F&S Elektronik Systeme

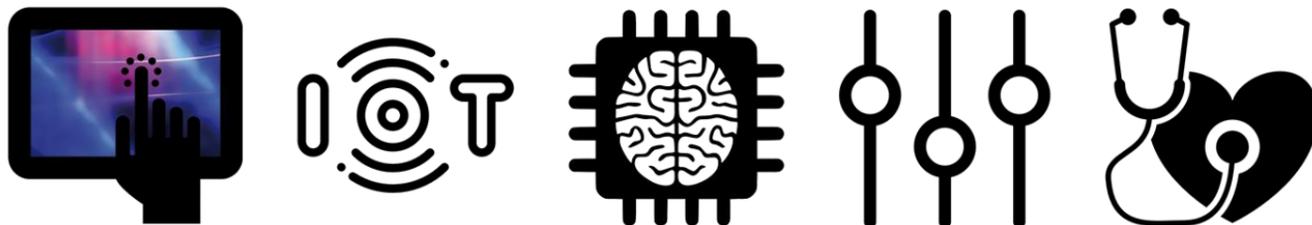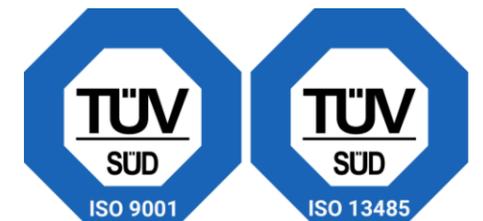## System on Module - SoM

efus

- 47x62mm
- Supply Voltage 5V
- RGB, LVDS, DVI
- WLAN/BT, 2x LAN Phy
- 230 Pins MXM2 Goldfinger Connector
- Pin-compatible product family

PicoCore

- 35x40mm
- Supply Voltage 3.8V – 5.5V
- LVDS, MIPI-DSI, DVI
- WLAN/ BT, 2x LAN Phys, Audio Codec
- Robust 2x 100 Pin Connector
- Pin-compatible product family
- Wide range of functions in a small space

SMARC

- 50x82mm SMARC 2.2 Standard
- Supply Voltage 5V
- 314 pin MXM3 Goldfinger Connector
- Pin-compatible product family

PicoCOM

- 40x50mm
- Supply Voltage 3,3V
- ARM9 to Cortex-A55
- Robust Connector, 80 Pins, 0,8 Pitch
- Pin-compatible product family

Solder On Module

OSM

- Size-S: 30x30 mm, OSM 1.2 Standard
- 332 contacts
- Supply Voltage 5V, I/O Voltage: 1.8V
- RGB, MIPI-DSI, LVDS
- Very robust against shock and vibration
- Single side mounted

Single Board Computer - SBC

armStone

- 100x72mm, PicoITX
- Supply Voltage 5V, (opt. 12/24V Power Supply)
- RGB, LVDS, MIPI-DSI, DVI,
  1-2x LAN, WLAN/BT, PCIe slot with SIM
- 66 pin Feature Connector 2,54mm
- Pin-compatible product family
- Coating possible
- Large selection of accessories

Others

M.2 AI Accelerator

- Discrete Neural Processing Unit (DNPU)
- M.2 Key-M
- NXP Ara240, 8/16 GB LPDDR4X
AI-Model Frameworks Supported
- TensorFlow
- PyTorch
- ONNX
AI-Models Architecture Supported
- Convolutional Neural Networks (CNNs)
- Transformer Models
- Large Language Models (LLMs)
- Multimodal Language Models (MMLMs)
- Vision Language Models (VLMs)
- Vision Language Actions (VLAs)
Performance: up to 40 eTOPS

Secure Embedded Solutions

HMI | Automation | Railway | IoT | AI | Measuring | Control | Medical Devices

TÜV SÜD ISO 9001

TÜV SÜD ISO 13485

Product Overview 2026 | Single Board Computer | System on Module

Product	armStoneMX8MP *NEW*	armStoneMX8ULP *NEW*	armStoneMX95 *NEW****	efusMX8X	efusMX8MP	efusMX91	efusMX93	SMARC MX8MP	SMARC MX95 S *NEW*	SMARC MX95 AI *NEW****
OS	Yocto Debian Win 10 IoT Enterprise FreeRTOS	Yocto FreeRTOS	Yocto Debian* Zephyr	Yocto FreeRTOS	Yocto Debian* FreeRTOS	Yocto	Yocto Win 11 IoT Enterprise FreeRTOS Zephyr	Yocto Debian FreeRTOS	Yocto Debian* Win 11 IoT Enterprise* Zephyr	Yocto FreeRTOS Zephyr
CPU	NXP i.MX 8M Plus	NXP i.MX 8ULP	NXP i.MX 95	NXP i.MX 8X	NXP i.MX 8M Plus	NXP i.MX 91	NXP i.MX 93	NXP i.MX 8M Plus	NXP i.MX 95	NXP i.MX 95 + Ara240
	4x Cortex-A53 1x Cortex-M7 HIFI-4 DSP, ISP, NPU	2x Cortex-A35 1x Cortex-M33 HIFI-4/Fusion DSP	6x Cortex-A55 1x Cortex-M7 1x Cortex-M33 ISP, NPU	4x Cortex-A35 1x Cortex-M4F	4x Cortex-A53 1x Cortex-M7 HIFI-4 DSP, ISP, NPU	1x Cortex-A55	2x Cortex-A55 1x Cortex-M33 NPU	4x Cortex-A53 1x Cortex-M7 HIFI-4 DSP NPU	6x Cortex-A55 1x Cortex-M7 1x Cortex-M33 NPU	6x Cortex-A55 1x Cortex-M7 1x Cortex-M33 40 eTOPS NPU
Special	2D/3D GPU (2 shader) VPU	2D/3D GPU (1 shader)	2D/3D GPU VPU	2D/3D GPU (4 shader), two independent displays, integrated Security Engine	2D/3D GPU (2 shader) VPU	---	PXP	2D/3D GPU (2 shader) VPU	2D/3D GPU VPU	2D/3D GPU VPU
Flash (up to)	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	512MB SLC NAND 1MB QSPI NOR eMMC, EEPROM	512MB QSPI NAND eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM
RAM (up to)	8GB LPDDR4 x32	2GB LPDDR4X x32	16GB LPDDR5 x32	2GB LPDDR4 x32	8GB LPDDR4 x32	2GB LPDDR4 x16	2GB LPDDR4 x16	8GB LPDDR4 x32	8GB LPDDR4X x32	16GB LPDDR5 x32
LAN	2x Gbit LAN	1x 100 Mbit LAN	2x Gbit LAN	2x Gbit Phy	2x Gbit Phy	2 Gbit Phy or RGMII	2 Gbit Phy or RGMII	2x Gbit Phy	2x Gbit Phy	2x Gbit Phy
WLAN BT	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	802.11ac/a/b/g/n 5.3 LE	802.11ac/a/b/g/n 5.3 LE	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	--- ---
Security	EdgeLock SE05x	EDGELOCK® SECURE ENCLAVE	EdgeLock SE05x, TPM	EdgeLock SE05x	EdgeLock SE05x	EDGELOCK® SECURE ENCLAVE	EDGELOCK® SECURE ENCLAVE	EdgeLock SE05x	EdgeLock SE05x, TPM	EdgeLock SE05x, TPM
RS232 RS485	4 1	4 1	4 1	4 ---	4 ---	4 ---	4 ---	4 ---	4 ---	4 ---
USB Host	4x 2.0	4x 2.0	4x 3.0	1x 2.0	1x 3.0	1x 2.0	1x 2.0	4x (2.0)	4x (2.0)	1x OTG 2.0
USB Device	1x OTG 3.0 Type-C	1x OTG 2.0 Type-C	1x OTG 3.0 Type-C	1x OTG 3.0	1x OTG 3.0	1x OTG	1x OTG	1 OTG 3.0	1 OTG 3.0	1x OTG 3.0
SDIO	1x µSD Slot	1x µSD Slot	1x µSD Slot	2**	2**	2**	2**	1	1	1
mPCIe	1x + SIM	---	1x + SIM	1	1	---	---	1	2	2
Audio	IN/ OUT/ MIC/ Headphone	IN/ OUT/ MIC/ Headphone	IN/ OUT/ MIC/ Headphone	I2S	I2S	I2S	I2S	2x I2S	2x I2S	2x I2S
CAN	2**	1	2**	2x CAN-FD	2x CAN-FD	2x CAN-FD	2x CAN-FD	2x CAN-FD	2x CAN-FD	2x CAN-FD
I²C	4**	4**	4**	4	4	4	4	5	5	5
SPI	2**	2**	2**	2	2	2	2	2	2	2
ADC	4	4	4	---	4	4	4	8 lanes	8 lanes	8 lanes
LVDS	8 lanes	8 lanes	8 lanes	2x 4 lanes	8 lanes	---	4 lanes	---	---	---
RGB	---	---	---	---	18bit	18bit	18bit	DVI	eDP	DVI
DVI/HDMI	DVI	---	DVI	---	DVI	---	---	4 lanes	4 lanes	4 lanes
MIPI-DSI	4 lanes	4 lanes	4 lanes	4 lanes	4 lanes	---	---	1x 4 lanes, 1x 2 lanes	1x 4 lanes, 1x 2 lanes	1x 4 lanes, 1x 2 lanes
MIPI-CSI	2x 4 lanes	2 lanes	2x 4 lanes	4 lanes	4 lanes	---	2 lanes			

--- unavailable   [ ] optional   * on request   ** with restrictions   *** coming soon   low power product

NOTE: The above mentioned number of interfaces is available within the standard. More/other interfaces possible by changing the IO MUX. Please contact us.

NXP Gold Partner

Product Overview 2026 | System on Module

Product	PicoCOM93 NEW	PicoCoreMX6UL100	PicoCoreMX8ULP	PicoCoreMX8MM	PicoCoreMX8MN	PicoCoreMX8MP	PicoCoreMX93 NEW	PicoCoreMX95 NEW***	PicoCoreQCS6490 NEW***
OS	Yocto QNX* Win 11 IoT Enterprise Zephyr	Buildroot Yocto	Yocto FreeRTOS	Buildroot Yocto FreeRTOS	Buildroot Yocto FreeRTOS	Yocto Debian Win 10 IoT Enterprise FreeRTOS	Yocto Debian Win 11 IoT Enterprise FreeRTOS Zephyr	Yocto Debian* Win 11 IoT Enterprise Zephyr	Yocto Debian Ubuntu Win 11 IoT Enterprise
CPU	NXP i.MX 93	NXP i.MX 6ULL	NXP i.MX 8ULP	NXP i.MX 8M Mini	NXP i.MX 8M Nano	NXP i.MX 8M Plus	NXP i.MX 93	NXP i.MX 93	Qualcomm
	2x Cortex-A55 1x Cortex-M33	1x Cortex-A7	2x Cortex-A35 1x Cortex-M33 HIFI-4/Fusion DSP	4x Cortex-A53 1x Cortex-M4	4x Cortex-A53 1x Cortex-M7	4x Cortex-A53 1x Cortex-M7 HIFI-4 DSP NPU	2x Cortex-A55 1x Cortex-M33 NPU	6x Cortex-A55 1x Cortex-M7 NPU	8x Kryo 670 NPU (12 TOPS)
Special	PXP	---	2D/3D GPU (1 shader)	2D/3D GPU (1 shader) VPU	2D/3D GPU (2 shader) VPU	2D/3D GPU (2 shader) VPU	PXP	2D/3D GPU VPU	2D/3D GPU Adreno 643 VPU
Flash (up to)	eMMC EEPROM	512MB SLC NAND eMMC EEPROM	eMMC EEPROM Octal SPI Flash	512MB SLC NAND eMMC EEPROM	512MB SLC NAND eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	UFS EEPROM
RAM (up to)	2GB LPDDR4 x16	512MB DDR3L	2GB LPDDR4X x32 pSRAM	4GB LPDDR4 x32	2GB LPDDR4 x16	8GB LPDDR4 x32	2GB LPDDR4 x16	2GB LPDDR4 x16	16GB LPDDR5
LAN	2** 100Mbit Phy	2x 100Mbit Phy or RMII	1x 100Mbit Phy or RMII	2 Gbit Phy or RGMII	2 Gbit Phy or RGMII	2 Gbit Phy or RGMII	2 Gbit Phy or RGMII	2 Gbit Phy or RGMII	2 Gbit Phy
WLAN BT	WIFI 6 5.4	802.11ac/a/b/g/n 5.3 LE	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4	WIFI 6 5.4
Security	EDGELOCK® SECURE ENCLAVE	EdgeLock SE05x	EDGELOCK® SECURE ENCLAVE	EdgeLock SE05x	EdgeLock SE05x	EdgeLock SE05x	EDGELOCK® SECURE ENCLAVE	EDGELOCK® SECURE ENCLAVE	TPM
RS232 RS485	3 ---	4 ---	4 ---	4 ---	4 ---	4 ---	4 ---	4 ---	4 ---
USB Host	1	1x	1x	1x	---	1x 3.0	1x	1x	1x 3.0
USB Device	1	1x OTG	1x OTG	1x OTG	1x OTG	1x OTG 3.0	1x OTG	1x OTG	1x OTG
SDIO	1	1	2**	2	2	2**	2	2	1
mPCIe	---	---	---	1	1	1	---	---	1
Audio	Line In/Out	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S	Line In/Out/MIC/HP or I2S
CAN	2x CAN-FD**	2x FlexCAN	FlexCAN	CAN-FD	CAN-FD	2x CAN-FD	2x CAN-FD	2x CAN-FD	CAN
I²C	2**	4	4	4	4	4	4	4	4
SPI	6	2	2	2	2	2	2	2	2
LVDS	8	4 lanes	8 lanes***	8 lanes	8 lanes	8 lanes	4 lanes	4 lanes	---
RGB	18bit	18 bit**	24 bit**	---	---	---	18bit**	18bit**	---
DVI/HDMI	---	---	---	---	---	DVI	---	---	eDP
MIPI-DSI	---	---	4 lanes	4 lanes	4 lanes	4 lanes	4 lanes	4 lanes	4 lanes
MIPI-CSI	---	---	2 lanes	4 lanes	4 lanes	2x 4 lanes	2 lanes	2 lanes	2x 4 lanes

--- unavailable   [ ] optional   * on request   ** with restrictions   *** coming soon   low power product

NOTE: The above mentioned number of interfaces is available within the standard. More/other interfaces possible by changing the IO MUX. Please contact us.

Product Overview 2026 | Solder On Modules

Product	FS 8ULP OSM-SF	FS 8MN OSM-SF	FS 8MM OSM-SF	FS 8MP OSM-SF	FS 91 OSM-SF	FS 93 OSM-SF	FS 952 OSM-SF **NEW**
OS	Yocto FreeRTOS	Buildroot Yocto FreeRTOS	Buildroot Yocto FreeRTOS Zephyr	Yocto Debian FreeRTOS Zephyr	Yocto	Yocto Debian FreeRTOS QNX Zephyr	Yocto Zephyr
CPU	NXP i.MX 8ULP	NXP i.MX 8M Nano	NXP i.MX 8M Mini	NXP i.MX 8M Plus	NXP i.MX 91	NXP i.MX 93	NXP i.MX 952
	2x Cortex-A35 1x Cortex-M33 HIFI-4/Fusion DSP	4x Cortex-A53 1x Cortex-M7	4x Cortex-A53 1x Cortex-M4	4x Cortex-A53 1x Cortex-M7 HIFI-4 DSP NPU	1x Cortex-A55	2x Cortex-A55 1x Cortex-M33 NPU	4x Cortex-A55 1x Coretx-M7 NPU
Special	2D/3D GPU (1 shader)	2D/3D GPU (2 shader)	2D/3D GPU (1 shader) VPU	2D/3D GPU (2 shader) VPU	---	PXP	2D/3D GPU VPU
Flash	eMMC EEPROM Octal SPI Flash	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM	eMMC EEPROM
RAM (up to)	2GB LPDDR4X x32 pSRAM	2GB LPDDR4 x16	8GB LPDDR4 x32	8GB LPDDR4 x32	2GB LPDDR4 x16	2GB LPDDR4 x16	8GB LPDDR4X
LAN	1x RMII	1x RGMII	1x RGMII	2x RGMII	2x RGMII	2x RGMII	2x RGMII
WLAN BT	--- ---	--- ---	--- ---	--- ---	--- ---	--- ---	--- ---
Security	EDGELOCK® SECURE ENCLAVE				EDGELOCK® SECURE ENCLAVE	EDGELOCK® SECURE ENCLAVE	EDGELOCK® SECURE ENCLAVE
RS232 RS485	1x Console + 4 ---	1x Console + 3 ---	1x Console + 3 ---	1x Console + 3 ---	1x Console + 4 ---	1x Console + 4 ---	1x Console + 4 ---
USB Host	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0	1x OTG 3.0	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0
USB Device	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0	1x OTG 2.0
SDIO	1	2	2	2	1	1	2
PCIe	---	1	1	1	---	---	1
Audio	2x I2S	1x I2S	1x I2S	2x I2S	1x I2S	1x I2S	2x I2S
CAN	1	---	---	2x CAN-FD	2x CAN-FD	2x CAN-FD	2x CAN-FD
I²C	3	3	3	3	3	3	3
SPI	2	2	2	2	2	2	2
ADC PWM	--- 5 + BL-PWM	--- 3 + BL-PWM	--- 3 + BL-PWM	--- 3 + BL-PWM	2 2 + BL-PWM	2 2 + BL-PWM	2 2 + BL-PWM
LVDS	---	---	---	4 lanes	---	4 lanes	4 lanes
RGB	18bit	---	---	---	---	---	---
DVI/HDMI	E-Paper	---	---	DVI	---	---	---
MIPI-DSI	4 lanes + E-Paper	4 lanes	4 lanes	4 lanes	---	4 lanes	4 lanes
MIPI-CSI	2 lanes	4 lanes	4 lanes	4 lanes	---	2 lanes	4 lanes

--- unavailable   [ ] optional   * on request   ** with restrictions   low power product

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