TQMa95xxSA

Arm® Family

HIGHLIGHTS

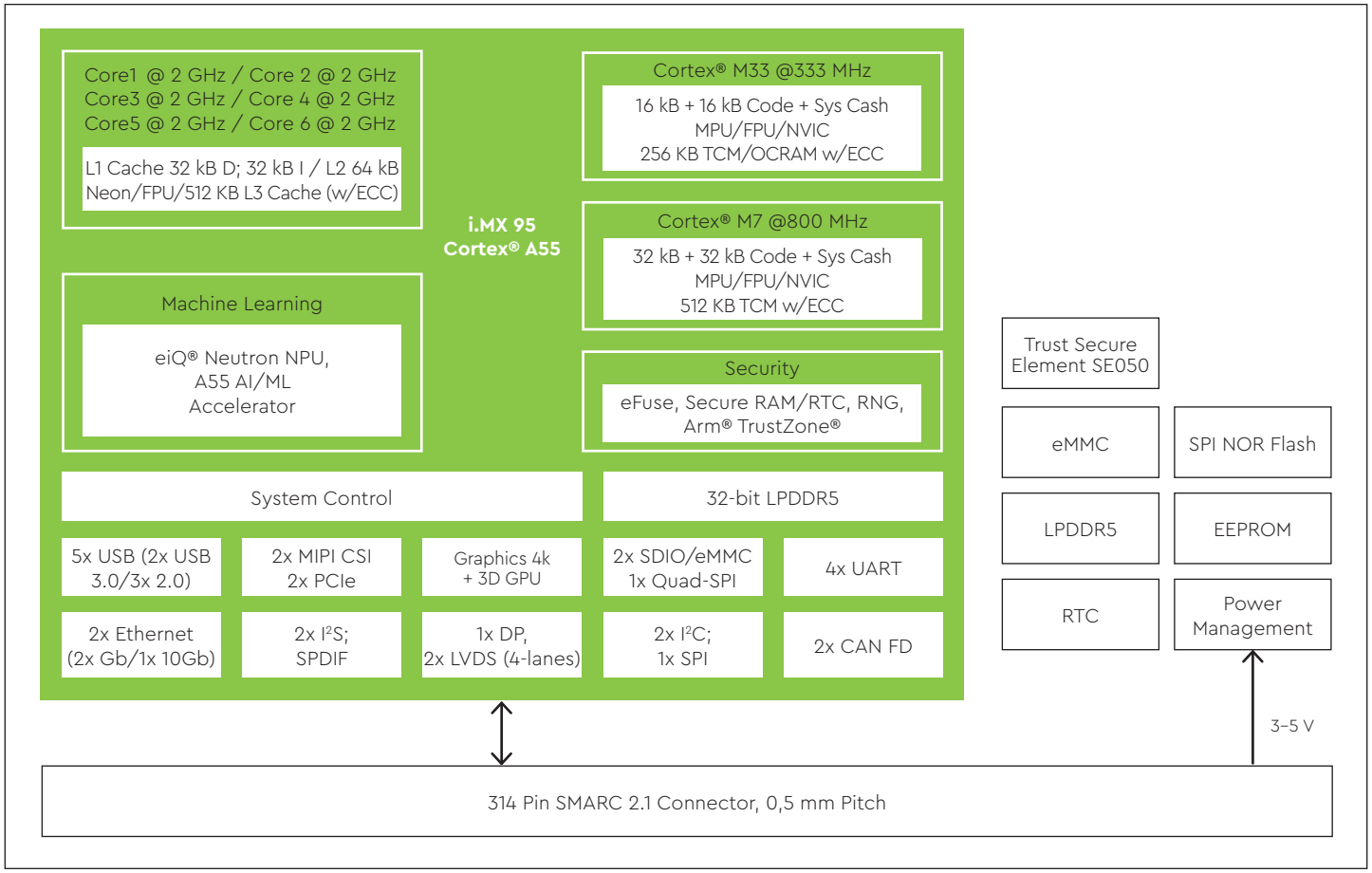
- Machine Learning Accelerator 8 eTOPS
- Integrated Cortex M33 and M7
- High-speed communication via 1x 10 Gbit and 2x Gbit Ethernet (with TSN), 2x PCIe and 1x USB 3.0 interface
- MIPI CSI with ISP support
- Low power consumption (typ. 6 W)
- Integrated security functions

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

TECHNICAL SPECIFICATION

CPU	i.MX 9594, i.MX 9596, i.MX 9554, i.MX 9556
Interfaces	Up to 2x Gbit-Ethernet (with TSN) Up to 1x 10 Gbit Ethernet (with TSN) Up to 2x USB 3.0, 3x USB 2.0 Up to 2x CAN FD Up to 4x UART
Periphery interfaces	1x SDIO 2x PCIe 3.0 2x I²C 1x SPI 1x QSPI 2x I²S GPIO
Graphic	LCD Interface: 1x eDP (2-lanes) 2x LVDS (4-lanes) Camera: 2x MIPI CSI2 (1×4/1×2-lanes)
Memory	LPDDR5-SDRAM: Up to 16 GB Quad SPI NOR: Up to 256 MB eMMC Flash: Up to 256 GB EEPROM: 0/64-kbit
Other	Real Time Clock (RTC) Secure Element SE050 (optional) Temperature sensor Gyroscope sensor (optional) CPU JTAG interface
Power supply	3–5 V
Ambient conditions	Standard temperature range: -25°C...+85°C Extended temperature range: -40°C...+85°C
Dimensions	82 mm x 50 mm
Plug-in system	314 pins SMARC 2.1, 0,5 mm Pitch
Operating systems	Linux

BLOCK DIAGRAM TQMA95XXSA



ORDERING INFORMATION

TQMa9556SA-AA	TQMa9556SA-AA,Hexa Cortex®-A55 with NPU /1,8 GHz, 16 GB eMMC Flash, 4 GB LPDDR5, 64 kB EEPROM, RTC, w/o DP, -25°C...+85°C
TQMa9556SA-AB	TQMa9556SA-AB, Hexa Cortex®-A55 with NPU /1,8 GHz, 16 GB eMMC Flash, 4 GB LPDDR5, 64 kB EEPROM, RTC, with DP, -25°C...+85°C
TQMa9596SA-AA	TQMa9596SA-AA, Hexa Cortex®-A55 with NPU + ISP /1,8 GHz, 16 GB eMMC Flash, 4 GB LPDDR5, 64 kB EEPROM, RTC, w/o DP, -25°C...+85°C
	Other configurations on request
STKa95xxSA-AA	STKa95xxSA (Eval Kit) with TQMa9596SA-AA, Hexa Cortex A55 with NPU + ISP/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
Starterkit STKa95xxSA set	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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