ED-IPC3400

User Manual

by EDA Technology Co., Ltd

built: 2026-07-13

1 Hardware Manual

This chapter introduces the product overview, package contents, appearance, buttons, indicators, and interfaces.

1.1 Overview

The ED-IPC3400 is an industrial computer based on the Raspberry Pi CM5. Depending on different application scenarios and user requirements, it can be configured with various specifications of RAM, eMMC, and SD card.

- Available RAM options: 2GB, 4GB, 8GB, and 16GB.
- Available eMMC options: 16GB, 32GB, and 64GB.
- Available SD card options: 32GB and 64GB.

The ED-IPC3400 features HDMI, USB 2.0/3.0, and dual Ethernet ports (2.5G + 1G), supports Wi-Fi and wired network access, and integrates RTC, EEPROM, and a security chip, significantly enhancing usability and reliability in industrial control and IoT applications. Additionally, it includes a built-in M.2 M Key expansion interface, supporting optional 128GB/256GB/512GB SSDs or a Hailo-8 AI module (13 TOPS), efficiently powering high-compute industrial scenarios such as machine vision.

1.2 Package Contents

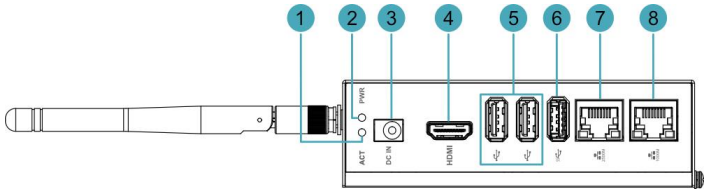
- 1 x ED-IPC3400 Unit
- [Optional Wi-Fi/BT Version] 1 x 2.4GHz/5GHz Wi-Fi/BT Antenna

1.3 Appearance

Describes the functions and definitions of the interfaces on each panel.

1.3.1 Front Panel

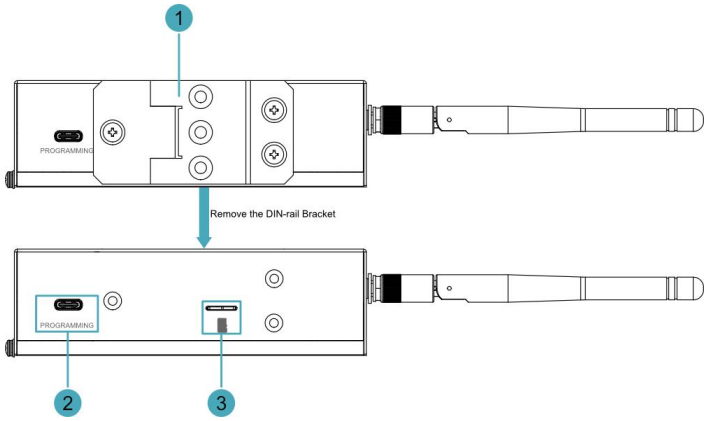
Describes the types and definitions of the front panel interfaces.



NO.	Function Definition
1	1 x System Status Indicator (Green), indicates system read/write data status.
2	1 x Power Indicator (Red), indicates device power-on status.
3	1 x DC Input, DC Jack (5.5x2.5) connector, supports 9V~28V input.
4	1 x HDMI, Type-A interface, compatible with HDMI 2.0, supports 4K 60Hz resolution for connecting to a monitor.
5	2 x USB 2.0, Type-A interfaces, each supporting up to 480Mbps transfer rate.
6	1 x USB 3.0, Type-A interface, supports up to 5Gbps transfer rate.
7	1 x 2500M Ethernet Interface, RJ45 connector with LED indicator, auto-negotiating 10/100/1000M/2500M, for Ethernet connection.
8	1 x 1000M Ethernet Interface, RJ45 connector with LED indicator, auto-negotiating 10/100/1000M, for Ethernet connection.

1.3.2 Rear Panel

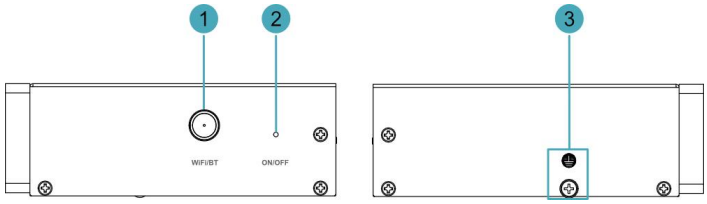
Describes the types and definitions of the rear panel interfaces.



NO.	Function Definition
1	1 x DIN Rail Bracket, mounts the ED-IPC3400 unit onto a DIN rail.
2	1 x Type-C USB Interface, supports eMMC flashing via this interface.
3	1 x Micro SD Card Slot, supports installing a Micro SD card for system boot. Note: The installed Micro SD card is only effective when using CM5Lite.

1.3.3 Side Panel

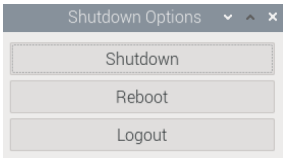
Describes the types and definitions of the side panel interfaces.



NO.	Function Definition
1	1 x Wi-Fi/BT Antenna Connector (Optional), SMA connector, for connecting a Wi-Fi/BT antenna.
2	1 x ON/OFF Button, recessed button, press to open the shutdown options menu in Desktop systems.
3	1 x Ground Terminal, connects to the earth ground of the external power supply.

1.4 Button

The ED-IPC3400 includes one ON/OFF button. This is a recessed button, marked with "ON/OFF" silkscreen on the casing. In Desktop systems, short pressing the button opens the shutdown options menu, allowing you to choose Shut Down, Reboot, or Logout.



TIP

- In Desktop systems, quickly pressing the ON/OFF button twice in succession will shut down the device directly.
- After shutting down the device by pressing the ON/OFF button twice in succession, a single short press of the ON/OFF button will power on the device.

1.5 Indicator

Describes the various states and meanings of the indicators on the ED-IPC3400.

Indicator	Status	Description
PWR	Solid On	Device is powered on
	Blinking	Device power anomaly, stop supplying power immediately
	Off	Device is not powered on
ACT	Blinking	System boot successful and reading/writing data
	Off	Device is not powered on or not reading/writing data
Yellow indicator of Ethernet port	On	The data transmission is abnormal.
	Blink	Data is being transmitted over the Ethernet port.
	Off	The Ethernet connection is not set up.
Green indicator of Ethernet port	On	The Ethernet connection is in the normal state.
	Blink	The Ethernet connection is abnormal.
	Off	The Ethernet connection is not set up.

1.6 Interface

Describes the definition and function of each interface on the product.

1.6.1 Micro SD Card

The ED-IPC3400 includes one Micro SD card slot, with the silkscreen marking "". It supports installing a Micro SD card for system boot.

> TIP
>
> The installed Micro SD card is only effective when using CM5Lite.

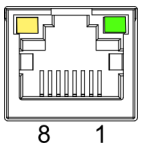
1.6.2 Power Interface

The ED-IPC3400 includes one power input, using a DC Jack (5.5x2.5) connector, with the silkscreen marking "DC IN". It supports 9V~28V power input.

> TIP
>
> It is recommended to use a 12V 4A power adapter.

1.6.3 2500M Ethernet Interface

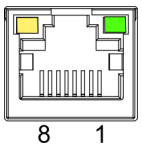
The ED-IPC3400 includes one auto-negotiating 10/100/1000M/2500M Ethernet interface, with the silkscreen marking " 2500M ". It uses an RJ45 connector. For Ethernet connections, it is recommended to use Cat6 or higher specification cables. The pin definitions for the connector are as follows:



Pin ID	Pin Name
1	TX1+
2	TX1-
3	TX2+
4	TX2-
5	TX3+
6	TX3-
7	TX4+
8	TX4-

1.6.4 1000M Ethernet Interface

The ED-IPC3400 includes one auto-negotiating 10/100/1000M Ethernet interface, with the silkscreen marking " 1000M ". It uses an RJ45 connector. For Ethernet connections, it is recommended to use Cat6 or higher specification cables. The pin definitions for the connector are as follows:



Pin ID	Pin Name
1	TX1+
2	TX1-
3	TX2+
4	TX2-
5	TX3+
6	TX3-
7	TX4+
8	TX4-

1.6.5 HDMI Interface

The ED-IPC3400 includes one HDMI interface, with the silkscreen marking "HDMI", standard Type-A interface. It supports connecting an HDMI monitor, with a maximum video output of 4Kp60.

1.6.6 USB 2.0 Interface

The ED-IPC3400 includes two USB 2.0 interfaces, with the silkscreen marking " ", standard Type-A interfaces. They support connecting standard USB 2.0 peripherals, with a maximum transfer rate of 480Mbps.

1.6.7 USB 3.0 Interface

The ED-IPC3400 includes one USB 3.0 interface, with the silkscreen marking " ", standard Type-A interface. It supports connecting standard USB 3.0 peripherals, with a maximum transfer rate of 5Gbps.

1.6.8 Type-C USB Interface

The ED-IPC3400 includes one Type-C USB interface, with the silkscreen marking " PROGRAMMING". It supports flashing the device's eMMC by connecting to a PC.

1.6.9 Antenna Interface (Optional)

The ED-IPC3400 includes one SMA antenna interface, with the silkscreen marking "WiFi/BT", for connecting a Wi-Fi/BT antenna.

1.6.10 Internal Interfaces

This section describes the internal interfaces reserved on the ED-IPC3400. Access requires opening the device case and can be expanded based on actual requirements.

1.6.10.1 MIPI Interface

The ED-IPC3400 includes two MIPI interfaces, using 22-Pin FPC connectors. These are DPHY0 (MIPI0) and DPHY1 (MIPI1), both supporting expansion connections for Raspberry Pi Camera and Raspberry Pi Touch Display 2.

1.6.10.2 40-Pin GPIO Header

The ED-IPC3400 features an internal 40-pin GPIO connector with the pin definitions listed below:

Pin	Definition	Pin	Definition
1	3.3V	2	5V
3	GPIO2 (Pulled up to 3.3V by default; configured for I2C function as SDA)	4	5V

Pin	Definition	Pin	Definition
5	GPIO3 (Pulled up to 3.3V by default; configured for I2C function as SCL)	6	GND
7	GPIO4	8	GPIO14
9	GND	10	GPIO15
11	GPIO17	12	GPIO18
13	GPIO27	14	GND
15	GPIO22	16	GPIO23
17	3.3V	18	GPIO24
19	GPIO10	20	GND
21	GPIO9	22	GPIO25
23	GPIO11	24	GPIO8
25	GND	26	GPIO7
27	ID_SD5 (Assigned)	28	ID_SC5 (Assigned)
29	GPIO5	30	GND
31	GPIO6	32	GPIO12
33	GPIO13	34	GND
35	GPIO19	36	GPIO16 (Assigned)
37	GPIO26	38	GPIO20
39	GND	40	GPIO21

1.7 RTC

The ED-IPC3400 integrates an RTC function internally. It provides an RTC battery base by default, supporting a CR1220 battery as an RTC backup power source.

1.8 Security Chip

The ED-IPC3400 integrates a security chip (Microchip ATSHA204A) internally. It can work with user-level upper-layer applications to securely store critical information such as device private keys and digital certificates, ensuring that this information cannot be read or exported by software, effectively preventing device cloning or forgery.

1.9 EEPROM

The ED-IPC3400 integrates an internal EEPROM with 4K Bytes of storage capacity. It allows users to write and save small amounts of critical data.

1.10 Hailo-8 (13 TOPS) AI Acceleration Module (Optional)

The ED-IPC3400 supports an optional Hailo-8 (13 TOPS) AI module. Paired with the Raspberry Pi CM5, it enables AI edge computing with high computing power, suitable for industrial scenarios such as machine vision.

2 Installing Components (Optional)

This chapter describes how to install optional components.

2.1 Install Antenna

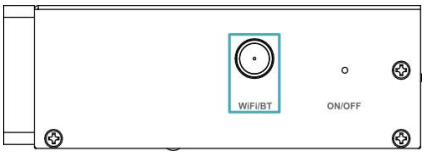
If the purchased ED-IPC3400 includes Wi-Fi functionality, the antenna must be installed before using the device.

Preparation:

Obtain the corresponding antenna from the package box.

Steps:

1. Locate the antenna interface position on the side of the device, as indicated in the image below.



2. Align the interfaces on the device and the antenna, then tighten clockwise until secure to prevent loosening.

2.2 Installing a Micro SD Card

If a Micro SD card needs to be installed during product usage, refer to the instructions below.

> NOTE
>
> Please turn off the power before inserting or removing the Micro SD card.

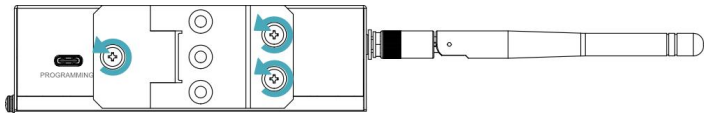
> TIP
>
> • The system can only boot from a Micro SD card when the ED-IPC3400 uses CM5Lite.
> • When the ED-IPC3400 uses CM5 with eMMC, the Micro SD card slot is disabled.

Preparation:

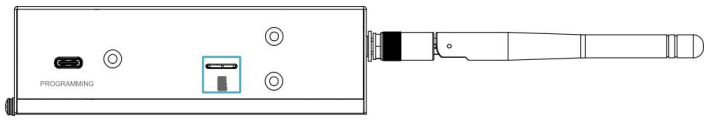
- Obtain the Micro SD card to be used.
- Disconnect the device from its power source.

Steps:

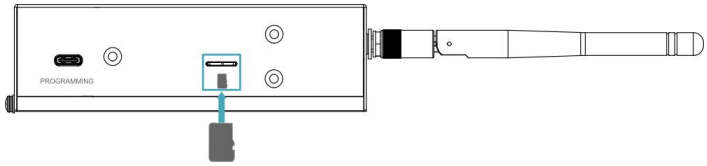
1. Use a Phillips screwdriver to unscrew the 3 screws on the DIN rail bracket counterclockwise, and remove the default DIN rail bracket.



2. Locate the Micro SD card slot position on the side of the device, as indicated in the image below.



3. Insert the Micro SD card into the slot with the contact pins facing downward. A clicking sound indicates the installation is complete.



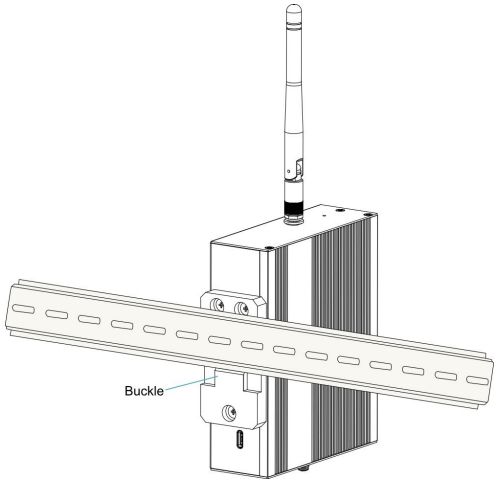
4. Reattach the DIN rail bracket to the device.

3 Installing Device

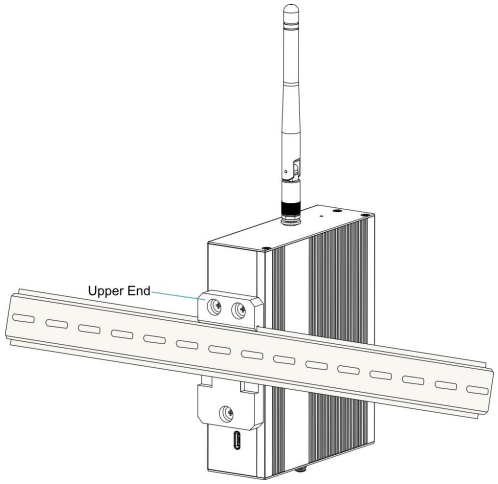
The ED-IPC3400 supports DIN rail mounting. A DIN rail bracket is included as standard and pre-installed.

Steps:

1. Position the side of the device with the rail bracket against the target rail. Hook the retractable buckle of the bracket onto the lower edge of the DIN rail from bottom to top.



2. Hold the device and press the buckle firmly upward until the top of the bracket fully snaps onto the upper edge of the DIN rail.



4 Booting the Device

This chapter introduces how to connect cables and boot the device.

4.1 Connecting Cables

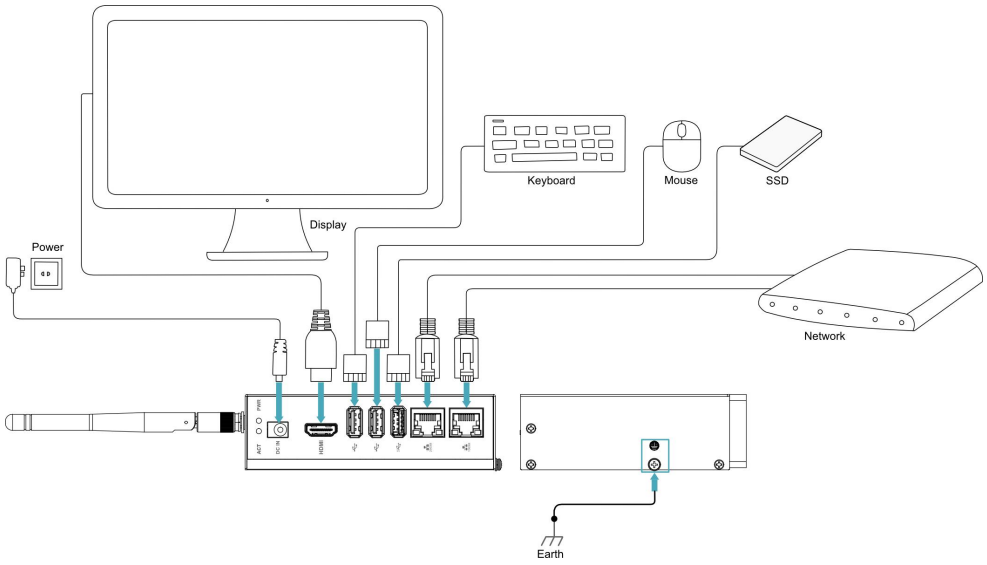
This section describes how to connect cables.

Preparation:

- Accessories such as display, mouse, keyboard and power adapter that can be used normally have been ready.
- A network that can be used normally.
- Get the HDMI cable and network cable that can be used normally.

Schematic diagram of connecting cables:

Please refer to 1.6 Interfaces for the pin definition of each interface and the specific method of wiring.



4.2 Booting The System For The First Time

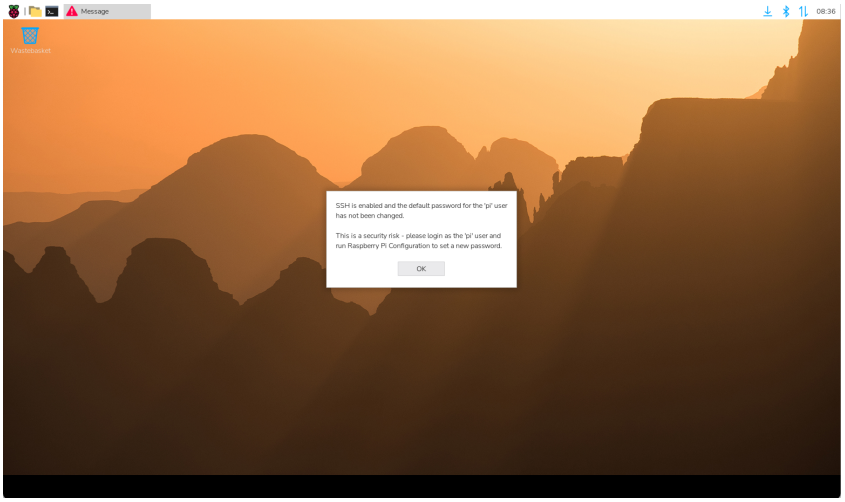
The ED-IPC3400 does not have a power switch. Once connected to a power source, the system will begin to start.

- The red PWR LED illuminates, indicating that the device is receiving power normally.
- The green ACT LED blinks, indicating that the system is starting normally. The Raspberry Pi logo will then appear in the upper left corner of the screen.

> TIP
>
> Default username: `pi` ; Default password: `raspberry` .

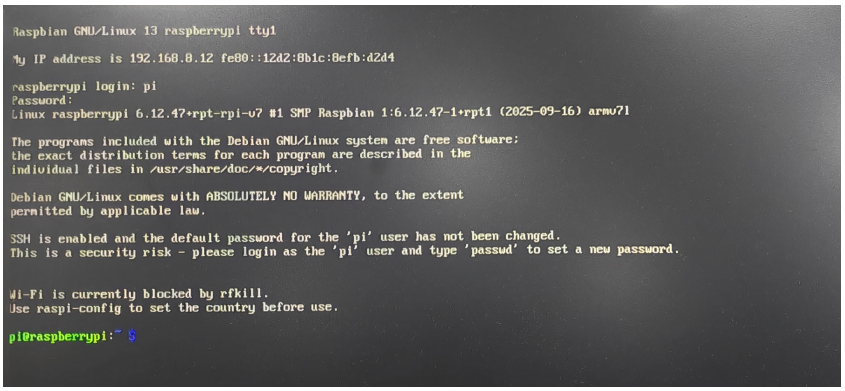
4.2.1 Raspberry Pi OS (Desktop)

If the product was shipped with the Desktop version of the system pre-installed, the device will boot directly into the desktop environment, as shown in the figure below.



4.2.2 Raspberry Pi OS (Lite)

If the product was shipped with the Lite version of the system pre-installed, the device will automatically log in using the default username `pi` after startup. The default password is `raspberry`. The following figure indicates that the system has started successfully.



5 Configuring System

This chapter describes the specific operations for system configuration.

5.1 Finding Device IP

Finding Device IP

5.2 Remote Login

Remote Login

5.3 Configuring Storage Devices

Configuring Storage Devices

5.4 Configuring Ethernet IP

Configuring Ethernet IP

5.5 Configuring Wi-Fi

Configuring Wi-Fi

5.6 Configuring Bluetooth

Configuring Bluetooth

5.7 Configuring RTC

Configuring RTC

5.8 Configuring MIPI Interfaces (Optional)

The ED-IPC3400 includes two MIPI interfaces (located inside the device), using 22-Pin FPC connectors. These are DPHY0 (MIPI0) and DPHY1 (MIPI1), both supporting expansion connections for Raspberry Pi Camera and Raspberry Pi Touch Display.

> TIP
>
> These interfaces are located inside the device and require opening the device casing for access. They are reserved interfaces only.

The two MIPI interfaces support the following Raspberry Pi Camera/Touch Display models for expansion connection:

- Camera:
  - OmniVision OV5647
  - Sony IMX219
  - Sony IMX296
  - Sony IMX477
  - Sony IMX708
- Raspberry Pi Touch Display 2 (5-inch and 7-inch)

Before using a Raspberry Pi Camera/Touch Display on the ED-IPC3400, you need to perform the relevant configuration, add the Camera and Touch Display parameters, and then connect the Raspberry Pi Camera/Touch Display. The following sections describe the specific operations.

Preparation:

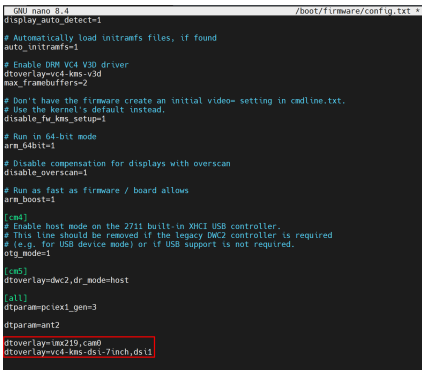
The ED-IPC3400 device has been successfully started.

Steps:

1. After the device has started successfully, open a command terminal and execute the following command to open the `config.txt` configuration file.

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

1. Add the information for the Camera and Touch Display to be used at the end of the configuration file. As shown in the red box in the image below, MIPI0 is configured as a Sony IMX219 Camera, and MIPI1 is configured as a 7-inch Raspberry Pi Touch Display 2.



Other configuration parameter examples:

- Configure both MIPI0 and MIPI1 as Sony IMX219 Cameras.

```sh
dtoverlay=imx219,cam0
dtoverlay=imx219,cam1
```

- Configure both MIPI0 and MIPI1 as 7-inch Raspberry Pi Touch Display 2.

```sh
dtoverlay=vc4-kms-dsi-ili9881-7inch,dsi0
dtoverlay=vc4-kms-dsi-ili9881-7inch,dsi1
```

- Configure MIPI0 as a 7-inch Raspberry Pi Touch Display 2 and MIPI1 as a Sony IMX219 Camera.

```sh
dtoverlay=vc4-kms-dsi-ili9881-7inch,dsi0
dtoverlay=imx219,cam1
```

TIP

- If using a different Camera model, modify the Camera model in the configuration parameters accordingly. For example, if using a Sony IMX296, change `imx219` to `imx296` .
- If using a 5-inch Touch Display 2, modify the screen size in the configuration parameters accordingly. For example, if using a 5-inch Raspberry Pi Touch Display 2, change `vc4-kms-dsi-ili9881-7inch` to `vc4-kms-dsi-ili9881-5inch` .
- For more information about Raspberry Pi Camera configuration, please refer to Raspberry Pi Camera (https://www.raspberrypi.com/documentation/accessories/camera.html#about-the-camera-modules) .
- For more information about Raspberry Pi Touch Display 2 configuration, please refer to Raspberry Pi Touch Display 2 (https://www.raspberrypi.com/documentation/accessories/touch-display-2.html#raspberry-pi-touch-display-2) .

3. Press `Ctrl+O` to save the file, then press `Enter` , and finally press `Ctrl+X` to exit the file editing mode.
4. Execute the following command to restart the device and apply the configuration.

```sh
sudo reboot
```

5. Disconnect the ED-IPC3400 device from its power source.
6. Install the Raspberry Pi Camera/Touch Display onto the ED-IPC3400 motherboard via the FPC interface.

Hailo-8 Module (Optional)

The ED-IPC3400 supports an optional Hailo-8 (13 TOPS) AI module. The pre-installed operating system from our company comes with the corresponding configuration and software installation for Hailo-8 (a fixed version) by default. If users install a standard Raspberry Pi OS themselves, they can refer to the following instructions for configuration and software installation.

Preparation:

The ED-IPC3400 device has been successfully started.

Steps:

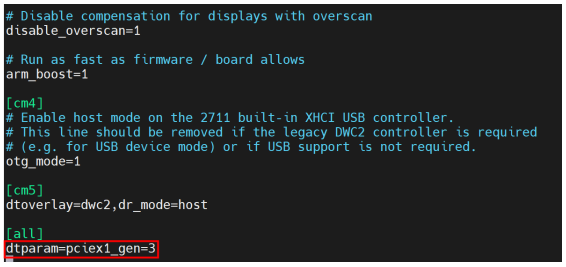
1. Modify the `config.txt` configuration file to enable the PCIe Gen3.0 interface.

a. After the device has started successfully, open a command terminal and execute the following command to open the `config.txt` configuration file.

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

b. Add the following content to the configuration file.

```sh
dtparam=pciex1_gen=3
```



c. Press `Ctrl+O` to save the file, then press `Enter`, and finally press `Ctrl+X` to exit the file editing mode.

d. Execute the following command to restart the device and apply the configuration.

```sh
sudo reboot
```

2. Execute the following commands in sequence to install the Hailo software.

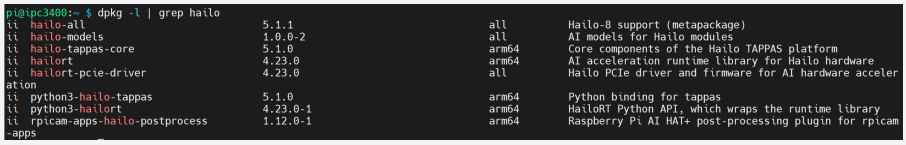
```sh
sudo apt install dkms
sudo apt install hailo-all
```

3. Execute the following command to view the detailed information of the installed Hailo software.

```sh
dpkg -l | grep hailo
```

4. For more specific configuration details regarding the Hailo module, please refer to Raspberry Pi AI Software documentation (https://www.raspberrypi.com/documentation/computers/ai.html) .

> TIP
>
> The version information of the Hailo software built into the pre-installed operating system from our company is as follows:



5.10 Configuring Security Chip

The ED-IPC3400 integrates a security chip (Microchip ATSHA204A) internally. The specific usage of the security chip depends on the user's actual upper-layer application. Since customer requirements vary, the following sections only describe the download/compilation of the encryption library source code corresponding to the security chip and a test example for the security chip.

Preparation:

The ED-IPC3400 device has been successfully started.

Steps:

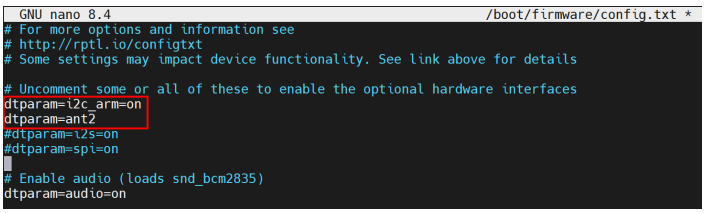
1. Modify the `config.txt` configuration file to enable I2C and the security chip.

a. After the device has started successfully, open a command terminal and execute the following command to open the `config.txt` configuration file.

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

b. Add the following content to the configuration file.

```sh
dtparam=i2c_arm=on
dtparam=ant2
```



c. Press `Ctrl+O` to save the file, then press `Enter`, and finally press `Ctrl+X` to exit the file editing mode.

d. Execute the following command to restart the device and apply the configuration.

```sh
sudo reboot
```

2. (Optional) Obtain the CryptoAuthLib v3.7.0 encryption library source code from GitHub at the following path: CryptoAuthLib v3.7.0 (https://github.com/MicrochipTech/cryptoauthlib/tree/v3.7.0)。
3. (Optional) Compile the downloaded encryption library source code on the ED-IPC3400 device.

```sh
mkdir build && cd build
cmake .. -DATCA_HAL_I2C=ON -DATCA_BUILD_SHARED_LIBS=on -DATCA_USE_ATCAB_FUNCTIONS=ON
make -j4
sudo make install
```

4. Install Python to allow Python to import cryptoauthlib.

```sh
cd ~/cryptoauthlib-3.7.0/python
sudo cp -r cryptoauthlib/ $(python3 -c "import site; print(site.getsitepackages()[0])")
```

5. Test whether the security chip can be used normally through the sample code.

```sh
#!/usr/bin/env python3
"""
CryptoAuthLib 3.7.0 + ATSHA204A @ i2c-1 0x64
"""
import ctypes

from cryptoauthlib.library import load_cryptoauthlib,AtcaReference
load_cryptoauthlib()

from cryptoauthlib.atcab import (
    atcab_init, atcab_release,
    atcab_info, atcab_read_serial_number,
    atcab_random, atcab_is_locked
)
# from cryptoauthlib.iface import cfg_ateccx08a_i2c_default
from cryptoauthlib.iface import cfg_atsha20xa_i2c_default

cfg = cfg_atsha20xa_i2c_default()

cfg.cfg.atcai2c.u.slave_address = 0x64 << 1
cfg.cfg.atcai2c.bus = 1
```

```
print(f"slave_address = 0x{cfg.cfg.atcai2c.u.slave_address:02X}")

st = atcab_init(cfg)
if st != 0:
    print(f"  atcab_init failed: {st}")
    exit(1)

print("ATSHA204A@0x64 initialized ok.")

rev = bytearray(4)
atcab_info(rev)
print(f"Rev : {rev.hex()}")

sn = bytearray(9)
atcab_read_serial_number(sn)
print(f"SN  : {sn.hex()}")

rnd = bytearray(32)
atcab_random(rnd)
print(f"RND : {rnd[:8].hex()}...")

is_locked_cfg = AtcaReference(ctypes.c_bool(False))

status1 = atcab_is_locked(0x00, is_locked_cfg)
if status1 == 0:
    cfg_lock = is_locked_cfg.value
    print(f"Config localed: {cfg_lock}")
else:
    print(f"Config lock status read failed: {status1}")

atcab_release()
print("Test completed.")
```

TIP

- CryptoAuthLib v3.7.0 offers stable support for the ATSHA204A with complete functionality, so it is recommended to use the CryptoAuthLib v3.7.0 version of the encryption library source code.
- If using the pre-installed operating system from our company, the CryptoAuthLib v3.7.0 encryption library source code is already installed and compiled by default, so Steps 1 and 2 can be skipped.
- If users install a standard Raspberry Pi OS themselves, Steps 1 through 4 must be performed.

5.11 Configuring EEPROM

The ED-IPC3400 integrates an internal EEPROM with 4K Bytes of storage capacity. It allows users to write and save small amounts of critical data. The following sections describe the specific operations for writing and reading data.

Preparation:

The ED-IPC3400 device has been successfully started.

Steps:

1. Open a command terminal and execute the following command to create a `.txt` file with a custom name.

```sh
nano edatec_hat.txt
```

- `edatec_hat` represents the custom file name.

2. Add the content to be written to the EEPROM in the `edatec_hat.txt` file (this is only an example; users can add content as needed).

```sh
cat > myhat.txt << 'EOF'
product_uuid 00000000-0000-0000-0000-000000000000
product_id 0x0001
product_ver 0x0001
vendor "My Company"
product "My HAT"
current_supply 0
dt_blob "my-overlay"
EOF
```

> TIP
>
> The content written to the EEPROM has format restrictions. For detailed specifications, please refer to EEPROM Configuration File Description (https://github.com/raspberrypi/utils/blob/master/eeptools/eeprom_settings.txt) .

3. Press `Ctrl+O` to save the file, then press `Enter`, and finally press `Ctrl+X` to exit the file editing mode.
4. Execute the following command to convert the created `.txt` file into a `.eep` file recognizable by the EEPROM.

```sh
eepmake edatec_hat.txt edatec_hat.eep
```

5. Execute the following command to write `edatec_hat.eep` to the EEPROM.

```sh
sudo eepflash.sh -w -f=edatec_hat.eep -t=24c32 -d=1
```

- `-w` : Specifies write mode;
- `-f=edatec_hat.eep` : Specifies the file to be written;
- `-t=24c32` : Specifies the EEPROM chip model as AT24C32;
- `-d=1` : Specifies the I2C bus number.

6. Execute the following command to read data from the EEPROM and save it as a binary file named `readback.bin` .

```sh
sudo eepflash.sh -r -f readback.bin -t=24c32 -d=1
```

- `-r` : Specifies read mode;
- `-t=24c32` : Specifies the EEPROM chip model as AT24C32;
- `-d=1` : Specifies the I2C bus number.

7. Execute the following command to parse the read `readback.bin` binary file.

```sh
hexdump -C readback.bin | head -20
```

- `20` : Specifies displaying 20 lines of information.

> TIP
>
> EEPROM read/write cycles have a limited lifespan. Please avoid frequent operations to prevent affecting its service life.

6 Installing OS (optional)

The device comes with a pre-installed operating system by default. If the operating system becomes damaged during use, or if you need to replace the operating system, you must re-download the system image and flash it. The following sections describe the specific procedures for downloading the image and flashing the eMMC/SSD/SD card.

6.1 Downloading OS File

Our company provides 2 images for users to download. The download paths are listed in the table below:

OS	Download Path
Raspberry Pi OS (Desktop) 64-bit-trixie (Debian 13), with Hailo software pre-installed, with security chip library pre-installed	2026-06-18_IPC3400_hailo_raspios_trixie_arm64 (https://1826505135.cdn.123clouddisk.com/1826505135/37871790)
Raspberry Pi OS (Desktop) 64-bit-trixie (Debian 13), with security chip library pre-installed	2026-06-18_IPC3400_raspios_trixie_arm64 (https://1826505135.cdn.123clouddisk.com/1826505135/38096526)

6.2 Flashing to eMMC/SSD

> TIP
>
> The procedure for flashing to an SSD is identical to the procedure for flashing to eMMC.

If the purchased ED-IPC3400 includes eMMC or an SSD, it supports booting the system from eMMC or the SSD. Refer to the instructions below for flashing. It is recommended to use the official Raspberry Pi flashing tools. The download paths are as follows:

- Raspberry Pi Imager: https://downloads.raspberrypi.org/imager/imager_latest.exe (https://downloads.raspberrypi.org/imager/imager_latest.exe)
- SD Card Formatter: https://www.sdcardformatter.com/download/ (https://www.sdcardformatter.com/download/)
- Rpiboot: https://github.com/raspberrypi/usbboot/raw/master/win32/rpiboot_setup.exe (https://github.com/raspberrypi/usbboot/raw/master/win32/rpiboot_setup.exe)

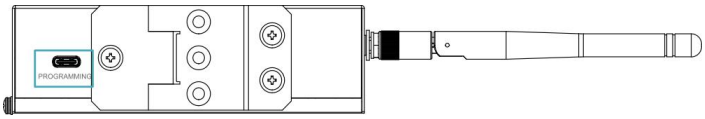
Preparation:

- The downloading and installation of the official tools to the computer have been completed.
- A Type-C USB to Type-A USB cable (USB flashing cable) is prepared.
- The image file to be flashed has been obtained.

Steps:

The procedure is described using a Windows system as an example.

1. Locate the Type-C USB interface position on the side of the device, as indicated in the image below.

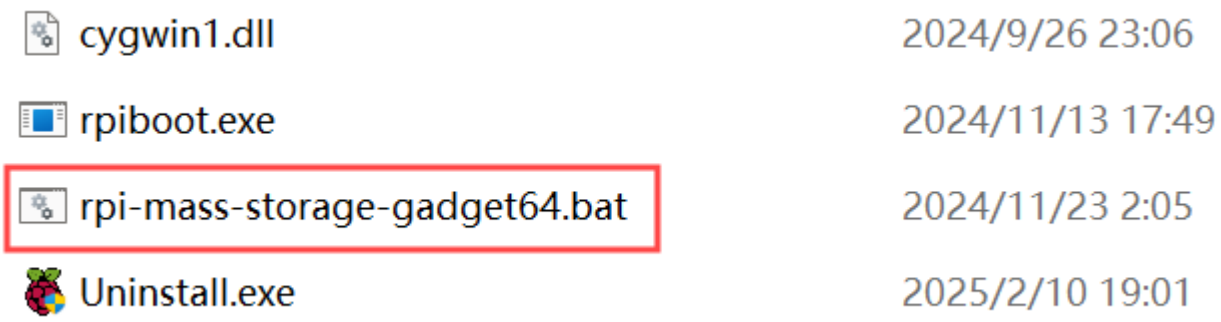


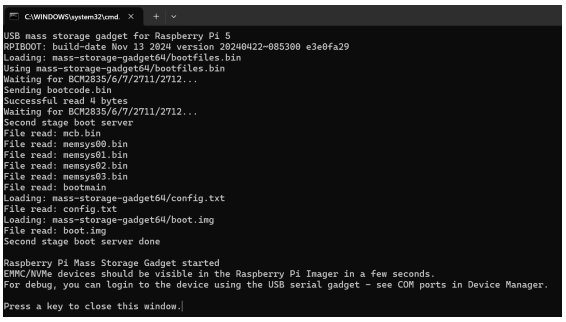
2. Connect the power cable and the USB flashing cable (Type-C USB to Type-A USB).

   - Connect the USB flashing cable: Connect one end to the Type-C USB interface on the device and the other end to a USB port on the PC.
   - Connect the power cable: Connect one end to the DC Jack terminal on the device and the other end to an external power source.

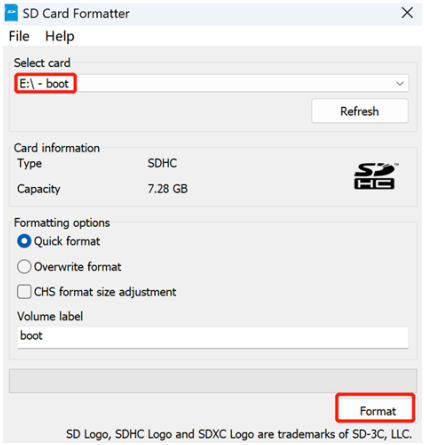
3. Disconnect the power from the ED-IPC3400, then reconnect the power.
4. Open the installed `rpi-mass-storage-gadget64.bat` tool (as shown in the red box below) to automatically assign a drive letter.

> TIP
>
> The `rpi-mass-storage-gadget64.bat` tool is located in the Rpiboot installation directory.

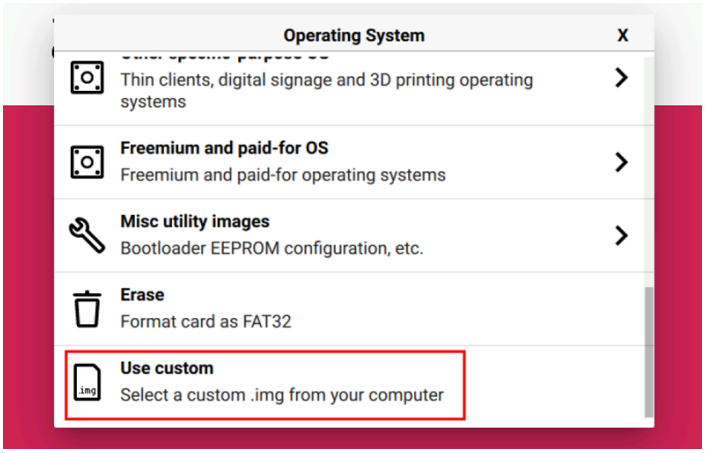




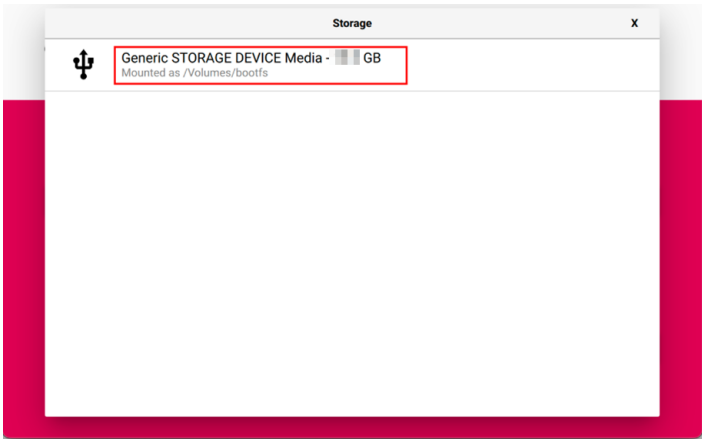
5. Once the drive letter is assigned, a notification will pop up in the lower-right corner of your screen.
6. Open `SD Card Formatter`, select the drive letter to be formatted, and click "Format" in the lower right corner to format.



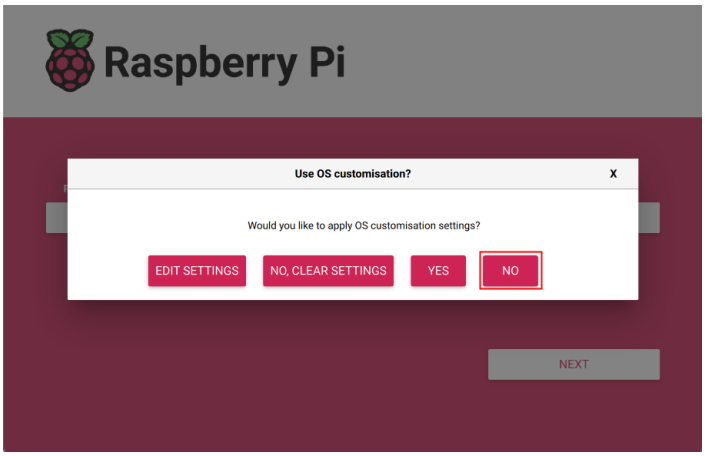
7. In the pop-up prompt box, select "Yes".
8. When the formatting is completed, click "OK" in the prompt box.
9. Close `SD Card Formatter` .
10. Open `Raspberry Pi Imager` , select "CHOOSE OS" and select "Use Custom " in the pop-up pane.



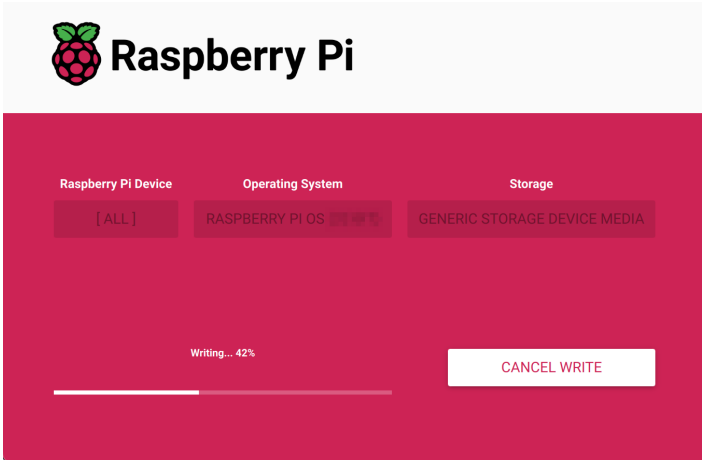
11. According to the prompt, select the OS file under the user-defined path and return to the main page.
12. Click "CHOOSE STORAGE", select the default device in the "Storage" interface, and return to the main page.



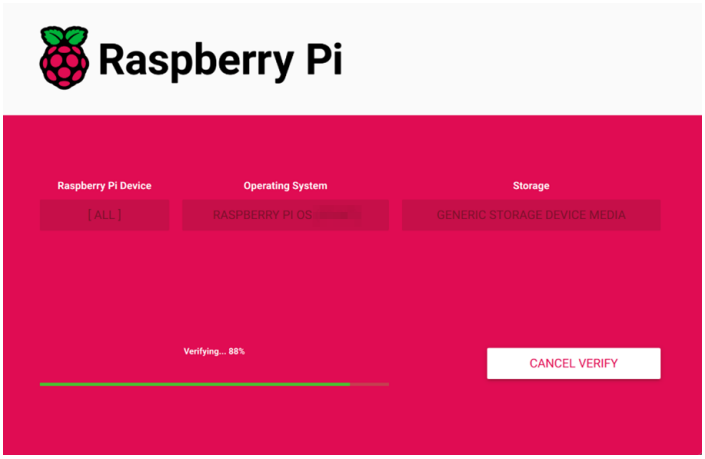
13. Click “NEXT”, select "NO " in the pop-up “Use OS customization?” pane.



14. Select “YES” in the pop-up “Warning” pane to start writing the image.



15. After the OS writing is completed, the file will be verified.



16. After the verification is completed, click “CONTINUE” in the pop-up “Write Successful” box.
17. Close `Raspberry Pi Imager`, remove USB cable and power on the device again.

6.3 Flashing to SD Card

If the purchased ED-IPC3400 does not include eMMC but only includes an SD card, it supports booting the system from the SD card. Refer to the instructions below for flashing.

It is recommended to use the Raspberry Pi official tools. The download paths are as follows:

- Raspberry Pi Imager: https://downloads.raspberrypi.org/imager/imager_latest.exe (https://downloads.raspberrypi.org/imager/imager_latest.exe)
- SD Card Formatter: https://www.sdcardformatter.com/download/ (https://www.sdcardformatter.com/download/)

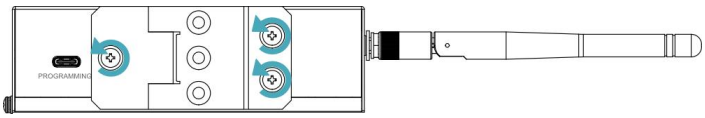
Preparation:

- The flashing tools have been downloaded and installed on a Windows PC.
- The image file to be flashed has been obtained.
- An SD card reader is prepared.
- The device has been disconnected from its power source.

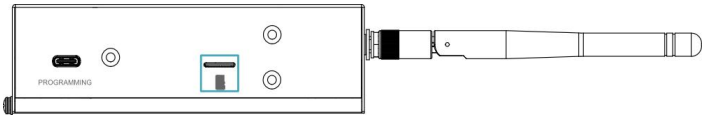
Steps:

The steps are described using Windows system as an example.

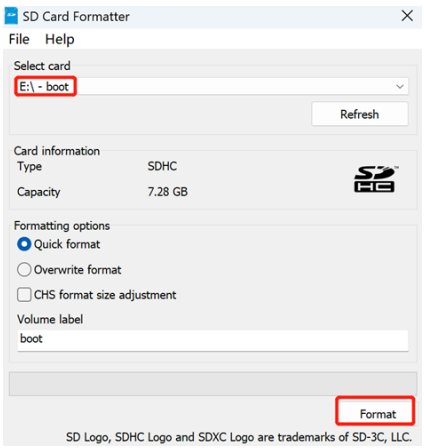
1. Use a Phillips-head screwdriver to counterclockwise remove the 3 screws on the DIN rail bracket (indicated by arrows in the image below), then detach the default DIN rail bracket.



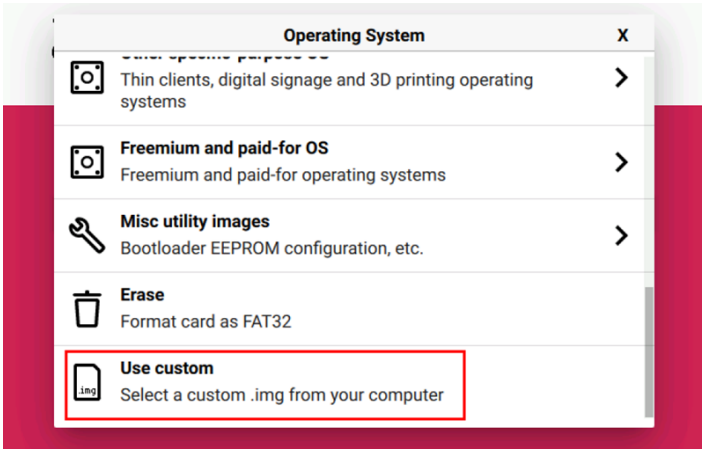
2. Locate the Micro SD card position, as indicated in the image below.



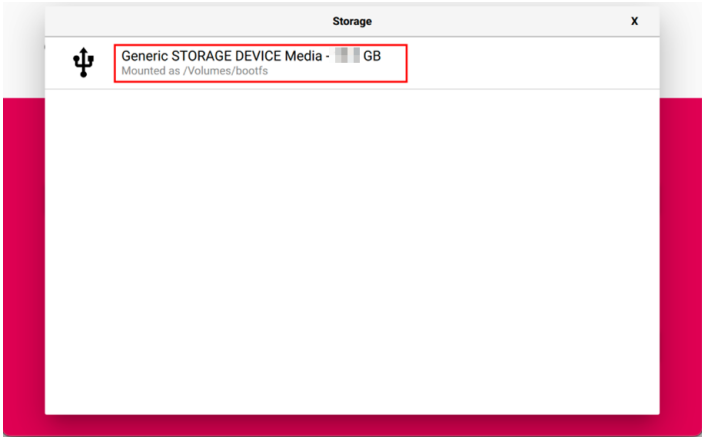
3. Push the Micro SD card inward into the slot to eject it, then remove the Micro SD card.
4. Open `SD Card Formatter`, select the drive letter to be formatted, and click "Format" in the lower right corner to format.



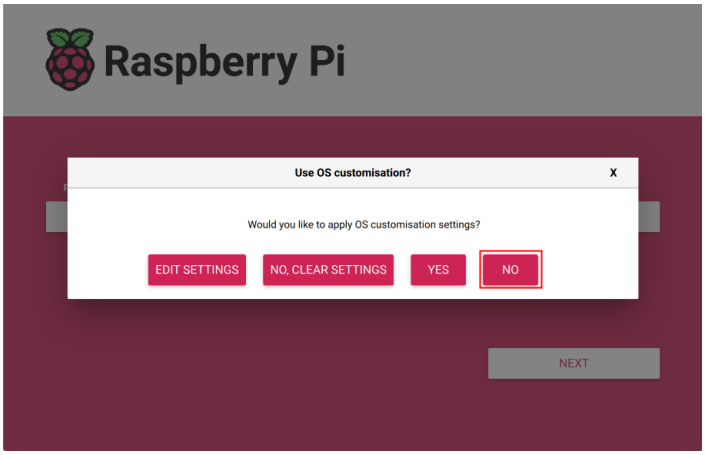
5. In the pop-up dialog box, click "Yes".
6. When the formatting is completed, click "OK" in the prompt box.
7. Close `SD Card Formatter`.
8. Open `Raspberry Pi Imager`, select "CHOOSE OS" and select "Use Custom" in the pop-up pane.



9. According to the prompt, select the OS file under the user-defined path and return to the main page.
10. Click "CHOOSE STORAGE", select the default device in the "Storage" interface, and return to the main page.

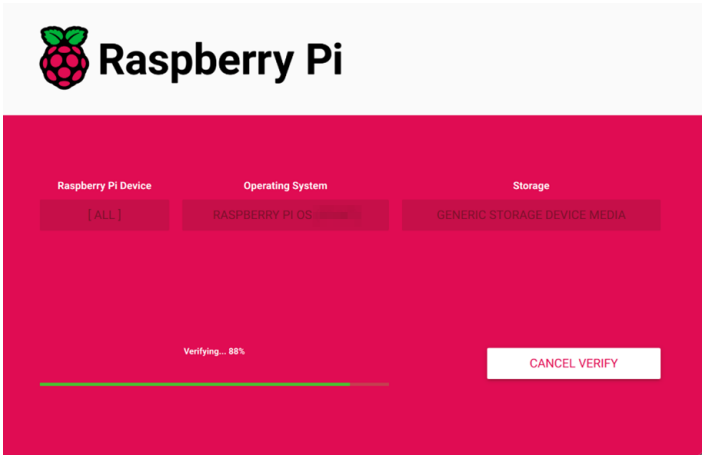


11. Click “NEXT”, select "NO" in the pop-up “Use OS customization?” pane.



12. Select “YES” in the pop-up “Warning” pane to start writing the image.

13. After the OS writing is completed, the file will be verified.



14. After the verification is completed, click “CONTINUE” in the pop-up “Write Successful” box.
15. Close `Raspberry Pi Imager`, and remove the card reader along with the Micro SD card from USB port of PC.
16. Insert the Micro SD card into the ED-IPC3400, then power on the ED-IPC3400.