



# RG-SAP815-SP

## Wi-Fi 6 Dual-radio Indoor Access Point



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## | Product Pictures



## | Product Overview

The RG-SAP815-SP is a Wi-Fi 6 wireless access point that integrates dual radios, high performance, and enterprise-grade encryption technology. Due to the hybrid cloud management mode and high-density access design, it is suitable for flexible deployment in high-quality network scenarios, such as classroom, dormitory, and office scenarios in the education industry, production workshop and warehouse scenarios in the manufacturing industry, outpatient clinics and mobile ward rounds scenarios in the medical industry, boutique hotels, and retail shops.

# Product Highlights

**Cost-effectiveness and High Speed**

**Intelligent networking**

**High Security and Reliability**

## Cost-effectiveness and High Speed

- Dual-band design (2.4 GHz + 5 GHz), four spatial streams, 1024-Quadrature Amplitude Modulation (QAM) high-speed access, and up to 1.775 Gbps peak data rate, realizing high-speed wireless access experience
- Orthogonal Frequency-Division Multiple Access (OFDMA), Multi-User Multiple-Input Multiple-Output (MU-MIMO), and Wi-Fi Multimedia (WMM), increasing the average rate per user in high-density deployment environments
- RF power adjustment and intelligent channel allocation to solve the problems such as co-channel interference and adjacent channel interference, thereby improving network transmission efficiency and stability

## Intelligent networking

- Local and cloud management modes, and intelligent wireless network optimization, reducing TCO and maximizing ROI
- Intelligent power monitoring, which monitors PoE output power and disables or enables some functions according to the available power to ensure normal operation of the AP

- IEEE 802.11k/v/r support and roaming stickiness optimization, achieving seamless user roaming
- Rich IoT features: PoE power, Bluetooth 5.1, support for iBeacon, and wireless locating

## High Security and Reliability

- Encryption and authentication technologies including Wi-Fi Protected Access 3 (WPA3), enhanced open security, 802.1X, and Private Pre-shared Key (PPSK), enhancing data security
- Dynamic Frequency Selection (DFS), optimizing the use of available RF spectrum to prevent radar channel interference
- Cyclic Delay/Shift Diversity (CDD/CSD), Maximum Ratio Combining (MRC), Space-Time Block Coding (STBC), and Low-Density Parity Check (LDPC), improving the signal quality, signal receiving, and reliability and performance of data transmission
- Transmit beam-forming (TxBF) expands the signal coverage and enhances the reliability of specific devices, thereby improving the data rate
- Intelligent identification and monitoring, multicast-to-unicast conversion, and other features, enhancing network security and reliability

# Applicable Scenarios

## Higher Education

### Classroom and Lab

Deploying Wi-Fi in classrooms and labs enables students and teachers to access network resources with ease, thereby enhancing the quality of teaching and learning. Students can engage in online learning, access course materials, and collaborate with classmates, while teachers can access teaching resources and deliver multimedia lessons.



### Library

Wi-Fi deployment in libraries facilitates quick access to online resources such as e-books and academic papers for research and study by students and teachers.



## Healthcare

### Outpatient Service

The Wi-Fi network provides a mobile office environment for medical staff. Medical staff can use mobile devices to view patient information in real time, which significantly improves treatment efficiency. Patients can access relevant

medical information through smart devices online, resulting in improved satisfaction.



### Remote Monitoring and Management of Medical Devices

With Wi-Fi deployment, remote monitoring and management of medical devices become possible. Wireless medical devices such as ECG monitors and blood pressure monitors can transmit patient data in real time, thereby improving information security. Additionally, these wireless medical devices can be easily maintained and upgraded, resulting in cost reductions.



## Hotel Apartments

### Chain Hotels

By deploying a Wi-Fi network, travelers can enjoy convenient, high-speed Internet access to ensure a fulfilling stay.



# Product Features

## Multi-scenario Adaptability

The RG-SAP815-SP, a dual-band wall-mounted wireless access point, is ideal for a wide range of applications, including higher education, government, general education, finance, and business sectors, providing flexible solutions to meet diverse service needs.

## High-speed Access and Compatibility

The RG-SAP815-SP supports various wireless protocols, such as 802.11ax, 802.11ac Wave2, 802.11ac Wave1, and 802.11n. It features a hardware-independent dual-band design to deliver a data rate of up to 1.775 Gbps, effectively eliminating wireless performance bottlenecks. Additionally, it is compatible with an extensive array of devices, promoting seamless interconnectivity among employees and customers.

## Security and Scalability

The RG-SAP815-SP stands out with its exceptional wireless network security, RF control, mobile access, QoS guarantee, and seamless roaming. With Ruijie's wireless access controller (AC), it enables wireless user data forwarding, security, and access control to cope with diverse service needs.

## Flexible Deployment and Power Supply

The RG-SAP815-SP supports both local power supply and Power over Ethernet (PoE), providing you with the flexibility to choose the power supply mode. In addition, the RG-SAP815-SP can be mounted against a wall or ceiling, making space deployment and environmental requirements less challenging. This makes the RG-SAP815-SP particularly suitable for scenarios such as large campuses, conference centers, enterprise offices, and operation hotspots.

# Solution Scalability Capabilities

Ruijie WIS Cloud Management Network Solution (WIS for short, <https://wis.ruijienetworks.com/>) provides full-lifecycle cloud management network services covering network procurement, planning, deployment, acceptance, and O&M. When the AP connects to WIS, it can meet various needs in multiple scenarios including planning, deployment, acceptance, and operation through cloud management, cloud O&M, cloud authentication, and other value-added services provided by WIS.

Status	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Remarks	Operation
Online	TS1	123456789012	8888 8888 8888	AP750176	Cloud-AP-Demo	35.36.0.106	95.95.92.52	0	2023-06-02 23:29:07		Details
Online	AP7501A	123456789012	8888 8888 8888	AP7501A	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501B	123456789012	8888 8888 8888	AP7501B	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501C	123456789012	8888 8888 8888	AP7501C	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501D	123456789012	8888 8888 8888	AP7501D	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501E	123456789012	8888 8888 8888	AP7501E	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501F	123456789012	8888 8888 8888	AP7501F	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501G	123456789012	8888 8888 8888	AP7501G	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501H	123456789012	8888 8888 8888	AP7501H	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501I	123456789012	8888 8888 8888	AP7501I	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details
Online	AP7501J	123456789012	8888 8888 8888	AP7501J	Cloud-AP-Demo	15.110.242.200	95.95.92.52	0	2023-06-02 21:45:45		Details

## Network-wide Cloud Management

WIS supports integrated management and control of various types of devices including APs, ACs, switches, gateways, and routers. It supports remote O&M management operations such as adding or batch importing of multi-branch network devices, online status monitoring, configuration delivery, upgrade, restart, configuration backup, and restoration. It supports network-wide topology auto-discovery and topology status monitoring.

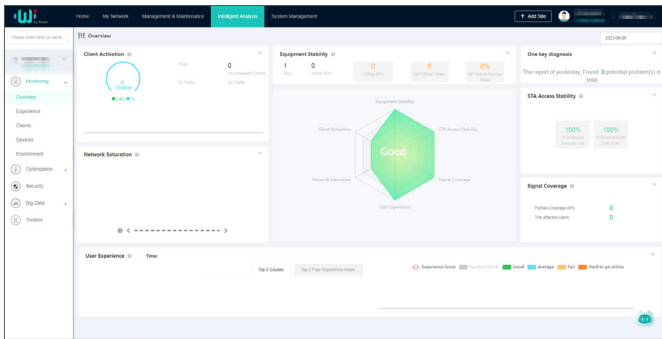
## Local Cloud Deployment

WIS supports local cloud deployment, provides unified network access control, supports centralized authentication with multiple authentication modes, offers flexible policy control, achieves high availability and scalability. It provides secure integration, and reporting and auditing, better protecting sensitive data and resources. It supports network elasticity and on-demand scaling, reduces TCO, and maximizes ROI.

## Wireless Network Visualization

The overview function module of WIS provides a comprehensive view of the network running status from the perspective of overview, experience, users, devices, and environment. The network running information includes the following items:

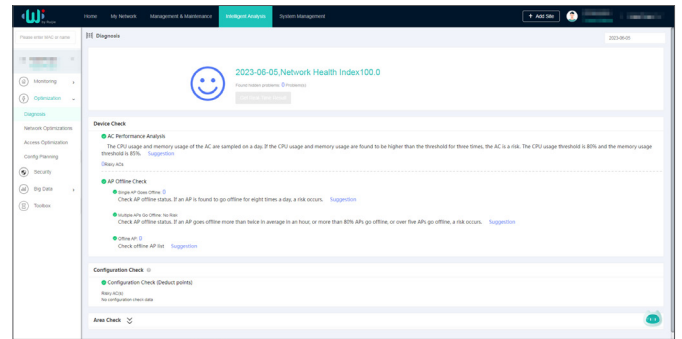
- Network basic information: device stability, device health, user stability, network signal coverage, and network association.
- User usage: user activity (network dependency), and



- user online experience and analysis.
- Network saturation: network capacity usage and channel usage.

## Intelligent Network Diagnosis

With WIS, wireless network diagnosis and health index assessment can be completed in just one click, providing test results for each item. The health index provided by WIS enables you to rapidly assess the state of your live network. WIS can locate faulty areas, APs, and STAs, and provides potential risks and corresponding optimization suggestions.



# Specifications

## Hardware Specifications

Hardware Specifications	RG-SAP815-SP
802.11n	<p>Four spatial streams</p> <ul style="list-style-type: none"> <li>• Radio 1 – 2.4 GHz: 2x2 MIMO, two spatial streams</li> <li>• Radio 2 – 5 GHz: 2x2 MIMO, two spatial streams</li> </ul> <p>Channels:</p> <ul style="list-style-type: none"> <li>• Radio 1 – 2.4 GHz: 20 MHz and 40 MHz</li> <li>• Radio 2 – 5 GHz: 20 MHz and 40 MHz</li> </ul> <p>Combined peak data rate: 600 Mbps</p> <ul style="list-style-type: none"> <li>• Radio 1 – 2.4 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15)</li> <li>• Radio 2 – 5 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15)</li> </ul> <p>Radio technologies: Orthogonal Frequency-Division Multiplexing (OFDM)</p> <p>Modulation types: BPSK, QPSK, 16-QAM, 64-QAM</p> <p>Packet aggregation:</p> <ul style="list-style-type: none"> <li>• Aggregate MAC Protocol Data Unit (A-MPDU)</li> <li>• Aggregate MAC Service Data Unit (A-MSDU)</li> </ul> <p>Dynamic Frequency Selection (DFS)</p>

Hardware Specifications	RG-SAP815-SP
802.11n	<p>Cyclic Delay/Shift Diversity (CDD/CSD)  Maximum Ratio Combining (MRC)  Space-Time Block Coding (STBC)  Low-Density Parity Check (LDPC)  Transmit beam-forming (TxBF)</p>
802.11ac	<p>Two spatial streams</p> <ul style="list-style-type: none"> <li>Radio 2 – 5 GHz: 2x2 MIMO, two spatial streams</li> </ul> <p>Channels:</p> <ul style="list-style-type: none"> <li>Radio 2 – 5 GHz: 20 MHz, 40 MHz, and 80 MHz</li> </ul> <p>Combined peak data rate: 867 Mbps</p> <ul style="list-style-type: none"> <li>Radio 2 – 5 GHz: 6.5 Mbps to 867 Mbps (MCS0 to MCS9)</li> </ul> <p>Radio technologies: Orthogonal Frequency-Division Multiplexing (OFDM)</p> <p>Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</p> <p>Packet aggregation:</p> <ul style="list-style-type: none"> <li>Aggregate MAC Protocol Data Unit (A-MPDU)</li> <li>Aggregate MAC Service Data Unit (A-MSDU)</li> </ul> <p>Dynamic Frequency Selection (DFS)  Cyclic Delay/Shift Diversity (CDD/CSD)  Maximum Ratio Combining (MRC)  Space-Time Block Coding (STBC)  Low-Density Parity Check (LDPC)  Transmit beam-forming (TxBF)</p>
802.11ax	<p>Four spatial streams</p> <ul style="list-style-type: none"> <li>Radio 1 – 2.4 GHz: 2x2 uplink/downlink MU-MIMO , two spatial streams</li> <li>Radio 2 – 5 GHz: 2x2 uplink/downlink MU-MIMO, two spatial streams</li> </ul> <p>Channels:</p> <ul style="list-style-type: none"> <li>Radio 1 – 2.4 GHz: 20 MHz and 40 MHz</li> <li>Radio 2 – 5 GHz: 20 MHz, 40 MHz, and 80 MHz</li> </ul> <p>Combined peak data rate: 1.775 Gbps</p> <ul style="list-style-type: none"> <li>Radio 1 – 2.4 GHz: 8.6 Mbps to 0.574 Gbps (MCS0 to MCS11)</li> <li>Radio 2 – 5 GHz: 8.6 Mbps to 1.201 Gbps (MCS0 to MCS11)</li> </ul> <p>Radio technologies: uplink/downlink Orthogonal Frequency-Division Multiple Access (OFDMA)</p> <p>Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM</p> <p>Packet aggregation:</p> <ul style="list-style-type: none"> <li>Aggregate MAC Protocol Data Unit (A-MPDU)</li> <li>Aggregate MAC Service Data Unit (A-MSDU)</li> </ul> <p>Dynamic Frequency Selection (DFS)  Cyclic Delay/Shift Diversity (CDD/CSD)  Maximum Ratio Combining (MRC)  Space-Time Block Coding (STBC)  Low-Density Parity Check (LDPC)  Transmit beam-forming (TxBF)  WPA3</p>

Hardware Specifications	RG-SAP815-SP
Antenna	<p>Wi-Fi</p> <ul style="list-style-type: none"> <li>• 2.4 GHz: two built-in omnidirectional antennas, with peak antenna gain of 2.8 dBi.</li> <li>• 5 GHz: two built-in omnidirectional antennas, with peak antenna gain of 4.8 dBi.</li> </ul> <p>Bluetooth</p> <ul style="list-style-type: none"> <li>• One onboard Bluetooth with built-in omnidirectional antenna, with peak antenna gain of 2.4 dBi.</li> </ul>
Port	<p>1 x 10/100/1000BASE-T port 1 x RJ45 console port (serial console port) 1 x Bluetooth 5.1</p>
Status LED	<ul style="list-style-type: none"> <li>• 1 x multi-color system status LED</li> <li>• AP power-on status</li> <li>• Software initialization status and upgrade status</li> <li>• Uplink service interface status</li> <li>• Wireless user online status</li> <li>• CAPWAP tunnel timeout</li> <li>• Specific AP locating</li> </ul>
Button	<p>1 x Reset button</p> <ul style="list-style-type: none"> <li>• Press the button for shorter than 2 seconds. Then the device restarts.</li> <li>• Press the button for longer than 5 seconds. Then the device restores to factory settings.</li> </ul>
Dimensions (W x D x H)	<p>Main unit: 220 mm x 220 mm x 49 mm (8.66 in. x 8.66 in. x 1.93 in.) Shipping: 507 mm x 319 mm x 278 mm (19.96 in. x 12.56 in. x 10.74 in.)</p>
Weight	<p>Main unit: 0.6kg (1.33 lbs) Mounting bracket: 0.07kg (0.15 lbs) Shipping: 1.04 kg (2.29 lbs)</p>
Mounting	<p>Wall/Ceiling-mount (a mounting bracket is delivered with the main unit)</p>
Lock option	<p>Kensington lock and securing latch</p>
Input power supply	<p>The AP supports the following two power supply modes:</p> <ul style="list-style-type: none"> <li>• 48 V DC/0.3 A power input over DC connector: The DC connector accepts 2.1 mm/5.5 mm center-positive circular plug. A DC power supply needs to be purchased independently.</li> <li>• PoE input over LAN 1: The power source equipment (PSE) complies with IEEE 802.3af standard (PoE).</li> </ul> <p>Note: If both DC power and PoE are available, DC power is preferred.</p>

Hardware Specifications	RG-SAP815-SP
Maximum power consumption	Maximum power consumption: 12.95 W <ul style="list-style-type: none"> <li>DC powered: 12.95 W</li> <li>PoE++ powered (802.3bt): 12.95 W</li> <li>PoE+ powered (802.3at): 12.95 W</li> <li>PoE powered (802.3af): 12.95 W</li> <li>Idle mode: 6 W</li> </ul>
Environment	Storage temperature: -40°C to +70°C (-40°F to +158°F) Storage humidity: 5%RH to 95%RH (non-condensing) Storage altitude: -500 m to +5,000 m (-1,640.42 ft. to +16,404.20 ft.) Operating temperature: -10°C to +50°C (14°F to 122°F) Operating humidity: 5% RH to 95% RH (non-condensing) Operating altitude: -500 m to +4,000 m (-1,640.42 ft. to +13,123.36 ft.) Note: At an altitude in the range of 1,800–4,000 m (5,905.51–13,123.36 ft.), every time the altitude increases by 220 m (721.78 ft.), the maximum temperature decreases by 1°C (1.8°F).
Mean Time Between Failure (MTBF)	200,000 hours (22 years) at the operating temperature of 25°C (77°F)
System memory	512 MB DRAM, 128 MB flash
Transmit power	2.4 GHz <ul style="list-style-type: none"> <li>Maximum transmit power: 26 dBm (398.11 mW)</li> </ul> 5 GHz <ul style="list-style-type: none"> <li>Maximum transmit power: 26 dBm (398.11 mW)</li> </ul> Note: <ul style="list-style-type: none"> <li>Adjusting the transmit power by percentage (recommended) and in 1dBm increments.</li> <li>The transmit power is limited by local regulatory requirements. For details, see <a href="#">WLAN Country or Region Codes and Channel Compliance</a>.</li> </ul>

The following table lists the radio frequency performance of Wi-Fi including different frequency bands, protocols, and data rates. It is country-specific, and Ruijie Networks reserves the right of interpretation.

Radio Frequency Performance	RG-SAP815-SP		
Frequency Band and Protocol	Data Rate	Maximum Transmit Power per Transmit Chain	Maximum Receive Sensitivity per Receive Chain
2.4 GHz, 802.11b	1 Mbps	23 dBm	-91 dBm
	2 Mbps	23 dBm	-91dBm
	5.5 Mbps	23 dBm	-90 dBm
	11 Mbps	23 dBm	-87 dBm

Radio Frequency Performance	RG-SAP815-SP		
Frequency Band and Protocol	Data Rate	Maximum Transmit Power per Transmit Chain	Maximum Receive Sensitivity per Receive Chain
2.4 GHz, 802.11g	6 Mbps	23 dBm	-89 dBm
	24 Mbps	22 dBm	-82 dBm
	36 Mbps	22 dBm	-78 dBm
	54 Mbps	20 dBm	-72 dBm
2.4 GHz, 802.11n (HT20)	MCS0	23 dBm	-85 dBm
	MCS7	19 dBm	-67 dBm
2.4 GHz, 802.11n (HT40)	MCS0	23 dBm	-82 dBm
	MCS7	19 dBm	-64 dBm
2.4 GHz, 802.11ax (HE20)	MCS0	23 dBm	-85 dBm
	MCS11	15 dBm	-58 dBm
2.4 GHz, 802.11ax (HE40)	MCS0	23 dBm	-82 dBm
	MCS11	15 dBm	-54 dBm
5 GHz, 802.11a	6 Mbps	23 dBm	-89 dBm
	24 Mbps	22 dBm	-82 dBm
	36 Mbps	22 dBm	-78 dBm
	54 Mbps	20 dBm	-72 dBm
5 GHz, 802.11n (HT20)	MCS0	23 dBm	-85 dBm
	MCS7	19 dBm	-67 dBm
5 GHz, 802.11n (HT40)	MCS0	23 dBm	-82 dBm
	MCS7	19 dBm	-64 dBm
5 GHz, 802.11ac (VHT20)	MCS0	23 dBm	-85 dBm
	MCS9	18 dBm	-60 dBm

Radio Frequency Performance	RG-SAP815-SP		
Frequency Band and Protocol	Data Rate	Maximum Transmit Power per Transmit Chain	Maximum Receive Sensitivity per Receive Chain
5 GHz, 802.11ac (VHT40)	MCS0	23 dBm	-82 dBm
	MCS9	18 dBm	-57 dBm
5 GHz, 802.11ac (VHT80)	MCS0	23 dBm	-79 dBm
	MCS9	18 dBm	-53 dBm
5 GHz, 802.11ax (HE20)	MCS0	23 dBm	-85 dBm
	MCS11	16 dBm	-58 dBm
5 GHz, 802.11ax (HE40)	MCS0	23 dBm	-82 dBm
	MCS11	16 dBm	-54 dBm
5 GHz, 802.11ax (HE80)	MCS0	23 dBm	-79 dBm
	MCS11	16 dBm	-52 dBm

Note Available frequency bands may vary with countries or regions. To use the above-mentioned frequency bands, ensure that they are supported in your country or region. For details, see [WLAN Country or Region Codes and Channel Compliance](#).

## Software Specifications

### Basic Functions

Basic Function	RG-SAP815-SP
Applicable software version	RGOS11.9(6)W1B4 or later
<b>WLAN</b>	
Maximum number of associated STAs	256 (up to 128 STAs per radio)
Practical maximum client count indication (per device)	80
Maximum number of BSSIDs	32 (up to 16 BSSIDs per radio)
Maximum number of WLAN IDs	16

Basic Function	RG-SAP815-SP
STA management	SSID hiding Band steering Each SSID can be configured with the authentication mode, encryption mechanism, and VLAN attributes independently.
STA management	Remote Intelligent Perception Technology (RIPT) Intelligent STA identification technology Intelligent load balancing based on the STA quantity or traffic Rate set settings
STA limiting	SSID-based STA limiting Radio-based STA limiting
Bandwidth limiting	STA/SSID/AP-based rate limiting
CAPWAP	IPv4/IPv6 CAPWAP Layer 2 and Layer 3 topology between an AP and an AC An AP can automatically discover the accessible AC. An AP can be automatically upgraded through the AC. An AP can automatically download the configuration file from the AC. CAPWAP through NAT Encryption over CAPWAP data channels Encryption over CAPWAP control channels
Data forwarding	Centralized and local forwarding
Wireless roaming	Layer 2 and Layer 3 roaming
Wireless locating	MU device locating
<b>Security and Authentication</b>	
Authentication and encryption	Remote Authentication Dial-In User Service (RADIUS) PSK, PPSK, web, 802.1X, PEAP, WPA, WPA2 and WPA3 authentication Data encryption: WEP (64/128 bits), WPA-Personal, WPA-Enterprise, WPA2-Personal (PSK, TKIP, CCMP), WPA2-Enterprise, WPA3-Personal (SAE, WPA2/WPA3 transition mode), WPA3-Enterprise (CCMP)
Data frame filtering	Allowlist, static blocklist, and dynamic blocklist
WIDS	Wireless Intrusion Detection System(WIDS) User isolation Rogue AP detection and containment

Basic Function	RG-SAP815-SP
ACL	Dynamic ACL assignment based on 802.1X authentication (used with the AC)
CPP	CPU Protect Policy (CPP)
NFPP	Network Foundation Protection Policy (NFPP)
<b>Routing and Switching</b>	
MAC	Static and filtered MAC addresses MAC address table size: 1,024 Maximum number of static MAC addresses: 1,024 Maximum number of filtered MAC addresses: 1,024
Ethernet	Jumbo frame length: 1,518 Full-duplex and half-duplex modes of interfaces
VLAN	Interface-based VLAN assignment Maximum number of SVIs: 200 Maximum number of VLANs: 4,094 VLAN ID range: 1-4,094
ARP	ARP entry aging, gratuitous ARP learning, and proxy ARP Maximum number of ARP entries: 1,024 ARP check
IPv4 services	Static and DHCP-assigned IPv4 addresses Maximum number of IPv4 addresses configured on each Layer 3 interface: 200 DHCP snooping, DHCP server, and DHCP client NAT, FTP ALG and DNS ALG
IPv6 services	IPv6 addressing, Neighbor Discovery (ND), ICMPv6, IPv6 ping Maximum number of IPv6 addresses configured on each Layer 3 interface: 400 IPv6 DHCP client
IP routing	IPv4/IPv6 static route Maximum number of static IPv4 routes: 1,024 Maximum number of static IPv6 routes: 1,000
Multicast	Multicast-to-unicast conversion
VPN	PPPoE client IPsec VPN

Basic Function	RG-SAP815-SP
Network Management and Monitoring	
Network management	NTP server and NTP client SNMPv1/v2c/v3 Fault detection and alarm Information statistics and logging
Network management platform	Web management (Eweb) RG-WS series wireless controller and WIS Cloud
User access management	Console, Telnet, SSH, FTP client, FTP server, and TFTP client
Switchover among Fat, Fit, and cloud modes	When the AP works in Fit mode, it can be switched to Fat mode through an AC. When the AP works in Fat mode, it can be switched to Fit mode through the console port or Telnet mode. When the AP works in cloud mode, it can be managed through WIS Cloud.

## Value-added Software

The following value-added software functions can be achieved with the WIS solution (used with RG-iData-WIS and wireless controller).

Value-added Software	RG-SAP815-SP
Intelligent O&M	
Experience	Network operation analysis, such as device stability and signal coverage Measuring users' network experience based on indicators such as the latency, packet loss, signal strength, and channel utilization, and visualizing results of the network experience Statistics on the number of online and offline failures of STAs associated with different APs, average signal strength, and other parameters VIP monitoring and alarm, and custom alarm thresholds STA global experience map and experience coverage evaluation based on the time range STA access protocol replay and fine-grained STA fault diagnosis Note: To support the preceding functions, ensure that the AP works in Fit mode.
Network optimization	Network performance optimization, including one-click network optimization and scenario-based optimization Client steering to cope with roaming stickiness, and experience indicator comparison Client steering to cope with remote association, and experience indicator comparison One-click diagnosis – analyzing problems and providing suggestions

Value-added Software	RG-SAP815-SP
Big data	Baseline analysis – recording the configuration, version, and other changes, and tracking network KPI changes Time capsule – analyzing the device version and configuration change history
Regional analysis	Batch generation of building floor information – uploading floor plans, and dragging and dropping AP positions
One-click report	One-click health report – generating a report on the overall operation of a network
Security radar	Unauthorized Wi-Fi signal location, presentation by category, and containment
<b>Cloud Management</b>	
Management and maintenance	Uniformly connecting, managing, and maintaining APs, ACs, and other devices, batch device configuration and upgrade, and other functions Deployment through Zero Touch Provisioning (ZTP) – creating configuration templates and automatically applying configured templates One-click discovery of the wired and wireless network topology and topology generation
<b>Cloud Authentication</b>	
Authentication mode	SMS authentication, fixed account authentication, one-click authentication, Facebook authentication, Instagram authentication, voucher authentication, and other authentication modes Authentication implemented in the cloud, without the need to deploy the local authentication server
Customized portal	Customized Portal authentication page for mobile phones and PCs
SMS gateway	Interconnection with SMS gateways of GUODULINK and Alibaba Cloud
<b>Platform Capabilities</b>	
Big data capabilities	Mainstream persistence solutions based on Hadoop, MongoDB, and MySQL, providing distributed storage capabilities Spark-based big data computing capabilities Data warehouse building based on Hive, and data model conversion, integration, and other functions
Hierarchy and decentralization	Authorizing different applications for different users to meet service needs of different departments Granting operation permissions to administrators in different scenarios
System management	Account operation, authorization configuration, email configuration, configuration backup, exception alarms, and other system management functions

Note: For details, refer to the latest hybrid cloud management solution.

## Regulatory Compliance

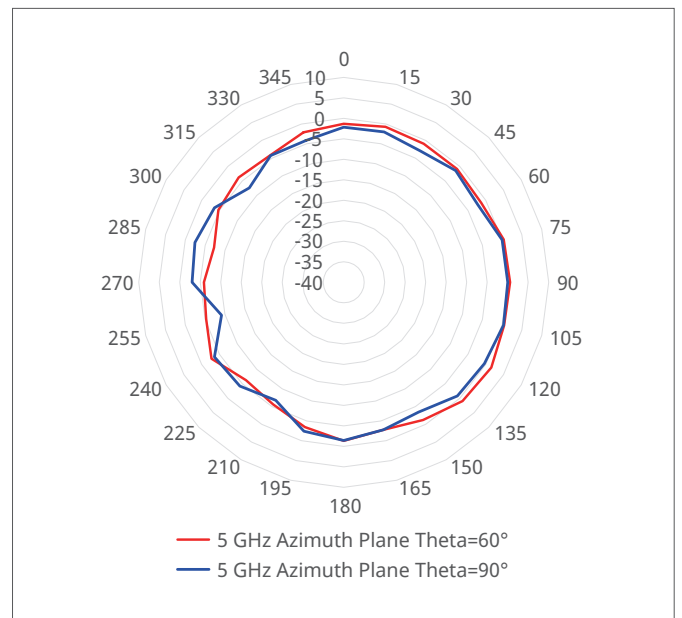
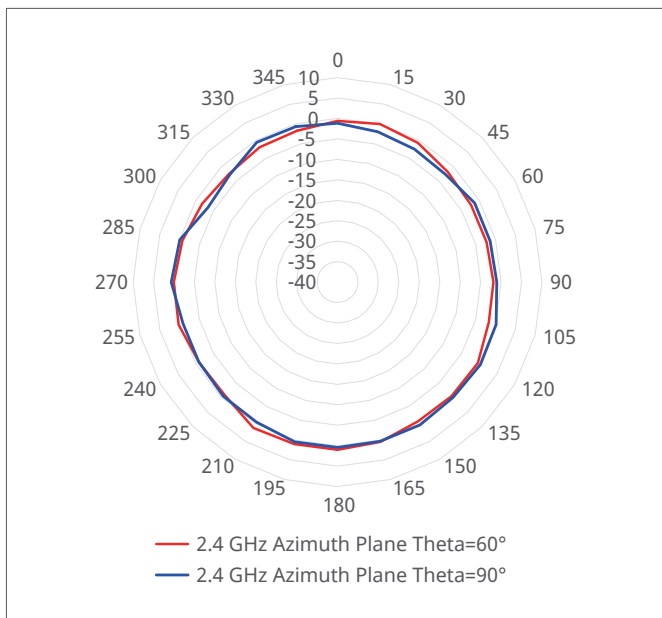
Regulatory Compliance	RG-SAP815-SP
Regulatory compliance	EN 55032, EN 55035, EN 61000-3-3, EN IEC 61000-3-2, EN 301 489-1, EN 301 489-3, EN 301 489-17, EN 300 328, EN 301 893, EN 300 440, FCC Part 15, EN IEC 62311, IEC 62368-1, and EN 62368-1

\* For more country-specific regulatory information and approvals, contact your local sales agency.

# Antenna Pattern Plots

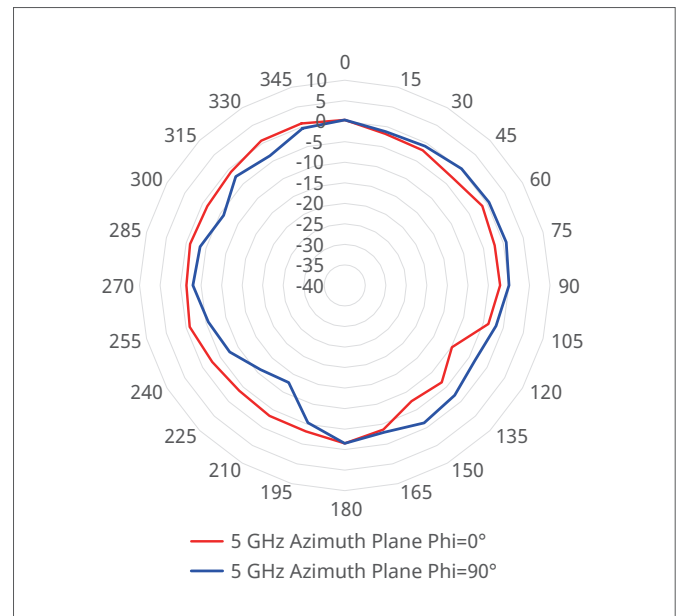
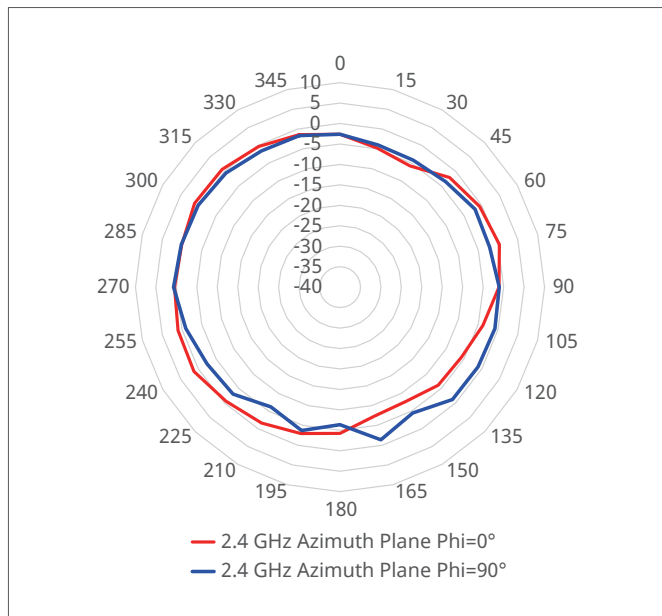
## Horizontal Planes (Top View)

The following figures show the azimuth antenna pattern at 2.4 GHz and 5 GHz radios.



## Vertical Planes (Side View, AP Facing Down)

The following figures shows the elevation antenna pattern at 2.4 GHz and 5 GHz radios.



Note: Operating frequency bands are country-specific.

## Ordering Guide

Perform the following steps to configure an RG-SAP815-SP:

- Select the RG-SAP815-SP.
- If the uplink switch supports PoE power, connect the PoE switch to the AP's uplink port to provide power for the AP.
- If the uplink switch does not support PoE power, purchase Ruijie's PoE Power Injector RG-E-120(GE), with the Data In end of the interface connected to the switch and the Data & Power Out end connected to the AP uplink port to supply power to the AP.
- If the uplink switch does not support PoE power, you can also purchase a DC power module from a third-party vendor to supply power to the AP through the DC power connector.

## Ordering Information

Model	Description
RG-SAP815-SP	Wi-Fi 6 802.11ax-compliant indoor wireless access point Dual radios, four spatial streams, peak data rate of 1.775 Gbps <ul style="list-style-type: none"> <li>• Radio 1: 2.4 GHz: two spatial streams, 2x2 MU-MIMO, peak data rate of 574 Mbps</li> <li>• Radio 2: 5 GHz: two spatial streams, 2x2 MU-MIMO, peak data rate of 1.201 Gbps</li> </ul>

Model	Description
RG-SAP815-SP	<p>1 x 10/100/1000M BASE-T uplink port, supporting PoE and local DC power supply Binding WIS Cloud service lifetime license Note:</p> <ul style="list-style-type: none"> <li>• The power source equipment (PSE) needs to be purchased separately. The PoE Power Injector can be purchased from Ruijie.</li> <li>• The DC power module has to be purchased separately from a third party. The output voltage/current must be 48 V/0.3 A.</li> </ul>
RG-E-120(GE)	Single PoE Power Injector with 1000BASE-T support, supporting 802.3af

## Package Contents

Item	Quantity
RG-SAP815-SP AP	1
Mounting bracket	1
Key to security lock	1
Wall anchor	4
M4 x 20 mm Phillips pan head screw	4
<i>Warranty Card and Hazardous Substance Table</i>	1
<i>Quick Installation Guide</i>	1
Ruijie wireless product management software (pre-installed on the AP)	1

## Warranty

For more information about warranty terms and period, contact your local sales agency:

- Warranty terms: <https://www.ruijie.com/support/servicepolicy>
- Warranty period: <https://www.ruijie.com/support/servicepolicy/Service-Support-Summary/>

Note: The warranty terms are subject to the terms of different countries and distributors.

## | More Information

For more information about Ruijie Networks, visit the official Ruijie website or contact your local sales agency:

- Ruijie Networks official website: <https://www.ruijie.com/>
- Online support: <https://www.ruijie.com/support>
- Hotline support: <https://www.ruijie.com/support/hotline>
- Email support: [EBGITSC@ruijie.com.cn](mailto:EBGITSC@ruijie.com.cn)
- *WLAN Country or Region Codes and Channel Compliance*: [https://www.ruijie.com/support/documents/slide\\_wlan-country-codes-overview](https://www.ruijie.com/support/documents/slide_wlan-country-codes-overview)

*Ruijie*



**Ruijie Networks Co., Ltd.**

For more information, visit [www.ruijie.com](http://www.ruijie.com) or call 86-400-620-8818.