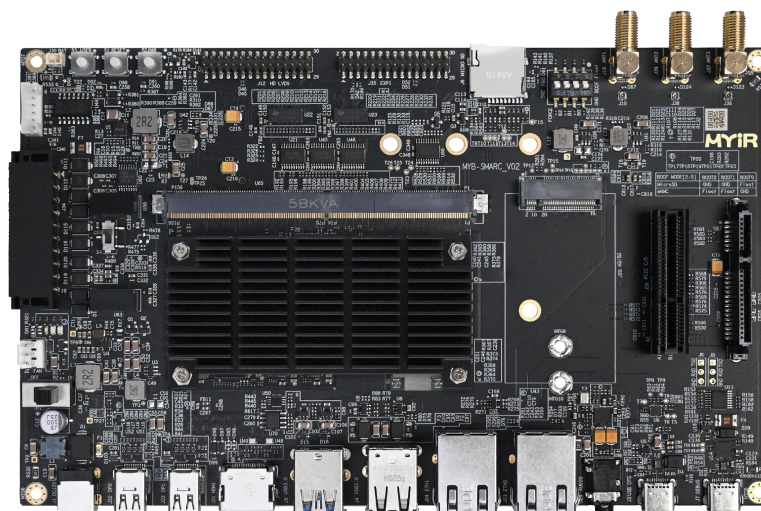


MYD-JMX95X Development Board Overview

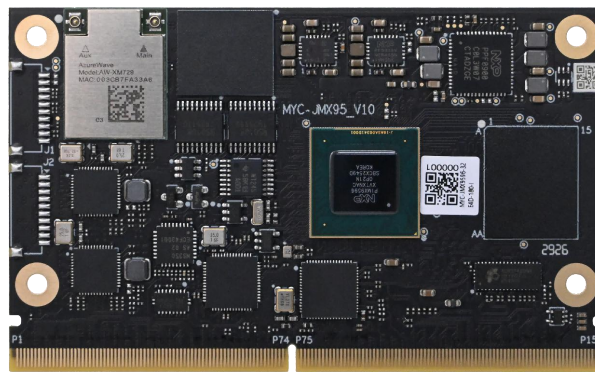


- ✓ MYD-JMX95X Development Board Powered by MYC-JMX95X SMARC SOM
- ✓ NXP i.MX95 with 1.8GHz 6x Cortex-A55, 800MHz Cortex-M7, and 333MHz Cortex-M33 cores
- ✓ 2.0 TOPS NPU for Edge Inference, 3D GPU
- ✓ 4GB/8GB LPDDR5, 32GB/64GB eMMC, 32Kbit EEPROM
- ✓ 2× USB 3.0 Host, 2× USB 2.0 Host, 1× USB 2.0 OTG, 2× CAN FD, 2× RS232, 1× RS485
- ✓ Dual Gigabit Ethernet, onboard Wi-Fi 6/BT 5.4, 4G/5G via mini PCIe socket with dual Micro SIM
- ✓ M.2-2280 PCIe Slot (NVMe SSD / Computer Card), Micro SD Card Slot
- ✓ 1x MIPI-DSI/HDMI, Dual LVDS, 1x MIPI-CSI, Audio I/O
- ✓ Ready to Run Linux 6.12.49
- ✓ Supports Optional Camera and Display Modules

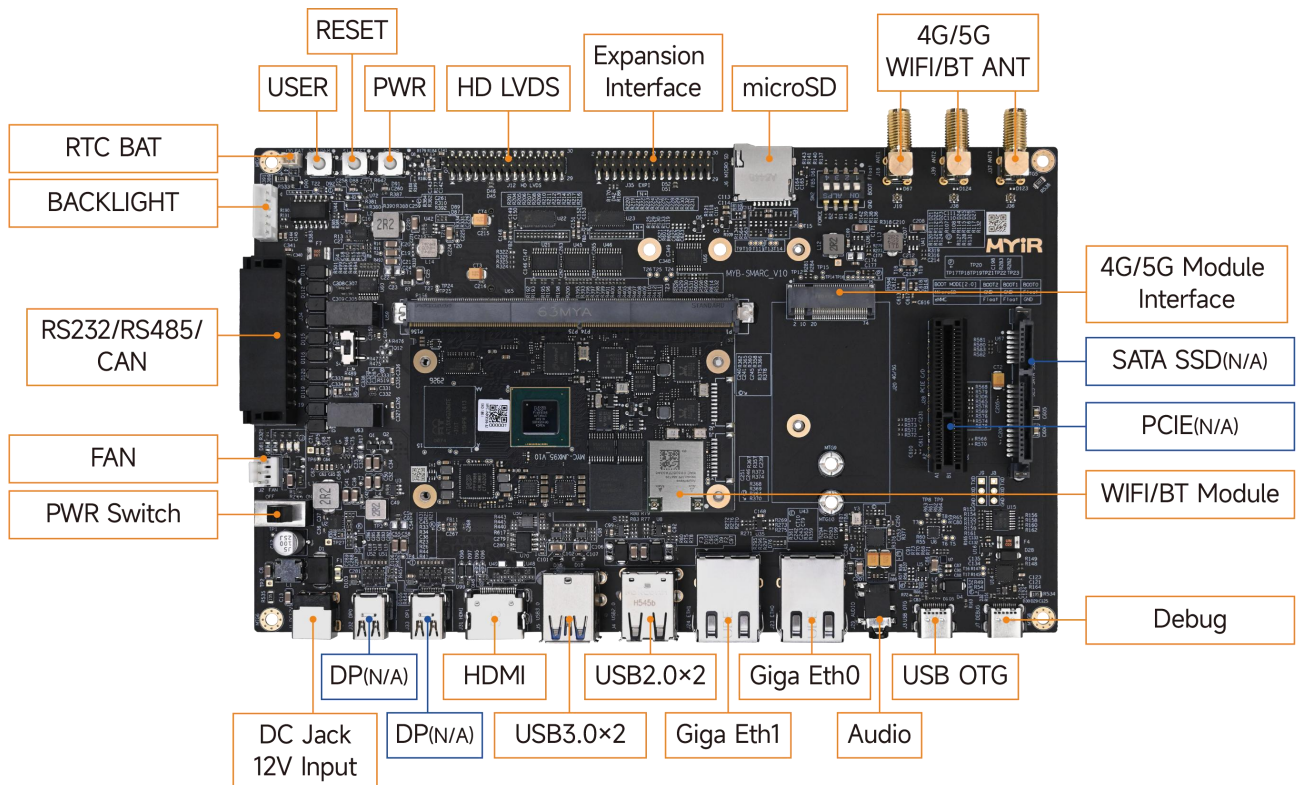


The **MYD-JMX95X development board** delivers a complete evaluation and prototyping solution for embedded designs based on NXP i.MX95 processor which is built on 16nm FinFET technology and integrates six Cortex-A55 cores, a Cortex-M7 for deterministic real-time control, a Cortex-M33 secure core with EdgeLock Secure Enclave, and a 2 TOPS eIQ Neutron NPU for AI inference, striking an optimal balance between high-performance computing and low-power, functional-safety-ready operation.

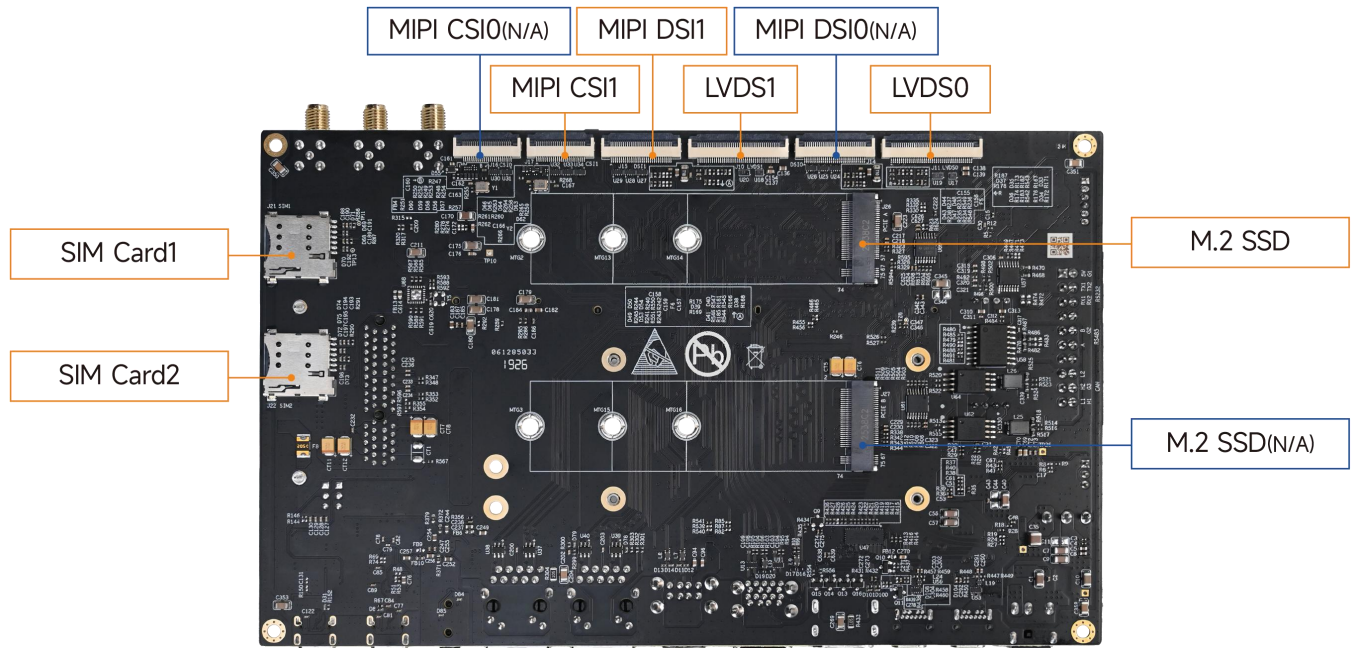
The MYD-JMX95X development board consists of the MYC-JMX95X SOM and the MYB-JMX95X base board, connected via a standard SMARC interface. The MYC-JMX95X integrates the i.MX95 processor, LPDDR5 (4GB/8GB), eMMC (32GB/64GB), 32Kbit EEPROM, an onboard Wi-Fi 6 & BT 5.4 module, an independent TPM 2.0 security chip, and a PMIC, forming a complete minimum system. The carrier board offers extensive I/O for application development, including dual Gigabit Ethernet, 4G/5G via mini PCIe socket with dual Micro SIM, HDMI/MIPI-DSI display, dual LVDS, MIPI-CSI camera, audio I/O, M.2-2280 PCIe (NVMe SSD), Micro SD, multiple USB (2x USB 3.0 Host, 2x USB 2.0 Host, and 1x USB 2.0 OTG), and dual CAN FD, RS485 & RS232 shared on a single Phoenix connector, delivering a feature-rich platform for industrial, automotive, and edge-AI prototyping.



MYC-JMX95X System-On-Module



MYD-JMX95X Development Board (Top-view)



MYD-JMX95X Development Board (Bottom-view)

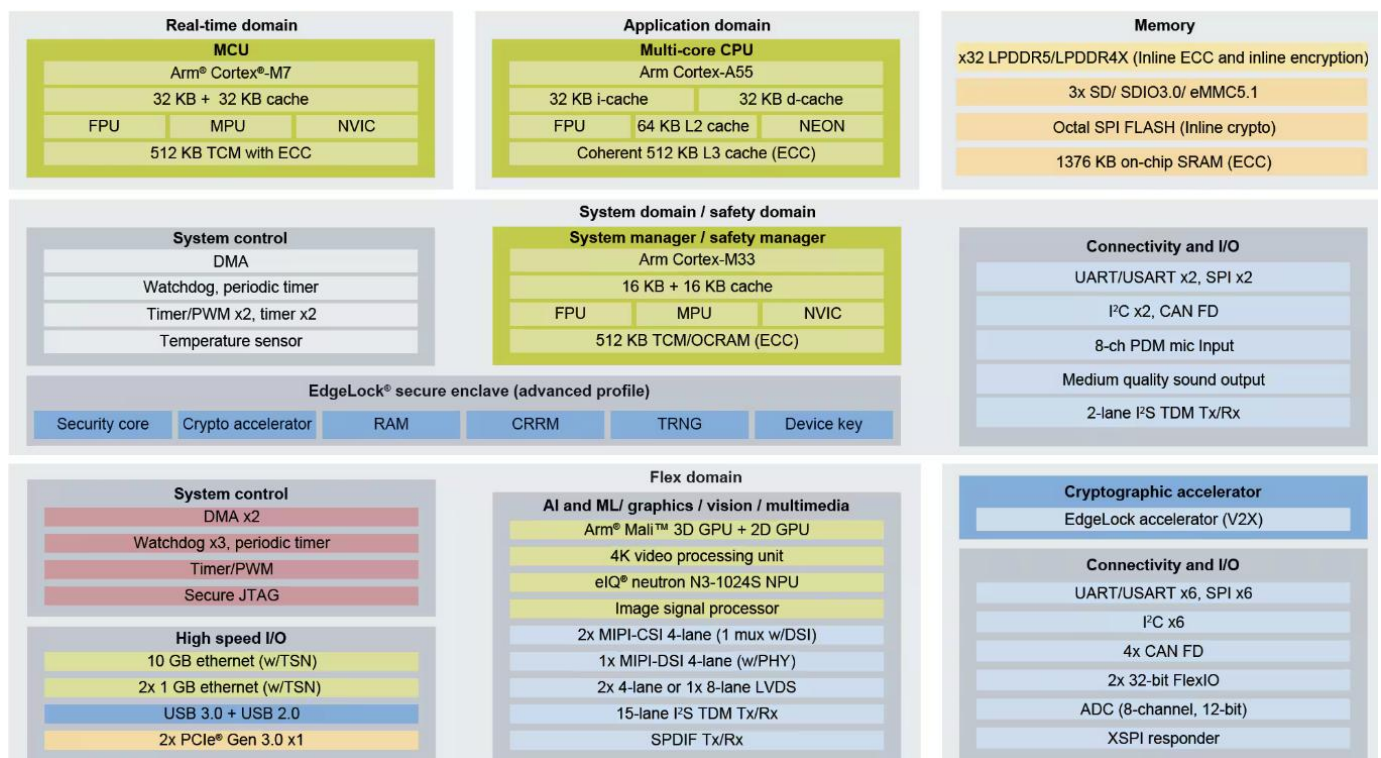
To accelerate time-to-market, MYIR provides a comprehensive software package, including U-boot, Linux kernel 6.12.49, peripheral drivers, and complete development tools, alongside thorough documentation such as hardware user manual, design guide, base board schematics, and software evaluation guide. With stable reference designs and a ready-to-use software environment, MYIR enables developers to streamline prototyping, reduce development risks, and bring products to market faster.



Hardware Specification

The MYC-JMX95 System-on-Module (SOM) is powered by the NXP i.MX95 applications processor (MIMX9596XVTXNAC), which comes in a 15mm x 15mm, 0.5mm pitch FCBGA package. The i.MX95 integrates up to six Arm Cortex-A55 cores and features a built-in Cortex-M33 that can be configured as a safety island, making it the first i.MX family device to support hardware-enforced functional safety. Built on NXP's Energy Flex architecture, the processor delivers an optimal balance of performance and power efficiency for industrial, IoT, and automotive applications.

The i.MX95 also integrates advanced graphics and video cores, powerful vision and machine learning acceleration, and an EdgeLock® secure enclave for hardware-level security, supporting energy-efficient edge computing. It has a rich set of peripherals including USB 3.0/2.0, PCIe Gen3, CAN-FD, MIPI-CSI/DSI, SAI audio, and multiple UART/SPI/I2C interfaces, making the i.MX95 well-suited for a broad range of high-end industrial, automotive, medical, and AIoT applications requiring intelligent edge-AI features and optimized power architecture.



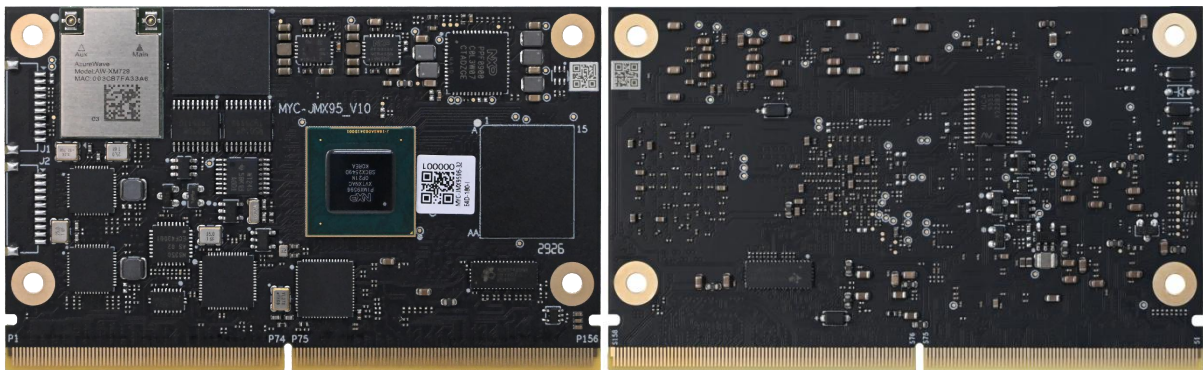
IMX95 Processor Block Diagram

The MYD-JMX95X Development Board is using the MYC-JMX95X SOM as core controller board. It takes full features of NXP i.MX 95 processor and the main features are characterized as below:

Mechanical Parameters

- Dimensions: 206mm x 126mm (base board), 82mm x 50mm (SOM)
- PCB Layers: 6-layer design (base board), 12-layer design (SOM)
- Power supply: +12V/2A (base board), +5V/2A (SOM)
- Working temperature: -40~85 Celsius (industrial grade)
(WiFi Module: -20~70 Celsius)

The MYD-JMX95X Controller Board (MYC-JMX95X)



MYC-JMX95X System-On-Module (Top-view and Bottom-view)

Processor

- NXP i.MX95 processor (MIMX9596XVTXNAC)
 - Hexa-core 64-bit Arm Cortex-A55 microprocessor subsystem up to 1.8 GHz
 - Cortex-M7 real-time core (up to 800 MHz)
 - Cortex-M33 system-management core (up to 333 MHz)
 - Integrated 2 TOPS eIQ Neutron NPU (INT8 @ 1 GHz)

Memory

- 4GB / 8GB LPDDR5 (single-chip)
- 32GB / 64GB eMMC
- 32Kbit EEPROM

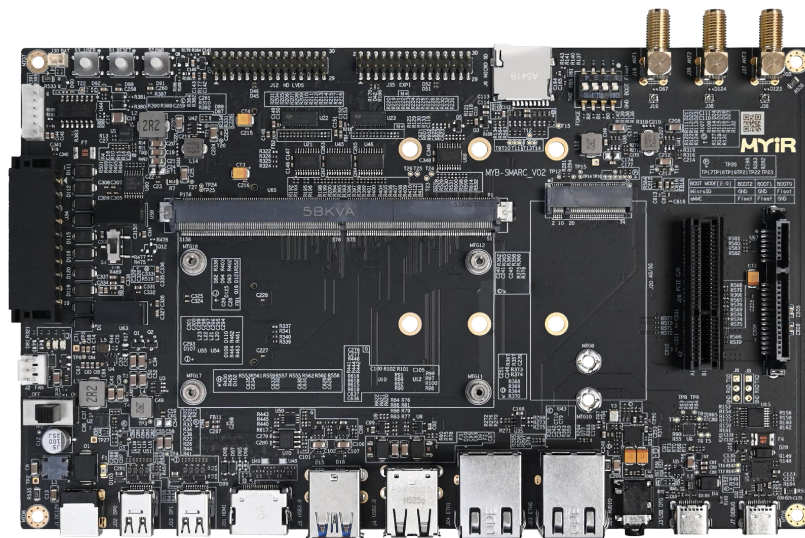
Peripherals and Signals Routed to Pins

- Onboard WiFi 6 + Bluetooth 5.4 Module
- Independent TPM 2.0 security chip
- Power Management IC (PMIC)
- 314-pin SMARC Expansion Connector
 - 2x RGMII
 - 1x PCIe Gen3.0
 - 1x USB 2.0 OTG
 - 2x USB 3.0 Host
 - 2x USB 2.0 Host
 - 2x CAN FD
 - 4x UART

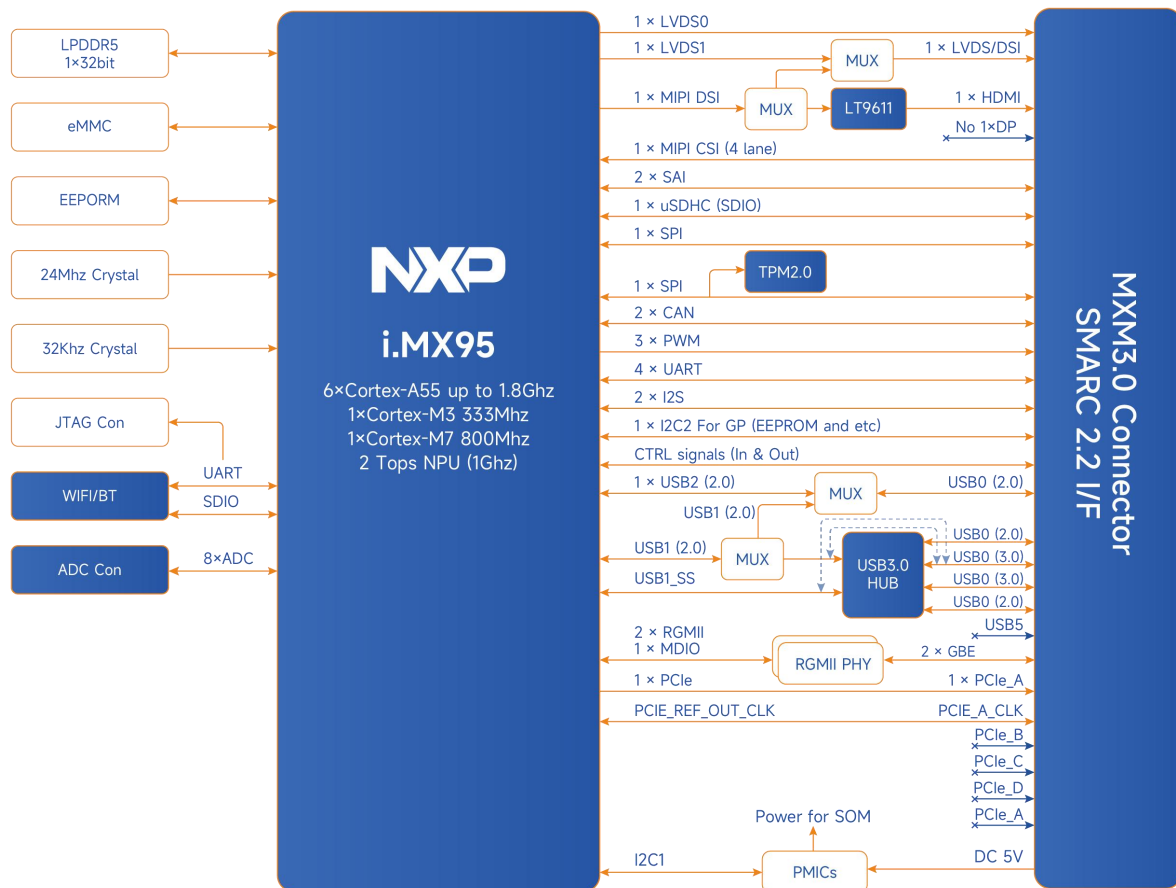
- 2x SPI
- 2x SAI
- 1x uSDHC (SDIO)
- 3x I2C
- 1x MIPI-DSI /1x HDMI (transferred via MIPI-DSI)
- 2x LVDS
- 1x MIPI-CSI

Note: the peripheral signals brought out to the expansion interface are listed in maximum number. Some signals are reused. Please refer to the processor datasheet and the SOM pinout description file.

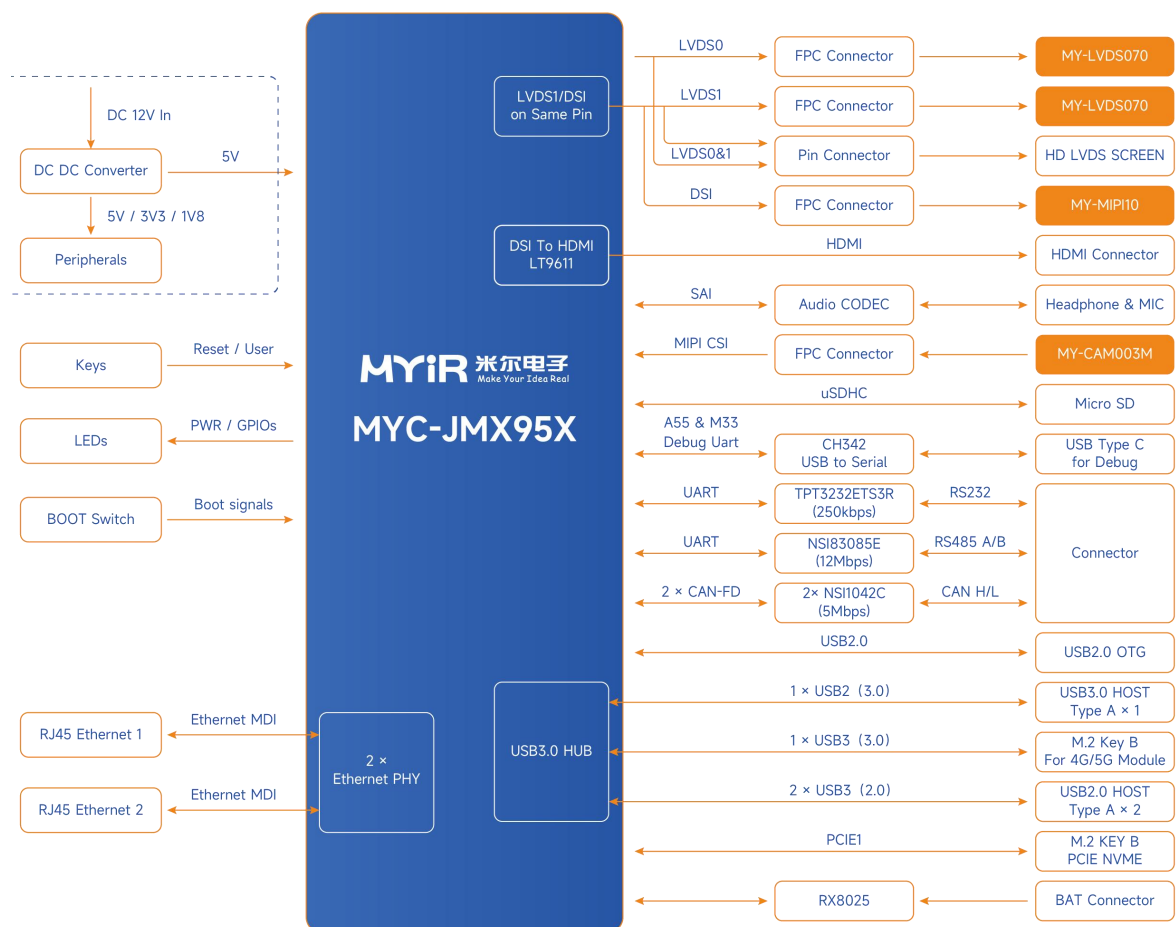
The MYD-JMX95X Development Board Base Board



- 1x Power Jack
- 1x Power Switch
- Serial Ports
 - 1x RS232 (Isolated)
 - 1x RS485 (Isolated)
 - 1x Debug Interface (USB Type-C)
- USB
 - 2x USB3.0 Host ports
 - 2x USB2.0 Host ports
 - 1x USB2.0 OTG port
 - 1x M.2 socket for USB based 4G/5G LTE Module
- 2x SIM card slots
- 2x 10/100/1000Mbps Ethernet interfaces
- 2x external antenna connectors (one for WiFi and one 4G/5G)
- 2x CAN FD interfaces (Isolated)
- 1x Micro SD card slot
- 2x LVDS interfaces
- 1x MIPI-DSI/HDMI display interface
- 1x MIPI-CSI Camera Interface
- 1x Audio Input and Output Interface
- 3x Buttons (one for Reset, one for User, one for ON/OFF)
- 3x LEDs (one for Power indicator, one for System status indicator, one for User LED)



MYC-JMX95X Function Block Diagram



MYD-JMX95X Function Block Diagram



Software Features

The MYD-JMX95X development board supports for Linux OS, and comes with comprehensive software packages. To help clients in accelerate their projects, the kernel and various peripheral drivers are provided in source code format. Here is a brief overview of the key software features:

Item	Features	Description	Source Code
Bootloader	U-boot	Boot program uboot_2025.04	YES
Linux kernel	Linux kernel	Customized based on official kernel_6.12.49 version	YES
Device driver	USB HOST/OTG	USB HOST/OTG driver	YES
	Ethernet	YT8531SH driver	YES
	RS232	RS232 driver	YES
	RS485	RS485 driver	YES
	CAN	CAN driver	YES
	RTC	RTC driver	YES
	GPIO	GPIO driver	YES
	Audio	Audio driver (ES8388)	YES
	WIFI/BT	WiFi/Bluetooth driver (AW-XM729)	YES
	TPM2.0	TPM driver	-
File system	myir-image-full	Linux Yocto image with pre-built GUI	YES

MYD-JMX95X Software Features



Order Information

Product Item	Part No	Packing List
MYD-JMX95X Development Board	MYD-JMX9596-32E4D-180-I	✓ One MYD-JMX95X Board (includes MYC-JMX95X SOM, with heatsink pre-installed) ✓ One 12V/2A Power Adapter ✓ One USB Type-A to Type-C cable ✓ One Quick Start Guide ✓ One WIFI antenna and antenna cable
	MYD-JMX9596-64E8D-180-I	
MYC-JMX95X System-On-Module	MYC-JMX9596-32E4D-180-I	✓ One MYC-JMX95X SOM (Heatsink not included)
	MYC-JMX9596-64E8D-180-I	
MY-CAM003M MIPI Camera Module	MY-CAM003M	✓ MY-CAM003M MIPI Camera Module
MY-LVDS070C LCD Module	MY-LVDS070C	✓ MY-LVDS070C 7-inch LVDS Display Module with Capacitive Touch Screen
MY-MIPI101C-V2 LCD Module	MY-MIPI101C-V2	✓ MY-MIPI101C-V2 10.1-inch MIPI LCD Module with Capacitive Touch Screen
<i>Note:</i> 1. One MYD-JMX95X Development Board comprises one MYC-JMX95X SOM mounted onto the base board. If you require additional SOMs, you may place order for extras. 2. Bulk discounts are available. Please contact MYIR for inquiries. 3. We accept custom design based on the MYD-JMX95X, whether reducing, adding or modifying the existing hardware according to customer's requirement.		



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