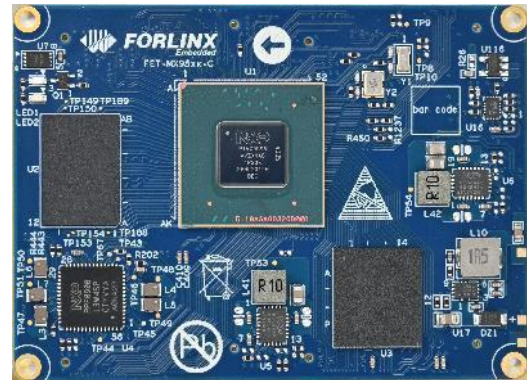


FET-MX95XX-C SoM

FET-MX95XX-C System on Module (SoM) runs at up to 1.8GHz on NXP i.MX95 is a six-core Cortex-A55 featuring application processor offers advanced graphics and video cores, powerful vision and machine learning acceleration, efficient CPU performance plus real-time processing and advanced security with integrated EdgeLock® securen clave to support energy-efficient edge computing. offer a rich set of peripherals such as 10GbE, USB3.0 and PCIe3.0 targeting automotive, industrial and commercial IoT market.



Features:

- GPU Mali-G310 supports OpenGL ES 3.2, Vulkan 1.2, OpenCL 3.0 ;
- Built-in 2TOPS NPU for edge computing;
- Built-in ISP, supports 2x MIPI-CSI;
- Various high-speed peripherals such as 1x USB3.0, 2x PCIe3.0;
- 5x CAN-FS;
- 1x 10G Ethernet, dual-Gigabit Ethernet, supports TSN;

| | | |
|------------------------|-----------------|-----------------|
| 6x A55 Architecture | 1.8GHz Clock | 2.0TOPS NPU |
| Mali-G310 GPU | M7 M-core | 10G Ethernet |

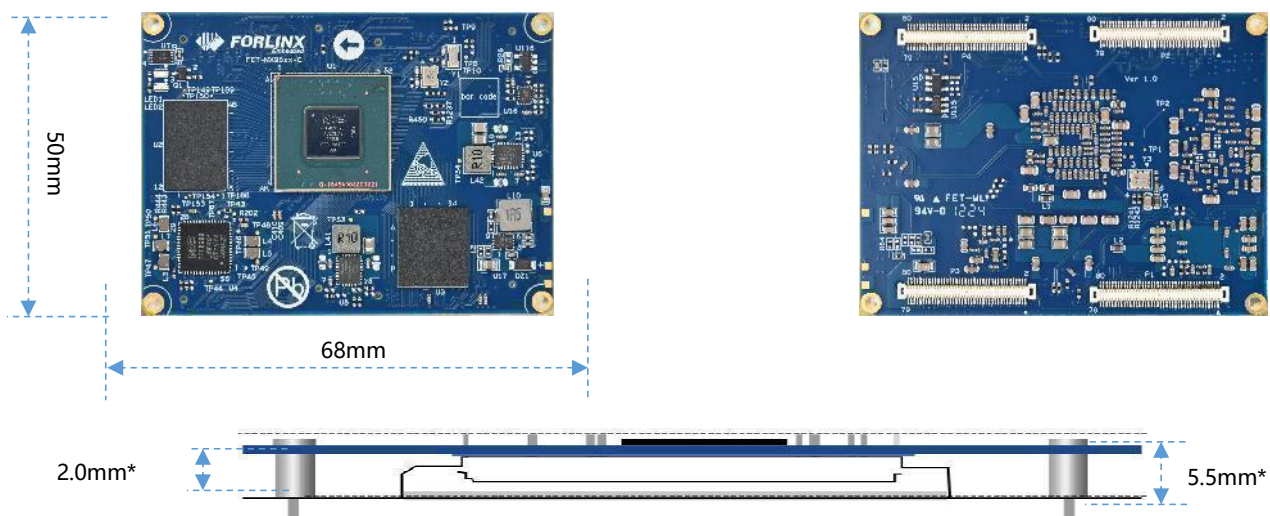
SoM features:

| | |
|-----------------------|---|
| CPU | <p>NXP i.MX9596</p> <p>Clock: 6× Cortex-A55@1.8GHz + 1x Cortex-M7@800MHz + 1x Cortex-M33@333MHz</p> <p>NPU: 2TOPS,</p> <p>GPU: Mali-G310; OpenGL ES 3.2, Vulkan 1.2, OpenCL 3.0</p> <p>VPU:</p> <p>Hard decode:</p> <ul style="list-style-type: none"> •H.264, H.265: up to 4K@30fps <p>Hard encode:</p> <ul style="list-style-type: none"> •H.264, H.265: up to 4K@30fps |
| RAM | 8GB LPDDR4X |
| ROM | 64GB eMMC |
| Power input | DC 12V |
| Operating temp | -40~85°C |
| Package | Board-to-board connector(4x 80-pin, 0.5mm pitch, Stack Height-2mm) |

SoM Features

| Interface | QTY | Spec. |
|------------------|-------|--|
| JTAG | 1 | 4-pin (JTAG) |
| UART | ≤ 8 | Up to 5Mbps |
| SPI | ≤ 8 | Master mode/ slave mode configurable |
| XSPI | ≤ 1 | Supports 2x Serial Nor flash and Serial Nand flash |
| CAN-FD | ≤ 5 | Supports ISO11898-1, CAN 2.0B |
| SAI | ≤ 5 | |
| SD Card | ≤ 1 | SD card 3.0 |
| SDIO | ≤ 1 | SDIO3.0 |
| ADC | ≤ 8 | 1x 12-bit 8-lane 1MS/s ADC |
| 1 Gbps Ethernet | ≤ 2 | 1.8 V RGMII/RGMII ,TSN |
| 10 Gbps Ethernet | 2 | Supports XFI, SGMII (2.5 G and 1G), and 10 G-USXGMII (10GE),TSN |
| USB3.0 | 1 | USB Host or USB Device |
| USB2.0 | 1 | USB Host or USB Device |
| PCIe | 2 | PCI Express Gen3 |
| MIPI-DSI | ≤ 1 | 1x 350 MHz 4-lane MIPI-DSI, up to 2.5Gbps; Supports 4k@30Hz or 3840 x 1440@60Hz |
| MIPI CSI-2 | ≤ 2 | MIPI-DSI v1.2 and MIPI D-PHY v1.2 |
| LVDS | 1 | Up to 1080P@60Hz (2x 4-lane or 1x 8-lane) |
| IIC | ≤ 7 | IEEE 1149.1 testability (JTAG) |
| PDM | ≤ 1 | 8-ch MIC |
| SPDIF | ≤ 1 | |
| PWM | ≤ 6 | |
| GPIO | ≤ 111 | |

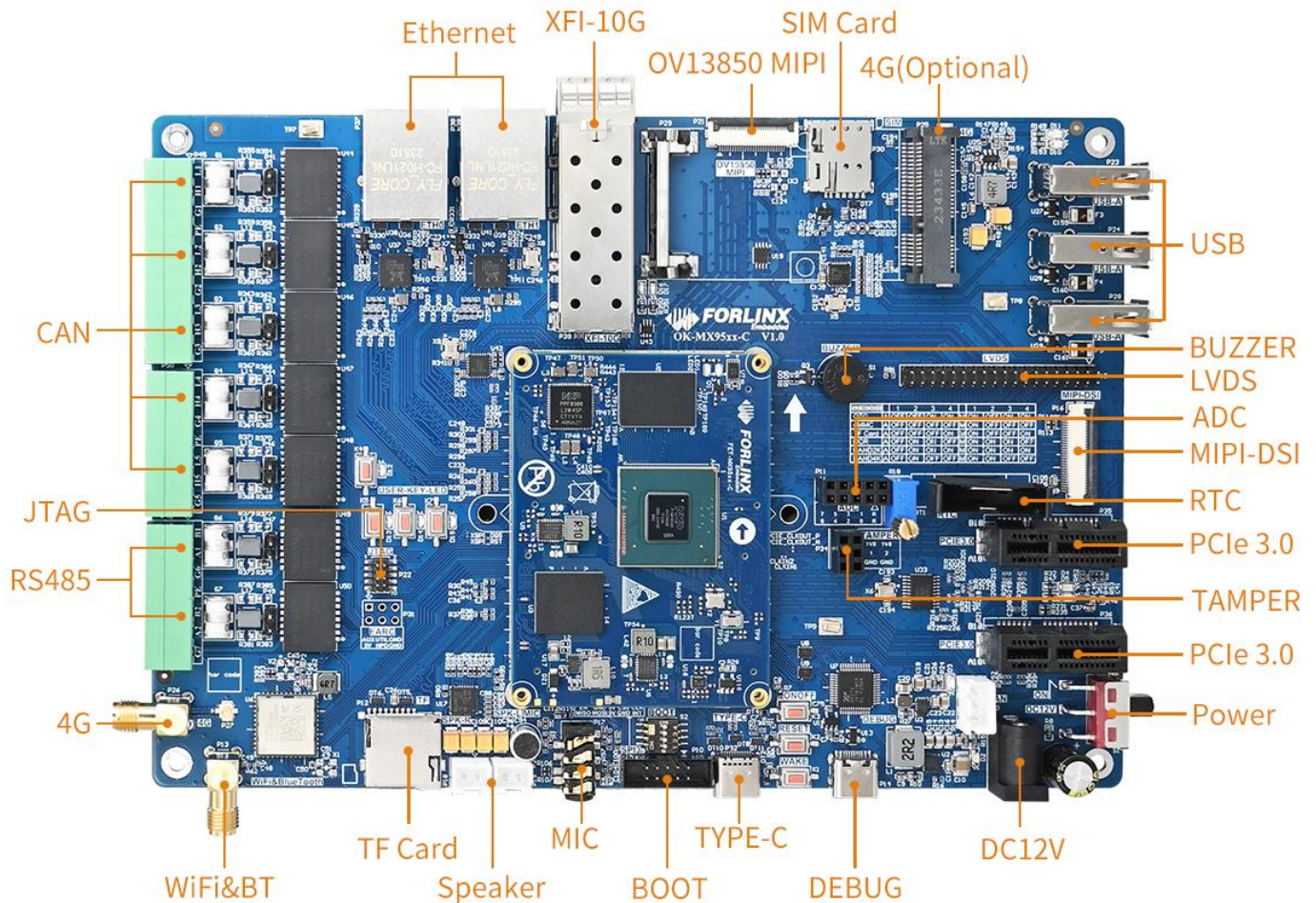
Exterior and dimensions:



Order options:

| Model | Core number | Clock | RAM | Flash | Working temp | Status |
|--------------------------------|-------------|------------|-----|-------|--------------|-----------------|
| FET-MX95xx-C+188GSE64G1xxx: xx | 6x A53 | A55@1.8GHz | 8GB | 64GB | -40~85°C | Mass production |

Development board/ kit



Carrier board features:

| Interface | QTY | Spec. |
|----------------------|-----|---|
| LVDS | 1 | Dual 8-bit, up to 1080p@60Hz |
| MIPI-DSI | 1 | 4-lane, each lane up to 2.5Gbps, 4kp30 or 3840 x 1440p60 |
| XFI | 1 | 10G SFP cage |
| Ethernet | 2 | 10/100/1000Mbps adaptive, RJ45 connector |
| TYPE-C(DEBUG) | 1 | UART1/ 2/ 3 debug ports are converted to USB for A53/ M33/ M7 |
| TYPE-C(USB1) | 1 | USB1 pinned out by Type-C, support OTG |
| USB Host | 3 | Expanded by hub, USB2.0 up to 480Mbps |
| PCIe3.0 | 2 | PCIe X1, supports RC code and EP mode |
| TF Card | 1 | SD3.0,4-bit |
| MIPI-CSI | 1 | Tested module: OV13850 |
| WiFi& BT | 1 | On-board AW-CM358SM, 2.4G/5G dual-band Wi-Fi, BT5.0,supports audio features 1x SDIO for WiFi 1x UART for BT 1x I2S for audio |
| RTC | 1 | Recommended battery model: CR2032 |
| SPI | 1 | SPI3, by pin headers |
| Key | 7 | Contains Reset, Sleeping mode, power switch and 4 user-defined keys |
| Audio | 3 | Contains 1x 4-stage headphone socket with built-in HP and MIC 1 on-board separate electret MIC 1 dual-channel speaker |
| CAN | 5 | CAN FD with isolated circuit, complies with CAN 2.0B up to 5Mbps |
| RS485 | 2 | Auto transeiving control, with isolated circuit |
| SARADC | 8 | 1.8V, on-board sliding rheostat |
| 4G | 1 | Mini PCIe slot, EC20/ EC25 4G networking can be well supported |
| Buzzer | 1 | Active buzzer |
| JTAG | 1 | |
| QSPI FLASH | 1 | XSPI, 4-bit,FLASH |
| EARC | 1 | By pin headers, for audio transmitter |
| TAMPER | 1 | By pin headers, for tamper detecting |
| FAN | 1 | SoM cooling solution |
| LED | 4 | User-defined LED |