



# TQMa53

## The Multimedia module

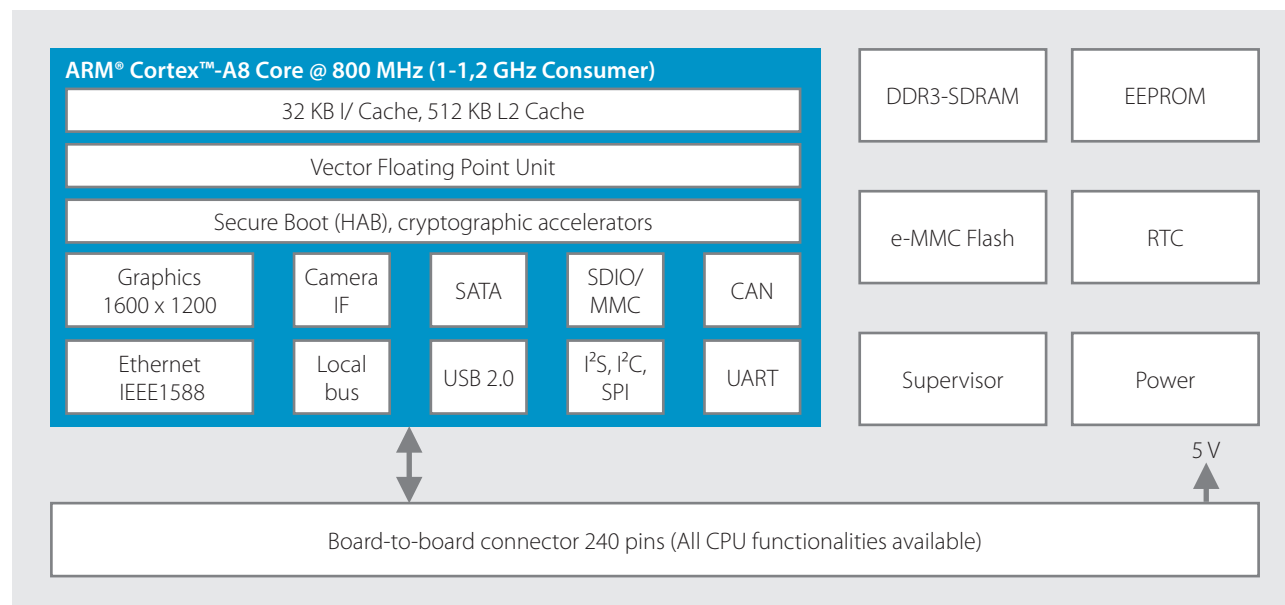
The Minimodule TQMa53, based on the processor i.MX537 from Freescale, combines Industry and Multimedia. The integrated graphic controller supports displays with a resolution up to UXGA. Therefore the module is best suited for HMI and animated display screen- and accordingly multitouch applications.

With an ARM Cortex™ A8 core and a clock rate up to 1,2 GHz the TQMa53 provides a balanced ratio between performance and power dissipation.

### The highlights:

- Graphic
- Extended temperature range
- e-MMC flash
- Low power consumption (typ. 3 W)
- Long-term availability
- IEEE 1588 support
- Security functions

## Block diagram TQMa53



## Technical specification

### Microprocessor

MCIMX537 / MCIMX535

### System interfaces

1x Ethernet 10/100 Mbit (IEEE 1588)  
2x FlexCAN  
Up to 5x UART  
2x USB 2.0 high speed HOST interface  
1x USB 2.0 high speed OTG interface

### Periphery interfaces

WEIM Bus\*  
Up to 3x SDIO/MMC  
Up to 2x I<sup>2</sup>C  
Up to 3x CSPI  
Up to 3x SSI/I<sup>2</sup>S  
ESAI  
1x 16 bit Camera I/F  
SATA  
SPDIF

### Graphic

Analog VGA  
Parallel 1x 24 bit (RGB) UXGA\*  
Dual LVDS UXGA

### Memory

DDR3-SDRAM: up to 1 GB  
e-MMC: up to 16 GB  
EEPROM: 0 / 64 kbit

### Other

Real Time Clock (RTC)  
Temperature sensor  
CPU JTAG Interface  
Supervisor 5 V

### Power supply

5 V

### Ambient conditions

Standard temperature range: -25°C...+85°C  
Extended temperature range: -40°C...+85°C

### Dimensions

55 mm x 44 mm

### Plug-in system

Board-to-board plug-in system 240 Pins

### Operating systems

Linux, QNX

### Operating systems on request

WEC 7, Android

\* Optional WEIM bus or parallel 24 bit graphic interface usable

## Ordering information

### TQMa53-AA

TQMa53, i.MX537 / 800 MHz, 4 GB e-MMC flash, 512 MB DDR3, 64 kbit EEPROM, -25°C ...+85°C

For further product variants please visit our website:  
[www.tq-group.com/en/TQMa53](http://www.tq-group.com/en/TQMa53)

### STKa53-AA

STKa53 (Eval Kit) with TQMa53-AA, i.MX537 / 800 MHz, 512 MB DDR3, 4 GB e-MMC flash, 64 kbit EEPROM, 1x RS232, 1x RS485, 2 x CAN 2.0B separated, 3x USB 2.0 HOST, 1x USB 2.0 OTG, 2x ETH 10/100, CRT, 2x LVDS, Line Out, Mono Mic In, Line In, RTC, Temperature sensor, Reset button, SD interface, Power Supply, 2 GB SD card, Z-Modem cable, USB cable, DVI-VGA adapter, DVI-HDMI adapter

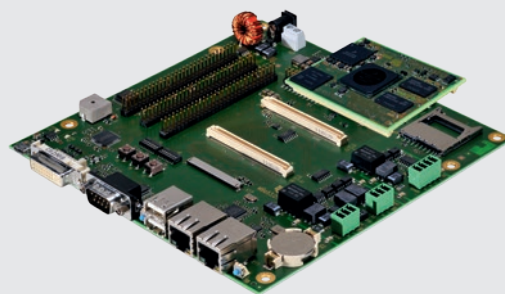
## Starter kit STKa53 set

The core of the STKa53 set is the TQMa53 with the i.MX53 CPU from Freescale.

With the preconfigured starter kit you can start immediately with the development of your application in order to achieve a fast time-to-market.

To develop your own hardware you can use the certified and qualified circuit components of the starter kit in your own designs.

A large accessory kit enables the connection of commercial monitors. Different display solutions for a direct connection to LVDS / TTL are available upon request.



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