RUCKUS’ HIGHEST CAPACITY, HIGHEST PERFORMING FOUR-STREAM 802.11AC AP

The 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 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 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.

The 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.
ZoneFlex R710
Dual-Band 4x4:4 802.11ac Smart Wi-Fi AP

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.
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.

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.
# ZoneFlex R710

**Dual-Band 4x4:4 802.11ac Smart Wi-Fi AP**

## Physical Characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| Power               | DC Input: 12 VDC, 2A  
PoE: 802.3af/at  
802.3af mode feature:  
Limits 2.4GHz to 2x4 (2-chain transmit at 22dBm aggregate power, 4-chain receive)  
Turns off USB port  
Turns off Ethernet 1 port |
| Physical Size       | 22 cm (L), 22 cm (W), 6 cm (H)                                                |
| Weight              | 364 g (0.8 lb.)                                                               |
| RF                  | Adaptive antenna array: 4,000+ unique antenna patterns.  
Maximum transmit power (aggregate) is 28dBm for both 2.4 GHz and 5GHz  
Physical antenna gain: 3dBi  
(2.4 and 5GHz)  
BeamFlex SINR Tx gain: up to 6dB  
BeamFlex SINR Rx gain: up to 3-5dBi  
Interference mitigation: up to 15dB  
Minimum Rx sensitivity: -104dBm |
| 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) |
| 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  
Bracket (902-0108-0000) Torx screw & padlock (sold separately) |
| Power Draw          | 5.5W (minimum)  
9.4W (typical)  
18.5W peak, no USB  
25W peak, including USB loading and 100m cable  
12.95W (peak in 802.3af mode) |

## Performance and Capacity

<table>
<thead>
<tr>
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</tr>
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</table>
| Phy Data Rates       | Up to 800 Mbps (2.4GHz)  
Up to 1733 Mbps (5GHz) |
| Concurrent Stations  | Up to 512                                                                  |
| Simultaneous VoIP Clients | Up to 60 (802.11e/WMM), 30 per radio                                      |

## Network Architecture

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP</td>
<td>IPv4, IPv6, dual-stack</td>
</tr>
</tbody>
</table>
| VLANs          | 802.11Q (1 per BSSID or dynamic, per user based on RADIUS)  
Port-based |
| 802.1X For Wired Ports | Authenticator  
Suppliant |
| Tunneling      | L2TP                                                                       |

## Multimedia and Quality of Service

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.11e/WMM</td>
<td>Supported</td>
</tr>
<tr>
<td>Software Queues</td>
<td>Per WLAN priority (2), Per traffic type (4), per client</td>
</tr>
<tr>
<td>Traffic Classification</td>
<td>Automatic, heuristics and TOS based or VLAN-defined</td>
</tr>
<tr>
<td>Rate Limiting</td>
<td>Dynamic per-user or per-WLAN</td>
</tr>
</tbody>
</table>

## Management

<table>
<thead>
<tr>
<th>Category</th>
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</tr>
</thead>
</table>
| Deployment Options | Standalone (individually managed)  
Centrally managed |
| Wi-Fi             | IEEE 802.11a/b/g/n/ac                                                      |
| Standards         | IEEE 802.11a: 29.3 Mbps – 1733 Mbps (80MHz)  
IEEE 802.11n: 6.5 Mbps – 216.7 Mbps/20MHz, 13.5 Mbps – 800 Mbps (40MHz)  
IEEE 802.11ac: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps  
IEEE 802.11b: 11, 5.5, 2 and 1Mbps  
IEEE 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps |
| Data Rates        | 4x4                                                                       |
| Spatial Streams   | 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 802.11a: 5.15 – 5.85GHz  
IEEE 802.11n: 5.15 – 5.85GHz  
IEEE 802.11b: 2.4 – 2.484GHz |
| BSSIDs            | Up to 16 (2.4GHz)  
Up to 16 (5GHz)                                                           |
| Power Save        | Supported                                                                  |
| Certifications    | WEEE/RoHS compliance  
EN 60361-1-2 Medical  
Wi-Fi Alliance certified  
UL 2043 plenum rated |
| Subway And Railroad Certifications | ENS0211-1 EMC  
ENS0214-4 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**

**901-R710-XX00**

ZoneFlex dual-band (5GHz and 2.4GHz 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**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>902-0162-XX00</td>
<td>PoE injector (90 – 264 VAC 47-63 Hz)</td>
</tr>
<tr>
<td>902-1169-XX00</td>
<td>Power supply (90 – 264 VAC 47-63 Hz)</td>
</tr>
<tr>
<td>902-0120-0000</td>
<td>Secure Mounting Bracket</td>
</tr>
</tbody>
</table>

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.

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