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ASTERIA Gravio Hub 2 Linux Based Smart IoT System User Manual

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ASTERIA Gravio Hub 2 Linux-Based Smart IoT System

Product Overview

Gravio hub 2 is a linux-based smart IoT system. We build it by arm chip rockchip3399,and in IoT it has built-in zigbee3.0 chip, which can be compatible with the zigbee sensor on the market to form a smart home. It can exchange and send commands in parallel with the wireless sensor in hex code based on the serial protocol. At the same time, WiFi and Bluetooth have also created conditions for communication with other devices.

Front view

The Gravio hub 2 is designed to be very compact, with a full-featured USB typc-c interface and a button. This interface supports the pd power protocol, dp video protocol, and usb3.1.and also it is have usb-a 2.0 rj-45 hdmi port
At the same time, the Gravio Hub 2 also supports the use of linked displayer. You can directly plug in the dual-headed full protocol USB type-c cable on the display that supports the USB type-c full protocol interface to light up the screen, or you can use the extension. The dock lights up the display and enters the UBUNTU system that comes with the body
Gravio Hub 2 also supports hmdi video output reality, up to 4k resolution video output, at the same time, usb 2.0 supports the use of input devices such as mouse and keyboard and U disk and other devices, we also prepared a wired network interface for you to use better it.

Wireless Instructions for use
First open the serial debugging assistant, such as sscom, set the baud rate to 115200, open the serial port after 8N1. Send the command in hex

- >> send : 00 00 01 00 00 AA
- >> receive : 00 01 01 08 02 00 03 AA
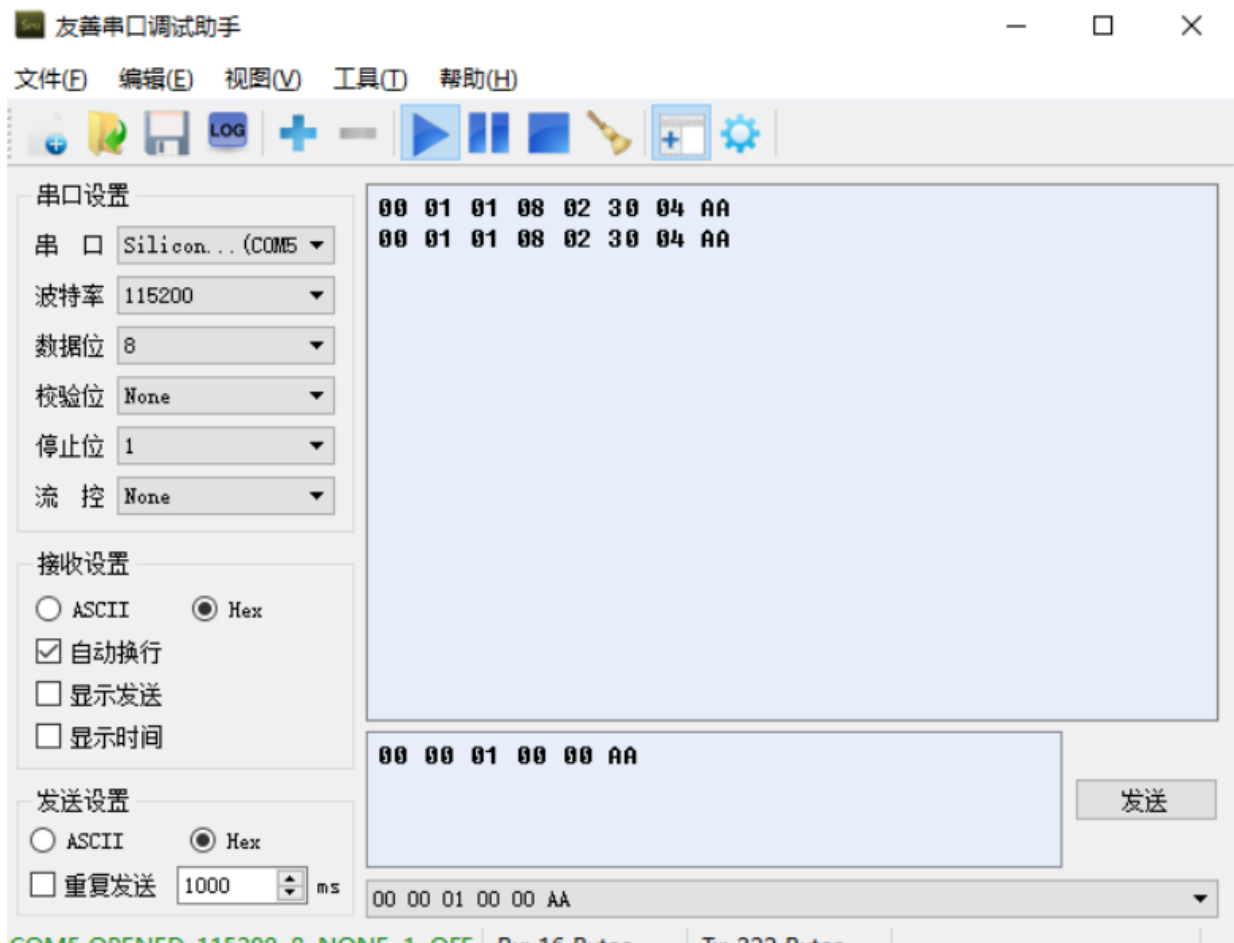
Scan to build a zigbee network

- send : 00 00 03 00 00 AA >> receive : 00 01 03 08 01 00 AA

Read current network information

- >> send : 00 00 04 00 00 AA
- >> receive : 00 01 04 08 0E 36 3F 32 FE FF 9F FD 90 01 01 C0 76 0F 13 AA

Open to allow devices to access the network

- send : 00 00 10 00 01 FF AA >> receive : 00 01 10 08 01 00 AA

Sensor support

Door and Window Sensor

- near >> 00 1C 01 18 10 F9 68 04 02 00 8D 15 00 01 06 00 01 00 00 10 00 AA
- Far away>> 00 1D 01 18 10 F9 68 04 02 00 8D 15 00 01 06 00 01 00 00 10 01 AA

Wireless Mini Switch

- >> press : 00 38 01 18 11 09 67 B0 02 00 8D 15 00 01 12 00 01 55 00 →21 01 00 AA
- >> long press : 00 39 01 18 11 09 67 B0 02 00 8D 15 00 01 12 00 01 55 00 21 10 →00 AA

- >> Long press release : 00 3A 01 18 11 09 67 B0 02 00 8D 15 00 01 12 00 01 55 00 21 11 →00 AA

Temperature and Humidity Sensor

This temperature and humidity sensor supports reporting temperature values, relative humidity, and atmospheric pressure, so there are three types of reported data:

- send : 00 40 01 18 11 6F FA 3C 02 00 8D 15 00 01 02 04 01 00 00 29 BD 0A AA >> send : 00 41 01 18 11 6F FA 3C 02 00 8D 15 00 01 05 04 01 00 00 21 02 22 AA >> send: 00 42 01 18 1A 6F FA 3C 02 00 8D 15 00 01 03 04 03 00 00 29 F2 03 14
- 00 28 FF 10 00 29 7D 27 AA

Temperature and Humidity Sensor
(model: WSDCGQ01LM)

- >> send : 00 5A 01 18 11 06 AF 39 02 00 8D 15 00 01 02 04 01 00 00 29 B3 0A AA
- >> send : 00 5B 01 18 11 06 AF 39 02 00 8D 15 00 01 05 04 01 00 00 21 3C 21 AA

Door and Window Sensor (model: MCCGQ11LM)

- >> near send : 00 33 01 18 10 F9 68 04 02 00 8D 15 00 01 06 00 01 00 00 10 00 AA
- >> far away : 00 34 01 18 10 F9 68 04 02 00 8D 15 00 01 06 00 01 00 00 10 01 AA

static post

**There are three types of data reported by the static post, as follows:**

- send data : 00 7A 01 18 15 FB 3B B2 02 00 8D 15 00 01 01 01 01 08 05 25 8A FF →1A 04 F9 00 AA
- send data : 00 7C 01 18 16 FB 3B B2 02 00 8D 15 00 01 01 01 02 55 00 21 02 00 →03 05 21 06 00 AA
- send data : 00 7E 01 18 11 FB 3B B2 02 00 8D 15 00 01 01 01 01 55 00 21 01 00 →AA
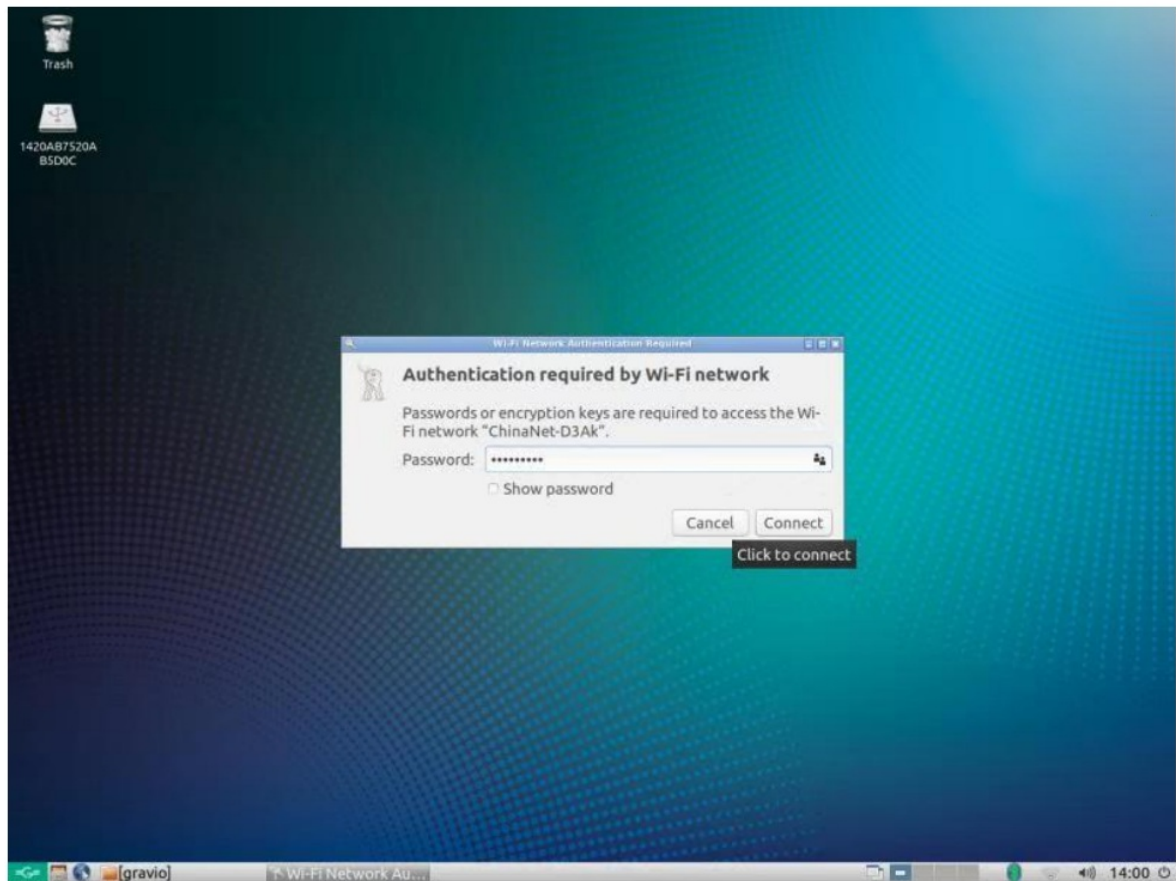
WiFi instructions
WiFi is one of the important network communication functions of this machine. The link method is as follows. After booting into the system, as shown below:
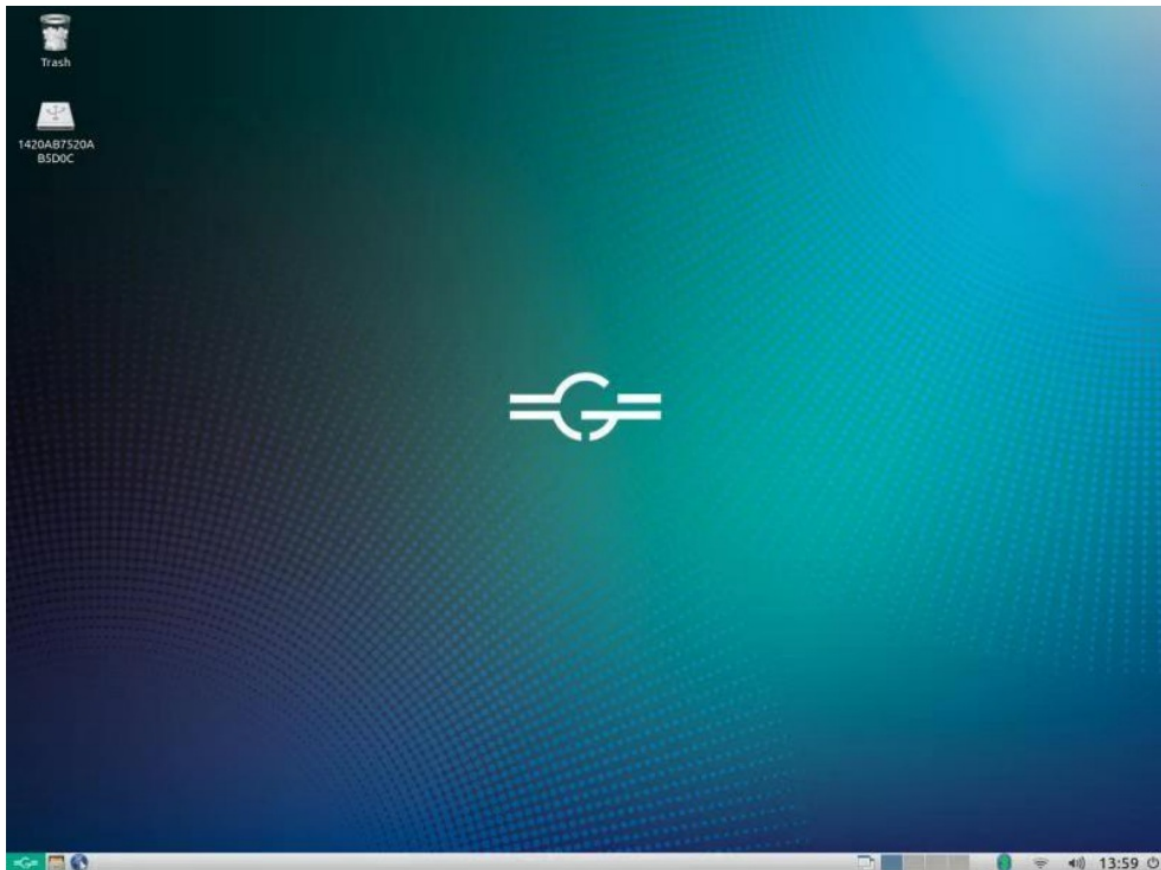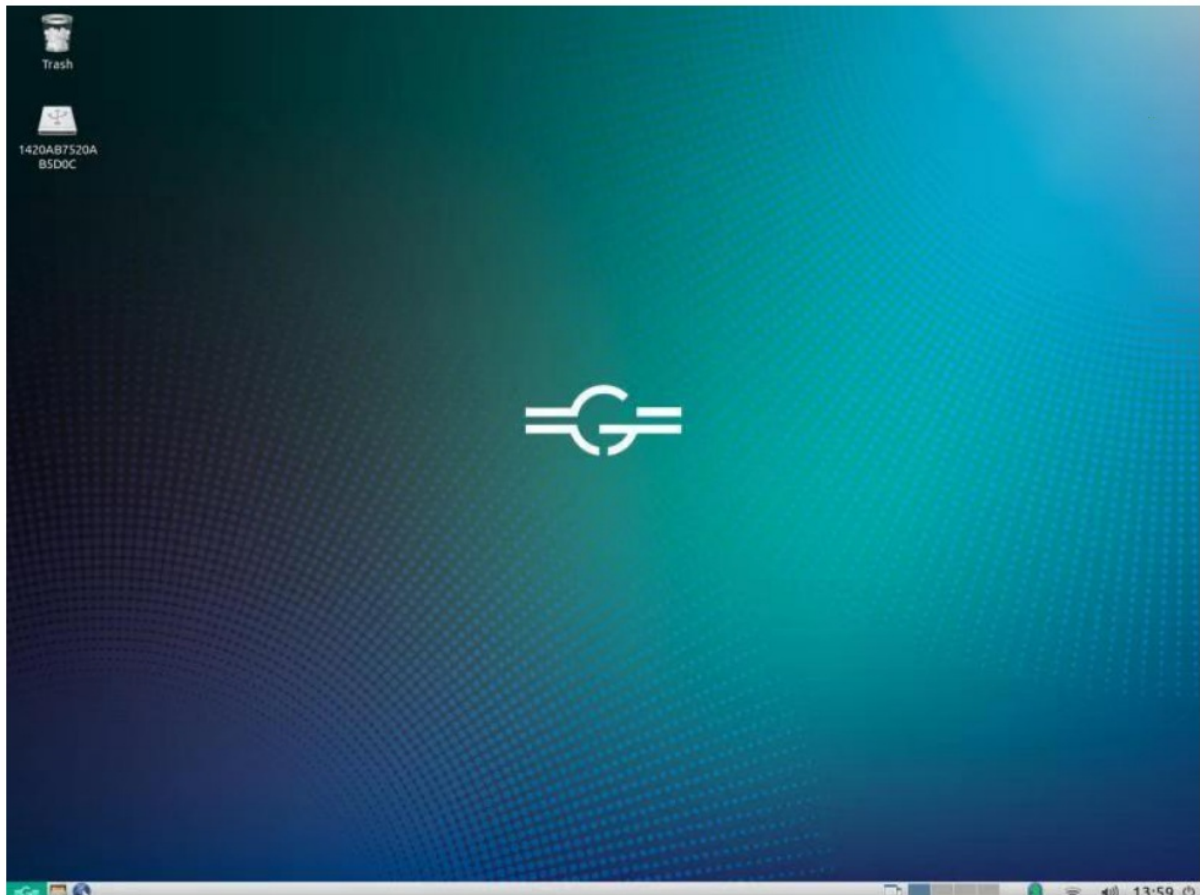
Select the WiFi name you want to link to
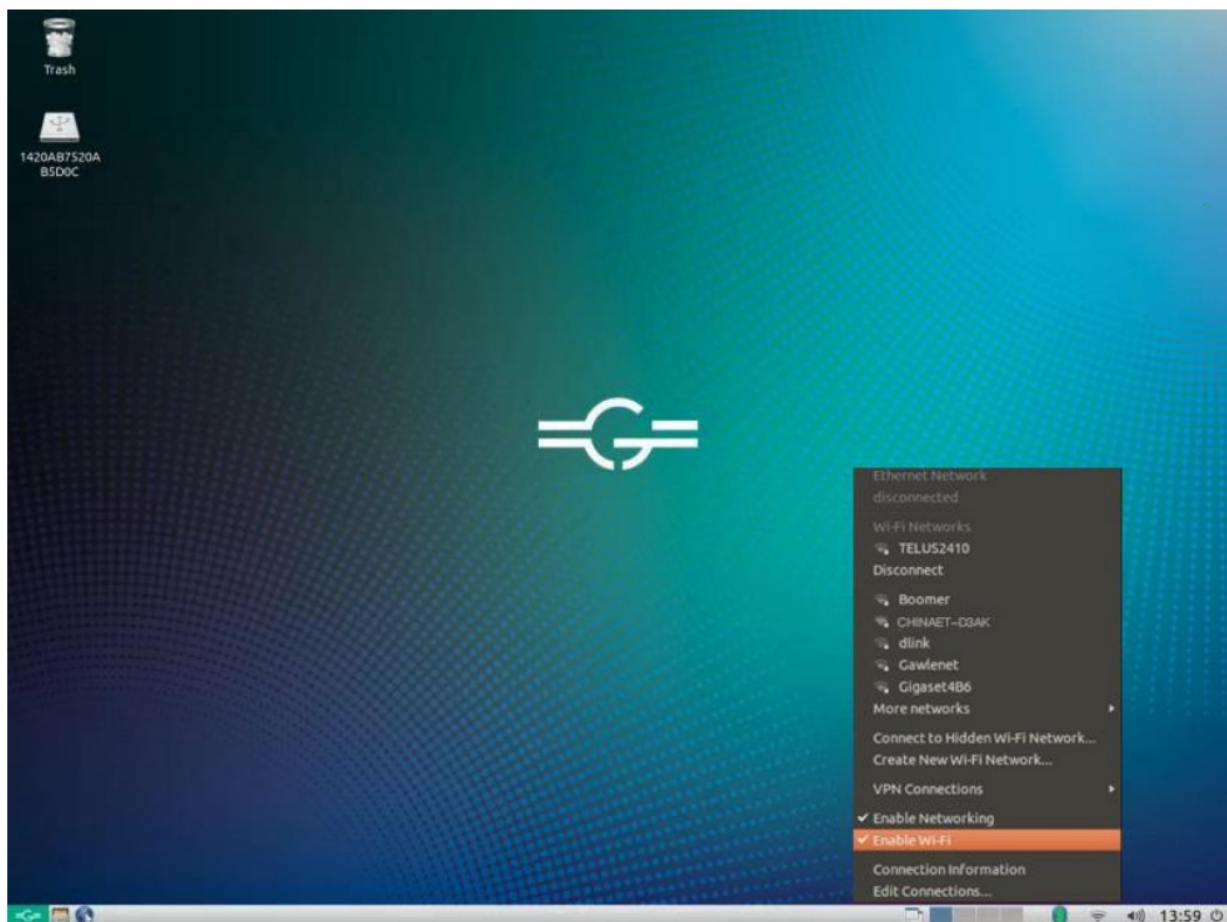

connection succeeded

Bluetooth Instructions

Bluetooth can be linked to other Bluetooth devices in the vicinity of the unit as one of the means of data exchange and transmission. The steps are as follows:
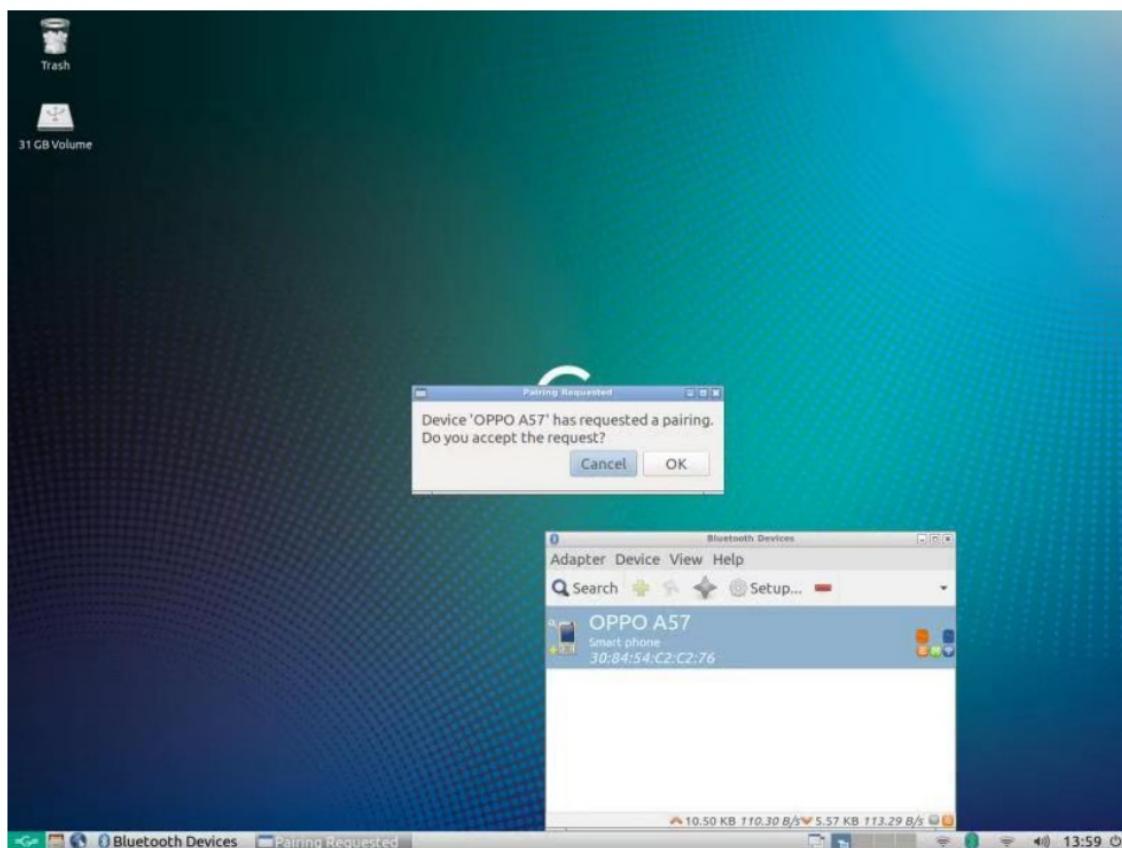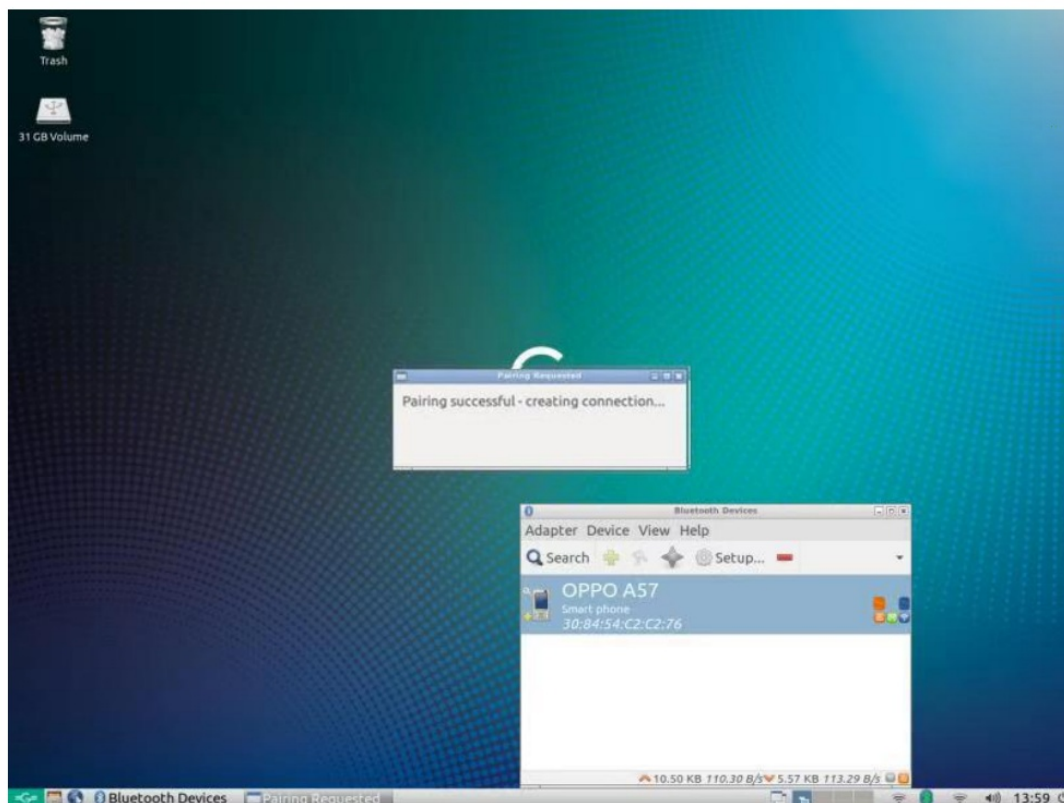
Boot into the system

Click on the Bluetooth icon in the lower right corner. After searching, the Bluetooth device will appear.
Select the Bluetooth device that needs to be matched, both devices will have a confirmation message, click to confirm
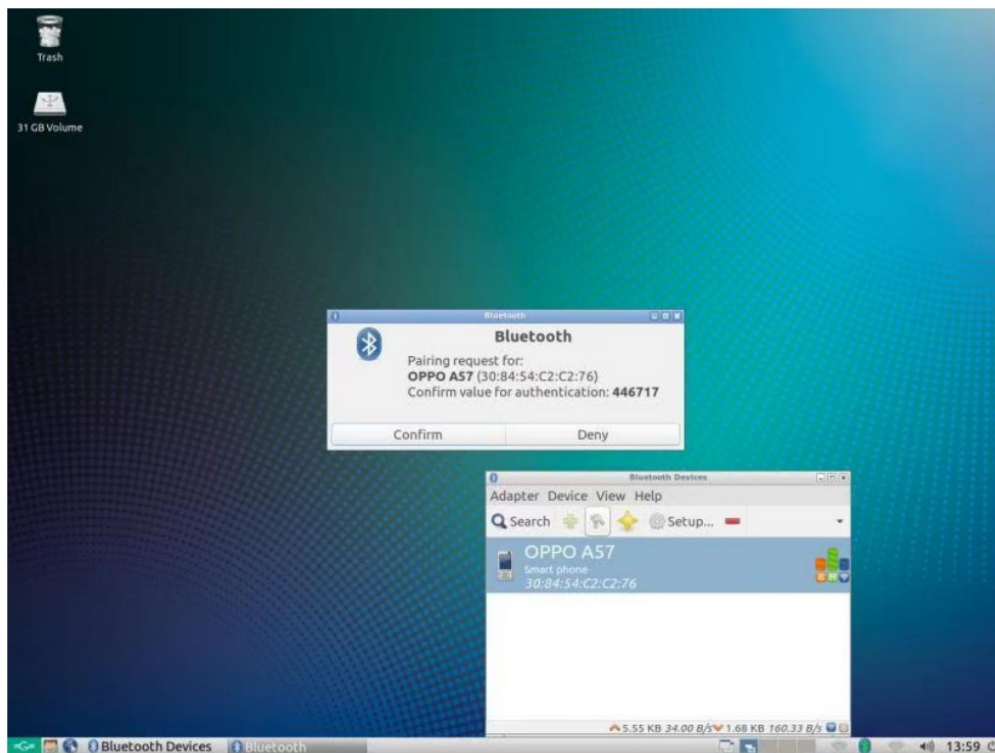
click OK

Pairing success

FCC Warning

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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.

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. The device for operation in the band 5150–5250MHz is only for indoor use.

Documents / Resources

ASTERIA Gravio Hub 2 Linux Based Smart IoT System [pdf] User Manual
GHUB002, 2AT7Z-GHUB002, 2AT7ZGHUB002, Gravio Hub 2, Linux Based Smart IoT System,
Gravio Hub 2 Linux Based Smart IoT System, Smart IoT System, GHUB002