

5GHz 900Mbps 802.11ac Outdoor Wireless CPE



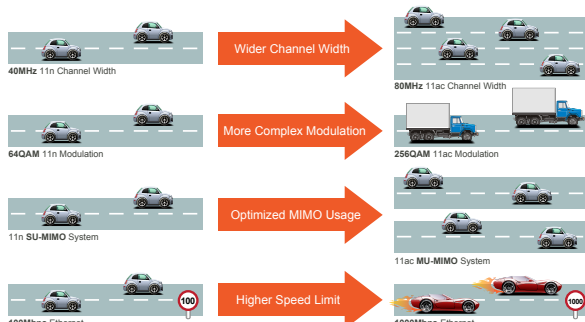
Ultra-high-speed Enterprise Outdoor Wireless Solution

PLANET WBS-502AC 5GHz 900Mbps 802.11ac Outdoor Wireless CPE supports **IEEE 802.11ac** standard with 2T2R MIMO mechanism, which brings the latest wireless technology into outdoor infrastructure. The WBS-502AC supports standard **IEEE 802.3at Power over Ethernet (PoE)** and features **IEEE 802.3af PoE pass-through** going to the secondary LAN port, which is able to supply power to the PoE IP camera or other PoE PD equipment. With excellent performance and concentrated antenna beamwidth, the WBS-502AC is definitely ideal for long-distance outdoor surveillance – be it PTP or PtMP application.



Bringing Superior 11ac Performance to Outdoor

To provide extremely high-speed user experience, the WBS-502AC 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 frequency band with less interference. Equipped with **Gigabit LAN** ports, the WBS-502AC allows 11ac wireless traffic to directly access high-speed connection without the bottleneck of 100Mbps uplink wired connection, thus offering a better range and superior throughput than those of the 802.11a/n wireless outdoor CPE.



Go faster in wired & wireless

Take Advantage of 11ac to Optimize Data Link Speed

Industrial Compliant Wireless LAN and LAN

- Compliant with the IEEE 802.11a/n/ac wireless technology
- 2T2R architecture with data rate of up to 900Mbps
- Equipped with two 10/100/1000Mbps RJ45 ports with auto MDI/MDI-X supported
- IPv4 and IPv6 dual-stack management networks

Fixed Network Broadband Router

- Supported WAN connection types in WISP mode: DHCP, Static IP, PPPoE, PPTP
- Supports Port Forwarding and DMZ for various networking applications
- Supports DHCP server in WISP mode
- Supports Guest Network in AP mode

RF Interface Characteristics

- Built-in 19dBi dual-polarization antenna
- High output power up to 400mW with multiply-adjustable transmit power control

Outdoor Environmental Characteristics

- IP55 rating
- IEEE 802.3at PoE design, IEEE 802.3af PoE pass-through going to the secondary LAN port
- Operating temperature: -20~70°C

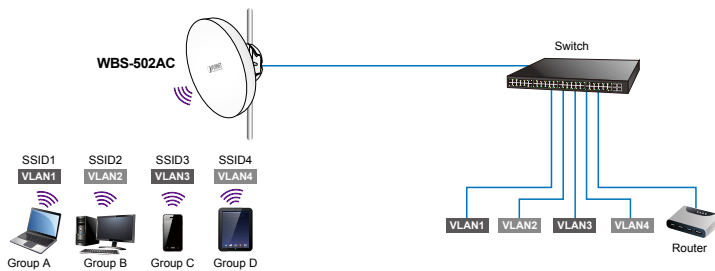
Multiple Operation Modes and Wireless Features

- Multiple operation modes: AP, Client Bridge, Client Router (WISP), WDS
- WMM (Wi-Fi multimedia) provides higher priority to multimedia transmitting over wireless
- Wireless Traffic Shaping to control the upload/download bandwidth
- Wi-Fi scheduler allows to enable or disable based on predefined schedule

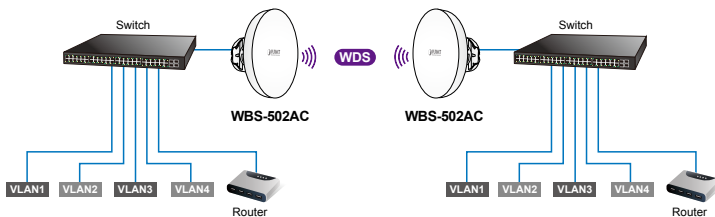
Multiple SSIDs with VLAN Tagging

Multiple SSIDs can broadcast up to 8 wireless networks with different names. For management purposes, the **IEEE 802.1Q VLAN** supported allows multiple VLAN tags to be mapped to multiple SSIDs to distinguish the wireless access or allows VLAN tags to pass through over WDS link. This makes it possible for the WBS-502AC to work with managed Ethernet switches to have VLAN assigned for a different access level and authority.

VLAN-to-SSID Mapping

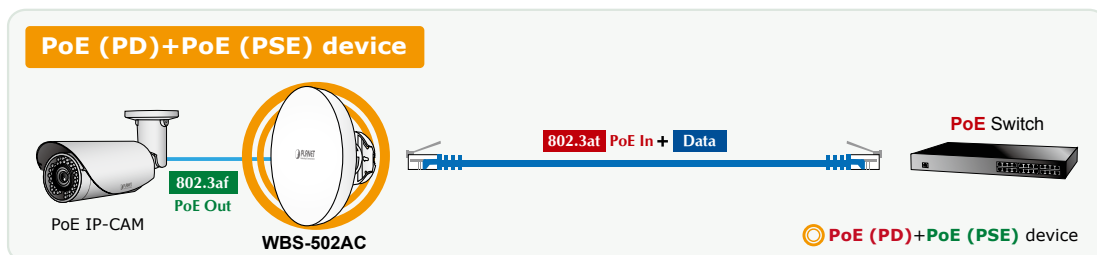
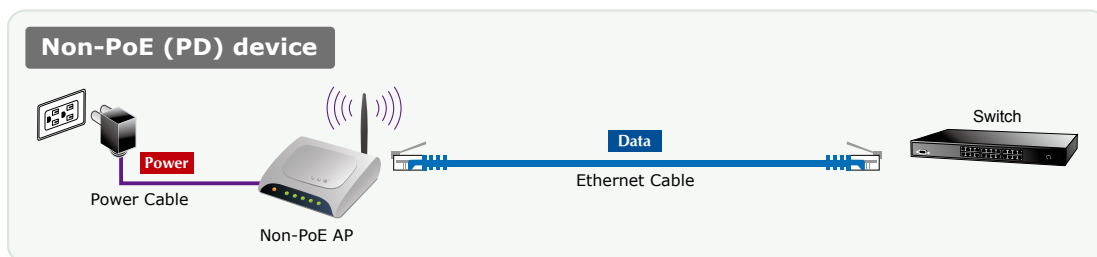


VLAN pass-through over WDS



Value-added Outdoor Characteristics

The WBS-502AC is definitely suitable for wireless IP surveillance, and bridge link of building to building and backbone of public service. With standard IEEE 802.3at Power over Ethernet (PoE) design, the WBS-502AC can be powered by the remote PoE switch through the 100m Cat5e UTP cable and is able to supply power to the IP camera supporting IEEE 802.3af standard through the secondary LAN port. With the IP55-rated outdoor UV-resistant enclosure, the WBS-502AC can perform normally under rigorous weather conditions, meaning it can be installed in any harsh, outdoor environments.



Secure Network Connection

- Full encryption supported: 64-/128-/152-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK and 802.1X RADIUS authentication
- Supports 802.1Q VLAN pass-through over WDS and SSID-to-VLAN mapping
- Supports up to 32 entries of MAC address filtering

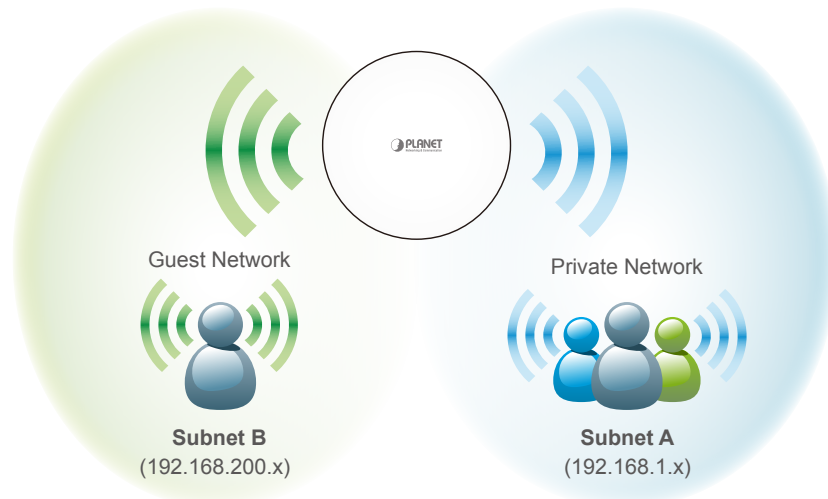
Easy Deployment and Management

- 360-degree 3D array of mounting brackets design
- Multilingual Web User Interface: English, Spanish, French, German, Portuguese, Russian, Simplified Chinese
- CLI command and SNMP-based management interface
- Supports SSH/HTTPS secure connection
- Self-healing mechanism through system auto reboot setting
- System status monitoring through remote Syslog Server and Device Discovery
- Diagnostic tools includes Ping, Traceroute, Speed
- Planet Smart Discovery Utility allows administrator to discover and locate each AP

Completely Secure Wireless Network

The WBS-502AC supports 152-bit WEP, WPA/WPA2, WPA-PSK and WPA2-PSK wireless encryptions, the advanced WPA2-AES mechanism and 802.1X RADIUS authentication, which can effectively prevent eavesdropping by unauthorized users or bandwidth occupied by unauthenticated wireless access. Furthermore, any users are granted or denied access to the wireless LAN network based on the ACL (Access Control List) that the administrator pre-established. To provide the secure Wi-Fi access for visitors, **Guest Network** feature allows you to create a temporary network with an individual SSID, security setting and DHCP settings to isolate the guest network to a separate network segment, thus preventing guests from being able to access files on intranet and also ensuring the guest's internet connectivity.

Guest Network



Deployment and Alignment within Minutes

In order to provide accurate antenna alignment, the WBS-502AC is equipped with a **360-degree** 3D array of mounting brackets, greatly reducing deployment effort to easily achieve high-performance backhaul links over long distance through the built-in 19dBi higher gain antenna.

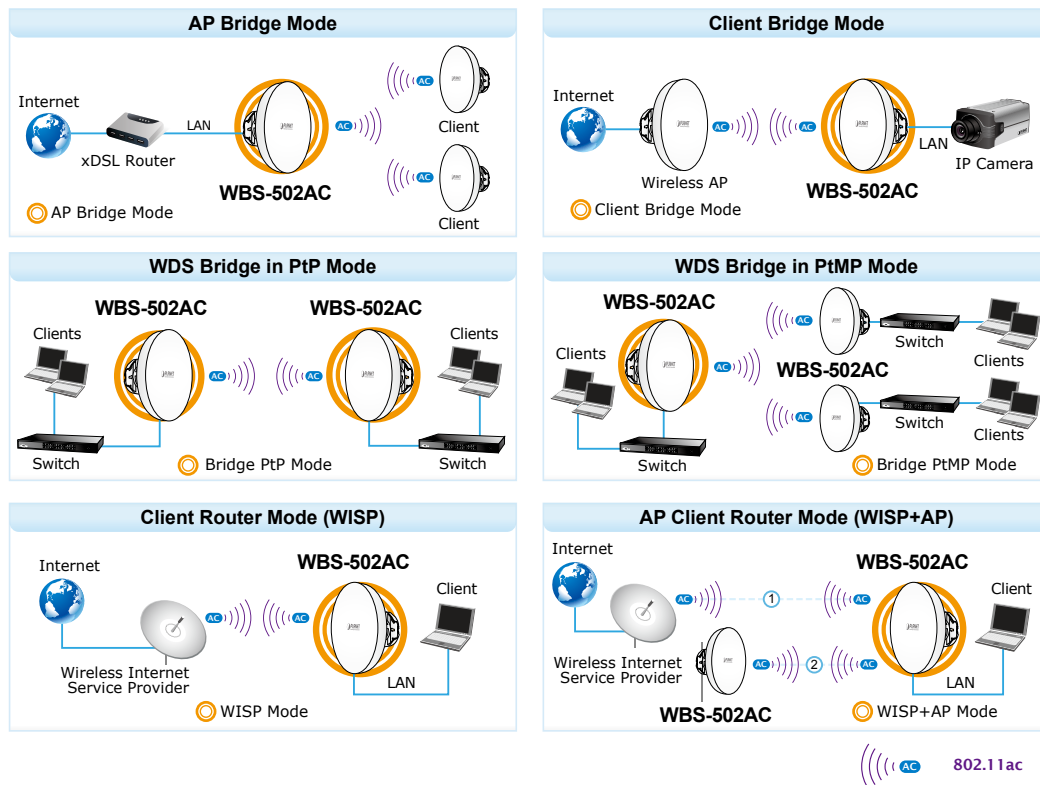
Smart Management Features Meeting High Expectations

With user-friendly Web UI and comprehensive management features like **RSSI threshold**, **Client Limit Control** and **Wireless Traffic Shaping**, the WBS-502AC is easy to limit the client access and control the bandwidth, even for users who have no experience in setting up a wireless network. Furthermore, with the Planet Smart Discovery Utility, SNMP and diagnostics tools, the WBS-502AC is convenient to be managed remotely.

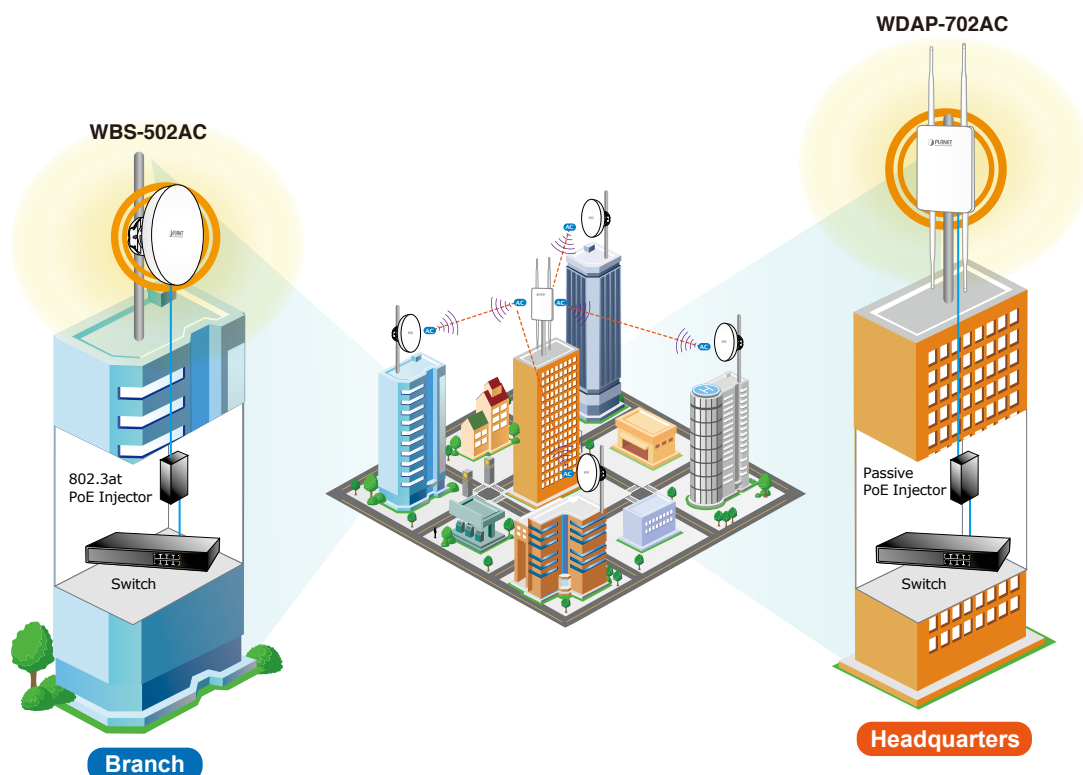
Applications

Rapid and Easy Deployment with 11ac Superior Performance

The WBS-502AC can easily be mounted on the wall or pole by using its 3-axis pivoting bracket with 360-degree rotation option, which is able to align the remote antenna within minutes in field deployment, thus optimizing transmission quality. It is dedicatedly designed for IP surveillance and CPE users with Internet access via the WISP provider in rural areas. Besides, it caters to various wireless communication connectivities, such as AP, Client, WDS and WISP, thus meeting users' various applications.



**We recommend you to match the WBS-502AC with our related products to get the best results.



Specifications

Product	WBS-502AC		
Hardware			
Standard Support	IEEE 802.11a/n/ac IEEE 802.11i IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BASE-T IEEE 802.3x flow control		
Memory	64 Mbytes DDR SDRAM 16 Mbytes Flash		
Power Requirements	IEEE 802.3at PoE+		
Interface	Wireless IEEE802.11a/n/ac, 2T2R PoE LAN (LAN 1): 1 x 10/100/1000BASE-TX, auto-MDI/MDIX, 54V 802.3at PoE in LAN 2: 1 x 10/100/1000BASE-TX, auto-MDI/MDIX, 802.3af PoE pass-through out		
Button	Reset button		
LED	PWR, LAN, WLAN, Signal Strength		
Antenna	Four 5dBi detachable omnidirectional antennas with RP-SMA connectors		
	Beam-width	Port1	Port2
	HPBW Horizontal	30°	18°
	HPBW Vertical	18°	30°
Data Rate	IEEE 802.11a: up to 54Mbps IEEE 802.11n (20MHz): up to 150Mbps IEEE 802.11n (40MHz): up to 300Mbps 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		
Media Access Control	CSMA/CA		
Modulation	Transmission/Emission type: OFDM Data Modulation type: OFDM with BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM		
Frequency Band	FCC: 5.180~5.580GHz, 5.660~5.825GHz ETSI: 5.180~5.240GHz		
Operating Channels	United States --FCC: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140, 149, 153, 157, 161, 165 (21 channels)		
	Europe --ETSI: 36, 40, 44, 48 (4 channels) 5GHz channel list will vary in different countries according to their regulations.		
Max. Transmit Power (dBm)	FCC : up to 26 ± 2dBm ETSI : < 20dBm (EIRP)		
Receiver Sensitivity (dBm)	Network Mode	Data Rate	Receive Sensitivity (dBm)
	802.11a	6Mbps	-93
		54 Mbps	-76
	802.11n HT20	MCS0/MCS8	-92
		MCS7/MCS15	-73
	802.11n HT40	MCS0/MCS8	-89
		MCS7/MCS15	-72
	802.11ac VHT20	MCS0_1SS/2SS	-92
		MCS8_1SS/2SS	-69
	802.11ac VHT40	MCS0_1SS/2SS	-89
MCS9_1SS/2SS		-65	
802.11ac VHT80	MCS0_1SS/2SS	-86	
	MCS9_1SS/2SS	-62	
Power Consumption	Maximum 24W (with PSE)		
Power Requirements	LAN1: IEEE 802.3at PoE+, 48~56V DC in-line power		
Environment and Certification			
Operating Temperature	-20~70 degrees C		
Operating Humidity	10~90% (non-condensing)		
IP Level	IP55		
Regulatory	CE, FCC, RoHS		

Software	
LAN	<ul style="list-style-type: none"> ■ Static IP ■ Dynamic IP ■ DHCP server in WISP mode Supports 802.1d STP (Spanning Tree Protocol)
WAN Connection Type (WISP Mode only)	<ul style="list-style-type: none"> ■ Static IP ■ Dynamic IP ■ PPPoE ■ PPTP
Firewall	Offers DoS protection to guard user's content network against DoS attacks Built-in DMZ and Port Forwarding VPN Pass-through: <ul style="list-style-type: none"> ■ PPTP Pass-through ■ L2TP Pass-through ■ IPSec Pass-through
Wireless Modes	<ul style="list-style-type: none"> ■ Access Point ■ Client Bridge ■ WDS (AP/Bridge/Station) ■ Client Router (WISP)/Client AP Router (WISP+AP)
Channel Width	20MHz, 40MHz, 80MHz
Encryption Type	64-/128-/152-bit WEP, WPA, WPA-PSK, WPA2, WPA2-PSK, 802.1X
Wireless Security	Enable/Disable SSID Broadcast Wireless MAC address filtering up to 32 entries per SSID VAP Separation, Station Separation
Max. SSIDs	Up to 8
Max. Wireless Clients	127 per radio (32 suggested, depending on usage)
Max. WDS Peers	Up to 8 in WDS Bridge mode
Wireless QoS	Supports Wi-Fi Multimedia (WMM) Supports Wireless Traffic Shaping per Radio
Wireless Advanced Control	Auto Channel Selection Auto Transmit Power by Regular Domains Client Limit Control, RSSI Threshold Distance Control (Auto Ack Timeout) Wi-Fi Schedule
Status Monitoring	Connection Status Device Discovery, PLANET Smart Discovery Wireless Client List/WDS Link List DHCP Client Table System Log supports remote syslog server Signal Strength LEDs in Client Bridge and WDS Station modes
VLAN	VLAN pass-through over WDS, SSID-to-VLAN mapping Management VLAN (VID: 1~4094)
Self Healing	Supports auto reboot settings
NTP	Network Time Management
Management	Web-based UI, HTTPS, SSH, CLI (Command Line Interface) supported Configuration backup and restore Email alert
Diagnostic Tools	SNMP v1/v2c/v3 support, MIB I/II, Private MIB Built-in Ping, Trace Route, Speed Test Tools

Ordering Information

WBS-502AC	5GHz 900Mbps 802.11ac Outdoor Wireless CPE
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Related Products

WAP-500N	5GHz 300Mbps 802.11n Outdoor Wireless AP
WBS-500N	5GHz 300Mbps 802.11n Outdoor Wireless CPE
WNAP-7320	5GHz 300Mbps 802.11a/n Outdoor Wireless Access Point (Built-in 14dBi Antenna)
WNAP-7335	5GHz 300Mbps 802.11a/n Outdoor Wireless AP/Router (2 x RP-SMA Connector)
WNAP-7350	5GHz 300Mbps 802.11a/n Outdoor Wireless Access Point (2 x N-type Connector)
WNL-U601AC	433Mbps 802.11AC Dual Band Wireless USB Adapter
ELA-100	Ethernet Lightning Arrest Box

Accessories

CB-STP-25	25-meter STP Cat5 Cable
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