

# Edge AI Box-EX5 EHC-ONX402 User's Manual

Version 1.0

(Indoor model) EX5 : EHC-ONX402



Document : doc02402\_202308

# Introduction

First, allow us to thank you for your purchase.

Please read this User's Manual carefully so that you can fully utilize the capabilities of this product in a correct and safe manner.

Although this product was shipped following thorough quality control procedures, we still advise that you perform an operations check prior to use.

Please contact us if the item has sustained damage or does not perform to specifications.

## ■ About this User's Manual

- The products and specifications contained within this User's Manual may be changed without prior notice due to product revisions or other reasons.
- Reprinting and/or altering this document, either entirely or in part, is prohibited.
- The utmost care was spent on creating this document. Nonetheless, please contact us if there are any points of confusion, errors, or other items that catch your attention.
- Please understand that, even in the cases mentioned above, our company bears no responsibility for outcomes resulting from the use of this product.

## ■ Trademarks

- Linux is the registered trademark of Linus Torvalds as recognized in Japan and other countries.
- "Wi-Fi" and the "Wi-Fi" logo are registered trademarks of the Wi-Fi Alliance®.
- EDGEMATRIX is a registered trademark of EDGEMATRIX, Inc.
- NVIDIA is a registered trademark of the NVIDIA Corporation.
- Jetson is a trademark of the NVIDIA Corporation.

## Revision History

Date of Issue	Version	Revision Details
Nov. 2023	1.0	Initial release

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# Safety Precautions

Please read these Safety Precautions carefully before using this product and only use it as indicated herein.




Upon reading this documentation, please store it securely for future reference.

Please follow the warnings provided herein, as they are intended to prevent damage to property as well as injury to the user and/or other individuals.

The following safety precautions are provided to ensure the safe use of this product.





## ■ Class

The following classes are used to discern the degree of injury and/or damage sustained as a result of inappropriate operation.

 <b>Danger</b>	Point of caution displayed when inappropriate use is likely to result in death and/or serious injury.
 <b>Warning</b>	Point of caution displayed when inappropriate use can result in death and/or serious injury.
 <b>Notice</b>	Point of caution displayed when inappropriate use is expected to result in mild injury and/or physical damage.

## ■ Code

The following codes are used to distinguish safety precautions.

 Notice	This indicates a general safety precaution.
 Shock Hazard	This indicates the risk of sustaining an electric shock.
 Prohibited	This indicates a general safety precaution.
 Do Not Disassemble	This indicates that disassembly of the product is prohibited.



Avoid Water







This indicates that handling of the product with wet hands is prohibited.



Note








This indicates that a specific precaution or usage guideline must be followed.

## **Danger**

 Prohibited	<p><b>Do not use, store, or leave in an area of high temperature or in an area that may become hot (next to a fire, near a heating device, in direct sunlight, etc.)</b></p> <p>Fire, injury, and/or electric shock may result.</p>
 Prohibited	<p><b>Do not allow this product to come in contact with beverages, perspiration, sea water, pet urine, or other fluids.</b></p> <p>Fire, burns, injury, and/or electric shock may result.</p>
 Prohibited	<p><b>Do not allow beverages, perspiration, sea water, pet urine, or other fluids to enter the connector unit.</b></p> <p>Fire, burns, injury, and/or electric shock may result.</p>
 Prohibited	<p><b>Do not allow contact with, or place upon, sand, dirt, or mud. Moreover, do not touch the product with sandy or otherwise dirty hands.</b></p> <p>Fire, burns, injury, and/or electric shock may result.</p>
 Do Not Disassemble	<p><b>Please do not disassemble or alter the product.</b></p> <p>Fire, burns, injury, and/or electric shock may result.</p>
 Shock Hazard	<p><b>Do not touch this product or the connector cable during a lightning storm.</b></p> <p>Electric shock may result.</p>








## **Warning**

 Notice	<p><b>Disconnect the power cable from the product immediately if the product produces smoke, abnormal odors, abnormal sounds, or if the product becomes too hot to touch.</b></p> <p>Fire, burns, and/or electric shock may result.</p>
 Prohibited	<p><b>Do not drop, step on, hit, or otherwise apply strong impact or vibration to the product.</b></p> <p>Fire, burns, injury, and/or electric shock may result.</p>
 Avoid Water	<p><b>Do not touch this product or the connector cable with wet hands.</b></p> <p>Electric shock may result.</p>
 Prohibited	<p><b>Do not insert the following objects into the product.</b></p> <p>Fire may result from electric short.</p> <ul style="list-style-type: none"> <li>• Metallic objects</li> <li>• Water or other liquids</li> <li>• Flammable objects</li> <li>• Chemicals</li> </ul>
 Prohibited	<p><b>Only use the provided AC adapter.</b></p> <p>Fire, electric shock, and/or smoke may result.</p>
 Prohibited	<p><b>Do not damage the provided AC adapter cord.</b></p> <p>Fire and/or electric shock may result.</p>
 Note	<p><b>Ensure the following points when handling the AC adapter.</b></p> <p>Fire, electric shock, sparks, and/or smoke may result.</p> <ul style="list-style-type: none"> <li>• Do not use when folded or wrapped up.</li> <li>• Do not excessively bend the base of the cord.</li> <li>• Do not place a heavy load on the cord.</li> <li>• Do not wrap in cloth or other material.</li> </ul>

 <b>Prohibited</b>	<p><b>Do not place on an unstable surface.</b></p> <p>The item may fall over or drop, causing injury.</p>
 <b>Note</b>	<p><b>Unplug the power prior to installation/relocation.</b></p> <p>Electric shock may result.</p>
 <b>Note</b>	<p><b>Turn off the power prior to connecting or attaching objects to the product.</b></p> <p>Electric shock may result.</p>
 <b>Prohibited</b>	<p><b>Turn off the power prior to connecting or attaching objects to the product.</b></p> <p>Electric shock may result.</p>
 <b>Note</b>	<p><b>Store vinyl bags and other wrapping materials out of the reach of children (particularly infants).</b></p> <p>Inserting these materials in the mouth or around the head can lead to suffocation.</p>
 <b>Note</b>	<p><b>If the user is wearing an electronic medical device or other such device, check with the device manufacturer and/or seller prior to use to avoid electronic interference.</b></p> <p>Electronic interference may hinder the normal operation of some medical devices.</p>
 <b>Note</b>	<p><b>Do not use this produce near electronic devices that employ high-precision controls or weak signals.</b></p> <p>Electromagnetic waves may interfere with the normal operation of some electronic devices (hearing aids, cardiac pacemakers, etc.)</p>

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## Notice

 <b>Prohibited</b>	<p><b>Do not use this device in the following places.</b></p> <p>Electric shock may result.</p> <ul style="list-style-type: none"><li>• Baths or other areas with high humidity.</li><li>• Near stoves, humidifiers, or other places with increased water, humidity, steam, oil smoke, etc.</li></ul>
 <b>Prohibited</b>	<p><b>Do not directly contact this device while current is running through it or immediately after turning off the power.</b></p> <p>Burns may result.</p>
 <b>Prohibited</b>	<p><b>Do not apply excessive force to the antenna.</b></p> <p>Damage may result.</p>
 <b>Prohibited</b>	<p><b>Do not use the device if dust has built up on the power plug.</b></p> <p>Fire may result.</p>
 <b>Note</b>	<p><b>Be sure to turn off the power and unplug the AC adapter before handling this product.</b></p> <p>Electric shock may result.</p>
 <b>Note</b>	<p><b>Unplug the AC adapter when leaving this product unused for an extended period of time.</b></p> <p>A leakage current fire may result due to degradation of electronic insulation.</p>
 <b>Note</b>	<p><b>Be careful not to cut your finger on chipped edges when handling the SIM card.</b></p> <p>Chipped edges can be sharp, resulting in injury.</p>

## Cautions During Use

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### ■ Usage Environment

- Avoid areas subject to frequent impact and/or vibration. Also, avoid dropping the product. These conditions may affect the delicate internal components of this product, causing damage and/or loss of functionality.
- Do not use or store this product in direct sunlight, under high temperature, under extreme cold, under high humidity, or in dusty areas. Damage may result.
- Please use the product within the specified temperature and humidity range.

Temperature range: -20 to + 60°C

Humidity range: 10 to 95% (avoid condensation)

- Do not use this device outdoors.
- Do not vibrate, impact, or cut the power to this product during data writing or transmission. This may cause loss/corruption of data.

### ■ Installation

- Do not install near corrosive chemicals or in areas where corrosive gasses may be produced.
- Do not install in areas that allow for contact with substances that are flammable or act as solvents at low temperatures.
- Be sure to turn off the power to this device when attaching and detaching cameras, cables, etc. Attaching/detaching cameras, cables, etc. to this device while powered on can result in damage.
- Do not pull or bend cables, or place a load on the connectors. Damage to the connectors may result.
- Securely tighten all screws.
- Do not insert metallic or other objects into the LTE or Wi-Fi modules. Damage may result.
- Please do not place a load on the LTE module in excess of what is required when inserting/removing the SIM card.
- Do not insert metallic or other objects into the LTE or Wi-Fi modules.
- Do not use excess force when inserting a pin into the jumper pin.

### ■ Other

- Please turn off the power to this product before cleaning.
- To clean, wipe with a soft, dry cloth. Cleaning with alcohol, paint thinner, benzene, detergent, glass cleaner, or other chemicals may result in damage.
- When transferring or disposing of this product, delete all recorded data. If data remains on the device, it may be nefariously downloaded and used for malicious purposes by a third party.
- If you feel something is malfunctioning with this product, immediately cease operation, cut the power, and contact our company.
- The user is responsible for executing new commands after image flash. Executing an incorrect command can damage the Edge AI Box image.
- In the unlikely event that a user update (Flash) causes a system malfunction, our company shall bear no responsibility. In such cases, repairs may require an additional fee even if the device is still under warranty.

# 1 Overview

The Edge AI Box EX5 is a device intended for AI processing of large on-site data sets. The Edge AI Box EX5 is an indoor model.

## 1.1 Key Features of the Edge AIBox EX5

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### ■ NVIDIA ORIN NX

The JETSON Orin NX GPU module is included for optimal high performance, providing rapid data processing.

### ■ Deep Learning

Edge AI Box is a miniature computer ideal for environmental deep learning applications.

### ■ Edge Computing

Cameras and sensors are located nearby, allowing for real-time data processing. This reduces transmission latency, loss due to data compression, as well as data transmission costs. Moreover, analysis of uncompressed images provides superior precision. Discover hazards in real time and alert alarm systems for immediate risk avoidance.

### ■ Compatible with multiple connectivity standards, including LAN, Wi-Fi, and LTE.

The Edge AI Box uses connectivity features to send analysis results, logs, samples, metadata, and other information at high speeds to the cloud.

\*LTE transmission requires a SIM card.

### ■ Auto Power ON

The Edge AIBox EX5 provides a switch to config Auto Power ON.

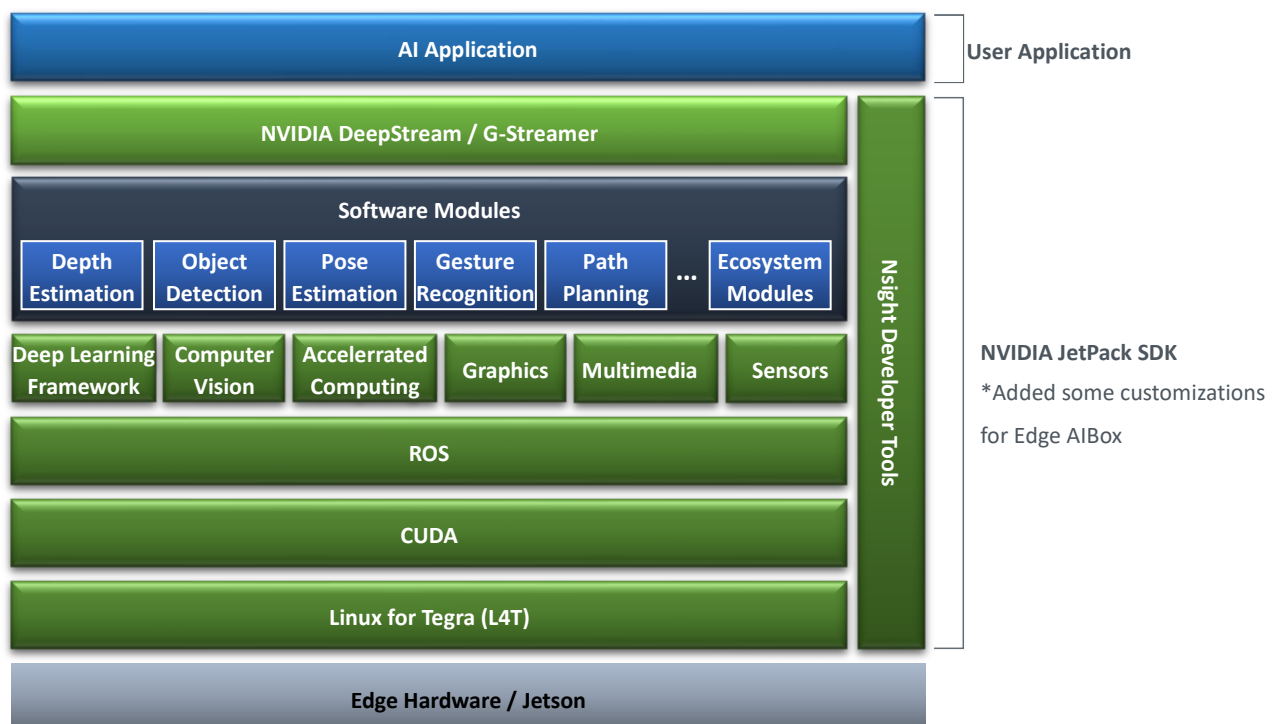
## 1.2 Software Architecture in the Edge AI Box

Edge AI Box - EX5 is shipped with following software configuration.

- JetPack SDK configuration (This configuration Edge AI Box is called “JetPack SDK Box”)
  - I. This configuration gives users equivalent usage as a NVIDIA development kit.
  - II. This manual is for this configuration box. Please use Ubuntu Web and NVIDIA development Web as your reference.
  - III. Please note that the flash image must be downloaded from EDGEMATRIX web which almost same as NVIDIA JetPack but has updated some software such as I/O drivers.

JetPack SDK configuration is described below for your reference ;

### ■ JetPack SDK configuration



## 2 Included Items

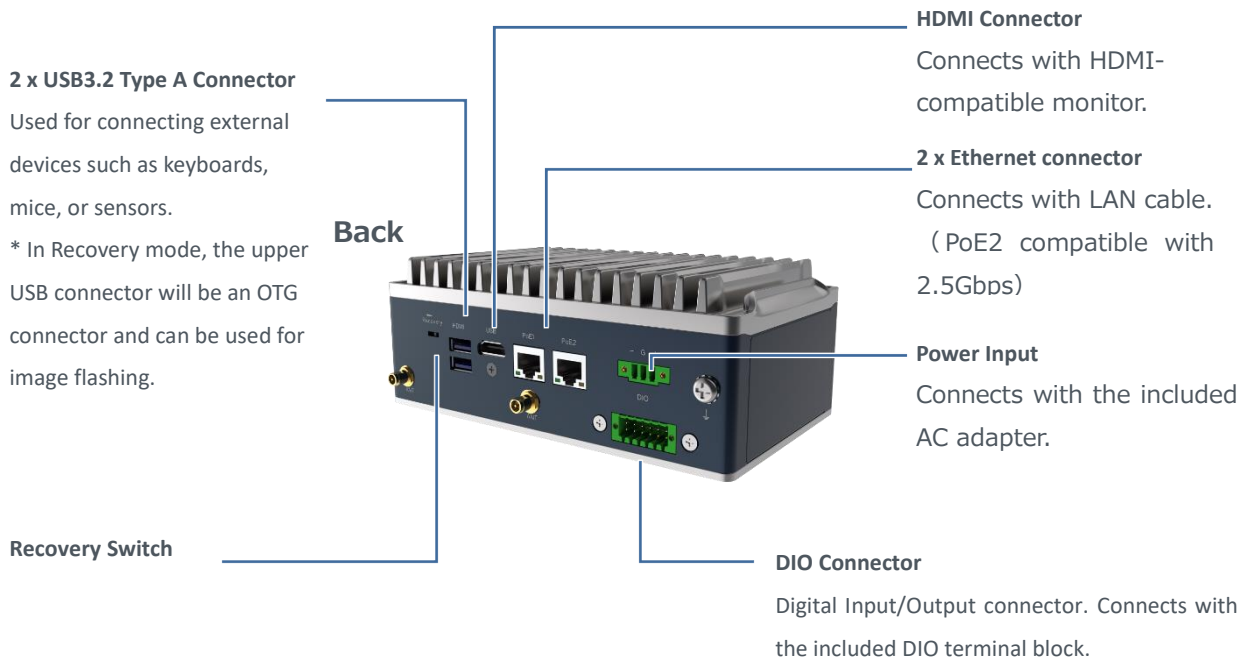
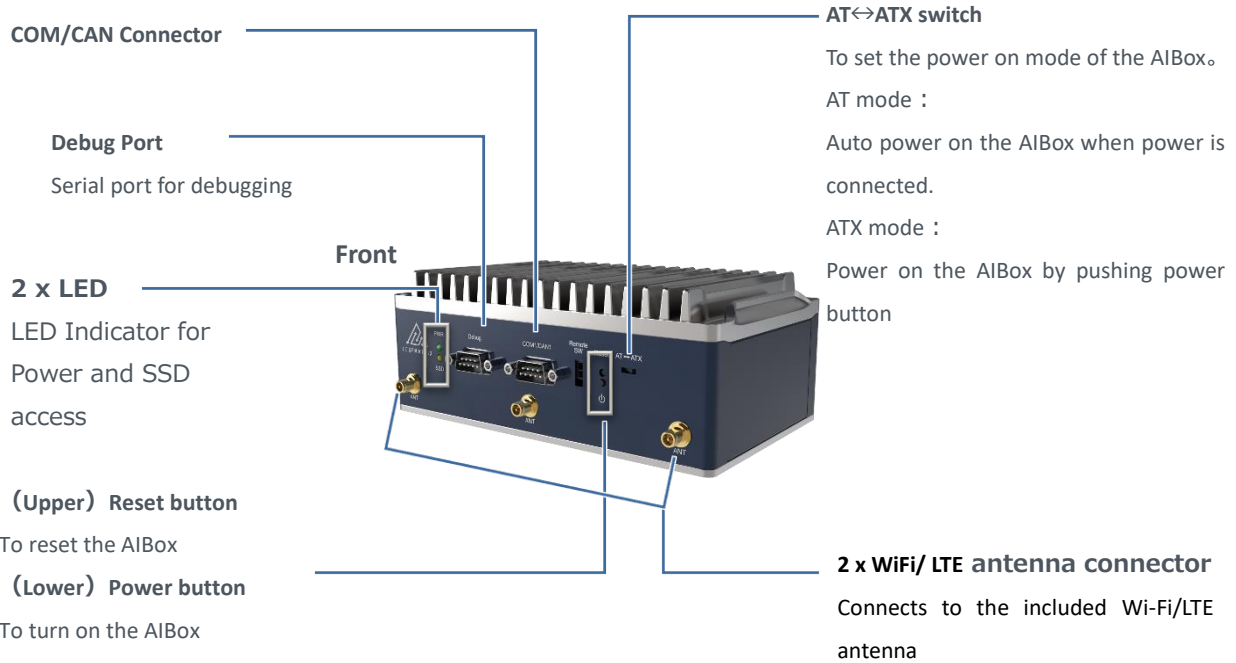
This product includes the following items. Please check that all items are present following purchase. If a component is missing, please contact us.

### ■ Included Items

- Edge AIBox Main Unit : 1
- Antenna<sup>※1</sup> Wi-Fi : 2 or LTE : 2
- AC Adapter : 1
- Power cord<sup>※2</sup> : 1
- Foot pad : 4
- DIO terminal block : 1

- ※1 Please only use the included antennae.
- ※2 This power cord is for use with the Edge AI Box only. Cannot be used with other devices.

## 3 Component Names and Functions



## 4 Peripheral Device Connectivity

### 4.1 Peripheral devices that can be connected

The following peripheral devices can be connected to the Edge AI Box. LAN ケーブル

- LAN cable
- Keyboard and mouse
- USB hub
- HDMI-compatible monitor
- HDMI cable



Hint

#### About LAN cables

The Edge AIBox Ex5 supports 2.5Gbps Ethernet (LAN port PoE2).

For use at 2.5Gbps, please connect a Category 5e or higher LAN cable to a 2.5Gbps compatible devices.

### 4.2 Connection

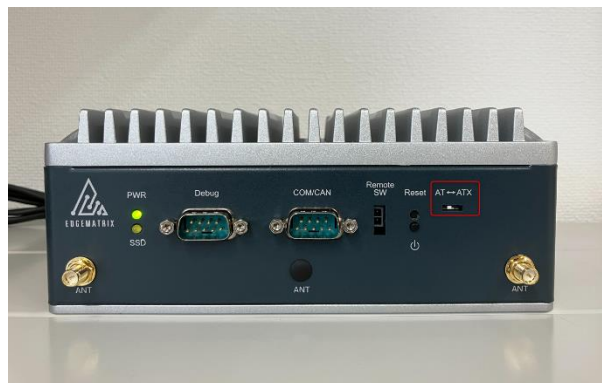
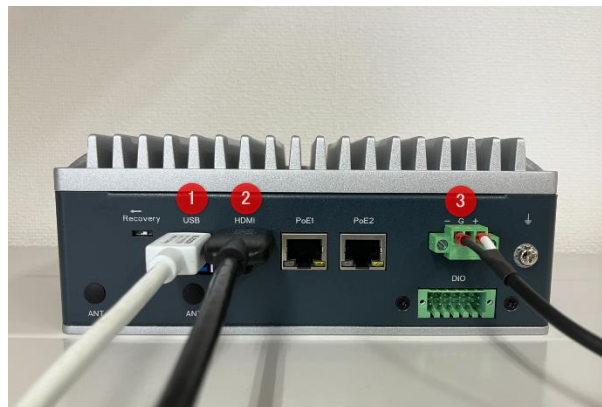
- 1** A keyboard and mouse can be connected to the Edge AI Box USB connector via a USB hub.
- 2** A monitor can be connected to the Edge AI Box via the HDMI connector.
- 3** If the default setting is AT mode, plug the AC adapter into the power input to power on the AIBox.

If ATX mode is selected, connect the AC adapter and press the power button to power on the AIBox.

After starting up the Edge AI Box, the Ubuntu login screen will appear.

\*1 It may take several seconds for the Ubuntu login screen to appear. Please be patient, and do not turn off the AIBox.

<接続例>

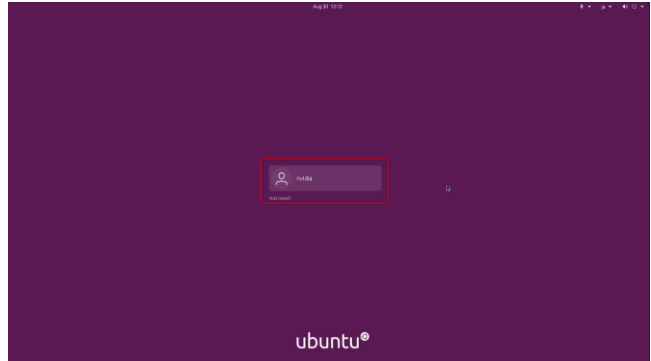


## 5 Login

When connecting peripheral devices to the Edge AI Box, the monitor, mouse, keyboard, or other device will become enabled. After starting up the Edge AI Box, the Ubuntu login screen will appear. Login to Ubuntu to use the Edge AIBox.

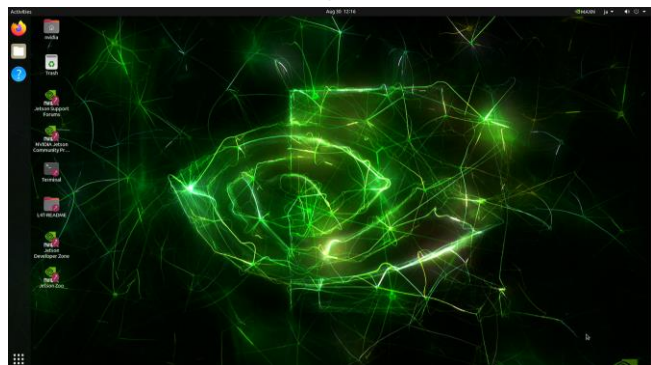
### 1 Click on 「nvidia」

The password entry screen will appear.



### 2 Type 「nvidia」 in the password field and type Enter to login.

Ubuntu will then login and the desktop will appear.



Notice

For security reasons, please change your password after logging into Ubuntu.

## 6 Connecting cameras

### 6.1 Recommended cameras

- IP cameras
  - \* 2 x Ethernet ports are PoE+ compliant with a total power limit of 30W.
- USB 2.0/3.0 cameras
- GigE cameras



Hint

When using a USB 2.0/3.0 or GigE camera, Ubuntu-specific drivers will be required. Please refer to the specific camera regarding driver details.

### 6.2 Connecting IP cameras

Connect the camera to the Ethernet connector on the Edge AIBox.



Hint

- When connecting an IP camera, confirm the camera's IP address beforehand. Also be sure to check the Edge AI BOX IP address as well.
- For details on camera settings and driver installation, please refer to the instruction manual included with the camera.

## 7 Network Settings

### 7.1 Preparing the connectivity environment

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The following communication environments may be used with this device.各通信環境はお客様で準備してください。



Hint

The Edge AIBox can connect to 2 or more ethernet, Wi-Fi, or LTE networks. When using 2 or more network segments, we recommend using static routing. Appropriate route configuration can prevent IP packets from degrading.

#### 7.1.1 Ethernet

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Ethernet connectors can be connected to the Edge AIBox via a LAN cables.



Notice

Normally, "LAN PoE1" and "LAN PoE2" should be used in separate segments.  
If they are used in the same segment, the network may not come up if the network is not set up correctly.

## 7.1.2 Wi-Fi

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Connect the included WiFi antennae to the antenna connectors.

Edge AIBox can connect to devices ((e.g., WiFi router) that supports IEEE 802.11a/b/g/n/ac.



## 7.1.3 LTE

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If using LTE, the following SIM providers may be used in addition to the EDGEMATRIX SIM (MVNO using the NTT docomo network).

- NTT docomo
- au
- Softbank (The IoT functionality is still not recognized. Please check with us if you wish to use this service.)



### Notice

#### SIM card

- The Edge AIBox EX5 only supports a nano size SIM card.
- Please refer to the instruction manual that came with your SIM card for a detailed explanation of SIM card settings.

#### SIM card installation

- Be sure to turn off the Edge AI Box and ensure that it is placed on a stable surface prior to inserting a SIM card.
- Do not touch the IC portion of the SIM card.
- Be careful not to bend, crush, or otherwise damage the SIM card.
- LTE cannot be used unless the SIM card is securely inserted into the LTE module.

#### Body SAR

The Edge AI Box does not comply with Body SAR specifications. Please use with the antenna placed at least 20cm from human bodies.

Body SAR regulations apply to devices with antennas placed within 20cm of human bodies.

National guidelines on technical standards for electromagnetic radiation absorbed by the human body, as well as international guidelines on electromagnetic radiation exposure prevention, must be followed.

Such international guidelines include those held by the World Health Organization (WHO), of which permitted values have been determined to be sufficiently safe regardless of the age or health status of the user.

SAR (Specific Absorption Rate) reflects the permitted level of electromagnetic radiation exposure proposed by national laws and international guidelines, and is expressed as the average electromagnetic energy allowed to be absorbed by the human body. The local SAR value is 2.0W/kg (excluding the region distal of the wrists and ankles, with is 4.0W/kg.)

Please refer to the following website for more details on Body SAR.

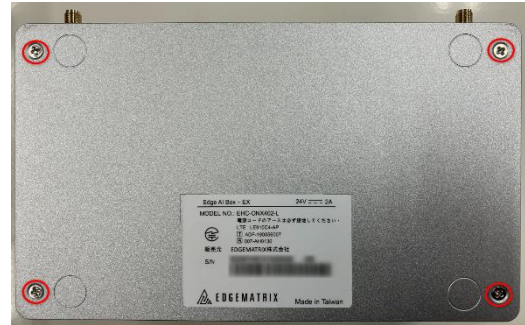
Telecommunications Bureau of the Ministry of Internal Affairs and Communications.

<http://www.tele.soumu.go.jp/j/sys/ele/index.htm>

## ■ SIM card installation

Install the SIM card to the SIM slot of the Edge AIBox.

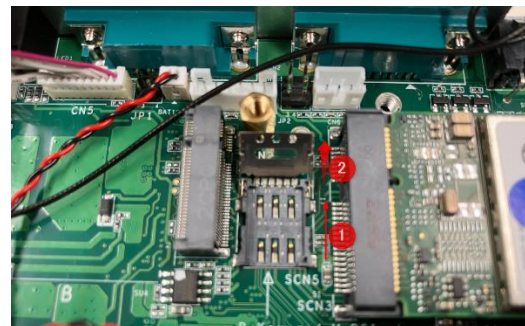
- 1 Remove the screws (4 locations) from the rear lid of the Edge AIBox, then open the lid.



- 2 There is a SIM card slot located on the center of the carrier board.  
(The slot only supports a nano size SIM card)



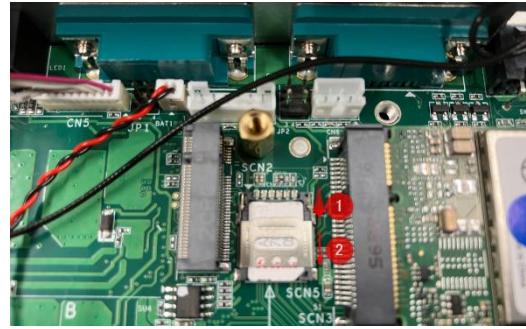
- 3 Slide the SIM card slot cover to the direction ① and lift it up (②).



- 4 Put the SIM card to SIM slot with the correct orientation.



- 5** Lower the SIM card slot cover and slide it to the direction ②. Make sure that the SIM card is properly installed.



- 6** Attach the Edge AIBox rear lid, then tighten the screws (4 locations).



#### ■ Attaching the LTE antennae

Connect the included LTE antennae to the antenna connectors.



## 7.2 Network Settings

Use the System Settings function to set up the network.

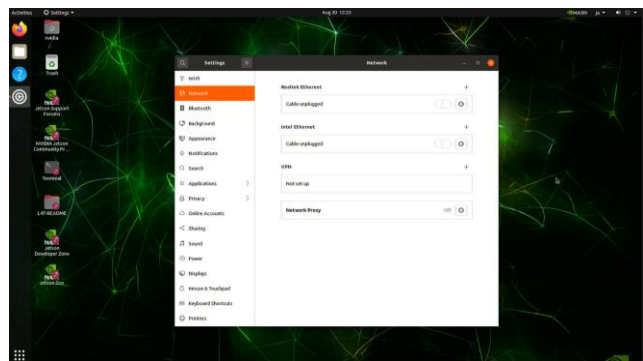
- 1 Click the “Power” icon in the upper right corner of the desktop and click the “Settings” in the list.

The System Settings screen will appear.



- 2 Click the “Network”

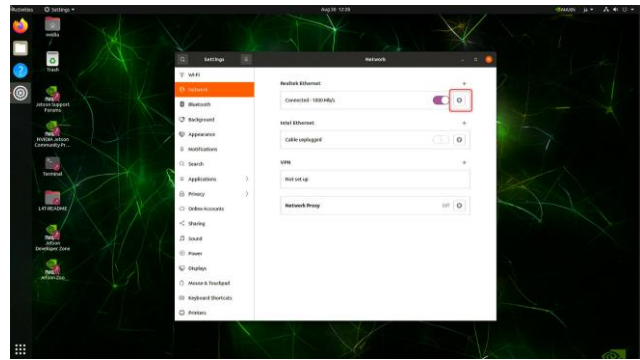
The Network setting screen will appear.



### 3 If using ethernet, click the gear icon of Realtek Ethernet (PoE1) or Intel Ethernet (PoE2)

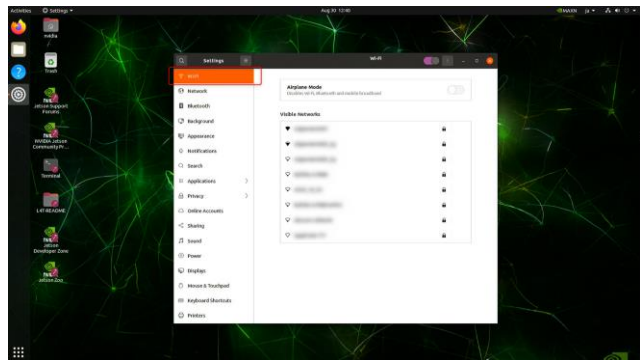
A setting window will appear

- If working in a DHCP environment, you can use it by simply connecting a LAN with default setting.
- You can also set a static IP address by selecting Manual from the "IPv4" tab.



### If using WiFi, select “WiFi” from the list of “System Settings”

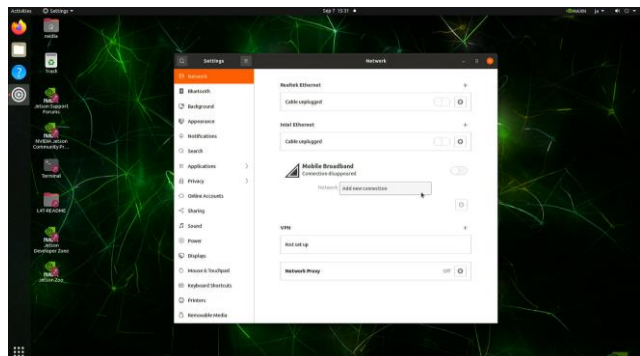
The access point will be displayed on the right. Select an access point and enter the password etc. to connect.



### If using LTE, click the “Network” following the “Mobile broadband”, then select “Add new connection” to setup.

The network settings screen will appear.

Click Next to set your country/region, provider, billing plan, APN, and “Apply” to finish setting.



## 8 Settings on the Edge AIBox

Edge AIBox allows for various configurations in line with different user environments and goals.

Here, shows some examples as following settings.

- Power mode configuration
- Auto Power on configuration

### 8.1 Power mode

Set the CPU and GPU to run the Edge AIBox depending on the required loading.

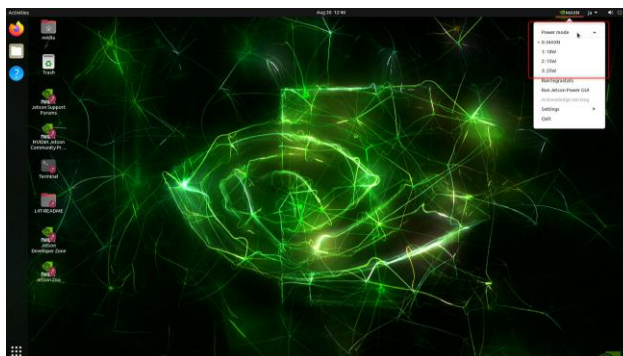
- 1 Click the “nvidia” icon in the upper right corner of the desktop and click the “Power mode” in the list.

The Power mode list will appear.



- 2 Click the target setting item with reference following "■ Power mode list."

Power mode is set.



#### ■ Power mode list.

Mode	CPU		GPU	
	Number of cores	Frequency (MHz)	Number of cores	Frequency (MHz)
0 : MAXN	8	1984	4	918
1 : 10W	4	1190	2	612
2 : 15W	4	1420	2	612
3 : 25W	8	1497	4	408

## 8.2 Auto Power On configuration

---

- 1 Set the "AT↔ATX" switch on the front of the Edge AI BOX to setup Power on Mode.

### AT Mode (Auto Power On) :

The Edge AIBox will boot up when plug the AC adapter into the power input.

After the AIBox is power off (shutdown), the AIBox can boot up again by unplugging and plugging in the power supply or by pressing the power button.

If the AIBox stop by a power failure or other outage, the AIBox will automatically boot up when power supply is recovered.

### ATX Mode :

The Edge AIBox only boot up by pressing power button

After the AIBox is power off (shutdown), the AIBox can boot up again by pressing the power button.



\*The factory default setting is the AT mode

## 9 JetPack Image Flash

The Edge AI Box contains an NVIDIA Jetson Orin NX, and an image containing NVIDIA JetPack drivers and other dependencies required for use on the Edge AIBox comes pre-installed. If you need a different version of JetPack or if want to restore the same version of JetPack, you can flash an image to the AIBox.

Our JetPack images contains additional customizations for Edge AIBox. Please use the image file from the Google Drive we have provided.



### Notice

- The JetPack version provided by NVIDIA does not work properly with the Edge AI Box. Please download the image from us before flashing.
- The user is responsible for executing new commands after image update. Executing an incorrect command can damage the Edge AIBox image.
- In the unlikely event that a user image flash causes a system malfunction, our company shall bear no responsibility.

### 9.1 Image Flash

#### 9.1.1 Preparing to flash

##### ■ Requirements

The following devices are required to flash an image.

- Host PC (86\_64 systems)  
Memory 8GB or higher is recommended  
OS: Ubuntu 18.04/20.04  
Storage capacity: 50GB or higher
- USB cable : USB3.0 Type A to Type A cable



## ■ ? Download and decompress image file

Download the image file from our company's Google Drive to the host PC, then decompress the image.

### 1 Navigate to the following URL on your browser.

<https://drive.google.com/drive/folders/12Raes7Xf9pFKSNKdsIKRSAWiqKBwznle>

### 2 Click the desired image file.

JPx.x.x in the file name refers to JetPack version x.x.x

The download confirmation screen will appear.

### 3 Click "Download".

The download for the image file will begin.

The downloaded image file may save to the "Downloads" folder.



Hint

- The image file size may be more than 10GB. This download may take some time depending on your internet connection.
- Make sure that you have enough storage space for the file. The file will not successfully download if there is insufficient storage space.
- Google Drive stores files using the MD5 hash. The has value can be confirmed using the "\$ md5sum filename" command. If these values match, the download was completed successfully.

### 4 Move to the location the file is stored and decompressed the file with following command.

If the file type is tbz2:

```
$ sudo tar jxvf [Image File Name].tbz2
```

If the file type is tar.gz:

```
$ sudo tar zxvf [Image File Name].tar.gz
```



Notice

- Do not decompress by double-clicking the image file. This will not decompress the file correctly.
- Approx. more than 50 GB of storage space will be required for the decompressed file. If insufficient storage space is available, decompression will not take place.
- Please enter the commands correctly. If a command is entered incorrectly, the file will not be properly decompressed. Moreover, the Edge AI Box GUI may not function properly after updating the image.

## 9.1.2 Executing a JetPack Image Flash

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Connect the Edge AIBox to the host PC containing the decompressed image file, then perform an image flash.

Make sure the AIBox is power off before image flash.

- 1 Turn the Recovery switch to left to set recovery mode

- 2 Connect the USB Type A cable to the upper USB connector of the AIBox.



- 3 Connect the USB type A cable to the host PC.

- 4 Run the command “lsusb” on the host PC, and ensure that “NVidia” is not displayed in the device list.

- 5 Power on the AIBox by connecting the AC adapter or pressing the power button of the AIBox.

- 6 The AIBox will boot up.

- 7 Run the command “lsusb” again on the host PC, and ensure that “NVidia” is displayed in the device list.

lsusb output example: Bus 001 Device 026: ID 0955:7323 NVidia Corp.

(The lsusb display results may differ depending on the OS version and USB port configuration of the host PC.)

- 8 Move to the location where the image file is to be extracted on the host PC.

- 9 Run the command

“sudo ./tools/kernel\_flash/l4t\_initrd\_flash.sh --flash-only --massflash 5”

to flash image.

Image flash will begin. Once the flash is completed, the AIBox will automatically boot up.

Image flashing may take approximately 5 minutes when the USB cable is properly connected with USB3.0.

(If the connection is not made with USB 3.0, it may take more than 15 minutes.)

It may take several seconds before the Linux bootup text appears. During this time, do not turn off the power to the device.

The time it takes for the bootup text to appear may vary depending on the monitoring environment or other factors.



Notice

If you see an error (Error: probing the target board failed.....) during image flashing, it may be resolved by executing the following command on the host PC.

```
$ sudo apt remove tlp
```

```
* to remove tlp(Linux Advanced Power Management)
```

- 10 Once the image flash is completed, disconnect the USB cable and turn the Recovery switch to right to set normal mode.

## 9.2 About NVIDIA JetPack SDK Installation

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The JetPack 5.1.1(or later) images for EX5 that we have prepared already have the NVIDIA Jetson SDK components installed, so there is no need to install the NVIDIA Jetson SDK installation by NVIDIA SDK manager after image flash.

### Installed Components

- CUDA
- cuDNN
- TensorRT
- OpenCV
- DeepStream

## 10 Turning Off the Edge AIBox

When you finish using the Edge AI Box, shut down Ubuntu and turn off the power.

- 1** Click the **Power** icon in the upper right corner of the desktop and click the **“Power Off/Log Out”**, then **“Power Off...”** in the list.

The “Shut Down” screen will appear.



- 2** Click **“Power Off”**

Ubuntu will shut down, then the Edge AI Box will power off.

\*Click “Restart” to reboot the Edge AI Box.

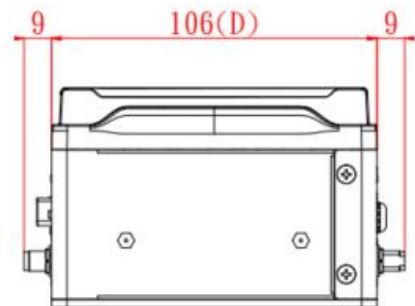
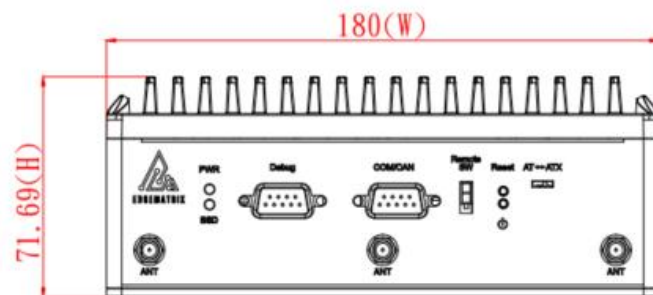
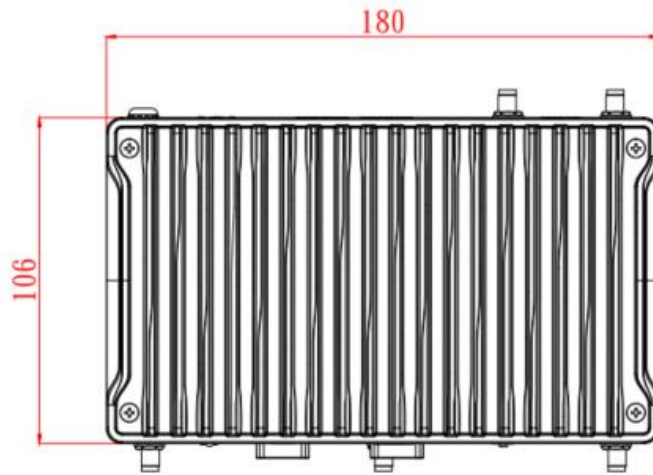


# 11 Specifications

## 11.1 Specifications

<b>OS</b>	L4T 35.x (Base on Ubuntu 20.04) NVIDIA JetPack 5.1.x compatible image * BSP customization and IO drivers are included	
<b>JETSON - Orin NX 16GB</b>	Processor GPU 1024-core NVIDIA Ampere GPU with 32 Tensor Cores CPU 8-core Arm Cortex A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3 Memory 16GB 128-bit LPDDR5 102.4 GB/s On-Bord Storage N/A (*supported by external NVMe) HD Video & JPEG Video Decode: H.265 (HEVC), H.264, VP9, AV1 Video Encode: H.265 (HEVC), H.264, AV1 HDMI 1 x HDMI 2.0 USB 2 x USB 3.2 Gen 2 Type A Network 10/100/1000 BASE-T Ethernet	
<b>Storage</b>	1 x M.2 Key M 2280 NVMe SSD 256GB	
<b>Network</b>	1 x 10/100/1000/2.5GBASE-T Ethernet	
<b>PoE</b>	2 LAN port Up to 30 Watts	
<b>LTE (LTE Model)</b>	LTE docomo/au (Carrier IoT certification completed) LTE Bandwidth Download: 100Mbps / Upload: 50Mbps	
<b>WiFi (WiFi Model)</b>	Wi-Fi IEEE802.11a/b/g/n/ac + Bluetooth4.1	
<b>Power</b>	24VDC / 2A	
<b>Power Consumption</b>	38W *measured by high load exclude PoE	
<b>Operational temperature range</b>	-25~+60℃	
<b>Operational humidity range</b>	10~95% (avoid condensation)	
<b>Vibration</b>	3 Grms with M.2 (5 to 500Hz, X, Y, Z directions)	
<b>Outer Dimensions (width x height x depth)</b>	180(W) x 106(H) x 71.7(D) mm	
<b>Weight</b>	Gross 1.5kg	

## 11.2 Dimension



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