# **User Guide**

## High Power Wireless Outdoor CPE 5GHz N



Thank you for choosing our High Power Wireless Outdoor CPE. This CPE is dedicated to outdoor wireless network solutions. It will allow you to connect your networking with other wireless devices wirelessly, and sharing internet access easily and securely. This high power design will enable you to build a more stable link and coverage distance. This user guide will help you to setup the outdoor CPE in a convenient and simple way.

## **Package Contents:**

The following items should be found in your package:

- 1. One CPE
- 2. One Power Adapter
- 3. Two Mounting Kits
- 4. Quick Installation Guide

## Note!

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact your local distributor.

## AIRLINKWIFI NETWORKING CORP. GREEN TECHNOLOGY. Features:

- Complies with IEEE80211a/n ,IEEE802.3, IEEE802.3u standards.
- Wireless Data transfer rates up to 300Mbps for 2T2R.
- Supports Station, WDS Station and AP mode.
- Output transmission power adjustable.
- Supports PPPOE, Dynamic IP, And Static IP Internet Access.
- Built-in firewall supporting IP address filtering, Domain Name filtering, and MAC address filtering.
- Supports QoS, DMZ and DDNS functions.
- Supports configuration backup/restore and firmware upgrade.

## Quick Setup Guide

## **Step 1: Hardware Installation**

Interfaces and button:



Figure 1 CPE Rear panel

- Please use DC12V POE power supply through the LAN port
- Reset:

There are two ways to reset the AP to factory default settings:

- Use the Restore Factory Default function on System Management→Save/Reload settings page in the AP's web-based utility.
- Use the Reset button on the rear panel. Press and hold the Reset button for at least 15 seconds, and then the AP reboots and restore to factory defaults.

<u>Note:</u> Ensure the AP is powered on before it restarts completely, and don't power off it during this process, or else it may cause damage to the device.





<u>Note:</u> Improper connection or use other power adapter or POE adapter instead of the factory standard one may cause permanent damage to the device.

#### AIRLINKWIFI NETWORKING CORP. SMART SOLUTIONS GREEN TECHNOLOGY. Step 2: Login the Web Utility

1) Connect the CPE and the PC properly according to Figure 2) Configure PC local IP address as 192.168.0.X (X is a figure 2~254), which is within the same IP range with the CPE, the subnet mask is 255.255.255.0. See Figure 3, 4.



Figure 3 Set PC IP address

🗧 📈 AIRLINKWIFI NETWO	ORKING CORP. SMART SOLUTIONS, GREEN TECHNOLOGY.
👍 Properties 🔹 🤶 🗙	Internet Protocol (TCP/IP) Properties
Properties     P	General You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.  O Obtain an IP address automatically Use the following IP address: IP ad
OK Cancel	OK Cancel

Figure 4 Set PC IP address

3) Open your web browser and enter the IP address of the CPE (here is **<u>192.168.0.1</u>** as an example) and press enter, a login screen as below will display. Input the user name and password "admin". Click Login or press Enter, and the web management utility will display.

🖉 🚈 AIRLINKWIFI NETWO	ORKING C	ORP. SMART SOLUTIONS, GREEN TECHNOLOGY.
Login - Microsoft Internet Explorer		
File Edit View Favorites Tools Help		
🚱 Back • 🕥 - 🗶 🖉 🏠 💭 Search 🤺 Favorites 🤣 🔗 •		
Address 🕘 http://192.168.0.1/cgi-bin/login		
地址 @ Attp://192.168.0.1/cgi-bin/home	))) Wireless	User Name: Pessword: Login

Figure 5 Login

## **Step 3: Station Mode Settings**

Station mode: The LAN ports and wireless ports are bridged together. The CPE will broadcast one SSID, the user(PC) will connect the CPE through LAN port or wireless, and the user will obtain an IP address from WLAN station or AP.

<u>Note:</u> The CPE works in station mode by default. Under this mode the two RJ45 ports all act as LAN port and support POE power supply.

Below shows the reference network topology:



Figure 6 Station mode network topology

## **Configurations steps:**

### **(1)** Connect to AP or WLAN station

Login the Web management page, choose "Wireless"  $\rightarrow$  "Basic Settings"  $\rightarrow$  "Station mode"  $\rightarrow$  "Scan AP"

Radio Status	O Disabled 💿	Enabled					
Mode	AP		*				
SSID	Station AD						
Security	Utheritication	Open -		×			
Repeater AP	SSID. Repeats	ae :	Authentic	sation: Open	3		
						Appy Changes	Ass
dernet Access Selup							
Internet Access Type	Bridge	*					

Figure 7 Configure CPE working mode

Click "Scan AP", you will see a popup AP scanning tools window as below Figure 8. Choose the WLAN station or AP SSID you would like to connect.

C	earchwireless - Vin	dows Internet Explor	er				<]
e	http://192.168.0.2/cgi-bin/	/wlan_scanap					
	SSID	BSSID	Channel	Signal Strength	Encryption	Refresh	
4					/DOpen	Select AP	
8							
							l
							l
完成		p p p	P. P. P. B	🕘 Internet	1	🕼 • 🔍 95% •	

Figure 8 Wireless AP scanning tools

### Note:

If you can't find the target SSID: (You can try any of these options)

- Scan several times.
- Check whether the CPE support the present working channel of the WLAN station or AP, (e.g. AP is working at channel 14, but the CPE can only support 13 channels).
- Check whether the CPE's wireless protocol is in compliance with the AP.
- Reset the CPE to factory default and try again.

fireless Basic Settings			CREEN RECINCECOT.
Radio Status:	O Disabled ③ Enabled		
Mode:	Station	Scan AP	
SSID:	AIRLINKWIFI		
Lock AP:	00 ; 00 ; 00 ; 00	:00 :00	
Security:	Authentication Open	~	
Repeater AP	SSID: RepeaterAP	Authentication: Open	×
			Apply Changes Rese
ternet Access Setup			
Internet Access Type:	Bridge 🖌		
			Apply Changes Rese

Figure 9 Connect with AP

-Click "Apply", the system will restart automatically to finish the setting. This process will take around 1 minute.

-Internet Access Type choose "Bridge", click "Apply", the system will restart automatically to finish the setting.

-When the station is connected to a AP and then enable repeater AP to continue to enlarge the wireless signal.

Wireless Basic Settings					
Radio Status:	O Deabled @Brabled				
Node:	Station	Y Scan A			
55ID:	AIRLINKWEI				
Lock AP:	00 100 100	00 88			
Security.	Authentication Open		×		
Repeater AP	SSICh Repeater AP	Authentication.	Open	Y	
Local and a second	Provincial and a second se				Apply Changes Read
Internet Access Setup					
Internet Access Type:	Bridge 💌				
					Apply Changes Reset

<u>Note:</u> If the user choose to connect Internet through WISP or other wireless device, please refer to below settings.

AIRLINKW	IFI NETW	ORKING CORP	SMART SOLUTIONS
Internet Access Setup			
Internet Access Type:	Bridge 💌		
	Bridge WDS Bridge		Apply Changes Reset
	DHCP		
	Static IP PPPoF		
	Figure 10 I	nternet access type	

- 1. DHCP mode: When this device is connected to a DHCP server or WISP which provide DHCP service, please choose this mode. The CPE will obtain IP address from DHCP server or WISP automatically. After the wireless connection is successful, the network connection is successful.
- PPPoE If your WISP provides PPPOE service, please choose this mode. Please input the user name and password from the WISP in place shown in Figure 11 below.

				Apply changes Reset
Internet Access Setup				
Internet Access Ty	pe:	PPPoE 🗸		
User Na	ne:			
Passwo	rd:			
MTU Si	ze:	1452 (1	400	I-1492)Bytes
Set DNS Manua	ally			
DN	S1:	0.0.0		
DN	<b>S2</b> :	0.0.0		
				Apply Changes Reset

Figure 11 PPPoE configure

### **(2)** Check CPE connection status

Check whether the connection is successful. Choose "Wireless"→ "Wireless Status", see Figure 12 below.

CPE1501	LAN Status	
System Status	Made Station(Sciencing)	
Weekes	Signal Strength 0%(-Sidbn)	
Besit Gettings Advanced Settings TCP/IP	Channel-Band pails channel[1]	
	Rate (1-0.0)	
	SBD	
	BSBID OC BOCK BOCK DO	
	Encryption Open	
	MAC Address bit we vis (0:10.2)	

Figure 12 CPE connection status

When the CPE is connected with the WLAN station or AP, the repeating status will show "connect", and show the SSID, MAC and repeating signal strength.

<u>Note:</u> The suggested repeating signal strength is no less than -75dBm, if the repeating signal strength is too low, the repeating result will become poor. The CPE repeating result will become relatively poor for non-line-of-sight situation. Please try to adjust the direction of the CPE to get the best signal strength and throughput performance.

## (3) LAN port settings Choose "TCP/IP"→ "LAN Setting", see Figure 13 as below.

·	and internet design	
System Status	P Address 112211981	
New Kin	Subnet Mark 255 255 25	A E
LAN Dates	Default Gateway 0 11 30	
Littletins		ApplyCharges [7]
AAADiates.	DHCP Berver ODisabled	OErabled
	DHCP Client Bange: 112 19800	2 - 152 164 1 253
	Lease Time(sec): 28400-	
	Sector and	Apply Charges R
	Dem Structure to	ENACLIS

Figure 13 LAN port setting

\* IP Address: It is the device management IP address. At bridge mode, the CPE LAN port address has no relate with the user(PC) IP address range. Pls modify it according to actual situation.

\* DHCP server choose "Disabled".

### (4) Wireless Advanced Settings Choose "Wireless" → "Advanced Settings", see Figure 14 below:

1 State	Country Region:	China	jetsi	۲	Channe (148-182)
	Bard	Asta		v	
tic Selfres	Fragment Threshold	1346	(256-2346)		
nancet Settrups	RTS Threshold	2346	(1-2347)		
TCPIP Kanagement	Ack Timeout Control	51	(1-255) as		
	Appregation	ODe	abled		Esabled
	Short G	Obs	abled		() Enabled
	RF Output Power:	(O tá	N OSIN O	25%	0125%

Figure 14 Wirelss advanced settings

- \* Country Region: choose your country region
- \* Mode/Band: choose according to your actual requirement

\* RF Output Power: you can choose from 100%, 50%, 25%, 12.5%, 6%

-For the other advanced settings it is recommended to keep it as default for common users.

-Please click "Apply Changes" after you finish the settings.

<u>Note:</u> The settings here is only effective to the CPE broadcasting wireless signal, and it needs to be in compliance with the corresponding WLAN station or AP.

### **(5)** User PC configuration

User PC TCP/IP set as obtain an IP automatically, the PC will obtain an assigned IP from the AP or WALN station.

👃 Properties 🔹 🤶 🔀	Internet Protocol (TCP/IP) Properties	<u>?</u> 🛛
General Advanced	General	
Connect using:      Qualcomm Atheros AR8151 PCI-E Gig Configure	You can get IP settings assigned automatically if your network support this capability. Otherwise, you need to ask your network administrator to the appropriate IP settings.	s
This connection uses the following items:	Obtain an IP address automatically	
Client for Microsoft Networks	<ul> <li>Use the following IP address:</li> </ul>	_
File and Printer Sharing for Microsoft Networks	IP address: 192 . 168 . 0 . 10	
Gos Packet Scheduler      Scheduler      Cost Cost (CCP/IP)	Subnet mask: 255 . 255 . 255 . 0	
	Default gateway:	
Description	Obtain DNS server address automatically	
Transmission Control Protocol/Internet Protocol. The default	<ul> <li>Use the following DNS server addresses:</li> </ul>	
wide area network protocol that provides communication across diverse interconnected networks.	Preferred DNS server:	
Show icon in notification area when connected	Alternate DNS server:	
Notity me when this connection has limited or no connectivity	Advanced	i
OK Cancel	ОК Са	ncel

Figure 15 Set PC IP address

After finish the above settings, you can check whether the network connection is success by using ping command.

### **(6)** AP+WDS mode

Choose "Wireless"  $\rightarrow$  "Wireless Basic Settings", choose mode "AP+WDS", see Figure 16 as below.

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an en al son an		
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	And a second for the second seco	
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	Internet Access Type Drift S     Mill Ease Vite Vite Vite Vite Vite Vite Vite Vit	
	Manual Access Type DFTT R     MTU Reserve Access Type DFTT R     MTU Reserve Access Type DFTT     Dest DFDT Reserve Access Type DFTT     Dest DFDT Reserve Access Type DFTTT	

Figure 16 Set AP+WDS mode

<u>Note:</u> AP+WDS is for some users who need the CPE to connect with a wired switch, and convert it to wireless AP coverage

### **(7)** WDS station mode

Choose "Wireless"  $\rightarrow$  "Wireless Basic Settings", choose mode "WDS station", see Figure 17 as below.

Anders Made     Conserver     Conserver     Conserver     Conserver     Conserver     Conserver     Conserver     Conserver	Busine Bank or Company Streamer	
	THERE WERE CONTRACTOR AND A CONTRACT	_
	Health (1000) and (1000)	
	BBD STITUTE	
	Direct AP 97-11CH IN IN IN	
	Showed by Bull secondary Cold	
	Acts Charges	1 Acor
	COMPANY DESCRIPTION OF THE OWNER	(Substant)
	Internet Access Type D17	
	MTU Base 1417 (1400-1480) Rules	
	Sec 1960 Minutely	
	DNS1	
	The second	

Figure 17 WDS station mode

<u>Note:</u> WDS station is for some users who need the CPE to connect with an AP with WDS enabled.

## 2 System Management

Choose "Management/System" to enter into the system management page as Figure 18 below.

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Ventes	Time Zoes Select	WHENDERD Choraste Her	ating Uning 🛛 💌	
- Internet	1	Enable HTP client lodest		
Time Inve Setting		Automotically Adventibulight Bran	ni -	
Cogasa Remana	ATP Server	192.0.21.21-192% Avenua	+	
Asse Rescal Betrags		DILL.	Diana IP Seting	

Figure 18 System management

- Time Zone Setting: You can set the time zone and time shown in the system
- Log: You can set the system log settings or view the system log here.
- Upgrade Firmware: You can upgrade the firmware here
- Save/Reload Settings: Here you can save settings, upload settings, reset settings to default and system reboot.
- User/Password: Here you can set the system login user name and password.

## **3** Troubles Shooting

Item	Ways to solve the problem
SYS LED doesn't lighting up	Please check whether the POE power adapter ports are correctly connected. The "POE" port should connect to the CPE, and "LAN" port connect to the PC.
Can't connect To the configuration web utility	Please check whether the PC IP address is within the same IP range as the CPE. You can check whether the devices are connected properly by using ping command at the PC startup→run→cmd window. Reset the CPE to factory default and try again. Pls make sure there is no other device is using the IP address 192.168.0.1 in the same network. Make sure the PC and all the network cables are connected properly. Use arp-d command to clear the arp binding at the at the PC startup→run→cmd window. Clear up the historical and temporary files in the IE browser.
CPE can't connect to the corresponding AP (the status shows disconnected)	Please try "Scan AP" again. Check the wireless mode of the CPE is properly set. Check CPE encryption method and password is in compliance with the AP. The AP wireless signal is too low, the recommended signal strength is no less -75dBm.
CPE shows connected with the corresponding AP, but the PC can't connect to internet	Please check the PC IP address and DNS settings. They should be in compliance with the actual connection and working mode.
Reset to factory default	Press and hold the Reset button for at least 15 seconds, and then the AP reboots and restore to factory defaults