Quick Installation Guide

5GHz Long Range Outdoor CPE
OS3
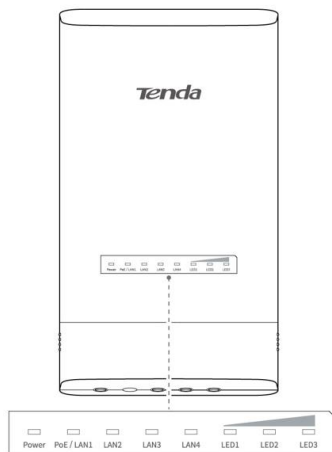
Package contents

CPE x 1	Screw x 2
Plastic strap x 2	Expansion bolt x 2
PoE injector x 1	Power adapter x 1
	Quick installation guide x 1

For product or function details, please go to www.tendacn.com.

I Get to know your device

Indicators

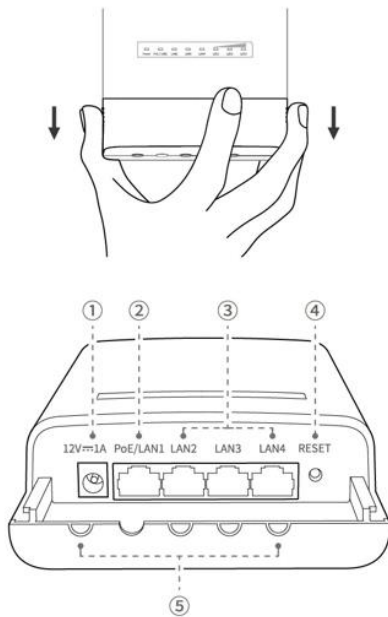| Indicator	Status	Description
Power	Solid on	The CPE is powered on properly.
	Off	The CPE is not powered on or not powered on properly.
PoE/LAN1, LAN2, LAN3, LAN4	Solid on	The corresponding port is connected properly, but no data is being transmitted.
	Blinking	Data is being transmitted over the port.
	Off	The corresponding port is disconnected, or not connected properly.
LED1, LED2, LED3 (Signal strength indicator)	Solid on	Bridged successfully. The CPE works in AP, Repeater, P2MP or Router mode. • LED1, LED2, LED3 solid on: Strong signal. • LED1 and LED2 solid on, LED3 off: Fair signal. • LED1 solid on, LED2 and LED3 off: Poor signal. Please adjust the direction and place of your CPEs. Tip: By default, the minimum signal strength of LED1, LED2 and LED3 indicators are -90 dBm, -80 dBm and -70 dBm. You can change them on the **Wireless** > **Advanced** page of the web UI of the CPE.
	Blinking	Bridged successfully. The CPE works in Client, Universal repeater or WISP mode. • LED1, LED2, LED3 solid on: Strong signal. • LED1 and LED2 solid on, LED3 off: Fair signal. • LED1 solid on, LED2 and LED3 off: Poor signal. Please adjust the direction and place of your CPEs.
	Off	The received signal strength does not reach the minimum RSSI threshold of the CPE, or the bridging fails. Please adjust the direction and place of the two CPEs.

Ports/buttons

Remove the cover as shown below.

Item	Port/Button	Description
①	12V⎓1A	Power jack. You can use the included power adapter to power on the device.
②	PoE/LAN1	10/100 Mbps PoE multiplex network port for power input and data transmission. − When the power socket is not available near the CPE, the CPE can be powered on by connecting this port to the PoE injector using an Ethernet cable. − When the CPE is powered on with the power adapter, this port can be used to connect computers, switches and IP cameras.
③	LAN2, LAN3, LAN4	10/100 Mbps auto-negotiation Ethernet port. Used for connecting computers, switches and IP cameras.
④	RESET	Reset button. When the **Power** indicator lights solid on, hold the button down for about 8 seconds and release it until all indicators light up and then turn off. The CPE is restored to factory settings.
⑤	/	Power cord/Ethernet cable inlet.

II Set up the CPE

-💡- Tips

At least two CPEs are required for bridging.

Option 1: Automatic bridging (recommended)

Peer-to-peer bridging

-💡-Tips

- Automatic bridging only works for CPEs in factory settings.
- Peer-to-peer bridging takes effect within one minute after the CPEs start. Automatic bridging could fail if three or more powered CPEs in factory settings are placed nearby.
- When the CPEs are powered on using Ethernet cables, CAT5e or better Ethernet cable is recommended, and the length should not exceed 50 meters.
- This CPE supports 9 - 13V DC power supply. You can use the included power adapter, centralized power supply for camera monitoring, or outdoor solar cells to power on the CPE as required.
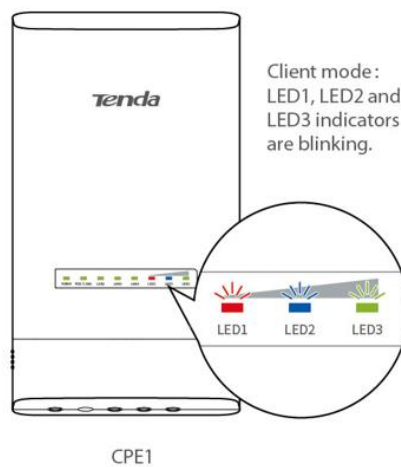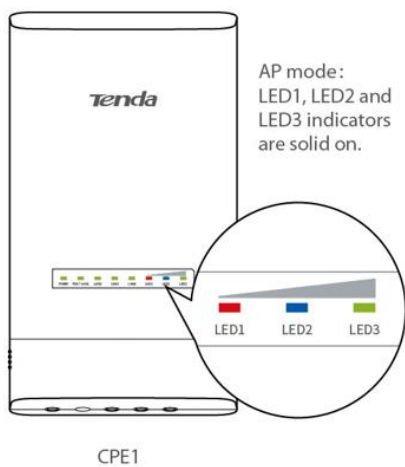
1. Place two CPEs in factory settings next to each other, and remove the cover of the CPEs as shown in **Ports/buttons.**

2. Use an Ethernet cable (CAT5e or better Ethernet cable is recommended) to connect the **PoE/LAN** port of the CPE to the **PoE** port of the PoE injector.

3. Use the included power adapter to connect the PoE injector to a power source. The **Power** indicators of the two CPEs light up.
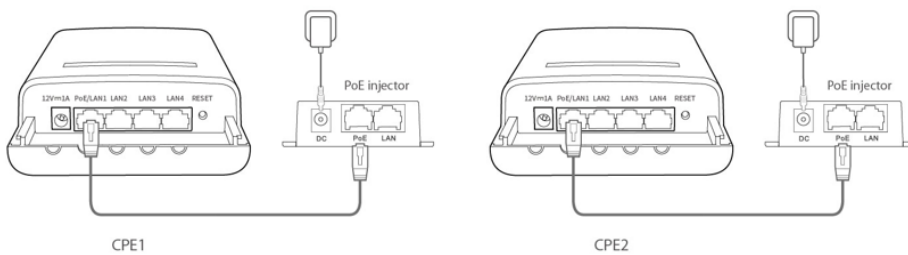
4. The two CPEs bridge to each other automatically **within 1 minute**. Please wait.

   After the bridging succeeds, the DHCP servers of the CPEs are disabled automatically. The IP address of the CPE in Client mode will be changed into 192.168.2.2.
   Successfully bridged CPEs are shown as below.

AP mode:
LED1, LED2 and LED3 indicators are solid on.

Client mode:
LED1, LED2 and LED3 indicators are blinking.

LED1   LED2   LED3

LED1   LED2   LED3

CPE1

CPE1

Peer-to-multiple peers bridging

-💡- Tips

- The automatic peer-to-multiple peers bridging lasts for 30 minutes. **During this period, the CPE working in AP mode must be kept powered on**. Otherwise other CPEs will fail to perform automatic bridging.
- One CPE can be bridged to 15 other CPEs at most.

1. Perform **Peer-to-peer bridging** to bridge any two CPEs.

2. **Within 30 minutes** after peer-to-peer bridging succeeds, place **other CPEs** in factory settings near the CPE working in AP mode and power them on. When the LED1, LED2 and LED3 indicators of them are blinking, the bridging of all other CPEs succeeds.

After successful peer-to-multiple peers bridging, the DHCP servers of the CPEs are disabled automatically, and the IP address of CPEs in Client mode will be changed into 192.168.2.2. If required, please visit www.tendacn.com to download the CPE management software and install it on your computer to change the IP addresses in batch.

AP mode:
LED1, LED2 and LED3 indicators are solid on.

CPE 1

AP mode:
LED1, LED2 and LED3 indicators are solid on.

Client mode:
LED1, LED2 and LED3 indicators are blinking.

Client mode:
LED1, LED2 and LED3 indicators are blinking.

CPE 2

Client mode:
LED1, LED2 and LED3 indicators are blinking.

Client mode:
LED1, LED2 and LED3 indicators are blinking.
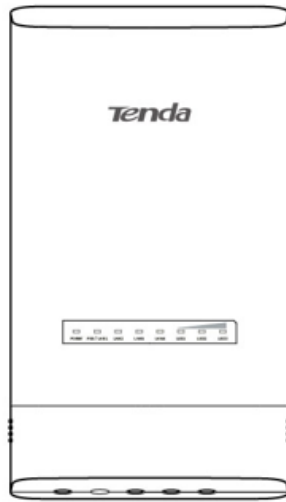
CPE 16
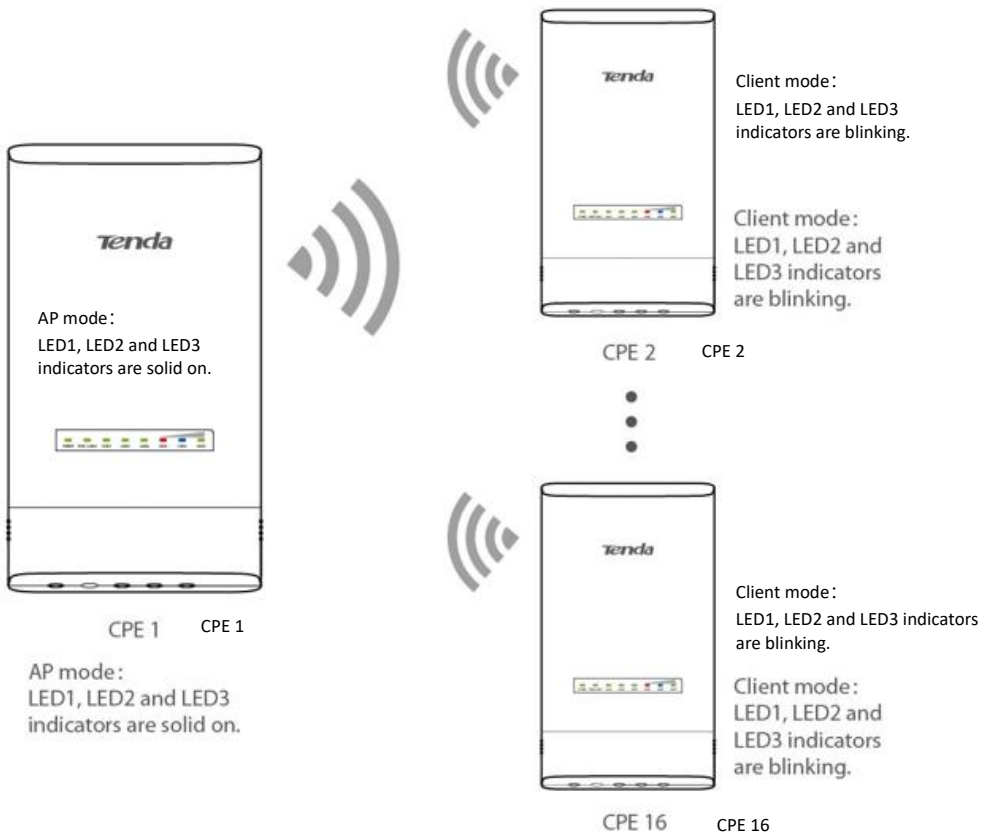
Option 2: Manual bridging

1. Place two CPEs next to each other.

CPE1   CPE2

2. Connect CPE1 to the computer.

    ① Remove the cover of CPE1.

    ② Use an Ethernet cable (CAT5e or better Ethernet cable is recommended) to connect the **PoE/LAN1** port of CPE1 and the **PoE** port of the PoE injector.

    ③ Use the power adapter to connect the PoE injector to a power source. The **Power** indicator lights up.

    ④ Use an Ethernet cable to connect the **LAN** port of the PoE injector to your computer. The **PoE/LAN1** indicator of CPE1 lights up. (Under real conditions, you can also connect the **LAN** port of the PoE injector to a switch or a router)
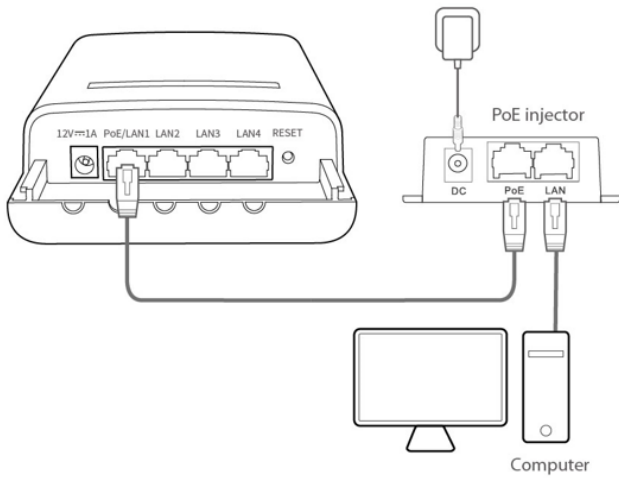
3. Set CPE1 to **AP** mode.

① Start a web browser in the computer and visit **192.168.2.1**. Enter the login user name and password and click **Login**.

-💡- Tips

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

② Select **AP**, and click **Next**.

③ Customize your **SSID** (WiFi name), such as Tenda_123456, and **Key** (such as 12345678), set **Channel** （ such as 149 (5745 MHz)） and **Security Mode** (WPA2-PSK is recommended), and select **Encryption Algorithm** (such as AES). Click **Next**. Remember the **SSID** and **Key** for later setup.

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

4. Set CPE2 to **Client** mode.

① Perform Step **2** to connect CPE2 to your computer.

② Start a web browser in the computer and visit **192.168.2.1**. Enter the login user name and password and click **Login**.

-🔆-Tips

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

③ Select **Client**, 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 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

[Next]

④ Select the WiFi network of CPE1, 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 ⬤━━ Scan again

Upstream AP Tenda_123456

Select	SSID	Channel	MAC Address	Security Mode	Signal Strength
●	Tenda_123456	149	C8:3A:35:F9:0D:D8	WPA2-PSK	▪▪▪

⑤ Enter the WiFi password of CPE1 in the **Key** column.

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:F9:0D:D8
Channel	149(5745MHz) ▼
Security Mode	WPA2-PSK ▼
Encryption Algorithm	◉ AES ○ TKIP ○ TKIP&AES
Key	••••••••

Previous   Next

⑥ Set the IP address to an unused IP address belonging to the same network segment as that of CPE1. For example, if the
IP address of CPE1 is 192.168.2.1, you can set this device's IP address 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	192.168.2.10
Subnet Mask	255.255.255.0

Previous   Next

⑦ Click **Save**, and wait until the CPE reboots to activate the settings.

When the LED1, LED2 and LED3 indicators of CPE1 light solid on, and the LED1, LED2 and LED3 indicators of CPE2 are blinking, the bridging succeeds and the DHCP servers of the two CPEs are disabled automatically.

If you want to perform peer-to-multiple peers bridging, refer to Step **4: Set CPE2 to Client Mode** to set the other CPEs.

III Install the CPE

This CPE is usually deployed in schools, communities, factories or streets for surveillance.

① Install the CPEs in an outdoor location without obstacles according to the distance and directions of the CPEs.

② Thread plastic straps through slots on the brackets, adjust the direction and the place of the CPEs and tighten the straps to attach the CPEs firmly to the holding poles.

③ Remove the covers and power on the CPEs. The **Power** indicators light up.

④ Connect the CPE with the LED1, LED2 and LED3 indicators solid on (AP mode – the transmitting end) to the switch which is connected to a NVR (Network Video Recorder).

⑤ Connect the CPE with the LED1, LED2 and LED3 indicators blinking (Client mode – the receiving end) to IP cameras or a switch which is connected to IP cameras.

With more than two CPEs bridged, the connection reaches its best when the LED1, LED2 and LED3 indicators of the CPEs all light solid on or blink.

The application scenario is shown on the right:
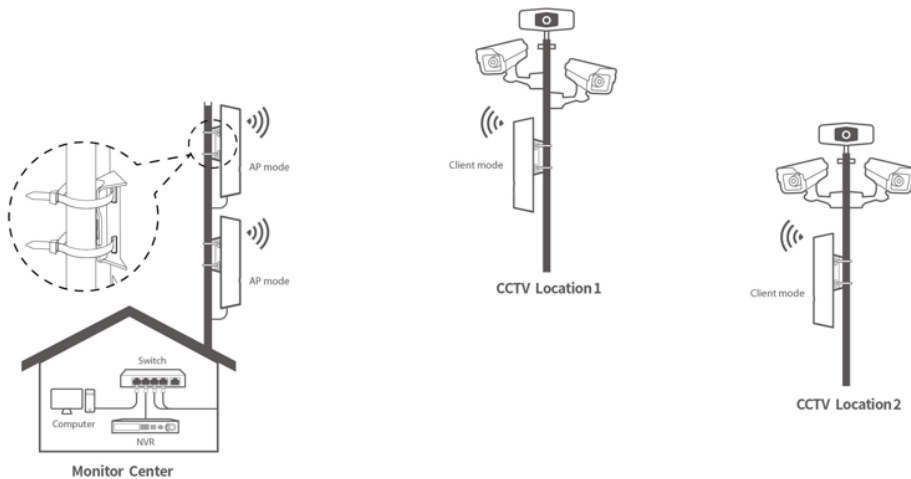
Appendix FAQ

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

A1. Try the following solutions:

- Ensure that the device is properly connected to a power source and your computer properly.

- Ensure that the IP address of the computer is set to an unused IP address, such as 192.168.2.*X* (*X* ranges from 2-254).

- Restore the CPE to factory settings.

Q2: How to restore the CPE to factory settings?

-💡- Tips

All previous settings will be cleared after the CPE is restored to factory settings, and you need to configure the CPE again.

A2: Try the following solutions:

Method 1: When the **Power** indicator lights solid on, hold the **RESET** button down for about 8 seconds. When all LED indicators light up then turn off, the CPE is restored to factory settings.

Method 2: Log in to the web UI of the CPE, choose **Tools** > **Maintenance**, and click **Reset to Factory Settings**.

Q3: How to check that the CPE is under the best connection status?

A3: Try the following solutions:

Method 1: Observe the LED indicators of the CPE. The connection reaches its best when the LED1, LED2 and LED3 indicators of the CPEs all lights solid on or blink.

Method 2: Log in to the web UI of the CPE (the default IP address is 192.168.2.1), check the bridging status in **Status** > **Wireless Status**.

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

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

A4: Try the following solutions:

- When peer-to-peer bridging fails, restore the two CPEs to factory settings and try again.

- When peer-to-multiple peers bridging fails:
    - If a failure of automatic bridging occurs to any CPE within 30 minutes after peer-to-peer bridging succeeds, please restore the CPE to factory settings and try again.
    - If any CPE fails to complete automatic bridging during 30 minutes after peer-to-peer bridging succeeds, please refer to step **2** in **Option 2** to set the CPE to **Client** mode and bridge it to the wireless network of the CPE with the LED1, LED2 and LED3 indicators solid on.

Q5: After successful bridging, the LED1, LED2 and LED3 indicators do not light up or only some of them do. What should I do?
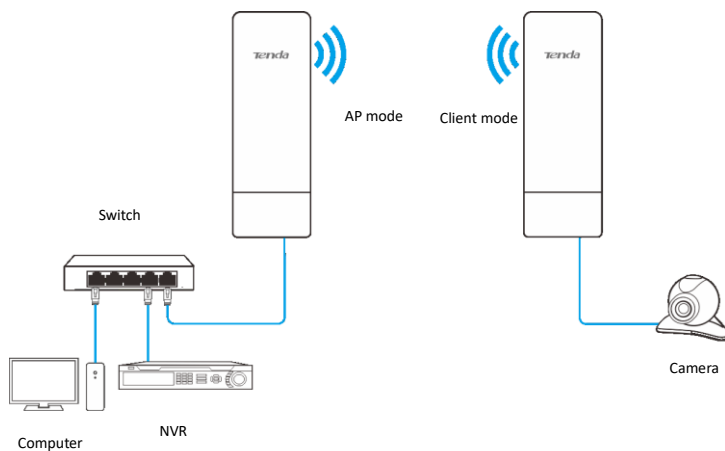
A5: Try the following solutions:

- Ensure that distance between the CPEs is within the normal distance for bridging.
- Place the CPEs in an elevated location with few obstacles nearby.
- Make slight direction adjustment of the CPEs by moving it vertically and horizontally. Change the direction with intervals 20-30s each time in order to observe the change of LED1, LED2 and LED3 indicators until the best signal is obtained.
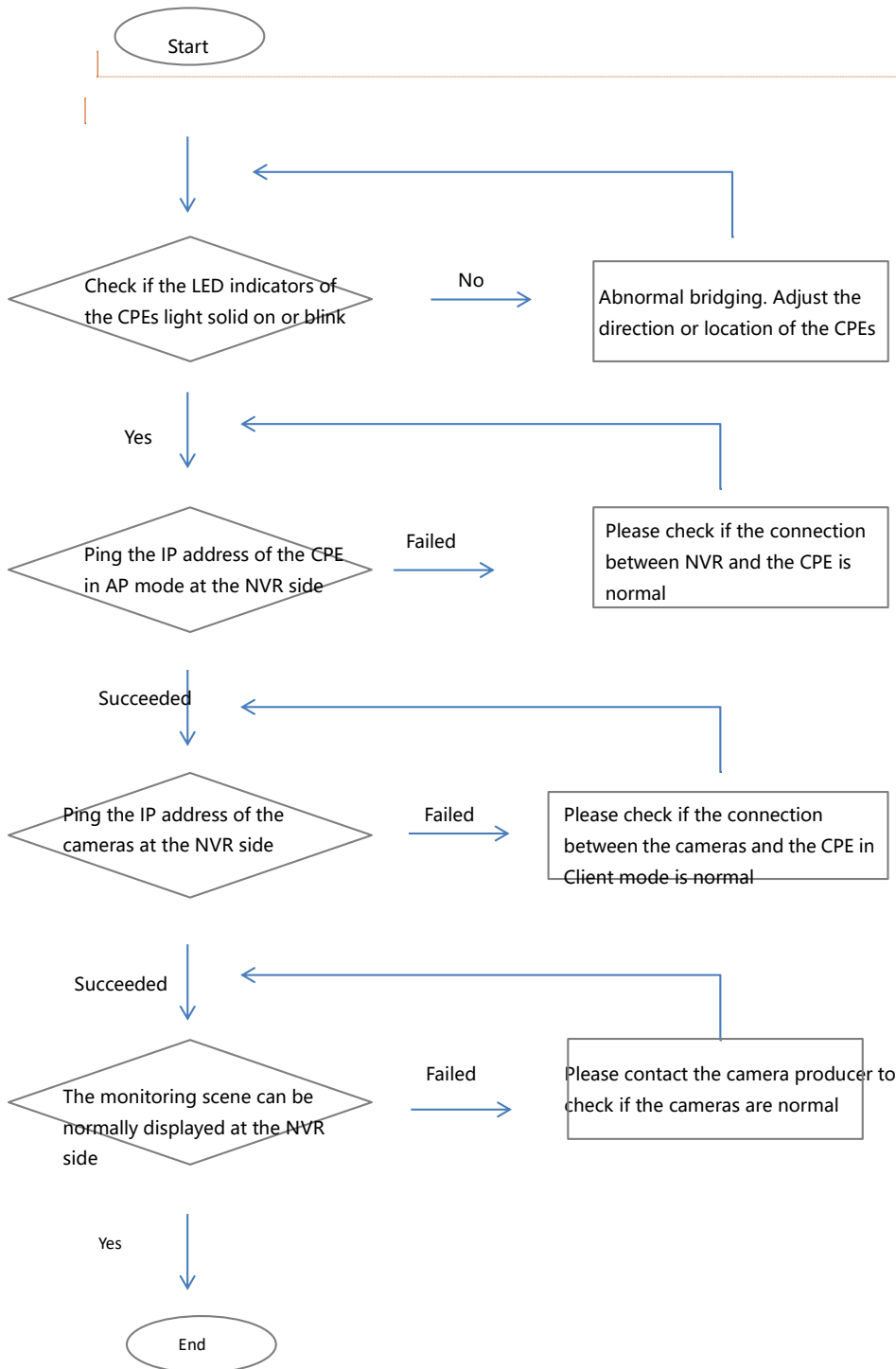
Q6: After successful bridging, there is no display of the scenes monitored by the cameras at the NVR side. What should I do?

A6: Try the following solutions:

- Ensure that all devices work properly and Ethernet cables are properly connected.
- Ensure that the computer, NVR and the cameras are at the same network segment, and the configurations of the NVR and the cameras are correct.
- If the cameras can be scanned but unable to be added at the NVR side, ensure that the **Transparent Bridge** function is enabled and the cameras are already in initialization (active) state.
- If the cameras cannot be scanned at the NVR side, refer to the following instructions to find a solution.

Start

Check if the LED indicators of the CPEs light solid on or blink

No → Abnormal bridging. Adjust the direction or location of the CPEs

Yes ↓

Ping the IP address of the CPE in AP mode at the NVR side

Failed → Please check if the connection between NVR and the CPE is normal

Succeeded ↓

Ping the IP address of the cameras at the NVR side

Failed → Please check if the connection between the cameras and the CPE in Client mode is normal

Succeeded ↓

The monitoring scene can be normally displayed at the NVR side

Failed → Please contact the camera producer to check if the cameras are normal

Yes ↓

End

Komentář [sl1]: 实际效果图以安装指南图片为准。
这里为了保留文案，所以没替换为安装指南里的图。

$C \in$

CE Mark Warning

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

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

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.

Declaration of Conformity

Declaration of Conformity

Hereby, SHENZHEN TENDA TECHNOLOGY CO., LTD. declares that the radio equipment type OS3 compliance with Directive

2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

https://www.tendacn.com/download/list-9.html

Operating Frequency Range:
EU/5150-5250MHz (CH36-CH48); EIRP Power (Max.): 22.98dBm

EU/5470-5725MHz (CH100-CH116, CH132-CH140); EIRP Power (Max.): 26.98dBm

Software Version: V1.0.0.10

⚠️ 📖 **Caution:**

Adapter Model: BN036-A12012E, BN036-A12012B

Input: 100 - 240 V AC, 50/60 Hz 0.4 A

Output: 12 V DC, 1 A

Manufacturer: SHENZHEN HEWEISHUN NETWORK TECHNOLOGY CO., LTD.

▬▬ ▬ ▬ : DC Voltage

🗑️ **RECYCLING**

This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment. User has the choice to give his product to a competent recycling organization or to the retailer when he buys new electrical or electronic equipment.

Operating Environment

- Temperature: -30°C-60°C
- Humidity: 10% - 90% RH, non-condensing

For EU/EFTA, this product can be used in the following countries:

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
📙	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK(NI)

FC

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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 the 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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