# 600Mbps 802.11n Dual Band Outdoor Wireless CPE

Powerful Dual-Band Outdoor WLAN Solution

PLANET WDAP-8350 comes with a high transmission power of **500mW** which can bridge two remote nodes in the **5GHz** frequency band and provides clients with **2.4GHz** wireless access over longer distance range. Its fully-protected hardware design makes it capable to ward off direct lightning strikes and unpredictable harsh weathers. Furthermore, the WDAP-8350 adopts the high-class Qualcomm Atheros SoC (System-on-a-Chip) and **Dual-OS Backup** mechanism that provide higher stability to meet the stringent requirements of outdoor solution.

More Flexible for Outdoor Environments

With its dual-RF design and by connecting optional specific types and higher gain antennas to its N-Type antenna connectors, the WDAP-8350 can adapt to various applications including connecting IP cameras at multiple locations to the security control center to deploy a surveillance system, or relaying the wireless signal from the urban to the suburban to provide wireless internet service to rural residents simultaneously. With the WDAP-8350, an outdoor wireless infrastructure can be speedily deployed, thus realizing the setting up of an outdoor, long-distance, dual-purpose unit.
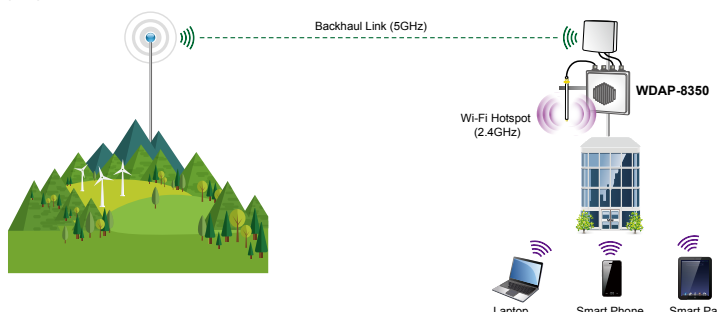
Industrial-grade Wireless LAN

- Compliant with IEEE 802.11n 2T2R MIMO with backward compatible with 802.11a/b/g standard
- Simultaneous 2.4GHz and 5GHz wireless connectivity
- Equipped with Gigabit LAN and 600Mbps wireless connectivity (Dual-N Band)
- IPv4 and IPv6 dual-stack management networks

Radio and Outdoor Characteristics

- Built-in 4 N-Type (Female) antenna connectors
- High output power of up to 500mW with multiple adjustable transmit power control
- Built-in surge arrester and ground terminal for protection against lightning strikes
- IP66 aluminum case and IEEE 802.3at PoE design
- Wide operating temperature of -40 ~ 70 degrees C
- Built-in Heater (will auto-launch at -30 degrees C) prevents freeze

Wireless Characteristics

- Dual-N band performs backhaul WDS link at 5GHz and relay wireless signal at 2.4GHz
- Multiple wireless modes: AP, WDS PtP and WDS PtMP
- Supports up to 16 multiple-SSIDs at each frequency band
- Multicast rate adaptation guarantees wireless bandwidth and service quality
- Automatic ACK timeout detection for long-range connection

Secure and Highly-reliable Network Management

- Advanced 128-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK(TKIP/AES) security, and 802.1x authentication
- Supports IEEE 802.1Q tagged VLAN over WDS or mapping up to 32 SSIDs
- Dual-image (dual-OS) backup mechanism
- Easy Web-based UI and PLANET Smart Discovery supported
- Telnet command line interface

All-Weather Rugged Protection

With the IP66-rated aluminum housing, Surge Arrester, Heater design and wide-ranging operating temperature from -40 to 70 degrees C, PLANET WDAP-8350 can perform normally under rigorous weather conditions, including thunderstorms, and hot and cold climates, thus maintaining the connection as stable as that in the general environments.

- Auto power saving mode reduces power consumption by 30%
- Easily locate online clients' information through the Wireless Location Management
- System status monitoring includes statistics and associated client list

Seamless Failover and Roaming

In the actual user experience, a redundant setup is important in that, the WDAP-8350 enables the auto failover mechanism to activate by using dual images (Dual-OS) while if the active OS fails, it can immediately switch to the standby OS. That can eliminate the difficulty of real-time support in long distance and make failover as simple as possible. Furthermore, it enhances handover of clients between APs by improving the handshaking process to promote better performance, thus reducing the handoff times between APs and associated clients, which means it can quickly handover to the nearby AP without any disconnection. Benefiting from the auto-backup and fast roaming, the WDAP-8350 is able to achieve a non-disruptive path failover and seamless roaming.

High-efficiency and Practical Solution to Separate Various Applications

PLANET WDAP-8350 supports multiple SSIDs (16 sets of SSIDs for each band) to allow each virtual wireless network to have a different set of security and also is capable to map each VAP to a specific virtual network through the use of VLAN tagging which enables isolation of guest and corporate networks. In addition, its dynamic rate adaptation mechanism for multicast guarantees the wireless bandwidth and service quality or the fixed rate of video streaming, which prevents from capacity wasting of multicast packets, thus utilizing the available bandwidth with more efficiency.
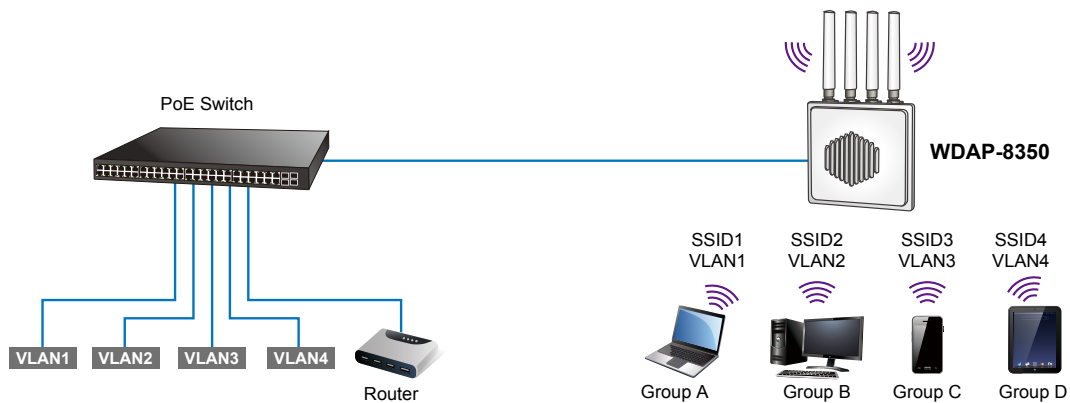
Advanced Value-added Characteristics

Featuring an **IPv4/IPv6** dual-stack network, the WDAP-8350 can work with the original IPv4 network structure and also support the cutting-edge IPv6 network, which provides migration from the IPv4 to IPv6 network with ease. With the dynamic power saving mode implementation, it is capable to detect the traffic loading, which consumes low standby power automatically, thus reducing power consumption by less than 30%.

### Easy Deployment and Management

Compliant with **IEEE 802.3at PoE+** (Power over Ethernet) standard, the WDAP-8350 can be powered by a single UTP cable besides providing data transmission. It thus reduces the needs of extra cables and dedicated electrical outlets which are difficult to reach in outdoor environment. It enables the wireless LAN deployment to become more flexible and worry-free from the power outlet locations. Moreover, with the Planet Smart Discovery Utility, the WDAP-8350 is convenient to be configured remotely and with the Wireless Location Management, it is easy to locate online clients' information.

Application

Perfect Dual-Band Infrastructure and Flexible Antenna Combination

With high-power, long-distance, reliable and comprehensive characteristics, the WDAP-8350's durable and robust hardware design, and dramatic wireless efficiency are perfect for any outdoor network infrastructure. By connecting optional specific types and higher gain antennas to functioning with its dual RF design, the WDAP-8350 can adapt to various applications. For example, it establishes the backhaul link through the 5GHz RF interface and relays the wireless signal through the 2.4GHz interface to provide internet service to rural residents simultaneously. With the WDAP-8350, an outdoor wireless infrastructure in a harsh environment can be speedily deployed to save cost and time.

Rural Wi-Fi Solution

AP (Multi-SSID) Mode

WDS Bridge-PtP Mode

Relay Mode

WDS Bridge-PtMP Mode
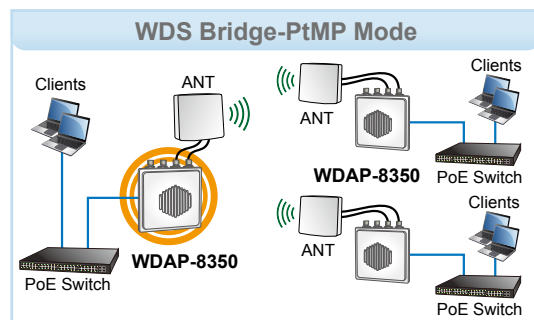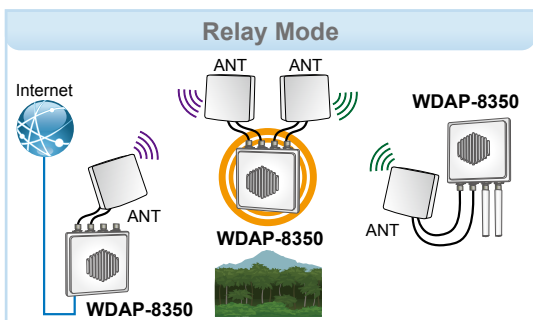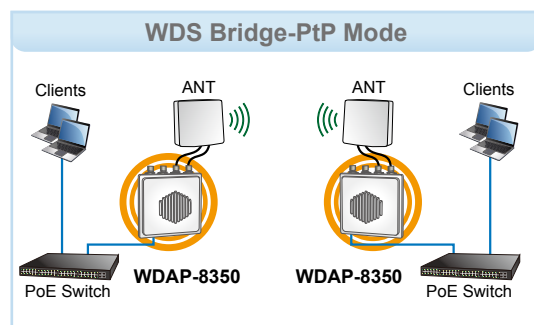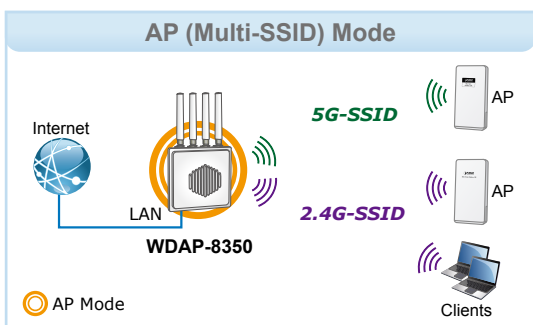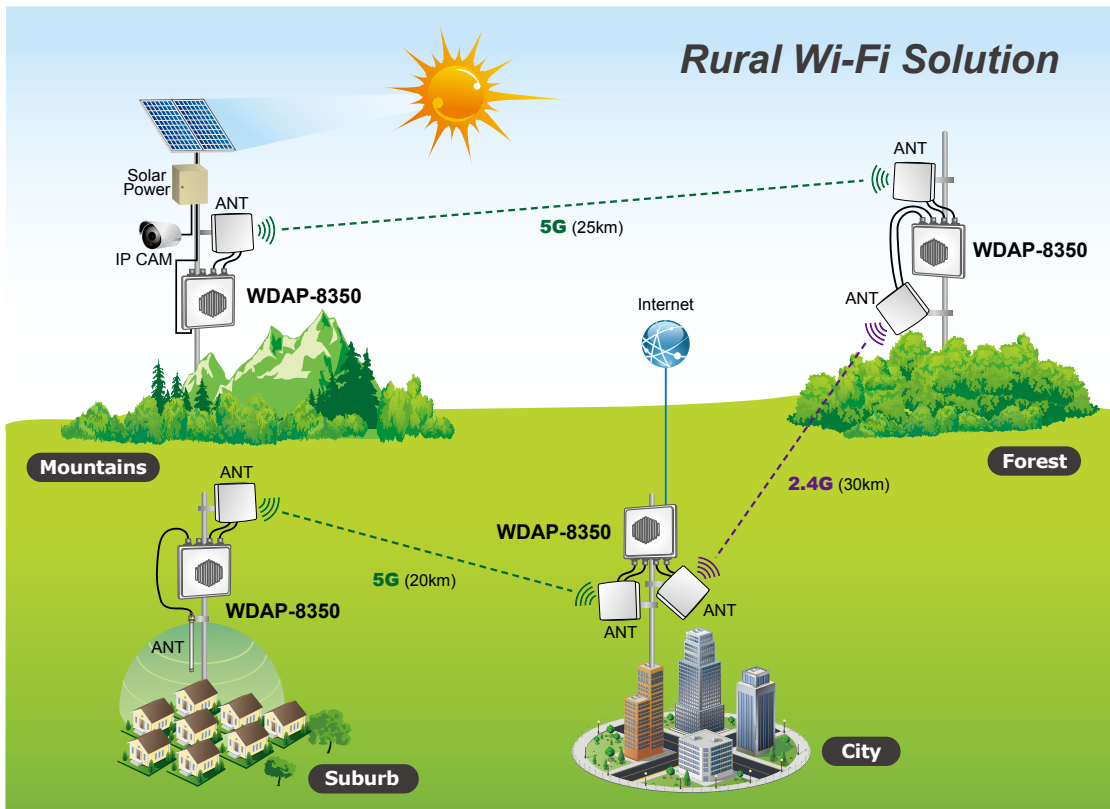
5GHz Link   2.4GHz Link

**To get the best results, matching the WDAP-8350 with our related products is recommended.

3

Specifications

Product	WDAP-8350
Hardware	
Interface	Wireless: IEEE 802.11n concurrent 2.4GHz and 5GHz, 2T2R MIMO LAN: 10/100/1000BASE-T, auto-MDI/MDIX, IEEE 802.3at PoE PD
Antenna	Built-in 4 N-Type (female) antenna connectors with surge arrester * The outdoor antennas need to be purchased separately
Button/Connector	Reset button, ground terminal, ground lug
LED	PWR, LAN, 2.4G, 5G
Material	Aluminum
Dimensions (W x D x H)	220 x 95 x 220mm
Weight	2.34kg
Power Requirement	IEEE 802.3at PoE+
Power Consumption (max.)	< 24W (high-loading and heater) < 7W (power saving mode)
Mounting Type	Mast, wall mount
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNTP
Wireless Interface Specifications	
Wireless Standard	IEEE 802.11a/n 5GHz IEEE 802.11b/g/n 2.4GHz
Antenna Structure	802.11n: 2T2R MIMO at each frequency band
Data Rate	IEEE 802.11b: 1, 2, 5.5, 11Mbps IEEE 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps IEEE 802.11n (20MHz): up to 150Mbps IEEE 802.11n (40MHz): up to 300Mbp at each frequency band
Media Access Control	CSMA/CA
Modulation Type	802.11a/g/n: OFDM (BPSK/QPSK/16QAM/64QAM) 802.11b: DSSS (DBPSK/DQPSK/CCK)
Band Mode	2.4G and 5G concurrent mode
Frequency Range	2.4GHz: 2.400 ~ 2.484GHz 5GHz: 5.150 ~ 5.850GHz
Operating Channel	**2.4GHz**: America -- FCC: 1~11 / Europe -- ETSI: 1~13 **5GHz**: **America -- FCC:** 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165 (total 24 channels) **Europe -- ETSI:** 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140 (total 16 channels) * 5GHz channel list may vary in different countries and may be restricted to abide by regional regulatory compliance.
Channel Width	20MHz/40MHz
Max. RF Power	27dBm for all rate levels and modulation modes
Output Power Control	1 ~ 100%
Software Features	
Wireless Mode	■ AP ■ WDS PTP ■ WDS PTMP
Wireless Encryption	■ WEP (64-/128-bit) encryption security ■ WPA/WPA2 (TKIP/AES) ■ WPA-PSK/WPA2-PSK (TKIP/AES) ■ 802.1x authentication
Wireless Advanced	Enable/Disable SSID broadcast Max. associated station number restriction Multiple SSIDs: up to 16 at 2.4GHz and 16 at 5GHz Supports multiple VLANs mapping to multiple SSIDs Supports fast roaming across APs Provides wireless statistics
Max. Wired Client	Unlimited
Max. Wireless Client	Theoretical value: 127 at each band Recommended value: 50 at each band
Max. WDS Peers	Up to 16 at 2.4GHz and 16 at 5GHz

QoS	Supports multicast rate adaptation mechanism to guarantee the wireless bandwidth and service quality
LAN	Static IP, DHCP
	IPv4 and IPv6 dual-stack management network
	Supports 802.1Q tagged VLAN
System Management	Web-based (HTTP) and Telnet command line interface
	Supports NTP synchronization
	Easy firmware upgrade via HTTP/TFTP
	Easy system backup/restore via HTTP/TFTP
	Easily locate online clients' information through the Wireless Location Management
	Supports Dual-OS auto-backup mechanism
	Supports Auto Power Saving Mode mechanism
	Supports PLANET Smart Discovery Utility

Standards Conformance

Standard Compliance	IEEE 802.11n (2T2R, dual-N band up to 600Mbps)
	IEEE 802.11a
	IEEE 802.11g
	IEEE 802.11b
	IEEE 802.11i
	IEEE 802.3 10BASE-T
	IEEE 802.3u 100BASE-TX
	IEEE 802.3ab 1000BASE-T
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNTP

Environment & Certification

Temperature	Operating: -40 ~ 70 degrees C
	Storage: -40 ~ 75 degrees C
Humidity	Operating: 10 ~ 95% (non-condensing)
	Storage: 5 ~ 95% (non-condensing)
IP Level	IP66
ESD Protection	±15kV air-gap discharge
	±8kV contact discharge
Surge Protection	±6kV line to ground
	±2kV line to line
MTBF	1553658 hrs at 25 degrees C
	335788 hrs at 60 degrees C
EMC Emissions Class	B
Regulatory Compliance	CE, FCC, RoHS

Ordering Information

WDAP-8350	600Mbps 802.11n Dual Band Outdoor Wireless CPE

Accessories

CB-STP-25	25-meter STP Cat5 Cable
WL-NM-0.6	0.6-meter N-male (male pin) to N-male (male pin) Cable
ANT-OM5D	2.4/5GHz Dual Band Omni-directional Antenna
ANT-OM8	2.4GHz 8dBi Omni Directional Antenna
ANT-OM15	2.4GHz 15dBi Omni Directional Antenna
ANT-FP9	2.4GHz 9dBi Flat Panel Directional Antenna
ANT-FP14D	2.4GHz 14dBi Flat Panel Dual Polarization Directional Antenna
ANT-FP18	2.4GHz 18dBi Flat Panel Directional Antenna
ANT-SE18	2.4GHz 12-18dBi Adjustable Sector Antenna
ANT-YG13	2.4GHz 13dBi Yagi Directional Antenna
ANT-YG20	2.4GHz 20dBi Yagi Directional Antenna
ANT-GR21	2.4GHz 21dBi Grid Directional Antenna
ANT-OM10A	5GHz 10dBi Omni-directional Antenna
ANT-FP14AD	5GHz 14dBi Flat Panel Dual Polarization Directional Antenna
ANT-FP18A	5GHz 18dBi Flat Panel Antenna
ANT-FP23A	5GHz 23dBi Flat Panel Directional Antenna
ANT-SE17A	5GHz 16.5dBi Sector Antenna
ANT-SE21A	5GHz 21dBi Sector Antenna

Related Products

WNAP-7350	5GHz 300Mbps 802.11a/n Outdoor Wireless Access Point (2 x N-type Connector)
WNAP-7335	5GHz 300Mbps 802.11a/n Outdoor Wireless AP/Router (2 x RP-SMA Connector)
WNAP-7325	5GHz 300Mbps 802.11a/n Outdoor Wireless CPE (Built-in 14dBi Antenna)
WNAP-7320	5GHz 300Mbps 802.11a/n Outdoor Wireless Access Point (Built-in 14dBi Antenna)
WNAP-6350	2.4GHz 300Mbps 802.11n Outdoor Wireless Access Point (2 x N-type Connector)
WNAP-6335	2.4GHz 300Mbps 802.11n Outdoor Wireless AP/Router (2 x RP-SMA Connector)
WNAP-6325	2.4GHz 300Mbps 802.11n Outdoor Wireless CPE (Built-in 12dBi Antenna)
WDAP-6315	2.4GHz 150Mbps 802.11n Outdoor Wireless AP/Router (Built-in 12dBi Antenna + RP-SMA Connector)
WNAP-6308	2.4GHz 150Mbps 802.11n Outdoor Wireless Access Point (1 x N-type Connector)
IGS-10020HPT	L2+ Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch with Wide Operating Temperature
IGS-504HPT	Industrial 5-Port Gigabit Switch w/ 4-Port 802.3at PoE+
IGS-624HPT	Industrial 4-Port 10/100/1000T 802.3at PoE+ w/ 2-Port 100/1000X SFP Ethernet Switch
IPOE-162	Industrial IEEE 802.3at Gigabit High Power over Ethernet Injector (Mid-span)
IPOE-E174	1-Port Ultra PoE to 4-Port 802.3af/at Gigabit PoE Extender
POE-171	Single-Port 10/100/1000Mbps Ultra PoE Injector (60W)
POE-173	60-watt Ultra Power over Ethernet Injector (10/100/1000Mbps, 4-pair)
POE-161	IEEE 802.3at Gigabit High Power over Ethernet Injector (Mid-span)
POE-163	IEEE 802.3at Gigabit High Power over Ethernet Injector (Mid-span)
WGS-804HP	8-Port 10/100/1000T Wall-mounted Gigabit Ethernet Switch with 4-Port PoE+
WGSW-24040HP/ WGSW-24040HP4	24-Port 10/100/1000Mbps 802.3at PoE+ Managed Switch with 4 Shared SFP Ports
WGSW-20160HP	16-Port 10/100/1000Mbps 802.3at PoE + 4-Port Gigabit TP/SFP Combo Managed Switch
WGSD-10020HP	L2+ 8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed 802.3at PoE Switch
GS-4210-8P2S	8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
GS-4210-24P4C / GS-4210-24PL4C	24-Port 10/100/1000T 802.3at PoE + 4-Port Gigabit TP/SFP Combo Managed Switch
GS-4210-24P2S	24-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
GS-4210-8P2T2S	8-Port 10/100/1000Mbps 802.3at PoE + 2-Port 10/100/1000Mbps + 2-Port 100/1000X SFP Managed Switch
GS-5220-8P2T2S	L2+ 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
SGS-5220-24P2X	L2+ 24-Port 10/100/1000T 802.3at PoE + 2-Port 10G SFP+ Stackable Managed Switch (440W)
SGS-6340-24P4S	Layer 3 24-Port 10/100/1000T 802.3at PoE + 4-Port 1000X SFP Stackable Managed Switch (370W)
XGSW-28040HP	L2+ 24-Port 10/100/1000Mbps 802.3at PoE + 4-Port 10G SFP+ Managed Switch with Hardware Layer3 IPv4/IPv6 Static Routing