

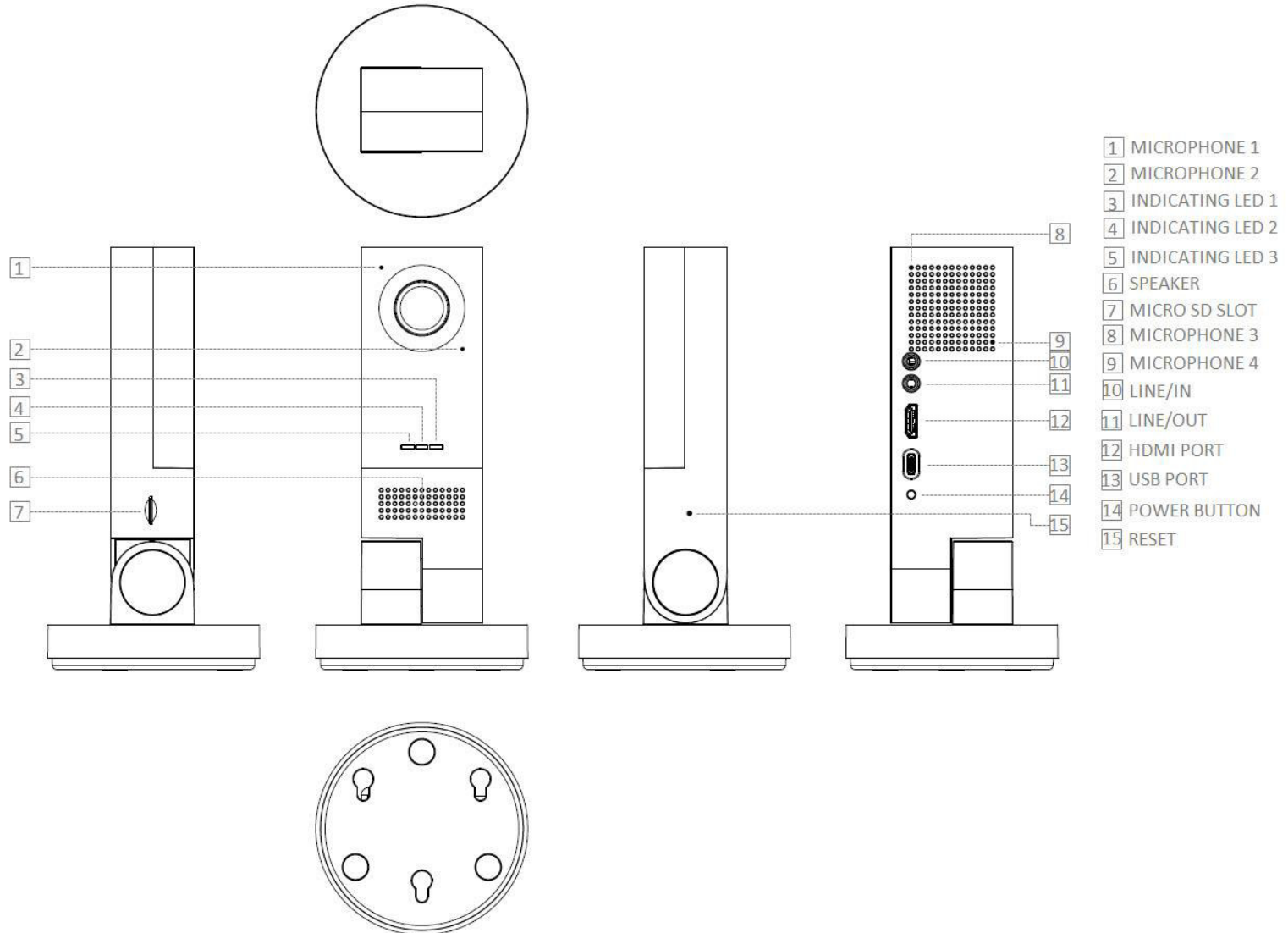
# Altek AI Camera Quick Start



# Product Specifications

- Model name: AICAMX2
- Sensor: 1/1.8" CMOS
- Max resolution: 8MP
- Operating temperature:  $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Focal Length: 4mm
- F number: F1.8
- USB: Type C (DC in only)

# Parts and Controls



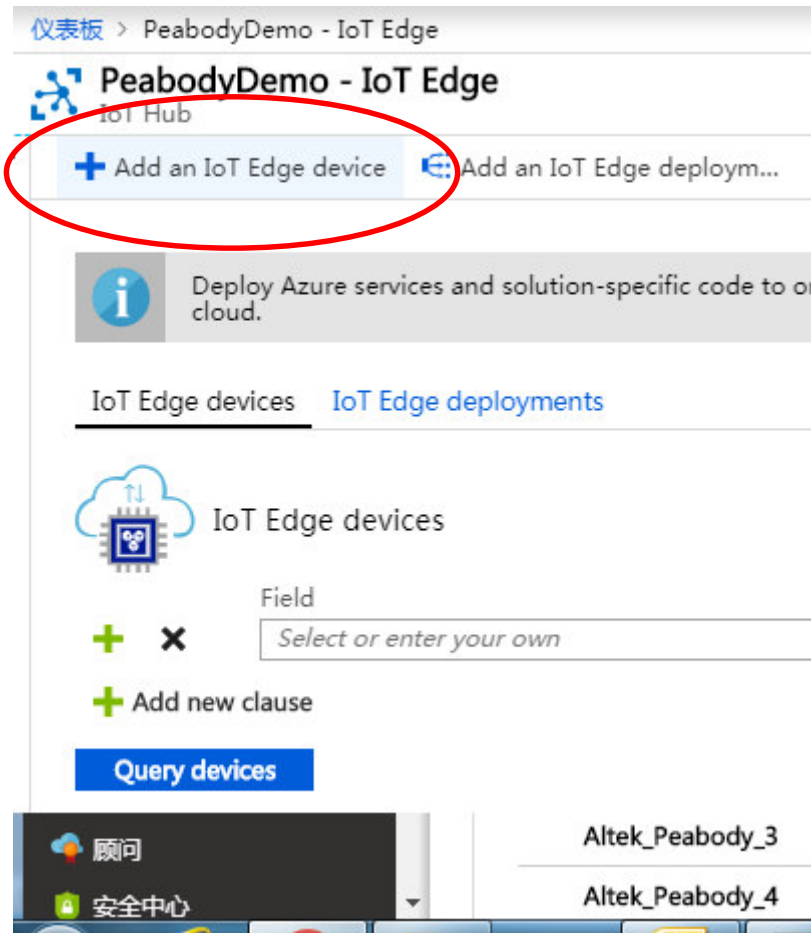
# Before start

- Register account at <https://azure.microsoft.com/>
- Log in by your azure account to Azure portal.
- Choose + **Create a resource**, then choose **Internet of Things**.  
Then, create your own lot hub and lot Edge  
(Refer to <https://docs.microsoft.com/en-us/azure/iot-fundamentals/> for detail)
- Choose + **Create a resource**, then choose **Internet of Things**.  
Then, create your own lot hub and lot Edge
- Copy the value of either **Connection string—primary key** or **Connection string—secondary key** to a notepad that you will use later.

A connection string looks like

```
HostName=xxxxxxxxxx.azure-  
devices.net;DeviceId=xxxxxxxxxxxx;SharedAccessKey=xxxxxxxxxxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxxxxxx
```

# Add iot edge device at Azure cloud



仪表板 > PeabodyDemo - IoT Edge

## PeabodyDemo - IoT Edge

IoT Hub

**+ Add an IoT Edge device** Add an IoT Edge deploym...

Deploy Azure services and solution-specific code to on cloud.

IoT Edge devices [IoT Edge deployments](#)

IoT Edge devices

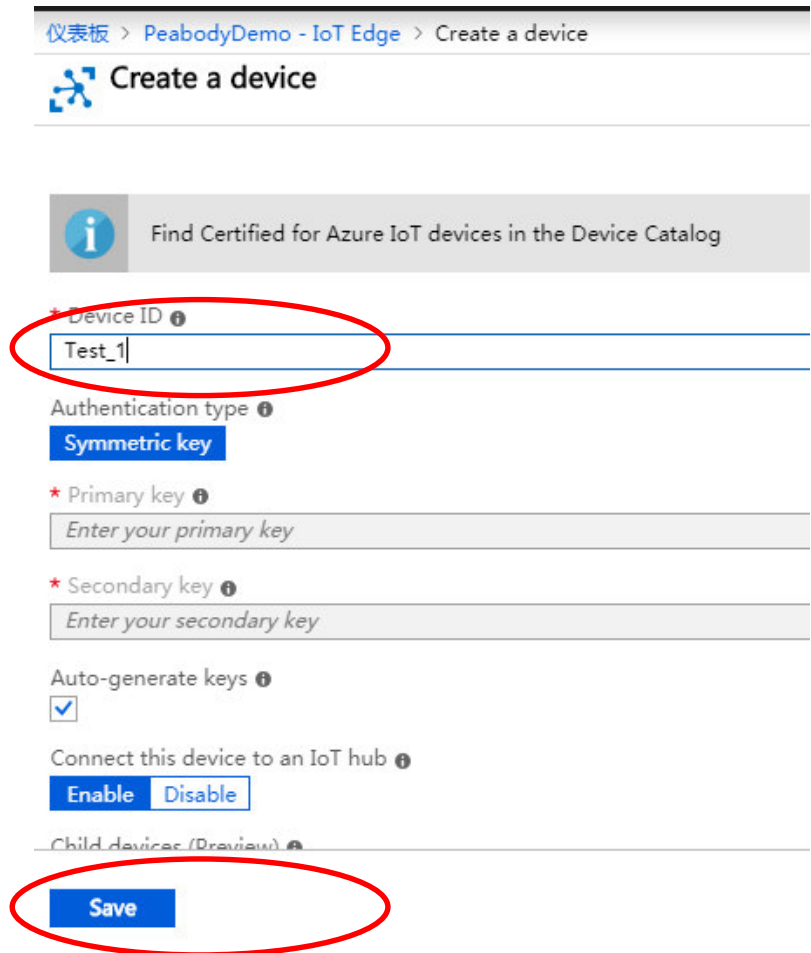
Field  
Select or enter your own

+ Add new clause

**Query devices**

顾问  
安全中心

Altek\_Peabody\_3  
Altek\_Peabody\_4



仪表板 > PeabodyDemo - IoT Edge > Create a device

## Create a device

Find Certified for Azure IoT devices in the Device Catalog

\* Device ID ⓘ  
Test\_1

Authentication type ⓘ  
**Symmetric key**

\* Primary key ⓘ  
Enter your primary key

\* Secondary key ⓘ  
Enter your secondary key

Auto-generate keys ⓘ

Connect this device to an IoT hub ⓘ  
**Enable** Disable

Child devices (Preview) ⓘ

**Save**

# Select your device , and set module

+ Add an IoT Edge device   Add an IoT Edge deploy...   Refresh

DEVICE ID	RUNTIME RESPONSE	IOT EDGE MODU
Altek_Peabody_1	N/A	3
Altek_Peabody_2	OK	3
Altek_Peabody_3	OK	3
Altek_Peabody_4	OK	3
Altek_Peabody_5	OK	3
Altek_Peabody_6	OK	3
Altek_Peabody_7	OK	3
Altek_Peabody_DogCat1	OK	3
Altek_Peabody_DogCat2	OK	3
Altek_Peabody_DogCat3	OK	3
Altek_Pig_1	OK	3
<input type="checkbox"/> Test1	N/A	0

仪表板 > PeabodyDemo - IoT Edge > Device details

### Device details

Test1

Save   **Set modules**   Manage child devices (Pre...   Device twin   Reg

Device Id

Primary key

Secondary key

Connection string (primary key)

Connection string (secondary key)

Connect this device to an IoT hub

# Add IoT Edge module

仪表板 > PeabodyDemo - IoT Edge > Device details > Set modules

## Set modules

Set modules

- 1 Add Modules (optional)
- 2 Specify Routes (optional)
- 3 Review Deployment

**i** An IoT Edge module is a Docker container you can deploy to IoT Edge devices. It communicates with other modules and you can import Azure Service IoT Edge modules or specify the settings for an IoT Edge module. Setting modules on edge devices is throttled based on the IoT Hub tier and units. For example, for S1 tier, modules can be set 10 times per second if no other modules are being set.

### Deployment Modules

**+** Add **⊘** Delete

IoT Edge Module	DESIRED STATUS
IoT Edge Module	
Azure Stream Analytics Module	
Azure Machine Learning Module	

[Configure advanced Edge Runtime settings](#)

Previous **Next**

## IoT Edge Custom Modules

**i** Specify the settings for an IoT Edge custom module. [Learn how to create a module.](#)

\* Name  ✓

\* Image URI


Container Create Options

Restart Policy


**Save**


# Setup for vision module

IoT Edge Custom Modules


 Specify the settings for an IoT Edge custom module. [Learn how to create a module.](#)

\* Name  
vision\_model ✓

\* Image URI   
mcr.microsoft.com/aivision/visionsamplemodule:0... ✓

Container Create Options 

```
{  
  "NetworkingConfig": {  
    "EndpointsConfig": {  
      "host": {}  
    }  
  }  
}
```

Restart Policy   
always

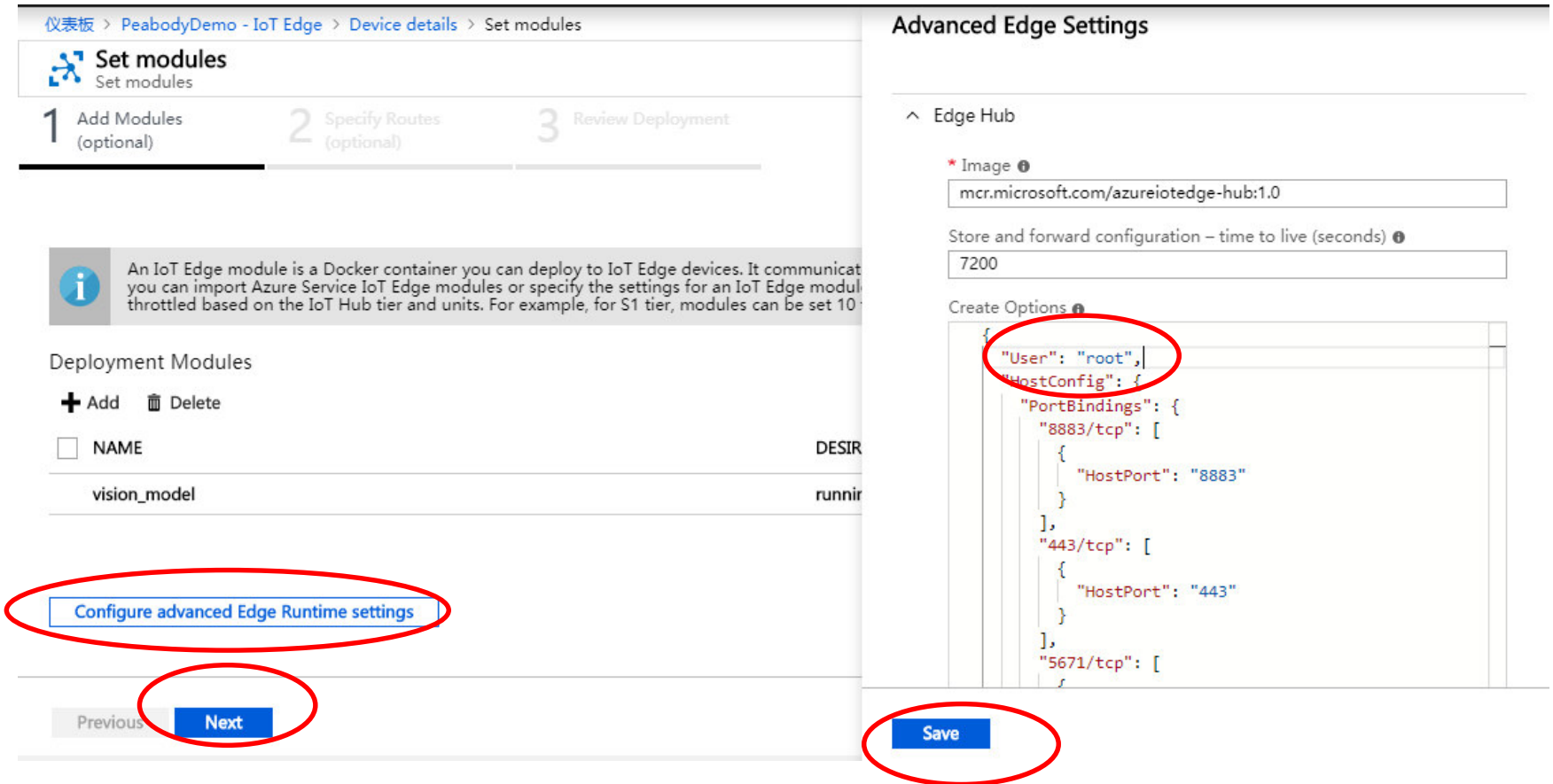
**Save**

- codes snippet in Container Create Options

```
{  
  "HostConfig": {  
    "Binds": [  
      "/data/misc/camera:/app/vam_model_folder"  
    ],  
    "NetworkMode": "host"  
  },  
  "NetworkingConfig": {  
    "EndpointsConfig": {  
      "host": {}  
    }  
  }  
}
```
- Press "Save" once above ready



Click *Configure advanced Edge Runtime settings* button at the bottom and add this line "User": "root", in Create Options. Then, press save and next



The screenshot displays the IoT Edge configuration interface. On the left, the 'Set modules' panel shows a progress bar with three steps: '1 Add Modules (optional)', '2 Specify Routes (optional)', and '3 Review Deployment'. Below the progress bar, there is an information icon and a text block explaining IoT Edge modules. Underneath, the 'Deployment Modules' section includes '+ Add' and 'Delete' buttons, and a table with columns for 'NAME' and 'DESIR'. The 'vision\_model' module is listed with 'runnir' in the 'DESIR' column. At the bottom of this panel, the 'Configure advanced Edge Runtime settings' button is circled in red. Below it are 'Previous' and 'Next' buttons, with 'Next' also circled in red.

On the right, the 'Advanced Edge Settings' panel is shown. It has a dropdown menu for 'Edge Hub'. Below that, there is a field for 'Image' with the value 'mcr.microsoft.com/azureiotedge-hub:1.0'. A field for 'Store and forward configuration - time to live (seconds)' is set to '7200'. The 'Create Options' section contains a code editor with the following JSON snippet:

```
{  
  "User": "root",  
  "HostConfig": {  
    "PortBindings": {  
      "8883/tcp": [  
        {  
          "HostPort": "8883"  
        }  
      ],  
      "443/tcp": [  
        {  
          "HostPort": "443"  
        }  
      ],  
      "5671/tcp": [  
        {  
          "HostPort": "5671"  
        }  
      ]  
    }  
  }  
}
```

The line '"User": "root",' is circled in red. At the bottom of the 'Advanced Edge Settings' panel, the 'Save' button is circled in red.

# Submit your setting

仪表盘 / PeabodyDemo - IoT Edge / Device details / Set modules

## Set modules

Set modules

- 1 Add Modules (optional)
- 2 Specify Routes (optional)
- 3 Review Deployment



You can set routes between modules, which gives you the flexibility to send messages where they need to go or to write additional code.

```
1 {  
2   "routes": {  
3     "route": "FROM /messages/* INTO $upstream"  
4   }  
5 }
```

Previous

Next

Submit

Get connection string from azure cloud first.  
Then, input connection string by OOB process to device

仪表盘 > PeabodyDemo - IoT Edge > Device details

## Device details

Test1

Save Set modules Manage child devices (Pre... Device twin Regenerate keys Refresh

Device Id ⓘ

Test1

Primary key ⓘ

Secondary key ⓘ

Connection string (primary key) ⓘ

Connection string (secondary key) ⓘ

# Oobe by webpage -1

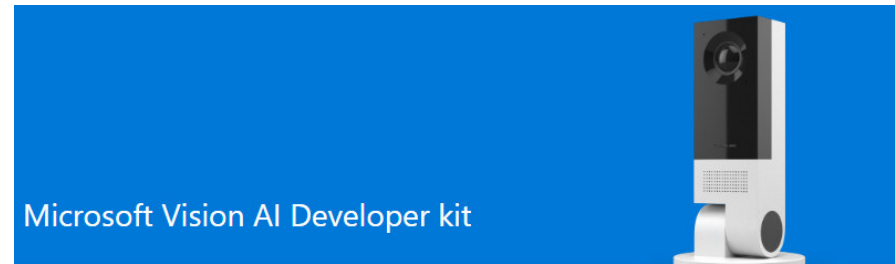
- Connect device with PC via Wi-Fi

You can check your SSID and password at bottom of device

( Default password is 12345678 if there is no label at bottom)



- URL: setacamera.ms



Let's get started

You will need an Azure IoT Edge connection string to connect your camera to Microsoft Azure.

Go to <https://aka.ms/setup-ai-camera> to set one up and have it available before you continue.



# Oobe by webpage -2

- Press next directly at 1<sup>st</sup> page if you don't want change device wi-fi password and ssh account

- Scan and select available wi-fi ap for internet access



## Set up access to your camera

Set a password when you connect to this camera's Wi-Fi network

## Create credentials for SSH remote login (optional)

Login

Password

Confirm password

Note : Enabling SSH allows you to remotely access the device securely over cryptographic network protocol

## SSH settings

SSH Enabled

Next



## Wi-Fi setting

Which Wi-Fi network should your camera connect to ?

*Don't see your network? Click Rescan*

Wi-Fi network   Password

Next

# OoBE by webpage -3

- Input your connect string at webpage



## Connect to Microsoft Azure

Enter the Azure IoT Edge device connection string. It looks like this:

*HostName=XXXXXXXXXXXXXXXXXX;DeviceId=XXXXXXXXXXXXXXXXXX;SharedAccessKey=XXXXXXXXXXXXXXXXXX*

Don't know how to get it? Go to <https://aka.ms/setup-ai-camera> for help.

IoT Edge connection string

(Paste connection string copied from portal.azure.com)

Next

# Connection to lot Edge

- After OOB, wait for connection confirmation feedback from web site once edgeAgent is run
- You can check by below adb shell cmd
  - 'docker ps

```

/ # docker ps
CONTAINER ID        IMAGE                                     CREATED            STATUS             NAMES
8429cb2485b8       mcr.microsoft.com/aivision/visionsamplemodule:1.0.3_demo_obj
detect-arm32v7     "python3 -u ./var/az??                About a minute ago Up 57 seconds     AI_Vi
sionMode_103
9928f1529ead       mcr.microsoft.com/azureiotedge-hub:1.0  5 minutes ago     Up 50 seconds     edgeH
0.0.0.0:443->443/tcp, 0.0.0.0:5671->5671/tcp, 0.0.0.0:8883->8883/tcp
ub
842231945fd2       mcr.microsoft.com/azureiotedge-agent:1.0  6 minutes ago     Up 6 minutes      edgeA
gent

```

- Device will automatically run lot Edge next boot-up no matter internet is available or not

## Notices for Customers in Europe

### CAUTIONS

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.**

**DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.**

This symbol indicates that electrical and electronic equipment is to be collected separately.

The following apply only to users in European countries:

- This product is designated for separate collection at an appropriate collection point. Do not dispose of as household waste.
- Separate collection and recycling helps conserve natural resources and prevent negative consequences for human health and the environment that might result from incorrect disposal.
- For more information, contact the retailer or the local authorities in charge of waste management.



This symbol on the battery indicates that the battery is to be collected separately.

The following apply only to users in European countries:

- All batteries, whether marked with this symbol or not, are designated for separate collection at an appropriate collection point. Do not dispose of as household waste.
- For more information, contact the retailer or the local authorities in charge of waste management.





## FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE 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 not expressly approved by the grantee of this device could void the user's authority to operate the 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 Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of [www.fcc.gov/eot/ea/fccid](http://www.fcc.gov/eot/ea/fccid) after searching on FCC ID: **2ACQ9-16880002**

To ensure that RF exposure levels remain at or below the tested levels, use a belt-clip, holster, or similar accessory that maintains a minimum separation distance of 5mm between your body and the device.