



TQMLS102xA

For the networks of tomorrow

The Minimodule TQMLS102xA, based on the processor LS102xA from Freescale, combines the ARM® core Architecture with the QorIQ® high speed communication technology. The integrated graphics controller supports applications with display and touch.

For various applications such as networking, industrial automation and controls with requirements for fast and secure data processing, there are three CPU variants available.

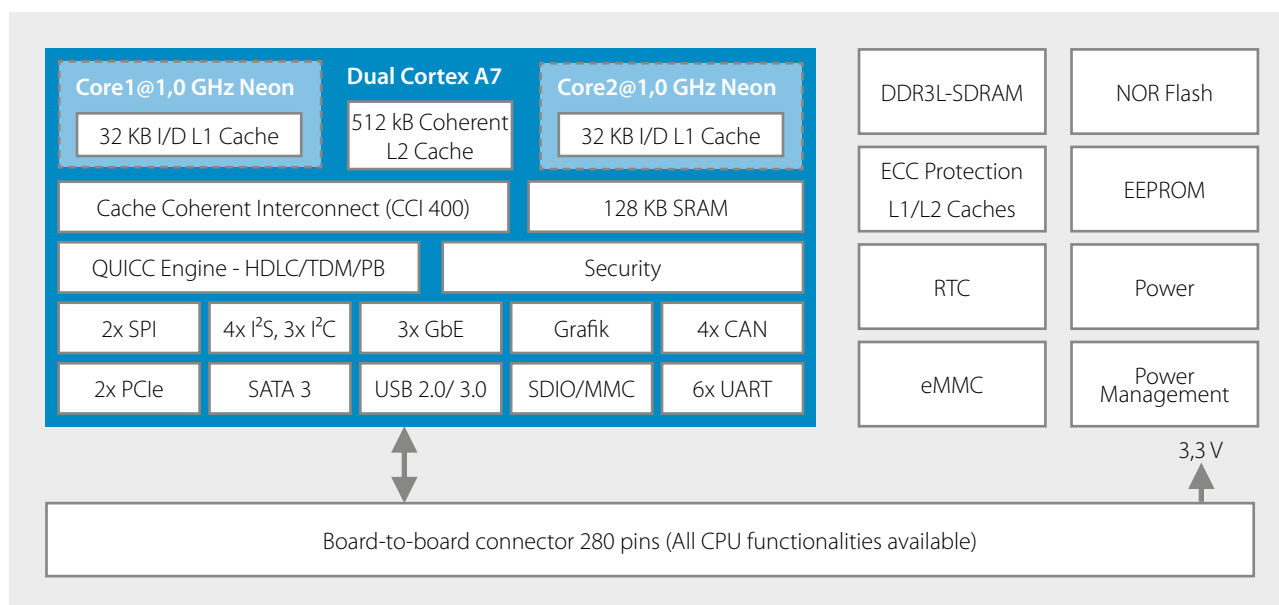
The Dual-Core ARM® Cortex™ A7 core provides a cache Coherent Interconnect bus system and a clock rate up to 2 x 1,0 GHz.

Thus the Embedded module TQMLS102xA- provides a balanced ratio between high performance and power dissipation.

The highlights:

- Graphic
- QorIQ QUICC Engine
- High speed communication via 3x Gigabit Ethernet, 2x PCIe and one USB 3.0 interface
- Low power consumption (typ. 3 W)
- ECC protection
- Cache Coherent Interconnect bus system
- IEEE 1588 hardware support
- Security functions

Block diagram TQMLS102xA



Technical specification

Microprocessor

QorIQ LS1020A, LS1021A, LS1022A

System interfaces

Up to 3x Ethernet 10/100/1000 Mbit (IEEE 1588)
Up to 4x FlexCAN
Up to 1x USB 2.0 high speed OTG interface
Up to 1x USB 3.0 high speed HOST interface
Up to 6x UART

Periphery interfaces

Up to 1x SDIO/MMC
Up to 3x I²C
Up to 2x SPI
Up to 4x I²S
Up to 1x SATA 3.0
Up to 2x PCIe
SPDIF

Graphic

LCD interface (only LS1021A)

Memory

DDR3L-SDRAM: Up to 2 GB
Quad SPI NOR: Up to 512 MB
eMMC: Up to 16 GB
EEPROM: 0 / 64 kbit
ECC protection (only LS1020A, LS1021A)

Other

Real Time Clock (RTC)
Temperature sensor
CPU JTAG interface
Extended power management (optional)
Voltage monitoring (optional)

Power supply

3,3 V

Ambient conditions

Extended temperature range: -40°C...+85°C

Dimensions

55 mm x 44 mm

Plug-in system

Board-to-board plug-in system 280 Pins

Operating systems

Linux

Operating systems on request

VxWorks, QNX, PikeOS

Ordering information (preliminary)

TQMLS1020A-AA (Prototypes Q1/15)

TQMLS1020A, Dual Cortex 7 / 800 MHz, 64 MB NOR flash, 1 GB DDR3L, 64 kbit EEPROM, -40°C ...+85°C

TQMLS1021A-AA (Prototypes Q1/15)

TQMLS1021A, Dual Cortex 7 / 800 MHz, 64 MB NOR flash, 1 GB DDR3L, 64 kbit EEPROM, -40°C ...+85°C

TQMLS1022A-AA (Prototypes Q1/15)

TQMLS1022A, Dual Cortex 7 / 600 MHz, 32 MB NOR flash, 512 MB DDR3L, 64 kbit EEPROM, -40°C ...+85°C

STKLS102xA-AA (Prototypes Q1/15)

STKLS102xA (Eval Kit) with TQMLS102xA-AA, Dual Cortex A7/ 800 (600) MHz, 1 GB DDR3L, 256 MB NOR flash, 64 kbit EEPROM, 1x RS232, 1x RS485, 2 x CAN 2.0B separated, 3x USB 3.0 HOST, 1x USB 2.0 OTG, 2x ETH 10/100/1000, LCD Port, 1xHDMI, LVDS, 2x PCIe, RTC, Temperature sensor, Reset button, SD interface, Power Supply, 4GB SD card, Cable

Starterkit STKLS102xA set

The core of the STKLS102xA set is the TQMLS102xA module with a Dual Cortex™ A7 CPU from Freescale. The components contained in the starter kit constitute a modular system enabling you to develop your own product ideas. Development of graphic interfaces can be started immediately using the prepared combination of closed display unit and starter kit that are matched to each other. To develop your own hardware you can use the certified and qualified circuit components of the starter kit in your own designs.



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Technology in Quality

