PLANET
Networking & Communication

User's Manual

1200Mbps 11ac Dual Band Ceiling Mount Wireless AP

► **WDAP-C7200AC**

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Federal Communication Commission Interference Statement

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 Federation	None	Only for indoor applications

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

User Manual for PLANET 1200Mbps 11ac Dual Band Ceiling Mount Wireless Access Point

Model: WDAP-C7200AC

Rev: 1.0 (May, 2014)

Part No. EM-WDAP-C7200AC_v1.0 (2080-E11010-000)

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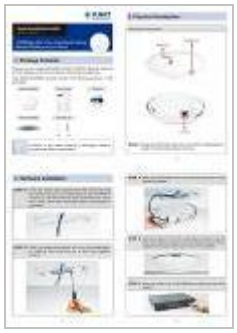
Chapter 1. Product Introduction

1.1 Package Contents

Thank you for choosing PLANET WDAP-C7200AC. Before installing the AP, please verify the contents inside the package box.

WDAP-C7200AC

Quick Guide



CD-ROM

(User Manual included)

Quick Guide

Mounting Kit

Note

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

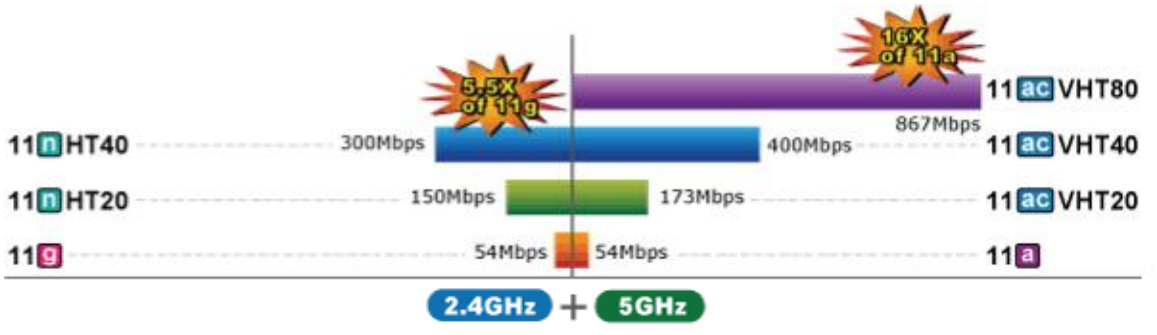
1.2 Product Description

Ceiling Mount Designed for Highly-efficient Wireless Coverage

Featuring attractive flying saucer appearance and ceiling-mount design, the WDAP-C7200AC can be firmly installed on the ceiling or the wall conveniently. The ceiling-mount design is smartly integrated into the environment. Its streamlined body without the protruding antennas also gives effects of embellishment in the surroundings. Moreover, the WDAP-C7200AC is compliant with the IEEE 802.3at PoE standard, so it is easy and flexible in client-side installation. It is definitely nice to have this eye-catching access point mount on the ceilings and walls of villas, hotels, exhibit halls, and other establishments.

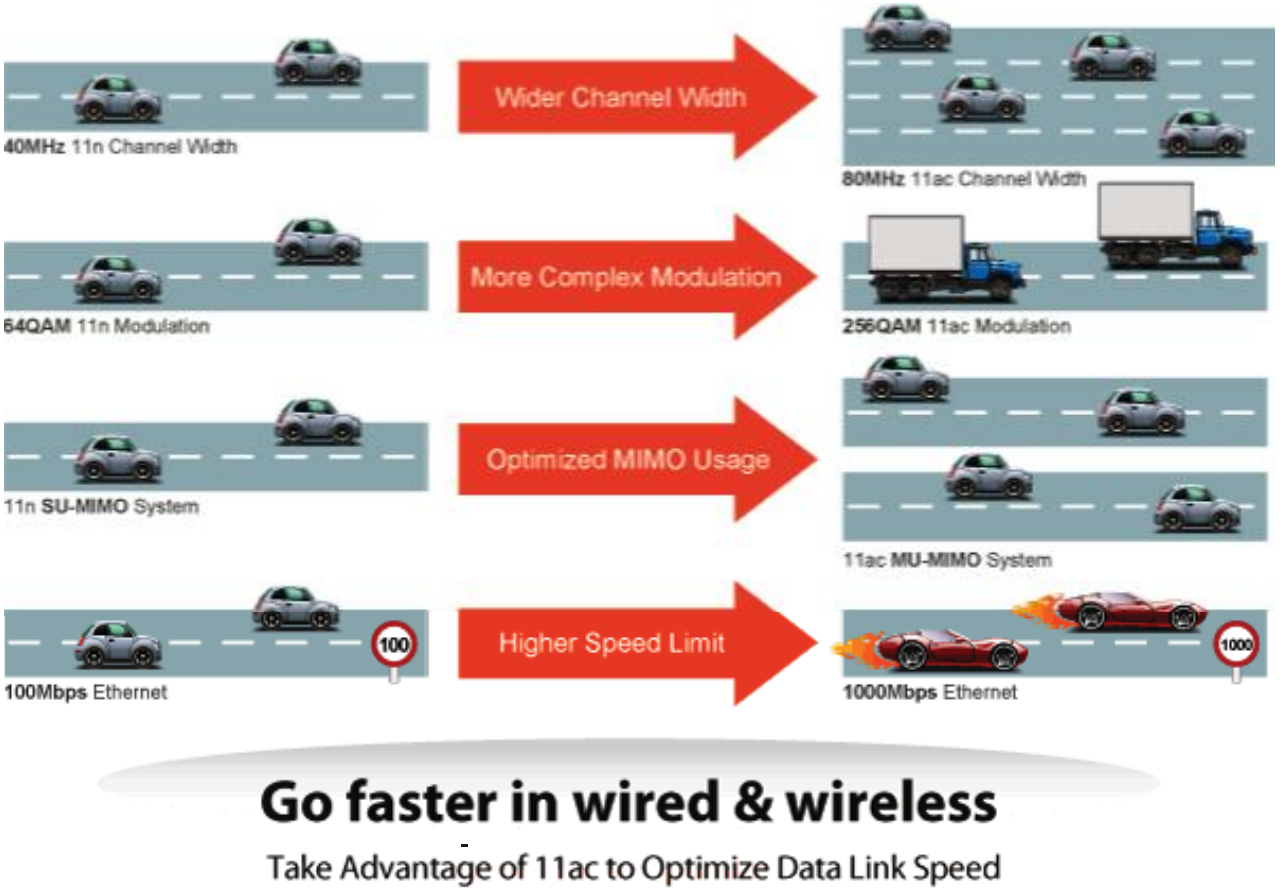
Brand-new 11ac Wireless Technology

The WDAP-C7200AC supports IEEE 802.11a/b/g/n/ac dual band standards with 2T2R MIMO technology; therefore, it provides the wireless speed up to 300+867Mbps, which is 16X faster than the 11a access point at 5GHz frequency and 5.5X faster than the 11g access point at 2.4GHz frequency. Moreover, the WDAP-C7200AC is equipped with Gigabit Ethernet Port. Compared with the general wireless APs, the WDAP-C7200AC offers faster transmission speed for the network applications and less interference to enhance data throughput. The incredible wireless speed makes it ideal for handling multiple HD movie streams, high-resolution on-line games, stereo music, VoIPs and data streams at the same time stably and smoothly.



11ac Innovations Bring Excellent Data Link Speed

The WDAP-C7200AC is built-in with high power amplifier and 4 highly-sensitive antennas which provide stronger signal and excellent coverage even in the wide-ranging or bad environment. With adjustable transmit power option, the administrator can flexibly reduce or increase the output power for various environments, thus reducing interference to achieve maximum performance. To provide extremely high-speed user experience, the WDAP-C7200AC adopts IEEE 802.11ac technology to extend the 802.11n 40MHz channel binding to 80MHz and the implementation of 256-QAM modulation where higher transmitting/receiving rates go up to 867Mbps in 5GHz less interference frequency band. In addition, the WDAP-C7200AC is equipped with gigabit LAN port to eliminate the restriction of 100Mbps Fast Ethernet wired connection to let users fully enjoy the high speed provided by wireless. The IEEE 802.11ac also optimizes MU-MIMO (Multi-User MIMO) mechanism to serve multiple devices simultaneously.

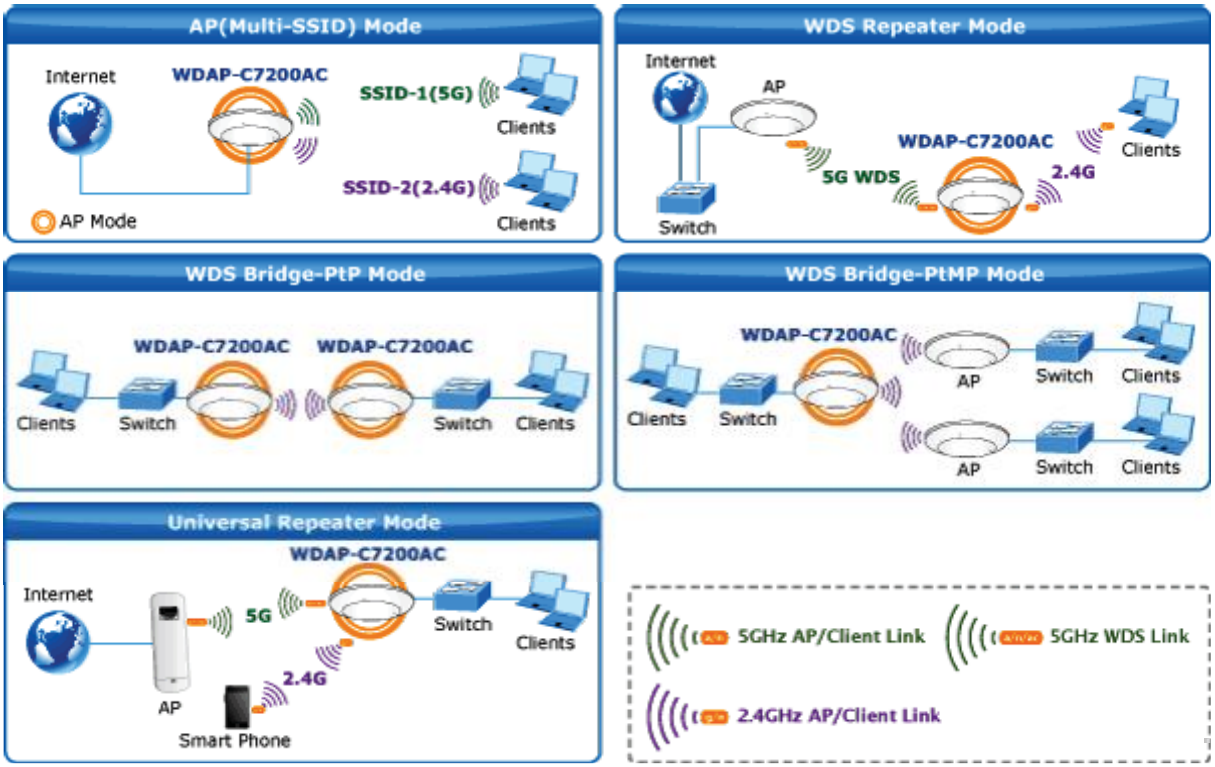


Full Support of Wireless Security Encryption and Wireless Value-added Features

In aspect of security, besides 64/128-bit WEP encryption, the WDAP-C7200AC is integrated with WPA / WPA2, WPA-PSK / WPA2-PSK and 802.1x Radius authority to secure and protect your wireless LAN. It provides the wireless MAC filtering and SSID broadcast control to consolidate the wireless network security and prevent unauthorized wireless connection. Being an access point, the WDAP-C7200AC supports the VLAN function to allow multiple SSIDs (10 sets of SSIDs) to access Internal VLAN topology. Moreover, its Wi-Fi Multimedia (WMM) mechanism provides enhanced QoS over wireless connection for better performance in multimedia transmission like on-line gaming and video streaming, which are classified as a top priority.

Multiple Operation Modes for Various Applications

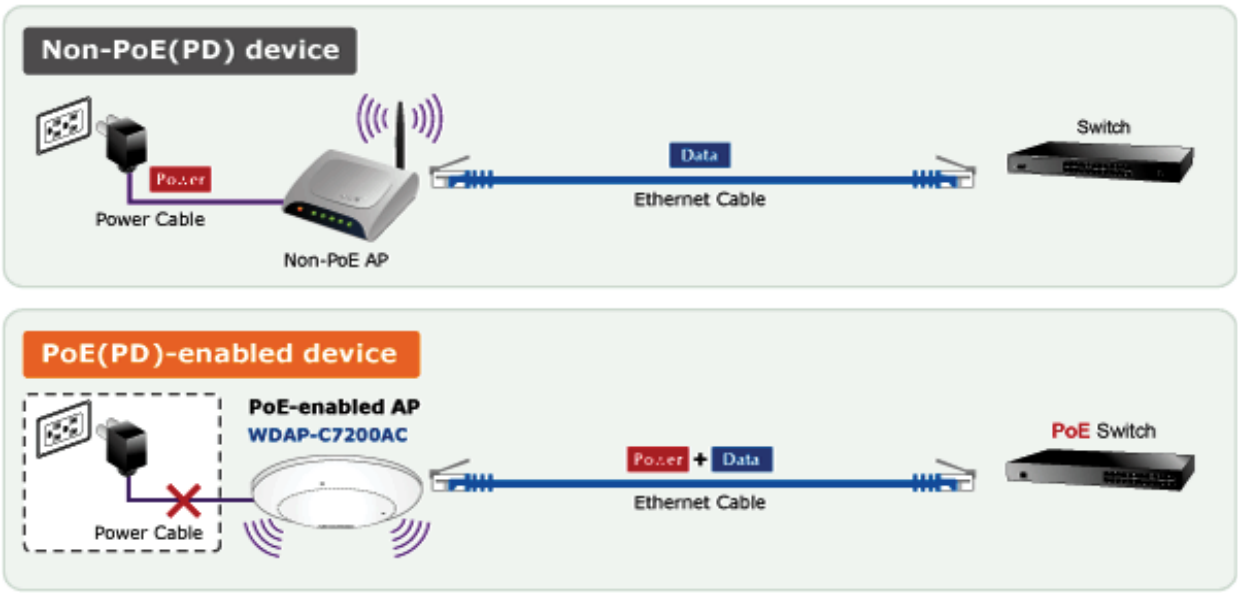
The WDAP-C7200AC supports AP, Client, WDS Bridge, Repeater and Universal Repeater modes, through which it provides more flexibility for users when wireless network is established. Compared with general wireless access point, the WDAP-C7200AC offers more powerful and flexible capability for wireless clients.



Flexible Deployment with PoE Feature

Compliant with the IEEE 802.3at Power over Ethernet standard, the WDAP-C7200AC can be powered and networked by a single UTP cable. It thus reduces the needs of extra cables and dedicated electrical outlets on

the wall, ceiling or any other place where it is difficult to reach. The wireless network deployment becomes more flexible and worry-free from the power outlet locations.



Easy Installation and Management

With user-friendly Web UI and step-by-step Quick Setup Wizard, the WDAP-C7200AC is easy to install, even for users who never experience setting up a wireless network. Furthermore, with SNMP-based management interface, the WDAP-C7200AC is convenient to be managed and configured remotely in a small business wireless network.

1.3 Product Features

- **Standard Compliant Hardware Interface**
  - Complies with IEEE 802.11ac (draft 2.0) and IEEE 802.11a/b/g/n standards
  - 1 x 10/100/1000Base-TX Port with 1-port PoE (PD, Powered Device)
  - IEEE 802.3at Power over Ethernet design
- **RF Interface Characteristics**
  - Features 2.4GHz (802.11b/g/n) and 5GHz (802.11a/n/ac) concurrent dual band for more efficiency of carrying high load traffic
  - 2T2R MIMO technology for enhanced throughput and coverage
  - Provides multiple adjustable transmit power control
  - High speed up to 1.2Gbps (300Mbps for 2.4GHz + 867Mbps for 5GHz) wireless data rate
- **Comprehensive Wireless Advanced Features**
  - Multiple Wireless Modes: AP, Client, WDS PtP/ PtMP, WDS Repeater, Universal Repeater
  - Supports up to 10 multiple-SSIDs (2.4GHz+5GHz) to allow users to access different networks through a single AP
  - Supports VLAN function to limit the clients to access the specific internal network resource
  - Supports WMM (Wi-Fi Multimedia) and wireless QoS to enhance the efficiency of multimedia application
  - Supports IAPP (Inter Access Point Protocol) and wireless roaming to enable clients to roam across different wireless networks
  - Supports 5-level Transmitting Power Control to adapt various environments
  - Supports wireless schedule to automatically enable or disable the wireless function based on predefined schedule
- **Secure Network Connection**
  - Advanced security: 64/128-bit WEP, WPA / WPA2, WPA-PSK / WPA2-PSK (TKIP/AES encryption) and 802.1x Radius Authentication
  - Supports MAC address filtering
- **Easy Installation & Management**
  - Flexible deployment with standard 802.3at PoE/ PD supported
  - Web-based UI and Quick Setup Wizard for easy configuration
  - Remote Management allows configuration from a remote site
  - SNMP-based management interface
  - System status monitoring includes DHCP Client and System Log

1.4 Product Specifications

Product	**WDAP-C7200AC** 1200Mbps 802.11ac Dual Band Ceiling Mount Wireless Access Point	
Hardware Specifications		
Interfaces	LAN	1 x 10/100/1000Base-T RJ45 port Auto-negotiation and Auto MDI/MDI-X
Antennas	Gain:	2 x 2.4GHz 3dBi PCBA antenna 2 x 5GHz 2.5dBi PCBA antenna
Reset Button	Reset button on the top cover Press over 7 seconds to reset the device to factory default	
LED Indicators	PWR Allow LED to turn off via software control	
Material	Plastic	
Dimensions (Φ x H)	194 x 49 mm	
Weight	300 ±5g	
Power Requirements	802.3at PoE, 48-56V DC input	
Power Consumption	20W (max.)	
Mounting	Ceiling Mount	
Wireless Interface Specifications		
Standard	IEEE 802.11ac (Draft 2.0) 5GHz IEEE 802.11a/n 5GHz IEEE 802.11b/g/n 2.4GHz	
Antenna Structure	802.11ac: 2T2R MU-MIMO 802.11n: 2T2R MIMO	
Modulation	DSSS	
Data Modulation	802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11b: DSSS (DBPSK / DQPSK / CCK)	
Band Mode	2.4G / 5G concurrent mode	
Frequency Range	2.4GHz	America/ FCC: 2.412~2.462GHz Europe/ ETSI: 2.412~2.484GHz
	5GHz	America/ FCC: 5.180~5.240GHz, 5.725~5.850GHz Europe/ ETSI: 5.180~5.240GHz
Operating Channels	2.4GHz	America/ FCC: 1~11 Europe/ ETSI: 1~13
	5GHz	America/ FCC: 36, 40, 44, 48, 149, 153, 157, 161, 165 Europe/ ETSI: 36, 40, 44, 48 5GHz channel list will vary in different countries according to their regulations.
Channel Width	802.11ac: 20/40/80MHz 802.11n: 20/40MHz	

Data Transmission Rates	802.11ac (VHT20, Nss2-MCS8): Up to 173.3Mbps 802.11ac (VHT40, Nss2-MCS9): Up to 400Mbps 802.11ac (VHT80, Nss2-MCS9): Up to 867Mbps
	802.11n (HT40): 270/243/216/162/108/81/54/27Mbps 135/121.5/108/81/54/40.5/27/13.5Mbps (dynamic)
	802.11n (HT20): 130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (dynamic)
	802.11g: 54/48/36/24/18/12/9/6Mbps (dynamic)
	802.11b: 11/5.5/2/1Mbps (dynamic)
Transmission Distance	802.11ac (draft): up to 30m 802.11n: up to 70m 802.11g: up to 30m **The estimated transmission distance is based on the theory. The actual distance will vary in different environments.**
Max. RF Power	**5GHz:** 802.11ac (VHT20): 22dBm 802.11ac (VHT40): 22dBm 802.11ac (VHT80): 22dBm 802.11n (HT20): 22dBm 802.11n (HT40): 22dBm 802.11a: 22dBm
	2.4GHz: 802.11n: 17 ±2.5dBm 802.11b/g: 20 ±2.5dBm
Receive Sensitivity	**5GHz:** 802.11ac (VHT20): -91dBm @ Nss1-MCS0, -64dBm @ Nss2-MCS8 802.11ac (VHT40): -89dBm @ Nss1-MCS0, -59dBm @ Nss2-MCS9 802.11ac (VHT80): -86dBm @ Nss1-MCS0, -56dBm @ Nss2-MCS9 802.11n (HT20): -92dBm @ MCS0, -71dBm @ MCS7 802.11n (HT40): -89dBm @ MCS0, -66dBm @ MCS15 802.11a: -93 @ 6Mbps, -75dBm @ 54Mbps
	2.4GHz: 802.11n 20MHz (MCS7): -69dBm @10% PER 802.11n 40MHz (MCS15): -66dBm @10% PER 802.11g (54Mbps): -74dBm @10% PER 802.11b (11Mbps): -88dBm @10% PER
Software Features	
Wireless Mode	■ Universal Repeater (AP+Client) ■ Repeater (WDS+AP) ■ AP (Access Point) ■ WDS PTP (Point to Point) ■ WDS PTMP (Point to Multipoint) ■ Client
Encryption Security	■ WEP (64/128-bit) encryption security ■ WPA / WPA2 (TKIP/AES) ■ WPA-PSK / WPA2-PSK (TKIP/AES)
Wireless Security	Provides wireless LAN ACL (Access Control List) filtering
	Wireless MAC address filtering

	Supports WPS (Wi-Fi Protected Setup)
	Enable/ Disable SSID Broadcast
Wireless Advanced	WMM (Wi-Fi Multimedia): 802.11e Wireless QoS
	Multiple SSID: up to 5 at 2.4GHz and 5GHz, respectively
	Wireless Isolation: Enables to isolate each connected wireless client from communicating with each other
	IAPP (Inter Access Point Protocol): 802.11f Wireless Roaming
	Provides Wireless Statistics
Max. Clients	Wire: 253 2.4GHz Wireless: 32 5GHz Wireless: 32
LAN	Built-in DHCP server supporting static IP address distributing
	Supports UPnP
	Supports 802.1d Spanning Tree
	Supports 802.1Q VLAN
System Management	Web-based (HTTP) management interface
	SNTP time synchronize
	Easy firmware upgrade
	Supports Scheduling Reboot
	Supports Smart Discovery Utility
Standards Conformance	
IEEE Standards	IEEE 802.11ac (Draft 2.0, 2T2R, up to 867Mbps) IEEE 802.11n (2T2R, up to 300Mbps) IEEE 802.11g IEEE 802.11b IEEE 802.11i IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNTP
Environment & Certification	
Temperature	Operating: 0 ~ 50 degrees C Storage: -40 ~ 70 degrees C
Humidity	Operating: 10 ~ 90% (non-condensing) Storage: 5 ~ 90% (non-condensing)
Regulatory	FCC Part 15B & 15C, IC, RoHS

Chapter 2. Hardware Installation

Please follow the instructions below to connect WDAP-C7200AC to the existing network devices and your computers.

2.1 Product Outlook

- **Dimensions**: 194 x 49 mm (Φ x H)
- **Drawing :**

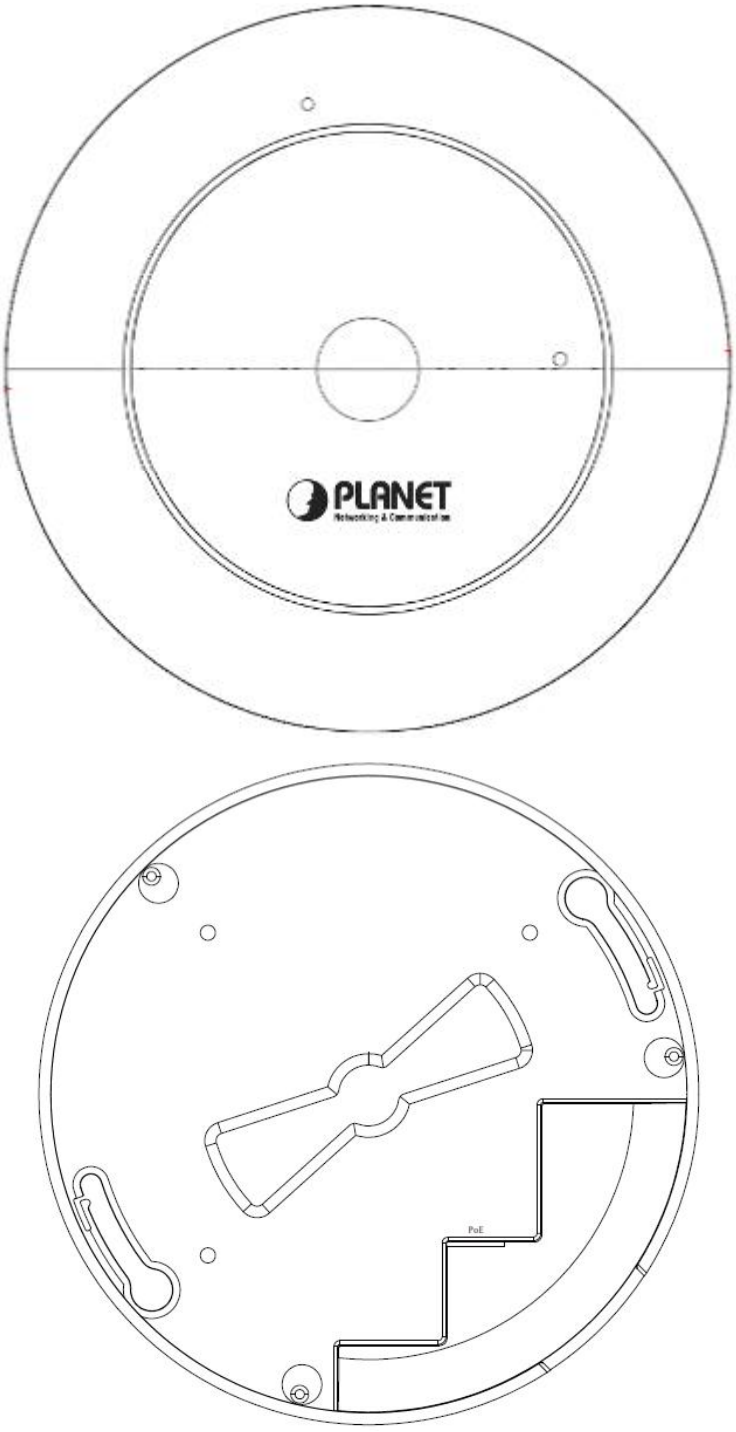


Figure 2-1 WDAP-C7200AC Product Drawing

2.1.1 Panel Layout

The front and rear panel provide a simple interface monitoring the AP. Figure 2-2 shows the hardware interface of the WDAP-C7200AC.

Hardware Interface

Figure 2-2 WDAP-C7200AC Panel Layout

2.1.2 Hardware Description

LED definition

LED	COLOR	STATUS	FUNCTION
PWR	Green	On	Device power on
	Green	Off	Device power off (control by S/W)
	Orange	On	System initializing, turned it off when system completed
	Orange	Blinking	Detect and identify the LED (control by S/W) 1) Position LED on: LED blinks continuously. 2) Position LED off: the LED is off.

Button definition

Object	Description
Reset	To restore to the factory default setting, press and hold the Reset Button over 7 seconds, and then release it.

Port definition

Object	Description
PoE Port (802.3at PoE)	10/100/1000Mbps RJ-45 port , Auto MDI/ MDI-X Connect PoE port to the IEEE 802.3at PSE to power on the device.

Chapter 3. Connecting to the AP

3.1 System Requirements

- Broadband Internet Access Service (Cable/xDSL/Ethernet connection)
- One IEEE 802.3at PoE switch (supply power to the WDAP-C7200AC)
- PCs with a working Ethernet Adapter and an Ethernet cable with RJ-45 connectors
- PCs running Windows 98/ME, NT4.0, 2000/XP, Windows Vista / Win 7, MAC OS 9 or later, Linux, UNIX or other platforms compatible with **TCP/IP** protocols

Note

1. The AP in the following instructions refers to PLANET WDAP-C7200AC.
2. It is recommended to use Internet Explore 7.0 or above to access the AP.

3.2 Installing the AP

Before installing the AP, make sure your PoE switch is connected to the Internet through the broadband service successfully at this moment. If there is any problem, please contact your local ISP. After that, please install the AP according to the following steps. Don't forget to pull out the power plug and keep your hands dry.

Step 1. Drill the outlet hole indicated on the mounting label and stick the given mounting label to the installation location to let the Ethernet cable penetrate the outlet hole. Then, drill the mounting holes as indicated on the label.

Figure 3-1 WDAP-C7200AC Installation Diagram 1

Step 2. Take the mounting bracket, put it on the target place by aligning the holes and fix it with the supplied

screws. ※ IEEE 802.3at PoE switch is required.

Figure 3-2 WDAP-C7200AC Installation Diagram 2

Step 3. Plug the RJ-45 Ethernet cable into the PoE port of the WDAP-C7200AC.

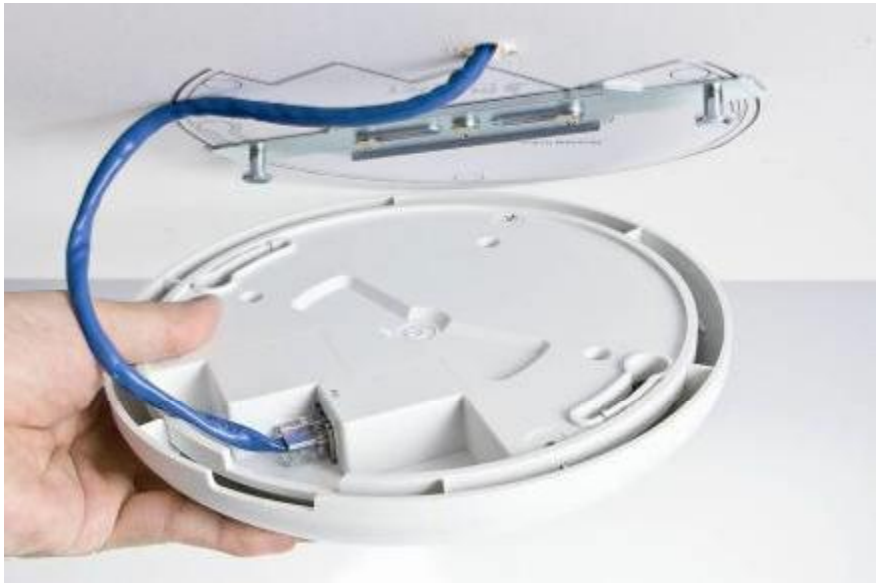


Figure 3-3 WDAP-C7200AC Installation Diagram 3

Step 4. Load the device into the mounting bracket, and be sure the device is mated with two fixed screws. Then, rotate the device clockwise to lock it in position.

Figure 3-4 WDAP-C7200AC Installation Diagram 4

Step 5. Plug the other end of the Ethernet cable into the PoE switch.

Figure 3-5 WDAP-C7200AC Installation Diagram 4

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-C7200AC is **192.168.1.253**. 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-C7200AC with your PC by an Ethernet cable plugging in LAN port on one side and in LAN port of PC on the other side. Please power on the WDAP-C7200AC 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-C7200AC is 192.168.1.253, and the DSL router is 192.168.1.254, the "xxx" can be configured to any number from 1 to 252), Subnet Mask is 255.255.255.0.

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-C7200AC is 192.168.1.253 and the DSL router is 192.168.1.254, you may choose from 192.168.1.1 to 192.168.1.252.

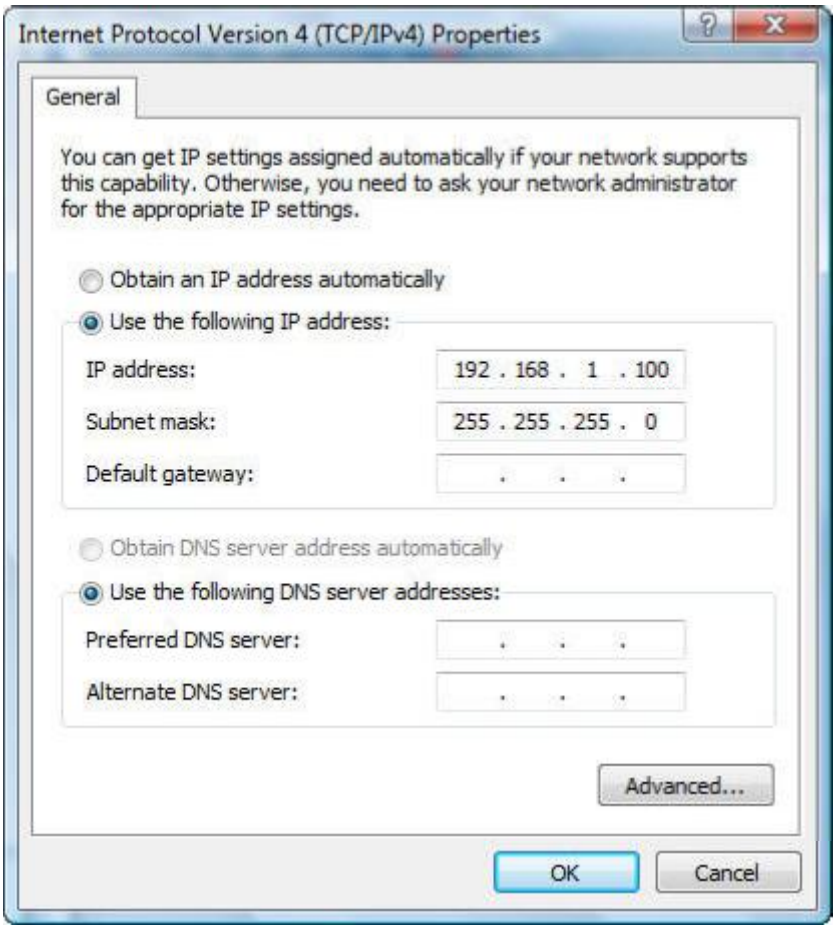


Figure 4-1 TCP/IP Setting

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.

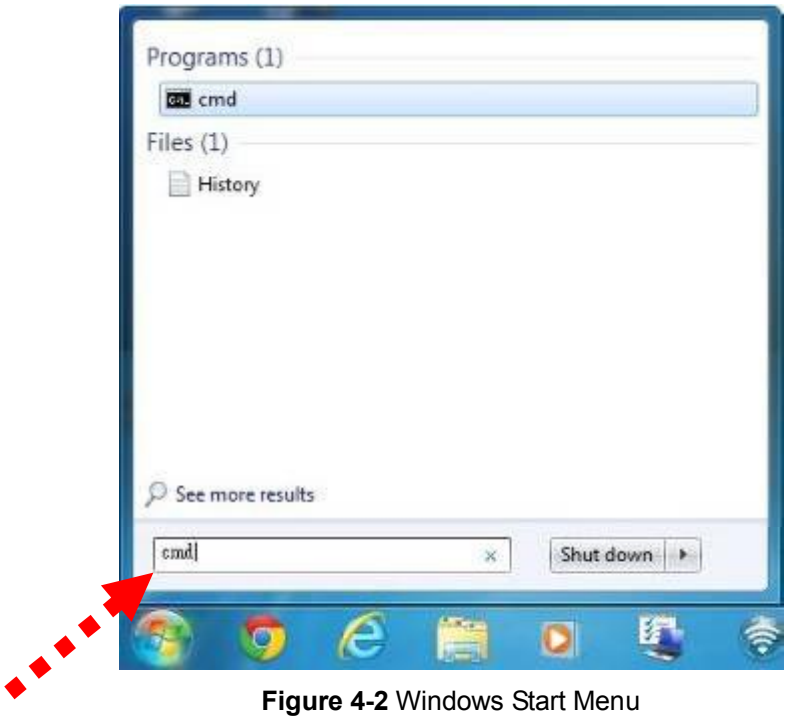


Figure 4-2 Windows Start Menu

3. Open a command prompt, type ping **192.168.1.253** 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.

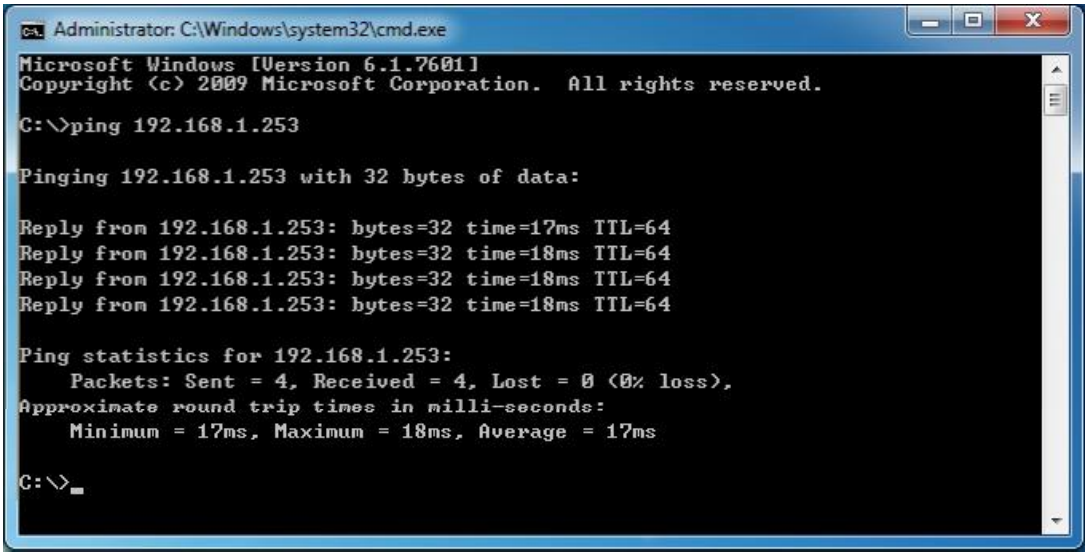


Figure 4-3 Successful result of Ping command

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

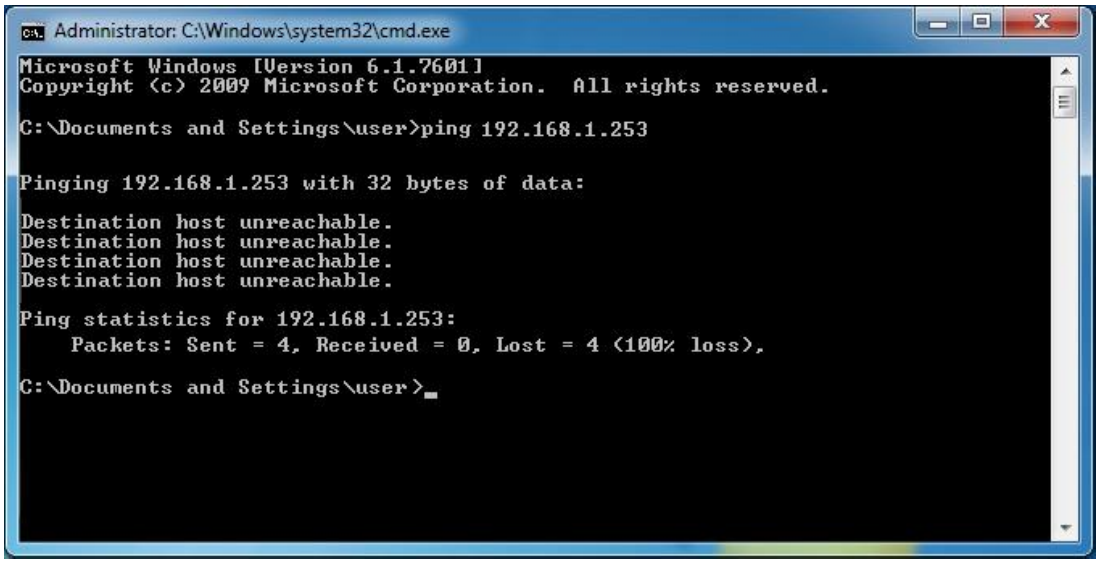


Figure 4-4 Failed Result of Ping Command

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://192.168.1.253 in the web address field of the browser.

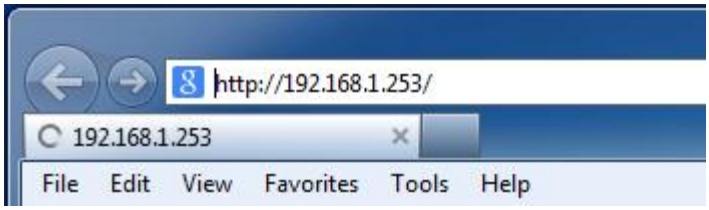


Figure 4-5 Login by default IP address

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.

Figure 4-6 Login Window

Default IP Address: **192.168.1.253**

Default User name: **admin**

Default Password: **admin**

Note

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 6 main menus below, allowing you to manage the AP with ease.

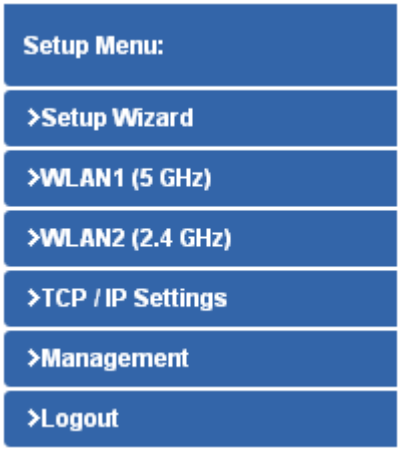


Figure 5-1 Main Menu

During operation, if you are not clear about a certain feature, you can refer to the "**Help**" section in the right side of the screen to read all related helpful info.

5.1 Setup Wizard

The Setup Wizard will guide the user to configure the WDAP-C7200AC easily and quickly. Select the Setup Wizard on the left side of the screen and by clicking on Next on the Setup Wizard screen shown below, you will then name your WDAP-C7200AC and set up its security.

Figure 5-2 Setup Wizard

Step 1: LAN Interface Setup

Figure 5-3 LAN Interface SetupTopology

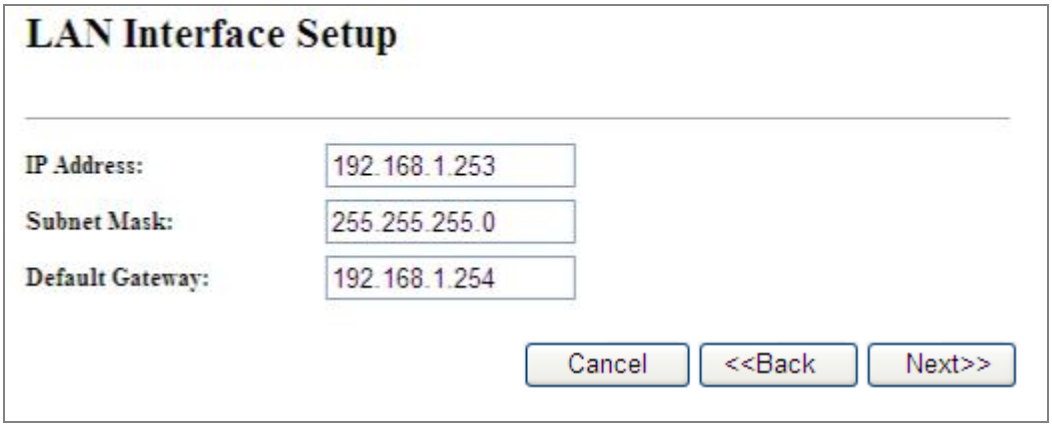


Figure 5-4 Wizard – LAN Interface Setup

The page includes the following fields:

Object	Description
IP Address	Displays the current IP address of the AP. (Default = **192.168.1.253**)
Subnet Mask	Displays LAN mask of the AP. (Default = **255.255.255.0**)
Default Gateway	IP address of the associated router. (Default = **192.168.1.254**)

Step 2: Time Zone Setting

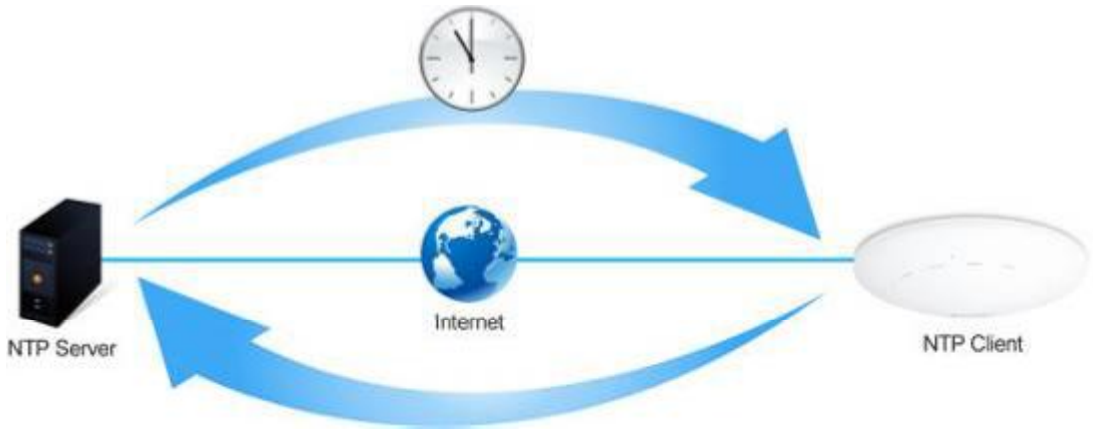


Figure 5-5 Time Zone Setup Topology

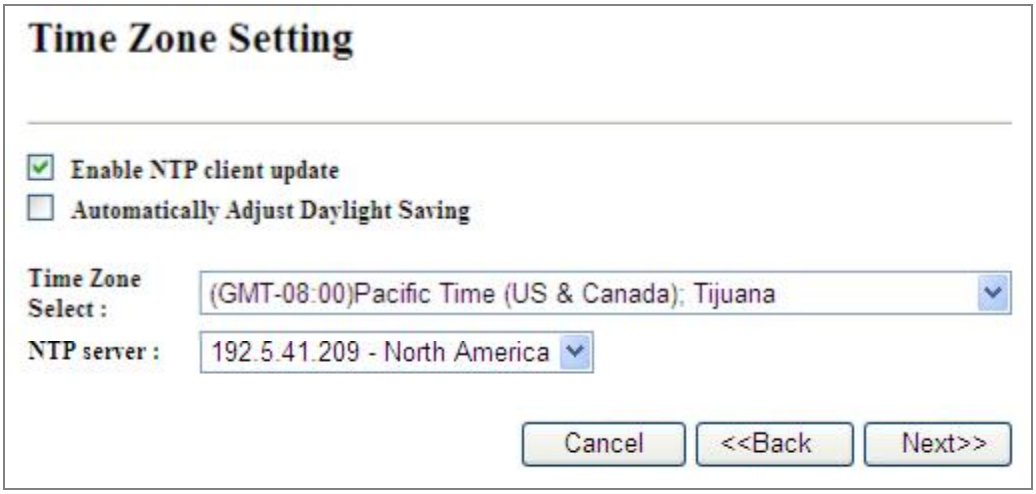


Figure 5-6 Wizard – Time Zone Setup

The page includes the following fields:

Object	Description
Enable NTP client update	Check this box to connect NTP Server and synchronize internet time.
Automatically adjust Daylight Saving	Check this box and system will adjust the daylight saving automatically.
Time Zone Select	Select the Time Zone from the drop-down menu.
NTP Server	Select the NTP Server from the drop-down menu.
Enable NTP client update	Check this box to connect NTP Server and synchronize internet time.

Step 3: Wireless 5GHz Basic Settings

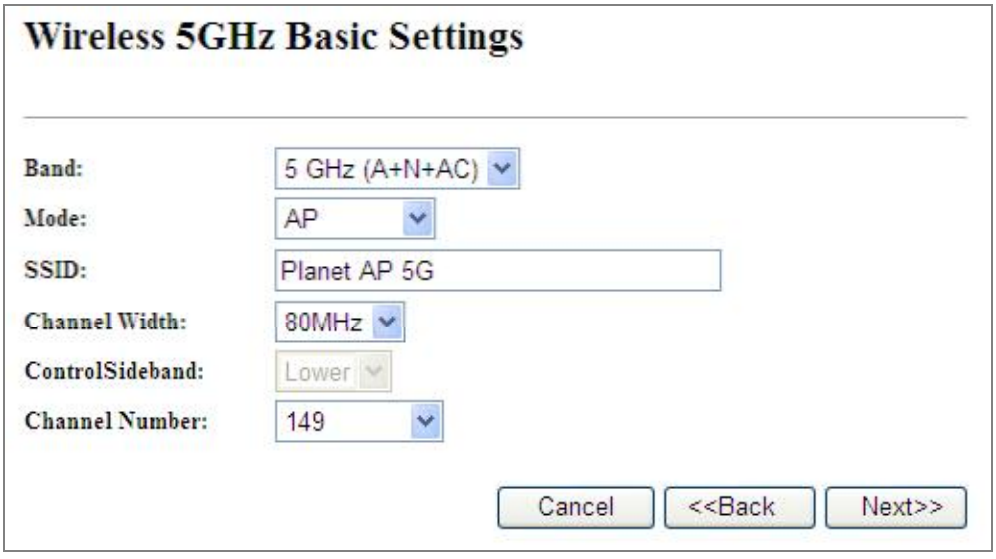


Figure 5-7 Wizard – Wireless 5GHz Basic Settings

The page includes the following fields:

Object	Description
Band	Supports 802.11a, 802.11n, 802.11ac and mixed. Please choose its band according to your clients.
Mode	Supports AP, Client, WDS and AP+WDS mode.
SSID	Service Set Identifier identifies your wireless network.
Channel Width	Select 80MHz if you use 802.11ac; select 40MHz if you use 802.11n; otherwise, 20MHz for the 802.11a mode.
Control Sideband	It is only valid when you choose channel width 40MHz.
Channel Number	Indicates the channel setting for the AP.

Step 4: Wireless 5GHz Security Settings

Secure your wireless network by turning on the WPA or WEP security feature on the router. For this section you can set **WEP** and **WPA-PSK** security mode.

Figure 5-8 Wizard – Wireless 5GHz Security Setup

■ Encryption: WEP

The following picture shows how to set the WEP security.

Figure 5-9 5GHz Wireless Security Setup – WEP Setting

The page includes the following fields:

Object	Description
Key length	WEP supports 64-bit or 128-bit security key.
Key Format	User can enter key in ASCII or Hex format.
Key Setting	Enter the key whose format is limited by the Key format, ASCII or Hex.

■ Encryption: WPA-PSK

The following picture shows how to set up **WPA-PSK** security. You can select **WPA (TKIP)**, **WPA2 (AES)** and **Mixed mode**.

Figure 5-10 5GHz Wireless Security Setup – WPA Setting

The page includes the following fields:

Object	Description
Pre-Shared Key Format	Specify the format of the key, pass phrase or hex.
Pre-Shared Key	Enter the key whose format is limited by the key format.

Step 5: Wireless 2.4GHz Basic Settings

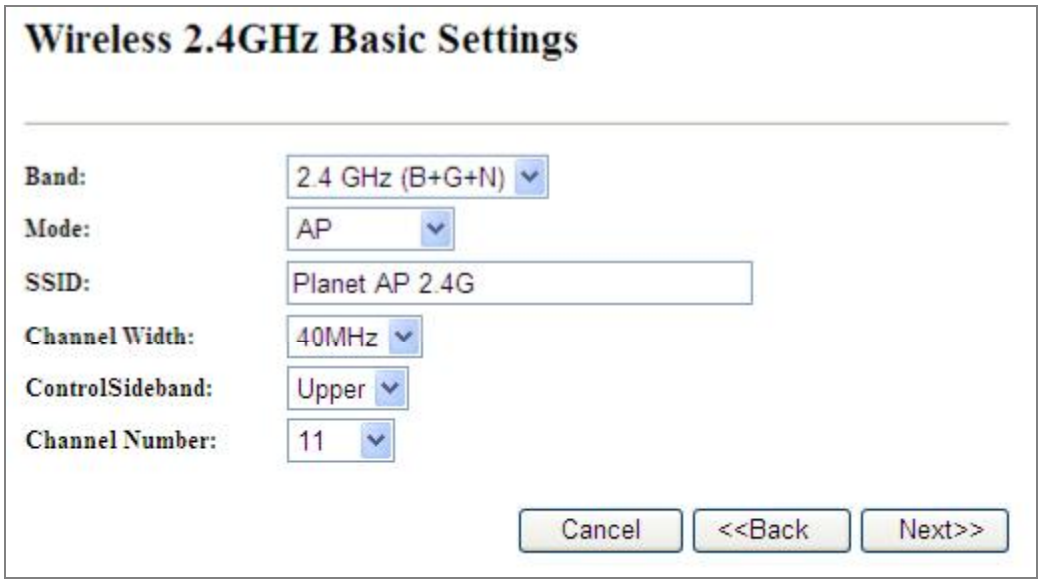


Figure 5-11 Wizard – Wireless 2.4GHz Basic Settings

The page includes the following fields:

Object	Description
Band	Supports 802.11b, 802.11g, 802.11n and mixed. Please choose its band according to your clients.
Mode	Supports AP, Client, WDS and AP+WDS mode.
SSID	Service Set Identifier, it identifies your wireless network.
Channel Width	Select 40MHz if you use 802.11n, otherwise 20MHz for the 802.11b/g mode.
Control Sideband	It is only valid when you choose channel width 40MHz.
Channel Number	Indicates the channel setting for the AP.

Step 6: Wireless 2.4GHz Security Settings

Secure your wireless network by turning on the WPA or WEP security feature on the router. For this section you can set **WEP** and **WPA-PSK** security mode.

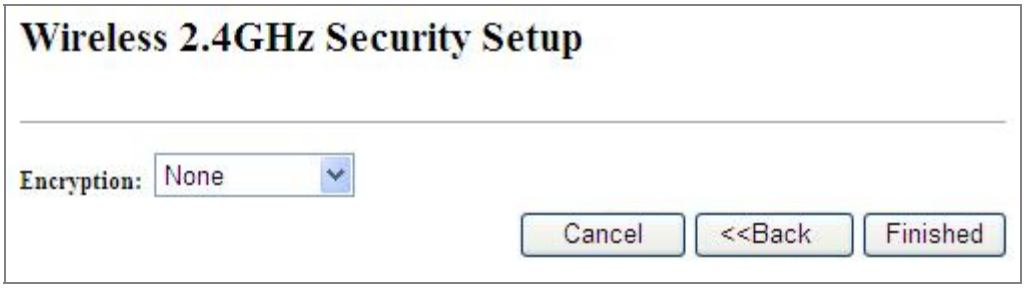


Figure 5-12 Wizard – Wireless 2.4GHz Security Setup

■ Encryption: WEP

The following picture shows how to set the WEP security.

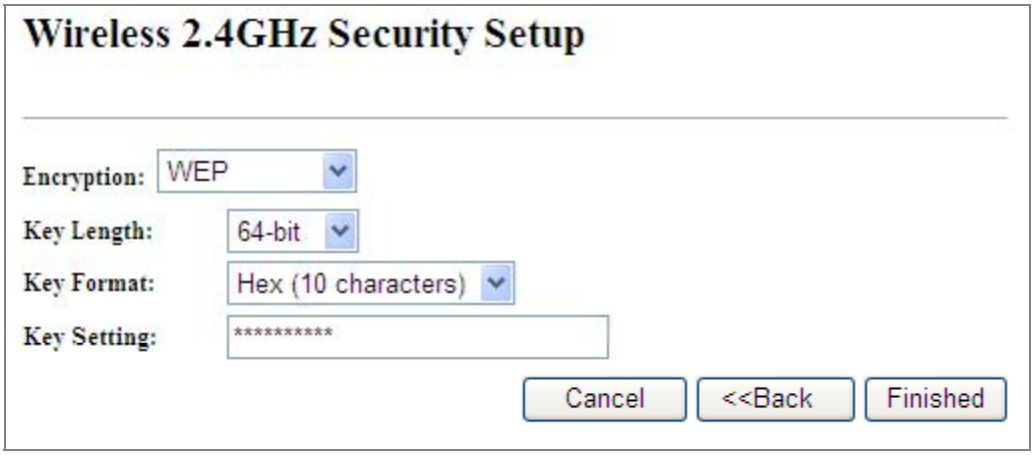


Figure 5-13 2.4GHz Wireless Security Setup – WEP Setting

The page includes the following fields:

Object	Description
Key Length	WEP supports 64-bit or 128-bit security key.
Key Format	User can enter key in ASCII or Hex format.
Key Setting	Enter the key whose format is limited by the Key format, ASCII or Hex.

■ Encryption: WPA-PSK

The following picture shows how to set **WPA-PSK** security. You can select **WPA (TKIP)**, **WPA2 (AES)** and **Mixed mode**.

Figure 5-14 2.4GHz Wireless Security Setup – WPA Setting

The page includes the following fields:

Object	Description
Pre-Shared Key Format	Specify the format of the key, pass phrase or hex.
Pre-Shared Key	Enter the key whose format is limited by the key format.

Click the **Finished** button to make your wireless configuration to take effect and finish the **Setup Wizard**.

Figure 5-15 Setup Wizard - Finished

After rebooting, please check whether you can access the Internet or not on the "**Status**" page.

5.2 TCP / IP Settings

This page is used to configure the parameters for local area network which connects to the LAN port of your AP. Here you may change the setting for IP address, subnet mask, DHCP, etc.

5.2.1 LAN Settings

On the LAN Settings page, you can configure the IP parameters of the LAN on the screen as shown below.

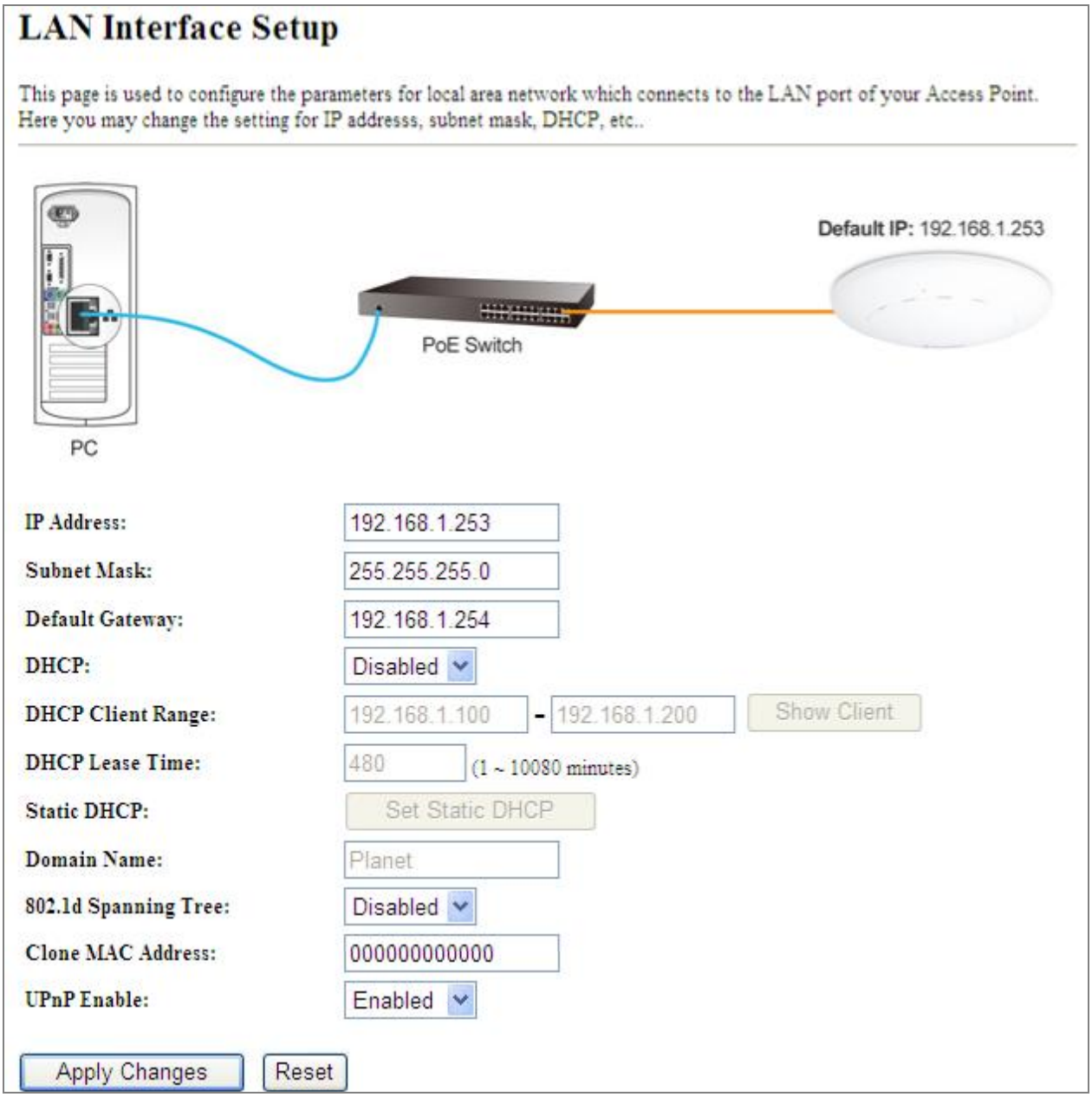


Figure 5-16 LAN Setting

The page includes the following fields:

Object	Description
IP Address	The default LAN IP address of the WDAP-C7200AC is **192.168.1.253**. You can change it according to your request.

Subnet Mask	Default is **255.255.255.0**. You can change it according to your request.
Default Gateway	Default is **192.168.1.253**. You can change it according to your request.
DHCP	You can select a **Disabled**, **Client**, **and Server**. Default is **Disabled**, meaning the WDAP-C7200AC must connect to a router to assign IP addresses to clients.
DHCP Client Range	For the **Server** mode, you must enter the DHCP client IP address range in the field. And you can click the "**Show Client**" button to show the Active DHCP Client Table.
Static DHCP	Click the "**Set Static DHCP**" button and you can reserve some IP addresses for those network devices with the specified MAC addresses anytime when they request IP addresses.
Domain Name	Default is **Planet**.
802.1d Spanning Tree	You can enable or disable the Spanning Tree function.
Clone MAC Address	You can input an MAC address here for using clone function.
UPnP Enable	You can enable or disable the UPnP function. The UPnP feature allows the devices, such as Internet computers, to access the local host resources or devices as needed. UPnP devices can be automatically discovered by the UPnP service application on the LAN.

If you change the IP address of LAN, you must use the new IP address to login the AP.

When the IP address of the WDAP-C7200AC is changed, the clients on the network often need to wait for a while or even reboot before they can access the new IP address. For an immediate access to the AP, please flush the netbios cache on the client computer by running the "nbtstat –r" command before using the device name of the WDAP-C7200AC to access its Web Management page.

5.3 WLAN1 (5GHz)

The wireless menu of WLAN1 (5GHz) contains submenus of the settings about wireless network. Please refer to the following sections for the details.

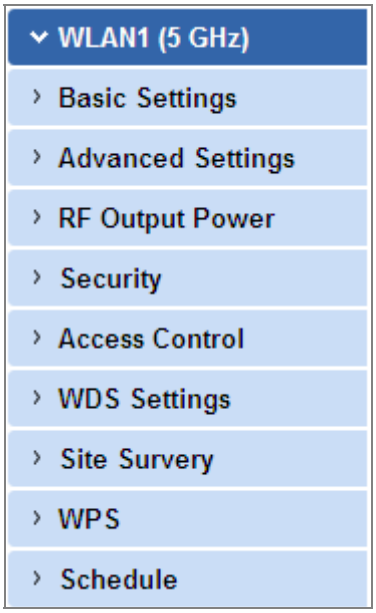


Figure 5-17 5GHz Wireless Main Menu

5.3.1 Basic Settings

Choose menu "**WLAN1 (5GHz) → Basic Settings**" and you can configure the 5GHz basic settings for the wireless network on this page. After the configuration is done, please click the "Apply Changes" button to save the settings.

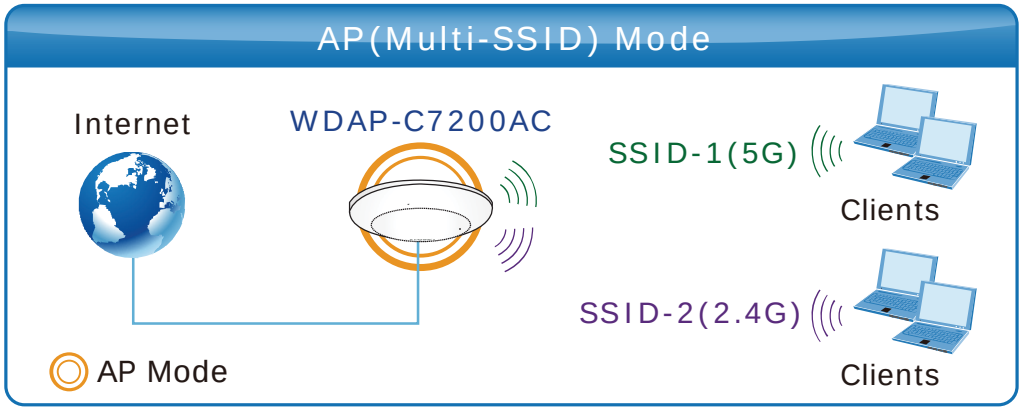
First of all, the wireless AP supports multiple wireless modes for different network applications, which include:

- **AP**
- **Multiple SSIDs**
- **Universal Repeater**
- **Client**
- **WDS**
- **AP+WDS**

It is so easy to combine the WDAP-C7200AC with the existing wired network. The WDAP-C7200AC definitely provides a total network solution for the home and the SOHO users.

- **AP**

  Standard **Access Point**



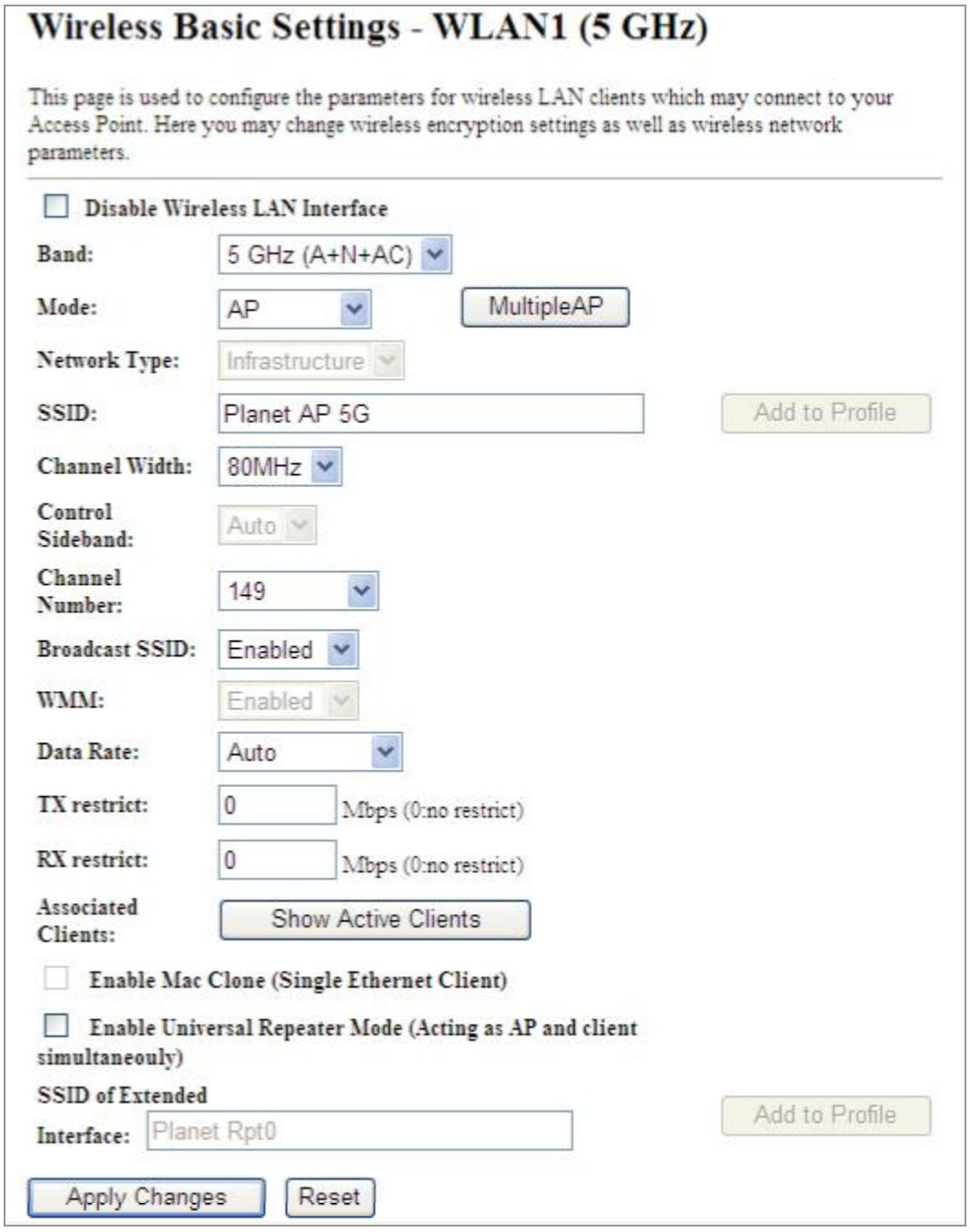


Figure 5-18 5GHz Wireless Basic Settings of AP

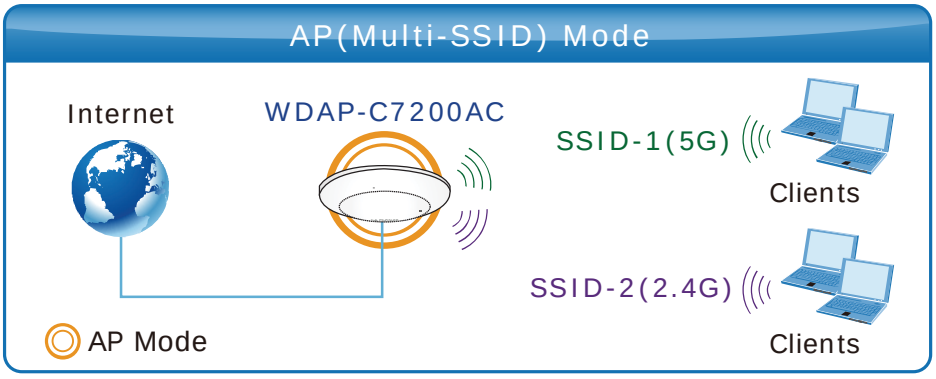
The page includes the following fields:

Object	Description
Disable Wireless LAN Interface	Check the box to disable the wireless function.
Band	Select the desired mode. Default is "**5GHz (A+N+AC)**". It is strongly recommended that you set the Band to "**5GHz (A+N+AC)**", and all of 802.11a, 802.11n, and 802.11ac wireless stations can connect to the WDAP-C7200AC. ■ **5 GHz (A)**: 802.11a mode, rate is up to 54Mbps ■ **5 GHz (N)**: 802.11n mode, rate is up to 300Mbps ■ **5 GHz (AC)**: 802.11n mode, rate is up to 867Mbps(2T2R) ■ **5 GHz (A+N)**: 802.11a/n mode, rate is up to 300Mbps ■ **5 GHz (N+AC)**: 802.11n/ac mode, rate is up to 300Mbps or 867Mbps ■ **5 GHz (A+N+AC)**: 802.11a/n/ac mode, rate is up to 54Mbps, 300Mbps, or 867Mbps
Mode	There are four kinds of wireless mode selections: ■ **AP** ■ **Client** ■ **WDS** ■ **AP+WDS** If you select WDS or AP+WDS, please click "**WDS Settings**" submenu for the related configuration. Furthermore, click the "**Multiple AP"** button to enable multiple SSID functions.
SSID	The ID of the wireless network. User can access the wireless network through it only. However, if you switch to Client Mode, this field becomes the SSID of the AP you want to connect with. Default: **Planet AP 5G**
Channel Width	You can select **20MHz**, **40MHz** or **80MHz**.
Channel Number	You can select the operating frequency of wireless network. Default: **149**
Broadcast SSID	If you enable "Broadcast SSID", every wireless station located within the coverage of the AP can discover its signal easily. If you are building a public wireless network, enabling this feature is recommended. In private network, disabling "Broadcast SSID" can provide better wireless network security. Default is "**Enabled**".
Data Rate	Set the wireless data transfer rate to a certain value. Since most of wireless devices will negotiate with each other and pick a proper data transfer rate automatically, **it's not necessary to change this value**

	unless you know what will happen after modification. Default is "**Auto"**.
Associated Clients	Click the "**Show Active Clients**" button to show the status table of active wireless clients.
Enable Universal Repeater Mode **(Acting as AP and client simultaneously)**	Universal Repeater is a technology used to extend wireless coverage. To enable Universal Repeater Mode, check the box and enter the SSID you want to broadcast in the field below. Then please click "Security" submenu for the related settings of the AP you want to connect with.

■ Multiple-SSID

Enable multiple-SSID can broadcast multiple WLAN SSID's using virtual interfaces. You can have different encryption settings for each WLAN and you can restrict what they have access to.



Choose menu "**WLAN1 (5GHz)** → **Basic Settings** → **Multiple AP**" to configure the device as a general wireless access point with multiple SSIDs.

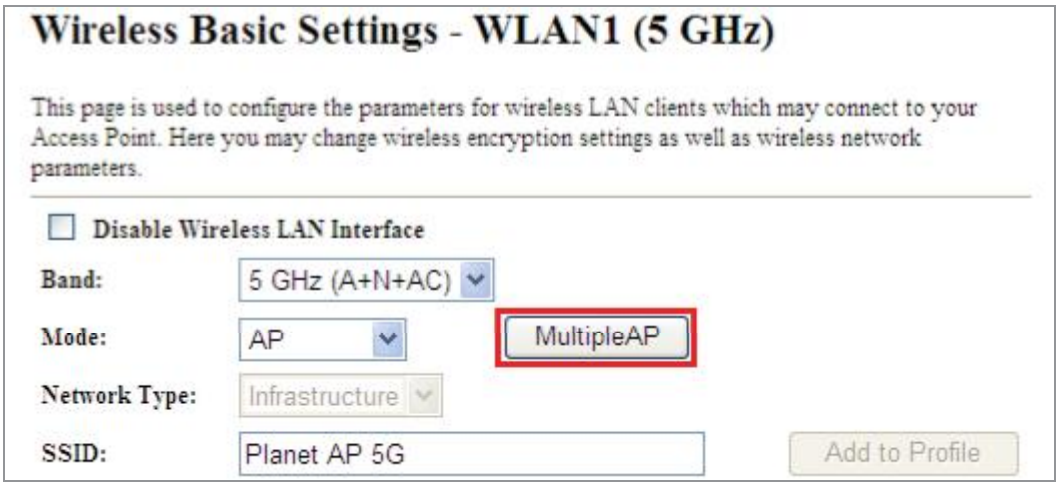


Figure 5-19 5GHz Wireless Basic Settings – Multiple AP

The device supports up to four multiple Service Set Identifiers. You can back to the **Basic Settings** page to set the Primary SSID. The SSID's factory default setting is **Planet 5G VAP1~4 (Multiple-SSID 1~4)**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network. When the information for the new SSID is finished, click the **Apply Changes** button to let your changes take effect.

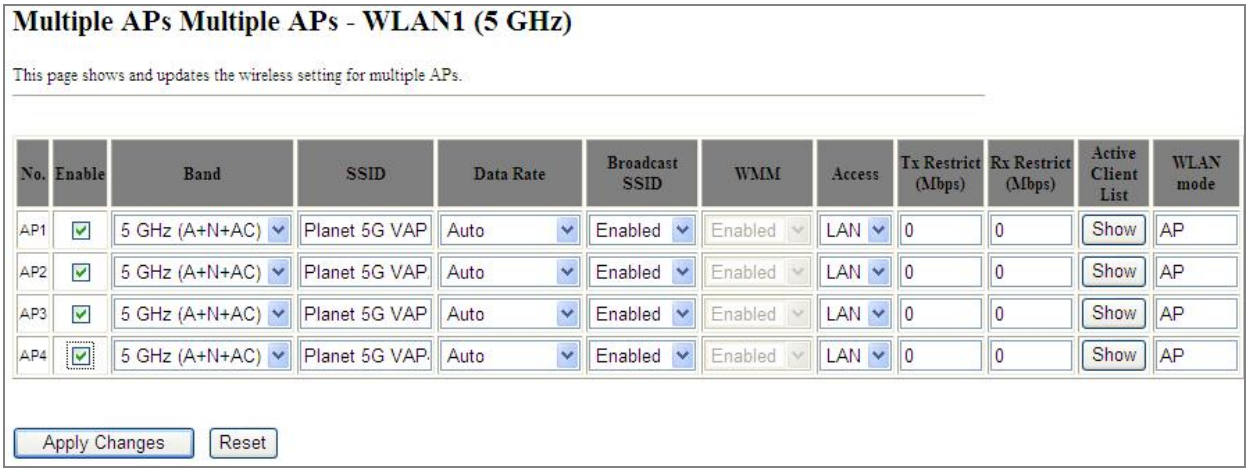
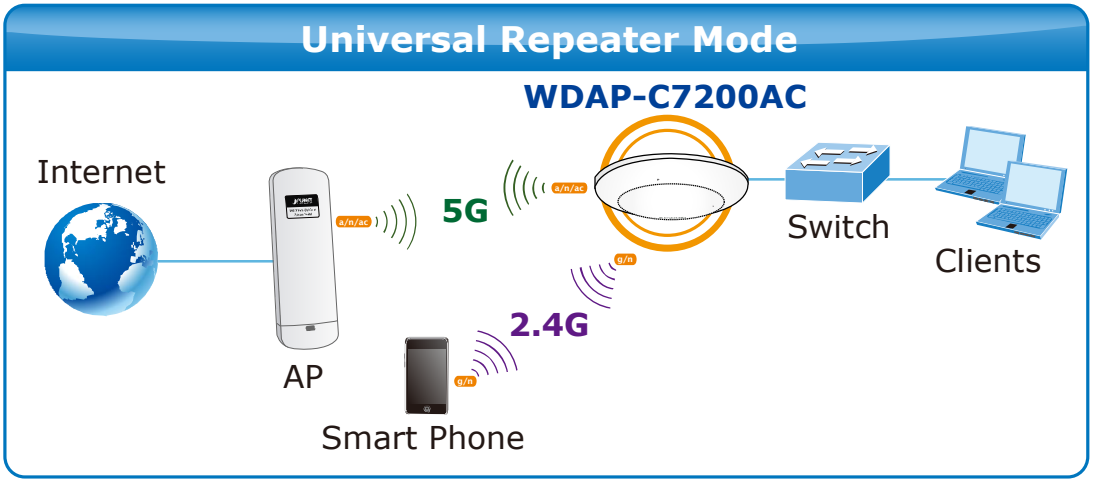


Figure 5-20 5GHz Multiple-SSID

Once you have applied and saved those settings, you can then go to the "**WLAN1 (5GHz)** → **Security**" page on the AP to set up security settings for each of the SSIDs.

■ Universal Repeater

This mode allows the AP with its own BSS to relay data to a root AP to which it is associated with WDS disabled. The wireless repeater relays signal between its stations and the root AP for greater wireless range.



1. Example of how to configure **Universal Repeater Mode**. Please take the following steps:

To configure each wireless parameter, please go to the "**WLAN1 (5GHz)** → **Basic Settings**" page.

Step 1. Configure wireless mode to "**AP**" and then check "**Enable Universal Repeater Mode (Acting as AP**

and client simultaneously)". Click "**Apply Changes**" to take effect.

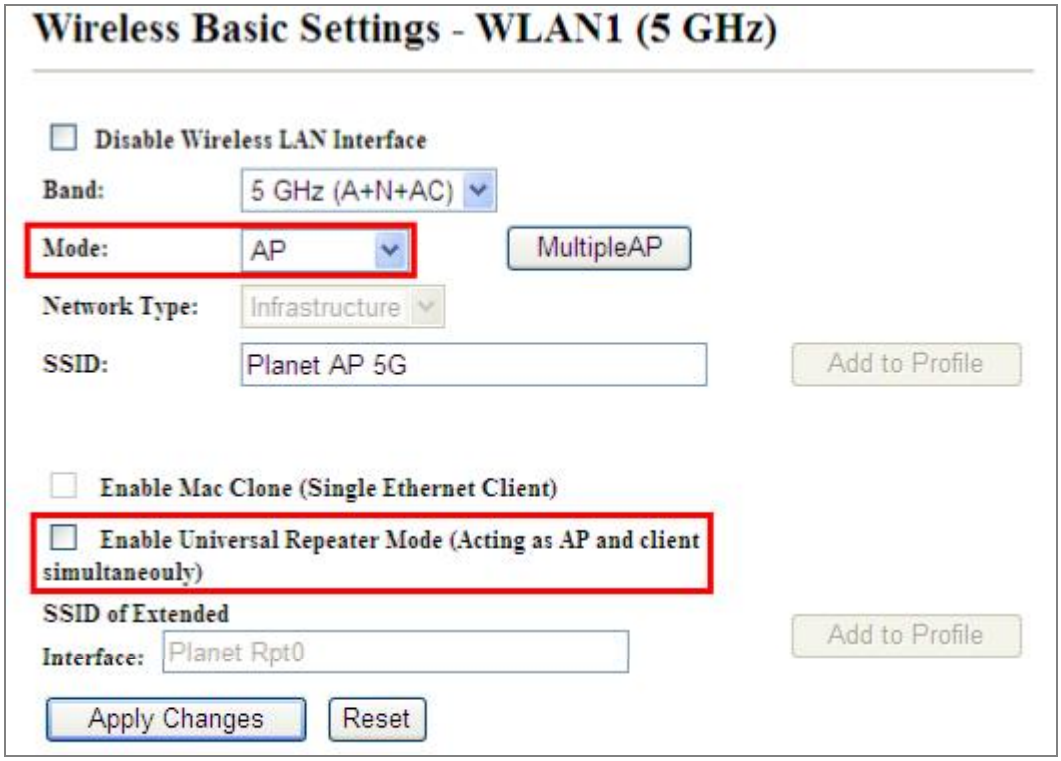


Figure 5-21 5GHz Universal Repeater-1

Step 2. Go to **5GHz Site Survey** page to find the root AP. Select the root AP that you want to repeat the signal and then click "**Next**".

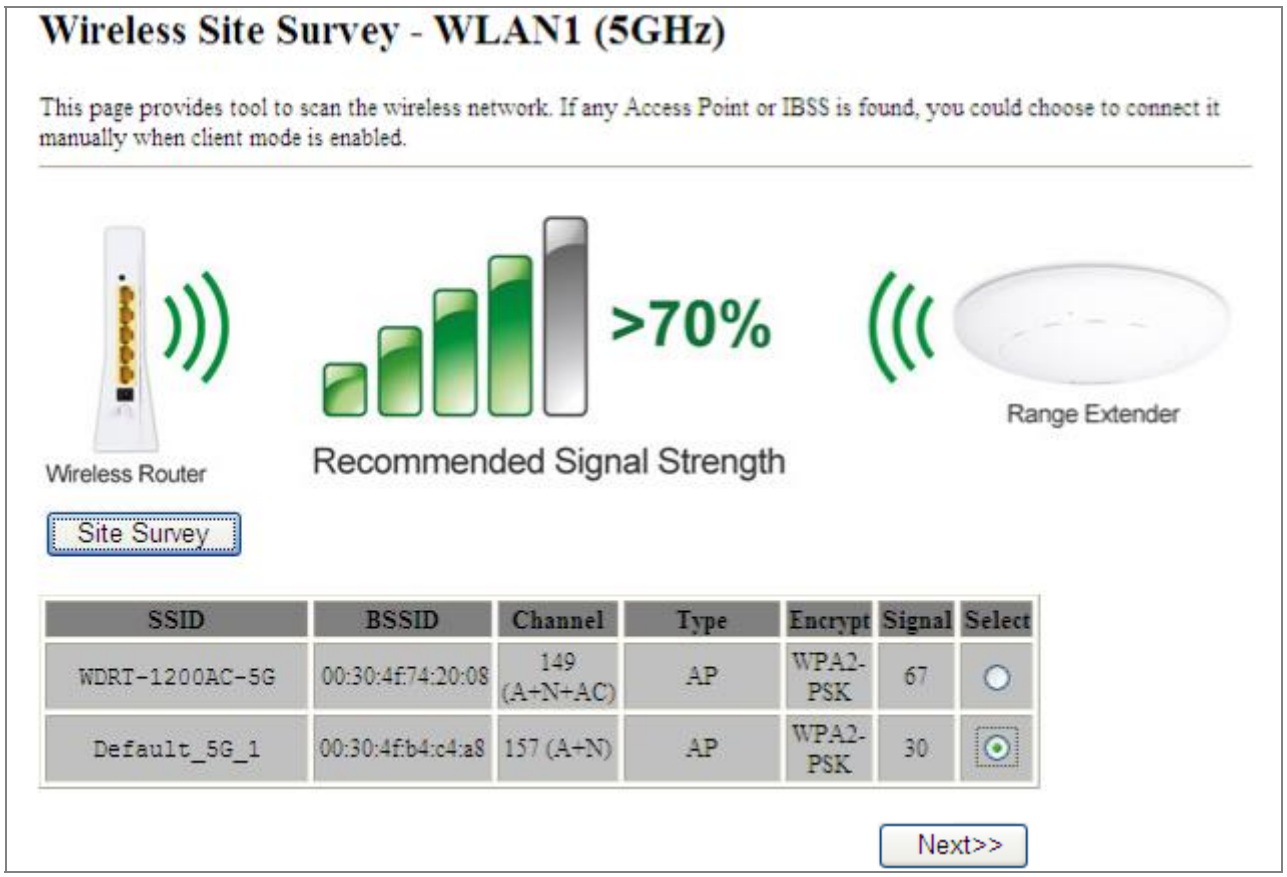


Figure 5-22 5GHz Universal Repeater-2

Step 3. Select the correct encryption method and enter the security key. Then, click "**Connect**".

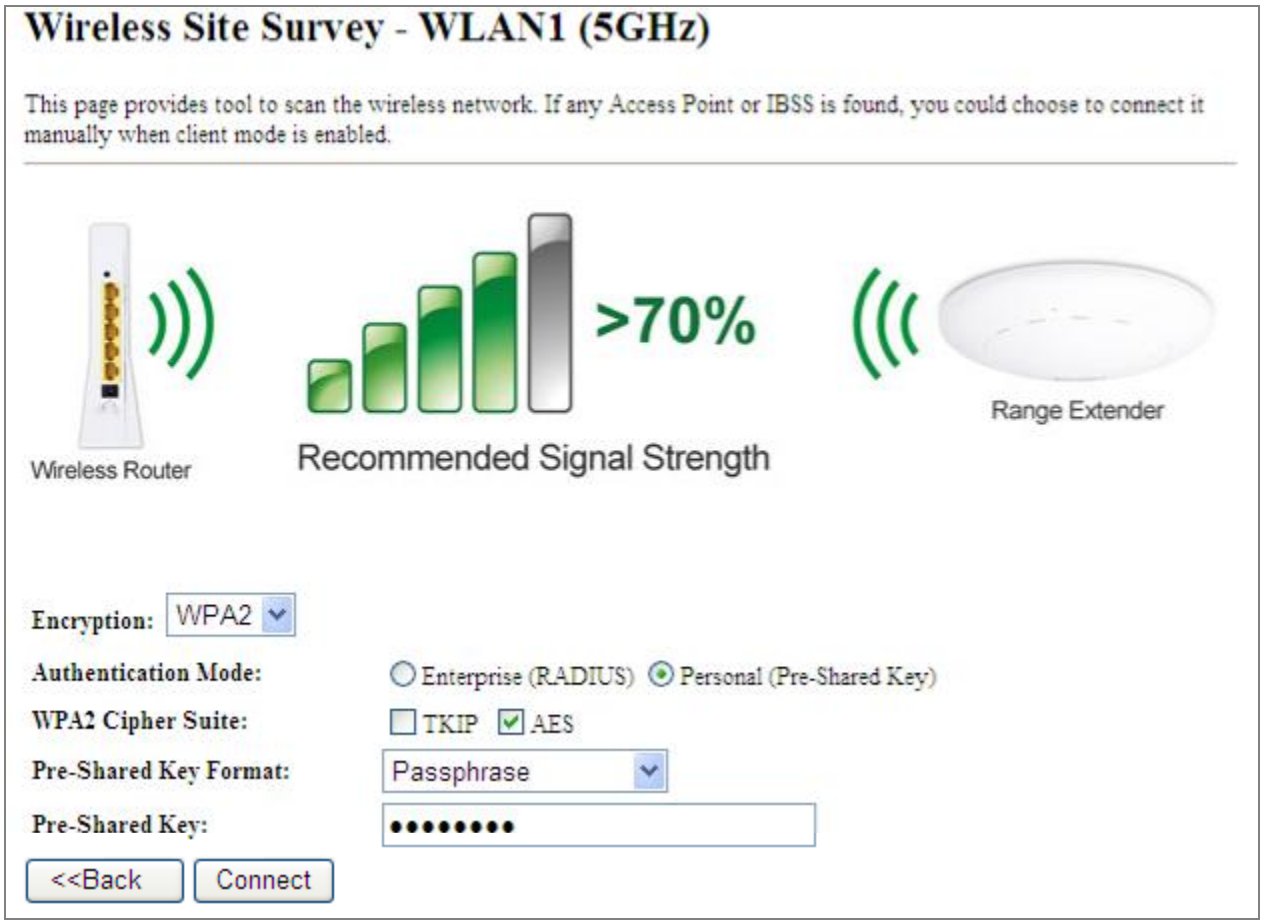


Figure 5-23 5GHz Universal Repeater-3

Step 4. Check "**Add to Wireless Profile**" and click "**Reboot Now**".

Figure 5-24 5GHz Universal Repeater-4

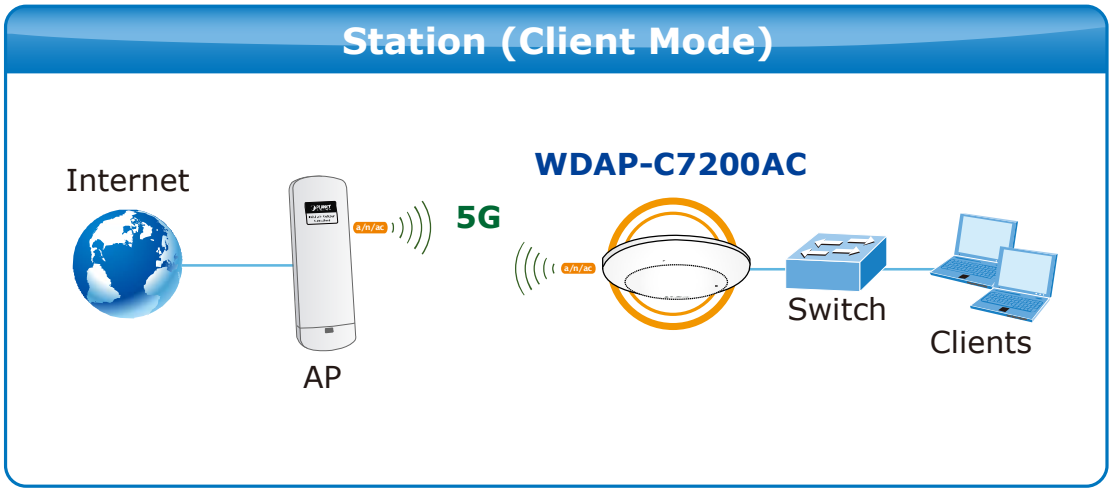
Step 5. Go to "**Management-> Status**" page to check whether the state of Repeater interface should be "**Connected**".

Wireless 1 Repeater Interface Configuration	
Mode	Infrastructure Client
SSID	Default_5G_1
Encryption	WPA2
BSSID	00:30:4f:b4:c4:a8
State	Connected

Figure 5-25 5GHz Universal Repeater-5

■ Client (Infrastructure)

Combine the Wireless Router to the Ethernet devices such as TV, game player, or HDD and DVD, to make them be wireless stations.



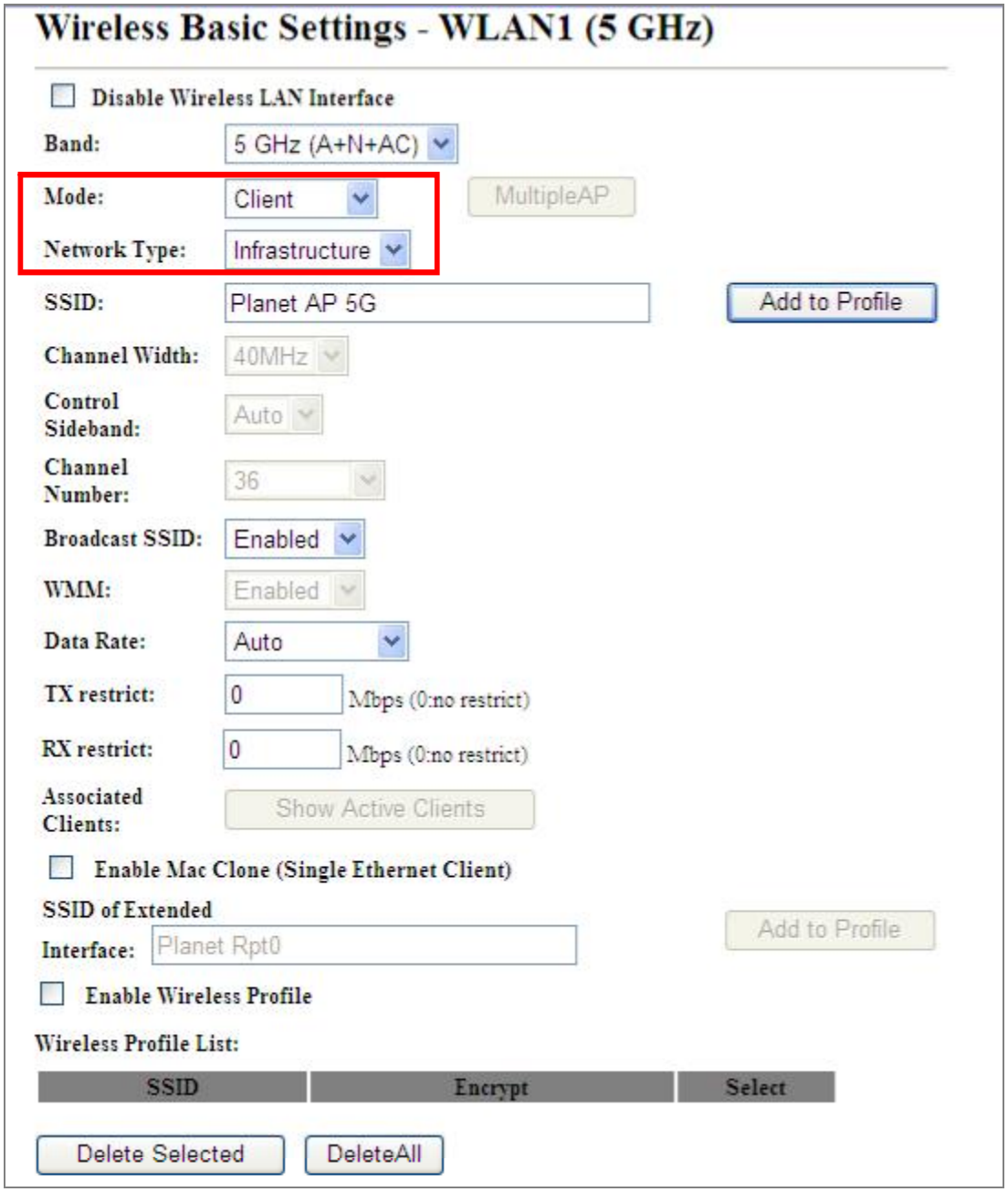


Figure 5-26 5GHz Wireless Basic Settings – Client

The page includes the following fields:

Object	Description
Disable Wireless LAN Interface	Check the box to disable the wireless function.
Band	Select the desired mode. Default is "**5GHz (A+N+AC)**". It is strongly recommended that you set the Band to "**5GHz (A+N+AC)**", and all of 802.11a, 802.11n, and 802.11ac wireless stations can connect to the WDAP-C7200AC. ■ **5 GHz (A)**: 802.11a mode, rate is up to 54Mbps ■ **5 GHz (N)**: 802.11n mode, rate is up to 300Mbps ■ **5 GHz (AC)**: 802.11n mode, rate is up to 867Mbps(2T2R)

	■ **5 GHz (A+N)**: 802.11a/n mode, rate is up to 300Mbps ■ **5 GHz (N+AC)**: 802.11n/ac mode, rate is up to 300Mbps or 867Mbps ■ **5 GHz (A+N+AC)**: 802.11a/n/ac mode, rate is up to 54Mbps, 300Mbps, or 867Mbps
Mode	There are four kinds of wireless mode selections: ■ **AP** ■ **Client** ■ **WDS** ■ **AP+WDS** If you select WDS or AP+WDS, please click "**WDS Settings**" submenu for the related configuration. Furthermore, click the "**Multiple AP"** button to enable multiple SSID function.
Network Type	In **Infrastructure**, the wireless LAN serves as a wireless station. And the user can use the PC equipped with the WDAP-C7200AC to access the wireless network via other access points. In **Ad hoc**, the wireless LAN will use the Ad-hoc mode to operate. Default is "**Infrastructure**". Note: Only while the wireless mode is set to "**Client**", then the **Network Type** can be configured.
SSID	The ID of the wireless network. User can access the wireless network via its ID. However, if you switch to Client mode, this field becomes the SSID of the AP you want to connect with. Default: **Planet AP 5G**
Broadcast SSID	If you enable "Broadcast SSID", every wireless station located within the coverage of the WDAP-C7200AC can discover its signal easily. If you are building a public wireless network, enabling this feature is recommended. In private network, disabling "Broadcast SSID" can provide better wireless network security. Default is "**Enabled**".
Data Rate	Set the wireless data transfer rate to a certain value. Since most of wireless devices will negotiate with each other and pick a proper data transfer rate automatically, **it's not necessary to change this value unless you know what will happen after modification.** Default is "**Auto"**.
Enable Mac Clone (Single Ethernet Client)	Enable Mac Clone.

➢ Example of how to configure **Client Mode**. Please take the following steps:

To configure each wireless parameter, please go to the "**WLAN1 (5GHz)** → **Basic Settings**" page.

Step 1. Go to "**WLAN1 (5GHz)** → **Site Survey**" page and click "**Site Survey**" button.

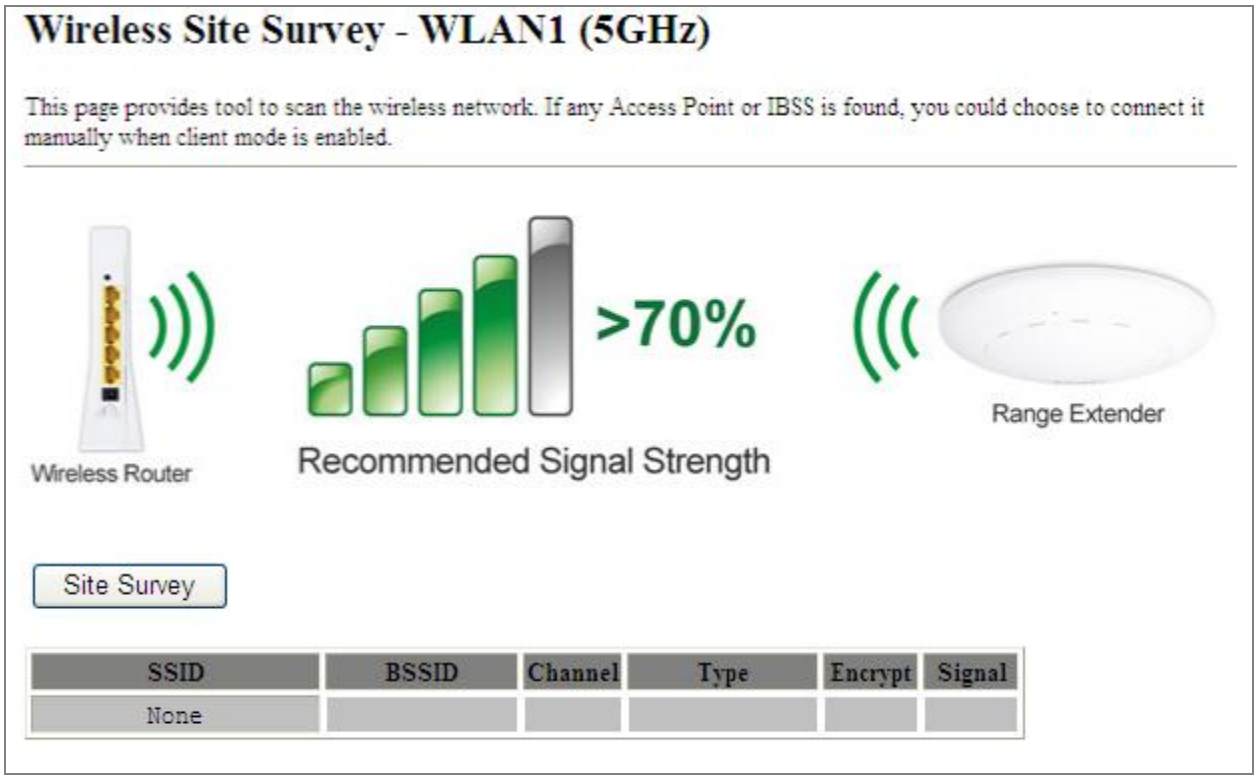


Figure 5-27 Client – Survey

Step 2. Choose the root AP from the list. If the root AP is not listed in the table, re-click "**Site Survey**" to update the list.

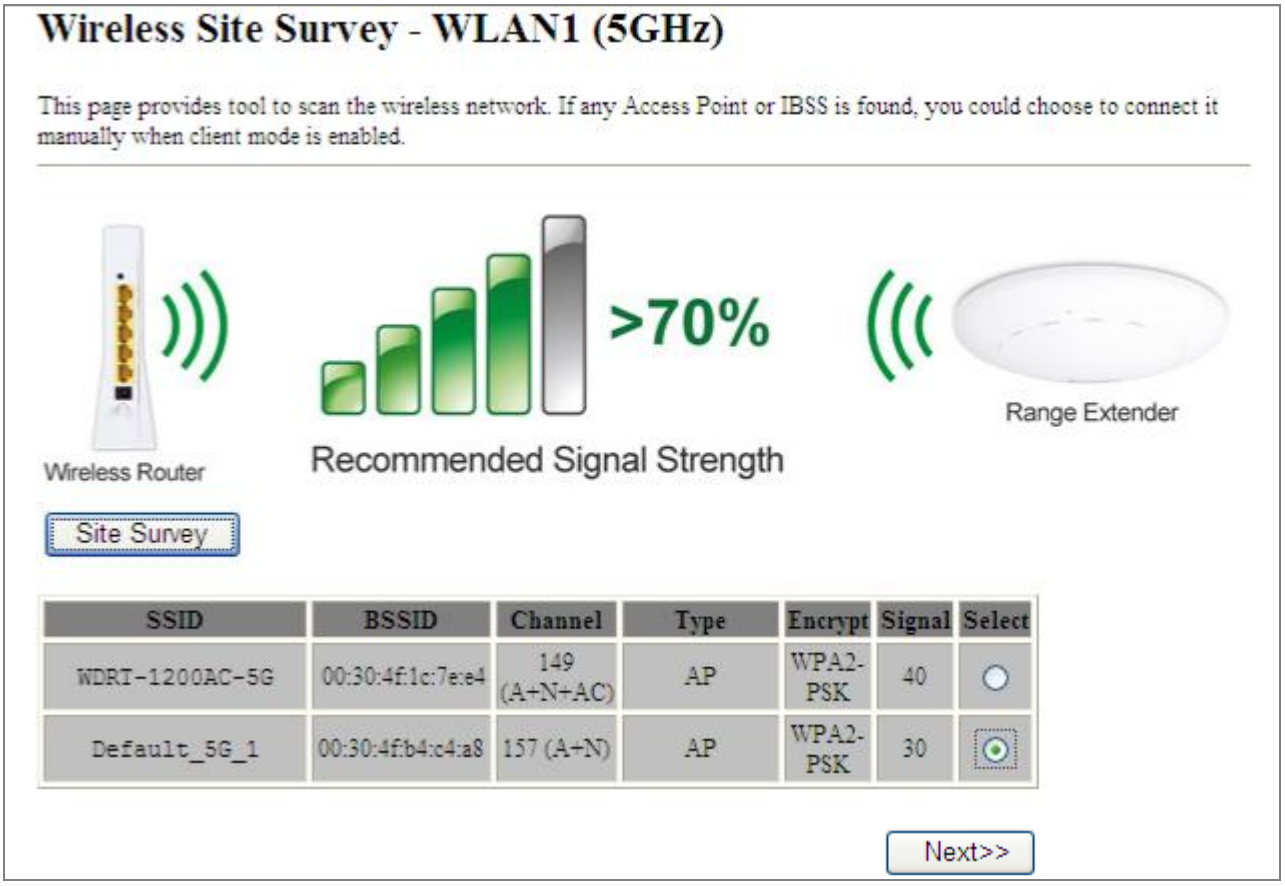


Figure 5-28 Client – AP List

Step 3. Enter the Security Key of the root AP and then click "**Connect**".

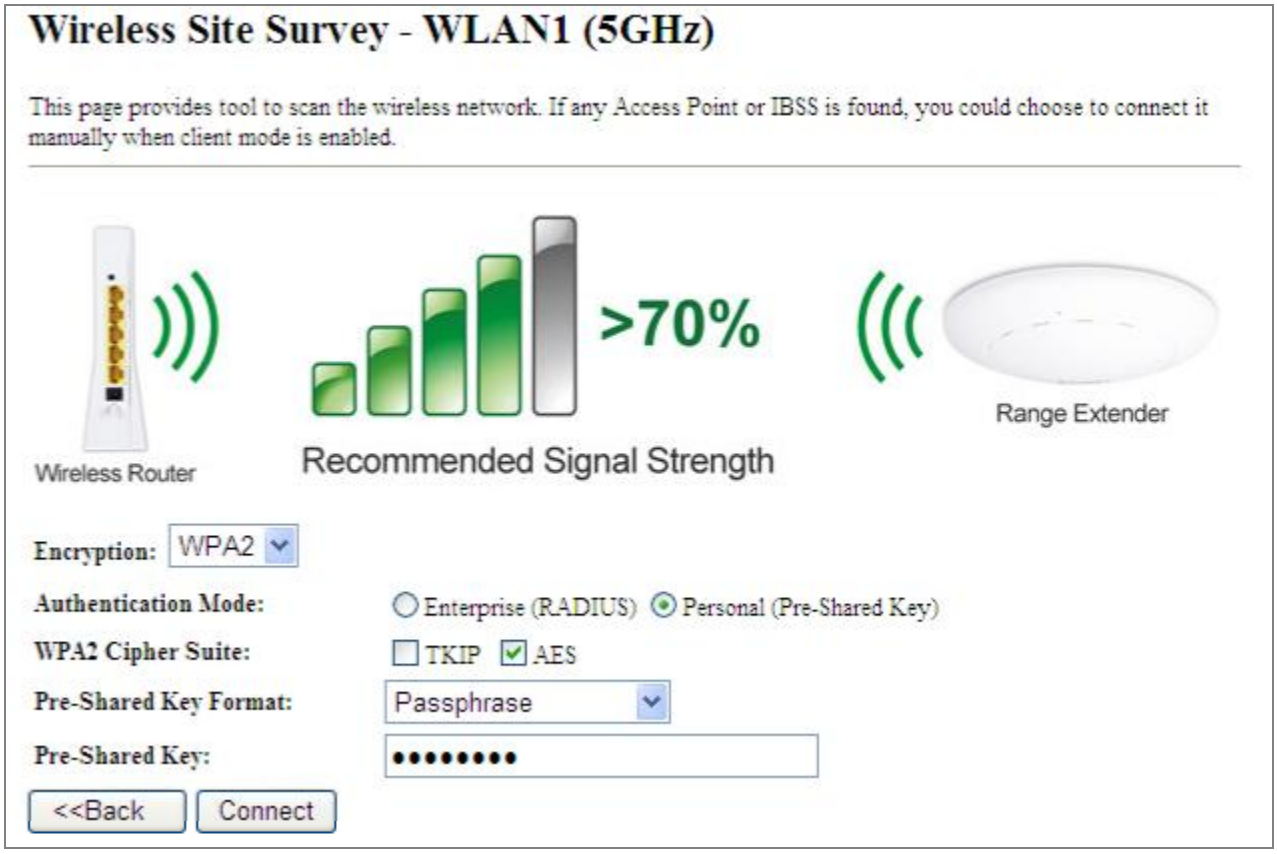


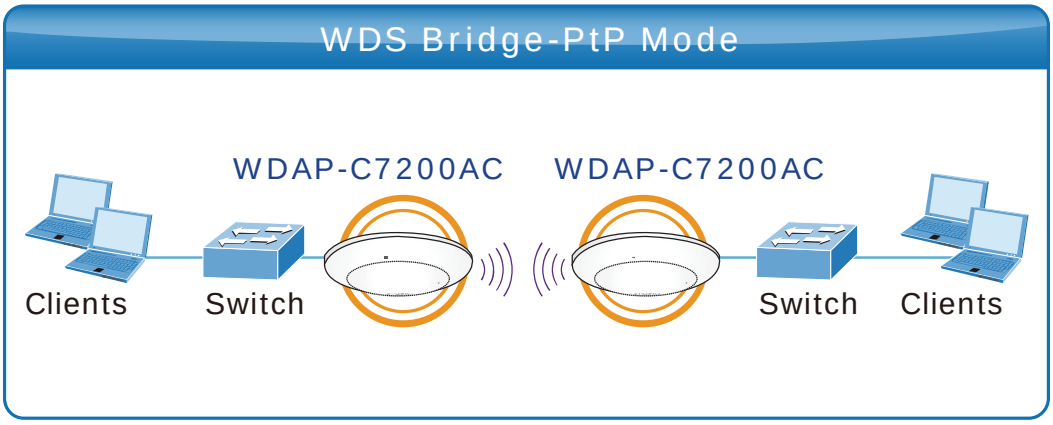
Figure 5-29 Client – Security

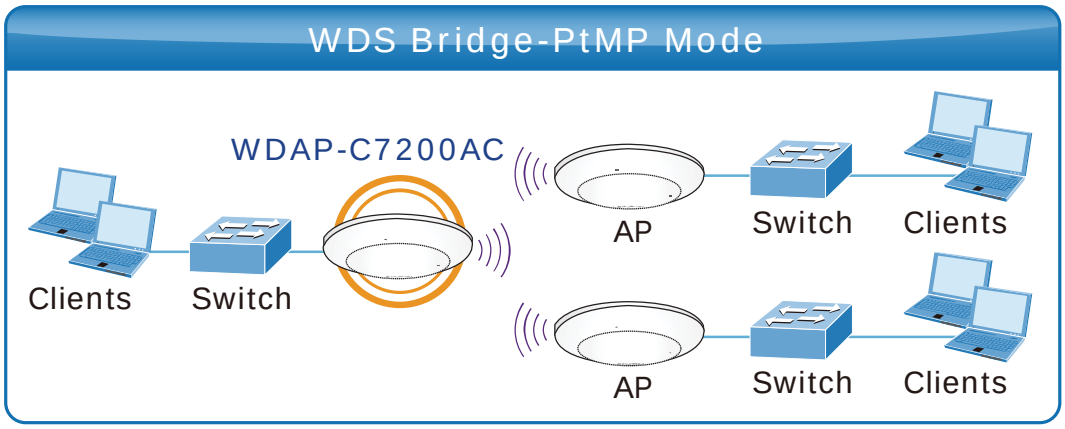
Step 4. Wait until the connection established. Check the "**Add to Wireless Profile**" option and then reboot it.

Figure 5-30 Client – Status

■ WDS

Connect this Wireless AP with up to 8 WDS-capable wireless APs to expand the scope of network.





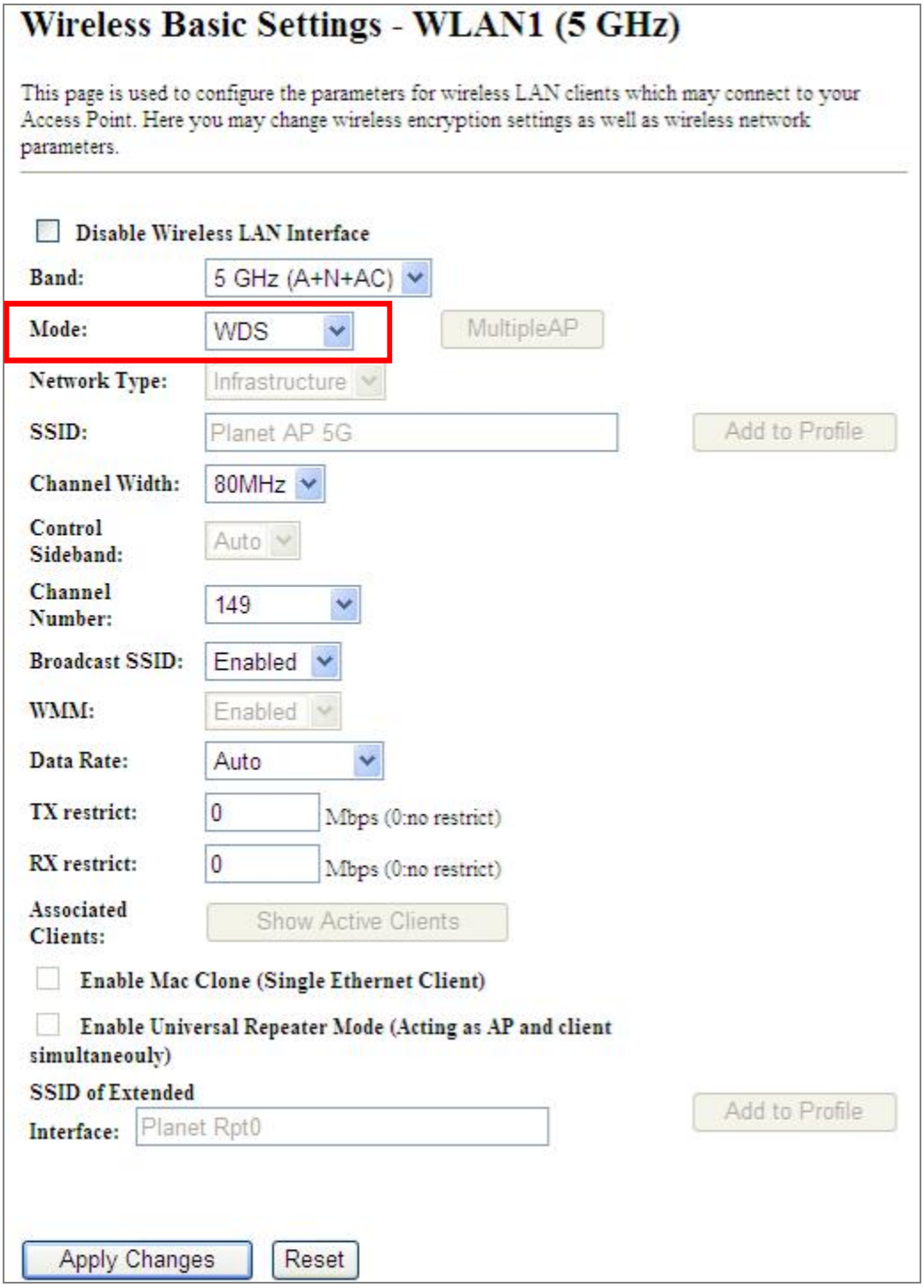


Figure 5-31 5GHz Wireless Basic Settings – WDS

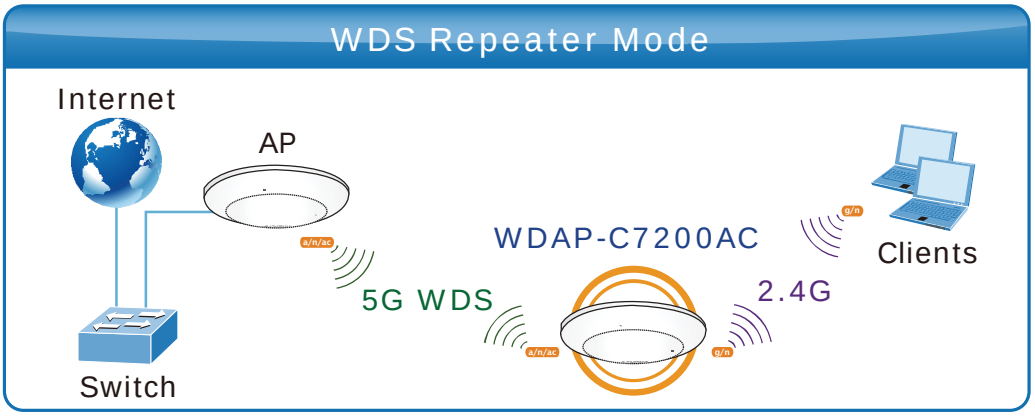
The page includes the following fields:

Object	Description
Disable Wireless LAN Interface	Check the box to disable the wireless function.
Band	Select the desired mode. Default is "**5GHz (A+N+AC)**". It is strongly recommended that you set the Band to "**5GHz (A+N+AC)**", and all of 802.11a, 802.11n, and 802.11ac wireless stations can connect to the

	WDAP-C7200AC. ■ **5 GHz (A)**: 802.11a mode, rate is up to 54Mbps ■ **5 GHz (N)**: 802.11n mode, rate is up to 300Mbps ■ **5 GHz (AC)**: 802.11n mode, rate is up to 867Mbps(2T2R) ■ **5 GHz (A+N)**: 802.11a/n mode, rate is up to 300Mbps ■ **5 GHz (N+AC)**: 802.11n/ac mode, rate is up to 300Mbps or 867Mbps ■ **5 GHz (A+N+AC)**: 802.11a/n/ac mode, rate is up to 54Mbps, 300Mbps, or 867Mbps
Mode	There are four kinds of wireless mode selections: ■ **AP** ■ **Client** ■ **WDS** ■ **AP+WDS** If you select WDS or AP+WDS, please click "**WDS Settings**" submenu for the related configuration. Furthermore, click the "**Multiple AP"** button to enable multiple SSID function.
Channel Width	You can select **20MHz**, **40MHz** or **80MHz**.
Control Sideband	You can select **Upper** or **Lower**.
Channel Number	You can select the operating frequency of wireless network.
Data Rate	Set the wireless data transfer rate to a certain value. Since most of wireless devices will negotiate with each other and pick a proper data transfer rate automatically, **it's not necessary to change this value unless you know what will happen after modification.** Default is "**Auto"**.

AP+ WDS

Connect this wireless AP with up to 8 WDS-capable wireless APs, and connect another AP to provide service for all wireless stations within its coverage.



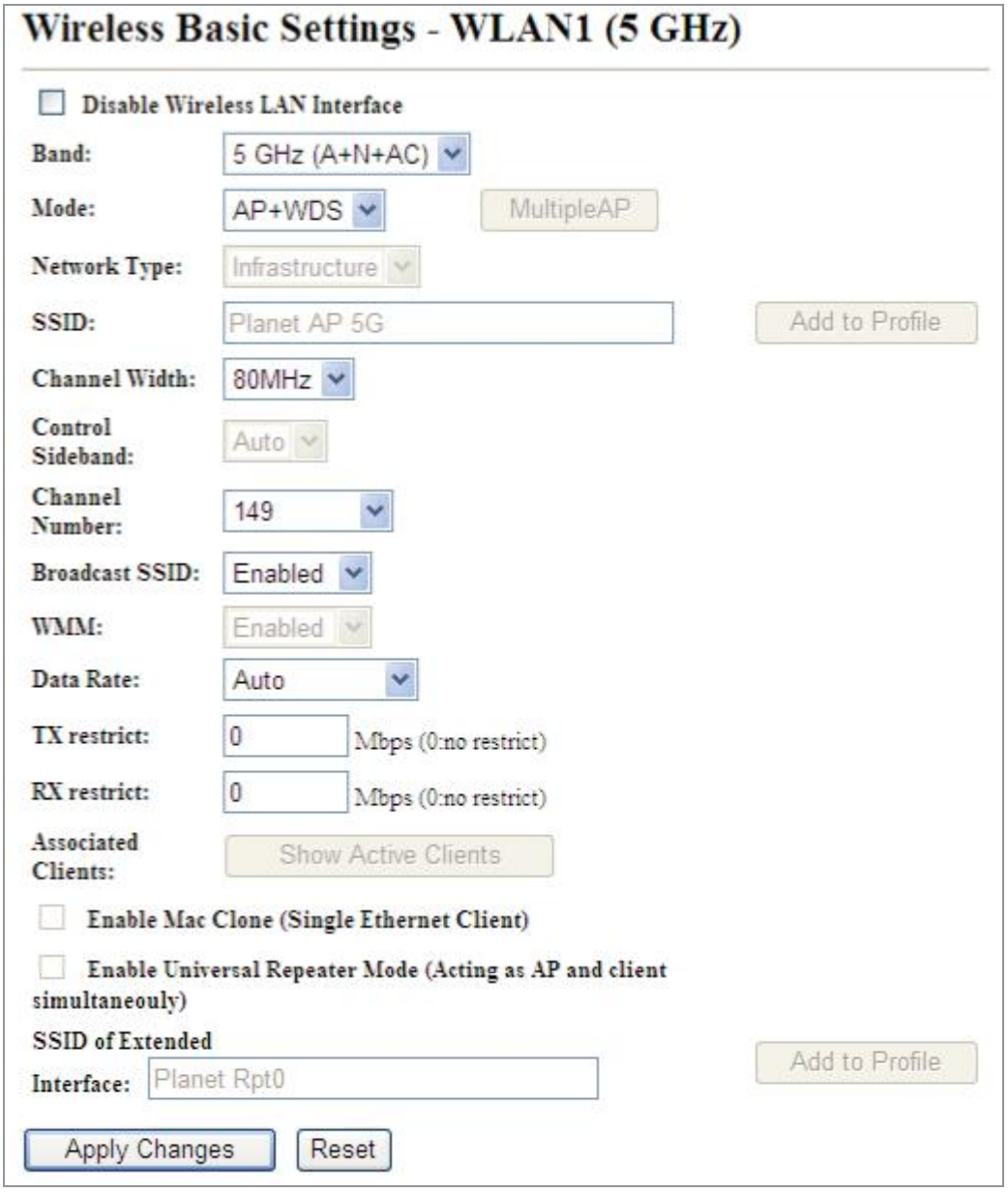


Figure 5-32 5GHz Wireless Basic Settings – WDS+AP

The page includes the following fields:

Object	Description
Disable Wireless LAN Interface	Check the box to disable the wireless function.
Country	Select your region from the pull-down list. This field specifies the region where the wireless function of the Router can be used. It may be illegal to use the wireless function of the Router in a region other than one of those specified in this field. If your country or region is not listed, please contact your local government agency for assistance.
Band	Select the desired mode. Default is "**5GHz (A+N+AC)**". It is strongly recommended that you set the band to "**5GHz (A+N+AC)**", and all of 802.11a, 802.11n, and 802.11ac wireless stations can connect to the WDAP-C7200AC. ■ **5 GHz (A)**: 802.11a mode, rate is up to 54Mbps ■ **5 GHz (N)**: 802.11n mode, rate is up to 300Mbps ■ **5 GHz (AC)**: 802.11n mode, rate is up to 867Mbps(2T2R) ■ **5 GHz (A+N)**: 802.11a/n mode, rate is up to 300Mbps ■ **5 GHz (N+AC)**: 802.11n/ac mode, rate is up to 300Mbps or 867Mbps ■ **5 GHz (A+N+AC)**: 802.11a/n/ac mode, rate is up to 54Mbps, 300Mbps, or 867Mbps
Mode	There are four kinds of wireless mode selections: ■ **AP** ■ **Client** ■ **WDS** ■ **AP+WDS** If you select WDS or AP+WDS, please click "**WDS Settings**" submenu for the related configuration. Furthermore, click the "**Multiple AP"** button to enable multiple SSID functions.
SSID	The ID of the wireless network. User can access the wireless network via its ID only. However, if you switch to Client Mode, this field becomes the SSID of the AP you want to connect with. Default: **Planet AP 5G**
Channel Width	You can select **20MHz**, **40MHz** or **80MHz**.
Control Sideband	You can select **Upper** or **Lower**.
Channel Number	You can select the operating frequency of wireless network.
Broadcast SSID	If you enable "Broadcast SSID", every wireless station located within the coverage of the WDAP-C7200AC can discover its signal easily. If you are building a public wireless network, enabling this feature is

	recommended. In private network, disabling "Broadcast SSID" can provide better wireless network security. Default is "**Enabled**".
Data Rate	Set the wireless data transfer rate to a certain value. Since most of wireless devices will negotiate with each other and pick a proper data transfer rate automatically, **it's not necessary to change this value unless you know what will happen after modification.** Default is "**Auto"**.
Associated Clients	Click the "**Show Active Clients**" button to show the status table of active wireless clients.
Enable Universal Repeater Mode **(Acting as AP and client simultaneously)**	Universal Repeater is a technology used to extend wireless coverage. To enable Universal Repeater mode, check the box and enter the SSID you want to broadcast in the field below. Then please click "Security" submenu for the related settings of the AP you want to connect with.

5.3.2 Advanced Settings

Choose menu "**WLAN1 (5GHz)→ Advanced Settings**" and you can configure the 5GHz advanced settings for the wireless network on this page. After the configuration, please click the "Apply" button to save the settings.

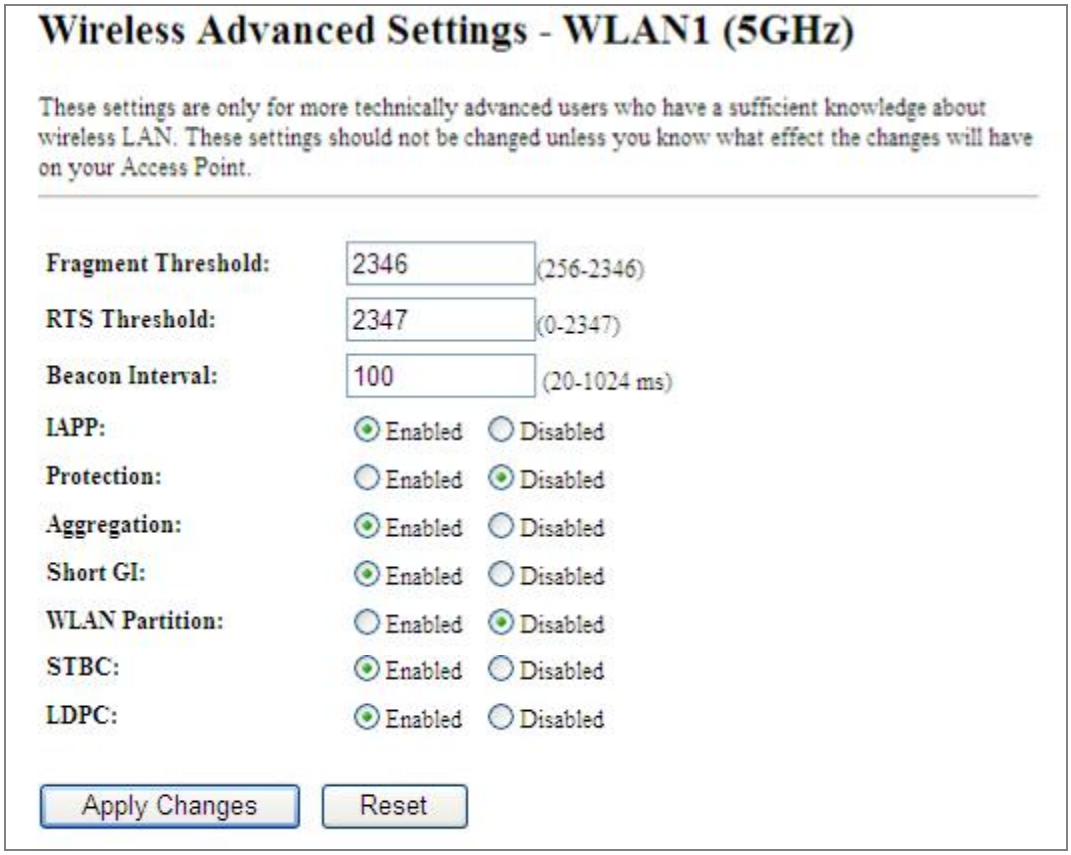


Figure 5-33 Wireless Advanced Settings – 5GHz

The page includes the following fields:

Object	Description
Fragment Threshold	You can specify the maximum size of packet during the fragmentation of data to be transmitted. If you set this value too low, it will result in bad performance. Default is “2346”.
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 “2347”.
Beacon Interval	The interval of time that this access point broadcasts a beacon. Beacon is used to synchronize the wireless network. Default is “100”.
IAPP	**IAPP (Inter-Access Point Protocol)** enabled is recommended as it describes an optional extension to IEEE 802.11 that provides wireless access-point communications among multivendor systems. Default is “Enabled”.
Protection	It is recommended to enable the protection mechanism. This mechanism can 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”.
Aggregation	It is a function where the values of multiple rows are grouped together. Default is “Enabled”
Short GI	It is used to set the time that the receiver waits for RF reflections to settle out before sampling data. Default is “Enabled”
WLAN Partition	This feature is also called “**WLAN isolation**” or “**Block Relay**”. If this is enabled, wireless clients cannot exchange data through the WDAP-C7200AC. Default is “Disabled”.
STBC	Activate **Space Time Blocking Code (STBC)** which does not need channel statement information (CSI). Default Setting: "Enabled"
LDPC	Low-density Parity-check Code is wireless data transmit algorithm. Default Setting: "Enabled"

5.3.3 RF Output Power

Choose menu “**WLAN1 (5GHz) → RF Output Power**” to adjust to different levels of transmitting power for the wireless network according to various environments on this page. After the configuration, please click the “Apply Changes” button to save the settings.

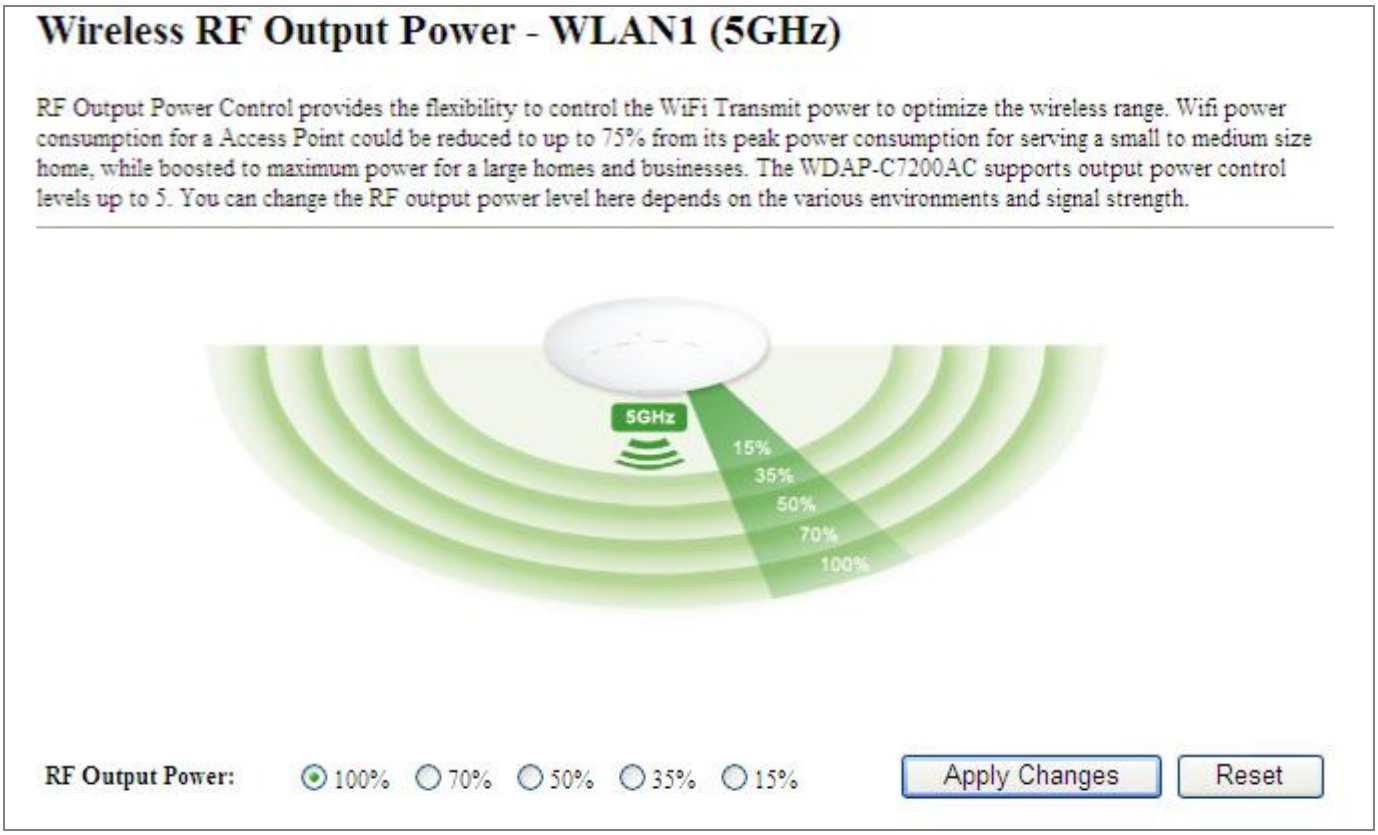


Figure 5-34 RF Output Power – 5GHz

RF Output Power Control provides the flexibility to control the Wi-Fi transmit power to optimize the wireless range. Wi-Fi power consumption for an Access Point could be reduced to up to 75% from its peak power consumption for serving small to medium size homes, while boosted to maximum power for large homes and businesses. The WDAP-C7200AC supports output power control levels up to 5. You can change the RF output power level here in accordance with various environments and signal strength.

5.3.4 Security

Choose menu "**WLAN1 (5GHz) → Security**" and you can configure the settings of wireless security for the wireless network on this page. After the configuration, please click the "Apply Changes" button to save the settings.

Figure 5-35 Wireless Security Settings – 5GHz

The page includes the following fields:

Object	Description
Select SSID	Select the SSID you want to configure the wireless security function, which includes the root one and the client one.
Encryption	■ **Disable**: No security setup for wireless connection.
	■ **WEP:** It is based on the IEEE 802.11 standard. And the default setting of authentication is **Automatic**, which can select **Open System** or **Shared Key** authentication type automatically based on the wireless station's capability and request. Furthermore, you can select **Key Length** and enter 10 and 26 **Hexadecimal** digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 5 and 13 **ASCII** characters in the **Encryption Key** field.
	■ **WPA:** WPA is a medium level encryption and is supported by most wireless devices and operating systems.
	■ **WPA2:** WPA2 is a high level encryption and is supported by most wireless devices and operating systems.

	■ **WPA / WPA2 / WPA-Mixed:** WPA Mixed Mode allows the use of both WPA and WPA2 at the same time.
Authentication Mode	■ **Enterprise (RADIUS)** When you select the authentication mode based on Enterprise (Radius Server), please enter the **IP Address**, **Port**, and **Password** of the Radius Server.
	■ **Personal (Pre-Shared Key)** When you select the other authentication mode based on Personal (Pre-Shared Key), please enter at least 8 ASCII characters (Passphrase) or 64 Hexadecimal characters. All of the Cipher Suites support **TKIP** and **AES**.
802.1x Authentication	Enable 802.1x authentication function and then please enter the **IP Address**, **Port**, and **Password** of the Radius Server.

5.3.5 Access Control

Choose menu "**WLAN1 (5GHz) → Access Control**" to allow or deny the computer of specified MAC address to connect with the WDAP-C7200AC on this page. After the configuration, please click the "Apply Changes" button to save the settings.

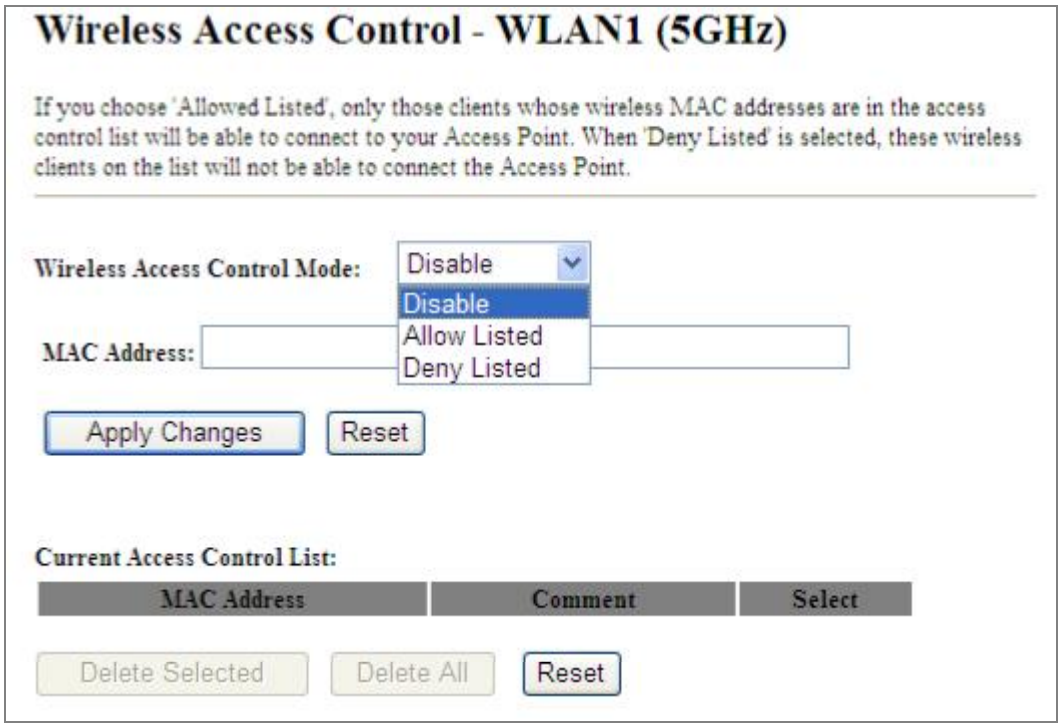


Figure 5-36 Wireless Access Control – 5GHz

The page includes the following fields:

Object	Description
Wireless Access Control Mode	You can choose to set the Allowed-List, Denied-List, or disable this function.
MAC Address	Enter the MAC address you want to allow or deny connection to the WDAP-C7200AC in the field.

Comment	You can make some comment on each MAC address on the list.
Current Access Control List	You can select some MAC addresses and click the “Delete Selected” button to delete it.

To deny a PC at the MAC address of 00:30:4F:00:00:01 (for example) to connect to your wireless network, do as follows:

Step 1. Select “**Deny**” from MAC Address Filter drop-down menu.

Step 2. Enter 00:30:4F:00:00:01 in the MAC address box and click “**Add**”.

Step 3. Click the “**OK**” button to save your settings and you can add more MAC addresses, if you like, simply repeat the above steps.

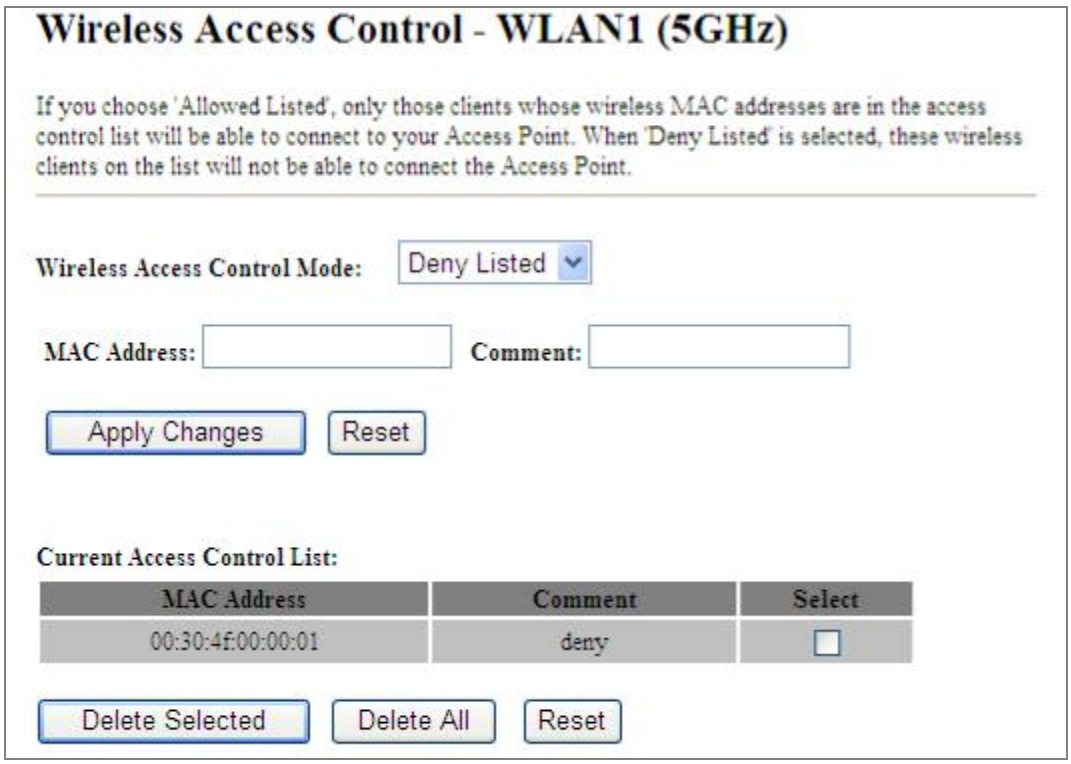
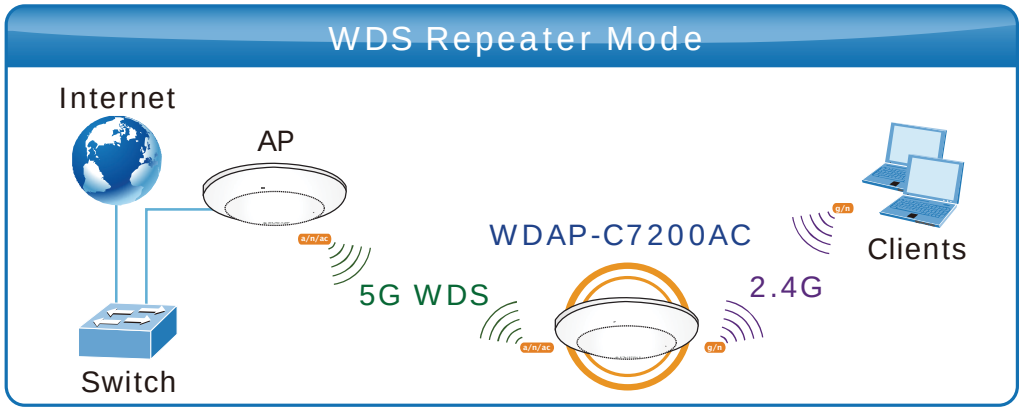
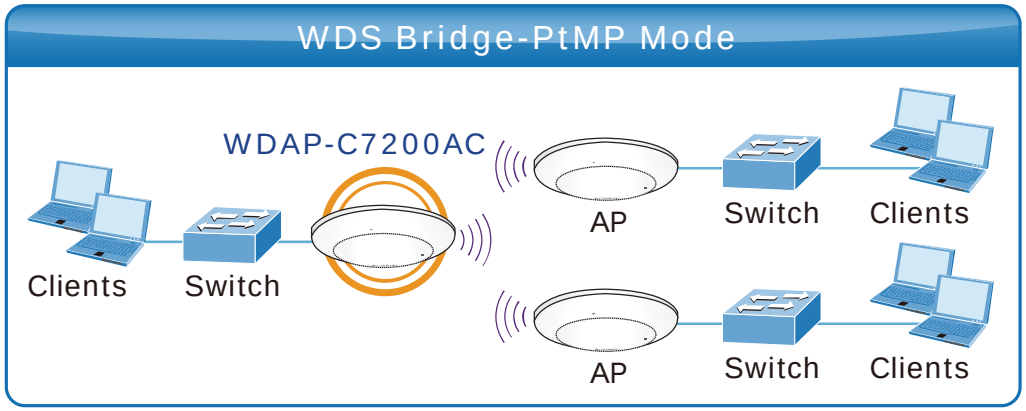


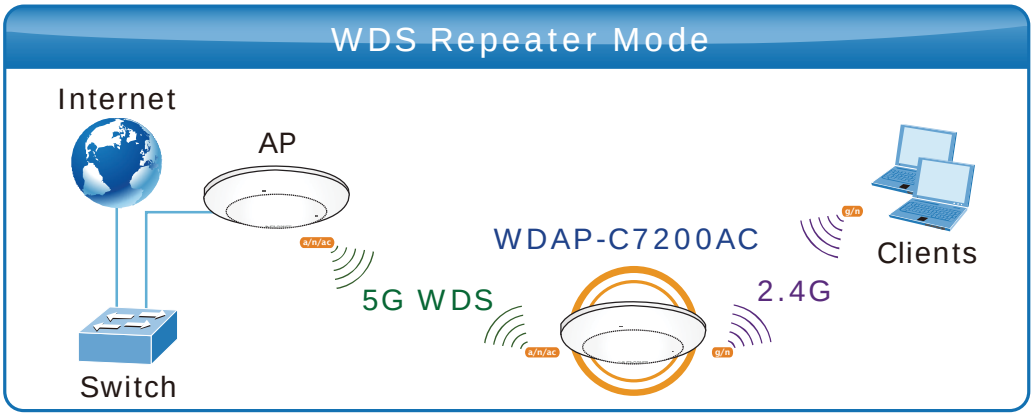
Figure 5-37 Wireless Access Control – Deny

5.3.6 WDS

WDS (Wireless Distribution System) feature can be used to extend your existing 2.4G or 5G wireless network coverage. Here we present you how to configure such feature in 2.4GHz, which also applies to 5GHz.







Before configuring the WDS Setting page, you have to select the wireless mode to “WDS” on the **WLAN1 (5GHz)** -> **Basic Settings** web page.

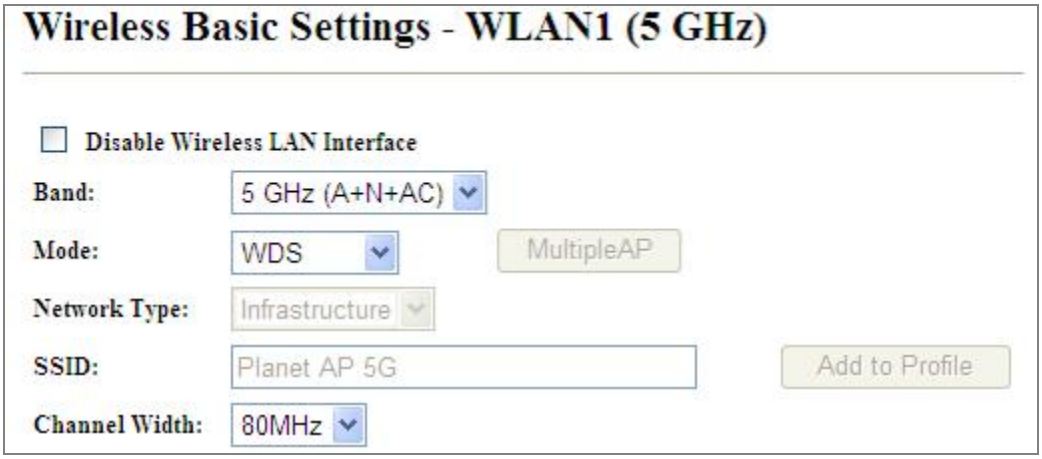


Figure 5-38 WDS Mode – 5GHz

Choose menu "**WLAN1 (5GHz) → WDS Settings**" to configure WDS to connect the WDAP-C7200AC with another AP on this page. After the configuration, please click the "Apply Changes" button to save the settings.

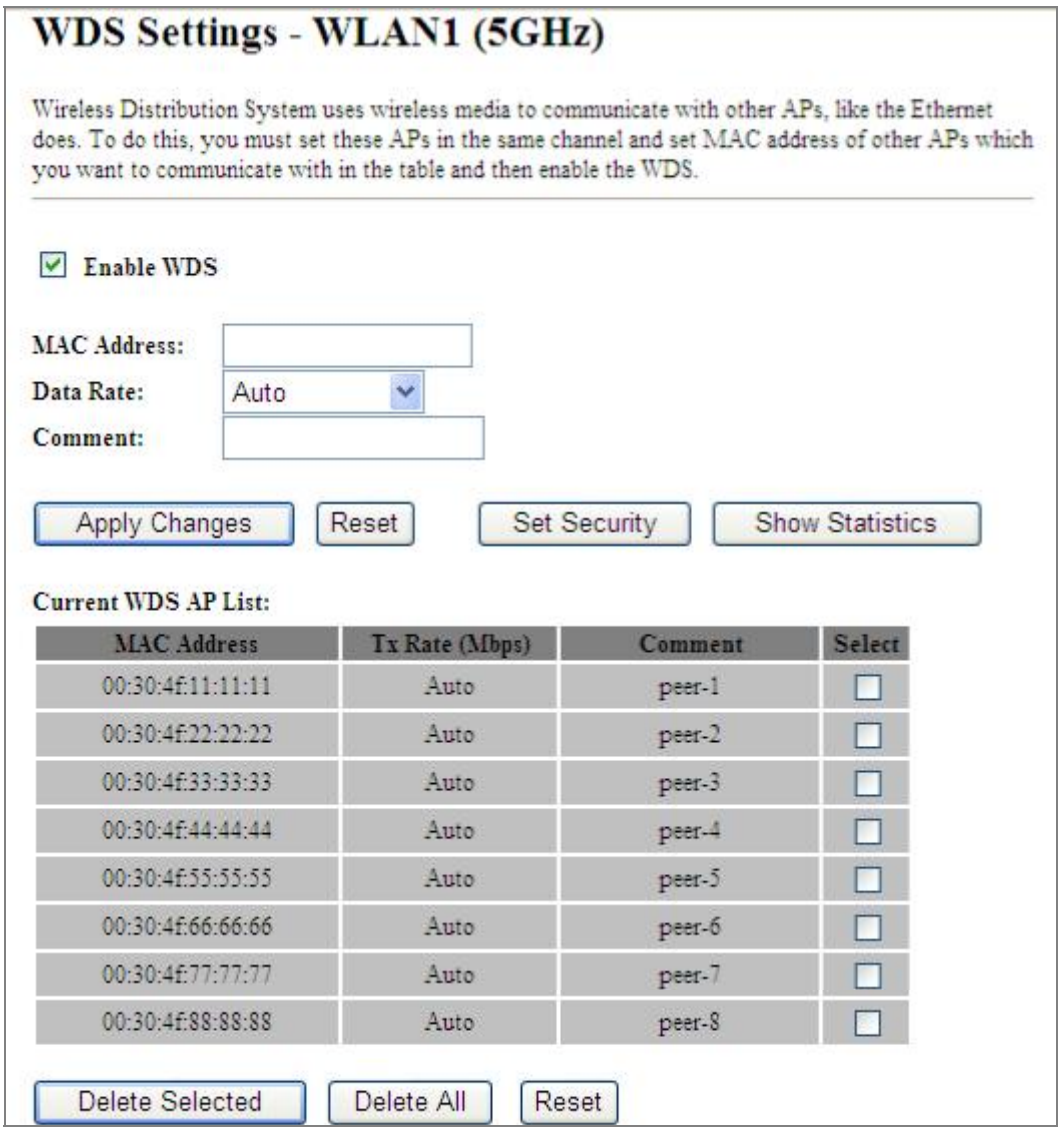


Figure 5-39 WDS Settings – 5GHz

Figure 5-40 WDS – Set Security

The page includes the following fields:

Object	Description
Enable WDS	Check the box to enable the WDS function. Please select **WDS** or **AP+WDS** in the Mode of **Wireless Basic Settings** before you enable WDS on this page.
MAC Address	You can enter the MAC address of the AP you want to connect with.
Data Rate	Default is "**Auto"**.
Comment	You can make some comment for each MAC address on the list.
Set Security	Click the "**Set Security**" button to configure the wireless security parameters of the AP you want to connect via WDS.
Show Statics	Click the "Show Statics" button to show the WDS AP.
Current WDS AP List	You can select some MAC addresses of the AP and click the "Delete Selected" button to delete it.

Note

WDS feature can only be implemented between 2 wireless devices that both support the WDS feature. Plus, **channel**, **security settings** and **security key** must be **the same** on both such devices.

Note

To encrypt your wireless network, click "**Set Security**". For the detail of wireless security, see **section 5.3.3**. Do remember to reboot the device after you save your wireless security settings; otherwise, the WDS feature may not function.

5.3.7 Site Survey

Choose menu "**WLAN1 (5GHz) → Site Survey**" to scan the available local AP. If any Access Point is found, you could choose any one to connect with manually when the **Client Mode** is enabled.

Figure 5-41 Site Survey – 5GHz

5.3.8 WPS

WPS (**Wi-Fi Protected Setup**) is designed to ease setup of security Wi-Fi networks and subsequently network management. This Wireless Router supports WPS features for **AP mode**, **AP+WDS mode**, **Infrastructure-Client mode**, and the wireless root interface of **Universal Repeater mode**.

Simply enter a PIN code or press the software PBC button or hardware WPS button (if any) and a secure wireless connection is established.

- **PBC**: If you find the WPS LED blinking for 2 minutes after you press the hardware WPS button on the device, it means that PBC encryption method is successfully enabled. And an authentication will be performed between your router and the WPS/PBC-enabled wireless client device during this time; if it succeeds, the wireless client device connects to your device, and the WPS LED turns off. Repeat steps mentioned above if you want to connect more wireless client devices to the device.

■ **PIN :** To use this option, you must know the PIN code from the wireless client and enter it in corresponding field on your device while using the same PIN code on client side for such connection.

The page includes the following fields:

Object	Description
Disable WPS	You can check the box to disable the WPS function.
WPS Status	Here you can check if the connection via WPS is established or not.
Self-PIN Number	It is the PIN number of the WDAP-C7200AC here.
Push Button Configuration	Click the "Start PBC" to activate WPS as well in the client device within 2 minutes.
Client PIN Number	In addition to the PBC method, you can also use the PIN method to activate the WPS. Just enter the PIN number of the client device in the field and click the "Start PIN" button.

The WPS encryption can be implemented only between your Router and another WPS-capable device.

➢ Example of how to establish wireless connection using **WPS**. Please take the following steps:

Step 1. Choose menu "**WLAN1 (5GHz) → WPS**" to configure the setting for WPS. After the configuration, please click the "Apply Changes" button to save the settings.

Step 2. Add a new device.

If the wireless adapter supports Wi-Fi Protected Setup (WPS), you can establish a wireless connection between wireless adapter and AP using either Push Button Configuration (PBC) method or PIN method.

To build a successful connection by WPS, you should also do the corresponding configuration of the new device for WPS function.

A. By Push Button Configuration (PBC)

i. Click the “Start PBC” Button on the WPS page of the AP.

Figure 5-42 WPS-PBC – 5GHz-1

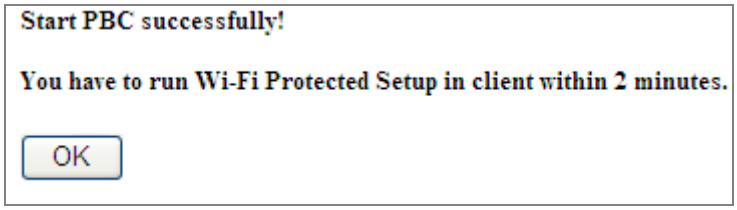


Figure 5-43 WPS-PBC – 5GHz-2

ii. Press and hold the WPS Button equipped on the adapter directly for 2 or 3 seconds. Or you can click the WPS button with the same function in the configuration utility of the adapter. The process must be finished within 2 minutes.

iii. Wait for a while until the next screen appears. Click **OK** to complete the WPS configuration.

B. By PIN

If the new device supports Wi-Fi Protected Setup and the PIN method, you can add it to the network by PIN with the following two methods.

Method One: Enter the PIN of your Wireless adapter into the configuration utility of the AP

i. Enter the PIN code of the wireless adapter in the field behind **Client PIN Number** in the following figure. Then click **Start PIN**.

Note

The PIN code of the adapter is always displayed on the WPS configuration screen.

Figure 5-44 WPS-PIN – 5GHz-1

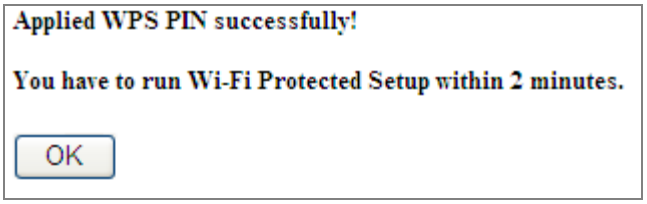


Figure 5-45 WPS-PIN – 5GHz-2

ii. For the configuration of the wireless adapter, please choose the option that you want to **enter PIN into the AP (Enrollee)** in the configuration utility of the WPS and click **Next** until the process finishes.

Method Two: Enter the PIN of the AP into the configuration utility of your Wireless adapter

i. Click the "Start PBC" Button on the WPS page of the AP. Get the Current PIN code of the AP in WPS page (each AP has its unique PIN code).

Figure 5-46 WPS-PIN – 5GHz-3

ii. For the configuration of the wireless adapter, please choose the option that you want to **enter the PIN of the AP (Registrar)** in the configuration utility of the Wireless adapter and enter it into the field. Then click **Next** until the process finishes.

5.3.9 Schedule

Wireless Schedules will enable or disable your wireless access at a set time based on your predefined schedule. This feature is often used for restricting access to all users (such as children, employees and guests) during specific times of the day for parental control or security reasons.

Choose menu "**WLAN1 (5GHz) → Schedule**" to configure the schedule rule of enabling wireless function. After the configuration, please click the "Apply Changes" button to save the settings.

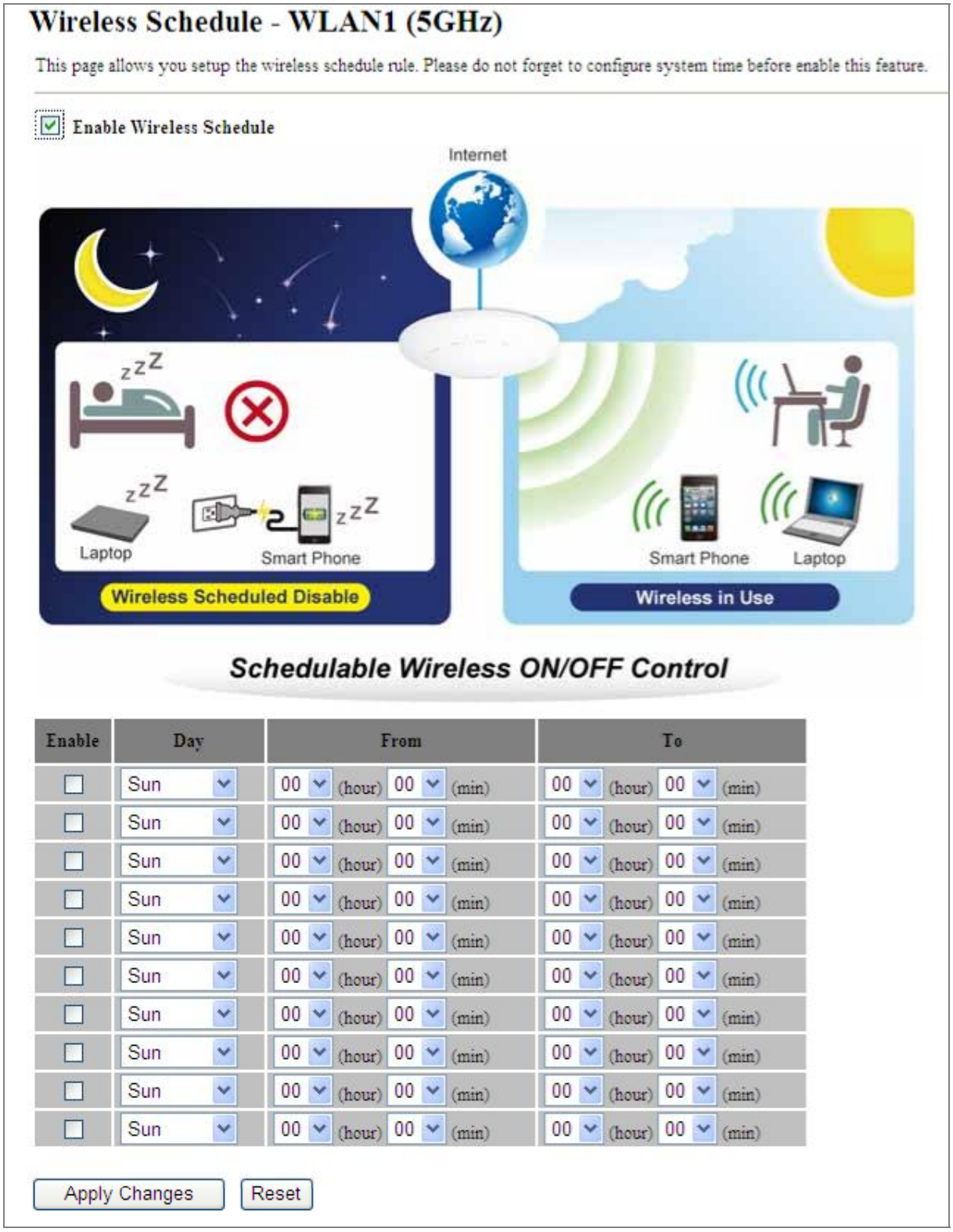


Figure 5-47 Schedule - 5GHz

When setting the Wireless Schedule, it is important to ensure that your **System Clock** settings have been configured. If not, your Wireless Schedule will not function correctly.

5.4 WLAN2 (2.4GHz)

The Wireless menu contains submenus of the settings about wireless network. Please refer to the following sections for the details.

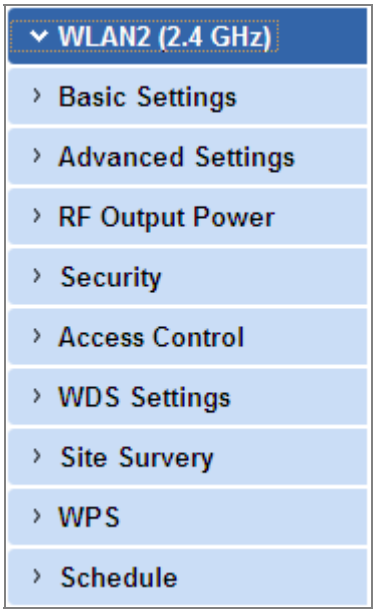


Figure 5-48 2.4GHz Wireless Main Menu

5.4.1 Basic Settings

Choose menu "**WLAN2 (2.4GHz) → Basic Settings**" to configure the 2.4GHz basic settings for the wireless network on this page. After the configuration is done, please click the "**Apply Changes**" button to save the settings.

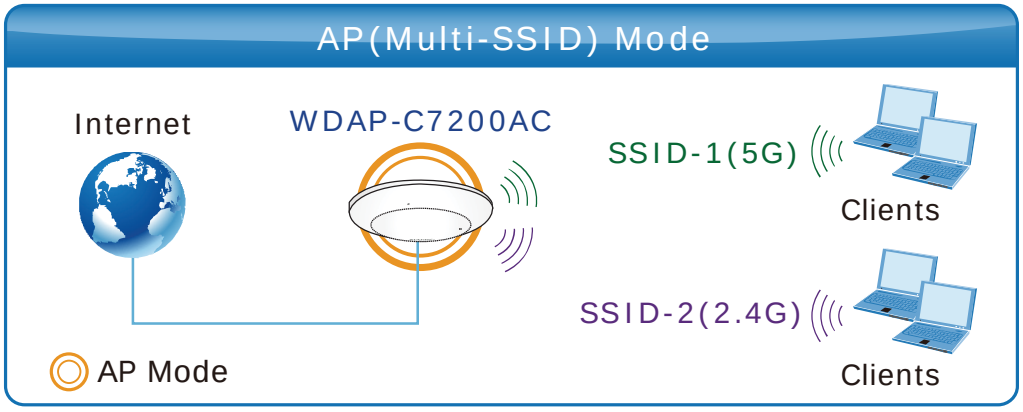
First of all, the wireless AP supports multiple wireless modes for different network applications, which include:

- **AP**
- **Multiple SSIDs**
- **Universal Repeater**
- **Client**
- **WDS**
- **AP+WDS**

It is so easy to combine the WDAP-C7200AC with the existing wired network. The WDAP-C7200AC definitely provides a total network solution for the home and the SOHO users.

- **AP**

  Standard **Access Point**



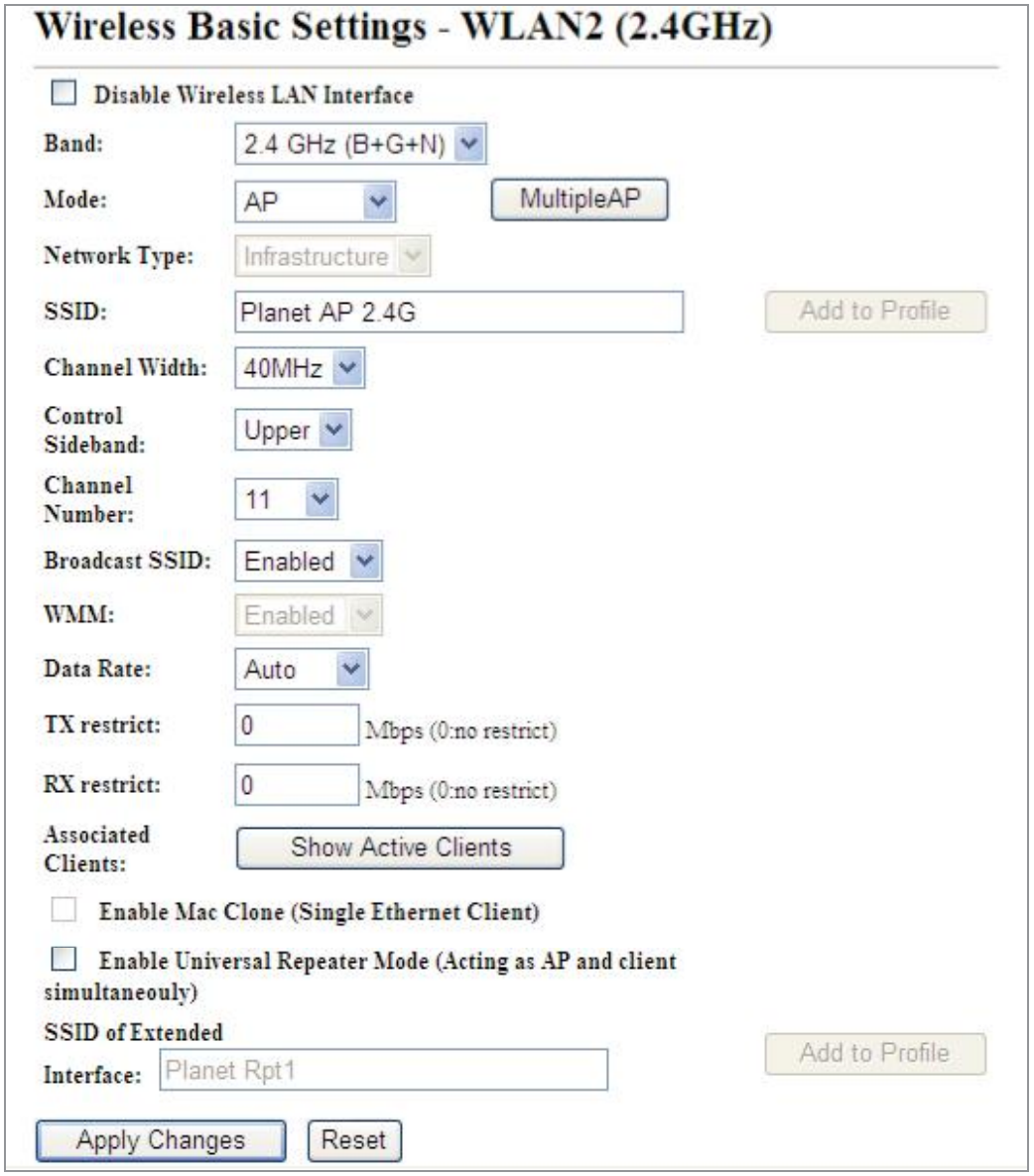


Figure 5-49 2.4GHz Wireless Basic Settings – AP

The page includes the following fields:

Object	Description
Disable Wireless LAN Interface	Check the box to disable the wireless function.