

# RUCKUS® R560

Indoor Wi-Fi 6E (802.11ax) Access Point with 4.7 Gbps Data Rate



## Benefits

### Connect more devices simultaneously

Improve device performance, by enabling more simultaneous device connections with built-in 6 spatial streams (2x2:2 concurrent in 2.4GHz, 5GHz, and 6GHz), MU-MIMO and OFDMA technology.

### High client density and performance

Provides exceptional end-user experience within large meeting halls, general enterprise spaces, and large classrooms with a combined data rate of 4.7 Gbps.

### BeamFlex+ Adaptive Antenna Technology

For greater speed, fewer errors, and instant bandwidth delivery, RUCKUS BeamFlex+ patented technology offers first-of-its-kind smart antenna technology that maximizes signal coverage, throughput, and network capacity and work with any client. It further increases MIMO diversity gain and maximize spatial multiplexing potential.

### Converged Access Point

Allows customers to eliminate siloed networks and unify WiFi and non-WiFi wireless technologies into one single network by using built-in BLE and Zigbee, and also expanding to any future wireless technologies through the USB port.

### 5 GbE eliminates bottleneck

Optimized multi-gigabit Wi-Fi performance delivered using the built-in 1/2.5/5GbE port to connect to multigigabit switches.

### Multiple management options

Manage the R560 with on premise physical/ virtual appliances and control auto-provisioning for faster deployment and seamless firmware upgrades.

### Enhanced Security

The latest Wi-Fi security standard with WPA3 and receive enhanced protection from man-in-the-middle attacks. Adds the power of RUCKUS DPSK to WPA3/SAE combining enhanced security with the flexibility and ease of use of dynamic passphrase to secure network access.

### More Than Wi-Fi

Support solutions beyond Wi-Fi with RUCKUS IoT Suite, RUCKUS Analytics, RUCKUS Cloudpath Enrollment System and onboarding software

Bandwidth-hungry ultra-high definition video, virtual reality, Internet of Things (IoT). An explosion of new devices and content. With these kinds of demands, organizations in every industry need more from their Wi-Fi. But with hundreds of devices and nonstop wireless noise and interference, busy indoor spaces can make challenging wireless environments.

The RUCKUS R560 is a mid-range Wi-Fi 6E tri-radio, tri-band concurrent indoor AP that delivers 6 spatial streams (2x2:2 concurrent in 2.4GHz, 5GHz, and 6GHz) and supports OFDMA, TWT and MU-MIMO capabilities. It delivers industry-leading performance and reliability in demanding high-density environments with a combined data rate of 4.7 Gbps and efficiently managing up to 1536 clients. Furthermore, a 5 Gbps Ethernet port ensures the backhaul is not a bottleneck for full use of available Wi-Fi capacity.

Also, wireless requirements within enterprises are expanding beyond Wi-Fi. The R560 has built-in IoT radios with onboard BLE and Zigbee capabilities. In addition, the R560 is a converged access point that allows customers to seamlessly integrate any new wireless technologies with our USB port.

The R560 addresses the increasing client demands in transit hubs, auditoriums, conference centers, and other high traffic indoor spaces. It is the perfect choice for data-intensive streaming multimedia applications like 4K video transmissions, while supporting latency sensitive voice and data applications with stringent quality-of-service requirements.

The R560, with built-in RUCKUS exclusive technology, dramatically improves network performance through a combination of patented wireless innovations and learning algorithms that includes:

- **Airtime Decongestion:** Increases average network throughput in heavily congested environments
- **Transient Client management:** Reduces interference traffic from unconnected Wi-Fi devices
- **BeamFlex® + Adaptive Antennas:** Extended coverage range and optimized throughput with patented dynamic multi-directional antennas and radio patterns and work with any client.

Whether you are deploying ten or ten thousand APs, the R560 is also easy to manage through RUCKUS multiple management options including cloud based and on premises controllers.

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## Access Point Antenna Pattern

RUCKUS' BeamFlex+ adaptive antennas allow the R560 AP to dynamically choose among a host of antenna patterns (over 4,000 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

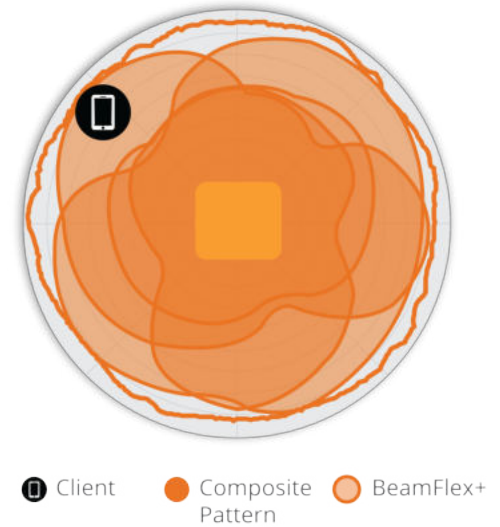


Figure 2. R560 2.4GHz Azimuth Antenna Pattern

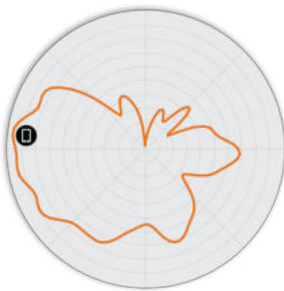


Figure 3. R560 5GHz Azimuth Antenna Pattern

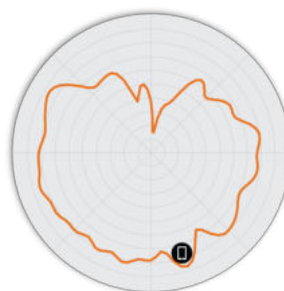


Figure 4. R560 6GHz Azimuth Antenna Pattern

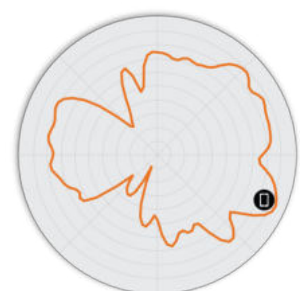


Figure 5. R560 2.4GHz Elevation Antenna Pattern

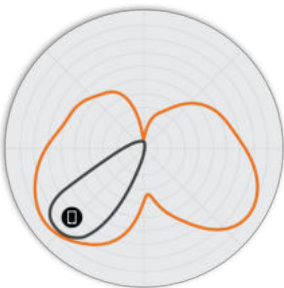


Figure 6. R560 5GHz Elevation Antenna Pattern

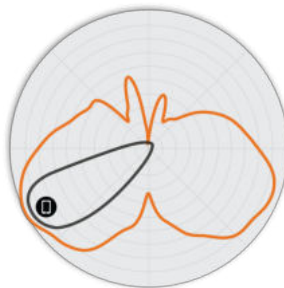


Figure 7. R560 6GHz Elevation Antenna Pattern



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	<ul style="list-style-type: none"> <li>IEEE 802/11a/b/g/n/ac/ax, WiFi-6E</li> </ul>
Supported Rates	<ul style="list-style-type: none"> <li>802.11ax: 4 to 2402 Mbps</li> <li>802.11ac: 6.5 to 866 Mbps</li> <li>802.11n: 6.5 to 300 Mbps</li> <li>802.11a/g: 6 to 54 Mbps</li> <li>802.11b: 1 to 11 Mbps</li> </ul>
Supported Channels	<ul style="list-style-type: none"> <li>2.4GHz: 1-13</li> <li>5GHz: 36-64, 100-144, 149-165</li> <li>6GHz: 1-233</li> </ul>
MIMO	<ul style="list-style-type: none"> <li>2x2 SU-MIMO</li> <li>2x2 MU-MIMO</li> </ul>
Spatial Streams	<ul style="list-style-type: none"> <li>2 for both SU-MIMO &amp; MU-MIMO</li> </ul>
Radio Chains and Streams	<ul style="list-style-type: none"> <li>2x2:2</li> </ul>
Channelization	<ul style="list-style-type: none"> <li>20, 40, 80, 160 MHz</li> </ul>
Security	<ul style="list-style-type: none"> <li>WEP, WPA, WPA-PSK, WPA2, WPA2-PSK, WPA3, WPA3-SAE, OWE, PMF (802.11w), Dynamic PSK</li> <li>WIPS/WIDS</li> </ul>
Other Wi-Fi Features	<ul style="list-style-type: none"> <li>WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v</li> <li>MBO</li> <li>Web Authentication and Guest Access</li> <li>Hotspot, Hotspot 2.0</li> <li>Captive Portal</li> <li>WISPr</li> </ul>

RF	
Antenna Type	<ul style="list-style-type: none"> <li>BeamFlex+ adaptive antennas with polarization diversity</li> <li>Adaptive antenna that provides 4,000+ unique antenna patterns per band</li> </ul>
Antenna Gain (max)	<ul style="list-style-type: none"> <li>Up to 4dBi</li> </ul>
Peak Transmit Power (Tx port/chain + Combining gain)	<ul style="list-style-type: none"> <li>2.4GHz: 26dBm</li> <li>5GHz: 25dBm</li> <li>6GHz: 22dBm</li> </ul>
Frequency Bands	<ul style="list-style-type: none"> <li>ISM (2.4-2.484GHz)</li> <li>U-NII-1 (5.15-5.25GHz)</li> <li>U-NII-2A (5.25-5.35GHz)</li> <li>U-NII-2C (5.47-5.725GHz)</li> <li>U-NII-3 (5.725-5.85GHz)</li> <li>U-NII-5 (5.925-6.425GHz)</li> <li>U-NII-6 (6.425-6.525GHz)</li> <li>U-NII-7 (6.525-6.875GHz)</li> <li>U-NII-8 (6.875-7.125GHz)</li> </ul>

2.4GHZ RECEIVE SENSITIVITY (dBm)							
HT20		HT40		VHT20		VHT40	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-94	-75	-91	-72	-94	-75	-91	-72
HE 20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-94	-75	-70	-64	-91	-72	-67	-61

5GHZ RECEIVE SENSITIVITY (dBm)											
VHT20				VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-94	-75	-72	-69	-91	-72	-69	-66	-88	-69	-66	-63
HE20				HE40				HE80			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-94	-75	-69	-64	-91	-72	-66	-61	-88	-69	-63	-58

6GHZ RECEIVE SENSITIVITY (dBm)							
HE20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-94	-75	-70	-64	-91	-72	-67	-61
HE80				HE160			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-88	-69	-64	-58	-85	-66	-61	-55

2.4GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0 HT20	22
MCS7 HT20	17.5
MCS8 VHT20	17
MCS9 VHT40	16
MCS11 HE40	14

5GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0, VHT20	22
MCS7, VHT40, VHT80	18
MCS9, VHT40, VHT80	16
MCS11, HE20, HE40, HE80	14

6GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0, HE160	22
MCS7, HE160	17.5
MCS9, HE160	16
MCS11, HE160	14

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POWER CONSUMPTION			
Mode	Power Consumption	System Configuration	Wi-Fi Radios
DC Power	32.4W	<ul style="list-style-type: none"> <li>5Gbps Ethernet Enabled</li> <li>1Gbps Ethernet Enabled</li> <li>USB Enabled (3W)</li> <li>IoT Enabled (selectable)</li> </ul>	2.4GHz (2x2) Tx 23dBm 5GHz (2x2) Tx 22dBm 6GHz (2x2) Tx 22dBm
802.3bt5 PoH, uPoE	31W	<ul style="list-style-type: none"> <li>5Gbps Ethernet Enabled</li> <li>1Gbps Ethernet Enabled</li> <li>USB Enabled (3W)</li> <li>IoT Enabled (selectable)</li> </ul>	2.4GHz (2x2) Tx 23dBm 5GHz (2x2) Tx 22dBm 6GHz (2x2) Tx 22dBm
802.3at	25.0W	<ul style="list-style-type: none"> <li>5Gbps Ethernet Enabled</li> <li>1Gbps Ethernet Disabled</li> <li>USB Disabled (0W)</li> <li>IoT Enabled (selectable)</li> </ul>	2.4GHz (2x2) Tx 23 dBm 5GHz (2x2) Tx 22dBm 6GHz (2x2) Tx 19dBm

PERFORMANCE AND CAPACITY	
Peak PHY Rates	<ul style="list-style-type: none"> <li>2.4GHz: 591 Mbps</li> <li>5GHz: 1237.5 Mbps</li> <li>6GHz: 2882 Mbps (MCS13), 2402 Mbps (MCS11)</li> </ul>
Client Capacity	<ul style="list-style-type: none"> <li>Up to 1536 clients per AP</li> </ul>
SSID	<ul style="list-style-type: none"> <li>Up to 33 per AP</li> </ul>

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

NETWORKING	
Controller Platform Support	<ul style="list-style-type: none"> <li>SmartZone</li> <li>Standalone</li> <li>Cloud (Future support)</li> </ul>
Mesh	<ul style="list-style-type: none"> <li>SmartMesh™ wireless meshing technology. Self-healing Mesh in 2.4 GHz, 5GHz, and 6GHz</li> </ul>
IP	<ul style="list-style-type: none"> <li>IPv4, IPv6, dual-stack</li> </ul>
VLAN	<ul style="list-style-type: none"> <li>802.1Q (1 per BSSID or dynamic per user based on RADIUS)</li> <li>VLAN Pooling</li> <li>Port-based</li> </ul>
802.1x	<ul style="list-style-type: none"> <li>Authenticator &amp; Supplicant</li> </ul>
Tunnel	<ul style="list-style-type: none"> <li>GRE, Soft-GRE</li> </ul>
Policy Management Tools	<ul style="list-style-type: none"> <li>Application Recognition and Control</li> <li>Access Control Lists</li> <li>Device Fingerprinting</li> <li>Rate Limiting</li> <li>URL Filtering</li> </ul>
IoT Capable	<ul style="list-style-type: none"> <li>Intelgrated BLE and Zigbee (1 radio, selectable)</li> </ul>

PHYSICAL INTERFACES	
Ethernet	<ul style="list-style-type: none"> <li>One 100M/1/2.5/5G Ethernet (PoE) port and one 10M/100M/1G Ethernet port</li> <li>Power over Ethernet (802.3af/at/bt) with Category 5e (or better) cable</li> <li>LLDP support</li> </ul>
USB	<ul style="list-style-type: none"> <li>1 USB 2.0 port, Type A</li> </ul>

PHYSICAL CHARACTERISTICS	
Physical Size	<ul style="list-style-type: none"> <li>23.3cm (L), 23.3cm (W), 4.8cm (H)</li> <li>9.2in (L) x 9.2in (W) x 1.9in (H)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>1.09kg</li> <li>2.40lbs</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>Wall, acoustic ceiling, desk</li> <li>Bracket (902-0120-0000)</li> </ul>
Physical Security	<ul style="list-style-type: none"> <li>Hidden latching mechanism</li> <li>Secure bracket (sold separately) (902-0120-0000)</li> </ul>
Operating Temperature	<ul style="list-style-type: none"> <li>0°C (32°F) to 50°C (122°F)</li> </ul>
Operating Humidity	<ul style="list-style-type: none"> <li>Up to 95%, non-condensing</li> </ul>

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CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance <sup>1</sup>	<ul style="list-style-type: none"><li>• Wi-Fi CERTIFIED™ a, b, g, n, ac, 6, 6E</li><li>• Passpoint®, Vantage</li></ul>
Standards Compliance <sup>2</sup>	<ul style="list-style-type: none"><li>• IEC/EN/UL 60950-1 Safety</li><li>• IEC/EN/UL 62368-1 Safety</li><li>• EN 60601-1-2 Medical</li><li>• EN 61000-4-2/3/5 Immunity</li><li>• EN 50121-1 Railway EMC</li><li>• EN 50121-4 Railway Immunity</li><li>• IEC 61373 Railway Shock &amp; Vibration</li><li>• UL 2043 Plenum</li><li>• EN 62311 Human Safety/RF Exposure</li><li>• WEEE &amp; RoHS</li><li>• ISTA 2A Transportation</li></ul>

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

ORDERING INFORMATION	
901-R560-XX00	<ul style="list-style-type: none"><li>• R560 tri-band (6GHz, 5GHz, and 2.4GHz concurrent), tri-radio Wi-Fi 6E wireless access point, 2x2:2 streams, adaptive antennas, dual ports, onboard BLE and Zigbee, PoE support. Includes adjustable acoustic drop ceiling bracket. One Ethernet port is 5GbE. Does not include power adaptor.</li></ul>

See RUCKUS price list for country-specific ordering information.

Warranty: Sold with a limited lifetime warranty.

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

<sup>1</sup> For complete list of WFA certifications, please see Wi-Fi Alliance website.

<sup>2</sup> For current certification status, please see price list.

## 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](http://www.ruckusnetworks.com)

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

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OPTIONAL ACCESSORIES	
902-1180-XX00	<ul style="list-style-type: none"><li>• Multigigabit PoE injector (2.5/5/10)-BaseT PoE port, 60W</li></ul>
902-0120-0000	<ul style="list-style-type: none"><li>• Spare, Accessory Mounting Bracket</li></ul>
902-1170-XX00	<ul style="list-style-type: none"><li>• Power Supply (48V, 0.75A, 36W)</li></ul>

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.