RG-AP850-AR(V3)

Wi-Fi 6 Quad-radio Access Point

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Product Pictures

Product Overview

The RG-AP850-AR(V3) is a Wi-Fi 6 wireless access point that delivers quad radios, AI radio design, high performance, and enterprise-grade encryption. Its hybrid cloud management mode and high-density access design allow the RG-AP850-AR(V3) to be flexibly deployed in high-quality network scenarios, such as classrooms, meeting rooms, offices, dormitories, and large venues in the education industry, production workshops and warehouses in the manufacturing industry, and outpatient clinics and mobile ward rounds in the medical industry.

Product Highlights

Ultra-High Performance

- Quad-radio design (2.4GHz + 5GHz + 5 GHz + 2.4 GHz/5 GHz), eight spatial streams, 1024-Quadrature Amplitude Modulation (QAM) high-speed access, and up to 6.245 Gbps peak data rate, realizing high-speed wireless access experience
- Hardware-independent AI radio card to implement better roaming policies through real-time client scanning, thereby providing optimal roaming experience for mobile office, mobile video conferencing, or network courses
- 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

Flexible Networking

- Local and cloud management modes, and intelligent wireless network optimization, reducing TCO and maximizing ROI
- Access through optical and Ethernet cables for flexible networking and high-speed backhaul over 5 Gbps optical links
- IEEE 802.11k/v/r support and roaming stickiness optimization, achieving seamless user roaming
- Rich IoT features: PoE output, Bluetooth 5.1, and wireless locating

High Security and Reliability

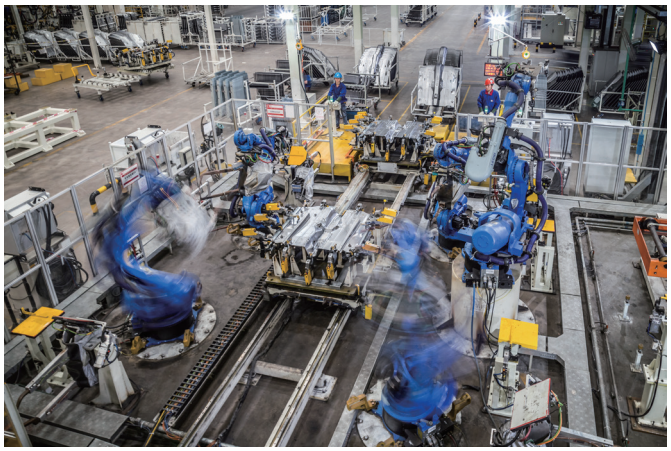
- Encryption and authentication technologies including Wi-Fi Protected Access 3 (WPA3), enhanced open security, 802.1X, and Private Pre-shared Key (PPSK), enhancing data security
- Hardware-independent AI radio card, safeguarding the security of 2.4 GHz/5 GHz radio in 24/7 mode and carrying out radar scanning on wireless networks to eliminate potential risks
- 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

Manufacturing Industry

Production Workshop

In the era of Industry 4.0, deploying roaming-free Wi-Fi enables automated and intelligent production workshops.



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.

Product Features

Multi-scenario Adaptability

The RG-AP850-AR(V3), a quad-radio 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-AP850-AR(V3) supports various wireless protocols, such as 802.11ax, 802.11ac Wave2, 802.11ac Wave1, and 802.11n. It features a hardware-independent quad-radio design to deliver a data rate of up to 6.245 Gbps, effectively eliminating wireless performance bottlenecks. Additionally, it is compatible with an extensive array of devices, promoting seamless interconnectivity among employees and customers.

Independent AI Radio Design

The hardware-independent AI radio card can safeguard the security of 2.4 GHz/5 GHz radio in 24/7 mode and carry out radar scanning on wireless networks to eliminate potential risks. Better roaming policies are implemented through real-time client scanning, providing optimal roaming experience for mobile office, mobile video conferencing, or network courses.

Security and Scalability

The RG-AP850-AR(V3) stands out with its exceptional wireless network security, RF control, mobile access, QoS guarantee, seamless roaming, and IoT module expansion. With Ruijie's wireless access controller (AC), it enables wireless user data forwarding, security, access control, and IoT application expansion to cope with diverse service needs.

Flexible Deployment and Power Supply

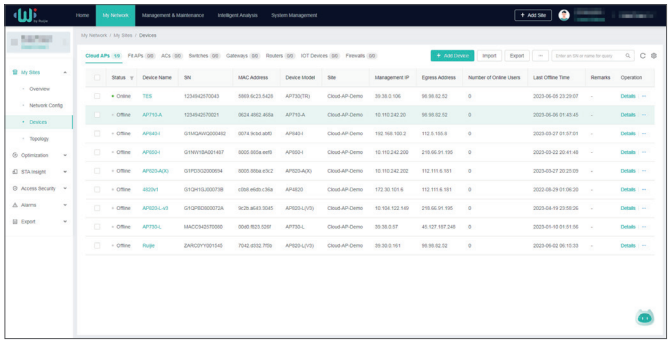
The RG-AP850-AR(V3) supports both local power supply and Power over Ethernet (PoE), providing you with the flexibility to choose the power supply mode. In addition, the RG-AP850-AR(V3) can be mounted against a wall or ceiling, making space deployment and environmental requirements less challenging. This makes the RG-AP850-AR(V3) 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) 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.

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.



Wireless Network Visualization

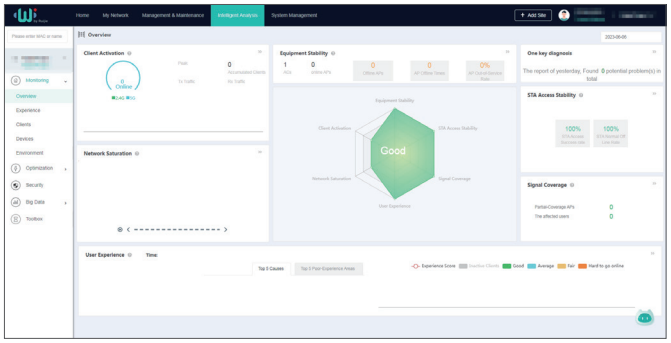
The overview function module of WIS provides a comprehensive view of the network running status from the perspective of overview, experience, users, devices,

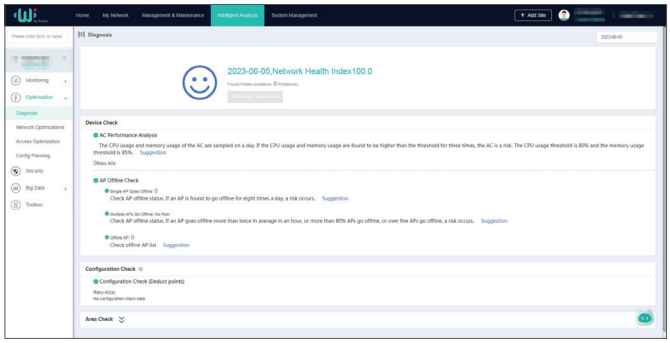
and environment. The network running information includes the following items:

- 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.





Product Specifications

Hardware Specifications

Hardware Specifications	RG-AP850-AR(V3)
802.11n	Eight spatial streams • Radio 1 – 2.4 GHz: 2x2 MIMO, two spatial streams • Radio 2 – 5 GHz: 2x2 MIMO, two spatial streams • Radio 3 – 5 GHz: 2x2 MIMO, two spatial streams • Radio 4 –2.4 GHz/5 GHz: 2x2 MIMO, two spatial streams Channels: • Radio 1 – 2.4 GHz: 20 MHz and 40 MHz • Radio 2 – 5 GHz: 20 MHz and 40 MHz • Radio 3 – 5 GHz: 20 MHz and 40 MHz • Radio 4 –2.4 GHz/5 GHz: 20 MHz and 40 MHz Combined peak data rate: 1.2 Gbps • Radio 1 – 2.4 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15) • Radio 2 – 5 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15) • Radio 3 – 5 GHz: 6.5 Mbps to 300 Mbps (MCS0 to MCS15) • Radio 4 –2.4 GHz/5 GHz: 6.5 Mbps~ 300 Mbps (MCS0 ~ MCS15) Radio technologies: Orthogonal Frequency-Division Multiplexing (OFDM) Modulation types: BPSK, QPSK, 16-QAM, 64-QAM Packet aggregation: • Aggregate MAC Protocol Data Unit (A-MPDU) • Aggregate MAC Service Data Unit (A-MSDU) Dynamic Frequency Selection (DFS) Cyclic Delay/Shift Diversity (CDD/CSD)

Hardware Specifications	RG-AP850-AR(V3)
802.11n	Maximum Ratio Combining (MRC) Space-Time Block Coding (STBC) Low-Density Parity Check (LDPC) Transmit beam-forming (TxBF)
802.11ac	Six spatial streams • Radio 2 – 5 GHz: 2x2 MIMO, two spatial streams • Radio 3 – 5 GHz: 2x2 MIMO, two spatial streams • Radio 4 – 5 GHz: 2x2 MIMO, two spatial streams Channels: • Radio 2 – 5 GHz: 20 MHz, 40 MHz, 80 MHz, and 160 MHz • Radio 3 – 5 GHz: 20 MHz, 40 MHz, 80 MHz, and 160 MHz • Radio 4 – 5 GHz: 20 MHz, 40 MHz, and 80 MHz Combined peak data rate: 4.333 Gbps • Radio 2 – 5 GHz: 6.5 Mbps to 1.733 Gbps (MCS0 to MCS9) • Radio 3 – 5 GHz: 6.5 Mbps to 1.733 Gbps (MCS0 to MCS9) • Radio 4 – 5 GHz: 6.5 Mbps to 0.867 Gbps (MCS0 ~ MCS9) Radio technologies: Orthogonal Frequency-Division Multiplexing (OFDM) Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM Packet aggregation: • Aggregate MAC Protocol Data Unit (A-MPDU) • Aggregate MAC Service Data Unit (A-MSDU) 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)
802.11ax	Six spatial streams • Radio 1 – 2.4 GHz: 2x2 uplink/downlink MU-MIMO, two spatial streams • Radio 2 – 5 GHz: 2x2 uplink/downlink MU-MIMO, two spatial streams • Radio 3 – 5 GHz: 2x2 uplink/downlink MU-MIMO, two spatial streams Channels: • Radio 1 – 2.4 GHz: 20 MHz and 40 MHz • Radio 2 – 5 GHz: 20 MHz, 40 MHz, 80 MHz, and 160 MHz • Radio 3 – 5 GHz: 20 MHz, 40 MHz, 80 MHz, and 160 MHz Combined peak data rate: 5.378 Gbps: • Radio 1 – 2.4 GHz: 8.6 Mbps to 0.574 Gbps (MCS0 to MCS11) • Radio 2 – 5 GHz: 8.6 Mbps to 2.402 Gbps (MCS0 to MCS11) • Radio 3 – 5 GHz: 8.6 Mbps to 2.402 Gbps (MCS0 to MCS11) Radio technologies: uplink/downlink Orthogonal Frequency-Division Multiple Access (OFDMA) Modulation types: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM Packet aggregation: • Aggregate MAC Protocol Data Unit (A-MPDU) • Aggregate MAC Service Data Unit (A-MSDU) 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

Hardware Specifications	RG-AP850-AR(V3)
Antenna	Wi-Fi • 2.4 GHz: two built-in omnidirectional antennas, with peak antenna gain of 5.4 dBi. • 5 GHz: six built-in omnidirectional antennas, with peak antenna gain of 5.2 dBi. Bluetooth • One integrated vertically polarized omnidirectional antenna, with peak antenna gain of 4.6 dBi.
Port	1 x 100/1000/2.5G/5GBase-T port 1 x 5GE SFP/RJ45 combo port, compatibility with 1GE and 2.5GE modules, shared with one 100/1000/2.5G/5GBASE-T port 1 x 10/100/1000Base-T port 1 x RJ45 console port (serial console port) 1 x USB 3.0 (Type-A connector) 1 x Bluetooth 5.1
Status LED	1 x multi-color system status LED • AP power-on status • Software initialization status and upgrade status • Uplink service interface status • Wireless user online status • CAPWAP tunnel timeout • Specific AP locating
Button	1 x Reset button • Press the button for shorter than 2 seconds. Then the device restarts. • Press the button for longer than 5 seconds. Then the device restores to factory settings.
Dimensions (W x D x H)	Main unit: 230 mm x 230 mm x 51 mm (9.06 in. x 9.06 in. x 2.01 in.) Shipping: 618 mm x 450 mm x 350 mm (24.33 in. x 17.72 in. x 13.78 in.)
Weight	Main unit: 1.0 kg (2.2 lbs) Mounting bracket: 0.1 kg (0.22 lbs) Shipping: 1.42 kg (3.13 lbs)
Mounting	Wall/Ceiling-mount (a mounting bracket is delivered with the main unit)
Lock option	Kensington lock and securing latch
Input power supply	The AP supports the following two power supply modes: • 54 V DC/1.1 A power input over DC connector: The DC connector accepts the center-positive circular plug with the inner diameter of 2.1 mm (0.08 in.) or outer diameter of 5.5 mm (0.22 in.) and the length of 9.5 mm (0.37 in.). A DC power supply needs to be purchased independently. • PoE input over LAN 1: The power source equipment (PSE) complies with IEEE 802.3af/at/bt standard (PoE/PoE+/PoE++). Note: If both DC power and PoE are available, DC power is preferred.
Maximum power consumption	Maximum power consumption: 40 W • DC power: 40 W, 2.4 GHz radio 2x2, 5 GHz radio 2x2, LAN 2 for PoE supply, and USB port enabled • 802.3bt (PoE++): 40 W, 2.4 GHz radio 2x2, 5 GHz radio 2x2, LAN 2 for PoE supply, and USB port enabled

Hardware Specifications	RG-AP850-AR(V3)
Maximum power consumption	Maximum power consumption: 40 W • DC power: 40 W, 2.4 GHz radio 2x2, 5 GHz radio 2x2, LAN 2 for PoE supply, and USB port enabled • 802.3bt (PoE++): 40 W, 2.4 GHz radio 2x2, 5 GHz radio 2x2, LAN 2 for PoE supply, and USB port enabled • 802.3at (PoE+): 23 W, 2.4 GHz radio 2x2, 5 GHz radio 2x2, AI Radio enabled , LAN 2 and USB port that fail to provide power for external devices (PoE out disabled of LAN 2 and USB port disabled) • 802.3af (PoE): 12.95 W, 2.4 GHz radio 1x1, 5 GHz radio 1x1, AI Radio is disabled, LAN 2 and USB port that fail to provide power for external devices (PoE out disabled of LAN 2 and USB port disabled) • Idle mode: 10.3 W
External power supply	When powered by 802.3bt (PoE++), the AP can supply power to an external device. • The USB port can source 1 A/5 W power to an attached device. • The LAN 2 port can source 48 V/12.95 W power to an IoT unit.
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 (–1640.42 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 +5,000 m (–1640.42 ft. to +16,404.20 ft.) Note: At an altitude in the range of 2,000–5,000 m (6,561.68–16,404.20 ft.), every time the altitude increases by 166 m (544.62 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	1 GB DRAM, 256 MB flash
Transmit power	2.4 GHz • Maximum transmit power: +27 dBm (501.19 mW) • Minimum transmit power: +19 dBm (79.43 mW) 5 GHz • Maximum transmit power: +26 dBm (398.11 mW) • Minimum transmit power: +21 dBm (125.89 mW) Note: The transmit power adjusted in percentage. The transmit power is limited by local regulatory requirements. For details, see *WLAN Country or Region Codes and Channel Compliance*.

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

Radio Frequency Performance	RG-AP850-AR(V3)		
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	24 dBm	–91 dBm

Radio Frequency Performance	RG-AP850-AR(V3)		
Frequency Band and Protocol	Data Rate	Maximum Transmit Power per Transmit Chain	Maximum Receive Sensitivity per Receive Chain
2.4 GHz, 802.11b	2 Mbps	24 dBm	–91 dBm
	5.5 Mbps	23 dBm	–90 dBm
	11 Mbps	22 dBm	–87 dBm
2.4 GHz, 802.11g	6 Mbps	24 dBm	–89 dBm
	24 Mbps	23 dBm	–82 dBm
	36 Mbps	23 dBm	–78 dBm
	54 Mbps	21 dBm	–72 dBm
2.4 GHz, 802.11n (HT20)	MCS0	24 dBm	–85 dBm
	MCS7	20 dBm	–67 dBm
2.4 GHz, 802.11n (HT40)	MCS0	24 dBm	–82 dBm
	MCS7	20 dBm	–64 dBm
2.4 GHz, 802.11ax (HE20)	MCS0	24 dBm	–85 dBm
	MCS11	16 dBm	–58 dBm
2.4 GHz, 802.11ax (HE40)	MCS0	24 dBm	–82 dBm
	MCS11	16 dBm	–54 dBm
5 GHz, 802.11a	6 Mbps	24 dBm	–89 dBm
	24 Mbps	23 dBm	–82 dBm
	36 Mbps	23 dBm	–78 dBm
	54 Mbps	21 dBm	–72 dBm
5 GHz, 802.11n (HT20)	MCS0	24 dBm	–85 dBm
	MCS7	20 dBm	–67 dBm
5 GHz, 802.11n (HT40)	MCS0	24 dBm	–82 dBm
	MCS7	20 dBm	–64 dBm

Radio Frequency Performance	RG-AP850-AR(V3)		
Frequency Band and Protocol	Data Rate	Maximum Transmit Power per Transmit Chain	Maximum Receive Sensitivity per Receive Chain
5 GHz, 802.11ac (VHT20)	MCS0	24 dBm	–85 dBm
	MCS9	18.5 dBm	–60 dBm
5 GHz, 802.11ac (VHT40)	MCS0	24 dBm	–82 dBm
	MCS9	18.5 dBm	–57 dBm
5 GHz, 802.11ac (VHT80)	MCS0	24 dBm	–79 dBm
	MCS9	18.5 dBm	–53 dBm
5 GHz, 802.11ax (HE20)	MCS0	24 dBm	–85 dBm
	MCS11	16 dBm	–58 dBm
5 GHz, 802.11ax (HE40)	MCS0	24 dBm	–82 dBm
	MCS11	16 dBm	–54 dBm
5 GHz, 802.11ax (HE80)	MCS0	24 dBm	–79 dBm
	MCS11	16 dBm	–52 dBm
5 GHz, 802.11ax (HE160)	MCS0	24 dBm	–76 dBm
	MCS11	16 dBm	–49 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

Software Specifications	RG-AP850-AR(V3)
Basic Functions	
Applicable software version	RGOS11.9(6)W2B7 or later
WLAN	
Maximum number of associated STAs	1,536 (up to 512 STAs per radio)

Software Specifications	RG-AP850-AR(V3)
Maximum number of BSSIDs	48 (up to 16 BSSIDs per radio)
Maximum number of WLAN IDs	16
STA management	SSID hiding Each SSID can be configured with the authentication mode, encryption mechanism, and VLAN attributes independently. 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 MTU setting and fragmentation over CAPWAP tunnels 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 and TAG device locating
Security and Authentication	
Authentication and encryption	Remote Authentication Dial-In User Service (RADIUS) PSK and web authentication QR code-based guest authentication, SMS authentication, and MAC address bypass (MAB) authentication Data encryption: WEP (64/128 bits), WPA (TKIP), WPA-PSK, WPA2 (AES), WPA3-Enterprise, WPA3-Individual
Data frame filtering	Allowlist, static blocklist, and dynamic blocklist
WIDS	Wireless Intrusion Detection System(WIDS) User isolation Rogue AP detection and containment

Software Specifications	RG-AP850-AR(V3)
ACL	IP standard ACL, MAC extended ACL, IP extended ACL, and expert-level ACL IPv6 ACL Time range-based ACL ACL based on a Layer 2 interface ACL based on a Layer 3 interface Ingress ACL based on a wireless interface ACL Remark Dynamic ACL assignment based on 802.1X authentication (used with the AC)
CPP	CPU Protect Policy (CPP)
NFPP	Network Foundation Protection Policy (NFPP)
Routing and Switching	
MAC	Static and filtered MAC addresses MAC address table size: 2,048 Maximum number of static MAC addresses: 2,048 Maximum number of filtered MAC addresses: 2,048
Ethernet	Jumbo frame length: 1,518 Full-duplex and half-duplex modes of interfaces IEEE802.1p and IEEE802.1Q Optical module information display, alarms about faults, and diagnosis parameter measurement (QSFP+/SFP+/SFP)
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: 2,048 ARP check
IPv4 services	Static and DHCP-assigned IPv4 addresses NAT, FTP ALG and DNS ALG
IPv6 services	IPv6 addressing, Neighbor Discovery (ND), IPv6 ND proxy, ICMPv6, IPv6 ping 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

Software Specifications	RG-AP850-AR(V3)
Network Management and Monitoring	
Network management	NTP server and NTP client SNTP client SNMPv1/v2C/v3 Fault detection and alarm Information statistics and logging
Network management platform	Web management (Eweb)
User access management	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 Ruijie 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-AP850-AR(V3)
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
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

Value-added Software	RG-AP850-AR(V3)
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
Cloud Management	
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
Cloud Authentication	
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
Platform Capabilities	
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-AP850-AR(V3)
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

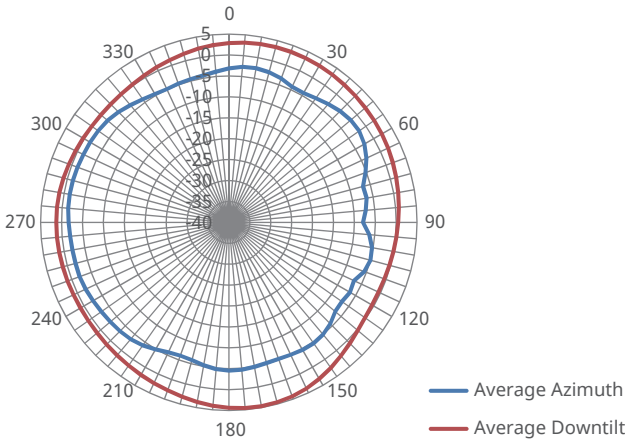
* For more country-specific regulatory information and approvals, contact your local sales agency.

Antenna Pattern Plots

Horizontal Planes (Top View)

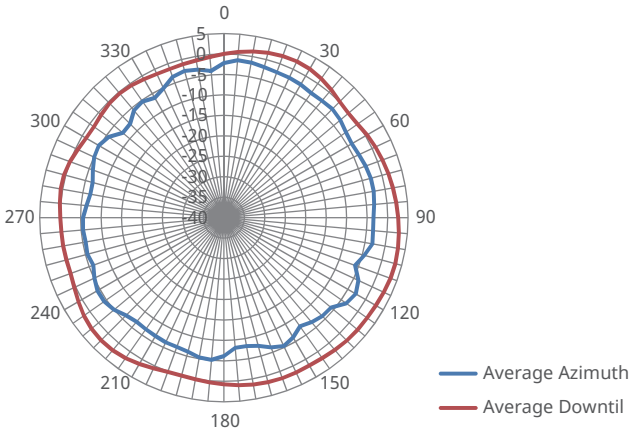
The following figures show the azimuth antenna pattern at 2.4 GHz and 5 GHz radios.

2.44 GHz



2.44 GHz(ANT1,2)

5.5 GHz

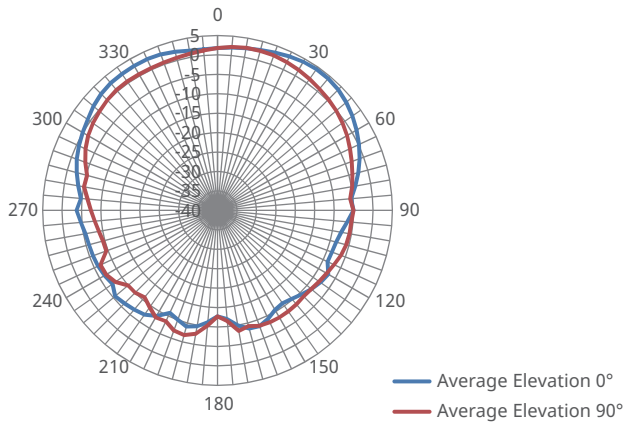


5.5 GHz(ANT1,2,3,4)

Vertical Planes (Side View, AP Facing Down)

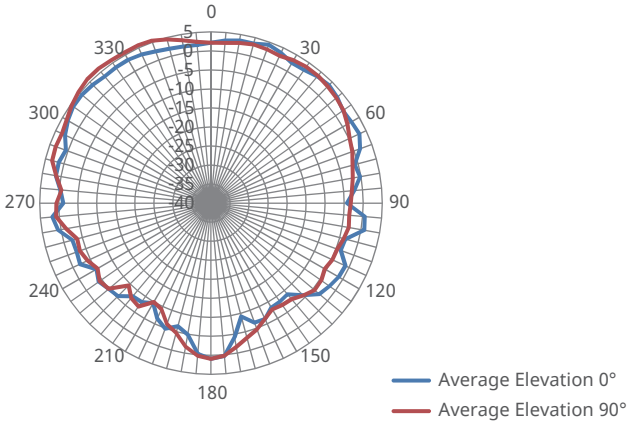
The following figures shows the elevation antenna pattern at 2.4 GHz and 5 GHz radios.

2.44 GHz



2.44 GHz(ANT1,2)

5.5 GHz



5.5 GHz(ANT1,2,3,4)

Note: Operating frequency bands are country-specific.

Ordering Information

Model	Description
RG-AP850-AR(V3)	802.11ax-compliant indoor high-density wireless access point Quad-radio, eight spatial streams, peak data rate of 6.245 Gbps • Radio 1: 2.4 GHz: two spatial streams, 2x2 MU-MIMO, peak data rate of 574 Mbps • Radio 2: 5 GHz: two spatial streams, 2x2 MU-MIMO, peak data rate of 2.402 Gbps • Radio 3: 5 GHz: two spatial streams, 2x2 MU-MIMO, peak data rate of 2.402 Gbps • Radio 4: 2.4 GHz/5 GHz: two spatial streams, 2x2 MIMO, 2.4 GHz peak data rate of 0.3 Gbps, 5 GHz peak data rate of 0.867 Gbps 802.11a/b/g/n/ac/ax, switching between Fat, Fit, and cloud modes, and 802.3af/at/bt PoE and local DC power supply Note: • The power source equipment (PSE) needs to be purchased separately. • The DC power supply needs to be purchased separately, and the output voltage/current must be 54 V/1.1 A.

Package Contents

Item	Quantity
Main unit	1
Mounting bracket	1
Wall anchor	4
4.2 mm x 20 mm Phillips pan head self-tapping screw	4
Warranty Card and Hazardous Substance Table	1
Quick Installation Guide	1

Warranty

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

- Warranty terms: https://www.ruijienetworks.com/support/servicepolicy
- Warranty period: https://www.ruijienetworks.com/support/servicepolicy/Service-Support-Summany/

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.ruijienetworks.com/
- Online support: https://www.ruijienetworks.com/support
- Hotline support: https://www.ruijienetworks.com/support/hotline
- Email support: service_rj@ruijienetworks.com
- *WLAN Country or Region Codes and Channel Compliance:* https://www.ruijienetworks.com/support/documents/slide_wlan-country-codes-overview

Ruijie Networks Co., Ltd.

For more information, visit www.ruijienetworks.com or call 86-400-620-8818.