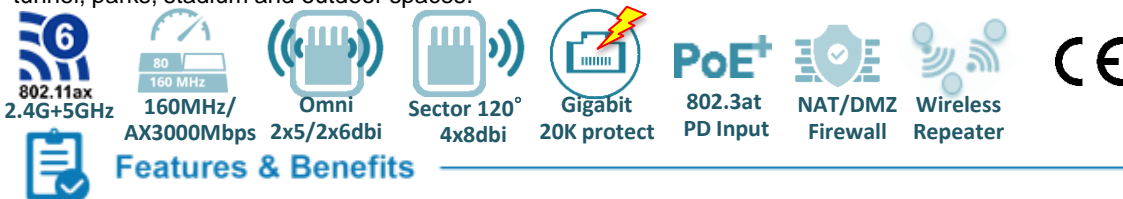**WoMaster**

Waterproof Wi-Fi 6 11ax 3000Mbps Wireless AP

WAC835G-OMN / WAC835G-DSA

Waterproof WiFi 6 11ax 3000M Wireless AP with built-in Omni-/Directional Sector Antenna

The WAC835G series is a high-performance, dual-band Wi-Fi 6 (802.11ax) Access Point that offers seamless wireless connectivity on 2.4GHz (up to 574 Mbps) and 5GHz (up to 2402 Mbps), with a total concurrent throughput of up to 3000 Mbps. The WAC835G-OMN features built-in omni-directional antennas for 100m wide coverage, while the WAC835G-DSA has 120° directional sector antennas for 200m extended long-wide outdoor coverage. The WAC835-OMN/DSA supports wall/pole mounting, no additional external antenna ensuring a clean and easy installation, also supporting 802.3af PoE input. They offer Wireless AP and Repeater mode, 802.11k/v, wireless isolation, multiple SSID, time watchdog for automatic recovery, a user-friendly Web GUI setup wizard, and optional centralized management by AC Controller. In gateway mode, they provide NAT, DMZ and IP/MAC/URL filtering. Ideal for light industrial environments such as warehouses, factories, tunnel, parks, stadium and outdoor spaces.

| 802.11ax 2.4G+5GHz | 160MHz/ AX3000Mbps | Omni 2x5/2x6dbi | Sector 120° 4x8dbi | Gigabit 20K protect | 802.3at PD Input | NAT/DMZ Firewall | Wireless Repeater |

Features & Benefits

CE

Dual Bands Wi-Fi 6 Wireless LAN
- Equipped with a powerful Dual-Core 1.3GHz Processor for efficient wireless network.
- Dual Band Concurrent Performance: Up to 3000 Mbps bandwidth across 2.4G and 5GHz radios, providing 2400Mbps/160MHz for 5GHz and 574Mbps for 2.4GHz.
- Powerful Wi-Fi 6 with OFDMA, BSS Coloring, Downlink/Uplink Multiple Input Multiple Output (MU-MIMO) and TWT, provides high speed, high capacity, less interference, optimizing network efficiency and performance.
- Wi-Fi 6(802.11ax) WLAN backward compatible Wi-Fi 5/4 (11ac/n)
- Dual Gigabit Ethernet ports in Gateway/Router mode for WLAN/LAN to Eth-WAN routing

Wireless AP Features Summary
- Multiple SSID Support: Up to 4 SSIDs for both 2.4GHz and 5.8GHz bands.
- SSID Hiding: Hide SSIDs for added security.
- VLAN Setting for Virtual AP SSID.
- Wireless Repeater Mode extends Wi-Fi coverage without needing cables, allowing client devices to roam quickly across repeater APs.
- Wireless Client Isolation to improve wireless stability by isolating clients
- 5G Prioritization: Enhances Ethernet performance on the 5GHz band.
- Wireless Security: Supports Open, WPA, WPA2 PSK (TKIP/AES), WPA2 EAP, and WPA3 encryption for user data security
- Wi-Fi Time Scheduling to save energy.
- Adjustable RF Power based on the environment.
- User Limitation: Maximum of 64 users per band.

Management Features
- Working Modes: Supports Gateway and AP modes.
- DHCP Server service in Gateway mode
- NAT Routing, DMZ and MAC/IP/URL Filtering in gateway mode
- DHCP or PPPoE client for internet WAN access
- Configuration Backup and Restore: Options to back up and restore settings.
- Factory Reset: Ability to reset to factory defaults through web
- Periodic Device Reboot by Day/Hours
- Admin Management: Modify admin password, perform firmware upgrades, configuration backup/restore and access system logs.
- Management Interfaces: Supports GUI web management, AC controller management*.

Waterproof, Built-in Antenna for light Industrial Applications
- **WAC835-OMN** built-in 2x5dbi 2.4G+2x6dbi 5GHz omni-antenna for wide-range installation.
- **WAC835-DSA** built-in 4x8dbi 120° Directional Sector Antenna for extended long-wide coverage
- Improved Coverage: 120° coverage effectively serves larger urban and open spaces, supports more simultaneous connections in busy areas.
- 20K Anti-Surge protection for Ethernet connectivity
- Easy installation & Simplified Maintenance: The built-in antenna design simplifies installation and reduces maintenance costs
- Waterproof and -20°C to 55°C opeating temperature, providing durable and cost-effective soltion for light industrial and outdoor environments
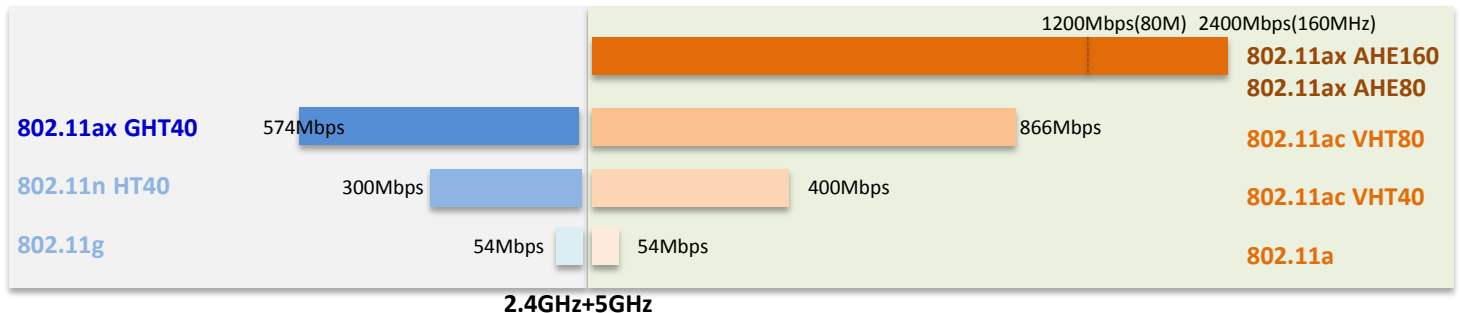
Features & Benefits

✓ **Dual Band Dual Concurrent 3000Mbps:**
- IEEE 802.11ax, compatible with 802.11ac/n/g/b/a
- Dual Band Dual Concurrent (DBDC) 2.4G+5GHz radio, up to 574Mbps + 2400Mbps @160MHz Bandwidth
- Failsafe in either 2.4GHz or 5GHz Radio failed

Max. PHY Rate:
- 802.11ax 5GHz is **2.77** times than 802.11ac, 2.4GHz is **1.91** times than 802.11n.
- 802.11ax 5GHz+2.4GHz DBDC is **2.5** times than 5GHz 802.11ac + 2.4GHz 802.11n DBDC.

|		1200Mbps(80M) 2400Mbps(160MHz)	
			802.11ax AHE160
			802.11ax AHE80
802.11ax GHT40	574Mbps	866Mbps	802.11ac VHT80
802.11n HT40	300Mbps	400Mbps	802.11ac VHT40
802.11g	54Mbps	54Mbps	802.11a

2.4GHz+5GHz

✓ **OFDMA**

OFDMA is applied in Wi-Fi 6 (IEEE 802.11ax). It is a user access technology that allows spectrum to be simultaneously allocated to multiple users or devices, enabling the transmission of multiple data streams on the same frequency band, thereby enhancing network efficiency.

It can also be adjusted according to demand or priority, achieving more flexible network resource management. By dividing the spectrum into small subcarriers, OFDMA can also reduce interference between adjacent users, making the signal more reliable and stable. This is one of the latest key technologies in Wi-Fi 6.


OFDM
User 1 (Line)
User 2 (IG、FB)
User 3 (YouTube)
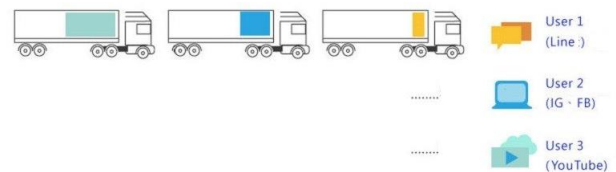
OFDMA
User 1
User 2
User 3
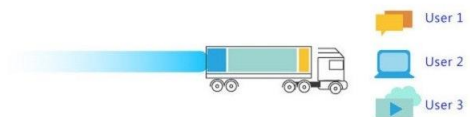
(Source: Qualcomm, will update soon)

✓ **BSS Coloring**

BSS Coloring is a feature introduced in the 802.11ax Wi-Fi standard, which helps reduce interference from neighboring Access Points (APs) and improves coexistence between multiple APs.

The basic idea behind BSS Coloring is that each BSS or AP is assigned a unique color, which is added to the preamble of each transmitted data packet. When a client device receives a packet, it can check the color of the received preamble and use this information to differentiate signals from different APs.

BSS Coloring helps prevent unnecessary retransmissions and conflicts caused by neighboring networks, thereby improving overall network efficiency and potentially extending the available range of IoT devices.

Own Network (BSS1)
Interfering Network (BSS2)
STA2
STA3
Wi-Fi 6 (11ax) BSS Coloring
STA1
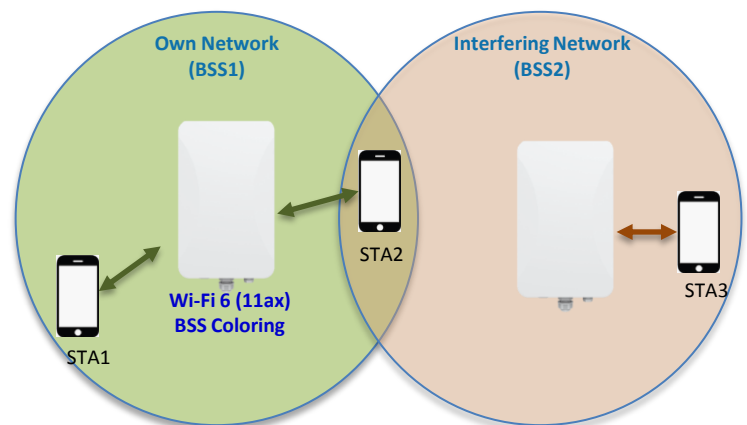
Each AP is assigned a unique color.
STA2 can check the color to reduce interfering…

✓ **Downlink & Uplink MU-MIMO**

In Wi-Fi 6, MU-MIMO technology has been further developed to communicate simultaneously with multiple devices in both the Downlink and Uplink directions.

This means that whether sending data from the access point to devices or from devices to the access point, multiple device data streams can be processed simultaneously. This enables faster and more reliable wireless connections, while also improving network throughput and efficiency..

✓ **WPA3 Data Encryption**
- WPA3 (Wi-Fi Protected Access 3) is a latest standard used to protect Wi-Fi network security, and it's also implemented in Wi-Fi 6 networks.
- WPA3 adopts advanced encryption algorithms such as Simultaneous Authentication of Equals (SAE) to replace the Pre-Shared Key (PSK) mode used in WPA2, thus resisting password cracking and dictionary attacks.
- WPA3 also includes some improved security configurations and protocols to enhance network security and protection levels, providing a more secure Wi-Fi network protection.

✓ Features & Benefits

✓ Built-in 2.4G+5GHz dual band omni-antenna or 120 directional secor antenna

- **WAC835-OMN** built-in 2x5dbi 2.4G+2x6dBi 5GHz omni-antenna for wide-range installation.
- **WAC835-DSA** built-in 4x8dbi 120° Directional Sector Antenna for extended long-wide coverage
- Improved Coverage: 120° coverage effectively serves larger urban and open spaces, supports more simultaneous connections in busy areas.
- Easy installation & Simplified Maintenance: The built-in antenna design simplifies installation and reduces maintenance costs
- Waterproof and -20°C to 55°C opeating temperature, providing durable and cost-effective soltion for light industrial and outdoor environments

WAC835-OMN
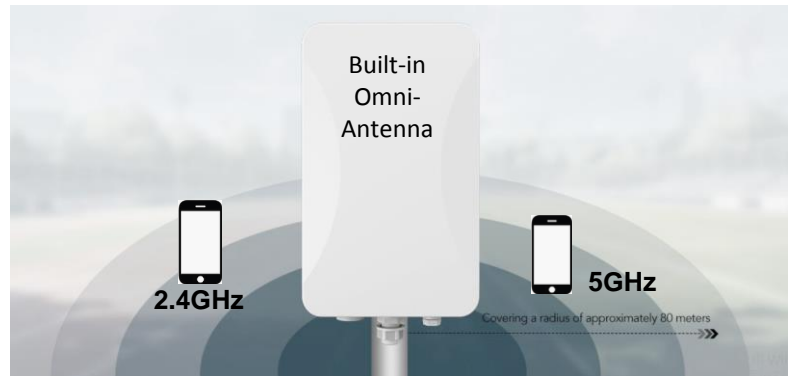
WAC835-DSA
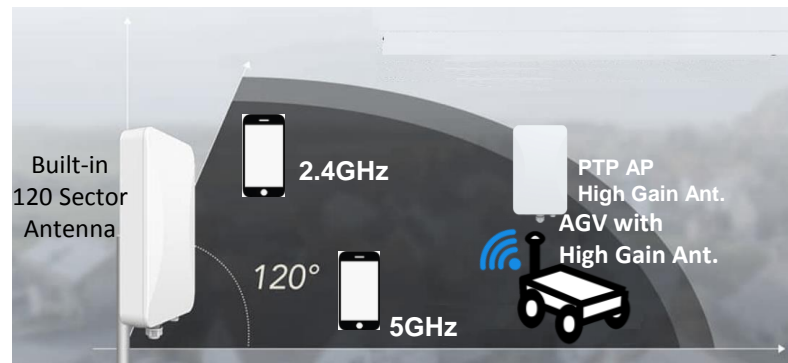
✓ Waterproof, Built-in Antenna for light Industrial Applications

- IP66 Waterproof level protection
- Waterproof and -20°C to 55°C opeating temperature, providing durable and cost-effective soltion for light industrial and outdoor environments
- 20K Lightning Surge protection board for Ethernet ports are added, greatly enhance the protection capability of the equipment.
- Easy installation & Simplified Maintenance: The built-in antenna design simplifies installation and reduces maintenance costs
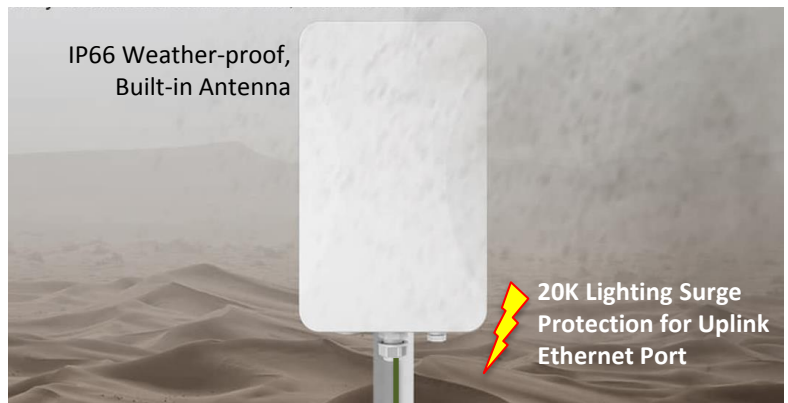
✓ Network Mode:

- **AP mode (Default):** The AP wireless interface and Ethernet interface are bridging together. Users get IP from company's DHCP server or AP Controller.
- Bridge the LAN/WLAN to the uplink network, ex: company network, private WLAN network.

- **Gateway mode:** The device is supposed to connect to internet via ADSL/Cable Modem. The AP acts as DHCP server and assign IP for connected clients.
- Gateway mode provides NAT Routing, DMZ and IP/MAC/URL filtering.

Features & Benefits
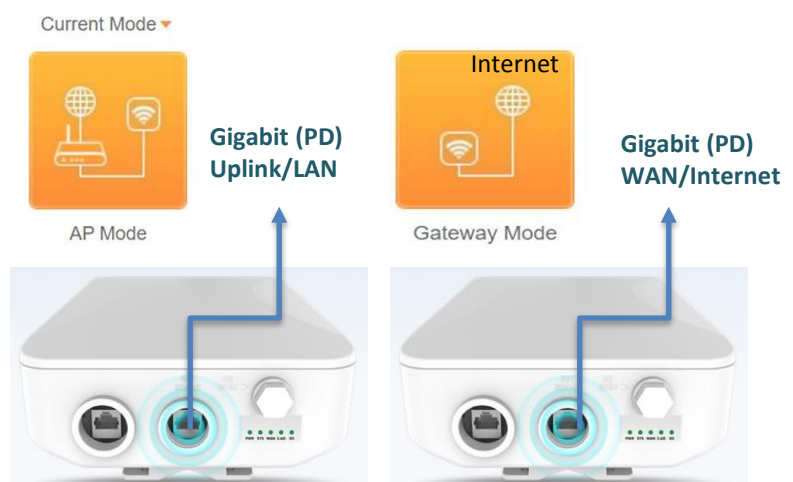
✓ Wireless Repeater Mode

- **Wireless Repeater Mode:** Wireless Repeater Mode allows an access point (AP) to extend the range of an existing Wi-Fi network by retransmitting the signal to cover a larger area. A repeater AP connects wirelessly to the primary AP or another repeater AP, boosting Wi-Fi coverage without needing a physical Ethernet connection. The primary AP means the AP with an uplink Ethernet connection to the office network or Internet.
- **How Multiple Repeater APs Work with Client Device Roaming:** When multiple repeater APs are set up, they create a mesh-like network, all sharing the same Repeater SSID (network name) and password for internal communication among the APs. The Repeater SSID is typically hidden from client devices and is only used for back-end communication between the repeaters and the primary AP, ensuring stable signal transfer.

  Client devices(ex: smartphones, laptops, AGV) connect using a different SSID configured on the APs. As they move across areas, the devices automatically switch to the nearest repeater AP with the strongest signal. The APs manage this handoff by continuously assessing signal strength, enabling seamless roaming without requiring the client to reconnect.
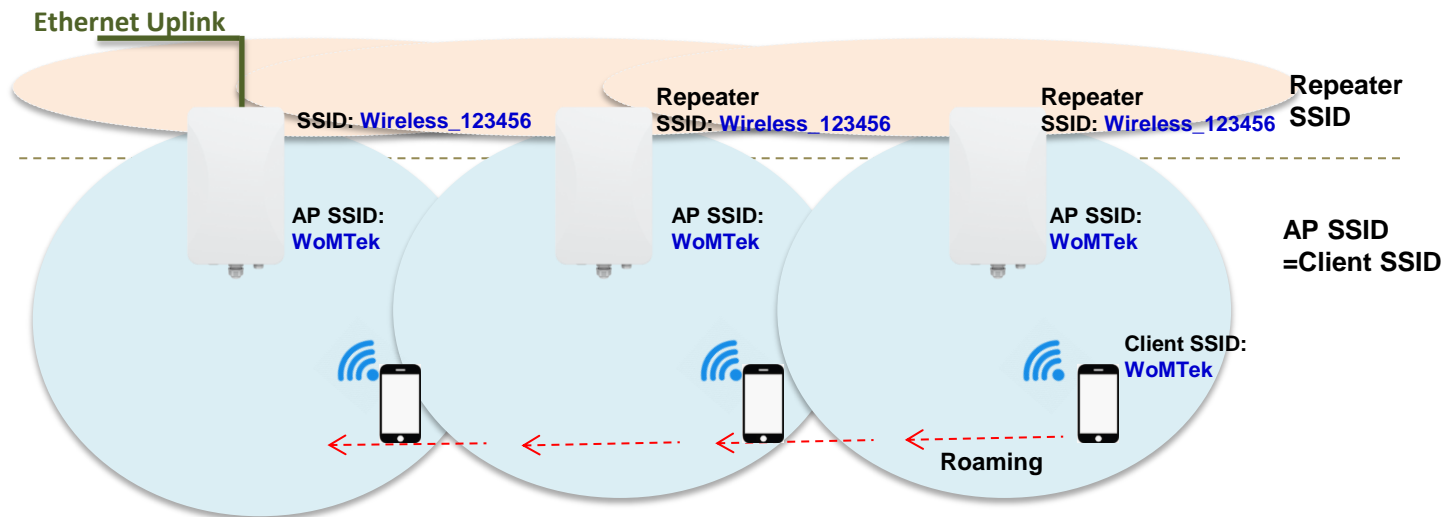

✓ Wireless Client Isolation

- **Virtual AP:** Allows a single access point to broadcast multiple SSIDs, creating separate virtual networks with distinct settings and security policies, like guest and internal networks.
- **Wireless Isolation:** Restricts communication between devices on the same SSID, enhancing privacy and security—especially useful for public or guest networks.
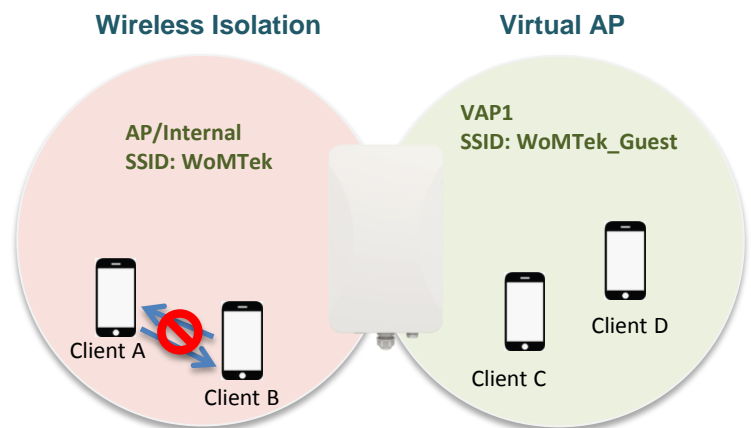
✓ 3-Step Setup Wizard in Web GUI

- Configure LAN IP Address mode (DHCP in Gateway mode)
- Configure 2.4G Wi-Fi Setup: SSID, Channel, Encrypt type & password, periodic reboot
- Configure 5G Wi-Fi Setup: SSID, Channel, Encrypt type & password, periodic reboot
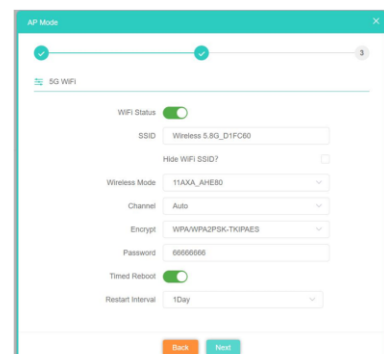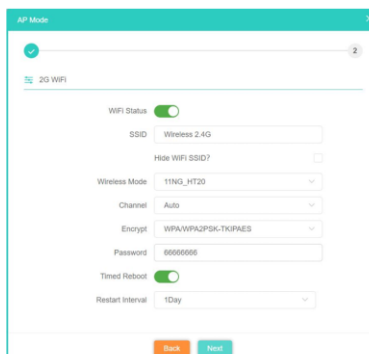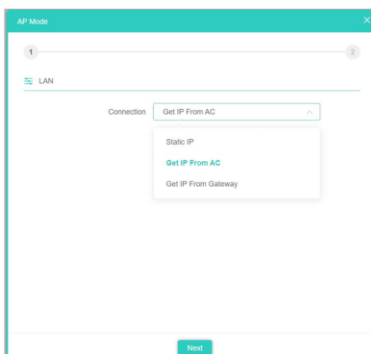
Interfaces

WAC835G-OMN/DSA

Front   **Rear**

Built-in Ant.
- WAC835G-OMN 2x5+2x6dbi Omni-Ant.
- WAC835G-DSA: 4x8dbi 120˚ Directional Sector Ant.
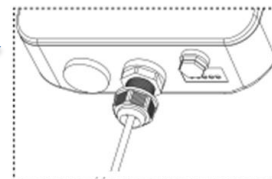
Wall/Pole-mount

Vent.

GbE LAN
- 10/100/1000M RJ45

GbE WAN/PD Input
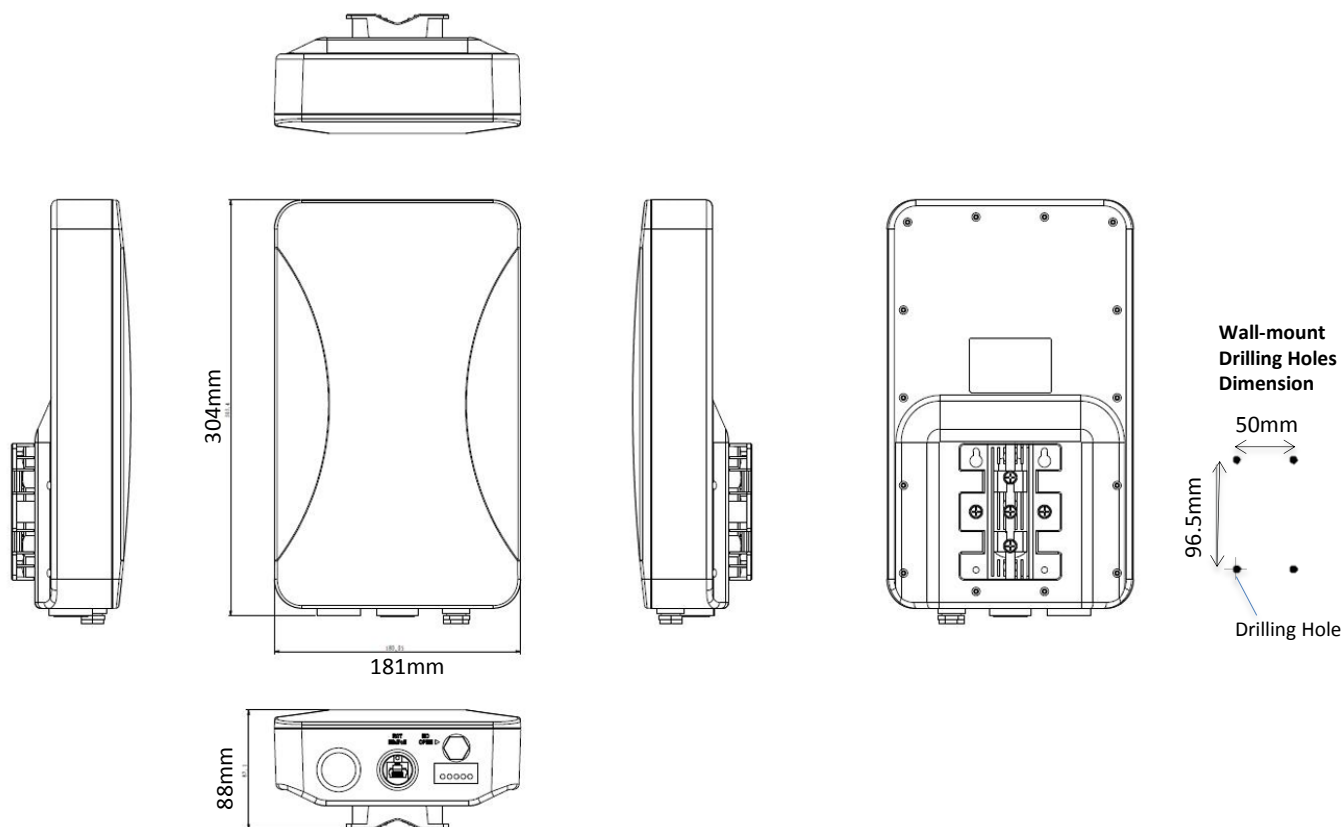- 802.3af PD PoE Ethernet
- 10/100/1000M RJ45
- WAN/LAN configurable
- Waterproof cable gland
Reset button inside

Dimensions

WAC835G-OMN/DSA

304mm

181mm

88mm

Wall-mount Drilling Holes Dimension

50mm

96.5mm

Drilling Hole

(mm)

Specifications

Technology	
Standard	IEEE 802.11ax wireless local area network (WLAN), Backward support 802.11ac/n/g/b/a Wireless LAN
	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3ab 1000Base-T Gigabit Ethernet Copper
	IEEE 802.3af PoE

Interface	
Ethernet Port	2 x 10/100/1000MBase-T RJ45, Auto Negotiation, Auto-MDI/MDIX, Plug-n-Play, Bridge/Router mode 1 x 802.3at/af PD compliant AP Mode(Default): 2x LAN(Eth/PoE port is PD) Gateway/Router Mode: 1xLAN, 1xPD/WAN;
System LED	SYS: Power On: Green ON, System Ready: OFF LAN: Green On, WAN: Green ON, Activity: Green Blinking 2.4GHz Radio: Green On 5GHz Radio: Green On
Reset	System Reset(2~6 Seconds) / Default Settings Reset(over 7 Seconds) (Located Inside the WAN port interface)

Power Requirement	
Power Input	Ethernet-WAN/PD: 802.3at/af compliance PD(48-57VDC) Input or Passive 48V Input (Default Attached injector) ***Warming:** Do not use default passive 48V PoE injector to power on other devices. Not sure whether the 3rd party device can compatible with it or not.
Power Consumption	Max. 18W full traffic, suggest to reserve 15% tolerance

WLAN Properties	
Processor	Dual-Core ARM A53 1.3GHz CPU
Standard	IEEE 802.11ax/ac/n/a 5GHz and IEEE 802.11ax/n/g/b 2.4GGhz, also known as Wi-Fi 6 802.11ax: OFDMA, OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM)
Frequency	ISM Band, 2.4GHz: 2.412GHz ~ 2.472GHz 5GHz: 5.180MHz ~ 5.240MHz, 5.745 ~ 5.825MHz(CE: Band 1, FCC: Band 1, 4)
Operation Channel	Channel Bandwidth: 20MHz, 40MHz, 80MHz, 160MHz 2.4GHz: Europe ETSI: CH1~13, US/FCC: CH1~11 5GHz Non-DFS: Band 1: 36, 40, 44, 48, Band 4: 149,153,157,161,165 *5GHz channel and DFS may difference in different countries. *Wi-Fi 6 with 160 MHz bandwidth may utilize DFS (Dynamic Frequency Selection) bands. Ensure DFS band availability to comply with regional regulatory requirements.
Data Rate	802.11ax 5GHz: MCS0 ~ MCS11 max. 2402Mbps(160MHz)/1200Mbps(80MHz), 802.11ax 2.4GHz: MCS0 ~ 9, max. 574Mbps, 802.11ac 5GHz: MCS0 ~ 9, max. 866Mbps, 802.11n 2.4GHz: MCS0 ~ 7, max. 300Mbps 802.11a 5GHz/11g 2.4GHz: max. 54Mbps
MU-MIMO	2.4G 2T2R/5GHz 2T2R Downlink & Uplink MU-MIMO DBDC (Dual Band Dual Concurrent) Embedded antenna for simultaneous dual bands concurrent
Max. E.I.R.P. (CE)	≦20db(2.4GHz) /≦23db(5GHz), compliant with EU CE regulatory requirements for 2.4G/5G bands Support TX Power support up to 26dBm per regional regulatory *Check other detail TX/RX information in User Manual or contact our technical service
Antenna	WAC835G-OMN: Built-in 2x5dbi 2.4GHz+2x6dbi 5GHz Antennas WAC835G-DSA: Built-in 4x 8dbi 2.4G/5GHz Antennas

Software

Device Management	WebGUI, Quick Setup Wizard, Dashboard-like Device info in webGUI, IPv4, DHCP server/client, Backup/Restore the configuration, Reset to Factory Default, Reboot, Periodic Auto Reboot, Admin Password Modification, Firmware GUI upgrade, System Log, DDNS, PPPoE Client
Network Mode	AP(Ethernet-Bridge), Gateway(Ethernet-Router), Repeater mode(Ethernet-Bridge)
Wireless Function	WLAN Basic Settings: Radio on/off, Wireless AP/Client mode, 802.11ax/ac/n/g/b mode, Band and Frequency selection, SSID/Multi-SSID(VAP) configuration, up to 8xSSID (4 for 2.4G, 4 for 5G), SSID broadcast(SSID Hidden), RF power adjustable, Wireless client isolation, 802.11k/v(enabled by default), 802.11r(future release), user quantity limit, max 64 users to access each band
Security	IEEE 802.1X/RADIUS, TLS v1.2, HTTPs/SSH, First login password management AP Security: Share Key, WPA/WPA2-PSK(Pre-Shared Key), WPA/WPA2 Enterprise, WPA3-PSK Encryption: 64/128-bit WEP(Wired Equivalent Privacy), TKIP(WPA-PSK, WPA3-PSK), AES(WPA2-PSK, WPA3-PSK)
Time Management	NTP, Wi-Fi Time on/off to save energy
WAN/Routing/NAT/Firewall	NAT, DMZ, IP Filter, MAC Filter , Port Forwarding, URL Filtering
AP Controller Management	Fit AP mode for AC Controller management Use WAC1500-100U Series AP Controller *Future release.

Mechanical

Installation	Wall-/Pole- Mount
Enclosure Material	Plastic ABS
Dimension	181 x 304 x 88 mm(W x H x D) / without mounting accessory
Ingress Protection	IP66
Weight	1.6kg

Environmental

Operating Temperature & Humidity	-20°C~55°C 5%~95% Non- Condensing
Storage Temperature	-40°C~85°C
MTBF	>200,000 hours at 40º full cycle
Warranty	1 years

Approval

CE	CE RED Compliance Safety: IEC/EN 62368-1 EN 301 489-1/17 EN 300 328/ EN 301 893/ Draft EN 302 502 EN 62311 MPE
FCC	Part 15B *FCC Part 15C (15.247) (FCC ID Pending) *FCC Part 15E (15.407): B1,B4 (FCC ID Pending)

*By Request/Future Release

Ordering Information

Model Name	Description
WAC835G-OMN-EU	Waterproof 2.4G+5GHz WLAN6 11ax 3000M Wireless Access Point, IP66, 5/6dbi Omni-Ant, GbE 802.3at PD, 48V_Injector-EU
WAC835G-OMN-US	Waterproof 2.4G+5GHz WLAN6 11ax 3000M Wireless Access Point, IP66, 5/6dbi Omni-Ant, GbE 802.3at PD, 48V_Injector-US
WAC835G-DSA-EU	Waterproof 2.4G+5GHz WiFi 6 11ax 3000M Wireless Access Point, IP66, 8dbi 120° Ant, GbE 802.3at PD, 48V_Injector-EU
WAC835G-DSA-US	Waterproof 2.4G+5GHz WiFi 6 11ax 3000M Wireless Access Point, IP66, 8dbi 120° Ant, GbE 802.3at PD, 48V_Injector-US
	Package List
	Product Unit (with built-in antenna)
	Quick Installation Guide
	Passive PoE Injector & Power cord
	Pole Mounting Kit

Product Series

Outdoor Model	Description (Future release)
WAC1500-100U-EU	Wireless AP Controller for WAC series, 5xGbE, multiple WAN, 100 AP Management, 12DC adapter with EU plug
WAC1500-100U-US	Wireless AP Controller for WAC series, 5xGbE, multiple WAN, 100 AP Management, 12DC adapter with US plug
WAC835G-CEI	Ceiling-mount 2.4G+5GHz WiFi 6 11ax 3000M Wireless Access Point, 2xGbE, 12VDC or 802.3at PD (without power adapter)
Passive48V_Injector-EU	Passive 48V Injector, 1xGigabit PoE/Data Out, 1xGigabit Data In, EU plug
Passive48V_Injector-US	Passive 48V Injector, 1xGigabit PoE/Data Out, 1xGigabit Data In, US plug

WAC835G-OMN	WAC835G-DSA	WAC835G-CEI
181 x 304 x 88mm (W x H x D) IP66, Omni-Ant., -20-55℃	181 x 304 x 88mm (W x H x D) IP66, 120° Sector Ant, -20-55℃	186 x 186 x 37 mm(W x H x D) Ceiling-mount, -10-45℃