

System On Module

- Processor Freescale i.MX535, 1 GHz
- RAM 512MB DDR2-667 SDRAM (up to 2GB on request)
- ROM 128MB NAND Flash
- RTC DS1339 Real Time Clock
- Power supply Single 3.1V to 5.5V
- Size 31mm SO-DIMM
- Temp.-Range 0°C..70°C (-40°..85°C on request)

Key Features

- 10/100Mbps Ethernet with IEEE1588 support
- Two High Speed USB 2.0 ports
- LCD controller up to 1600 x 1200, 24bpp
- Dual LVDS display port (option on request)
- OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Multi-format HD 1080p video decoder and 720p video encoder hardware engine
- Two Camera Interfaces
- NEON SIMD media accelerator
- Unified 256KB L2 cache
- Vector Floating Point Unit
- Several interfaces:
3x UART, 2x SDIO, 2x SSI/AC97/I2S, I2C, CSPI, Keypad, Ext. Memory I/F
- Two CAN interfaces
- 3.3V I/O

OS Support

- Windows Embedded Compact 7
- Linux

Development System

- Starter-Kit V



**1 GHz
Cortex A8**

Board highlights:

- Highly integrated
- Industrial temperature range on request
- Standard TX-DIMM pinout
- as small as possible - only 31mm
- 3.3V I/O

The TX53 is a member of a module series, specially designed for Freescales i.MX multimedia processors. TX modules are complete computers, implemented on a board smaller than a credit card, and ready to be designed into your embedded system. TX modules includes a Freescale® i.MX processor, SDRAM and Flash memory. The integrated LCD-controller enables direct connection of an LCD screen. The TX53 is specifically targeted at embedded applications where size, high cpu-performance and cost are critical factors.

System on module

- Freescale® i.MX535, 1 GHz
- 512 MByte DDR2-667 SDRAM (32bit) (up to 2GB on request)
- 128 MByte NAND Flash memory
- DIMM200-module (67,6mm x 31 mm x 3,6mm)
- Operating temperature range 0..70°C

Processor

The i.MX53 family of processors represents Freescale's next generation of advanced multimedia and power-efficient implementation of the ARM Cortex™-A8 core. The first product in this family, the i.MX535, prepares your end device for tomorrow's smart mobile technology today. The i.MX535 enables hours of full HD 1080p video playback and an amazing Adobe® Flash® 10.1 experience. With core processing speeds up to 1 GHz as well as a high level of integration, the i.MX535 enables a great user experience at a lower retail price point.

High Performance CPU : ARM Cortex-A8 up to 1GHz

- OpenGL® ES 2.0 and OpenVG™ 1.1 hardware accelerators
- Multi-format HD1080p video decoder and HD720p video encoder hardware engine
- Dual display capable with multiple display options including TFT LCD, LVDS, analog TV-formats (composite, component, RGB) and standard VGA
- Hardware accelerated image post-processing, display quality enhancement, and video and graphics combining
- Two simultaneous camera inputs with hardware pre-processing
- Dual USB 2.0 Controllers (HS OTG, HS Host) with integrated PHY
- Two additional High-Speed USB 2.0 controllers
- 10/100 Ethernet controller with IEEE1588 time-stamping
- Wide array of serial interfaces including SDIO, SPI, I2C, UART
- Security solution supporting High Assurance Boot, Cipher and random number generator accelerators, and Tamper Detection

Standard TX-DIMM pinout:

- 4-wire UARTs (x3)
- LCD
- I2C / PWM
- Serial Audio Interfaces (x2)
- 4-wire SD-Card/SDIO

High-Speed communication interfaces incl. onboard Ethernet PHY / on-chip USB PHY allows direct use of connectors/magnetics on the baseboard without the need for additional logic:

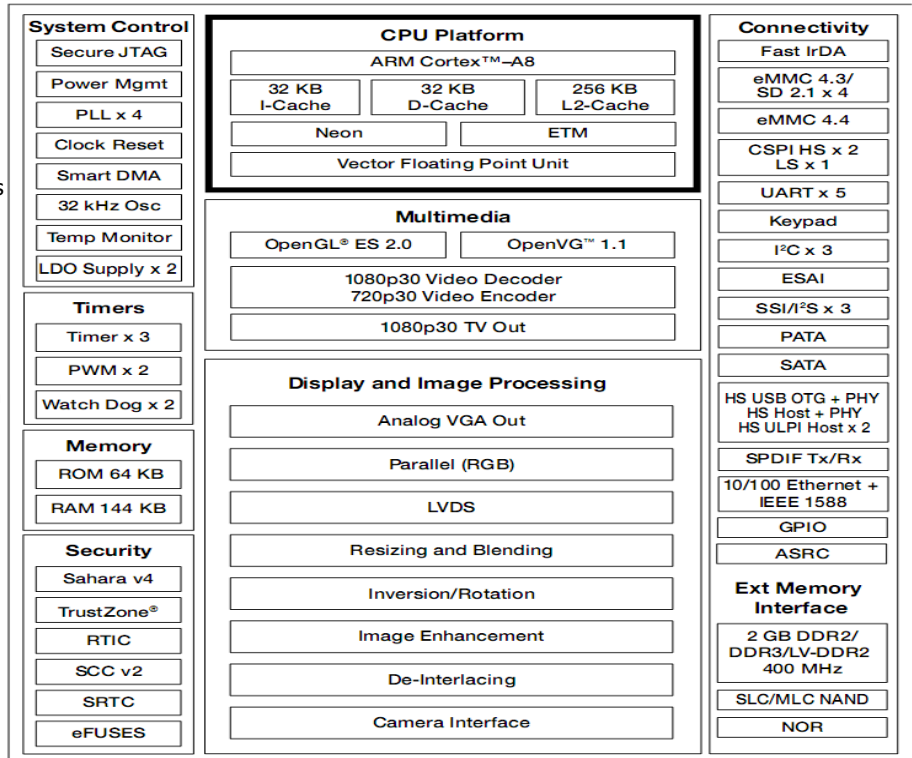
- 10/100 Mbps Ethernet
- 480 Mbps USB OTG (Host or Device)
- 480 Mbps USB Host

Additional interfaces like CAN, 2 UARTs and external memory interface are available on TX53 specific pins. Some interfaces are multiplexed with other functions.

Power Supply

The TX53 accepts an input voltage from various sources:

- 1-cell Li-Ion/Polymer (3.1V to 4.2V)
- 5.0V USB supply or AC wall adapter
- 3.3V



Ordering Information

Order Number	CPU	SDRAM	Flash	Temp.
TX53/1000/512S/128F	1GHz i.MX535	512MB	128MB	0°C..70°C