

# TQMa64xxL

Arm® Family



## HIGHLIGHTS

- ▶ 4x Real-time GBit Ethernet for Fieldbus
- ▶ Up to 2x CAN FD
- ▶ Integrated Cortex®-M4
- ▶ High-speed communication via 2x Gbit Ethernet, 1x USB 2.0 interface
- ▶ Low power consumption (typ. 1-2 W)
- ▶ Integrated security functions

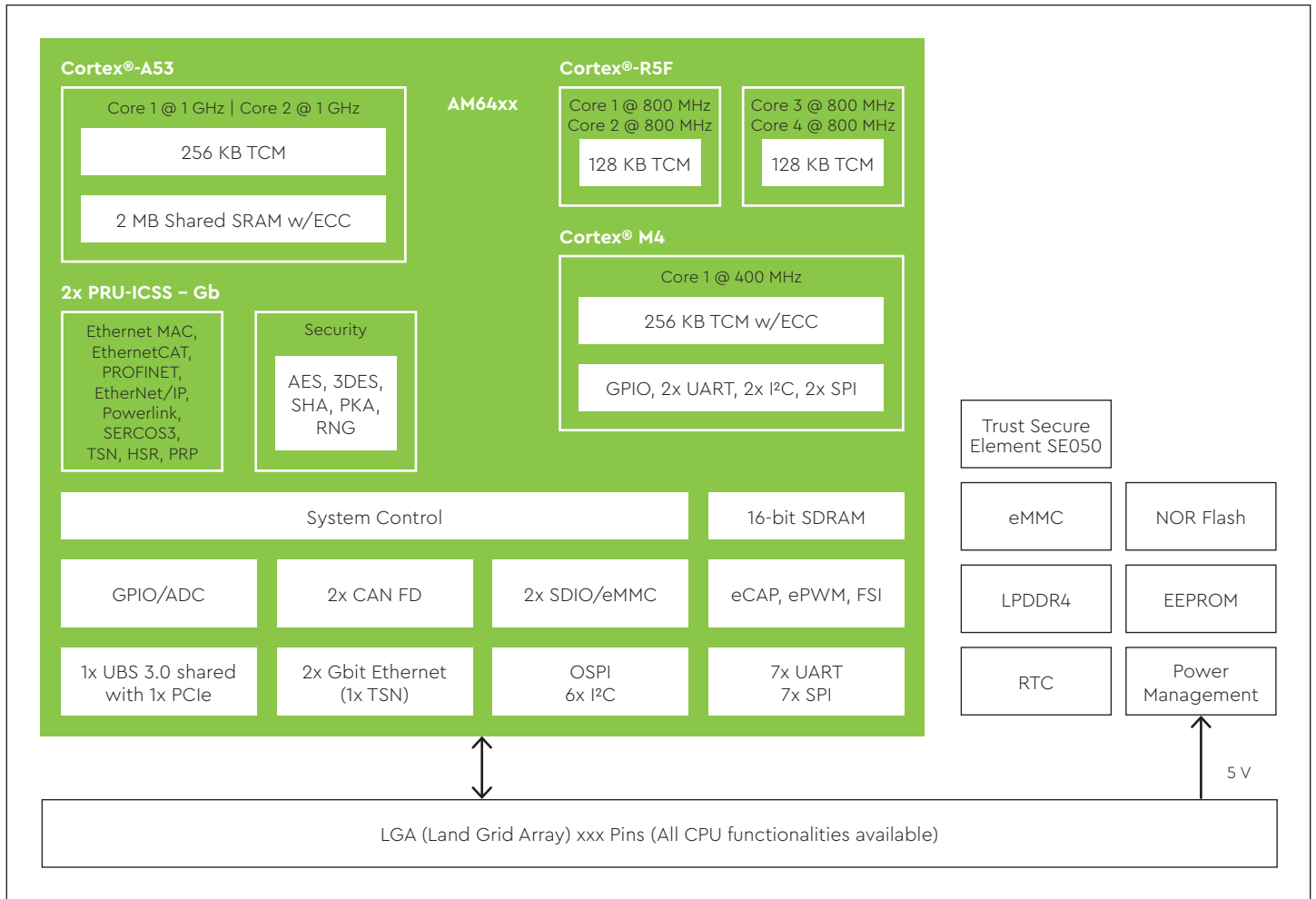
**Embedded Cortex®-A53/R5F module based on TI AM64xx for headless Applications with Real-time demand.**

## TECHNICAL SPECIFICATION

<b>CPU</b>	AM6442, AM6441, AM6421, AM6412, AM6411
<b>Interfaces</b>	Up to 2x Gbit-Ethernet Up to 4x Real-time Gbit Ethernet (PRU) Up to 1x USB 2.0 interface Up to 2x CAN FD Up to 1x SerDes (PCIe/USB 3.0) Up to 9x UART
<b>Periphery interfaces</b>	Up to 2x SDIO Up to 6x I <sup>2</sup> C Up to 7x MCSPi Up to 1x OSPI or QSPI Up to 1x ADC Up to 9x PWM
<b>Memory</b>	LPDDR4: Up to 2 GB NOR: Up to 256 MB (TBD) eMMC: Up to 64 GB (TBD) EEPROM: 0/64-kbit

<b>Other</b>	Real Time Clock (RTC) Secure Element SE050 Temperature sensor CPU JTAG interface
<b>Power supply</b>	5 V
<b>Ambient conditions</b>	Standard temperature range: -25°C...+85°C Extended temperature range: -40°C...+85°C
<b>Dimensions</b>	38 mm x 38 mm
<b>Plug-in system</b>	LGA (Land Grid Array) 366 pins
<b>Operating systems</b>	Real-time Operating System (TBD) Linux (Cortex®-A53)
<b>Operating systems on request</b>	(TBD)

## BLOCK DIAGRAM TQMA64XXL



## ORDERING INFORMATION

<b>TQMa6442L-AA</b>	TQMa6442L-AA, Dual Cortex®-A53/1 GHz, 2x Dual Cortex®-R5F/800 MHz, Cortex®-M4/400 MHz, 8 GB eMMC Flash, 1 GB LPDDR4, 64 kB EEPROM, RTC, -40°C...+85°C
<b>TQMa6421L-AA</b>	TQMa6421L-AA, Single Cortex®-A53/1 GHz, Dual Cortex®-R5F/800 MHz, Cortex®-M4/400 MHz, 8 GB eMMC Flash, 1 GB LPDDR4, 64 kB EEPROM, RTC, -40°C...+85°C
<b>TQMa6411L-AA</b>	TQMa6411L-AA, Single Cortex®-A53/800 MHz, Single Cortex®-R5F/800 MHz, Cortex®-M4/400 MHz, 8 GB eMMC Flash, 1 GB LPDDR4, 64 kB EEPROM, RTC, -40°C...+85°C
	Other configurations on request
<b>STKa64xxL-AA (Prototypes Q1/2022)</b>	STKa64xxL (Eval Kit) with TQMa64xxL-AA, Dual Cortex®-A53/1 GHz, 2x Dual Cortex®-R5F/800 MHz, Cortex®-M4/400 MHz, 8 GB eMMC Flash, 1 GB LPDDR4, 64 kB EEPROM, RTC, 1x USB 2.0 OTG, 2x ETH 10/100/1000 (PRU), 1x ETH 10/100/1000, 2x CAN FD, 1x Temperature sensor, GPIOs (4x 24V_IN, 4x 24V_OUT, 4x AI_IN), Reset-Button, SD Card interface, Power Supply, 4 GB SD card, Cables

**Starterkit  
STKa64xxL set**

The core of the STKa64xxL set is the TQMa64xxL module with a Dual Cortex®-A53/R5F CPU. The components contained in the starter kit constitute a modular system enabling you to develop your own product ideas. 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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