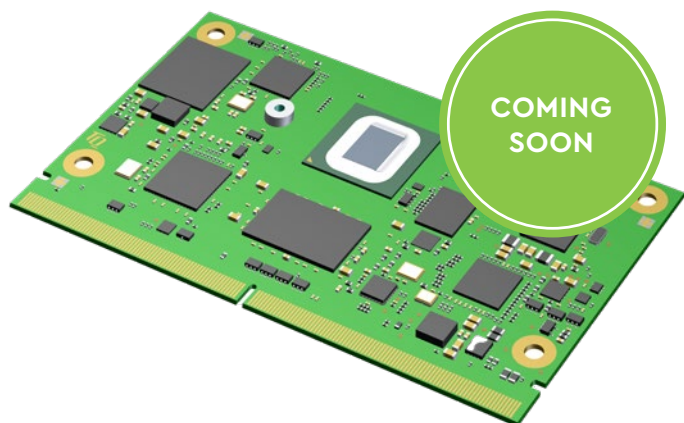


TQMa8MPxS

Arm® Family



HIGHLIGHTS

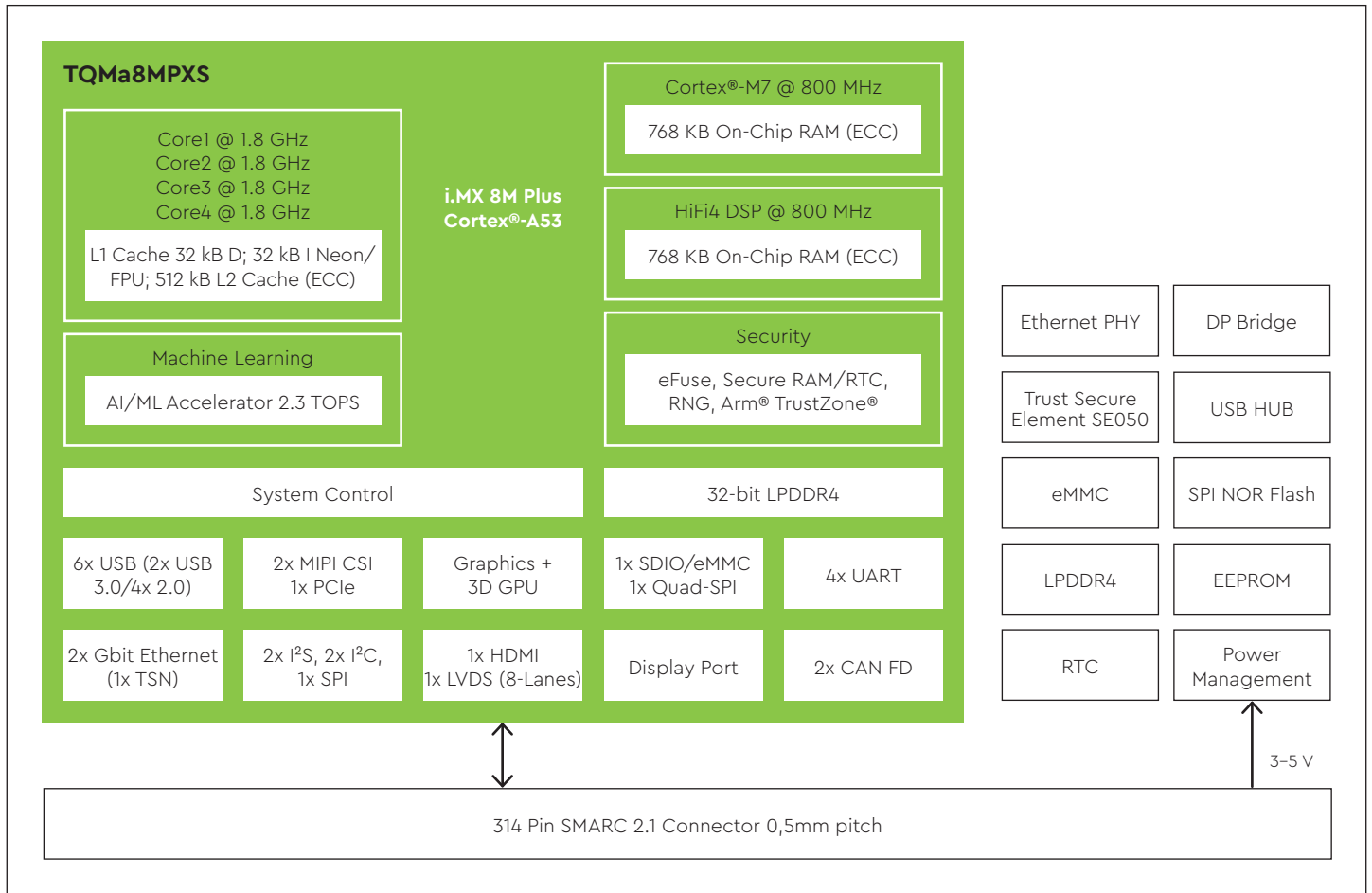
- ▶ Advanced Audio properties with HiFi4 DSP
- ▶ Machine Learning Accelerator 2.3 TOPS
- ▶ Integrated Cortex®-M7
- ▶ High-speed communication via 2x Gbit Ethernet (1x TSN), 1x PCIe and 2x USB 3.0 interface
- ▶ Low power consumption (typ. 4 W)
- ▶ Integrated security functions

Embedded Cortex®-A53 SMARC 2.1 module based on i.MX 8M Plus with Machine Learning Accelerator

TECHNICAL SPECIFICATION

CPU	i.MX 8M Plus Quad 8 ML/AI i.MX 8M Plus Quad 6 Video i.MX 8M Plus Quad 4 Lite	Memory	LPDDR4-SDRAM: Up to 8 GB Quad SPI NOR: Up to 256 MB (TBD) eMMC Flash: Up to 256 GB EEPROM: 0 / 64-kbit
Interfaces	Up to 2x Gbit-Ethernet (1x TSN) Up to 2x USB 3.0 Up to 4x USB 2.0 (USB Hub) Up to 1x USB 2.0 OTG Up to 2x CAN FD Up to 4x UART	Other	Real Time Clock (RTC) Secure Element SE050 (optional) Temperature sensor Gyroscope sensor (optional) CPU JTAG interface
Periphery interfaces	Up to 1x SDIO / eMMC Up to 1x PCIe 2.0 Up to 2x I ² C Up to 1x SPI Up to 1x QSPI Up to 2x I ² S 14x GPIO	Power supply	3.0 V ... 5.25 V (5V optional)
Graphic	1x HDMI, 1x eDP (optional) 1x LVDS (4/8 Lanes or 2x 4 Lanes) 2x MIPI CSI2 (1x4 Lanes / 1x2 Lanes)	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	SMARC 2.0/2.1 Board-to-board plug-in system 314 pin
		Operating systems	Linux (Yocto/Armbian)
		Operating systems on request	Android PikeOS

BLOCK DIAGRAM TQMa8MPXS



ORDERING INFORMATION

TQMa8MPDS-AA	TQMa8MPDS-AA, Dual 3 ML/AI Cortex®-A53/1,6 GHz, 16 GB eMMC Flash, 2GB LPDDR4, 64 kB EEPROM, RTC, with LVDS, -25°C...+85°C
TQMa8MPQS-AA	TQMa8MPQS-AA, Quad 6 Video Cortex®-A53/1,6 GHz, 16 GB eMMC Flash, 2GB LPDDR4, 64 kB EEPROM, RTC, with LVDS, -25°C...+85°C
TQMa8MPQS-AB	TQMa8MPQS-AB, Quad 8 ML/AI Cortex®-A53/1,6 GHz, 16 GB eMMC Flash, 2GB LPDDR4, 64 kB EEPROM, with LVDS, RTC, -25°C...+85°C
TQMa8MPQS-AC	TQMa8MPQS-AC, Quad 8 ML/AI Cortex®-A53/1,6 GHz, 16 GB eMMC Flash, 2GB LPDDR4, 64 kB EEPROM, with eDP, RTC, -25°C...+85°C
	Other configurations on request
STKa8MPxS-AA (Prototypes Q2/2025)	STKa8MPxS (Eval Kit) with TQMa8MPxS-AA, Quad Cortex® A53/1,6 GHz 2 GB LPDDR4, 16 GB eMMC Flash, 64 kB EEPROM, RTC, 3x RS232, 2 x CAN FD separated, 1x USB 3.0 OTG, 1x USB 3.0 HOST, 1x USB 2.0 HOST, 2x ETH 10/100/1000, 1x Display Port, 1x HDMI, 1x Dual LVDS, 1x PCIe, Audio, RTC, Temperature sensor, Reset-Button, SD interface, Power Supply, 4 GB SD card, Cables, passive Cooling

**Starterkit
STKa8MPxS set**

The core of the STKa8MPxS set is the TQMa8MPxS module with a Quad Cortex®-A53 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.

TQ-Systems GmbH

Mühlstraße 2 | Gut Delling | 82229 Seefeld | Germany
Tel.: +49 8153 9308-0 | info@tq-group.com | tq-group.com

tq-embedded.com



Singel 3 | B-2550 Kontich | Belgium | Tel.+32(0)3 458 30 33
info@alcom.be | www.alcom.be
Rivium 1e straat 52 | 2909 LE Capelle aan den IJssel | The Netherlands
Tel.+31(0)10 288 25 00 | info@alcom.nl | www.alcom.nl