

5GHz 802.11ac 900Mbps TDMA Outdoor Long Range Wireless CPE



Stable and Reliable Long-range Outdoor Wireless Solution

PLANET's newly-revised WBS-900AC 5GHz 802.11ac 900Mbps TDMA Outdoor Long-range Wireless CPE offers a long-range and excellent throughput better than those of traditional wireless devices. One of its standout features is its seamless design, making installation easy. With the standard IEEE 802.3at Power over Ethernet (PoE), the WBS-900AC CPE can be easily installed in areas where power outlets are not available, further enhancing its versatility and ease of deployment. Its PoE capability is designed for both end-span and mid-span configurations, providing flexibility in deployment options.

Whether connecting directly to an end-span PoE switch or through a mid-span PoE injector, the WBS-900AC CPE ensures seamless integration into the existing network infrastructure. The WBS-900AC excels in providing wireless long-distance city-to-city connectivity for all applications. Leveraging TDMA (Time division multiple access) and ATPC (Automatic Transmit Power Control) technologies, it allows multiple users to share the same frequency band without interference, thanks to its intelligent scheduling that assigns different time slots for transmission. This ensures efficient spectrum utilization and reliable performance even in congested environments. Moreover, the WBS-900AC boasts an IP65-rated outdoor enclosure, making it resilient against rigorous weather conditions. Its rugged construction enables it to withstand harsh outdoor environments, ensuring uninterrupted operation in any situation. Overall, the WBS-900AC combines seamless integration, long-range connectivity, and robust weather resistance, making it an ideal choice for various outdoor wireless applications.



Industrial Compliant Wireless LAN and LAN

- Compliant with time-division multiple access (TDMA) wireless technology
- Compliant with the IEEE 802.11a/n/ac WAVE2 MU-MIMO 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

RF Interface Characteristics

- 25dBi dual-polarization antenna
- High output power with multiply-adjustable transmit power control
- Supports Automatic Transmit Power Control (ATPC)

Outdoor Environmental Characteristics

- IP65 rating; built-in TVS lightning protection
- IEEE 802.3 at Power over Ethernet design
- Operating temperature: -40~70 degrees C

Multiple Operation Modes and Wireless Features

- Multiple operation modes: AP (auto WDS), AP (TDMA), Station (WDS/TDMA) and Station (ARPNAT)
- Supports ATPC function to reduce mutual interference between the CPEs
- WMM (Wi-Fi multimedia) provides higher priority to multimedia transmitting over wireless
- Coverage threshold to limit the weak signal of clients occupying session
- Real-time Wi-Fi channel analysis chart and client limit control for better performance
- Supports Terminal Fast Roaming with 802.11k, 802.11v, and 802.11r

Secure Network Connection

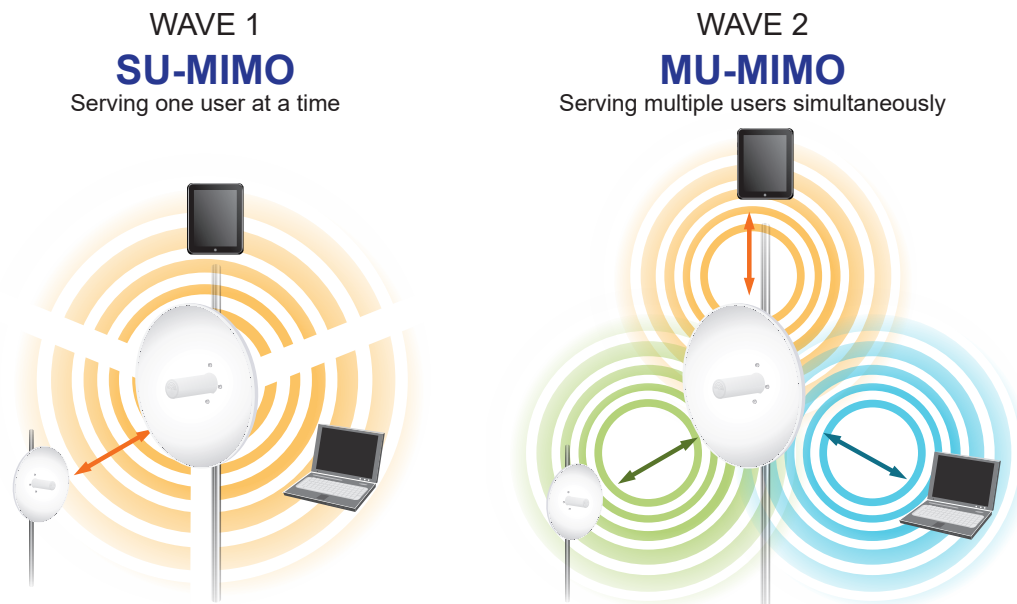
- Full encryption supported: WPA/WPA2, WPA-PSK/WPA2-PSK authentication
- Supports 802.1Q tagged VLAN over WDS/TDMA
- Supports MAC address filtering

Benefits of TDMA and ATPC

TDMA is a channel access method for shared-medium networks. It allows several users to share the same frequency channel by dividing the signal into different time slots. The users transmit in rapid succession, one after the other, each using its own time slot. This allows multiple stations to share the same transmission medium while using only a part of its channel capacity. With the TDMA technology, the WBS-900AC reduces interference between users by allowing them to transmit at different times. It provides a better quality data transmission compared to other techniques because it reduces interference and allows for more efficient use of the available frequency spectrum. The ATPC, providing automatic wireless signal adjustment in accordance with the environment, reduces mutual interference between the CPEs, and improves the stability of data transmission.

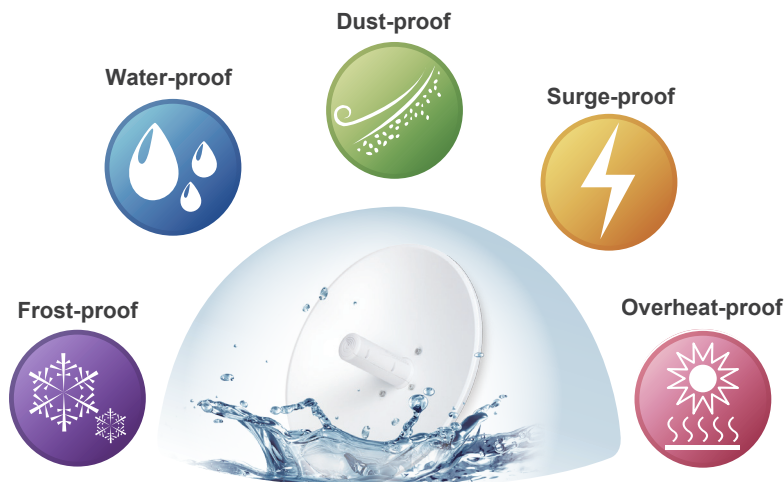
Benefits of MU-MIMO under 802.11ac Wave 2

With the MU-MIMO Wave 2 technology, the WBS-900AC, installed in public areas such as hotspots, airports and conferences, reduces the frustration that Wi-Fi users often experience in downloading web pages, e-mail file attachments and media contents. For cellular operators, the WBS-900AC provides a better Wi-Fi user experience, reducing the likelihood of users turning off Wi-Fi and putting more load on the cellular network. For enterprises, this technology also can solve Wi-Fi congestion issues in open work spaces and conference rooms.



Flexible, Durable and Reliable Outdoor Characteristics

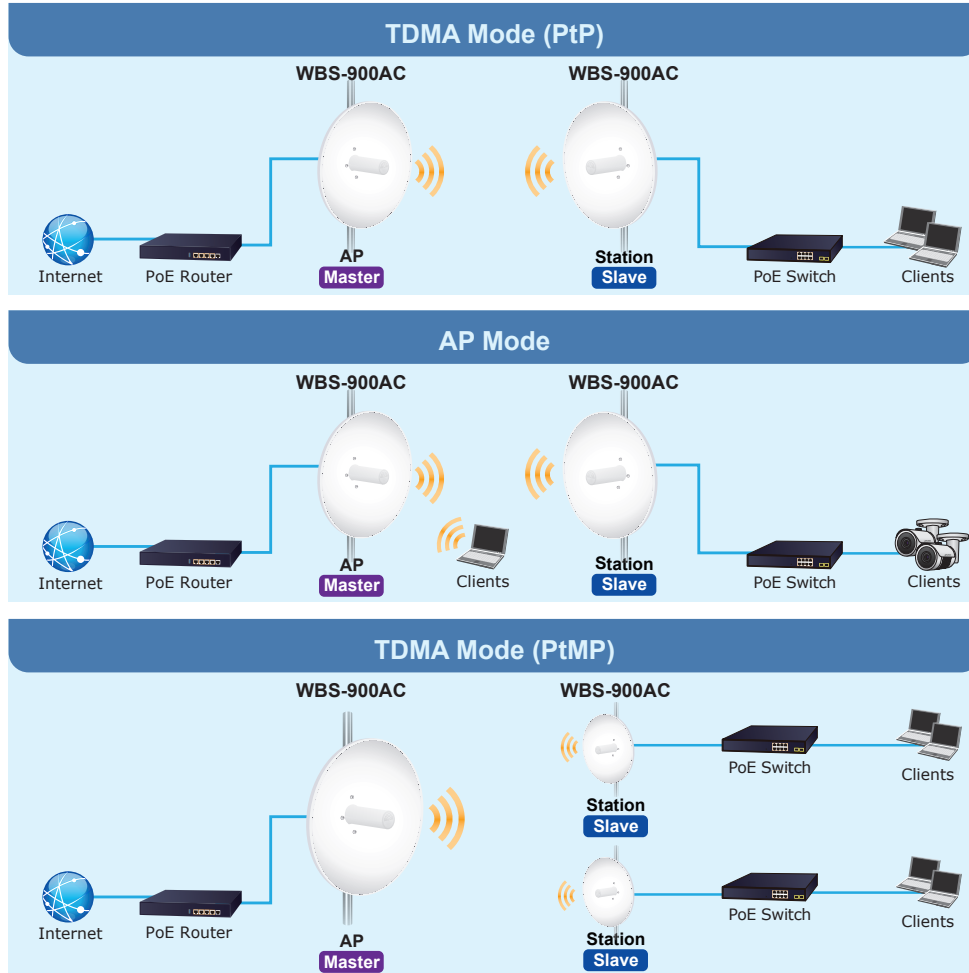
To reach maximum reliability in the harsh environment, the **WBS-900AC** not only comes with **IP65-rated casing**, but also adopts the Qualcomm Chipset Solution, capable of withstanding wide temperature ranging from **-40 to 70** degrees C. Designed with the IEEE 802.3at PoE+ (Power over Ethernet) power scheme, the **WBS-900AC** can be easily installed in the areas where power outlets are not available. Furthermore, it is also suitable to be integrated with PLANET Renewable Powered PoE System to offer farther wireless service in remote areas.



Environmental Adaptations in Outdoor Area

Designed for Various Requirements

The WBS-900AC is specially designed for long-distance outdoor wireless solutions that are capable of establishing stable bridge connection with 25dBi high gain dish antenna. To provide long range and maximum performance., the WBS-900AC can implement 3 operation modes and is easy to use where a multitude of applications in communities, warehouses, campuses, harbors, etc. can be made.



Applications

Long-distance Connection

PLANET WBS-900AC is specially designed for long-distance outdoor wireless bridge solutions, capable of establishing a stable bridge connection with a 25dBi high gain dish antenna to provide long-range connection and maximum performance. It supports TDMA technology, reducing interference between users by allowing them to transmit at different times, even when a large number of users share the same frequency band. It is easy to install and adjust suitable settings in appropriate locations. In terms of management, the WBS-900AC features adjustable transmit power control and IEEE 802.1Q VLAN, regulating network data transfer by delaying less important or less desired packets.



Specifications

Product	WBS-900AC	
Hardware		
Standard Support	IEEE 802.11a/n/ac IEEE 802.11i IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3x flow control IEEE 802.11k, 802.11v, and 802.11r	
WBS-900AC	Dimensions	120 x 260 x 85 mm (W x D x H)
	Weight	333 g
Antenna ANT-D29AD	Dimensions	Φ466 × 260 mm
	Weight	1560 g
Power Requirements	Passive 48V DC inject (package included) or IEEE 802.3 at PoE+ or 12V DC IN	
Power Consumption (max.)	< 15W per device	
Interface	PoE: 1 x 10/100/1000BASE-TX, auto-MDI/MDIX, 802.3 at PoE In LAN: 1 x 10/100/1000BASE-TX, auto-MDI/MDIX	
Button	Reset button	
Data Rate	IEEE 802.11a: up to 54Mbps IEEE 802.11n (20MHz): up to 150Mbps IEEE 802.11n (40MHz): up to 300Mbps IEEE 802.11ac (80MHz): up to 867Mbps	
Media Access Control	CSMA/CA	
Modulation	802.11 a/n/ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)	
Frequency Band	5150~5850MHz	
Operating Channels	5GHz channel: 36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,149, 153, 157, 161	
Max. Transmit Power (dBm)	Up to 25 dBm (country dependent)	

	Network Mode	Data Rate	Receive Sensitivity (dBm)
Receiver Sensitivity (dBm)	802.11a	6M	-87
		54M	-69
	802.11n HT20	MCS0	-87
		MCS7	-68
	802.11n HT40	MCS0	-85
		MCS7	-65
802.11AC	MCS0	-87	
	MCS9	-64	
Antenna	Dual-polarization dish antenna		
	Gain	25 dBi	
	Frequency range	5180 -5805 MHz	
	Polarization	±45°	
	Cross-pol Isolation	30 dBi	
	VSWR	< 1.8	
	Azimuth beam width (H pol)	6°	
	Azimuth beam width (V pol)	6°	
Elevation beam width	6°		
Environment & Certification			
Operating Temperature	-40 ~ 70 degrees C		
Operating Humidity	5 ~ 95% (non-condensing)		
IP Level	IP65		
ESD Protection	± 6KV		
Surge Protection	± 4kV		
Regulatory	CE, RoHS		
Software			
LAN	Static IP/DHCP		
	Supports Secondary IP		
Wireless Modes	<ul style="list-style-type: none"> ■ Access Point (auto WDS) ■ Access Point (TDMA3) ■ Station (WDS/TDMA3) ■ Station (ARNAT) 		
Channel Width	20MHz, 40MHz, 80MHz		
Encryption Type	WPA, WPA-PSK, WPA2, WPA2-PSK		
Wireless Security	Enable/Disable SSID Broadcast		
	Wireless Max. 32 MAC address filtering		
	User Isolation		
Max. SSIDs	1		
Max. Wireless Clients	128 (depending on usage)		
Wireless QoS	Supports Wi-Fi Multimedia (WMM), 4 queues prioritization on TDMA		
Wireless Advanced	Auto Channel Selection		
	Transmit Power: 3 - 30 dBm		
	Client Limit Control, Coverage Threshold		
	Wi-Fi channel analysis chart		
Status Monitoring	Fast Roaming(IEEE 802.11k, 802.11r, 802.11v)		
	Device status, wireless client List		
	DHCP client table		
VLAN	System Log supports remote syslog server		
	IEEE 802.1Q VLAN (VID: 2~4094)		
	Remote management through HTTPS		
	Configuration backup and restore		
	Supports Bonjour (mDNS), CDP/LLDP, SSDP		
Management	Supports GRE tunnel		
	SNMP v1/v2c/v3 support		

Ordering Information

WBS-900AC	5GHz 802.11ac 900Mbps TDMA Outdoor Long Range Wireless CPE (IP65, 802.3af/at PoE, including 25dBi antenna)
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Related Products

WBS-512AC	5GHz 802.11ac 900Mbps Outdoor Wireless CPE w/ MU-MIMO WAVE 2 (Built-in 14dBi Antenna)
WDAP-850AC	Dual Band 802.11ac 1200Mbps Wave 2 Outdoor Wireless AP (IP67, 802.3at PoE+, 4 x N-type Connector)
WDAP-3000AX	Dual Band 802.11ax 3000Mbps Outdoor Wireless AP (IP67, 802.3at PoE+, 4 x N-type Connector)

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WBS-900AC