

TQMa91xxCA

Arm® Family



HIGHLIGHTS

- ▶ High-speed communication via 2x Gbit Ethernet (1x TSN), 2x USB 2.0 interface
- ▶ Low power consumption (typ. 2 W)
- ▶ Integrated security functions
- ▶ Advanced Secure Element SE050
- ▶ Gyroscope sensor

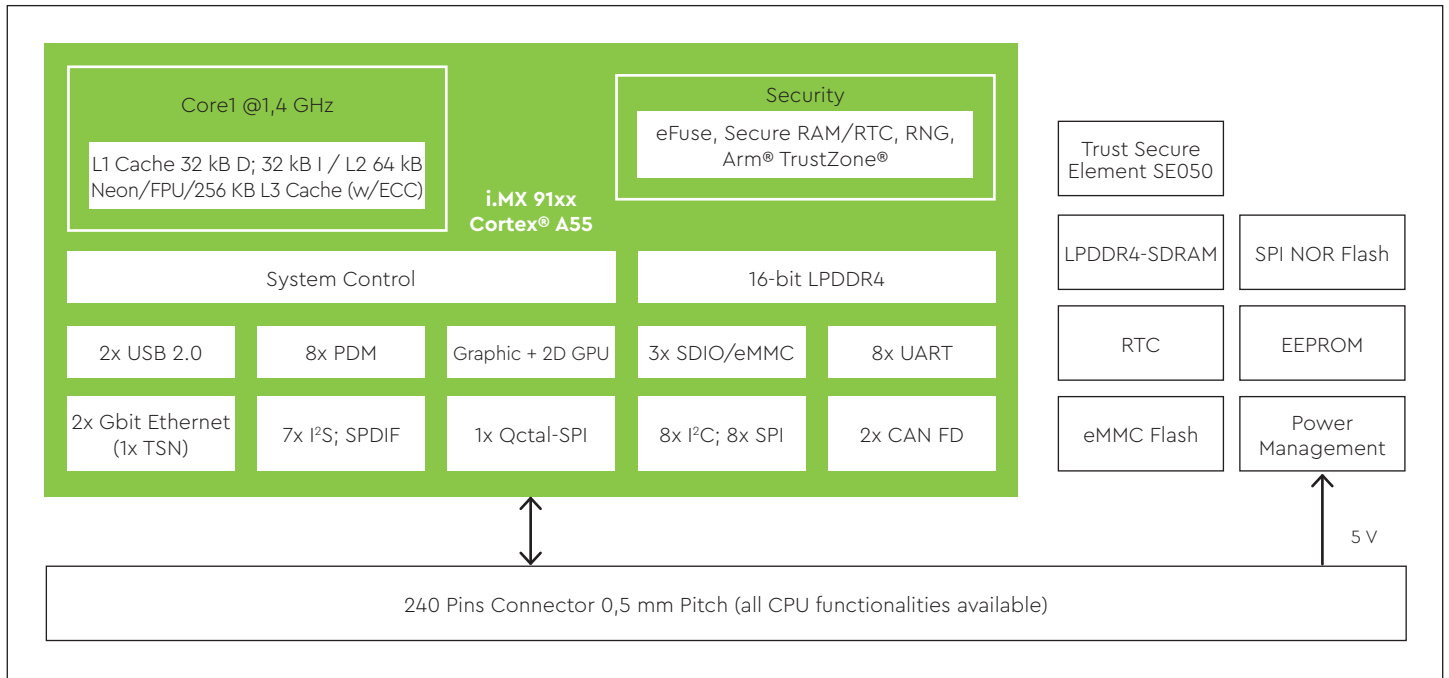
**Embedded Cortex®-A55 module
based on i.MX 91xx**

TECHNICAL SPECIFICATION

CPU	i.MX 91x1 Single 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 24 Bit RGB
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	54 mm x 32 mm
Plug-in system	Board-to-board plug-in system 240 pins 0.5 mm Pitch
Operating systems	Linux
Operating systems on request	Free RTOS

BLOCK DIAGRAM TQMA91XX



ORDERING INFORMATION

**TQMa91x1CA-AA
(Prototypes Q4/2023)**

TQMa91x1CA-AA, Single Cortex®-A55/1,4 GHz, 8 GB eMMC Flash, 1GB LPDDR4, 64 kB EEPROM, RTC, -25°C...+85°C

Other configurations on request

**STKa91xxCA-AA
(Prototypes Q1/2023)**

STKa91xxCA (Eval Kit) with TQMa91x2CA-AA, Single Cortex A55/1,4 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, 1x Mini PCIe + SIM Card (USB only), WLAN, Temperature sensor, Reset-Button, Micro SD Card interface, Power Supply, 8 GB SD card, Cables, Connectors

**Starterkit
STKa91xxCA set**

The core of the STKa9xxCA set is the TQMa91xxCA module with a Single 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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