

RUCKUS® R350

Indoor Wi-Fi 6 (802.11ax) Access Point



Benefits

LATEST WI-FI STANDARDS

The R350 access point (AP) supports the latest Wi-Fi 6 (802.11ax) technology.

STUNNING WI-FI PERFORMANCE

Patented RUCKUS technologies for performance optimization and interference mitigation deliver extended coverage and superior user experience.

IoT READY

Eliminate siloed networks and unify Wi-Fi and IoT technologies into one single network by using or any future wireless technologies with the addition of an optional USB module.

MESH NETWORKING

Dynamically create self-forming, self-healing network mesh with RUCKUS patented SmartMesh technology reducing expensive cabling, and complex configurations by checking a box.

AFFORDABLE ENTERPRISE PERFORMANCE

The R350 delivers unprecedented price/performance offering extended range at an affordable price.

MULTIPLE UNIFIED MANAGEMENT OPTIONS

Manage the R350 from the cloud, with on-premises physical/virtual appliances, or without a controller.

KEEP EXISTING SWITCHES AND CABLES

Designed to operate on existing PoE switches and CAT 5e cabling to minimize costly power infrastructure upgrades.

Smaller locations can face big-time demands on their wireless infrastructure. Whether working out of a small office or connecting to a public hotspot, users are often still accessing the same high-bandwidth applications and content they'd consume anywhere else. And they expect strong, reliable connectivity. How can you provide it without breaking the bank?

The RUCKUS® R350 delivers consistent, reliable Wi-Fi 6 (802.11ax) wireless networking at an affordable price. The AP features the patented RUCKUS technologies for performance optimization and interference mitigation found in our premier access points, delivering superior user experiences at extended ranges. But it provides them in an ultra-compact form factor built for small venues — with a price tag to match.

Also, wireless requirements within enterprises are expanding beyond Wi-Fi with BLE, Zigbee and many other non-Wi-Fi wireless technologies resulting in creation of network silos. Enterprises need a unified platform to eliminate network silos. The RUCKUS R350 is equipped to solve these challenges with a USB port supporting an optional pluggable BLE and Zigbee IoT module.

The R350 is an ideal choice for low-density enterprise and hotspot environments including small and medium-size businesses, retail locations, restaurants, and multi-tenant small offices and branch offices.

The R350 Wi-Fi 6 AP incorporates patented technologies found only in the RUCKUS Wi-Fi portfolio.

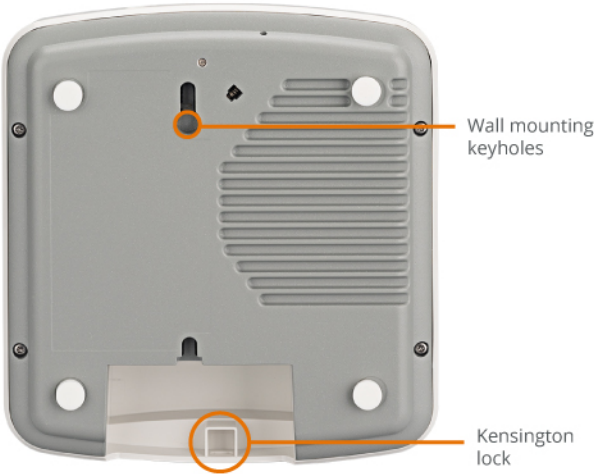
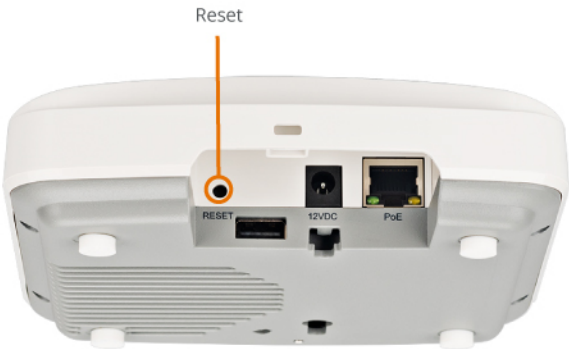
- Extended coverage with BeamFlex utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly®, which dynamically finds less congested Wi-Fi channels to use.

The R350 provides an ideal combination of features and performance for smaller environments. Additionally, it supports up to 256 clients and 16 SSIDs per AP.

Whether you're deploying ten or ten thousand APs, the R350 is also easy to manage through RUCKUS' appliance, virtual, controller-less and cloud management options.

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Access point antenna pattern

RUCKUS' BeamFlex adaptive antennas allow the R350 AP to dynamically choose among a host of antenna patterns (up to 64 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, oversaturate 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

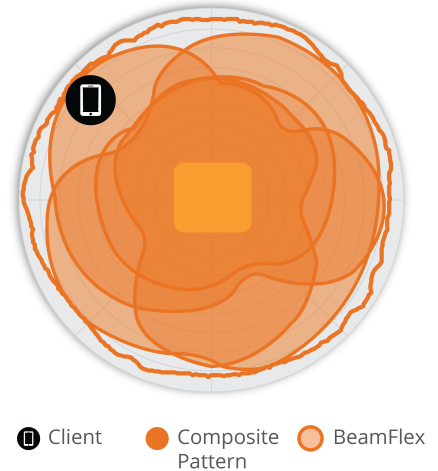


Figure 2. R350 2.4GHz Azimuth Antenna Patterns



Figure 3. R350 5GHz Azimuth Antenna Patterns



Figure 4. R350 2.4GHz Elevation Antenna Patterns

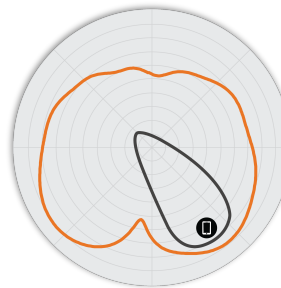
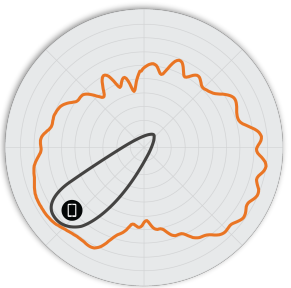


Figure 5. R350 5GHz Elevation Antenna Patterns



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.

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Wi-Fi	
Wi-Fi Standards	IEEE 802.11a/b/g/n/ac/ax
Supported Rates	802.11ax: 4 to 1774 Mbps 802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80) 802.11n: 6.5 Mbps to 300 Mbps (MCS0 to MCS15) 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6Mbps 802.11b: 11, 5.5, 2 and 1 Mbps
Supported Channels	2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165
MIMO	2x2 SU-MIMO 2x2 MU-MIMO
Spatial Streams	2 streams SU/MU-MIMO 5GHz 2 streams SU/MU-MIMO 2.4GHz
Radio Chains and Streams	2x2:2 (5 GHz) 2x2:2 (2.4GHz)
Channelization	20, 40, 80MHz
Security	- WPA-PSK, WPA-TKIP, WPA2 , WPA3-Personal, WPA3-Enterprise, AES, WPA3, 802.11i, Dynamic PSK - WIPS/WIDS
Other Wi-Fi Features	- WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v - Hotspot - Hotspot 2.0 - Captive Portal - WISPr

RF	
Antenna Type	- BeamFlex adaptive antennas - Adaptive antenna that provides up to 64 unique antenna patterns per band
Antenna Gain (max)	Up to 3dBi
Peak Transmit Power (aggregate across MIMO chains)	2.4GHz: 23 dBm 5GHz: 23 dBm
Minimum Receive Sensitivity ¹	-101 dBm
Frequency Bands	- 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 (dBm)			
HT20		HT40	
MCS0	MCS7	MCS0	MCS7
-94	-70	-91	-72
HE20		HE40	
MCS0	MCS7	MCS0	MCS7
-94	-70	-91	-72

5GHZ RECEIVE SENSITIVITY (dBm)					
VHT20		VHT40		VHT80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-95	-76	-92	-73	-89	-70
HE20		HE40		HE80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-95	-76	-92	-73	-89	-70

2.4GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 HT20	20
MCS7 HT20	15
MCS8 VHT20	14.5
MCS9 VHT40	13
MCS11 HE40	12

5GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 VHT20	20
MCS7 VHT20	17
MCS0 VHT40, VHT80	20
MCS7 VHT40, VHT80	17
MCS11, HE20, HE40, HE80	13

PERFORMANCE AND CAPACITY	
Peak PHY Rates	2.4GHz: 574Mbps 5 GHz: 1200Mbps
Client Capacity	Up to 256 clients per AP
SSID	Up to 16 per AP

RUCKUS RADIO MANAGEMENT	
Antenna Optimization	- BeamFlex+ - Polarization Diversity with Maximal Ratio Combining (PD-MRC)
Wi-Fi Channel Management	- ChannelFly - Background Scan Based
Client Density Management	- Adaptive Band Balancing - Client Load Balancing - Airtime Fairness - Airtime-based WLAN Prioritization
SmartCast Quality of Service	- QoS-based scheduling - Directed Multicast - L2/L3/L4 ACLs
Mobility	SmartRoam
Diagnostic Tools	SpeedFlex

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

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Networking	
Controller Platform Support	- SmartZone - ZoneDirector - Unleashed² - Cloud - Standalone
Mesh	SmartMesh™ wireless meshing technology. Self-healing Mesh
IP	IPv4, IPv6
VLAN	802.1Q (1 per BSSID or dynamic per use based on RADIUS) - VLAN Pooling - Port-based
802.1x	Authenticator & Supplicant
Tunnel	L2TP, GRE, Soft-GRE
Policy Management Tools	- Application Recognition and Control - Access Control Lists - Device Fingerprinting - Rate Limiting

Physical Interfaces	
Ethernet	1 x 1GbE port, RJ-45
USB	1 USB 2.0 Port, Type A

Physical Characteristics	
Physical Size	14.60(L) x 15.59(W) x 3.93(H) cm 5.75(L) x 6.14(W) x 1.55(H) in
Weight	368g (13 oz)
Mounting	- Wall, Drop ceiling, Desk - Secure bracket (sold separately)
Physical Security	- Hidden latching mechanism - T-bar Torx
Operating Temperature	0 °C (32 °F) to 40 °C (104 °F)
Operating Humidity	Up to 95%, non-condensing

Power ³	
Power Supply	Maximum Power Consumption
PoE (Full Functionality)	12.62W
DC input	11.4 W

Certifications and Compliance	
Wi-Fi Alliance ⁴	- Wi-Fi CERTIFIED™ a, b, g, n, ac - Wi-Fi CERTIFIED 6™ - WPA3™ -Enterprise, Personal - Wi-Fi Enhanced Open™ - Wi-Fi Agile Multiband™ - Passpoint® - Vantage - WMM
Standards Compliance ⁵	- 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	SPoT
Network Analytics	SmartCell Insight (SCI)
Security and Policy	Cloudpath

² Refer to Unleashed datasheets for SKU ordering information.

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.

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ORDERING INFORMATION	
901-R350-XX02	R350 dual-band (5GHz and 2.4GHz concurrent) 802.11ax wireless access point, 2x2:2 + 2x2:2 streams, adaptive antennas, dual ports, PoE support. Plenum rated. Includes adjustable acoustic drop ceiling bracket. Does not include power adaptor.

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	PoE injector (24W) (Sold in quantities of 1, 10 or 100)
902-0195-0000	Spare, T-bar ceiling mount kit for mounting to flush frame ceiling
902-0120-0000	Spare, Accessory Mounting Bracket
902-0173-XXYY	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.

About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

www.ruckusnetworks.com

Visit our website or contact your local RUCKUS representative for more information.

