

Zora P1 开发板使用说明文档

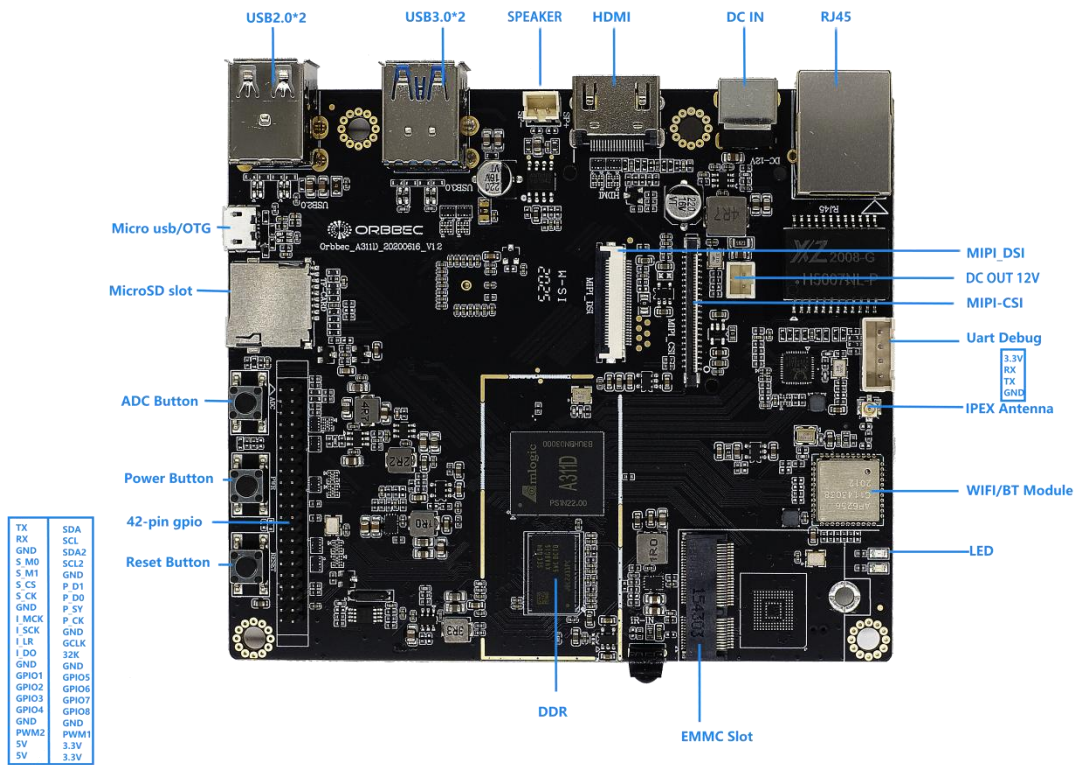
版本号	修改人	修改日期	修改内容
V1.1.4	许攸	2023/08	更新 Ubuntu 固件烧录方式; 更新部分工具以及固件下载地址

目录

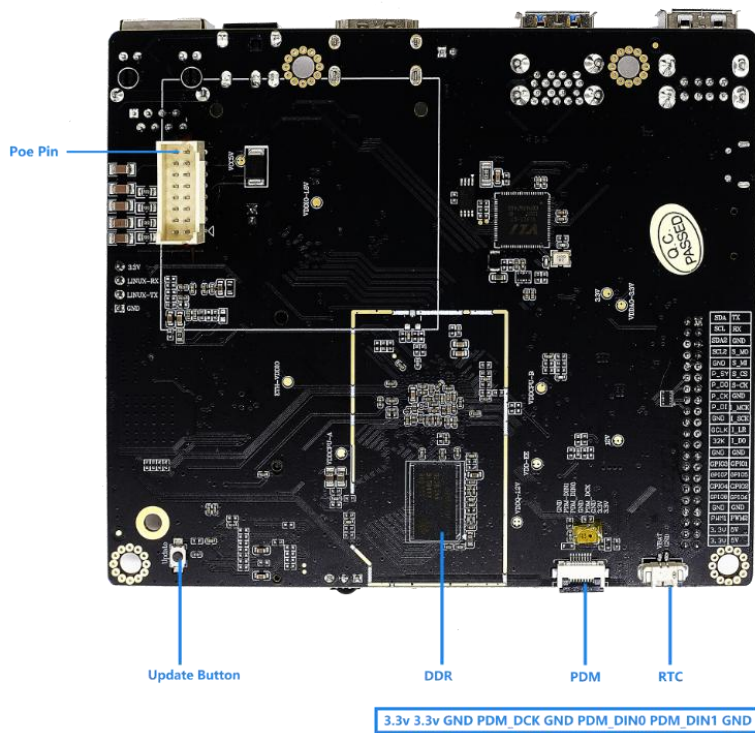
Zora P1 开发板使用说明文档	1
1. Zora P1 (A311D-4G-01 版) 板卡接口介绍	3
1.1 正面接口图示	3
1.2 反面接口图示	3
1.3 接口介绍, 参考产品简介	4
1.4 GPIO 引脚接口描述(01 起始, 42 结束)	5
1.5 Uart 接口描述 (01 起始, 03 结束)	5
1.6 PMD 接口描述 (01 起始, 07 结束)	5
1.7 RTC 电池接口描述	5
2. Android 固件烧录方式介绍: 开发板进入 Android 烧录模式的方法有三种。可用于不同的工作模式 。	7
2.1 纯硬件方式进入烧录模式: (长按开发板 update 按键进入烧录模式)	7
2.3 使用 adb 工具进入烧录模式 (使用 adb 工具进入烧录模式)	10
3. 烧录 Android 固件详细操作步骤:	11
3.1 PC 要求详解:	11
3.2 纯硬件模式进入烧录, 以及烧录全过程 (使用开发板 update 升级按键烧录固件)	11
3.4 使用串口进入烧录模式, 以及烧录步骤 (通过 uart-debug 串口工具烧录固件)	14
3.5 通过 adb 工具烧录固件	15
3.6 多台开发板同时烧录固件	17
4. ubuntu 18.04 固件的使用与安装	19
5. Android 设置 adb 调试	20
6. EMMC 模块使用介绍	21
7. POE 模块使用介绍	22
8. NPU 的使用	27
9. 硬件资料	28
10. 固件下载	29
11. 周边配件	30
11.1 电源适配器 规格: 12V 2A ;	30
11.2 如果电源适配器遗失, 可购买同规格电源适配器;	30
12. 产品认证信息	31
12.5 周边配件认证信息	34

1. Zora P1 (A311D-4G-01 版) 板卡接口介绍

1.1 正面接口图示



1.2 反面接口图示



1.3 接口介绍, 参考产品简介

处理器	Zora P1 参数
A311D	四核 A73+双核 A53
内存	2GB DDR4*2
数据存储-eMMC	32G
数据存储-eMMC 扩展	可插拔 16G EMMC, 32G EMMC , 64G EMMC
数据存储-SD	最高支持 128G
MIPI-CSI	1 CSI + 8M HDR ISP
MIPI-DSI	
USB	2xUSB 3.0 + 2xUSB 2.0 + 1USB XHCI OTG 2.0
显示接口	HDMI 2.1
Wifi 及蓝牙	WIFI 2.4/5G 802.11a/b/g/n/ac, 2x2 MIMO, BT5.0 10m
以太网	RJ45 千兆以太网
POE	Pin + Extra Cap
麦克风	On-board
PDM	支持 PDM 麦克风阵列
调试口	Micro USB 或 Type C 调试
按键	电源键, 复位键 , 可自定义的 ADC 按键 Update 按键
天线接口	OPEX Wifi 天线+ 蓝牙天线
LED	电源指示灯
42Pin GPIO	详见 GPIO 引脚描述
UART	1
I2C	2
SPI	2
I2S	1
PWM	2
ADC	1
电源输出	1x5V+1x3.3V
GPIO	8
Ground	8
PMU	YK613
电源输入	12V 2.1mm
操作系统	Android 9, Ubuntu 18.04, Linux 4.9
固件功能	可使用更换 EMMC 插卡
升级模式	USB 卡升级

1.4 GPIO 引脚接口描述(01 起始, 42 结束)

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)

1.5 Uart 接口描述 (01 起始, 03 结束)

3.3V (01)
RX
TX
GND (04)

1.6 PMD 接口描述 (01 起始, 07 结束)

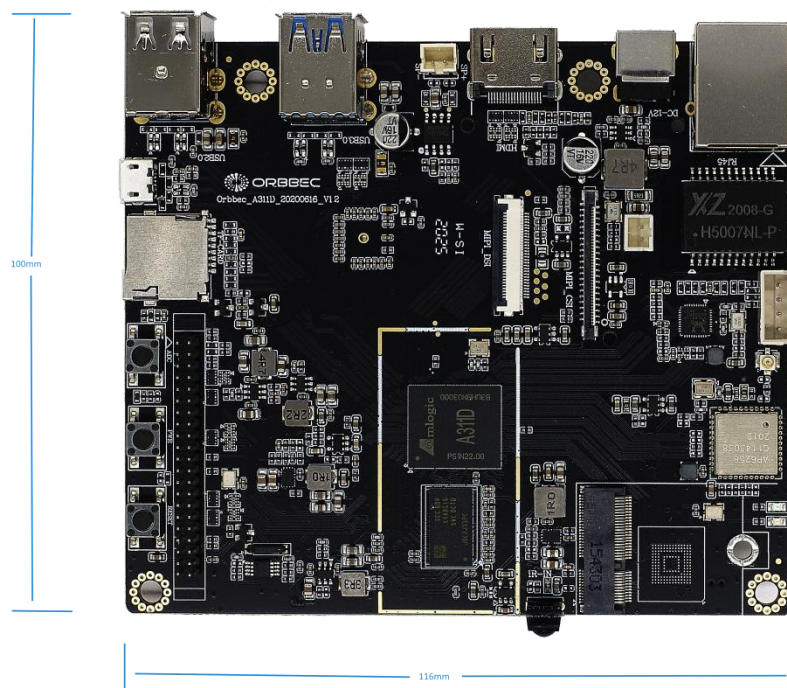
3.3v (01)	3.3v	GND	PDM_DCK	GND	PDM_DIN0	PDM_DIN1	GND (07)
-----------	------	-----	---------	-----	----------	----------	----------

1.7 RTC 电池接口描述

GND (01)	VBAT (02)
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1.8 产品尺寸

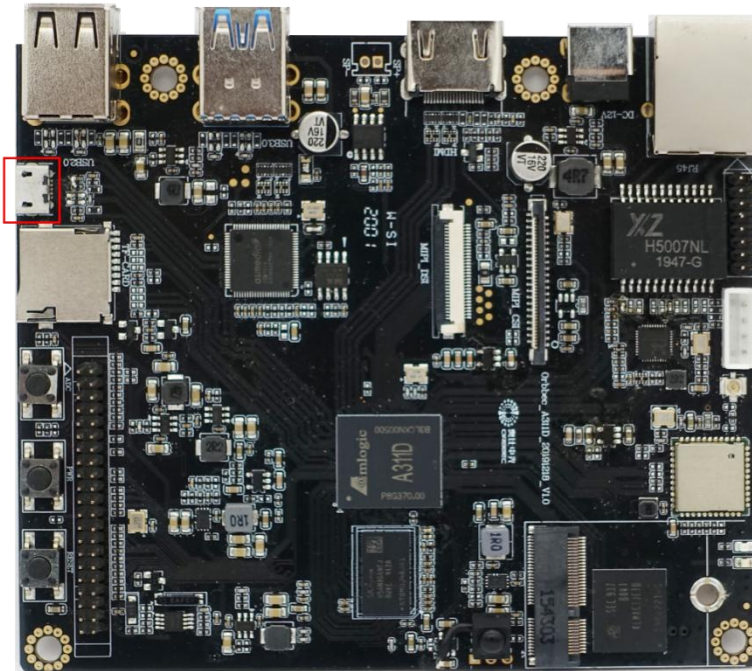
W:116mm *H:100mm



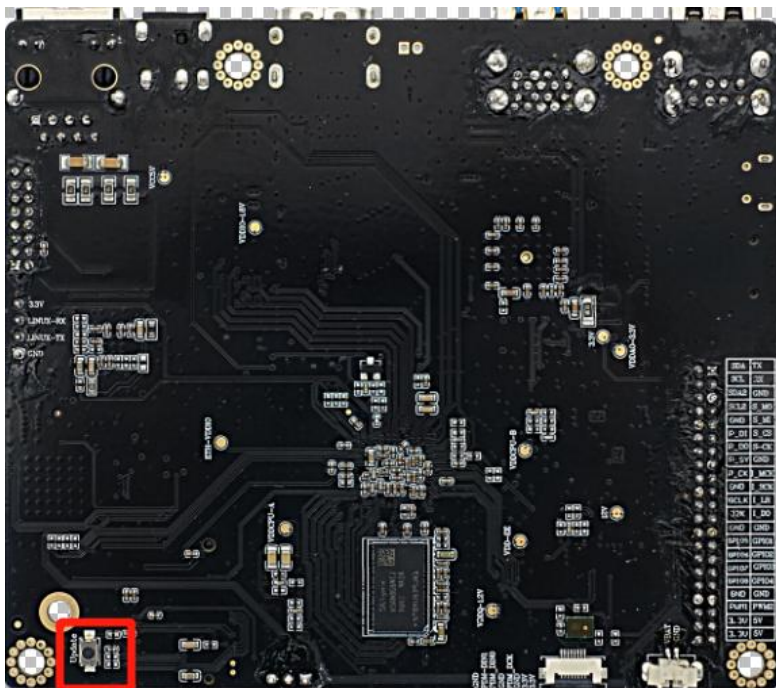
2. Android 固件烧录方式介绍：开发板进入 Android 烧录模式的方法有三种。可用于不同的工作模式。

2.1 纯硬件方式进入烧录模式: (长按开发板 update 按键进入烧录模式)

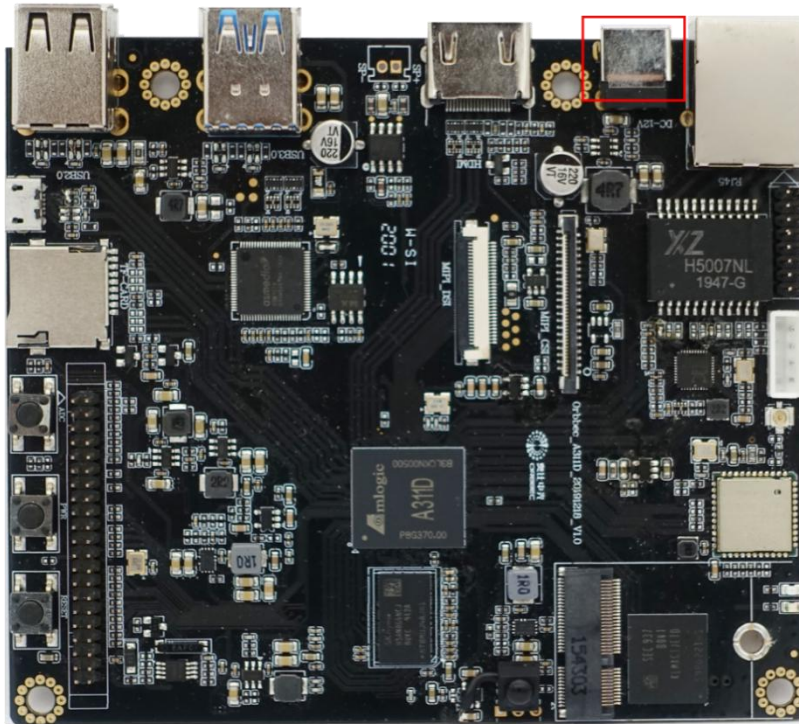
a.通过 micro usb 连接 pc 烧录工具



c.长按开发板 update 按键



c.通过 DC-in 连接电源适配器，给开发板上电



d.成功连接烧录软件。

f.[点击进入详细烧录步骤：](#)

备注：使用 DC-in 供电之前，需要确保以下三个步骤已经完成：

1. pc 端 USB_Burning_Tool 工具已经打开
2. 开发板 Update 按键被按下
3. 开发板通过 micro usb 线 pc 连接

2.2 使用串口进入烧录模式：（使用 uart-debug 进入烧录模式(开发板已经烧录 Android 固件)

- a.通过 uart-debug 连接串口工具
- b.系统启动后，在控制台输入 reboot
- c.重启侯后多次按键盘回车按键（回车），进入 uboot 模式

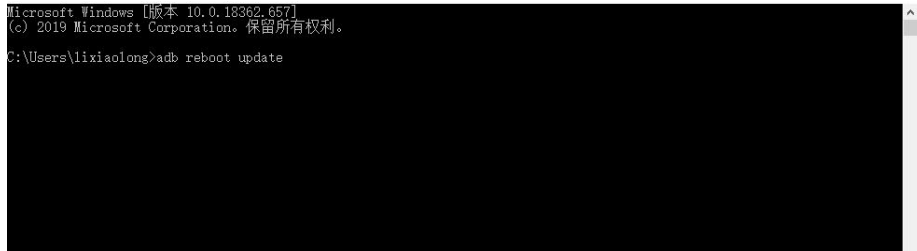
```
Writing to MMC(1)... done
dolby_status 0
dolby_status 0
hdr_packet
vpp: hdr_policy = 0
vpp: Rx hdr_info_hdr_sup_eotf_smpte_st_2084 = 0
s_version: U-Boot 2015.01-gf85d1bff9c
amlkey_init() enter!
amlkey_init() 71: already init!
[EFUSE_MSG]keynum is 4
[KM]Error:[key_manage_query_size]L515:key[usid] not programed yet
[KM]Error:[key_manage_query_size]L515:key[mac] not programed yet
[KM]Error:[key_manage_query_size]L515:key[deviceid] not programed yet
Command: bcb 00001 command
Start read misc partition datas!
BCB hasn't any datas.exit!
Hit Enter or space or Ctrl+C key to stop autoboot -- : 0
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
g12b_w200_v1#
```

- d.输入 update
- e.成功连接烧录软件
- f.[点击详细烧录步骤：](#)

- 备注：需要确保以下三个步骤已经完成：
- 1.开发板有已经烧录 Android 固件且可以正常使用
 - 2.pc 端 USB_Burning_Tool 工具已经打开
 - 3.开发板通过 micro usb 线 pc 连接
 - 4.开发板通过 DC-IN 连接开发板

2.3 使用 adb 工具进入烧录模式（使用 adb 工具进入烧录模式）

- a.开发板通过 dc-in 上电开机
- b.windows 系统电脑打开控制台（cmd）
- c.电脑通过 micro usb 与开发板连接
- d.控制台输入命令 adb reboot update



```
Microsoft Windows [版本 10.0.18362.657]
(c) 2019 Microsoft Corporation. 保留所有权利。
C:\Users\lixiaolong>adb reboot update
```

- e.成功连接烧录工具
- f.[点击进入详细烧录步骤：](#)

备注：需要确保以下三个步骤已经完成：

- 1.开发板有已经烧录 Android 固件且可以正常使用
- 2.pc 端 USB_Burning_Tool 工具已经打开
- 3.开发板通过 micro usb 线 pc 连接
- 4.开发板通过 DC-IN 连接开发板
- 5.pc 端支持 adb 功能

3. 烧录 Android 固件详细操作步骤:

3.1 PC 要求详解:

- a. 系统为 windows 7 系统或者 windows 10 操作系统
- b. 关闭杀毒软件
- c. 支持 usb2.0 高速模式或者 usb3.0

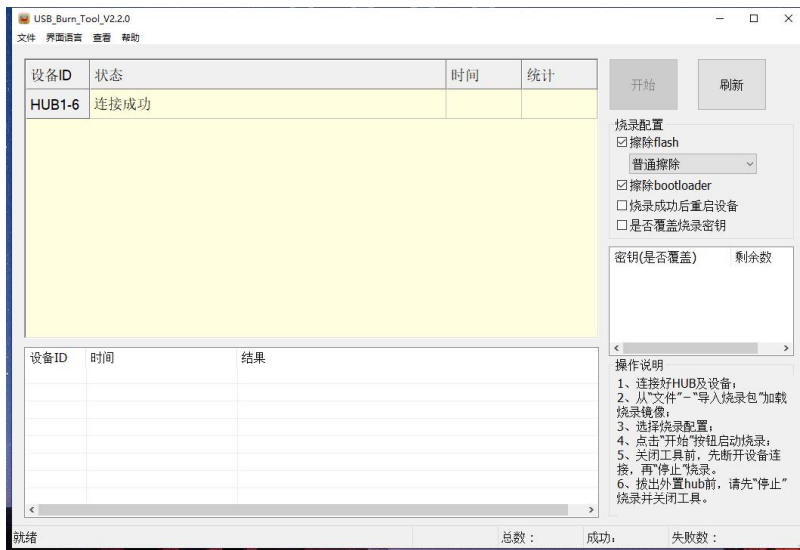
3.2 纯硬件模式进入烧录, 以及烧录全过程 (使用开发板 update 升级按键烧录固件)

- a. 长按开发板 update 按键
- b. 使用 micro usb 线连接开发板 otg 接口
- c. 打开 usb burn tool v2.xxx 烧录工具

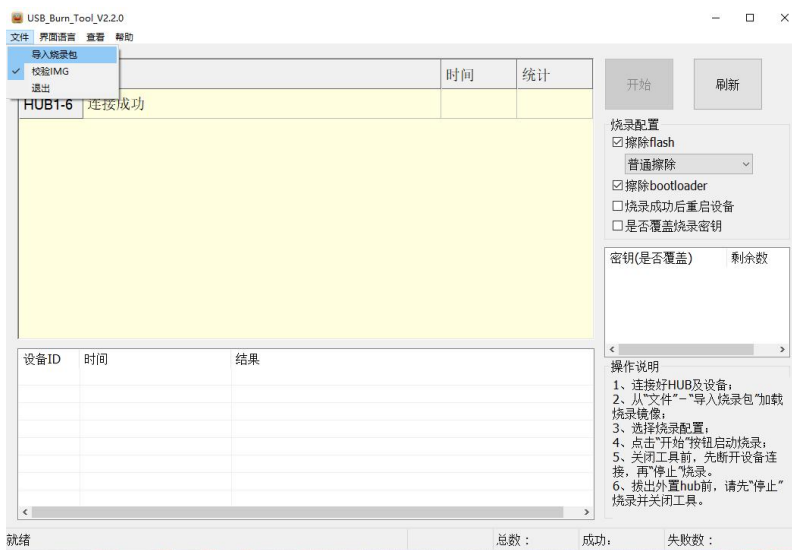


d.通过 dc-in 给开发板上电

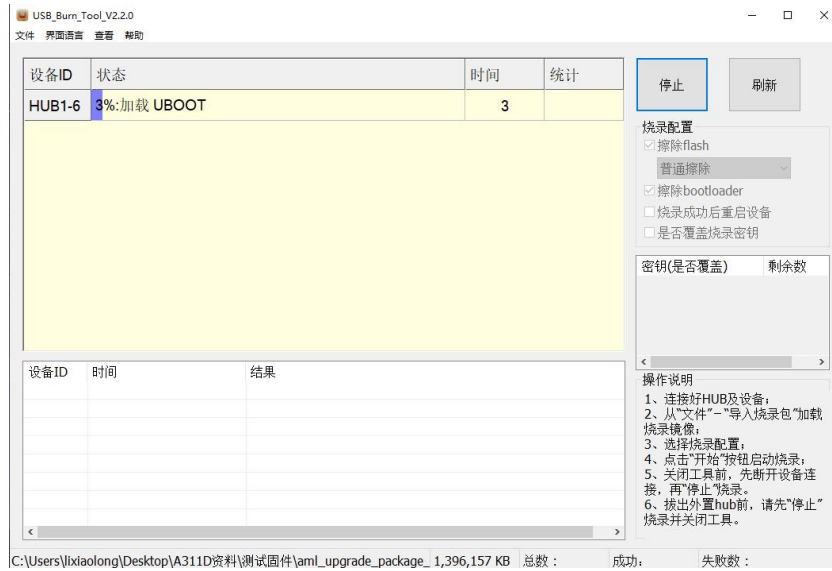
e.工具连接成功



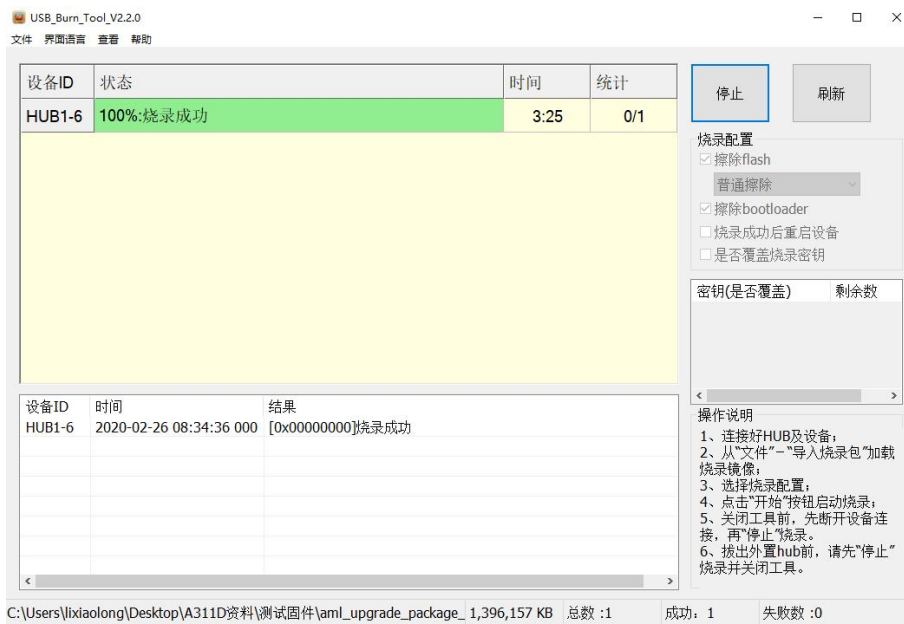
f.导入固件



g. 点击开始，进入烧录状态



h. 烧录完毕



i. 点击停止退出

3.4 使用串口进入烧录模式，以及烧录步骤（通过 uart-debug 串口工具烧录固件）

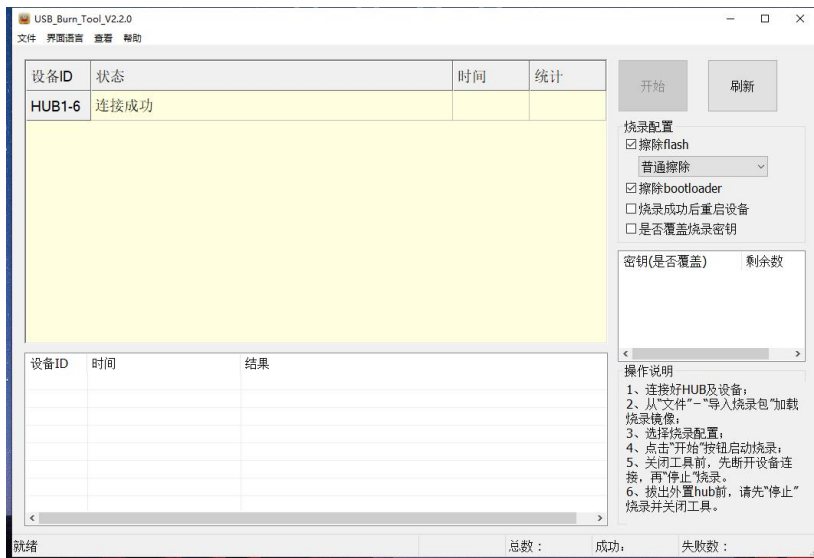
a. uart 连接串口工具

b.系统启动后，在串口控制台输入命令：reboot

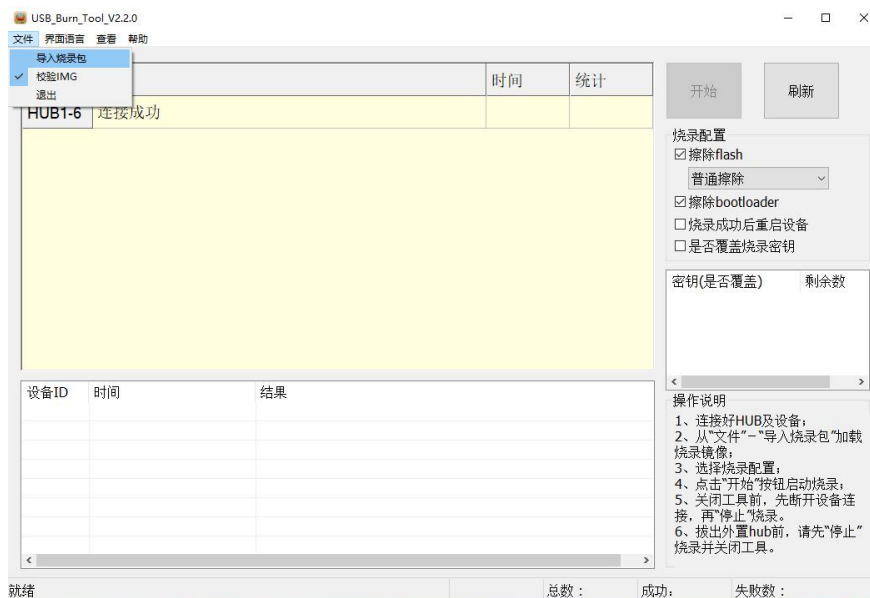
c.开发板重启后，重启后多次按键盘回车键（enter 按键），进入 uboot 模式

d.输入命令：update

e.成功连接烧录软件



f.导入需烧录的固件



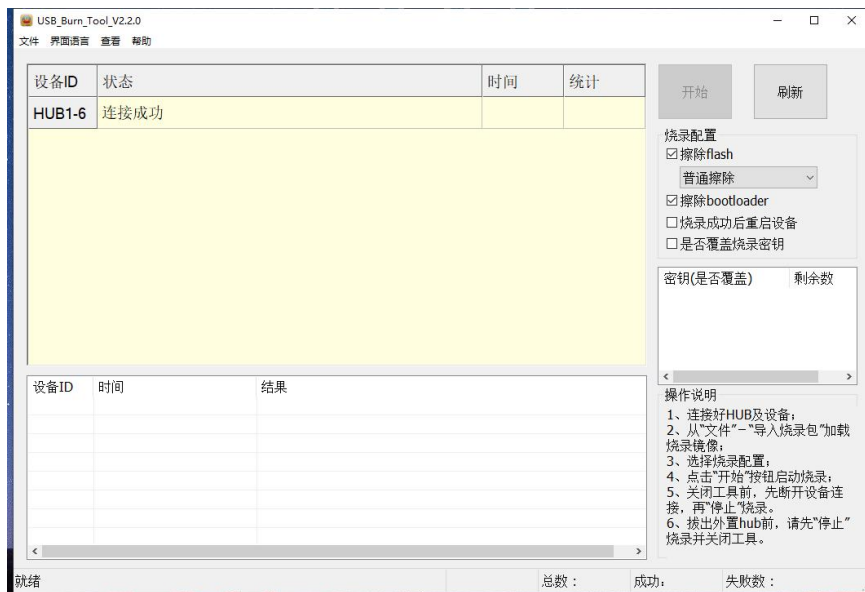
g.点击开始

h.烧录完成

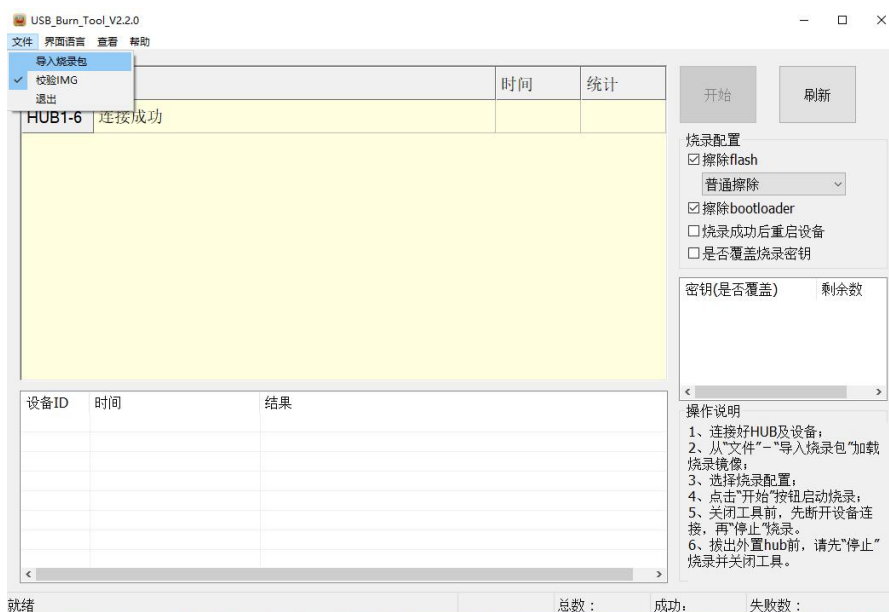
i.点击停止，退出工具

3.5 通过 adb 工具烧录固件

- a. 开发板通过 dc-in 上电开机
- b. windows 系统电脑打开控制台
- c. 电脑通过 micro usb 口与开发板连接
- d. 控制台输入命令 adb reboot update
- e. 成功连接烧录工具



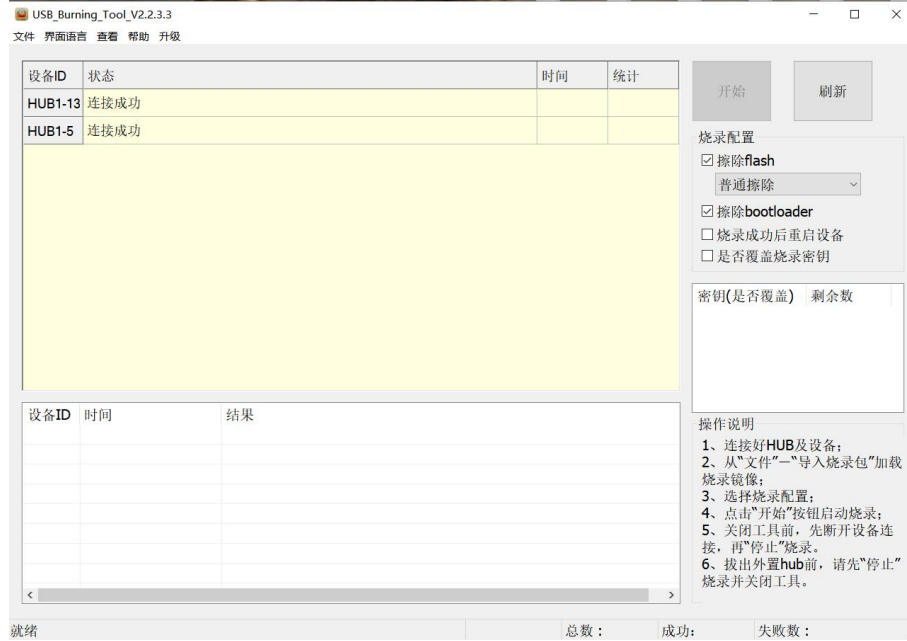
f. 导入需烧录的固件



- g.点击开始
- h.烧录完成
- i.点击停止，退出工具

3.6 多台开发板同时烧录固件

- 1.使用独立供电 usb hub 连接电脑高速 usb2.0 或者 usb3.0 端口。
- 2.使用 3.2 方式进行操作
- 3.同时支持 2 台及以上的开发板烧录
- 4.连接成功后，可点击开始按键同时烧录，见下图：



3.7 Android 烧录工具下载

工具下载链接：<https://vcp.developer.orbbec.com.cn/resourceCenter>

4. ubuntu 18.04 固件的使用与安装

Ubuntu 18.04 固件烧录方式与 Android 纯硬件烧录方式一致；请参考
第三章 3.2 纯硬件模式进入烧录,以及烧录全过程(使用开发板 update 升级按键烧录固件)
部分;

注意:

1. 如果烧录 ubuntu 固件提示无法格式化，请使用最新版本的 Android 固件进行纯硬件烧录，以便对 EMMC 存储卡进行格式化；然后在进行烧录 ubuntu 固件；
2. 请使用最新版本 USB_Burning_Tool_V2.2.3.3 及以上版本的烧录工具；

5. Android 设置 adb 调试

5.1 Android

a.系统默认支持，直接通过 otg 连接。确保安装 adb 驱动。

b.按 win+R 按键进入运行，并输入 cmd，进入命令行，在命令行输入 adb shell，进入进入 adb 调试界面

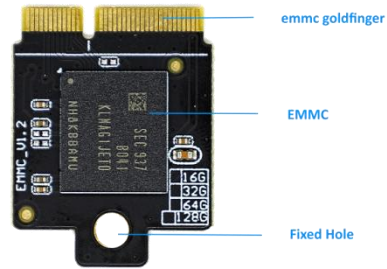
```
0:\Users\lixiaolong>adb shell
* daemon not running. starting it now on port 5037 *
* daemon started successfully *
galilei:/ $

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
```

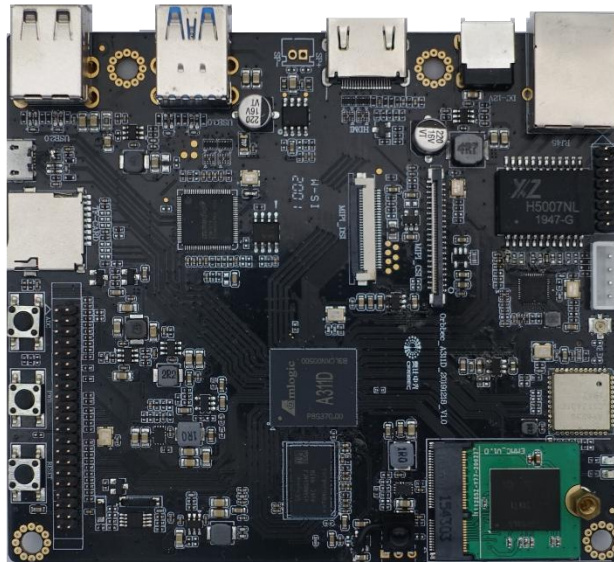

6. EMMC 模块使用介绍

6.1 EMMC 插拔模组，容量 16G（可定制 16G，32G，64G）

6.2 信息描述：



6.3 安装图，并通过铜柱进行固定

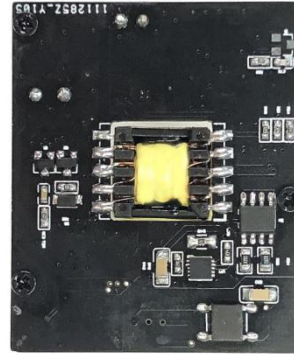
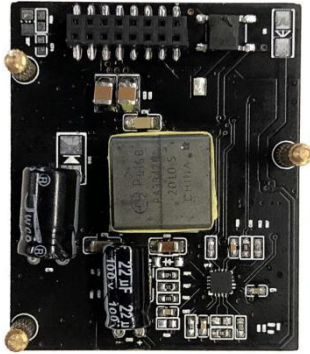


7. POE 模块使用介绍

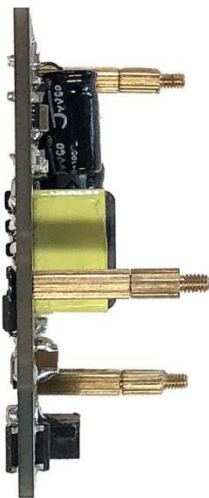
7.1 POE 模组，支持 802.3at 标准，并向下兼容 802.3 af 标准

7.2 POE TOP 视图

a.上视图、下视图



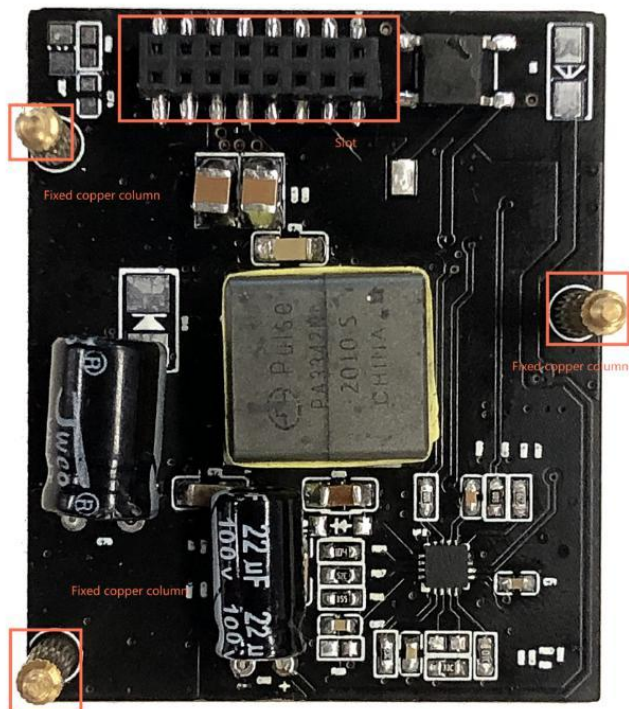
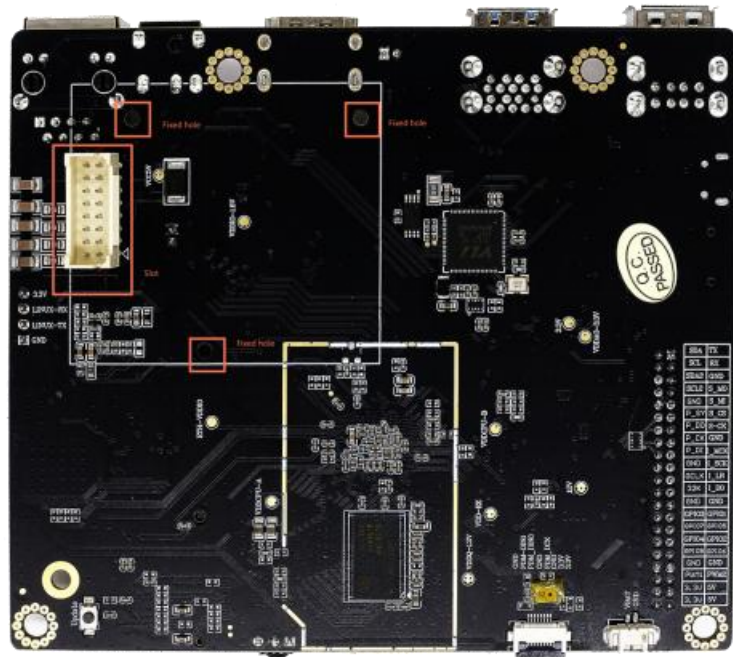
b.左右视图



7.3 使用帮助

a.使用 poe 小板，POE 板插座链接 Zora P1 开发板插座，如下所示，并通过铜柱

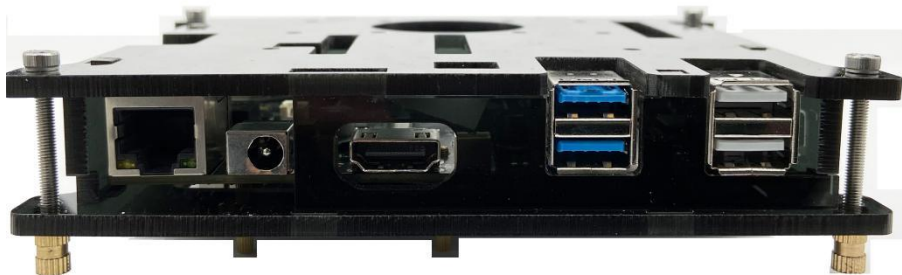
进行固定



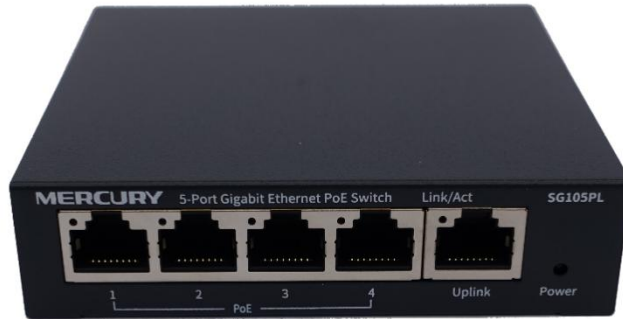
安装后完成图



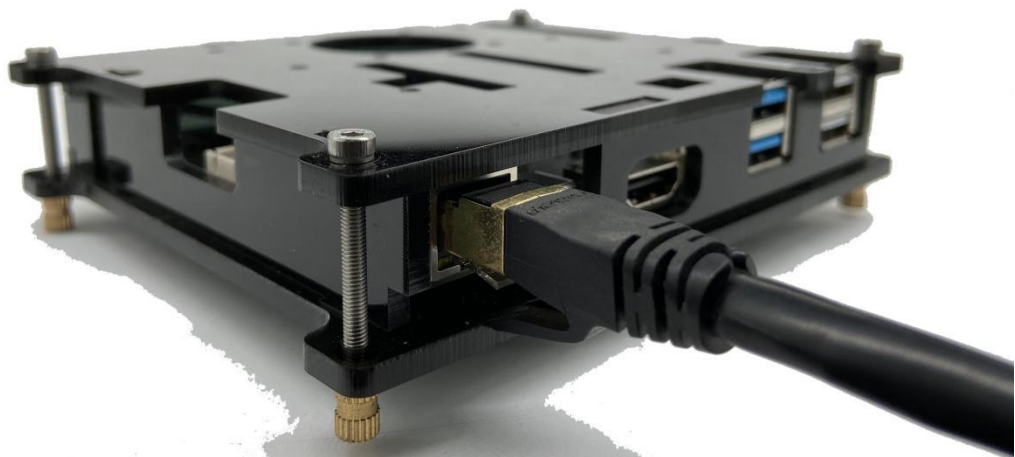
安装完成后，请将开发板正放，如图所示：



b.选择带有 POE 功能的交换机或者路由器，注意：为确保主板 gpio 电压输出正常，以及网络带宽，请选择支持 802.3at 标准的千兆以太网交换机或者路由器。



c. 通过支持 802.3at/af 标准的交换机或者路由器的 LAN 口通过普通网线连接 POE 小板 RJ-45（千兆以太网）接口



d. 在主板不需要接通 DC 电源，不需要连接以太网的情况下，主板正常工作，并

可成功获取网络地址，正常访问以太网或者局域网

```
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
```


8. NPU 的使用

8.1 NPU 使用帮助以及下载地址：

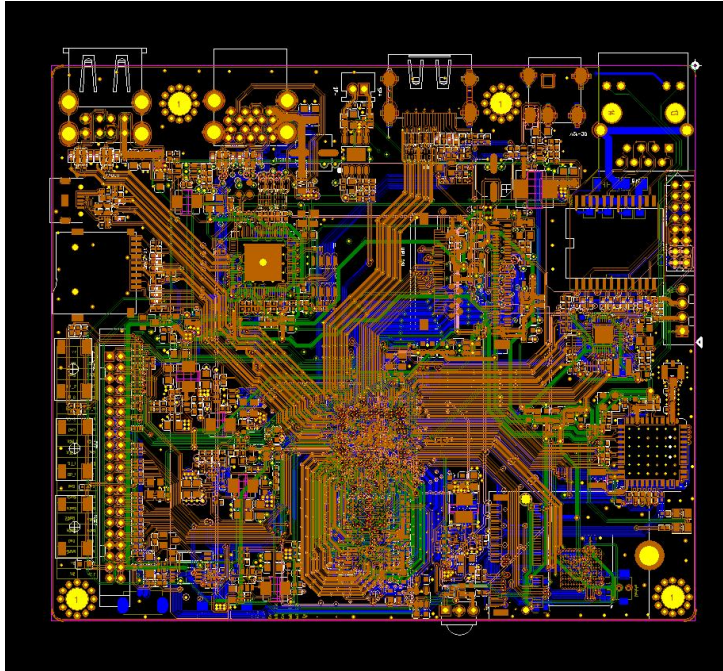
<https://vcp.developer.orbbec.com.cn/resourceCenter>

8.2. 注意：DDK 以及 sdk 工具版本必须与固件种的 Calcore 版本对应才能正常工作移植。

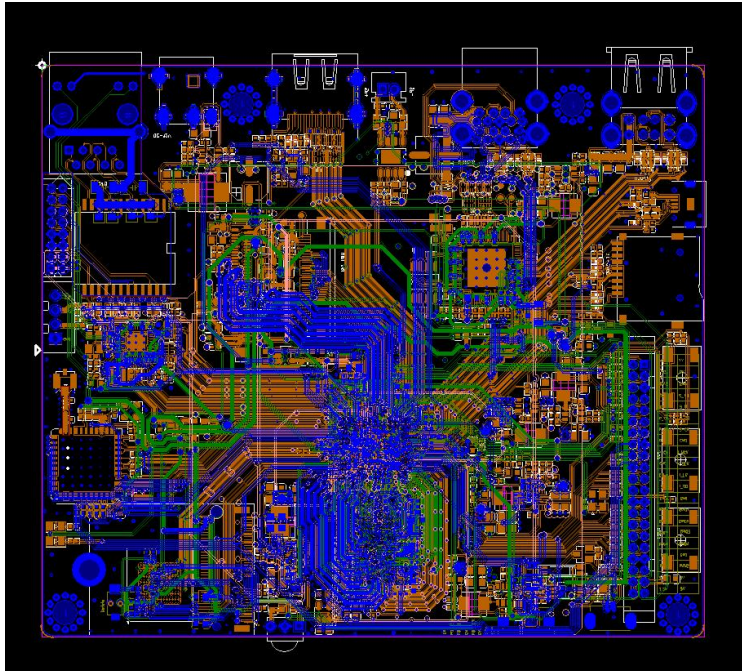
9. 硬件资料

9.1 硬件设计图 (脱密)

a. 板框图正面:



b. 设计图反面反面:



10. 固件下载

请访问 3D 视觉 AI 开放平台 ；

<https://vcp.developer.orbbec.com.cn/resourceCenter>

11. 周边配件

11.1 电源适配器 规格: 12V 2A ;

11.2 如果电源适配器遗失, 可购买同规格电源适配器;

12.产品认证信息

12.1. Rohs 证书 (环保)



12.2 CE 证书 (欧盟认证)



12.3 FCC 证书 (美国认证)

TCB

GRANT OF EQUIPMENT
AUTHORIZATION
Certification
Issued Under the Authority of the
Federal Communications Commission
By:

TCB

MICOM Labs
575 Boulder Court
Pleasanton, CA 94566

Date of Grant: 09/01/2020
Application Dated: 09/01/2020

Orbbec Co.,LTD.
11+13F, Hi-Tech Zone Union Headquarters Building,
No.63 Xuefu Road, Yuehai Street, Nanshan District,
ShenZhen, 518052
China

Attention: Jinniu Qin , DQE

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: ZAVQM-ZORAP1V10

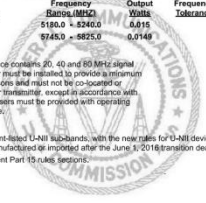
Name of Grantee: Orbbec Co.,LTD.

Equipment Class: Unlicensed National Information Infrastructure TX
Zora P1 DEVELOPMENT BOARD


Grant Notes	ECC Rule Parts	Frequency Range (MHz)	Output Watts	Frequency Tolerance	Emission Designator
38 CC	15E	5180.0 - 5260.0	0.015		
38 CC	15E	5745.0 - 5825.0	0.0148		

Output power listed is conducted power. This device contains 20, 40 and 80 MHz signal bandwidth. The antenna used with this transmitter must be installed to provide a minimum separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures. End-users must be provided with operating procedures for satisfying RF exposure compliance.

38. This device has shown compliance, in all grant-type U-NII sub-bands, with the new rules for U-NII devices adopted under Docket No. 13-49 and may be marketed, manufactured or imported after the June 4, 2016 transition deadline. CC: This device is certified pursuant to two different Part 15 rules sections.



12.4 TELEC 证书 (日本标准认证)

 E&E	Eurofins E&E North America mefabs.com 410.354.3300
--	---

GRANT OF EQUIPMENT CERTIFICATION


Issued By:
Eurofins MET Labs
 914 W. Patapoco Avenue
 Baltimore, Maryland 21230
 CAB Number: 314

FILE/CERTIFICATE NUMBER: 321-09-2020-109476

Date: 9/9/2020

Eurofins | MET Labs, operating as a Conformity Assessment Body with respect to the Japan/EU MRA, declares that the listed product complies with the Certification by Type of the Ordinance Concerning Technical Regulations Conformity Certification, etc. of Specified Radio Equipment (MPT Ordinance No. 37 of 1981).

Identification Code: When the manufacturer (or holder of this certificate) is placing the product on the Japanese market, the product must be affixed with the following Identification Code:



R


214-109476


The requirements for the mark are:



- It must be attached to an easily recognizable section of the Specified Radio Equipment of certified type.
- The size shall be 3mm or more in diameter.
- The material must be one that is not susceptible to damage.
- Coloring may be made as desired. However, it must not prevent easy identification of the mark.

This Certification is granted to:
 Orbtec Co., LTD.
 11-13/F, Hi-Tech Zone Union Headquarters Building, No.63 Xuefui Road,
 Yuchai Street, Nanshan District, Shenzhen

Manufacturer:
 Orbtec Co., LTD.
 11-13/F, Hi-Tech Zone Union Headquarters Building, No.63 Xuefui Road,
 Yuchai Street, Nanshan District, Shenzhen

	Baltimore HQ 914 W. Patapoco Ave. Baltimore, MD 21230	Union City 3343 Western Ave. Union City, CA 94587	Santa Clara 3182 Biskop St. Santa Clara, CA 95054	Austin 13021 McCullen Pass Austin, TX 78753	South East 901 Shafter Drive Cary, NC 27513
---	--	--	--	--	--

 E&E	Eurofins E&E North America mefabs.com 410.354.3300
---	---

Product Trade Name:	Model: Zora P1 V1.0				
Family Name:	Zora P1 DEVELOPMENT BOARD				
Serial Number:	N/A				
Modulation Type:	GFSK for Bluetooth (BLE+2BLE) GFSK, #4DQPSK, 8DPSK for Bluetooth (BR+EDR) IEEE 802.11b: DSSS/CCK, DQPSK, DBPSK IEEE 802.11a/g/n/ac: OFDM/256QAM, 64QAM, 16QAM, QPSK, BPSK				
Class of Emission:	1M07FD, 2402-2480MHz(BLE), 1.5mW 2M09FD, 2402-2480MHz(2BLE), 1.5mW 78M7FD, 2402-2480MHz(BR), 0.15mW/MHz 78M6GD, 2402-2480MHz(EDR), 0.10mW/MHz 78M7GD, 2402-2480MHz(EDR), 0.10mW/MHz 10M9GD, 2412-2472MHz(802.11b), 4.0mW/MHz 19M7GD, 2484-2484MHz(802.11b), 3.5mW/MHz 16M8DD, 2412-2472MHz(802.11g), 7.5mW/MHz 17M9DD, 2412-2472MHz(802.11ac20), 7.5mW/MHz 36M5DD, 2412-2472MHz(802.11ac40), 4.0mW/MHz 16M7GD, 5180-5240MHz(802.11a), 4.0mW/MHz 17M8GD, 5180-5240MHz(802.11ac20), 4.0mW/MHz 17M8GD, 5180-5240MHz(802.11ac20), 4.0mW/MHz 36M5GD, 5190-5230MHz(802.11ac40), 2.0mW/MHz 36M4GD, 5190-5230MHz(802.11ac40), 2.0mW/MHz 75M4GD, 5210-5210MHz(802.11ac80), 1.0mW/MHz				
Software Version:	Zora P1 v1.0				
Category of Specified Radio Equipment:	2.4 GHz: Item 19 of Article 2 Paragraph 1 2.4 GHz(14 channel): Item 19-2 of Article 2 Paragraph 1 5.2GHz: Item 19-3 of Article 2 Paragraph 1				
Frequency:	Bluetooth :2402-2480MHz 2.4G WLAN: IEEE 802.11b: 2412-2472MHz IEEE 802.11n(14 channel): 2484-2484MHz IEEE 802.11g/n HT20: 2412-2472MHz IEEE 802.11n HT40: 2422-2462MHz 5.2G WLAN: IEEE 802.802.11a/ac/n-HT20:5180.00-5240.00MHz IEEE 802.802.11a/c/n-HT40(5):5190.00-5230.00MHz IEEE 802.802.11ac-HT80:5210.00MHz				
Antenna Type and Gain:	Internal Antenna: 2.97dBi for 2.4G Band; 3.44dBi for 5G Band				
Authorized CAB Signature: Printed: 9/3/2020	 <i>Grace Xi</i> <small>Ensign</small>				
<i>Eurofins MET Laboratories Inc. (Eurofins E&E North America) is part of the Eurofins Electrical & Electronics (E&E) global compliance network</i>					
	Baltimore HQ 914 W. Patapoco Ave. Baltimore, MD 21230	Union City 3343 Western Ave. Union City, CA 94587	Santa Clara 3182 Biskop St. Santa Clara, CA 95054	Austin 13021 McCullen Pass Austin, TX 78753	South East 901 Shafter Drive Cary, NC 27513

12.5 周边配件认证信息

a. 电源适配器

b. 认证证书

IEC / IECB SCHEME		Ref. Certif. No. DK-102618-A1-UL
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME		
CB TEST CERTIFICATE		
Product	AC/DC Adapter	
Name and address of the applicant	MERRYKING ENTERPRISES (HK) CO LTD OFFICE NO 3 10TH FL WITTY COMM BLDG 1A - 1L TUNG CHOI ST MONGKOK KOWLOON, HONG KONG	
Name and address of the manufacturer	MERRYKING ENTERPRISES (HK) CO LTD OFFICE NO 3 10TH FL WITTY COMM BLDG 1A - 1L TUNG CHOI ST MONGKOK KOWLOON, HONG KONG	
Name and address of the factory	SHENZHEN MERRYKING ELECTRONICS CO., LTD 8F, Bldg B, Nanbiantou S&T Park, Tianyang 2nd Road, Oriental Community, Songgang Street, Bao'an District, Shenzhen 518105, Guangdong, China	
Additional information (if necessary may also be reported on page 2)	<input type="checkbox"/> Additional information on page 2	
Ratings and principal characteristics	Input: 100-240VAC, 50/60Hz, 0.8A Output: See test report for details	
Trademark / Brand (if any)		
Type of Customer's Testing Facility (CTF) Stage used		
Model / Type Ref.	MKE-aaabbbb, MKE-aaabbbbArm, MKE-aaabbbbC8, MKE-aaabbbbD, MKE-aaabbbbX, MKE-aaabbbbYD, See Page 2	
Additional information (if necessary may also be reported on page 2)	<input type="checkbox"/> Additional information on page 2	
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2014	
As shown in the Test Report Ref. No. which forms part of this Certificate	SA19113508002 issued on 2020-08-27	
This CB Test Certificate is issued by the National Certification Body		
	<input type="checkbox"/> UL (US), 333 Michigan Road, Suite 1000, Northbrook, USA <input checked="" type="checkbox"/> UL (China), Binjiang 5A, Daxi 700 Bldg, Qianjiang, CHINA <input type="checkbox"/> UL (JP), Marunouchi Trust Tower Main Bldg 9F, 1-9-3 Marunouchi, Chiyodaku, Tokyo 100-0005, JAPAN <input type="checkbox"/> UL (CN), 7 Understone Road, Toronto, M1R 2S4 Ontario, CANADA <small>For full list of UL entity names see www.ul.com/cn/branches</small>	
Date: 2020-09-10 Original Issue Date: 2020-09-09	Signature: Jan-Erik Storgaard	

1/2

IEC / IECB SCHEME		Ref. Certif. No. DK-102618-A1-UL
Model Details: MKE-aaabbbb, MKS-aaabbbb, MKE-aaabbbbD, MKS-aaabbbbD, MKE-aaabbbbY, MKS-aaabbbbY, MKE-aaabbbbYD, MKS-aaabbbbYD, MKE-aaabbbbX, MKS-aaabbbbX, MKE-aaabbbbY, MKS-aaabbbbY, MKE-aaabbbbD, MKS-aaabbbbD, MKE-aaabbbbYD, MKS-aaabbbbYD, MKE-aaabbbbArm, MKS-aaabbbbArm, MKE-aaabbbbC8, MKS-aaabbbbC8 aaan030-480 indicates rated output voltage 3.0-48.0VDC with step of 0.1VDC. bbbbb001-5000 indicates rated output current 0.001-5.0A with step of 0.001A. x=S, H, V or D indicates different enclosure shape: S=Direct plug-in straight enclosure B, H=Direct plug-in horizontal enclosure C, V=Direct plug-in vertical enclosure D, D=Direct plug-in detachable plug enclosure E. yy=US, CN, JP, EU, UK, EK, AU, AR, BR, IN, NZ, MY, FD, FA, FC or EX indicates different plug type: US=America plug, CN=China plug, JP=Japan plug, EU=Europe plug, UK=Britain plug, EK=Korea plug, AU=Australia plug, AR=Argentina plug, BR=Brazil plug, IN=Indian plug, NZ=New Zealand plug, MY=Malaysia plug, FD or FA=America folding plug (When x=S), FC=China folding plug (When x=S), EX=Detachable plug type (When x=D or S). mm=US, CN, JP, EU, UK, EK, AU, AR, BR, IN, NZ or MY indicates different AC plug type with power supply cord: US=America plug, CN=China plug, JP=Japan plug, EU=Europe plug, UK=Britain plug, EK=Korea plug, AU=Australia plug, AR=Argentina plug, BR=Brazil plug, IN=Indian plug, NZ=New Zealand plug, MY=Malaysia plug.		
Additional Information: Additionally evaluated to EN 62368-1:2014/ A11:2017 National Differences specified in the CB Test Report. Reason for correction: Model definition type Class II		
Additional information (if necessary)		
	<input type="checkbox"/> UL (US), 333 Michigan Road, Suite 1000, Northbrook, USA <input checked="" type="checkbox"/> UL (China), Binjiang 5A, Daxi 700 Bldg, Qianjiang, CHINA <input type="checkbox"/> UL (JP), Marunouchi Trust Tower Main Bldg 9F, 1-9-3 Marunouchi, Chiyodaku, Tokyo 100-0005, JAPAN <input type="checkbox"/> UL (CN), 7 Understone Road, Toronto, M1R 2S4 Ontario, CANADA <small>For full list of UL entity names see www.ul.com/cn/branches</small>	
Date: 2020-09-10 Original Issue Date: 2020-09-09	Signature: Jan-Erik Storgaard	

2/2