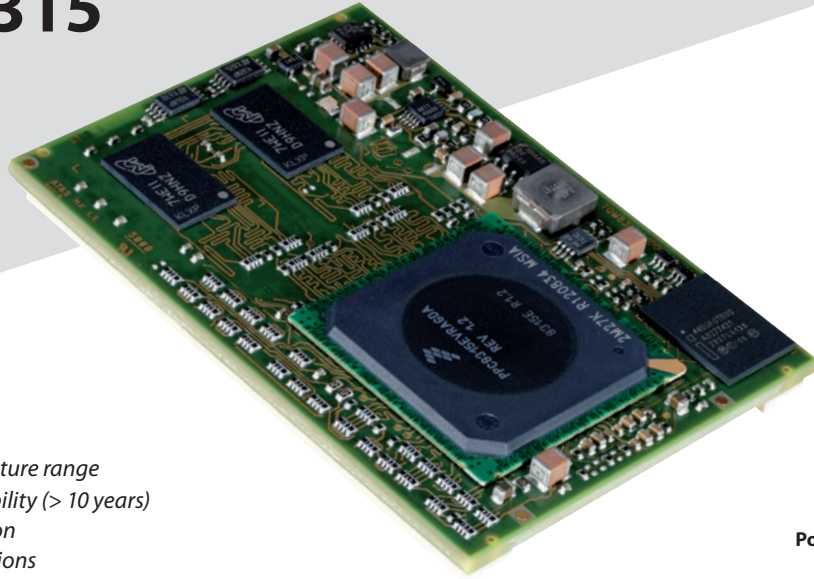




TQM8315



- ✓ Extended temperature range
- ✓ Long-term availability (> 10 years)
- ✓ Robust construction
- ✓ Very small dimensions



Networking and control – simple, fast and efficient

- Freescale e300 Core with 400 MHz for highest computing efficiency
- High-speed communication via 2x Gigabit Ethernet, 2x SATA and USB 2.0
- Functions can be easily extended via PCIe, PCI, SPI, I2C and flexible local bus
- Encrypted data communication
- IEEE1588 time synchronisation in the hardware
- Extremely compact at just 70 mm x 50 mm
- Low power consumption (typ. < 3W)
- Extended temperature range available

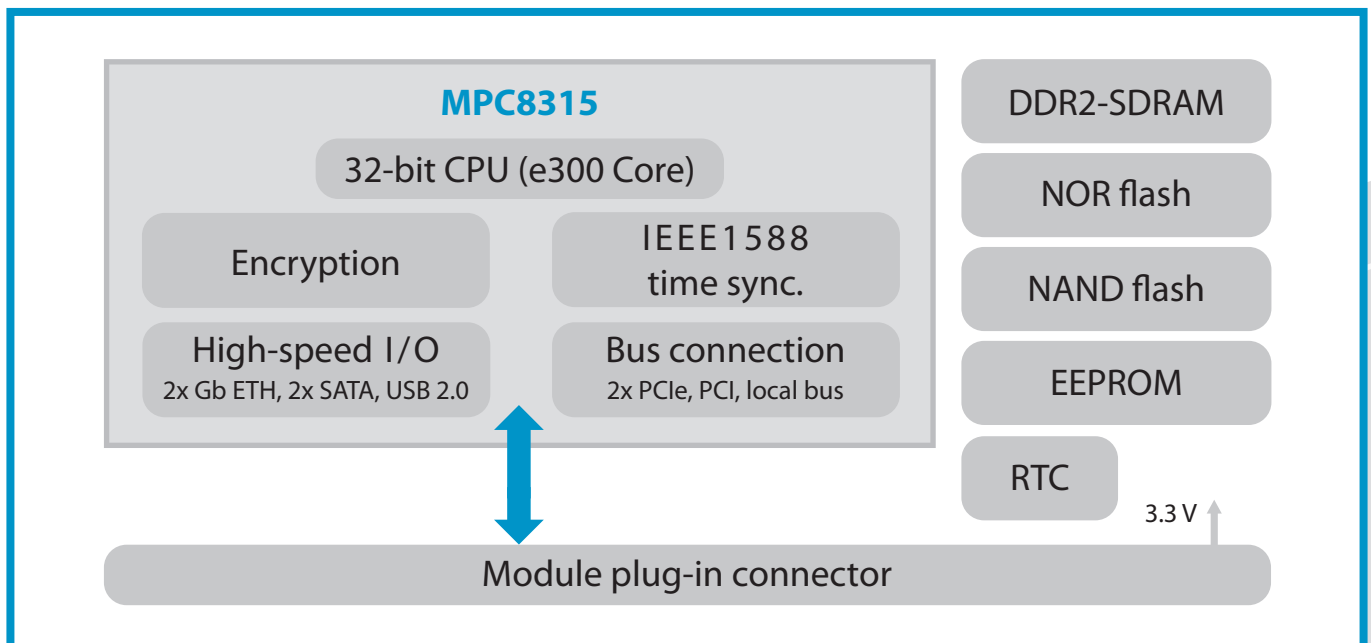
The TQ Minimodule TQM8315 has many different uses and offers an excellent basis for fast and efficient networking with its high-speed interfaces.

In addition, with its integrated flash and the up to 3 Gbit/s fast SATA interfaces, the module provides the best prerequisites for applications with high data processing rates and large volumes of data.

The small dimensions, the optional extended temperature range and the rugged design allow the module to be used also in tough conditions.

For industrial use, the IEEE1588 module supports all network participants for exact time synchronization, which means that time synchronous measuring systems are easy to implement.

Block diagram TQM8315



TQM8315

Technical specifications TQM8315

Microprocessor

MPC8315E with e300 core, 400 MHz, 16 KB I/D cache, double-precision FPU

Communication interfaces

2x Ethernet 10/100/1000 Mbit/s (RGMII, (R)MII, RTBI or SGMII)
2x SATA according to serial ATA 2.5 specification with up to 3 Gbit/s
1x USB 2.0 high-speed host or device including PHY; OTG option (without PHY)

System interfaces

2x PCIe x1, max. 2.5 Gbit/s per lane according to PCI Express specification 1.0a as root complex or endpoint
1x PCI 32-bit, 33/66 MHz according to PCI specification 2.3
1x enhanced local bus 16-bit, max. 66MHz
1x I²C, max. 400 kHz
1x SPI
2x UART, max. 115 kBaud (RS232)
Up to 32 GPIOs

Encryption (Security Engine)

Public key execution (RSA and Diffie-Hellman)
Data encryption standard execution (DES and 3DES)
Advanced encryption standard (AES) execution
Message digest execution (SHA, MD5, HMAC)
Random number generation (RNG)

Memory

DDR2-SDRAM: up to 512 MB
NOR flash: 64 MB
NAND flash: up to 1 GB (on request)
EEPROM: 4 KB

Other

Real Time Clock (RTC)
Watchdog
Temperature sensor
JTAG Interface

Power supply

3.3V, typ. < 3W, max. 6W

Ambient conditions

Standard temperature range: 0 °C ... +85 °C
Extended temperature range: -30 °C ... +85 °C (optional)

Dimensions

70 mm x 50 mm

Plug-in system

Module plug-in connectors, 0.8 mm grid, 320 pins

Operating systems

Linux (supported)
VxWorks, Neutrino (on request)

Starter kit STK85xxNG

The STK85xxNG supports all modules in the TQM83xx and TQM85xx series and is a universal platform for evaluating and developing customer-specific platforms for these modules. The STK85xxNG is especially characterised by the use of an FPGA. With the FPGA it is possible to route the different module/pin functionalities to standard interfaces. Special interface requirements can be implemented quickly and easily with flexible interfaces (Flexifaces®).

Ordering information

TQM8315-AB

TQ Minimodule with MPC8315E with 400 MHz, Security Engine, 512 MB DDR2 SDRAM, 64 MB NOR flash, 4 KB EEPROM

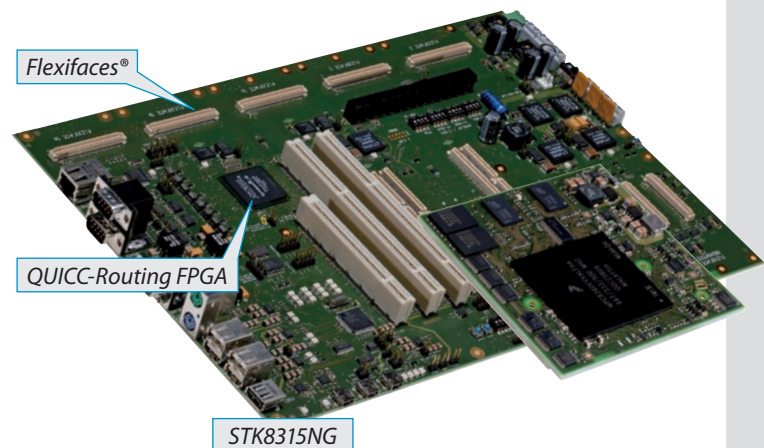
STK8315NG

Starter kit with TQ Minimodule TQM8315-AB, STK85xxNG board, Flexiface, accessories and documentation

Accessories

Module remover, cooling kits

Quicklink: www.tq-components.de/en/TQM8315



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