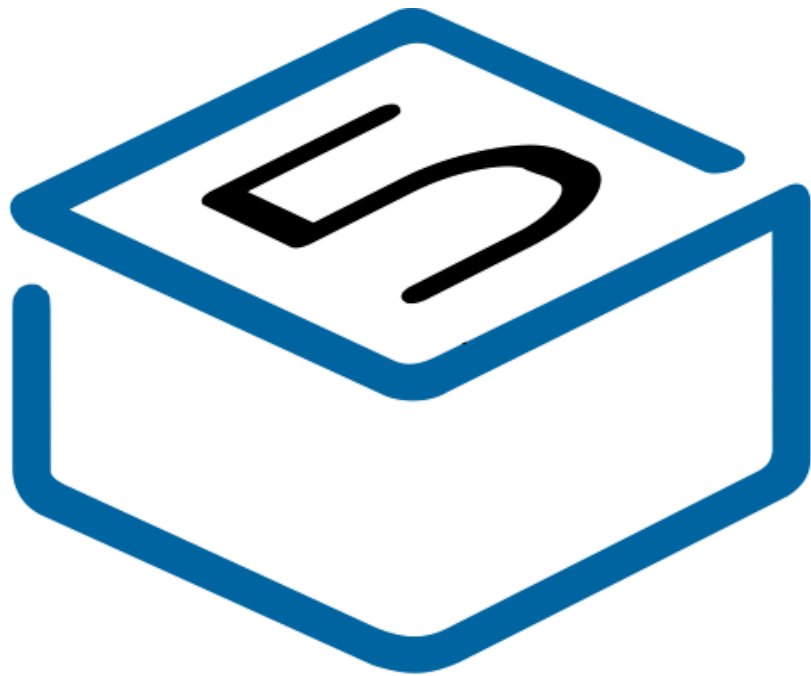


# CoreMP135



# M5STACK

2023



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# 1. OUTLINE

**CoreMP135** is a linux platform host based on the stm32mp135 series of chips. Main control STM32MP135DAE7, single-core ARM cortex-A7 high-performance processor, memory 1G, the main frequency up to 1GHz. It can be used independently or in combination with the M5 bus expansion board. Rich product interface, stable chip operation, cheap, with openWRT, debain and other systems, especially suitable for industrial edge gateway, smart home, industrial automation, Internet of things edge control gateway, robot motion control center and other aspects. With the M5's rich array of sensors and actuators, you can quickly and easily build fully intelligent automation.

## 1.1. CoreMP135

### 1. Communication Capabilities:

- Gigabit Ethernet: CoreMP135 provides two Gigabit Ethernet interfaces, supporting the 1000BASE-T and 100BASE-T standards.
- USB Interfaces: It includes two USB 2.0 Type-A interfaces and one USB 2.0 OTG Type-C interface, catering to the needs of USB devices and host mode.
- CAN Interfaces: Two CAN interfaces are available, suitable for Controller Area Network (CAN) applications.
- I2C Interfaces: CoreMP135 offers two I2C interfaces, supporting serial communication protocols.
- UART Interfaces: Equipped with two UART interfaces for serial communication.

### 2. Processor and Performance:

- Processor Model: STM32MP135DAE7, featuring a single-core ARM Cortex-A7 architecture.
- Clock Frequency: Up to 1GHz, providing high processing performance.

### 3. Memory:

- RAM: 1GB of RAM for storing runtime data and programs.

### 4. GPIO Pins and Programmable Interfaces:

- GPIO: Provides general-purpose input/output pins, programmable to configure as digital input or output.
- PWM (Pulse Width Modulation): Possibly supports PWM output for controlling motors, lights, etc.
- ADC (Analog-to-Digital Converter): Used to convert analog signals to digital values, suitable for reading sensor data.
- Possible other interfaces: Including but not limited to CAN (Controller Area Network), depending on the specific hardware design.
- RS485 Interface: Supports devices using the RS485 communication protocol, applicable for applications such as long-distance communication and industrial automation control.

## 2. SPECIFICATIONS

Parameter	Specification
Processor	STM32MP135DAE7 (ARM Cortex-A7, 1 core)
Clock Frequency	Up to 1GHz
Memory	1GB RAM
Ethernet Interfaces	2 X Gigabit Ethernet
USB Interfaces	2 X USB 2.0 (Type A), 1 X USB 2.0 OTG (Type C)
HDMI Display Interface	1 X HDMI Display
CAN Interfaces	2 X CAN
I2C Interfaces	2 X I2C
UART Interfaces	2 X UART
Storage	1 X SD card
RS485 Interface	1 X RS485
LCD Display	2.0" IPS Color LCD, 240 × 320 pixels
Speaker Output	2.5W Speaker

### FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### IMPORTANT NOTE:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## 3. QUICK START

### 3.1. Display Network Card IP Information

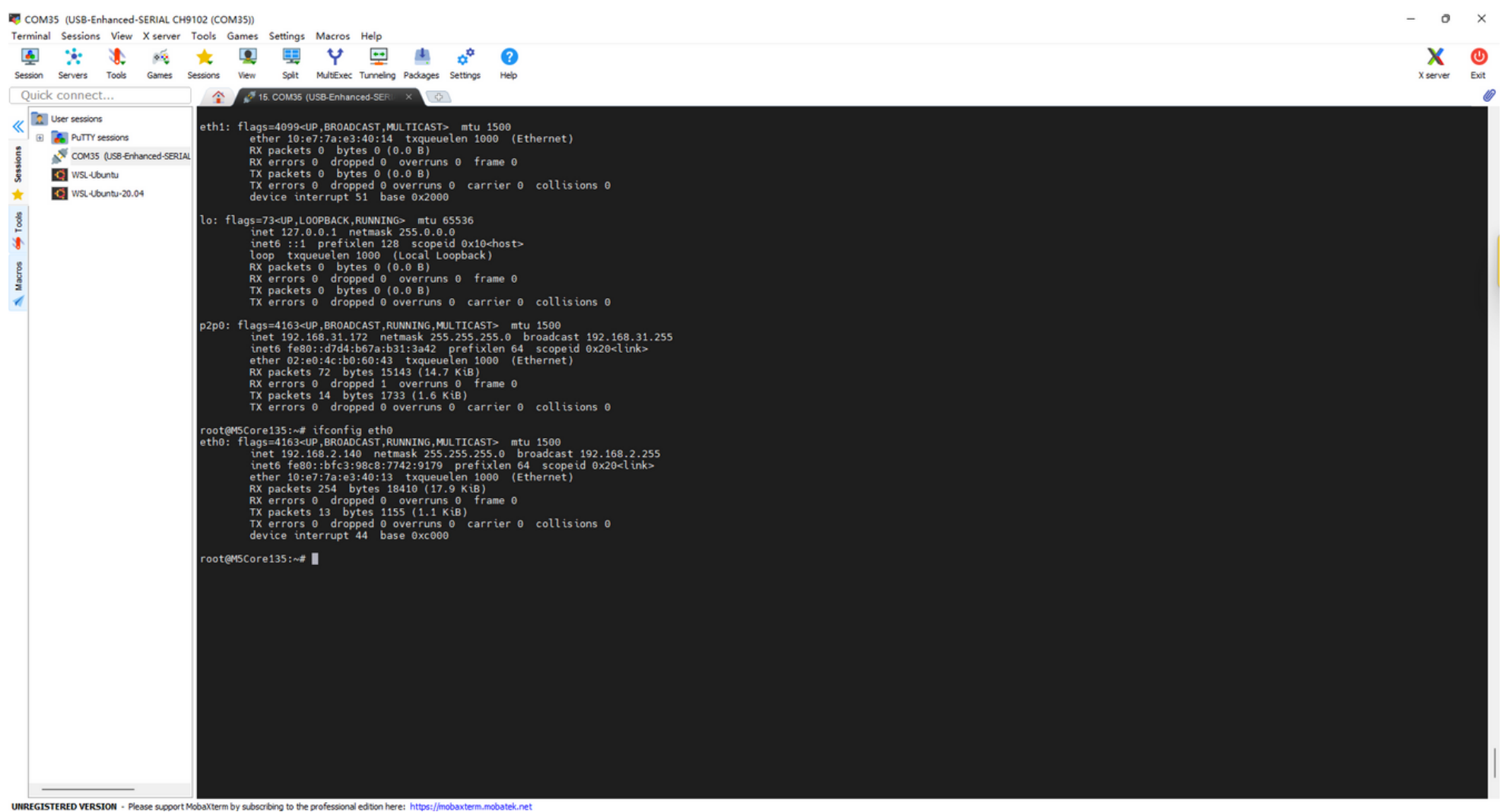
1. Open serial port software such as MobaXterm.

(refer to [https://github.com/m5stack/m5stack-linux-dtoverlays/blob/main/doc/CoreMP135/1.3%E7%B3%BB%E7%BB%9F%E7%99%BB%E9%99%86.m d View login system tutorial](https://github.com/m5stack/m5stack-linux-dtoverlays/blob/main/doc/CoreMP135/1.3%E7%B3%BB%E7%BB%9F%E7%99%BB%E9%99%86.m%20View%20login%20system%20tutorial))

2. Select the corresponding port and set the baud rate to 115200.

3. Log in to the device (Username: root, Password: root).

4. Enter `ifconfig eth0` to display the ip information



```
COM35 (USB-Enhanced-SERIAL CH9102 (COM35))
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultExec Tunneling Packages Settings Help
Quick connect...
User sessions
  PUTTY sessions
  COM35 (USB-Enhanced-SERIAL)
  WSL-Ubuntu
  WSL-Ubuntu-20.04

eth1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
  ether 10:e7:7a:e3:40:14 txqueuelen 1000 (Ethernet)
  RX packets 0 bytes 0 (0.0 B)
  RX errors 0 dropped 0 overruns 0 frame 0
  TX packets 0 bytes 0 (0.0 B)
  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
  device interrupt 51 base 0x2000

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
  inet 127.0.0.1 netmask 255.0.0.0
  inet6 ::1 prefixlen 128 scopeid 0x10<host>
  loop txqueuelen 1000 (Local Loopback)
  RX packets 0 bytes 0 (0.0 B)
  RX errors 0 dropped 0 overruns 0 frame 0
  TX packets 0 bytes 0 (0.0 B)
  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

p2p0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
  inet 192.168.31.172 netmask 255.255.255.0 broadcast 192.168.31.255
  inet6 fe80:d7d4:b67a:b31:3842 prefixlen 64 scopeid 0x20<link>
  ether 02:e0:4c:b0:60:43 txqueuelen 1000 (Ethernet)
  RX packets 72 bytes 15143 (14.7 KiB)
  RX errors 0 dropped 1 overruns 0 frame 0
  TX packets 14 bytes 1733 (1.6 KiB)
  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@M5Core135:~# ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
  inet 192.168.2.140 netmask 255.255.255.0 broadcast 192.168.2.255
  inet6 fe80:bf3:98c8:7742:9179 prefixlen 64 scopeid 0x20<link>
  ether 10:e7:7a:e3:40:13 txqueuelen 1000 (Ethernet)
  RX packets 254 bytes 18410 (17.9 KiB)
  RX errors 0 dropped 0 overruns 0 frame 0
  TX packets 13 bytes 1155 (1.1 KiB)
  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
  device interrupt 44 base 0xc000

root@M5Core135:~#
```

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