



EnStation 6 | ENH500-AX

Wi-Fi 6 Outdoor Long Range Wireless Point to Point Bridge

IMPORTANT

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

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Product Overview

Introduction

The EnStation 6 / ENH500-AX is a high-powered, ultra long-range 2x2 Wireless 802.11ax/ac/a/n Outdoor Access Point (AP)with speeds up to 1200 Mbps on both its high-powered 5 GHz radios.

Built in EnGenius Beamforming technology, this AP can transmit data more efficiently, avoid collisions, and reduce latency and packet losses. It can be configured as an Access Point, Station, Repeater, WDS Access Point, WDS Station and WDS Repeater.

The EnStation 6 / ENH500-AX is designed to operate in various of outdoor environments.

Its high- powered, long-range characteristics make it a cost-effective alternative to ordinary Access Points that don't have the range and reach to connect to a growing number of wireless point to point bridge who wish to connect to a business network.

The EnStation 6 / ENH500-AX supports the 5 GHz frequency band for communicating to other 5GHz frequency bands Access Points concurrently.

Several EnStation 6 / ENH500-AX can be networked in a campus setting using the 5 GHz band between countries, which can easily to be installed in virtually any location with its included PoE (Power over Ethernet) Adapter for quick outdoor installation.

The EnStation 6 / ENH500-AX enables network administrators to control its transmit power and features settings for selecting VHT80 bandwidth to perform true AX transmission.

It also supports wireless encryption including Wi-Fi Protected Access (WPA2-PSK) Encryption and IEEE 802.1X with RADIUS.

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 Linuxbased operating systems
- Web-Browsing Application (i.e.: Internet Explorer, Firefox, Safari, or another similar browser application)

Package Contents

The EnStation 6 package contains the following items:*

- EnStation 6 Customer Premises Equipment
- PoE Adapter (EPA5006GR)
- · Power Cord
- Pole Mount Strap
- · Wall Mount Bracket Base
- · Screw Sets Kit
- · Sealing Nut
- Dynamic Stick
- · Quick Installation Guide

*(all items must be in original packaging to issue a refund)

Key Features

- Supports IEEE802.11ax/ac/a/n wireless standards with up to 1200 Mbps data rate.
- Antennas
- EnStation 6: Internal 15.2dBi high gain directional antenna.
- ENH500-AX: Internal 14dBi high gain directional antenna.
- Power Source
- EnStation 6 / ENH500-AX Can be used with included 54V PoE adapter
- · Device can be reset from remote PoE adapter
- Advanced 1024-QAM technology to achieve optimal performance throughout ultra-long distance
- EnGenius EnWiFi App can provide device configuration and monitoring easily on a smartphone or tablet.

The ENH500-AX package contains the following items:*

- PoE Adapter (EPA5006GR)
- · Power Cord
- Pole Mount Strap
- · Wall Mount Screw Set
- · Quick Installation Guide

*(all items must be in original packaging to issue a refund)

Technical Specifications

Standard

IEEE802.11 ax/ac/a/n on 5 GHz

Antenna

Internal 15.2dBi high gain directional antenna EnStation 6

Internal 14dBi high gain directional antenna ENH500-AX

Physical Interface

2 x 10/100/1000 Gigabit Ethernet Port with PoE support

LED Indicator

Power

LAN 1

LAN 2

WLAN

WLAN LED (Weak, Medium, Strong)

Power Requirements

ENH500-AX Include PoE Adapter, 54V 0.6A

EnStation6 Include PoE Adapter, 54V 0.6A

Operation Modes

Access Point

Station

Repeater

WDS Access Point

WDS Station

WDS Repeater

Optimal Performance

Distance Control (Ack Timeout)

Multicast Supported

Data Rate Selection

Auto Channel Selection

BSSID Support

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)

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

WPA2 Enterprise

Hide SSID in beacons

MAC address filtering, up to 32 MACs per SSID

Wireless STA (Client) connection list

Https Support

SSH Support

QoS (Quality of Service)

Complaint with IEEE 802.11e standard

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 (noncondensing): 90% or less

Physical Interface EnStation 6

Dimensions and Weights

Dimension: 190mm (7.48")

Height: 38mm (1.9")
Weight: 527g (1.16 lbs)

1 WLAN Signal LED: Applied on Client Bridge/WDS

(1) Red: Weak Signal: Connecting quality is bad.

(2) Yellow: Connecting quality is Normal.

(3) Green: Connection quality is Good.

EnStation 6



Physical Interface ENH500-AX

Dimensions

Length: 260mm (10.24") Width: 84 (3.31")

Depth: 55mm (2.17")

1 LAN Port 1 (Proprietary 54V PoE)

Ethernet port for RJ-45 cable.

2 LAN(PoE) Signal LED

3 LAN Signal LED of the 2nd Port

4 Power Signal

5 LAN Port 1

Gigabit Ethernet port for RJ-45 cable.

6 LAN Port 2

Gigabit Ethernet port for RJ-45 cable.



2 LAN Port 2

Ethernet port for RJ-45 cable.

3 Reset Botton

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

ENH500-AX



Before You Begin

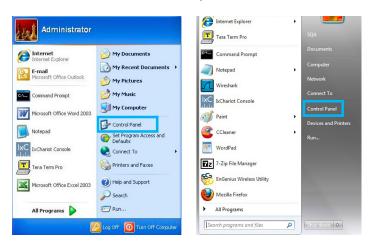
Computer Settings

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.

1.

a. Click the Start button and open the Control Panel.



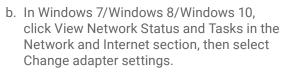
 Move your mouse to the lower right hot corner to display the Charms Bar and select the Control Panel in Windows 8 OS.



c. In Windows 10 and Windows 11, click Start to select All APs to enter the Windows system folder and select Control Panel.

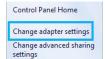


- 2.
- a. In Windows XP, click Network Connections.









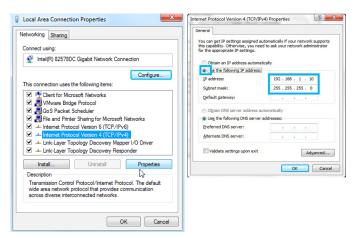
3. Right click on Local Area Connectionand select Properties.



- Select Internet Protocol Version 4 (TCP/IPv4) and then select Properties.
- 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: EnStation6 / ENH500-AX IP address: 192.168.1.1
- PC IP address: 192.168.1.3 192.168.1.255
- PC Subnet mask: 255.255.255.0



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.

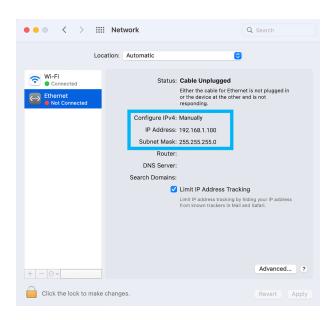
For example:

• EnStation6/ENH500-AX IP address: 192.168.1.1

PC IP address: 192.168.1.3 - 192.168.1.255

PC Subnet mask: 255.255.255.0

6. Click Apply when done.



EnStation 6

Dynamic Stick*1

Using the provided hardware, the EnStation6 can be attached to a wall or a pole.







Hardware Installation EnStation 6

- a. Remove the rear bottom panel.
- b. Connect one end of the Ethernet Cable to the LAN(PoE) port of the EnStation6 / ENH500-AX and the other end to the PoE Port on the PoE Adapter.
- c. Connect the Power Cord to the PoE Adapter and plug the other end into an electrical outlet.
- d. Connect the second Ethernet Cable to the LAN port of the PoE Adapter and the other end to the Ethernet Port of the computer.
- e. Place the panel removed from step "a" back into the device.

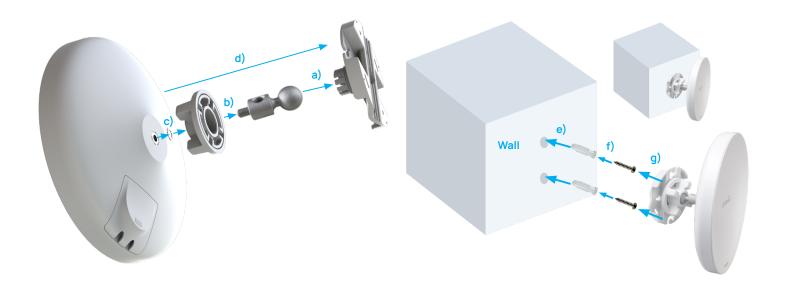
Note:

• The device should ONLY be powered via Ethernet Cable connected to the included PoE Adapter EnStation 6.



Wall mounting the EnStation 6

- a. Plug the dynamic stick into the bracket.
- b. Screw the sealing nut and assembled parts, and tighten it with 80kgf.cm.
- c. Put the lock washer on the dynamic stick.
- d. Assemble the mounting parts to the device.
- e. Determine the mounting location. Mark and drill two pilot holes aligning to the screw holes of the bracket.
- f. Put wall anchors into the holes and insert the screw into the wall anchor.
- g. Screw and secure the bracket in place.



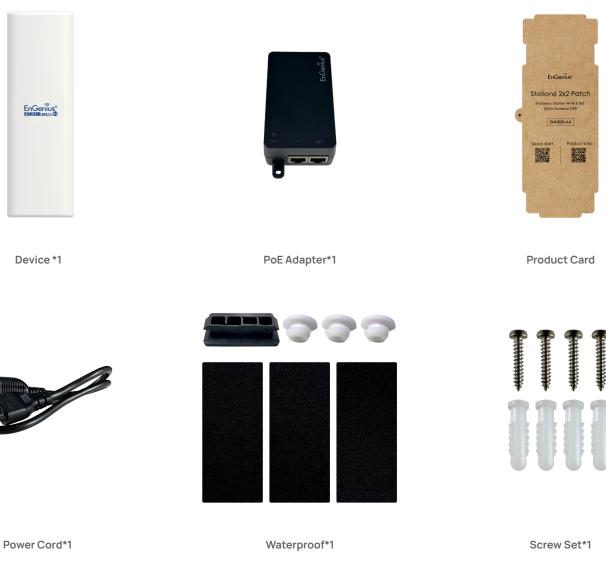
Pole mounting the EnStation 6

- a. Plug the dynamic stick into the bracket.
- b. Screw the sealing nut and assembled parts, and tighten it with 80kgf.cm.
- c. Put the lock washer on the dynamic stick.
- d. Assemble the mounting parts to the device.
- e. Thread the open end of the pole strap through the two tabs on the bracket.
- f. Lock and tighten the pole strap to the secure bracket to the pole.



ENH500-AX

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







Adhesive Label

Pole Mounting Strap*1

Hardware Installation ENH500-AX

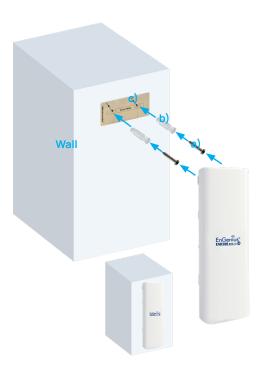
- a. Remove the rear bottom panel.
- b. Connect one end of the Ethernet Cable to the LAN(PoE) port of the AP/Bridge and the other end to the PoE Port on the PoE Adapter.
- c. Connect the Power Cord with the PoE Adapter and plug the other end to an electrical outlet.
- d. Connect the second Ethernet Cable to the LAN port of the PoE Adapter and the other end to the Ethernet Port on the computer.
- e. Place the panel removed from step "A" back into the device.

Note: The device should ONLY be powered via Ethernet Cable connected to the included PoE Adapter.



Wall mounting the ENH500-AX

- a. Determine where the Access Point is to be placed and stick the Adhesive label on the surface.
- b. Use the appropriate drill bit to drill the 8.1 mm diagram and 26 mm depth holes on the markings of the label.
- c. Remove the label and Screw the anchors unto the holes until they are flush with the wall.
- d. Screw the included screws into the anchors, and place the Access Point against a wall with the mounting screw heads.



Pole mounting the ENH500-AX

- 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.



Configuring Your Access Point

Web Interface Configuration

Default Setting

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



 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-based
configuration page



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



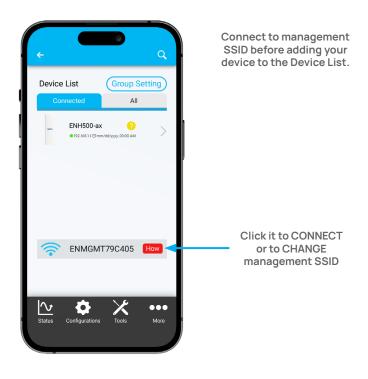
EnWiFi App Configuration

Download EnWiFi App

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



- Before accessing the 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 on configuring and managing devices via EnWiFi App, please see Chapater "EnWiFi App".



Building a Wireless Network

Before starting to configure this Access Point, you may realize the used scenario under varied operating modes. The AP can transmit data more efficiently, avoid collisions, and reduce latency and packet losses.

Access Point Mode

In Access Point Mode, the device behaves like a central connection for stations or clients that support IEEE 802.11ax/ac/a/n networks. The stations and clients must be configured to use the identical SSID (Service Set Identifier) and security password to associate with the EnStation6/ENH500-AX. The EnStation6/ENH500-AX supports up to one (1)/eight (8) SSIDs per band simultaneously for secure access.

Station Mode

The device essentially acts as a wireless adapter that connects to an access point to allow wireless access to the network in the station mode. Since the client is on the same subnet, the device can broadcast to reach the client's device.

If you use the station mode in the device, you can use the AP Detection feature to scan for Access Points within range. When you find an Access Point, configure the device to use the identical SSID and Security Password as the Access Point to associate with it.



WDS Access Point Mode

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



WDS Station Mode

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



WDS Repeater Mode

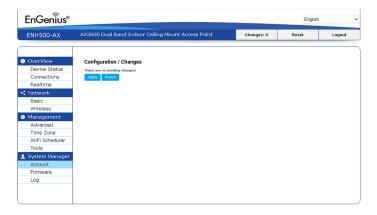
Extend the coverage area of your WiFi network. It works by receiving your existing WiFi signal, amplifying it and then transmitting the boosted signal.

Status

Main Status

Save Changes

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

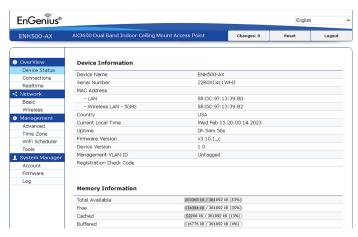


* Different models will vary the model name

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.



* Different models will vary the model name

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

 The Memory Information section shows memory usage such as Total Available, Free, Cached, and Buffered.

- The LAN Information section shows the Local Area Network settings including the LAN IP Address, Subnet mask, and DNS Address.
- The Wireless LAN Information 5 GHz section shows wireless information such as Operating Mode, Frequency, and Channel. Since the EnStation6 and ENH500-AX 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.



Connection

5 GHZ Connection List

Click the connection link under the Overview menu displays the connection list of clients associated with 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

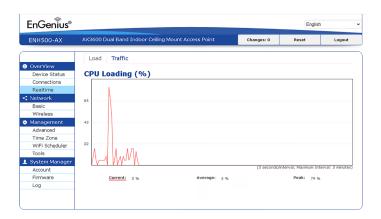
Click the connection link under the Overview menu. This page displays the current status of the WDS link, including WDS Link ID, MAC Address, Link Status and RSSI.



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. The left bar is the loading percentage; the button is time tracing. The interval is every 3 seconds.



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

Realtime Connection (Pkts): Overview of current active network connections. It displays UDP and TCP packet information and other connection statuses. UDP connections curve is in blue; TCP connection curve is in green; others curve is in red. Below of chart shows connections source and destination.

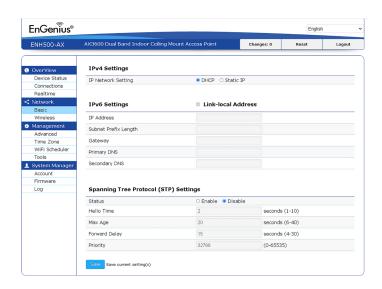


Network

Basic IP Settings

IPv4/IPv6 Settings

This page allows you to modify the device's IP settings.



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 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 an extended period, 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 to allow a new bridge comes onto a busy network, it analyzes data traffic before participating in the network.

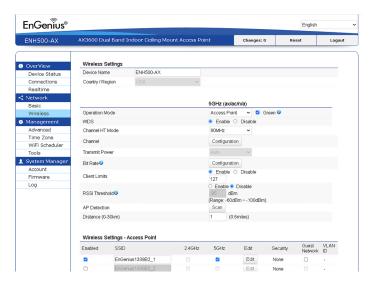
Priority: Specifies the Priority Number. A smaller number has a greater priority than a larger number.

Save: Click **Save** to confirm the changes.

Wireless Connection

Wireless

Wireless Settings



* Different models will vary the model name

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 broadcasted to other devices.

Save: Click Save to confirm the changes.

Wireless Network

EnStation 6 / ENH500-AX supports 802.11 ax/ac/n mixed mode in 5 GHz.



Operation Mode: Select Operation Mode.

When the EnStation6 / ENH500-AX can be set as an Access Point, Station, Repeater, WDS Access Point, WDS Station, WDS Repeater.

Channel HT Mode: The default channel bandwidth is 20 MHz/ 40 /80 MHz. The larger the channel, the greater the transmission quality, and speed.

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



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

Bit Rate: 5GHz is default 6 Mbps. The range can control by BAR via scroll from 6Mbps to 54Mbps.



Client Limits: You can set the limitation of client numbers then the maximum associated client devices will be restricted at this number.

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

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

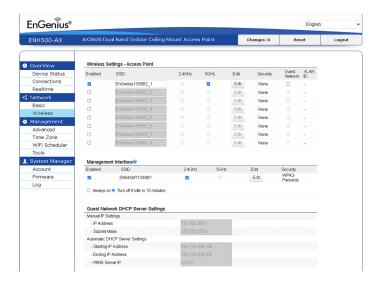


*High level means this client will get 10/16 of AP's time resource.

Wireless Setting-5GHz

Current Profile: You can configure up to eight(8) different SSID. 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.

SSID Profile



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



Enable: Click this check box to enable this SSID interface. The default SSIDs are enabled on the first 5GHz SSID.

SSID: Specifies the SSID 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: Click the appropriate radio button to enable this function for allowing or preventing communication between client devices.

VLAN Isolation: Restrict clients from communicating with different VIDs by selecting the radio button.

L2 Isolation: Enable this function to prevent client devices from communicating on both WLAN and LAN.

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

Wireless Security: See the Wireless Security section.

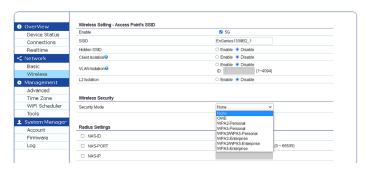
Save: Click Save to accept the changes.

Wireless Security

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



Security Mode: Including WPA2-PSK, WPA2-Enterprise. We strongly recommend you to use WPA2-PSK mode.



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

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

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

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

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

Radius Setting

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

NAS-Ports: Configure your port No. if you want to enable Network Address Service (NAS) under an SSID.

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

Radius Accounting

Radius Accounting: Choose to enable or disable the 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.

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

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.



Please enter the settings of the SSID and initialize the Security mode to WPA2 enterprise, and set the Radius Server. Users can enable Fast Roaming and implement advanced search.

Please also set the same enterprise Encryption under the same SSID on other Access Points and enable Fast Roaming. When the configuration is realized on different Access Points, 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 allows or denies 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 EnStation6/ENH500-AX. The default setting is **Disable Wireless MAC Filter.**

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

Wireless 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. Your choices are: Disabled, Deny MAC in the list, or Allow 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.

Delete: Delete the selected entries.

Save: Click Save to apply the changes.

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	EnableDisable	
Download Limit	100 Mbps (1-999)	□ Per User
Upload Limit	100 Mbps (1-999)	□ Per User

Enable Traffic Shaping: Check this option to enable Wireless Traffic Shaping.

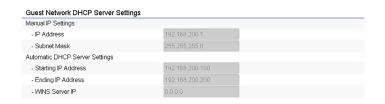
Download Limit: Specifies the wireless transmission bandwidth used for downloading.

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

Save: Click **Save** to confirm the changes.

Guest Network Settings

You can add a guest network which allows visitors to use the Internet without giving out your office or company wireless security key. You can add a guest network to each wireless network in the 5 GHz ac/ a/n frequencies.



SSID: Specifies the SSID for the current profile. Suppressed.

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

Station Separation: Click the appropriate radio button to allow or prevent communication between client devices.

IP Address: The IP Address of this device. Subnet Mask: The IP Subnet mask of this device.

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

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

RSSI Threshold



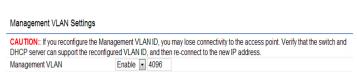
RSSI Threshold: Enable the Fast Handover feature by ensuring that each client is served by at least one Access Point at any time. Access Points continuously monitor the connectivity quality of any client in their range and efficiently share this information with other Access Points in the vicinity of that client to coordinate which of them should serve the client best.

RSSI: Enter the RSSI (Received Signal Strength Index) in order to determine the handover procedure by which the current wireless link will terminate. RSSI is an indication of the power level being received by the antenna. Therefore, the higher the RSSI number, the stronger the signal.

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: 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 the previous settings.

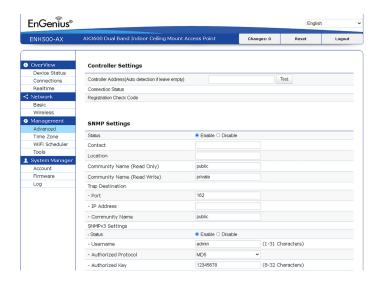
Note: If you reconfigure the Management VLAN ID, you may lose your connection to the EnStation6/ENH500-AX. Verify that the DHCP server supports the reconfigured VLAN ID and then reconnects to the EnStation6/ENH500-AX using the new IP address.

Management

Advanced Settings

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) return the data stored in their Management Information Bases.



SNMP Enable/Disable: 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 computer's IP address 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.

Auth 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: 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.

Status	□ Enable		
- From			
- To			
- Subject	[Email-Alert][ENH500-A)	(][88:D	
Email Account			
- Username			
- Password		æ	
- 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 Settings

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

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.

Ping WatchDog: refers to a method of detecting if an AP IP works correctly. AP IP device functionality is usually monitored using ICMP PING replies. AP is considered to be functioning if it is connected to the network and responds to PING requests. If a reply to a PING request fails to arrive (within a specified time), the IP Watchdog restarts the AP (by disconnecting the power for a short time).

Ping Watchdog		
Status	□ Enable	
· IP Address to Ping		
- Failure Count to Reboot	3	
ing Interval	300	Sec
Startup Delay	300	Sec

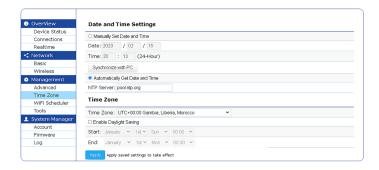
Time Zone

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

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

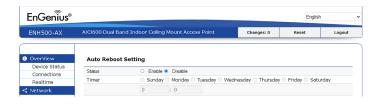
Start: Select the day, month, and time when daylight savings time starts.

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



Auto Reboot Settings

You can specify how often you wish to reboot the EnStation6 / ENH500-AX.



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

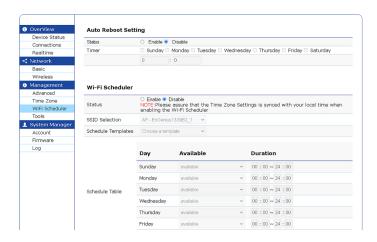
Frequency of Auto Reboot: Specifies how often you wish to reboot the EnStation6 / ENH500-AX by Min, Hour, Day or Week.

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: Enables or disables the Wi-Fi scheduler function.

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

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

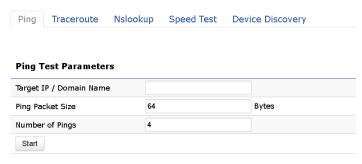
Day(s): Place a checkmark in the boxes for the desired days or select the All Week radio button to select all seven days of the week.

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 Parameters

This page allows you to analyze the connection quality of the EnStation6 / ENH500-AX and trace the routing table to a target in the network.



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.

Traceroute Test Parameters

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

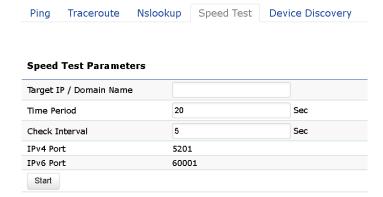


Nslookup Test Parameter

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



Speed Test Parameters



Target IP / Domain Name: Enter an IP address or domain name you wish to implement 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 and in how many intervals.

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

Start: Click start to implement the speed test.

Device Discovery

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



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 change applies, you will need to log in again.

Account Settings



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

Frimware Upgrade

This page allows you to upgrade the device's firmware.



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.

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 the **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 EnStation6 / ENH500-AX as the default value. If extreme problems occur, or if you have set the EnStation6 / ENH500-AX incorrectly, you can push the Reset button to revert all the configurations of the EnStation6 / ENH500-AX 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.

- Note 1: After setting the current settings as the default, you should click the Restore to Default on the web interface to revert the settings to the factory default instead of pushing the reset button.
- Note 2: Please write down your account and password before saving. The user settings will become the default settings at the next successful login.

Log

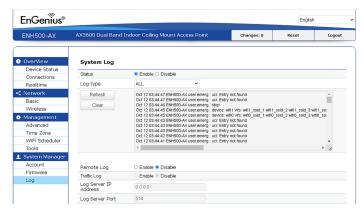
System Log

The EnStation6/ENH500-AX automatically logs (records) events of possible interest in its internal memory. Click the Log link under the System Manager menu to view the logged information. If there is insufficient internal memory to log all events, older events are deleted. When powered down or rebooted, the log will be cleared.

Status: Enable/Disable this function.

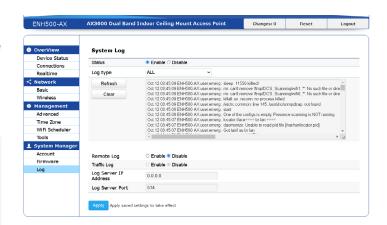
Traffic Log: Enable/Disable this function.

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



Remote Log

This page allows you to setup the Remote Log functions for the EnStation6 / ENH500-AX.



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.

Logout

Click Logout in the Management menu to logout.



*Different models will vary the model name.

Please confirm again to log out the system or not.

Are you sure you want to logout?



Reset

In some circumstances it may be required to force the device to reboot. Click on **Reset** to reboot or reset the EnStation6 / ENH500-AX.



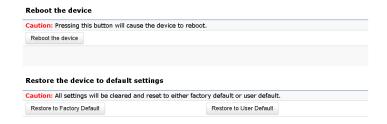
*Different models will vary the model name.

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

Reboot the device: Click the reset button to reboot this device.

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

Restore to User Default: Click the reset button to reset this device to the user default settings. To realize the setting method refer to page 26 (Backup / Restore).



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 devices 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 with single device configuration throughout EnWiFi App. The Configuration could assist users in fulfilling settings on Wireless, Network and Systems.

Group Configuration

Users can easily create a group configuration for multiple wireless access points and change between Access Point, Station, WDS Access Point, WDS Station.

Device Management

Realize the 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 a weak signal.

Discover Device

Discover EnGenius Device nearby and access 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 based on this connected information.

Backup and Restore

Backup current configuring file and restore to other devices quickly.

Configuring Device in EnWiFi App

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

Single Configuration

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



WDS Link

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

Wireless/Change Operation Mode Set SSID and Security to Proceed Link Settings Client can connect to IT via SSID





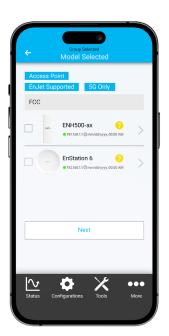


Group Configuration

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

Select Operation Mode and Radio Firstly. Check Status for Access Points Proceeds Wireless Setting









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

Network Setting IP/Subnet or via DHCP Assigned System Setting Time Setting Device Setting Account/Password



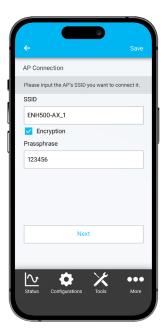




You also can use EnWiFi App to proceed connection from Client Bridge mode devices to an Access Point mode device.

Select an AP SSID — Manually Enter the Passphrase and Click "Next" — Go on Wireless Settings and Further Steps







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

Select Operation Mode to WDS AP and Choose AP —— Configure Wireless Setting





Select operation mode to WDS STA and Choose AP to connect



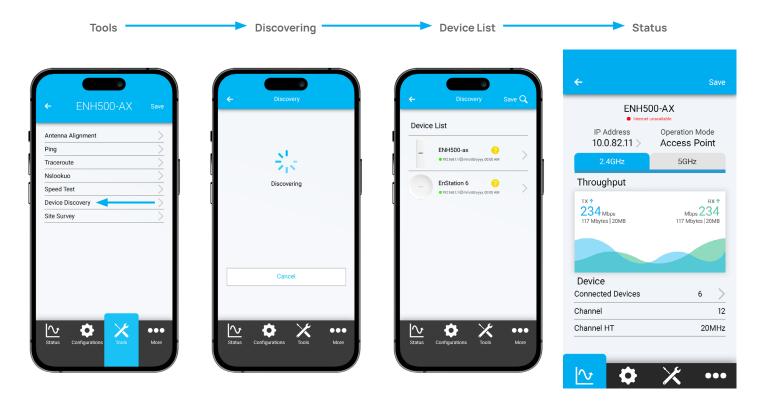






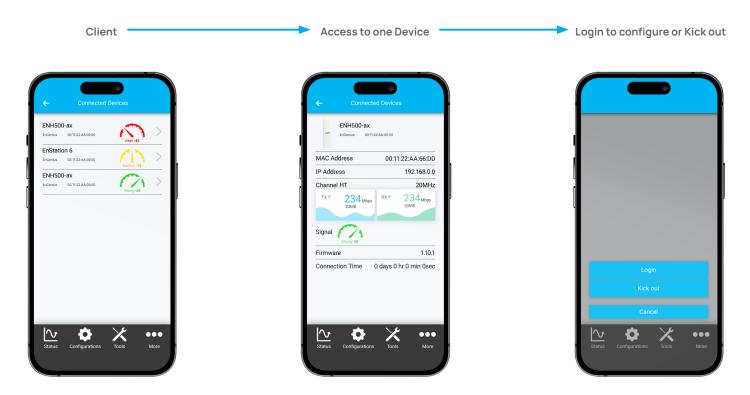
Discover Device

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



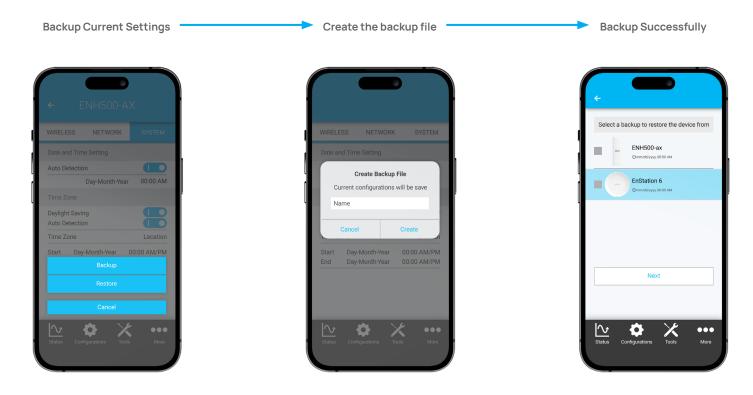
Monitor & Management

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



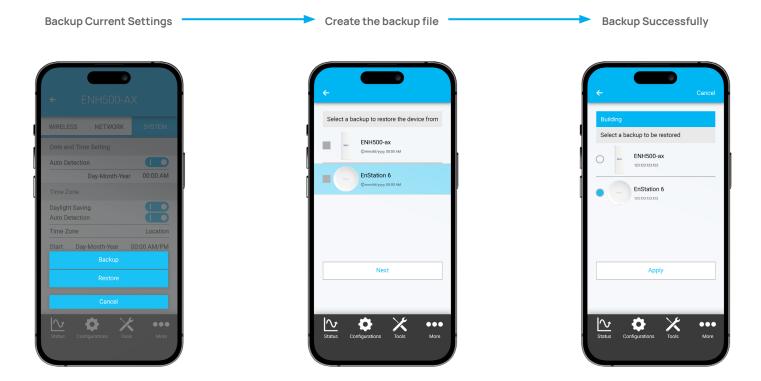
Backup

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



Restore

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



Appendix

Appx. 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 products 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 to an outlet on a circuit different from the receiver's.
- · 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 20 cm between the radiator & your body.

Appx. B: Professional Installation Instruction (FCC)

Installation Personal

This product is designed for specific applications and needs to be installed by qualified person with 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 20 cm from nearby persons in normal operating conditions to meet regulatory RF exposure requirements.

External Antenna

Use only the antennas which the applicant has approved. 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 the user's manual for the detail.



Warning:

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

Appx. C: IC Interference Statement

Industry Canada statement

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

This device may not cause interference.

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.



Caution:

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 a minimum distance of 20cm 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 20 cm de distance entre la source de rayonnement et votre corps.

DETACHABLE ANTENNA USAGE

This radio transmitter (ENH500-AX) and (IC: 10103A-ENH500-AX) 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 (ENH500-AX) (IC: 10103A-ENH500-AX) 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 EnStation 6 / ENH500-AX

EnStation 6

			Antenna Gain (dBi)			
AntType Connector Frequency				cy (GHz)		
		2.4	5.150	5.850		
Patch	Ipex		14.1	14		
Patch	Ipex		14.7	14.1		
Patch	lpex	3.9				

ENH500-AX

		Antenna Gain (dBi)				
AntType	Connector	Frequency (GHz)				
		2.4	5.150	5.47	5.850	
Patch	Ipex		11.6	10.79	11.13	
Patch	Ipex		14.04	13.93	13.26	
PIFA	RF Trace	1.52				

Appx. 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 20cm 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 20cm 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 vi-gueur. La violation de cette regle peut conduire a de serieuses penalites federales.