

Altek AI Camera Quick Start

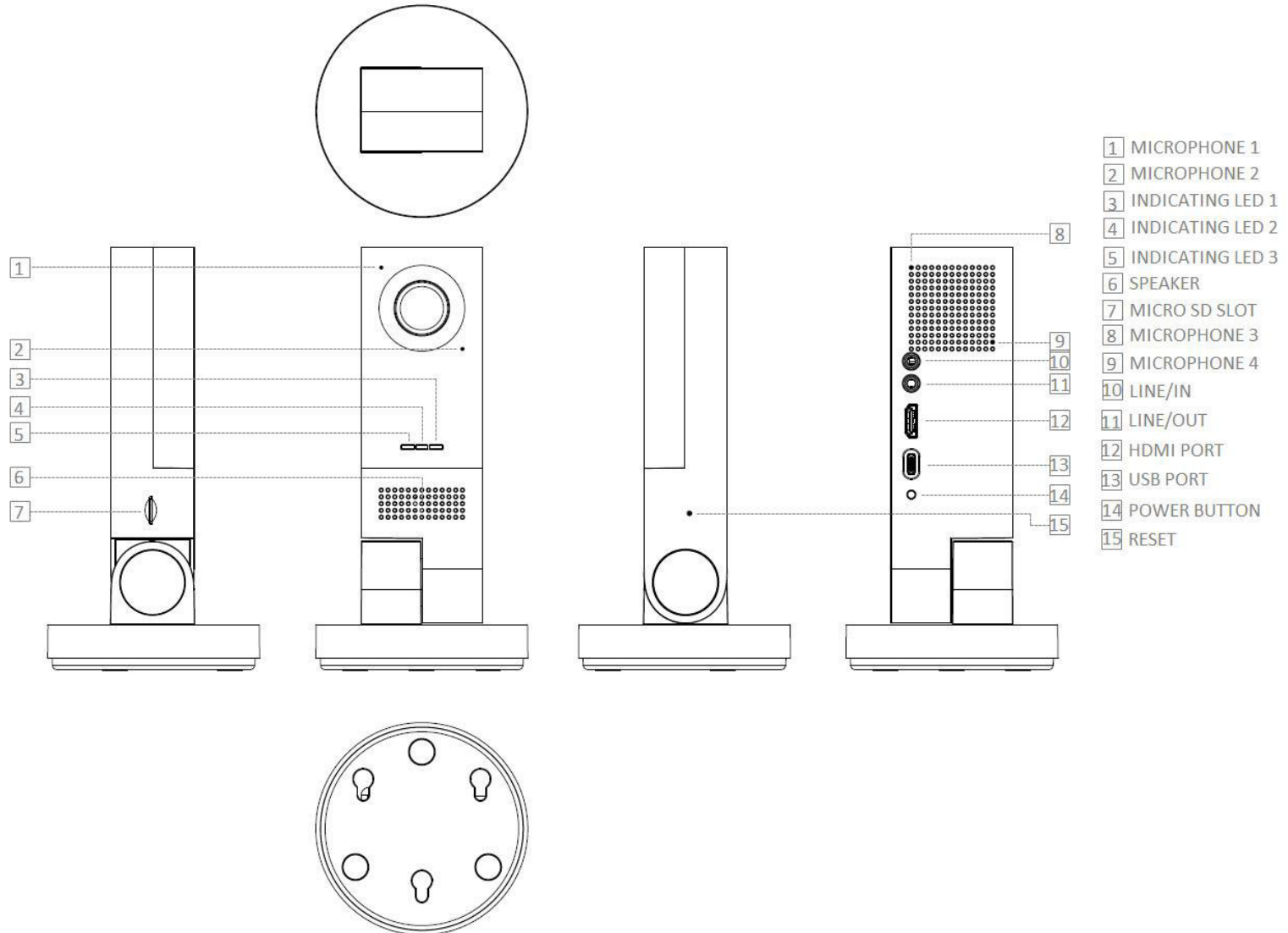


The Imaging Expert

Product Specifications

- Model name: AICAMX2
- Sensor: 1/1.8" CMOS
- Max resolution: 8MP
- Operating temperature: -10°C ~ 40 °C
- Focal Length: 4mm
- F number: F1.8
- USB: Type C (DC in only)

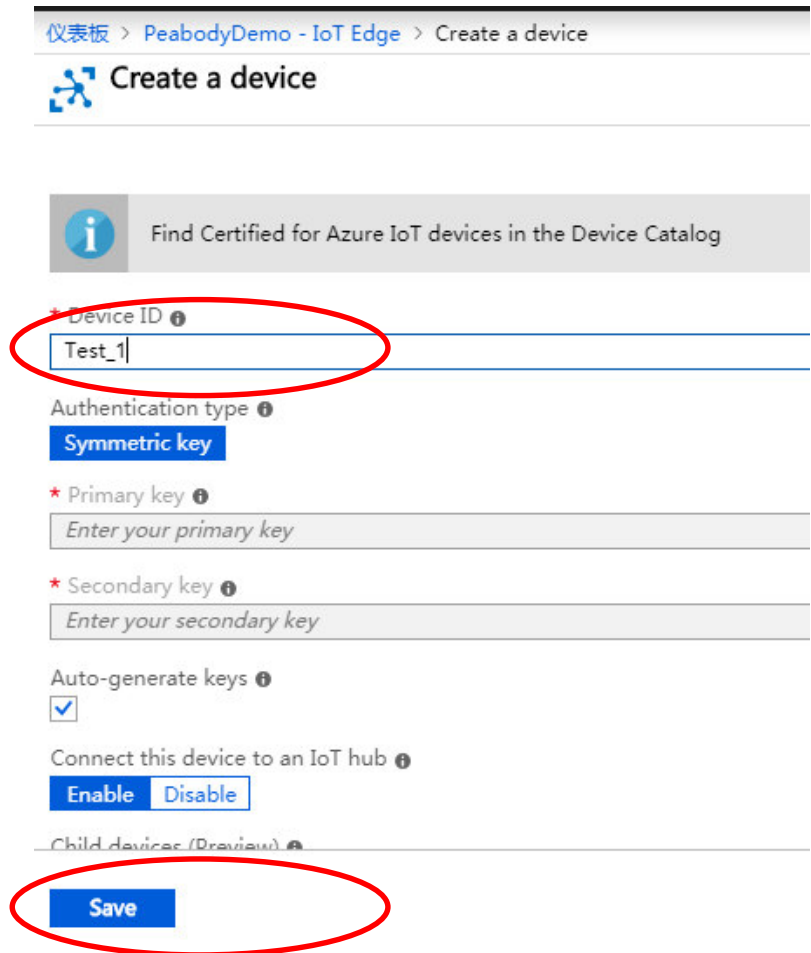
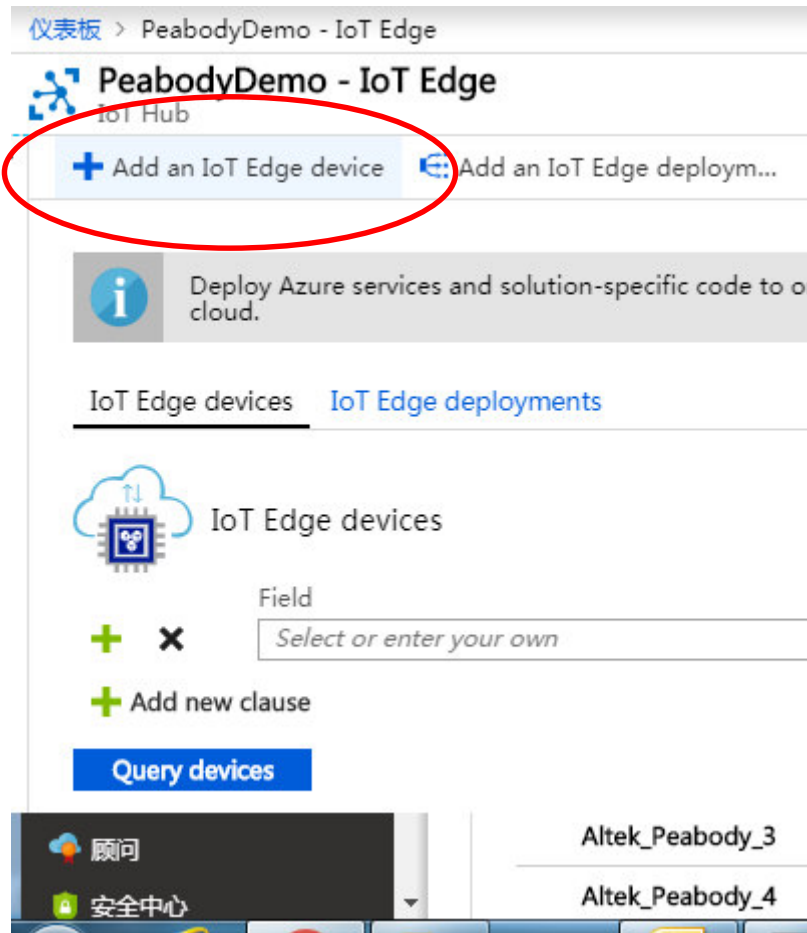
Parts and Controls



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 IoT hub and IoT 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 IoT hub and IoT 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=xxxxxxxxx.azure-devices.net;DeviceId=xxxxxxxxxxx;SharedAccessKey=xx

Add iot edge device at Azure cloud



Select your device , and set module

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

DEVICE ID	RUNTIME RESPONSE	IOT EDGE MODUL
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
☐ 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
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/visionmodule:0.... ✓

Container Create Options 

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

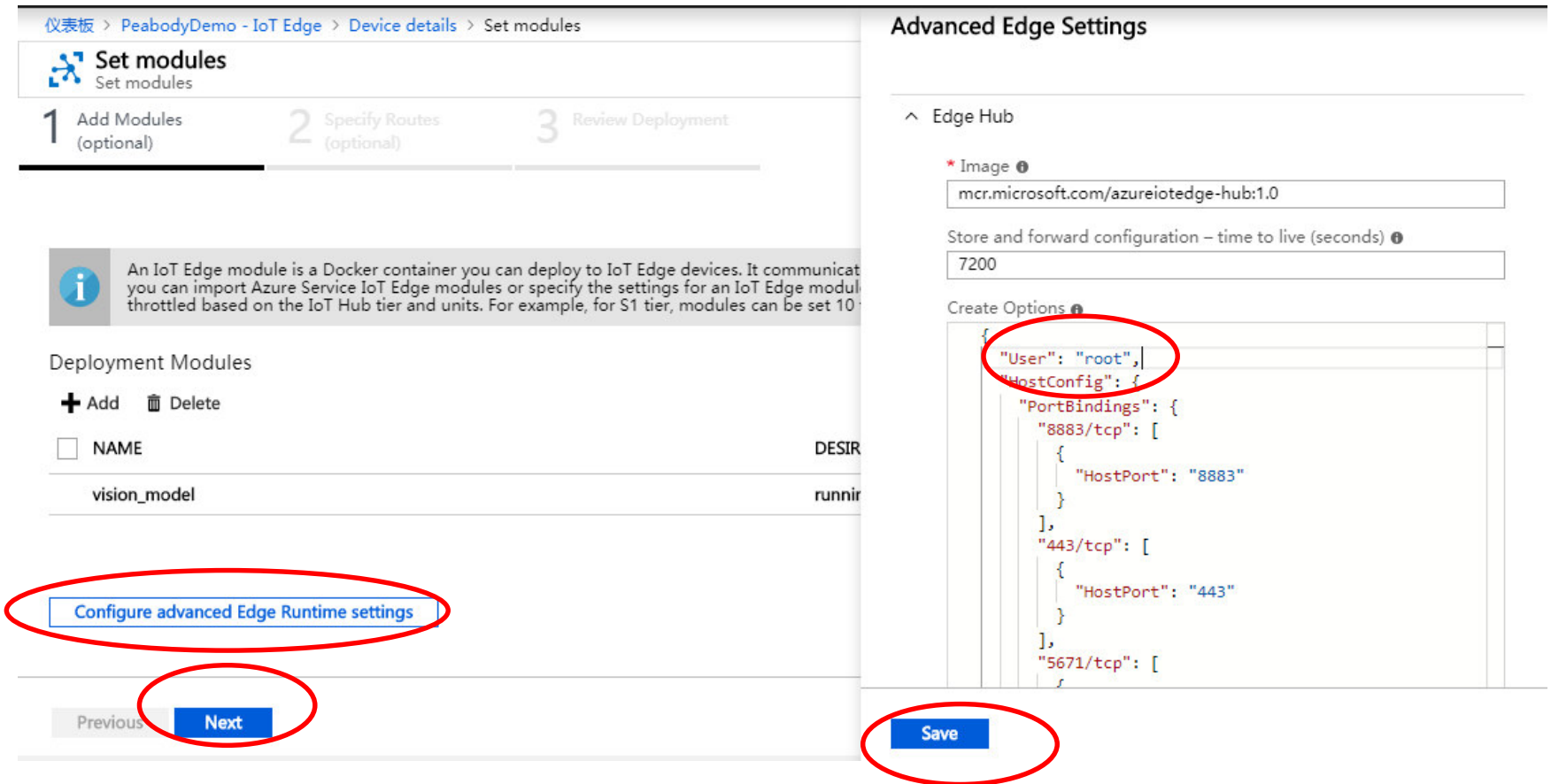
Restart Policy 
always ▼

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



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 the IoT Hub. You can import Azure Service IoT Edge modules or specify the settings for an IoT Edge module. The module's throughput is throttled based on the IoT Hub tier and units. For example, for S1 tier, modules can be set to 10 units.

Deployment Modules

+ Add - Delete

☐	NAME	DESIRED STATE
☐	vision_model	running

[Configure advanced Edge Runtime settings](#)

Previous **Next**

Advanced Edge Settings

Edge Hub

* Image **i**
mcr.microsoft.com/azureiotedge-hub:1.0

Store and forward configuration - time to live (seconds) **i**
7200

Create Options **i**

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

Save

Submit your setting

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



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 }
```

Submit

Previous

Next

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

仪表板 > 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

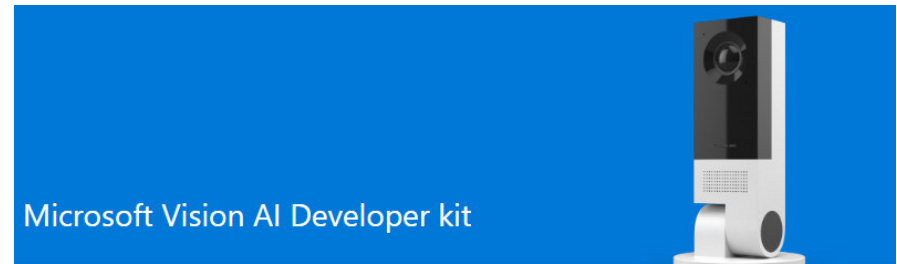
- Connect device with PC via Wi-Fi

You can check your SSID and password at bottom of device

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



- URL: setaicamera.ms



Let's get started

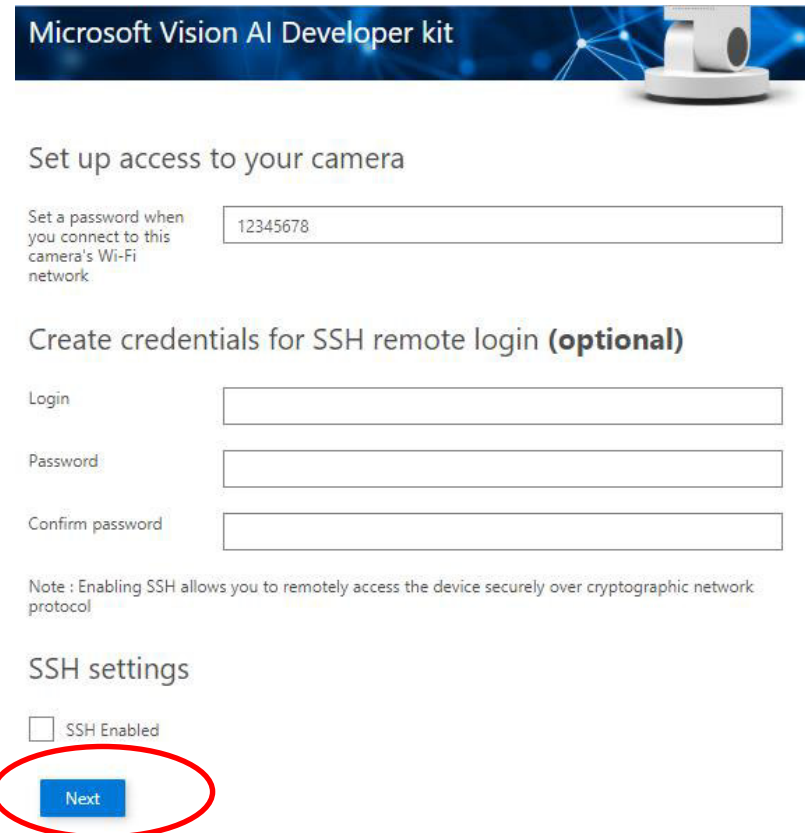
You will need an Azure IoT Edge connection string to connect your camera to Microsoft Azure.

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

Next

Oobe by webpage -2

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



Microsoft Vision AI Developer kit

Set up access to your camera

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

12345678

Create credentials for SSH remote login **(optional)**

Login

Password

Confirm password

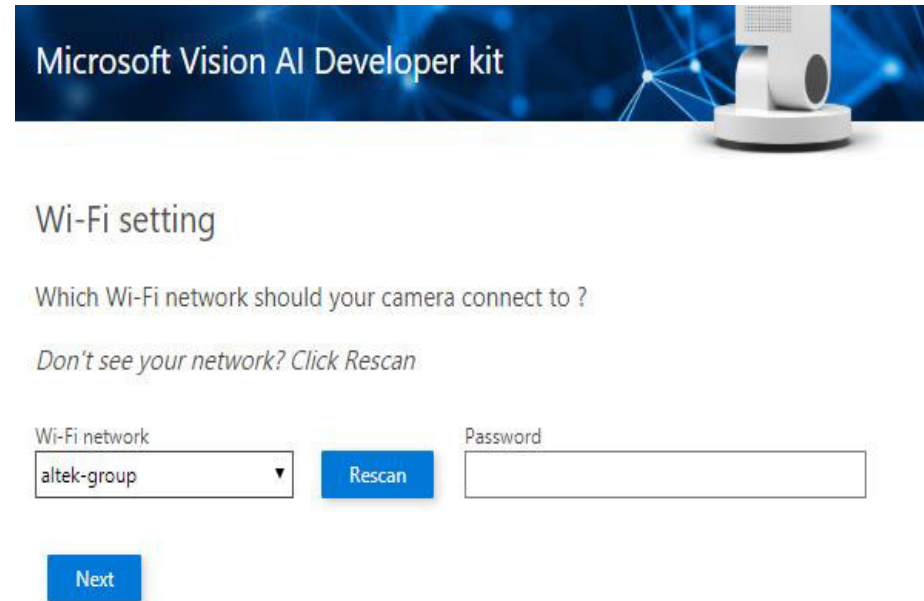
Note : Enabling SSH allows you to remotely access the device securely over cryptographic network protocol

SSH settings

☐ SSH Enabled

Next

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



Microsoft Vision AI Developer kit

Wi-Fi setting

Which Wi-Fi network should your camera connect to ?

Don't see your network? Click Rescan

Wi-Fi network

altek-group

Rescan

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                                     COMMAND                  CREATED             STATUS              PORTS              NAMES
8429cb2485b8       mcr.microsoft.com/aivision/visionmodule:1.0.3_demo_obj  "python3 -u ./var/az??  About a minute ago  Up 57 seconds      0.0.0.0:443->443/tcp, 0.0.0.0:5671->5671/tcp, 0.0.0.0:8883->8883/tcp  AI_Vi
sionMode_103
9928f1529ead       mcr.microsoft.com/azureiotedge-hub:1.0                "/bin/sh -c 'echo \"$??  5 minutes ago             Up 50 seconds      0.0.0.0:443->443/tcp, 0.0.0.0:5671->5671/tcp, 0.0.0.0:8883->8883/tcp  edgeH
ub
842231945fd2       mcr.microsoft.com/azureiotedge-agent:1.0              "/bin/sh -c 'echo \"$??  6 minutes ago             Up 6 minutes      0.0.0.0:443->443/tcp, 0.0.0.0:5671->5671/tcp, 0.0.0.0:8883->8883/tcp  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 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.