

# 5GHz 300Mbps 802.11n Outdoor Wireless CPE



## Cost-effective Wireless Solution with Superior Performance

PLANET WBS-500N 300Mbps 802.11n Outdoor Wireless CPE offers a better range and excellent throughput than those of the traditional 802.11a wireless device. Via the embedded 10dBi dual-polarization (vertical and horizontal) directional antenna, the WBS-500N provides good diversity coverage and better noise immunity effect, thus expanding connectivity and increasing the performance drastically in point-to-point (PtP) or point-to-multipoint (PtMP) wireless backhaul communication.



## Sturdy Construction Provides Reliable Connectivity

The WBS-500N is specially designed for long-distance outdoor surveillance and wireless backhaul solutions that are capable of establishing stable bridge connection through the embedded 10dBi unidirectional antenna. Besides, subscribers are able to achieve various wireless connectivities (AP, Client, WDS, Repeater and WISP) by connecting with the WAP-500N, thus meeting comprehensive application requirements.

## Industrial Compliant Wireless LAN and LAN

- Compliant with the IEEE 802.11a/n wireless technology
- 2T2R architecture with data rate of up to 300Mbps
- Equipped with two 10/100Mbps RJ45 ports, auto MDI/MDI-X supported

## 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

## RF Interface Characteristics

- Built-in 10dBi dual-polarization antenna
- High output power up to 400mW with multiply-adjustable transmit power control

## Outdoor Environmental Characteristics

- IP55 rating
- Passive Power over Ethernet design
- Operating temperature: -20~70°C

## Multiple Operation Modes and Wireless Features

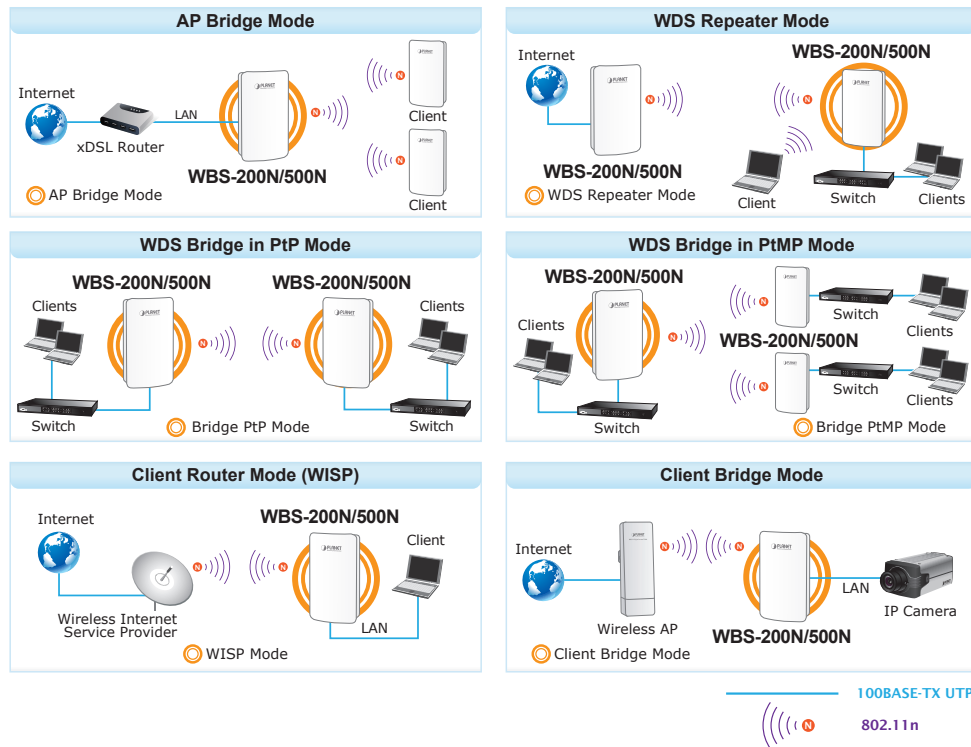
- Multiple operation modes: AP, Client Bridge, Client Router (WISP), WDS, Repeater
- WMM (Wi-Fi multimedia) provides higher priority to multimedia transmitting over wireless
- Wireless Traffic Shaping to control the upload/download bandwidth
- Wi-Fi scheduler allows to enable or disable based on predefined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

## 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 50 entries of MAC address filtering

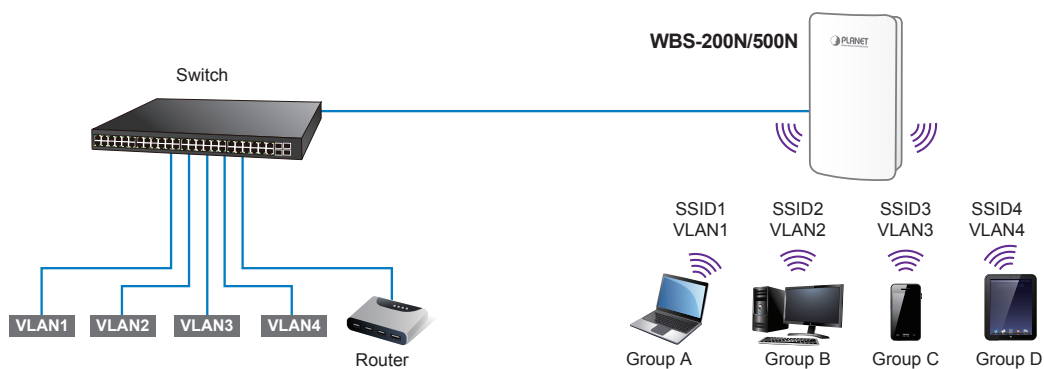
## Easy Installation and Management

- IPv4/IPv6 dual-stack management networks
- Multilingual Web User Interface: English, Spanish, French, German, Portuguese, Russian, Simplified Chinese
- CLI command and SNMP-based management interface
- Self-healing mechanism through system auto reboot setting
- System status monitoring through remote Syslog Server and Device Discovery
- Diagnostic tools include Ping, Traceroute, Speed
- Planet Smart Discovery Utility allows administrator to discover and locate each AP



**Multiple SSIDs with VLAN Tagging**

Multiple SSIDs can broadcast up to four 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. This makes it possible for the WBS-500N to work with Managed Ethernet switches to have VLAN assigned for a different access level and authority.



**Flexible and Reliable Outdoor Characteristics**

The WBS-500N is definitely suitable for wireless IP surveillance, and bridge link of building to building and backbone of public service. Additionally, the self-healing capability keeps connection alive all the time. With the IP55-rated outdoor UV-resistant enclosure, the WBS-500N can perform normally under rigorous weather conditions, meaning it can be installed in any harsh, outdoor environments. With the proprietary Power over Ethernet (PoE) design, the WBS-500N can be easily installed in the areas where power outlets are not available.

**Advanced Security and Rigorous Authentication**

The WBS-500N 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.

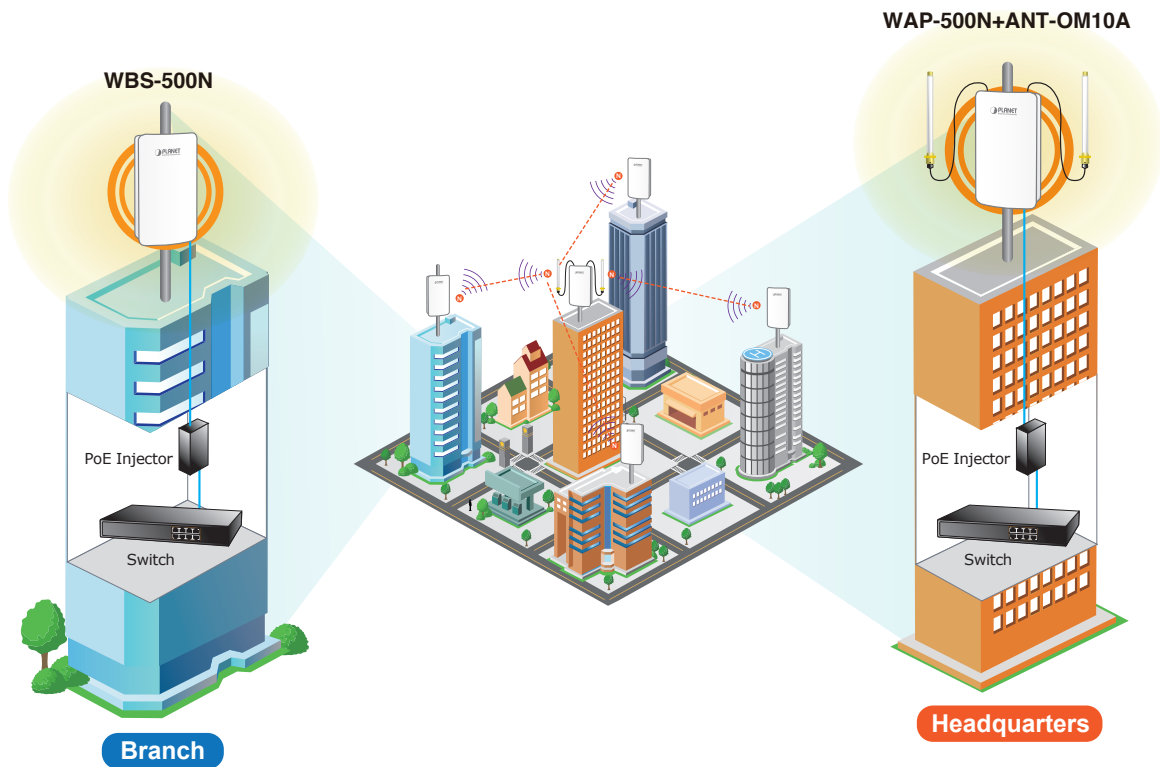
*Easy Deployment and Management*

With user-friendly Web UI and comprehensive management features including client limit control and wireless traffic shaping, the WBS-500N is easy to limit the client access and inbound/outbound bandwidth control, 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-500N is convenient to be managed remotely.

## Applications

*Cost-effective 5GHz Wireless Backhaul Solution*

PLANET WBS-500N is specially designed for long-distance outdoor surveillance and wireless backhaul solutions that are capable of providing farther connection through the built-in 10dBi dual-polarity antenna. With multiple operation modes and adjustable Tx power, it is easy to install and adjust the suitable setting in appropriate locations. In the aspect of management, the Traffic Shaping and IEEE 802.1Q VLAN supported allows it to limit and set priority for different traffic purposes. Furthermore, the self-healing capability keeps connection alive all the time, thus reducing the maintenance effort and deployment cost.



\*\*We recommend you to match the WBS-500N with our related products to get the best results.

## Specifications

Product	<b>WBS-500N</b>
	5GHz 300Mbps 802.11n Outdoor Wireless CPE
<b>Hardware</b>	
Standard Support	IEEE 802.11a/n IEEE 802.3 IEEE 802.3u IEEE 802.3x
Memory	64 Mbytes DDR SDRAM 16 Mbytes Flash
PoE	Passive PoE
Interface	Wireless IEEE 802.11a/n, 2T2R PoE LAN (LAN 1): 1 x 10/100BASE-TX, auto-MDI/MDIX, 24V passive PoE In LAN 2: 1 x 10/100BASE-TX, auto-MDI/MDIX
Button	Reset button
LED	PWR, LAN, WLAN, Signal Strength
Antenna	Built-in 10dBi directional antenna with dual polarization  [Port1] HPBW Horizontal: 43 degrees HPBW Vertical: 71 degrees  [Port2] HPBW Horizontal: 39 degrees HPBW Vertical: 61 degrees
Data Rate	IEEE 802.11a: 54Mbps IEEE 802.11n (20MHz): up to 150Mbps IEEE 802.11n (40MHz): up to 300Mbps
Media Access Control	CSMA/CA
Modulation	Transmission/Emission type: OFDM Data Modulation type: OFDM with BPSK, QPSK, 16-QAM, 64-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 : IEEE 802.11a/n: up to 26 ± 2dBm ETSI : IEEE 802.11a/n: < 20dBm (EIRP)
Receiver Sensitivity (dBm)	IEEE 802.11a: -95/ -92/ -89/ -85/ -81/ -79/ -76/ -75dBm (6/ 9/ 12/ 18/ 24/ 36/ 48/ 54Mbps)  IEEE 802.11n: MCS0/ MCS8 : -95dBm MCS1/ MCS9 : -93dBm MCS2/ MCS10 : -90dBm MCS3/ MCS11 : -87dBm MCS4/ MCS12 : -84dBm MCS5/ MCS13 : -79dBm MCS6/ MCS14 : -75dBm MCS7/ MCS15 : -73dBm
Power Consumption	Maximum 7.2W
Power Requirements	LAN1 • 24V DC, 0.6A/ Passive PoE • Pin 4,5 V DC+ • Pin 7,8 V DC-
<b>Environment and Certification</b>	
Operating Temperature	-20~70 degrees C
Operating Humidity	10~90% (non-condensing)
IP Level	IP55
Regulatory	CE, FCC, RoHS
<b>Software</b>	
LAN	• Static IP • Dynamic IP • DHCP server in WISP mode  Supports 802.1d STP (Spanning Tree Protocol)
WAN Connection Type (WISP Mode only)	• 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
Wireless Modes	VPN Pass-through:
	<ul style="list-style-type: none"> <li>• PPTP Pass-through</li> <li>• L2TP Pass-through</li> <li>• IPSec Pass-through</li> </ul>
Wireless Security	<ul style="list-style-type: none"> <li>• Access Point</li> <li>• Client Bridge</li> <li>• WDS (AP/Bridge/Station)</li> <li>• Client Router (WISP)/Client AP Router (WISP+AP)</li> <li>• Repeater</li> </ul>
	Channel Width
Encryption Type	64-/128-/152-bit WEP, WPA, WPA-PSK, WPA2, WPA2-PSK, 802.1X
Max. SSIDs	Enable/Disable SSID Broadcast
	Max. Wireless Clients
Max. WDS Peers	Wireless MAC address filtering up to 50 entries
	Max. Wireless Clients
Wireless QoS	VAP Separation, Station Separation
	Max. WDS Peers
Wireless Advanced Control	Supports Wi-Fi Multimedia (WMM)
	Supports Wireless Traffic Shaping per Radio
	Auto Channel Selection
	Auto Transmit Power by Regular Domains
Status Monitoring	Client Limit Control
	Distance Control (Auto Ack Timeout)
	Wi-Fi Schedule
	Connection Status
	Device Discovery, PLANET Smart Discovery
VLAN	Wireless Client List/WDS Link List
	DHCP Client Table
	System Log supports remote syslog server
Self Healing	Signal Strength LEDs in Client Bridge and WDS Station modes
NTP	VLAN pass-through over WDS
Management	SSID-to-VLAN mapping
	Management VLAN (VID: 1~4094)
Diagnostic Tools	Supports auto reboot settings
	Network Time Management
	Web-based UI, CLI (Command Line Interface) supported
	Configuration Backup and Restore
	SNMP v1/v2c/v3 support, MIB I/II, Private MIB
	Built-in Ping, Trace Route, Speed Test Tools

## Ordering Information

WBS-500N	5GHz 300Mbps 802.11n Outdoor Wireless CPE (Built-in 10dBi Antenna)
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## Related Products

WAP-500N	5GHz 300Mbps 802.11n Outdoor Wireless AP (2 x 5dBi detachable antenna)
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
POE-165S	IEEE 802.3af/at to Passive PoE Power Converter (12V/19V/24V)
ELA-100	Ethernet Lightning Arrest Box

## Accessories

CB-STP-25	25-meter STP Cat5 Cable
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