1200Mbps Dual Band 802.11ac Outdoor Wireless AP

Ultra-high-speed, Enterprise Outdoor Wireless Solution

To meet enterprise demand, PLANET has launched a brand-new outdoor wireless AP named the WDAP-702AC that comes with the latest **IEEE 802.11ac 2T2R dual-band** technology. The WDAP-702AC 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 WDAP-702AC 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 WDAP-702AC, which is PLANET'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, 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 mapping
- Supports up to 64 entries of MAC address filtering

MU-MIMO Beamforming (MU-TxBF)

Great for multiple users using devices simultaneously!

Laptop

Smart Pad

Smart Phone
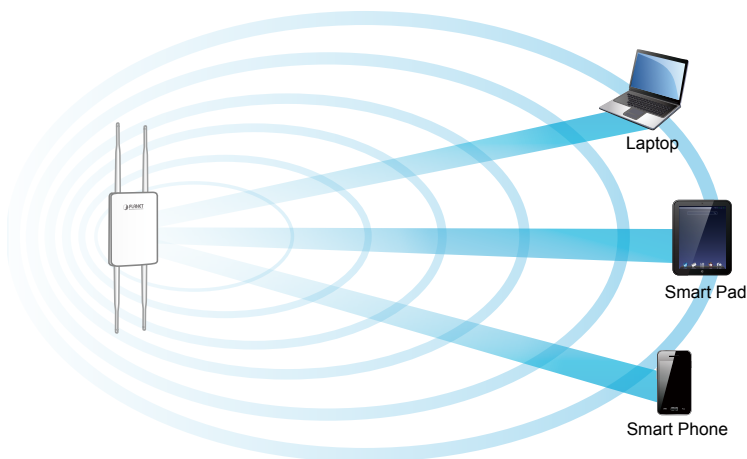
- Supports Guest Network to provide a separate network for visitors

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
- Planet 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 WDAP-702AC 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.

Band Steering helps to direct loading of clients from 2.4GHz to 5GHz

2.4GHz clients   Dual-band clients   5GHz clients
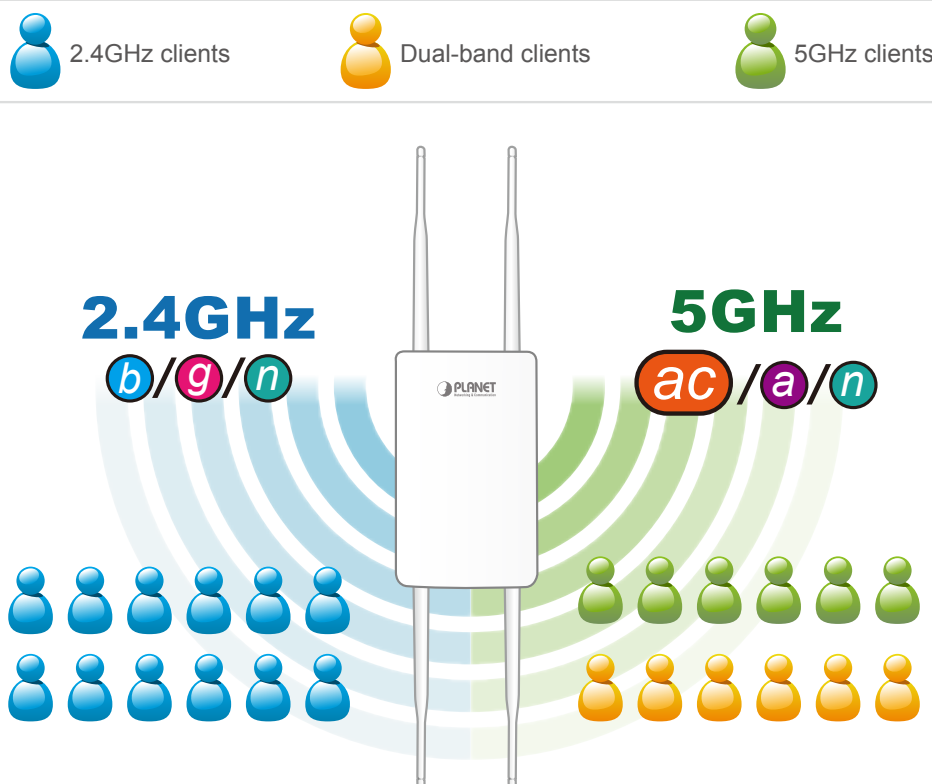
2.4GHz
b / g / n

5GHz
ac / a / n

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 WDAP-702AC to work with managed Ethernet switches to have VLANs assigned for a different access level and authority.
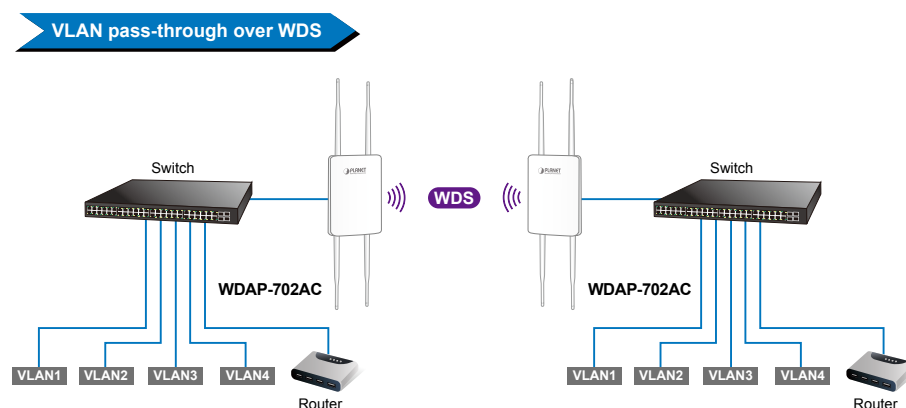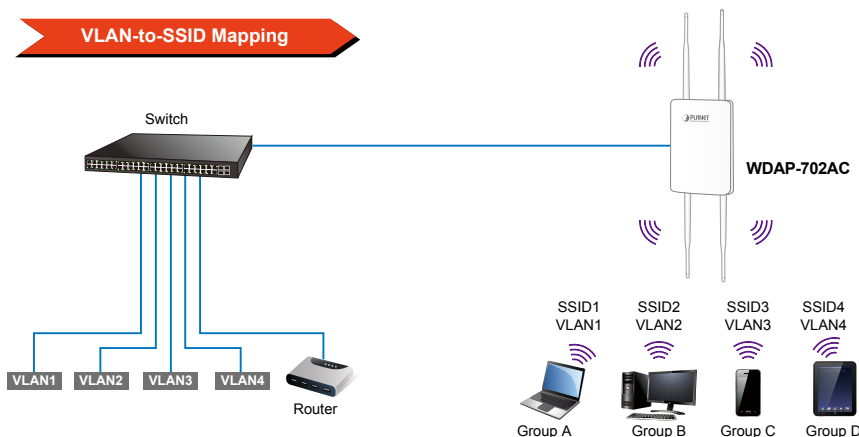
Completely Secure Wireless Network

The WDAP-702AC 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.

Guest Network
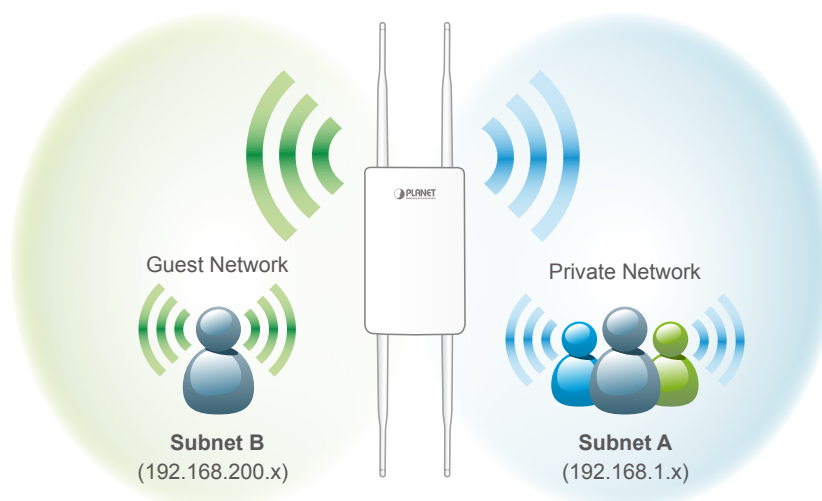
Fast Roaming Enables Seamless Convergence

As the seamless connectivity architecture is always the expectation of system integrators for outdoor infrastructure, the WDAP-702AC, 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.

Fast Roaming Enables Seamless Connectivity

AP Wi-Fi Coverage

Wireless Client Association
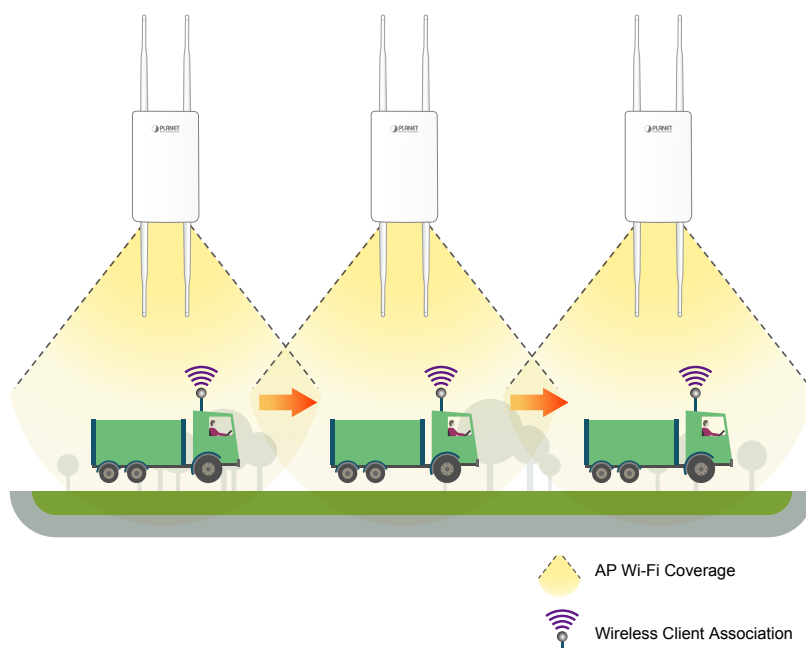
Durable Outdoor Characteristics

To reach maximum reliability in harsh environment, the WDAP-702AC'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 WDAP-702AC can be easily installed in the areas where power outlets are not available.

Rugged Enough for Any Harsh Environment

## Easier Management and Better User Experience

PLANET 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 WDAP-702AC 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 WDAP-702AC is convenient to be managed remotely.
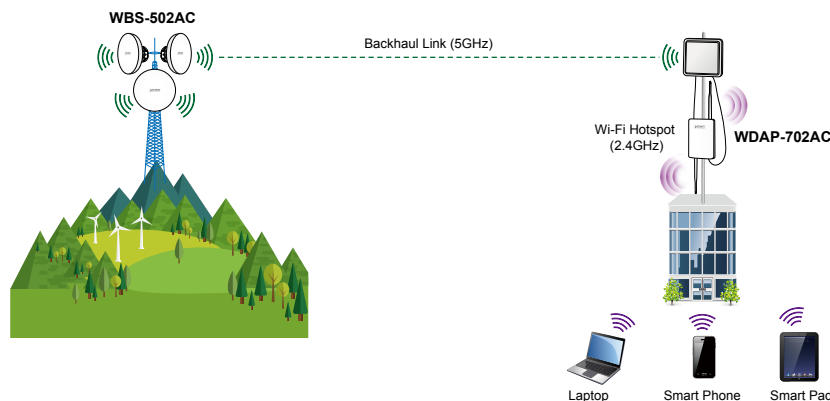
Applications

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

With the WDAP-702AC, 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 WDAP-702AC 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.

Flexible Deployment with Various Antennas
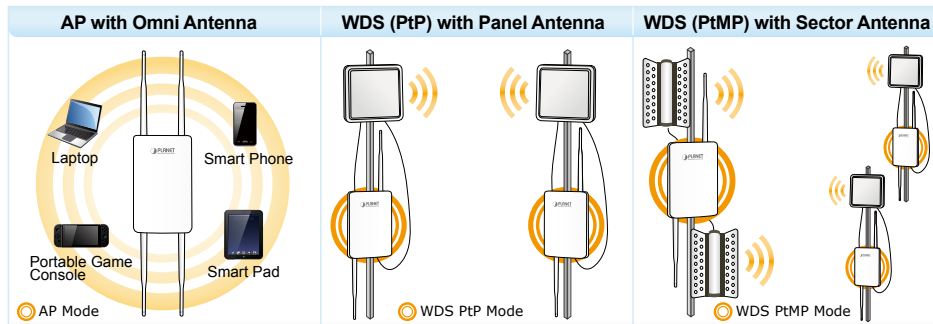
**We recommend you to match the WDAP-702AC with our related products to get the best results.

5

Specifications

Product	WDAP-702AC
Hardware	
Standard Support	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
Memory	256Mbytes DDR SDRAM 32Mbytes flash
PoE	Passive PoE
Interface	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
Button	Reset button
LED	PWR, LAN1, LAN2, 2.4GHz, 5GHz
Antenna	Four 5dBi detachable omnidirectional antennas with RP-SMA connectors - HPBW Horizontal: 360 degrees - HPBW Vertical: 30 degrees
Data Rate	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
Media Access Control	CSMA/CA
Modulation	Transmission/Emission type: OFDM Data Modulation type: OFDM with BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Frequency Band	FCC: 5.180~5.240GHz, 5.745~5.825GHz ETSI: 5.180~5.680GHz
Operating Channels	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.
Max. Transmit Power (dBm)	FCC : IEEE 802.11a/n: up to 26 ± 2dBm ETSI : IEEE 802.11a/n: < 20dBm (EIRP)

Receiver Sensitivity (dBm)	Network Mode	Data Rate	Receive Sensitivity (dBm)
	802.11b (2.4GHz)	1Mbps	-96
		2Mbps	-92
		5.5Mbps	-91
		11Mbps	-88
	802.11g (2.4GHz)	6Mbps	-91
		54Mbps	-74
	802.11a (5GHz)	6Mbps	-91
		54Mbps	-74
	802.11n HT20/HT40 (2.4GHz)	MCS0/MCS8	-90/-88
		MCS7/MCS15	-72/-70
	802.11n HT20/HT40 (5GHz)	MCS0/MCS8	-91/-87
		MCS7/MCS15	-71/-70
	802.11ac VHT20 (5GHz)	MCS0	-90
		MCS8	-68
	802.11ac VHT40 (5GHz)	MCS0	-87
		MCS9	-64
	802.11ac VHT80 (5GHz)	MCS0	-84
		MCS9	-60

Power Consumption	Maximum 15W
Power Requirements	24V DC IN, 1A, Passive PoE ■ Pin 4, 5 V DC+ ■ Pin 7, 8 V DC-

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	■ 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 allows 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, PLANET Smart Discovery
	Wireless Client List/WDS Link List
	DHCP client table
	System Log supports remote syslog server
	Signal Strength LEDs in Client Bridge and WDS Station modes
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

Ordering Information

WDAP-702AC	1200Mbps Dual Band 802.11ac Outdoor Wireless AP

Related Products

WAP-200N	2.4GHz 300Mbps 802.11n Outdoor Wireless AP
WBS-200N	2.4GHz 300Mbps 802.11n Outdoor Wireless CPE
WAP-500N	5GHz 300Mbps 802.11n Outdoor Wireless AP
WBS-500N	5GHz 300Mbps 802.11n Outdoor Wireless CPE
WBS-502AC	5GHz 900Mbps 802.11ac Outdoor Wireless CPE
WNAP-6335	2.4GHz 300Mbps 802.11n Outdoor Wireless AP/Router (2 x RP-SMA Connector)
WNAP-6350	2.4GHz 300Mbps 802.11n Outdoor Wireless Access Point (2 x N-type Connector)
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
ELA-100	Ethernet Lightning Arrest Box

Accessories

CB-STP-25	25-meter STP Cat5 Cable
WL-SMA-0.6	0.6M RP-SMA(M) to N(M) Cable
WL-SMA-6	6M RP-SMA(M) to N(M) Cable
ANT-OM8	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-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
WL-LTNA	2.4/5GHz Lightning Arrester (N-male to N-female)

WDAP-702AC