

Ruijie RG-AP520(BT)

Marketing Wi-Fi AP Datasheet



Featuring leading 802.11ac and Bluetooth 4.0 (BT4.0), Ruijie RG-AP520(BT) AP supports 2x2 MIMO and delivers up to 300Mbps@2.4G (802.11b/g/n) and 867Mbps@5G (802.11a/n/ac). The overall dual-radio, dual-band performance speeds up to 1.167Gbps per device, totally eliminating Gigabit wireless bottlenecks. The built-in Bluetooth module implements BT4.0 and also features iBeacon technology developed by Apple. iBeacon enables a wide range of location-based services (LBS) including a special “WeChat shake” function, which is especially favorable for commercial LBS applications. On top of a variety of wireless features, the RG-AP520(BT) AP enables Wi-Fi probe and other value-added functions by teaming up with Ruijie wireless position tracking engine and smart commercial system.

HIGHLIGHTS

- Integrated with Bluetooth 4.0 and iBeacon Module
- Wide Marketing Application (WeChat Shake, Location-based Promotion)
- Superior Wireless Performance with Dual-band 802.11ac (2x2:2) Support
- Simple Deployment With Zero Configuration
- Cloud-based Central Management (Multi-talent)

PRODUCT FEATURES

WeChat Shake Bluetooth Application

The AP, with a built-in BT4.0 module, brings revolutionary changes to LBS marketing through iBeacon and WeChat Shake. iBeacon, first developed by Apple and later widely supported by other mobile devices, is a protocol leveraging Bluetooth low-energy (BLE) wireless technology to provide location-based information and services. Together with a special WeChat Shake function, offered by one of the largest standalone messaging APPs around the world, the AP becomes a powerful O2O marketing tool. Simply by shaking their mobiles, customers can get exclusive offers from nearby shops; to view details on mobile when they are close to a featured product; to get alerts on what's in-store next and many more. The RG-AP520(BT) AP achieves it all with ease and offers breadth of marketing possibilities for enhanced personalization.



Leading 802.11ac Support

With built-in antenna supporting 2x2 MIMO, the leading AP delivers up to 867Mbps@5G (802.11ac) and 1.167Gbps per device. The throughput performance totally outperforms that of the traditional 802.11n standard, offering a truly Gigabit top-speed performance.

Wireless Position Tracking

The AP captures and sends neighboring signals to the tracking server for endpoint location calculation. A tracking interface is also open and available for 3rd-party carriers.

Industry-leading Local Forwarding Technology

Employing an industry-leading local forwarding technology, the RG-AP520(BT) AP eliminates the traffic bottleneck of ACs. In collaboration with Ruijie RG-WS wireless controllers, users can flexibly pre-set a forwarding mode - whether to forward data via the AC according to 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 Features

The RG-AP520(BT) 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 series 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 series resolves the video interruption problem due to packet loss or long delay in the wireless Video on Demand (VoD) system. The series highly optimizes user experience with multicast video over wireless networks.

Flexible Switching Between FAT & FIT Modes

The RG-AP520(BT) AP supports flexible switching over the FAT and FIT modes according to the networking requirements of different industries. When there are just a few APs, users can adopt the FAT mode for easy, independent network establishment. For large-scale networks, the APs can operate at the FIT mode and works with RG-WS wireless controllers 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(BT) AP fully protects user investment.

Simple Deployment With Zero Configuration

Under the FIT mode, no configuration is required for the RG-AP520(BT) 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(BT) AP also supports the 802.3af/802.3at PoE standards. With a PoE switch or PoE power adapter, a single Ethernet cable can provide both data connection and electrical power to the APs. 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.

Energy-efficient Design

Besides a low-energy-consumption BT4.0 design, the RG-AP520(BT) AP delivers an extensive collection of energy-saving technologies covering single antenna standby, dynamic MIMO energy saving, enhanced auto-energy-saving transmission technology and power control per packet technology. Powering up by the 802.3af standard, the AP fully supports high-speed access and guarantees maximized signal coverage.

TECHNICAL SPECIFICATIONS

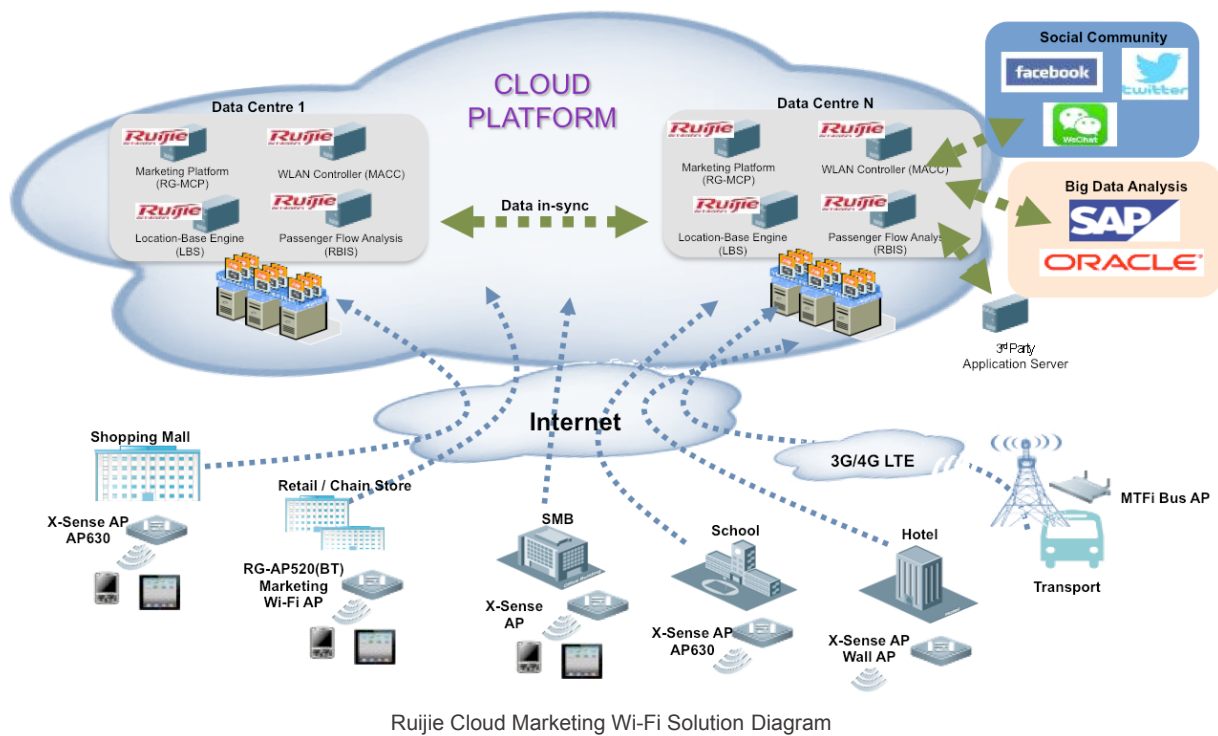
Model	RG-AP520(BT)
Radio	Dual
Protocol	802.11a/b/g/n/ac BT4.0
Operating Bands	802.11b/g/n: 2.4GHz to 2.483GHz 802.11a/n/ac: 5.150GHz to 5.350GHz, 5.47GHz to 5.725GHz, 5.725GHz to 5.850GHz (vary depending on countries) Bluetooth: 2.402GHz to 2.48GHz
Antenna	2x2 MIMO
Spatial Streams	2

Model		RG-AP520(BT)
Max Throughput		300Mbps@2.4GHz 867Mbps@5GHz 1.167Gbps per AP
Modulation		OFDM: BPSK@6/9Mbps QPSK@12/18Mbps 16-QAM@24Mbps 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps DQPSK@2Mbps CCK@5.5/11Mbps MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM and 256QAM Bluetooth: GFSK
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		Wi-Fi: ≤100mW (20dBm, transmit power of the RF card only) Bluetooth: Class 2
Adjustable Power		1dBm
Service Ports		1 10/100BASE-T Ethernet uplink port (support PoE) Built-in Bluetooth 4.0 (BLE)
Management Port		1 console port (RJ45)
LED Indicator		1 LED (red, green, blue, orange, and flashing modes, breathing flashing mode for smart device access, and the indicator can be switched off to silent mode)
IP Rating		IP41
Safety Standard		GB4943, EN/IEC 60950-1
EMC Standard		GB9254, EN301 489
Health Standard		EN 62311
Radio Standard		Model of approved wireless radiation devices, EN300 328, and EN301 893
Bluetooth	BT4.0 (BLE)	Support
	iBeacon	Support
	WeChat Shake	Support
WLAN	Maximum clients per AP	Up to 256
	SSID capacity	Up to 16 per radio Up to 32 per AP
	SSID hiding	Support
	Configuring the authentication mode, encryption mechanism, and VLAN attributes for each SSID	Support
	WDS (bridge mode)	Support

Model		RG-AP520(BT)
WLAN	Remote Intelligent Perception Technology (RIPT)	Support
	X-speed	Support
	Intelligent identification of smart device	Support
	Intelligent load balancing based on the number of users or traffic	Support
	STA control	SSID/radio-based
	Bandwidth control	STA/SSID/AP-based speed control
	Dynamic Frequency Selection (DFS)	Support
Security	PSK, Web, and 802.1x authentication	Support
	Data encryption	WPA (TKIP), WPA2 (AES), WPA-PSK, and WEP (64 or 128 bits)
	WeChat authentication	Support
	QR code authentication	Support
	SMS authentication	Support
	PEAP authentication	Support
	Data frame filtering	Whitelist, static/dynamic blacklist
	User isolation	Support
	Rogue AP detection and countermeasure	Support
	Dynamic ACL assignment	Support
	WAPI	Support
	RADIUS	Support
	CPU Protection Policy (CPP)	Support
	Network Foundation Protection Policy (NFPP)	Support
	Remote probe	Future release support
L2 Features	IGMP snooping	Support
	VLAN features	Support
Routing	IPv4 address	Static IP address or DHCP reservation
	IPv6 CAPWAP tunnel	Support
	ICMPv6	Support
	IPv6 address	Manual or automatic configuration
	IPv6 tunnel	Manual or automatic configuration
	Multicast	Multicast to unicast conversion
Location-based Service	Wireless position tracking	Support
Management and Maintenance	Network management	SNMP v1/v2C/v3, Telnet, SSH, TFTP, and FTP and Web management
	Real-time spectrum analysis	Support

Model		RG-AP520(BT)
Management and Maintenance	Fault detection and alarm	Support
	Statistics and logs	Support
	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.
Dimensions (W x D x H) (mm)		194 × 194 × 37 (Height of AP only, excluding antenna interface and mount kit)
Weight		0.5kg
Installation Mode		Desktop/ceiling-mountable installation
Power Supply		Local power supply (DC 12V) and PoE (802.3at/802.3at)
Power Consumption		<12.95W
Temperature	Operating Temperature: -10°C to 55°C	
	Storage Temperature: -40°C to 70°C	
Humidity	Operating Humidity: 5% to 95% (non-condensing)	
	Storage Humidity: 5% to 95% (non-condensing)	

TYPICAL APPLICATION



The RG-AP520(BT) AP can be deployed as the Ruijie Cloud Marketing Wi-Fi Solution component and integrate with the Wireless Controller Software (RG-MACC), Cloud Marketing Platform (RG-MCP), Location-Based Engine (RG-LBS) and Passenger Flow Analysis (RG-RBIS) to form the overall Ruijie Cloud Marketing Wi-Fi Solution.

The AP achieves unified management on cloud through the cloud-based wireless control software (RG-MACC). The cloud controller supports device configuration, upgrade and monitoring in groups. Working with Ruijie Marketing Cloud Platform, the AP enables advertising push to Wi-Fi users and maximizes the marketing values.

The Ruijie Cloud Marketing Wi-Fi Solution supports wide AP options for various scenarios. The RG-AP520(BT) AP can be deployed to provide Wi-Fi for chain stores, while the X-Sense AP can be deployed in shopping malls, small and medium-sized enterprises, schools and hotels. The MTFi Bus AP can be deployed in transportation to provide Wi-Fi via the 3G/4G LTE network.

The RG-AP520(BT) AP can integrate with Ruijie Cloud Marketing Wi-Fi Cloud that streamlines user authentication and advertising push. Social community authentication via Facebook, Twitter and WeChat is supported to collect customer information for big data analysis.

The Ruijie Cloud Marketing Wi-Fi Solution supports mainstream virtualization hypervisors such as VMware and KVM. The solution supports 3rd party application server and provides API for partner customization. Multi-tenant management is also supported so that users can share access to the cloud platform with specific privileges.

ORDERING INFORMATION

Model	Description
RG-AP520(BT)	Marketing Wi-Fi Access Point, dual-radio, dual-band, 2 spatial streams, up to 1.167Gbps per AP, support concurrent 802.11ac and 802.11a/b/g/n, FAT/FIT modes, Bluetooth 4.0 & iBeacon, 1 10/100/1000BASE-T uplink port (support PoE and local power supply) (PoE and local power supply adapters sold separately)



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