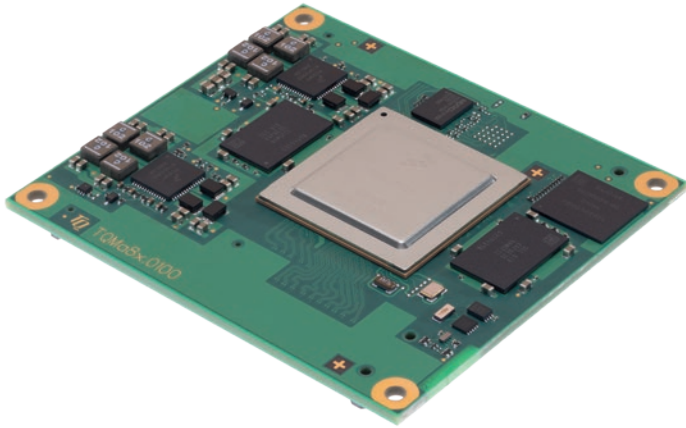


# TQMa8x

Arm® Family



## 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

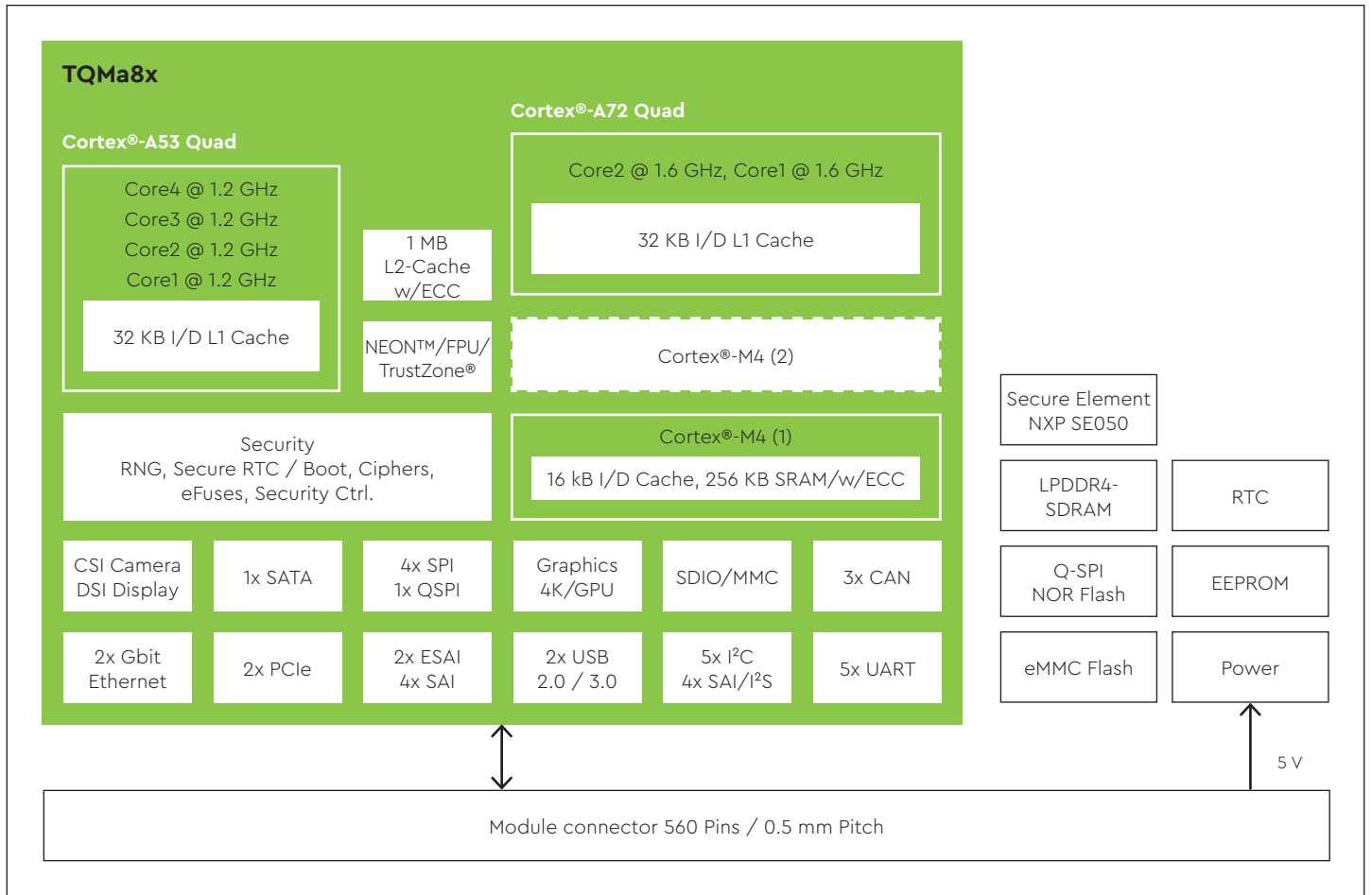
**Embedded Cortex®-A53 / A72 module based on i.MX8 with enhanced performance and graphics properties.**

## TECHNICAL SPECIFICATION

<b>CPU</b>	i.MX8 Quad Plus i.MX8 Quad Max
<b>Interfaces</b>	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
<b>Periphery interfaces</b>	Up to 3x SDIO / MMC Up to 3x PCIe 3.0 Up to 5x I <sup>2</sup> C (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
<b>Graphic</b>	LCD Interface (HDMI 2.0 / Display-Port 1.3, 2x Dual LVDS, 2x MIPI DSI) Graphic input: 2x MIPI CSI, HDMI 2.0 in

<b>Memory</b>	LPDDR4-SDRAM: Up to 8 GB Quad SPI NOR: Up to 512 MB Up to 64 GB eMMC Flash EEPROM: 0 / 64-kbit
<b>Other</b>	Real Time Clock (RTC) Secure Element SE050 (optional) Temperature sensor CPU JTAG interface
<b>Power supply</b>	5 V
<b>Ambient conditions</b>	Standard temperature range: -25°C...+85°C Extended temperature range: -40°C...+85°C
<b>Dimensions</b>	77 mm x 67 mm
<b>Plug-in system</b>	Board-to-board plug-in system 560 pins 0.5 mm Pitch
<b>Operating systems</b>	Linux
<b>Operating systems on request</b>	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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