

XPI-3568J User ' s Manual

V1.0

Geniatech

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REVISION HISTORY

Date	Version	Change Describe	Authuor	Remarks
2023/2/14	1.0	Initial document	Wanghx	

1. XPI3568 Operating System

XPI3568 currently supports Linux Debian 11 system and Android 11 system, this article mainly introduces the instructions for Debian 11 system.

2. Linux System Installation

2.1 Burning tool preparation

USB burner cable*1, type-c power supply*1

Windows PC*1



2.2 Driver Installation

Download and install DriverAssitant_v5.0

Link: <https://mega.nz/folder/Be900Q7a>

Key: [qm2Rb9kCM44KKD9HwgFMYQ](#)

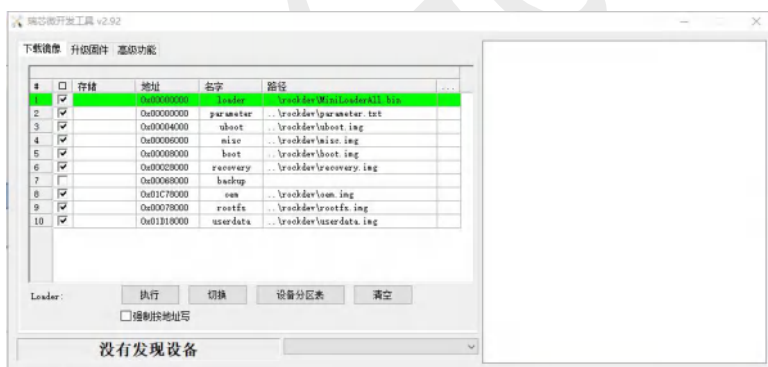
Double-click to open DriverAssitant_v5.0, then double-click DriverInstall.exe and click "Driver Install", click OK after success.



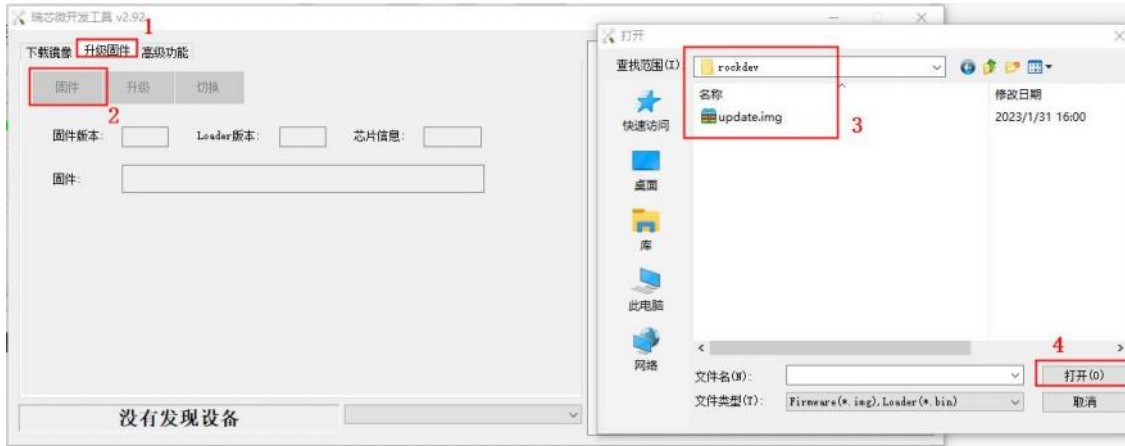
2.3 Upgrade Firmware

Download and unzip the firmware, double click to open

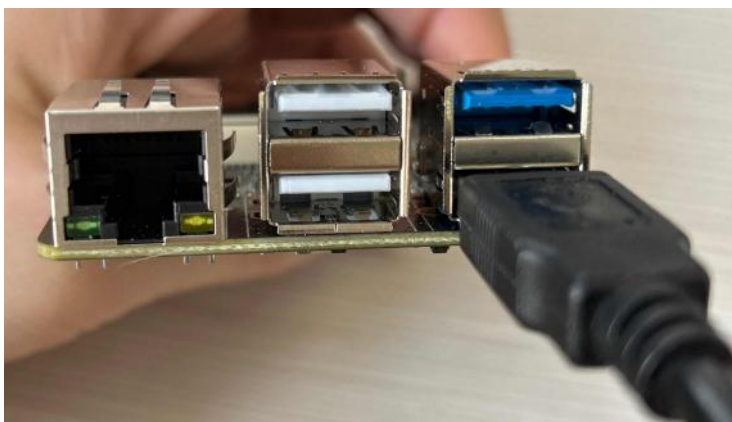
RKDevTool_Release>RKDevTool.exe



Click upgrade firmware, then click firmware, select rockdev->update.img to upload



Plug the USB cable into one of the blue USB burner ports on the bottom of the dual-layer USB port, and the other end into the PC。



Press and hold the burn button and turn on the power until the burn tool displays "A LOADER device is recognized", click Upgrade



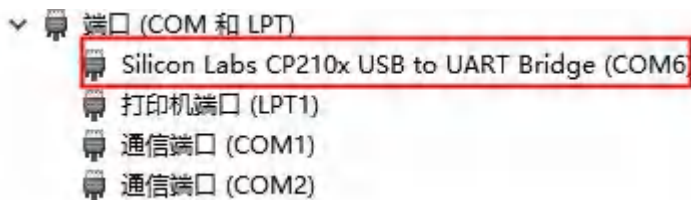
3. System Function

3.1 System Access

3.1.1 Serial port access:

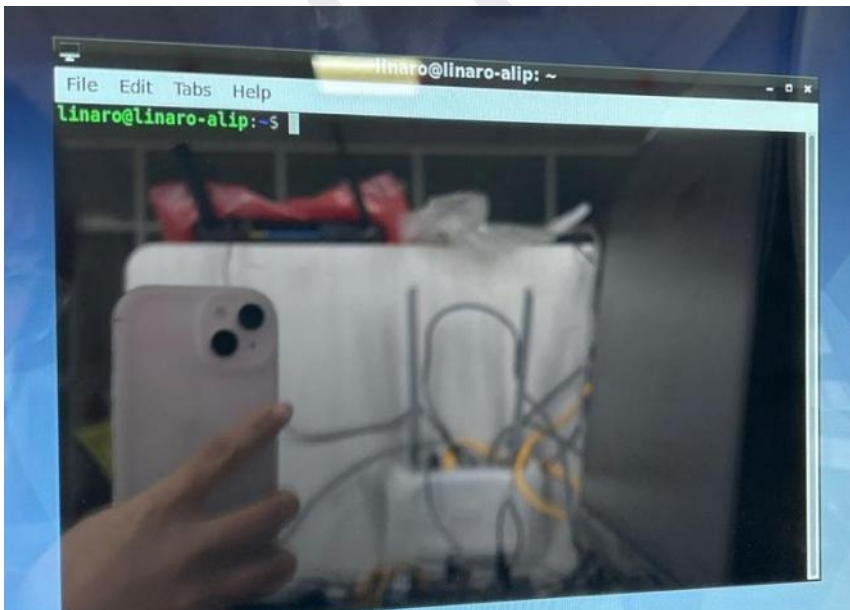
Prepare a serial cable*1, connect it to the debug port, and connect the other end to the PC. open Device Manager->Port,

Check the recognized port number. Then open the serial debugging software and select COM port with baud rate 1500000



3.1.2 Graphical interface access

Connect the XPI3568 to the monitor with the HDMI cable, enter the desktop, click on the bottom left corner -> System Tools -> LXTerminal to open the terminal software, enter **sudo su** to log in



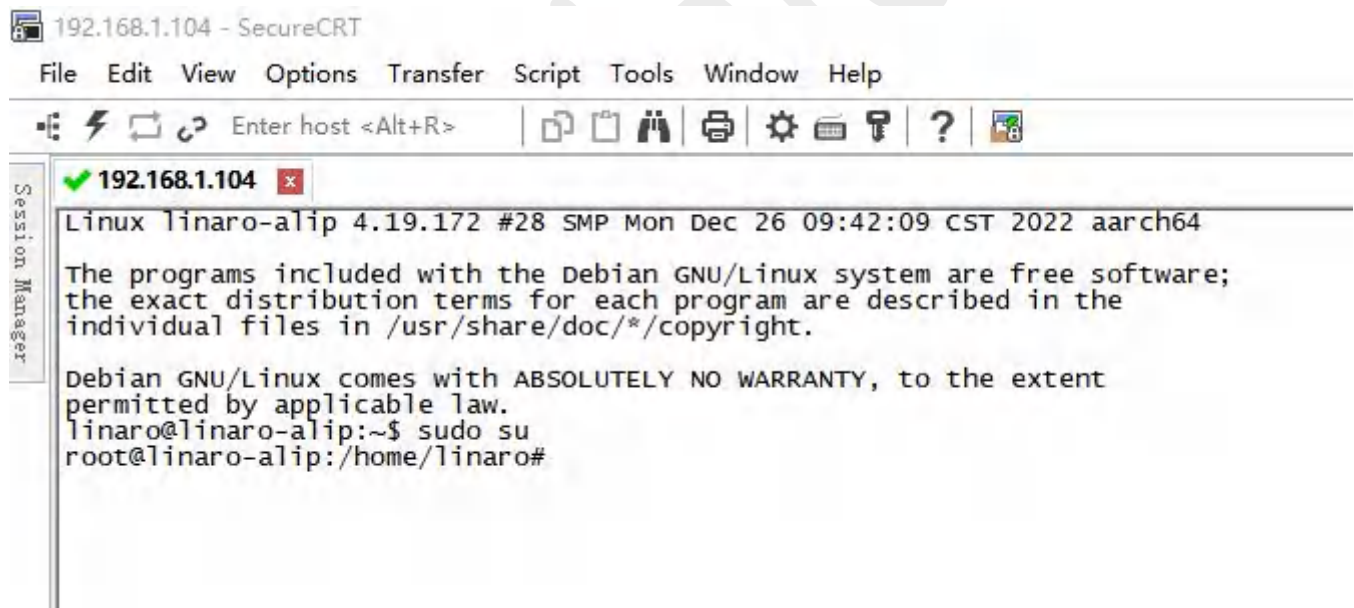
3. 1. 3 SSH remote connection:

Connect the PC to the XPI3568 on the same LAN, get the IP address and use SSH to connect through the serial port tool (SecureCRT/TeraTerm)

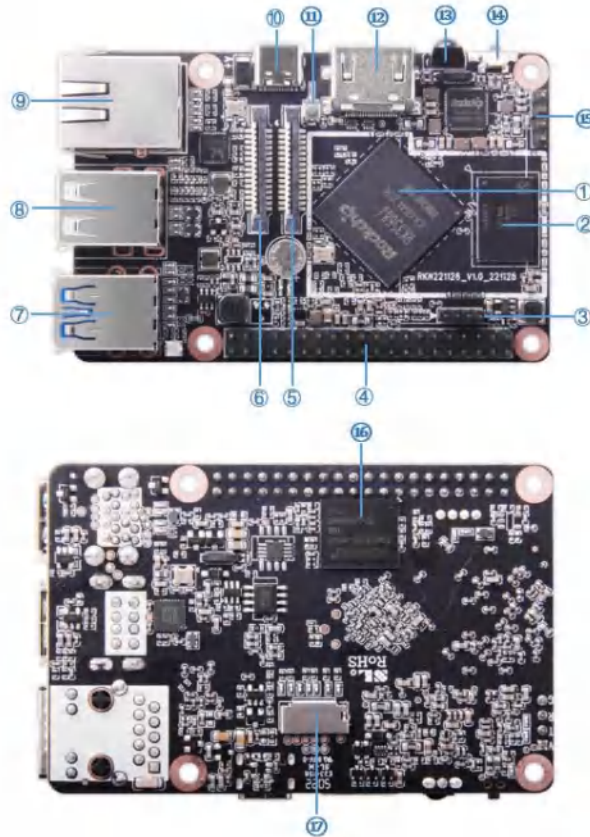
Protocol: SSH2

Username: linaro

Password: linaro



3.2 Hardware Interface



No.	Name	Description
1	RK3568J SOC	*1
2	LPDDR4	*1
3	USB Connector	*1(It can be used for Wi-Fi/BT port)
4	40 Pin GPIO header	*1
5	MIPI CSI Connector	*1
6	MIPI DSI Connector	*1
7	USB double layer connector	*1(The upper interface of J1 supports OTG function, the bottom interface of J1 supports USB 3.0 function)
8	USB2.0 double layer connector	*1
9	RJ45	*1(10/100/1000Mbps)
10	DC IN	*1(5V/3A USB Type-C)
11	SW1	*1(Power on key)
12	HDMI Connector	*1(up to 4KP60)
13	IR	*1
14	SW2	*1(Recovery Key)
15	A55 Core debug console	*1
16	eMMC Flash	*1
17	Micro SD card Slot	*1

3.3 Wired Ethernet

Connect the network cable and execute the command **ifconfig** to see if the IP address is obtained

```
root@linaro-alip:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.6.101 netmask 255.255.255.0 broadcast 192.168.6.255
    inet6 fe80::5e3c:83bd:4889:c1c9 prefixlen 64 scopeid 0x20<link>
    ether ac:db:da:59:8a:fd txqueuelen 1000 (Ethernet)
    RX packets 215 bytes 23202 (22.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 107 bytes 14230 (13.8 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 41

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 4 bytes 332 (332.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4 bytes 332 (332.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

3.4 TF Card

Insert the TF card and execute the command to see if it is mounted

fdisk -l //View partitions

df -h //View mounts

```
Disk /dev/mmcblk1: 1.9 GiB, 1999110144 bytes, 3904512 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x00000000

Device           Boot Start      End Sectors  Size Id Type
/dev/mmcblk1p1    129 3904511 3904383   1.9G  6 FAT16

root@linaro-alip:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            853M   0  853M   0% /dev
tmpfs           185M  13M  172M   7% /run
/dev/mmcblk0p6   5.9G  2.5G  3.2G  44% /
tmpfs           922M   0  922M   0% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
tmpfs           922M   0  922M   0% /sys/fs/cgroup
tmpfs           185M  8.0K  185M   1% /run/user/1000
/dev/mmcblk0p9   4.9M  302K  4.3M   7% /media/linaro/45f22e42-2e2f-408b-afb9-6b12
2a045c2d1
/dev/mmcblk0p7   17M   12M  3.8M  76% /media/linaro/eb78fed6-0ce1-4119-bd9e-17c3
03ef236d1
tmpfs           185M   0  185M   0% /run/user/0
/dev/mmcblk1p1   1.9G  32M  1.9G   2% /media/linaro/DISK CARD

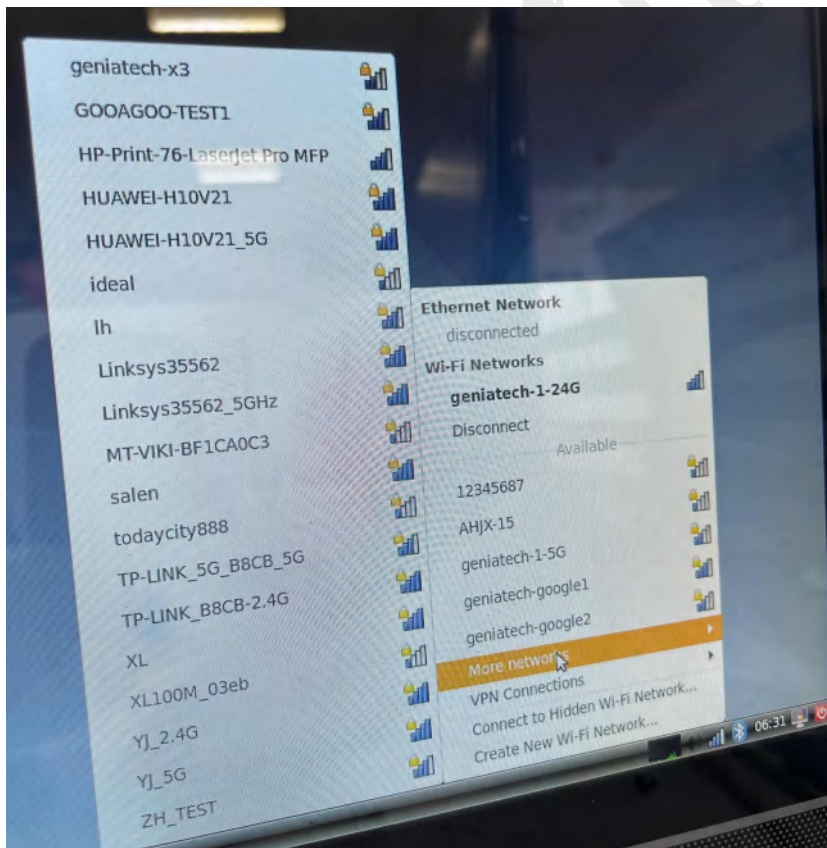
root@linaro-alip:~#
```

3.5 WiFi

Connected to the WiFi module and then the antenna



Click on the network in the bottom right corner of the desktop, click on "More networks" and select WiFi and enter the password to connect



Type `ifconfig` to check the IP, open the browser normal that function OK

```
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.6.101 netmask 255.255.255.0 broadcast 192.168.6.255
    inet6 fe80::5e3c:eabc:4889:c1c9 prefixlen 64 scopeid 0x20<link>
    ether ac:db:da:59:8a:fd txqueuelen 1000 (Ethernet)
    RX packets 60 bytes 8527 (8.3 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 62 bytes 9927 (9.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 41

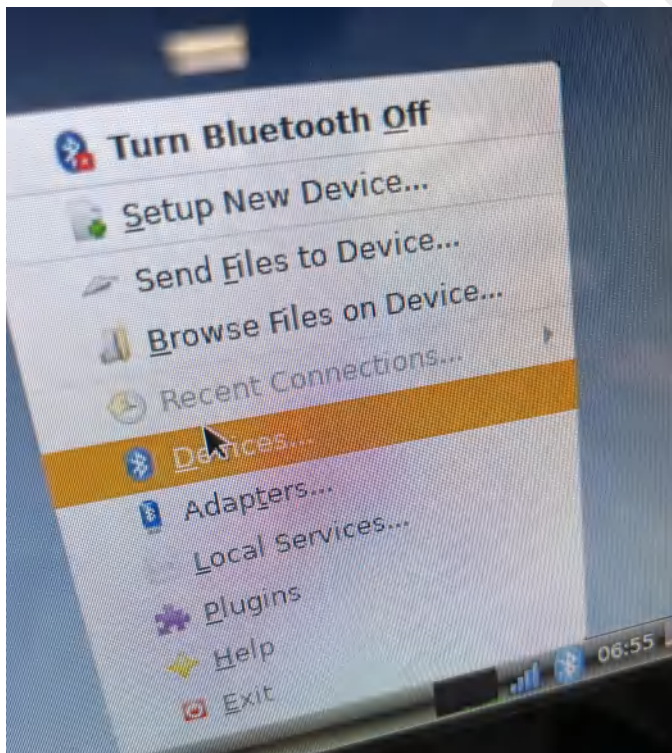
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 84 bytes 5760 (5.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 84 bytes 5760 (5.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlx00504302fe01: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.168.1.146 netmask 255.255.255.0 broadcast 10.168.1.255
    inet6 fe80::2db:a:298f:62a4:c68e prefixlen 64 scopeid 0x20<link>
    ether 00:50:43:02:fe:01 txqueuelen 1000 (Ethernet)
    RX packets 436 bytes 108673 (106.1 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 44 bytes 3984 (3.8 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

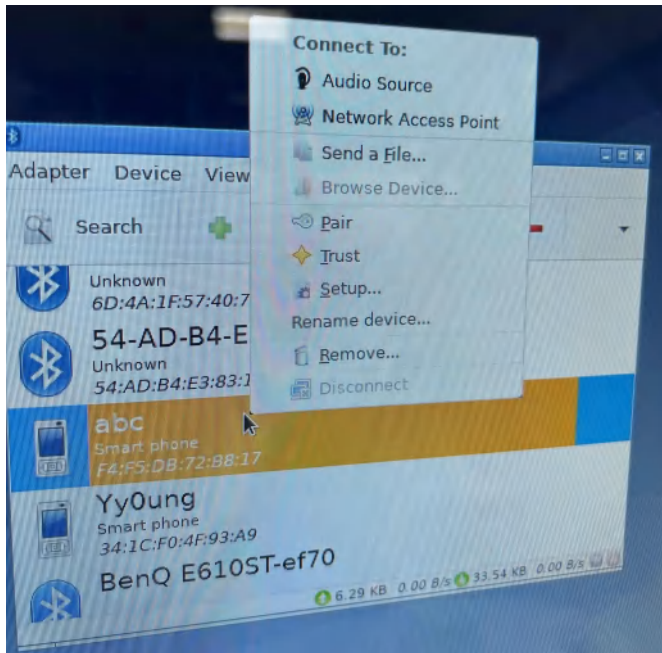
3.6 Bluetooth

Same steps as WiFi to connect two antennas

Click on the Bluetooth icon in the bottom right corner and select "Devices"



Click "search" to search, pair and connect Bluetooth devices



3.7 USB

Connect any USB device (mouse, keyboard, U disk, etc.), can be used normally that means the function OK

3.8 IR

Open the folder, use the infrared remote control to select the file up, down, left and right, can be normally selected that function OK

3.9 RTC

Disconnect from the network and execute the following command

```
date -s "2023-2-14 23:58:00" //Set the time, you can set other times
```

```
hwclock -w //write hardware time
```

```
hwclock -r //read hardware time
```

date

//Read the system time

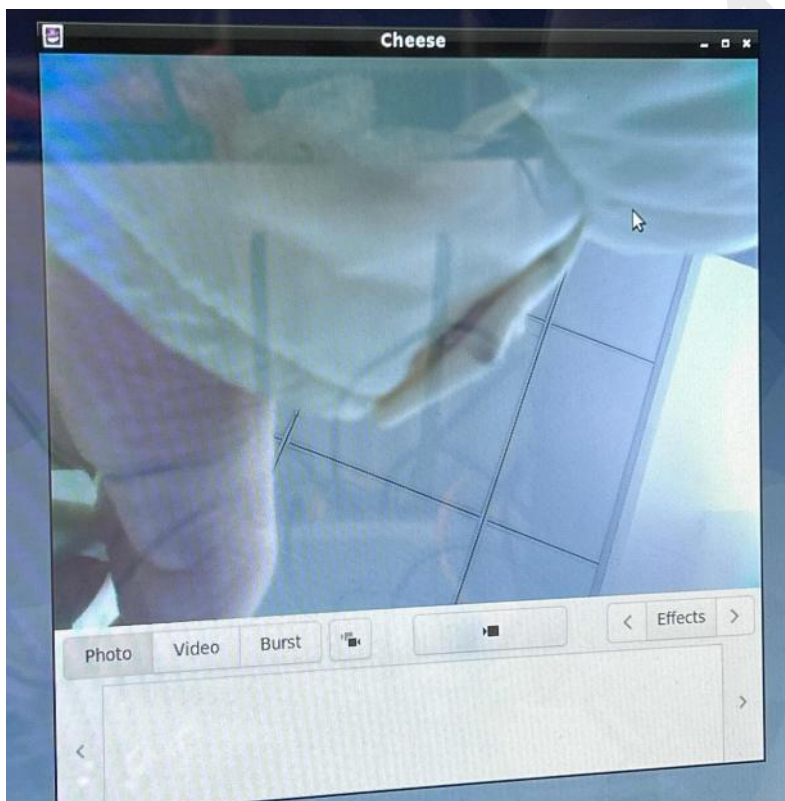
Wait for about 1 minute and then power off, then power on after 1 minute, enter `hwclock -r` and `date` to see if the time advances normally and the function is OK

```
root@linaro-alip:~# date -s "2022-2-28 23:58:00"
Mon Feb 28 23:58:00 UTC 2022
root@linaro-alip:~# hwclock -w
root@linaro-alip:~# hwclock -r
2022-02-28 23:58:07.438472+00:00
root@linaro-alip:~# date
Mon Feb 28 23:58:09 UTC 2022
```

3.10 Camera

Access to camera

Click the bottom left corner of the desktop, select Sound&Video->cheese, there is a camera screen that functions properly



3.11 MIPI Screen

After connecting to the MIPI screen and powering up, the backlight will light up and display the desktop, which can be used by touch



3.12 HDMI

Connect the HDMI cable and the other end to the monitor. Power on, the resolution is normal, and the interface can be displayed correctly, that is, the function is normal.

4. FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF exposure considerations

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.