

5GHz 900Mbps 802.11ac Outdoor Wireless CPE



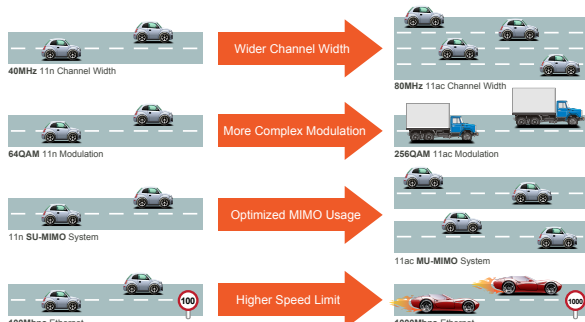
Ultra-high-speed Enterprise Outdoor Wireless Solution

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

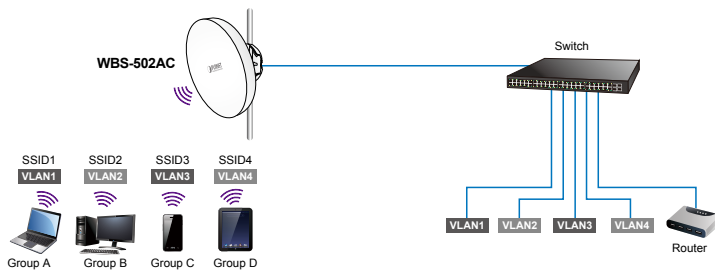
Multiple Operation Modes and Wireless Features

- 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

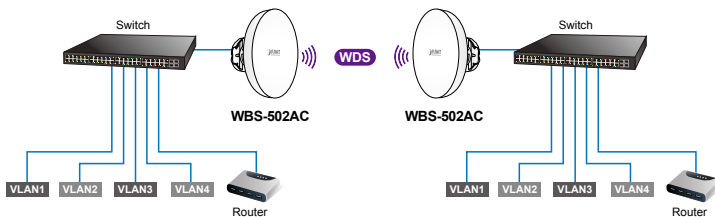
Multiple SSIDs with VLAN Tagging

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

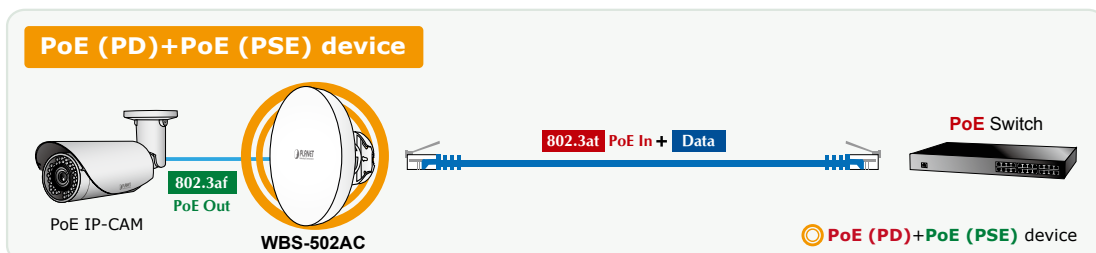
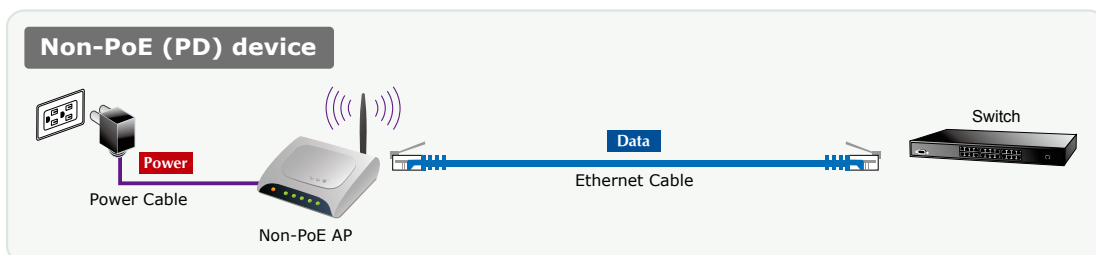


VLAN pass-through over WDS



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

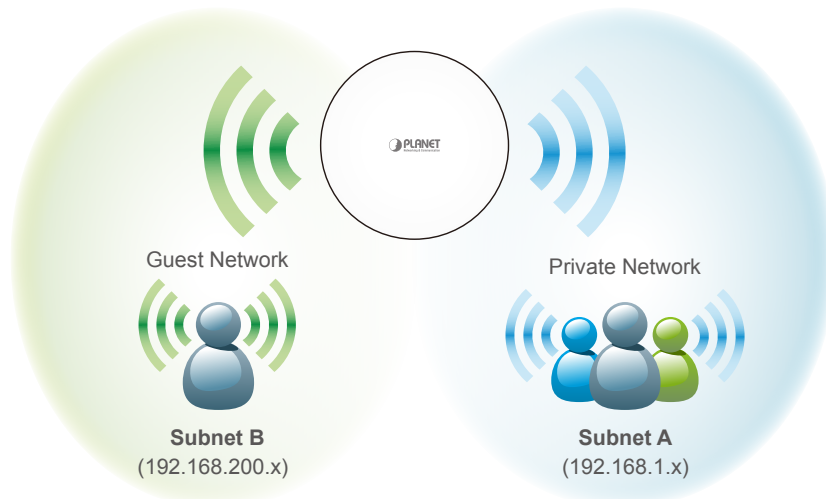
Easy Deployment and Management

- 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.

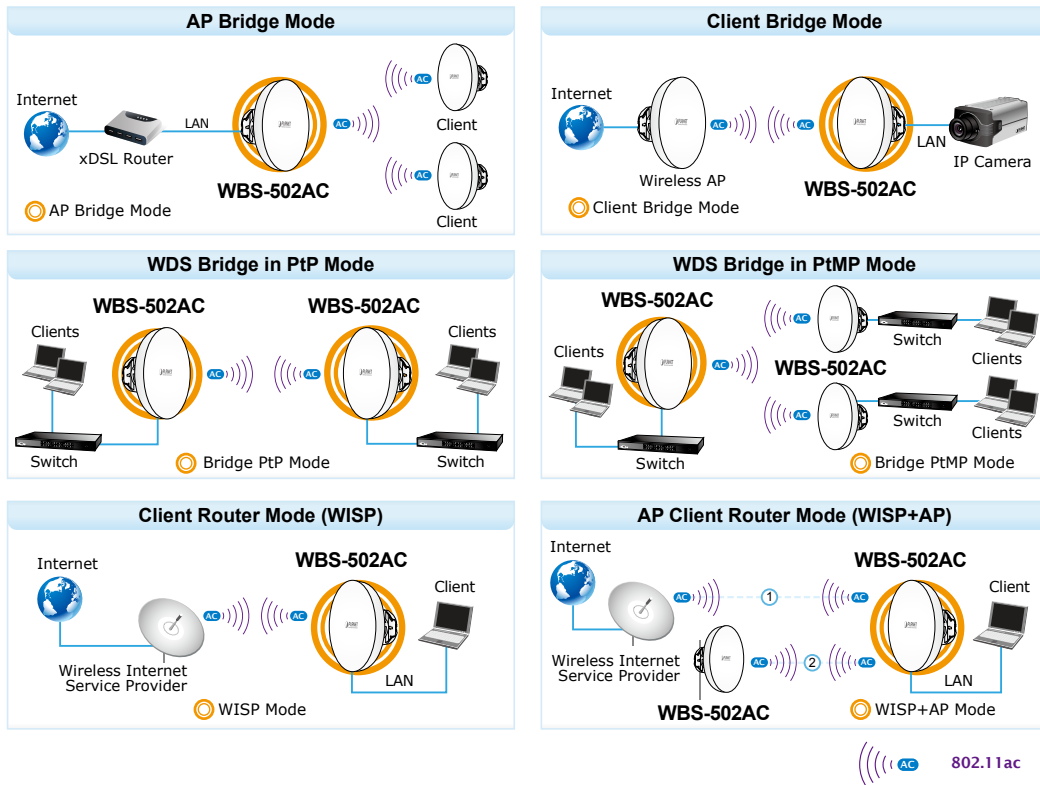
Smart Management Features Meeting High Expectations

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.

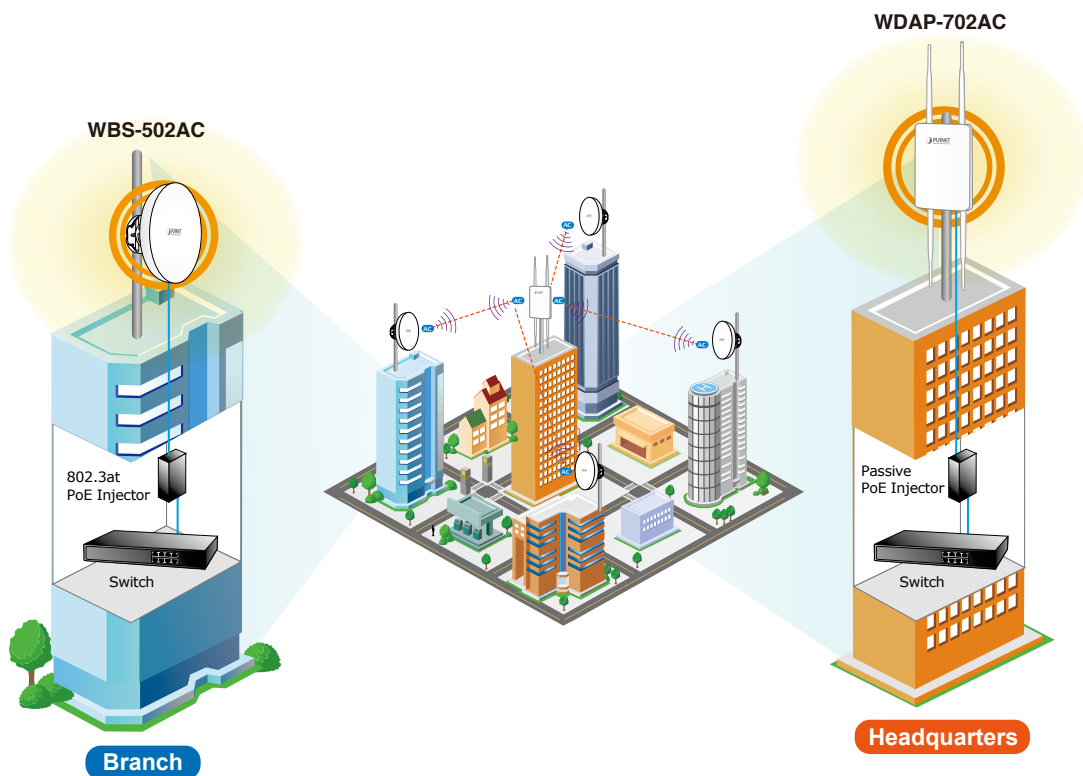
Applications

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 | 48-56V DC IN, IEEE 802.3at PoE+(LAN1) | | |
| 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

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| 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

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|-----------|-------------------------|
| CB-STP-25 | 25-meter STP Cat5 Cable |
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