

Preliminary

TQMa7x

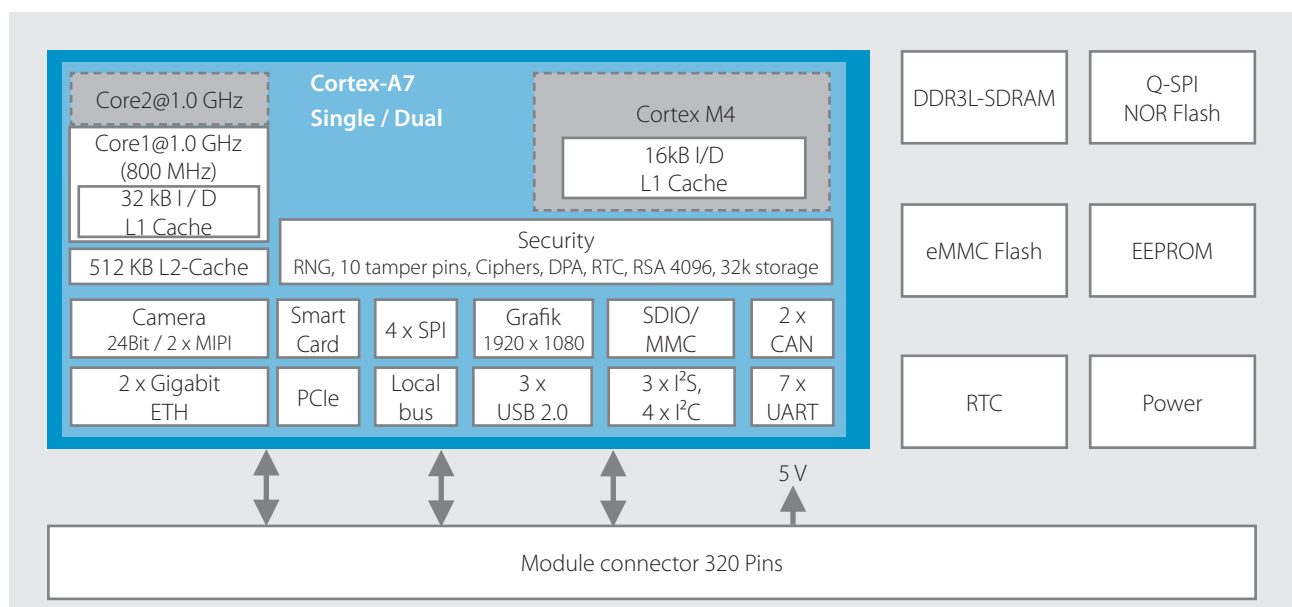
Energy efficient for future designs

The Minimodule TQMa7x, based on the i.MX7 from NXP, combines an ARM Dual Cortex-A7 core technology with a variety of interfaces. The integrated graphics controller supports applications with display and touch screen requirements. For various applications such as networking, industrial automation and controls with requirements for fast and secure data processing, there are two CPU variants available. With a Single- / Dual-Core ARM Cortex™-A7 core and a clock rate up to 2 x 1,0 GHz the TQMa7x provides a balanced ratio between high performance and power dissipation.

The highlights:

- Graphic with full HD support
- Extended temperature range
- High-Speed communication via 2x Gigabit Ethernet and 1x PCIe interface
- Low power consumption (typ. 2 W)
- Integrated Cortex M4
- IEEE 1588 hardware support
- Security functions

Block Diagram TQMa7x



Technical specification

Microprocessor

i.Mx7S, i.Mx7D

System interfaces

Up to 2x Ethernet 10/100/1000 Mbit
Up to 2x CAN
Up to 2x USB 2.0 high speed OTG interface
Up to 1x USB 2.0 high speed HOST interface
Up to 7x UART

Periphery interfaces

Up to 3x SDIO/MMC
Up to 4x I²C
Up to 4x SPI
Up to 3x I²S
Up to 1x Smart Card
Up to 1x PCIe

Graphic

LCD Interface (24 Bit RGB)
Up to 2 Camera Sensor Interface (24Bit /MIPI)

Memory

DDR3L-SDRAM: Up to 1 GB
Quad SPI NOR: Up to 256 MB (TBD)
Up to 32 GB eMMC flash
EEPROM: 0 / 64 kbit

Other

Integrated Cortex M4
Real Time Clock (RTC)
Temperature sensor
CPU JTAG Interface

Power supply

5 V (TBD)

Ambient conditions

Standard temperature range: -20°C...+85°C

Dimensions

54 mm x 44 mm (TBD)

Plug-in system

Board-to-board plug-in system 320 pins (TBD)

Operating systems

Linux

Operating systems on request

VxWorks, QNX, WIN EC 2013

Ordering information (preliminary)

TQMa7S-AA (Prototypes Q2/16)

TQMa7S, i.MX7S (Single Cortex-A7) / 800 MHz, 4 GB eMMC Flash
1GB DDR3L, 64 kB EEPROM, -20°C ...+85°C

TQMa7D-AA (Prototypes Q2/16)

TQMa7D, i.MX7D (Dual Cortex-A7) / 1,0 GHz, 4 GB eMMC Flash
1GB DDR3L, 64 kB EEPROM, -20°C ...+85°C

STKa7x-AA (Prototypes Q2/16)

STKa7x (Eval Kit) with TQMa7x-AA, Dual Cortex-A7 / 1,0 GHz, 1 GB DDR3L, 4 GB eMMC Flash, 64 kB EEPROM, 1x RS232, 1x RS485, 2 x CAN 2.0B separated 3x USB 2.0 HOST, 1x USB 2.0 OTG, 2x ETH 10/100/1000, LCD Port, 1xHDMI, LVDS, 1x Mini PCIe, RTC, Temperature sensor, Reset-Button, SD interface, Power supply, 4 GB SD card, Cables

Starter kit STKa7x set

The core of the STKa7x set is the TQMa7x module with a Dual Cortex-A7 CPU. 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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