

efus™MX8MP

Computer On Module with NXP i.MX 8MP

Characteristics

- NXP i.MX 8M plus: 2x/ 4x 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 / 32GB eMMC / 512MB QSPI NAND / EEPROM
- 1x HDMI, 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 Ethernet 10/100/1000MB,
- 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 - +85°C, -40°C - +85°C
- 230 pin finger contact (MXM2)
- Security (High Assurance Boot, Encryption Engine, secure key storage, ...)
- Available 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®-M4 (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.

On-Board Operating System

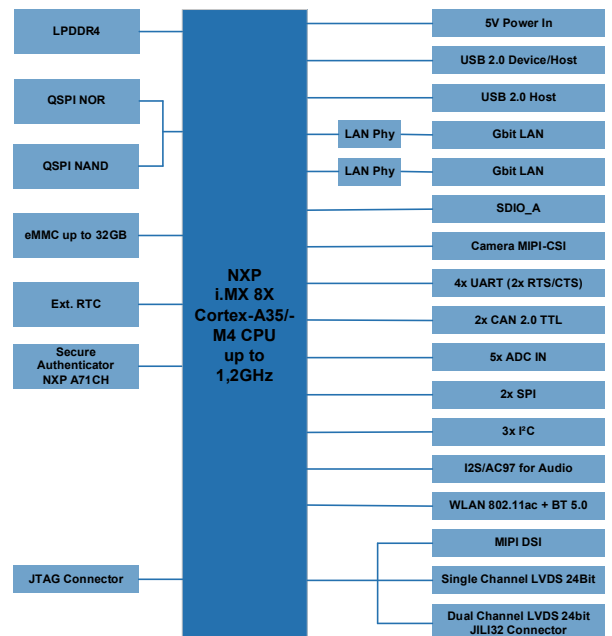


Linux Buildroot and Yocto are supported. The F&S Linux BSP comes with uboot, Devicetree, QT and GStreamer.

All interface drivers including source are included. F&S offers security features by NXP, for example "secure boot". For a quick and easy design start, F&S offers multiple workshops, which can be found online.



Block Diagram



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.



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

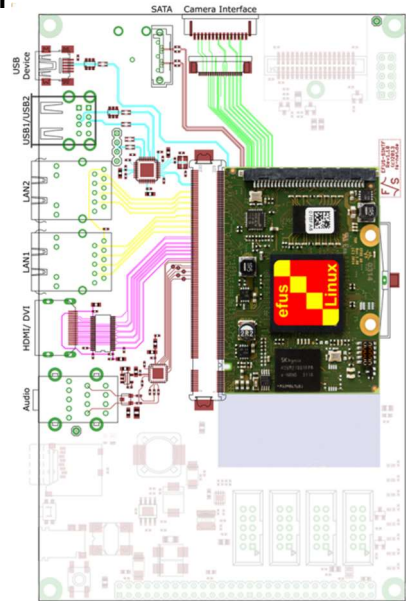
many interfaces
 expandable with wireless modules (ReDesign)
 easy baseboard
 based on "EasyLayout" standard

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-V3I-LIN

Dual-Core ARM® Cortex®-A53 – 1.6GHz + Cortex®-M7
 1GB RAM, 4GB eMMC
 2x Ethernet, USB, SPI, I²C, CAN, Serial, PCIe, MIPI-CSI, RTC,
 RGB, LVDS, DVI (HDMI signals), -20°C - +85°C, Linux

efusMX8MP-V4-LIN

Quad-Core ARM® Cortex®-A53 – 1.8GHz + Cortex®-M7
 2GB RAM, 8GB eMMC, 256MB QSPI NAND Flash,
 2x Ethernet, USB, SPI, I²C, CAN, Serial, PCIe, MIPI-CSI, RTC,
 RGB, LVDS, DVI (HDMI signals), 0°C - +70°C, Linux

efusMX8MP-V5-LIN

Quad-Core ARM® Cortex®-A53 – 1.8GHz + Cortex®-M7
 2GB RAM, 8GB eMMC
 2x Ethernet, USB, SPI, I²C, CAN, Serial, PCIe, MIPI-CSI, RTC,
 LVDS, DVI (HDMI signals), WLAN, BT 5.0, 0°C - +70°C, Linux

efusMX8X-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
TFT LCD Interface:	24bit LVDS up to FullHD 18bit RGB DVI (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) BT2.1+EDR/ 5.0 LE (-20°C - +85°C only) with antenna socket
Temperature Range:	0°C - +70°C -20°C - +85°C -40°C - +85°C
Size:	47mm x 62.1mm x 11mm (l x b x d)
Weight:	about 15g