artosyn

ARLinkP-101

使用说明书
Users Manual

KXW/QT01-2017

上海酷芯微电子有限公司
Shanghai Artosyn Microelectronics Co., Ltd.

目录

⚠ 1. 重要注意事项　　1. Alerts
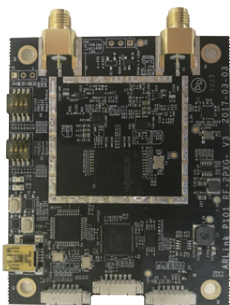
*该产品为精密模组。使用过程中避免碰撞。接插连接线时避免损伤接口。

*产品必须使用附带的6pin电源线，并按说明接入正确的电源接口。

*请务必选择正规电源适配器（工作电压5V~15V，纹波<120mV）或电池供电。

*任何器件或线路上的改动可能会导致保修失效。

2.结构图　2. Assembly Drawing

射频板
RF Board

6PIN数据线
6pin Data Cable

*编/解码板(选配)
Encoder/Decoder (optional)
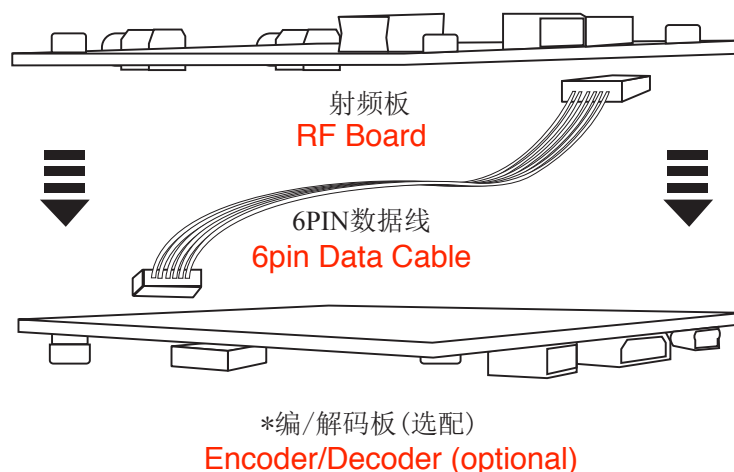
3.包装内容　3. Contents in the Package

3.1模组　3.1 Modules

*选件

ARLINK P101 2PXG
发送端射频板×1、接收端射频板×1
Transmit RF Board x1, Receive RF Board x1

*ARLINK P101 2PXG
编码板×1、解码板×1
Encoder Board x1, Decoder Board x1

3.2配件　3.2 Accessories

ARLINK P101 专用天线×4 **Specialized antenna x4**	6PIN UART 数据线×2 **6 Pin UART Data Cables x2**	6PIN 电源线×2 **6 Pin Power Cables x2**
*选件 **Optional** *USB2.0转T型 5针数据线×1 **USB 2.0 to T 5-pin Data Cable x1**	*选件 **Optional** *Micro USB转 OTG数据线×1 **Micro USB to OTG Data Cable x1**	*选件 **Optional** *Micro HDMI 数据线×1 **Micro HDMI Data Cable x1**

4.接口说明 Description of Interface

射频板 RF Board

A 正面 A Front Side   B 反面 B Back Side
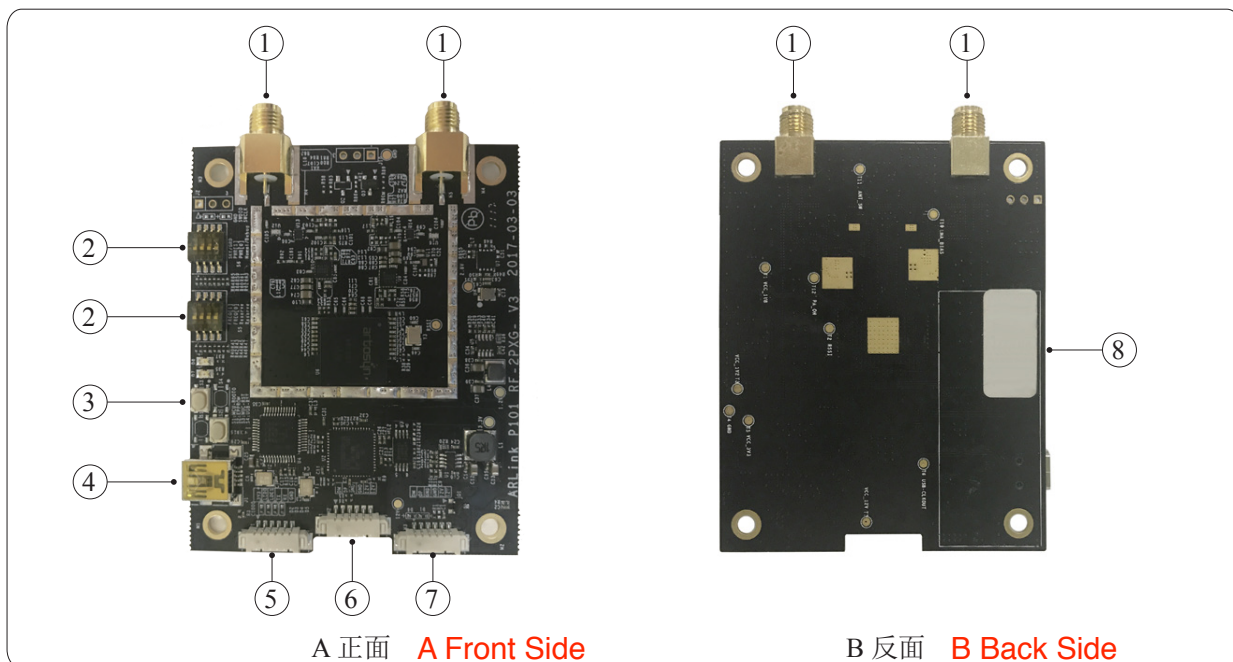
①	SMA 天线接头	④	USB 接口	⑦	6PIN 电源口（5V~15V）
	SMA Antenna Connector		USB Port		6-pin Power Port (5V~15V)
②	拨码开关	⑤	6PIN UART 数据接口	⑧	射频板标签
	Switches		6-pin UART Data Port		RF Board Label
③	复位按键	⑥	6PIN 编解码数据接口		
	Reset Button		6-pin Encoder/Decoder Data Port		

*编/解码板 Encoder/Decoder Board

A 正面 A Front Side   B 反面 B Back Side
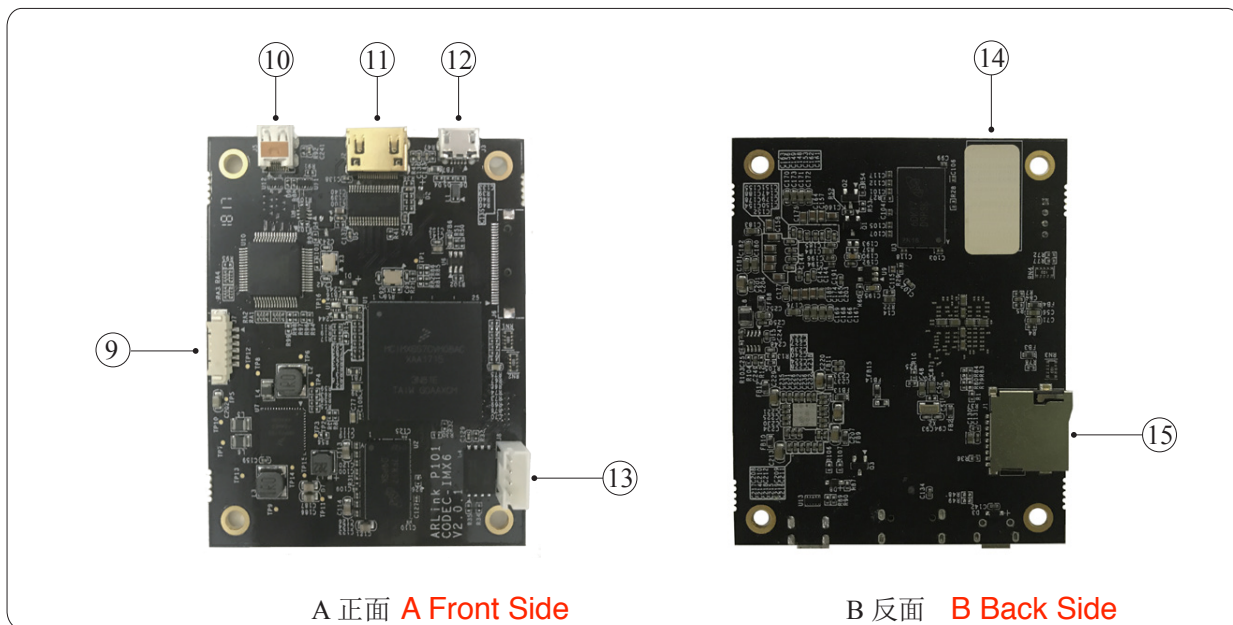
⑨	6PIN 图传数据接口	⑪	Mini HDMI OUT	⑬	4PIN UART 数据接口	⑮ TF 卡插槽
	6-pin Video/Data Port				4-pin UART Data Port TF Card Slot
⑩	Micro HDMI IN	⑫	MicroUSB 接口（调试）	⑭	编/解码标签
			MicroUSB Port (Debug)		Encoder/Decoder Label

5.技术指标　5. Technical Spec.

⑤ 6PIN UART 数据接口
6-pin UART Data Port

No.	Name
1	VCC33
2	LED0
3	LED1
4	UART_TX
5	UART_RX
6	GND

⑥ 6PIN 编解码数据接口
6-pin Encoder/Decoder Data Port

No.	Name
1	USB_DM
2	USB_DP
3	GND
4	GND
5	VCC
6	VCC

⑦ 6PIN 电源口（5V~15V）
6-pin Power Port (5V~15V)

No.	Name
1	USB_DM
2	USB_DP
3	GND
4	GND
5	VCC
6	VCC

发送模块 Transmit Module

编号 #	项目 Item	内容 Description	说明 Note
1	视频输出接口 Video Output Port	USB2.0	编码后的视频数据通过USB口输入 Encoded video data gets in through USB Port
2	双向数传接口 Bi-Directional Data Port	UART	波特率可配置 Baud Rate Adjustable
3	MIMO模式 MIMO Mode	2发2收 2 Tx 2 Rx	
4	发射功率 Transmit Power	100mW-300mW	根据需要可调 Adjustable based on needs
5	通信频率段 Freq. Band	2.3GHz~2.7GHz	根据用户的要求可定制 Customizable according to customer requirement
6	操作系统 OS	支持Windows，Linux，Andriod	
7	视频码率 Video Code Rate	5Km可传输4Mbps 4Mbps at 5km	10Km可传输1Mbps 1Mbps at 10km
8	信道带宽 Channel BW	10MHz	
9	输入电压 Input Voltage	5V~15V	
10	功耗 Power Consumption	<5W	
11	工作温度范围 Temp. Range	-40~85度 -40~85C	
12	尺寸 Dimension	75mm X 60mm X 7mm	W X L X H

接收模块 Receive Module

| 编号 #	项目 Item	内容 Description	说明 Note
1	视频输出接口	USB2.0	
2	双向数传接口	UART	
3	MIMO模式	1发2收 1 Tx 2 Rx	
4	发射功率	100mW-200mW	根据需要可调 Adjustable based on needs
5	通信频率段	2.3GHz~2.7GHz	根据用户的要求可定制 Customizable according to customer requirement
6	操作系统	支持Windows，Linux，Andriod	提供API接口，可支持嵌入式系统应用 Provides API. Supports embedded applications
7	视频码率	5Km可传输4Mbps 4Mbps at 5km	10Km可传输1Mbps 1Mbps at 10km
8	信道带宽	10MHz	
9	输入电压	5V~15V	
10	功耗	<3W	
11	工作温度范围	-40~85度	
12	尺寸	75mm X 60mm X 7mm	W X L X H

6.操作指南　6. Operations Guidance

6.1使用前准备 Preparation before use

6.1.1 PC机准备　Preparation of PC

(a) USB驱动安装 Installation of USB Driver

1. 打开提供的SDK工具包　Open the SDK toolbox provided

2. 进入"libusb-win32-bin-1.2.6.0\bin"，打开"inf-wizard.exe" Enter "libusb-win32-bin-1.2.6.0\bin", then open "inf-wizard.exe"

3. 选择vid为"0xAAAA"，pid为"0xAA97" Choose VID as "0xAAAA"and PID as "0xAA97"

4. 点击"Next"，选择任意路径安装配置文件，点击"Done"完成 Click on "Next", choose any installation path for the config. file, click "Done" to complete it.

5. 点击"Install Now"，完成安装　Click on "Install Now" and complete installation.

6. 安装完成后，打开设备管理器看到如下图所示红色标注的设备，即代表驱动安装完成。
After the installation is finished, open the Device Manager. The driver installation is completed if the device marked in red is shown.
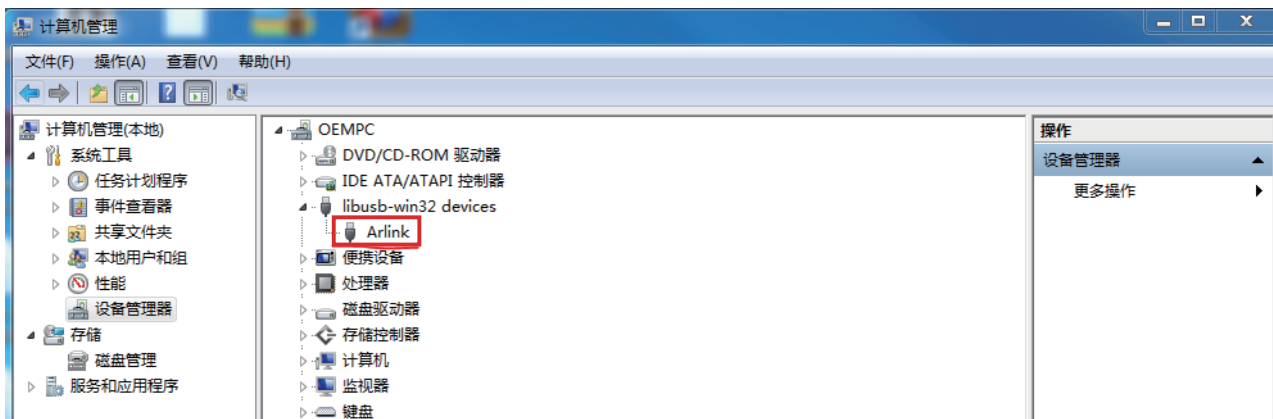
(b) 应用软件安装　Installation of application software

打开提供的SDK工具包　Open the SDK tool box provided

将文件夹"Artosyn Test System"复制到调试用电脑中的本地磁盘即可。 Copy folder "Artosyn Test System" to the local hard drive of the computer used for debugging.

(c) 串口调试工具准备　Preparation for serial port debugging

1. 在PC上连接串口调试工具至PC（客户自备） Connect serial port debugging tool to PC (prepared by the user)

2. 串口参数设置如下：Settings of the serial port

波特率 115200　Baud rate
数据位 8　Data
校验位 None　Parity Check
停止位 1　Stop bit
流 控 None　Stream control

6.1.2 安卓平板端准备　Preparation on Android tablet
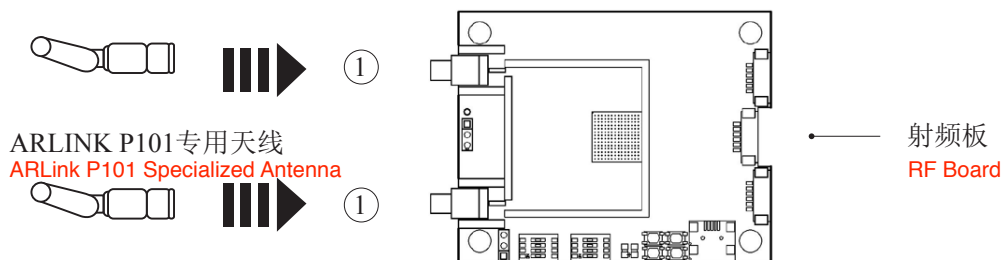
安装APK　Installation of APK

在电脑中打开提供的SDK工具包，将ARLink Player.apk拷贝到平板中，然后再进入文件管理器，找到APK文件，然后打开运行安装。
Open the SDK tool box provided, copy the "ARLink Player.apk" to the tablet. Enter the File Manager. Find the APK file and run it.

6.2 发送端模块配置 Configuration of Transmit Module

6.2.1 连接ARLink P101专用天线 Connect the ARLink P101 Specialized Antenna

ARLINK P101专用天线
ARLink P101 Specialized Antenna

① ①

射频板
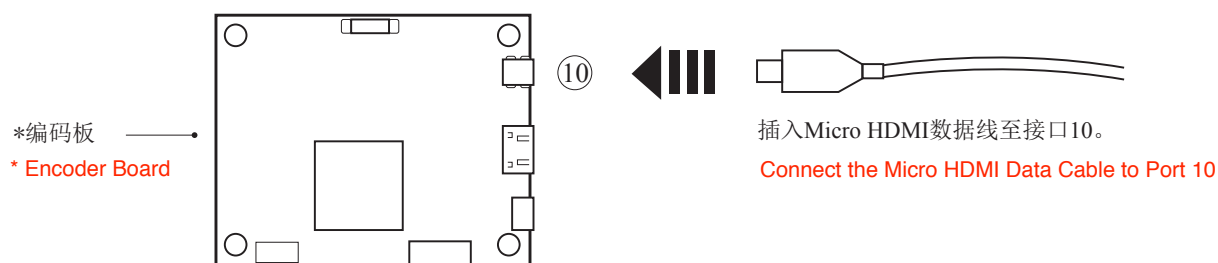RF Board

⚠ 注意：连接ARLINK P101专用天线不可用力过度。如果用力过度，将可能导致接头损坏。

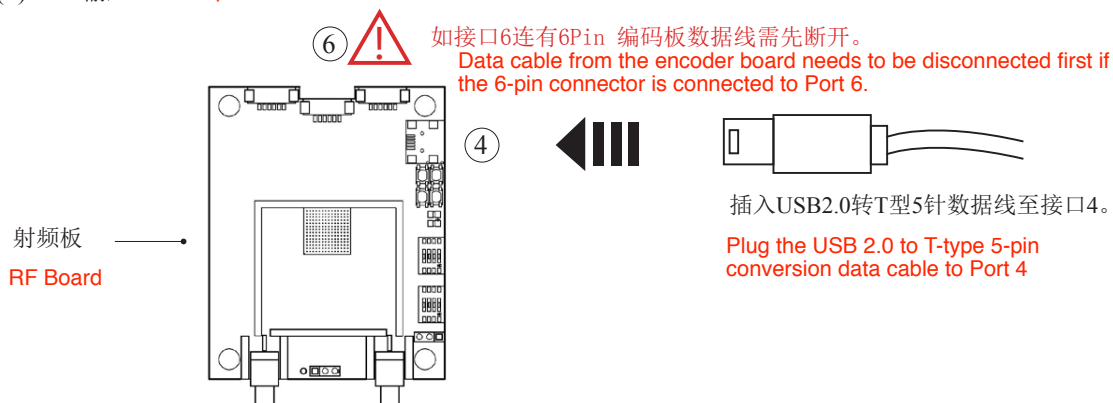Attention: Gentle when connecting the ARLink P101 antenna. The connector may be damaged if extra force is applied.

6.2.2 接入视频信号 Connect the video signal

(a)HDMI输入（＊编码板选配） HDMI Input (*Encoder Board Selection/Configuration/Option ??)

⑩

*编码板
* Encoder Board

插入Micro HDMI数据线至接口10。

Connect the Micro HDMI Data Cable to Port 10

(b)USB输入 USB Input

⑥ ⚠ 如接口6连有6Pin 编码板数据线需先断开。
Data cable from the encoder board needs to be disconnected first if the 6-pin connector is connected to Port 6.

④

射频板
RF Board

插入USB2.0转T型5针数据线至接口4。

Plug the USB 2.0 to T-type 5-pin conversion data cable to Port 4

6.2.3 串口连接 Serial port connection

射频板
RF Board

⑤

通过6PIN数据线连接串口至接口5。
Connect the serial port to port 5 through the 6-pin data cable

⚠ 注意：6PIN数据连接线正面接入射频板。如反面接入，将会导致电路板烧坏。

Attention: the 6-pin data cable has to be connected with the front side [shown as in the picture on the right]. Otherwise, the PCB will be damaged.

正面 √ 　　　反面 ✕

Front √ 　　　Back X

6

6.3 接收端模块配置 Configuration of Receive Module

6.3.1 连接ARLink P101专用天线 Connect the ARLink P101 Specialized Antenna

ARLINK P101专用天线
ARLink P101 Specialized Antenna

① ①

射频板
RF Board

⚠ 注意：连接ARLINK P101专用天线不可用力过度。如果用力过度，将可能导致接头损坏。
Attention: Gentle when connecting the ARLink P101 antenna. The connector may be damaged if extra force is applied.
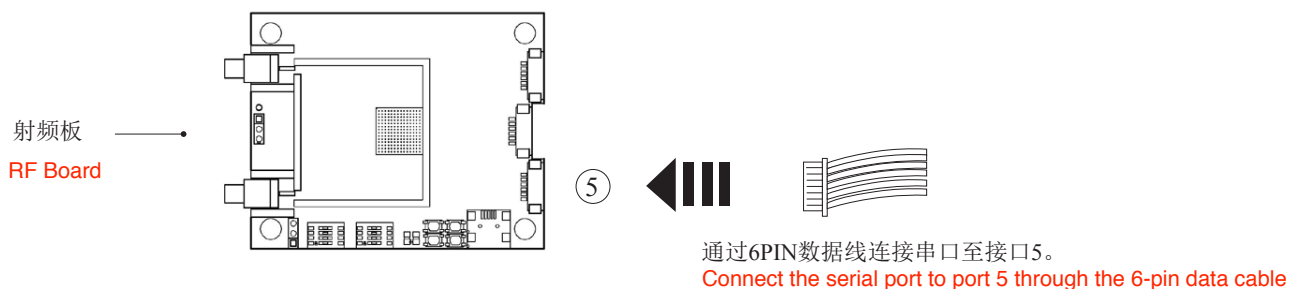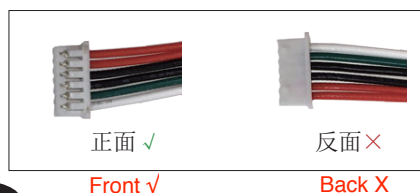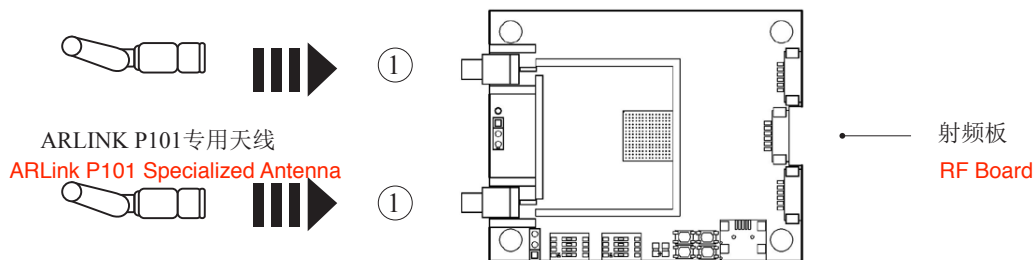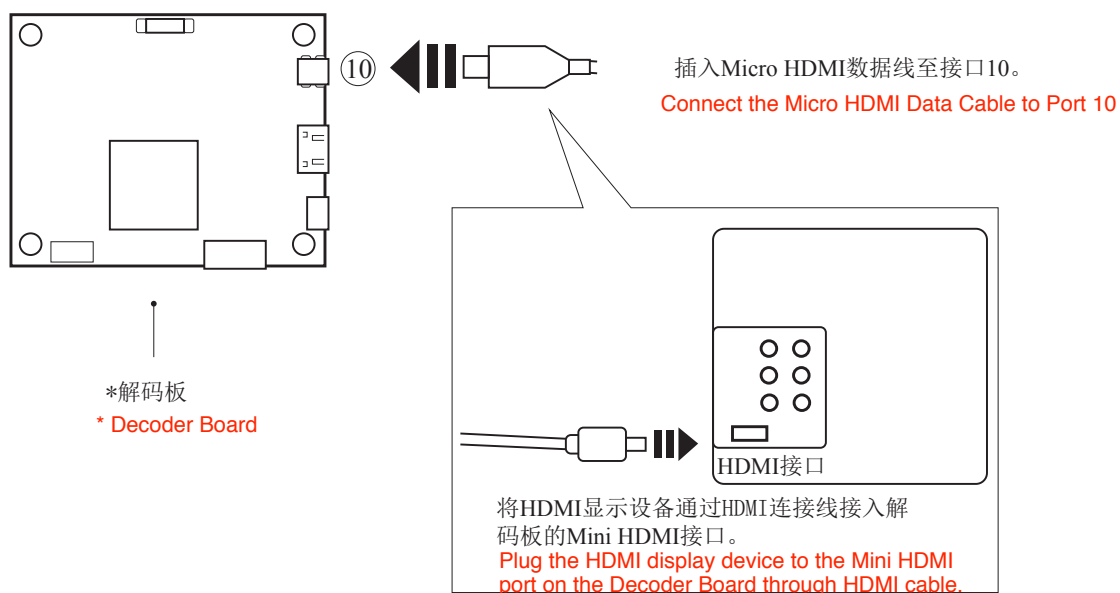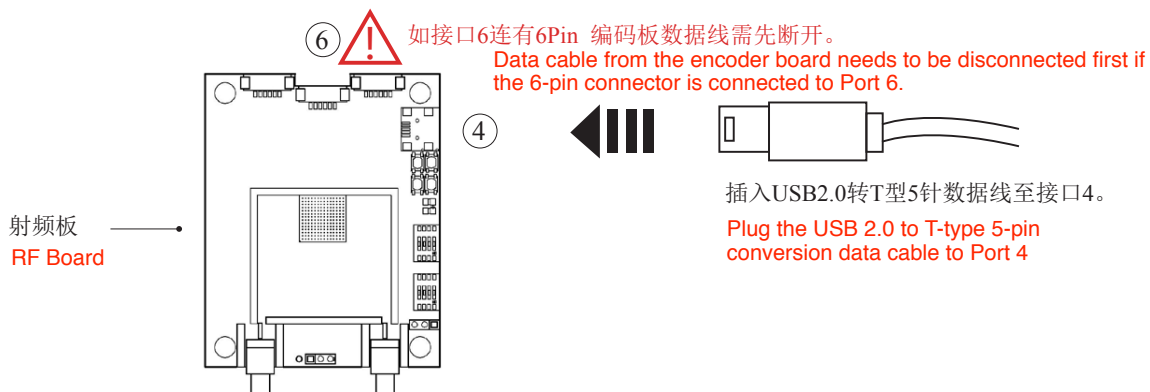
6.3.2 视频输出 Video Output

(a)HDMI输出（＊解码板选配） HDMI Output (*Decoder Board Selection/Configuration/Option ??)

⑩ 插入Micro HDMI数据线至接口10。
Connect the Micro HDMI Data Cable to Port 10

＊解码板
* Decoder Board

HDMI接口

将HDMI显示设备通过HDMI连接线接入解码板的Mini HDMI接口。
Plug the HDMI display device to the Mini HDMI port on the Decoder Board through HDMI cable.

(b)PC输出 PC Output

连接射频板的USB接口至PC。 Connect the USB port on the RF Board to PC

⑥ ⚠ 如接口6连有6Pin 编码板数据线需先断开。
Data cable from the encoder board needs to be disconnected first if the 6-pin connector is connected to Port 6.

④

插入USB2.0转T型5针数据线至接口4。
Plug the USB 2.0 to T-type 5-pin conversion data cable to Port 4

射频板
RF Board

7

(c)平板输出 Tablet Output

插入USB2.0转T型5针数据线。Plug the USB 2.0 to T-type 5-pin conversion data cable

⑥ ⚠ 如接口6连有6Pin 编码板数据线需先断开。
Data cable from the encoder board needs to be disconnected first if
the 6-pin connector is connected to Port 6.

④

射频板
RF Board

To OTG数据线 To OTG Data Cable
针对Micro USB接口 This is regarding the Micro USB Port
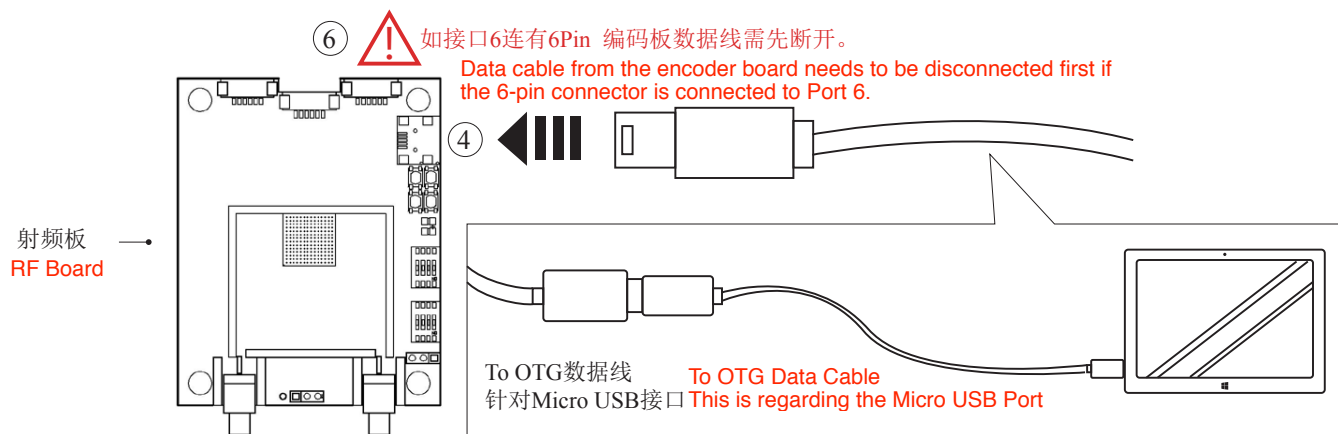
6.4 上电前检查 Check before power up

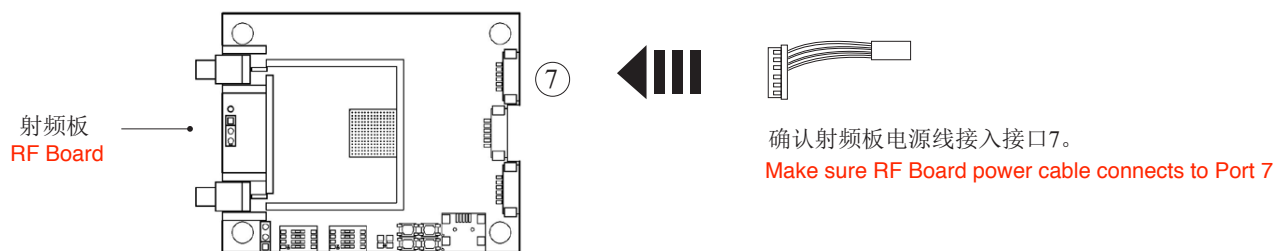6.4.1 电源电压、极性检查 Check the voltage and polarity

确认电压在5V~12V。 Confirm the voltage is 5V~12V.

⊖ ⊙ ⊕

⚠ 注意极性，如正负极接反，将会导致电路板烧坏。
Pay attention to the polarity. The PCB will be damaged if the polarity is the opposite.

6.4.2 电源接口检查 Check the power port

射频板
RF Board

⑦

确认射频板电源线接入接口7。
Make sure RF Board power cable connects to Port 7

⚠ 注意电源线线正面接入射频板。如反面接入，将会导致电路板烧坏。
Attention: the power cable has to be connected with the front side
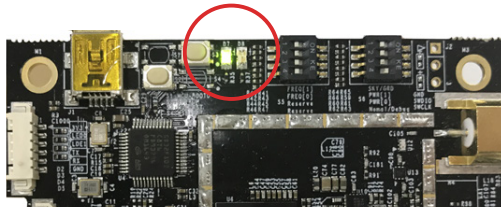[shown as in the picture below]. Otherwise, the PCB will be damaged.

正面 √ 反面 ×
Front √ Back X

6.5 设备上电　Powering up

6.5.1 LED灯状态说明　Status of LED
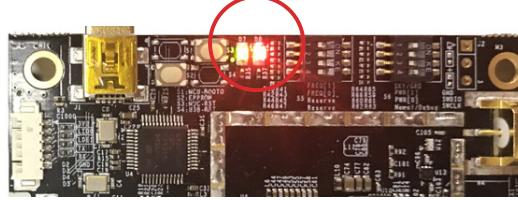
(a)发送端绿色灯常亮，说明上电成功，对频完成。

Green LED on the Transmit Side indicates successful power up and frequency match.

射频板发送端
RF Board Transmit

(b)接收端红灯亮起，说明上电成功。绿色灯常亮说明对频成功。

Red LED on the Receive Side indicates successful power up. Green LED indicates successful frequency match.

射频板接收端
RF Board Receive

⚠ 注意：如LED灯状态与上图不同，请参考手册7.LED灯状态说明。

Attention: Please refer to Section 7 "Status of LED" in the Reference Manual, if the LED status differs from the above.

6.5.2 图像传输显示　Video display

(a)HDMI输出（解码板选配）HDMI Output (Decoder)

图像流畅无马赛克，说明系统工作正常。Smooth video without masaic indicates normal operation

⚠ 注意：如屏幕无图像显示，请参考手册6.1输出无图像。

Attention: Please refer to Section 6.1 "No Output Video" if there is no video on the screen.

(b)通过USB输出至PC Output to PC through USB

1)在PC上打开Artosyn player文件夹。双击ArtosynPlayer.exe，打开应用软件。 Open the Artosyn Player folder on the PC. Double click ArtosynPlayer.exe to open the application software.

2)按下"Artosync Player"按钮，打开播放器。 Click on the "Artosyn Player" icon and open the player

3)点击"receive"，此时图像可正常显示。说明系统工作正常。 Click on "Receive". The video should work. This indicate the system is working normally.

⚠️ 注意：如屏幕无图像显示，请参考手册6.1输出无图像。
Attention: Please refer to Section 6.1 "No Output Video" if there is no video on the screen.

(c)通过USB输出至安卓平板 Output to Android Tablet through USB

1)在安卓平板上打开Artosyn player应用。Open the Artosyn Player application on Android tablet
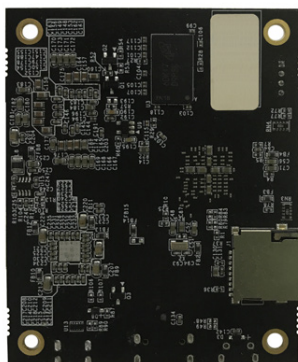
2)此时图像可正常显示。说明系统工作正常。 The video should display normally. This indicates the system is working normally.

⚠️ 注意：如屏幕无图像显示，请参考手册6.1输出无图像。
Attention: Please refer to Section 6.1 "No Output Video" if there is no video on the screen.

6.5.3 TF卡保存（*编码版选配） TF Card Storage (*Encoder Board)

⑮ ◀ⅠⅠ

*编码版
* Encoder Board

TF卡插入接口15中，即可实时自动保存码流文件。
Insert TF Card in Port 15. Streaming file will be automatically saved on a real time basis.

7.常见问题解答 7. FAQs

7.1 输出无图像 No output video

(a) 检查发送端和接受端LED灯，是否处在对频成功状态。

(b) 检查运动相机或视频输入源是否正常工作。

(c) 确认连接线连接正常并插紧。

(d) 重启播放器。

(e) 保持发送端正常工作，重启接受端。

7.2 播放不流畅 Video playing not smooth

(a) 确认输入视频格式是否超出标准（1080P30）。

(b) 确认连接线连接正常并插紧。

(c) 确认供电电源正常：电压范围（5~15V），纹波<120mV，无过载现象出现。

8.LED灯状态说明 8. LED Status Description

过程 Process	板子 Board	系统状态 System Status	灯的状态 Status of Light
正常工作 Normal Operation	发送端 Transmit End	系ID搜寻中（首次） ID Search in Progress (1st Time)	红灯闪烁 Red Light Blinking
		ID搜寻成功 ID Search Successful	红灯熄灭，切换到对频中 Red Light Off, Switch to Freq. Matching
		对频中 Freq. Matching in Progress	绿色灯闪烁 Green Light Blinking
		对频成功 Freq. Matching Successful	绿色灯常亮 Green Light Stays On
	接收端 Receive End	上电成功 Power Up Successful	红灯点亮 Red Light Turning On
		对频成功 Freq. Matching Successful	绿色灯常亮 Green Light Stays On