

Edge-core

Handbook

ECW100
In-Wall Access Point

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FCC CAUTION

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.

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 device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device is restricted to **indoor** use when operated in the 5.15 to 5.25 GHz frequency range.

- ※ FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.

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 **20cm** between the radiator & your body.

CE CAUTION

Hereby, Edgecore Networks Corporation declares that the radio equipment type ECW100 is in compliance with Directive 2014/53/EU.

Frequency Range and Transmit Power

Frequency range (MHz)	Max. transmit power (dBm)
2412-2472	19.26 dBm
5150-5250	18.22 dBm

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

This device is restricted to indoor use.

Input Power

Power from PoE: IEEE802.3af

Operation Temperature

0°C (32°F) to 40°C (104°F)

Model - ECW100

The device has been tested and passed the requirements of the following standards, and hence fulfills the EMC and safety requirements of RED within the CE marking requirement.

- Radio: EN 300 328 V2.1.1, EN 301 893 V2.1.1
- EMC: Draft EN 301 489-1 V2.2.0, Draft EN 301 489-17 V3.2.0
- EMC: EN 55032:2015 + AC:2016 Class B, EN 55024 : + A1 + A2 including the followings:
 EN 61000-3-2, EN 61000-3-3,
 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,
 EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

Safety: EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

Caution

- This declaration is only valid for configurations (combinations of software, firmware, and hardware) provided and supported by Edgecore Networks Corporation. The use of software or firmware not provided and supported by Edgecore Networks Corporation may result in the equipment no longer being compliant with the regulatory requirements.
- Requirements in AT/BE/BG/CZ/DK/EE/FR/DE/IS/IE/IT/EL/ES/CY/LV/LI/LT/LU/HU/MT/NL/NO/PL/PT/RO/SI/SK/TR/FI/SE /CH/UK/HR. 5150MHz ~ 5350MHz is for indoor use only.
- In order to ensure compliance with the exposure recommendations to electromagnetic fields, the device should be used at a minimum distance of 20cm from the body.

Taiwan NCC Statement

根據 NCC 低功率電波輻射性電機管理辦法 規定:

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

減少電磁波影響，請妥適使用

[警語] 「電磁波曝露量 MPE 標準值 $1\text{mW}/\text{cm}^2$ ，送測產品實測值為 $0.124\text{ mW}/\text{cm}^2$ 」

Preface

The Edgecore **ECW100 Enterprise In-Wall Access Point** is a dual radio Wi-Fi IEEE 802.11b/g/n + a/n/ac 2 X 2 MIMO access point. With a simplistic yet sleek design, it can easily blend into any working or living environment.

The compact ECW100 lays snug in a standard wall outlet box. Its front panel features power and LAN LED status indicators, one RJ45 LAN port, and one RJ11 pass-through port. With both Wi-Fi and Ethernet interfaces, it can provide wireless access and wired LAN access simultaneously. The RJ11 ports can be used for phone connection without the need for additional outlets.

When ECW100 coupled with the Edgecore Controller, the ECW100 supports tunnel-based AP management and meets all the standards demanded in enterprise applications, including business-grade security (802.1X, WPA and WPA2). Multiple ESSIDs with VLAN tags can also be configured for traffic control. In addition, it features centralized WLAN management, which allows the enterprises and organizations to support a wide array of value-added applications, such as load balancing, bandwidth control, and access control.

ECW100's high performance, security and optimal invisibility make it a perfect choice of wireless connectivity for your business.

Package Contents

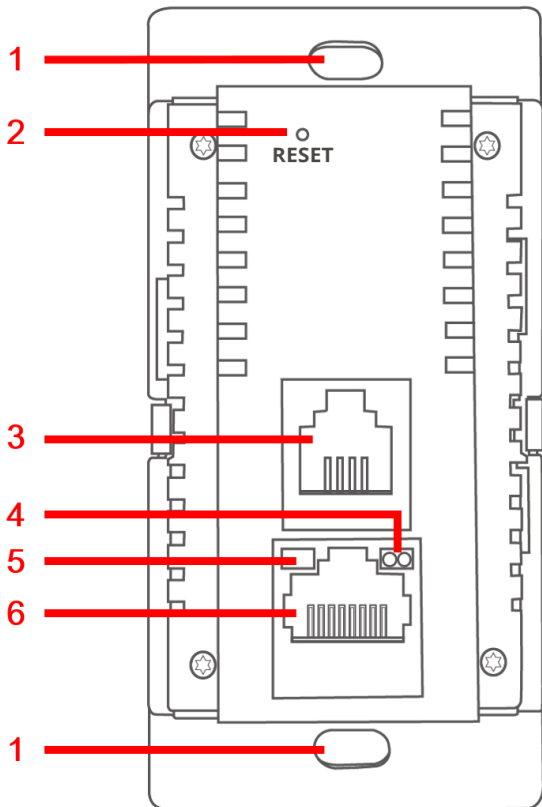
1. Edgecore ECW100 (US / EU Type) x 1
2. Cover Plate (US / EU Type) x 1
3. Screws x 2
4. Quick Installation Guide (QIG) x 1



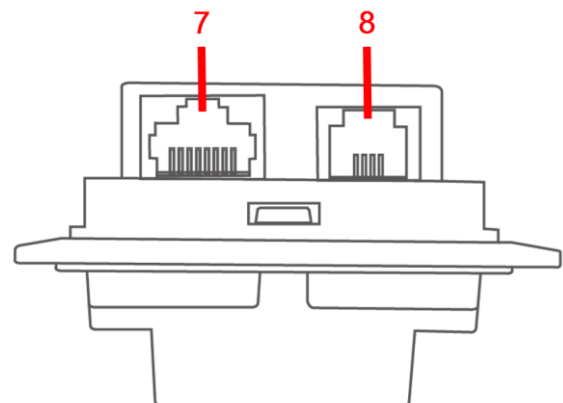
It is recommended to keep the original packing material for possible future shipment when repair or maintenance is required. Any returned product should be packed in its original packaging to prevent damage during delivery.

System Overview

US Type



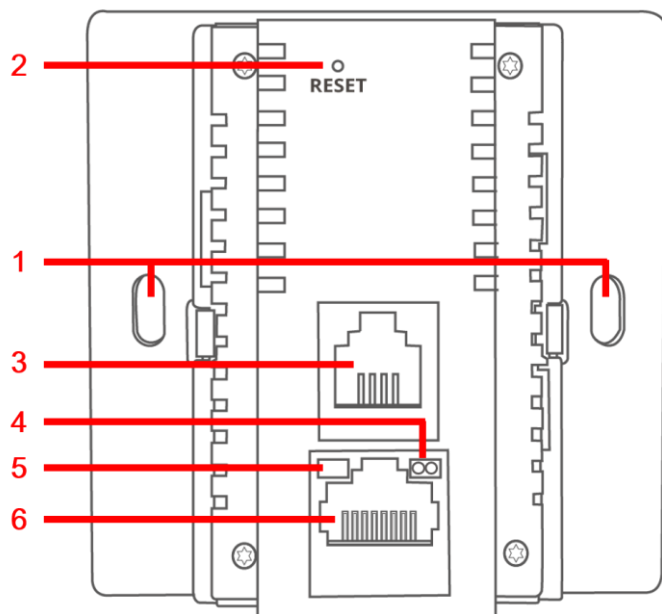
ECW100 Front



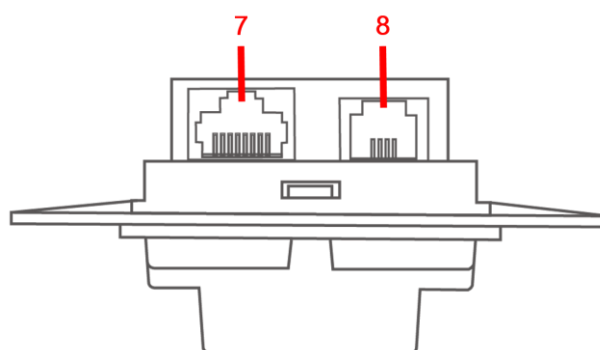
ECW100 Bottom

1	Holes	Screw Holes.
2	Restart / Reset	Press once to restart the system; hold for more than 5 seconds to reset the system to factory default settings.
3	Phone port (Front)	RJ-11 pass-through port (front).
4	LAN LED	LAN status. The LAN LED will light up when there is traffic.
5	Power LED	Power status. The Power LED will start blinking when the restart/reset button is pressed. For the first 5 seconds, the LED will blink slowly (restart), and after 5 seconds, the LED will start blinking quickly (reset).
6	LAN port	For wired local network connection (RJ-45). An Ethernet cable can be plugged into the LAN port.
7	Uplink port	For uplink connection (RJ-45). This port can be used for connecting to a PoE controller, gateway, or the Internet directly.
8	Phone port (Back)	RJ-11 pass-through port (back).

EU Type



ECW100 Front



ECW100 Bottom

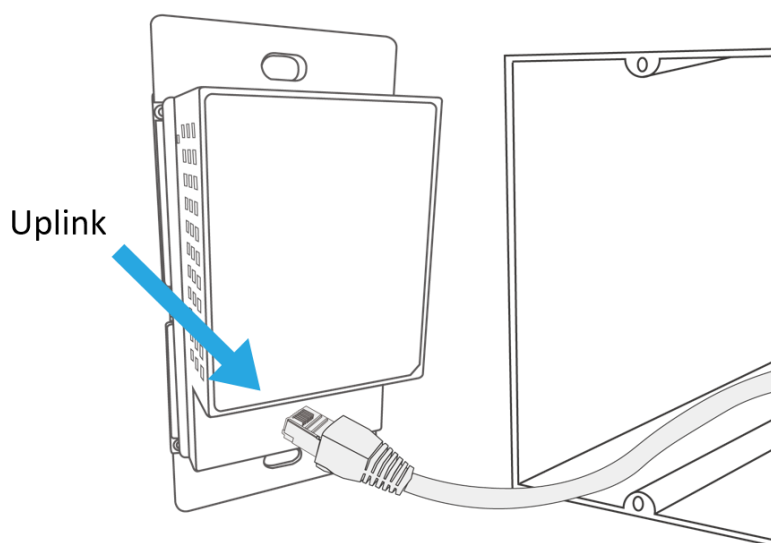
1	Holes	Screw Holes.
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Hardware Installation

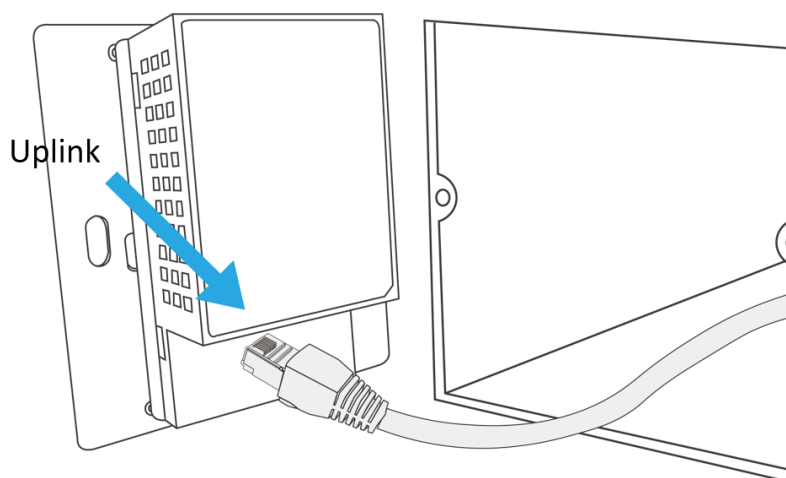
Please follow the steps below to install the **ECW100**:

Step 1. Place the ECW100 at the desired location for optimized coverage.

Step 2. Connect one end of an Ethernet cable to the ECW100 uplink port, and the other end to an IEEE 802.3af-compliant PSE device, such as a PoE switch, router, or hub.

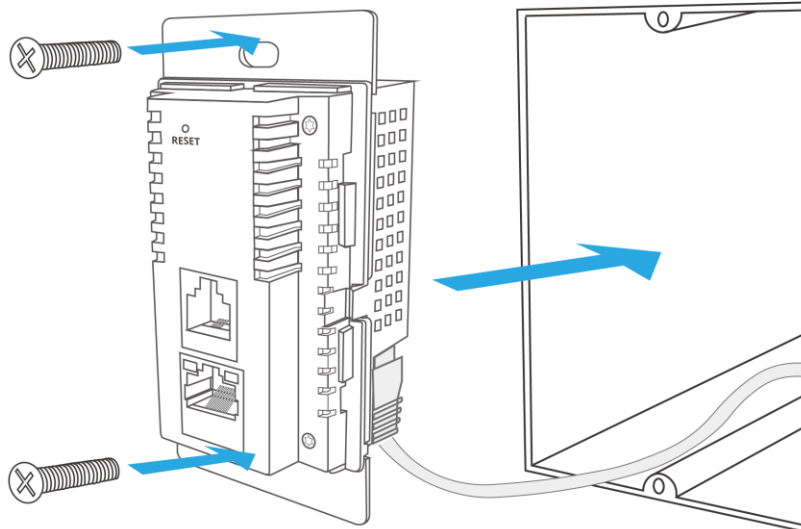


US Type

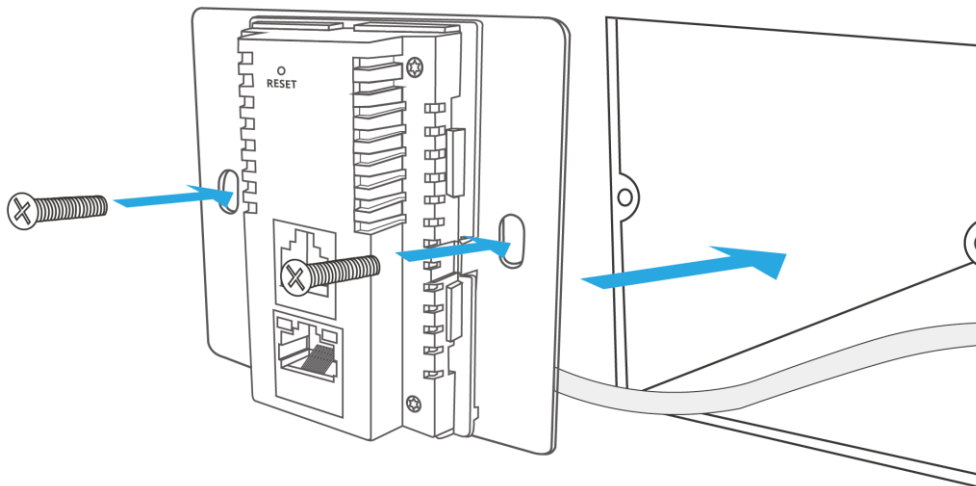


EU Type

Step 3. Screw the ECW100 into the wall.

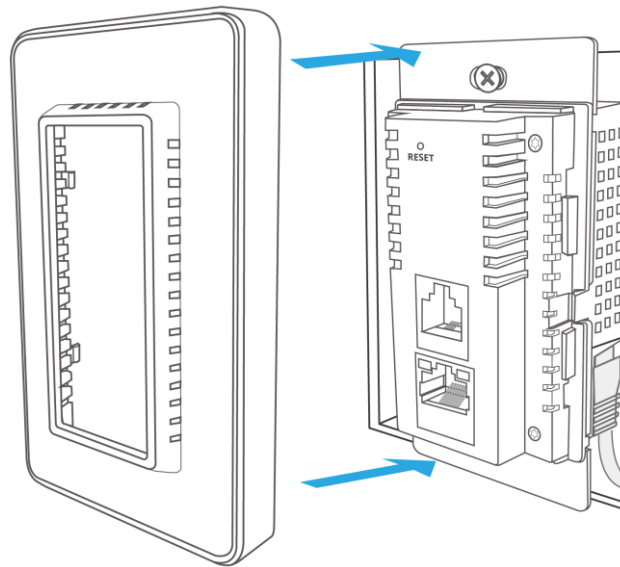


US Type

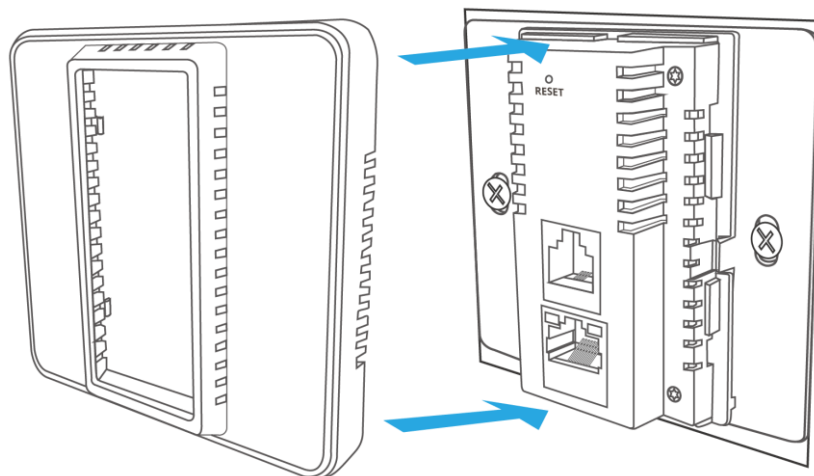


EU Type

Step 4. Cover with the cover plate.



US Type



EU Type

Now, the hardware installation is complete.



To verify the wired connection between the AP and PoE switch, router, or hub, please also check the LED status indicator of the respective network devices.

Getting Started

Edgecore ECW100 supports web-based configuration. When hardware installation is complete, ECW100 can be configured through a PC by using a web browser such as Mozilla Firefox 2.0 or Internet Explorer version 6.0 and above.

The default values of LAN IP address and subnet mask of ECW100 are:

IP Address: 192.168.1.10

Subnet Mask: 255.255.255.0

Steps:

1. To access the Web Management Interface, connect the administrator PC to the LAN port of ECW100 via an Ethernet cable. Then, set a static IP address on the same subnet mask as ECW100 in TCP/IP of your PC, such as the following example:

IP Address: 192.168.1.100

Subnet Mask: 255.255.255.0

2. Launch the web browser on your PC by entering the IP address of ECW100 (**http://192.168.1.10**) at the address field, and then press **Enter**.



Example of entering ECW100's default IP Address via a web browser

3. The following Admin Login Page will appear. Enter “**admin**” for both the *Username* and *Password* fields, and then click **Login**.



Administrator Login Page

- After a successful login to ECW100, a **System Overview** page of the Web Management Interface will appear, as depicted below. The Radio Status and AP Status will be shown.

Home > Status > System Overview

System Overview

System

System Name	ECW100
Firmware Version	3.43.00
Build Number	1.2-1.9284.2.2
Location	
Site	EN-A
Device Time	2018/06/07 16:39:39
System Up Time	0 days, 0:03:35
CPU/RAM Usage	5.88% / 20.94% <input type="button" value="Plot"/>

Radio Status

RF Card	MAC Address	Band	Channel	TX Power
RF Card A	80:1F:02:75:F1:F3	802.11g+n	6	19 dBm
RF Card B	80:1F:02:75:F1:F4	802.11ac	36	15 dBm

LAN Interface

MAC Address	80:1F:02:75:F1:F2
IP Address	10.71.4.44
Subnet Mask	255.255.0.0
Gateway	10.71.1.254

AP Status

RF Card Name :

Profile Name	BSSID	ESSID	Security Type	Online Clients	TUN
VAP-1	80:1F:02:75:F1:F3	Guest Network	Open	0	<input type="button" value="x"/>

CAPWAP

Status

IPv6

Status

The Web Management Interface - System Overview Page

- To logout, simply click on the **Logout** button at the upper-right corner of the interface to return to the Administrator Login Page. Click **OK** to logout.

Common Settings

Step 1. Change Administrator's Password

The screenshot displays the 'Change Password' page within the Edge-core web interface. At the top, there is a main menu with icons for System, Wireless, Firewall, Utilities (selected), and Status. Below this is a sub-menu with tabs for Change Password, Backup & Restore, System Upgrade, Reboot, and Upload Certificate. The breadcrumb trail reads 'Home > Utilities > Change Password'. The main content area is titled 'Change Password' and contains two sections for user accounts. The first section is for the 'admin' user, with a 'Name' field containing 'admin'. Below it are 'New Password' and 'Re-enter New Password' fields, with a red asterisk and the text '*up to 32 characters' next to the 'New Password' field. The second section is for the 'user' user, with a 'Name' field containing 'user' and similar 'New Password' and 'Re-enter New Password' fields, also with a red asterisk and '*up to 32 characters' note. At the bottom of the form are two yellow buttons labeled 'SAVE' and 'CLEAR'.

Change Password Page

- Click on the **Utilities** icon on the main menu, and select the **Change Password** tab.
- Enter a new password with a length of up to 32 characters, and retype it in the **Re-enter New Password** field.
- Click **SAVE** to save the changes.

Step 2. Configure General AP (Access Point) Settings

The screenshot displays the 'General Settings' page for the wireless configuration. At the top, there are navigation tabs: System, Wireless (selected), Firewall, Utilities, and Status. Below these are sub-tabs: VAP Overview, General (selected), VAP Config, Security, Repeater, Advanced, and Access Control. The breadcrumb path is 'Home > Wireless > General Settings'. The main title is 'General Settings'. A dropdown menu for 'RF Card Name' is set to 'RF Card A'. The configuration options are as follows:

- Band:** 2.4GHz
- Protocol:** 802.11g+802.11n (with a checkbox for 'Pure 11n' which is unchecked)
- Short Preamble:** Enable (radio button selected)
- Short Guard Interval:** Enable (radio button selected)
- Channel Width:** 40 MHz
- Channel Width Extension:** Above
- Channel:** 6
- Max Transmit Rate:** Auto
- Transmit Power:** Auto
- Beacon Interval:** 100 millisecond(s) *(100 - 500)
- Idle Timeout:** 300 second(s) *(60 - 999)
- WME Configuration:** Configure
- Transmission Rate Threshold:** 0 kbps *(0:Disable)

Wireless General Settings Page

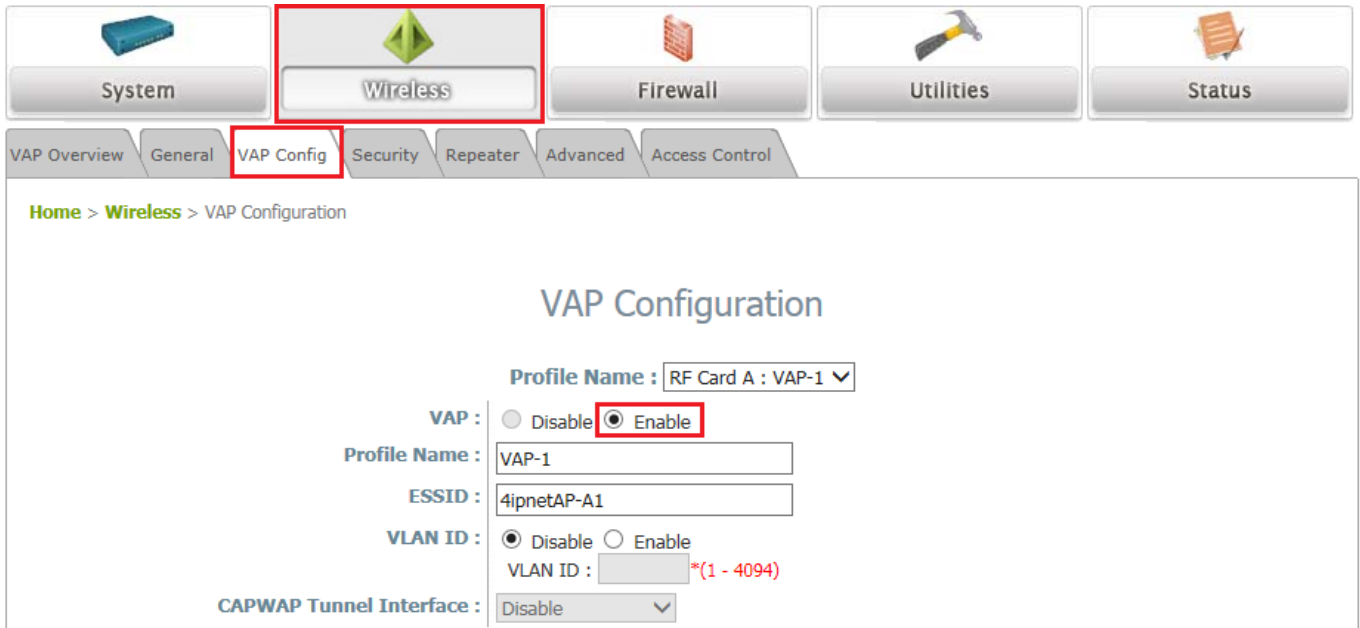
- Click on the **Wireless** icon on the main menu, and then select the **General** tab.
- Select the RF card you would like to set up.
- Determine the **Band** and **Channel** settings:

Select your preferred **Band**, **Protocol** and **Channel** for you wireless connection. For example, select **2.4GHz** for the band, **802.11g+802.11n** for the protocol and **6** for the channel.

Admin should be aware of Dynamic Frequency Selection (DFS) mandated on some channels of the 5GHz band. When an ECW100 detects interference, this mechanism will limit the ability to broadcast the SSID on one of the channels listed below:


- **Note:**
- 1) Country Code: 841 (US)**
DFS Channels: 52 56 60 64 100 104 108 112 116 132 136 140 149 153 157 161 165
 - 2) Country Code: 250 (EU)**
DFS Channels: 52 56 60 64 100 104 108 112 116 120 124 128 132 136 140
-


Step 3. Configure VAP (Virtual Access Point) Profile Settings





VAP Configuration Page (VAP-1 shown)


- The ECW100 supports up to 8 virtual APs (VAPs) per radio.
Configure VAP profile settings :
 - (a) Select the **VAP Config** tab to configure the settings of the desired VAP.
 - (b) Enable a selected VAP from the drop-down menu of **Profile Name** and configure related settings below.
- Check VAP status :
After finishing VAP configuration, the status of the enabled Virtual APs shall be reflected on the VAP Overview page.


System


Wireless


Firewall


Utilities


Status

VAP Overview | General | VAP Config | Security | Repeater | Advanced | Access Control

[Home](#) > [Wireless](#) > VAP Overview

VAP Overview

RF Card A

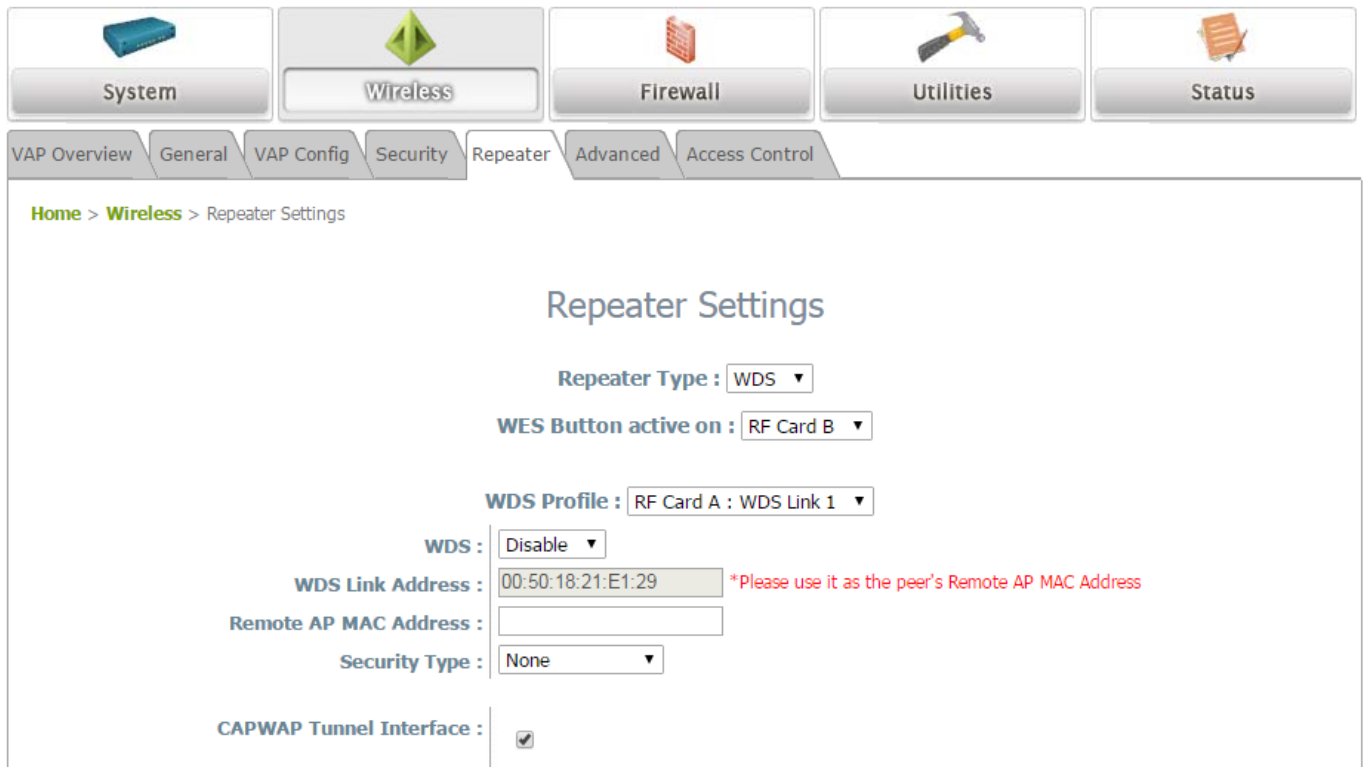
VAP No.	ESSID	State	Security Type	MAC ACL	Advanced Settings
1	Guest Network	Enabled	Open	Disabled	Edit
2	Virtual Access Point 1	Disabled	Open	Disabled	Edit
3	Virtual Access Point 2	Disabled	Open	Disabled	Edit
4	Virtual Access Point 3	Disabled	Open	Disabled	Edit
5	Virtual Access Point 4	Disabled	Open	Disabled	Edit
6	Virtual Access Point 5	Disabled	Open	Disabled	Edit
7	Virtual Access Point 6	Disabled	Open	Disabled	Edit
8	Virtual Access Point 7	Disabled	Open	Disabled	Edit

RF Card B

VAP No.	ESSID	State	Security Type	MAC ACL	Advanced Settings
1	Guest Network	Enabled	Open	Disabled	Edit
2	Virtual Access Point 1	Disabled	Open	Disabled	Edit
3	Virtual Access Point 2	Disabled	Open	Disabled	Edit
4	Virtual Access Point 3	Disabled	Open	Disabled	Edit
5	Virtual Access Point 4	Disabled	Open	Disabled	Edit
6	Virtual Access Point 5	Disabled	Open	Disabled	Edit
7	Virtual Access Point 6	Disabled	Open	Disabled	Edit
8	Virtual Access Point 7	Disabled	Open	Disabled	Edit

Virtual AP Overview Page

Step 4. Configure WDS (Wireless Distribution System) Settings (Optional)



To extend the wireless coverage, ECW100 supports up to 4 WDS links for connecting wirelessly to other WDS-capable APs, or peer APs. By default, all WDS profiles are disabled.

- Click on the **Wireless** button on the main menu.
- Select the **Repeater** tab.
- Choose **WDS** as the **Repeater Type**.
- Choose the desired RF for **WES** (optional).
- Choose the desired WDS profile:
 - (a) Enable **WDS**.
 - (b) Enter the **Remote AP MAC Address** (peer AP) and then Click **SAVE**.

If you are using another ECW100 as the peer AP, simply repeat the above-mentioned steps to configure another peer AP(s).

► **Note:** On each and every configuration page, you may click **SAVE** to save the changes of your configured settings, but you must reboot the system for the changes to take effect. After clicking **SAVE**, the following message will appear: **“Some modifications have been saved and will take effect after REBOOT.”**

Congratulations!

Now, Edgecore ECW100 is installed and configured successfully.



After ECW100's network configuration is completed, please remember to change the IP Address of your PC Connection Properties back to its original settings in order to ensure that your PC functions properly in its real network environments.

- ***It is strongly recommended to back up your configuration settings.***

P/N: V34320180607

4.7.9.1 應避免影響附近雷達系統之操作。

4.7.9.2 高增益指向性天線只得應用於固定式點對點系統。