



DATASHEET: AX810-Y

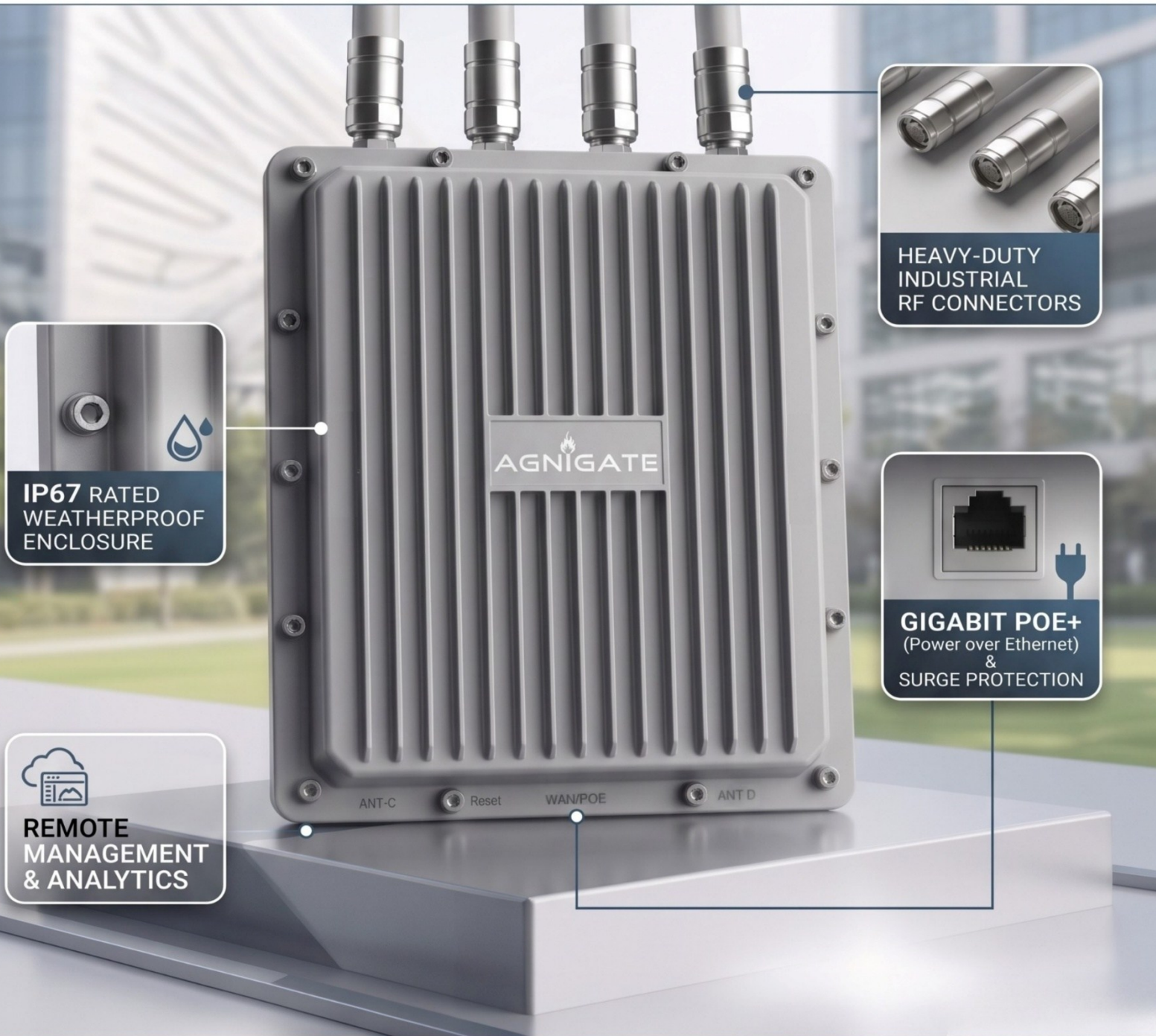
Outdoor High-Performance Wi-Fi Access Point

Key Features

- Wi-Fi 6 (802.11ax) up to 1800Mbps
- IP67 Rugged Weatherproof Enclosure
- 4x 6dBi Omni-Directional Antennas
- Gigabit PoE+ & Cloud Remote Management

Specifications Summary

- Chipset: Qualcomm IPQ6000 Quad-Core
- Frequency: 2.4GHz (600Mbps) + 5GHz (1200Mbps)
- Concurrent Users: 250+ Users
- Coverage Range: Up to 400m in Open Area



Frequency Bands: 2.4GHz & 5.8GHz
Wireless Standard: 802.11ax/ac/b/g/n
Dimensions: 295 x 231 x 80 mm
Weight: 3.5 kg

Model: AX810-Y

Power: 48V PoE+
(802.3at) / 12V DC

AGNIGATE
www.agnigate.com

The AGNIGATE AX810-Y Dual-Band 802.11ax 1800Mbps IP67 Ruggedized Outdoor Wireless AP

1800 Mbps

Combined Speed
(2.4GHz + 5GHz)

IP67 Rated

Weatherproof & Dustproof
Enclosure

400 Meters

Omni-Directional Coverage
Radius

250+ Users

High-Density Concurrent
Clients

■ Product Executive Summary

The AgniGate AX810-Y is an enterprise-grade 802.11ax (Wi-Fi 6) high-power outdoor wireless access point engineered specifically for challenging outdoor deployments, high-density public venues, university campuses, industrial parks, smart cities, and transit hubs. Powered by Qualcomm's cutting-edge quad-core enterprise platform (IPQ6000), the AX810-Y delivers combined dual-band wireless speeds of up to 1800 Mbps (600 Mbps on 2.4 GHz + 1200 Mbps on 5 GHz) while ensuring stable low-latency transmission for demanding applications such as 4K/8K video streaming, AR/VR, and heavy enterprise cloud traffic.

Housed in a ruggedized die-cast aluminum enclosure with IP67-grade environmental protection and integrated multi-stage lightning and ESD protection, the AX810-Y withstands severe monsoon rainfall, extreme temperature swings (-20°C to +70°C), and harsh industrial environments. Equipped with external 4x6dBi high-gain omni-directional antennas and Gigabit PoE+ capabilities, it provides ultra-wide coverage up to 400 meters in open terrain.

■ Core Architectural Advantages

Qualcomm Enterprise Quad-Core IPQ6000

Superior packet forwarding architecture with 20% faster processing and low CPU utilization (<20% under peak load).

Advanced DL/UL MU-MIMO & OFDMA

Simultaneous transmission to multiple clients reducing contention latency by 36.8% and quadrupling spectrum efficiency.

IP67 Ingress Protection & 15kV ESD Defense

Hermetically sealed chassis protecting internal circuitry from water submersion, dust, and electrical grid surges.

Flexible Cloud & Controller Architecture

Centralized AP management, remote telemetry, captive portal authentication, and seamless 802.11k/v/r roaming.

■ Next-Generation Wi-Fi 6 Technology Breakdown

The AX810-Y leverages the IEEE 802.11ax standard to overcome the fundamental capacity limits of legacy Wi-Fi. By dividing frequency channels into smaller sub-carriers and coordinating multi-user uplink and downlink schedules, the AX810-Y delivers deterministic, high-throughput connectivity even in congested radio environments.

■ Chassis Construction & Industrial Ingress Protection

The AX810-Y housing is crafted from high-grade die-cast aluminum alloy treated with an anti-corrosion powder coating. Engineered with deep vertical heat-dissipation fins, the casing enables passive convection cooling without noisy or failure-prone mechanical fans. A continuous silicone gasket creates an IP67 waterproof hermetic seal, protecting all internal PCBAs against driving rain, blowing dust, salt spray, and extreme sunlight UV exposure.

Qualcomm 4-core enterprise CPU IPQ6000 with more stable performance.

Equipped with Qualcomm enterprise CPU IPQ6000, superior than other manufacturers as the stronger processing capacity, running more stable.

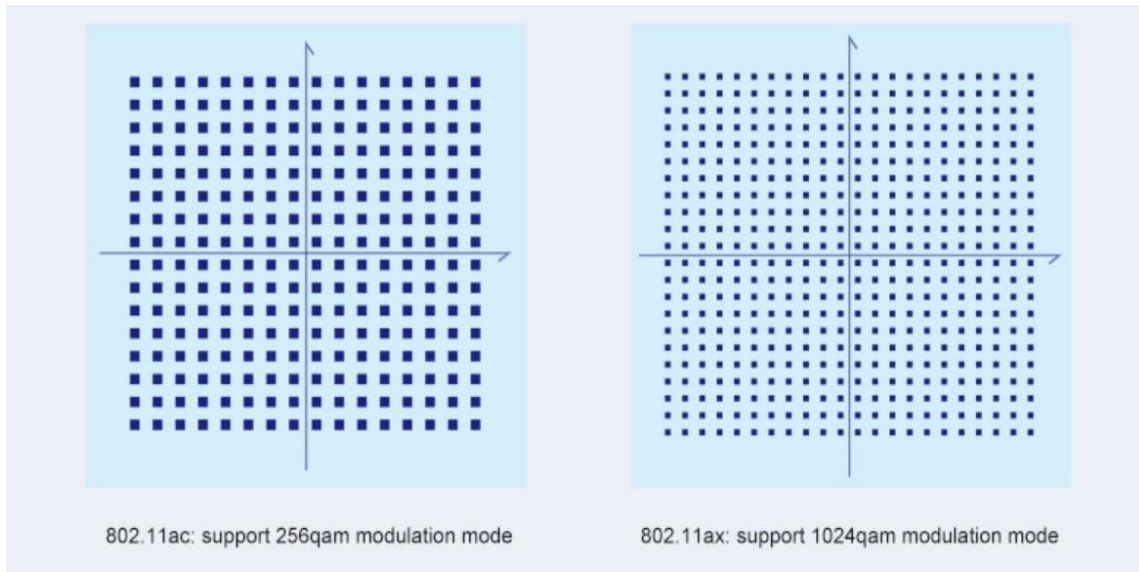


High Speed The data forwarding speed increased by 20%	Anti-Interference Qualcomm Wi-Fi6 chipset 33% improved in Anti-Interference	Low Latency The latency decreased 36.8%	Stable Performance Multiple device access CPU utilization is less than 20%
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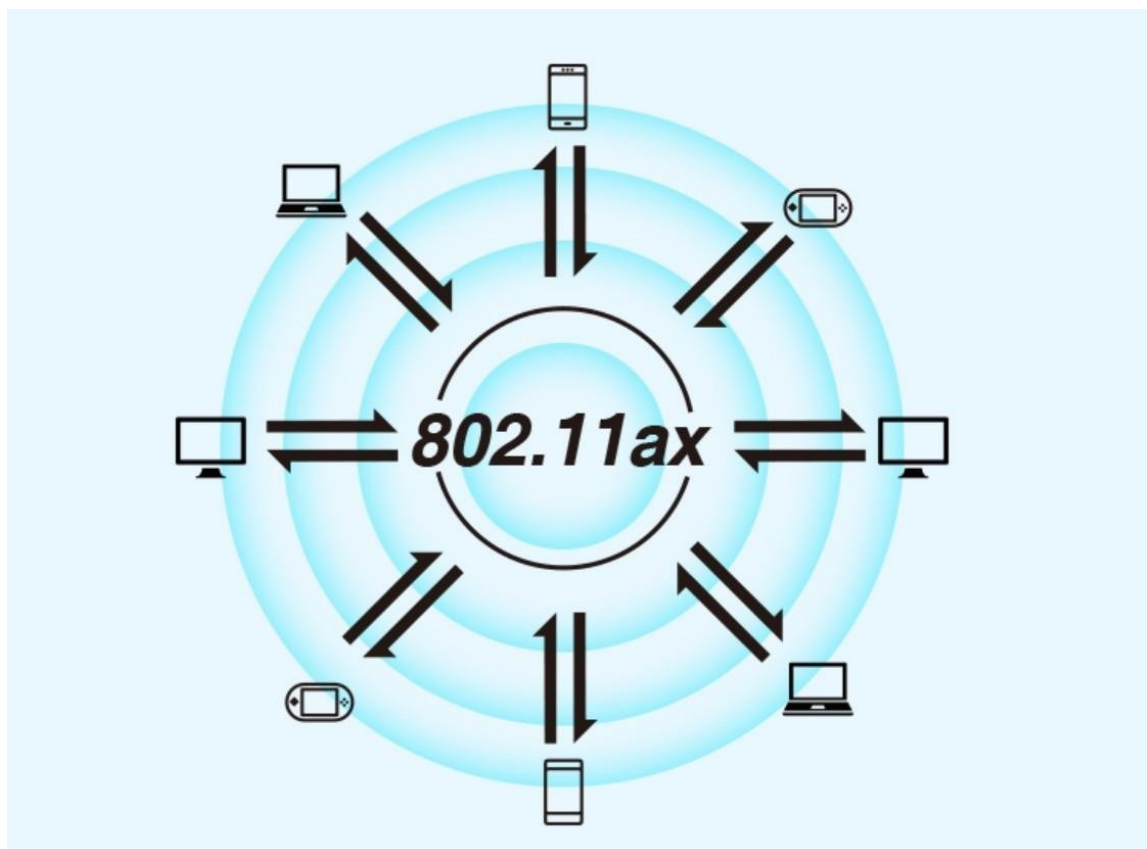
Wireless data rate up to 1.8Gbps. 802.11ax support 1024QAM, long OFDM symbol, 11ax 4x4 MIMO technology, the wireless data rate up to 1.8Gbps, meet with demand of high-speed applications such as VR/ AR, 4K or 8K stream media.

802.11ax:	1024-QAM, Long OFDM Symbol, Max 160MHz bandwidth
802.11ac:	256-QAM

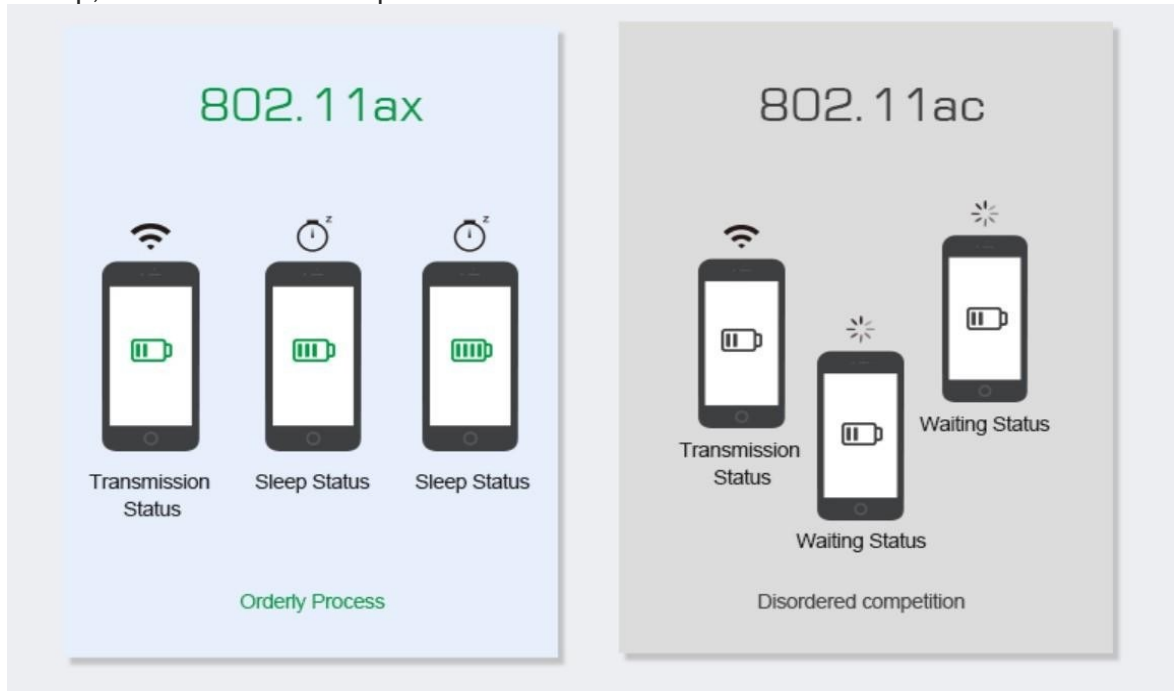
1024-QAM Modulation Mode. 802.11ax adopt 1024-QAM modulation, which is more efficient than 802.11ac modulation, the throughput of single spatial traffic is increased by 25%.



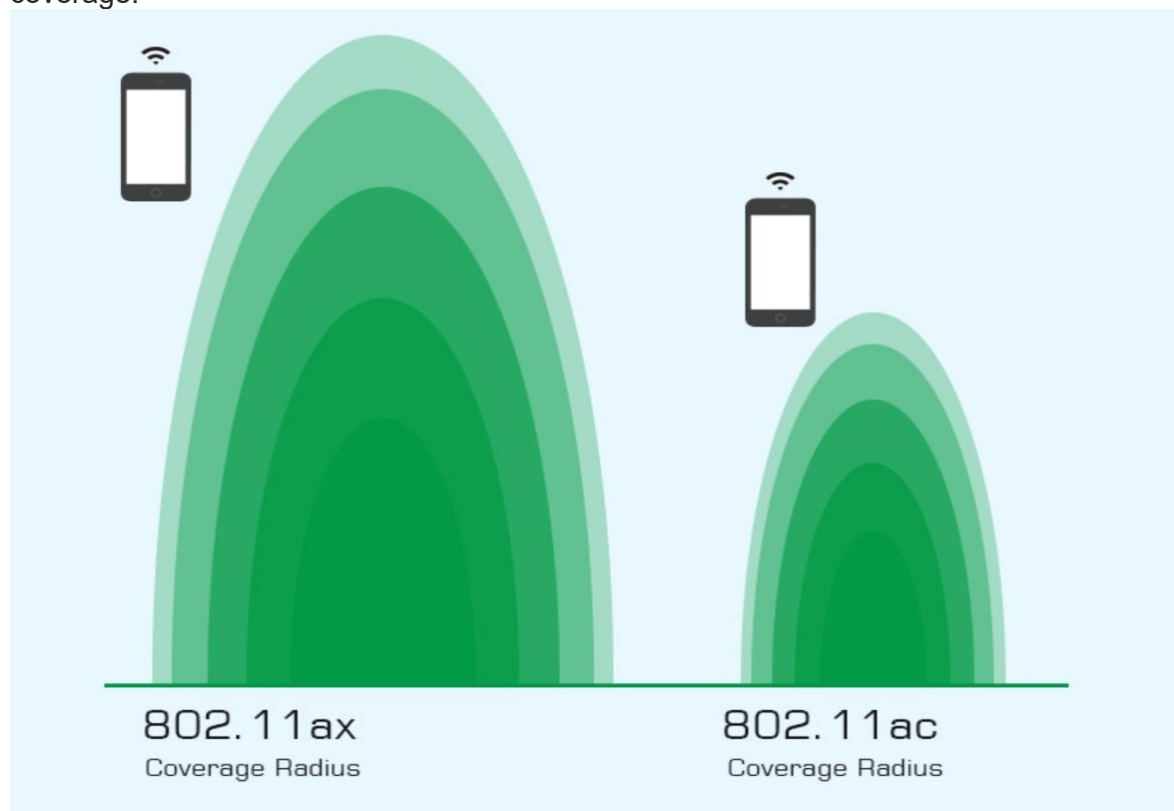
DL/ UL MU-MIMO. 802.11ax support both downlink MU-MIMO and uplink MU-MIMO. It can communicate with multiple end users at the same time, greatly improving the user's uplink transmission rate and the system's uplink and downlink capacity, improving the efficiency of multi-user concurrent scenarios, reducing the terminal application latency.



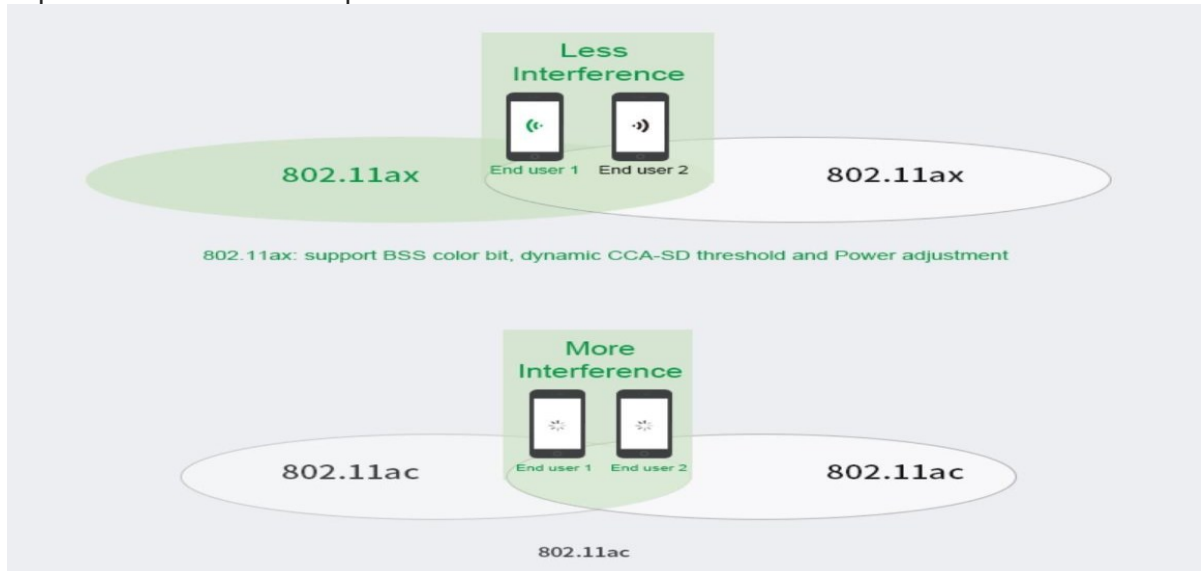
TWT (Target Wake-up Time). 802.11ax support TWT, allowing devices to negotiate when need to wake up, send and receive data. In additional, wireless AP can group the device into different TWT cycles, increase sleep time, reduce the device competing after wake-up, and save the device power.



Coverage Improvement. 802.11ax support long OFDM symbol transmission mechanism and 2MHz narrowband transmission, effectively reduced the packet loss rate and noise interference, improve the receive sensitivity and increase the Wi-Fi coverage.



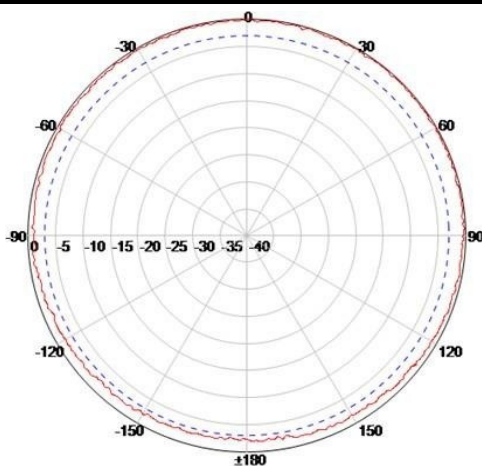
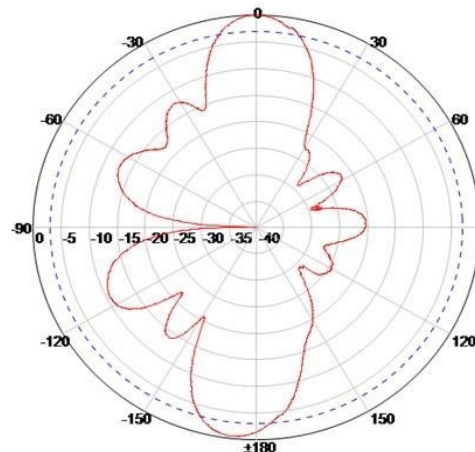
Improvement of Anti-Interference Ability. 802.11ax support BSS color bit and dynamic CCA-SD (Clear Channel Assessment Signal Detection) threshold and power adjustment, effectively alleviates the channel interference in multi-users scenarios, improve the utilization of spectrum resources.



Hardware Specifications:	
Chipset	IPQ6000
Standard	802.11ax/ac/b/g/n
Flash	SPI NOR 8MB (1.8v) + NAND 128MB
DDR3L	512MB
2.4G Frequency	2.4GHz - 2.484GHz
2.4G Wi-Fi standard	802.11b/g/n/ax
5.8G Frequency	5150~5850MHz
5.8G Wi-Fi Standard	802.11 a/n/ac/ax
Interface	1 * 10/100 /1000 RJ45 Port
	1 * Reset button, press 10 seconds to revert to default setting
	1 * SFP port (Optional) / 1 * 10/100 /1000 RJ45 Port (Optional)
Antenna & Coverage range	External 4*6dBi omni directional antennas support coverage up to 400+ meters in Open Area.
Data Rate	1800Mbps (5G: 1200Mbps 2.4G:600Mbps)
End Users	250+
2.4G RF Power	≤ 23dBm
5.8G RF Power	≤ 23dBm
DC	12V ~ 1.5A
PoE	48V (IEEE 802.3at)
LED light	Sys, WAN, LAN
Surge protection	Common mode 6KV
Lighting Protection Grade	Built-in lightning protection device, support 15KV electrostatic protection
Power Consumption	≤ 14W
Size	295*231*80MM
Weight	3.5KG
Using Environment:	
Environment	Operating Temperature: -20°C to 65°C
	Limit working temperature: -20°C to 70°C
	Storage Temperature: -40°C to 80°C
	Humidity: 5%~95% non-condensing

Firmware Specification:	
Working Mode	Gateway, AP
Wireless Functions	Support Multiple SSID and SSID hidden
	Support seamless roaming, 802.11kvr standard.
	Support 5G Prior for a faster Ethernet.
	Wireless Security: Open, WPA, WPA2PSK_TKIPAES, WAP2_EAP, WPA3 and etc.
	Support MAC filter
	Support client isolation to improve the wireless stability
	Support RF power adjustable, adjust the RF power based on environment.
	Support user quantity limited, Max 128 users to access each band.
Networking Function	VLAN settings
	Cloud access support in gateway mode
Device Management	Back-up the configuration
	Restore the configuration
	Reset to factory default
	Reboot the device: including time reboot or reboot immediately
	Admin management password modify
	Firmware upgrade
	System log
	Support firmware GUI web management, Telnet, AC controller management, remote management and cloud management
Support	IPv4/IPv6

Antenna Specification (Optional)	
Frequency Range	2.4GHz & 5.8GHz
Impedance	50 Ohms nominal
Gain	6dBi
Radiation	Omni
Polarization	Vertical
Connector	N-J
MM Dimension	φ20*350mm


H-Plane

E-Plane