

Ruijie RG-AP880-AR Datasheet



Product Overview

- Ruijie RG-AP880-AR is part of the high-performance Wi-Fi 6 RG-AP800 series, designed for seamless deployment in high-density, mission-critical environments.
- Tailored for sectors such as education, healthcare, and manufacturing, this model offers unmatched wireless coverage in classrooms, offices, outpatient clinics, and smart warehouses.
- With a quad-radio design, it delivers up to 7.780 Gbps peak throughput and supports up to ten spatial streams for ultra-fast connectivity.
- AI-powered radio management optimizes roaming and interference mitigation, ensuring smooth mobile experiences for video conferencing, online classes, and field operations.
- The RG-AP880-AR supports flexible hybrid management (local and cloud), robust WPA3 security, and built-in IoT capabilities such as PoE out, Bluetooth 5.1, and wireless location services.
- Ideal for use in classrooms, conference rooms, production lines, and healthcare facilities.

Product Highlights

- **High-Speed Quad-Radio Design:** The RG-AP880-AR supports 10 spatial streams and up to 7.780 Gbps peak data rate, delivering exceptional performance in high-density environments.
- **Flexible Uplink and Management:** Equipped with a 2.5GE uplink, PoE out, and hybrid cloud/local management for versatile deployment.
- **Advanced Wireless Standards:** Complies with Wi-Fi 6, supporting OFDMA, MU-MIMO, 802.11k/v/r, and intelligent roaming.
- **Integrated IoT Features:** Built-in Bluetooth 5.1 and multiple RF modes for enhanced connectivity and AI-based optimization.

Detailed Features



RG-AP880-AR

Component	Specification
Wi-Fi Standard	Wi-Fi 6 (802.11ax)
Radio Design	Quad-radio (2.4G + 5G + 5G + AI)
Maximum Data Rate	Up to 7.780 Gbps
Spatial Streams	10
Management Mode	Local + Cloud (Hybrid)



Multi-Scenario Adaptability

The RG-AP880-AR is engineered for flexibility across diverse environments, including higher education campuses, government buildings, financial institutions, and enterprise offices. With its quad-radio architecture and advanced design, it accommodates complex deployment needs in locations such as classrooms, dormitories, conference halls, and production sites, delivering reliable wireless access in every corner.

High-Speed Access and Protocol Compatibility

Supporting 802.11ax, 802.11ac Wave2, 802.11ac Wave1, and 802.11n protocols, the RG-AP880-AR ensures smooth access across a wide variety of wireless devices. Its quad-radio design achieves a maximum data rate of up to 7.780 Gbps, effectively removing wireless bottlenecks and providing fast, uninterrupted connectivity for bandwidth-intensive applications.

Independent AI Radio Design

Through intelligent real-time client scanning, it optimizes roaming performance—ideal for mobile office environments, video conferencing, and digital learning scenarios where seamless connectivity is vital.

Enterprise-Grade Security Features

Advanced encryption mechanisms such as WPA3, enhanced open security, 802.1X, and Private Pre-shared Key (PPSK) are integrated into the RG-AP880-AR, ensuring the protection of user data. In addition, built-in radar scanning help avoid interference and reinforce the reliability and stability of your wireless infrastructure.

Robust RF Optimization and Reliability

Equipped with intelligent channel selection and RF power control, the RG-AP880-AR addresses challenges like co-channel and adjacent-channel interference. Technologies like CDD/CSD, MRC, STBC, LDPC, and Tx Beamforming improve signal quality, coverage, and overall transmission efficiency, ensuring a stable and high-performing wireless network.

IoT-Ready with Scalable Management

Beyond conventional Wi-Fi, the RG-AP880-AR supports Bluetooth 5.1, wireless location services, and PoE output for IoT applications. With Ruijie's Wireless Access Controller (AC), it also facilitates centralized control for functions like user access, data forwarding, policy enforcement, and IoT expansion—empowering organizations to scale network services with ease.

Flexible Power Supply and Mounting Options

This model supports both PoE and local power options, making deployment more convenient in diverse environments. Its wall- or ceiling-mounting design enhances aesthetic integration while minimizing installation limitations, making it ideal for high-density venues such as auditoriums, airports, or multi-story office complexes.

Streamlined Network Management

Through Ruijie's unified management platform, administrators can enjoy capabilities such as multi-site device onboarding, real-time online status monitoring, batch configuration delivery, and automatic backup and restoration.

Technical Specifications

Product Specifications

Feature	Value
Radio Specifications	<ul style="list-style-type: none">- 2.4 GHz (Radio 1): 2x2 MIMO, up to 574 Mbps (802.11ax)- 5 GHz (Radio 2): 2x2 MIMO, up to 2.4 Gbps (802.11ax)- 5 GHz (Radio 3): 4x4 MIMO, up to 4.8 Gbps (802.11ax)- AI Radio (Radio 4): 2x2 MIMO (scanning only)
Frequency Bands & Channels	<ul style="list-style-type: none">- 2.4 GHz: 20/40 MHz-- 5 GHz: 20/40/80/160 MHz
Modulation	BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Max Data Rate	7.78 Gbps (combined across radios)
Antenna Type & Gain	<ul style="list-style-type: none">- 2.4 GHz: 2 built-in smart antennas, 5.5 dBi- 5 GHz: 6 built-in smart antennas, 7 dBi

Feature	Value
Ports	<ul style="list-style-type: none"> - 1 × 100/1000/2.5G/5GBASE-T (PoE++) - 1 × 5GE SFP/RJ45 combo - 1 × 10/100/1000BASE-T (PoE output) - 1 × RJ45 console - 1 × USB 3.0 - 1 × Bluetooth 5.1 antenna (3 dBi)
Power Supply	<ul style="list-style-type: none"> - 54V DC/1.1A via DC jack (preferred if both present) - IEEE 802.3af/at/bt (PoE/PoE+/PoE++) via LAN1
Power Consumption	<ul style="list-style-type: none"> - Max: 40W (DC or 802.3bt) - 802.3at: 25W - 802.3af: 12.2W
LED & Buttons	<ul style="list-style-type: none"> - 1 × system LED (multi-color) - 1 × Reset (short press: restart; long press: factory reset)
Dimensions (W × D × H)	<ul style="list-style-type: none"> - Main unit: 230 × 230 × 51 mm - Shipping: 618 × 450 × 350 mm
Weight	<ul style="list-style-type: none"> - Main unit: 1.0 kg - Mounting bracket: 0.1 kg - Shipping: 1.25 kg
MTBF	200,000 hours (approx. 22 years at 25°C)
Environment	<ul style="list-style-type: none"> - Operating Temp: -10°C to +50°C - Storage Temp: -40°C to +70°C - Humidity: 5–95% RH- Altitude: -500 to 5,000 m
Wireless User Capacity	Supports up to 1024 concurrent wireless users (recommended value, actual depends on environment)
Lightning Protection	Ethernet ports support 4KV lightning protection

Product Comparison

Feature	RG-AP840-I(V2)	RG-AP880-E	RG-AP880-AR
Product Type	Indoor Wi-Fi 6 AP	High-Performance Indoor Wi-Fi 6 AP	High-Performance Outdoor Wi-Fi 6 AP
Max Data Rate	5.378 Gbps	7.780 Gbps	7.780 Gbps
Spatial Streams	6 Streams (4×4@5GHz + 2×2@2.4GHz)	8 Streams (4×4@2.4GHz + 4×4@5GHz)	8 Streams (4×4@2.4GHz + 4×4@5GHz)
Uplink Interface	1 × 5GE Combo Port (RJ45/SFP)	1 × 5GE Combo Port (RJ45/SFP)	1 × 5GE Combo Port (RJ45/SFP)
Antenna Type	Internal Smart Antennas	External Detachable Antennas	External Detachable Antennas
PoE Standard	802.3at	802.3bt	802.3bt
Target Deployment	Standard Indoor Coverage	High-Density, High-Speed Indoor Environments	High-Density, Outdoor Coverage
Operating Mode	Fit/Fat/Cloud	Fit/Fat/Cloud	Fit/Fat/Cloud
Mounting Options	Ceiling/Wall Mount	Ceiling Mount	Pole/Wall Mount



Feature	RG-AP840-I(V2)	RG-AP880-E	RG-AP880-AR
Operating Temperature	0°C to +45°C	0°C to +50°C	-40°C to +65°C
IP Rating	Not Rated	Not Rated	IP68 Weatherproof
WPA Security	WPA3/WPA2/WPA	WPA3/WPA2/WPA	WPA3/WPA2/WPA
Cloud Management	Supported via Ruijie Cloud	Supported via Ruijie Cloud	Supported via Ruijie Cloud
Beamforming	Supported	Supported	Supported
Max Clients	1024	1536	1536

Accessories

Category	Accessories
Included Accessories	- Mounting Bracket
	- Key to Security Lock
	- Wall Anchor × 4
	- 4.2 mm × 20 mm Phillips Pan Head Self-Tapping Screws × 4
	- Warranty Card and Hazardous Substance Table
	- Quick Installation Guide
	- Ruijie Wireless Product Management Software (pre-installed)
Optional Accessories	- Rack Mount Kit: SP-RM-1000
	- SFP Transceivers: FG-TRAN-GC
	- Power Supply: FG-PSU-1000



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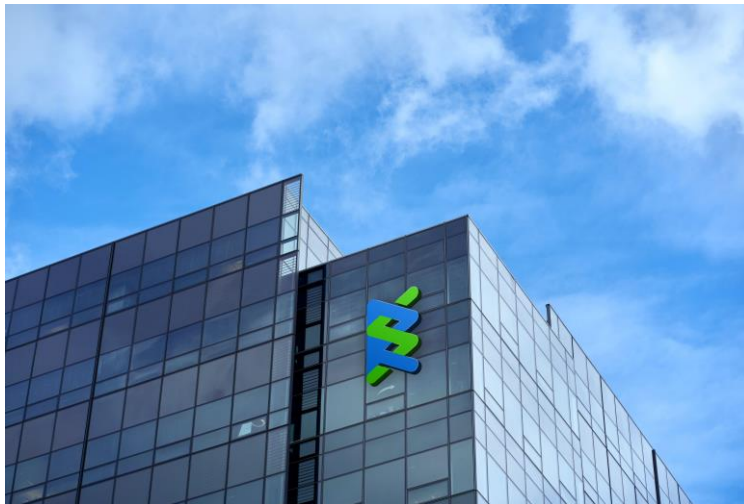


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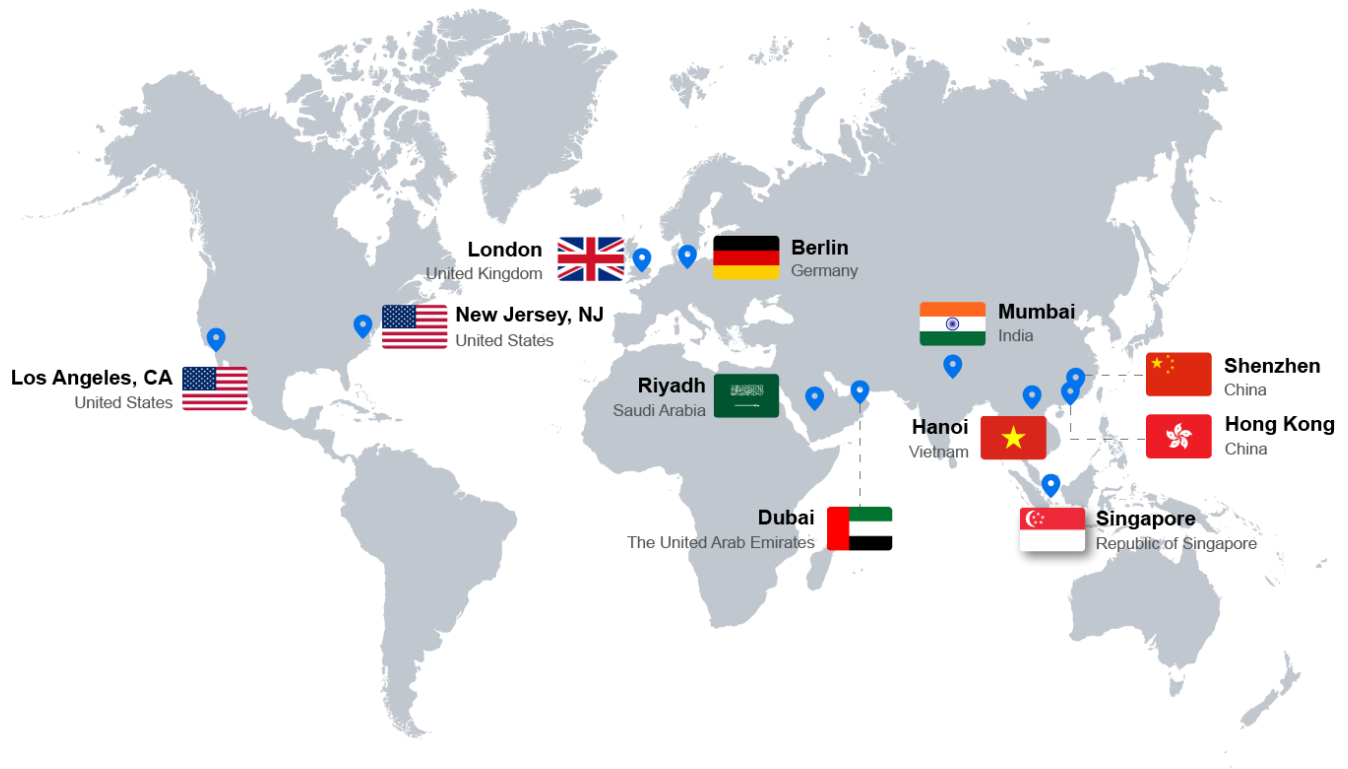
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Global Warehouses & Service Centers Across Continents.



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References

[1] Ruijie Networks. (2023). RG-AP880-AR Datasheet. Retrieved from <https://www.ruijie.com/en-global/resources/preview/77541/>