



## data sheet

### BENEFITS

#### Extended range requires fewer APs

Adaptive antenna technology delivers up to 2x 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 and a range of mounting options

#### Channel selection optimizes throughput

ChannelFly dynamic channel management, based on throughput measurements, not just interference, chooses the best channel to give users the highest possible throughput

#### Super simple configuration and management

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

#### Flexible deployment options

Standalone or controller-based deployment

#### Adaptive Polarization Diversity (PD-MRC)

Dual-polarized antennas that are dynamically selected provide better reception for hard to hear clients and more consistent performance as clients constantly change orientation

#### 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

# ZoneFlex™ R500

## DUAL-BAND 802.11AC 2X2:2 SMART WI-FI ACCESS POINTS

### High Performance, 802.11ac Mid-Range Smart Wi-Fi Access Points with Adaptive Antenna Technology

The Ruckus ZoneFlex R500 delivers high-performance and reliable 802.11ac wireless networking at a competitive price point.

Unlike any other 802.11ac wireless solution in its class, the ZoneFlex R500 combines patented adaptive antenna technology and automatic interference mitigation to deliver consistent, predictable performance at extended ranges with up to an additional 4dB of BeamFlex gain on top of the physical antenna gain and up to 10dB of interference mitigation.

The R500 is ideal for wireless networks servicing mobile devices with dual-polarized antennas that adapt in real time to hand-held device movement and rotation ensuring consistent performance.

Each ZoneFlex R500 integrates Ruckus-patented BeamFlex, a software-controlled, high gain antenna array that continually forms and directs each Wi-Fi packet over the best performing signal path. The ZoneFlex R500 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.

A sleek and low-profile design, the ZoneFlex R500 was purpose-built for enterprises requiring reliable high speed client connectivity. It is ideal for a variety of medium density enterprise and hotspot environments including SMBs, hotels, schools, retail outlets, and branch offices.

# ZoneFlex™ R500

## DUAL-BAND 802.11AC SMART WI-FI ACCESS POINTS

### Patented BeamFlex+™ Technology Extends Signal Range, Improves Stability of Client Connections

All ZoneFlex R500 Smart Wi-Fi access points integrate a software-controlled smart antenna with PD-MRC (polarization diversity) that delivers up to an additional 4 dB of BeamFlex gain and 10 dB of interference mitigation. This is especially beneficial to enhance the performance of mobile devices which are constantly in motion and changing orientation.

### Advanced WLAN Applications with Smart/OS

When used with the Ruckus Smart WLAN controllers, each ZoneFlex R500 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 R500 works with a wide range of authentication servers including Microsoft's Active Directory, LDAP, and RADIUS.



### Flexible Deployment Options

ZoneFlex R500 APs can be deployed as a standalone AP or as part of a centrally managed wireless LAN using ZoneDirector Smart WLAN controllers. ZoneFlex R500 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. With the Ruckus controllers, each ZoneFlex R500 is automatically configured through the network making deployment quick and easy.

### Complete Local and Remote Management

Each ZoneFlex R500 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 Ruckus' Smart WLAN controllers. 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.

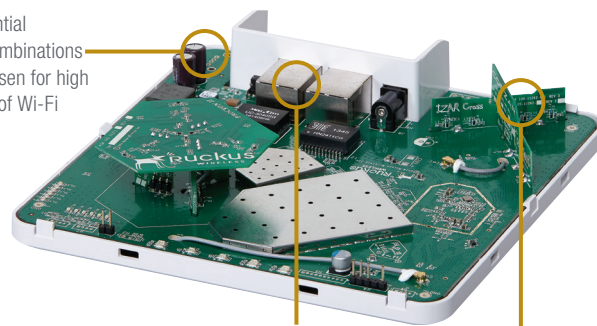


### FEATURES

- Dual-band concurrent (5GHz/2.4GHz)
- Adaptive antenna technology and advanced RF management
- Up to an additional 4dB BeamFlex gain / 10dB interference mitigation / 3 dBi physical antenna gain
- 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
- IP multicast video streaming support
- Advanced QoS packet classification and automatic priority for latency-sensitive traffic
- Dynamic, pre-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)
- BYOD, Zero-IT and Dynamic PSK\*
- Admission control/load balancing\*
- Band steering and airtime fairness support
- Captive portal and guest accounts\*
- Application recognition and control\*
- SmartWay Bonjour gateway\*
- SecureHotspot\*
- SPOT location services\*
- Band balancing\*

\* when used with Ruckus ZoneDirector or SmartZone controller.

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



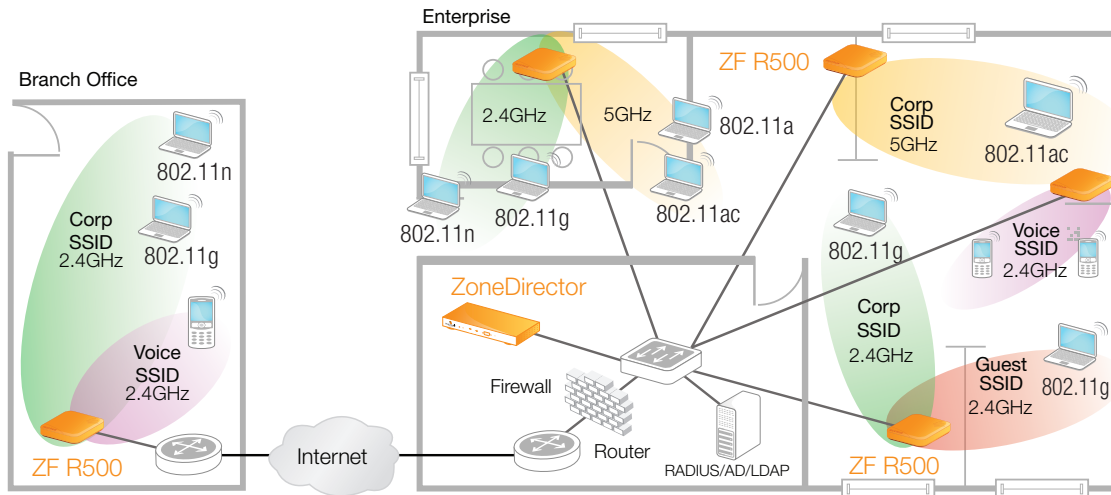
Two 10/100/1000 Mbps ports; one with PoE

High-gain directional antenna elements not only delivers signal gain but also interference mitigation for range extension, reliability and high data rates

# ZoneFlex™ R500

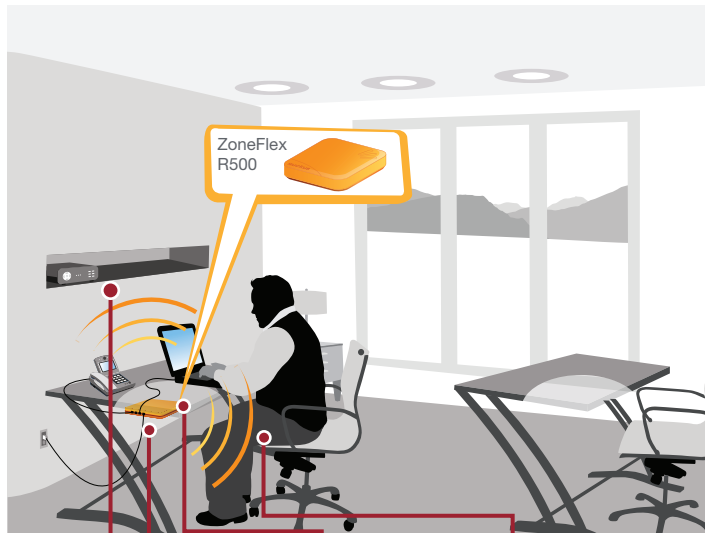
## DUAL-BAND 802.11AC SMART WI-FI ACCESS POINTS

The ZoneFlex R500 integrates with your existing network infrastructure, delivering best-in-class 802.11ac performance and reliability at a competitive price — making it the ideal wireless solution for mid-range enterprise and branch office applications.



### HOTEL COMMON AREAS SUCH AS SHARED OFFICES

The ZoneFlex R500 is ideal for deployment in hotel common areas to provide wireless connection to high quality data access, as well as wired connections to IP phone and guest devices.



Dual-band (2.4/5GHz) support allows for concurrent Internet and IP-based video services

Sleek, elegant design easily concealed

Wired ports for connecting IP devices such as laptops and VoIP phones

Multiple SSIDs for high-speed Internet access and other services

### DEPLOYMENT FOR RETAIL / BRANCH OFFICES

The ZoneFlex R500 is ideal for deployment in retail stores to provide inconspicuous wireless connection to high quality video, wireless IP phones and data access for handheld PoS bar code scanners.



Wired ports to connect devices such as cash registers, printers, etc.

Multiple SSIDs for differentiated user services (e.g., guest Wi-Fi, point of sale, voice)

5GHz band and smart antenna system ideal for 11ac clients

Reliable Wi-Fi connectivity for point of sale devices

## Specifications\*

PHYSICAL CHARACTERISTICS	
<b>POWER</b>	<ul style="list-style-type: none"> <li>DC Input: 12 VDC 1.0A</li> <li>Power over Ethernet 802.3 af</li> </ul>
<b>PHYSICAL SIZE</b>	<ul style="list-style-type: none"> <li>15.8 cm x 15.8 cm x 4 cm (6.2 in x 6.2 in x 1.57 in)</li> </ul>
<b>WEIGHT</b>	<ul style="list-style-type: none"> <li>350 g (0.77 lb.)</li> </ul>
<b>ETHERNET PORTS</b>	<ul style="list-style-type: none"> <li>2 auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45, POE port (on one port)</li> </ul>
<b>LOCK OPTIONS</b>	<ul style="list-style-type: none"> <li>Hidden latching mechanism</li> <li>Kensington Lock Hole</li> <li>T-bar Torx</li> <li>Bracket (902-0108-0000) Torx screw &amp; padlock (sold separately)</li> </ul>
<b>ENVIRONMENTAL CONDITIONS</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 0°C - 50°C</li> <li>Operating Humidity: 10% - 95% non-condensing</li> </ul>
<b>POWER DRAW</b>	PoE-Powered <ul style="list-style-type: none"> <li>Idle: 4W</li> <li>Typical: 5.95W</li> <li>Peak: 10.5W</li> </ul> 12VDC-Powered <ul style="list-style-type: none"> <li>Idle: 4W</li> <li>Typical: 6.13W</li> <li>Peak: 11.1W</li> </ul>

CAPACITY	
<b>CONCURRENT STATIONS</b>	<ul style="list-style-type: none"> <li>Up to 500 clients per AP</li> </ul>
<b>SIMULTANEOUS VoIP CLIENTS</b>	<ul style="list-style-type: none"> <li>Up to 30</li> </ul>

RF	
<b>ANTENNA</b>	<ul style="list-style-type: none"> <li>Adaptive antenna that provides up to 64 unique antenna patterns per radio</li> <li>Full omnidirectional polarization diversity</li> </ul>
<b>PHYSICAL ANTENNA GAIN</b>	<ul style="list-style-type: none"> <li>Up to 3 dBi</li> </ul>
<b>BEAMFLEX* SINR TX GAIN</b>	<ul style="list-style-type: none"> <li>Up to 4 dB</li> </ul>
<b>BEAMFLEX* SINR RX GAIN</b>	<ul style="list-style-type: none"> <li>3-5 dB (PD-MRC)</li> </ul>
<b>INTERFERENCE MITIGATION</b>	<ul style="list-style-type: none"> <li>Up to 10 dB</li> </ul>
<b>MINIMUM RX SENSITIVITY</b>	<ul style="list-style-type: none"> <li>Up to -100 dBm</li> </ul>

\*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	
<b>DEPLOYMENT OPTIONS</b>	<ul style="list-style-type: none"> <li>Standalone (individually managed)</li> <li>Managed by ZoneDirector</li> <li>Managed by SmartZone</li> <li>Managed by FlexMaster</li> <li>Managed by SmartCell™ Gateway 200</li> </ul>
<b>CONFIGURATION</b>	<ul style="list-style-type: none"> <li>Web User Interface (HTTP/S)</li> <li>CLI (Telnet/SSH), SNMP v1, 2, 3</li> <li>TR-069 vis FlexMaster</li> </ul>
<b>AUTO AP SOFTWARE UPDATES</b>	<ul style="list-style-type: none"> <li>FTP or TFTP, remote auto available</li> </ul>

\*Specifications subject to change without notice.

WI-FI	
<b>STANDARDS</b>	<ul style="list-style-type: none"> <li>IEEE 802.11a/b/g/n/ac</li> <li>2.4GHz and 5GHz</li> </ul>
<b>SUPPORTED DATA RATES</b>	<ul style="list-style-type: none"> <li>802.11n/ac: 6.5Mbps – 173.4Mbps (20MHz)</li> <li>13.5Mbps – 400Mbps (40MHz)</li> <li>29.3Mbps – 867Mbps (80MHz)</li> <li>802.11a: 54, 48, 36, 24, 18, 12, 9 and 6Mbps</li> <li>802.11b: 11, 5.5, 2 and 1 Mbps</li> <li>802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps</li> </ul>
<b>RADIO CHAINS</b>	<ul style="list-style-type: none"> <li>2 x 2</li> </ul>
<b>SPATIAL STREAMS</b>	<ul style="list-style-type: none"> <li>2</li> </ul>
<b>RF POWER OUTPUT (Aggregate)</b>	<ul style="list-style-type: none"> <li>26 dBm for 2.4GHz†</li> <li>25 dBm for 5GHz†</li> </ul>
<b>CHANNELIZATION</b>	<ul style="list-style-type: none"> <li>20MHz, 40MHz, 80MHz</li> </ul>
<b>FREQUENCY BAND</b>	<ul style="list-style-type: none"> <li>IEEE 802.11 b/g/n: 2.4 – 2.484 GHz</li> <li>IEEE 802.11a/ac: 5.15 – 5.25 GHz; 5.25 – 5.35 GHz; 5.47 – 5.725 GHz; 5.725 – 5.85 GHz</li> </ul>
<b>OPERATING CHANNELS</b>	<ul style="list-style-type: none"> <li>US/Canada: 1-11, Europe ( ETSI X30): 1-13, Japan X41: 1-13</li> <li>5 GHz channels: Country dependent</li> </ul>
<b>POWER SAVE</b>	<ul style="list-style-type: none"> <li>Supported</li> </ul>
<b>WIRELESS SECURITY</b>	<ul style="list-style-type: none"> <li>WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i</li> <li>Authentication via 802.1X with the ZoneDirector, local authentication database, support for RADIUS, LDAP, and ActiveDirectory</li> </ul>
<b>CERTIFICATIONS*</b>	<ul style="list-style-type: none"> <li>U.S., Europe, Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Hong Kong, India, Indonesia, Israel, Japan, Korea, Malaysia, Mexico, New Zealand, Peru, Philippines, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, UAE, Vietnam</li> <li>WEEE/RoHS compliance</li> <li>EN-60601-1-2 (Medical)</li> <li>Wi-Fi Alliance</li> <li>EN50121-1 Railway EMC</li> <li>EN50121-4 Railway Immunity</li> <li>IEC 61373 Railway Shock &amp; Vibration</li> <li>UL 2043 plenum rated</li> </ul>

† Maximum power varies by country

\*See price list for latest country certification listing

## Product Ordering Information

MODEL	DESCRIPTION
<b>ZoneFlex R500 Smart Wi-Fi 802.11ac Access Point</b>	
<b>901-R500-XX00</b>	Concurrent dual band 802.11ac AP, no power adapter
<b>Optional Accessories</b>	
<b>902-0108-0000</b>	Spare, Accessory Mounting Bracket
<b>902-0173-XXYY</b>	Power Adapter, AC/DC wall plug, 100-240Vac 50/60Hz
<b>902-0162-XXYY</b>	PoE injector (sold in quantities of 10 or 100)

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

