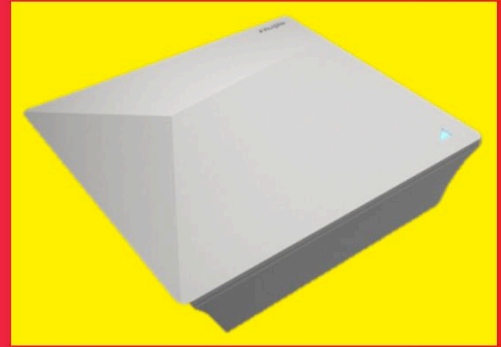


# RG-AP520-I

## 802.11ac Wireless Access Point Datasheet



Ruijie RG-AP520-I is an indoor dual-band dual-radio 802.11ac wireless access point designed for the higher education, general education, government, healthcare, financial and commercial sectors. The RG-AP520-I AP supports 2 spatial streams and delivers access rates of up to 300Mbps with 2.4GHz, 867Mbps with 5GHz. With an outstanding achievement of 1.167Gbps per AP, the wireless performance is no longer a bottleneck.

### HIGHLIGHTS

- Patented "X-Sense 3" Smart Antenna Technology
- 2x2 MIMO Design with up to 1167Mbps Throughput
- Concurrent Dual-band (5GHz/2.4GHz) Support
- 200+ Concurrent Users Support

The RG-AP520-I AP also features security, radio frequency (RF) control, mobile access, Quality of Service (QoS) and seamless roaming. Teaming up with Ruijie RG-WS Series Wireless Access Controllers (ACs), wireless data forwarding, security and access control can be accomplished with ease.

Implementing the standard 802.11ac protocol, the AP deploys a dual-band dual-radio design supporting 2.4GHz (802.11b/g/n) and 5GHz (802.11a/n/ac).

The RG-AP520-I AP provides 2 GE copper ports and 1 USB port. One of the copper ports supports PoE power supply while another is designed for AP expansion. The reserved USB port can connect to external components for flexible expansion (sold separately).

## PRODUCT FEATURES

### Smart Wireless Coverage

#### 802.11ac Gigabit Access Rate

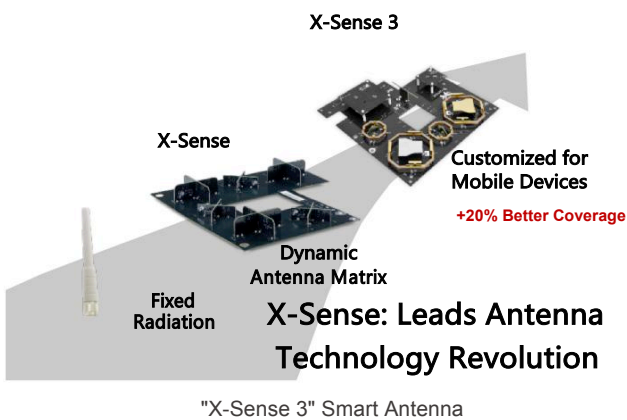
The 5GHz band of RG-AP520-I AP supports 802.11ac, the next-generation WiFi standard, and offers a maximum connection rate up to 867Mbps. When the dual bands operate simultaneously, the AP achieves an ultra-fast speed of up to 1.167Gbps. Comparing to the conventional 802.11n standard, the throughput is greatly enhanced by 94.5%. The RG-AP520-I AP delivers a truly high-speed user experience.

#### Remarkable Energy-saving Design

The RG-AP520-I AP adopts advanced power-saving features including single-antenna standby, dynamic MIMO power saving, enhanced transmission technology with automatic power saving and packet-by-packet power control. Coupled with the high-performance power supply design, the AP guarantees high-speed wireless access and maximized signal coverage under 802.3af power supply.

## Built-in Ruijie's Latest "X-Sense 3" Smart Antenna

With the new "X-Sense 3" Smart Antenna installed, the AP deploys vertical polarization and horizontal polarization antenna arrays. The AP selects the most suitable antenna type based on the end devices. An optimal signal experience is ensured with ease regardless of how the AP is installed (no matter the device is set up horizontally or vertically). Ruijie has greatly improved the antenna design especially targeting the 5GHz band. The emission unit for each direction is constructed with one main oscillator and multiple lead oscillators. In comparison with traditional smart antenna, the "X-Sense 3" wireless gain has improved more than 5dB. The 5GHz coverage performance is the top in the market. Even when the users are far away from the AP, they can still enjoy the 802.11ac benefits offered by the RG-AP520-I AP.



## Industry-leading Local Forwarding Technology

Employing an industry-leading local forwarding technology, the RG-AP520-I AP eliminates the traffic bottleneck of ACs. In collaboration with Ruijie RG-WS Wireless AC Series, users can flexibly pre-set a forwarding mode for the RG-AP520-I AP. The AP can determine whether to forward data to the AC according to a SSID or user VLAN, or directly send the data to a wired network for data exchange.

The local forwarding technology can forward large-scale, delay-sensitive and real-time transmission data through the wired network. The feature significantly alleviates the traffic pressure on the wireless controllers and better fulfills the high traffic transmission requirements of 802.11ac network.

## Abundant QoS Policies

The RG-AP520-I AP supports an extensive array of QoS policies. For example, it provides bandwidth limitations in WLAN/AP/ STA modes and Wi-Fi multimedia (WMM) that defines different priorities for different service data. The RG-AP520-I AP realizes timely and quantitative transmission of audio and video and guarantees smooth operation of multi-media applications.

With the multicast-to-unicast conversion technology, the AP resolves the video interruption problem due to packet loss or long delay in the wireless Video on Demand (VoD) system. The AP highly enhances user experience with multicast video over wireless networks.

## Flexible Network Module

### Reserved USB Expansion Port

The reserved USB port can flexibly connect to USB modules, handling more access users with ease.

## Flexible Device Management Mode

### Flexible Switching Between FAT & FIT Modes

The RG-AP520-I AP supports flexible switching over the FAT and FIT modes according to the networking requirements of different industries. When there are few APs, users can adopt the FAT mode for easy, independent network establishment. For large-scale networks, the RG-AP520-I AP can operate at FIT mode and works with RG-WS ACs to allow centralized management of all the APs and other aspects such as security, traffic management, QoS and IP management. Smooth transition from one mode to another, the RG-AP520-I AP fully protects user investment.

### Simple Deployment With Zero Configuration

Under the FIT mode, no configuration is required for the RG-AP520-I AP before deployment. Also, no manual configuration is necessary for on-site installation, maintenance or replacement. Download and auto implementation of AP configuration can all be completed via the AC. This user-friendly feature remarkably reduces installation and maintenance workload as well as investment costs.

### PoE Port For Easy Deployment & Maintenance

In addition to local power supply, the RG-AP520-I AP also supports the 802.3af/802.3at PoE standard. With PoE switch or PoE power adapter, a single Ethernet cable can provide both data connection and electrical power to the AP. The network administrator can remotely control the devices. It also solves the problem of unstable power source, hence simplifying the installation process and maximizing the cost savings.

## TECHNICAL SPECIFICATIONS

Model	RG-AP520-I
Radio	Dual-band dual-radio 2x2MIMO
Protocol	Support standard 802.11ac Support concurrent 802.11ac and 802.11a/b/g/n
Operating Bands	802.11b/g/n: 2.4GHz-2.483GHz – World wide 802.11a/n/ac: 5.150GHz to 5.350GHz: China, Malaysia, Japan, USA, United Kingdom, EU, Russia, CIS. 802.11a/n/ac: 5.65GHz to 5.725GHz: China, Malaysia, Japan, USA, United Kingdom, EU, Russia, CIS. 802.11a/n/ac: 5.725GHz to 5.850GHz: China, Malaysia, Japan, USA, United Kingdom.
Antenna	Built-in “X-Sense 3” Smart Antenna Array (Support 4,096 antenna combinations, with maximum gain of up to 7dBi)
Spatial Streams	2
Max Throughput	Up to 300Mbps with 2.4GHz and 867Mbps with 5GHz Up to 1.167Gbps per AP
Modulation	OFDM: BPSK @ 6/9Mbps, QPSK @ 12/18Mbps, 16-QAM @ 24Mbps, 64-QAM @ 48/54Mbps DSSS: DBPSK @ 1Mbps, DQPSK @ 2Mbps, and CCK @ 5.5/11Mbps MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM and 256QAM
Receiver Sensitivity	11b: -99dBm (1Mbps), - 93dBm (5.5Mbps), - 90dBm (11Mbps) 11a/g: -93dBm (6Mbps), - 85dBm (24Mbps), - 82dBm (36Mbps), - 77dBm (54Mbps) 11n: -92dBm @ MCS0, -74dBm @ MCS7, -92dBm @ MCS8, -73dBm @ MCS15 11ac HT20: -90dBm (MCS0), -63dBm (MCS9) 11ac HT40: -85dBm (MCS0), -60dBm (MCS9) 11ac HT80: -82dBm (MCS0), -58dBm (MCS9)
Transmit Power	≤100mw (20dBm, RF card transmission power only)
Adjustable Power	1 dBm
Dimensions (W x D x H) (mm)	205 × 205 × 42 (The height of the device only. It does not include the height of the antenna connector or bracket.)
Weight	0.7 kg
Service Port	Two 10/100/1000Base-T Ethernet uplink ports (Port 1 supports PoE; Port 2 is configurable as Standby Port / LAN Port) One USB 2.0 port (for future expansion)
Management Port	1 RJ45 console port
Status Indicators	Device, Ethernet and wireless status indicators
Power Supply	Support local power supply: DC 48V (Remarks: power adapter is optional) Support PoE power supply (Support 802.3af / 802.3at-compliant power supply)
Power Consumption	<12.95W
Operating Temperature	-10°C~55°C
Storage Temperature	-40°C~70°C
Operating Humidity	5%~95% (non-condensing)
Storage Humidity	5%~95% (non-condensing)
Installation Mode	Wall or ceiling mounting
Protection Rating	IP41
Safety Standard	GB4943, EN/IEC 60950-1
EMC	GB9254, EN301 489
Vibration	IEC61373

Model	RG-AP520-I	
Health	EN 62311	
RF Standard	Wireless transmission equipment approval, EN300 328, EN301 893	
WLAN	Maximum number of stations per AP	256
	Virtual AP	A maximum of 32 SSIDs
	SSID hiding	Yes
	Configuring the authentication mode, encryption mechanism, and VLAN attributes for each SSID	Yes
	WDS (bridge mode)	Yes
	Remote Intelligent Perception Technology (RIPT)	Yes
	X-speed	Yes
	Intelligent end device recognition	Yes
	Intelligent load balancing based on the number of users or traffic	Yes
	STA limit	SSID-based, Radio-based
	Bandwidth limit	STA/SSID/AP-based rate limit
Security	PSK, Web, and 802.1x authentication	Yes
	Data encryption	WPA (TKIP), WPA2 (AES), WPA-PSK and WEP (64 or 128 bits)
	WeChat authentication	Yes
	QR code authentication	Yes
	SMS authentication	Yes
	PEAP authentication	Yes
	Data frame filtering	Whitelist, static blacklist, and dynamic blacklist
	User isolation	Yes
	Rogue AP detection and countermeasure	Yes
	Dynamic ACL assignment	Yes
	RADIUS	Yes
	CPU Protection Policy (CPP)	Yes
	Network Foundation Protection Policy (NFPP)	Yes
Remote probe	Yes	
Routing	IPv4 address	Static and dynamic IP address
	IPv6 CAPWAP Tunnel	Yes
	ICMPv6	Yes
	IPv6 address	Manual and automatic configuration
	IPv6 tunnel	Manual and automatic tunnels
	Multicast	Multicast to unicast conversion
Wireless Positioning	Network-end positioning	Yes
	Device-end positioning	Yes
Management & Maintenance	Network management	SNMP v1/v2C/v3, Telnet, SSH, TFTP, and FTP and Web management
	Fault detection and alarm	Yes
	Statistics and logs	Yes
	FAT/FIT switching	The AP working in FIT mode can switch to the FAT mode through the RG-WS wireless AC The AP working in FAT mode can switch to the FIT mode through a local console port or Telnet

## ORDERING INFORMATION

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Model	Description	Remarks
RG-AP520-I	Indoor Wireless Access Point, built-in "X-Sense 3" Smart Antenna, dual-radio dual-band, 2 spatial streams, access rate up to 1167Mbps per AP, support concurrent 802.11ac and 802.11a/b/g/n, FAT/FIT modes, dual GE uplink copper ports, support PoE and local power supply (PoE and local power adapters sold separately)	Mandatory



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