

# **User's Manual**

# 600Mbps Dual Band 802.11n Outdoor Wireless CPE

▶ WDAP-8350





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#### Federal Communication Commission Interference Statement

**FCC** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1. Reorient or relocate the receiving antenna.
- 2. Increase the separation between the equipment and receiver.
- 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4. Consult the dealer or an experienced radio technician for help.

#### **FCC Caution**

To assure continued compliance, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This Device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

#### **R&TTE Compliance Statement**

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE). The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) as of April 8, 2000.

#### Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

#### **National Restrictions**

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reasons/remarks
Bulgaria	None	General authorization required for outdoor use and public service
France	Outdoor use; limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy	None	If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian	None	Only for indoor applications
Federation		

Note: Please don't use the product outdoors in France.

#### WEEE regulation



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

### Revision

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# CONTENTS

Chapter 1	1.Product Introduction	1
1.1	Package Contents	1
1.2	Product Description	2
1.3	Product Features	4
1.4	Product Specifications	5
Chapter 2	2.Hardware Installation	8
2.1	Hardware Description	8
	2.1.1 The Rear Panel - LED	9
	2.1.2 The Top/Bottom Panel – Connector and Port	10
Chapter 3	3.Connecting to the AP	12
3.1	Preparation before Installation	12
	3.1.1 Professional Installation Required	12
	3.1.2 Safety Precautions	12
3.2	Installation Precautions	12
3.3	Installing the AP – Pole Mounting	14
3.4	Installing the AP – Wall Mounting	15
3.5	Connecting the Antennas and Powering It Up	15
Chapter 4	4.Quick Installation Guide	17
4.1	Manual Network Setup - TCP/IP Configuration	17
	4.1.1 Configuring the IP Address Manually	17
4.2	Starting Setup in the Web UI	21
Chapter 5	5.Configuring the AP	
5.1	Basic Settings	
5.2	Status	26
0.2	521 Interfaces	26
	5.2.2 Transmit/Receive	
	5.2.3 Client Associations	31
5.3	Advanced Configuration	32
	5.3.1 Ethernet Settings	
	5.3.2 Wireless Settings	34
	5.3.3 Radio	
	5.3.4 VAP	40
	5.3.5 WDS	44
	5.3.6 Location	46
5.4	Services	47
	5.4.1 Web Server	47

		5.4.2	NTP	49
	5.5	Mainte	nance	49
		5.5.1	Configuration	49
		5.5.2	Upgrade	51
Cha	pter 6	.Quick	Connection to a Wireless Network	53
	6.1	Windo	ws XP (Wireless Zero Configuration)	53
	6.2	Windo	ws 7 (WLAN AutoConfig)	55
	6.3	Mac O	S X 10.x	58
	6.4	iPhone	/iPod Touch/iPad	62
Арр	endix	A: Plan	et Smart Discovery Utility	65
Арр	endix	B: Trou	ıbleshooting	66
Арр	endix	C: Frec	uently Asked Questions	68
		Q1: Ho	ow to set up the WDS PtP Connection	68
		Q2: Ho	ow to set up the WDS PtMP Connection	74

FIGURE 2-1 THREE-WAY VIEW	
FIGURE 2-2 LED	9
FIGURE 2-3 ANTENNA CONNECTORS	
FIGURE 2-4 PORT AND BUTTON	
FIGURE 3-1 INSTALL THE BACKPLANE	
FIGURE 3-2 INSTALL THE STAINLESS TIGHT HOOP STRIPS	
FIGURE 3-3 ASSEMBLE THE AP ON THE POLE	
FIGURE 3-4 ASSEMBLE THE AP ON THE WALL	
FIGURE 3-5 CONNECT TO THE ANTENNAS	
FIGURE 3-6 CONNECT THE AP TO THE POE SWITCH	
FIGURE 4-1 TCP/IP SETTING	
FIGURE 4-2 WINDOWS START MENU	
FIGURE 4-3 SUCCESSFUL RESULT OF PING COMMAND	
FIGURE 4-4 FAILED RESULT OF PING COMMAND	
FIGURE 4-5 LOGIN BY DEFAULT IP ADDRESS	
FIGURE 4-6 LOGIN WINDOW	
FIGURE 5-1 MAIN MENU	
FIGURE 5-2 BASIC SETTINGS	
FIGURE 5-3 BASIC SETTINGS	
FIGURE 5-4 TRANSMIT/RECEIVE STATISTICS – 1	
FIGURE 5-5 TRANSMIT/RECEIVE STATISTICS – 2	
FIGURE 5-6 TRANSMIT/RECEIVE STATISTICS – 3	
FIGURE 5-7 CLIENT ASSOCIATIONS	
FIGURE 5-8 ETHERNET SETTINGS	
FIGURE 5-9 WIRELESS SETTINGS	
FIGURE 5-10 RADIO SETTINGS – 1/2	
FIGURE 5-11 RADIO SETTINGS – 2/2	
FIGURE 5-12 VAP SETTINGS	
FIGURE 5-13 SECURITY SETTING – NONE	41
FIGURE 5-14 SECURITY SETTING – WEP	
FIGURE 5-15 SECURITY SETTING – WPA PERSONAL	
FIGURE 5-16 SECURITY SETTING – WPA ENTERPRISE	
FIGURE 5-17 WDS SETTINGS	
FIGURE 5-18 LOCATION SETTINGS	
FIGURE 5-19 WEB SERVER SETTINGS	
FIGURE 5-20 NTP SETTINGS	
FIGURE 5-21 CONFIGURATION BACKUP/RESTORE	
FIGURE 5-22 FIRMWARE UPGRADE	
FIGURE 6-1 SYSTEM TRAY – WIRELESS NETWORK ICON	
FIGURE 6-2 CHOOSE A WIRELESS NETWORK	
FIGURE 6-3 ENTER THE NETWORK KEY	
FIGURE 6-4 CHOOSE A WIRELESS NETWORK CONNECTED	

# FIGURE

FIGURE 6-5 NETWORK ICON	55
FIGURE 6-6 WLAN AUTOCONFIG	55
FIGURE 6-7 TYPE THE NETWORK KEY	56
FIGURE 6-8 CONNECT TO A NETWORK	
FIGURE 6-9 CONNECTED TO A NETWORK	
FIGURE 6-10 MAC OS – NETWORK ICON	
FIGURE 6-11 HIGHLIGHT AND SELECT THE WIRELESS NETWORK	
FIGURE 6-12 ENTER THE PASSWORD	
FIGURE 6-13 CONNECTED TO THE NETWORK	
FIGURE 6-14 SYSTEM PREFERENCES	60
FIGURE 6-15 SYSTEM PREFERENCES NETWORK	60
FIGURE 6-16 SELECT THE WIRELESS NETWORK	61
FIGURE 6-17 IPHONE – SETTINGS ICON	
FIGURE 6-18 WI-FI SETTING	
FIGURE 6-19 WI-FI SETTING – NOT CONNECTED	63
FIGURE 6-20 TURN ON WI-FI	63
FIGURE 6-21 IPHONE ENTER THE PASSWORD	64
FIGURE 6-22 IPHONE CONNECTED TO THE NETWORK	64



# **Chapter 1. Product Introduction**

### **1.1 Package Contents**

Thank you for choosing PLANET WDAP-8350. Before installing the AP, please verify the contents inside the package box.





If there is any item missing or damaged, please contact the seller immediately.



## **1.2 Product Description**



#### Powerful Dual-Band Outdoor WLAN Solution

PLANET WDAP-8350 comes with a high transmission power of **500mW** which can bridge two remote nodes in **5GHz** frequency band and provides clients with **2.4GHz** wireless access over longer distance range. Its fully-protected hardware design makes it capable to ward off direct lightning strikes and unpredictable harsh weathers. Furthermore, the WDAP-8350 adopts the high-class Qualcomm Atheros SoC (System-on-a-Chip) and **Dual-OS Backup** mechanism that provide higher stability to meet the stringent requirements of outdoor solution.

#### More Flexible for Outdoor Environments

With its dual-RF design and by connecting optional specific types and higher gain antennas to its **N-Type** antenna connectors, the WDAP-8350 can adapt to various applications including connecting IP cameras at multiple locations to the security control center to deploy a surveillance system, or relaying the wireless signal from the urban to the suburban to provide wireless internet service to rural residents simultaneously. With the WDAP-8350, an outdoor wireless infrastructure can be speedily deployed, thus realizing the setting up of an outdoor, long-distance, dual-purpose unit.

#### **All-Weather Rugged Protection**

With the **IP66** rated aluminum housing, **Surge Arrester**, **Heater** design and wide-ranging operating temperature from **-40 to 70** degrees C, PLANET WDAP-8350 can perform normally under rigorous weather conditions, including thunderstorms, and hot and cold climates, thus maintaining the connection as stable as that in the general environments.

#### **Seamless Failover and Roaming**

In the actual user experience, a redundant setup is important in that the WDAP-8350 enables the auto failover mechanism to activate by using dual images (Dual-OS) while if the active OS fails, it can immediately switch to the standby OS. That can eliminate the difficulty of real-time support in long distance and make failover as simple as possible. Furthermore, it enhances handover of clients between APs by improving the handshaking process to promote better performance, thus reducing the handoff times between APs and associated clients, which means it can quickly hand over to the nearby AP without any disconnection. Benefiting from the auto-backup and fast-roaming, the WDAP-8350 is able to achieve a non-disruptive path failover and seamless roaming.



#### High-efficiency and Practical Solution to Separating Various Applications

PLANET WDAP-8350 supports multiple SSIDs (16 sets of SSIDs for each band) to allow each virtual wireless network to have a different set of security and also capable to map each VAP to specific virtual network through the use of VLAN tagging which enables isolation of guest and corporate networks. In addition, its dynamic rate adaptation mechanism for multicast guarantees the wireless bandwidth and service quality or the fixed rate of video streaming, which prevents from capacity wasting of multicast packets, thus utilizing the available bandwidth with more efficiency.

#### **Advanced Value-added Characteristics**

Featuring an **IPv4/IPv6** dual-stack network, the WDAP-8350 can work with the original IPv4 network structure and also support the cutting-edge IPv6 network, which provides migration from the IPv4 to IPv6 network with ease. With the dynamic power saving mode implementation, it is capable to detect the traffic loading, which consumes low standby power automatically, thus reducing power consumption by less than 30%.

#### **Easy Deployment and Management**

Compliant with **IEEE 802.3at PoE+** (**P**ower **o**ver **E**thernet) standard, the WDAP-8350 can be powered by a single UTP cable besides providing data transmission. It thus reduces the needs of extra cables and dedicated electrical outlets which are difficult to reach in outdoor environment. It enables the wireless LAN deployment to become more flexible and worry-free from the power outlet locations. Moreover, with the Planet Smart Discovery Utility, the WDAP-8350 is convenient to be configured remotely and with the Wireless Location Management, it is easy to locate online clients' information.



# 1.3 Product Features

#### Industrial-grade Wireless LAN

- Compliant with IEEE 802.11n 2T2R MIMO with backward compatible with 802.11a/b/g standard
- Simultaneous 2.4GHz and 5GHz wireless connectivity
- Equipped with Gigabit LAN and 600Mbps wireless connectivity (Dual-N Band)
- IPv4 and IPv6 dual-stack management networks

#### Radio and Outdoor Characteristics

- Built-in 4 N-Type (Female) antenna connectors
- High output power up to 500mW with multiple adjustable transmit power control
- Built-in surge arrester and ground terminal for protection against lightning strikes
- IP66 aluminum case protection
- IEEE 802.3at PoE design
- Wide operating temperature of -40 ~ 70 degrees C
- Built-in Heater (will auto-launch at -30 degrees C) prevents freeze in harsh environment

#### Wireless Feature Characteristics

- Dual-N band performs backhaul WDS link at 5GHz and relay wireless signal at 2.4GHz
- Multiple wireless modes: AP, WDS PtP and WDS PtMP
- Supports up to 16 multiple-SSIDs at each frequency band
- Multicast rate adaptation guarantees wireless bandwidth and service quality
- Automatic ACK timeout detection smart for long-range connection

#### Secure and Highly-reliable Network Management

- Advanced 128-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK(TKIP/AES) security, and 802.1x authentication
- Supports IEEE 802.1Q tagged VLAN over WDS or mapping up to 32 SSIDs
- Dual-image (dual-OS) backup mechanism
- Easy Web-based UI and PLANET Smart Discovery supported
- Telnet command line interface
- Auto power saving mode reduces power consumption by 30%
- Easily locate online clients information through the Wireless Location Management
- System status monitoring includes statistics and associated client list



# **1.4 Product Specifications**

Product	WDAP-8350		
Froduct	600Mbps 802.11n Dual Band Outdoor Wireless CPE		
Hardware			
Interface	Wireless: IEEE 802.11n concurrent 2.4GHz and 5GHz, 2T2R MIMO LAN: 10/100/1000BASE-T, auto-MDI/MDIX, IEEE 802.3at PoE PD		
Antenna	Built-in 4 N-Type (female) antenna connectors with surge arrestor		
Button/Connector	Reset but	ton, ground terminal, ground lug	
LED	PWR, LAI	N, 2.4G, 5G	
Material	Aluminum		
Dimensions (W x D x H)	220 x 95 >	220mm	
Weight	2.34kg		
Power Requirement	IEEE 802	3at PoE+	
Power Consumption (max.)	< 24W (high-loading and heater) < 7W (power saving mode)		
Mounting Type	Mast, wall mount		
Wireless Interface Specification	ons		
Wireless Standard	IEEE 802.11a/n 5GHz IEEE 802.11b/g/n 2.4GHz		
Antenna Structure	802.11n: 2T2R MIMO at each frequency band		
Data Rate	IEEE 802.11b: 1, 2, 5.5, 11Mbps IEEE 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps IEEE 802.11n (20MHz): up to 150Mbps IEEE 802.11n (40MHz): up to 300Mbp at each frequency band		
Media Access Control	CSMA/CA		
Modulation Type	802.11a/g/n: OFDM (BPSK/QPSK/16QAM/64QAM) 802.11b: DSSS (DBPSK/DQPSK/CCK)		
Band Mode	2.4G and 5G concurrent mode		
Frequency Range	2.4GHz: 2.400 ~ 2.484GHz 5GHz: 5.150 ~ 5.850GHz		
	2.4GHz	America FCC: 1~11 Europe ETSI: 1~13	
Operating Channel	5GHz	America FCC: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165 (total 24 channels) Europe ETSI:	



	36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136,		
	140 (total 16 channels)		
	SGHz channel list may be vary in different countries and may be restricted to abide by regional regulatory compliance.		
Channel Width	20MHz/40MHz		
Max. RF Power	27dBm for all rate levels and modulation modes		
Output Power Control	1 ~ 100%		
Software Features			
	■ AP		
Wireless Mode	■ WDS PTP		
	■ WDS PTMP		
	■ WEP (64/128-bit) encryption security		
Wireless Encryption	■ WPA / WPA2 (TKIP/AES)		
·····	■ WPA-PSK/WPA2-PSK (TKIP/AES)		
	■ 802.1x authentication		
	Enable/Disable SSID broadcast		
	Max. associated station number restriction		
Wireless Advanced	Multiple SSIDs: up to 16 at 2.4GHz and 16 at 5GHz		
	Supports multiple VLANs mapping to multiple SSIDs		
	Supports fast roaming across APs		
	Provides wireless statistics		
Max. Wired Client	Unlimited		
Max. Wireless Client	Theoretical value: 127 at each band		
	Recommended value: 50 at each band		
Max. WDS Peers	Up to 16 at 2.4GHz and 16 at 5GHz		
QoS	Supports multicast rate adaptation mechanism to guarantee the wireless		
	bandwidth and service quality		
	Static IP, DHCP		
LAN	IPv4 and IPv6 dual-stack management network		
	Supports 802.1Q tagged VLAN		
	Web-based (HTTP) and Telnet command line Interface		
	Supports NTP synchronization		
	Easy firmware upgrade via HTTP/TFTP		
	Easy system backup/restore via HTTP/TFTP		
System Management	Easily locate online clients information through the Wireless Location		
	Management		
	Supports Dual-OS auto-backup mechanism		
	Supports Auto Power Saving Mode mechanism		
	Supports PLANET Smart Discovery Utility		



Standards Conformance		
Standard ComplianceIEEE 802.11n (2T2R, dual-N band up to 600Mbps)IEEE 802.11aIEEE 802.11gIEEE 802.11bIEEE 802.11iIEEE 802.3 10BASE-TIEEE 802.3u 100BASE-TXIEEE 802.3ab 1000BASE-T		
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNTP	
Environment & Certification		
Temperature	Operating: -40 ~ 70 degrees C Storage: -40 ~ 75 degrees C ※ Built-in Heater (will auto-launch at -30 degrees C) Operating: 10 ~ 95% (non-condensing)	
Humidity	Storage: 5 ~ 95% (non-condensing)	
IP Level	IP66	
ESD Protection ±15kV air-gap discharge ±8kV contact discharge		
Surge Protection	±6kV line to ground ±2kV line to line	
MTBF	1553658 hrs at 25 degrees C 335788 hrs at 60 degrees C	
EMC Emissions Class	В	
Regulatory Compliance	CE, FCC, RoHS	

# Chapter 2. Hardware Installation

Please follow the instructions below to connect WDAP-8350 to the existing network devices and your computers.

# 2.1 Hardware Description

Physical Specifications	
Dimensions (W x D x H)	220 x 95 x 220mm
Weight	2.34 ± 5g (gross weight)

#### Appearance



Figure 2-1 Three-way View



#### 2.1.1 The Rear Panel - LED

The rear panel shows the signal indicators of power, Ethernet, 2.4GHz and 5GHz radio status. **Figure 2-2** shows the rear panel of the WDAP-8350.

### Rear Panel – LED



Figure 2-2 LED

#### LED definition

LED	Color	State	Meaning
Power	Green	On	The AP is powered on.
		Off	The AP is powered off.
LAN	Green	On	Port linked
		Off	No link
2.4G	Green	On	2.4G radio is on.
		Blinking	Data is transmitting or receiving on the 2.4GHz.
		Off	2.4G radio is off.
5.0G	Green	On	5G radio is on.
		Blinking	Data is transmitting or receiving on the 5GHz.
		Off	5G radio is off.

Table 2-1 LED Indication



#### 2.1.2 The Top/Bottom Panel – Connector and Port

The top/bottom panel provides the physical connectors connected to the antenna, surge protection wiring and any other network device. Figure 2-3 and Figure 2-4 show the top and bottom panels of the WDAP-8350.

#### Antenna Connector



Figure 2-3 Antenna Connectors

**Button & Port** 



Figure 2-4 Port and Button



#### H/W Interface definition

Object	Description	
Antenna Connector	4 N-type (Female) antenna connectors Built-in surge arrestor on each antenna connector	
PoE LAN Port	10/100/1000Mbps RJ-45 port, auto MDI/ MDI-X IEEE 802.3at PoE/PD supported, Class 4	
Reset Button	Press the <b>Reset</b> button on the device for over 5 seconds to return to the factory default setting.	
Ground Lug	The WDAP-8350 has a built-in surge arrestor on each antenna connector. Connecting the grounding wire to the ground lug is required to protect the lightning attack; otherwise, a sudden lightning could cause fatal damage to the WDAP-8350.	
Ground Terminal	Attaching the ring grounding terminal to the ground terminal of the WDAP-8350 is required to protect the lightning attack; otherwise, a sudden lightning could cause fatal damage to the WDAP-8350.	

After the AP is mounted on a pole/wall and before you provide power to the system, you need to complete the wiring in the position of AP installation. To connect the AP to a reliable earth ground, perform the following steps:



- 1. Strip one end of the ground wire to the length required for the ground lug or terminal.
- 2. Crimp the ground wire to the ground lug or ring terminal, using a crimp tool of the appropriate size.
- 3. Connect the other end of the ground wire to a suitable grounding point at your site.



# Chapter 3. Connecting to the AP

### 3.1 Preparation before Installation

#### 3.1.1 Professional Installation Required

Please seek assistance from a professional installer who is well trained in the RF installation and knowledgeable in the local regulations.

#### 3.1.2 Safety Precautions

- 1. To keep you safe and install the hardware properly, please read and follow these safety precautions.
- 2. If you are installing the WDAP-8350 for the first time, for your safety as well as others', please seek assistance from a professional installer who has received safety training on the hazards involved.
- 3. Keep safety as well as performance in mind when selecting your installation site, especially where there are electric power and phone lines.
- 4. When installing the WDAP-8350, please note the following things:
  - Do not use a metal ladder;
  - Do not work on a wet or windy day;
  - Wear shoes with rubber soles and heels, rubber gloves, long sleeved shirt or jacket.
- 5. When the system is operational, avoid standing directly in front of it. Strong RF fields are present when the transmitter is on.

### 3.2 Installation Precautions

Users MUST complete grounding wired with the WDAP-8350; otherwise, a sudden lightning could cause fatal damage to the WDAP-8350. EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.





# **OUTDOOR INSTALLATION WARNING**

#### **IMPORTANT SAFETY PRECAUTIONS:**

LIVES MAY BE AT RISK! Carefully observe these instructions and any special instructions that are included with the equipment you are installing.

**CONTACTING POWER LINES CAN BE LETHAL.** Make sure no power line made. Antennas, masts, towers, guy wires or cables may lean or fall and con if they are touching or holding any part of equipment when it contacts electric do not come in contact directly or indirectly with power lines.



The horizontal distance from a tower, mast or antenna to the nearest power line should be at least twice the total length of the mast/antenna combination. This will ensure that the mast will not contact power if it falls either during installation or later.

#### TO AVOID FALLING, USE SAFE PROCEDURES WHEN WORKING AT HEIGHTS ABOVE GROUND.

- Select equipment locations that will allow safe, simple equipment installation.
- Don't work alone. A friend or co-worker can save your life if an accident happens.
- Use approved non-conducting lasers and other safety equipment. Make sure all equipment is in good repair.
- If a tower or mast begins falling, don't attempt to catch it. Stand back and let it fall.
- If anything such as a wire or mast does come in contact with a power line, DON'T TOUCH IT OR ATTEMPT TO MOVE IT. Instead, save your life by calling the power company.
- Don't attempt to erect antennas or towers on windy days.

#### MAKE SURE ALL TOWERS AND MASTS ARE SECURELY GROUNDED, AND ELECTRICAL CABLES CONNECTED TO

**ANTENNAS HAVE LIGHTNING ARRESTORS.** This will help prevent fire damage or human injury in case of lightning, static build-up, or short circuit within equipment connected to the antenna.

- The base of the antenna mast or tower must be connected directly to the building protective ground or to one or more approved grounding rods, using 1 OAWG ground wire and corrosion-resistant connectors.
- Refer to the National Electrical Code for grounding details.

#### IF A PERSON COMES IN CONTACT WITH ELECTRICAL POWER, AND CANNOT MOVE:

- DON'T TOUCH THAT PERSON, OR YOU MAY BE ELECTROCUTED.
- Use a non-conductive dry board, stick or rope to push or drag them so they no longer are in contact with electrical power.

Once they are no longer contacting electrical power, administer CPR if you are certified, and make sure that emergency medical aid has been requested.



# 3.3 Installing the AP – Pole Mounting

Please install the AP on the pole according to the following Steps.

**Step 1.** Install the backplane at the rear of WDAP-8350 and screw the 4 short screws with a Phillips screwdriver. Make the long screw rod pass through the holes of the backplane and put the flat pad, spring shim and the screw nut on it in proper order; do not lock it tight.



Figure 3-1 Install the backplane

**Step 2.** Lock the 2 stainless tight hoop strips around the pole by passing through the mounting bracket and lock the fastening screws.



Figure 3-2 Install the stainless tight hoop strips

**Step 3.** Install the device with the backplane to the mounting bracket on the column and fix the device and mounting bracket together by using 4 hex cap screws.



Figure 3-3 Assemble the AP on the pole



# 3.4 Installing the AP – Wall Mounting

Please install the AP on the wall according to the following steps.

- Step 4. As shown in Step 3-1, install the backplane at the rear of the WDAP-8350 first. Then, mark each point in the bracket for the screws. Remove the bracket to drill the points and insert the plastic wall-mounts. Use screws to lock the bracket with a screwdriver.
- Step 5. Assemble the device with the mounting bracket on the wall by using 4 short screws and 1 long screw.



Figure 3-4 Assemble the AP on the wall

# 3.5 Connecting the Antennas and Powering It Up

Please install the antennas according to the following steps.

Step 1. You can directly connect the antenna to the AP if the antenna's connector is N-Type (M). If not, please connect the N-Type (M) RF cables to N-Type (F) antenna connectors of the WDAP-8350, and connect the other end of the RF cables to the N-Type (F) antennas.





(※ The actual antenna connection depends on the antenna type you choose. The antennas are required and must be purchased separately.)



**Step 2.** Plug the RJ45 Ethernet cable into the PoE port of the WDAP-8350 through the waterproof kit, and plug the other side of the RJ45 cable into the PoE port of the PoE switch to finish the installation.



Figure 3-6 Connect the AP to the PoE Switch

(※ Please remember to install the ground cables onto the ground terminal and ground lugs)

Step 3. Successful installation.



# Chapter 4. Quick Installation Guide

This chapter will show you how to configure the basic functions of your AP within minutes.



A computer with wired Ethernet connection to the Wireless AP is required for the first-time configuration.

# 4.1 Manual Network Setup - TCP/IP Configuration

The default IP address of the WDAP-8350 is **192.168.1.10**. And the default Subnet Mask is 255.255.255.0. These values can be changed as you want. In this guide, we use all the default values for description.

Connect the WDAP-8350 with your PC by an Ethernet cable plugging in PoE LAN port on one side and in LAN port of PC on the other side. Please power on the WDAP-8350 by PoE switch through the PoE port.

In the following sections, we'll introduce how to install and configure the TCP/IP correctly in **Windows 7**. And the procedures in other operating systems are similar. First, make sure your Ethernet Adapter is working, and refer to the Ethernet adapter manual if needed.

#### 4.1.1 Configuring the IP Address Manually

Summary:

- Set up the TCP/IP Protocol for your PC.
- Configure the network parameters. The IP address is 192.168.1.xxx (If the default IP address of the WDAP-8350 is 192.168.1.10, and the DSL router is 192.168.1.254, the "xxx" can be configured to any number from 1 to 253, except 192.168.1.10). Subnet Mask is 255.255.255.0.
- If the DHCP server is enabled in the PoE switch, please disable it before finishing configuring the AP.
- 1 Select **Use the following IP address** radio button, and then configure the IP address of the PC.
- 2 For example, as the default IP address of the WDAP-8350 is 192.168.1.10 and the DSL router is 192.168.1.254, you may choose from 192.168.1.1 to 192.168.1.253, except 192.168.1.10.



General	
You can get IP settings assigned a this capability. Otherwise, you ne for the appropriate IP settings.	automatically if your network supports ed to ask your network administrator
Obtain an IP address automa	atically
• Use the following IP address	¢
IP address:	192.168.1.100
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	(4) (4) N
Obtain DNS server address a	automatically
O Use the following DNS server	r addresses:
Preferred DNS server:	0 19 2
Alternate DNS server:	
	Advanced

Figure 4-1 TCP/IP Setting

Now click **OK** to save your settings.

Now, you can run the Ping command in the **command prompt** to verify the network connection between your PC and the AP. The following example is in **Windows 7** OS. Please follow the steps below:

- 1. Click on **Start > Run**.
- 2. Type "**cmd**" in the Search box.



Files (1)	
History	
₽ See more results	
(	Shut dawa   b

- 3. Open a command prompt, type ping **192.168.1.10** and then press **Enter**.
  - If the result displayed is similar to **Figure 4-3**, it means the connection between your PC and the AP has been established well.

Administrator: C:\Windows\system32\cmd.exe	_ 0 <u>_ x</u>
Microsoft Windows [Version 6.1.7601] Copyright (c) 2009 Microsoft Corporation. All rights reserved.	<b>^</b>
C: >>ping 192.168.1.253	
Pinging 192.168.1.253 with 32 bytes of data:	
Reply from 192.168.1.253: bytes=32 time=17ms TTL=64	
Keply from 192.168.1.253: bytes=32 time=18ms IIL=64 Powly from 192.168.1.253: bytes=32 time=19ms TTL=64	
Reply from 192.168.1.253: bytes=32 time=18ms TTL=64 Reply from 192.168.1.253: bytes=32 time=18ms TTL=64	
Ping statistics for 192.168.1.253:	
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),	
Approximate round trip times in milli-seconds:	
Minimum = 17ms, Maximum = 18ms, Average = 17ms	
C: ◇	
	-

Figure 4-3 Successful Result of Ping command



If the result displayed is similar to Figure 4-4, it means the connection between your PC and the AP has failed.



Figure 4-4 Failed Result of Ping Command

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your AP. Some firewall software programs may block a DHCP request on newly installed adapters.



# 4.2 Starting Setup in the Web UI

It is easy to configure and manage the AP with the web browser.

Step 1. To access the configuration utility, open a web-browser and enter the default IP address http://192.168.1.10 in the web address field of the browser.



Figure 4-5 Login by Default IP Address

After a moment, a login window will appear. Enter **admin** for the User Name and Password, both in lower case letters. Then click the **OK** button or press the **Enter** key.

<b>Exercise</b> Communication	Username: Password:	admin ••••• Login	



Default IP Address: 192.168.1.10

Default User name: admin

Default Password: admin



If the above screen does not pop up, it may mean that your web browser has been set to a proxy. Go to **Tools menu>Internet Options>Connections>LAN Settings** on the screen that appears, cancel the Using Proxy checkbox, and click OK to finish it.



# Chapter 5. Configuring the AP

This chapter delivers a detailed presentation of AP's functionalities and features under the main menu below, allowing you to manage the AP with ease.



#### Figure 5-1 Main Menu

### 5.1 Basic Settings

On the Basic Settings page, you can view various information about the AP, including IP and MAC address information, and configure the administrator password for the AP.

Choose menu "Basic Settings" to view the basic information of the AP.



Update

ovide basic settings		
Review Description of this Access	Point	
These fields show information specific to this a	ccess point.	
IP Address:	192.168.1.10	
Static IPv6 Address:		
IPv6 Autoconfigured Global Addresses:		
IPv6 Link Local Address:	fe80::aaf7:e0ff:fe43:77a0	
MAC Address:	A8:F7:E0:43:77:A0	
Firmware Version:	2.1.50.5	
Device Information		
Product Identifier:	WDAP-8350	
Hardware Version:	R5	
Serial Number :	14472256	
Device Name:	WDAP-8350	
Device Model:	Outdoor Dual Band Radio 802.11N	
Administrator Password These settings apply to this access point.		
Administrator Password These settings apply to this access point. Current Password New Password		
Administrator Password     These settings apply to this access point.     Current Password     New Password     Confirm new password		
Administrator Password     These settings apply to this access point.     Current Password     New Password     Confirm new password     Serial Settings		
Administrator Password         These settings apply to this access point.         Current Password         New Password         Confirm new password         Serial Settings         Baud Rate       115200 V		
Administrator Password These settings apply to this access point. Current Password New Password Confirm new password Confirm new password Serial Settings Baud Rate 115200 V		
Administrator Password   These settings apply to this access point.   Current Password   New Password   Confirm new password   Confirm new password   Serial Settings Baud Rate 115200 V System Settings		
Administrator Password   These settings apply to this access point.   Current Password   New Password   Confirm new password   Confirm new password   Serial Settings   Baud Rate   115200   System Settings   System Name		
Administrator Password   These settings apply to this access point.   Current Password   New Password   Confirm new password   Confirm new password   Serial Settings   Baud Rate 115200 V   System Settings   System Name   System Contact		

Figure 5-2 Basic Settings





The page includes the following fields:

Object	Description
IP Address	Shows the IP address assigned to the AP. This field is not editable on this page because the IP address is already assigned (either by DHCP, or statically through the Ethernet Settings page).
Static IPv6 Address	Shows the IPv6 address assigned to the AP. This field is not editable on this page because the IP address is already assigned (statically through the Ethernet Settings page).
IPv6 Autoconfigured Global Addresses	If the AP has been assigned one or more IPv6 addresses automatically, the addresses are listed.
IPv6 Link Local Address	Shows the IPv6 Link Local address, which is the IPv6 address used by the local physical link. The link local address is not configurable and is assigned by using the IPv6 Neighbor Discovery process.
MAC Address	Shows the MAC address of the AP. The address shown here is the MAC address associated with the management interface. This is the address by which the AP is known externally to other networks.
Firmware Version	Shows version information about the firmware currently installed on the AP. As new versions of the WLAN AP firmware become available, you can upgrade the firmware on your APs.
Product Identifier	Identifies the AP hardware model.
Hardware Version	Identifies the AP hardware version.
Serial Number	Shows the AP serial number.
Device Name	Generic name to identify the type of hardware.
Device Description	Provides information about the product hardware.
Current Password	Enter the current administrator password. You must correctly enter the current password before you are able to change it.
	Enter a new administrator password. The characters you enter are displayed as bullet characters to prevent others from seeing your password as you type. The administrator password must be an alphanumeric string of up to 8
New Password	characters. Do not use special characters or spaces.
	Note: As an immediate first step in securing your wireless network, we recommend that you change the administrator password from the default.
Confirm New Password	Re-enter the new administrator password to confirm that you typed it as intended.
Baud Rate	Select a baud rate for the serial port connection. The baud rate on the AP must match the baud rate on the terminal or terminal emulator to connect to the AP command-line interface (CLI) by using a serial (console) connection.



	The following baud rates are available: 9600, 19200, 38400, 57600, 115200.
System Name	Enter a name for the AP. This name appears only on the Basic Settings page and is a name to identify the AP to the administrator. Use up to 64 alphanumeric characters, for example My AP.
System Contact	Enter the name, e-mail address, or phone number of the person to contact regarding issues related to the AP.
System Location	Enter the physical location of the AP, for example Conference Room A.

How to connect to the AP by Using the IPv6 Address:

Connect to the AP by typing the IPv6 global or link local address into your browser as described below.

# Note: The following instructions and examples work with Microsoft Internet Explorer 10(IE10) and might not work well with other browsers.



To connect to an IPv6 global address, add square brackets around the IPv6 address.

For example, if the AP global IPv6 address is 2520::230:abff:fe00:2420, type the following address into the address field: http://[2520::230:abff:fe00:2420].

To connect to the iPv6 link local address, replace the colons (:) with hyphens (-), add the interface number preceded with an "s," then add ".ipv6-literal.net."

For example, if the AP link local address is fe80::230:abff:fe00:2420, and the Windows interface is defined as "%6," type the following address into the address field: http://fe80--230-abff-fe00-2420s6.ipv6-literal.net.



### 5.2 Status 5.2.1 Interfaces

This page displays the current settings of the AP. It displays the Wired Settings and the Wireless Settings.

Choose menu "Status -> Interfaces" to view and edit the wired or wireless interface setting of the AP.

View settings for netv	vork interfaces
Click "Refresh" button to refresh the p	age.
Refresh	( = 1) )
Wired Settings	( <u>Edit</u> )
Internal Interface	40.57.50.40.77.40
MAC Address	A8:F7:E0:43:77:A0
ID Address	1
Subpet Mask	255 255 255 0
Static IPv6 Address	200.200.200.0
Static IPv6 Address Prefix Length	0
IPv6 Autoconfigured Global Addresses	-
IPv6 Link Local Address	fe80::aaf7:e0ff:fe43:77a0
IPv6 DNS Server 1	
IPv6 DNS Server 2	
Default IPv6 Gateway	::
DNS Server 1	
DNS Server 2	
Default Gateway	192.168.1.254
Wireless Settings	( <u>Edit</u> )
Radio 1	
MAC Address	A8:F7:E0:43:77:A0
Mode	2.4 GHz IEEE 802.11n
Channel	1
Channel Utilization	0%
Radio 2	
MAC Address	A8:F7:E0:43:77:B0
Mode	5 GHz IEEE 802.11n
Channel	36
Channel Utilization	0%



#### Wired Settings (Internal Interface)

The Internal interface includes the Ethernet MAC Address, Management VLAN ID, IP Address (IPv4 and IPv6), Subnet Mask, and DNS information (IPv4 and IPv6). If you want to change any of these settings, click the Edit link. After you click **Edit**, you are redirected to the **Ethernet Settings** page.



#### Wireless Settings

The Radio Interface includes the Radio Mode, Channel and Channel Utilization. The Wireless Settings section also shows the MAC address (read-only) associated with each radio interface.

If you want to change the Radio Mode or Channel settings, click the Edit link. After you click Edit, you are redirected to the Wireless Settings page.

#### 5.2.2 Transmit/Receive

The Transmit/Receive page provides basic information for the current AP. It also includes a real-time display of the transmit and receive statistics for the AP and VAP Ethernet interfaces for both radios. All transmit and receive statistics shown are totals since the AP was rebooted. If you reboot the AP, the transmit and receive totals will reset.

Choose menu "Status -> Transmit/Receive" to view the transmit and receive statistics of the AP.

**Note:** The statistics of the Ethernet interface and the VAPs on both radio interfaces are counted separately. There are no connections between them.



# View transmit and receive statistics for this access point

Click "Refresh" button to refresh the page.

Refresh

Interface	Status	MAC Address	Name (SSID)
LAN	up	A8:F7:E0:43:77:A0	-
wlan0:wds0	unlinked	A8:F7:E0:43:77:A0	8350_WDS_2G
wlan0:vap1	up	A8:F7:E0:43:77:A1	PLANET_AP_2G vap1
wlan0:vap2	down	A8:F7:E0:43:77:A2	Virtual Access Point 2
wlan0:vap3	down	A8:F7:E0:43:77:A3	Virtual Access Point 3
wlan0:vap4	down	A8:F7:E0:43:77:A4	Virtual Access Point 4
wlan0:vap5	down	A8:F7:E0:43:77:A5	Virtual Access Point 5
wlan0:vap6	down	A8:F7:E0:43:77:A6	Virtual Access Point 6
wlan0:vap7	down	A8:F7:E0:43:77:A7	Virtual Access Point 7
wlan0:vap8	down	A8:F7:E0:43:77:A8	Virtual Access Point 8
wlan0:vap9	down	A8:F7:E0:43:77:A9	Virtual Access Point 9
wlan0:vap10	down	A8:F7:E0:43:77:AA	Virtual Access Point 10
wlan0:vap11	down	A8:F7:E0:43:77:AB	Virtual Access Point 11
wlan0:vap12	down	A8:F7:E0:43:77:AC	Virtual Access Point 12
wlan0:vap13	down	A8:F7:E0:43:77:AD	Virtual Access Point 13
wlan0:vap14	down	A8:F7:E0:43:77:AE	Virtual Access Point 14
wlan0:vap15	down	A8:F7:E0:43:77:AF	Virtual Access Point 15
wlan1:wds0	unlinked	A8:F7:E0:43:77:B0	8350_WDS_5G
wlan1:vap1	down	A8:F7:E0:43:77:B1	Virtual Access Point 1
wlan1:vap2	down	A8:F7:E0:43:77:B2	Virtual Access Point 2
wlan1:vap3	down	A8:F7:E0:43:77:B3	Virtual Access Point 3
wlan1:vap4	down	A8:F7:E0:43:77:B4	Virtual Access Point 4
wlan1:vap5	down	A8:F7:E0:43:77:B5	Virtual Access Point 5
wlan1:vap6	down	A8:F7:E0:43:77:B6	Virtual Access Point 6
wlan1:vap7	down	A8:F7:E0:43:77:B7	Virtual Access Point 7
wlan1:vap8	down	A8:F7:E0:43:77:B8	Virtual Access Point 8
wlan1:vap9	down	A8:F7:E0:43:77:B9	Virtual Access Point 9
wlan1:vap10	down	A8:F7:E0:43:77:BA	Virtual Access Point 10
wlan1:vap11	down	A8:F7:E0:43:77:BB	Virtual Access Point 11
wlan1:vap12	down	A8:F7:E0:43:77:BC	Virtual Access Point 12
wlan1:vap13	down	A8:F7:E0:43:77:BD	Virtual Access Point 13
wlan1:vap14	down	A8:F7:E0:43:77:BE	Virtual Access Point 14
wlan1:vap15	down	A8:F7:E0:43:77:BF	Virtual Access Point 15

Figure 5-4 Transmit/Receive Statistics - 1


Transmit					
Interface	Total packets	Total bytes	Total dropped packets	Total dropped bytes	Errors
LAN	161	77998	0	0	0
wlan0:wds0	0	0	20	13312	0
wlan0:vap1	0	0	0	0	0
wlan0:vap2	0	0	0	0	0
wlan0:vap3	0	0	0	0	0
wlan0:vap4	0	0	0	0	0
wlan0:vap5	0	0	0	0	0
wlan0:vap6	0	0	0	0	0
wlan0:vap7	0	0	0	0	0
wlan0:vap8	0	0	0	0	0
wlan0:vap9	0	0	0	0	0
wlan0:vap10	0	0	0	0	0
wlan0:vap11	0	0	0	0	0
wlan0:vap12	0	0	0	0	0
wlan0:vap13	0	0	0	0	0
wlan0:vap14	0	0	0	0	0
wlan0:vap15	0	0	0	0	0
wlan1:wds0	0	0	33	23400	0
wlan1:vap1	0	0	0	0	0
wlan1:vap2	0	0	0	0	0
wlan1:vap3	0	0	0	0	0
wlan1:vap4	0	0	0	0	0
wlan1:vap5	0	0	0	0	0
wlan1:vap6	0	0	0	0	0
wlan1:vap7	0	0	0	0	0
wlan1:vap8	0	0	0	0	0
wlan1:vap9	0	0	0	0	0
wlan1:vap10	0	0	0	0	0
wlan1:vap11	0	0	0	0	0
wlan1:vap12	0	0	0	0	0
wlan1:vap13	0	0	0	0	0
wlan1:vap14	0	0	0	0	0
wlan1:vap15	0	0	0	0	0

Figure 5-5 Transmit/Receive Statistics – 2



Receive					
Interface	Total packets	Total bytes	Total dropped packets	Total dropped bytes	Errors
LAN	131	19155	0	0	0
wlan0:wds0	1160	315806	0	0	0
wlan0:vap1	684	114277	0	0	0
wlan0:vap2	0	0	0	0	0
wlan0:vap3	0	0	0	0	0
wlan0:vap4	0	0	0	0	0
wlan0:vap5	0	0	0	0	0
wlan0:vap6	0	0	0	0	0
wlan0:vap7	0	0	0	0	0
wlan0:vap8	0	0	0	0	0
wlan0:vap9	0	0	0	0	0
wlan0:vap10	0	0	0	0	0
wlan0:vap11	0	0	0	0	0
wlan0:vap12	0	0	0	0	0
wlan0:vap13	0	0	0	0	0
wlan0:vap14	0	0	0	0	0
wlan0:vap15	0	0	0	0	0
wlan1:wds0	0	0	0	0	0
wlan1:vap1	0	0	0	0	0
wlan1:vap2	0	0	0	0	0
wlan1:vap3	0	0	0	0	0
wlan1:vap4	0	0	0	0	0
wlan1:vap5	0	0	0	0	0
wlan1:vap6	0	0	0	0	0
wlan1:vap7	0	0	0	0	0
wlan1:vap8	0	0	0	0	0
wlan1:vap9	0	0	0	0	0
wlan1:vap10	0	0	0	0	0
wlan1:vap11	0	0	0	0	0
wlan1:vap12	0	0	0	0	0
wlan1:vap13	0	0	0	0	0
wlan1:vap14	0	0	0	0	0
wlan1:vap15	0	0	0	0	0

Figure 5-6 Transmit/Receive Statistics – 3



Object	Description
Interface	The name of the Ethernet, VAP or WDS interface.
Status	Shows whether the interface is up or down.
	MAC address for the specified interface.
MAC Address	The AP has a unique MAC address for each interface. Each radio has a different
	MAC address for each interface on each of its two radios.
	Wireless network name. Also known as the SSID, this alphanumeric key uniquely
Name (SSID)	identifies a wireless local area network.
	The SSID is set on the VAP or WDS tab.
Transmit and Receive Inf	ormation
Total Packets	Indicates total packets sent (in Transmit table) or received (in Received table) by
	this AP.
Total Bytes	Indicates total bytes sent (in Transmit table) or received (in Received table) by
lotal Dytoo	this AP.
Total Dropped Backete	Indicates total number of packets sent (in Transmit table) or received (in
Total Dropped Fackets	Received table) by this AP that were dropped.
Total Dropped Bytes	Indicates total number of bytes sent (in Transmit table) or received (in Received
	table) by this AP that were dropped.
Errors	Indicates total errors related to sending and receiving data on this AP.

#### 5.2.3 Client Associations

This page provides the list of the associated clients on the AP according to each enabled SSID. In the list, the system administrator can view the connection status and received packets from each client thus able to troubleshoot the abnormal connection.

Choose menu "Status -> Client Associations" to view the current associated clients of the AP.

View list of currently associated client stations											
Click "Ref Refresh	resh" button to refr	esh the page.									1
Network	Station	IP Address	Status		From S	tation				To Sta	ation
			Authenticated	Associated	Packets	Bytes	Dropped Packets	Dropped Bytes	Packets	Bytes	<b>Dropped Packets</b>
8350- 11_2G- VAP1	A8:F7:E0:43:77:A7	192.168.2.100	Yes	Yes	574	79339	0	0	219	24398	0
8350- 11_5G- VAP1	A8:F7:E0:43:77:A0	192.168.2.101	Yes	Yes	512	54248	0	0	204	24357	0

Figure 5-7 Client Associations



	Object	Description
Network		The SSID of the client associated network.
Station		The MAC address of the associated client.
IP Address	5	The IP address of the associated client.
Status	Authenticated	This field indicates the status of client's IEEE 802.11 authentication.
Status	Associated	This field indicates the status of client's association.
	Packets	Indicates total number of packets received from the client.
From	Bytes	Indicates total number of bytes received from the client.
Station	Dropped packets	Indicates total number of dropped packets after receiving from the client.
	Dropped Bytes	Indicates total number of dropped bytes after receiving from the client.
	Packets	Indicates total number of packets transmitted to the client.
То	Bytes	Indicates total number of bytes transmitted to the client.
Station	Dropped packets	Indicates total number of dropped packets after transmitting to the client.
	Dropped Bytes	Indicates total number of dropped bytes after transmitting to the client.

# **5.3 Advanced Configuration**

## 5.3.1 Ethernet Settings

This page allows the administrator to configure the Ethernet related settings including the LAN IP address of IPv4/IPv6, LAN connection type, and management VLAN ID settings of the AP.

Choose menu "Advanced Configuration -> Ethernet Settings" to configure the Ethernet setting of the AP.



Modify Ethernet (Wired) settings			
Hostname	WLAN-AP		
Internal Interface Settings MAC Address	A8:F7:E0:43:77:A0		
Management VLAN ID	1		
Untagged VLAN	Enabled Disabled		
Untagged VLAN ID	1		
Connection Type	DHCP 🔻		
Static IP Address	192 . 168 . 1 . 10		
Subnet Mask	255 . 255 . 255 . 0		
Default Gateway	192 . 168 . 1 . 254		
DNS Server	🖲 Dynamic 🔘 Manual		
IPv6 Admin Mode	Enabled Disabled		
IPv6 Auto Config Admin Mode	Enabled Disabled		
Static IPv6 Address			
Static IPv6 Address Prefix Length	0		
IPv6 Autoconfigured Global Addresses IPv6 Link Local Address			
Default IPv6 Gateway	::		
IPv6 DNS Server 1			
IPv6 DNS Server 2			

## Figure 5-8 Ethernet Settings

Object	Description
Hostname	The host name of the AP.
MAC Address	MAC address of the LAN interface of the AP.
Management VLAN ID	The management VLAN is used to access the VLAN which is associated with the IP address of AP.
Untagged VLAN	If the untagged VLAN is disabled, all the packets will be marked with the same VLAN number.
Untagged VLAN ID	The packet transmitted in this VLAN has no tagged VLAN number.
Connection Type	Select <b>DHCP (Dynamic IP)</b> to get IP address from DHCP server or select <b>Static</b> <b>IP</b> to configure IP address manually.
Static IP Address	Configure the static IP address. If the IP obtained is DHCP, this property cannot be used.



Subnet Mask	Configure the subnet mask. If the IP obtained is DHCP, this property cannot be used.
Default Gateway	Configure the default gateway. If the IP obtained is DHCP, this property cannot be used.
DNS Server	Configure the DNS mode. In the manual appointed mode, the DNS address can be configured to analyze the domain name.
IPv6 Admin Mode	IPv6 management on-off. If it is enabled, AP and AC can be managed through the IPv6 address; if the IPv4 and IPv6 are both enabled, IPv4 is preferential.
IPv6 Auto Config Admin Mode	IPv6 automatic address. If it is enabled, AP will get the address automatically.
Static IPv6 Address	Show the static IPv6 address of AP.
Static IPv6 Address Prefix Length	Show the prefix length of static IPv6 address.
IPv6 Autoconfigured	Show the IPv6 address that the AP gets dynamically. If there are multiple
Global Addresses	addresses, they can be shown in the list.
IPv6 Link Local Address	Show the IPv6 link local address of AP.
Default IPv6 Gateway	Show the default IPv6 gateway of AP.
IPv6 DNS Server 1	Show the IPv6 DNS server 1 of AP.
IPv6 DNS Server 2	Show the IPv6 DNS server 2 of AP.

## 5.3.2 Wireless Settings

This page allows the administrator to enable or disable radio interface and configure the basic settings including the radio mode, channel for each radio interface.

Choose menu "Advanced Configuration -> Wireless Settings" to configure the wireless setting of the AP.



Modify wireless settings				
Country	GB - United Kingdom			
Radio Interface 1	⊙ On ◯ Off			
MAC Address	A8:F7:E0:43:77:A0			
Mode	IEEE 802.11b/g/n			
Channel	Auto 🗸			
Radio Interface 2	💿 On 🔘 Off			
MAC Address	A8:F7:E0:43:77:B0			
Mode	IEEE 802.11a/n			
Channel	Auto 🗸			
Click "Update" to save the new settings.				
Update				

Figure 5-9 Wireless Settings

Object	Description
	Select your country from the list. The supported channels will vary based on the
Country	regulation in different countries/regions. If your country is not in the drop-down
	list, you can select any other country which supports channels conforming to your country.
	Select <b>On</b> or <b>Off</b> to enable or disable the Radio Interface 1 which utilizes 2.4GHz
Radio Interface 1	frequency band.
	MAC address for the Radio Interface 1. This MAC address must be configured on
	the WDS setting page when establishing the WDS connection which utilizes
MAC Address	2.4GHz frequency band.
MAC Address	
	The AP has a unique MAC address for each interface. Each radio has a different
	MAC address for each interface on each of its two radios.
	Choose the IEEE wireless network mode for the Radio Interface 1 according to
Mode	your wireless clients.
	Default: IEEE 802.11b/g/n
	You can select the operating channel of the Radio Interface 1 for the wireless
Channel	network.
	Default: Auto
Padio Intorfaco 2	Select <b>On</b> or <b>Off</b> to enable or disable the Radio Interface 2 which utilizes 5GHz
	frequency band.
	MAC address for the Radio Interface 2. This MAC address must be configured on
MAC Addross	the WDS setting page when establishing the WDS connection which utilizes
WAC AUULESS	5GHz frequency band.



	The AP has a unique MAC address for each interface. Each radio has a different			
	MAC address for each interface on each of its two radios.			
	Choose the IEEE wireless network mode for the Radio Interface 2 according to			
Mode	your wireless clients.			
	Default: IEEE 802.11a/n			
	You can select the operating channel of the Radio Interface 2 for the wireless			
Channel	network.			
	Default: Auto			

1. When configured to "Auto", you may not able to discover the AP through the wireless clients without supporting the same channel list. For example, if your country does not conform to FCC regulation, and if you set the country to "United States" and channel to "Auto", the AP will automatically switch to the less occupied channel from the channel list of the country allowed. In other words, if there is any channel that your wireless client does not support, you may not discover the AP until the AP automatically switches to the channel that the client supports.

2. When establishing WDS point to point connection, the channel must be configured to the same fixed channel.

## 5.3.3 Radio

lote

The page includes the general wireless advanced settings of each radio interface.

Choose menu "Advanced Configuration -> Radio" to configure the wireless radio setting of the AP.



Modify radio setting	gs		<b>?</b>
Radio 1 V Status On Off Mode IEEE 802.11b/g/n			Radio settings directly control the behavior of the radio device in the access point and its interaction with the physical medium; that is, how/what type of electromagnetic waves the AP emits.
Channel	6 🗸		You can specify whether the radio is on or off, radio frequency (RF) broadcast channel,
Channel Bandwidth	40 MHz 🗸		beacon interval (amount of time between AP beacon transmissions), transmit power, IEEE
Primary Channel	Lower 💌		802.11 mode in which the radio operates, and so on.
Short Guard Interval Supported	Yes 💙		<u>More</u>
STBC Mode	On 💌		
Protection	Off 💌		
Beacon Interval	100 (millisecond, 40 - 2000)		
DTIM Period	1 (Range: 1-255)		
Fragmentation Threshold	2346 (Range: 256-2346, Even Numbers)		

Figure 5-10 Radio Settings – 1/2



Distance	1 (Range: 0 - 30 KM)
ACK Timeout	64
RTS Threshold	2346 (Range: 256-2346)
Maximum Stations	200 (0-200)
T	
Transmit Power	SU (Percent, Range: 1 - 100)
Fixed Multicast Rate	Auto 🔽 Mbps
	Rate Supported Basic
	54 Mbps 🗸
	48 Mbps 🔽 🗌
	36 Mbps 🗸
	24 Mbps 🗸
	18 Mbps 🗸 🗌
Rate Sets	12 Mbps 🗸
	11 Mbps 🗸 🗸
	9 Mbps 🗸
	6 Mbps 🗸
	5.5 Mbps 🗸 🗸
	2 Mbps 🗸 🗸
	1 Mbps 🗸 🗸
Click "Update" to save the new s	settings.
Update	

Figure 5-11 Radio Settings – 2/2

Object	Description			
	As for the wireless interface, choose radio 1 to configure the wireless advanced			
Radio	parameters of 2.4GHz or choose radio 2 to configure the wireless advanced			
	parameters of 5GHz.			
Statuo	When On, enable the radio interface you choose.			
Status	When Off, disable the radio interface you choose.			
Mode	The wireless standard used by the selected radio interface.			
Channal	You can select the operating channel of the Radio Interface 1 for the wireless			
Channel	network.			
Channel Bandwidth	The channel bandwidth in 802.11n mode.			
Primary Channel	The mode of the primary channel (only the 802.11n mode is supported)			
Short Guard Interval	It is used to set the time that the receiver waits for RF reflections to settle out			
Supported	before sampling data. Default is enabled. Only the 802.11n mode is supported.			
STBC Mode	Space-time block codes are used for MIMO systems to enable the transmission			
	of multiple copies of a data stream across a number of antennas and to exploit			



	the various received versions of the data to improve the reliability of
	data-transfer.
	It is recommended to enable the protection mechanism. This mechanism can
Protection	decrease the rate of data collision between 802.11b and 802.11g wireless
	stations. When the protection mode is enabled, the throughput of the AP will be
	a little lower due to the transmission of heavy frame traffic. Default is disabled.
Beacon Interval	The interval of time that this access point broadcasts a beacon. Beacon is used
	to synchronize the wireless network. Default is "100".
	DTIM stands for delivery traffic indication map or message. It is basically an
	additional message added after the normal beacon broadcast by your router or
	access point. A DTIM interval can be set anywhere from 1 to 255. If you want to
DTIM Interval	optimize the power saving features on your mobile devices, you should select a
	high DTIM setting. Alternatively, if you set your DTIM interval too high, you may
	lose connectivity in some environments.
	Default is "1" (Range: 1~255)
	You can specify the maximum size of packet during the fragmentation of data to
Fragment Threshold	be transmitted. If you set this value too low, it will result in bad performance.
	Default is "2346".
	When the packet size is smaller than the RTS threshold, the access point will
RTS Threshold	When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet.
RTS Threshold	When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".
RTS Threshold	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet.</li> <li>Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is</li> </ul>
RTS Threshold Maximum Stations	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet.</li> <li>Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth</li> </ul>
RTS Threshold Maximum Stations	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet.</li> <li>Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> </ul>
RTS Threshold Maximum Stations	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet.</li> <li>Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio</li> </ul>
RTS Threshold Maximum Stations	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> </ul>
RTS Threshold Maximum Stations Transmit Power	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing</li> </ul>
RTS Threshold Maximum Stations Transmit Power	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each</li> </ul>
RTS Threshold Maximum Stations Transmit Power	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> </ul>
RTS Threshold Maximum Stations Transmit Power	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> <li>The multicast rate is the baseline level that a Wi-Fi device must be able to</li> </ul>
RTS Threshold Maximum Stations Transmit Power	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> <li>The multicast rate is the baseline level that a Wi-Fi device must be able to deliver in order to connect to the router. Lower multicast rates mean weaker,</li> </ul>
RTS Threshold Maximum Stations Transmit Power Fixed Multicast Rate	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> <li>The multicast rate is the baseline level that a Wi-Fi device must be able to deliver in order to connect to the router. Lower multicast rates mean weaker, farther signals are allowed to connect. Higher multicast rates mean that only</li> </ul>
RTS Threshold Maximum Stations Transmit Power Fixed Multicast Rate	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100). In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> <li>The multicast rate is the baseline level that a Wi-Fi device must be able to deliver in order to connect to the router. Lower multicast rates mean weaker, farther signals are allowed to connect. Higher multicast rate will decrease</li> </ul>
RTS Threshold Maximum Stations Transmit Power Fixed Multicast Rate	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> <li>The multicast rate is the baseline level that a Wi-Fi device must be able to deliver in order to connect to the router. Lower multicast rates mean weaker, farther signals are allowed to connect. Higher multicast rate will decrease the effective range of your Wi-Fi network.</li> </ul>
RTS Threshold Maximum Stations Transmit Power Fixed Multicast Rate	<ul> <li>When the packet size is smaller than the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2346".</li> <li>Configure the maximum number of associated stations. Each radio interface is suggested not to configure over 50 stations to ensure the wireless bandwidth and stability.</li> <li>Configure the percentage of the output transmission power of the selected radio interface (Range: 1~100).</li> <li>In the short distance of point to point connection within 1km, suggest reducing the transmit power at least by half to prevent near-field interference from each other.</li> <li>The multicast rate is the baseline level that a Wi-Fi device must be able to deliver in order to connect to the router. Lower multicast rates mean weaker, farther signals are allowed to connect. Higher multicast rate will decrease the effective range of your Wi-Fi network.</li> <li>Configure the transmission rate set and the basic broadcast rate set that are</li> </ul>





#### 5.3.4 VAP

This page displays the VAP settings including SSID, Security and VLAN ID of each radio interface. You can edit the SSID, Security and VLAN ID or enable multiple SSIDs on this page.

Choose menu "Advanced Configuration -> VAP" to configure the wireless SSID/VAP setting of the AP.

М	Modify Virtual Access Point settings								
Radi	io 1 N	/	configure Virtual Access Point settings. By configuring VLANs here, you can create additional						
VAP	Enable	d VLAN ID	SSID	Broadcast SSID	Security		wireless networks on the same radio. For each new		
0	$\checkmark$	1	8350-11_2G	✓	WPA Personal	<b>v</b> +	network, specify an SSID, VLAN ID, and Security mode.		
1	✓	2	8350-11_2G-VAP1		None	▼ +	<u>More</u>		
2	✓	3	8350-11_2G-VAP2	•	None	<b>v</b> +			
3		1	Virtual Access Point 3	<b>V</b>	None	× +			
4		1	Virtual Access Point 4	<b>V</b>	None	× +			
5		1	Virtual Access Point 5	<b>V</b>	None	× +			
6		1	Virtual Access Point 6	<b>V</b>	None	× +			
7		1	Virtual Access Point 7	<b>V</b>	None	~ +			

Figure 5-12 VAP Settings

Object	Description		
Padio	Choose the configured radio interface. Each radio interface supports maximum		
Raulo	16 Virtual APs (VAP 0~15).		
VAP	Show the ID number of the virtual AP.		
Enabled	Check it to enable the selected VAP of this radio interface.		
VLAN ID	Configure the VLAN that the client associated with the virtual AP belongs to.		
6610	Wireless network name. Also known as the SSID, this alphanumeric key uniquely		
5510	identifies a wireless local area network.		
Broadcast SSID	Configure if the SSID is broadcast		
Security	None Security		
Security	No security setup for wireless connection.		
	Static WEP Security		
	Select Key Length and Key Type for the format of the WEP Keys.		
	Hex (64/128 bits): enter 10/26 Hexadecimal digits (any combination of 0-9, a-f,		
	A-F, zero key is not promoted) in the <b>WEP Keys</b> field.		



ASCII (64/128 bits): enter 5/13 ASCII characters in the WEP Keys field.
WPA Personal
Please enter at least 8 ASCII characters (Passphrase) or 64 Hexadecimal
characters. All of the Cipher Suites support <b>TKIP</b> and <b>AES</b> .
WPA with TKIP is a medium level encryption and is supported by most wireless
devices and operating systems.
WPA2 with CCMP (AES) is a high-level encryption and is supported by most
wireless devices and operating systems.
WPA Enterprise
Select the WPA Enterprise to enable 802.1x RADIUS authentication by external
RADIUS server. Enter the IP Address, Port, and Password of the Radius Server
for clients' authentication.

#### 5.3.4.1. None Security

When choosing the security configuration as none, the security configuration will not be needed in clients association. It can be associated with the virtual AP directly.

Radio 1 💌								
VAP E	nabled	VLAN ID	SSID	Broadcast SSID	Security			
0	$\checkmark$	1	VAP_2G		None 💌 🕂			
1	<b>V</b>	1	test		None +			



#### 5.3.4.2. Static WEP Security

Choose the security configuration as static WEP to show the detailed configuration information of static WEP security configuration. The direct key should be input in client to pass the authentication or the decryption packet.



Radio	1	]					
VAP E	nabled	VLAN ID	SSID	Broadcast SSID	Security		
0	$\checkmark$	1	VAP_2G	$\checkmark$	None	•	
1	V	1	test		Static WEP	-	
					Transfer key i	ndex:	1 💌
					Key Length:		bits 🔘 128 bits
					Key Type:	ASC ASC	CII 🔘 Hex
					WEP Keys:		(Characters required: 5
						1	•••••
						2	
						3	
						4	
					Authentication	1: 000	Den system  Shared key

Figure 5-14 Security Setting - WEP

Object	Description
Transfer Key Index	Configure the key index.
Key Length	Configure the length of key.
Кеу Туре	Configure the type of key.
WEP Keys	Configure the key of 1-4. <u>Hex (64/128 bits)</u> : enter 10/26 <b>Hexadecimal</b> digits (any combination of 0-9, a-f, A-F, zero key is not promoted) in the <b>WEP Keys</b> field. <u>ASCII (64/128 bits)</u> : enter 5/13 <b>ASCII</b> characters in the <b>WEP Keys</b> field.
Authentication	Configure the authentication mode.

#### 5.3.4.3. WPA Personal Security

Choose the security configuration as WPA Personal to show the detailed configuration information of WPA Personal security configuration. The direct key should be input in client to pass the authentication.

VAP	Enabled	VLAN ID	SSID	Broadcast SSID	Security		
0	1	1	VAP_2G	<b>V</b>	None +		
1	1	1	test		WPA Personal 💌 🖃		
						<b>2</b>	
					WPAVersions:	WPA WPA	WPA2
					Cipher Suites:	TKIP	CCMP (AES)
					Key	•••••	
					Broadcast Key Refresh Rate (0-86400)	300	
						L	

Figure 5-15 Security Setting - WPA Personal



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The page includes the following fields:

Object	Description
WPA Versions	Configure the WPA version.
Cipher Suites	Configure the cipher suites.
Кеу	Configure the key.
Broadcast Key Refresh	Configure the interval of broadcast key update (Range: 0~86400 second).
Rate (0-86400)	The default value is 300.

#### 5.3.4.4. WPA Enterprise Security

Γ

Choose the security configuration as WPA Enterprise to show the detailed configuration information of WPA Enterprise security configuration. The direct user name and password existed in radius server should be input in client to pass the authentication.

VAP	Enabled	VLAN ID	SSID	Broadcast SSID	Security		
0	$\checkmark$	1	VAP_2G		None 💌 🛨		
1	1	1	test	$\checkmark$	WPA Enterprise 💌 🖃		
					WPAVersions: WP	A 🗹 WPA2	
					Cipher Suites: 🛛 TK	IP 🗹 CCMP (AES)	
					Radius IP Address	192.168.1.1	
					Radius IP Address-1		
					Radius IP Address-2		
					Radius IP Address-3		
					Radius Key	•••••	
					Radius Key-1		
					Radius Key-2		
					Radius Key-3		
					Active Server:		Radius IP Address 💌
					Broadcast Key Refres	h Rate (0-86400)	300
					Session Key Refresh F	Rate (0-86400)	0

Figure 5-16 Security Setting – WPA Enterprise



Object	Description
WPA Versions	Configure the WPA version.
Cipher Suites	Configure the cipher suites.
RADIUS IP Address	Configure the IP address of RADIUS server.
RADIUS IP Address of 1-3	Configure the IP address of the backup RADIUS server.
RADIUS Key	Configure the RADIUS server key.
RADIUS Key of 1-3	Configure the key of the backup radius server.
Active Server	Choose the RADIUS server.
Broadcast Key Refresh	Configure the interval of broadcast key update (Range: 0~86400 second).
Rate (0-86400)	The default value is 300.
Session Key Refresh	Configure the interval of unicast key update (Range: 0~86400 second).
Rate (0-86400)	The default value is 0.

#### 5.3.5 WDS

This page displays the WDS bridge settings of each radio interface. To establish the WDS connection, besides the channel and security which must be the same, both sites should enter the MAC address with each other. The WDS AP mode should be configured in the master AP; others should be configured to the WDS Client. Choose menu "Advanced Configuration -> WDS" to configure the WDS setting of the AP.

Configure WDS bridges to other access points						
Radio	2 💙					
Click	"Refresh"	button to refres	h the page.			
Refi	resh					
WDS	Enabled	WDS Mode	SSID	Remote-mac	Security	Link State
0	$\checkmark$	WDS Client 🔽	8350_WDS_5G	A8:F7:E0:43:77:B0	WPA Personal 💌 🕞	Linked
					Кеу	•••••
					Broadcast Key Refresh Rate (0-86400)	86400
1		none 🗸	WDS_5G 1 - Radio 2	00:00:00:00:00:00	None 💉	Unlinked
2		none 🗸	WDS_5G 2 - Radio 2	00:00:00:00:00:00	None	Unlinked
3		none 🗸	WDS_5G 3 - Radio 2	00:00:00:00:00:00	None	Unlinked
4		none 🗸	WDS_5G 4 - Radio 2	00:00:00:00:00:00	None	Unlinked
5		none 🗸	WDS_5G 5 - Radio 2	00:00:00:00:00:00	None	Unlinked

Figure 5-17 WDS Settings



Object	Description		
Padia	Choose the configured radio interface. Each radio interface supports maximum		
Raulo	16 Virtual APs (VAP 0~15).		
WDS	Show the ID number of the WDS connection.		
Enabled	Check it to enable the selected VAP of this radio interface.		
WDS Mode	WDS AP: This mode acts as the master AP in the WDS connection.		
WDS Mode	WDS Client: This mode acts as the slave AP in the WDS connection.		
9910	Wireless network name. Also known as the SSID, this alphanumeric key uniquely		
3310	identifies a wireless local area network.		
	Configure the remote MAC address to establish the connection.		
Remote-mac	The MAC address must be wireless MAC address and use the same radio		
	interface.		
	Configure the security mode. Configure the security mode. Different radio		
Security	interface can be configured to different security, but each WDS entry by using the		
	same radio interface must be configured to the same security.		
Link State	The field displays the WDS connection status. Once the connection is		
	established, the status will indicate "Linked".		



#### 5.3.6 Location

This page displays the wireless location settings of the AP. The AP scans and collects the wireless clients' location information which will be reported to the location server.

Choose menu "Advanced Configuration -> Location" to configure the wireless location setting for the clients.

Config Wireless Location			
Location Enable	⊙ enable ○ disable		settings allows you to configure the sta Location settings.
RE IPv4 Address	0.0.0.0		For a complete Location
RE Port	0		Settings options, go to
Report Interval	2		<u>More</u>
Scan Type	0		
Data Live Time	0		
Work Channel Scan Time	65500		
No-Work Channel Scan Time	10		
Data Report Type	Report All Client	*	
Click "Update" to save the new settings. Update	Only Report Mobile Client Only Report Location Card Clien Report Specific MAC Client	nt	

Figure 5-18 Location Settings

Object	Description	
Location Enable	Select "enable" or "disable" to open or close the wireless location.	
RE IPv4 Address	Location Server IPv4 Address (Format: 192.168.1.100).	
RE Port	Location Server Port (Range: 1-65535).	
Report Interval	The interval of AP report clients' information to Location Server. Unit: second.	
	AP Optimization feature:	
<b>RSSI Optimize Switch</b>	0: Close Optimization	
	1: Open Optimization	
	The method of AP scan (Only for 2.4G):	
Scan Type	0: scan all channels.	
	1: only scan 1, 6, 11 non-overlapping channels.	
Data Live Time	Test field, set to 1	
Work Channel Scan	Work channel scan time. Unit: millisecond.	
Time	Attention: add "Work channel scan time" & "No-work channel scan time" to	



	multiples of 1000.
No-Work Channel Scan Time	No-work channel scan time. Unit: millisecond. Attention: add "Work channel scan time" & "No-work channel scan time" to multiples of 1000.
Data Report Type	Select which clients' data that the AP should report to location server.

# 5.4 Services

This section includes Web Server and NTP settings of the AP.

#### 5.4.1 Web Server

This page allows you to configure the HTTP server settings of the AP. The AP can be managed through HTTP sessions. By default HTTP access is enabled. Choose menu "**Services -> Web Server**" to configure the web server setting of the AP.

Configure Web Server Settings		<b>?</b>
HTTP Server Status HTTP Port Maximum Sessions Session Timeout (minutes)	<ul> <li>Enabled</li> <li>Disabled</li> <li>80</li> <li>5</li> <li>30</li> </ul>	web Server settings allows you to configure the HTTP server settings. For a complete Web Server Settings options, go to
Click "Update" to save the new settings. Update		<u>More</u>

#### Figure 5-19 Web Server Settings

Object	Description	
HTTP Server Status	Select "Enabled" or "Disabled" to allow access the AP through HTTP.	
HTTP Port	Specify the port number for HTTP traffic (the range is 0-65535 and default is 80).	
	Set the maximum session that allows accessing the http server of the AP.	
	When a user logs on to the AP web interface, a session is created. This session	
Maximum Sessions	is maintained until the user logs of or the session inactivity timer expires.	
	Enter the number of web sessions. The range is 1-10 sessions. If the maximum	
	number of sessions is reached, the next user who attempts to log on to the AP	
	web interface receives an error message about the session limit.	
Session Timeout	Set the session timeout in minutes of the http server.	
(minutes)	Enter the maximum amount of time, in minutes; an inactive user remains logged	



on to the AP web interface. When the configured timeout is reached, the u	
	automatically logged off the AP. The range is 1-1440 minutes (1440 minutes = 1
	day).
Update	Click the "Update" button to apply the changes and to save the settings.



If you disable the protocol you are currently using to access the AP management interface, the current connection will end and you will not be able to access the AP by using that protocol until it is enabled.



#### 5.4.2 NTP

NTP (Network Time Protocol) is used to synchronize time keeping among a set of distributed time servers and clients. To synchronize the system time with the specified NTP server, the internet connection must be reachable. Choose menu "**Services -> NTP**" to configure the NTP setting of the AP.

Configure NTP Settings		
CurrentTime	Thu Jan 1 08:22:16 UTC+0800 197(	
Status	O Enabled 💿 Disabled	
Server Address		
Interval		
Click "Update" to save the new settings.		

Figure 5-20 NTP Settings

The page includes the following fields:

Object	Description	
Current Time	Displays the current time of the AP.	
Status	Enable or disable the NTP function.	
Server Address	Specify the IPv4 or IPv6 address for NTP Server.	
Interval	Specify the interval for NTP client to adjust time.	
	The range is 1~2147483647 (unit: second).	
Errors	Indicates total errors related to sending and receiving data on this AP.	

# 5.5 Maintenance

#### 5.5.1 Configuration

This page allows you to backup/restore the settings of the AP through the http or tftp method. Choose menu "**Maintenance -> Configuration**" to back up or restore the settings of the AP.





Manage this Access Point's Configuration		
To Restore the Factory Default Configuration		
Click "Reset" to load	d the factory defaults in place of the current configuration for this AP.	
Reset		
To Save the Cu	urrent Configuration to a Backup File	
Click the "Download To save the configu server information.	d" button to save the current configuration as a backup file to your PC. ration to an external TFTP server, click the TFTP radio button and enter the TFTP	
Download Method	O HTTP 💿 TFTP	
Configuration File	8350_WDS_Config.xml	
Server IP	192.168.1.99	
	Download	
To Restore the	e Configuration from a Previously Saved File	
Browse to the locat To restore from a T	ion where your saved configuration file is stored and click the "Restore" button. "FTP server, click the TFTP radio button and enter the TFTP server information.	
Upload Method	💿 НТТР 🔘 ТЕТР	
Configuration File	Browse	
	Restore	
To Reboot the Access Point		
Click the "Reboot" button.		
Reboot		

Figure 5-21 Configuration Backup/Restore



Object	Description
To Restore the Factory D	efault Configuration…
Reset	Click "Reset" to load the factory defaults in place of the current configuration for
	this AP.
To Save the Current Conf	figuration to a Backup File…
	Select download method by using HTTP or TFTP.
	Choose the download method as HTTP mode, click the "download" button and
	confirm it, then the current configuration files of AP will be downloaded through
	HTTP directly.
Download Method	Choose the download method as TFTP mode, input the file name of the
	configuration file (the format is *.xml) and the IP address of TFTP server. Then
	click the "download" button and confirm it. The configuration file will be
	downloaded to the appointed TFTP server and the file name is the input name.
Configuration File	Specify the configuration filename (the format is *.xml)
Server IP	Specify the TFTP server IP address.
Download	Click the "download" button to download the configuration file.
To Restore the Configura	tion from a Previously Saved File…
Upload Method	Select upload method by using HTTP or TFTP.
Configuration File	Click "Browse" to select the previously saved configuration file.
Restore	Click "Restore" to restore the selected configuration file to the AP.
To Reboot the Access Po	int
Reboot	Click the "Reboot" button to reboot the AP.

## 5.5.2 Upgrade

This page displays the current settings of the AP. It displays the Wired Settings and the Wireless Settings.

Manage firmware	
Firmware Version	2.1.50.5
Upload Method	⊙ НТТР ○ ТЕТР
New Firmware Image	Browse
	Upgrade
<b>Caution:</b> Uploading the new firmunavigate to another page while up the process is complete the access	ware may take several minutes. Please do not refresh the page or loading the new firmware, or the firmware upload will be aborted. When s point will restart and resume normal operation.





Object	Description
Firmware Version	This field indicates the current firmware version.
	Select upload method by using HTTP or TFTP.
	If you choose the upload method as HTTP mode, after specifying the new
	firmware image, you can click the "Upgrade" button to upgrade the firmware to
	the AP directly.
	If you choose the download method as TFTP mode, please ensure you have
	TFTP utility and have already put the image in the TFTP folder for upgrade.
New Firmware Image	Click "Browse" to select the previously saved configuration file.
Upgrade	Click the "Upgrade" button to upgrade the firmware to the AP.



# Chapter 6. Quick Connection to a Wireless Network

In the following sections, the default SSID of the WDAP-8350 is configured to "default".

# 6.1 Windows XP (Wireless Zero Configuration)

Step 1: Right-click on the wireless network icon displayed in the system tray



Figure 6-1 System Tray – Wireless Network Icon

#### Step 2: Select [View Available Wireless Networks]

Step 3: Highlight and select the wireless network (SSID) to connect

- (1) Select SSID [default]
- (2) Click the [Connect] button

9 <sup>0</sup> Wireless Network Connect	lion	×
Network Tasks	Choose a wireless network	
🛃 Refresh network list	Click an item in the list below to connect to a <u>w</u> ireless network in range or to get more information.	
Set up a wireless network for a home or small office	((p))	^
Related Tasks	((p))	111
Change the order of preferred networks	((p))	
Change advanced settings	(( )) default	
	To connect to this network, click Connect. You might need to enter additional information.	
	((0))	

Figure 6-2 Choose a Wireless Network



#### Step 4: Enter the encryption key of the Wireless AP

- (1) The Wireless Network Connection box will appear
- (2) Enter the encryption key
- (3) Click the [Connect] button

Wireless Network Conne	ection	×
The network 'PLANET' require A network key helps prevent	es a network key (also called a WEP key or WPA key). unknown intruders from connecting to this network.	
Type the key, and then click	Connect.	
Network <u>k</u> ey:	•••••	
C <u>o</u> nfirm network key:	••••••	
	Cancel	

Figure 6-3 Enter the Network Key

Step 5: Check if "Connected" is displayed

<sup>((†))</sup> Wireless Network Connect	ion	
Network Tasks	Choose a wireless network	
🚭 Refresh network list	Click an item in the list below to connect to a <u>w</u> ireless network in range information.	or to get more
Set up a wireless network for a home or small office	((ဝူ)) default	Connected 👷 🛆
	Becurity-enabled wireless network (WPA)	0000
Related Tasks	(( <b>p</b> ))	
<ul> <li>Learn about wireless</li> </ul>	B Security-enabled wireless network (WPA)	
networking	((Q))	
Change the order of preferred networks	🖁 🔒 Becurity-enabled wireless network	
Sections advanced	(( <b>p</b> ))	
sectings	B Security-enabled wireless network	
	((Q))	
	Unsecured wireless network	
	(( <b>Q</b> ))	
	Unsecured wireless network	
		Connect

Figure 6-4 Choose a Wireless Network -- Connected





Some laptops are equipped with a "Wireless ON/OFF" switch for the internal wireless LAN. Make sure the hardware wireless switch is switched to "ON" position.

# 6.2 Windows 7 (WLAN AutoConfig)

WLAN AutoConfig service is built-in in Windows 7 that can be used to detect and connect to wireless network. This built-in wireless network connection tool is similar to wireless zero configuration tool in Windows XP.

Step 1: Right-click on the network icon displayed in the system tray



Figure 6-5 Network Icon

Step 2: Highlight and select the wireless network (SSID) to connect

- (1) Select SSID [default]
- (2) Click the [Connect] button

Not connected	
Connections are available	
Dial-up and VPN	
Office VPN 🗙	
Wireless Network	ш
default	
Connect automatically Connect	
lite. enterteret	
the restrict	
the same	
It	-
Open Network and Sharing Center	

Figure 6-6 WLAN AutoConfig





If you will be connecting to this Wireless AP in the future, check [Connect automatically].

#### Step ': Enter the encryption key of the Wireless AP

- (1) The Connect to a Network box will appear
- (2) Enter the encryption key
- (3) Click the [OK] button



Figure 6-7 Type the Network Key

P Connect to a Network	x
Connecting to default	
	Cancel

Figure 6-8 Connect to a Network

Step (: Check if "Connected" is displayed



Currently connected to: default Internet access		£4,	
Dial-up and VPN		^	
Office VPN			=
Wireless Network		^	
default	Connected	I	
-000		.all	
New		.11	
orage		30	
OB-BREK		30	
New York, N.		al.	-
Open Network and	Sharing Cen	ter	

Figure 6-9 Connected to a Network



# 6.3 Mac OS X 10.x

In the following sections, the default SSID of the WDAP-8350 is configured to "default".

Step 1: Right-click on the **network icon** displayed in the system tray

The AirPort Network Connection menu will appear



Figure 6-10 Mac OS - Network Icon

Step 2: Highlight and select the wireless network (SSID) to connect

- (1) Select and SSID [default]
- (2) Double-click on the selected SSID



Figure 6-11 Highlight and Select the Wireless Network

Step ': Enter the encryption key of the Wireless AP

- (1) Enter the encryption key
- (2) Click the [OK] button



The network "default" requires a WPA password.
Password:
Show password Remember this network
(Cancel) (OK

Figure 6-12 Enter the Password



**Step (** : Check if the AirPort is connected to the selected wireless network.

If "Yes", then there will be a "check" symbol before SSID.

• • • •	* 🛜	🔹 🔳 🔳	P O Q
AirPort: On Turn AirPort Off			
√default	69	1.1	
THE R. LEWIS CO., LANSING MICH.	() ()		
	A 🛜		
THE REPORT	·)) ·)		
in the second se			
and a second sec	A 🔅		
in line			
1000	<b>₽</b> 🛜		
Join Other Network Create Network Open Network Preferences			





There is another way to configure the MAC OS X Wireless settings:

Step 1: Click and open the [System Preferences] by going to Apple > System Preference or Applications



Figure 6-14 System Preferences



#### Step 2: Open Network Preference by clicking on the [Network] icon

Figure 6-15 System Preferences -- Network



## **Step 3**: Check Wi-Fi setting and select the available wireless network

- (1) Choose the AirPort on the left-menu (make sure it is ON)
- (2) Select Network Name [default] here

If this is the first time to connect to the Wireless AP, it should show "No network selected".

	Network		
		٩	_
Location: (	Automatic	\$	
600»	Status: On	Turn AirPort	Off
600»	AirPor a netw	t is turned on but is not connect vork.	ed to
	Network Name 🗸 No r	network selected	
		-	(; (i·
	defa	ult	<u> </u>
	100	100 C	- ·
	1.1		
	Join Crea	Other Network ite Network	
Ø	Show AirPort status in m	nenu bar Advance	d) (
	Location: (	Location: Automatic Status: On AirPor a network Name Vor defa defa Join Crea	Location: Automatic   Status: On   Comparison Turn AirPort   AirPort is turned on but is not connect a network.   Network Name No network selected   default   default   Join Other Network Create Network   Show AirPort status in menu bar

Figure 6-16 Select the Wireless Network



# 6.4 iPhone/iPod Touch/iPad

In the following sections, the default SSID of the WDAP-8350 is configured to "default".

Step 1: Tap the [Settings] icon displayed on the home screen



Figure 6-17 iPhone – Settings Icon

- Step 2: Check Wi-Fi setting and select the available wireless network
  - (3) Tap [General] \ [Network]
  - (4) Tap [Wi-Fi]

If this is the first time to connect to the Wireless AP, it should show "Not Connected".

iPad	10:35 AM	100%
Settings	General	
Airplane Mode OFF		
Wi-Fi Not Connected	About	>
Notifications On	Usage	>
Carrier	Sounds	>
🕎 Cellular Data		
🙀 Brightness & Wallpaper	Network	>
Picture Frame	Bluetooth	Off >
General	Location Services	On >
G Mail, Contacts, Calendars	Spotlight Search	>
Mafari Safari		

Figure 6-18 Wi-Fi Setting



Pad	10:35 AM	@ 100%
Settings	General	Network
Airplane Mode     OFF     WI-FI     Not Connected	VPN	Not Connected >
On Notifications	Wi-Fi	Not Connected >
Carrier		
🕎 Cellular Data		
疑 Brightness & Wallpaper		
Picture Frame		
Seneral		
Salendars Mail, Contacts, Calendars		
Mafari Safari		

Figure 6-19 Wi-Fi Setting – Not Connected

Step 3: Tap the target wireless network (SSID) in "Choose a Network..."

- (1) Turn on Wi-Fi by tapping "Wi-Fi"
- (2) Select SSID [default]

iPad	11:23 PM 🕒 76% 🖿
Settings	Network Wi-Fi Networks
Airplane Mode OFF	
Wi-Fi Not Connected	Wi-Fi ON
Notifications On	Choose a Network
Location Services On	default 🔒 🗢 📀
🕅 Cellular Data	Other >
🙀 Brightness & Wallpaper	Ask to Join Networks
Picture Frame	Known networks will be joined automatically. If no
🚳 General	before joining a new network.

Figure 6-20 Turn on Wi-Fi

## Step 4: Enter the encryption key of the Wireless AP

- (1) The password input screen will be displayed
- (2) Enter the encryption key
- (3) Tap the [Join] button



Pad 🜩		11:20 PM					@ 76%m0
Settings	(100	an.	Wi	Ei Netw	orks		
Airplane Mode							
WI-FI CAB	-4	Ni-Fi				ON	
Notifications	on C	choose a	Network				
Location		/ CA8-4				84	0
Collular Control	Enter the	password f	or "detautt"			89	0
Contain Contain	Ente	Pass	Nord			-82	>
Password a							
Picture I						DNE	
General						r. II i	no-
Mail, Co							
Safari							
Hel iPod							
Video							
Photos							
Notes							
(C) (100							
Anor							
Processing of the second se	_		-		_		
1 2 3 4	5	6	7	8	9	0	•
			¢				lain
		<u> </u>		Å			3011
#+= undo .		?	1				#+=
ABC					AE	C	Ē

Figure 6-21 iPhone -- Enter the Password

**Step 5**: Check if the device is connected to the selected wireless network.

If "Yes", then there will be a "check" symbol before the SSID.

iPad	11:25 PM
Settings	Network Wi-Fi Networks
Airplane Mode OFF	
SWI-FI default	Wi-Fi ON
Notifications On	Choose a Network
Location Services On	✓ default 🔒 🗢 📀
🕎 Cellular Data	Other >
🙀 Brightness & Wallpaper	Ask to Join Networks
Picture Frame	Known networks will be joined automatically. If no known networks are available, you will be asked
Seneral	before joining a new network.




# **Appendix A: Planet Smart Discovery Utility**

To easily list the WDAP-8350 in your Ethernet environment, the Planet Smart Discovery Utility is an ideal solution. The utility is available at: <u>http://www.planet.com.tw/en/product/images/48590/Planet\_Utility.zip</u>

The following installation instructions guide you to running the Planet Smart Discovery Utility.

Step 1: Planet Smart Discovery Utility is in administrator PC.

Step 2: Run this utility and the following screen appears.



**Step 3**: Press the **"Refresh"** button for the currently connected devices in the discovery list as shown in the following screen:

B	le Option Help	Discovery Life	2. 🖸 Ref	resh	Exit			9	PLANET Networking & Communication
	MAC Address	Device Name	Version	DevicelP	NewPassword	IP Address	NetMask	Gateway	Description
1	A8-F7-E0-43-77-A0	WDAP-8350	2.1.50.5	192.168.1.10		192.168.1.10	255.255.255.0	192,168,1,10	Outdoor Dual Band Rad
					Ensu	ire you ca	an discove	er the AP	
	1. Select y Select Adap	our PC/lap	top Netwo	ork adapter	Ensu (must be ti	ire you ca he same s	an discove subnet as	er the AP AP) sket Force Broa	dcast

#### Step (: Press the "Connect to Device" button and then the Web login screen appears.



The fields in white background can be modified directly and then you can apply the new setting by clicking the "**Update Device**" button.



# **Appendix B: Troubleshooting**

If you find the AP is working improperly or stop responding to you, please read this troubleshooting first before contacting the dealer for help. Some problems can be solved by yourself within a very short time.

Scenario	So	lution
The AP is not responding to	a.	Please check the connection of the power cord and the
me when I want to access it		Ethernet cable of this AP. All cords and cables should be
by Web browser.		correctly and firmly inserted to the AP.
	b.	If all LEDs on this AP are off, please check the status of
		power adapter, and make sure it is correctly powered.
	C.	You must use the same IP address section which AP uses.
	d.	Are you using MAC or IP address filter? Try to connect
		the AP by another computer and see if it works; if not,
		please reset the AP to the factory default settings
		(pressing the 'reset' button for over 7 seconds).
	e.	Use the Smart Discovery Tool to see if you can find the
		AP or not.
	f.	If you did a firmware upgrade and this happens, contact
		your dealer of purchase for help.
	g.	If all the solutions above don't work, contact the dealer
		for help.
I can't get connected to the	a.	Go to 'Status' -> 'Internet Connection' menu on the router
Internet.		connected to the AP, and check Internet connection
		status.
	b.	Please be patient, sometimes Internet is just that slow.
	C.	If you've connected a computer to Internet directly
		before, try to do that again, and check if you can get
		connected to Internet with your computer directly
		attached to the device provided by your Internet service
		provider.
	d.	Check PPPoE / L2TP / PPTP user ID and password
		entered in the router's settings again.
	e.	Call your Internet service provider and check if there's
		something wrong with their service.
	t.	If you just can't connect to one or more websites, but
		you can still use other internet services, please check
		URL/Keyword filter.
	g.	ry to reset the AP and try again later.
	h.	Reset the device provided by your Internet service



		provider too.
	i.	Try to use IP address instead of host name. If you can
		use IP address to communicate with a remote server,
		but can't use host name, please check DNS setting.
I can't locate my AP by my	a.	'Broadcast ESSID' set to off?
wireless device.	b.	Both two antennas are properly secured.
	C.	Are you too far from your AP? Try to get closer.
	d.	Please remember that you have to input ESSID on your
		wireless client manually, if ESSID broadcast is disabled.
File downloading is very slow	a.	Are you using QoS function? Try to disable it and try
or breaks frequently.		again.
	b.	Internet is slow sometimes. Please be patient.
	C.	Try to reset the AP and see if it's better after that.
	d.	Try to know what computers do on your local network. If
		someone's transferring big files, other people will think
		Internet is really slow.
	e.	If this never happens before, call you Internet service
		provider to know if there is something wrong with their
		network.
I can't log into the web	a.	Make sure you're connecting to the correct IP address of
management interface; the		the AP!
password is wrong.	b.	Password is case-sensitive. Make sure the 'Caps Lock'
		light is not illuminated.
	C.	If you really forget the password, do a hard reset.
The AP becomes hot	a.	This is not a malfunction, if you can keep your hand on
		the AP's case.
	b.	If you smell something wrong or see the smoke coming
		out from AP or A/C power adapter, please disconnect
		the AP and power source from utility power (make sure
		it's safe before you're doing this!), and call your dealer of
		purchase for help.



# **Appendix C: Frequently Asked Questions**

# Q1: How to set up the WDS PtP Connection

Topology:



## NOTE:

- 1. The default LAN IP is "DHCP Client", please disable any device with DHCP Server enabled.
- 2. Please configure your PC/laptop to use static IP (192.168.1.x, x can be 1~254 except 10) to access the AP.
- 3. The default IP of the AP is "192.168.1.10" and the default login username and password are both "admin".
- 4. In this case, we use 5GHz (Radio2) to establish the WDS connection.

#### Procedure:

1. Use static IP in the PCs that are connected with AP-1(Site-1) and AP-2 (Site-2); in this case, Site-1 is "192.168.1.100", and Site-2 is "192.168.1.200".



Connect using:			You can get IP settings ass this capability. Otherwise,	signed automatica you need to ask y	lly if yo	twork	two	rk sup minist	ports
Realtek PCIe F	E Family Controller		for the appropriate IP setti	ngs.					
		Configure	Obtain an IP address	automatically					
This connection uses	the following items:		Use the following IP a	ddress:					
Client for Mic	rosoft Networks		IP address:	192	. 168	. 1	1	100	
QoS Packet	Scheduler		Subnet mask:	255	. 255	. 25	5.	o	
File and Print	er Sharing for Microsof	t Networks	Default gateway:						
Internet Proto	col Version 6 (TCP/IP	v6)			<b>8</b> .2	•	12		
<ul> <li>Internet Proto</li> <li>Link-Laver To</li> </ul>	poology Discovery Mar	oper I/O Driver	Obtain DNS server ad	dress automatica	lly				
🗹 🔺 Link-Layer To	opology Discovery Res	sponder	Use the following DNS	server addresse	s:				
Install	Uninstall	Properties	Preferred DNS server:			20	•		
Description			Alternate DNS server:			¥2	÷		
Transmission Contro wide area network across diverse inter	ol Protocol/Internet Pro protocol that provides connected networks.	otocol. The default communication	Validate settings upo	n exit		1	A	dvano	

2. In AP-1 and AP-2, go to "Advanced Configuration-> Ethernet Settings" to configure the connection type to "Static IP" and configure them to use a different IP address.

Modify Ethernet (Wire	ed) settings	Modify Ethernet (Wired) settings			
Hostname	WLAN-AP	Hostname	WLAN-AP		
Internal Interface Settings MAC Address	A8:F7:E0:43:77:A0	Internal Interface Settings MAC Address	A8:F7:E0:46:7A:20		
Management VLAN ID	1	Management VLAN ID	1		
Untagged VLAN	💿 Enabled 🔘 Disabled	Untagged VLAN	💿 Enabled 🔘 Disabled		
Untagged VLAN ID	1 AP-1	Untagged VLAN ID	1 AP-2		
Connection Type	Static IP 👻	Connection Type	Static IP 💌		
Static IP Address	192 . 168 . 1 . 10	Static IP Address	192 . 168 . 1 . 11		
Subnet Mask	255 . 255 . 255 . 0	Subnet Mask	255 . 255 . 255 . 0		
Default Gateway	192 . 168 . 1 . 254	Default Gateway	192 . 168 . 1 . 254		
DNS Server Mode	🔿 Dynamic 💿 Manual	DNS Server Mode	🔿 Dynamic 💿 Manual		
DNS Server 1		DNS Server 1			
DNS Server 2		DNS Server 2			
IPv6 Admin Mode	💿 Enabled 🔘 Disabled	IPv6 Admin Mode	💿 Enabled 🔘 Disabled		
IPv6 Auto Config Admin Mode	💿 Enabled 🔘 Disabled	IPv6 Auto Config Admin Mode	💿 Enabled 🔘 Disabled		
IPv6 Connection Type	DHCP 💌	IPv6 Connection Type	DHCP 💌		
Static IPv6 Address		Static IPv6 Address			
Static IPv6 Address Prefix Length	0	Static IPv6 Address Prefix Length	0		

3. In AP-1 and AP2, go to "Advanced Configuration-> Radio" to configure the radio setting and channel.

1) Radio: Select the frequency that you want to use. (In this case, use 5GHz/Radio 2.)



# 2) **Channel**: Set to a fixed one (Both AP-1 and AP-2 must use the same fixed channel.)

Basic Settings	Modify radio settings			
Status				
Interfaces	Radio 2 💌			
Transmit/Receive				
Client Associations	Status 💿 On 🔘 Off			
Advanced Configuration	Mode 5 GHz IEEE 802 11p			
Ethernet Settings				
Wireless Settings				
Radio	Channel 36 🗸			
VAP	Channel Bandwidth 40 MHz			
WDS				
Location	Primary Channel Lower 🗸			
Services				
Web Server				
NTP	STBC Mode On 💙			
Maintenance	Protection Off			
Configuration				
Upgrade	Beacon Interval 100 (millisecond, 40 - 2000)			

Distance	1 (Range: 0 - 30 KM)
Both AP-1 & AP-2 must co	nfigured the same distance
ACK Timeout	64
RTS Threshold	2346 (Range: 256-2346)
Maximum Stations	200 (0-200)
	200 (0-200)
In short distance less than	TKm, you may reduce Tx power to reduce interference
Transmit Power	50 (Percent, Range: 1 - 100)

4. In AP-1 and AP-2, go to "Advanced Configuration-> WDS" to configure the WDS setting. The SSID and Security must be the same.



# [AP-1's setting]

Configure WDS bridges to other a	ccess points (AP-	1)								
Radio 2 🗸										
Click "Refresh" button to refresh the page. Refresh	Click "Refresh" button to refresh the page. Refresh AP-1's security must be the same as AP-2 AP-2's WLAN MAC of 5GHz(Radio 2)									
WDS Enabled WDS Mode SSID	Remote-mac 🥂	Security		Link State						
0 🗸 WDS AP 💌 8350_WDS_5G	A8:F7:E0:46:7A:30	WPA Personal 💌	Ξ	Linked						
AP-1's mode										
		Key		•••••						
		Broadcast Key Refresh Rate	(0-86400)	86400						

# [AP-2's setting]

Configure WDS bridges to other access points (AP-2)								
Radio 2 V								
Click "Refresh" button to refresh the page. AP-2's security must be the same as AP-1								
Refresh AP 1'a		UT(Padia 2)	Ň					
AF-13	WEAN MAC OF SE							
WDS Enabled WDS Mode SSID	Remote-mac 🕂	Security	Link State					
0 VDS Client V 8350_WDS_5G	A8:F7:E0:43:77:B0	WPA Personal 💌	Linked					
AP-2's mode								
		Key	•••••					
		Broadcast Key Refresh Rate ((	0-86400) 86400					



5. In AP-1 and AP-2, ping each other to ensure the connection has been established. Once the connection is established, the "Link State" will be "Linked".

nterne	et Explore	T					🚥 命令提示行	<sup>2</sup> 元 - ping 192.168	.1.88 -t		- 🗆 ×
min.cgi	?action=wd	8					Reply from Reply from	192.168.1.88:	bytes=32	time=2ms	TTL=128
愛(丛)	工具(I)	説明(田)					Reply from	192.168.1.88:	bytes=32	time=2ms	TTL=128
02.11n	AP 🔿	× 🏉 PLANET 80:	2.11n AP				Reply from Reply from	192.168.1.88: 192.168.1.88:	bytes=32 bytes=32	time=2ms time=2ms	TTL=128 TTL=128
							Reply from Reply from	192.168.1.88:	bytes=32	time=2ms	TTL=128
				600	Mbns 8	02 11n D	Reply from	192.168.1.88:	bytes=32	time=2ms	TTL=128
				0001	hipps of	02.111110	Reply from Reply from	192.168.1.88: 192.168.1.88:	bytes=32 bytes=32	time=2ms time=3ms	TTL=128 TTL=128
							Reply from	192.168.1.88:	bytes=32	time=2ms	TTL=128
for and							Reply from Reply from	192.168.1.88:	bytes=32 bytes=32	time=2ms time=2ms	TTL=128 TTL=128
Co	ntigui	re WDS b	ridges to other ac	ccess points			Reply from Reply from	192.168.1.88:	bytes=32 butes=32	time=2ms	TTL=128 TTL=128
Radi	0 2 🗸						Reply from Reply from Reply from	192.168.1.88: 192.168.1.88:	bytes=32 bytes=32	time=2ms time=2ms	TTL=128 TTL=128
Click	"Refresh'	" button to refres	h the page.					172.100.1.00-	bytes-52	C 100-205	· · · · · · · · · · · · · · · · · · ·
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# **Q2: How to set up the WDS PtMP Connection**

# <u>Topology:</u>



## NOTE:

- 1. The default LAN IP is "DHCP Client"; please disable any device with DHCP Server enabled.
- 2. Please configure your PC/laptop to use static IP (192.168.1.x, x can be 1~254 except 10) to access the AP.
- 3. The default IP of the AP is "192.168.1.10" and the default login username and password are both "admin".
- 4. In this case, we use **5GHz** (Radio2) to establish the WDS connection.

#### Procedure:

- 1. Refer to <u>WDS PtP step 1~3</u> to configure the master AP and the slave APs.
- Then, go to "Advanced Configuration-> WDS" page of each AP to configure the WDS setting. The SSID and Security must be the same.





## [Master AP's setting]

Each entry is for one slave AP. For example, if you have 3 slave APs, you have to configure 3 WDS entries in the master AP.

Co	Configure WDS bridges to other access points							
Radio Click Ref	Radio 2 Click "Refresh" button to refresh the page. Refresh AP-1's mode and SSID must be the same in WDS 0 and WDS 1 AP-2's 5GHz WLAN MAC							
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0	$\checkmark$	WDS AP	8350_WDS_5	G A8:F7:E0:46:7A:30	WPA Personal 💌	Unlinked		
1	V	WDS AP	8350_WDS_5	G A8:F7:E0:46:7A:E0	Key Broadcast Key Refresh Rate (1 WPA Personal V	0-86400) 86400 Unlinked		
			AP-3'	S 5GHZ WLAN MAC	Key Broadcast Key Refresh Rate (1	0-86400) 86400		

#### [Each Slave AP's setting]

Configure WDS bridges to other access points							
Radio 2 💌							
Click "Refresh" button to refresh the page.          Refresh       Slave APs' mode       Security setting and ket	ey must be the same in Master AP and	d Slave APs					
WDS Enabled WDS Mode SSID Remote-mac	Security	Link State					
0 V WDS Client 8350_WDS_5G A8:F7:E0:43:77:B0	WPA Personal 🛩 🕞	Unlinked					
¥ Master AP's SSID and 5G WLAN MAC	Key Broadcast Key Refresh Rate (0-86400)	86400					

3. Once the connection is established, the Link State will be "Linked".







# **EC Declaration of Conformity**

For the following equipment:

*Type of Product:	600Mbps Dual Band 802.11n Outdoor Wireless CPE
*Model Number:	WDAP-8350

* Produced by:	
Manufacturer's Name :	Planet Technology Corp.
Manufacturer's Address:	10F., No.96, Minquan Rd., Xindian Dist.,
	New Taipei City 231, Taiwan (R.O.C.)

is here with confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to 2014/53/EU R&TTE, Low Voltage Directive 2014/35/EU; EMC Directive 2014/30/EU.

For the evaluation regarding the R&TTE the following standards were applied:

EN 300 3	328 V1.9.1	(2012-06)
EN 301 4	489-17 V2.2.1	(2012-09)
EN 301 4	489-1 V1.9.2	(2011-09)
EN 301 8	893-1 V1.7.1	(2012-06)
EN 6231	1	(2008)
EN 6095	0-1 (2006+A11:2009+A1:2	2010+A12:2011+A2: 2013)

**Responsible for marking this declaration if the:** 

Authorized representative established within the EU **⊠** Manufacturer

Authorized representative established within the EU (if applicable):

**Company Name:** Planet Technology Corp.

10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.) **Company Address:** 

Person responsible for making this declaration

Name, Surname Kent Kang

**Position / Title :** Director

Taiwan Place

29 Jan., 2016 Date

# PLANET TECHNOLOGY CORPORATION

# EC Declaration of Conformity

English	Hereby, <b>PLANET Technology Corporation</b> , declares that this <b>Outdoor Wireless AP</b> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	Lietuviškai	Šiuo <b>PLANET Technology Corporation</b> ,, skelbia, kad <b>Outdoor Wireless AP</b> tenkina visus svarbiausius 1999/5/EC direktyvos reikalavimus ir kitas svarbias nuostatas.
Česky	Společnost <b>PLANET Technology Corporation</b> , tímto prohlašuje, že tato <b>Outdoor Wireless AP</b> splňuje základní požadavky a další příslušná ustanovení směrnice 1999/5/EC.	Magyar	A gyártó <b>PLANET Technology Corporation</b> , kijelenti, hogy ez a <b>Outdoor Wireless AP</b> megfelel az 1999/5/EK irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.
Dansk	PLANET Technology Corporation, erklærer herved, at følgende udstyr Outdoor Wireless AP overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF	Malti	Hawnhekk, <b>PLANET Technology Corporation,</b> jiddikjara li dan <b>Outdoor Wireless AP</b> jikkonforma mal-ħtiģijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC
Deutsch	Hiermit erklärt <b>PLANET Technology Corporation</b> , dass sich dieses Gerät <b>Outdoor Wireless AP</b> in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)	Nederlands	Hierbij verklaart , <b>PLANET Technology orporation,</b> dat <b>Outdoor Wireless AP</b> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eestikeeles	Käesolevaga kinnitab <b>PLANET Technology</b> <b>Corporation</b> , et see <b>Outdoor Wireless AP</b> vastab Euroopa Nõukogu direktiivi 1999/5/EC põhinõuetele ja muudele olulistele tingimustele.	Polski	Niniejszym firma <b>PLANET Technology Corporation</b> , oświadcza, że <b>Outdoor Wireless AP</b> spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie "Directive 1999/5/EC".
Ελληνικά	ME THN ΠΑΡΟΥΣΑ , <b>PLANET Technology</b> Corporation, $\Delta H \land \Omega N E I$ OTI AYTO Outdoor Wireless APΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ	Português	PLANET Technology Corporation, declara que este Outdoor Wireless AP está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Español	Por medio de la presente, <b>PLANET Technology</b> <b>Corporation,</b> declara que <b>Outdoor Wireless AP</b> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE	Slovensky	Výrobca <b>PLANET Technology Corporation</b> , týmto deklaruje, že táto <b>Outdoor Wireless AP</b> je v súlade so základnými požiadavkami a ďalšími relevantnými predpismi smernice 1999/5/EC.
Français	Par la présente, <b>PLANET Technology</b> <b>Corporation,</b> déclare que les appareils du <b>Outdoor Wireless AP</b> sont conformes aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE	Slovensko	PLANET Technology Corporation, s tem potrjuje, da je ta Outdoor Wireless AP skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 1999/5/EC.
Italiano	Con la presente , <b>PLANET Technology</b> <b>Corporation,</b> dichiara che questo <b>Outdoor</b> <b>Wireless AP</b> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	Suomi	PLANET Technology Corporation, vakuuttaa täten että Outdoor Wireless AP tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Latviski	Ar šo <b>PLANET Technology Corporation,</b> apliecina, ka šī <b>Outdoor Wireless AP</b> atbilst Direktīvas 1999/5/EK pamatprasībām un citiem atbilstošiem noteikumiem.	Svenska	Härmed intygar, <b>PLANET Technology Corporation</b> , att denna <b>Outdoor Wireless AP</b> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.