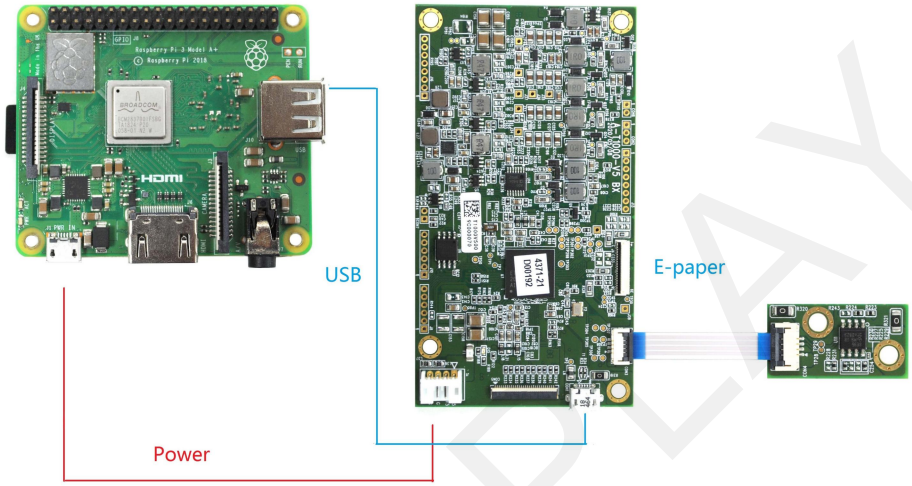
GooDisplay

Development Board for 13.3 inch Color Parallel E-paper Display DEQM-133S1(C133)

GooDisplay®

Dalian Good Display Co., Ltd.

Product Specifications



Customer	**Standard**
Description	**Drive Board for 13.3'' E-paper**
Model Name	**DEQM-133S1(C133)**
Date	**2023/12/06**
Revision	**1.0**

	Design Engineering		
	Approval	**Check**	**Design**
	刘宝玉印	修燕凤印	吴良之印

Zhongnan Building, No.18, Zhonghua West ST,Ganjingzi DST,Dalian,CHINA
Tel: +86-411-84619565
Email: info@good-display.com
Website: www.good-display.com

Contents

1. Overview

13.3 inch ACEP color electronic paper display panel driver board, DEQM-133S1 (C133), has been specifically developed for this color screen. The driver board comprises the mainboard DEQM-133S1 and the adapter board DEQAC-C133. It supports WiFi communication, allowing users to update display content directly through a local WiFi network. Additionally, to enhance user experience, we have implemented algorithmic image processing on imported images, resulting in a more three-dimensional and aesthetically pleasing display picture.

2. Product Advantages

2.1. Basic Functions

Refresh Modes: Full update for 25s
Display Direction: Horizontal and vertical
Drawing Method: Dot matrix
Driving method: Linux motherboard

2.2. Product Applications

Libraries, museums, hospitals, government institutions, supermarkets, etc.

3. Structure Specification

Model	DEQM-133S1(C133)
Selectable Operating Systems	Linux
Outline Size	DEQM-133S1 (65x57mm) DEQAC-C133 (100x55mm)
Power Supply	DC5/2A
Operating Temp.	+15 ℃ ~ 35 ℃
Main Function	WiFi Communication
Mainboard Specifications	CPU: Quad-core ARM Cortex A72 1.5GHz Memory: DDR4 1G Storage Capacity: EMMC 8G Network: Supports Bluetooth 5.0 protocol, 2.4/5.0 GHz dual-band wireless LAN Image Rotation: Manual rotation at 0/90/180/270 degrees Operating System: Linux

4. Product Structure

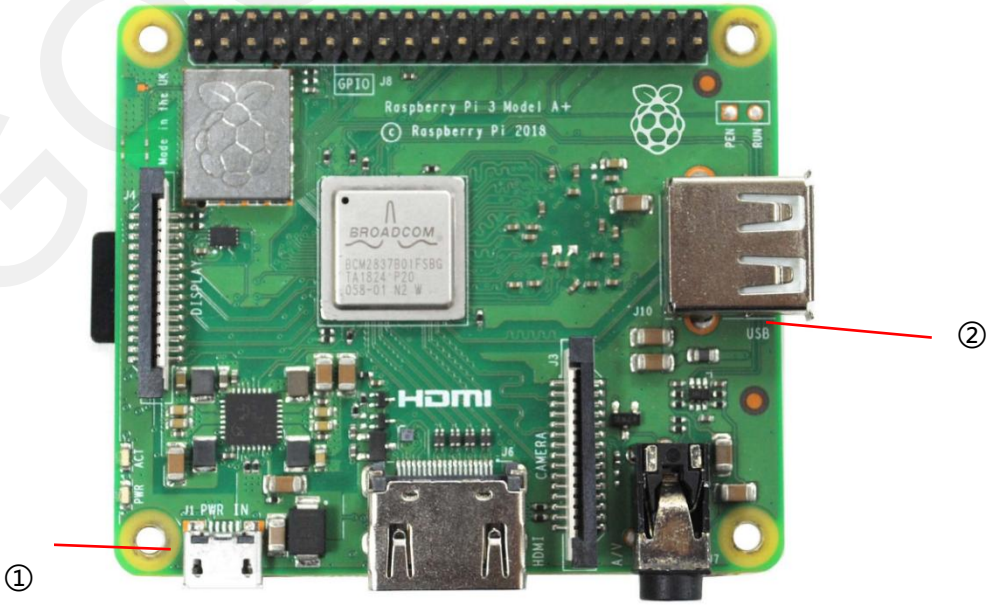


Figure 1: DEQM-133S1

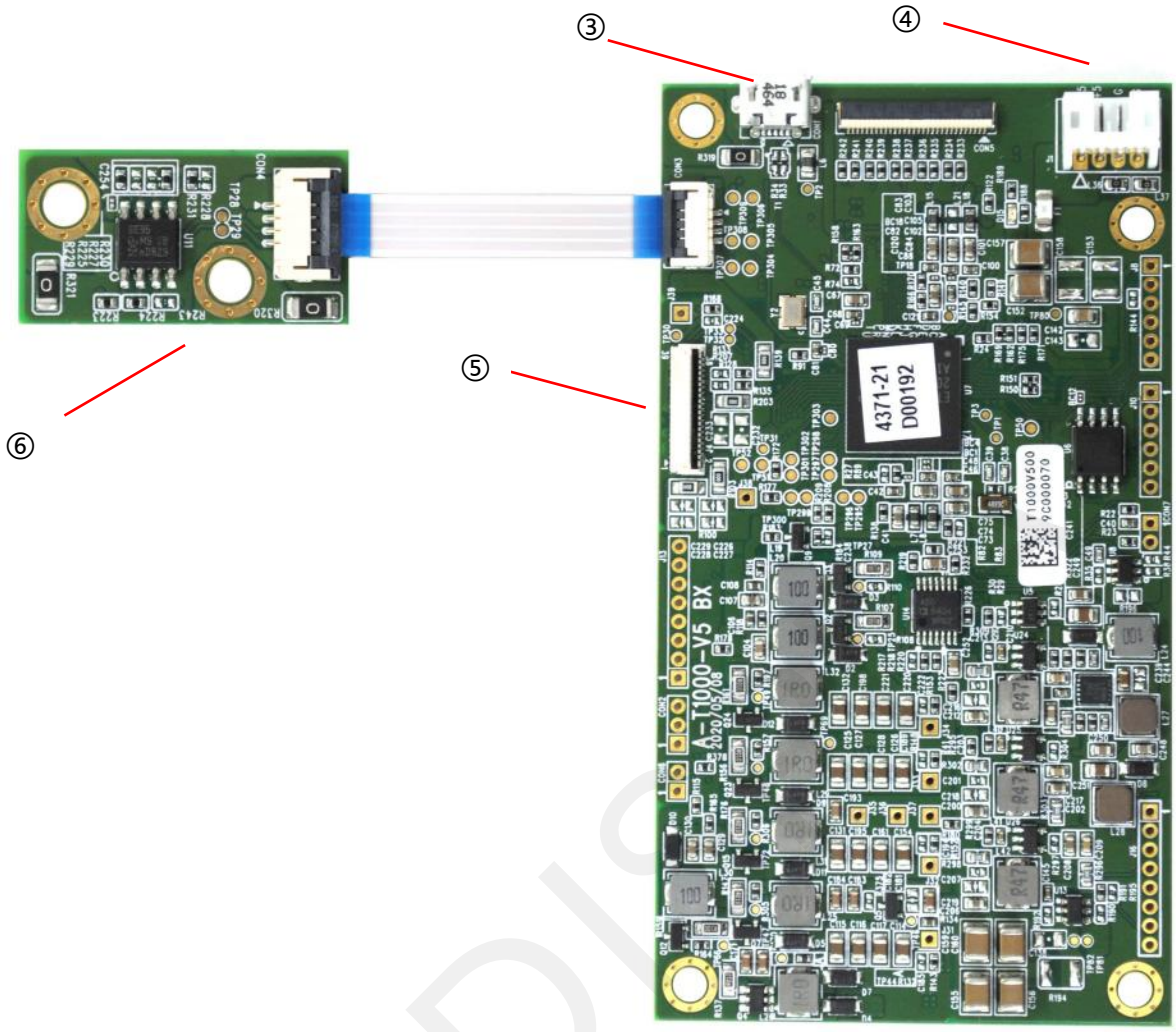


Figure 2: DEQAC-C133

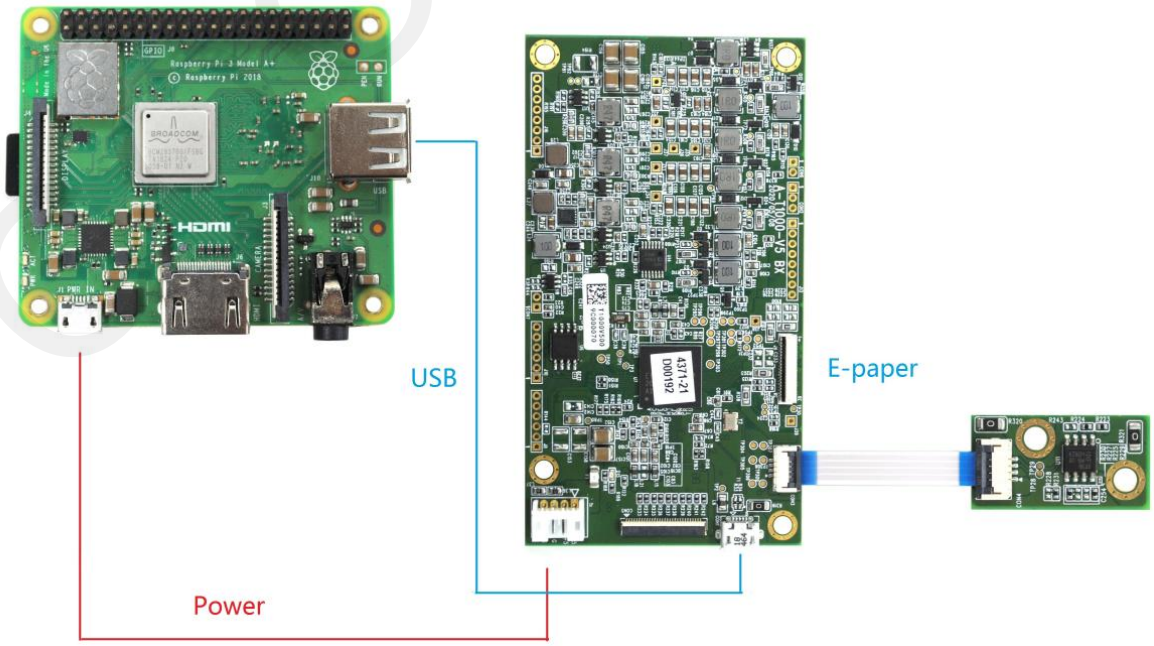


Figure 3: Wiring schematic for DEQAC-C133 (C133)

1. Mainboard Micro USB power interface

Provides power to the motherboard

2. Motherboard USB interface

USB communication, directly connected to the adapter board Micro USB interface ③

3. Adapter board Micro USB interface

USB communication, directly connected to the motherboard USB interface ②

4. Adapter board power supply interface

Powers the adapter board, directly connected to the mainboard Micro USB power interface ①

5. ePaper interface

ePaper FPC interface, connected to a 13.3-inch color ACEP electronic paper display

6. Temperature sensor

Monitors the ambient temperature for the ePaper display

5. Display Updates

5.1 Picture Requirements

1. File Format: .jpg

2. Resolution: Vertical screen supports a resolution of 1200 × 1600, while horizontal screen supports a resolution of 1600 × 1200.

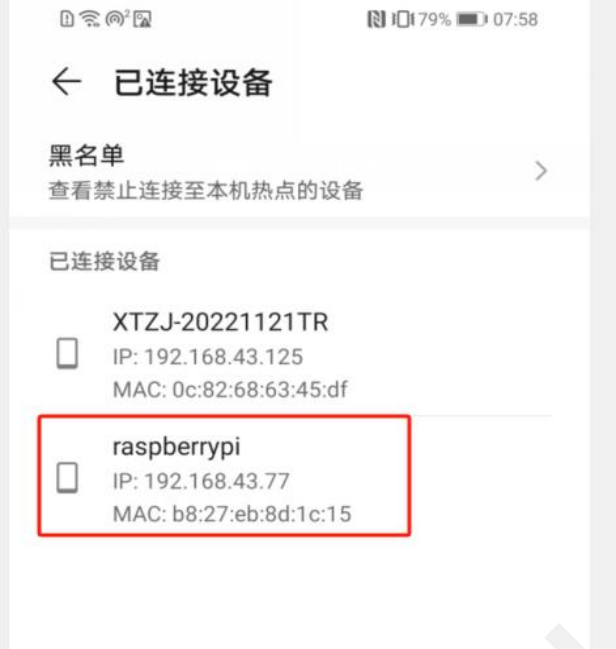
5.2 Device IP address lookup

1. To check the IP address of a connected device via a mobile phone's WiFi hotspot:

1) Set up the mobile phone's WiFi hotspot with the following credentials:

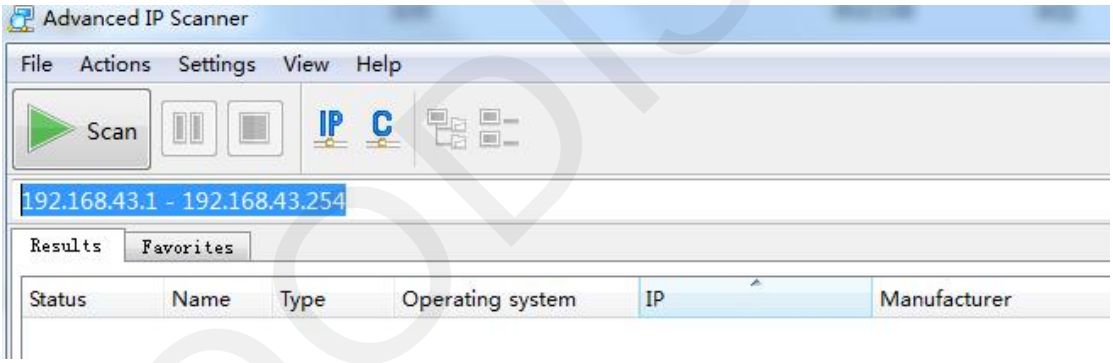
Hotspot Name: image_host, Hotspot Password: magekey

2) Go to the "Personal Hotspot" settings on your phone and locate the section displaying "Connected Devices." Identify the device named "raspberrypi"; note down its corresponding IP address.

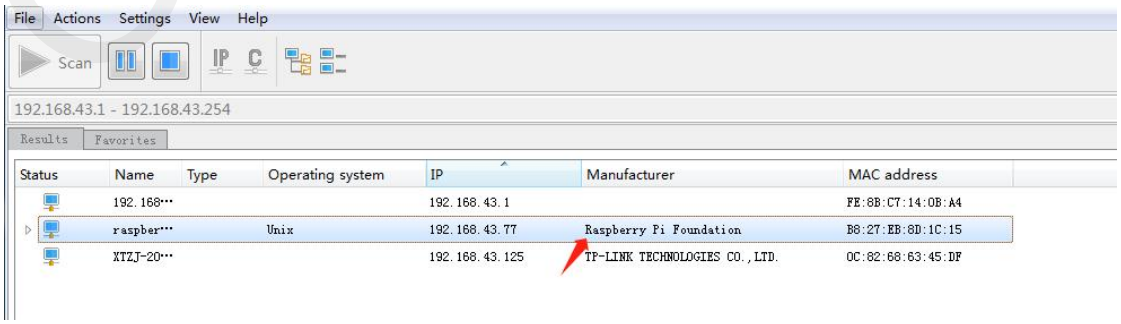


2. View device IP addresses using the Advanced IP Scanner tool

1) Setting up the network segment typically involves using the range from 192.168.43.1-192.168.43.254



2) Click the "Scan" button to search for the IP addresses of connected devices. In the image below, you can see a device named "Raspberry Pi"; remember its IP address.



5.3 Copy the image to the device

1. Transfer images from phone's gallery to device

Copy the pictures from the phone gallery to the 'Pictures' directory in the root directory of the device. The storage root directory:

FTP>home>pi>Desktop>image_library

1) Install the file manager app "base.apk" 

on your mobile phone.

The attachment has been provided.

2) Click the 'Remote Storage' button 

3) Click the 'Add Remote Storage' button

4) Click on the 'FTP' button 

to access the FTP settings interface.

5) Please input the IP address of the device we've acquired in the interface below. Use the following credentials: Username: pi, Password: raspberry.

Finally, click on the "Confirm" 

button located at the bottom right corner.

6) Click on the newly established FTP address and enter into it.

7) Click through the following directory to the location of the image storage: FTP>home>pi>Desktop>image_library, The JPG file shown below is the image we need to replace. You can copy and paste the corresponding format JPG image from your phone gallery here.

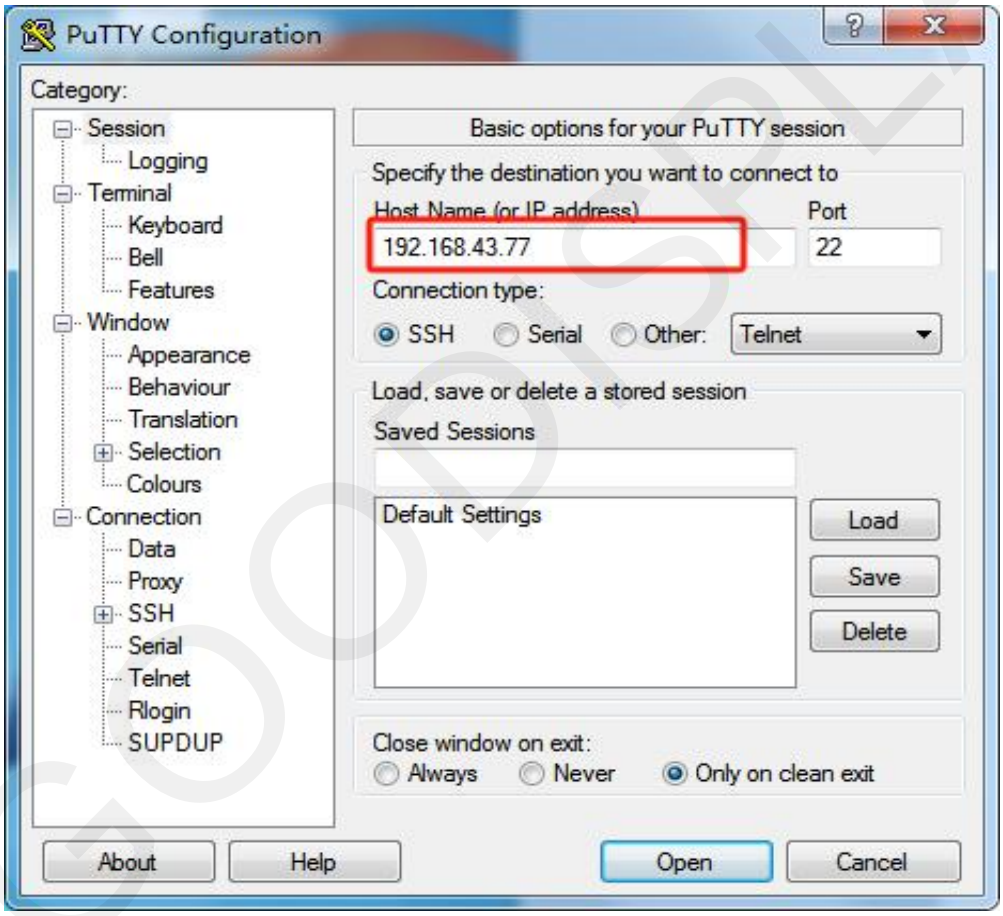
TIP: Please ensure that the image resolution is 1600x1200, the image format is jpg, and there are no specific requirements for the image name.

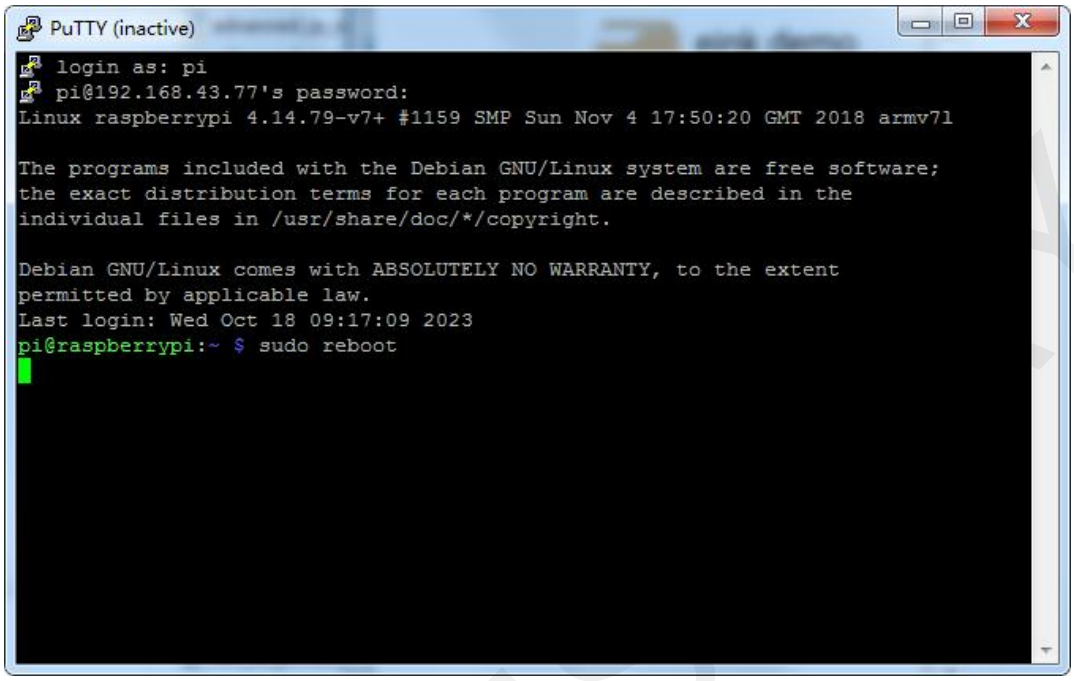
5.4 Restart the device

1. First, install the attached PUTTY software on your computer. Ensure the computer is connected to the same Wi-Fi hotspot as the mobile device and the testing device to be on the same network segment.

2. Once installed, open the PUTTY software, enter the previously noted device IP address, and click "Connect."

3. In the prompt that appears, enter the following credentials: Username: pi, Password: raspberry, then press the Enter key to access the device editing interface. Within the green editing area, input: sudo reboot, and press Enter on the keyboard. This action will prompt the device to automatically restart. After the restart, the device will display the recently replaced image.



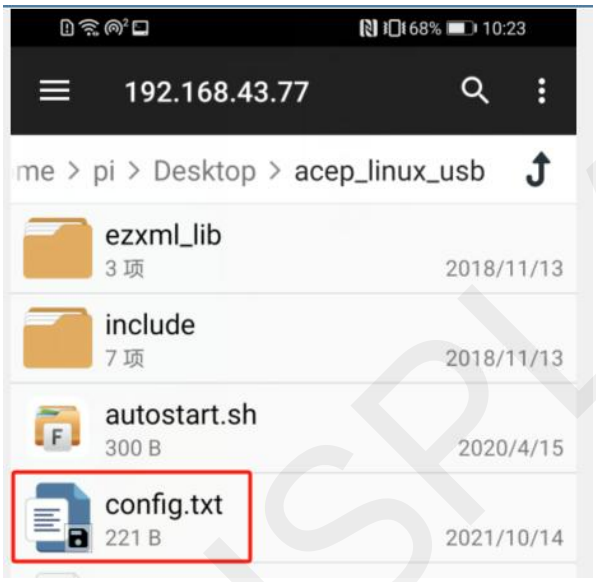


5.5 Display the image

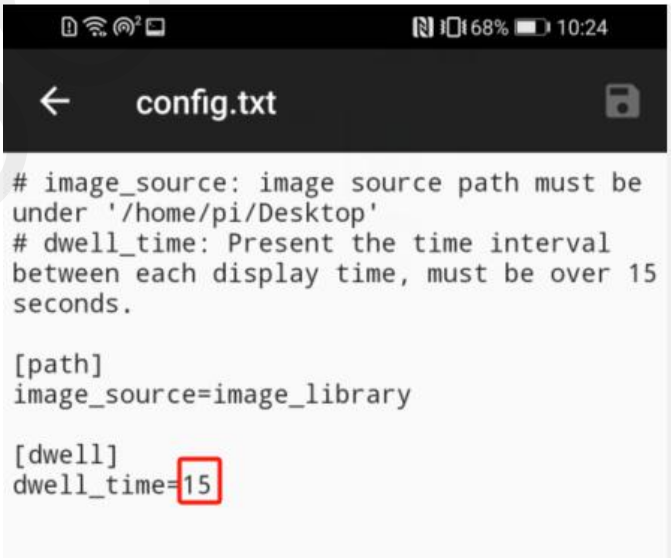
1. After the device restarts, the images in the directory will automatically start playing.

5.6 Setting up an image carousel

1. Open the "File Manager" app installed on your phone, then access "Remote Storage" to navigate to home/pi/Desktop/acep_Linux_USB. Locate the config.txt file.



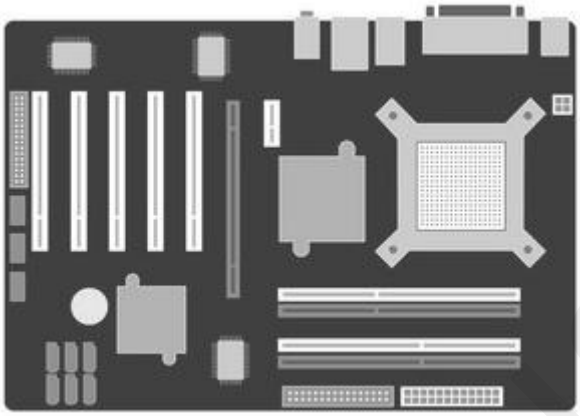
2. Open the config.txt file, modify the numerical part of dwell_time=15, save the changes, and then follow the procedure in section 5.4 to reboot the device.



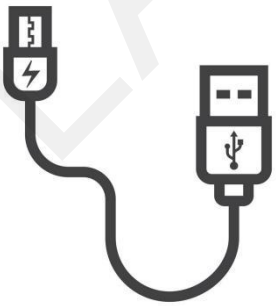
6. Packaging and Installation

6.1 Please verify if you have received the following items containing the package contents:

- Driving board * 2pcs
- USB Power Cable * 1pc
- USB Data Cable * 1pc



Driving board



USB Power Cable

6.2 Product Installation

- The product should be installed on a flat surface to prevent potential tipping over. Leave adequate space between the back of the product and the wall to ensure proper ventilation. Avoid installing the product in kitchens, bathrooms, or areas exposed to high humidity as it may shorten the product's lifespan.
- Do not install the product at altitudes above 3000 meters, as it may result in malfunction.