

# TQMT1022

## Power Architecture®



**Dual Core Power Architecture® module with multiple I/O connectivity and strong computing performance at low power budget.**

### HIGHLIGHTS

- ▶ Dual Core up to 1400 MHz in 28 nm SOI for the best Performance/Watt ratio
- ▶ High-speed communication with up to 5x Gbit Ethernet, 4x PCIe and two USB 2.0 High Speed interfaces
- ▶ Dual SATA interfaces for data storage
- ▶ Easy function extensions via PCIe, eSPI, I<sup>2</sup>C and IFC (Local Bus)
- ▶ IEEE 1588 time synchronization in hardware
- ▶ Extremely compact module dimensions
- ▶ Display Interface Unit

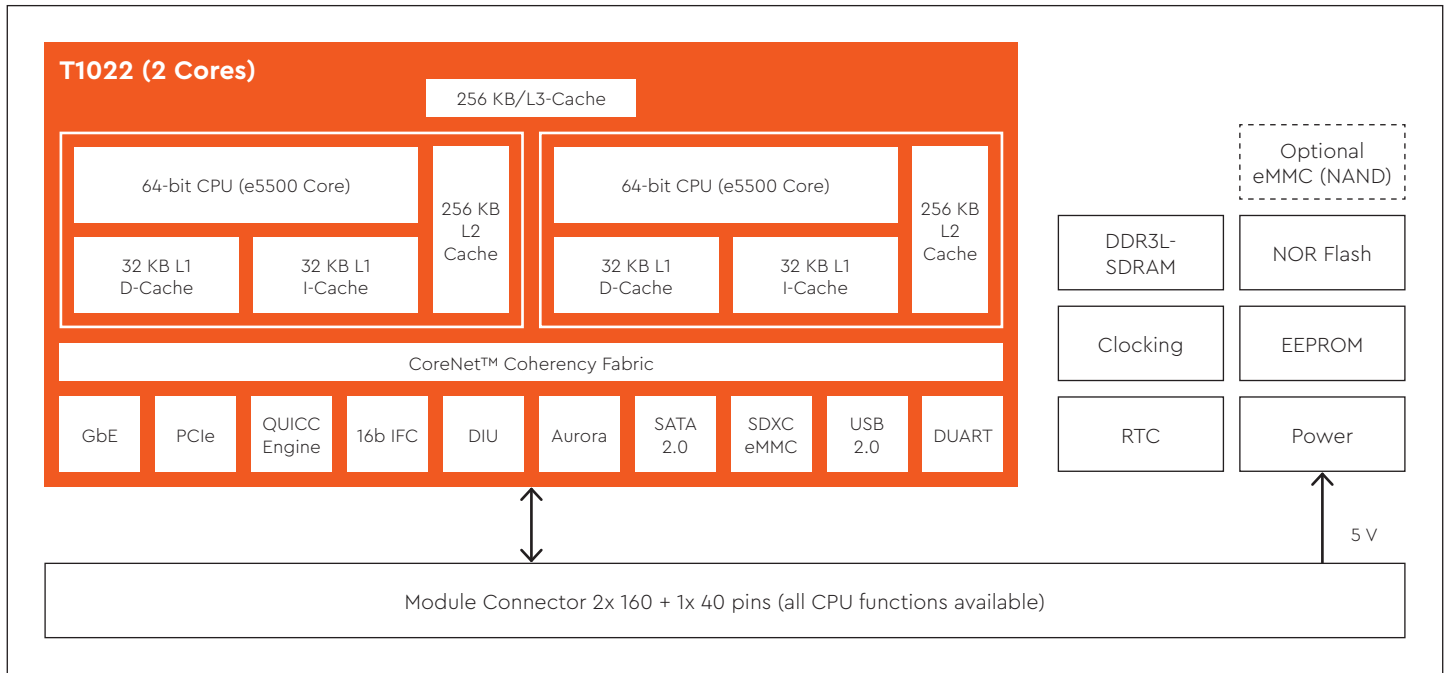
### TECHNICAL SPECIFICATION

<b>CPU</b>	Dual T1022 Power Architecture® e5500 cores (64bit)
<b>Interfaces</b>	5x Gbit Ethernet (with IEEE® 1588v2) 2x USB 2.0 High Speed Host/Device/ OTG 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 4x I <sup>2</sup> C, max. 400 kHz 1x Integrated Flash Controller (IFC), 16-bit 1x eSPI Controller 2x DUART, max. 115 kBaud (RS232) Up to 32x GPIOs 2x TDM (via QUICC Engine)
<b>Graphics</b>	Display controller for TFT LCD displays (up to 24-bit RGB)
<b>Memory</b>	DDR3L-SDRAM: up to 8 GB with ECC*) NOR flash: up to 256 MB EEPROM: 32 KB eMMC (optional): up to 8 GB Simple expansion for example via MMC/ SDHC, USB

<b>Other</b>	Real Time Clock (RTC) Watchdog JTAG Interface Real-Time Debug Interface (Aurora)
<b>Power supply</b>	5 V
<b>Power consumption</b>	Typ. 5 W up to 7 W
<b>Ambient conditions</b>	Standard temperature range: 0°C...+70°C Extended temperature range: -40°C...+85°C
<b>Dimensions</b>	74 mm x 54 mm
<b>Plug-in system</b>	Board-to-board plug-in system 360 Pins
<b>Operating systems</b>	Linux
<b>Operating systems on request</b>	PikeOST™

\*) Up to 4 GB with ECC for extended temperature range

## BLOCK DIAGRAM TQMT1022



## ORDERING INFORMATION

### TQMT1022-AA

TQ Minimodule with T1022 Dual Core CPU with up to 2x 1400 MHz, no Crypto, 2 GB DDR3 SDRAM, 128 MB NOR flash, 32 KB EEPROM, -40°C...+85°C

Further product variants on request

### STKT1022-SET-AA

Starter kit with TQ Minimodule TQMT1022-AA and baseboard STKT104X, Power Supply, Z-Modem cable, module extractor, heat spreader and documentation.

## BASEBOARD

### STKT104X

The baseboard STKT104X supports all modules of the type series TQMT104x and TQMT102x and represents an universal platform for evaluation and development of customer specific platforms for those modules.

### 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

Mühlstraße 2 | Gut Delling | 82229 Seefeld | Germany  
Tel.: +49 8153 9308-0 | info@tq-group.com | tq-group.com

[tq-embedded.com](http://tq-embedded.com)