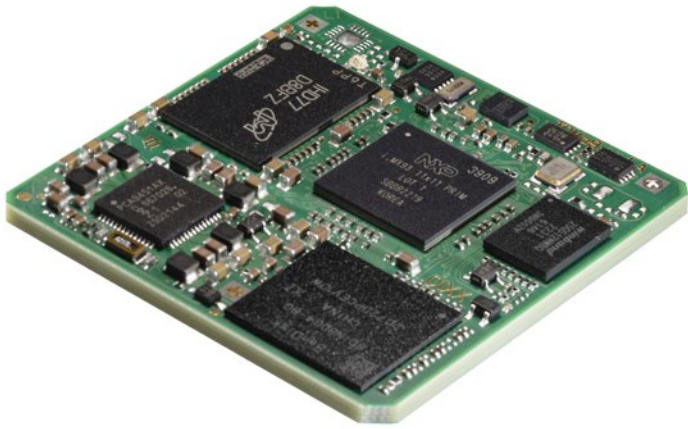


TQMa93xxLA

Arm® Family



HIGHLIGHTS

- ▶ Machine Learning Accelerator 0,5 TOPS
- ▶ Integrated Cortex M33
- ▶ High-speed communication via 2x Gbit Ethernet (1x TSN), 2x USB 2.0 interface
- ▶ Low power consumption (typ. 2 W)
- ▶ Integrated security functions

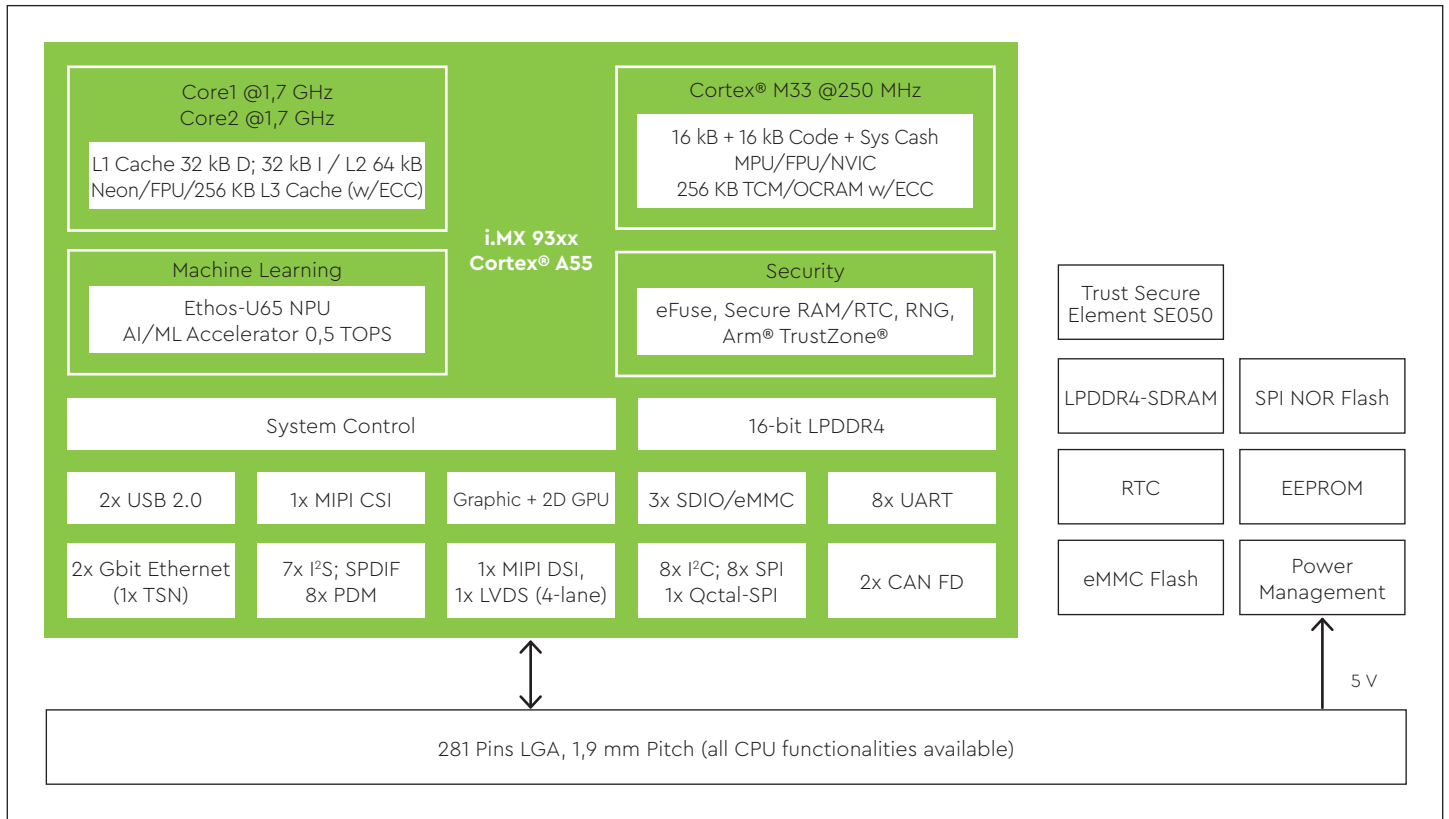
Embedded Cortex®-A55 module based on i.MX 93xx with Machine Learning Accelerator

TECHNICAL SPECIFICATION

CPU	i.MX 93x1 Single Core i.MX 93x2 Dual Core
Interfaces	Up to 2x Gbit-Ethernet (1x TSN) Up to 2x USB 2.0 OTG interface Up to 2x CAN FD Up to 8x UART
Periphery interfaces	Up to 3x SDIO / eMMC Up to 8x SPI Up to 8x I ² C Up to 1x QSPI Up to 7x I ² S Up to 8x PDM Mic. Up to 1x SP/DIF
Graphic	LCD Interface: 1x MIPI DSI; (4-lanes) 1x LVDS (4-lanes) Camera: 1x MIPI CSI (2-lanes)
Memory	LPDDR4-SDRAM: Up to 2 GB Octal SPI NOR: Up to 256 MB eMMC Flash: Up to 256 GB EEPROM: 0/64-kbit

Other	Real Time Clock (RTC) Secure Element SE050 Temperature sensor Gyroscope 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	38 mm x 38 mm
Plug-in system	281 pins LGA 1,9mm Pitch
Operating systems	Linux
Operating systems on request	Free RTOS

BLOCK DIAGRAM TQMA93XX



ORDERING INFORMATION

TQMa93×1LA-AA	TQMa93×1LA-AA, Single Cortex®-A55/1,5 GHz, 8 GB eMMC Flash, 1GB LPDDR4, 64 kB EEPROM, RTC, -25°C...+85°C
TQMa93×2LA-AA	TQMa93×2LA-AA, Dual Cortex®-A55/1,5 GHz, 8 GB eMMC Flash, 1GB LPDDR4, 64 kB EEPROM, RTC, -25°C...+85°C
	Other configurations on request
STKa93xxLA-AA (Prototypes Q1/2023)	STKa93xxLA (Eval Kit) with TQMa93×2LA, Dual Cortex A55/1,5 GHz, 1 GB LPDDR4, 8 GB eMMC Flash, 64 kB EEPROM, RTC, 2x USB 2.0 HOST, 1x USB Type C, 2x ETH 10/100/1000, 2x CAN FD, 1x RS485, 1x LVDS, 1x MIPI CSI, 1x DP, WLAN, Temperature sensor, GPIOs (4x 24V_IN, 4x 24V_OUT, 8x AI_IN (programmable Analog Frontend), Reset-Button, SD Card interface, WiFi, Mobile Network, Power Supply, 8 GB Micro SD card, Cables, Connectors
Starterkit STKa93xxLA set	The core of the STKa9xxLA set is the TQMa93xxLA module with a Dual 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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