



RG-AP3220

802.11n Wireless Access Point Datasheet

Ruijie Networks Co., Ltd.

For further information, please visit our website <http://www.ruijienetworks.com>

Product Overview

Ruijie RG-AP3220, supporting 802.11n WiFi networking standard, is a market-leading wireless access point (AP) designed for high-speed wireless LAN. Each radio speeds up the performance to up to 300Mbps (600Mbps for dual radios). The AP also features security, radio frequency (RF) control, mobile access, Quality of Service (QoS), and seamless roaming, and can be managed by RG-WS series wireless access controllers (ACs) to implement wireless data forwarding, security, and access control.

The RG-AP3220 AP adopts dual-band, dual-radio design and works well in both 802.11a/n and 802.11b/g/n modes. The wall-mountable RG-AP3220 AP allows easy and safe installation on wall or ceiling and offers local power and Power over Ethernet (PoE) options. The RG-AP3220 AP is an ideal match for large-sized campuses, offices, hospitals, and carriers' hotspots.

Product Features

Smart Wireless Experience

■ X-speed Wireless Experience

Despite of the interference from other overlapping access points, the RG-AP3220 AP effectively shortens the waiting time between competing downlink users to send packets. Ruijie network users enjoy high-speed wireless experience despite of the interference level in the background environment.

In addition, the RG-AP3220 AP solves the problems such as high latency and low speed of wireless network which are caused by deployment of an old wireless LAN card far away from the AP. To address the problems, all users are assigned equal time to transmit packets on wireless link, ensuring a fair high-speed wireless network for every user and improves the overall throughput of the AP at the same time.

■ Remote Intelligent Perception Technology (RIPT)

In the traditional network architecture where FIT APs are centrally managed by a wireless AC, packets received by the AP must be transmitted to the AC before being forwarded. Therefore, when the wireless AC becomes faulty, the APs fail to work properly and it results in the entire wireless network to break down. Ruijie's latest RIPT enables the RG-AP3220 AP to implement intelligent link perception. Once the faulty wireless AC is detected, the APs swiftly switch to the intelligent mode to continue data forwarding, ensuring the high availability of the wireless network and keeping wireless users always online.

■ Intelligent Load Balancing

On a high-density wireless LAN, the RG-AP3220 AP pairs with Ruijie Wireless ACs to intelligently distribute users among different APs according to the number of users and data traffic in real time. This feature balances the load pressure on each AP and improves the average bandwidth and QoS, offering higher network availability.

Advanced Performance and Reliability

■ High-speed 802.11n Wireless Access

RG-AP3220 AP greatly enhances user experience with the leading IEEE 802.11n standards. Single radio alone offers 6 times better access bandwidth than that of the conventional 802.11a/b/g. The AP also improves the number of concurrent users and coverage range performance.

■ High-performance Gigabit Copper Uplink

RG-AP3220 offers one 10/100/1000Base-T Ethernet port. The Gigabit uplink performance fulfills the 802.11n requirements, enabling fast data forwarding without any access bottleneck.

■ Flexible WDS Mode

Supporting the WDS (Wireless distribution system), RG-AP3220 offers AP coverage, point-to-point/point-to-multiple-point network bridge, wireless repeater. The features enable large-scale wireless coverage and remote high-speed wireless connection. The AP enables full wireless coverage in distant area or wired connectivity.

■ Industry-leading Local Forwarding Technology

Employing an industry-leading local forwarding technology, the RG-AP3220 AP eliminates the traffic bottleneck of wireless Access Controllers (ACs). Teaming up the Ruijie RG-WS wireless controller series, users can flexibly configure the data-forwarding mode of the AP. Based on the SSID or user VLAN, it also controls if the data will be forwarded via the wireless controller. The local forwarding technology can forward large-scale, delay-sensitive, and real-time transmission data upstream switches which will greatly alleviate the traffic pressure on the wireless LAN controllers and fulfill the high traffic transmission requirements of 802.11n network.

■ Seamless Roaming Experience

The RG-AP3220 AP works perfectly with the RG-WS wireless ACs, allowing wireless users to roam seamlessly on Layer 2 and Layer 3 networks without data interruption.

■ Wireless IPv6 Access

The RG-AP3220 AP supports all the IPv6 features and implements IPv6 forwarding on a wireless network. Both IPv4 and IPv6 users can connect to the ACs over tunnels, enabling IPv6 applications to be borne on the wireless network.

■ Abundant QoS Policies

The RG-AP3220 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-AP3220 AP realizes timely and quantitative transmission of audio and video and guarantees smooth operation of multi-media applications.

The RG-AP3220 AP supports the multicast-to-unicast conversion technology and resolves the video interruption problem due to packet loss or long delay in wireless Video on Demand (VoD) system. The AP highly enhances user experience with multicast video over wireless networks.

Flexible and Comprehensive Security Policies

■ User Data Encryption

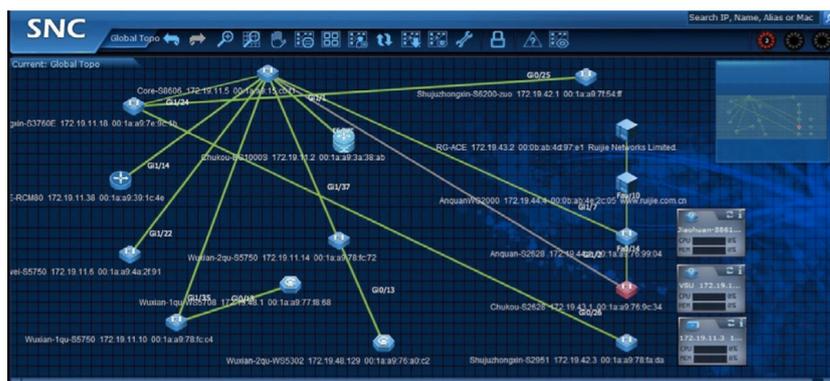
The RG-AP3220 AP offers protected WiFi access with the support of cutting-edge encryption technologies such as WEP, TKIP and AES.

■ CAPWAP Protocol

The Ruijie RG-WS wireless controller series manages the RG-AP3220 AP with the adoption of the international CAPWAP standard (Control And Provisioning of Wireless Access Points).

■ Comprehensive Wireless Protection

Together with Ruijie's RG-SNC network management system and RG-WS wireless ACs, the RG-AP3220 AP provides a powerful range of wireless security features, such as Wireless Intrusion Detection System (WIDS), RF Interference Location, Rogue AP Countermeasures, Anti-ARP Spoofing, and DHCP. The AP offers a truly secure and reliable wireless network.



Topology Display of Ruijie RG-SNC Network Management System

■ Fight Against Virus And Malicious Attacks

A variety of security features are readily available to defense against and control virus spread and network traffic attacks. All ensure that only authorized users can enjoy the network access, enhancing visitor management requirements of enterprise and campus networks.

■ User Access Control

The RG-AP3220 AP supports multiple authentication methods, such as Web, 802.1x, MAC address, and local authentication for customers' choice. The AP also supports Ruijie's advanced Security Management Platform (SMP) BYOD Solution which complies with a standard access control system. The system has a set of control policies in terms of user access, authorization, host compliance check, network behavior monitoring, and network attack defense, etc. All these control functions ensure that users are authenticated before access and enjoy the network services securely.

■ Data Communication Security

SSH (Secure Shell) and SNMPv3 are leading technologies for secure data communication using Telnet and SNMP. Telnet, a network protocol based on source IP address, provides refined device management. It ensures only those authorized IP addresses can access the AP for high-level security.

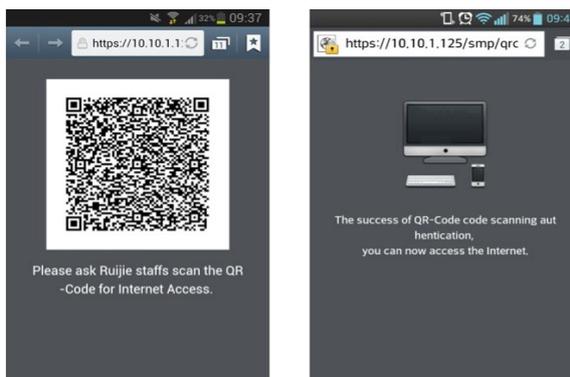
■ Flexible Authentication Modes

The RG-AP3220 AP supports convenient Protected Extensible Authentication Protocol (PEAP), Web Portal Authentication, SMS Authentication, and QR Code Authentication.

If users are authenticated via PEAP, they just need to perform password authentication for once. That means they are only required to enter user credentials during their first network visit.

If users are authenticated via SMS, they need to sign in first with their mobile phone numbers and then obtain usernames and passwords from the SMS sent to their mobile phones.

QR code authentication is another wireless security highlight. After accessing a wireless network, users will obtain a QR code and need to get it scanned by any authorized staff's mobile phones to gain network access.



Advanced Guest Wireless Interfaces of the QR Code Authentication

Flexible and Comprehensive Security Policies

■ Flexible Switching Between The FAT And FIT Modes

The RG-AP3220 AP supports flexible switching over the FAT and FIT modes. When there are a few APs, users can adopt the FAT mode for easy independent network establishment. The FIT mode allows centralized management of all the APs and other aspects such as security, traffic management, QoS and IP management, etc. Smooth transition from one to another, the AP fully protects user investment.

■ Simple Deployment With Zero Configuration

Under the FIT mode, no configuration is required before deployment. Also, no manual configuration is necessary for on-site installation, maintenance or replacement. Auto-configuration can be completed via the wireless controller. This user-friendly feature can greatly reduce workload and investment costs.

■ Comprehensive Remote Management

Wireless controller can remotely and centrally manage all operation parameters such as channel, power ranking, SSID configuration, security configuration, VLAN division, and CPE data and configuration, etc. The feature enhances security and simplifies management for network users.

■ PoE Port For Easy Deployment And Maintenance

In addition to local power supply, the AP also supports the 802.3af PoE standard. With End-span PSE (PoE switch) or Mid-span PSE (PoE power adapter) device, a single cable can provide both data connection and electrical power to the AP. The network administrator can remotely perform the configuration. It also solves the problem of unstable power source, simplifying the installation process and maximizing the cost savings.

Technical Specifications

Hardware Specifications

Model	RG-AP3220
Radio	Dual
Protocol	Concurrent 802.11b/g/n and 802.11a/n
Operating Bands	2.4GHz and 5GHz
Antenna	2x2 MIMO, internal antenna
Spatial Streams	2
Max Throughput	300Mbps per radio and 600Mbps 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 and 64QAM
Receiver Sensitivity	11b: -99dBm(1Mbps), -90dBm(5Mbps), -87dBm(11Mbps) 11g: -93dBm(6Mbps), -88dBm(24Mbps), -86dBm(36Mbps), -78dBm(54Mbps) 11a: -92dBm(6Mbps), -87dBm(24Mbps), -84dBm(36Mbps), -75dBm(54Mbps) 11na: -94dBm@MCS0, -72dBm@MCS7, -93dBm@MCS8, -72dBm@MCS15 11ng: -94dBm@MCS0, -74dBm@MCS7, -93dBm@MCS8, -73dBm@MCS15
Dimensions (W x D x H) (mm)	205 × 205 × 42
Weight	0.7kg
Service Port	One 10/100/1000Base-T Ethernet uplink port (supporting PoE)
Management Port	One console port
Power Supply	DC power adapter (supporting 48V DC local power supplies) 802.3af PoE
Max Total Power	<10.5W
Operating Temperature	-10°C to 50°C
Storage Temperature	-40°C to 70°C
Operating Humidity	5% to 95% (non-condensing)
Storage Humidity	5% to 95% (non-condensing)
Installation Mode	Ceiling/wall-mountable
IP Rating	IP41
Safety Standards	GB4943-2001
EMC Standards	GB9254-2008, GB17625.1-2003
Radio Standards	Model of approved wireless radiation devices
Wi-Fi Alliance Certification	Yes

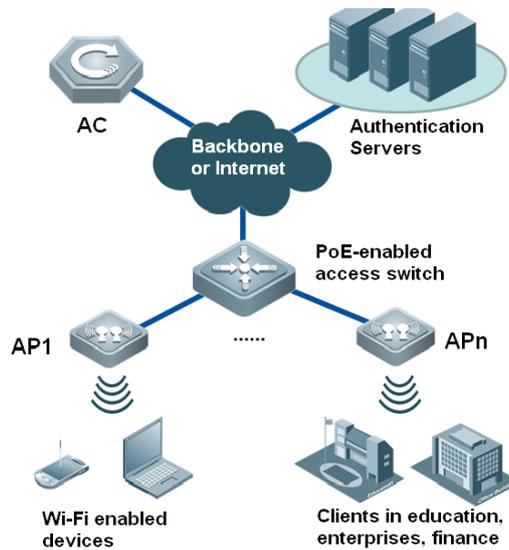
Software Specifications

Model	RG-AP3220	
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
	Intelligent identification of smart device	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)
	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	
Routing	IPv4 address	Static and dynamic IP address
	IPv6 CAPWAP tunnel	Yes
	ICMPv6	Yes
	IPv6 address	Manual or automatic
	IPv6 tunnel	Manual or automatic
	ISATAP	Yes
	Multicast	Multicast to unicast conversion
Management and Maintenance	Network management	SNMP v1/v2C/v3; Telnet, SSH, TFTP, and FTP and Web management
	Fault detection and alarm	Yes
	Statistics and logs	Yes
	Switching between the FAT and FIT modes	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.

Typical Application

The RG-AP3220 AP is applicable to spacious buildings densely packed with end users, such as meeting rooms, libraries, classrooms, bars, and recreation centers. Clients can deploy the devices flexibly according to their needs.

Typical topology diagram for RG-AP3220 AP:



Topology Diagram for RG-AP3220 AP

Ordering Information

Model	Description
RG-AP3220	Indoor wireless access point with internal antenna, 2x2 MIMO Dual-radio Dual-band, supports concurrent 802.11a/n and 802.11b/g/n, FAT/FIT mode, supports WAPI, supports PoE and local power supply. (PoE and local power adapters need to be purchased separately)



Innovation Beyond Networks

Ruijie Networks Co., Ltd.

Headquarter in Beijing

Address: 11/F, East Wing, ZhongYiPengAo Plaza, No. 29
Fuxing Road, Haidian District, Beijing 100036, China
Email: info@ruijie.com.cn
Tel: (8610) 5171-5961
Fax: (8610) 5171-5997

Regional Office in Hong Kong

Address: Unit 09, 20/F, Millennium City 2, 378 Kwun Tong
Road, Kowloon, Hong Kong
Email: sales-hk@ruijienetworks.com
Tel: (852) 3620-3460
Fax: (852) 3620-3470

Supply Chain in Fuzhou

Address: JuYuan Star-net Ruijie Technology Park, No. 618
JinShan road, Fuzhou City, 350002, China
Tel: (86591) 83057888
(86591) 83057000

Regional Office in Malaysia

Address: Office Suite 19-12-3A, Level 12, UOA Center, No.19
Jalan Pinang, 50450 Kuala Lumpur
Email: sales-my@ruijienetworks.com
Tel: (603) 21811071

For further information, please visit our website <http://www.ruijienetworks.com>

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