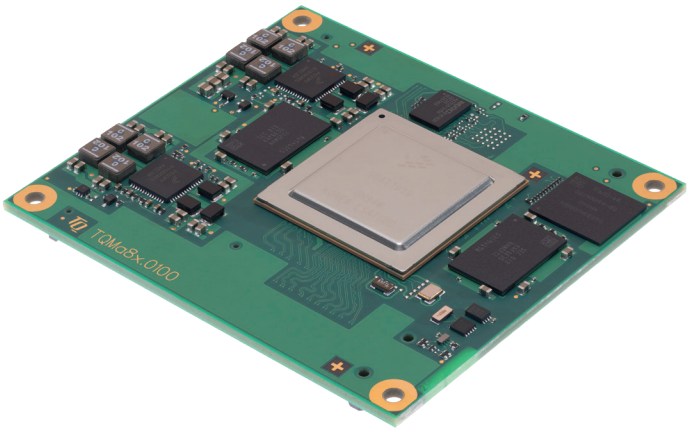
TQMa8x

Arm® Family



Embedded Cortex®-A53 / A72 module based on i.MX8 with enhanced performance and graphics properties.

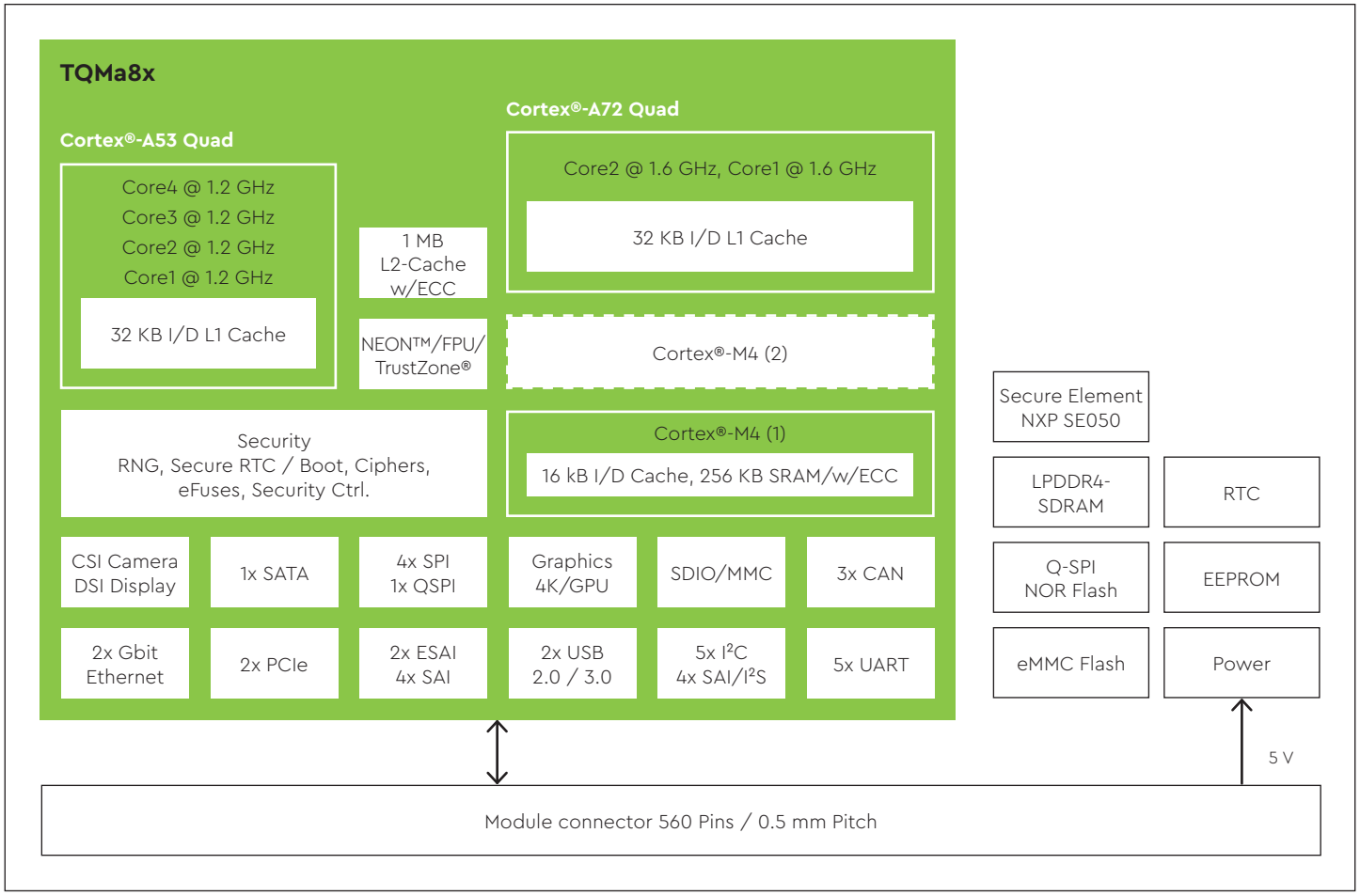
HIGHLIGHTS

- Graphic with 4K Support / Quad Core
- Full chip hardware virtualization
- High-speed communication via 2x Gbit Ethernet, 2x PCIe, 1x SATA and 1x USB 3.0 interface
- Low power consumption (typ. 10 W)
- Integrated 2x Cortex®-M4 CPU (Real Time / Security)
- 3x CAN FD
- Integrated security functions

TECHNICAL SPECIFICATION

CPU	i.MX8 Quad Plus i.MX8 Quad Max
Interfaces	Up to 2x Ethernet 10 / 100 / 1000 Mbit Up to 1x USB 3.0 OTG interface Up to 2x USB 2.0 OTG interface Up to 5x UART Up to 3x CAN FD Up to 1x SATA
Periphery interfaces	Up to 3x SDIO / MMC Up to 3x PCIe 3.0 Up to 5x I²C (High speed) Up to 4x SPI Up to 1x QSPI Up to 1x SPDIF Up to 2x ESAI Up to 4x SAI Up to 32 GPIO
Graphic	LCD Interface (HDMI 2.0 / Display-Port 1.3, 2x Dual LVDS, 2x MIPI DSI) Graphic input: 2x MIPI CSI, HDMI 2.0 in
Memory	LPDDR4-SDRAM: Up to 8 GB Quad SPI NOR: Up to 512 MB Up to 64 GB eMMC Flash EEPROM: 0 / 64-kbit
Other	Real Time Clock (RTC) Secure Element SE050 (optional) Temperature sensor CPU JTAG interface
Power supply	5 V
Ambient conditions	Standard temperature range: -25°C...+85°C Extended temperature range: -40°C...+85°C
Dimensions	77 mm x 67 mm
Plug-in system	Board-to-board plug-in system 560 pins 0.5 mm Pitch
Operating systems	Linux, PikeOS
Operating systems on request	QNX, Android

BLOCK DIAGRAM TQMA8X



ORDERING INFORMATION

TQMa8QP-AA	TQMa8QP-AA, Quad Plus Cortex®-A53 / 1.2 GHz + Cortex®-A72 / 1.6 GHz, 8 GB eMMC Flash, 4 GB LPDDR4, 64 kB EEPROM, RTC, -25°C...+85°
TQMa8QM-AA	TQMa8QM-AA, Quad Max Cortex®-A53 / 1.2 GHz + Dual Cortex®-A72 / 1.6 GHz, 8 GB eMMC Flash, 4 GB LPDDR4, 64 kB EEPROM, RTC, -25°C...+85°
	Other configurations on request
STKa8x-AA	STKa8x (Eval Kit) with TQMa8x-AA, Quad Cortex® A53 / 1.2 GHz + 2x Cortex®-A72 / 1.6 GHz, 4 GB LPDDR4, 8 GB eMMC Flash, 64 kB EEPROM, RTC, 2x CANFD separated, 1x USB 3.0 OTG, 2x USB 2.0, 2x ETH 10 / 100 / 1000, 1x HDMI-Input, 1x DP, 2x Dual LVDS, 2x MIPI DSI, 2x MIPI CSI, 1x M.2 PCIe, 1x Mini PCIe + SIM, 1x M.2 SATA, 1x SIM CARD (CPU), 1x MLB, Audio, Temperature sensor, Reset-Button, SD interface, Power Supply, 4 GB SD card, Cables
Starterkit STKa8x set	The core of the STKa8x set is the TQMa8x module with a Quad Cortex®-A53 CPU and a Dual A72 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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