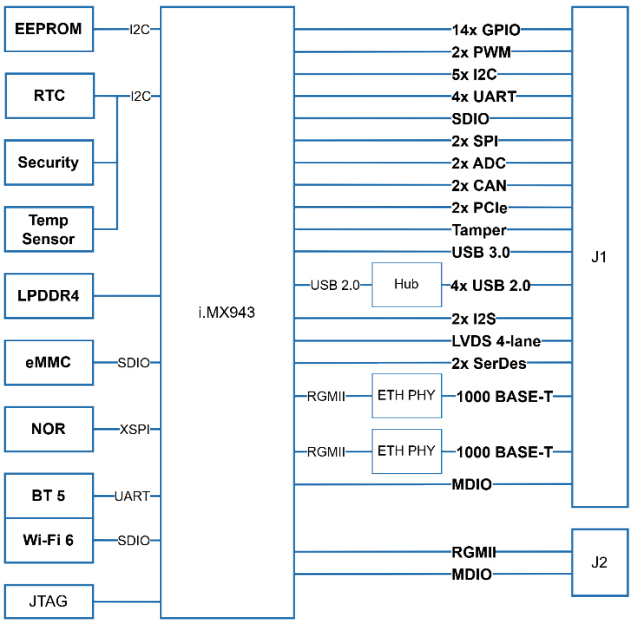
FSSM943 (preliminary)

Computer-On-Module with NXP i.MX 943

Characteristics

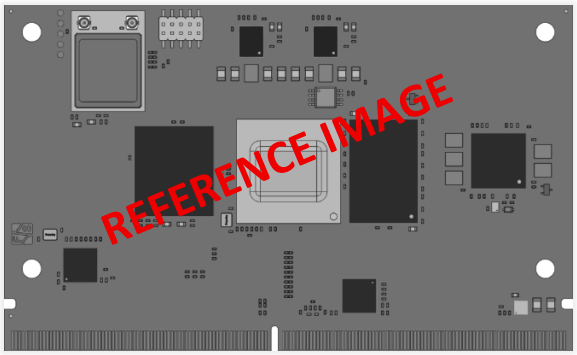
- **NXP i.MX 943**: 4x Arm Cortex-A55 up to 1.7 GHz, 2x Cortex-M7 and 2x Cortex-M33 for real-time processing, 0.5 TOPS NPU
- EdgeLock Secure Enclave and optional SE050 security element
- LPDDR4, eMMC, SPI NOR and EEPROM
- 2x Gbit TSN Phy, SerDes, 2x PCIe, RGMII, WLAN/Bluetooth
- SMARC module focuses on connectivity 2.5Gbit (SGMII) + 2x Gbit LAN Phy,

Block Diagram



Description

Powered by the NXP i.MX 943 processor, the FSSM943 is designed for **communication-intensive** industrial applications. With two PCIe, two SerDes and two Gigabit Ethernet interfaces, the module offers exceptional **high-speed connectivity** for **networking** and high-performance peripherals. Cortex-A55 application cores combined with dedicated Cortex-M7 and Cortex-M33 cores enable powerful application processing and real-time control.
Integrated machine learning acceleration, optional Wi-Fi and Bluetooth, and advanced security make the FSSM943 ideal for industrial communication, secure gateways and connected edge systems. **TrustZone, Secure Boot**, the integrated **EdgeLock Secure Enclave** and an optional Secure Element provide comprehensive application and data protection.



Operating Systems

F&S offers comprehensive software support for the operating system as well as various workshops*.

- Linux Yocto and Debian
- FreeRTOS / Zephyr for Cortex-M / Cortex-A
- Qt workshop
- **Secure Boot workshop**
- Asymmetric Multiprocessing workshop
- CRA ready

Starterkit

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

- SMARC FSSM943
- Baseboard
- Cable Kit
- 10” LVDS Touch-Display (1024 x 600) px
- Cooling Solution

Order Notations

To be announced

Technical Data (Quickfacts)

Power Supply	5 V
Power Consumption	4 W (typ.)
Processor	NXP i.MX 943
Memory	LPDDR4 x32 **up to 16 GB** eMMC **up to 128 GB** **XSPI NOR 64 MB** 64Kb EEPROM
SMARC Interfaces**	**2x Gbit Lan Phy, RGMII, Wi-Fi 6 & BT 5.4, 2x SerDes, 2x PCIe**, SDIO (4 bit) USB 3.0 Host, 4x USB 2.0 (1x OTG), 2x CAN-FD, 4x UART, 5x I2C, 2x SPI, 2x I2S, 3x PWM, 14x GPIO, 2x ADC, Tamper, JTAG
I/O voltage	1.8 V
Display	**LVDS** (1x 4-lane)
RTC	PCF85263ATL
Security Element	**EdgeLock® SE050**
Temperature Range	-40°C … +85°C
Size (L x B x H)	(82 x 50 x 5) mm

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

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The information within this document is subject to change without notice.
i.MX 943 is a trademark of NXP Semiconductors Netherlands B.V.
Cortex is a registered trademark of Arm.

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