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Ruckus®
Simply Better Wireless.

ZoneFlex™ R710

DUAL-BAND 4X4:4 802.11AC SMART WI-FI AP

Ruckus' Highest Capacity, Highest Performing Four-Stream 802.11ac AP

The ZoneFlex R710 combines Ruckus patented technologies and best-in-class design with the next generation of 802.11ac features to deliver industry-leading Wi-Fi performance and reliability.

Featuring BeamFlex+ adaptive antenna technology, the ZoneFlex R710 offers a substantial increase in performance and range by optimizing antenna coverage on a per client, per transmission basis. BeamFlex+ additionally mitigates co-channel interference by directing Wi-Fi signals where they are needed instead of towards neighboring access points. The R710's BeamFlex+ adaptive antenna system is also equipped with dual polarization antennas, allowing the access point to adapt to the physical orientation of client devices and maximize uplink performance.

With throughput capacities of 800 Mbps (2.4GHz) and 1733 Mbps (5GHz), the ZoneFlex R710 supports the highest available throughput for Wi-Fi clients. 802.11ac Multi-User MIMO (MU-MIMO) support allows the R710 to simultaneously transmit to multiple client devices, drastically improving airtime efficiency, overall throughput, and availability.

The ZoneFlex R710 is backward compatible with all existing Wi-Fi clients, and can function either as a standalone AP or as part of centrally-managed Wireless LAN.

ZoneFlex R710 is purpose-built for high-capacity, high performance and interference-laden environments such as schools, universities, public venues, hotels, and conference centers. The perfect choice for data-intensive streaming multimedia applications, the ZoneFlex R710 delivers picture perfect HD-quality IP video while supporting VoIP and data applications that have stringent quality of service requirements.

BENEFITS

Industry's highest performing 802.11ac AP

ZoneFlex R710 delivers better performance over competitive 802.11ac APs

MU-MIMO increases efficiency and capacity

MU-MIMO allows for clients to utilize the RF spectrum much more efficiently by allowing multiple AP to client transmissions

Dual concurrent 4x4:4 MIMO and BeamFlex+

Four spatial streams combined with BeamFlex+ adaptive antenna technology ensures the most throughput out of the total 1733 Mbps (5 GHz) and 800 Mbps (2.4 GHz) available

Adaptive polarization diversity with BeamFlex+ (PD-MRC)

Dual-polarized antennas that provide better reception for hard to hear clients and more consistent performance as clients constantly change orientation. BeamFlex+ with 802.11ac enables better rates vs. other vendors

Reduced Wi-Fi interference

Up to 15 dB of interference mitigation and a 50 percent reduction in co-channel interference to neighboring APs

No need to upgrade PoE switches in 802.3af mode

Operates under 802.3af power requiring no need to upgrade PoE switches under full .11ac dual band operation

Best in class channel selection with ChannelFly™

Capacity-driven channel selection predict and automatically selects best performing channel based on statistical, real-time capacity analysis of all RF channels

Flexible deployment options

Standalone or centrally managed deployment options

Corporate Armor For more information, please call **877.449.0458**, or email us at **Sales@CorporateArmor.com**.

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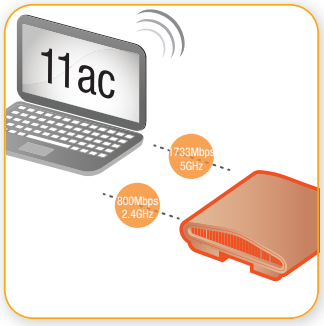
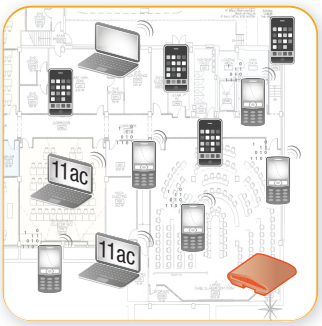
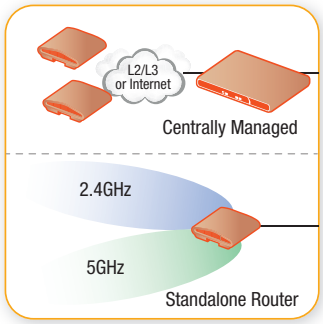


Blinding Fast 4-Stream 802.11ac



Ultra High User Density



Architectural Flexibility

weight is 1.1 kg. (2.3 lbs.)

FEATURES

- 802.11ac Multi-User MIMO (MU-MIMO)
- Concurrent dual-band (5 GHz/2.4 GHz) support
- 80 MHz channelization; 256-QAM modulation support; 1733 Mbps PHY rates at 5 GHz
- 256-QAM support on 2.4GHz
- Ethernet Port Link Aggregation (LACP)
- Backward compatible with legacy 802.11 clients
- 802.3af mode of operation
- 802.11ac standard Tx Beamforming
- Space Time Block Coding for increased handset performance
- Improved Maximum Ratio Combining (MRC) for best-in-class receive sensitivity
- Low Density Parity Check (LDPC) for increased data throughput at all ranges
- BeamFlex+ (PD-MRC) improves signal reception of mobile devices
- Integrated smart antenna with many unique patterns for ultra reliability
- Unmatched Rx sensitivity down to -104 dBm
- USB port for hosting Internet-of-Things (IoT) devices such as Bluetooth Low Energy (BLE) smart beacons
- Either standalone or centrally managed
- Integrated NAT and DHCP support
- Multicast IP video streaming support
- Four software QoS queues per client station
- Up to 16 BSSIDs per radio with unique QoS and security policies
- Wall or ceiling mountable with padlock security
- Built in mounting options for fast an easy deployment

- WPA-PSK (AES), 802.1X support for RADIUS and AD*
- Zero-IT and Dynamic PSK*
- Admission control/load balancing*
- Band balancing
- Captive portal and guest accounts *

* when used with management.

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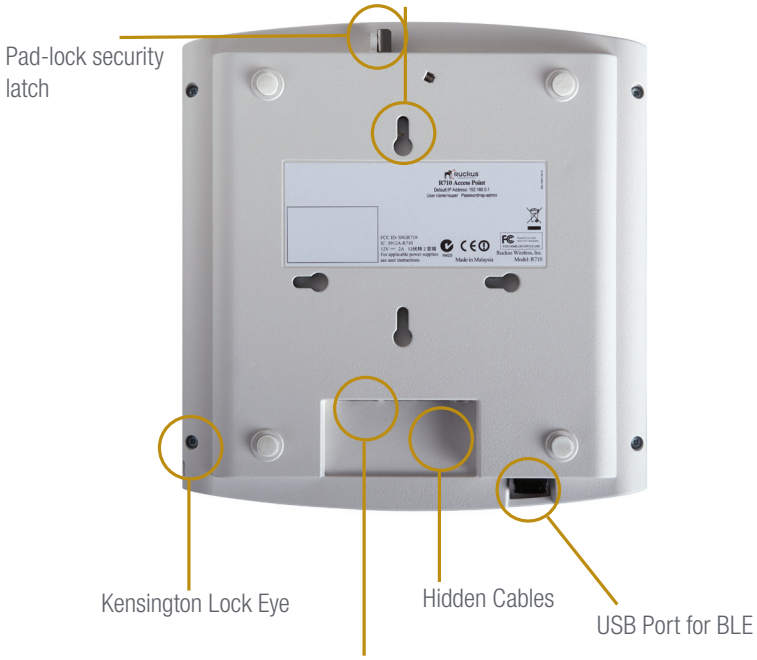
Patented BeamFlex+ technology extends signal range, improves stability of client connections

The ZoneFlex R710 integrates patented software-controlled adaptive antennas that delivers additional signal gain per radio chain. As BeamFlex+ adapts to client locations and antenna polarity, the smart antenna technology optimizes the RF energy toward client on a per packet basis. This allows for substantial performance improvement and a reduction in packet loss from the ability to automatically mitigate interference and obstacles. BeamFlex+ with PD-MRC or polarization diversity ensures the R710 listens in all polarizations simultaneously. This results in significant receive signal gain from mobile devices with weak transmitters.

Front View



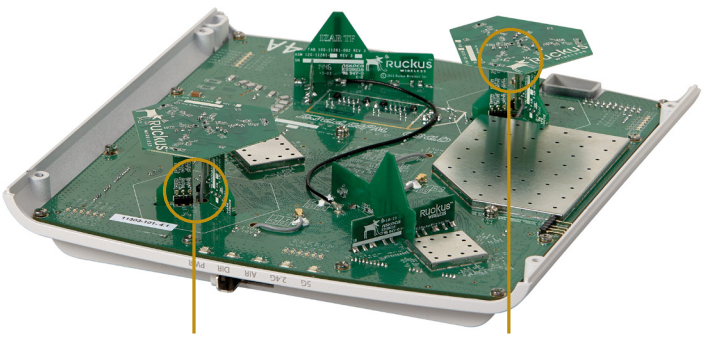
Multi-User MIMO (MU-MIMO)

802.11ac MU-MIMO allows the ZoneFlex R710 to transmit multiple spatial streams to multiple client devices simultaneously, increasing the total throughput and capacity of the wireless network. The ZoneFlex R710 is able to provide up to three clients each their own dedicated full-bandwidth channel using an MU-MIMO technique known as spatial reuse. This capability enables several benefits.

Efficient use of available spectrum effectively multiplies the total capacity of a network, allowing it to meet the increasing data demand driven by the proliferation of mobile Wi-Fi clients and data-hungry applications and uses such as high-definition video streaming. Additionally, MU-MIMO does not require client devices to time-share connections with other clients on the network as in legacy Wi-Fi, which means each device experiences less wait time and makes the network more responsive overall. Even legacy clients benefit from MU-MIMO on the wireless network, because substantially increased efficiency for MU clients leaves the network with more free time and capacity by supporting multiple users.

Advanced WLAN applications

When used with the Ruckus Smart WLAN management systems, the ZoneFlex R710 supports a wide range of value-added applications such as guest networking, Dynamic PSK, hotspot authentication, wireless intrusion prevention and many more. WLANs can also be grouped and shared by specific APs. In a centrally managed configuration, the ZoneFlex R710 works with various authentication servers including AD, LDAP, and RADIUS.



BeamFlex+ Adaptive Antenna Technology

Corporate Armor For more information, please call **877.449.0458**, or email us at **Sales@CorporateArmor.com**.

ZoneFlex R710 Specifications

PHYSICAL CHARACTERISTICS	
POWER	• DC Input: 12 VDC 2A • PoE: 802.3af/at • 802.3af mode feature: - Limits 2.4GHz transmit to 25dBm (aggregate) - Turns off USB port - Turns off Ethernet 1 port
PHYSICAL SIZE	• 22 cm (L), 22 cm (W), 6 cm (H)
WEIGHT	• 1.1kg / 2.3 lbs.
RF	• Adaptive antenna array: 4,000+ unique antenna patterns, polarization diversity • Maximum Transmit Power[1] 28 dBm on 2.4 GHz; 28 dBm on 5 GHz • Physical antenna gain: 3 dBi (2.4 and 5GHz) • BeamFlex SINR Tx gain[2]: up to 6 dB • BeamFlex SINR Rx gain: up to 3-5 dB • Interference mitigation: up to 15 dB • Minimum Rx sensitivity[3]: -104 dBm
ETHERNET PORTS	• 2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45 • Power over Ethernet (802.3af/at) with Category 5/5e/6 cable • Link Aggregation (LACP)
ENVIRONMENTAL CONDITIONS	• Operating Temperature: -4°F (-20°C) to 140°F (60°C) • Operating Humidity: up to 95% non-condensing
POWER CONSUMPTION	• 5.5W (minimum) • 9.4W (typical) • 18.5W (peak) • 12.95W (peak in 802.3af mode)

PERFORMANCE AND CAPACITY	
PHY DATA RATES	• Up to 800 Mbps (2.4GHz) • Up to 1733 Mbps (5GHz)
CONCURRENT STATIONS	• Up to 500

NETWORK ARCHITECTURE	
IP	• IPv4, IPv6, dual-stack
VLANs	• 802.1Q (1 per BSSID or dynamic, per user based on RADIUS) • Port-based
802.1X FOR WIRED PORTS	• Authenticator • Supplicant
TUNNELING	• L2TP, PPPoE

MULTIMEDIA AND QUALITY OF SERVICE	
802.11e/WMM	• Supported
SOFTWARE QUEUES	• Per WLAN priority (2), Per traffic type (4), per client
TRAFFIC CLASSIFICATION	• Automatic, heuristics and TOS based or VLAN-defined
RATE LIMITING	• Dynamic per-user or per-WLAN

MANAGEMENT	
DEPLOYMENT OPTIONS	• Standalone (individually managed) • Centrally managed

WI-FI	
STANDARDS	• IEEE 802.11a/b/g/n/ac
SUPPORTED DATA RATES	• 802.11ac: 29.3 Mbps – 1733 Mbps (80MHz) • 802.11n: 6.5 Mbps – 216.7 Mbps(20MHz) 13.5 Mbps – 800 Mbps (40MHz) • 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps • 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
RADIO CHAINS/ STREAMS	• 4x4:4
MIMO	• SU-MIMO — Up to 4 streams • MU-MIMO — Up to 3 streams
CHANNELIZATION	• 20 MHz, 40 MHz, and/or 80 MHz
FREQUENCY BAND	• IEEE 802.11ac: 5.15 – 5.85 GHz • IEEE 802.11a/n: 5.15 – 5.85 GHz • IEEE 802.11b: 2.4 – 2.484 GHz
BSSIDs	• Up to 16 (2.4 GHz) • Up to 16 (5 GHz)
POWER SAVE	• Supported
CERTIFICATIONS [4]	• WEEE/RoHS compliance • EN 60601-1-2 Medical • Wi-Fi Alliance certified • UL 2043 plenum rated
SUBWAY AND RAILROAD CERTIFICATIONS	• EN50121-1 EMC • EN50121-4 Immunity • IEC 61373 Shock & Vibration

[1] Max power varies by country setting, band, and MCS rate
[2] BeamFlex+ gains are statistical system-level effects (including TxBF), translated to enhanced SINR here, and based on observations over time in real-world conditions with multiple APs and many clients
[3] Rx sensitivity varies by band, channel width, and MCS rate
[4] Refer to price list for current country certifications

Product Ordering Information

MODEL	DESCRIPTION
ZoneFlex R710 Dual Band 802.11ac Access Point	
901-R710-XX00	ZoneFlex dual-band (5 GHz and 2.4 GHz concurrent) Wave 2 802.11ac wireless access point, 4x4:4 streams, adaptive antennas, dual ports, PoE support. Includes adjustable acoustic drop ceiling bracket. Does not include power adapter.
Optional Accessories	
902-0162-XX00	PoE injector (90 – 264 VAC 47-63 Hz)
902-1169-XX00	Power supply (90 – 264 VAC 47-63 Hz)
902-0120-0000	Secure Mounting Bracket

PLEASE NOTE: When ordering ZoneFlex Indoor APs, you must specify the destination region by indicating -US, or -WW 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.

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