

## DATA SHEET



## BENEFITS

### STUNNING WI-FI PERFORMANCE

Mitigate interference and extend coverage with patented BeamFlex+™ adaptive antenna technology utilizing 512 directional antenna patterns.

### SERVE MORE DEVICES

Connect more devices simultaneously with three MU-MIMO spatial streams and concurrent dual-band 2.4/5GHz radios while enhancing non-Wave 2 device performance.

### GET OPTIMAL THROUGHPUT

ChannelFly™ dynamic channel technology uses machine learning to automatically find the least congested channels. You always get the highest throughput the band can support.

### MULTIPLE MANAGEMENT OPTIONS

Manage the R610 from the cloud, with on-premises physical/virtual appliances, or without a controller

### BETTER MESH NETWORKING

Reduce expensive cabling, and complex mesh configurations by checking a box with SmartMesh™ wireless meshing technology to dynamically create self-forming, self-healing mesh networks.

### EXPANDED BACKHAUL

Pair two onboard 1GbE ports with link aggregation (LACP) to maximize throughput between the AP and wired switch.

### MORE THAN WI-FI

Enhance your network with Cloudpath™ security and management software, SPoT™ real-time Wi-Fi location engine and analytics software, and SCI network analytics.

Busy indoor locations like classrooms, retail venues, and branch offices can be among the most challenging Wi-Fi environments. Dozens of users share the same crowded spectra and they all expect fast, reliable connectivity to their content and applications.

The Ruckus R610 delivers the ideal combination of performance, affordability, and 802.11ac features for medium-density locations. It provides fast data rates (up to 1900Mbps) and Ruckus density-handling intelligence to support dozens of users with guaranteed throughput, at a cost you can afford.

The R610 is a perfect fit for environments like K-12 classrooms, university lecture halls, libraries, retail locations, and branch offices. It can easily support online digital learning deployments with 30+ students per classroom, or university lecture halls serving concurrent HD video streams to dozens of student devices.

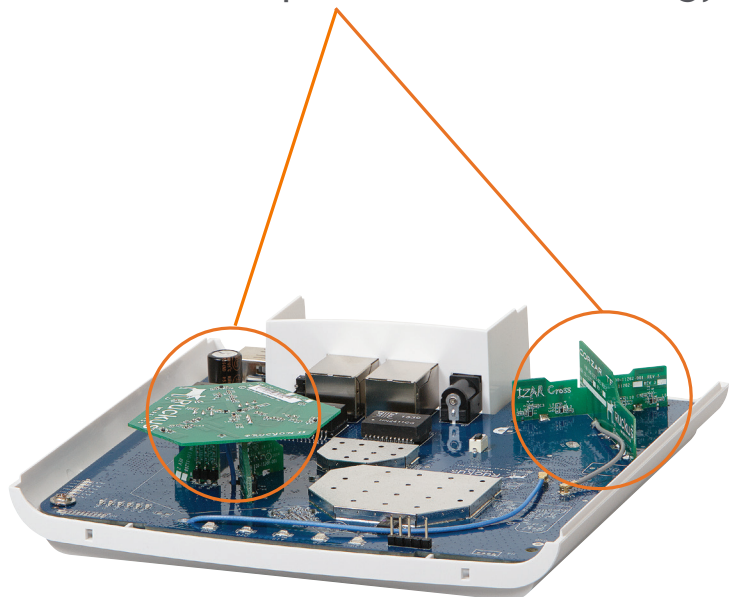
The R610 802.11ac Wi-Fi AP incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.

- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

With three streams of MultiUser MIMO (MU-MIMO) connectivity, the R610 can simultaneously transmit to multiple client devices, improving RF efficiency and overall throughput, for all users—even those with non-Wave 2 clients. The R610 also features a USB port for hosting IOT devices and dual Gigabit Ethernet ports that support of Link Aggregation for higher throughput to the switch.

Whether you're deploying ten or ten thousand APs, the R610 is also easy to manage through Ruckus' appliance, virtual and cloud management options.

## BeamFlex Adaptive Antenna Technology



## MU-MIMO

MU-MIMO helps Wave 2 and non-Wave 2 clients. The R610 can communicate simultaneously to multiple Wave 2 clients increasing network performance. This frees up airtime for non-Wave 2 clients resulting in enhanced aggregate network throughput.

## ADVANCED WLAN APPLICATIONS

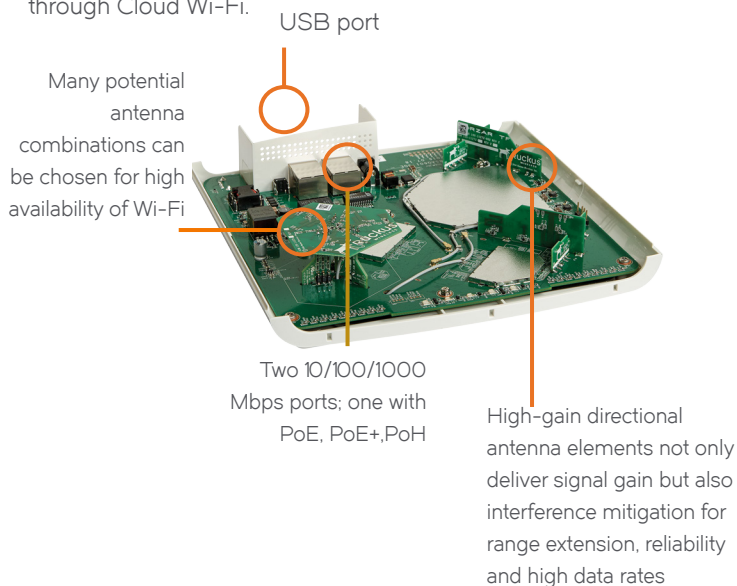
When used with the Ruckus WLAN controllers, each R610 supports a wide range of value-added applications such as BYOD/guest onboarding, Dynamic PSK, hotspot authentication, wireless intrusion detection and many more. WLANs can be created and mapped to the same or different APs or VLANs. In a centrally managed configuration, the R610 works with a wide range of authentication servers including Microsoft's Active Directory, LDAP, and RADIUS.

## FLEXIBLE DEPLOYMENT OPTIONS

R610 offers unprecedented & unmatched flexibility—with the same AP being able to connect to a variety of controllers—ZoneDirector, SmartZone or Cloud. This gives you the ability to buy an AP now, and change your controller later. R610 can be deployed across any L2/L3 network and can bridge traffic onto the local network, tunnel to a central location using L2TP\*\*, or route between the WAN and NAT'ed private subnets. With the Ruckus controllers, each R610 is automatically configured through the network making deployment quick and easy.

## COMPLETE LOCAL AND CLOUD MANAGEMENT

Each R610 can be managed by the ZoneDirector controller or the SmartZone series of on-premise or virtual hosted controllers or through Cloud Wi-Fi.



### SMARTZONE PLATFORM



SmartZone  
100



vSmartZone  
E



vSmartZone  
H



SC Gateway  
200

## FEATURES

### WIRELESS

- 802.11ac Wave 2 3x3:3 Multi-User MIMO (MU-MIMO)
- Dual-band concurrent (5GHz/2.4GHz)
- BeamFlex+ adaptive antenna technology, with support for up to 1024 unique antenna patterns per access point enables up to 4dB of additional gain and up to 10dB of additional interference mitigation
- 80+80/160MHz capable
- Ethernet Port Link Aggregation (LACP)
- Automatic interference mitigation, optimized for high-density environments
- 802.11ac standard Tx Beamforming
- Advanced QoS packet classification and automatic priority for latency-sensitive traffic
- WPA-PSK (AES), 802.1X support for RADIUS and Active Directory\*
- Ethernet 802.1X port-based authentication (authenticator and supplicant) \*\*
- Dynamic PSK\*
- Admission control/load balancing\*
- Band steering and airtime fairness support

### INTERFACES

- Two 10/100/1000 Ethernet ports, one with 802.3af/at Power over Ethernet (PoE)
- USB port for IoT technologies

### POWER

- Standard 802.3af/at Power over Ethernet (PoE)
- PoE injector
- 12VDC

POWER SOURCE	2.4GHZ	5GHZ	2 <sup>ND</sup> ETH	USB
802.3af PoE	2x3 12dBm/chain	3x3 20dBm/chain	--	--
802.3at PoE+	3x3 22dBm/chain	3x3 20dBm/chain	Yes	Yes
PoE injector, 12VDC	3x3 22dBm/chain	3x3 20dBm/chain	Yes	Yes

### SOFTWARE

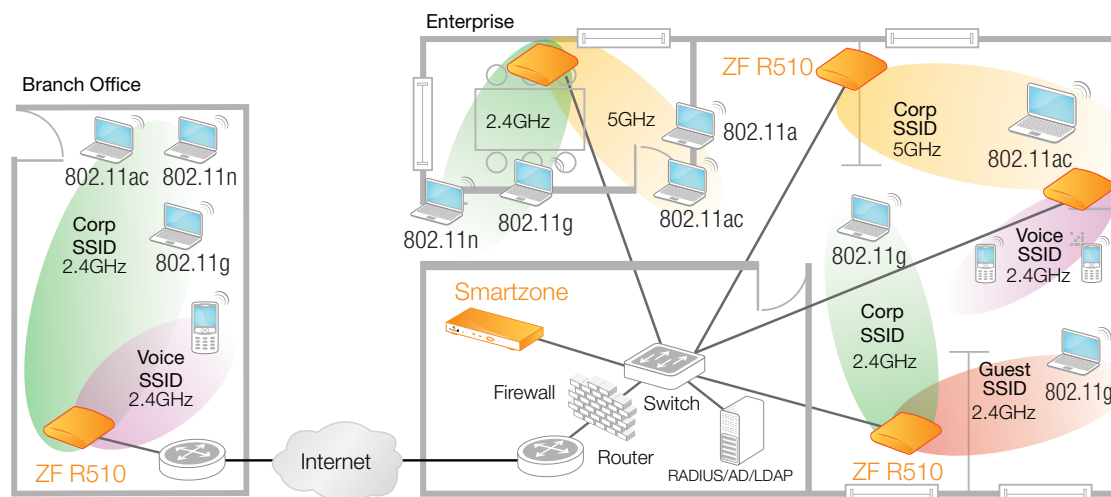
- Router mode with NAT and DHCP services
- IP multicast video streaming support
- Dynamic, pre-user rate-limiting for hotspot WLANs
- Captive portal and guest accounts\*
- Application recognition and control\*
- SmartWay™ Bonjour gateway\*
- Hotspot 2.0\*
- SPoT™ Real-time location engine and analytics\*
- Cloudpath™ Security and management software
- SmartCell Insight (Networks analytics engine)
- SmartMesh™ wireless meshing technology\*

\* when used with a controller platform

\*\* only in standalone mode

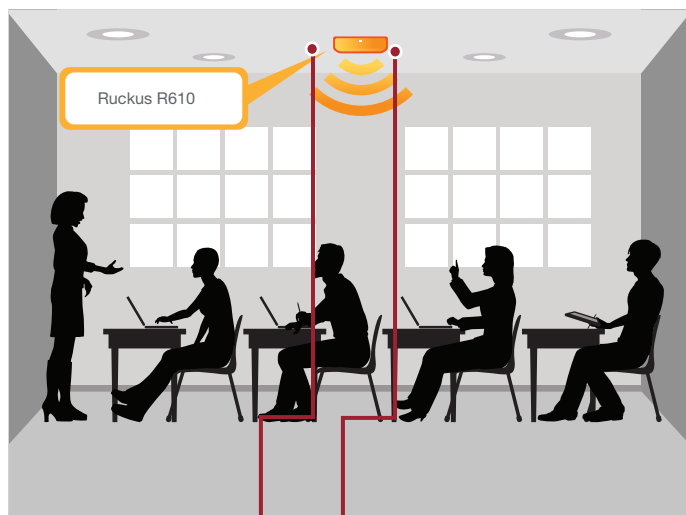
## THE R610 INTEGRATES WITH YOUR EXISTING NETWORK INFRASTRUCTURE

Delivering best-in-class 802.11ac performance and reliability — making it the ideal wireless solution for mid-range enterprise and branch office applications.



## DEPLOYMENTS FOR CLASSROOMS AND LIBRARIES

The R610 is ideal for deployment in education common areas providing high quality wireless access in high-density locations.

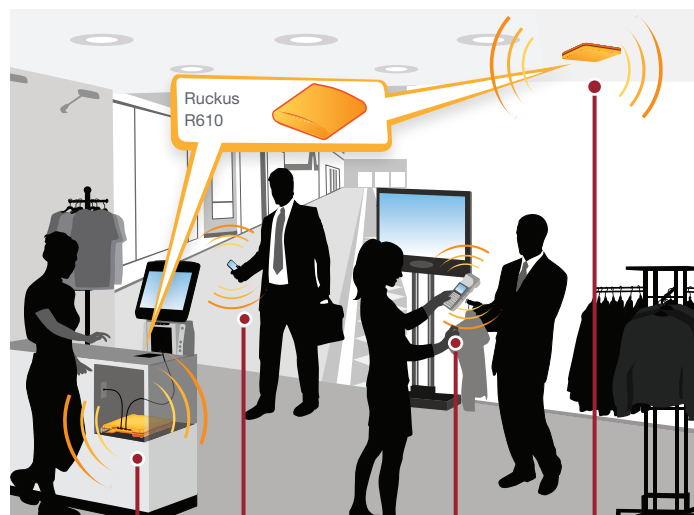


Dual-band (2.4/5GHz) support allows for concurrent Internet and IP-based video services

Sleek, elegant design easily concealed

## DEPLOYMENT FOR RETAIL / BRANCH OFFICES

The R610 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)

Reliable Wi-Fi connectivity & IoT capabilities using technologies such as BLE

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

PHYSICAL CHARACTERISTICS	
Power	<ul style="list-style-type: none"> <li>DC Input 12V DC, 2.0A</li> <li>Power over Ethernet 802.3af/at</li> <li>802.3af mode feature: <ul style="list-style-type: none"> <li>Limits 2.4GHz to 2x3 (2-chain transmit at 21dBm aggregate power, 3-chain receive)</li> <li>Turns off USB port</li> <li>Turns off 1 Ethernet port</li> </ul> </li> </ul>
Physical Size	20.1cm (L), 19.5cm (W), 5.1cm (H)
Weight	578g (1.3 lb)
Ethernet Ports	<ul style="list-style-type: none"> <li>2 auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45, POE port (on one port)</li> <li>Link Aggregation (LACP)</li> </ul>
Mounting Options	<ul style="list-style-type: none"> <li>Electrical wallbox; Standard US and EU single gang wall jack</li> <li>Optional bracket for offset &amp; wall mount</li> </ul>
Lock Options	<ul style="list-style-type: none"> <li>Hidden latching mechanism</li> <li>Kensington Lock Hole</li> <li>T-bar Torx</li> </ul>
Environmental Conditions	<ul style="list-style-type: none"> <li>Operating Temperature: 0°C - 40°C</li> <li>Operating Humidity: 10% - 95% non-condensing</li> </ul>
Power Draw	12V DC Input <ul style="list-style-type: none"> <li>Idle: 5.7W</li> <li>Typical: 10.5W</li> <li>Peak: 19.1W</li> </ul> Power over Ethernet Input <ul style="list-style-type: none"> <li>Idle: 5.7W</li> <li>Typical: 10.4W</li> <li>Peak: 18.8W</li> </ul>
USB PORT	<ul style="list-style-type: none"> <li>USB 2.0</li> <li>Type A connector</li> <li>Ideal for BLE dongles and sensors</li> </ul>

PERFORMANCE AND CAPACITY	
Concurrent Stations	512 clients per AP
Simultaneous Voip Clients	30 clients per AP

RF	
ANTENNA	Full omnidirectional polarization diversity
PHYSICAL ANTENNA GAIN	Up to 3dBi
BEAMFLEX* SINR TX GAIN	Up to 6dB
BEAMFLEX* SINR RX GAIN	3-5dB (PD-MRC)
INTERFERENCE MITIGATION	Up to 15dB
MINIMUM RX SENSITIVITY	Up to -100dBm

\* 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	<ul style="list-style-type: none"> <li>Standalone (individually managed)</li> <li>Managed by ZoneDirector (9.13.2 &amp; Above)</li> <li>Managed by SmartZone (3.4.1 &amp; above)</li> <li>Managed by FlexMaster</li> </ul>
Configuration	<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>
Auto Ap Software Updates	FTP or TFTP, remote auto available

WI-FI	
Standards	<ul style="list-style-type: none"> <li>IEEE 802.11a/b/g/n/ac</li> <li>2.4GHz and 5GHz</li> </ul>
Supported Data Rates	<ul style="list-style-type: none"> <li>802.11n/ac: 6.5Mbps - 260Mbps (20MHz), 13.5Mbps - 600Mbps (40MHz), 29.3Mbps - 1300Mbps (80MHz), 867Mbps (160MHz*)</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>
Radio Chains	3 x 3
Spatial Streams	3 streams
Channelization	20MHz, 40MHz, 80MHz, 160MHz capable
RF POWER OUT-PUT (Aggregate)	<ul style="list-style-type: none"> <li>28dBm for 2.4GHz*</li> <li>27dBm for 5GHz*</li> </ul>
Operating Channels	<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>
Frequency Band	<ul style="list-style-type: none"> <li>IEEE 802.11 b/g/n: 2.4 - 2.484GHz</li> <li>IEEE 802.11a/ac: 5.15 - 5.25GHz; 5.25 - 5.35GHz; 5.47 - 5.725GHz; 5.725 - 5.85GHz</li> </ul>
Power Save	Supported
Wireless Security	<ul style="list-style-type: none"> <li>WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i</li> <li>Authentication via 802.1X with the ZoneDirector, SmartZone, local authentication database, support of RADIUS, and ActiveDirectory</li> </ul>
Certifications**	<ul style="list-style-type: none"> <li>US, Europe, Argentina, Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Egypt, Hong Kong, India, Indonesia, Israel, Japan, Korea, Malaysia, Mauritius, Mexico, New Zealand, Pakistan, Peru, Philippines, Russia, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand &amp; UAE.</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> <li>5GHz UNII-1 (2014)</li> </ul>

\* Maximum power varies by country

\*\* For current certification status please see price list

\* With 160MHz channelization enabled, the R610 runs in single stream mode (1x1:1)

## PRODUCT ORDERING INFORMATION

MODEL	DESCRIPTION
<b>R610 Wi-Fi Wave 2 802.11ac Access Point</b>	
901-R610-XX00	Concurrent dual band 802.11ac AP, no power adapter
<b>Optional Accessories</b>	
902-1169-XXYY	Power supply (90 - 264 VAC, 47 - 63 Hz)
902-0162-XXYY	PoE injector (sold in quantities of 10 or 100)
902-0120-0000	Secure Mounting Bracket

PLEASE NOTE: When ordering Ruckus APs, you must specify the destination region by indicating -US, -WW, -JP or -Z2 instead of XX.

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

Warranty: Sold with a limited lifetime warranty.

For details see: <http://support.ruckuswireless.com/warranty>

NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE