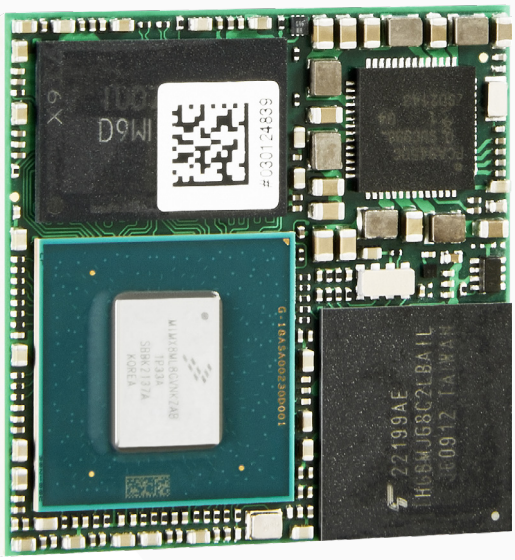
OSM-S i.MX8M Plus

SoM-Line



OPEN STANDARD MODULE™

The SoM combines the advantages of the i.MX8M Plus processor and the OSM standard in a very small space

- NXP i.MX8M Plus, 4x Arm® Cortex®-A53 @1.6 GHz with neural processing unit (NPU) and 1x Arm® Cortex®-M7 @800 MHz
- 2D GPU, 3D GPU
- Ethernet 2x 1 Gbit/s, 1x with Time Sensitive Network TSN
- Preconfigured U-boot boot loader; programming with client-specific embedded Linux possible
- 2x CAN FD

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The Power of IoT

Technical Information

MICROPROCESSOR	CPU	NXP i.MX8M Plus, 4x Arm® Cortex®-A53 @1.6 GHz, 1x Arm® Cortex®-M7 @800 MHz, 2D GPU and 3D GPU
MEMORY	LPDDR4-RAM eMMC EEPROM	4 GByte, optional 1 GByte, 2 GByte 32 GByte, optional 4 GByte up to 64 GByte 8 kb, optional up to 128 kb
COMMUNICATION	ETHERNET USB I/O CAN	2x 1 Gbit/s IEEE 1588 (1x with TSN) 2x USB 3.0 4x UART, 2x I²C, 2x SPI, 17x GPIO, 3x PWM, 1x PCIe, 1x SAI, 2x SDIO (1x 4-bit, 1x 8-bit) 2x CAN FD
DISPLAY/TOUCH	LCD INTERFACE CAMERA INTERFACE	1x LVDS, 1x HDMI, 1x MIPI DSI up to 4k @30fps 2x MIPI CSI (4-lane)
OTHER	POWER SUPPLY IO VOLTAGE POWER CONSUMPTION TEMPERATURE RANGE RTC (I²C) OPERATING SYSTEM FORM FACTOR FOOTPRINT	5 V DC ±5 % 1.8 V, optional 3.3 V Linux running < 1 W -25 °C ... +85 °C 45 nA/1ppm @25 °C Embedded Linux (Yocto Distribution) 30 x 30 mm OSM Size S 332 Pin/1.25 mm pitch
SAFETY		HAB Secure Boot, TrustZone, TRNG, RSA up to 4096, AES- 128/192/256, 3DES, ARC4, MD-5, SHA up to 256, ECC, Secure JTAG

Product Highlights

The OSM-S i.MX8M Plus is the first SoM based on the Open Standard Module specification that provides this wide range of functions in the smallest installation space of only 30 mm x 30 mm. The powerful i.MX8M Plus SOC also offers the highest performance for CPU-intensive applications and 3D graphics applications.

The RISC (Reduced Instruction Set Computer) processors of the Arm®-based SOC (4x Arm® Cortex®-A53, 1x Arm® Cortex®-M7) are the perfect basis for cost-sensitive embedded applications with high energy efficiency combined with high computing and graphics performance.

In addition to 4x Arm® Cortex®-A53 cores, the high-performance NXP i.MX8M Plus SOC features an integrated neural processing unit (NPU) 2.3 TOPS. The integrated Arm® Cortex®-M7 processor core enables real-time control.

The SoM has two CAN interfaces and two Gigabit Ethernet Interfaces. One of the LAN ports support the Time Sensitive Networking (TSN) standard for real-time data communication.

Client Benefits

- OSM - Open Standard Module™ size S
- Fully automated soldering, assembly and testing possible
- Quick and easy realization of complex processor solutions
- Complex pin multiplexing and sophisticated LPDDR4-RAM layout already implemented
- Requires only one voltage supply (5 V)

Applications

- IoT/Industry 4.0
- Control and automation technology
- HMI, Touch Panel
- Artificial intelligence in Edge device
- Minimum-footprint applications

About Kontron

Kontron AG is a leading IoT technology company. For more than 20 years, Kontron has been supporting companies from a wide range of industries to achieve their business goals with intelligent solutions. From automated industrial operations, smarter and safer transport to advanced communications, connectivity, medical, and energy solutions, the company delivers technologies that add value for its customers. With the acquisition of Katek SE in early 2024, Kontron significantly strengthens its portfolio with the new GreenTec division, focusing on solar energy and eMobility, and grows to around 8,000 employees in over 20 countries worldwide. Kontron is listed on the SDAX® and TecDAX® of the German Stock Exchange.

For more information, please visit: **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**

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