



## data sheet



### BENEFITS

#### Best-in-class performance at lowest cost

Unprecedented price/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

#### Channel selection optimizes throughput

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

#### 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™ R300

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

### High Performance, 802.11n Smart Wi-Fi Access Points with Adaptive Antenna Technology

The Ruckus ZoneFlex R300 delivers high-performance and reliable 802.11n wireless networking at the industry's most affordable price point.

Unlike any other 802.11n wireless solution in its class, the ZoneFlex R300 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.

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 R300 integrates Ruckus-patented BeamFlex, a software-controlled, high gain antenna array that continually forms and directs each 802.11n packet over the best performing signal path. The ZoneFlex R300 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.

# ZoneFlex™ R300

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

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

All ZoneFlex R300 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 R300 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 R300 works with a wide range of authentication servers including Microsoft's Active Directory, LDAP, and RADIUS.



### Flexible Deployment Options

ZoneFlex R300 APs can be deployed as a standalone AP or as part of a centrally managed wireless LAN using ZoneDirector Smart WLAN controllers. ZoneFlex R300 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 R300 is automatically configured through the network making deployment quick and easy.

### Complete Local and Remote Management

Each ZoneFlex R300 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

- Dual-band concurrent (5GHz/2.4GHz)
- 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 27 BSSIDs per radio with unique QoS and security policies
- 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)
- Zero-IT and Dynamic PSK\*\*
- Admission control/load balancing\*\*
- Bandsteering and airtime fairness
- Captive portal and guest accounts \*\*
- Wall, desktop or ceiling mountable
- Limited lifetime warranty

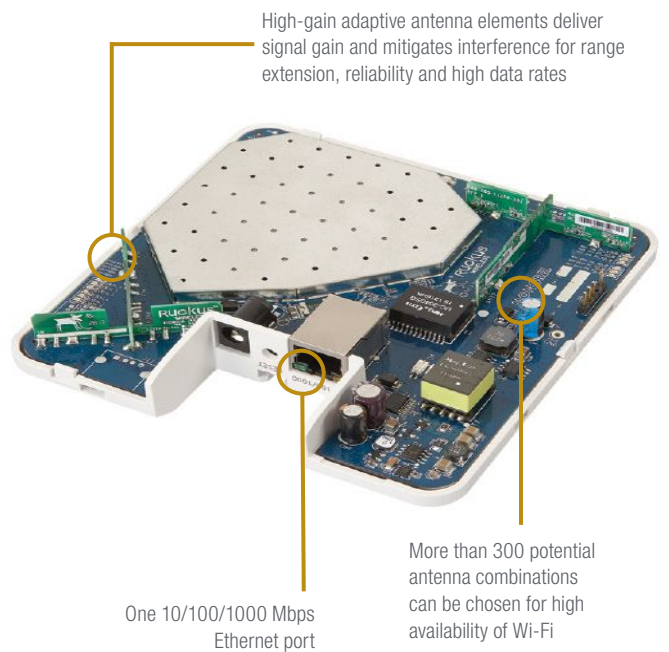
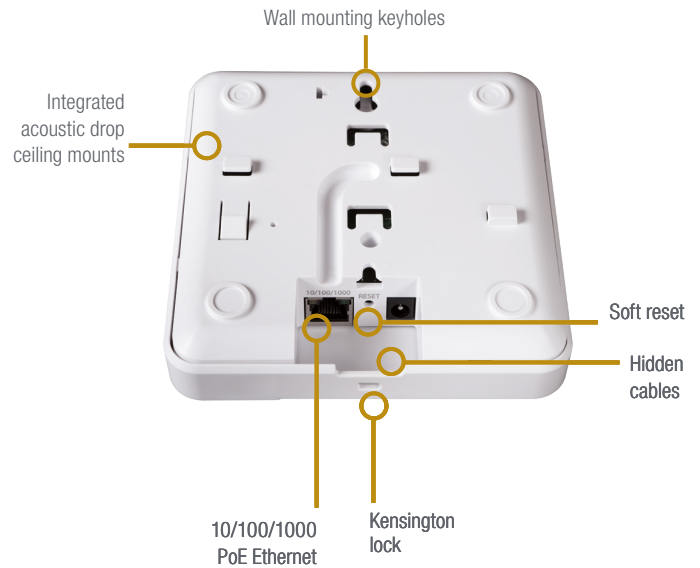
\*\* when used with management

# ZoneFlex™ R300

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

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

The ZoneFlex R300 installs and mounts seamlessly making it ideal for quick and effective set up in hotspot or retail applications.



## 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>13cm (L), 13cm (W), 2.8cm (H)</li> <li>5.1 in (L), 5.1 in (W), 1.1 in (H)</li> </ul>
<b>WEIGHT</b>	<ul style="list-style-type: none"> <li>215g (0.474 lbs.)</li> </ul>
<b>ETHERNET PORTS</b>	<ul style="list-style-type: none"> <li>1 auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45, POE 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> </ul>
<b>ENVIRONMENTAL CONDITIONS</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 0°C - 40°C</li> <li>Operating Humidity: 10% - 95% non-condensing</li> </ul>
<b>POWER DRAW</b>	<ul style="list-style-type: none"> <li>DC Input                             <ul style="list-style-type: none"> <li>Idle: 1.6W</li> <li>Typical: 3.6W</li> <li>Peak: 8.4W</li> </ul> </li> <li>Power over Ethernet Input                             <ul style="list-style-type: none"> <li>Idle: 3.4W</li> <li>Typical: 5.3W</li> <li>Peak: 9.7W</li> </ul> </li> </ul>

PERFORMANCE AND CAPACITY	
<b>MAX PHY RATE</b>	<ul style="list-style-type: none"> <li>300 Mbps / radio</li> </ul>
<b>CONCURRENT STATIONS</b>	<ul style="list-style-type: none"> <li>Up to 256 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 128 unique antenna patterns</li> <li>64 patterns per band</li> </ul>
<b>RF POWER OUTPUT (Aggregated)</b>	<ul style="list-style-type: none"> <li>26 dBm for 2.4GHz†</li> <li>24 dBm for 5GHz†</li> </ul>
<b>PHYSICAL ANTENNA GAIN</b>	<ul style="list-style-type: none"> <li>Up to 3 dBi per spatial stream</li> </ul>
<b>BEAMFLEX* SINR TX GAIN</b>	<ul style="list-style-type: none"> <li>Up to 4 dB</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 -101 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 (9.8.1 &amp; above)</li> <li>Managed by FlexMaster</li> <li>Managed by SmartCell™ Gateway 200 (2.5.1 &amp; above)</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>

WI-FI	
<b>STANDARDS</b>	<ul style="list-style-type: none"> <li>IEEE 802.11a/b/g/n</li> <li>2.4GHz and 5GHz</li> </ul>
<b>SUPPORTED DATA RATES</b>	<ul style="list-style-type: none"> <li>802.11n: 6.5Mbps – 130Mbps (20MHz) 6.5Mbps – 300Mbps (40MHz)</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>CHANNELIZATION</b>	<ul style="list-style-type: none"> <li>20MHz and/or 40MHz</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/n: 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>BSSID</b>	<ul style="list-style-type: none"> <li>Up to 27 user configurable</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>EN 50121-1 Railway EMC</li> <li>EN 50121-4 Railway Immunity</li> <li>IEC 61373 Railway Shock &amp; Vibration</li> </ul>

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

## Product Ordering Information

MODEL	DESCRIPTION
<b>ZoneFlex R300 Smart Wi-Fi 802.11n Access Point</b>	
<b>901-R300-XXYY</b>	Concurrent dual band 802.11n AP, no power adapter
<b>Optional Accessories</b>	
<b>902-0173-XXYY</b>	Power Adapter, AC/DC wall plug, 100-240Vac 50/60Hz (XX can be US, EU, AR, AU, BR, CN, IN, KR, SA, UK, UN)
<b>902-0162-XXYY</b>	PoE injector (sold in quantities of 10 or 100); (XX can be US, EU, UK, AU, CH, or IN)

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



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