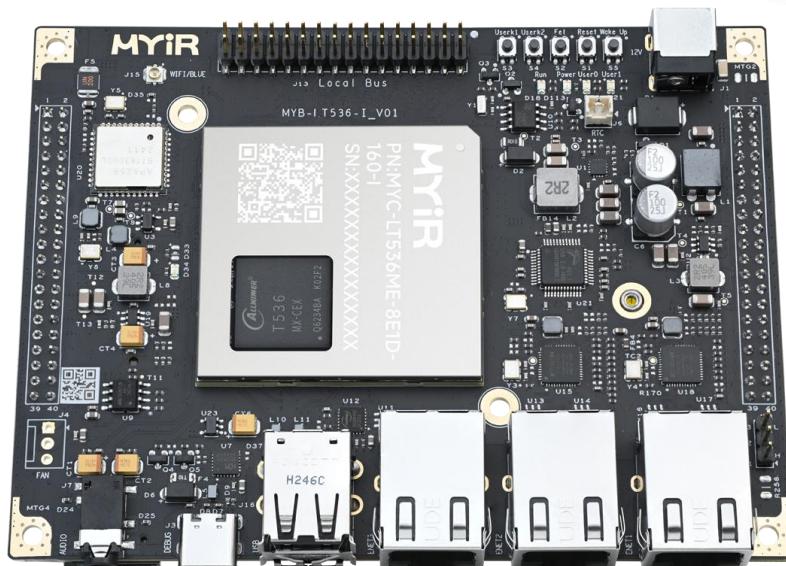




# MYD-LT536 Development Board Overview



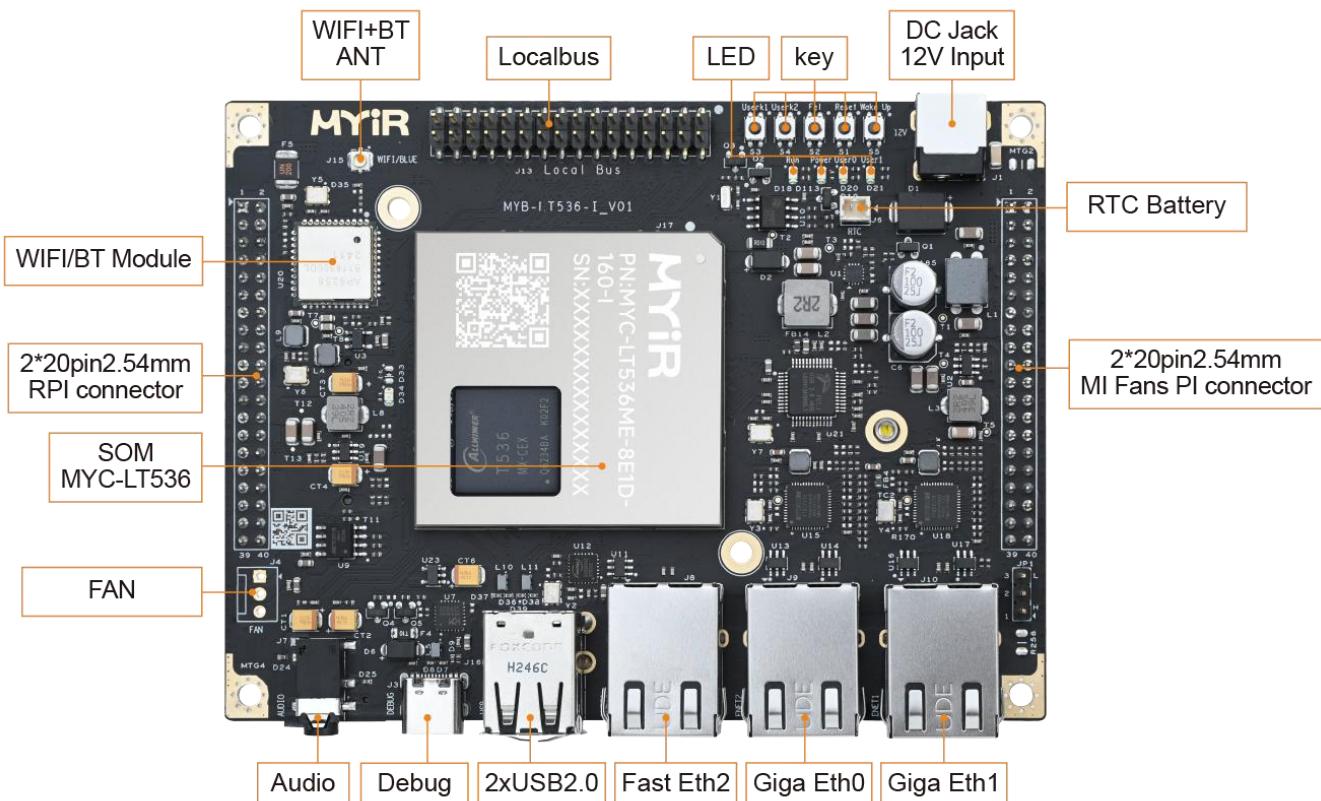
- ✓ *MYC-LT536 SOM as Controller Board*
- ✓ *AllWinner T536 Arm Processor with Quad Cortex-A55 Cores at 1.6 GHz and Co-processor E907 RISC-V at 600 MHz, Up to 2 TOPs NPU (T536MX-CEN2), Graphic 2D, 4K Video Codec*
- ✓ *1GB/2GB/4GB LPDDR4, 8GB/16GB/32GB eMMC, 32Kbit EEPROM*
- ✓ *1x Debug UART, 2x USB 2.0, 2x Gigabit Ethernet, 1x 10/100Mbps USB to Ethernet Port, WiFi/Bluetooth, 1x Micro SD Card Slot, 1x NVMe PCIe M.2 2280 SSD Interface*
- ✓ *LVDS Interface, Audio*
- ✓ *MY-ICEB001 Board Extends 3x USB 2.0, 1x RS232, 2x RS485, 2x CAN and 1x Mini-PCIe Slot for 4G LTE Module*
- ✓ *Supports Linux OS*
- ✓ *Optional 7-inch LCD Module*



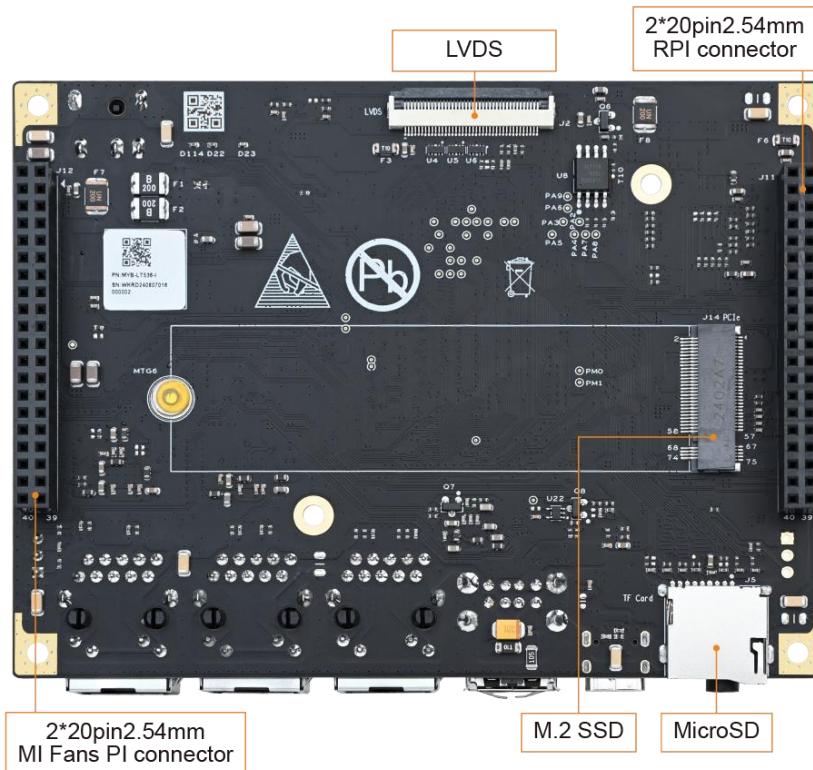
The [MYD-LT536 development board](#) is an advanced evaluation platform designed for the AllWinner T536 processor. This processor features a Cortex-A55 core running at up to 1.6GHz, a co-processor E907 RISC-V at 600 MHz, and is equipped with a 2 TOPs NPU, 2D graphics, and a 4K video codec. These features enhance the board's flexibility and convenience in connecting peripheral devices, making it suitable for applications in power equipment, industrial control, human-machine interaction, smart robotics, education, and other fields.

The [MYD-LT536 development board](#) is built around the [MYC-LT536 System-on-Module \(SOM\)](#) and effectively leverages the numerous features of the AllWinner T536 processor through its 381-pin LGA expansion interface. The board is powered by a 12V/2A DC input and is equipped with two USB 2.0 ports, a USB Debug port, dual Gigabit Ethernet ports, a 10/100Mbps USB-to-Ethernet interface, and a local bus. It also integrates a WiFi/Bluetooth module, a Micro SD card slot, and an NVMe PCIe M.2 2280 SSD Interface. The development board offers an LVDS display interface, along with audio capabilities. Additionally, it provides extensive expansion signals via an RPI interface (GPIO/I2C/UART/SPI/CAN) and a MI FANS PI interface (GPIO/I2C/UART/SPI/USB/PWM), enabling users to customize and enhance their overall development experience.

It is ready to run Linux 5.10 operating system, delivering reliable and high-performance operation across a wide range of applications. MYIR provides a comprehensive suite of software resources, including the kernel and driver source code, as well as detailed documentation and development tools. This extensive support empowers developers to take full advantage of the MYD-LT536, fostering innovation and improving productivity.

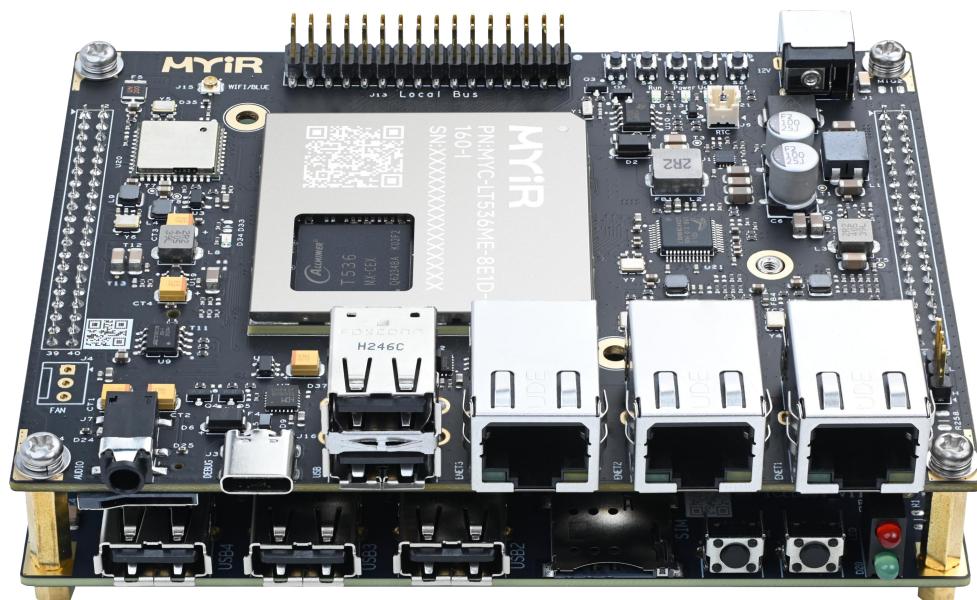


MYD-LT536 Development Board (Top- view)

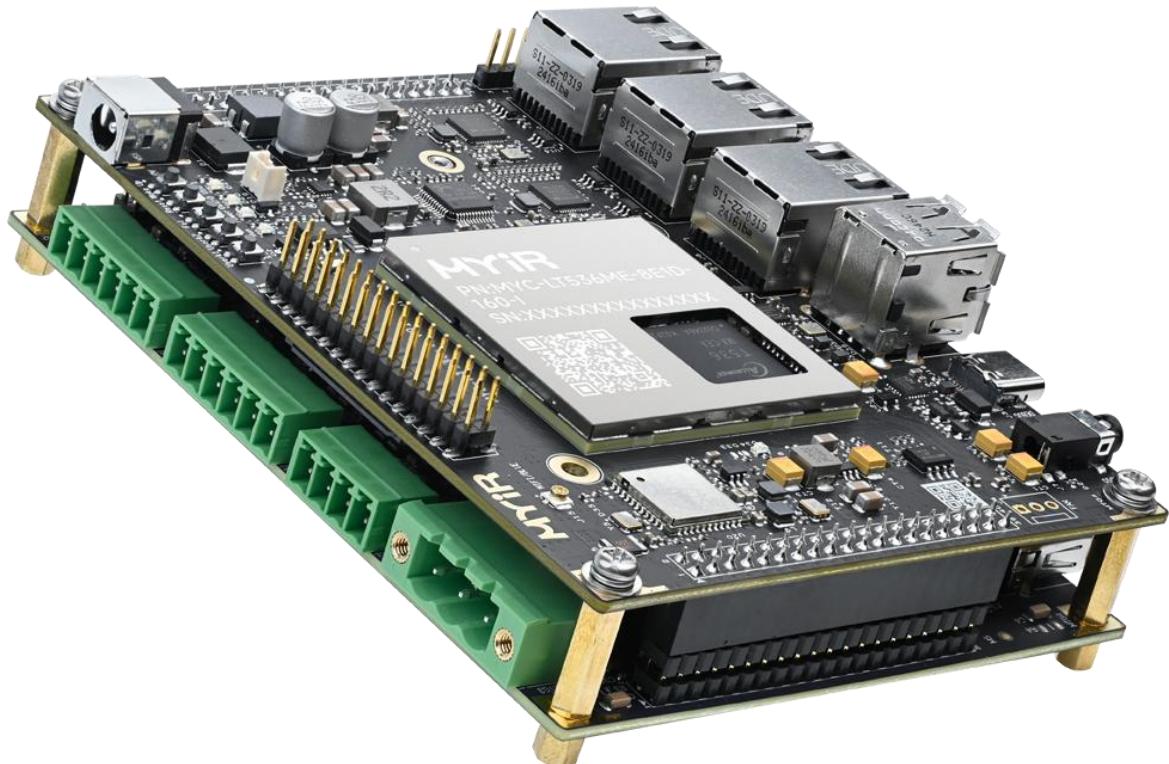


*MYD-LT536 Development Board (Bottom-view)*

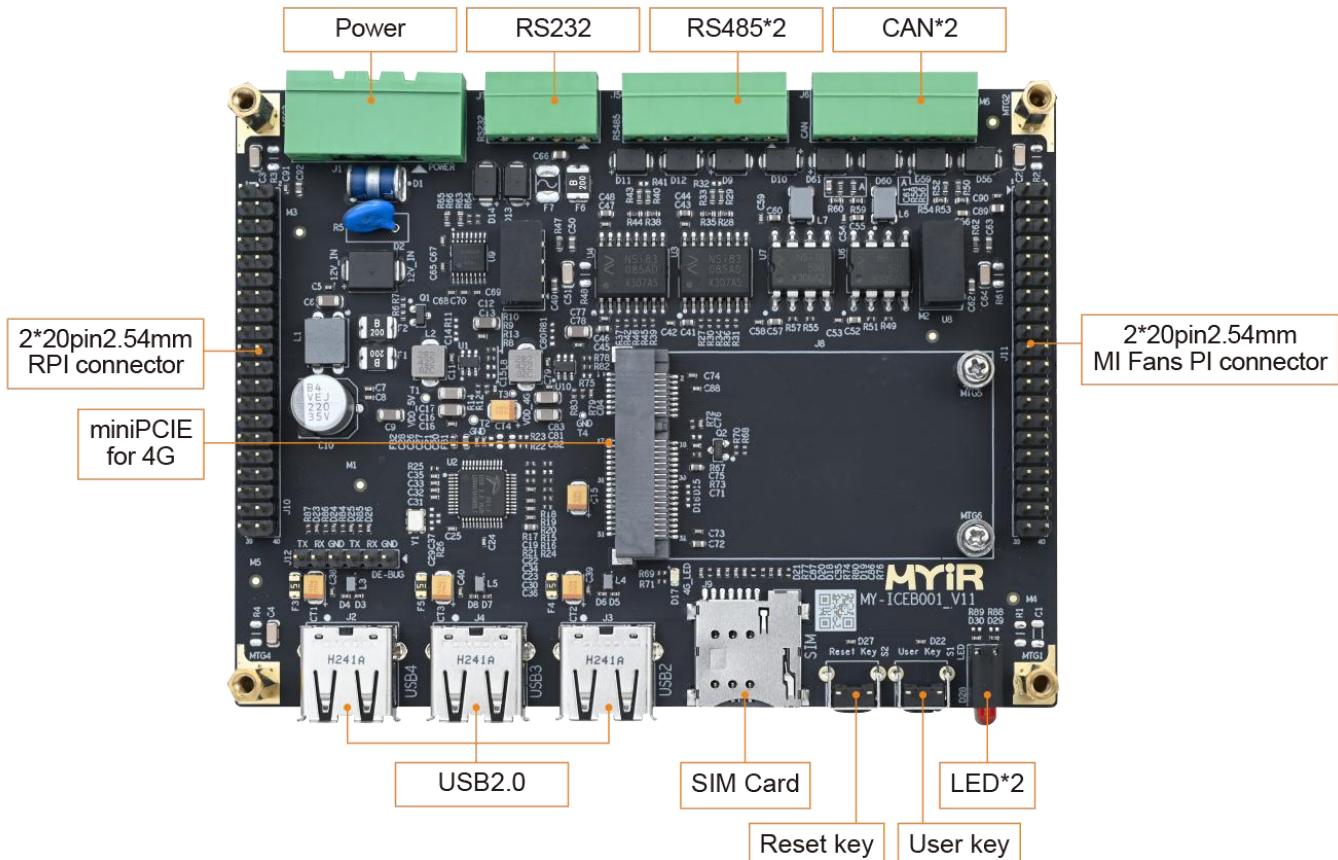
MYiR offers the MYD-LT526-GK Development Kit, which includes the MYD-LT526 development board and the MY-ICEB001 expansion board. The expansion board extends the capabilities by adding three USB2.0 ports, one RS232 port, two RS485 ports, two CAN interfaces, and one Mini-PCIe slot for a USB-based 4G LTE Module with a SIM card holder. Additionally, the kit comes with necessary accessories such as a quick start guide, a USB Type-C cable, a 12V/2A power adapter, a WiFi/Bluetooth PCB antenna, and four phoenix connectors. MYiR also provides the MY-LVDS070C 7-inch LCD module as an optional add-on. These enhanced features significantly extend the board's capabilities, enabling users to develop applications flexibly according to their project requirements.



*MYD-LT536 Development Board Integrates with the MY-ICEB001 Expansion Board*



MYD-LT536 Development Board Integrates with the MY-ICEB001 Expansion Board

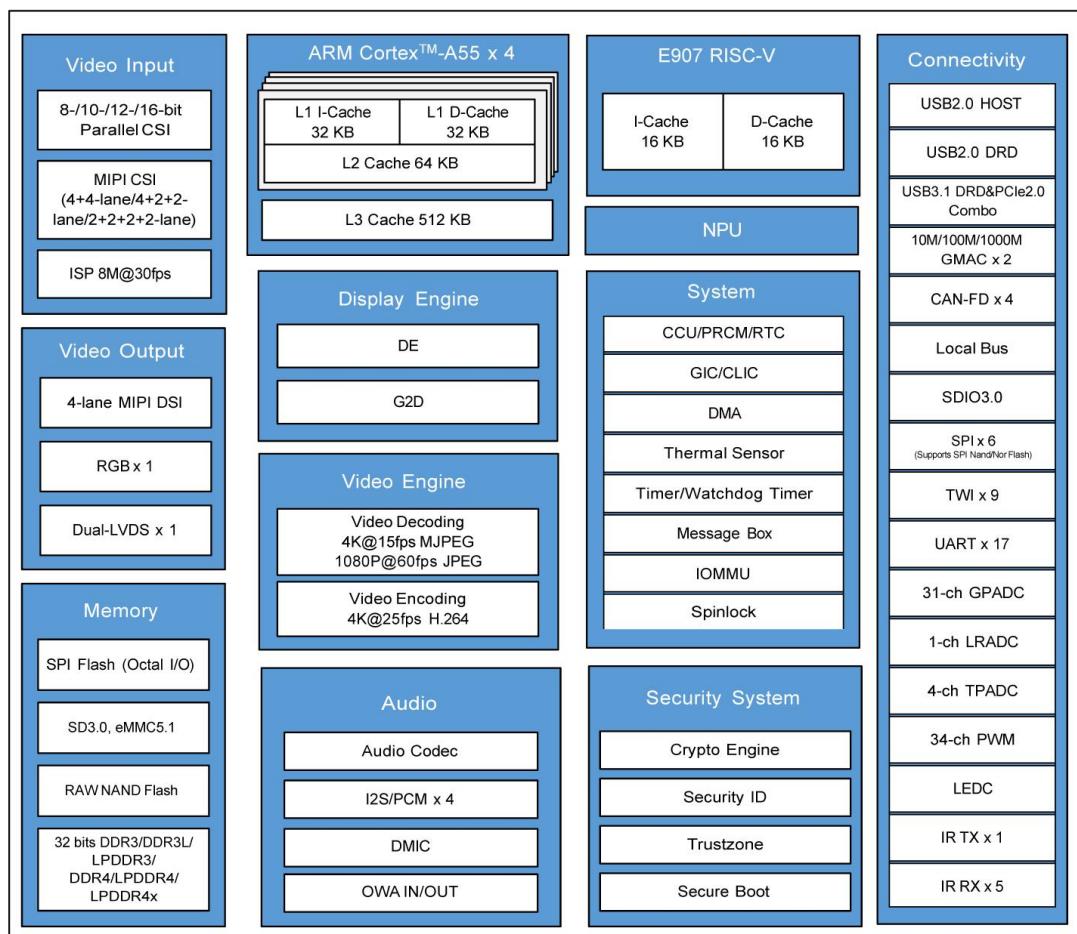


MY-ICEB001 Expansion Board

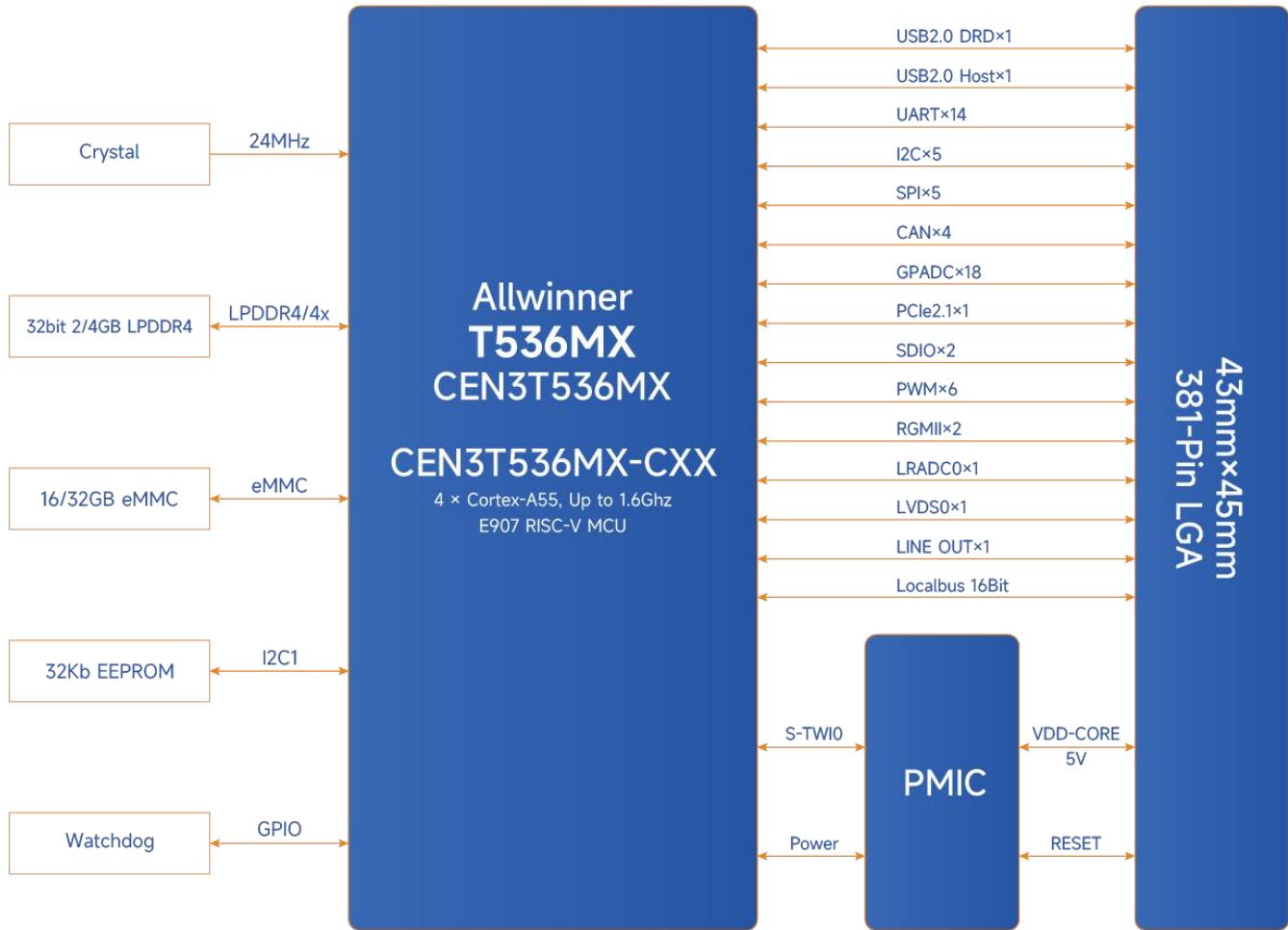
## Hardware Specification

The T536 series processor is a quad-core high-performance processor launched by Allwinner for industrial and intelligent applications. This processor integrates a quad-core Cortex-A55 and an RISC-V E907 coprocessor, featuring a 2TOPS NPU, 2D graphics, and 4K HD video codec capabilities. It comes with a variety of rich multimedia interfaces, including RGB, MIPI-DSI, LVDS, Parallel CSI, supporting displays up to 1080p@60fps. Additionally, the processor supports dual Gigabit Ethernet interfaces, PCIE2.1/USB3.1, high-speed Localbus interfaces, 4x CAN FD interfaces, and 17x UART function interfaces, and so on.

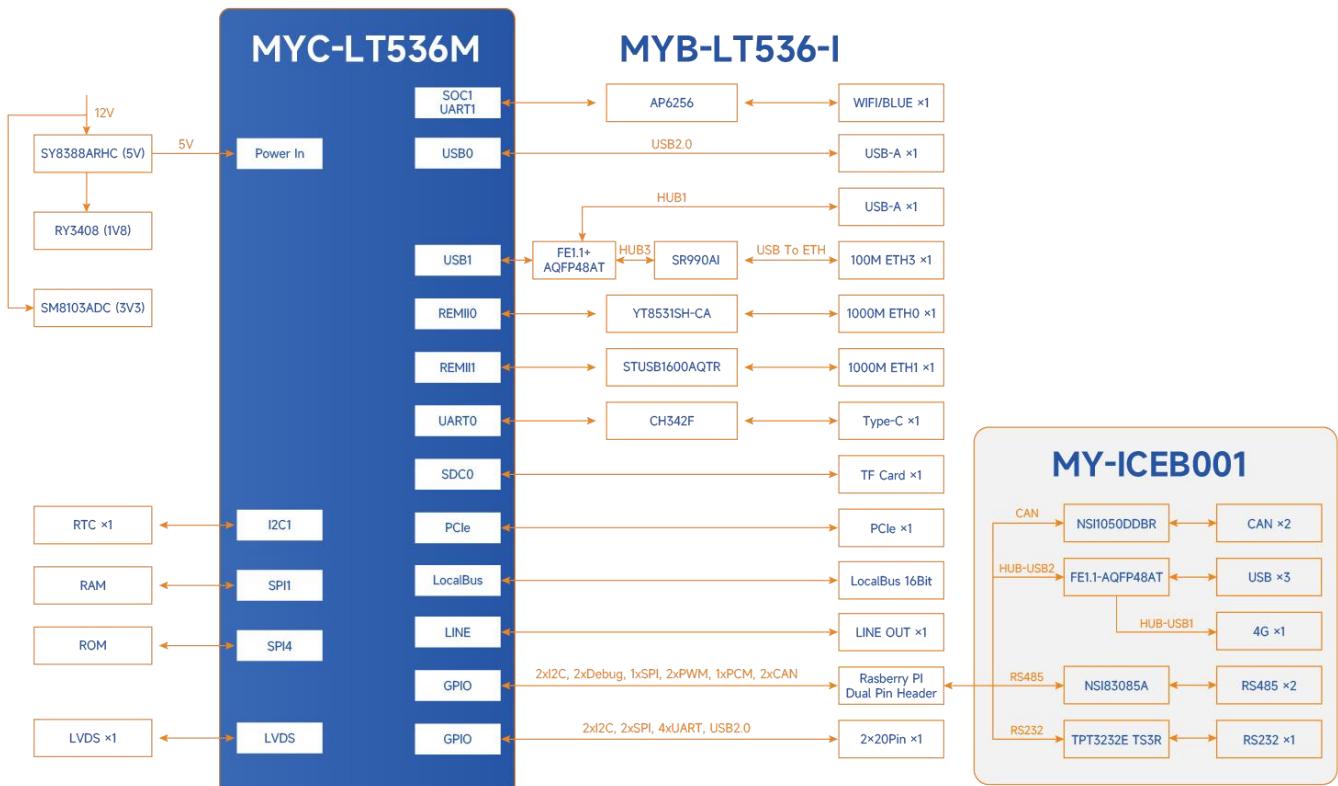
It is applicable to the new generation of power intelligent equipment, industrial Internet equipment, industrial control equipment, industrial robots, commercial display, touch all-in-one machine, engineering machinery, rail transportation and other advanced industrial fields.



T536 Processor Block Diagram



MYC-LT536 System-On-Module Function Block Diagram



MYD-LT536 Development Board Function Block Diagram



The [MYD-LT536 Development Board](#) features the [MYC-LT536 System-On-Module](#) as its core controller and is equipped with the Allwinner T536 processor. Its primary characteristics are as follows:

### Mechanical Parameters

- Dimensions: 120mm x 90mm (base board), 43mm x 45mm (SOM)
- PCB Layers: 6-layer design (base board), 12-layer design (SOM)
- Power supply: +5V/3A (SOM),  
+12V/2A (MYD-LT536 base board or MY-ICEB001 Expansion Board)  
**Please note that the two 12V/2A power supply ports should not be connected to power simultaneously.**
- Working temperature: -40~85 Celsius (Industrial grade)  
(WiFi/BT Module: -30~85 Celsius)

### The MYD-LT536 Controller Board (MYC-LT536 System-On-Module)



*MYC-LT536 System-On-Module (Top-view and Bottom-view)*

### Processor

- Allwinner T536 processor (T536MX-CEX/T536MX-CEN2)
  - Quad-core ARM Cortex-A55@1.6GHz
  - E907 RISC-V@600MHz
  - Graphic 2D
  - VPU 4K HD Video Codec
  - Up to 2 Tops NPU (for T536MX-CEN2 only)

### Memory

- 1GB/2GB/4GB LPDDR4
- 8GB /16GB/32GB eMMC
- 32Kbit EEPROM

### Peripherals and Signals Routed to Pins

- Power Management IC



- 381-pin LGA Expansion Interface
  - 2x RGMII
  - 1x USB 2.0 DRD
  - 1x USB 2.0 HOST
  - 1x PCIe 2.0 (reused with USB 3.1 DRD)
  - 1x SD V3.0, 4bits
  - 1x SDIO V3.0, 4bits
  - 8/16-bit width Localbus
  - 17x UART
  - 6x SPI
  - 9x I2C
  - 4x CAN FD
  - 1x LINEOUT
  - 4x I2S/PCM
  - 1x SPDIF TX, 1x SPDIF RX
  - 1x Parallel DSI, supports RGB/BT.656/i8080, 1080p@60fps
  - 1x LVDS
  - 1x MIPI DSI
  - 1x Parallel CSI
  - 1x MIPI CSI
  - 1x ISP, 8M@30fps offline mode, 5M@30fps online mode
  - 1x 26-ch GPADC, 12-bit, 1MHz
  - 34x PWM

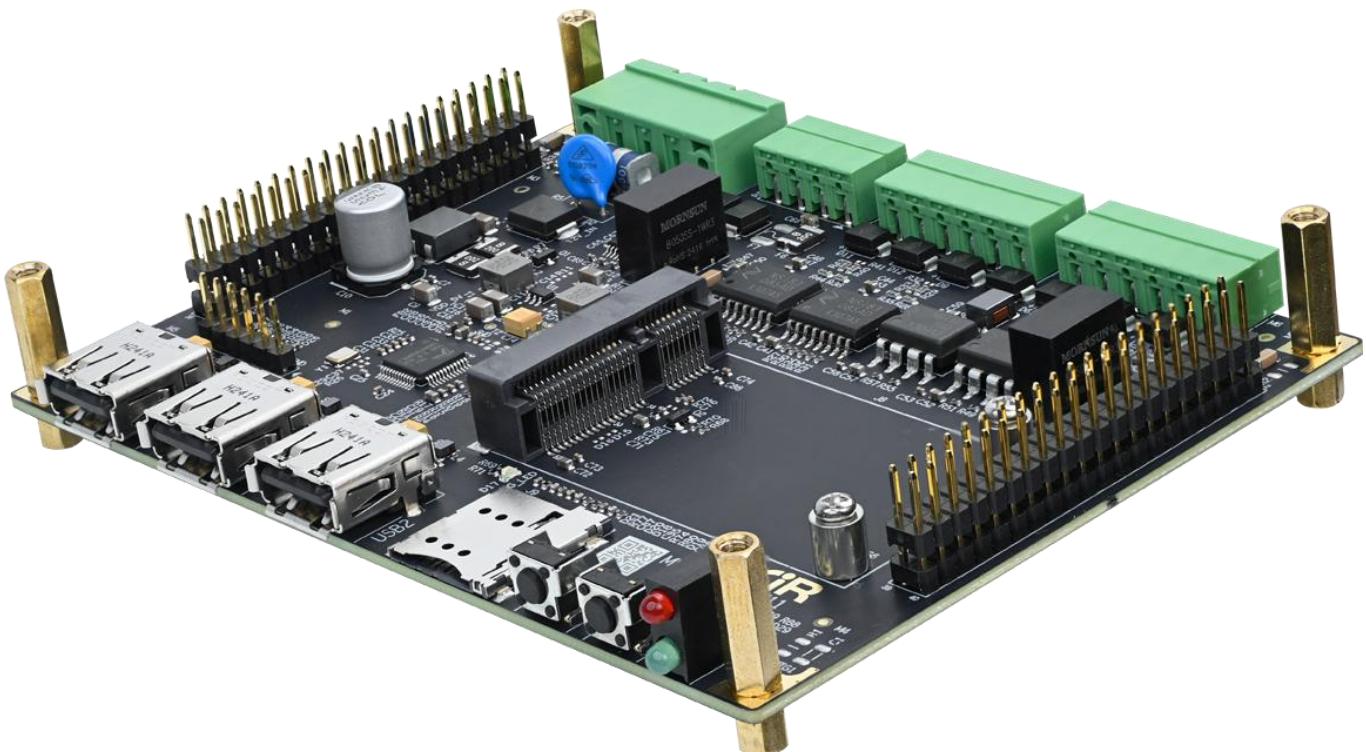
*Note: the peripheral signals brought out to the expansion interface are listed in maximum number. Some signals are reused. Please refer to the processor datasheet and the SOM pinout description file.*

### **The MYD-LT536 Development Board Base Board**

- 1x Power Jack
- 5x Buttons (FEL, RST, PWR, USRK1, USRK2)
- 4x LEDs (PWR, RUN, USRL1, USRL2)
- 1x Micro SD card slot
- 1x NVMe PCIe M.2 2280 SSD socket
- 1x RTC with battery socket
- 1x Fan socket
- 1x USB Debug UART (TYPE-C)
- 2x USB 2.0 Host (Type-A)
- 1x USB 2.0 DRD (via 40-pin MiFAN Interface)
- 2x 10/100/1000Mbps Ethernet (RJ45)
- 1x 10/100Mbps Ethernet (RJ45, USB-to-Ethernet interface)
- 1x WiFi/Bluetooth Module (complies with IEEE 802.11a/b/g/n/ac standard and supports BT 5.2)
- 1x Local Bus (8/16-bit width, data/address multiplexed, 1 chip select)
- 1x LVDS (40-pin FPC connector, 1366\* 768@60fps, single-link)
- 1x 3.5mm Audio Line Out interface
- 1x RPI interface (2.54mm pitch 40-pin female header, GPIO/I2C/UART/SPI/CAN)
- 1x MI FANS PI interface (2.54mm pitch 40-pin female header, GPIO/I2C/UART/SPI/USB/PWM)

## The MY-ICEB001 Expansion Board

- 1x Power Jack
- 2x Buttons (RESET, USER)
- 2x LEDs (RUN, USER)
- 1x RS232
- 2x RS485
- 2x CAN
- 3x USB 2.0 (Type-A)
- 1x Mini-PCIe Slot for USB-based 4G LTE Module
- 1x SIM card slot
- 1x Fan socket
- 1x RPI interface (2.54mm pitch 40-pin male header)
- 1x MI FANs PI interface (2.54mm pitch 40-pin male header)



*MY-ICEB001 Expansion Board*



## Software Features

The MYD-LT536 development board is fully compatible with Linux and comes with a complete set of software packages. To assist clients in speeding up their projects, the source code for the kernel and various peripheral drivers is included. Below is a summary of the main software features:

Item	Features	Description	Source Code
Bootloader	TFA	First bootloader 2.8.15	YES
	U-boot	Second bootloader uboot_2022.10	YES
Linux kernel	Linux kernel	Customized base on official kernel_5.10 version	YES
Device driver	USB Host	USB Host driver	YES
	USB OTG	USB OTG driver	YES
	EEPROM	BL24C32F driver	YES
	I2C	I2C bus driver	YES
	SPI	SPI bus driver	YES
	Ethernet	YT8531SH-CA driver	YES
		SR9900AI driver	YES
	LVDS	MY-LVDS070C display module driver (1024*600 pixels resolution)	YES
	RTC	LK8563T driver	YES
	GPIO	Generic GPIO driver	YES
File system	UART	RS232/RS485 Driver	YES
	CAN	CAN Driver	YES
	WiFi	AP6256 driver	YES
	BT	AP6256 driver	YES
File system	myir_image_lt536_gk.img	Full-featured images built with buildroot	YES

### MYD-LT536 Software Features



## Order Information

Product Item	Part No.	Packing List
MYD-LT536-GK Development Kit	MYD-LT536ME-8E1D-160-I-GK (1GB LPDDR4, 8GB eMMC, without NPU)	<ul style="list-style-type: none"> <li>✓ One MYD-LT536 Development Board (including MYC-LT536 SOM)</li> <li>✓ One MY-ICEB001 Expansion Board</li> <li>✓ One USB TYPE-C cable</li> <li>✓ One WiFi/BT PCB Antenna (with ipex connector)</li> <li>✓ Four phoenix connectors</li> <li>✓ One 12V/2A Power adapter</li> <li>✓ One Quick Start Guide</li> </ul>
	MYD-LT536ME-16E2D-160-I-GK (2GB LPDDR4, 16GB eMMC, without NPU)	
	MYD-LT536MN2-32E4D-160-I-GK (4GB LPDDR4, 32GB eMMC, with NPU)	
MYC-LT536 System-On-Module	MYC-LT536ME-8E1D-160-I (1GB LPDDR4, 8GB eMMC, without NPU)	<p><b>Add-on Options</b></p> <ul style="list-style-type: none"> <li>✓ One MYC-LT536 SOM</li> <li>✓ MY-LVDS070C 7-inch LCD Module</li> </ul>
	MYC-LT536ME-16E2D-160-I (2GB LPDDR4, 16GB eMMC, without NPU)	
	MYC-LT536MN2-32E4D-160-I (4GB LPDDR4, 32GB eMMC, with NPU)	
MY-LVDS070C 7-inch LCD Module	MY-LVDS070C	
<p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. One MYD-LT536 Development Board comprises one MYC-LT536 SOM mounted onto the base board. If you require additional SOMs, you may place order for extras.</li> <li>2. Bulk discounts are available. Please contact MYIR for inquiries.</li> <li>3. We accept custom design based on the MYD-LT536, whether reducing, adding or modifying the existing hardware according to customer's requirement.</li> </ol>		



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