FS 93 OSM-SF

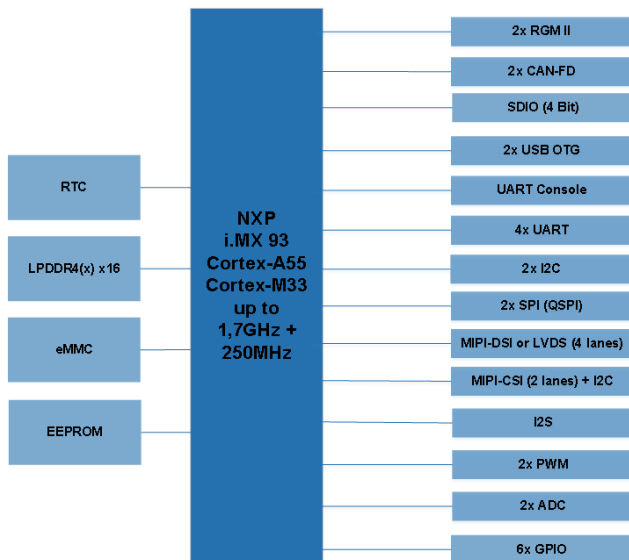*Computer-On-Module with NXP i.MX 93*

Characteristics

- NXP i.MX93 Application Processor:
  2x Cortex®-A55 & Cortex®-M33, NPU
  Arm®TrustZone® architecture, EdgeLock® secure enclave
  Energy Flex architecture
- LPDDR4, eMMC, EEPROM
- Real-Time Clock (RTC)
- Extended Industrial Temperature Range
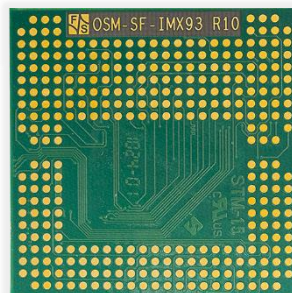- Well balanced price/performance ratio
- Minimum availability: 2035

Block Diagramm

Block diagram showing NXP i.MX 93 Cortex-A55 Cortex-M33 up to 1,7GHz + 250MHz connected to: RTC, LPDDR4(x) x16, eMMC, EEPROM on the left; and 2x RGM II, 2x CAN-FD, SDIO (4 Bit), 2x USB OTG, UART Console, 4x UART, 2x I2C, 2x SPI (QSPI), MIPI-DSI or LVDS (4 lanes), MIPI-CSI (2 lanes) + I2C, I2S, 2x PWM, 2x ADC, 6x GPIO on the right.

Description

The FS-93-OSM-SF, fully compatible with the SGET's OSM standard (Size S), is a solder on module that offers a variety of interfaces, such as LAN, USB, SDIO, SPI, UART, I2C, CAN, MIPI-DSI, LVDS, MIPI-CSI, GPIOs, … It implements the NXP i.MX93 application processor, providing optimized performance, efficient machine learning and integrated advanced security to support energy efficient edge computing for Industrial, IoT and automotive devices.

Due to the small size of (30 x 30) mm, the modules are ideal for applications, where space is limited. The single-sided assembly simplifies the implementation and is very robust against shock and vibration.

Operating Systems

F&S offers comprehensive software support for the operating system as well as various workshops*.
- Linux Yocto
- Linux Debian
- Windows 11 IoT Enterprise
- FreeRTOS for Cortex-M
- Qt workshop
- Secure Boot workshop
- Asymetric Multiprocessing workshop

Starterkit

To facilitate the implementation of the module in the target appli-cation, F&S offers a Starterkit*, including:
- 2x OSM-SF-IMX93**,
- Baseboard,
- Cable Kit,
- 7" LVDS Touch-Display (1024 x 600) px,
- Cooling Solution.

Order Notations

FS-93-OSM-SF-V1I
standard, industrial:
i.MX93: 2x Cortex-A55 @ 1.7GHz, 1GB RAM, 8GB eMMC, EEPROM, 2x RGMII, 2x USB, UART, 3x I2C, SPI, QSPI, 2x CAN, I2S, LVDS, 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***.

FS-93-OSM-SKIT-LIN
Starterkit for OSM-SF-IMX93.

Technical Data (Quickfacts)

Power Supply:	5 VDC
Power Consumption:	2 W (typ.)
Processor:	NXP i.MX93
Memory:	LPDDR4 x16 **up to 2GB**
	eMMC **up to 64GB**
	64Kb EEPROM
Interfaces:	2x RGMII (Gigabit Ethernet)
	SDIO (4 bit)
	2x USB 2.0 OTG
	2x CAN-FD, 4x UART, 6x GPIO
	3x I2C, SPI, QSPI, I2S,
	2x PWM, 2x ADC
	JTAG
I/O voltage:	1,8 V
Display:	MIPI-DSI (4-lane) or LVDS
Camera:	MIPI-CSI (2-lane)
RTC	PCF85263ATL
Temperature Range:	-40°C … +85°C
Size (L x B x H):	(30 x 30 x 2) mm
Weight:	≈ 5 g

 * You can find detailed information on our website.
 ** 1x soldered onto an adapter which can be plugged onto the baseboard.
   1x additional mechanical sample.
 *** Please contact us for further information.