

Business Solutions

User Manual

EWS850AP version 1.0

WiFi 6 AX1800 2x2 Dual Band Outdoor Wireless Access Point

IMPORTANT

To install this Access Point please refer to the **Quick Installation Guide** included in the product packaging.

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Chapter 1 Product Overview



Overview

Key Features

• Dual concurrent 802.11ax architecture and backward compatible with ac wave2/ac/a/b/g/n client devices.

• Advanced 1024-QAM allows Access Points to carry more packets one time could work for delivering high speed rate than the legacy 11AC Access Points

• Bi-Directional (DL/UL) OFDMA utilizes air resource for Access Points and client devices efficiency.

- Bi-Directional (DL/UL) MU-MIMO will reduce usage of airtime for each transmission between Access Point and client devices.
- 360° Dipole-directional antennas to achieve comprehensive coverage for networking client devices under a pervasive environment.

• Power source is complianced with 802.3at PoE Input for flexible installation and implementing remotely reset/reboot over 100 meters (328 feet).

• Robust housing with IP67 enclosure rated to deploy at extremely weather .

• Systemic and distributed management over EnGenius ezMaster, Skykey controller, and EWS Management switch without licensing or subscription fee.

Introduction

EnGenius Wireless Long Access Point solution EWS850AP is designed for deploying on the versatile indoor and outdoor application. To meet today's requirement on varied networking environment, EnGenius would like to provide the solution as flexible, robust and effective as the organization they desire. The state-of-the-art OFDMA

Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range may vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment, and mix of devices in the network. Features and specifications subject to change without notice. Trademarks and registered trademarks are the property of their respective owners. For United States of America: Copyright © 2020 EnGenius Technologies, Inc. All rights reserved.



EWS850AP

and MU-MIMO technology brings revolutionary connecting speed and bandwidth for diversity of multimedia applications. EWS850AP 11ax solution engineers with powerful RF interfaces that support maximum 2x2 spatial streams with 1201 Mbps in 5GHz frequency band and 574 Mbps in 2.4GHz frequency band. With robust IP67 certified casing, these access points is designed to withstand harsh environment conditions including serve and prolonged exposure to sunlight, extreme cold, frost, snow, rainfall, hail and humidity.

DL/UL MU-MIMO with OFDMA via Beamforming

Be a prior AX solution, EnGenius EWS850AP is not only built in powerful RF interfaces, but it also features advanced Multi-Users Multiple input Multiple output (MU-MIMO) on both download side and upload side, which enhances a dramatic breakthrough in the performance and flexible transmission between Access Points and wireless client devices.

MU-MIMO allows multiple spatial streams to be allocated to different clients simultaneously, increasing totally throughput, reduce latency, capacity of the WLAN system and increase spectral efficiency on download side. Compared to download side, MU-MIMO upload side will manage varied client devices to contest air resource within a channel under a pervasive environment. The MU-MIMO upload side coordinates with OFDMA upload side to arrange different types of traffic for using a proper bandwidth within a channel. The intelligent technology will carry multimedia content and web browsing data easily without consuming more time on round-trip between AP and client devices. The smoothly transmission will reduce collision times and enhance capacity of air resource, as well as optimize users experience.

Beamforming is a standard in 11ax which allows Access Points to focus energy of multiple antennas to transmit to a particular client device in that direction of that client. The innovative technology significantly enhances the higher signal-tonoise ratio and greater throughput of that client higher signal-to-noise ratio and greater throughput of that client.EnGenius

Enhance Capacity and Efficiency

Compared to 11ac solution, 11ax solution could carry 4x symbol OFDM symbol which can be significantly enhanced efficiency and transmitting PHY rate, as well as extend coverage on both indoor and outdoor application easily. To carry more data at the same time, modulation has been expanded from 11ac 256-QAM to 1024-QAM which can

be enhanced 25% capacity of bit and reduce error margin during delivering data. The other breakthrough innovation of 11ax is to introduced BSS coloring technology for marking different colors on each data which will allows client devices to stop

receiving a frame and return to sleep mode as soon as they recognize these frames are not of interest to them. The benefit of BSS coloring also reduces channel interference and channel collision of an access point, as well as improve to transmit signal easily.

System Requirements

The following are the Minimum System Requirements in order to configure the device.

- Computer with an Ethernet interface or wireless network capability
- Windows OS (XP, Vista, 7, 8, 10), Mac OS, or Linux-based operating systems
- Web-Browsing Application (i.e.: Internet Explorer, Firefox, Safari, or another similar browser application)

Package Contents

The package of EWS850AP contains the following items:*

- EWS850AP
- Detachable Antennas 2.4GHz*2/5GHz*2
- PoE Adapter (EPA5006GR)
- Power Cord
- Pole Mount Strap*2
- Mountng Screw Set*2
- Mountng Bracket
- Ground Wire and Screw Set
- Quick Installation Guide

*(all items must be in package to issue a refund):

Technical Specifications

Standard

IEEE802.11 architecture and backward compatible with ac wave2/ ac/a/b/g/n client devices.

Antenna

External 2.4GHz*5dBi*2 and 5GHz*5dBi*2 detachable antenna

Physical Interface

1 x 2.5 Gigabit ethernet port supports 802.3at PoE Input

LED Indicator

Power LAN 2.4GHz 5GHz

Power Requirements EWS850AP Include 802.3at PoE Adapter

Operation Modes

Access Point Mesh WDS AP WDS Bridge WDS Station

Advance RF Management

OFDMA-UL/DL BSS Coloring Distance Control (Ack Timeout) Multicast Supported Data Rate Selection Auto Channel Selection Auto Tx Power Selection Site Survey Fast Roaming (802.11k/v) Band Steering RSSI Threshold MU-MIMO-UL/DL Tx Beamforming-UL/DL

Easily Management

VLAN Tag / VLAN Pass-through Guest Network QoS: Complaint with IEEE 802.11e /WMM RADIUS Accounting Wireless STA (Client) connection list Traffic Shaping (Per SSID/User) Multi SSID Management VLAN VLAN per SSID E-mail Alerts WiFi Scheduler

Intuitive Tools

SNMP v1/v2c/v3 support MIB I/II, Private MIB Save Configuration as Default CLI Support WiFi-Scheduler/Auto Reboot E-mail Alert

Reinforcement Security

WPA3/WPA2 Personal/Enterprise 802.1x Authentication Hide SSID in beacons MAC address filtering, up to 32 MACs per SSID Wireless STA (Client) connection list Https Support SSH Support

Optimal Performance

QoS-Complaint with IEEE 802.11e standard Power Save Mode (UPASD) Pre-Authentication PMK Caching Fast Roaming (802.11r) Multicast to Unicast 1024-QAM both on 2.4GHz/5GHz

Physical/Environment Conditions

Operating:

Temperature: -20 °C to 60 °C (-4 °F to 140 °F) Humidity (non-condensing): 90% or less

Storage:

Temperature: -30 °C to 80 °C (-22 °F to 176 °F) Humidity (non-condensing): 90% or less

Physical Interface - EWS850AP

Mechanical & Environment

Length: 190 mm (7.48") Width: 124 mm (4.88") Depth: 47 mm (1.85") Weight: 720g *Above information is device Only Proection Level: IP67 Surge Protection: 1KV ESD Protection: Contact 4KV / Air 8KV

- 1 **2.4GHz Antennas** Detachable 5.17dBi 5GHz Dipole-directional Antennas
- 2 **5GHz Antennas** Detachable 5.17dBi 2.4GHz Dipole-directional Antennas
- 3 LAN Port (802.3af/at PoE): Ethernet port for RJ-45 cable.
- 4 **LED Indicators:** LED lights for Power, LAN Port, 2.4 GHz Connection and 5 GHz Connection. The color of LED light and active behavior is as below.
- 5 **Mounting Holes:** Using the provided hardware, the AP can be attached to a wall or pole.

*The installation angle of antenna must be vertical to the ground.

*This equipment i not suitable for use in locations where children are likely to be present.



Chapter 2 Before You Begin



Computer Settings

Windows XP/Windows 7/Windows 8/Windows 10

In order to use the Access Point, you must first configure the TCP/IPv4 connection of your Windows OS computer system. **1a.** Click the **Start** button and open the **Control Panel**



1b. Move your mouse to the lower right hot corner to display the Charms Bar and select the **Control Panel** in Windows 8 OS.



Windows 8

1c. In Windows 10, click Start to select All APPs to enter the folder of Windows system for selecting Control Panel.



Windows 10

2a.In Windows XP, click Network Connections.



2b.In Windows 7/Windows 8/Windows 10, click View Network Status and Tasks in the Network and Internet section, then select Change adapter settings.



3. Right click on Local Area Connection and select Properties.



4. Select Internet Protocol Version 4 (TCP/IPv4) and then select Properties.



5. Select **Use the following IP address** and enter an IP address that is different from the Access Point and Subnet mask, then click **OK**.

Note: Ensure that the IP address and Subnet mask are on the same subnet as the device.

For example: EWS850AP IP address: 192.168.1.1

PCIP address: 192.168.1.2 - 192.168.1.255

PC Subnet mask: 255.255.255.0

enerai					
You can get IP settings assigned this capability. Otherwise, you r for the appropriate IP settings.	d automatically need to ask you matically	if you ir net	ur net work	work admir	support: istrator
ge the following IP addre	ss:]				_
IP address:	192 .	168	. 1	. 10	
Subnet mask:	255	255	. 255	. 0	
Default gateway:		6 (3	• .		
Obtain DNS server address	s automatically				
. Use the following DNS serv	ver addresses:				
Preferred DNS server:				÷	
Alternate DNS server:				4	1
III statistic antipage and	t		ſ	Adv	anced

Apple Mac OS X

- **1.** Go to **System Preferences** (Which can be opened in the Applications folder or selecting it in the Apple Menu).
- 2. Select Network in the Internet & Network section.



- 3. Highlight Ethernet.
- 4. In Configure IPv4, select Manually.
- **5.** Enter an IP address that is different from the Access Point and Subnet mask then press **OK**.

Note: Ensure that the IP address and Subnet mask are on the same subnet as the device.

For example: EWS850AP IP address: 192.168.1.1

PCIP address: 192.168.1.2 - 192.168.1.255

PC Subnet mask: 255.255.255.0

. Click Apply when done.

	Location	n: Automatic	•
Ethernet Connected FireWire Not Connected	@@@ ***	Status:	Connected Ethernet is currently active and has the IP address 192.168.1.100.
		Configure IPv4:	Manually
		IP Address:	192.168.1.100
		Subnet Mask:	255.255.255.0
		Router:	
		DNS Server:	
		Search Domains:	
			Advanced

Hardware Installation EWS850AP

- Connect one end of the Ethernet cable into the LAN port (PoE) of the AP and the other end to the PoE port on the PoE adapter.
- **2.** Connect the Power cord with the PoE Adapter and plug the other end into an electrical outlet.
- **3.** Connect the second Ethernet cable into the LAN port of the PoE adapter and the other end to the Ethernet port on the computer.
- 4. Screw on the provided antennas to the top of this device
- 5. When all the process is completed, the LED light will be active as below.

LED	State	Description
PWR 🗄	OFF	No power connection.
(ORANGE)	On Steady	When the device is connected to a power source.
	OFF	No Ethernet connection.
LAN (PoE) (Green/Amber)	On Steady	An active Ethernet connection is made to the LAN (PoE) port.
	Blink	Data is being Transmitting/Receiving. The LED color indicates the Ethernet connection speed. Amber for 2.5Gbps and Green for 1Gbps or 100Mbps.
2.4GHz On Steady		Ready for data Transmitting/Receiving.
(Green)	Blink	Data is being Transmitting/Receiving.
5GHz	On Steady	Ready for data Transmitting/Receiving.
(Green)	Blink	Data is being Transmitting/Receiving.

Note: The AP should ONLY be powered via Ethernet cable connected to the included PoE Adapter EPA5006GR. You can convert the device to factory default or users default via the reset button on EPA5006GR.



This diagram depicts the hardware configuration.

Mounting the EWS850AP

Using the provided hardware, the device can be attached to a wall or a pole. The height should not exceed 2 meter.

1. Wall Mounting Kit

Screw Set 1 -Anchors: Φ 6.6*16 mm

-Bolts: Φ 8*25mm

2. Pole Mounting Strap*2 -⊕66*12.6 mm



Screw Set 2 -Screw - X type: Φ 13*42 mm

-Screw - P type: Φ 5.8*32 mm



Wall mounting the EWS850AP

- A. Determine where the Access Point to be placed and mark location on the surface for the four mounting holes of wall mount base.
- B. Use the appropriate drill bit to drill two 8.1mm diagram and 26mm depth holes in the markings and hammer the bolts into the openings. Screw the anhors into the holes until they are flush with the wall.
- C. Screw the included screws into the anchors.
- D. Slide the mount bracket into the slot of the Access Point.

Pole mounting the EWS850AP

A. Thread the open end of the Pole Strap through the two tabs on the Pole Mount Bracket.

B.Lock and tighten Pole Strap to secure Pole Mount Bracket to the pole.



*The installation angle of antenna must be vertical to the ground.



Chapter 3 Configuring Your Access Point



Configuring Your Access Point

This section will show you how to configure the device by using the web-based configuration interface or EnGenius EnWiFi App, which is a management tool to enable easy deployment on outdoor APs/CPEs. In conjunction with the EnWifi App, outdoor APs/CPEs can perform configuration changes en-masse, monitoring, firmware upgrades, and data backups from a smart phone or tablet.

Web Interface Configuration

Default Setting

Please use your Ethernet port or wireless network adapter to connect the Access Point.

IP Address	192.168.1.1
Username / Password	admin / admin

1. Open a web browser (Internet Explorer/Firefox/Safari/ Chrome) and enter the IP Address http://192.168.1.1



Note: If you have changed the default LAN IP Address of the Access Point, ensure you enter the correct IP Address.

2. The default username and password are admin. Once you have entered the correct username and password, click the Login button to open the web-base configuration page.



- * The model name will be varied by different models
- **3.** If successful, you will be logged in and see the device's User Interface.

EWS850AP	Dual Radio Outdoor AP, 212R, 574Mb	ps + 1201Mbps	Changes: 0	Reset	Logou
) OverView	Device Information				
Device Status	Device Name	EWS850AF			
Connections	Serial Number	19702211	OKTN		
Realtime	MAC Address	10/0/11			
Network	I AN	89-00-06-	75.07.45		
Basic	- LAN	88:DC:96:	/E:C/:AF		
Wireless	• Wireless LAN = 2.4GHz	00:00:90:	72:07:00		
Mesh	- Wireless LAN - SGHZ	88:DC:96:	/E:C/:B1		
Status	Country	USA			
Settings	Current Local Time	Mon Dec 2	3 16:40:01 2019		
Tools	Uptime	0h 3m 3s			
Management	Firmware Version	v3.7.2_c1.	9.51		
- Management	Device Version	1.0			
Advanced	Management VLAN ID	Untagged			
Time Zone	Perintration Charly Code	h11dec6e			

EnWiFi App Configuration

Download EnWiFi App

1. Please download and install EnWiFi App from Google Play or iOS App Market .



2. Before access to device, you need to find Management SSID and connect to it first. Then you can see your device in the Device List.



3. For more details of how to configure and management device via EnWiFi App, please see Chpater 9 EnWiFi App.

Chapter 4 Building a Wireless Network



Before Starting

Before starting to configure this Access Point, you may realize the used scenario under varied operating modes. EWS850AP, built in the latest WiFi 6 (11ax) technology, can be configured as an: Access Point, Mesh or WDS (AP/Bridge/Station). This chapter describes purpose of different operating modes for the best deployment.

Access Point Mode

In Access Point Mode, device behaves likes a central connection for stations or clients that support IEEE 802.11ax networks and is backward competible. The stations and clients must be configured to use the same SSID (Service Set Identifier) and security password to associate with EWS850AP. The device supports up to eight (8) SSIDs per band at the same time for secure access.

WDS AP Mode

The device also supports WDS AP mode. This operating mode allows wireless connect to the other device via using WDS technology. In this mode, configure the MAC addresses in both Access Points to enlarge the wireless area by enabling WDS Link settings. WDS supports up to four (4) AP MAC addresses.

WDS Bridge Mode

In WDS Bridge Mode, the device can wirelessly connect different LANs by configuring the MAC address and security settings of each device. Use this mode when two wired LANs located a small distance apart want to communicate with each other. The best solution is to use the device to wirelessly connect two wired LANs, as shown in the following diagram. WDS Bridge Mode can establish up to four WDS links, creating a star-like network.

Note: WDS Bridge Mode does not act as an Access Point. Access Points linked by WDS are using the same frequency channel. More Access Points connected together may lower throughput.



AP Mode

AP Mode



WDS Station Mode

Station mode expands the WDS by receiving a wireless signal/service and sharing it through the Ethernet port.



Chapter 5 **Overview Status**

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Main Status Save Changes

This page lets you save and apply the settings shown under **Unsaved changes list**, or cancel the unsaved changes and revert to the previous settings that were in effect.



*The model name will be varied by different models.

Device Status

Clicking the **Device Status** link under the **Overview** menu shows the status information about the current operating mode.

• The **Device Information** section shows general system information such as Device Name, MAC Address, Current Time, Firmware Version, and Management VLAN ID

Note: VLAN ID information is only applicable in Access Point or WDS AP mode.

Device Information

Device Name	EWS850AP	
Serial Number	204242466	
MAC Address		
- LAN	88:DC:96:88:7B:CC	
- Wireless LAN - 2.4GHz	88:DC:96:88:7B:CD	
- Wireless LAN - 5GHz	88:DC:96:88:7B:CE	
Country	USA	
Current Local Time	Thu Apr 23 10:21:41 2020	
Uptime	0h 39m 54s	
Firmware Version	v3.8.0_c1.9.51	
Device Version	1.0	
Management VLAN ID	Untagged	
Registration Check Code	6f7e95c9	

*The model name will be varied by different models.

• The **Memory Information** section shows usage of memory such as Total Available, Free, Cached, Buffered

Memory Information

Total Available	702564 kB / 910188 kB	
Free	642436 kB / 910188 kB	
Cached	45800 kB (594)	
Buffered	14328 kB 910188 kB	

• The **LAN Information** section shows the Local Area Network settings such as the LAN IP Address, Subnet mask, and DNS Address.

LAN Information - IPv4		
IP Address	192.168.1.1	
Subnet Mask	255.255.255.0	
Gateway	N/A	
Primary DNS	N/A	
Secondary DNS	N/A	
DHCP Client	Enable	
Spanning Tree Protocol(STP)	Disable	
LAN Information - IPv6		
IP Address	N/A	
Link-Local Address	fe80::8adc:96ff:fe88:7bcc	
Gateway	N/A	
Primary DNS	N/A	
Secondary DNS	N/A	

 The Wireless LAN Information 2.4GHz/5GHz section shows wireless information such as Operating Mode, Frequency, and Channel. Since the AP supports multiple-SSIDs, information about each SSID, the ESSID, and security settings, are displayed

Note: Profile Settings are only applicable in Access Point and WDS AP modes.

Wireless LAN Information - 2.4GHz				
Operation Mode	Access Point			
Wireless Mode	802.11 n/g/b			
Channel Bandwidth	20 MHz			
Channel	2.412 GHz(Channel 1)			
Distance	1000 M			
Wireless LAN Information -	5GHz			
Wireless LAN Information - Operation Mode	5GHz Access Point			
Wireless LAN Information - Operation Mode Wireless Mode	5GHz Access Point 802.11 ax/ac/n/a			
Wireless LAN Information - Operation Mode Wireless Mode Channel Bandwidth	5GHz Access Point 802.11 ax/ac/n/a 80 MHz			
Wireless LAN Information - Operation Mode Wireless Mode Channel Bandwidth Channel	5GHz Access Point 802.11 ax/ac/n/a 80 MHz 5.640 GHz(Channel 128)			

• The **Statistics** section shows Mac information such as SSID, MAC address, RX and TX.

Statist	Statistics - Access Point 2.4GHz/5GHz						
Profile	SSID	Security	VID	802.1Q	RX(Packets)	TX(Packets)	
#1	EnGenius887BCD_1	None	-	Disable	0.00 B(0 Pkts.)	0.00 B(0 Pkts.)	
#2	ENMGMT887BCD	WPA2-Personal	-	Disable	0.00 B(0 Pkts.)	0.00 B(0 Pkts.)	

Connection

2.4GHz/ 5GHz Connection List

Click the connection link under the Overview menu displays the connection list of clients associated to the AP/CPE's 5 GHz, along with the MAC addresses and signal strength for each client. Clicking **Refresh** updates the client list.

Note: Only applicable in Access Point and WDS AP modes.

WDS Link List

Click the connection link under the Overview menu. This page displays the current status of the WDS link, including WDS Link ID, MAC Address, Link Status and RSSI.

Note: Only applicable in WDS AP and WDS Bridge modes.



Realtime

The Realtime section contains the following options:

CPU Loading: 3 minutes CPU loading percentage information, it displays current loading, average loading and peak loading status. Left bar is loading percentage; button is time tracing. The interval is every 3 seconds.



Traffic Loading: 2.4GHz/5GHz and Ethernet port inbound and outbound traffic by current, average and peak time.

	Load	Traffic						
OverView								
Device Status	Realt	ime Tra	affic (K	B/s)0				
Connections	EnGer	ius887B0		AN				
Realtime								
< Network	2.4G:							
Basic	l —							
Wireless								
🔶 Mesh								
Status	0							
Settings								
Tools								
Management	0							
Advanced								
Time Zone	0							
WiFi Scheduler								
Tools								
👤 System Manager							(3 minute wind	low, 3 second interval)
Account								
Firmware		Inbound:	0 KB/s		Average:	0 KB/s	Peak:	0 KB/s
Log	<u> </u>	utbound:	0 KB/s		Average:	0 KB/s	Реак:	0 KB/s
	5G:							
	0							
	0							
	0							
							() minute view	and interval
							(3 minute wind	iow, a second interval)
		Inbound:	0 KB/s		Average:	0 KB/s	Peak:	0 KB/s
	0	utbound:	0 KB/s		Average:	0 KB/s	Peak:	0 KB/s

Chapter 6 Network



Basic IP Settings

IPv4/IPv6 Settings

This page allows you to modify the device's IP settings under Network->Basic.

IP Network Setting	Static IP -
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway	192.168.1.1
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
Duc Cattings	
IPv6 Settings	Link-local Address
IP Address	Link-local Address
IP Address Subnet Prefix Length	Link-local Address
IP Address Subnet Prefix Length Gateway	Link-local Address
IP Address Subnet Prefix Length Gateway Primary DNS	Link-local Address

IP Network Settings: Select whether the device IP address will use a static IP address specified in the IP address field or be obtained automatically when the device connects to a DHCP server.

IP Address: The IP address of this device.

Subnet Mask: The IP Subnet mask of this device.

Gateway: The Default Gateway of this device. Leave it blank if you are unsure of this setting.

Primary/Secondary DNS: The primary/secondary DNS address for this device.

Save: Click Save to confirm the changes.

Spanning Tree Protocol (STP) Settings

This page allows you to modify the Spanning Tree settings. Enabling the Spanning Tree protocol will prevent network loops in your LAN network.

Spanning Tree Protocol (STP) Settings			
Status	Disable -		
Hello Time	2	seconds (1-10)	
Max Age	20	seconds (6-40)	
Forward Delay	4	seconds (4-30)	
Priority	32768	(0-65535)	

Spanning Tree Status: Enables or disables the Spanning Tree function.

Hello Time: Specifies Bridge Hello Time in seconds. This value determines how often the device sends handshake packets to communicate information about the topology throughout the entire Bridged Local Area Network.

Max Age: Specifies Bridge Max Age in seconds. If another bridge in the spanning tree does not send a hello packet for a long period of time, it is assumed to be inactive.

Forward Delay: Specifies Bridge Forward Delay in seconds. Forwarding delay time is the time spent in each of the Listening and Learning states before the Forwarding state is entered. This delay is provided so that when a new bridge comes onto a busy network, it analyzes data traffic before participating in the network.

Priority: Specifies the Priority Number. A smaller number has a greater priority than a larger number.

Save: Click Save to confirm the changes.

Wireless

Wireless Settings

Wireless Settings		
Device Name	EWS850AP	
Country / Region	USA	•

*The model name will be varied by different models.

Device Name: Enter a name for the device. The name you type appears in SNMP management. This name is not the SSID and is not broadcast to other devices.

Save: Click Save to confirm the changes.

This page displays the current status of the Wireless settings of the AP.

	2.4GHz (n/g/b)	5GHz (ax/ac/n/a)
Operation Mode	Access Point 🔹 🗉 Green 🥑	Access Point 🔹 🗉 Green 🥥
Channel HT Mode	20MHz 🔻	80MHz 🔻
Channel	Configuration	
Transmit Power	8 dBm 🔻	8 dBm 🔻
Bit Rate	Configuration	
Client Limits	Enable Disable	Enable Disable
Multicast to Unicast Stream Conversion	Enable 0 O Disable 0	
AP Detection	Scan	Scan
11ax mode	 Enable Disable 	
Distance (0-30km)	1 (0.6miles)	1 (0.6miles)

Wireless Network

EWS850AP supports 802.11ax/ac/n/a mixed mode in 5 GHz and 802.11n/g/b mixed mode in 2.4GHz. 802.11ax mode in 2.4GHz is optional and can be enabled/disabled. .

Operation Mode: Select **Operation Mode** from Access Point or WDS (AP, Bridge ,Station) base on the application scenario.

Channel HT Mode: The default channel bandwidth is 20 MHz in 2.4GHz and 80MHz in 5GHz. The larger the channel, the greater the transmission quality and speed.

Channel: Click Configuration button to open a new windows to configure channels for performing wireless service.

2.4GHz		5
All	None	
1,6,11	1,4,8,11	
1,7	1,5,9	
Ch 1 : 2.412 GHz	Ch 2 : 2.417 GHz	
Ch 3 : 2.422 GHz	Ch 4 : 2.427 GHz	
Ch 5 : 2.432 GHz	Ch 6 : 2.437 GHz	
Ch 7 : 2.442 GHz	Ch 8 : 2.447 GHz	
Ch 9 : 2.452 GHz	Ch 10 : 2.457 GHz	
Ch 11 : 2.462 GHz		



Save Save current setting(s)

Transmit Power: Set the power output of the wireless signal.

Bit Rate: 2.4GHz and 5GHz can be controled by BAR via scroll from 6Mbps to 54Mbps.

2.4GH	z						
Minimu	m bitrate	(Mbps	5)				
Lower D	ata Rate						Higher Data Rate
1 2 54	5.56	9	11 12	18	24	36	48
5GHz Minimu	m bitrate	(Mbps	5)				
Lower D	ata Rate						Higher Data Rate
	5.56	9	11 12	18	24	36	48
Save	Save current	setting	ı(s)				

Client Limits	 Enable Disable 127 	 Enable Disable 127
Multicast to Unicast Stream Conversion	🖲 Enable 🕖 💿 Disable 🥑	
AP Detection	Scan	Scan
11ax mode	Enable O Disable	
Distance (0-30km)	1 (0.6miles)	1 (0.6miles)

Client Limits: If you set the limitation of client numbers , the maximum assocaited client devices will be restricted at this number. The client limits is default in127.

AP Detection: AP Detection can select the best channel to use by scanning nearby areas for Access Points.

11ax mode: This mode is optionnal for 2.4GHz, you can select Enable or Disale base on the application scenario.

Distance: Specifies the distance between Access Points and client devices. The proper setting for this parameter may assist Access Points to avoid the improper operation when transmitting data under a filed application.

SSID Profile

Current Profile: You can configure up to eight(8)different SSIDs. If multiple client devices will be accessing the network, you can arrange the devices into SSID groups. Click **Edit** to configure the profile and check whether you want to enable extra SSID.

Enabled	SSID	Edit	Security	Guest Network	VLAN ID
•	EnGenius79C393_1	Edit	None		-
1	EnGenius79C393_2	Edit	None		-
v	EnGenius79C393_3	Edit	None		-
v	EnGenius79C393_4	Edit	None		-
•	EnGenius79C393_5	Edit	None		-
1	EnGenius79C393_6	Edit	None		-
•	EnGenius79C393_7	Edit	None		-
•	EnGenius79C393_8	Edit	None		-

The first SSID is default enabled and you can click Edit to specify the detail setting, including:

Enable: Click the check box to enable specific SSID interface. The first SSID is default enabled.

SSID: Specifies the SSID name for the current profile.

Hidden SSID: Check this option to hide the SSID from clients. If checked, the SSID will not appear in the site survey.

Client Isolation: Block the communication between the accociated clients under the same WLAN.

VLAN Isolation: When this function is checked with specified VLAN ID in a SSID profile, the traffic from this SSID will be tagged with this VLAN ID upon entering LAN bridge.

VLAN ID: Specifies the VLAN tag for each profile. If your netowrk includes VLANs, you can specify a VLAN ID for packets pass through the Access Point with a tag.

L2 Isolation: Enable this function prevenet client devices

EnGenius887BCD_1	
Enable Disable	
Enable Initial Enable Initia Enable I	
Enable O Disable	
ID: 1 (1~40	194)
Enable Disable	
	 ✓ 2.4G ✓ 5G EnGenius887BCD_1 ○ Enable ○ Enable ○ Enable ○ Disable ID: 1 (1~40 ○ Enable ● Disable

Band Steering: Enable this function to facilitate effective spectrum usage. 5GHz-capable clients can associate with AP's 5GHz radio and offloading air utilization in 2.4GHz

Band Steering	
Status	Enable Isable
Pand Staging	Prefer 5GHz 🔹
	5GHz RSSI -75 dBm 🕖
Wireless Security

The Wireless Security section lets you configure the AP's security modes

Wireless Security		
Security Mode	None	•
	None	
Radius Settings	OWE	
NAS-ID	WDA2 Deresnal	
NAS-PORT	WFA2-Feisonal	(0 ~ 65535)
NAS-IP	WPA3-Personal	
	WPA2/WPA3-Personal	
Radius Accounting	WPA2-Enterprise	
Radius Accounting		
Radius Accounting Server	WPA2/WPA3-Enterprise	
Radius Accounting Port	WPA3-Enterprise	
Radius Accounting Secret		
Interim Accounting Interval	600	

Group Key Update Interval: Specifies how often, in seconds, the Group Key changes. The default value is 3600.

Wireless Security		
Security Mode	WPA2-Enterprise	
Encryption	AES	
Group Key Update Interval	3600	(30~3600; 0:Disable)
Radius Server	192.165.100.36	
Radius Port	1812	
Radius Secret	1234567890123456789012345	

Secuirty Mode: Including OWE, WPA2-Personal, WPA3-Personal, WPA2/WPA3-Personal, WPA2-Enterprise, WPA3-Enterprise, WPA2/WPA3-Enterprise. The following is an example for WPA2-Enterprise (Pre-Shared Key).

Encryption: Default is AES. Please ensure that your wireless clients use the same settings.

Note: 802.11n does not allow WPA2-PSK TKIP security mode.

Radius Settings

NAS-IP: Configure you NAS server address to assign traffic to the destination.

NAS-Ports: Configure your port No. if you would like to enable Network Address Servecie (NAS) under a SSID.

NAS-ID: Configure a NAS ID which is mapped with the SSID. The traffic will be forwarded via the different SSIDs if these SSIDs configured as different ID.

Radius Settings	
NAS-ID	
NAS-PORT	(0 ~ 65535)
NAS-IP	

Radius Accounting

Radius Accounting: Choose to enable or disable accounting feature.

Radius Accounting Server: Enter the IP address of the Radius accounting server.

Radius Accounting Port Enter the port number used for connections to the Radius accounting server.

Radius Accounting Secret: Enter the secret required to connect to the Radius accounting server.

Interim Accounting Interval: Specifies how often, in seconds, the accounting data sends.

Radius Accounting	
Radius Accounting	Enable Disable
Radius Accounting Server	
Radius Accounting Port	1813
Radius Accounting Secret	
Interim Accounting Interval	600

Fast Roaming

Enable the function to serve mobile client devices that roam from Access Point to Access Point. Some applications running on Client devices require fast re-association when they roam to a different Access Point

 Fast Roaming
 Image: Comparison of the state of the

Please enter the settings of the SSID and initialize the Security mode to WPA2 or WPA3 enterprise, as well as to set the Radius Server firstly. Then users can enable the Fast Roaming and implement the advanced search.

Please also set the same enterprise Encryption under the same SSID on other Access Points and enable the Fast Roaming. When the configuration is realized on different Access Point, the mobile client devices can run the voice service and require seamless roaming to prevent delay in conversation from Access Point to Access Point.

Wireless MAC Filtering

Wireless MAC Filtering is used to allow or deny network access to wireless clients (computers, tablet PCs, NAS, smartphones, etc.) according to their MAC addresses. You can manually add a MAC address to restrict permission to access the AP. The default setting is: **Disable Wireless MAC Filter**.

Note: Only applicable in Access Point and WDS AP modes.

Wireless	s MAC Filter						
ACL Mode	Disabled	•					
		:	:	:	:	:	
		Add					
#	MAC Address						

ACL Mode: Determines whether network access is granted or denied to clients whose MAC addresses appear in the MAC address table on this page. There are three optoin: Disabled / Allow MAC in the list / Deny MAC in the list.

MAC Address: Enter the MAC address of the wireless client.

Add: Click **Add** to add the MAC address to the MAC address table.

Wireless Traffic Shaping

Traffic shaping regulates the flow of packets leaving an interface to deliver improved Quality of Service(QoS). The function will allow administrators to restrict the wireless bandwidth per SSID or per user.

Wireless Traffic Shaping		
Enable Traffic Shaping	Enable Disable	e
Download Limit	100	Per User
Download Linit	Mbps (1-999)	
Lipload Limit	100	Per User
opload Linit	Mbps (1-999)	

Status: Check this option to enable Wireless Traffic Shaping.

Download Limit: Specifies the wireless transmission bandwidth used for downloading.

Upload Limit: Specifies the wireless transmission bandwidth used for uploading.

This limitation can be specified per user.

After filling in those settings, click **Save** to confirm then back to the main page of wireless setting.

Management Interface-2.4G

This Management interface make you can change the configuration via EnWiFi App instead of using the GUI. Management SSID will be turned off in this two situation. (1)When the device is powered up in the first time and there is no connection in 30 minutes. (2)When the setting is done and idle in 15 minutes. If you need to turn on management SSID please reboot the device.You can set to always on or turn off if idle in 15 minutes.

For security, we strongly recommend to change the default passphrase via entering the Edit page.

Management In	terface - 2.4G0		
Enabled	SSID	Edit	Security
•	ENMGMT79C393	Edit	WPA2/PSK AES

Always on
 Turn off if idle in 15 minutes

Guest Network Settings

You can add a guest network which allows visitors to use the Internet without providing your office or company wireless security key. You can checked the guest network in specified SSID and proceed the detail setting here.

Guest Network DHCP Server Settings		
Manual IP Settings		
- IP Address	192.168.200.1	
- Subnet Mask	255.255.255.0	
Automatic DHCP Server Settings		
- Starting IP Address	192.168.200.100	
- Ending IP Address	192.168.200.200	
- WINS Server IP	0.0.0.0	

IP Address: The IP Address of this device.

Subnet Mask: The IP Subnet mask of this device.

Automatic DHCP Server Settings

Starting IP Address: The first IP Address in the range of the addresses by the DHCP server.

Ending IP Address: The last IP Address in the range of addresses assigned by the DHCP server.

WINS server IP: Address for the WINS server.

Management VLAN Settings

This page allows you to assign a VLAN tag to packets sent over the network. A VLAN is a group of computers on a network whose software has been configured so that they behave as if they were on a separate Local Area Network (LAN). Computers on VLAN do not have to be physically located next to one another on the LAN.

Note: Only applicable in Access Point and WDS AP modes.

Management VLAN Settings	
CAUTION:: If you reconfigure the Mar DHCP server can support the reconfig	nagement VLAN ID, you may lose connectivity to the access point. Verify that the switch and gured VLAN ID, and then re-connect to the new IP address.
Management VLAN	Enable 🖌 4096

Management VLAN: If your network includes VLANs, you can enable **Management VLAN ID** for packets passing through the Access Point with a tag.

Save: Click **Save** to confirm the changes or **Cancel** to cancel and return to previous settings.

Note: If you reconfigure the Management VLAN ID, you may lose your connection to the EnStationAC. Verify that the DHCP server supports the reconfigured VLAN ID and then reconnect to the EnStationAC using the new IP address.

Chapter 7 Mesh



Mesh Mesh Status

This page allows you to review the status of the mesh network.

Mesh Status	Disabled	
Mesh Interface		
Mesh ID		
Mesh Channel		
Mesh Type	Root Node	

Mesh Settings

This page allows you to build up a mesh connection in the wireless network.

Mesh Settings

Mesh	Enable I Disable		
Operation Mode	Mesh AP O Mesh Point		
Mesh Device Name	EWS850AP		
Mesh Band	🔍 2.4GHz 🖲 5GHz		
Mesh ID	12345678		
Password	1234567890		
Mesh RSSI	-80	(dBm)	

Mesh: Choose to enable or disable.

Operation Mode: Base on the role of this device to make it as Mesh AP or Mesh Point.

Mesh Device Name: The modle name of this Mesh device.

Mesh ID: To create a mesh network, please enter the ID number of this device for including into Mesh.

Password: Set up a password for this Mesh ID.

Mesh RSSI: The RF level in the mesh network.

Save/Cancel: To instore or remove the setings you have done.

Tools

Node List: Devices list in this Mesh network.

Link Status: This page allows you to review the linking status (RSSI) of each Mesh nodes.

Ping

This page allows you to analyze the connection quality of the device in the network.

Ping Test Parameters

From	То	T	
Number of Pings	4		
Start			

From/To: Choose the IP address you would like to ping in this Mesh network.

Number of Pings: Enter the number of times you wish to ping.

Start: Click start to proceed ping test.

Traceroute

This page allows you to trace the routing table to a target in the network.

Traceroute Test Parameters



From/To: Choose the IP address you would like to trace.

Start: Click start to proceed traceroute test.

Throughput Test

Chroose the target device you would like to test the throughput performance.

Throughput Test

۲	And	T	Start
		(

Chapter 8 Management



Advanced Settings Controller Settings

Controller Address (Auto detection if leave empty):

If the device is managing by controller, it will show the address.

Controller Settings

Controller Address(Auto detection if leave empty)	Test
Connection Status	Connect to #
Registration Check Code	6f7e95c9

SNMP Settings

This page allows you to assign the Contact Details, Location, Community Name, and Trap Settings for a Simple Network Management Protocol (SNMP). SNMP is a networking management protocol used to monitor network attached devices. SNMP allows messages (called protocol data units) to be sent to various parts of the network. Upon receiving these messages, SNMP compatible devices (called agents) returns the data stored in their Management Information Bases.

SNMP Settings		
Status	Enable •	
Contact		
Location		
Port	161	
Community Name (Read Only)	public	
Community Name (Read Write)	private	
Trap Destination		
- Port	162	
- IP Address		
- Community Name	public	
SNMPv3 Settings		
- Status	Enable -	
- Username	admin	(1-31 Characters)
- Authorized Protocol	MD5 -	
- Authorized Key	12345678	(8-32 Characters)
- Private Protocol	DES -	
- Private Key	12345678	(8-32 Characters)
- Engine ID		

Status: Enables or disables the SNMP feature.

Contact: Specifies the contact details of the device. **Location:** Specifies the location of the device.

Community Name (Read Only): Specifies the password for the SNMP community for read only access.

Community Name (Read/Write): Specifies the password for the SNMP community with read/write access.

Trap Destination Address: Specifies the IP address of the computer that will receive the SNMP traps.

Trap Destination Community Name: Specifies the password for the SNMP trap community.

SNMPv3: Enables or disables the SNMPv3 feature.

User Name: Specifies the username for SNMPv3.

Auth Protocol: Selects the authentication protocol type: MDS or SHA.

SAuth Key: Specifies the authentication key.

Priv Protocol: Selects the privacy protocol type: DES.

Priv Key: Specifies the privacy key for privacy.

Engine ID: Specifies the engine ID for SNMPv3.

Apply Save: Click Apply Save to apply the changes.

CLI Settings

CLI Setting	
СШ	Enable -
SSH Setting	
SSH	Disable -
HTTPS Setting	
HTTPS	Enable 🔹
HTTPS forward	Disable •

CLI: The Command Line Interface (CLI) allows you to type commands instead of choosing them from a menu or selecting an icon.

SSH: Enable Secure Shell (SSH) to make secure, encrypted connections in the network. Secure Shell is a network protocol that allows data to be exchanged using a secure channel between two network devices.

HTTPS: Enable HTTPS to transfer and display web content securely. The Hypertext Transfer Protocol over SSL (Secure Socket Layer) is a TCP/IP protocol used by web servers to transfer and display web content securely.

Email Alert

You can use the Email Alert feature to send messages to the configured email address when particular system events occur.

Note: Do **NOT** use your personal email address as it can unnecessarily expose your personal email login credentials. Use a separate email account made for this feature instead

Email Alert		
Status	Enable	
- From		
- To		
- Subject	[Email-Alert][ENH900EXT][00:02	2:6F:FF:FF] Config
Email Account		
- Username		
- Password		
- SMTP Server		Port: 25
- Security Mode	None 💌	Send Test Mail

From: Enter the email address to show the sender of the email.

To: Enter the address that you wish to send emails to.

Subject: Enter the text that you wish to appear in the email's subject line.

Username: Enter the username for the email account that will be used to send emails.

Password: Enter the password for the email account that will be used to send emails.

SMTP Server: Enter the IP address or hostname of the outgoing SMTP server.

Port: Enter the SMTP port number to use for outbound emails.

Security Mode: Selects the security mode: SSL/TLS or STARTTLS or None.

Apply: To save setting and take effect.

Time Zone

Date and Time Setting

This page allows you to set the internal clock of the device.

Date and Time Settings

Manually Set Date and Time				
Date: 2019 / 07 / 09				
Time: 15 : 03 (24-Hour)				
Synchronize with PC				
• Automatically Get Date and Time				
NTP Server: pool.ntp.org				

Manually Set Date and Time: Manually specify the date and time.

Automatically Get Date and Time: Select and check whether you wish to enter the IP address of an NTP server or use the default NTP server to have the internal clock set automatically.

Time Zone

You can click Auto Detect or select Time Zone from the menu.

Enable Daylight Saving: Check whether daylight savings applies to your area.

Start: Select the day, month, and time when daylight savings time starts.

End: Select the day, month, and time when daylight savings times ends.

Time Zone

Auto	Detect				
Time 2	Zone: UT	C+00:00 England		▼	
Enat	Enable Daylight Saving				
Start:	January	▼ 1st ▼ Sun	• 00:00	T	
End:	January	▼ 1s ▼ Mon	▼ 00:00	•	

Auto Reboot Settings

You can specify how often you wish to reboot the device.

Auto Reboot Setting	
Auto Reboot Status	Disable 💌
Timer	Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Auto Reboot Setting: Enables or disables the Auto Reboot function.

Frequency of Auto Reboot: Specifies how often you wish to reboot the EnStationAC by Min, Hour, Day or Week.

Timer: Select the day and enter the time you would like to reboot automatically.

Save: Click Save to apply the changes.

Wi-Fi Scheduler

The Wi-Fi Scheduler can be created for use in enforcing rules. For example, if you wish to restrict web access to Mon-Fri from 3pm to 8pm, you could create a schedule selecting Mon, Tue, Wed, Thu and Fri while entering a Start time of 3pm and End Time of 8pm to limit access to these times.

Status	 Enable Disable NOTE: Please assure that the Time Zone Settings is synced with your local time when enabling the Wi-Fi Scheduler. 						ng th
Wireless Radio	•						
SSID Selection	EnGenius3A9A	DB_1-5GHz •					
Schedule Templates	Choose a templ	ate					
	Day	Availability	Dura	tion			
	Sunday	available •	00	: 00	~ 24	: 00	
	Monday	available ·	00	: 00	~ 24	: 00	
Schedule Table	Tuesday	available ·	00	: 00	~ 24	: 00	
	Wednesday	available ·	00	: 00	~ 24	: 00	
	Thursday	available ·	00	: 00	~ 24	: 00	
	Friday	available ·	00	: 00	~ 24	: 00	
	Saturday	available •	00	: 00	~ 24	: 00	

Status: Enables or disables the Wi-Fi scheduler function.

Wireless Radio: Select 2.4 GHz or 5 GHz from the dropdown list for the preferred band type.

SSID Selection: Select a SSID from the drop-down list.

Schedule Templates: Select a schedule template from the

drop-down list.

Day(s): Place a checkmark in the boxes for the desired days or select the **All Week** radio button to select all seven days of the week.

Duration: The Start Time is entered in two fields. The first box is for hours and the second box is for minutes. The End Time is entered in the same format as the Start time.

Tools

Ping Test

This page allows you to analyze the connection quality of the device and trace the routing table to a target in the network.

Ping Test Parameters		
Target IP / Domain Name		
Ping Packet Size	64	Bytes
Number of Pings	4	
Start		

Target IP: Enter the IP address you would like to search.

Ping Packet Size: Enter the packet size of each ping.

Number of Pings: Enter the number of times you wish to ping.

Start: Click start to proceed ping test.

Traceroute Test

Target IP/ Domain Name: Enter the IP address or domain name you would like to trace

Traceroute Test Parameters		
Target IP / Domain Name		
Start Stop		

Nslookup Test

Target IP/ Domain Name: Enter the IP address or domain name you would like to do Nslookup test.

Nslookup Test Parameters 🕖	
Target IP / Domain Name	
Start	

Speed Test

Target IP / Domain Name: Enter an IP address or domain name you wish to impelement a speed test for realizing the variance on wireless speed.

Time Period: Enter the time in seconds that you would like the test to implement for and in how many intervals.

IPv4/IPv6 Port: This Access Points uses IPv4 5001 and IPv6 60001 port for the speed test.

Start: Click start to implement speed test.

Speed Test Parameters

Target IP / Domain Name		
Time Period	20	Sec
Check Interval	5	Sec
IPv4Port	5001	
IPv6Port	5002	
Start		

Device Discovery

This page allows you to discover devices from network for Operation Mode, IP Address, System MAC Address and Firmware version.

Device Discovery				
Device Name	Operation Mode	IP Address	System MAC Address	Firmware Version
Scan				

Chapter 9 System Management

EnGenius

System Manager

Account

This page allows you to change the device username and password. By default, the username is: **admin** and the password is: **admin**. The password can contain from 0 to 12 alphanumeric characters and is case sensitive. After this changes applies, you need to login again.

Account Settings

Account Settings	
Administrator Username	admin
Current Password	
New Password	
Verify Password	

Apply Apply saved settings to take effect

Administrator Username: Enter a new username for logging in to the New Name entry box.

Current Password: Enter the old password for logging in to the Old Password entry box.

New Password: Enter the new password for logging in to the New Password entry box.

Verify Password: Re-enter the new password in the Confirm Password entry box for confirmation.

Apply: Click Apply to apply the changes.

Firmware Firmware Upgrade

This page allows you to upgrade the firmware of the device.

Firmware Upgrade	
Current Firmware Version: 2.0.0	
Select the new firmware from your hard disk.	
Browse No file selected.	
Upload	

To Perform the Firmware Upgrade:

- 1. Click the **Choose File** button and navigate the OS file system to the location of the upgrade file.
- **2.** Select the upgrade file. The name of the file will appear in the Upgrade File field.
- **3.** Click the **Upload** button to commence the firmware upgrade.

Note: The device is unavailable during the Firmware upgrade process and must restart when the upgrade is completed. Any connections to or through the device will be lost.

Backup/Restore

This page allows you to save the current device configurations. When you save your configurations, you also can reload the saved configurations into the device through the Restore Saved Settings from a file section. If extreme problems occur, or if you have set the AP incorrectly, you can use the **Reset** button in the Revert to Factory Default Settings section to restore all the configurations of the AP to the original default settings.

Factory Setting

Backup Setting: Click **Export** to save the current configured settings.

Restore New Setting: To restore settings that have been previously backed up, click **Browse**, select the file, and click **Restore**.

Restore to Default: Click **Reset** button to restore the AP to its factory default settings.

User Setting

The function allows you to backup the current device configurations into the EnStationAC as the default value. If extreme problems occur, or if you have set the EnStationAC incorrectly, you can push the Reset button to revert all the configurations of the EnStationAC to the user default.

Back Up Setting as Default: Click **Backup** to backup the user settings you would like to the device's memory for the default settings.

Restore to User Default: Click **Restore** to restore user settings to the factory standard settings.

Backup/Restore Settings

Factory Setting		
- Backup Setting 🕖	Export	
- Restore New Setting	選擇檔案 未選擇任何檔案	Import
- Reset to Default🥑	Reset	
User Setting		
- Back Up Setting as Default	Backup	
- Restore to User Default🕖	Restore	
 Caution: Please write down you become the new default settings a 	r account number and passwor at the next successful login.	d before saving. The user settings will not

Note1: After setting the current settings as the default, you should click the **Restore to Default** on the web interface for reverting the settings into the factory default instead of pushing the reset button.

Note2: Please **write down** your account and password before saving. The user settings will now become the new default settings at the next successful login.

Log

System Log

The EnStationAC automatically logs (records) events of possible interest in its internal memory. To view the logged information, click the **Log** link under the System Manager menu. If there is not enough internal memory to log all events, older events are deleted from the log. When powered down or rebooted, the log will be cleared.

Status	• Enable Disable
Log type	All •
Refresh Clear	Aug 25 01:08:01 EnStationAC user.notice root: starting ntpclient Aug 25 01:08:01 EnStationAC cron.info crond[3577]: crond: USER root pid 1105 cmd . /etc/H Aug 25 01:07:01 EnStationAC user.notice root: starting ntpclient Aug 25 01:07:01 EnStationAC user.notice root: starting ntpclient Aug 25 01:06:02 EnStationAC user.notice root: starting ntpclient Aug 25 01:05:01 EnStationAC user.notice root: starting ntpclient Aug 25 01:06:01 EnStationAC user.notice root: starting ntpclient

Remote Log

This page allows you to setup the Remote Log functions for the AP/CPE.

Remote Log	Disable -	
Log Server IP Address	0.0.0.0	

Syslog: Enables or disables the syslog function.

Log Server IP Address: Enter the IP address of the log server.

Remote Log: Enable or disable the remote log service.

Apply: Click Apply to apply the changes.

Status: Enable/Disable this function.

Trafic Log: Enable/Disable this function.

Log type: You may choose one of log types to display logs in the following window. The default log types is All.

ALL	
Debug	
Information	
Notice	
Warning	
Error	
Critical	
Alert	
Emergency	

Logout

Click **Logout** in Management menu if you want to logout from the device.

nGenius®				English	
EWS850AP	Dual Radio Outdoo	r AP, 2T2R, 574Mbps + 1201Mbps	Changes: 0	Reset	Logou
OverView	System Log				
Device Status	Status	Enable Disable			
Connections	otatas				
Realtime	Log type	ALL			
Network	Refresh	Apr 23 16:50:00 EWS850AP cron.info crond[4	200]: USER root pid 28070 cm	nd /etc/init.d/systime sta	rt nt; 🔺
Basic	Clear	Apr 23 16:48:00 EWS850AP cron.info crond[4 Apr 23 16:46:00 EWS850AP cron.info crond[4	200]: USER root pid 27566 cm	nd /etc/init.d/systime sta	rt nt;
Wireless	Clear	Apr 23 16:44:00 EWS850AP cron.info crond[4	200]: USER root pid 25983 cm	nd /etc/init.d/systime sta	rt ntr
Mesh		Apr 23 16:42:29 EWS850AP kern err kernel: [Apr 23 16:42:29 EWS850AP kern err kernel: [7887.157547] wlan: [17664:E: 7887.157547]	ANY] [soc1] FWLOG: [8075
Status		Apr 23 16:42:00 EWS850AP cron.info crond[4	200]: USER root pid 25202 cm	nd /etc/init.d/systime sta	rt nt;
Settings		Apr 23 16:40:00 EWS850AP cron.info crond[4 Apr 23 16:39:00 EWS850AP cron.info crond[4	200]: USER root pid 24229 cm	nd /etc/init.d/systime sta	rt nt;
Tools		Apr 23 16:36:00 EWS850AP cron.info crond[4	200]: USER root pid 22524 cm	nd /etc/init.d/systime sta	rt nt; 👻
Management		4			 II
Advanced					
Time Zone	Remote Log	Enable Disable			
WiFi Scheduler	Traffic Log	C Enable P Disable			
Tools	Log Server IP	0000			
System Manager	Address	0.0.0.0			
A	Los Contra Dest	544			

*The model name will be varied by different models.

Please confirm again to logout the system or not.

Are you sure you want to logout?	
OK Cancel	

In some circumstances, it may be required to force the device to reboot. Click on **Reset** to reboot or to reset the device.

EnGenius®				Englis	h
EWS850AP	Dual Radio Outde	oor AP, 2T2R, 574Mbps + 1201Mbps	Changes: 0	Reset	Logou
0verView	System Log				
Device Status	Status	Enable Disable			
Connections		-		_	
Realtime	Log type	ALL			
Network	Refresh	Apr 23 16:50:00 EWS850AP cron.info crond[420	0]: USER root pid 28070 cm	id /etc/init.d/systime s	start nt; 🔺
Basic	Clear	Apr 23 16:48:00 EWS850AP cron.info crond[420 Apr 23 16:46:00 EWS850AP cron.info crond[420	0]: USER root pid 27566 cm 0]: USER root pid 26772 cm	d /etc/init.d/systime s	tart nt
Wireless	Clear	Apr 23 16:44:00 EWS850AP cron.info crond[420 Apr 23 16:42:29 EWS850AP kern.err kernel: [78	0]: USER root pid 25983 cm 87.157547] wlan: [17664:E:	d /etc/init.d/systime s ANY] [soc1] FWLOG	tart ntr

*The model name will be varied by different models.

Once you click reset button, you will see the options for reboot or restore this AP.

Reboot the device: Click it to reboot this device.

Restore to Factory Default: Click it to reset this device to factory default setting.

Restore to User Default: Click it to reset this device to user default settings.

Reboot the Device			
CAUTION: The device w	ill be rebooted when pres	sing this button.	-
Reboot the Device			
Restore the device to d	efault settings		
CAUTION: All settings w	II be cleared and reset to	either factory default or user default.	
Restore to Factory Defau	ults 🥑	Restore to User Default	

Reset

Chapter 10 EnWiFi App



About EnWiFi App

EnWiFi is a convenient Wi-Fi management tool for EnGenius-brand outdoor and indoor Wi-Fi devices. Configure and monitor EnGenius Wi-Fi device from a smartphone or tablet. EnWifi offers single or group device configuration and updates on your network's latest status. You can access to EnGenius devices anytime via EnWiFi.

Features

Single Configuration

Proceed single device configuration throughout EnWiFi App. The Configuration could be assisted users to fulfill settings on Wireless, Network and Systems.

Group Configuration

Users can create a group configuration for multiple wireless access points and change between Client Bridge, WDS AP, WDS Bridge, WDS Station modes and EnGenius ERP easily.

Device Management

Realize status of an Access Point on RF information and real time throughput on Tx and Rx ways to make maximum PtP connecting performance or remove device with weak signal.

Discover Device

Discover EnGenius Device nearby and access to it to do management quickly.

Connected Status Monitor

Monitor connected devices on signal level (RSSI), transmit / receive performance, and firmware version. Users can enhance device settings base on these connected information.

Backup and Restore

Backup current configuring file and restore to other devices quickly.

Configuring Device in EnWiFi App

Before access to device, you need to find Management SSID and connect to it first. Then you can see your device in the Device List.

Single Configuration

Proceed Wireless Settings, Network and System Configuration to setup value on RF parameters, DHCP/Spanning Tree, and time zone for a device.

	Wireless	s (\Rightarrow		Netwo	rk			System	
■川中華電信 4G	下午5:44 ENS500EXT-AC) all 🗢 🗲	ENS	9:41 AM \$500-ACv2_A	A234	≹ 100% ■ Save	atl ≑ ←	9:41 AM ENS500-ACv2_AA23	≉ 100% 🛋 4 Save
WIRELESS	NETWORK	SYSTEM	WIRE	LESS	NETWORK	SY	STEM	WIRELESS	NETWORK	SYSTEM
Country		USA	Netwo	rk Manager	ment		DHCP >	Date and T	ime Setting	
Green Mode			Spann	ng Tree Pro	otocol	D	isable >	Auto Detecti	on	
			-						23 January, 2019	00:00 AM
Operation Mode	e A0	ccess Point >	_					Time Zone		
EnJet								Daylight Sav	ing	
Distance		1KM >						Auto Detecti	on	
AP Time Slot		Auto >						Time Zone	UT	C +8:00 Taiwan
5GHz								Star En	t Wed. 23 Januar d Sat. 23 Februar	y 00:00 AM y 00:00 AM
Channel		Auto >								
Channel HT		40MHz >								
Transmit Power		Auto	Status	Confi	iguration T	× ools	••• More	Status	Confliguration Tools	••• More
Status Cont	tigurations Tools	••• More				50 F				

WDS Link

Setting WDS links will assist users to setup peer-to-peer connection easily.

Wireles	s/Change Op Mode	peration	Set St Proc	SID and Secu ceed Link Set	rity to tings	Client can connect to it vi SSID			
■ 中華電信 奈	下午4:37 ENS500EXT-AC		■Ⅱ 中華電信 奈 ←	下午4:36 ENS500EXT-AC	● -7 ♥ 55% ■ Apply	I EnWiFi III 令 く設定	上午11:30 Wi-Fi		
WIRELESS	NETWORK	SYSTEM	WIRELESS	NETWORK	SYSTEM	選擇網路…			
Country		USA	5GHz			a_meihui_59	925	∎ ≎ (i)	
Groop Mode						andy_test		≜ ≈ (j)	
Green Mode			Channel HT		40MHz >	chrome6		a ? (j)	
Operation Mod	le WDS /	Access Point >	Transmit Powe	er	Auto	EnGenius-E	MR3500	a 🗢 (i)	
EnJet			SSID			EnGenius76	6C799	? (i)	
Distance		1KM >	Enable			EnGenius79	C405	? (i)	
AP Time Slot		Auto >		5.0.	-1700405	ENMGMT79	9C405	₽ ? ()	
5047			SSID	EnGe	nius/9C405 >	Johnson's il	Phone	• © (ì)	
SGHZ			Security		None >	SNWL		∎ হ (j)	
Channel		Auto >	VLAN Isolation	n	0.	SNWL_8F		∎ ? (j)	
Channel HT		40MHz >				SNWL_B_po	ort	a ≈ (j)	
Transmit Powe	ver Auto				其他…				
Lass Co	onfigurations	••• More	Status C	onfigurations Tools	••• More				

Group Configuration

Proceed Wireless Settings including EnJet, Operation mode, distance and time slot, channel used, channel HT, Tx power and Security



Group Configuration

Proceed Wireless Settings including EnJet, Operation mode, distance and time slot, channel used, channel HT, Tx power and

Select Operat	ion Modes	, EnJet and Radi	o Firstly.	Check Status Access Point	for ts	Proceed V Setti	Vireless ng
Evice List	Q Group Setting	< Back Model Se Access Point	lected	EnStation5-AC	< Bac Done	^{:k} eless Setting	
Connected	All	EnJet Supported 5G Only FCC		ENS500-AC	Done Cour	ntry	USA
ENS500-AC EnJet	×	ENS500-AC	EnJet		Ope	ration Mode	Access Point
ENS500-AC EnJet	>	ENS500EXT-	AC Enjet		EnJe	et	
ENS500EXT-AC Enjet	>	ENS500-AC	EnJet		AP T	ime Slot	Auto)
EnStation5-AC EnJet	, ,	EnStation5-A	C EnJet		5GH	z	Auto
		192.168.0.111			Char	nnel HT	40MHz >
					Tran	smit Power	Auto
ENMGMT79C40)2			Done		NEXI	

Proceed configuration on IP/Subnet, time Setting, and account/password under a group.

Network Sett IP/Subnet or via DHC	ing P Assigned	\Rightarrow	Sy	stem Setting Time Setting		\Rightarrow	Δ	Device Settin account/Passwo	ord
배 후 9:41 AM	≱ 100% 🗪		all 🗢	9:41 AM	\$ 100%		all ?	9:41 AM	\$ 100% 🚥
 Wireless Setting 	Group set		< Network Settin	g	Group set		< Back		Group set
Network Setting	2 of 3		System Sett	ing	3 of 3		Change D	efault Account &	Password
Network Management	DHCP >		Date and Time	Setting			Device Acco	ount & Password	
Spanning Tree Protocol	Disable >		Auto Detection				Account		admin
				23 January, 2019	00:00 AM		Password		123456
			Time Zone				New Account		newadmin
			Daylight Saving				New Password	d	
			Auto Detection				I want to u	se default password.	
			Time Zone	UTC -	⊧8:00 Taiwan		2.2 0		
			Start	Wed. 23 January	00:00 AM		Managemen	t SSID Password	
			End	Sat. 23 February	MA 00:00		Current Passv	vord	
							New Passwor	d	
			-				🔽 I want to u	ise default password.	
NEXT									
								NEXT	

You also can use EnWiFi App to proceed connection from Client Bridge mode devices to an Access Point mode device.

Select an AP SSID		elect an AP SSID Annually Enter Passphrase and Click "Next"						Go on Wireless Settings and Further Steps			
ul 🗧	9:41 AM	\$ 100% ■	en es	9:41 AM	\$ 100% 		all 🗢	9:41 AM	\$ 100% ■		
Connect AP Connect Please select	ction	Group set	K Back AP C Please	onnection	Group set		< Device List Wireless Sett	ting	Group se		
Manually		Ø	it.	inipat the rate of cold you h			Country		USA		
			SSID				EnJet				
ENS500-	ACv2_AA234		ENS	500-ACv2_AA234			Operation Mode		Access Point		
ENS500-	ACv2_AA234		En Prassp	cryption hrase			Distance		2 км		
🗇 ENS500-	ACV2_AA234		1234	56			AP Time Slot		Auto		
							Channel		6		
🔶 ENS500-	ACv2_AA234						Channel HT		40 HMz		
							Transmit Power		Auto		
							5GHz				
				NEXT			Channel		40		
							Channel HT		40 HMz		
							Transmit Power		Auto		

You also can set Operation mode to WDS AP mode and let WDS STA devices connect to this WDS AP mode device.

AP and choos	e AP		
	Cancel	uli 🗢 9:	41 AM 💲 100% 🔳
Ineration Mode	WDS AR	< Device List	Group se
		Wireless Setting	1 of 3
Jet Function Supported		Country	USA
idio 🗌	2.4GHz 🗹 5GHz	EnJet	
		Operation Mode	WDS AP
Арріу		Distance	2 км 🕽
		AP Time Slot	Auto
		2.4GHz	
		Channel	6
		Channel HT	40 HMz 🕽
		Transmit Power	Auto
		5GHz	
		Channel	40 >
		Channel HT	40 HMz)
		10 M	

Select operation mode to WDS STA and choose AP to connect Configure wireless Setting Cancel < Device List Group Set e III 9:41 AM \$ 100% -**AP** Connection < Device List WDS STA > Please select the desired AP to connect it. Wireless Setting 1 of 3 Refresh Manually USA Country Radio 2.4GHz 🗹 5GHz () () 🛜 EnGenius-79F2CD EnJet 10 Green Mode EnGenius79F2CD 1 Transmit Power Auto Cale EnGenius5E0DEC Distance 2 KM > CA EMR3500 Station Priority High > TAP_ACSHD SNWL_B_port SNWL The EnGenius343B3F The EPG_NTC5 3912SSID5_1 EnGenius7F

Discover Device

Discover and Access to other EnGenius devices to manage their status.



Monitor & Management

Monitor clients connected status. Base on this information to adjust configuration or press kick out to remove device if the signal is weak .

Clien	t Connected S	itatus 🗖	Acc	ess to One D	evice	Login to	configure or ck Out
11 🗢	9:41 AM	\$ 100%	al \$	9:41 AM	≵ 100% 🛲	-	
< Back	Connected Devices		< Back	Connected Device		the second second	
ENS500-AC	00:11:22:AA:66:DD	-85 Ab- WEAK	6	NS500-ACv2_AA234		and the second second	
Stella's iPhor	00:11:22:AA:66:DD		MAC Addre	es 00:11:	22:AA:66:DD	a second	
ENS500-AC	V2_AA234 00:11:22:AA:66:DD	(-50) >	IP Address		192.168.0.0	-	
			TX 🕈	10 Mbps RX↓	10 Mbps		
				104 Moytes	204 Mbytos	and the second	
			Signal	(-75) diam		-	
			Firmware		1.10.1	-	
			Connection	1 Time 10 days 1 hr	4 mins 30sec		Login
						ĸ	ck out
						0	ancel
Backup

Backup current settings as a configuration file to apply to other devices quickly.



Restore

Choose backup file to restore other devices so that they can have the same configuration quickly.

Click Restore		Choose the Backup File			Choose Device to Restore		
□ 中華電信 중 上午11:34 ← ENS500EXT-AC		ull ≑ Cancel	9:41 AM	\$ 100% 🖛 (ull 奈 ∢ back	9:41 AM	\$ 100% ■ Cance
WIRELESS NETWORK	SYSTEM	Select a back	up to restore the devi	ce from	ENS500-AC	/2_AA234_building	
Current Information		ENS500- © 18-6-20	ACv2_AA234_building		Select a dev	ice to be restored	
NTP Server po	ol.ntp.org >	ENS500- © 18-6-20	ACv2_AA234_building		0	ENS500-ACv2_AA	234
Time Zone	-	ENS500-	ACv2_AA234_building			EnStation5-ACv2_A	A234
Auto Detect Location		- © 18-6-20	18, 12:00AM		0	ENS500EXT-ACv2	_AA234567
Latitude					• 6	EnStationACv2_AA	234
Longtitude	>				0 .	ENH500v2_AA234	
Restore						EnStationACv2_AA	234
Cancel						Apply	

Appendix



Appendix A - FCC Interference Statement

Federal Communication Commission Interference Statement

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. Section 15.204(b) states that an approved "transmission system" must always be marketed as a complete system including the antenna.

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

IMPORTANT NOTE: 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 a minimum distance of 26 cm between the radiator & your body.

Appendix B - Professional Installation Instruction (FCC)

Installation Personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

Installation Location

The product shall be installed at a location where the radiating antenna can be kept 26 cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

External Antenna

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC limit and is prohibited.

Installation Procedure

Please refer to user's manual for the detail.



Warning:

In order to make sure that the final output power does not exceed the limit set force in relevant rules, please carefully select the installation position and the installation angle of antenna must be vertical to the ground. The violation of the rule could lead to serious federal penalty.

Appendix C - IC Interference Statement

Industry Canada statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- 1. This device may not cause interference.
- 2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.



where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.



Avertissement:

lorsqu'il y a lieu, les types d'antennes (s'il y en a plusieurs), les numéros de modèle de l'antenne et les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, énoncée à la section 6.2.2.3, doivent être clairement indiqués.

IMPORTANT NOTE:

Radiation Exposure Statement

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 26cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 26 cm de distance entre la source de rayonnement et votre corps.

DETACHABLE ANTENNA USAGE

This radio transmitter (IC: 10103A-EWS850AP) has been approved by ISED to operate with the antenna type listed below with maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (IC: 10103A-EWS850AP) a été approuvé par ISED pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Approved antenna(s) list

EWS850AP

Туре	Gain	Brand	Manufacturer
2.4GHz Dipole	5.17dBi	Master Wave Technology	Master Wave Technology
5 GHz Dipole	5.17dBi	Master Wave Technology	Master Wave Technology

Appendix D Professional installation instruction (IC)

1. Installation personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation location

The product shall be installed at a location where the radiating antenna can be kept 26cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External antenna

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC/ISED limit and is prohibited.

4. Installation procedure Please refer to user's manual for the detail.

5. Warning

Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation professionnelle

1. Installation

Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.

2. Emplacement d'installation

En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 26cm entre l'antenne emettrice et les personnes.

3. Antenn externe.

Utiliser uniiquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par FCC/ISED, ce qui est interdit.

4. Procedure d'installation Consulter le manuel d'utilisation.

5. Avertissement

Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur. La violation de cette regle peut conduire a de serieuses penalites federales.