

# TQMa95xxSA

Arm® Family



## HIGHLIGHTS

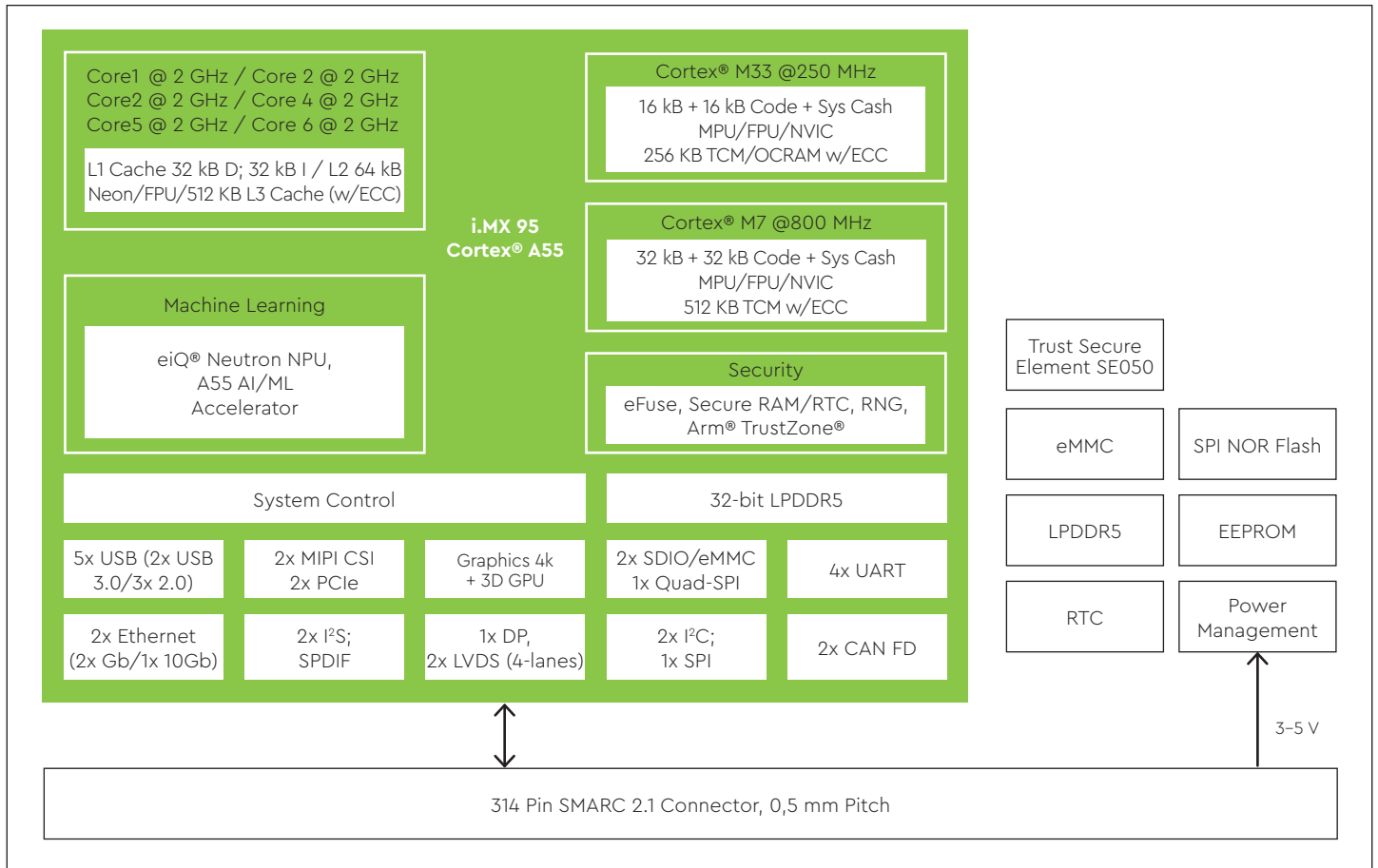
- ▶ Machine Learning Accelerator 2 TOPS
- ▶ Integrated Cortex M33 and M7
- ▶ High-speed communication via 1x 10 Gbit and 2x Gbit Ethernet (1x TSN), 2x PCIe and 1x USB 3.0 interface
- ▶ MIPI CSI with ISP support
- ▶ Low power consumption (typ. 6 W)
- ▶ Integrated security functions

**Embedded Cortex®-A55 module based on i.MX 95 with Machine Learning Accelerator**

## TECHNICAL SPECIFICATION

<b>CPU</b>	i.MX 95 Dual i.MX 95 Quad i.MX 95 Hexa	<b>Other</b>	Real Time Clock (RTC) Secure Element SE050 (optional) Temperature sensor Gyroscope sensor (optional) CPU JTAG interface
<b>Interfaces</b>	Up to 2x Gbit-Ethernet (1x TSN) Up to 1x 10 Gbit Ethernet Up to 2x USB 3.0, 3x USB 2.0 Up to 2x CAN FD Up to 4x UART	<b>Power supply</b>	3-5 V
<b>Periphery interfaces</b>	1x SDIO 2x PCIe 3.0 2x I <sup>2</sup> C 1x SPI 1x QSPI 2x I <sup>2</sup> S GPIO	<b>Ambient conditions</b>	Standard temperature range: -25°C...+85°C Extended temperature range: -40°C...+85°C
<b>Graphic</b>	LCD Interface: 1x eDP (2-lanes) 2x LVDS (4-lanes) Camera: 2x MIPI CSI2 (1x4/1x2-lanes)	<b>Dimensions</b>	82 mm x 50 mm
<b>Memory</b>	LPDDR5-SDRAM: Up to 16 GB Quad SPI NOR: Up to 256 MB eMMC Flash: Up to 256 GB EEPROM: 0/64-kbit	<b>Plug-in system</b>	314 pins SMARC 2.1, 0,5 mm Pitch
		<b>Operating systems</b>	Linux

## BLOCK DIAGRAM TQMA95XXSA



## ORDERING INFORMATION

<b>TQMa9552SA-AA</b>	TQMa9552-AA, Dual Cortex®-A55/1,8 GHz, 16 GB eMMC Flash, 4 GB LPDDR5, 64 kB EEPROM, RTC, -25°C...+85°C
<b>TQMa9554SA-AA</b>	TQMa9554-AA, Quad Cortex®-A55/1,8 GHz, 16 GB eMMC Flash, 4 GB LPDDR5, 64 kB EEPROM, RTC, -25°C...+85°C
<b>TQMa9596SA-AA</b>	TQMa9596-AA, Hexa Cortex®-A55 w NPU /1,8 GHz, 16 GB eMMC Flash, 4 GB LPDDR5, 64 kB EEPROM, RTC, -25°C...+85°C
	Other configurations on request
<b>STKa95xxSA-AA (Prototypes Q3/2024)</b>	STKa95xxSA (Eval Kit) with TQMa9554SA-AA, Quad Cortex A55 w/o NPU/1,8 GHz 4 GB LPDDR5, 16 GB eMMC Flash, 64 kB EEPROM, RTC, 1x USB 3.0 Host, 1x USB 2.0 Host, 2x ETH 10/100/1000, 2x CAN FD, 1x DP, 1x LVDS, 2x MIPI CSI, 1x Mini PCIe + SIM Card, 1x PCIe x1, Audio, Temperature sensor, Reset-Button, SD Card interface, Power Supply, 8 GB SD card, Cables
<b>Starterkit STKa95xxSA set</b>	The core of the STKa95xxSA set is the TQMa95xxSA module with a Quad Cortex®-A55 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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