600Mbps 802.11n Dual Band Outdoor Wireless CPE

Key Features
WDAP-8350

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 weather. 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.

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

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.

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.

**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.
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.

**Application**

**Rural Wi-Fi Solution**

**AP (Multi-SSID) Mode**

**WDS Bridge-PtP Mode**

**Relay Mode**

**WDS Bridge-PtMP Mode**

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

<table>
<thead>
<tr>
<th>Product</th>
<th>WDAP-8350</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hardware</strong></td>
<td></td>
</tr>
<tr>
<td>Interface</td>
<td>Wireless: IEEE 802.11n concurrent 2.4GHz and 5GHz, 2T2R MIMO</td>
</tr>
<tr>
<td></td>
<td>LAN: 10/100/1000BASE-T, auto-MDI/MDIX, IEEE 802.3at PoE PD</td>
</tr>
<tr>
<td>Antenna</td>
<td>Built-in 4 N-Type (female) antenna connectors with surge arrester</td>
</tr>
<tr>
<td></td>
<td>* The outdoor antennas need to be purchased separately</td>
</tr>
<tr>
<td>Button/Connector</td>
<td>Reset button, ground terminal, ground lug</td>
</tr>
<tr>
<td>LED</td>
<td>PWR, LAN, 2.4G, 5G</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>220 x 95 x 220mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.34kg</td>
</tr>
<tr>
<td>Power Requirement</td>
<td>IEEE 802.3at PoE*</td>
</tr>
<tr>
<td>Power Consumption (max.)</td>
<td>&lt; 24W (high-loading and heater)</td>
</tr>
<tr>
<td></td>
<td>&lt; 7W (power saving mode)</td>
</tr>
<tr>
<td>Mounting Type</td>
<td>Mast, wall mount</td>
</tr>
<tr>
<td>Other Protocols and Standards</td>
<td>CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNTP</td>
</tr>
</tbody>
</table>

## 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 300Mbps 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       | America -- FCC: 1~11 |
|                        | Europe -- ETSI: 1~13 |
| 2.4GHz                  | 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) |
| 5GHz                    | 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 PTPM |
| 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
IEEE 802.11n (2T2R, dual-N band up to 600Mbps)
IEEE 802.11a
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-TP9 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 802.11ah Outdoor Wireless Access Point (2 x N-type Connector)
- **WNAP-7335**: 5GHz 300Mbps 802.11ah Outdoor Wireless AP/Router (2 x RP-SMA Connector)
- **WNAP-7325**: 5GHz 300Mbps 802.11ah Outdoor Wireless CPE (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**: 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-4210-8PS**: 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
- **GS-4210-24P4C** / **GS-4210-42P8C**: 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 10/100/1000X SFP Managed Switch
- **GS-5220-8P2T2S**: L2+ 8-Port 10/100/1000T 802.3at PoE + 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**: Layer3 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