



## Altai A2c Indoor Dual-Band 2x2 802.11ac AP

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## Quick Setup Guide

Version 1.0

## Introduction

Thank you for purchasing the Altai A2c. This guide provides instructions to install the product and set it up as AP with minimal effort.

## Package Contents



A2c Main Unit



PoE Injector  
(Optional Item)



T-Rail Mounting Kit



Ceiling Mounting Kit



Quick Setup  
Guide

|                     |     |
|---------------------|-----|
| 15/16in T-Rail Clip | x 2 |
| 9/16in T-Rail Clip  | x 2 |
| Spacer              | x 2 |
| P2.6*10 Screw       | x 2 |
| P2.6*25 Screw       | x 2 |

|                  |     |
|------------------|-----|
| Mounting Bracket | x 1 |
| Mounting Screw   | x 2 |
| P3.5*32 Screw    | x 2 |
| P2.6*12 Screw    | x 2 |

## Hardware Overview

### LED Panel

**2.4G/5G Radio WiFi** (AP/Repeater/Bridge Mode)

- Solid Blue (2.4G) / Green (5G):
  1. AP Mode on but with no Clients Associated
  2. Repeater Mode on but not connected to AP
  3. Bridge Mode on but not connected
- ☀ Flashing Blue/Green: Data Transmitting/Receiving
- Off: Radio Disabled

**Operation Mode**

- Solid Blue: Remote Management Mode
- Off: Standalone Mode

**LAN (Ethernet)**

- Solid Blue: LAN Connected
- ☀ Flashing Blue: Data Transmitting/Receiving
- Off: LAN Disconnected

**Power**

- Solid Orange: Power on
- Off: No Power

### Ethernet Ports and Reset Button

#### ETH/PoE IN:

It is used to connect to power source (see the Power Options in the following section) and provides 10/100/1000 Mbps network interface for LAN connection.

#### Reset Button:

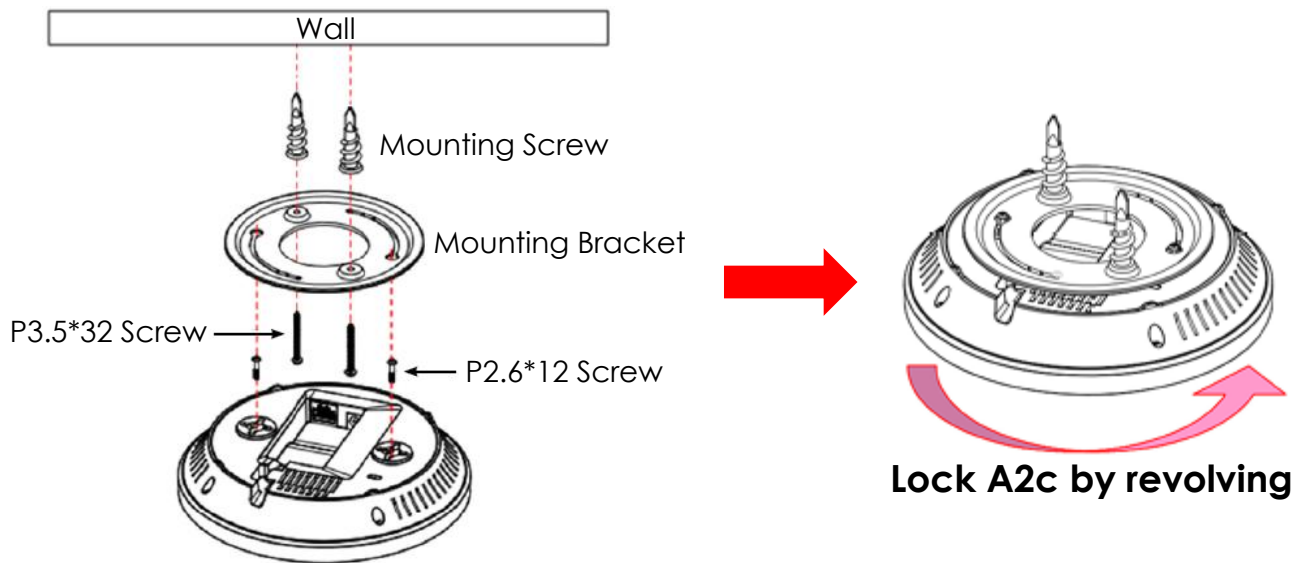
It serves two functions:

- Reboot: Press and hold the Reset Button for **2-3 seconds until the Power LED blink once.**
- Factory Reset: Press and hold the Reset Button for **5-8 seconds until the Power LED blink twice consecutively.**



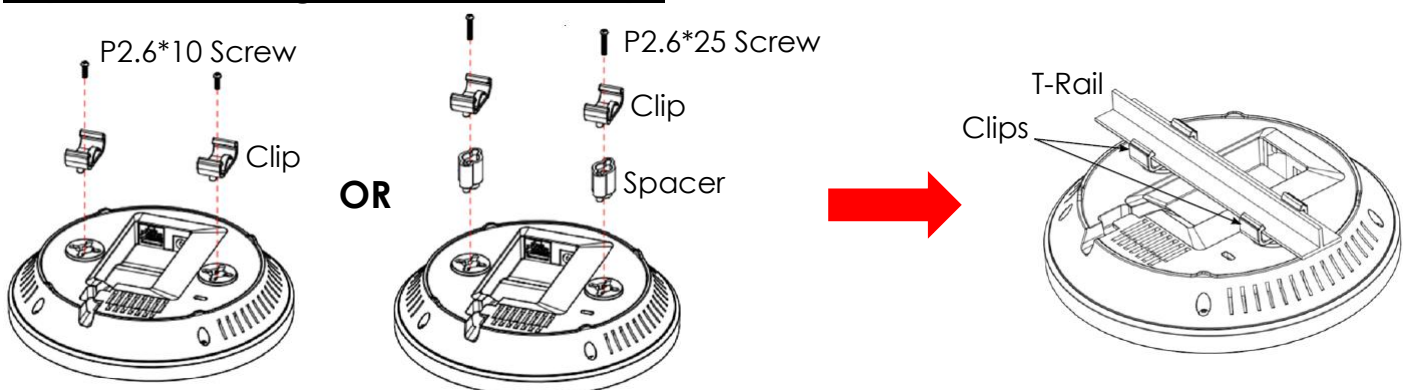
## Mounting Options

### Option 1: Ceiling Mount – Mounting bracket



1. Attach the mounting bracket to the ceiling using the provided mounting screws and long screws (P3.5\*32).
2. Insert the provided short screws (P2.6\*12) into the bottom cover of A2c. Make sure that the screws are exposed enough to attach the mounting bracket.
3. Install the A2c on the mounting bracket by rotating the unit clockwise about 90 degrees to secure it in place.

### Option 2: Ceiling Mount - T-Rail clips



1. Attach the small T-Rail clips to the bottom cover of A2c using the provided short screws (P2.6\*10).  
If extra space is required, use the provided spacers and large T-Rail clips with long screws (P2.6\*25).
2. Line up the connected T-Rail clips with an appropriately sized rail and press the unit onto the rail until it snaps into place.

## Setup Requirements and Preparation

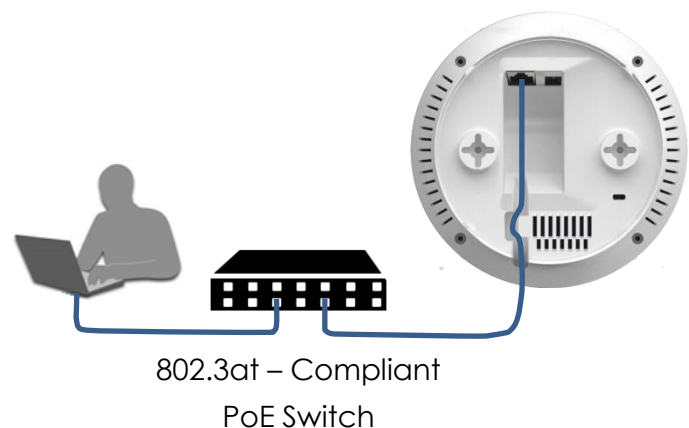
- A computer with Web Browser: Google Chrome, Mozilla Firefox, or Microsoft Internet Explorer 8 (or above)
- Two Cat 5e/6 Ethernet cables
- AltaiCare account (Optional) for cloud management service

## Power Options and Cable Connection Instructions

You can follow one of the options below for A2c configuration as described in the following sections.

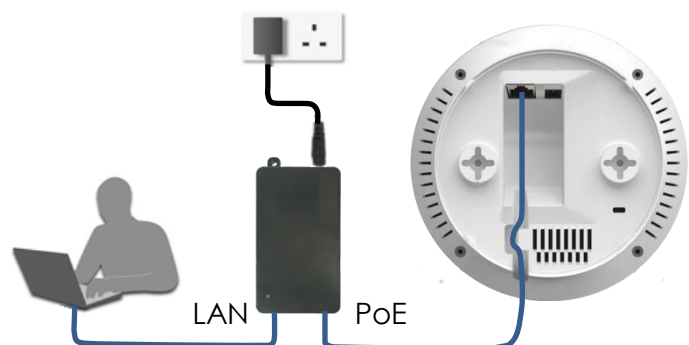
### **Option 1: 802.3at-compliant PoE switch**

1. Connect A2c Ethernet port to an 802.3at PoE Switch with an Ethernet Cable.
2. Connect a computer to the switch.
3. Make sure the Power LED light is orange and the LAN LED light is blue.



### **Option 2: PoE Injector (Ordered separately)**

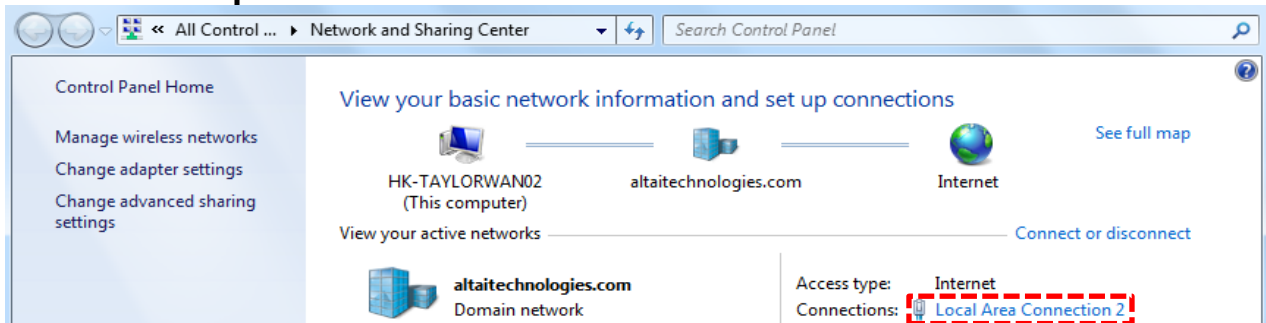
1. Connect A2c Ethernet port to a PoE Injector's "PoE" port with an Ethernet Cable.
2. Connect a computer to the PoE Injector's "LAN" port with another Ethernet Cable.
3. Connect the PoE Injector to AC power socket using a power cord (Not provided in the package).
4. Make sure the Power LED light is orange and the LAN LED light is blue.



## 1. Change TCP/IP Setting on your computer

For Windows 7 users,

1. Go to **Control Panel**, click **Network and Sharing Center** and then choose the adapter that you want to connect to A2c unit. In this example, adapter "**Local Area Connection 2**" is in connection with A2c. Click it and then click **Properties**.

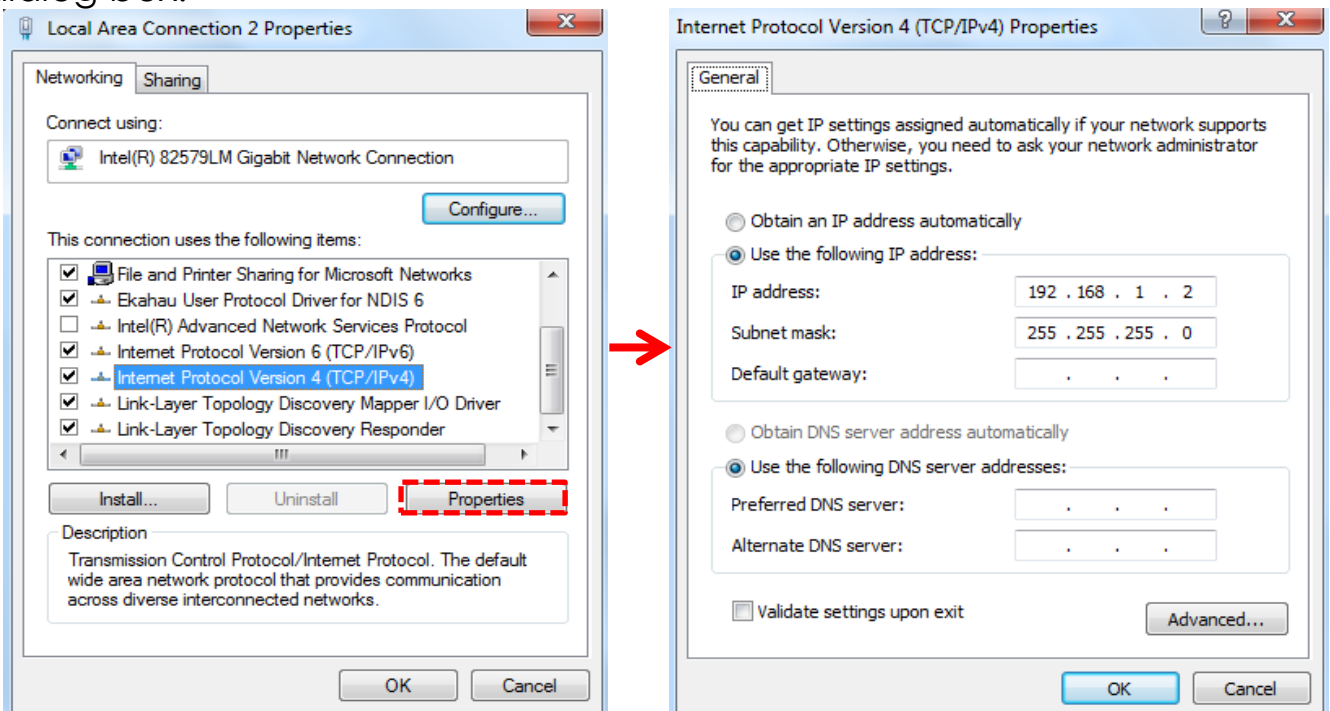


2. Under the **Networking** tab, click **Internet Protocol Version 4 (TCP/IPv4)** in the list box "This connection uses the following items", and then click **Properties**.

3. Type in the following IP address and Subnet mask:

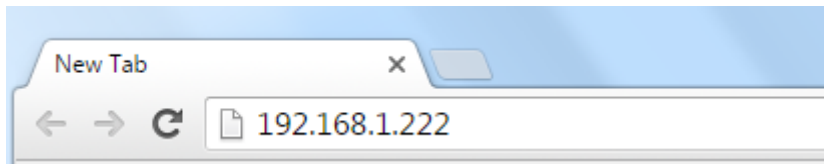
- IP address: 192.168.1.2
- Subnet mask: 255.255.255.0

4. Click **OK** to close the **Internet Protocol Version 4 (TCP/IP) Properties** dialog box and click **OK** again to close the **Local Area Connection Properties** dialog box.

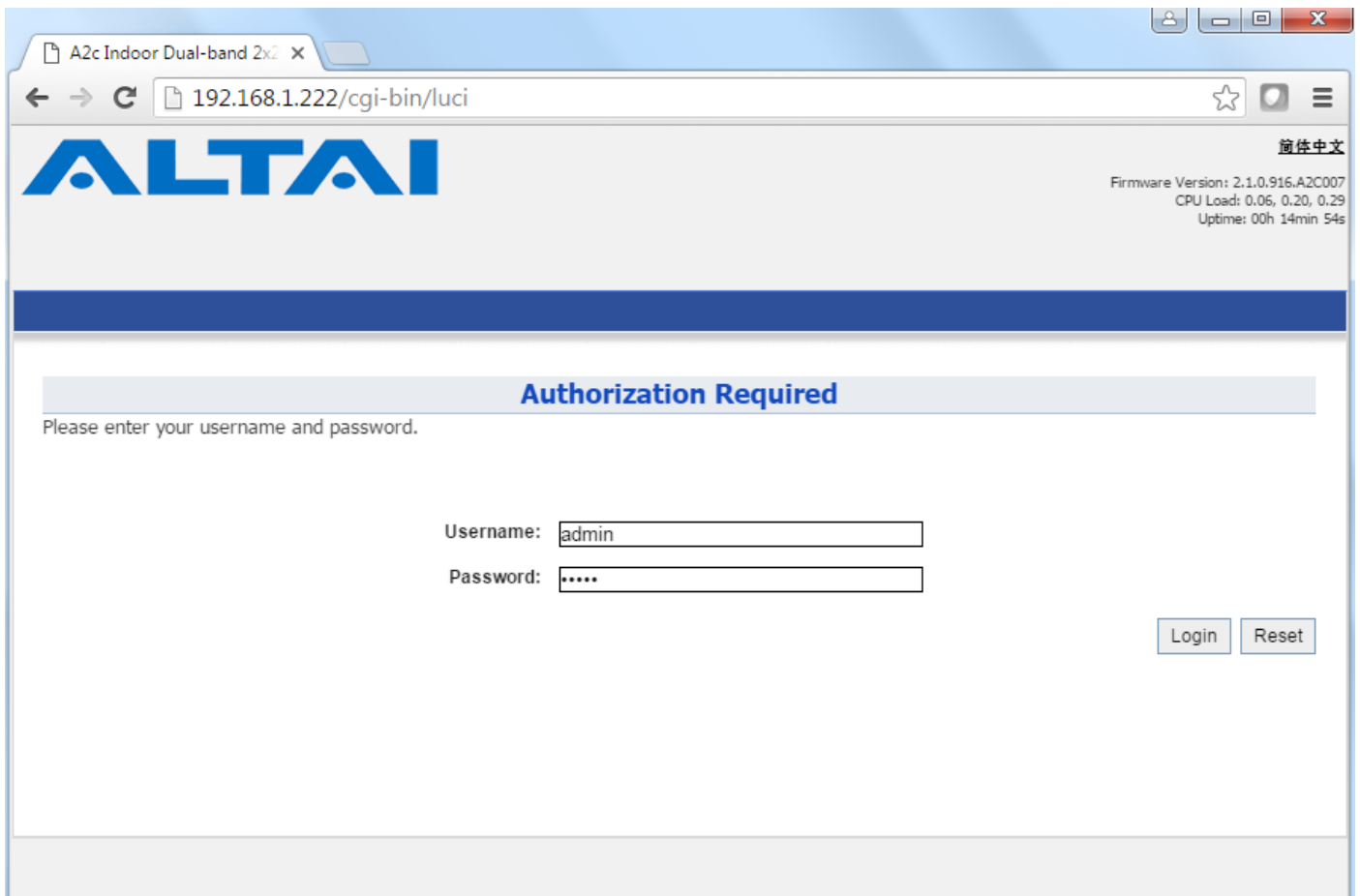


## 2. Access to Web Interface

1. Open a web browser. Type **192.168.1.222** in the address bar and then hit **Enter**.

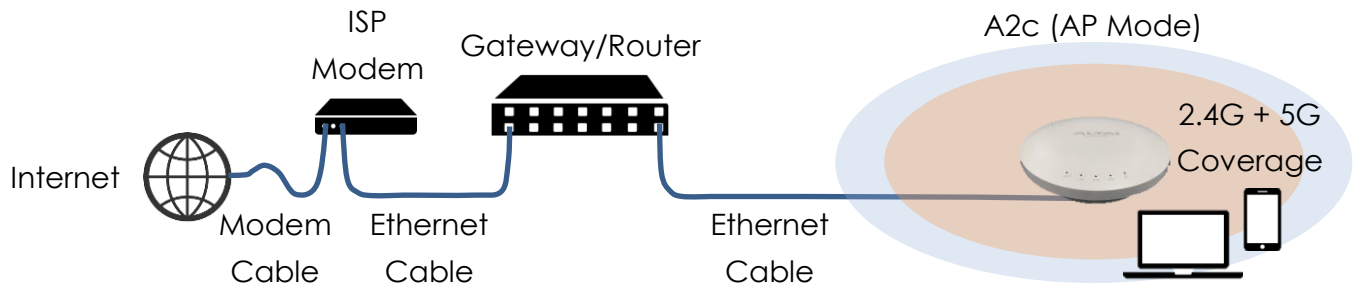


2. Login page will come up and you are required to enter username and password. By default, the credentials are:
  - **Username:** admin
  - **Password:** admin
3. Click Login.



## 3. Configure AP Mode (2.4G/5G)

### Network Scenario



1. Go to **Configuration > Wireless > Radio0(2.4G)/Radio1(5G) > General**. Below screenshots show an example for 2.4G radio configuration only. Same procedures can be applied to 5G radio configuration.
2. Make sure the box of **Enable Radio** is checked. Select **AP mode** for the field of **Radio Mode**. Then click **Submit**.

**Radio0(2.4G) Setting**

General | WLAN | Advanced | QoS

Enable Radio:

Radio Mode: AP

Wireless Mode: 2.4GHz 144Mbps(802.11ng HT20)

Legacy 11b Data Rate Support: 5.5/11M (Good compatibility/Good performance)

Channel: 2412MHz(Channel 1)

Transmit Power: 23

Maximum Clients: 256 (1-256)

User Isolation in different WLAN (SSID):

Band Steering Mode: Disabled

Submit

3. Click **WLAN** and click **More...** in **Detail** of WLAN 0 to go to another page for SSID and security configuration.

**Radio0(2.4G) Setting**

General | WLAN | Advanced | QoS

Submit

**WLAN Configuration**

| Enable WLAN                           | SSID  | Max Clients | Isolation                           | Auth Mode | Access Traffic Right | WLAN Uplink/Downlink Control |   | Station Uplink/Downlink Control |   | Detail  |
|---------------------------------------|---|-------------|-------------------------------------|-----------|----------------------|------------------------------|---|---------------------------------|---|---------|
| <input checked="" type="checkbox"/> 0 | Superwifi Network<br><input type="checkbox"/> Hide SSID | 256         | <input checked="" type="checkbox"/> | open      | Full Access          | 0                            | 0 | 0                               | 0 | More... |



- Make sure **WLAN** is enabled by checking the box. Type in **SSID** to name the wireless network you want to broadcast and then click **Submit**.

**Radio0(2.4G) WLAN0 Setting**

WLAN General | WLAN Security | Rogue Station List | QoS | Bandwidth Control | Passpoint

Enable WLAN:

Hide SSID:

SSID: Altai A2c

User Isolation:

DHCP Trusted Port:

Access Traffic Right: Full Access

Max Clients: 256 (1-256)

802.11r FT Roaming:

Mobility Domain ID: 900 (1-65535)

Station Association Requirement

Reject Station Association if SNR less than 0 dB. (0-100dB, 0:Disable)

Disassociate Station if SNR drops more than 0 dB for consecutive 10 packets. (0-100dB) (1-256)

Back to WLAN List | Submit

- Click the tab **WLAN Security**. Select **WPA2-PSK** from the drop down menu of **Authentication Mode** and select **AES** for **Cipher Mode**. Type in a password within 8~64 characters or numbers in **Pass Phrase** and click **Submit**.

**Radio0(2.4G) WLAN0 Setting**

WLAN General | WLAN Security | Rogue Station List | QoS | Bandwidth Control | Passpoint™

**WLAN Security Setting**

Authentication Mode: WPA2-PSK

Cipher Mode: AES

Group Key Update Interval: 86400 (s)

Pass Phrase: ..... Show

Length:8-63(ASCII Characters); Length:64(HEX Characters)

**ACL Setting**

Access Control List: Enabled - Black List

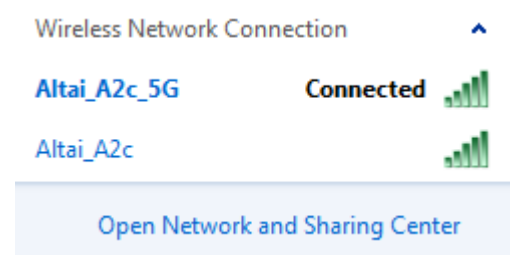
ACL Input Method:  Manual Input  File

Black List: [Empty field]

Back to WLAN List | Submit

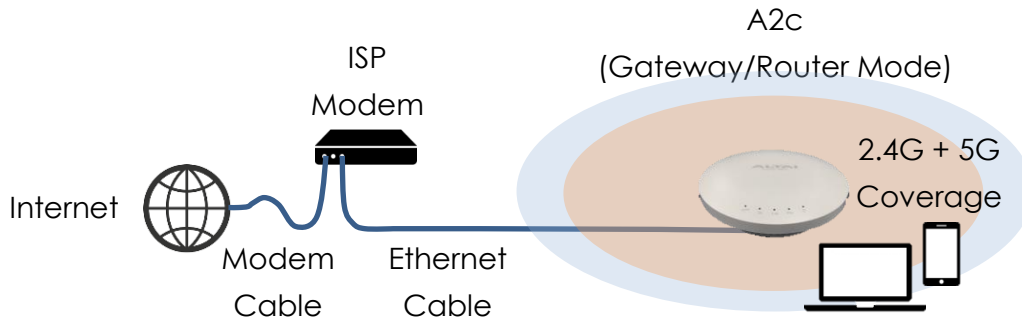
- Click **Save & Apply** at the top right corner to have all changes take effect.

- Hook up the A2c as shown in Network Scenario. The SSID should now be broadcast from A2c and can be seen in the computer for wireless connection.

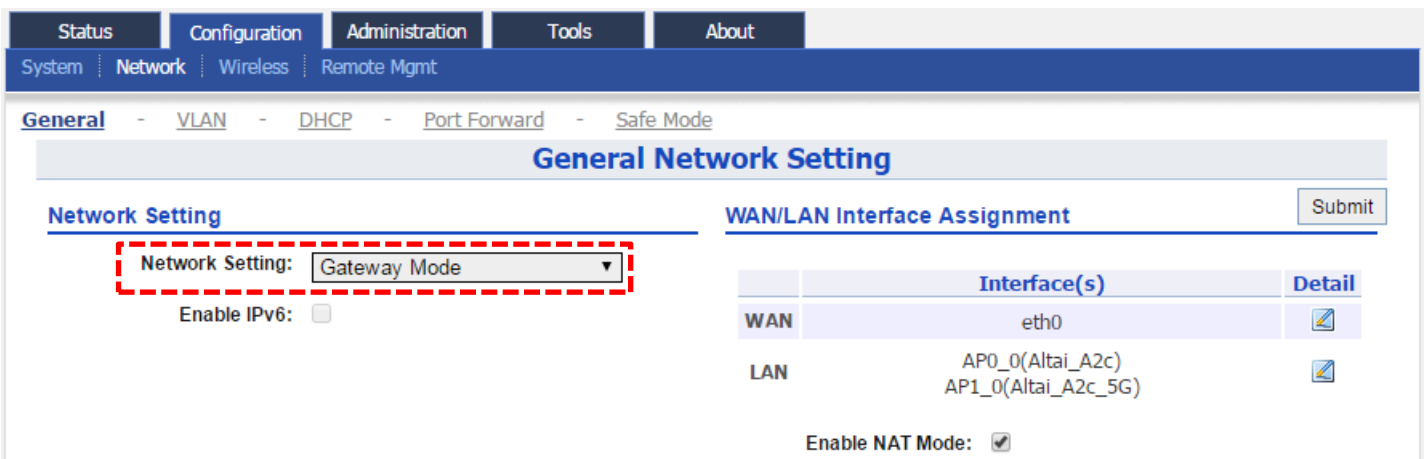


## 4. Configure Gateway Mode (Router Mode)

### Network Scenario



1. Follow the steps 1 – 6 in Section 3 for the wireless settings.
2. Go to **Configuration > Network > General**.
3. Select **Gateway Mode** for **Network Setting**.



4. Select one of the following ways for **Internet Connection Type**. If you are not sure about the connection options, consult your ISP for correct settings.

#### (a) Static

Enter **IP Address**, **Subnet Mask**, **Default Gateway** and **DNS Server IP Address** as provided by ISP.

#### WAN Setting(IPv4)

Internet Connection Type:

IPv4 Address:  .  .  .

IPv4 Subnet Mask:  .  .  .

IPv4 Default Gateway:  .  .  .

IPv4 DNS Server IP Address:

## (b) DHCP/PPPoE

With these modes selected, IP Address, Subnet Mask and Default Gateway will be dynamically assigned and updated for each time of connection.


Two options for **DNS Auto Update**:

- Choose “**Enable**” to update DNS info along with other IP configuration via DHCP; or
- Choose “**Disable**” for manual input of valid DNS info provided by ISP.

### DHCP Configuration:

#### WAN Setting(IPv4)

Internet Connection Type:

DNS Auto Update:  Enable  Disable  DNS Auto Update:  Enable  Disable

Enable DHCP Option 60:

IPv4 DNS Server IP


Address:

For PPPoE connection type, enter **PPPoE Username** and **Password** provided by ISP for user authentication.

### PPPoE Configuration (Minimal):

#### WAN Setting(IPv4)

Internet Connection Type:

DNS Auto Update:  Enable  Disable  DNS Auto Update:  Enable  Disable

PPPoE Server Name:

AC Name:

PPPoE UserName:

PPPoE Password:   Show

Maximum idle time interval:  (60-10000s)

Redial Interval:  (0-1000s)

Allow:  mschapv2  mschapv1  
 chap  pap

MTU:  (0-1492)

MRU:  (0-1492)

IPv4 DNS Server IP

Address:

5. Click **Submit** at the page bottom and then click **Save & Apply** at the top right corner to have all changes take effect.
6. Hook up the A2c as shown in Network Scenario and connect a laptop to the broadcast SSID. The laptop will get an IP address 192.168.98.x with x between 2 and 254 and should be ready for Internet access.
7. To verify the A2c connection status, you can access the A2c Web Interface by entering **192.168.98.1** in the browser address bar. Log in to it and Status Overview page (**Status > Overview**) is shown up.
8. WAN Interface (Ethernet Port, denoted by eth0) should show established status with valid IP address, Subnet Mask, Default Gateway and DNS Server IP address.

### Static Connection:

| Network(Gateway Mode) |                          |
|-----------------------|--------------------------|
| WAN - eth0            |                          |
| IPv4 DHCP Client:     | Disabled                 |
| IPv4 Address:         | 10.6.122.200             |
| IPv4 Subnet Mask:     | 255.255.255.0            |
| IPv4 Default Gateway: | 10.6.122.1               |
| IPv4 DNS Server:      | 10.6.127.4<br>10.6.127.1 |

### DHCP Connection:

| Network(Gateway Mode) |                          |
|-----------------------|--------------------------|
| WAN - eth0            |                          |
| IPv4 DHCP Client:     | Success                  |
| IPv4 Address:         | 10.6.122.102             |
| IPv4 Subnet Mask:     | 255.255.255.0            |
| IPv4 Default Gateway: | 10.6.122.1               |
| IPv4 DNS Server:      | 10.6.127.4<br>10.6.127.1 |

### PPPoE Connection:

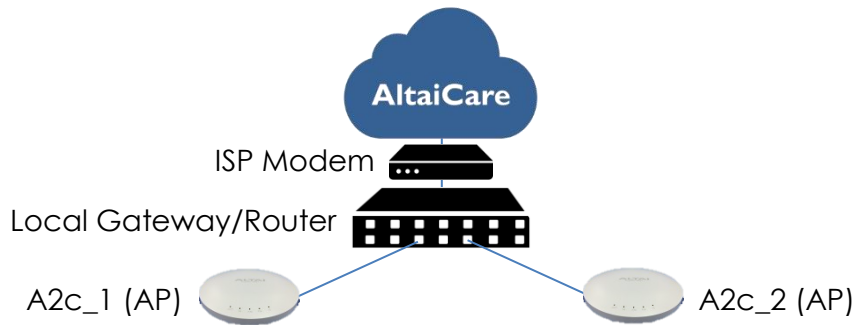
| Network(Gateway Mode) |   |
|-----------------------|---|
| WAN - eth0            |   |
| IPv4 PPPoE Client:    | Connected<br><a href="#">Disconnect</a> |
| IPv4 Address:         | 192.168.100.2                           |
| IPv4 Subnet Mask:     | 255.255.255.255                         |
| IPv4 Default Gateway: | 192.168.100.1                           |
| IPv4 DNS Server:      | 192.168.100.1<br>10.6.127.4             |

9. LAN Interface (2.4G and 5G radios, denoted by radio0\_x and radio1\_y respectively where x and y are the WLAN ID) should show correct IP address (192.168.98.1) with DHCP server and NAT enabled.

| LAN - radio0_0,radio1_0 |               |              |                             |
|-------------------------|---------------|--------------|-----------------------------|
| IP Address:             | 192.168.98.1  | NAT:         | Enabled                     |
| Subnet Mask:            | 255.255.255.0 | DHCP Server: | <a href="#">Server Mode</a> |

## 5. Connect with Cloud-based controller – AltaiCare

### Network Scenario:



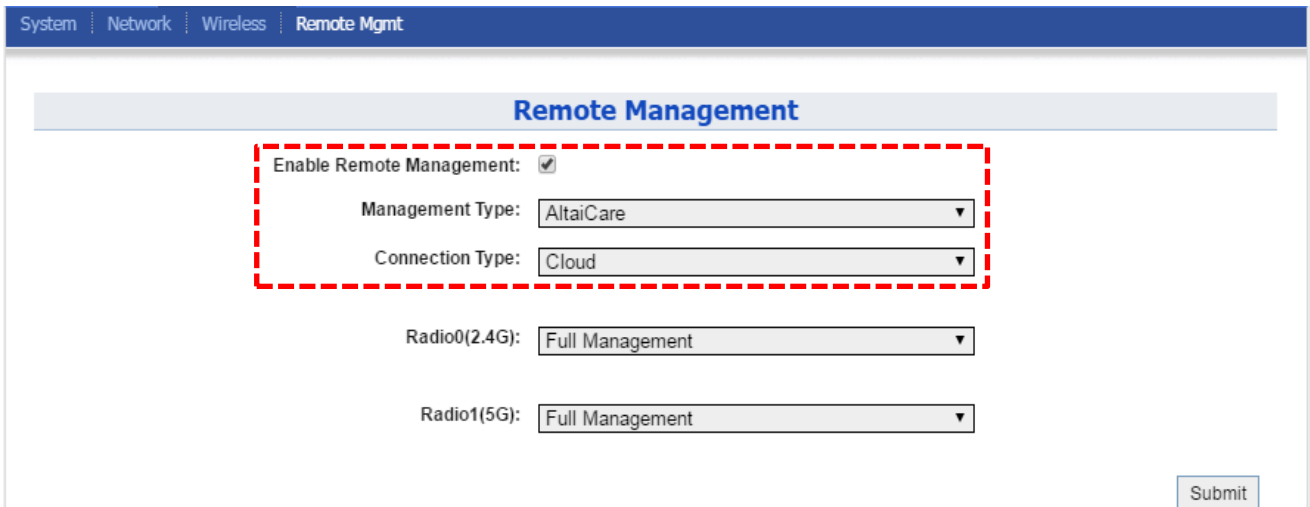
Note: For AltaiCare support, A2c should operate in Switch Mode (Section 3).

1. Users can manage their A2c and set up their hotspot service for subscribers with AltaiCare, which is a cloud-based system.
2. Go to **Configuration > Network > General**. Make sure A2c can reach Internet and communicate with AltaiCare by inputting **valid** IP settings either via DHCP or with Static IP configuration. Google Public DNS Server can be considered, e.g. 8.8.8.8 or 8.8.4.4 if you are not sure about the ISP DNS's Server IP.

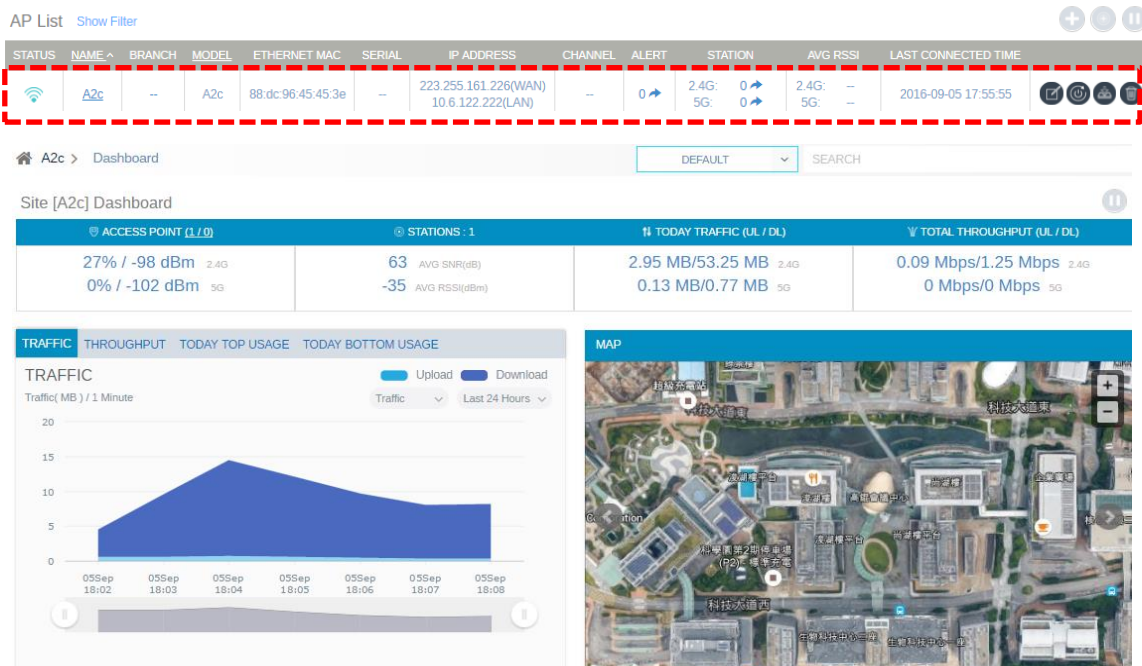
The screenshot shows the 'General Network Setting' page with the following configuration details:

- Network Setting:** Switch Mode, Enable IPv6:
- WAN Setting (IPv4):** Internet Connection Type: Static, IPv4 Address: 10.6.122.222, IPv4 Subnet Mask: 255.255.255.0, IPv4 Default Gateway: 10.6.122.1, IPv4 DNS Server IP Address: 8.8.8.8
- WAN Setting (IPv6):** Internet Connection Type: Static
- Ethernet Setting:** eth0 Mode: Auto Detect, Speed: 100Mbps/Full; eth1 Mode: Auto Detect, Speed: 100Mbps/Full
- STP Setting:** Enable STP Mode:

- Click **Remote Mgmt** and check the box of **Enable Remote Management**. Select AltaiCare as **Management Type** and Cloud as **Connection Type**.



- Select **Full Management** if the device is running in **AP Mode**. For **Station Mode**, **Bridge Mode** and **Repeater Mode**, select **Monitor Mode** instead.
- Click **Submit** and then **Save & Apply** at the top right corner to make all the changes take effect.
- Follow AltaiCare Quick Start Guide and register the A2c in the system for access management of AP and user service and admission control.
- A2c will appear as online in AltaiCare AP list if the connection is successful.



## Federal Communication Commission Interference Statement (FCC) – USA

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 25cm between the radiator & your body.

## European Conformity (CE) – EU

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



## Warning

A2c may require professional installation depending on the deployment scenario.

Only use the power adaptor supplied with A2c. Using a different power adaptor might damage A2c.

## Disclaimer

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