ZoneFlex R310
Dual-Band 802.11Ac Smart Wi-Fi Access Points

RUCKUS™
Simply Better Wireless.

DATA SHEET

BENEFITS

INDUSTRY'S LOWEST COST ENTERPRISE CLASS 802.11AC SOLUTION

Unprecedented performance with extended range at the industry's most affordable price point

EXTENDED RANGE REQUIRES FEWER APS

Adaptive antenna technology delivers a 2x to 4x increase in Wi-Fi signal coverage minimizing the number of APs required to service any area

SLEEK, LOW PROFILE ENCLOSURE FOR EASE-OF-DEPLOYMENT

Aesthetically-pleasing design fits almost anywhere. Powerful 802.11ac technology that literally fits in the palm of your hand for easy deployment

CHANNEL SELECTION OPTIMIZES THROUGHPUT

ChannelFly dynamically chooses the best channel giving users the highest possible throughput even in highly congested environments

INTUITIVE CONFIGURATION AND MANAGEMENT

The industry's simplest configuration and management through a Web-based wizard and automated deployment capabilities

SUPER SIMPLE CONFIGURATION AND MANAGEMENT

The industry's simplest configuration and management through a Web-based wizard and automated deployment capabilities

HASSLE FREE MIGRATION TO HIGHER SPEED WI-FI

Support for standard 802.3af power over Ethernet allows enterprises to use existing PoE switches without costly upgrades

HIGH PERFORMANCE, 802.11N SMART WI-FI ACCESS POINTS WITH ADAPTIVE ANTENNA TECHNOLOGY

The Ruckus ZoneFlex R310 delivers high-performance and reliable 802.11ac wireless networking at the industry's most affordable price point. Unlike any other 802.11ac wireless solution in its class, the ZoneFlex R310 combines patented adaptive antenna technology and automatic interference mitigation to deliver consistent, predictable performance at extended ranges with up to 4dB of statistical BeamFlex gain and up to 10dB of interference mitigation. Additional performance enhancements to signal gain can be attributed to the chip-based transmit beamforming capability adding 3 dB when associated to a compatible client.

Each ZoneFlex R310 integrates Ruckus-patented BeamFlex, a software-controlled, high gain antenna array that continually forms and directs each 802.11ac packet over the best performing signal path. The ZoneFlex R310 automatically selects channels for highest throughput potential using Ruckus ChannelFly dynamic channel management, adapting to environmental changes. Once deployed, enterprises never have to worry about constant site surveys as the environment changes.

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

All ZoneFlex R310 Smart Wi-Fi access points integrate a software-controlled smart antenna array that delivers up to an additional 4 dB of BeamFlex gain and 10 dB 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 WITH SMART/OS

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

FLEXIBLE DEPLOYMENT OPTIONS

ZoneFlex R310 APs can be deployed as a standalone AP or as part of a centrally managed wireless LAN using ZoneDirector Smart WLAN controllers. ZoneFlex 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 PPPoE, or route between the WAN and NAT'ed private subnets. When used with the ZoneDirector, each ZoneFlex R310 is automatically configured through the network making deployment quick and easy.

COMPLETE LOCAL AND REMOTE MANAGEMENT

Each ZoneFlex 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 Smart WLAN 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 ZoneDirector enables local management and control of APs, adding value-added services such as transmit power control, and guest networking.
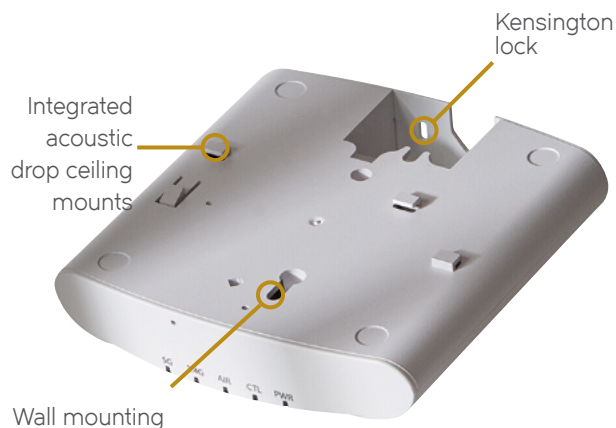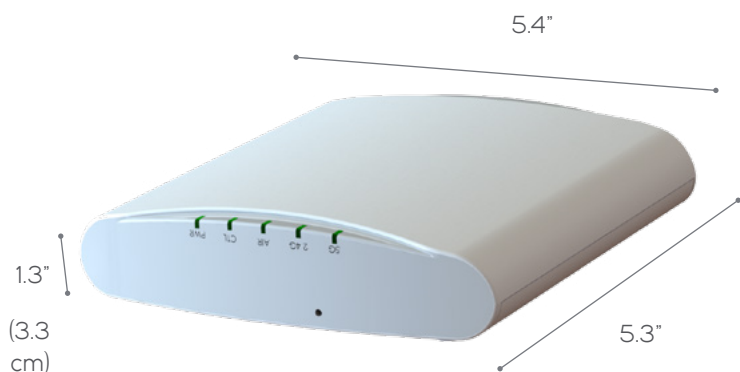
FEATURES

- 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
- Standard 802.3af Power over Ethernet (PoE)
- Router mode with NAT and DHCP services
- 2 to 4 times extended range and coverage
- IP multicast video streaming support
- 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
- Dynamic, per-user rate-limiting for hotspot WLANs
- WPA-PSK (AES), 802.1X support for RADIUS and Active Directory**
- Ethernet 802.1x port-based authentication (authenticator and supplicant)
- Zero-IT and Dynamic PSK**
- Admission control/load balancing**
- Bandsteering and airtime fairness
- Captive portal and guest accounts **
- Guest access services**
- Application Recognition and Control**
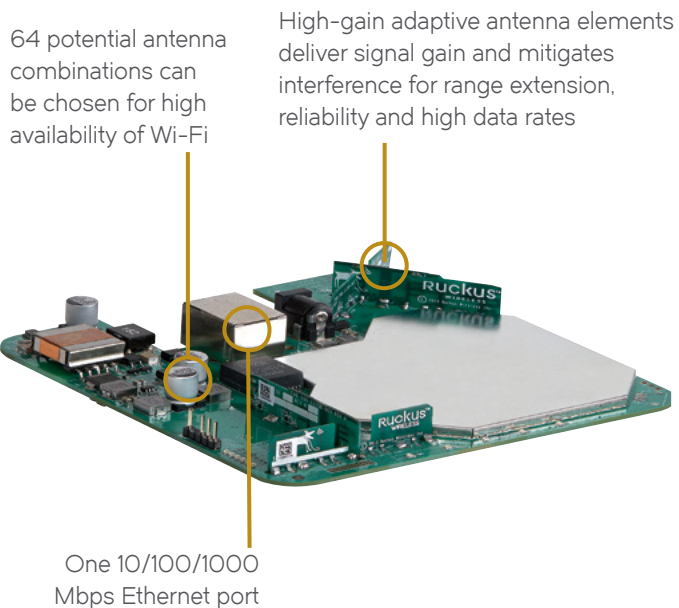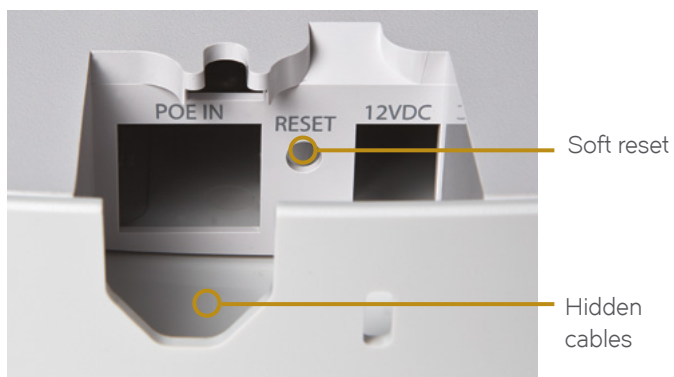- Wall, desktop or ceiling mountable
- Limited lifetime warranty**

** when used with Ruckus ZoneDirector or SmartZone controllers.

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

The ZoneFlex 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"

Kensington lock

Integrated acoustic drop ceiling mounts

Wall mounting

220 g (0.485 lbs)

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 10/100/1000 Mbps Ethernet port

ZoneFlex R310
Dual-Band 802.11Ac Smart Wi-Fi Access Points

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)
Data Ports	• 1 auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45, POE port
Mounting Options	• Electrical wallbox; Standard US and EU single gang wall jack • Optional bracket for offset & wall mount
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	• Up to 100 clients per AP
Simultaneous Voip Clients	• Up to 30

RF

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

*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 • 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
ZoneFlex R310 Smart 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 ZoneFlex 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 ZoneFlex 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.

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

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