R310

Indoor 802.11ac 2x2:2 Wi-Fi Access Point

Ruckus™
Simply Better Wireless.

BENEFITS

AFFORDABLE ENTERPRISE PERFORMANCE

The R310 provides great performance with extended range at an affordable price.

KEEP EXISTING SWITCHES AND CABLES

Designed to operate on existing PoE switches and CAT 5e cabling to minimize costly upgrades.

MULTIPLE MANAGEMENT OPTIONS

Manage the R310 from the cloud, with on-premises physical/virtual appliances, or without a controller.

STUNNING WI-FI PERFORMANCE

Extends coverage with patented BeamFlex™ adaptive antenna technology while mitigating interference by utilizing 64 directional antenna patterns.

GET OPTIMAL THROUGHPUT

ChannelFly™ dynamic channel technology uses machine learning to automatically find the least congested channels. You always get the highest throughput the band can support.

MORE THAN WI-FI

Enhance your network with Cloudpath™ security and management software, SPoT™ real-time Wi-Fi location engine and analytics software, and SCI network analytics.

Smaller locations can face big-time demands on their wireless infrastructure. Whether working out of a small office or connecting to a public hotspot, users are often still accessing the same high-bandwidth applications and content they'd consume anywhere else. And they expect strong, reliable connectivity. How can you provide it without breaking the bank?

The Ruckus R310 delivers consistent, reliable 802.11ac wireless networking at an affordable price. It features the patented Ruckus BeamFlex adaptive antenna technology for performance optimization and interference mitigation found in our premier access points, delivering superior user experiences at extended ranges. But it provides them in an ultra-compact form factor built for small venues—with a price tag to match.

The R310 is an ideal choice for low-density enterprise and hotspot environments including small- and medium-size businesses, retail locations, restaurants, and multi-tenant small offices and branch offices.
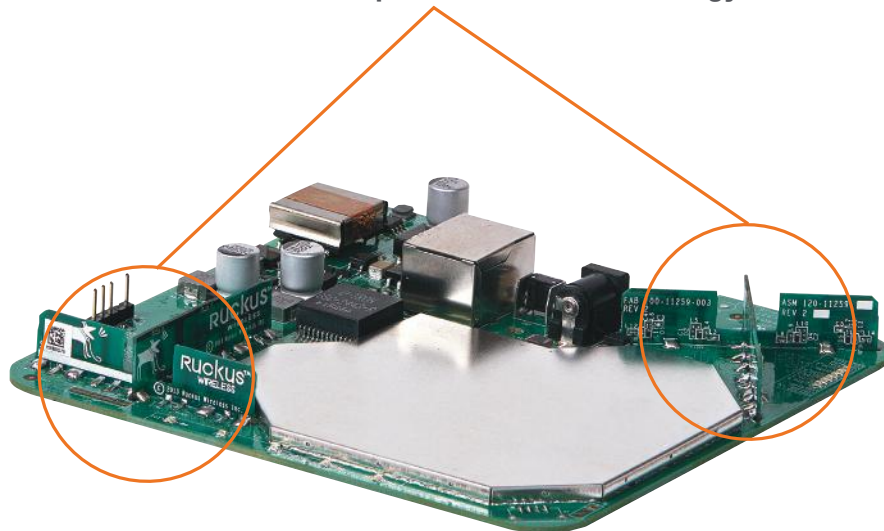
The R310 802.11ac Wi-Fi AP incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.

- Extended coverage with BeamFlex utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

The R310 provides an ideal combination of features and performance for smaller environments, including a USB port for hosting IoT devices such as Bluetooth Low Energy (BLE) beacons and easy-to-deploy mesh networking capabilities. Additionally, it supports up to 512 clients per AP and features capacity-based admission control to prevent APs from getting congested with too many attached devices.

Whether you're deploying ten or ten thousand APs, the R310 is also easy to manage through Ruckus' appliance, virtual and cloud management options.

BeamFlex Adaptive Antenna Technology

PATENTED BEAMFLEX™ ADAPTIVE ANTENNA TECHNOLOGY EXTENDS SIGNAL RANGE, IMPROVES STABILITY OF CLIENT CONNECTIONS

All R310 Smart Wi-Fi access points integrate a software-controlled smart antenna array that delivers up to an additional 4dB of BeamFlex gain and 10dB of interference mitigation. This allows a 2 to 4x improvement in signal range and a reduction in packet loss from the ability to automatically mitigate interference and avoid obstacles.

ADVANCED WLAN APPLICATIONS

When used with the Ruckus ZoneDirector Smart WLAN controller, each R310 supports a wide range of value-added applications such as guest networking, Dynamic PSK, hotspot authentication, wireless intrusion detection and many more. WLANs can be created and mapped to the same or different APs or VLANs. In a centrally managed configuration, the R310 works with a wide range of authentication servers including Microsoft's Active Directory, LDAP, and RADIUS.

FLEXIBLE DEPLOYMENT OPTIONS

R310 APs can be deployed as a standalone AP or as part of a centrally managed wireless LAN using ZoneDirector and SmartZone controllers. R310 can be deployed across any L2/L3 network and can bridge traffic onto the local network, tunnel to a central location using L2TP or route between the WAN and NAT'ed private subnets. When used with the controller, each R310 is automatically configured through the network making deployment quick and easy.

COMPLETE LOCAL AND REMOTE MANAGEMENT

Each R310 can be managed as a standalone AP through a Web-based GUI, using SNMP or through the Ruckus FlexMaster Wi-Fi remote management system. Local management can also be performed using the ZoneDirector or SmartZone controller. FlexMaster is a LINUX-based software platform that uses industry-standard protocols to perform bulk configuration, fault detection, monitoring and a wide range of troubleshooting capabilities over a wire area connection. The controllers enable local management and control of APs, adding value-added services such as transmit power control, and guest networking.

FEATURES

WIRELESS

- Blazing fast 802.11ac speeds at the lowest cost in its class
- Dual-band concurrent (2.4GHz/5GHz) 802.11ac
- Adaptive antenna technology and advanced RF management
- Up to an additional 4dB BeamFlex gain / 10dB interference mitigation
- Automatic interference mitigation, optimized for high-density environments
- Integrated smart antenna technology
- 2 to 4 times extended range and coverage Standard 802.3af Power over Ethernet (PoE)
- Up to 8 BSSIDs per radio (16 BSSIDs per access point) with unique QoS and security policies
- Advanced QoS packet classification and automatic priority for latency-sensitive traffic
- Bandsteering and airtime fairness
- Dynamic, per-user rate-limiting for hotspot WLANs
- WPA-PSK (AES), 802.1X support for RADIUS and Active Directory**

ACCESSORIES
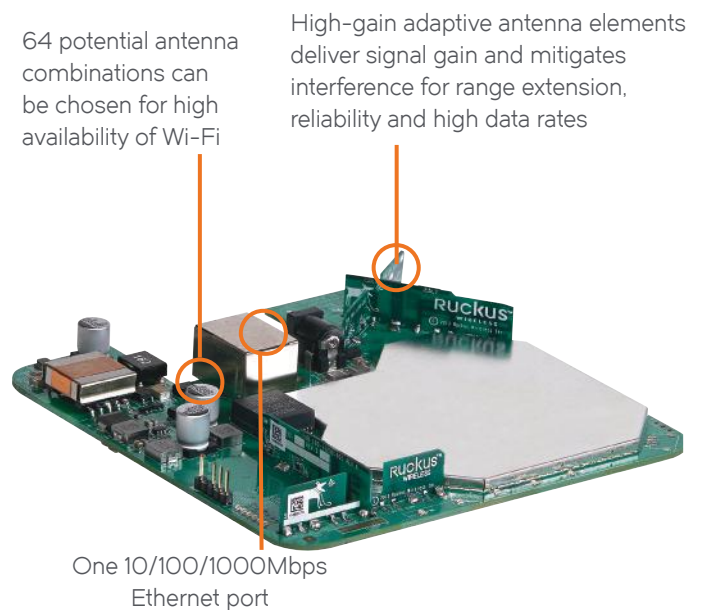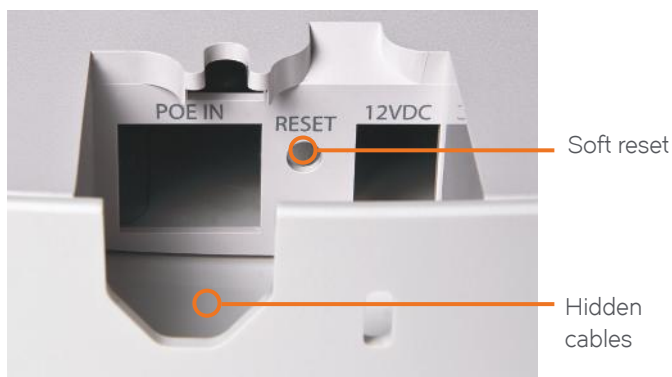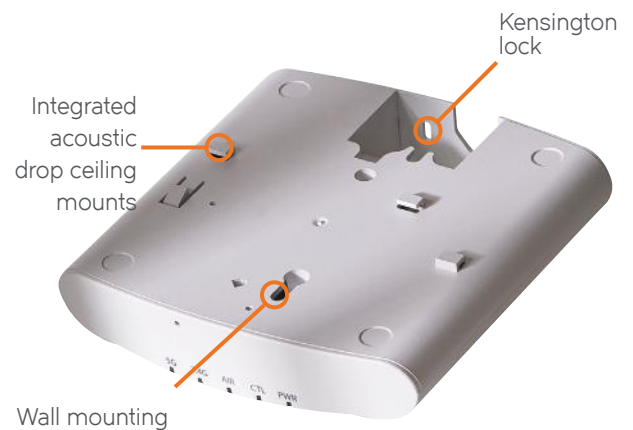
- Wall, desktop or ceiling mountable

SOFTWARE

- Router mode with NAT and DHCP services
- IP multicast video streaming support
- Ethernet 802.1x port-based authentication (authenticator and supplicant)
- SPoT™ Real-time location engine and analytics software
- Cloudpath™ Security and management software
- SmartCell Insight (Network analytics engine)
- Zero-IT and Dynamic PSK**
- Admission control/load balancing**
- Captive portal and guest accounts **
- Guest access services**
- Application Recognition and Control**
- Limited lifetime warranty

** when used with Ruckus ZoneDirector or SmartZone controllers.

SMALL LIGHTWEIGHT FORM FACTOR WITH BUILT IN MOUNTING OPTIONS FOR EASY DEPLOYMENT

The R310 installs & mounts seamlessly, making it ideal for quick and effective set up for carrier & enterprise deployments.

5.4"

1.3"

(3.3 cm)

5.3"

220 g (0.485 lbs)

Kensington lock

Integrated acoustic drop ceiling mounts

Wall mounting

64 potential antenna combinations can be chosen for high availability of Wi-Fi

High-gain adaptive antenna elements deliver signal gain and mitigates interference for range extension, reliability and high data rates

POE IN   RESET   12VDC

Soft reset

Hidden cables

One 10/100/1000Mbps Ethernet port

PHYSICAL CHARACTERISTICS

Power	• DC Input: 12 VDC 1.0A • Power over Ethernet 802.3 af
Physical Size	• 13.8cm (L), 13.5cm (W), 3.3cm (H) • 5.4 in (L), 5.3 in (W), 1.3 in (H)
Weight	• 220 gms (0.485 lbs)
Ethernet Ports	• 1 auto MDX, auto-sensing 10/100/1000Mbps, RJ-45, POE port
Lock Options	• Hidden latching mechanism • Kensington Lock Hole • T-bar Torx
Environmental Conditions	• Operating Temperature: 0°C - 40°C • Operating Humidity: 10% - 95% non-condensing
Power Draw	DC Input • Idle: 6W • Typical: 7.1W • Peak: 9W Power over Ethernet Input • Idle: 6W • Typical: 7.8W • Peak: 11W

PERFORMANCE AND CAPACITY

Max Phy Rate	• 300 Mbps (2.4GHz) • 867 Mbps (5GHz)
Concurrent Stations	• 100 clients per AP
Simultaneous VoIP Clients	• 30

RF

ANTENNA	• Adaptive antenna that provides up to 128 unique antenna patterns • 64 patterns per band
RF POWER OUTPUT (Aggregated)	• 23dBm for 2.4GHz† • 24dBm for 5GHz†
PHYSICAL ANTENNA GAIN	• Up to 3dBi per spatial stream
BEAMFLEX* SINR TX GAIN	• Up to 4dB
INTERFERENCE MITIGATION	• Up to 10dB
MINIMUM RX SENSITIVITY	• Up to -99dBm

*BeamFlex gains are statistical system level effects translated to enhanced SINR based on observations over time in real-world conditions with multiple APs and many clients

MANAGEMENT

Deployment Options	• Standalone (individually managed) • Managed by ZoneDirector* • Managed by FlexMaster* • Managed by SmartZone
Configuration	• Web User Interface (HTTP/S) • CLI (Telnet/SSH), SNMP v1, 2, 3 • TR-069 vis FlexMaster
Auto Ap Software Updates	• FTP or TFTP, remote auto available

NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE
* some features not supported - e.g., mesh

WI-FI

Standards	• IEEE 802.11a/b/g/n/ac • 2.4GHz and 5GHz
Supported Data Rates	• 802.11n/ac: 6.5Mbps – 173.4Mbps (20MHz) 13.5Mbps – 400Mbps (40MHz), 29.3Mbps – 867Mbps (80MHz) • 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps • 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
Radio Chains	• 2 x 2
Spatial Streams	• 2
Channelization	• 20MHz, 40MHz, 80MHz
Operating Channels	• US/Canada: 1–11, Europe (ETSI X30): 1–13, Japan X41: 1–13 • 5 GHz channels: Country dependent
Frequency Band	• IEEE 802.11 b/g/n: 2.4 – 2.484 GHz • IEEE 802.11a/ac: 5.15 – 5.25 GHz; 5.25 – 5.35 GHz; 5.47 – 5.725 GHz; 5.725 – 5.85 GHz
Bssid	• Up to 8 per radio (16 per AP)
POWER SAVE	• Supported
Wireless Security	• WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i • Authentication via 802.1X with the ZoneDirector or SmartZone, local authentication database, support for RADIUS, LDAP, and ActiveDirectory
Certifications**	• U.S., Europe, Argentina, Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Ecuador, Egypt, Hong Kong, India, Indonesia, Israel, Japan, Jordan, Kenya, Korea, Malaysia, Mexico, New Zealand, Peru, Philippines, Russia, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, UAE, Vietnam • WEEE/RoHS2 compliance • EN 60601-1-2 (Medical) • Wi-Fi Alliance • Industry Canada • EU/EFTA • CB Scheme Certificate • EN 50121-1 Railway EMC • EN 50121-4 Railway Immunity • IEC 61373 Railway Shock & Vibration • UL 2043 Plenum Rated

† Maximum power varies by country
** For current certification status please see price list

PRODUCT ORDERING INFORMATION

MODEL	DESCRIPTION
R310 Wi-Fi 802.11ac Access Point	
901-R310-XX02	Concurrent dual band 802.11ac AP, no power adapter
Optional Accessories	
902-0120-0000	• Universal secure mounting bracket fits multiple AP's including R310. Mounts to Hard Wall, Ceiling, Pole & Truss. Fits without pad-lock support.
902-0173-XX10	• Power Adapter, AC/DC wall plug,100–250Vac 50/60Hz
902-0162-XXYY	• PoE Adapter

PLEASE NOTE: When ordering Indoor APs, you must specify the destination region by indicating -US, -WW, or -Z2 instead of XX. When ordering PoE injectors or power supplies, you must specify the destination region by indicating -US, -EU, -AU, -BR, -CN, -IN, -JP, -KR, -SA, -UK, or -UN instead of -XX.

For access points, -Z2 applies to the following countries: Algeria, Egypt, Israel, Morocco, Tunisia, and Vietnam

Warranty: Sold with a limited lifetime warranty.
For details see: http://support.ruckuswireless.com/warranty

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