compared to a QorIQ™ module of the former generation.

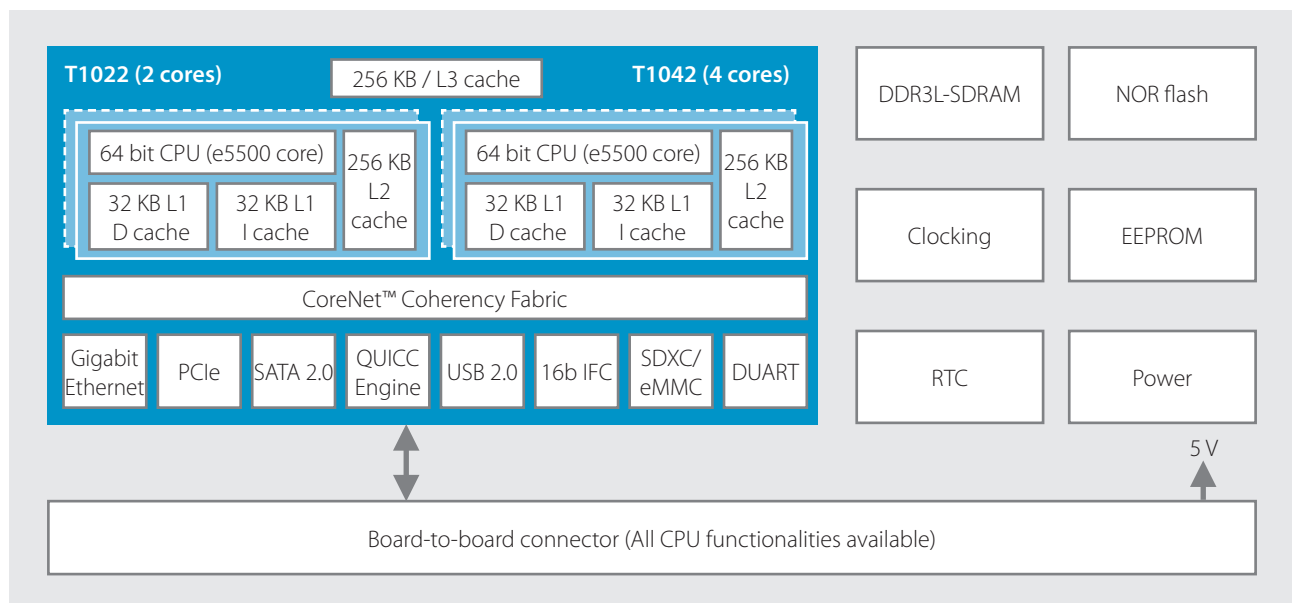
This feature, together with the expanded temperature range and intelligent power management, enables the use in fan-free systems. The TQMT1042 is best suited for industrial applications that demand high availability, outdoor ambient temperatures and small overall size.

Preliminary

The highlights:

- Single-, Dual and Quad core(s) from 1200 MHz to 1400 MHz in 28 nm SOI for the best Performance/Watt ratio
- High-speed communication via 5x Gigabit Ethernet, 4x PCIe and two USB 2.0 interfaces
- Dual SATA interfaces for data storage
- Easy function extensions via PCIe, eSPI, I²C and local bus
- IEEE 1588 time synchronization in hardware
- Extremely compact module dimensions
- Display Interface Unit

Block diagram TQMT1042



Technical specification

Microprocessor

Quad T104x, dual T102x or single T1014 Power Architecture™ e5500 cores (64 bit)

System interfaces

5x Gigabit Ethernet (with IEEE® 1588v2)
2x USB 2.0 HOST
2x SATA 2.0
4x PCIe, 2.0 Controller up to 5.0 Gbit/s according to PCI Express specification 2.0 as Root-Complex or Endpoint
2x I²C, max. 400 kHz
1x Integrated Flash Controller (IFC), 16 bit
1x eSPI Controller
2x DUART, max. 115 kBaud (RS232)
Up to 4x GPIOs
2x TDM (via QUICC Engine)

Graphics

Display controller for TFT LCD displays (up to 24 bit RGB)

Memory

DDR3L-SDRAM: up to 4 GB (higher capacities on request)
NOR flash: 256 MB (higher capacities on request)
EEPROM: 32 kbit
Simple expansion for example via MMC, SDHC, USB

Other

Real Time Clock (RTC)
Watchdog
JTAG Interface
Real-Time Debug Interface (Aurora)

Power supply

5 V

Ambient conditions

Standard temperature range: 0°C...+70°C
Extended temperature range: -40°C...+85°C

Dimensions

74 mm x 54 mm (TBD)

Plug-in system

Board-to-board plug-in system 360 Pins (TBD)

Operating systems

Linux

Operating systems on request

PikeOS™, VxWorks® and more (TBD)

Ordering information (preliminary)

TQMT1042-AA

TQ Minimodule with T1042 Quad Core CPU with up to 4x 1400 MHz, 2 GB DDR3 SDRAM, 256 MB NOR flash, 32 kbit EEPROM, -40°C ... +85°C

Further product variants on request

STKT10xx

Starter kit with TQ Minimodule TQMT1042, Power Supply, Z-Modem cable, module extractor, heat spreader and documentation

Starter kit STKT10xx

The STKT10xx supports all modules of the type series TQMT1042/1040/1022/1020 und TQMT1024/1014 (TBD) and represents an universal platform for evaluation and development of customer specific platforms for those modules.

Baseboard: Design support | Production

At TQ you not only get first-class embedded systems – we also provide a series of benefits around the embedded module:

- Support in writing a technical specification for gathering the requirements of your application
- Support in selection of components up to Obsolescence management
- Circuit diagram review
- Software, especially Board Support Packages and Hardware-close driver
- Starting-up of your baseboard

As system service provider TQ is able to take over the development, production and test of your baseboard. Therefore you get the whole tested unit from one hand.

TQ-Systems GmbH

Mühlstr. 2 | Gut Delling | 82229 Seefeld | Germany

Phone: +49 8153 9308-0 | Fax: +49 8153 4223

info@tq-group.com | www.tq-group.com

http://www.tq-group.com/en/TQMT1042

