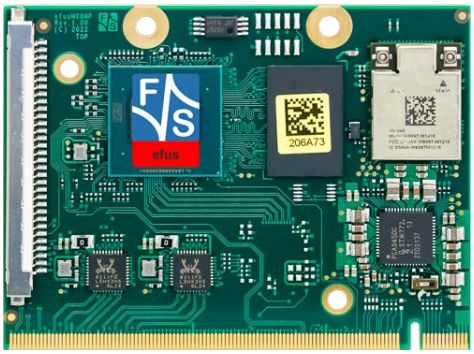
efus™MX8MP

Computer On Module with NXP i.MX 8MP

Characteristics



- NXP i.MX 8M Plus: Quad CortexA53@1,8GHz & CortexM7
- Machine Learning ML
- 3D HW acceleration, OpenGL ES 2.1/3.0/ 3.1
- Video decoder 1080p60

- Up to 8GB LPDDR4 / 64GB eMMC / 512MB QSPI NAND / EEPROM
- 1x HDMI up to 4k, TFT up to FullHD (2x LVDS), 1x RGB
- Touch (PCAP Touch) via I²C
- 1x USB 3.0 Host, 1x USB 2.0 Device, PCIe
- Audio (digital I2S), 2x Gbit LAN,
- WLAN ac/ BT 5.0LE, 2x SPI, 2x I²C, 4x serial, 2x CAN
- I/O / Matrix keyboard, PWM, up to 2x SDIO (SD-Card)**
- camera MIPI-CSI (4 lanes), ISP
- 5V with 4W typ.
- 0°C - +70°C, -20°C - +70°C, -40°C - +70°C
- 230 pin finger contact (MXM2)
- Security (High Assurance Boot, Encryption Engine, secure key storage, …)

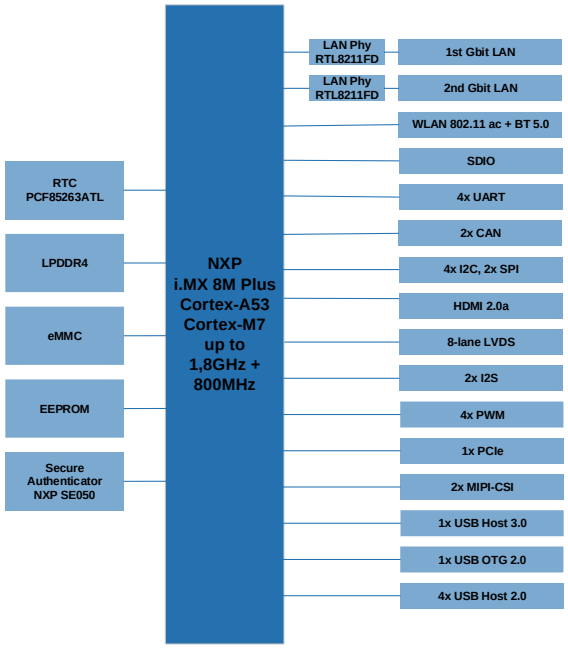
- Aavailable until minimum 2035

Description

efus™MX8MP is another compact and powerful module in efus™ form factor.
It is very well suited for safe cloud connections, industrial automation and control, HMI, robotics, building control, display audio, infotainment, and telematics applications.
Along with the attribute of an easy baseboard (EasyLayout), efus™ has a size of 47x62mm only and is therefore suitable for compact housings.

Cortex®-M7 (with FreeRTOS) can be used for fast control and regulation functions or for processing fast interface protocols. WLAN/ BT with antenna socket is optional.
efus™MX8MP is as far as possible pin compatible to all other efus™ product family members.

Block Diagram



On-Board Operating System

The F&S Linux BSP (uboot, Yocto, QT,) contains the customized kernel and all interface drivers including source.
A Cross Compiler Toolchain is also available for the creation of own bootloaders, kernels or other software.
For a quick start into software development, the following workshops are offered:
Linux on F&S Modules (Standard Workshop)

Additional workshops:
Linux – Qt Workshop
Linux – Asymmetric Multiprocessing
Linux – Secure Boot
Linux – OTA Update

Starterkit

efus™MX8MP-SKIT consists of a base board with common plug connectors and a efus™MX8MP module.

The starterkit includes a cable kit and a 7“ LVDS display with PCAP touch panel.
A customized Linux image is pre-installed, including display drivers, so you can start with your starterkit immediately.

You will also receive access to our download area for documentation and software. Documents like schematic and BOM list of the base board are available for download.

Our forum with 3000 registered customers offers example programs and is always online for your support requests.

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efus™ Form Factor

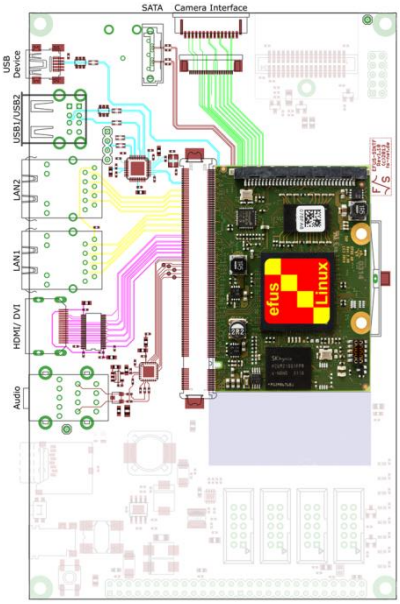
efus™ stands for 25 years of experience in the RISC boards sector

easy
- starterkits
- customized operating systems (Linux, FreeRTOS)
- F&S Support, free of charge

functional
- many interfaces
- expandable with wireless modules (ReDesign)
- easy baseboard
- based on "EasyLayout" standard

universal
- visualization
- communication
- control

small
- 47 x 62mm only
- 5V supply



Accessories

Workshop
Several Workshops for F&S Boards with Linux

MXM-2 Connector
For connecting efus™ modules via goldfinger contacts

efus™ Latch
Allows to mount efus™ modules on the base board

Detailed information on our accessories is available on our homepage.

Standard Versions/ Order Notations

efusMX8MP-V3XI-LIN
Dual-Core ARM® Cortex®-A53 – 1.6GHz + Cortex®-M7
1GB RAM, 4GB eMMC, 2x Ethernet, USB, SPI, I²C, CAN, Serial, PCIe, MIPI-CSI, I2S, RTC, Security, RGB, LVDS, DVI 4k, -40°C - +70°C, Linux

efusMX8MP-V4-LIN
Quad-Core ARM® Cortex®-A53 – 1.8GHz + Cortex®-M7 w/o VPU
2GB RAM, 8GB eMMC, 256MB QSPI NAND Flash, 2k EPROM, 2x Ethernet, USB, SPI, I²C, CAN, Serial, PCIe, MIPI-CSI, I2S, RTC, Security, RGB, LVDS, DVI 4k, 0°C - +70°C, Linux

efusMX8MP-V5-LIN
Quad-Core ARM® Cortex®-A53 – 1.8GHz + Cortex®-M7 w/o VPU
2GB RAM, 8GB eMMC, 2x Ethernet, USB, SPI, I²C, CAN, Serial, I2S, PCIe, MIPI-CSI, RTC, LVDS, DVI 4k, WLAN, BT 5.0, 0°C - +70°C, Linux

efusMX8MP-SKIT-LIN
efus™MX8MP-V5-LIN, base board, 7” display, cable kit, access data to documentation and software

Minimum Order Quantity for Special Versions

Customer-Specific Software	**500 pieces**
Assembly Variant	**1000 pieces**

Technical Data

Power Supply:	$+5V_{DC}$/ ±5%
Power Consumption:	4W (typ.)
Interfaces:	2x Ethernet 10/100/1000MB 4x Serial 1x USB3.0 Host 1x USB2.0 Device 2x CAN2.0 2x I²C, 2x SPI 1x PCIe 1x I²S (Audio Codec, external) 2x SDIO (SD-Card, external) Camera Interface (MIPI-CSI)
RTC	RTC
Security	SECO
TFT LCD Interface:	24bit LVDS up to FullHD 18bit RGB DVI up to 4k (HDMI signals)
Touch:	via I2C
RAM:	LPDDR4 up to 8GB
Program Memory:	QSPI NAND up to 512MB EEPROM eMMC up to 64GB
Processor:	ARM Dual/ Quad-Core Cortex®-A53- 1.8GHz & Cortex®-M7
WLAN/ BT	IEEE802.11 ac/a/b/g/n Standard (2.4/ 5 GHz) BT5.0 LE (-20°C - +85°C only) with antenna socket
Temperature Range:	0°C - +70°C , -20°C - +70°C -40°C - +70°C
Size:	47mm x 62.1mm x 11mm (l x b x d)
Weight:	about 15g

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