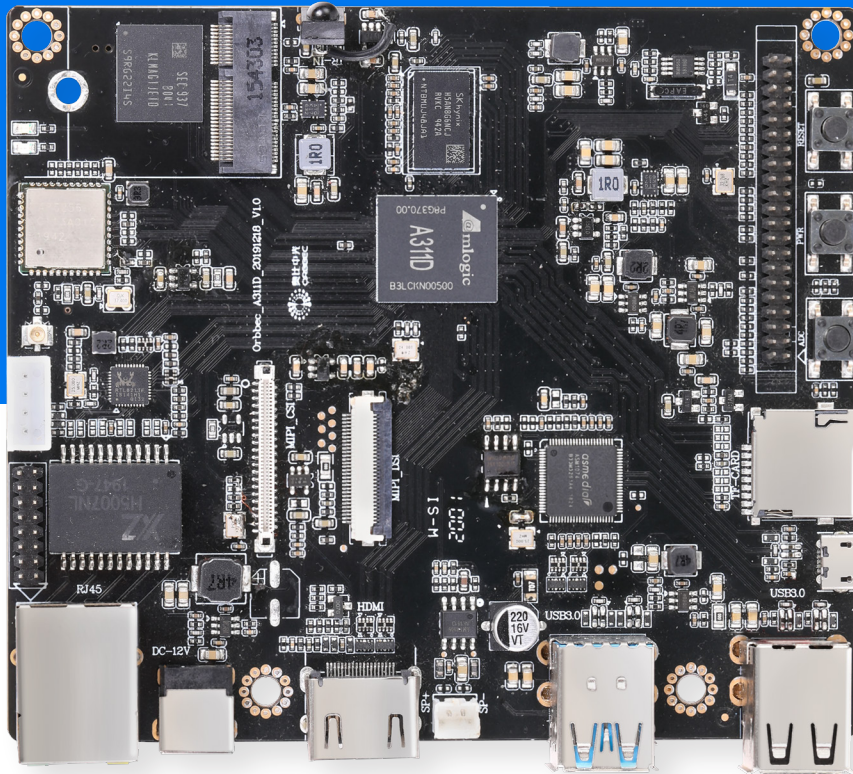


Zora P1

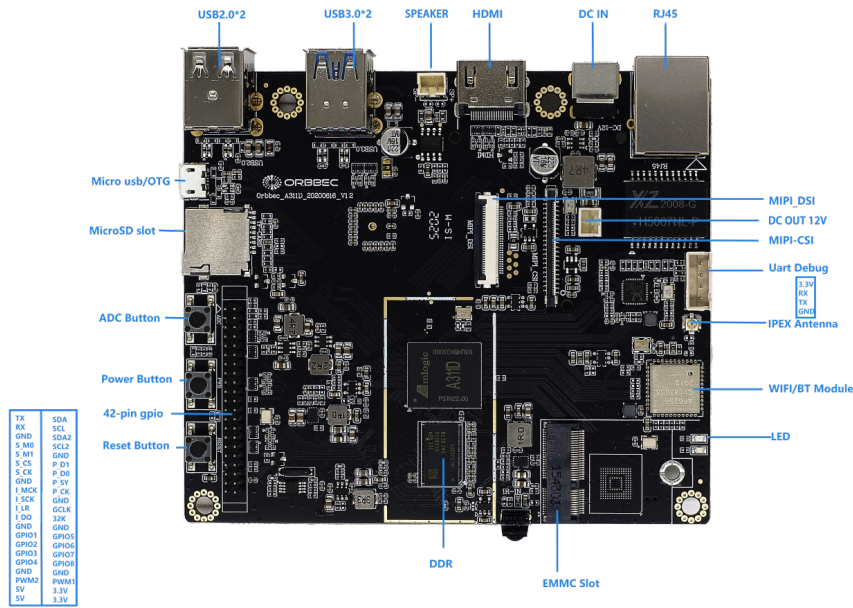
With System Installation Guide



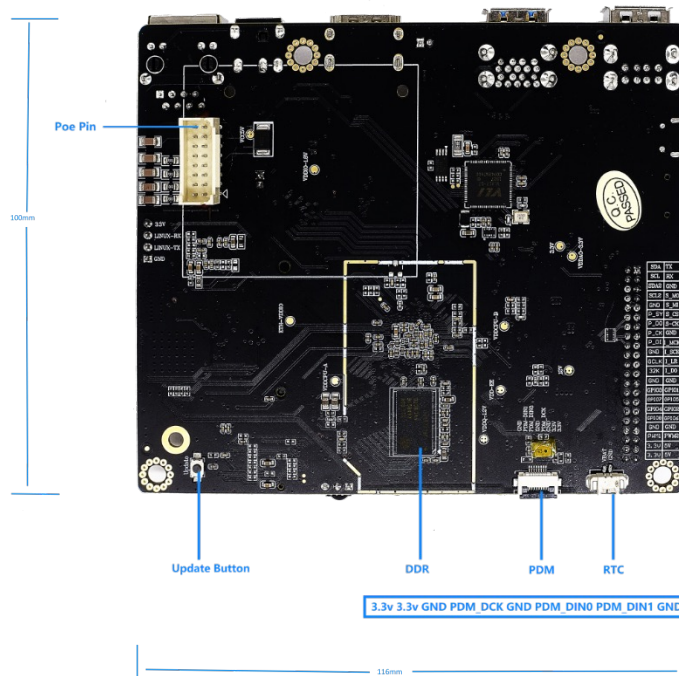
Zora P1 (A311D-4G-01) Development Board Introduction	02
Preparation for System Installation	04
Installation Guide for Android/Ubuntu System	06
Set ADB debugging (Android)	08
EMMC Module Instructions	08
PoE Module Introduction	09
System Download	11
Development Board Accessories	11
Product Certifications	11

1. Zora P1 (A311D-4G-01) Development Board Introduction

1.1 Front View



1.2 Back View



Zora P1 (A311D-4G-01) Development Board Introduction (continued from previous page):

1.3 Hardware Interface Specifications

Processor	Amllogic A311D, Quad A73+ Dual A53
RAM	4GB DDR4
Storage	32GB EMMC
	Interchangeable EMMC module (16GB, 32GB, 64GB)
Micro SD	Up to 128GB
MIPI-CSI	1 x MIPI-CSI + 8M HDR ISP
MIPI-DSI	1 x MIPI-DSI
USB	2xUSB 3.0 + 2xUSB 2.0 + 1xUSB XHCI OTG 2.0
HDMI	HDMI 2.1
Wifi/BT	WIFI 802.11a/b/g/n/ac, 2x2 MIMO; Bluetooth 5.0
Ethernet	RJ45 Gigabit Ethernet
PoE	Pin + PoE Module (Available As Accessory)
Microphone	On-board
PDM	PDM Interface Microphone Supported
Debug	Micro USB
Buttons	Power, Reset, ADC, Update
Antenna	IPEX Wi-Fi + Bluetooth Antenna
LED	Power Status Indicator
42Pin GPIO	Detail in 42Pin GPIO Introduction
DC-IN	12V/2A, 2.1mm
OS	Android 9.0, Ubuntu 18.04
System Swap	By Replacing the EMMC Module
Upgrade mode	USB Update

1.4 42 Pin GPIO Guide (from 01 to 42)

TX (01)	SDA
RX	SCL
GND	SDA2
S_M0	SCL2
S_M1	GND
S_CS	P_D1
S_CK	P_D0
GND	P_SY
I_MCK	P_CK
I_SCK	GND
I_LR	GCLK
I_DO	32K
GND	GND
GPIO1	GPIO5
GPIO2	GPIO6
GPIO3	GPIO7
GPIO4	GPIO8
GND	GND
PWM2	PWM1
5V	3.3V
5V	3.3V (42)

Zora P1 (A311D-4G-01) Development Board Introduction (continued from previous page):

1.5 UART Guide (from 01 to 04)

3.3V (01)
RX
TX
GND (04)

1.6 PMD Guide (from 01 to 04)

3.3v (01)	3.3v	GND	PDM_DCK	GND	PDM_DINO	PDM_DINI	GND (07)
-----------	------	-----	---------	-----	----------	----------	----------

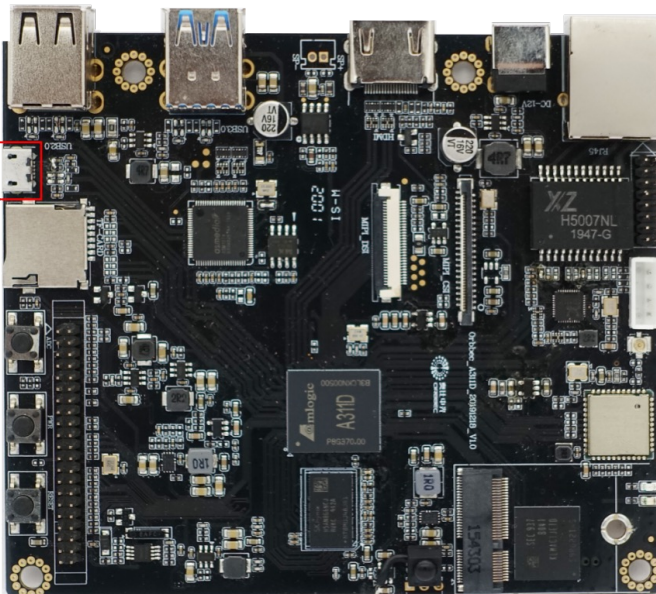
1.7 RTC Guide

GND (01)	VBAT (02)
----------	-----------

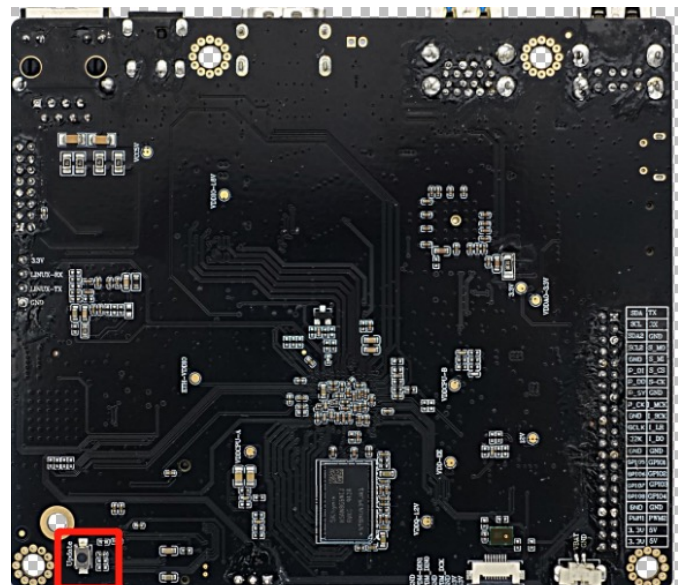
2. Preparation for System Installation

2.1 Method 1: Long Press "Update" Button to Enter Update Mode (Recommended)

a. Connect the development board's OTG to a Windows computer through micro USB cable

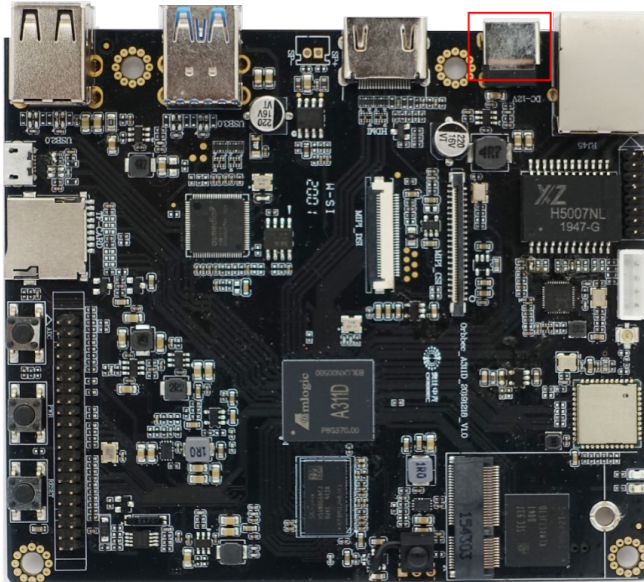


b. Long press update button



Preparation for System Installation (continued from previous page):

c. Connect power adapter through DC-in port



d. Successfully linked to the USB Burning Tool

Note: Please make sure the USB Burning Tool is launched from the computer, 'Update' button is pressed, and the board is connected to the computer through a micro-USB cable before plugging in the power supply.

2.2 Method 2: Use ADB Tool to Enter Update Mode (For Pre-Installed Android Only)

- a.** Power on the development board by connecting the power adapter
- b.** Open the computer CMD console
- c.** Connect the computer and development board through the micro USB port
- d.** In CMD console, type in "adb reboot update "
- e.** Successfully linked to the USB Burning Tool

Note: Please make sure the USB Burning Tool is launched from the computer, the board is connected to the computer through a micro-USB cable with functional Android system installed, power supply is connected and the computer has the adb environment configured.

[Click to Download USB Burning Tool](#)

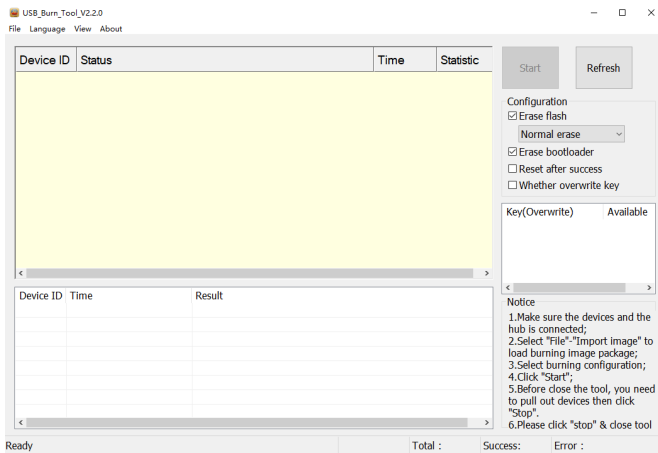
3. Installation Guide for Android/Ubuntu System

3.1 Configuration requirements for computers:

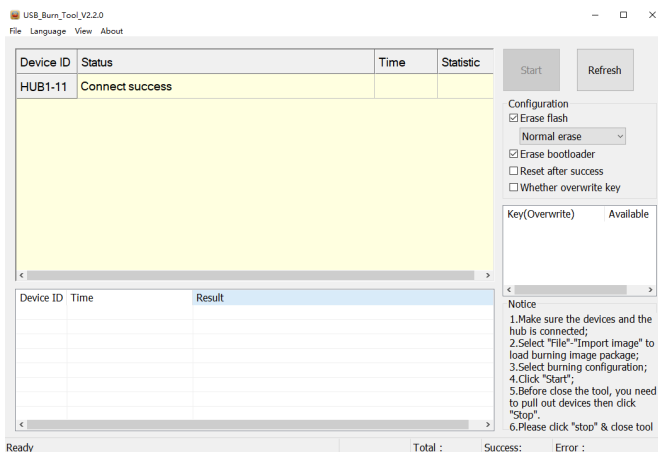
- Windows 10 operating system
- Antivirus software may need to be turned off
- High-speed USB 2.0 or USB 3.0 interface

3.2 Updating the System: Method 1

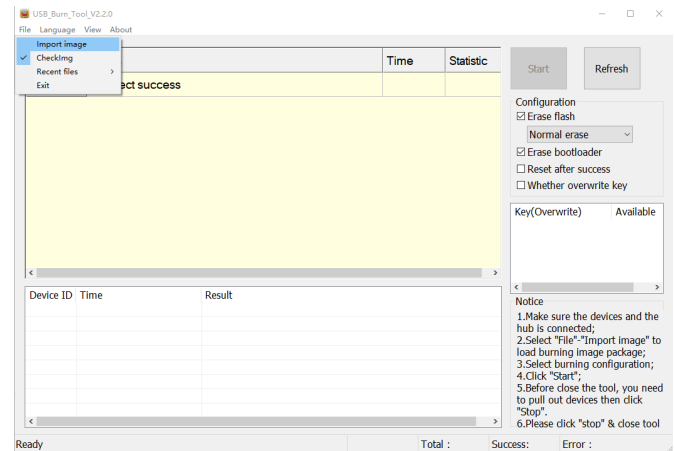
- Long press the update button on development board
- Use a micro USB cable to connect OTG to the computer
- Open the software "USB Burning Tool V2.2.x"



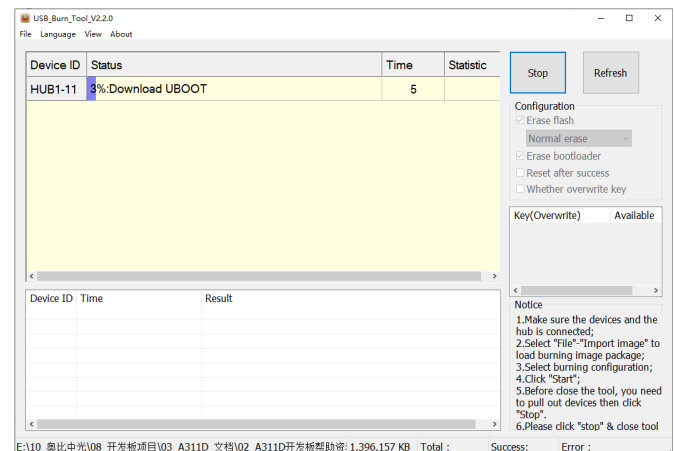
- Connect power adaptor to the board
- USB Burning Tool successfully connected to the development board



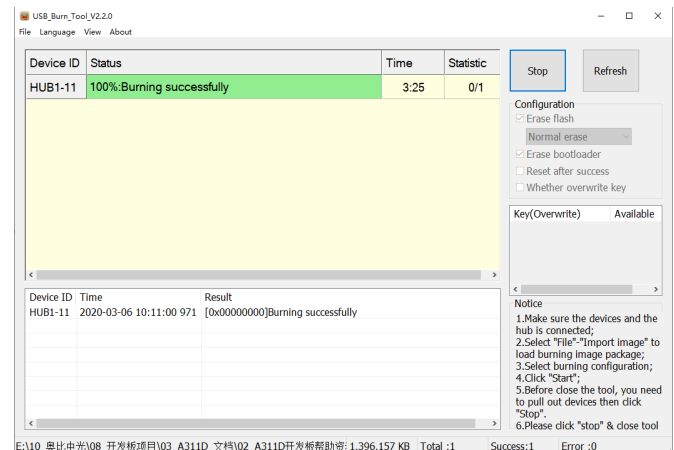
f. Import System Image (x.img)



g. Click the start button to start the update process

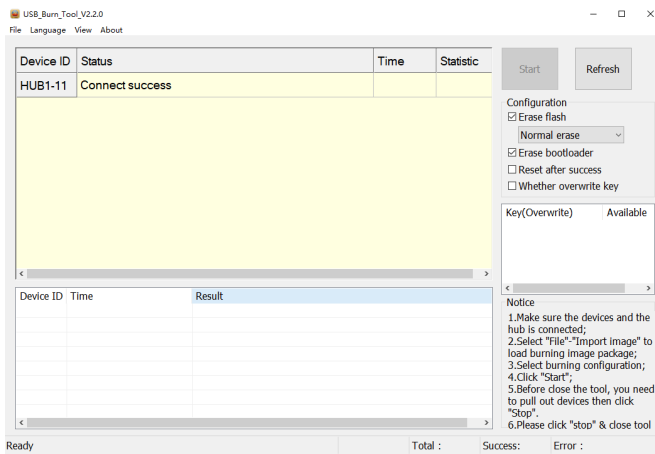


h. Complete system installation, click the stop button then close the software

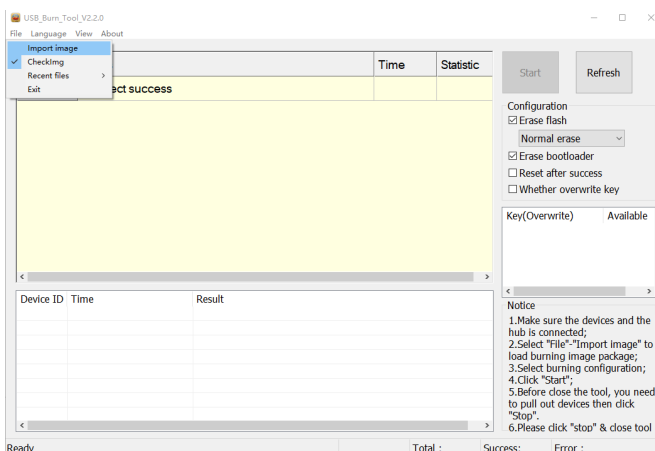


3.3 Burn firmware with ADB tool (For Pre-Installed Android Only)

- a. Power on the development board by connecting the power adapter
- b. Open the computer CMD console
- c. Connect the computer and development board via the micro USB port
- d. In CMD console, type in "adb reboot update"
- e. Successfully linked to the USB Burning Tool



- f. Import system image (x.img), and repeat steps f to h from method 1 to finish the update



3.4 Burn firmware to multiple development boards at the same time

1. Connect boards to the computer through a powered USB hub
2. Use the same operation as step 3.2
3. Supports two or more development boards to be updated at the same time

3.5 Ubuntu 18.04 Login Information

The default username of the system is 'orbbec', default password: 'orbbec'

4. Set ADB Debugging (Android)

- a. The development board supports ADB debugging by default.
- b. Connect directly through OTG interface.
(Before connecting, please make sure the computer has the ADB driver installed)
- c. Open terminal window and type in 'adb shell'

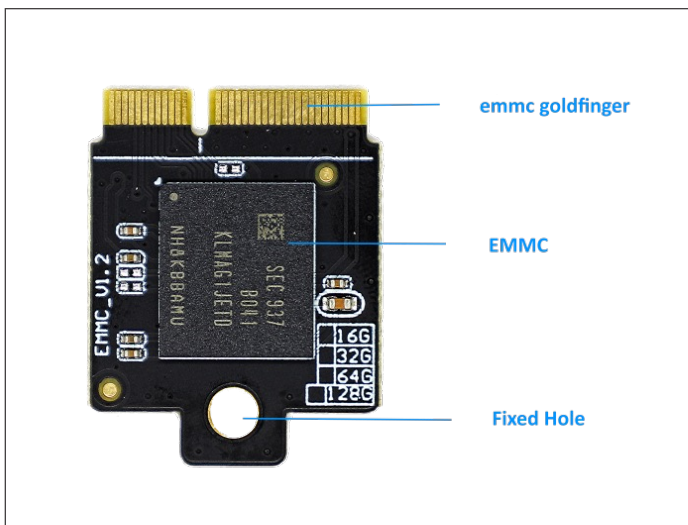
```

C:\Users\lixiaolong>adb shell
* daemon not running. starting it now on port 5037 *
* daemon started successfully *
galilei:/ $

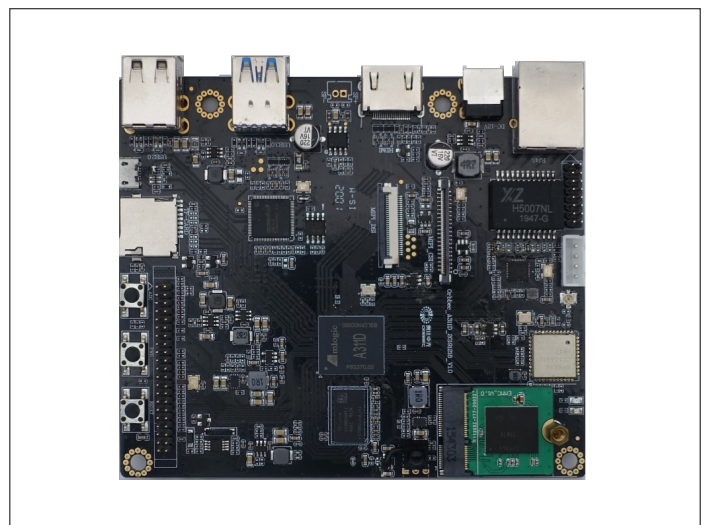
galilei:/ $ ls
ls
ls: ./boot: Permission denied
ls: ./init: Permission denied
acct      default.prop          init.zygote32.rc  sbin
bin       dev                  lost+found       sdcard
bugreports etc                   metadata         storage
cache    init.envIRON.rc      mnt              sys
charger  init.rc              odm              system
config   init.recovery.amlogic.rc oem              ueventd.rc
d        init.usb.configfs.rc proc              vendor
data     init.usb.rc          product
|galilei:/ $
    
```

5. EMMC Module Instructions

EMMC pluggable expansion module
(Optional capacity: 16GB, 32GB, 64GB)



Picture shows the EMMC module installed

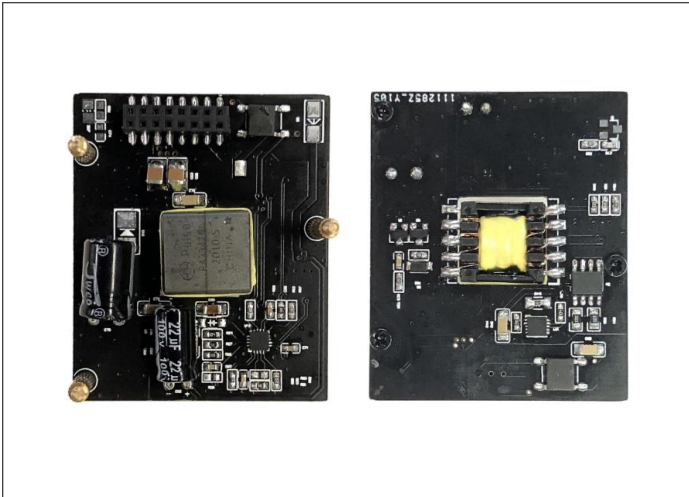


6. PoE Module Introduction

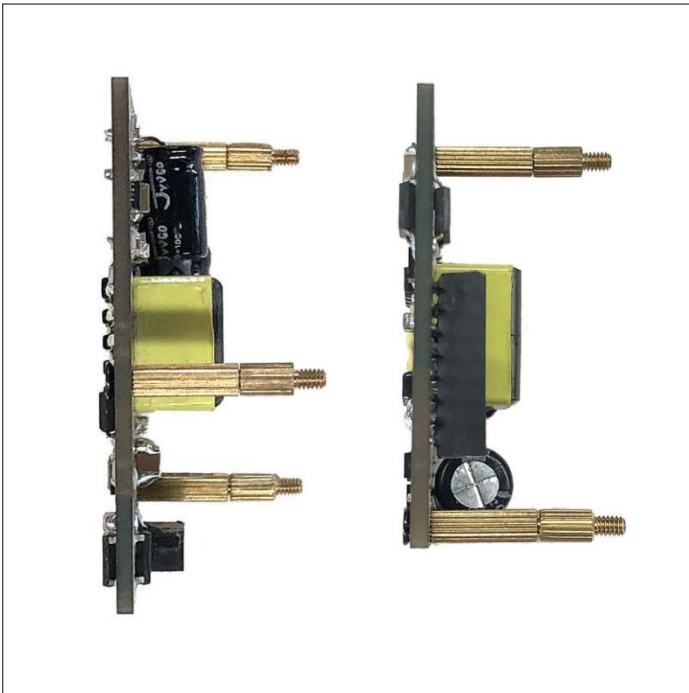
6.1 Introduction and Product Images

The PoE module supports IEEE 802.3at and is compatible with the IEEE 802.3at standard.

a. Top and bottom view

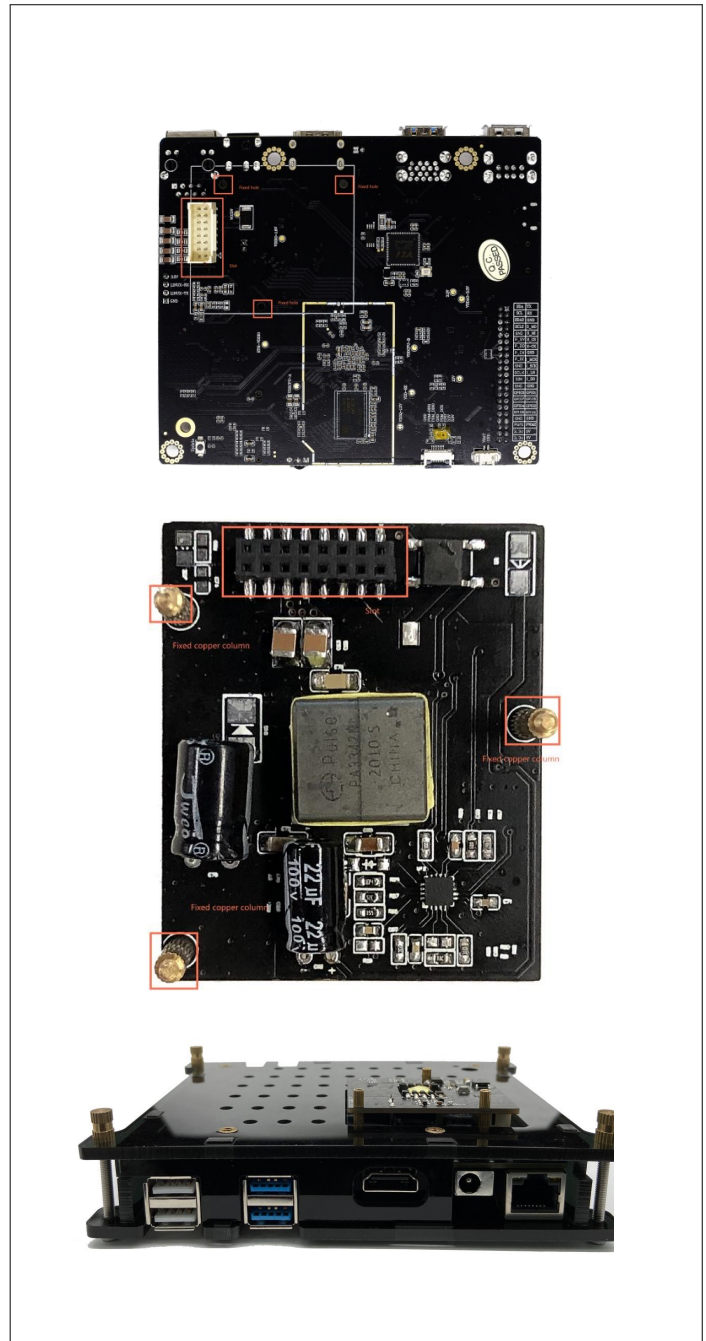


b. Side views



6.2 Connecting the PoE Module

a. Connect the PoE adaptor to the connector on the bottom of the board as shown below

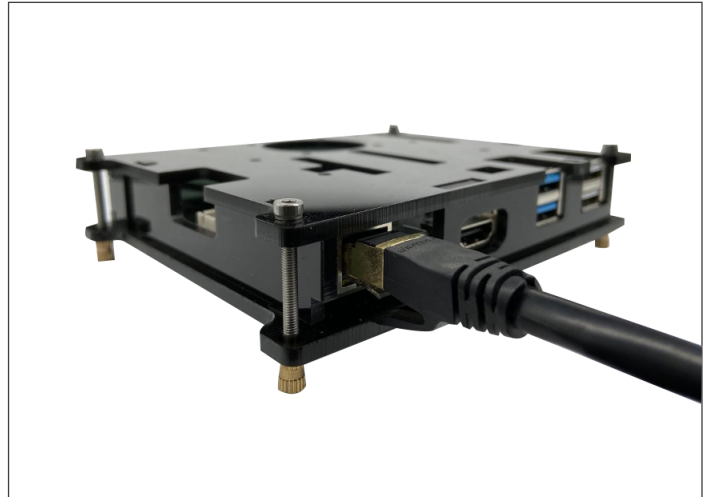


PoE Module Introduction (continued from previous page):

After the installation is completed, please flip the development board to its recommended position, as shown in the picture below:



c. Connect the board's RJ45 (Gigabit Ethernet) port to the switch or router's LAN port that supports the 802.3at standard.



b. Select a switch or router with PoE function.
 Note: To ensure normal GPIO output and network bandwidth, select a Gigabit Ethernet switch or router that supports the 802.3at standard

d. Power and network access will be delivered to the board without additional power supply



```
w400:/ $ ifconfig
ifconfig
eth0  Link encap:UNSPEC  Driver meson6-dwmac
      inet addr:10.10.6.46  Bcast:10.10.7.255  Mask:255.255.254.0
      inet6 addr: fe80::7d1e:fe24:249b:8f98/64  Scope: Link
      UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
      RX packets:33778  errors:0  dropped:0  overruns:0  frame:0
      TX packets:1026  errors:0  dropped:0  overruns:0  carrier:0
      collisions:0  txqueuelen:1000
      RX bytes:3069942  TX bytes:82126

lo    Link encap:UNSPEC
      inet addr:127.0.0.1  Mask:255.0.0.0
      inet6 addr: ::1/128  Scope: Host
      UP LOOPBACK RUNNING  MTU:65536  Metric:1
      RX packets:43  errors:0  dropped:0  overruns:0  frame:0
      TX packets:43  errors:0  dropped:0  overruns:0  carrier:0
      collisions:0  txqueuelen:1
      RX bytes:6011  TX bytes:6011
```

7. System Download

Android:

[Click to Download Latest Android System Image](#)

Ubuntu

[Click to Download Latest Ubuntu System Image](#)

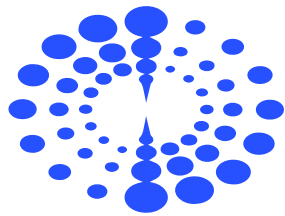
8. Development Board Accessories

Available accessories:

- PoE Module
- RTC Battery (Coming Soon)
- Touch module and LCD display (Coming Soon)
- Microphone array (Far field pickup with noise reduction algorithm) (Coming Soon)

9. Product Certifications

Certifications	Availability	Comments
FCC ID	YES	
PSE	YES	
CE	YES	
RoHS	YES	



ORBBEC