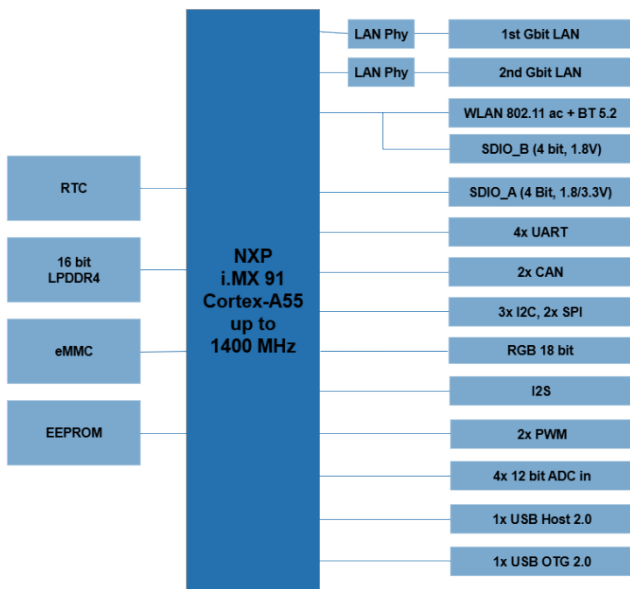# efus™MX91

System-On-Module with NXP i.MX 91

Characteristics

- NXP i.MX91 Application Processor:
  1x Cortex®-A55
  Arm®TrustZone® architecture, EdgeLock® secure enclave
  Energy Flex architecture
- LPDDR4, eMMC, EEPROM
- Real-Time Clock (RTC)
- Highly integrated SoM for easy carrier board design and entry level applications
- Minimum availability: 2040

Operating Systems

F&S offers comprehensive software support for the operating system as well as various workshops*.
- Linux Yocto
- LVGL workshop
- Qt workshop
- Secure Boot workshop

Block Diagramm

LAN Phy	1st Gbit LAN
LAN Phy	2nd Gbit LAN
	WLAN 802.11 ac + BT 5.2
	SDIO_B (4 bit, 1.8V)
	SDIO_A (4 Bit, 1.8/3.3V)
	4x UART
	2x CAN
	3x I2C, 2x SPI
	RGB 18 bit
	I2S
	2x PWM
	4x 12 bit ADC in
	1x USB Host 2.0
	1x USB OTG 2.0

RTC, 16 bit LPDDR4, eMMC, EEPROM → NXP i.MX 91 Cortex-A55 up to 1400 MHz

Starterkit

To facilitate the implementation of the module in the target application, F&S offers a Starterkit*, including:

- efusMX91
- Baseboard
- Cable Kit
- Cooling Solution

Order Notations

efusMX91-V4I-LIN

standard, industrial:

i.MX93: 1x Cortex-A55 @ 1.4GHz, 2GB RAM, 64GB eMMC, EEPROM, 2x Gbit LAN Phy, 2x USB, WiFi 6/BT5, RGB, RTC, -25°C +85°C, Linux

In addition to the standard version(s) listed on our homepage, F&S also offers and supports customer-specific configurations***.

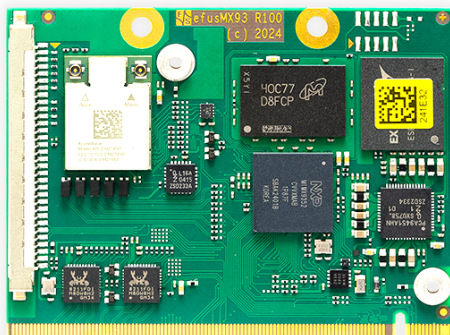### EFUSMX91-SKIT-LIN
Starterkit for efusMX91.

Description

efusMX91 – Efficient. Functional. Universal. Scalable

The **efusMX91** module combines the energy-efficient **NXP i.MX91 CPU** with the proven advantages of the **efus standard**: **e**fficient in power consumption, **f**unction-rich with numerous interfaces, **u**niversal in application, and **s**calable for a wide range of use cases.

Thanks to its compact form factor, standardized MXM-2 connector and layout-friendly pin assignment, the efusMX91 is easy to integrate into custom carrier boards – making it ideal for industrial, medical, HMI, and other embedded applications.

Technical Data (Quickfacts)

Power Supply:	5 VDC
Power Consumption:	2 W (typ.)
Processor:	NXP i.MX91
Memory:	LPDDR4 x16 **up to 2GB**
	eMMC **up to 64GB**
	EEPROM
Interfaces:	2x Gbit LAN Phy
	SDIO (4 bit)
	2x USB 2.0 OTG
	2x CAN-FD, 7x UART, 6x I2C, 2x SPI, I2S, 2x PWM, 4x ADC
	JTAG
I/O voltage:	3.3 V
Display:	RGB 18 bit
RTC	PCF85263ATL
Temperature Range:	-40°C … +85°C
Size (L x B x H):	(47 x 62.1 x 11) mm
Weight:	≈ 15 g

* You can find detailed information on our website.
*** Please contact us for further information.