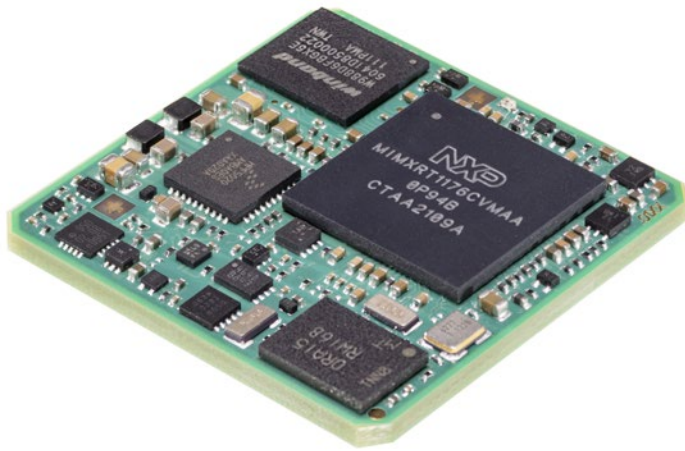


TQMa117xL

Arm® Family

Rugged interconnect
TECHNOLOGIES
Technologies evolve, our commitment remains



**Embedded Cortex®-M7 module based on
i.MX RT1170 with Real-Time Functionality**

TECHNICAL SPECIFICATION

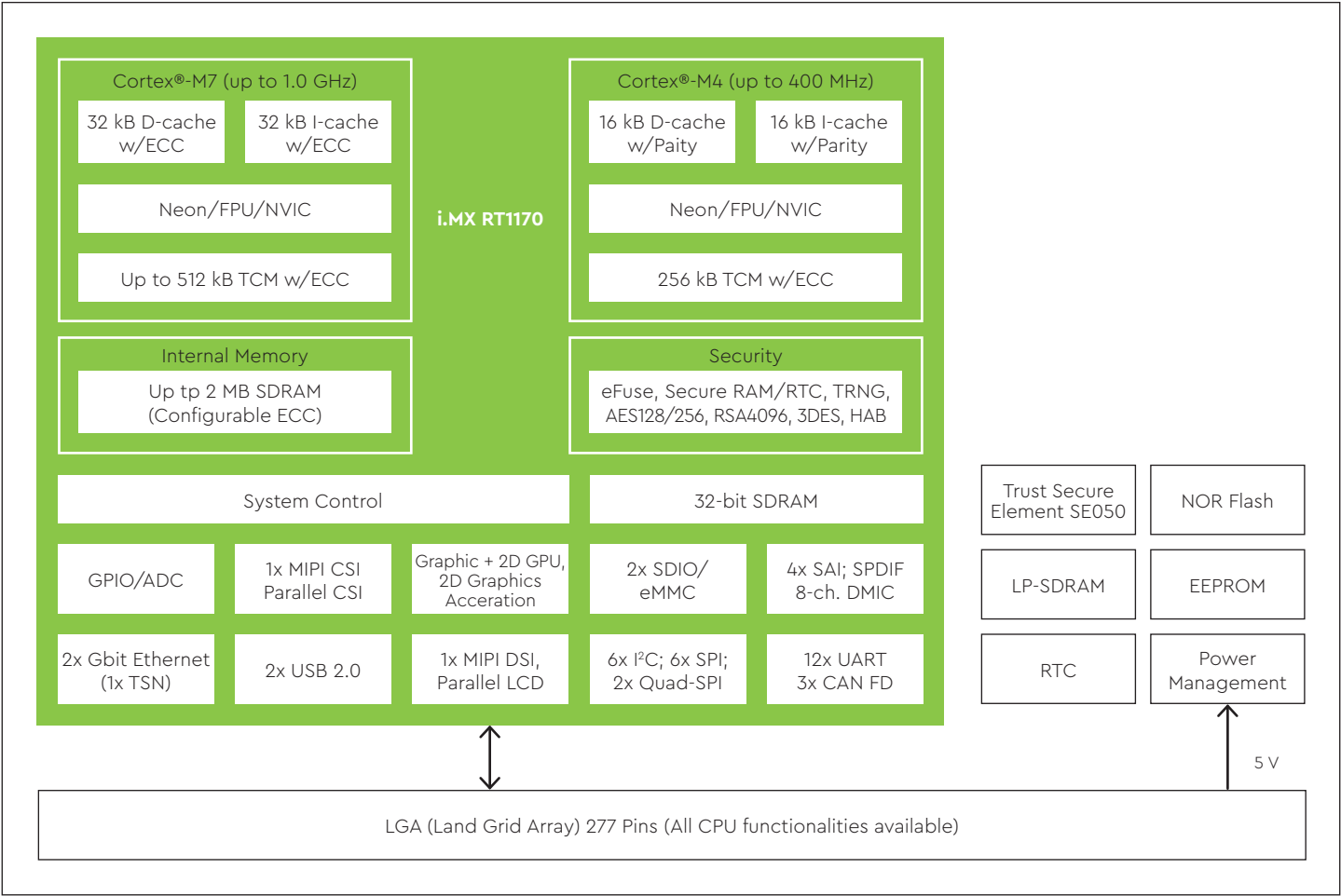
CPU	i.MX RT1171, i.MX RT1172, i.MX RT1173, i.MX RT1175, i.MX RT1176
Interfaces	Up to 2x Gbit-Ethernet (1x TSN/1x AVB) Up to 1x 10/100 Ethernet w/IEEE1588 Up to 2x USB 2.0 interface Up to 3x CAN FD Up to 12x UART
Periphery interfaces	Up to 2x SDIO 3.0/eMMC 5.0 Up to 6x I ² C Up to 6x SPI Up to 2x QSPI Up to 4x SAI Up to 8-ch. DMIC Up to 1x SPDIF Up to 2x FlexIO
Graphic	LCD Interface: 1x MIPI DSI; (2 Lanes) Parallel LCD Camera: 1x MIPI CSI (2 Lanes), Parallel CSI

HIGHLIGHTS

- Display up to WXGA (1280×800) @ 60 fps
- Up to 3x CAN FD
- Integrated Cortex®-M4
- High-speed communication via 2x Gbit Ethernet (1x TSN/1x AVB) and 2x USB 2.0 interface
- Low power consumption (typ. 1 W)
- Integrated security functions

Memory	LP-SDRAM: Up to 64 MB NOR: Up to 256 MB EEPROM: 0/64-kbit
Other	Real Time Clock (RTC) Secure Element SE050 Temperature 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	31 mm x 31 mm
Plug-in system	LGA (Land Grid Array) 277 pins
Operating systems	Free RTOS
Operating systems on request	(TBD)

BLOCK DIAGRAM TQMA117XL



ORDERING INFORMATION

TQMa1171L-AA	TQMa1171L-AA, Cortex®-M7/800 MHz, 64 MB NOR Flash, 32 MB LP-SDRAM, 64 kB EEPROM, RTC, -40°C...+85°C
TQMa1173L-AA	TQMa1173L-AA, Cortex®-M7/800 MHz, Cortex®-M4/240 MHz, 64 MB NOR Flash, 32 MB LP-SDRAM, 64 kB EEPROM, RTC, -40°C...+85°C
TQMa1176L-AA	TQMa1176L-AA, Cortex®-M7/800 MHz, Cortex®-M4/240 MHz, 64 MB NOR Flash, 32 MB LP-SDRAM, 64 kB EEPROM, RTC, -40°C...+85°C
	Other configurations on request
STKa117xL-AA	STKa1176L (Eval Kit) with TQMa1176L-AA, Cortex®-M7/1000 MHz, Cortex®-M4/400 MHz, 64 MB NOR Flash, 32 MB SDRAM, 64 kB EEPROM, RTC, 2x USB 2.0 HOST, 2x ETH 10/100/1000, 2x CAN FD, 1x RS485, 1x LVDS or 1x MIPI-DSI, 1x MIPI CSI, 1x Temperature sensor, GPIOs (4x 24V_IN, 4x 24V_OUT, 8x AI_IN), Reset-Button, SD Card interface, WiFi, IoT Mobile Network, Power Supply, 4 GB SD card, Cables
Starterkit STKa117xL set	The core of the STKa117xL set is the TQMa117xL module with a Cortex®-M7 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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