Tenda

Quick Installation Guide

5GHz 11n 300Mbps Basestation
B6

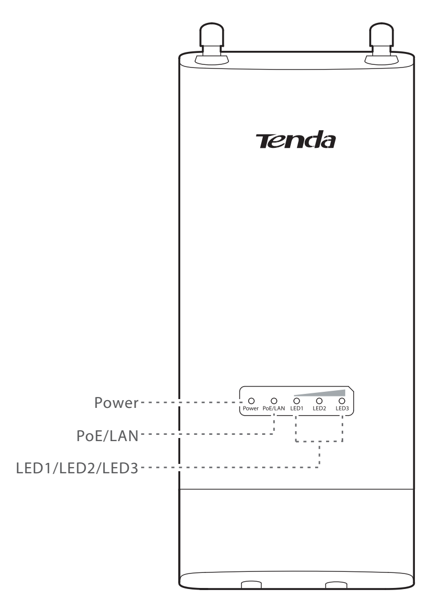
Package Contents

- Basestation x 1
- PoE adapter x 1
- Power cord x 1
- Metal strap x 1
- Grounding screw x 1
- Quick installation guide x 1

If any item is missing or damaged, please keep the original package and contact the local reseller or distributor immediately. For product or function details, please go to www.tendacn.com

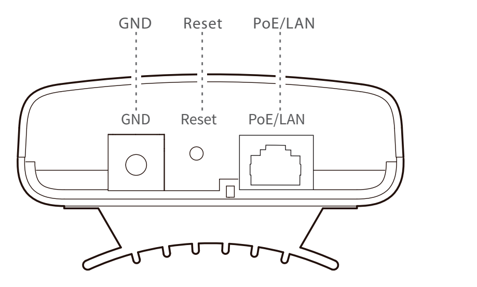
Getting to know your device

▶ LED Indicators



LED Indicators	Status	Description
Power	Solid on	The device is powered on properly.
	Off	The device is not powered on or not powered on properly.
PoE/LAN	Solid on	The port is connected properly, but no data is transmitted.
	Blinking	Data is being transmitted over the port.
	Off	The port is not connected, or not connected properly.
LED1, LED2, LED3 (Received signal strength LED indicators)	Solid on	Bridged successfully. The device may work in AP, Repeater, P2MP or Router mode. • LED1, LED2 and LED3 are solid on: Good signal • LED1 and LED2 are solid on, and LED3 is off: Fair signal • LED1 is solid on, and LED2 and LED3 are off: Weak signal. Please adjust the direction or location of the two bridging devices. Tip: By default, the minimum signal strength of LED1, LED2 and LED3 are -90 dBm, -80 dBm and -70 dBm. You can change them on the Wireless > Advanced page of the web UI of the device.
	Blinking	Bridged successfully. The device may work in Client, Universal Repeater or WISP mode. • LED1, LED2 and LED3 are blinking: Good signal • LED1 and LED2 are blinking, and LED3 is off: Fair signal LED1 is blinking, and LED2 and LED3 are off: Weak signal. Please adjust the direction or location of the two bridging devices.
	Off	The received signal strength does not reach the minimum RSSI threshold of the Base Station, or the bridging fails. Please adjust the direction or location of the two bridging devices.

▶ Ports & Button



Port/Button	Description
GND	GND terminal. Used for ESD and lightning protection. Use a grounding cord and the included grounding screw to connect this GND terminal to the earth.
Reset	Reset Button. When the **Power** LED indicator lights solid on, hold down this button for about 8 seconds, then release it. When all the LED indicators light up and then turn off, the device is restored to factory settings.
PoE/LAN	It is used to supply power or transmit data. Use the included PoE adapter to supply power to the Base Station. CAT5e or better Ethernet cable is recommended, and the length should not exceed 60 meters.

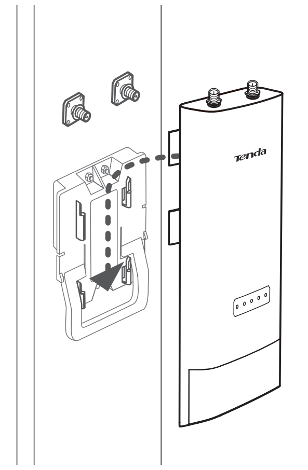
Installing the device

Installation notes

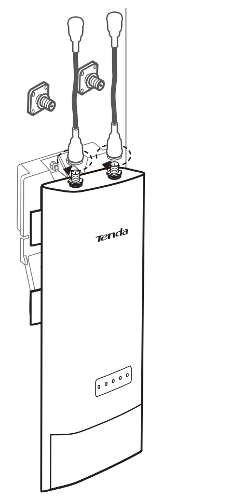
The Base Station can work with the dish, sector or other antenna (purchased separately).

Bracket mounting

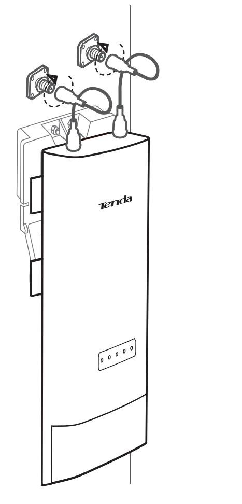
1. Press the handle on the mount bracket, align the four hooks on the panel of the Base Station with the four slots on the bracket, and slide the Base Station to fix it onto the bracket.



2. Remove the plastic screw caps on the RP-SMA connectors of the Base Station.
3. Connect one side of two RF coaxial cables (enclosed with the antennas) to the RP-SMA connectors of the Base Station.

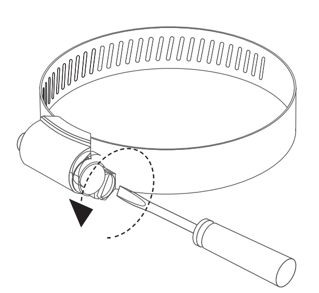


4. Connect the other side of the RF coaxial cables to the connectors of the antenna.

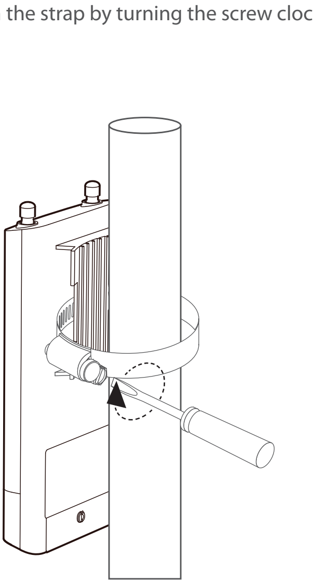


Pole mounting

1. Use a screwdriver to open the metal strap by turning the screw counter-clockwise.



2. Straighten out the end of the metal strap, and thread it through the back of the Base Station, wrap the metal strap around the pole, and tighten the strap by turning the screw clockwise using the screwdriver.



3. Remove the plastic screw caps on the RP-SMA connectors of the Base Station.
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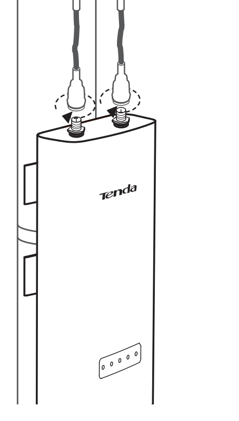
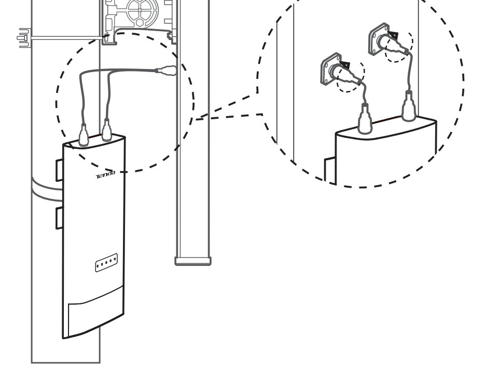


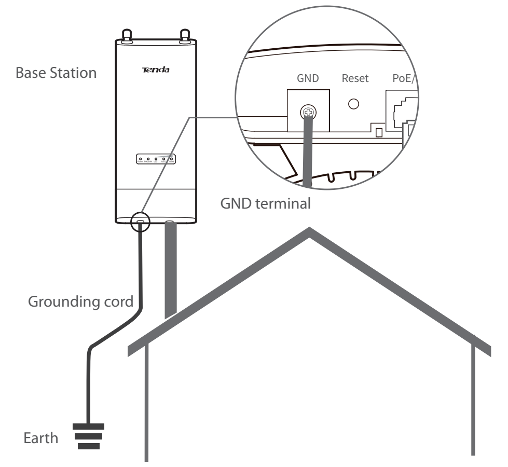
5. Connect the other side of the RF coaxial cables to the connectors of the antenna.



Lightning and ESD protection

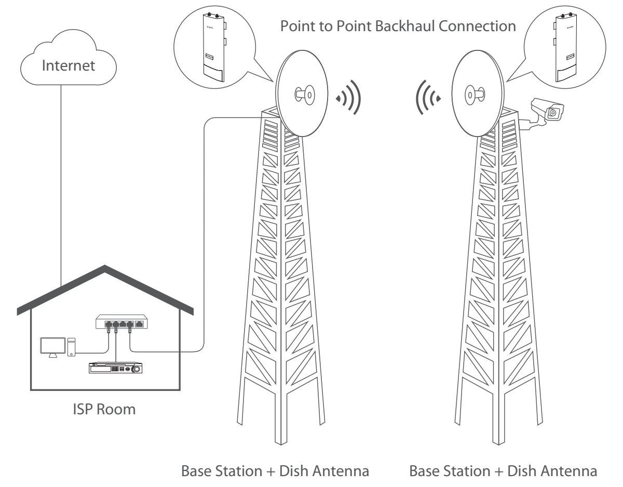
Connect the GND terminal of the Base Station to a grounding terminal conencted the earth or building to protect the Base Station from overvoltage and overcurrent caused by lightning and ESD.

1. Connect one side of a grounding cord to the included grounding screw.
2. Conenct the grounding screw to the GND terminal of the Base Station, and tighten it.
3. Connect the other side of the grounding cord to the grounding terminal connected to the earth or building.



Scenario 1: PtP backhaul connection with dish antennas

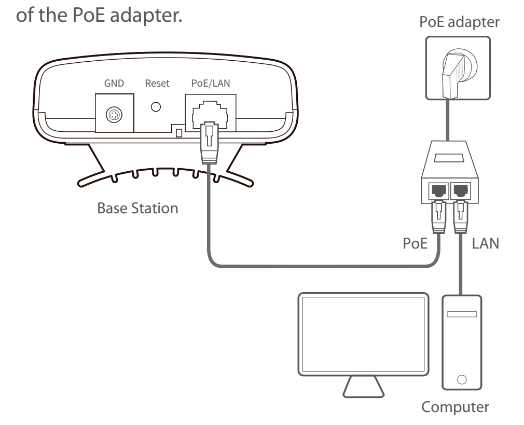
One Base Station in **AP** mode and another one in **Client (Station)** mode create a long distance wireless connection for point to point connection.



Step 1: Place two Base Stations next to each other.

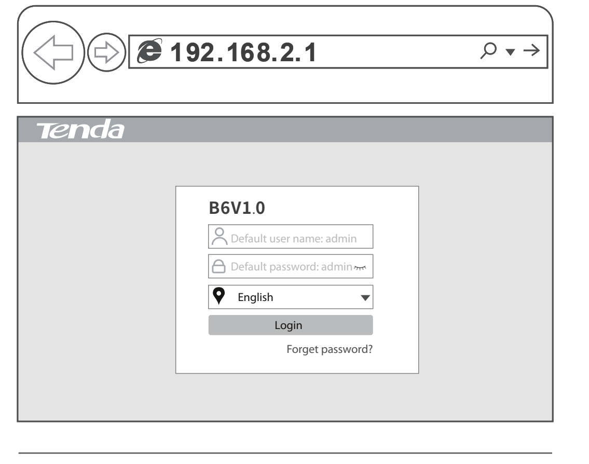
Step 2: Connect a computer to a Base Station.

1. Remove the cover of the Base Station.
2. Use an Ethernet cable (CAT5e or better Ethernet cable is recommended) to connect the **PoE/LAN** port of the Base Station to the **PoE** port of the PoE adapter.
3. Connect the PoE adapter to a power source. The **PoE/LAN** LED indicator of the Base Station lights up.
4. Use an Ethernet cable to connect your computer to the **LAN** port of the PoE adapter.



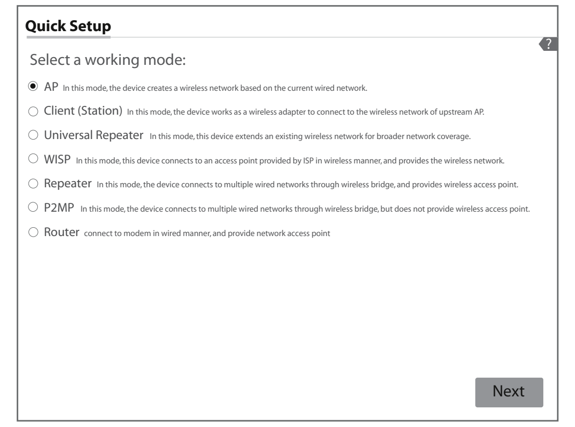
Step 3: Set the Base Station to AP mode.

1. Start a web browser on the computer, and visit **192.168.2.1**. Enter your user name and password, and click **Login**.



Tip:
If the login page does not appear, please refer to **Q1** in **FAQ**.

2. Select **AP**, and click **Next.**

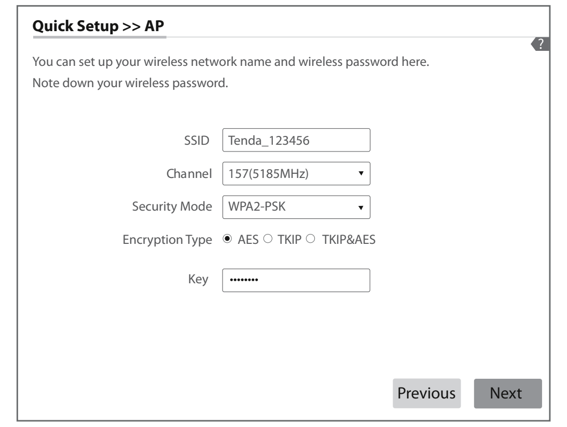


Quick Setup

Select a working mode:

- ● AP In this mode, the device creates a wireless network based on the current wired network.
- ○ Client (Station) In this mode, the device works as a wireless adapter to connect to the wireless network of upstream AP.
- ○ Universal Repeater In this mode, this device extends an existing wireless network for broader network coverage.
- ○ WISP In this mode, this device connects to an access point provided by ISP in wireless manner, and provides the wireless network.
- ○ Repeater In this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access point.
- ○ P2MP In this mode, the device connects to multiple wired networks through wireless bridge, but does not provide wireless access point.
- ○ Router connect to modem in wired manner, and provide network access point

3. Set an SSID, which is **Tenda_123456** in this example, **Security Mode** (WPA2-PSK is recommended), **Channel**, and **Key**, and click **Next**.



Quick Setup >> AP

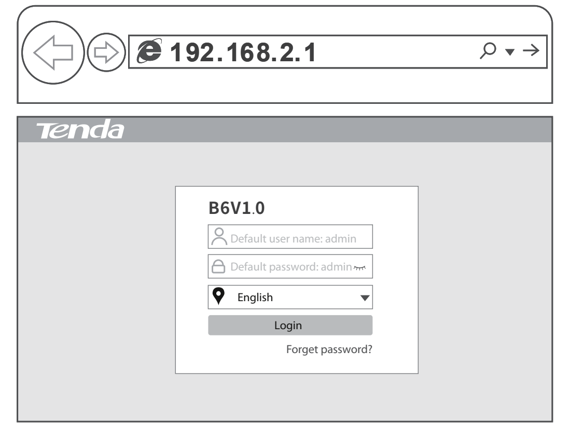
You can set up your wireless network name and wireless password here.
Note down your wireless password.

SSID: Tenda_123456
Channel: 157(5185MHz)
Security Mode: WPA2-PSK
Encryption Type: ● AES ○ TKIP ○ TKIP&AES
Key: ••••••••

4. Click **Save**, and wait until the Bastion Station reboots automatically to activate the settings.

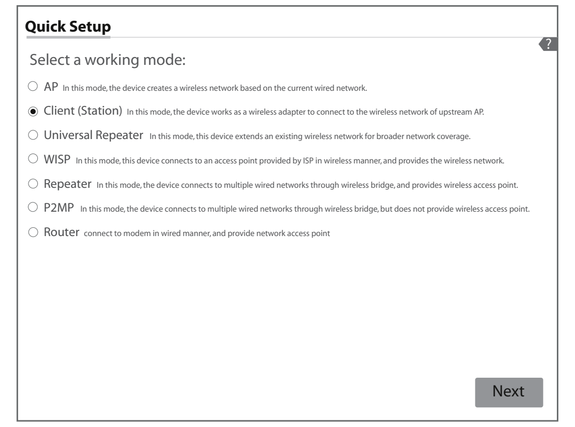
Step 4: Set the other Base Station to **Client (Station)** mode.

1. Perform **Step 2 Connect a computer to the Base Station** to connec the computer to the other Base Station.
2. Start a web browser on the computer, and visit **192.168.2.1**. Enter the login user name and password, and click **Login**.



Tips:
If the login page doesn't appear, please refer to **Q1** in **FAQ**.

3. Select **Client (Station)**, and click **Next**.

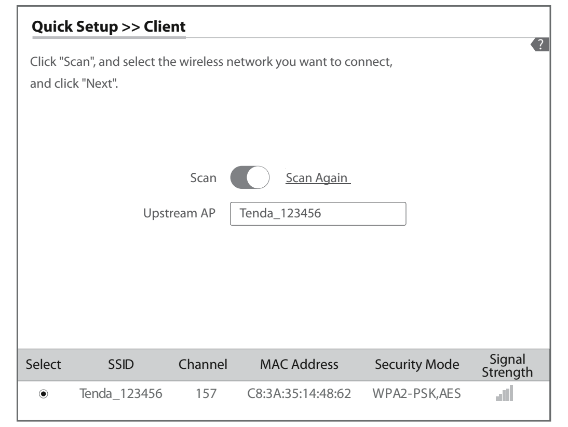


Quick Setup

Select a working mode:

- ○ AP In this mode, the device creates a wireless network based on the current wired network.
- ● Client (Station) In this mode, the device works as a wireless adapter to connect to the wireless network of upstream AP.
- ○ Universal Repeater In this mode, this device extends an existing wireless network for broader network coverage.
- ○ WISP In this mode, this device connects to an access point provided by ISP in wireless manner, and provides the wireless network.
- ○ Repeater In this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access point.
- ○ P2MP In this mode, the device connects to multiple wired networks through wireless bridge, but does not provide wireless access point.
- ○ Router connect to modem in wired manner, and provide network access point

4. Select the SSID you set on the first Base Station, which is **Tenda_123456** in this example, and click **Next**.



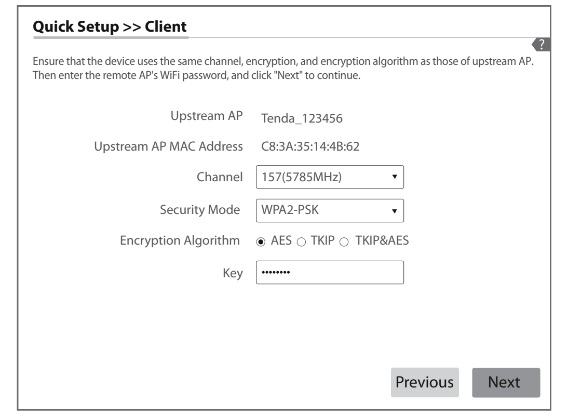
Quick Setup >> Client

Click "Scan", and select the wireless network you want to connect, and click "Next".

Scan
Upstream AP: Tenda_123456

Select	SSID	Channel	MAC Address	Security Mode	Signal Strength
●	Tenda_123456	157	C8:3A:35:14:48:62	WPA2-PSK,AES	

5. Enter the WiFi password you set on the first Base Station in the **Key** text box, and click **Next**.

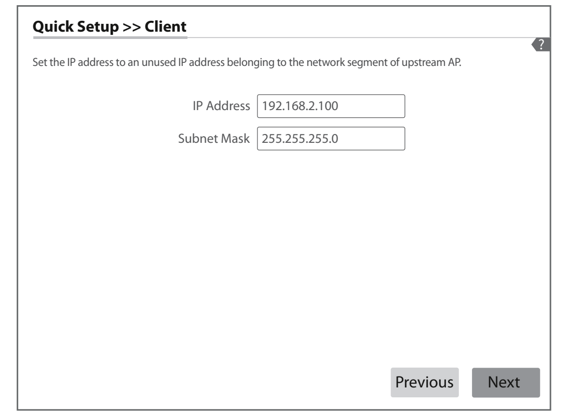


Quick Setup >> Client

Ensure that the device uses the same channel, encryption, and encryption algorithm as those of upstream AP. Then enter the remote AP's WiFi password, and click "Next" to continue.

Upstream AP: Tenda_123456
Upstream AP MAC Address: C8:3A:35:14:4B:62
Channel: 157(5785MHz)
Security Mode: WPA2-PSK
Encryption Algorithm: ● AES ○ TKIP ○ TKIP&AES
Key: ••••••••

6. Set the IP address to an unused IP address belonging to the same network segment as that of the first Base Station. For example, if the IP address of the first Base Station is 192.168.2.1, you can set the IP address of this Base Station to 192.168.2.X (X ranges from 2 to 254). Then click **Next**.

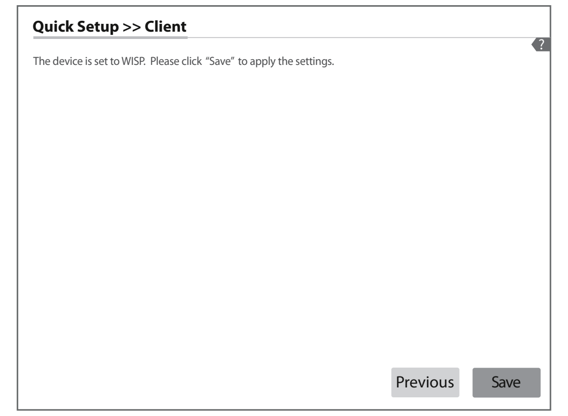


Quick Setup >> Client

Set the IP address to an unused IP address belonging to the network segment of upstream AP.

IP Address: 192.168.2.100
Subnet Mask: 255.255.255.0

7. Click **Save**, and wait until the Base Stations reboot to activate the settings.



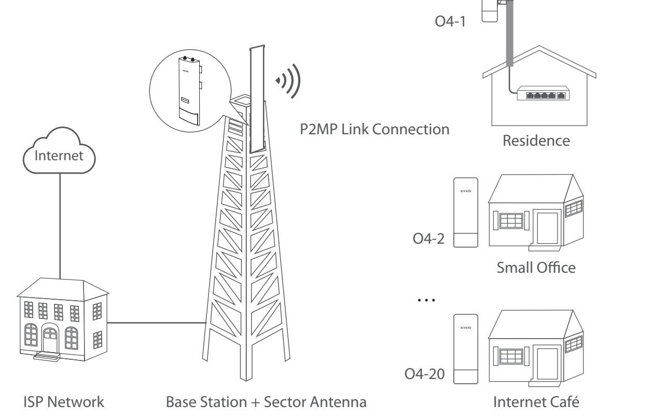
Quick Setup >> Client

The device is set to WISP. Please click "Save" to apply the settings.

When LED1, LED2, and LED3 of the Base Station in **AP** mode are solid on, and LED1, LED2, and LED3 of the base Station in **Client (Station)** mode are blinking, the bridging succeeds. The DHCP servers of the two Base Stations are disabled automatically.

Scenario 1: P2MP connection with sector antennas

The Base Station in AP mode can provide WiFi network, allowing home users or small office users to connect to the WiFi network with outdoor long range CPEs. The Base Station can work with Tenda O2 or O4. O4 is used for illustration here.



Option 1: Automatic bridging (recommend)

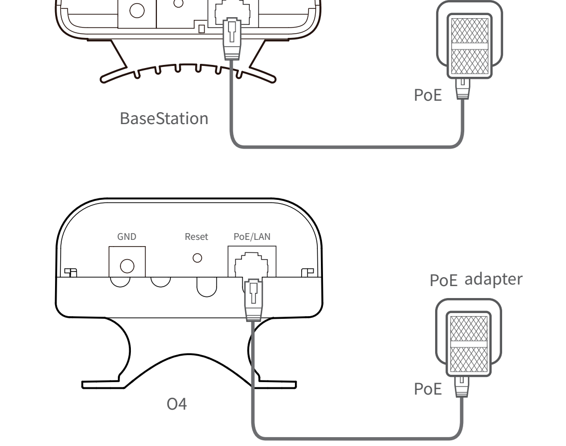
Tips:

- Automatic bridging is only applicable when the Base Station and CPE are in factory settings.
- Ensure that only the Base Station and one CPE are powered on when performing peer-to-peer bridging. Otherwise, the peer-to-peer bridging may fail.
- When the Base Station and CPE are powered on using Ethernet cables, CAT5e or better Ethernet cable is recommended, and the length should not exceed 60 meters.
- For peer-to-multiple peers bridging, perform peer-to-peer bridging first, and then power on the rest CPEs within 3 minutes. Otherwise, the bridging may fail.
- A Base Station can bridge to 20 CPEs at most.

Step1: Prepare a Base Station and 20 CPEs (O4), and put all O4 near the Base Station.

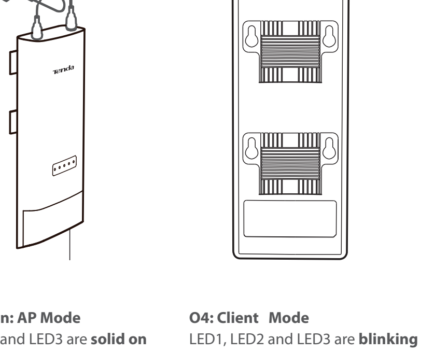
Step2: Choose one O4 to perform peer to peer bridging with the Base Station.

1. Place the Base Station and the O4 next to each other.



2. Remove the covers of the Base Station and O4, and use Ethernet cables (CAT5e or better Ethernet cable is recommended) to connect their **PoE/LAN** ports to the **PoE** ports of the included PoE adapters respectively.
3. Use the power cords to connect the PoE adapters to power sources. When **PoE/LAN** LED indicators of the Base Station and O4 light up, they completes startup.

Within 1 minute, the Base station and O4 will perform automatic bridging. When the bridging succeeds, the DHCP servers of the Base Station and O4 are disabled. O4 works in **Client** mode and its IP address is changed to 192.168.2.2.



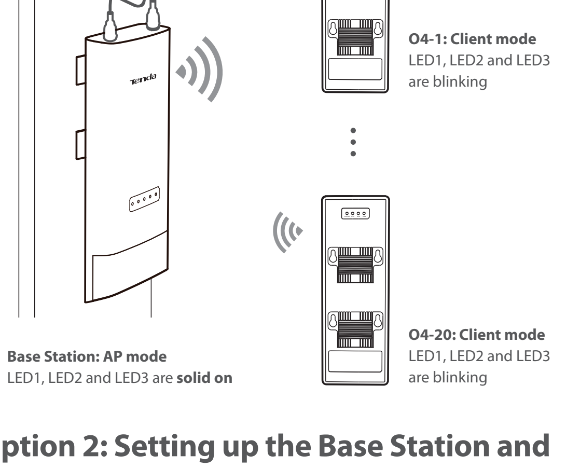
Base Station: AP Mode
LED1, LED2 and LED3 are **solid on**

O4: Client Mode
LED1, LED2 and LED3 are **blinking**

Step3: Within 3 minutes after the peer-to-peer bridging succeeds, power on the rest O4.

Step4: Wait for about 1 minute. When the LED1, LED2, and LED3 of these O4 are blinking, the bridging succeeds.

After the bridging succeeds, all O4 work in **Client** mode, and their IP addresses are changed to 192.168.2.2.



Base Station: AP mode
LED1, LED2 and LED3 are **solid on**

Option 2: Setting up the Base Station and O4 using the web UI

Refer to the configuration procedure in **Scenario 1: Point to point connection with dish antennas** to set the Base Station to the **AP** mode, and set all O4 to **Client (Station)** mode.

FAQ

Q1: I cannot log in to the web UI of the Base Station by entering 192.168.2.1. What should I do?

A1: Try the following methods:

- Ensure that the Base Station has been connected to the power supply and the computer properly.
- Ensure that the IP address of the login computer is 192.168.2.X (X ranges from 2 to 254, which is not used by other devices).
- Restore the Base Station to factory settings.

Q2: How to reset the Base Station to factory settings?

A2: **Note: Resetting the Base Station clears all settings, and you need to configure it again.**

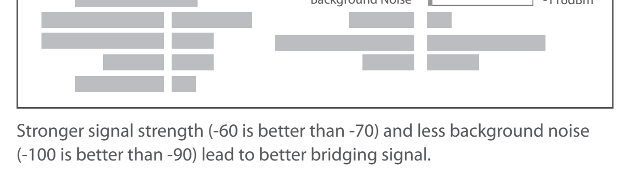
Method One: 1 minute after the Power LED indicator lights up, remove the cover of the Base Station, and hold down the **Reset** button for about 8 seconds. When all LED indicators light up once, the Base Station is restored to factory settings.

Method Two: Log in to the web UI of the Base Station, choose **Tools** > **Maintenance**, and click the **Reset** button.

Q3: How to determine whether the bridging signal strength is optimal when the Base Station is used for bridging?

A3: **Option One**: Observe the signal strength LED indicators of the Base Station. The bridging signal is optimum when all of the LED1, LED2 and LED3 indicators are solid on or blinking.

Option Two: Log in to the web UI of the Base Station, choose **Status**, and check the **Wireless Status** on the following page:



Signal Strength: -65dBm
Background Noise: -116dBm

Stronger signal strength (-60 is better than -70) and less background noise (-100 is better than -90) lead to better bridging signal.

Q4: The automatic bridging fails. What should I do?

A4: Try the following solutions:

- If the peer-to-peer bridging fails, reset the Base Station and O4 to factory settings, and try again.
- If the peer-to-multiple bridging fails, ensure that the new added O4 is powered on within 3 minutes after the peer-to-peer bridging succeeds. If the problem persists, reset the Base Station and all O4, and try again.

Q5: When the bridging succeeds, the LED1, LED2, and LED3 indicators do not light up or only one or two of them light up. What should I do?

A5: Try the following solutions:

- Place the Base Station and O4 in an elevated location with few obstacles nearby.
- Adjust the Base Station in horizontal and vertical directions slowly. Wait for 20 to 30 seconds after you choose a direction. Observe the LED1, LED2 and LED3 indicators of the Base Station when you are adjusting the CPE until all of LED1, LED2 and LED3 indicators lights up.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A 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.

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.

Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules.

This equipment should be installed and operated with minimum distance 20cm between the device and your body.

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 transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Operating frequency: 5150-5250MHz, 5725-5850MHz

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

Technical Support
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