1200Mbps Dual Band 802.11ac Outdoor Wireless AP

Ultra-high-speed, Enterprise Outdoor Wireless Solution

To meet enterprise demand, Risk'Expert has launched a brand-new outdoor wireless AP that comes with the latest **IEEE 802.11ac 2T2R dual-band** technology. The Outdoor Wireless AP provides a maximum wireless speed of **867Mbps** at 5GHz and **400Mbps** with VHT40 at 2.4GHz, offering the best user experience from indoor to outdoor infrastructure. The Outdoor Wireless AP adopts the high-class Qualcomm Atheros SoC (System-on-a-Chip) with the **Quad-core** CPU processing capability to provide **dual radios** with maximum connectivity and optimal performance in wide range. By connecting high-gain antenna through the flexible **RP-SMA** connectors, the robust hardware design and comprehensive value-added features benefit the system integrator for stabilizing various outdoor long-distance applications.

Innovative 11ac Boosts Wi-Fi Signal and Performance Outdoors

The Outdoor Wireless AP , which is Risk'Expert's first outdoor dual-band AP adopting the **IEEE 802.11ac Wave 2 MU-MIMO** and transmit beamforming (**TxBF**) technology, provides an extremely high-speed transmission through intelligent beam forming directing wireless signal to serve multiple users simultaneously, thus improving performance and coverage by 50%.

Industrial Compliant Wireless LAN and LAN

- Compliant with the IEEE 802.11a/b/g/n/ac wireless technology
- 802.11ac 2T2R MU-MIMO architecture with data rate of up to 1267Mbps (400Mbps at 2.4GHz and 867Mbps at 5GHz)
- Equipped with two 10/100/1000Mbps RJ45 ports with link aggregation supported
- IPv4 and IPv6 dual-stack management networks

RF Interface Characteristics

- Four 5dBi detachable antennas with RP-SMA connectors
- High output power up to 400mW with multiply-adjustable transmit power control

Outdoor Environmental Characteristics

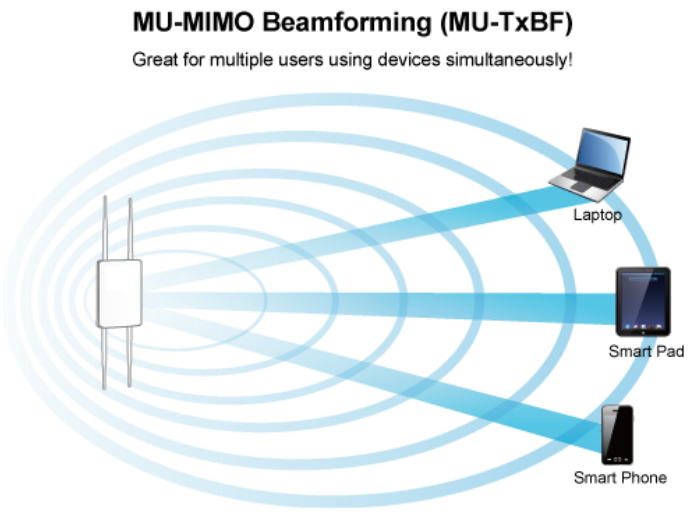
- IP55 rating protection, UV resistance and passive PoE design
- Rugged protection with aluminum extrusion case and ground terminal
- Operating temperature: -20~70°C

Multiple Operation Modes and Wireless Features

- Multiple operation modes: AP, Client Bridge, WDS
- WMM (Wi-Fi multimedia) provides higher priority to multimedia transmitting over wireless
- Wireless Traffic Shaping to control the upload/download bandwidth for each SSID/user
- RSSI Threshold to limit the weak signal of clients occupying session
- Wi-Fi scheduler allows wireless to enable/disable based on predefined schedule
- Supports band steering to balance the client load from 2.4GHz to 5GHz
- Supports fast roaming to provide seamless connectivity

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 mappin
- Supports up to 64 entries of MAC address filtering



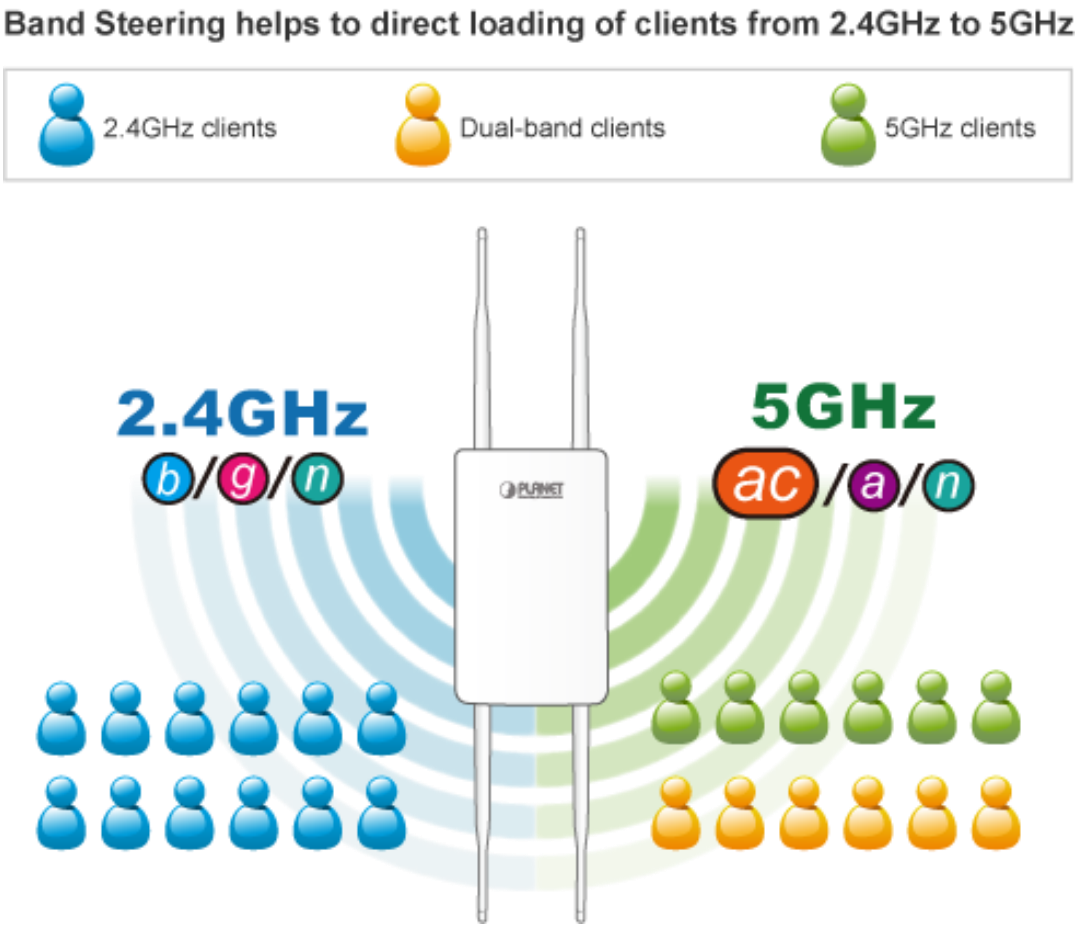
- Supports Guest Network to provide a separate network for visitors

Easy Deployment and Management

- Multilingual web user interface: English, Spanish, French, German, Portuguese, Russian and 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 include Ping, Traceroute, Speed test
- Smart Discovery Utility allows administrator to discover and locate each AP

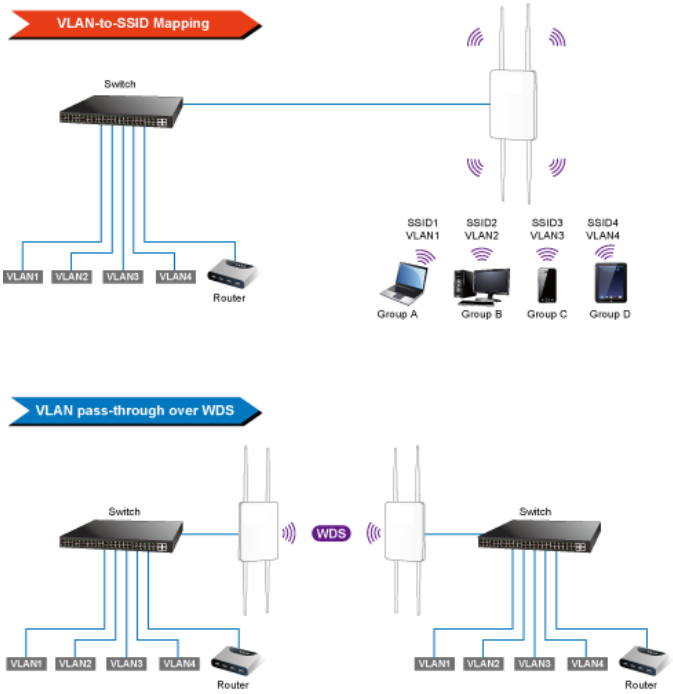
Optimized High-density Applications

For wireless deployment in high-density environments such as campuses, warehouses and shopping centers, the **Band Steering** feature makes the Outdoor Wireless AP capable of utilizing dual-band characteristics, thus forcing 5GHz-capable clients to associate with AP through 5GHz frequency. Moreover, the **RSSI Threshold** and **Traffic Shaping** per user allow the administrator to limit the client access and bandwidth, thus balancing traffic across two frequency bands.



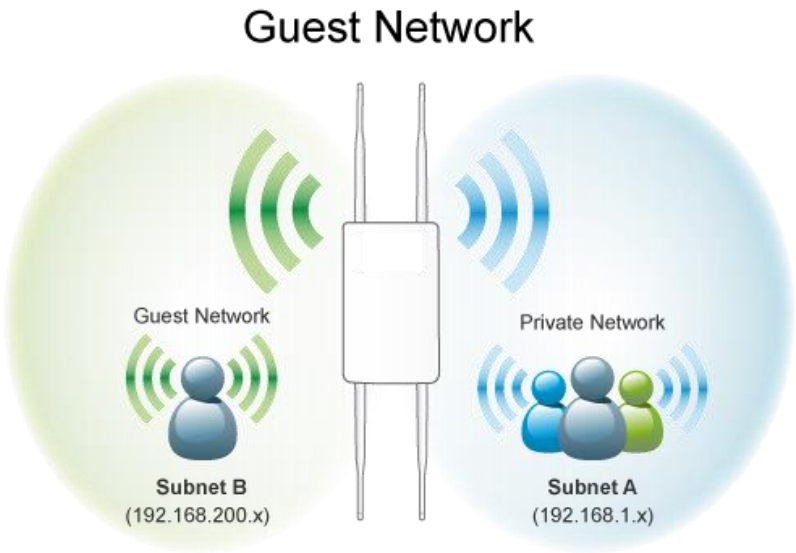
Multiple SSIDs with VLAN Tagging

For management purposes, the **IEEE 802.1Q VLAN** supported allows multiple VLAN tags to be mapped up to **16** SSIDs (2.4GHz+5GHz) to distinguish the wireless access or allows VLAN tags to pass-through over WDS link. This makes it possible for the Outdoor Wireless AP to work with managed Ethernet switches to have VLANs assigned for a different access level and authority.



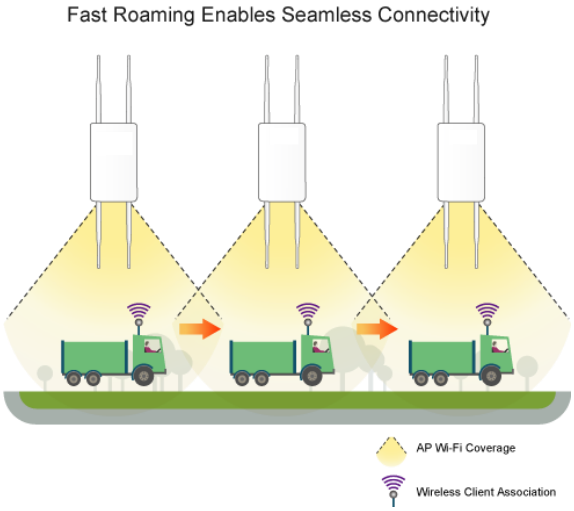
Completely Secure Wireless Network

The Outdoor Wireless AP 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.



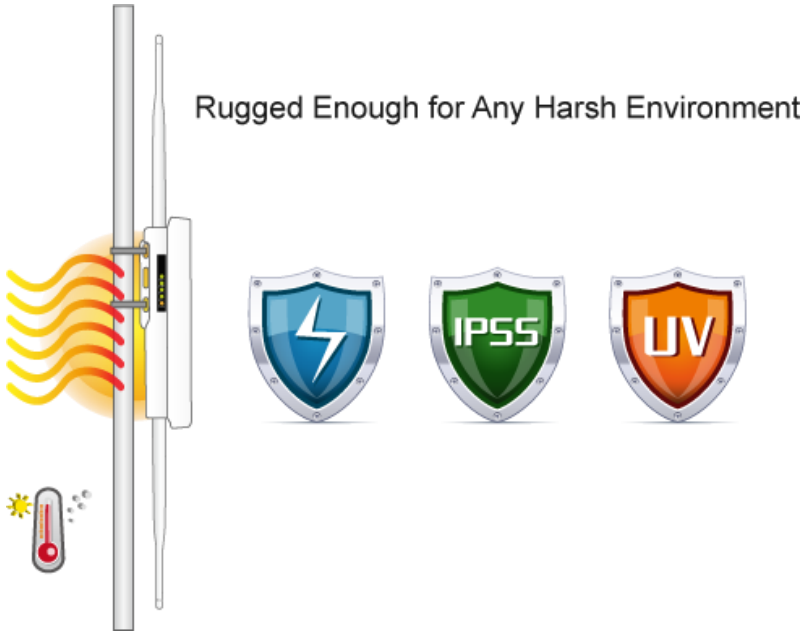
Fast Roaming Enables Seamless Convergence

As the seamless connectivity architecture is always the expectation of system integrators for outdoor infrastructure, the Outdoor Wireless AP, supporting **802.11k and 802.11r** standards, is certainly the best choice in allowing a client device to roam quickly in environments implementing WPA2 security. The fast roaming capability reduces roaming delay by pre-authenticating clients and allowing client to quickly determine which AP it should roam and facilitate clients' fast handoff across APs under the same ESS wireless network with WPA2 encryption for both data and voice transmission without interruption.



Durable Outdoor Characteristics

To reach maximum reliability in harsh environment, the Outdoor Wireless AP's rear panel comes with **aluminum extrusion** for heat dissipation. Moreover, its **UV-resistant** and **IP55**-rated enclosure provides full protection against the instability of long-distance connection. Additionally, the **self-healing** capability keeps connection alive all the time. With the **proprietary Power over Ethernet (PoE)** design, the Outdoor Wireless AP can be easily installed in the areas where power outlets are not available.



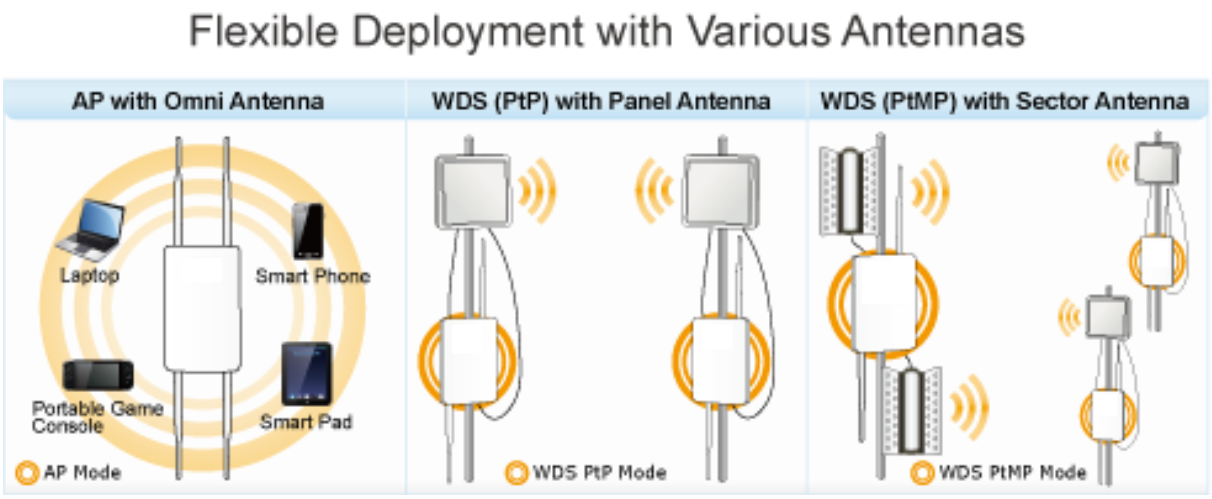
Easier Management and Better User Experience

Risk'Expert is dedicated to reducing the outdoor configuration difficulty and optimizing user experience. The multilingual Web UI, real-time traffic statistics, automatic transmission of power and distance control all make the Outdoor Wireless AP easier to deploy and manage, even for users who have no experience in setting up a wireless network. Furthermore, with the CLI, SSH, HTTPS, SNMP and diagnostics tools, the Outdoor Wireless AP is convenient to be managed remotely.

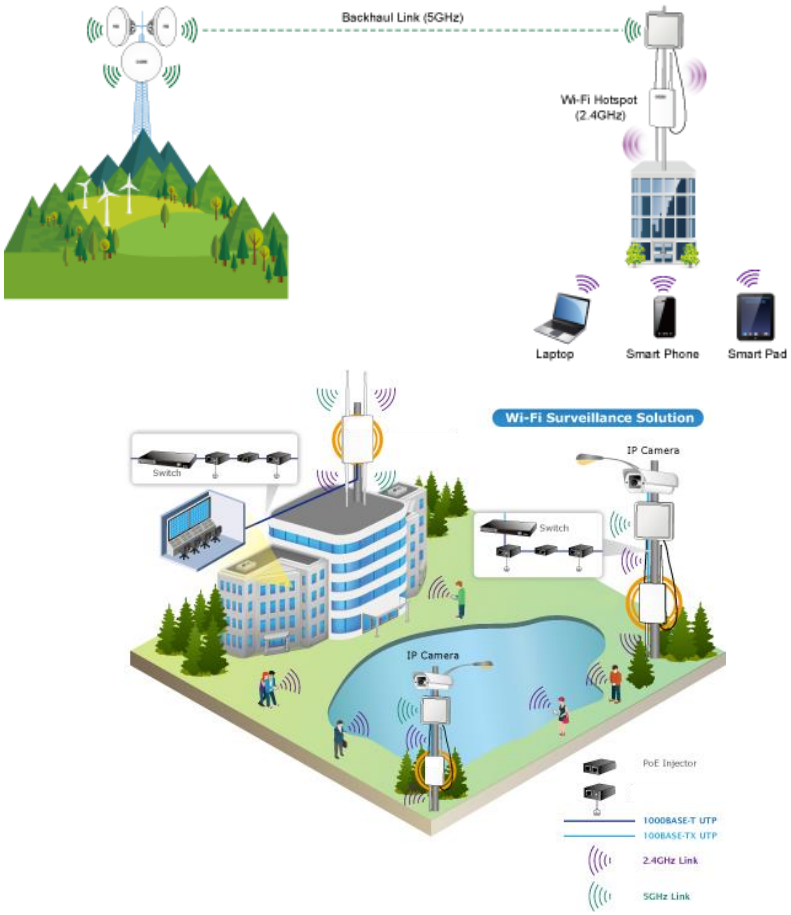
Applications

The Most Resilient Outdoor Dual-band Concurrent Solution with 11ac MU-MIMO

With the Outdoor Wireless AP, the extremely high-speed wireless connectivity can be easily expanded for various applications in different operation modes through the dual radios design with formal 11ac Wave 2 technology. With the included 5dBi omnidirectional antennas, the Outdoor Wireless AP can repeat the wireless signal from indoors to outdoors so that your guests have secure wireless access with separate network. Or, you can optionally connect to various high-gain antennas to rapidly relay the wireless signal from 5GHz backhaul to 2.4GHz, thus providing wireless access to the hard-to-reach areas including campuses, marinas, resorts, suburbs, farms and campsites.



**We recommend you to match the Outdoor Wireless AP with our related products to get the best results.



Specifications

<table>
<tr><th colspan="2">Hardware</th></tr>
<tr><td>Standard Support</td><td>IEEE 802.11ac, Wave 2
IEEE 802.11n
IEEE 802.11a
IEEE 802.11b
IEEE 802.11g
IEEE 802.11i
IEEE 802.3 10BASE-T
IEEE 802.3u 100BASE-TX
IEEE 802.3ab 1000BASE-T
IEEE 802.3x flow control</td></tr>
<tr><td>Memory</td><td>256Mbytes DDR SDRAM
32 Mbytes flash</td></tr>
<tr><td>PoE</td><td>Passive PoE</td></tr>
<tr><td>Interface</td><td>Wireless IEEE 802.11a/b/g/n/ac, 2T2R
PoE LAN (LAN 1): 1 x 10/100/1000BASE-TX, auto-MDI/MDIX, 24V passive PoE In
LAN 2: 1 x 10/100/1000BASE-TX, auto-MDI/MDIX</td></tr>
<tr><td>Button</td><td>Reset button</td></tr>
<tr><td>LED</td><td>PWR, LAN1, LAN2, 2.4GHz, 5GHz</td></tr>
<tr><td>Material</td><td>Front panel: Plastic
Rear panel: Aluminum</td></tr>
<tr><td>Dimension (WxDxH)</td><td>114.3 x 47.7 x 191mm (without antennas)
114.3 x 47.7 x 578mm (with antennas)</td></tr>
<tr><td>Weight</td><td>512g
576g (with antennas)</td></tr>
<tr><td>Antenna</td><td>Four 5dBi detachable omnidirectional antennas with RP-SMA connectors
- HPBW Horizontal: 360 degrees
- HPBW Vertical: 30 degrees</td></tr>
<tr><td>Data Rate</td><td>IEEE 802.11b: up to 11Mbps
IEEE 802.11a/g: up to 54Mbps
IEEE 802.11n (20MHz): up to 150Mbps
IEEE 802.11n (40MHz): up to 400Mbps (2.4GHz/5GHz, VHT40 with 256QAM)
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</td></tr>
<tr><td>Media Access Control</td><td>CSMA/CA</td></tr>
<tr><td>Modulation</td><td>Transmission/Emission type: OFDM
Data Modulation type: OFDM with BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</td></tr>
<tr><td>Frequency Band</td><td>FCC: 5.180~5.240GHz, 5.745~5.825GHz
ETSI: 5.180~5.680GHz</td></tr>
<tr><td>Operating Channels</td><td>FCC: 36, 40, 44, 48, 149, 153, 157, 161, 165 (9 Channels)
ETSI: 36, 40, 44, 48, 100, 104, 108, 112, 132, 136 (10 Channels)
5GHz channel list will vary in different countries according to their regulations.</td></tr>
<tr><td>Max. Transmit Power (dBm)</td><td>FCC : IEEE 802.11a/n: up to 26 ± 2dBm
ETSI : IEEE 802.11a/n: < 20dBm (EIRP)</td></tr>
<tr><td>Receiver Sensitivity (dBm)</td><td>
<table>
<tr><th>Network Mode</th><th>Data Rate</th><th>Receive Sensitivity (dBm)</th></tr>
<tr><td rowspan="4">802.11b (2.4GHz)</td><td>1Mbps</td><td>-96</td></tr>
<tr><td>2Mbps</td><td>-92</td></tr>
<tr><td>5.5Mbps</td><td>-91</td></tr>
<tr><td>11Mbps</td><td>-88</td></tr>
<tr><td rowspan="2">802.11g (2.4GHz)</td><td>6Mbps</td><td>-91</td></tr>
<tr><td>54Mbps</td><td>-74</td></tr>
<tr><td rowspan="2">802.11a (5GHz)</td><td>6Mbps</td><td>-91</td></tr>
<tr><td>54Mbps</td><td>-74</td></tr>
<tr><td rowspan="2">802.11n HT20/HT40 (2.4GHz)</td><td>MCS0/MCS8</td><td>-90/-88</td></tr>
<tr><td>MCS7/MCS15</td><td>-72/-70</td></tr>
<tr><td rowspan="2">802.11n HT20/HT40 (5GHz)</td><td>MCS0/MCS8</td><td>-91/-87</td></tr>
<tr><td>MCS7/MCS15</td><td>-71/-70</td></tr>
<tr><td rowspan="2">802.11ac VHT20 (5GHz)</td><td>MCS0</td><td>-90</td></tr>
<tr><td>MCS8</td><td>-68</td></tr>
<tr><td rowspan="2">802.11ac VHT40 (5GHz)</td><td>MCS0</td><td>-87</td></tr>
<tr><td>MCS9</td><td>-64</td></tr>
<tr><td rowspan="2">802.11ac VHT80 (5GHz)</td><td>MCS0</td><td>-84</td></tr>
<tr><td>MCS9</td><td>-60</td></tr>
</table>
</td></tr>
<tr><td>Power Consumption</td><td>Maximum 15W</td></tr>
<tr><td>Power Requirements</td><td>LAN1
■ 24V DC, 1A/ Passive PoE
■ Pin 4,5 V DC+
■ Pin 7,8 V DC-</td></tr>
</table>

Environment & Certification	
Operating Temperature	-20~70 degrees C
Operating Humidity	10~90% (non-condensing)
IP Level	IP55
ESD Protection	8KV air-gap discharge 4KV contact discharge
Surge Protection	2KV line to line
Regulatory	CE, RoHS
Software	
LAN v	■ Static IP ■ Dynamic IP ■ DHCP server in WISP mode Supports 802.1d STP (Spanning Tree Protocol)
Wireless Modes	■ Access Point ■ Client Bridge ■ WDS (AP/Bridge/Station)
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 64 entries per SSID VAP separation, station separation Guest network feature allow visitors to access the Internet from an isolated network segment to secure private network
Max. SSIDs	Up to 8
Max. Wireless Clients	127 per radio (50 suggested, depending on usage)
Max. WDS Peers	Up to 8
Wireless QoS	Supports Wi-Fi Multimedia (WMM) Supports Wireless Traffic Shaping per SSID/User Supports Multicast
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 802.11k/r Fast Roaming (available on WPA/WPA2 encrypted network)
Status Monitoring	Connection status Device Discovery, Smart Discovery Wireless Client List/WDS Link List DHCP client table System Log supports remote syslog server
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 SNMP v1/v2c/v3 support, MIB I/II, Private MIB
Diagnostic Tools	Built-in ping, trace route, speed test tools