

# TQMa93xxLA

Arm® Family



## HIGHLIGHTS

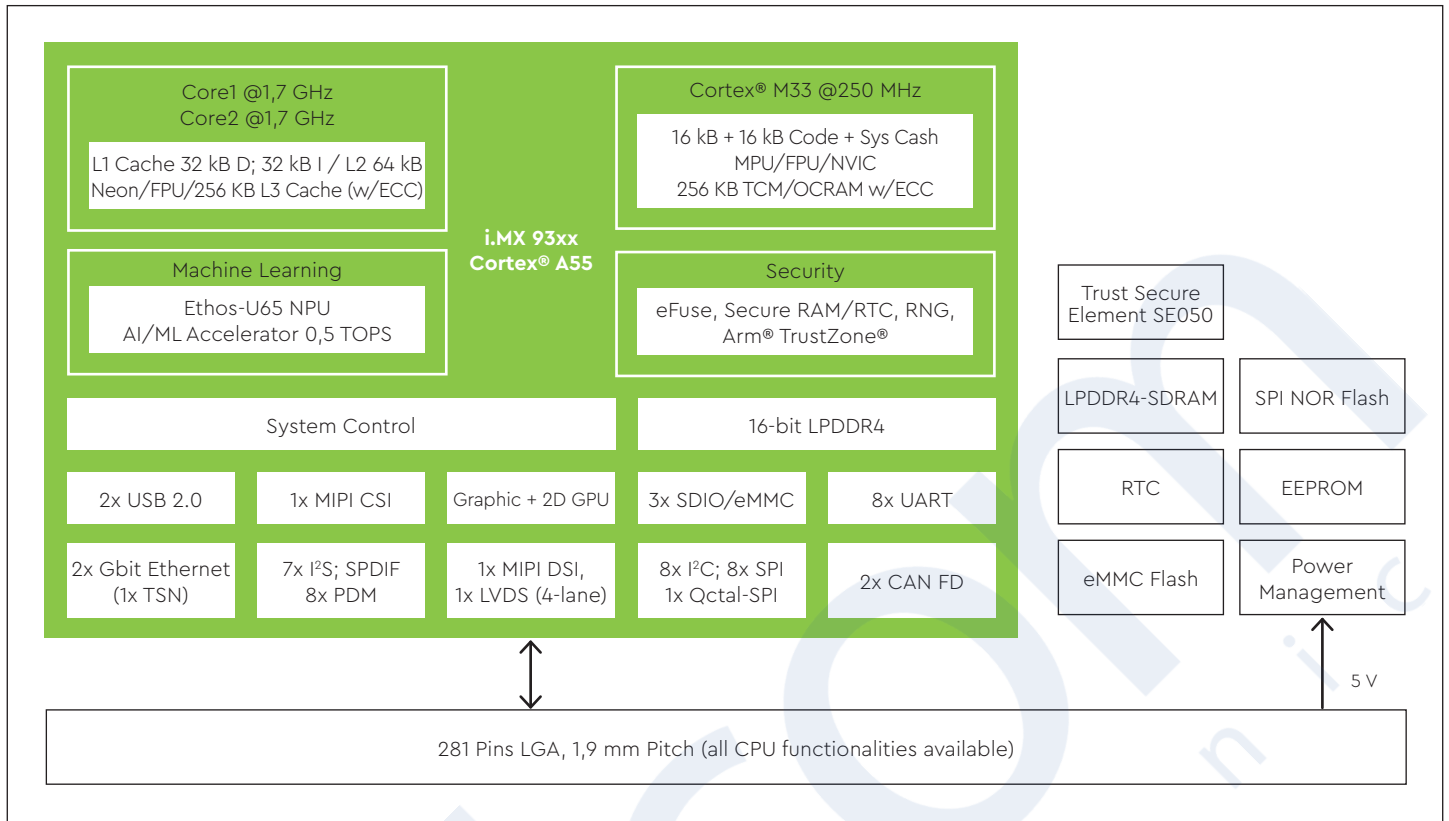
- ▶ Machine Learning Accelerator 0,5 TOPS
- ▶ Integrated Cortex M33
- ▶ High-speed communication via 2x Gbit Ethernet (1x TSN), 2x USB 2.0 interface
- ▶ Low power consumption (typ. 2 W)
- ▶ Integrated security functions

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

## TECHNICAL SPECIFICATION

<b>CPU</b>	i.MX 93x1 Single Core i.MX 93x2 Dual Core	<b>Other</b>	Real Time Clock (RTC) Secure Element SE050 Temperature sensor Gyroscope sensor CPU JTAG interface
<b>Interfaces</b>	Up to 2x Gbit-Ethernet (1x TSN) Up to 2x USB 2.0 OTG interface Up to 2x CAN FD Up to 8x UART	<b>Power supply</b>	5 V
<b>Periphery interfaces</b>	Up to 3x SDIO / eMMC Up to 8x SPI Up to 8x I <sup>2</sup> C Up to 1x QSPI Up to 7x I <sup>2</sup> S Up to 8x PDM Mic. Up to 1x SP/DIF	<b>Ambient conditions</b>	Standard temperature range: -25°C...+85°C Extended temperature range: -40°C...+85°C
<b>Graphic</b>	LCD Interface: 1x MIPI DSI; (4-lanes) 1x LVDS (4-lanes) Camera: 1x MIPI CSI (2-lanes)	<b>Dimensions</b>	38 mm x 38 mm
<b>Memory</b>	LPDDR4-SDRAM: Up to 2 GB Octal SPI NOR: Up to 256 MB eMMC Flash: Up to 256 GB EEPROM: 0/64-kbit	<b>Plug-in system</b>	281 pins LGA 1,9mm Pitch
		<b>Operating systems</b>	Linux
		<b>Operating systems on request</b>	Free RTOS

## BLOCK DIAGRAM TQMA93XX



## ORDERING INFORMATION

<b>TQMa93×1LA-AA</b>	TQMa93×1LA-AA, Single Cortex®-A55/1,5 GHz, 8 GB eMMC Flash, 1GB LPDDR4, 64 kB EEPROM, RTC, -25°C...+85°C
<b>TQMa93×2LA-AA</b>	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
<b>STKa93xxLA-AA (Prototypes Q1/2023)</b>	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
<b>Starterkit STKa93xxLA set</b>	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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