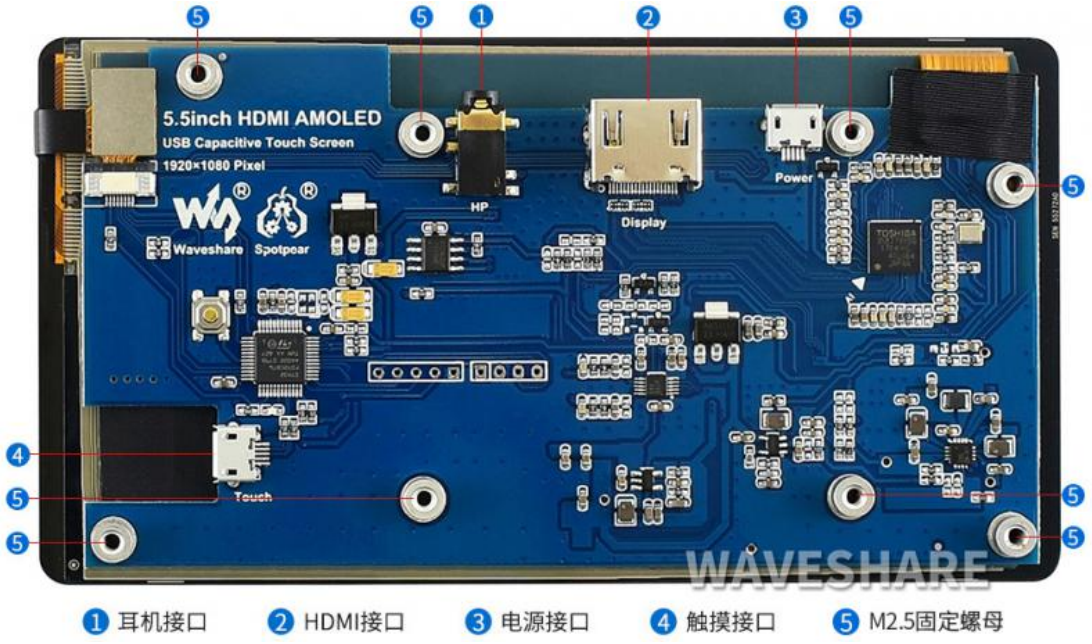
5.5inch HDMI AMOLED

Notices

The glass panel of AMOLED is fragile without enclosure, please take care of it when using. You need to hold the PCBA when plugging the HDMI cable and USB cable to protect the glass panel from hard pressure.

Introduction

5.5inch AMOLED display, with a resolution of 1080×1920 and a capacitive touch panel, which supports Raspberry Pi and can also be used as a computer monitor.



Features

5.5inch AMOLED, 1080x1920 resolution.

Toughened glass capacitive touch panel.

Supports popular mini PCs such as Raspberry Pi, as well as general desktop computers

When works with Raspberry Pi, supports Raspbian/Ubuntu/Kali/Retropie, driver free.

When works as a computer monitor, supports Windows 10/8.1/8/7, five-points touch, and driver free.

3.5mm audio jack, supports HDMI audio output.

M2.5 screw holes for easy mounting.

How to use

Working with Windows PC

When working with PC, 5.5inch HDMI AMOLED can support Windows 7/ 8/ 8.1 /10 OS

1. Connect the TOUCH interface of LCD to the USB interface of PC. Wait for a while, the windows will automatically recognize the touch function.

2. If you use HDMI, you need to connect the HDMI interface of LCD to the HDMI port of PC. About 10s later, you can see the LCD display properly. If you need to output sound, you can insert a 3.5mm earphones to HP ports.

Note:

1) When the computer is connected to several different displays at the same time, only this LCD can be used to control the cursor on the main display, so we recommended to set this LCD as the main display.

2) Sometimes, USB ports of PC have not enough power to power 5.5inch HDMI AMOLED, in this case, you can connect external 5V/2A power adapter to DC interface of 5.5inch HDMI AMOLED.

3)If the LCD cannot display normally after connecting, please restart your PC and check again.

Working with Raspberry Pi

When working with Raspberry Pi, 5.5inch HDMI AMOLED can support various systems like Raspbian/Ubuntu Mate/Kail/Retropie/WIN10 IoT. Herein we take Raspbain as an example.

Raspberry Pi cannot recognized and adapted to the resolution of LCD plugged, therefore, we need to set the resolution of Raspbian manually.

Please download the latest version of the image on the Raspberry Pi official website.

1) Download the compressed file to the PC, and unzip it to get the .img file.

2) Connect the TF card to the PC, use SDFormatter.exe software to format the TF card.

3) Open the Win32DiskImager.exe software, select the system image downloaded in step 1, and click'Write' to write the system image.

4) After the image has finished writing, open the config.txt file in the root directory of the TF card. Add the following code at the end of config.txt, then save and quit the TF card safely.

```
max_framebuffer_height=1920
max_usb_current=1
config_hdmi_boost=10
hdmi_group=2
hdmi_force_hotplug=1
hdmi_mode=87
hdmi_timings=1080 1 26 4 50 1920 1 8 2 6 0 0 0 60 0 135580000 3
dtoverlay=vc4-fkms-v3d
```

If you use the LCD with Raspberry Pi 4B,you need to remove line dtoverlay=vc4-fkms-V3D from config.txt file.

5) Save and eject the SD card. Plug the card to your Raspberry Pi

6) Connect Touch interface of LCD to one USB port of Raspberry Pi

7) Connect HDMI interface of LCD to HDMI interface of Raspberry Pi

8) Power on Raspberry Pi, and wait for a few seconds until the LCD displays normally.

【Note】The LCD is vertically displayed by default. You can refer to #Orientation Setting to change the orientation.

Screen Saver

AMOLED screen has many advantages like high contrast, wide color range, wide view angle, and so on. However, it is easy to face a burn-in problem if displaying the same content for a long time. **As we test, the AMOLED cannot be restored if it displays the same static image for more than 168 hours because of burn-in problem**. In this case, we recommend you set a screen saver and do not let the AMOLED display the same static image for a long time （cannot longer than 1h）.

You can install screen saver with the command below:

```
sudo apt-get install xscreensaver
```

Orientation Setting

1. To rotating the display, you can append this statement to the config file

```
display_rotate=1 #1: 90; 2: 180; 3: 270
```

2. Reboot the Raspberry Pi

```
sudo reboot
```

Touch Rotating

With the operation above. The screen could rotate in display. However, the touch works improperly. To rotate the touch as display, you could do as below:

1. install libinput

```
sudo apt-get install xserver-xorg-input-libinput
```

If the system you installed is Ubuntu or Jetson Nano. The installation code is:

```
sudo apt install xserver-xorg-input-synaptics
```

2. Create the xorg.conf.d directory under /etc/X11/ (if the directory already exists, proceed directly to step 3).

```
sudo mkdir /etc/X11/xorg.conf.d
```

3.Copy the 40-libinput-conf file to the directory you created just now.

```
sudo cp /usr/share/X11/xorg.conf.d/40-libinput.conf /etc/X11/xorg.conf.d/
```

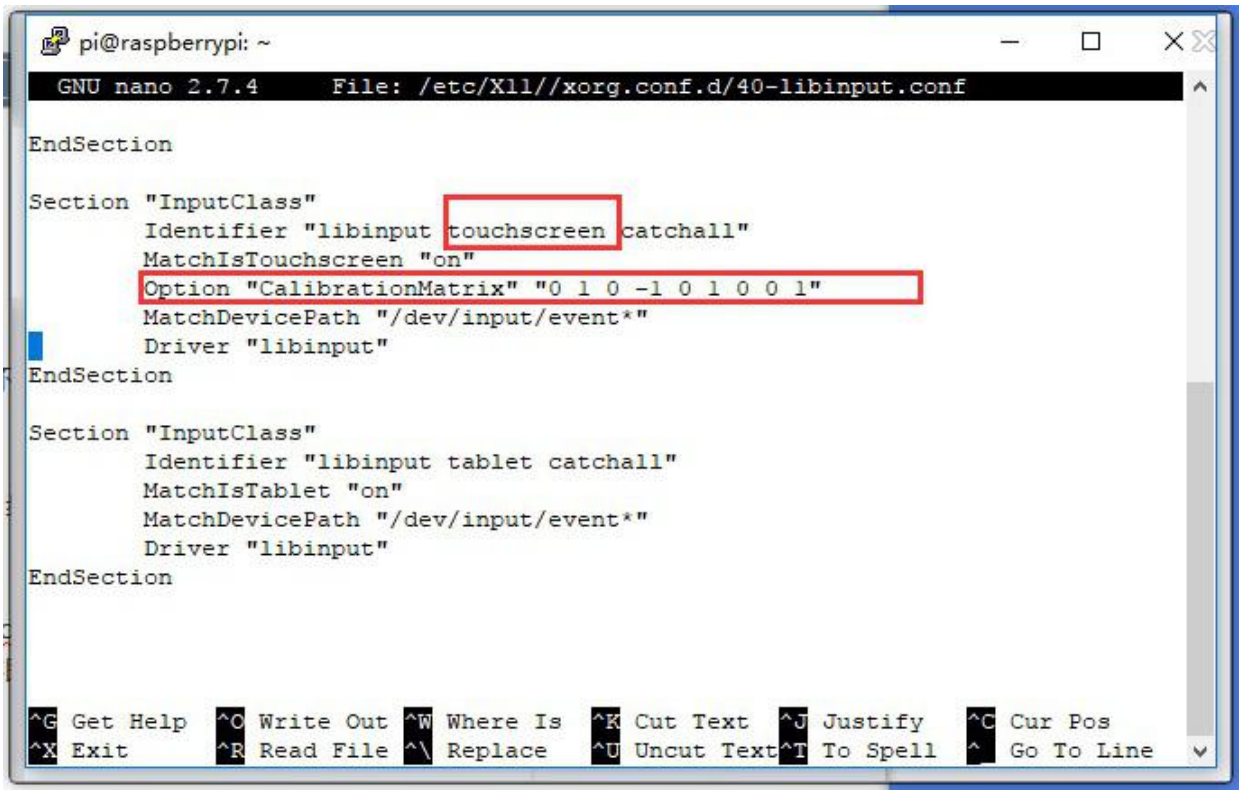
4.Edit this file.

```
sudo nano /etc/X11/xorg.conf.d/40-libinput.conf
```

Find the part of the touchscreen, add the following statement inside, and then save the file.

```
Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"
```

Similar to the picture below:



5. save and reboot your Pi

```
sudo reboot
```

After completing these steps. The LCD could rotate 90 degrees both display and touch.

Note:

90 degree: Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"

180 degree: Option "CalibrationMatrix" "-1 0 1 0 -1 1 0 0 1"

270 degree: Option "CalibrationMatrix" "0 -1 1 1 0 0 0 0 1"

Some advanced uses of Pi4

If you want to make some advanced display applications on Pi4, in these applications, the dtoverlay=vc4-fkms-v3d function in config.txt must be opened. The following section describes how to open dtoverlay=vc4-fkms-v3d and rotate the display in Pi4.

1. Open the config.txt file in the root directory of the TF card, add the following code at the end of config.txt, and comment out dtoverlay=vc4-fkms-V3D, save and quit the TF card safely, insert the TF card into the Raspberry Pi, and start the system.

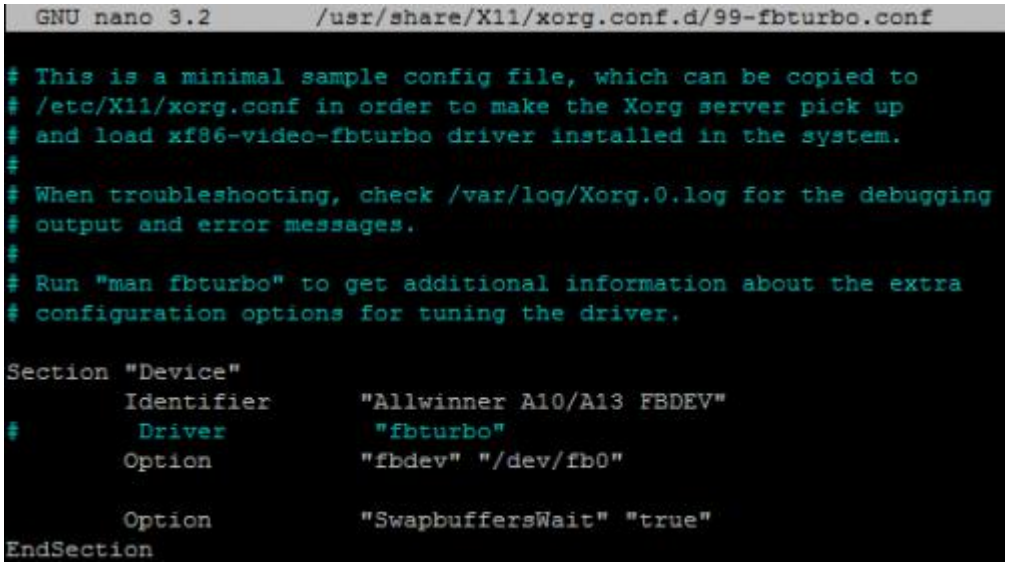
```
max_framebuffer_height=1920
```

```
max_usb_current=1
```

```
config_hdmi_boost=10

hdmi_group=2

hdmi_force_hotplug=1

hdmi_mode=87

hdmi_timings=1080 1 26 4 50 1920 1 8 2 6 0 0 0 60 0 135580000 3
```

2.Edit /usr/share/X11/xorg.conf.d/99-fbturbo.conf and comment out Driver "fbturbo", as shown below:

```
sudo nano /usr/share/X11/xorg.conf.d/99-fbturbo.conf
```



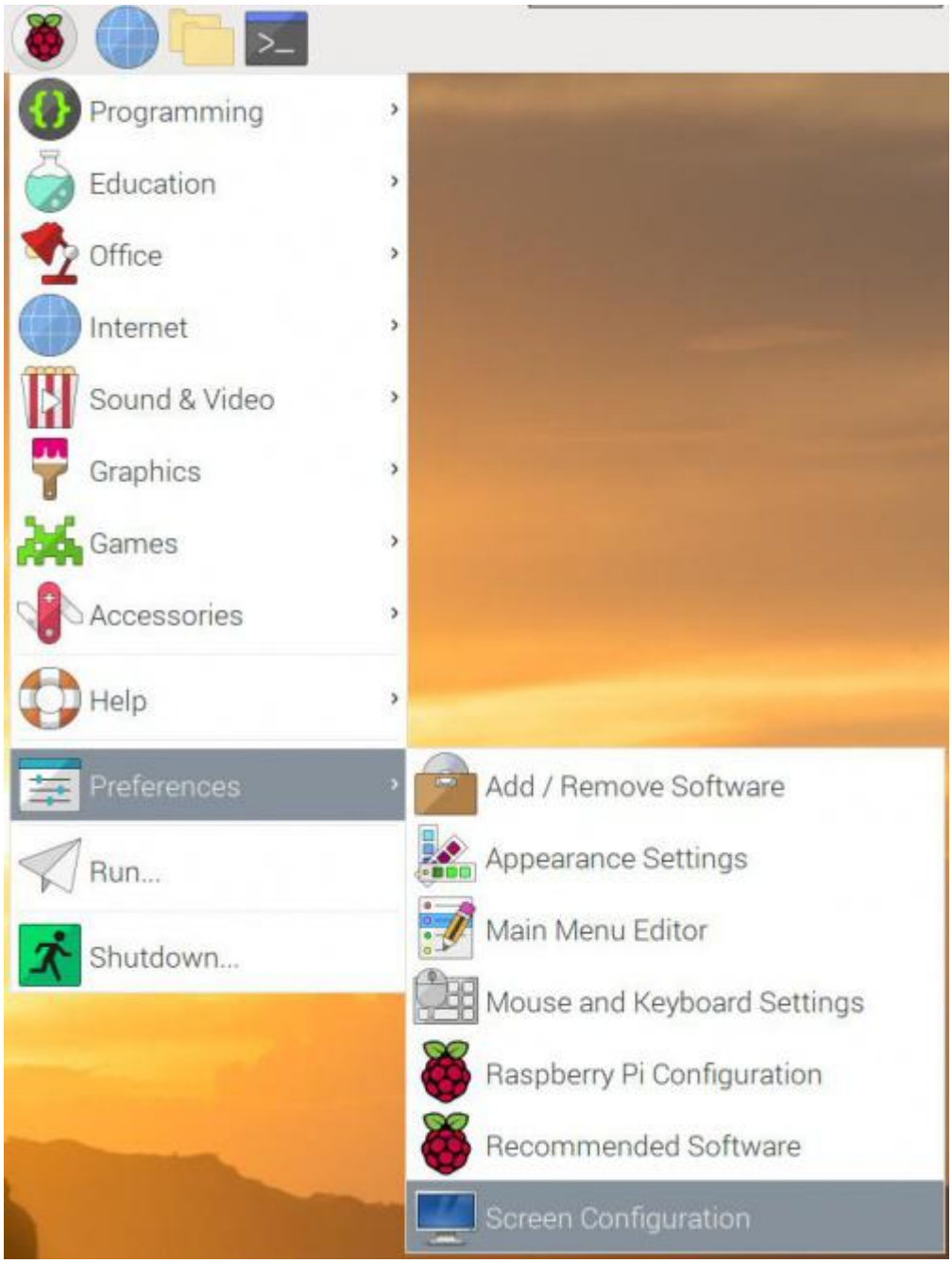
3.Open config.txt file

```
sudo nano /boot/config.txt
```

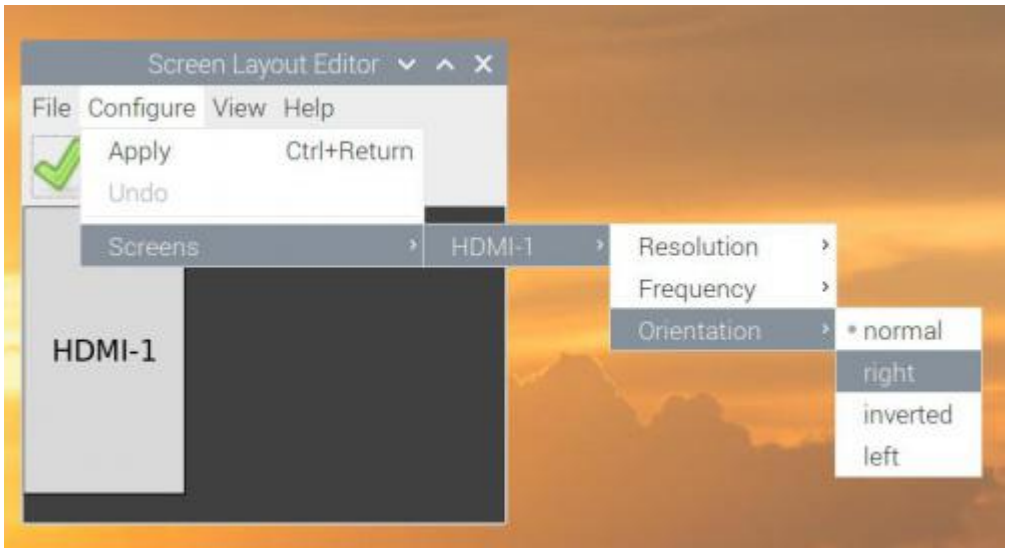
Turn on dtoverlay=vc4-fkms-V3D and reboot the system.(uncomment the line dtoverlay=vc4-fkms-V3D)

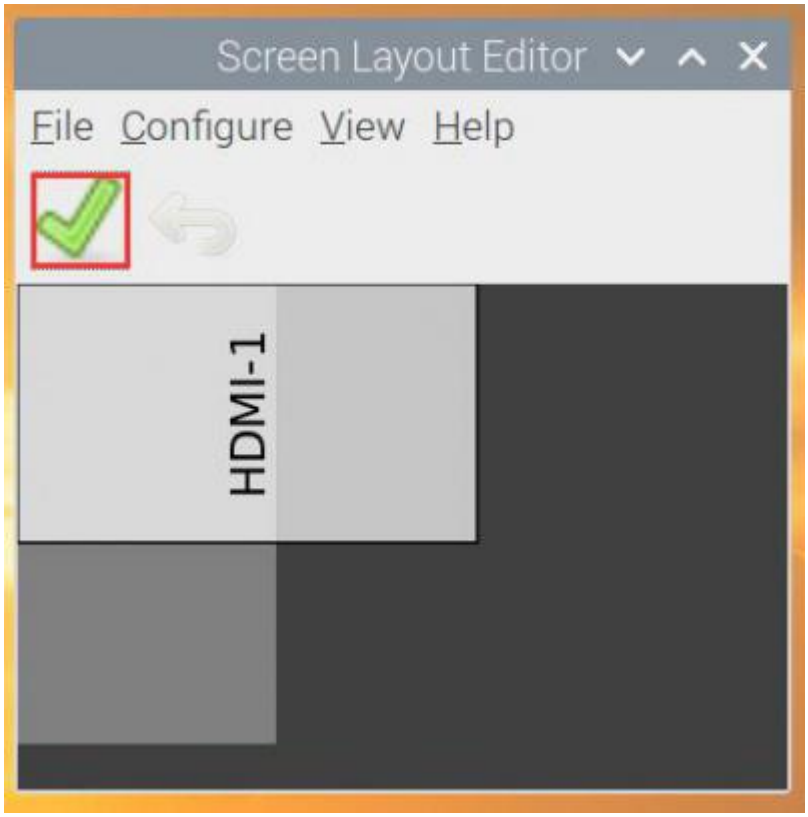
Note: In config.txt, the display_rotate function cannot be turned on.

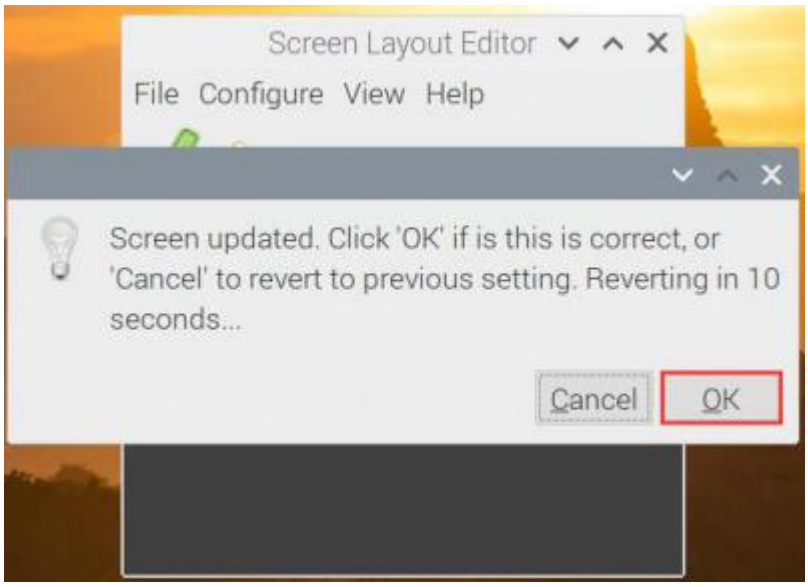
4.Open Screen Configuration.



5.Set the rotation as shown below.


Screen Layout Editor
File Configure View Help
Apply Ctrl+Return
Undo
Screens
HDMI-1
Resolution
Frequency
Orientation
normal
right
inverted
left
HDMI-1


Screen Layout Editor
File Configure View Help
HDMI-1



6. And then after rotating touch, the LCD can be used normally.

Note: When rotating the display in this way, there will be a few seconds to display the vertical screen when booting up the system. After entering the system, it will display on the horizontal screen.

FAQ

Question:

How to make 5.5inch HDMI AMOLED work with Android?

Answer:

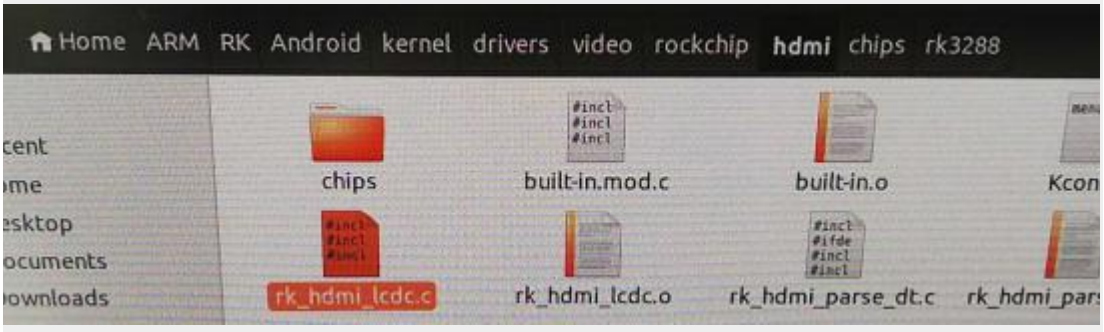
Hardware:RK3288

OS: Android 6.0

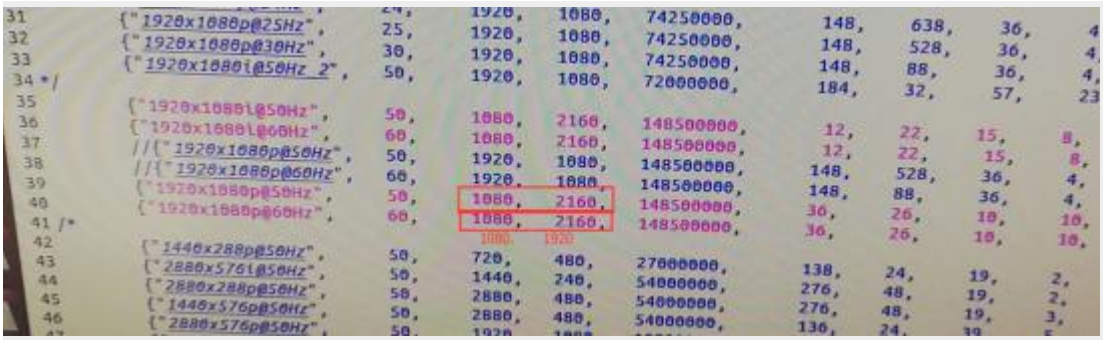
Protocol: Adjust output from 1920 1080 to 1080 1920

Require: It requires that users are able to compile the kernel and have knowledge about Android.

Step 1: Open files as below (sources codes of the kernel)



Step 2: find the codes as below, modify it to 1080 1920



Step 3: Re-compile kernel and replace.

Because Android OS are different in different platform, you need to porting yourself for a certain platform, guides above is just provided for reference.

Question:

What can I do if I connect to the PC with AMOLED and it cannot display normally?

Answer:

Make sure that the HDMI interface of the PC can output normally.

The PC only connects to this LCD as a monitor without others.

You should connect the touch cable first and then the HDMI cable.

Some PC need to be restarted to make the 5.5inch HDMI AMOLED display normally.

Question:

What it the consumption of 5.5inch HDMI AMOLED?

Answer:

With 5V power input, the working current is 650mA when displaying all white, 250mA when displaying all black.

Question:

What is the thickness of 5.5inch HDMI AMOLED?

Answer:

The thickness of AMOLED and PCB is about 4.8mm, and it is 11mm with HDMI connector.

Question:

What it the luminance of 5.5inch HDMI AMOLED?

Answer:

The Max luminance is about 500LUX.

Question:

What is the color gamut of the 5.5inch HDMI AMOLED module?

Answer:

90%NTSC.

Question:

How to control the brightness of 5.5inch HDMI AMOLED?

Answer:

You can manually adjust the brightness through the button on the back of the 5.5inch HDMI display(show in the following picture). Short press to turn on or off the display, long press to adjust the brightness, and the brightness is divided into five levels.