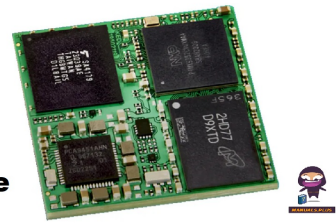



**kontron**  
**i.MX93**  
**System**  
**on Module**



# Kontron i.MX93 System on Module Instructions

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**kontron**

**Kontron i.MX93 System on Module**

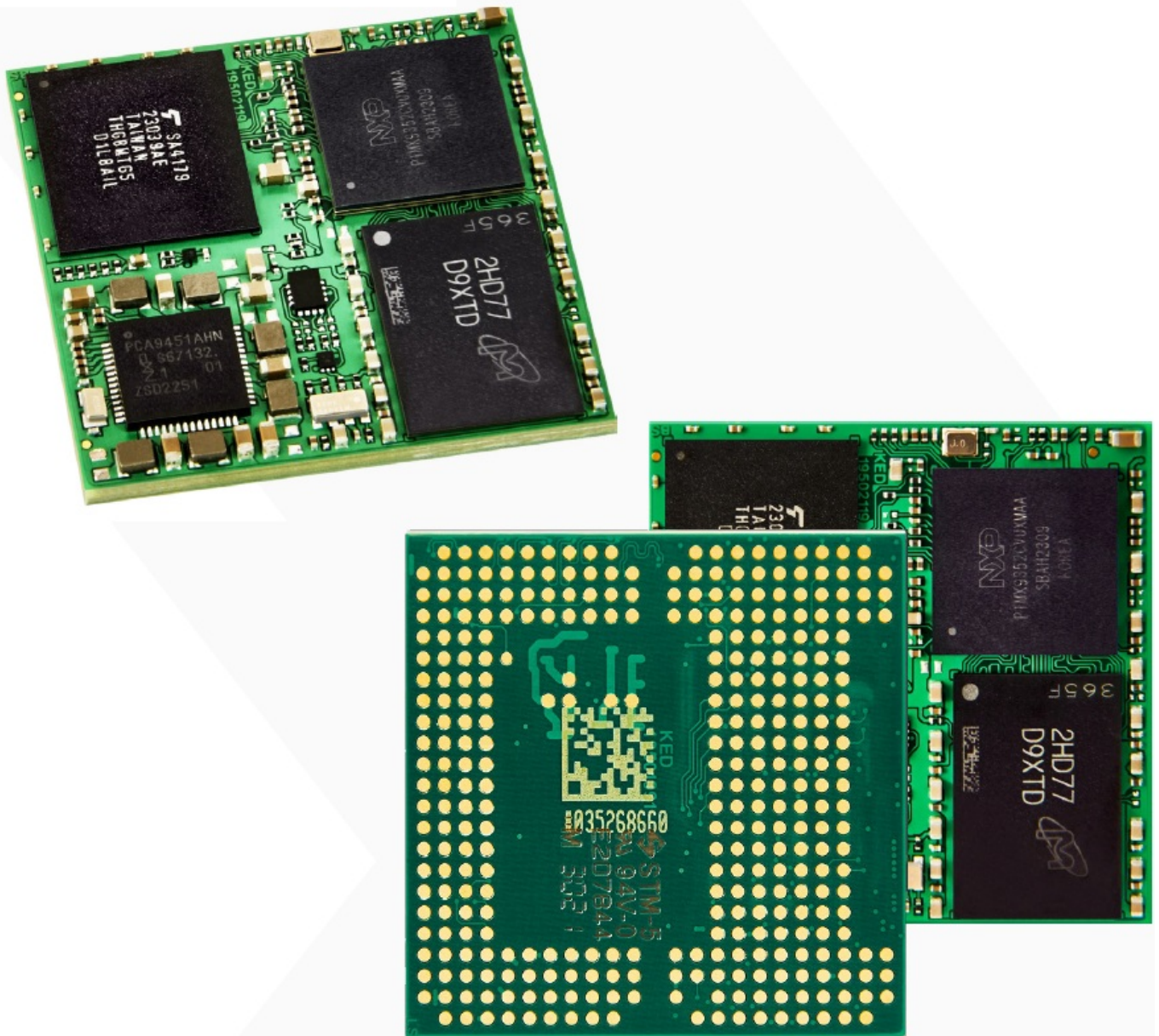


## FAQ

### Frequently Asked Questions

- **Q:** What are the typical applications of the OSM-S i.MX93 module?
  - **A:** The module is commonly used in IoT/Edge Devices, control and automation technology, industrial HMI, smart home building automation, artificial intelligence in Edge devices, and minimum-footprint applications.
- **Q:** How can I ensure proper installation of the OSM-S i.MX93 module?
  - **A:** Follow the installation instructions provided in the user manual carefully. Ensure correct soldering and alignment during installation.

## Overview



## Features

The SoM combines cost effectiveness and energy efficiency as well as extensive connectivity in the smallest possible installation space

- NXP i.MX93, 2x Arm® Cortex®-A55 @1.7 GHz, 1x Arm® Cortex®-M33 @250 MHz
- 1x Arm® Ethos™ U-65 microNPU
- Security System EdgeLock® Secure Enclave
- 2x Gigabit Ethernet IEEE 1588 (1x with TSN)
- 2x CAN FD

## Technical Information

FUNCTION		STANDARD
MICROPROCESSOR	CPU  LPDDR4-RAM eMMC E EPROM  ETHERNET USB  I/O CAN  LCD INTERFACE CAME RA INTERFACE  POWER SUPPLY IO VO LTAGE  POWER CONSUMPTIO N TEMPERATURE RAN GE RTC (I <sup>2</sup> C)  OPERATING SYSTEM F ORM FACTOR FOOTPRI NT	NXP i.MX93, 2x Arm® Cortex®-A55 @1.7 GHz, 1x Arm® Cortex®-M33 @250 MHz, 1x Arm® Ethos™ U-65 microNPU
MEMORY		1 GByte, optional 512 MByte up to 2 GByte  4 GByte, optional 8 GByte up to 64 GByte  8 kB (64 kb), optional
COMMUNICATION		2x 1 Gbit/s IEEE 1588 (1x with TSN) 2x USB 2.0 OTG  4x UART, 2x I <sup>2</sup> C, 2x SPI, 10x GPIO, 3x PWM, 1x SAI, 2x SDIO (4-bit), 2x ADC  2x CAN FD
DISPLAY / TOUCH		1x MIPI DSI (4-lane), up to 1920 x 1200 @60fps 1x MIPI CSI (2-lane)
OTHER		5 V DC ±5 %  1,8 V TBD  -25 °C ... +85 °C  As an option  Embedded Linux (Yocto Distribution) 30 x 30 mm OSM Si ze S  332 Pin / 1,25 mm pitch
SAFETY		EdgeLock® Secure Enclave

## Product Highlights

- The cost-effective OSM-S i.MX93 is a solderable SoM based on the Open Standard Module specification size S. The i.MX93 Dual-Core offers a wide range of functions and interfaces in a very small installation space of only 30 mm x 30 mm.
- The integrated NPU (Neural Processing Unit) enables accelerated machine learning. Time-critical industrial applications can be easily realized via the Single Arm® Cortex®-M33 @250 MHz real-time coprocessor.
- Advanced security with integrated EdgeLock® Secure Enclave rounds off the wide range of possible applications
- With NXP's innovative Energy Flex architecture, you get optimized performance and energy efficiency for industrial, IoT and automotive devices.
- The Arm® Neon™ graphics unit can be used for accelerated processing of image data.

## Client Benefits

- OSM – Open Standard Module™ Size S
- OSM – Standard successfully established on the global market

- Fully automated soldering, assembly and testing possible
- Standard peripheral set with a variety of interfaces
- Requires only one voltage supply (5 V)

## **Application**

- IoT/Edge Devices
- Control and automation technology
- Industrial HMI
- Smart Home building automation
- Artificial intelligence in Edge device
- Minimum-footprint applications

## **About Kontron**

Kontron is a global leader in IoT/Embedded Computing Technology (ECT) and offers individual solutions in the areas of Internet of Things (IoT) and Industry 4.0 through a combined portfolio of hardware, software and services. With its standard and customized products based on highly reliable state-of-the-art technologies, Kontron provides secure and innovative applications for a wide variety of industries. As a result, customers benefit from accelerated time-to-market, lower total cost of ownership, extended product lifecycles and the best fully integrated applications.

For more information, please visit: [www.kontron.com](http://www.kontron.com)

## **About Kontron Electronics**

Kontron Electronics GmbH is a full-service provider in the field of electronics, development and manufacturing services. Our business portfolio includes proprietary and client-specific products, development and design services for complex electronics components, modules and systems, as well as production and assembly services for entire devices. The company is part of the technology corporation Kontron AG.

For more Information please visit: [www.kontron-electronics.com](http://www.kontron-electronics.com)

## **Contacts**

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## Documents / Resources

	<p><a href="#">Kontron i.MX93 System on Module</a> [pdf] Instructions i.MX93 System on Module, i.MX93, System on Module, on Module, Module</p>
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## References

- [electronics.de](http://electronics.de)
- [Home - Kontron Electronics](#)
- [User Manual](#)

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