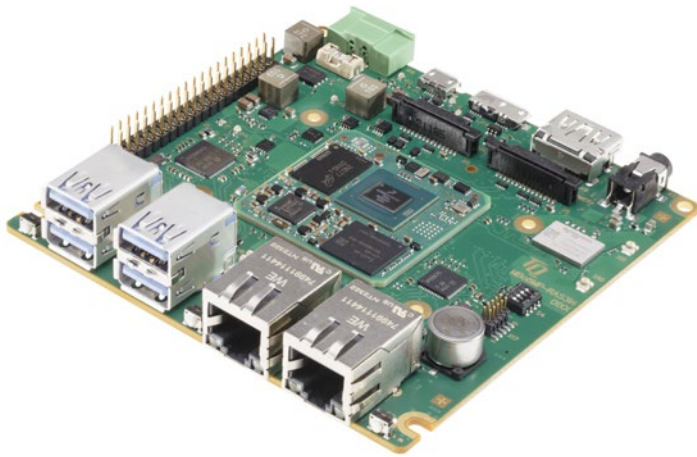


# MBa8M-RAS314

Arm® Family



**Single Board Computer (SBC) based on TQMa8MPxL as a high-end platform with TSN Gigabit Ethernet, ML-Accelerator and Multi-display Graphics support.**

## HIGHLIGHTS

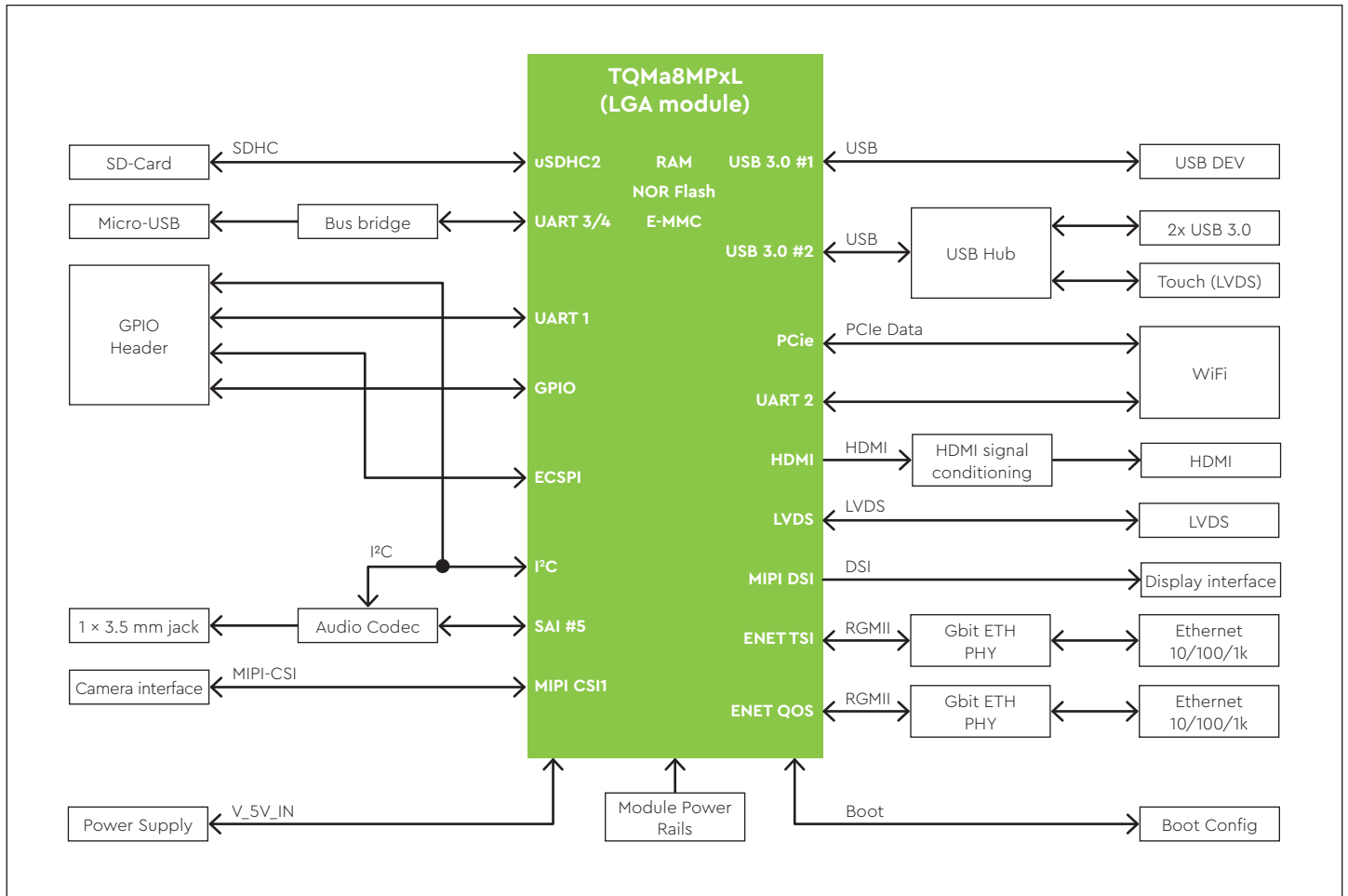
- ▶ Machine Learning Accelerator (2.3 TOPS)
- ▶ HDMI, LVDS, MIPI DSI, MIPI CSI
- ▶ High-speed communication via 2 x Gbit Ethernet (1 x TSN) and 4 x USB 3.0 interface
- ▶ WiFi 5
- ▶ Low power consumption (typ. 3 W)
- ▶ Integrated security functions

## TECHNICAL SPECIFICATION

<b>CPU</b>	i.MX 8M Plus Quad 8 ML/AI i.MX 8M Plus Quad 6 Video i.MX 8M Plus Quad 4 Lite
<b>Interfaces</b>	2x Gbit-Ethernet (1x TSN) 4x USB 3.0 Host interface 1x USB 3.0 Device 1x SD Card
<b>Periphery interfaces Pin Header</b>	Up to 2x I2C Up to 1x UART Up to 1x I2S Up to 1x SPI Up to 2x PWM Up to 28x GPIO
<b>Graphic</b>	1x HDMI 1x LVDS Interface (4 Lanes) LCD Interface: 1x MIPI DSI; (2 Lanes) 1x MIPI-CSI (2 Lanes)
<b>Memory</b>	LPDDR4: Up to 8 GB NOR: Up to 256 MB (TBD) eMMC: Up to 256 GB EEPROM: 0/64-kbit

<b>Other</b>	Real Time Clock (RTC) Secure Element SE050 WiFi Temperature sensor CPU JTAG interface
<b>Power supply</b>	12V +/- 10%
<b>Ambient conditions</b>	Standard temperature range: -25°C...+70°C Extended temperature range: -40°C...+70°C
<b>Dimensions</b>	100 mm x 100 mm
<b>Operating systems</b>	Armbian, Yocto-Linux
<b>Operating systems on request</b>	Android

## BLOCK DIAGRAM MBA8MP-RAS314



## ORDERING INFORMATION

**MBa8MP-RAS314-AA**

MBa8MP-RAS314 with TQMa8MPxL-Ax, Quad Cortex®-A53/1.6 GHz, 2 GB LPDDR4, 16 GB eMMC Flash, 64 kB EEPROM, RTC, 4x USB 3.0 HOST, 1x USB 3.0 Device, 2x ETH 10/100/1000, 1x HDMI, 1x LVDS, 1x MIPI, CSI, 1x MIPI DSI, Audio, GPIO PIN Header, WiFi, 2x User LED, Temperature sensor, Reset-Button, Micro SD

Other configurations on request

**Starterkit  
STKa8MP-RAS314 set**

The core of the STKa8MP-RAS314 set is the TQMa8MPxL 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.

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