

PicoCore™MX943 (Preliminary)

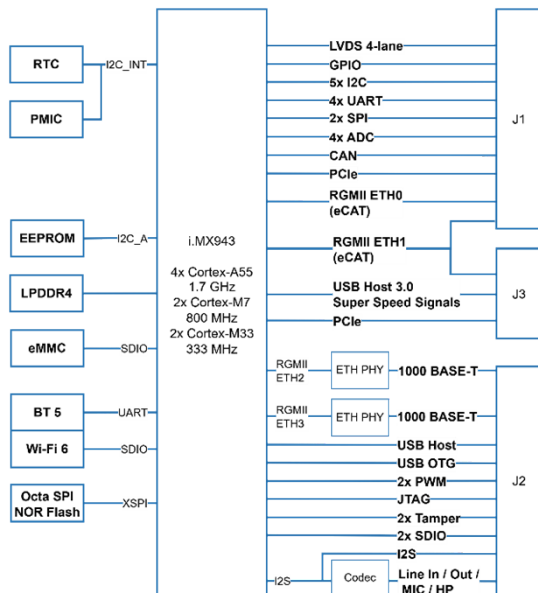
Computer-On-Module with NXP i.MX 943



Characteristics

- **NXP i.MX 943** Application Processor:
4x Cortex®-A55 @ 1.7GHz, 2x Cortex®-M7 & 2x Cortex®-M33,
NXP eIQ® Neutron **NPU**, hardware compositor,
Arm® TrustZone® architecture, EdgeLock® Secure Enclave
(Advanced Profile),
integrated TSN switch with EtherCAT support
- LPDDR4, eMMC, EEPROM, SPI NOR
- Real-time industrial automation, EtherCAT connectivity
and secure AI-enabled edge computing.

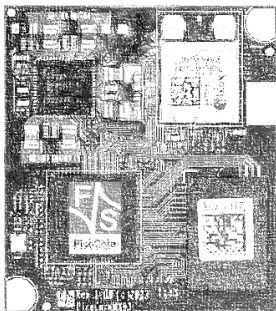
Block Diagram



Description

Powered by the NXP i.MX 943 processor, the PicoCoreMX943 combines high-performance application processing with deterministic real-time control and integrated AI acceleration for demanding industrial edge applications. Its multicore architecture with four Cortex®-A55, two Cortex®-M7 and two Cortex®-M33 cores supports flexible workload partitioning. Two Gbit Ethernet phys plus two EtherCAT-capable Ethernet interfaces are available on the module.

The module is designed for industrial automation, gateways, motion control and networked edge systems. The NXP i.MX 943 platform combines flexible Ethernet connectivity with real-time processing and advanced security features. TrustZone®, secure boot and the EdgeLock® Secure Enclave provide a robust hardware root of trust for connected applications. The i.MX 943 is NXP's first chip supporting postquantum cryptography.



Operating Systems

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

- Linux Yocto and Debian***
- QNX (under development)
- Zephyr*** for Cortex-M / Cortex-A
- Qt workshop
- **Secure Boot workshop**
- Asymmetric Multiprocessing workshop

Starterkit

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

- PicoCoreMX943
- Baseboard
- Cable Kit
- 10" LVDS Touch-Display (1024 x 600) px
- Cooling Solution

Order Notations

PC943-V4I-LIN

standard, industrial:

i.MX943: 4x Cortex-A55, 2GB RAM, 32GB eMMC, EEPROM, USB 3.0, 4x USB Host, 2x Gbit LAN PHY with EtherCAT, LVDS, Wi-Fi 6E WLAN, BT 5, 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***.

PC943-SKIT-LIN

Starterkit for PicoCoreMX943.

Technical Data (Quickfacts)

Power Supply	5 V
Power Consumption	4 W (typ.)
Processor	NXP i.MX 943
Memory	LPDDR4x x32 up to 8GB eMMC up to 128GB Octa SPI NOR up to 256MB 64Kb EEPROM
Interfaces**	2x Gbit LAN PHY , Wi-Fi 6 & BT 5.4, 2x EtherCAT or TSN , 2x SDIO (4 bit), USB 3.0 Host, USB 2.0 OTG, 4x CAN-FD, 4x UART, 5x I2C, 2x SPI, 1x Audio Codec or I2S, 2x PWM, 4x ADC, Tamper, JTAG
I/O voltage	3.3 V
Display	LVDS (1x 4-lane)
RTC	PCF85263ATL
Security Element	EdgeLock® Secure Enclave
Temperature Range	-40°C ... +85°C
Size (L x B x H)	(35 x 40 x 5) mm

* You can find detailed information on our website.

** Other configurations possible

*** Please contact us for further information.

The information within this document is subject to change without notice.
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Cortex is a registered trademark of Arm.

