

R600

Indoor 802.11ac 3x3:3 Wi-Fi Access Point



DATA SHEET



BENEFITS

STUNNING WI-FI PERFORMANCE

Provide a great user experience no matter how challenging the environment with BeamFlex+™ adaptive antenna technology and 512 directional antenna patterns.

AUTOMATE 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 R600 from the cloud, or with on-premises physical/virtual appliances.

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.

POWER EFFICIENT

Full design feature capability for 5GHz clients with 802.3af (PoE) allows enterprises to use existing switches without costly upgrades.

MORE THAN WI-FI

Support services beyond Wi-Fi with [Ruckus IoT Suite](#), [Cloudpath](#) security and onboarding software, [SPoT](#) Wi-Fi locationing engine, and [SCI](#) network analytics.

In medium-density locations, finding the right balance between performance and affordability can be challenging. No one wants to invest in extra capacity and features they won't use. At the same time, your users expect strong, consistent connectivity wherever and whenever they need it.

The Ruckus R600 combines high performance and reliability with the right feature set for medium-density locations, at a price you can afford. Using patented Ruckus technology, it extends range and mitigates interference to deliver excellent user experiences in indoor spaces.

The R600 is an ideal choice for locations such as small and mid-size enterprises and schools, and hotspot environments at hotels, retail shops, non-franchise restaurants, and other small and medium-size venues. It features a sleek, low-profile design and dual-polarized antennas that adapt in real time to maximize performance.

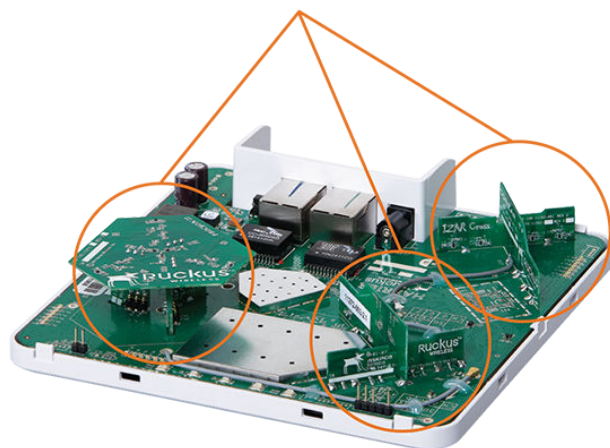
The R600 802.11ac Wi-Fi AP and switch incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.

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

Additionally, the R600 provides an ideal combination of features and performance for medium-density environments. It features easy-to-deploy mesh networking capabilities, support for up to 512 clients per AP, and capacity-based admission control to prevent APs from getting congested with too many attached devices.

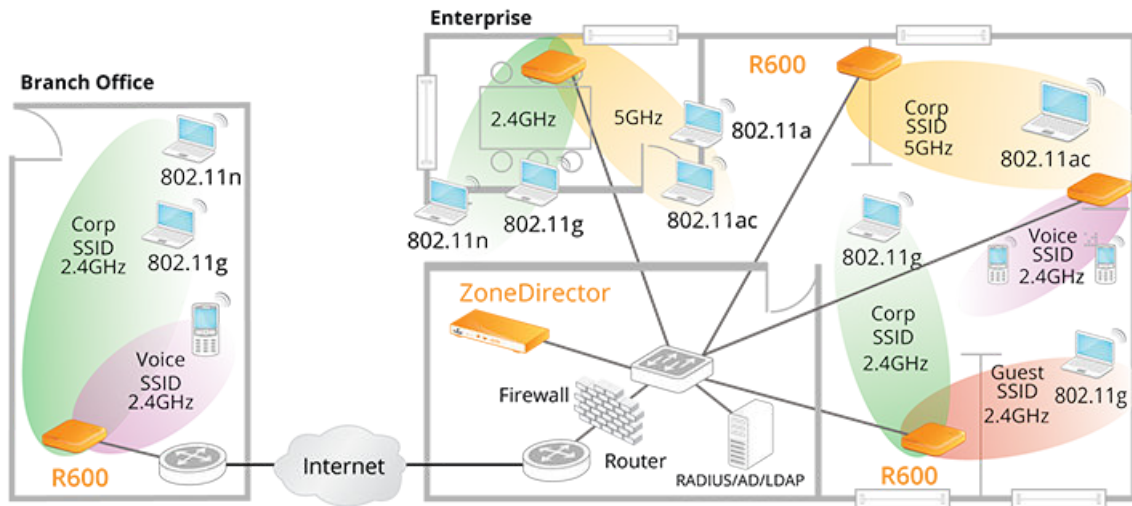
Whether you're deploying ten or ten thousand APs, the R600 is also easy to manage through Ruckus' appliance, virtual and cloud management options.

BeamFlex+ Adaptive Antenna Technology



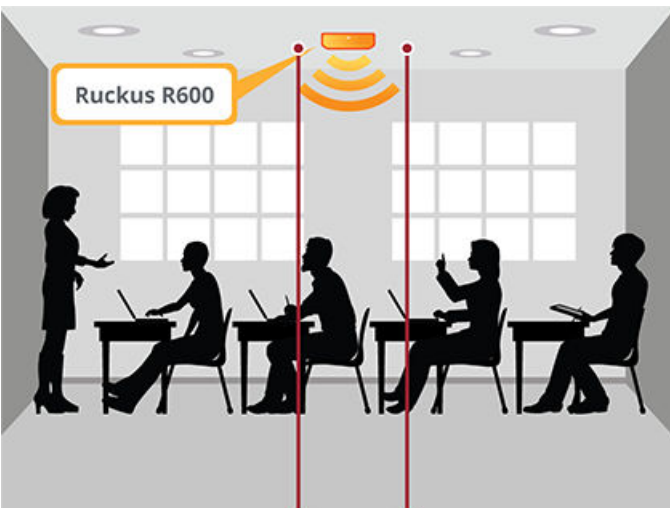
THE R600 INTEGRATES WITH YOUR EXISTING NETWORK INFRASTRUCTURE

The R600 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.



DEPLOYMENTS FOR CLASSROOMS AND LIBRARIES

The R600 is ideal for deployment in education common areas providing high quality wireless access in high density locations

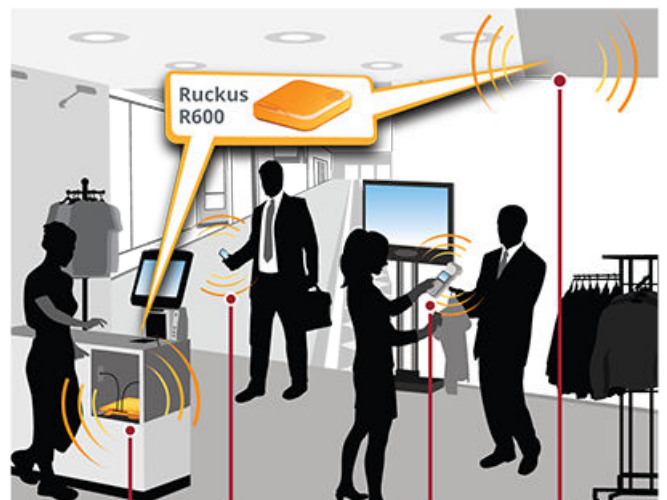


Dual-band (2.4/5GHz) support allows for concurrent Internet and IP-based video services

Sleek, elegant design easily concealed

DEPLOYMENT FOR RETAIL / BRANCH OFFICES

The R600 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 barcode



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 for point of sale devices

5GHz band and smart antenna system ideal for 802.11ac clients

ACCESS POINT ANTENNA PATTERN

Ruckus' BeamFlex+ adaptive antennas allow the R600 AP to dynamically choose among a host of antenna patterns (up to 512 possible combinations) in real-time to establish the best possible connection with every device. This leads to:

- Better Wi-Fi coverage
- Reduced RF interference

Traditional omni-directional antennas, found in generic access points, over saturate the environment by needlessly radiating RF signals in all directions. In contrast, the Ruckus BeamFlex+ adaptive antenna directs the radio signals per-device on a packet-by-packet basis to optimize Wi-Fi coverage and capacity in real-time to support high device density environments. BeamFlex+ operates without the need for device feedback and hence can benefit even devices using legacy standards.

Figure 1. Example of BeamFlex+ pattern

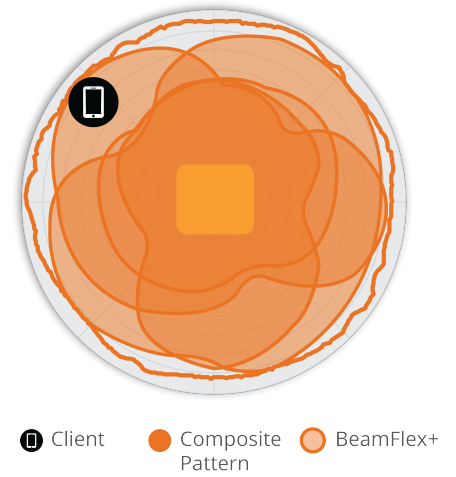


Figure 2. R600 2.4GHz Azimuth Antenna Patterns



Figure 3. R600 5GHz Azimuth Antenna Patterns



Figure 4. R600 2.4GHz Elevation Antenna Patterns

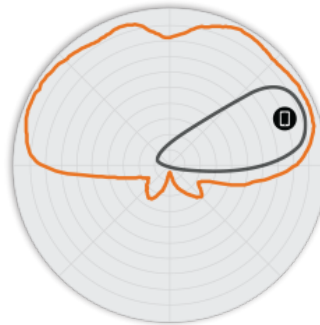


Figure 5. R600 5GHz Elevation Antenna Patterns



Note: The outer trace represents the composite RF footprint of all possible BeamFlex+ antenna patterns, while the inner trace represents one BeamFlex+ antenna pattern within the composite outer trace.

WI-FI	
Wi-Fi Standards	<ul style="list-style-type: none"> IEEE 802.11a/b/g/n/ac
Supported Rates	<ul style="list-style-type: none"> 802.11ac: 6.5 to 1,300Mbps (MCS0 to MCS9, NSS = 1 to 3 for VHT20/40/80) 802.11n: 6.5 Mbps to 450Mbps (MCS0 to MCS23) 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6Mbps 802.11b: 11, 5.5, 2 and 1 Mbps
Supported Channels	<ul style="list-style-type: none"> 2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165
MIMO	<ul style="list-style-type: none"> 3x3 SU-MIMO
Spatial Streams	<ul style="list-style-type: none"> 3 SU-MIMO
Radio Chains and Streams	<ul style="list-style-type: none"> 3x3:3
Channelization	<ul style="list-style-type: none"> 20, 40, 80MHz
Security	<ul style="list-style-type: none"> WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK WIPS/WIDS
Other Wi-Fi Features	<ul style="list-style-type: none"> WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v Hotspot Hotspot 2.0 Captive Portal WISPr

RF	
Antenna Type	<ul style="list-style-type: none"> BeamFlex+ adaptive antennas with polarization diversity Adaptive antenna that provides up to 512 unique antenna patterns per band
Antenna Gain (max)	<ul style="list-style-type: none"> Up to 3dBi
Peak Transmit Power (aggregate across MIMO chains)	<ul style="list-style-type: none"> 2.4GHz: 26dBm 5GHz: 25dBm
Minimum Receive Sensitivity ¹	<ul style="list-style-type: none"> -101dBm
Frequency Bands	<ul style="list-style-type: none"> ISM (2.4-2.484GHz) U-NII-1 (5.15-5.25GHz) U-NII-2A (5.25-5.35GHz) U-NII-2C (5.47-5.725GHz) U-NII-3 (5.725-5.85GHz)

2.4GHZ RECEIVE SENSITIVITY			
HT20		HT40	
MCS0	MCS7	MCS0	MCS7
-92	-78	-90	-84

5GHZ RECEIVE SENSITIVITY					
VHT20		VHT40		VHT80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-95	-78	-91	-76	-89	-67

2.4GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 HT20	22
MCS7 HT20	15

5GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 VHT20	22
MCS7 VHT20	18
MCS0 VHT40, VHT80	22
MCS7 VHT40, VHT80	18

PERFORMANCE AND CAPACITY	
Peak PHY Rates	<ul style="list-style-type: none"> 2.4GHz: 450Mbps 5 GHz: 1300Mbps
Client Capacity	<ul style="list-style-type: none"> Up to 512 clients per AP
SSID	<ul style="list-style-type: none"> Up to 43 per AP

RUCKUS RADIO MANAGEMENT	
Antenna Optimization	<ul style="list-style-type: none"> BeamFlex+ Polarization Diversity with Maximal Ratio Combining (PD-MRC)
Wi-Fi Channel Management	<ul style="list-style-type: none"> ChannelFly Background Scan Based
Client Density Management	<ul style="list-style-type: none"> Adaptive Band Balancing Client Load Balancing Airtime Fairness Airtime-based WLAN Prioritization
SmartCast Quality of Service	<ul style="list-style-type: none"> QoS-based scheduling Directed Multicast L2/L3/L4 ACLs
Mobility	<ul style="list-style-type: none"> SmartRoom
Diagnostic Tools	<ul style="list-style-type: none"> Spectrum Analysis SpeedFlex

NETWORKING	
Controller Platform Support	<ul style="list-style-type: none"> SmartZone ZoneDirector Cloud Wi-Fi Unleashed² Standalone
Mesh	<ul style="list-style-type: none"> SmartMesh™ wireless meshing technology. Self-healing Mesh
IP	<ul style="list-style-type: none"> IPv4, IPv6
VLAN	<ul style="list-style-type: none"> 802.1Q (1 per BSSID or dynamic per use based on RADIUS) VLAN Pooling Port-based
802.1x	<ul style="list-style-type: none"> Authenticator & Supplicant
Tunnel	<ul style="list-style-type: none"> L2TP, GRE, Soft-GRE
Policy Management Tools	<ul style="list-style-type: none"> Application Recognition and Control Access Control Lists Device Fingerprinting Rate Limiting

PHYSICAL INTERFACES	
Ethernet	<ul style="list-style-type: none"> 2 x 1GbE ports, RJ-45

¹ Rx sensitivity varies by band, channel width and MCS rate.

² Refer to Unleashed datasheets for SKU ordering information.

PHYSICAL CHARACTERISTICS	
Physical Size	<ul style="list-style-type: none"> 15.8(L) x 15.8 (W) x 1.57 (H) cm 6.22 (L) x 6.22 (W) x 0.5 (H) in
Weight	<ul style="list-style-type: none"> 364g (12.84oz)
Mounting	<ul style="list-style-type: none"> Wall, Drop ceiling, Desk Secure bracket (sold separately)
Physical Security	<ul style="list-style-type: none"> Hidden latching mechanism Kensington lock T-bar Torx Bracket (902-0108-0000) Torx screw & padlock (sold separately)
Operating Temperature	<ul style="list-style-type: none"> 0 °C (32 °F) to 40 °C (104 °F)
Operating Humidity	<ul style="list-style-type: none"> Up to 95%, non-condensing

POWER ³	
Power Supply	Maximum Power Consumption
802.3af	<ul style="list-style-type: none"> 11.2W
DC	<ul style="list-style-type: none"> 11.8W

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance ⁴	<ul style="list-style-type: none"> Wi-Fi CERTIFIED™ a, b, g, n, ac Passpoint®, Vantage
Standards Compliance ⁵	<ul style="list-style-type: none"> EN 60950-1 Safety EN 60601-1-2 Medical EN 61000-4-2/3/5 Immunity EN 50121-1 Railway EMC EN 50121-4 Railway Immunity IEC 61373 Railway Shock & Vibration UL 2043 Plenum EN 62311 Human Safety/RF Exposure WEEE & RoHS ISTA 2A Transportation

SOFTWARE AND SERVICES	
Location Based Services	<ul style="list-style-type: none"> SPoT
Network Analytics	<ul style="list-style-type: none"> SmartCell Insight (SCI)
Security and Policy	<ul style="list-style-type: none"> Cloudpath

ORDERING INFORMATION	
901-R600-XX00	<ul style="list-style-type: none"> Concurrent dual band 802.11ac AP, no power adapter

See Ruckus price list for country-specific ordering information. Warranty: Sold with a limited lifetime warranty. For details see: <http://support.ruckuswireless.com/warranty>.

OPTIONAL ACCESSORIES	
902-0162-XXYY	<ul style="list-style-type: none"> PoE injector (24W) (Sold in quantities of 1, 10 or 100)
902-0195-0000	<ul style="list-style-type: none"> Spare, T-bar ceiling mount kit for mounting to flush frame ceiling
902-1169-XX00	<ul style="list-style-type: none"> Power Supply (12V, 2.0A, 24W)
902-0120-0000	<ul style="list-style-type: none"> Spare, Accessory Mounting Bracket
902-0108-0000	<ul style="list-style-type: none"> Spare, accessory mounting bracket with padlock support
902-0173-XXYY	<ul style="list-style-type: none"> Power Adapter (12V, 1.0A, 12W) (Sold in quantities of 1 or 10)

PLEASE NOTE: When ordering 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.

³ Max power varies by country setting, band, and MCS rate.

⁴ For complete list of WFA certifications, please see the Wi-Fi Alliance website.

⁵ For current certification status, please see the price list.