

RUCKUS® R760

Indoor Wi-Fi 6E 4x4:4 Access Point with 8.35 Gbps Data Rate



Benefits

Industry Leading Performance

Based on the latest Wi-Fi 6E standard it takes advantage of the 6 GHz band via three dedicated radios. Improve device performance, by enabling more simultaneous device connections with built-in 12 spatial streams (4x4:4 in 6GHz, 4x4:4 in 5GHz, 4x4:4 in 2.4GHz) MU-MIMO and OFDMA technology for a combined data rate of 8.35 Gbps.

Ultra-High Density

Provides exceptional end-user experience within stadiums, large public venues, convention centers and school auditoriums with the RUCKUS® Ultra-High-Density Technology Suite.

Converged Access Point

Eliminate siloed wireless networks with a unified platform that augments Wi-Fi with an onboard BLE/Zigbee radio with the option to integrate other wireless technologies via the USB port.

Multigigabit access speeds

Optimized multi-gigabit Wi-Fi performance delivered using a built-in 10GbE/5GbE/2.5GbE Ethernet port to connect to multi-gigabit switches and eliminate backhaul capacity bottlenecks.

Multiple management options

Manage the R760 with cloud¹, on premise physical/virtual appliances and control auto-provisioning for faster deployment and seamless firmware upgrades

Enhanced Security

Enhanced securityThe latest Wi-Fi security standard with WPA3 and receive enhanced protection from man-in-the-middle attacks in the most secure way.

Better Mesh Networking

Minimize complexity by reducing expensive cabling with SmartMesh that dynamically creates self-forming, self-healing mesh networks.

More Than Wi-Fi

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

The RUCKUS R760 brings RUCKUS patented Wi-Fi optimization technology suite to the 6GHz band for organizations needing increased capacity and wider channels. The R760 takes advantage of the 6 GHz band via three dedicated radios. It is based on the latest Wi-Fi 6E standard, bridging the performance gap from 'gigabit' Wi-Fi to 'multi-gigabit' Wi-Fi in support of the insatiable demand for better and faster Wi-Fi. For organizations that will need more wireless capacity to grow.

The RUCKUS R760 is our highest capacity tri-band, tri-concurrent Wi-Fi 6E access point (AP) that supports 12 spatial streams (4x4:4 in 6GHz, 4x4:4 in 5GHz, 4x4:4 in 2.4GHz). The R760, with OFDMA, TWT and MU-MIMO capabilities, efficiently manages up to 1,536 client connections with increased capacity, improved coverage and performance in ultra-high dense environments. Furthermore, a 10 Gbps multi-gigabit Ethernet port mitigates backhaul capacity bottlenecks.

Additionally, the R760 has IoT onboard Zigbee/BLE and supports wireless standards beyond Wi-Fi in combination with the RUCKUS IoT Suite.

The R760 addresses the increasing client demands in transit hubs, auditoriums, stadiums, conference centers, and other highly trafficked 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 R760 when paired with the RUCKUS Ultra-High-Density Technology Suite found only in the RUCKUS Wi-Fi portfolio, 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® Antennas: Extended coverage and optimized throughput with patented multi-directional antennas and radio patterns

Whether you're deploying ten or ten thousand APs, the R760 is also easy to manage through our collection of on-premises or cloud-based management options¹.

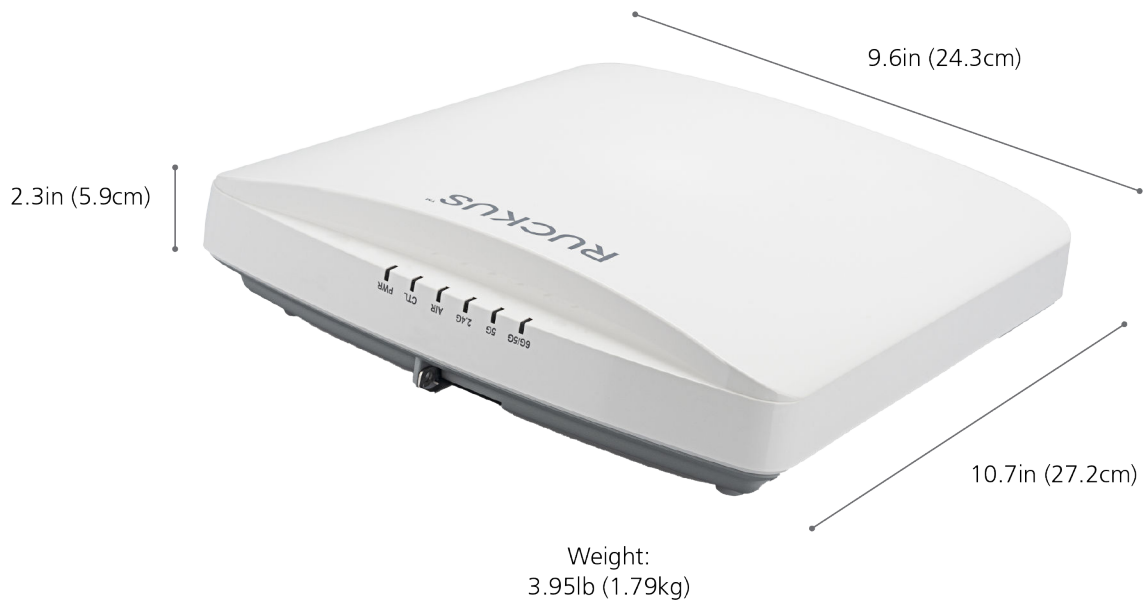
¹ With future software release.

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Front view



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Access Point Antenna Pattern

RUCKUS' BeamFlex+ adaptive antennas allow the R760 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

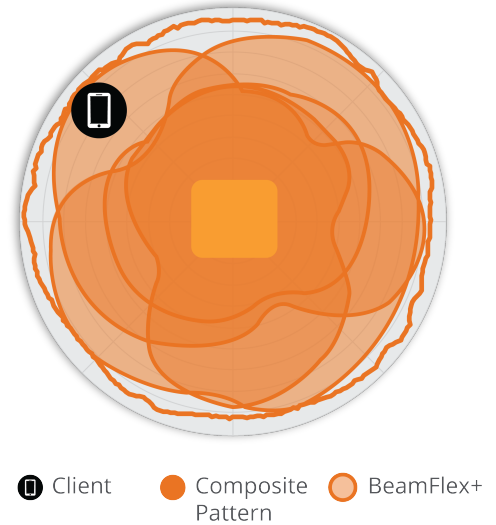


Figure 2. R760 2.4GHz Azimuth Antenna Patterns



Figure 3. R760 5GHz Azimuth Antenna Patterns



Figure 4. R760 6GHz Azimuth Antenna Patterns

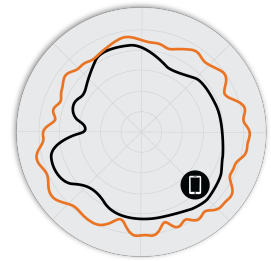


Figure 5. R760 2.4GHz Elevation Antenna Patterns

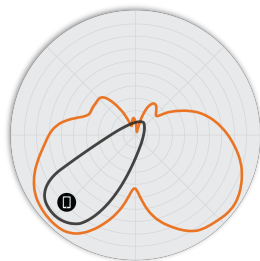


Figure 6. R760 5GHz Elevation Antenna Patterns

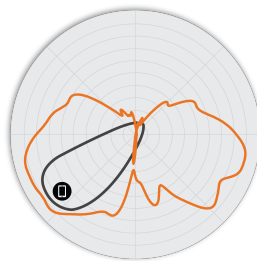
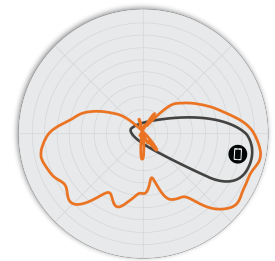


Figure 7. R760 6GHz Elevation Antenna Patterns



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 4804 Mbps 802.11ac: 6.5 to 1732 Mbps 802.11n: 6.5 to 600 Mbps 802.11a/g: 6 to 54 Mbps 802.11b: 1 to 11 Mbps
Supported Channels	2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165 6GHz: 1-233
MIMO	4x4 SU-MIMO 4x4 MU-MIMO
Radio Chains and Streams	4x4:4 (2.4/5/6GHz)
Channelization	20, 40, 80, 160/80+80MHz
Security	- WPA-PSK, WPA2 AES, WPA3 SAE, WPA3 Enterprise, 802.11w, Dynamic PSK (DPSK), OWE - WIPS/WIDS
Other Wi-Fi Features	- WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v - MBO - Hotspot 2.0 - Captive Portal - WISPr

RF	
Antenna Type	- BeamFlex+ adaptive antennas with polarization diversity - Adaptive antenna that provides 4,000+ unique antenna patterns per band
Antenna Gain (max)	Up to 4dBi
Peak Transmit Power (Tx port/chain + Combining gain)	2.4GHz: 22dBm 5GHz: 22dBm 6GHz: 22dBm (subject to compliance limitations)
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) - U-NII-5 (5.925-6.425GHz) - U-NII-6 (6.425-6.525GHz) - U-NII-7 (6.525-6.875GHz) - U-NII-8 (6.875-7.125GHz)

2.4GHZ RECEIVE SENSITIVITY (dBm)							
HT20		HT40		VHT20		VHT40	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-98	-80	-95	-77	-98	-80	-95	-77
HE 20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-98	-80	-75	-69	-95	-77	-72	-66

5GHZ RECEIVE SENSITIVITY (dBm)											
VHT20				VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-96	-79	-75	-73	-93	-76	-72	-70	-90	-73	-69	-67
HE20				HE40				HE80			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-96	-79	-73	-68	-93	-76	-70	-65	-90	-73	-67	-63

6GHZ RECEIVE SENSITIVITY (dBm)							
HE20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-97	-80	-74	-69	-94	-77	-71	-66
HE80				HE160			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-91	-74	-68	-62	-88	-71	-65	-59

2.4GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0 HT20	22
MCS7 HT20	17
MCS8 VHT20	16.5
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	13

6GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0, HE160	15.5
MCS7, HE160	15.5
MCS9, HE160	15.5
MCS11, HE160	13

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POWER CONSUMPTION			
Mode	Power Consumption	System Configuration	Wi-Fi Radios
DC Power	38.3W	10Gbps Ethernet Enabled 1Gbps Ethernet Enabled - USB Enabled (3W) - Zigbee/BLE Enabled	2.4GHz (4x4) Tx 22dBm 5GHz (4x4) Tx 22dBm ² 5GHz / 6GHz (4x4) Tx 22dBm
802.3bt5 PoH, uPoE	36.08W ²	10Gbps Ethernet Enabled 1Gbps Ethernet Enabled - USB Enabled (3W)² - Zigbee/BLE Enabled	2.4GHz (4x4) Tx 22dBm 5GHz (4x4) Tx 22dBm ² 5Ghz / 6GHz (4x4) Tx 22dBm
802.3at 2-5-6 Mode	25.5W	10Gbps Ethernet Enabled 1Gbps Ethernet Disabled - USB Disabled (3W) - Zigbee/BLE Disabled	2.4GHz (4x4) Tx 13dBm 5GHz (4x4) Tx 14dBm 6Ghz (4x4) TX 14dBm
802.3at 2-5-5 Mode	25.5W	10Gbps Ethernet Enabled 1Gbps Ethernet Disabled - USB Disabled (3W) - Zigbee/BLE Disabled	2.4GHz (4x4) Tx 15dBm 5GHz (4x4) Tx 16dBm 5Ghz (4x4) Tx 15dBm

PERFORMANCE AND CAPACITY	
Peak PHY Rates	2.4GHz: 1148 Mbps 5GHz: 2400 Mbps 6GHz: 4800 Mbps
Client Capacity	Up to 1536 clients per AP
SSID	Up to 36 per AP

RUCKUS RADIO MANAGEMENT	
Antenna Optimization	- BeamFlex+ - Polarization Diversity with Maximal Ratio Combining (PD-MRC)
Wi-Fi Channel Management	- ChannelFly 2.0 - Background Scan Based
Client Density Management	- Adaptive Band Balancing - Client Load Balancing - Airtime Fairness - Airtime-based WLAN Prioritization
Quality of Service	- SmartCast² - QoS-based scheduling - Directed Multicast - L2/L3/L4 ACLs
Mobility	SmartRoam
Diagnostic Tools	- Spectrum Analysis - SpeedFlex

NETWORKING	
Controller Platform Support	- SmartZone - Standalone - Cloud (Future support)
IP	IPv4, IPv6, dual-stack
VLAN	802.1Q (1 per BSSID or dynamic per user 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
IoT	Onboard

PHYSICAL INTERFACES	
Ethernet	- One 10Gbps Ethernet port and one 1Gbps Ethernet port - Power over Ethernet (802.3at/bt) with Category 6/6a cable - LLDP
USB	1 USB 2.0 port, Type A

PHYSICAL CHARACTERISTICS	
Physical Size	27.2cm (L), 24.3cm (W), 5.9cm (H) 10.7in (L) x 9.6in (W) x 2.3in (H)
Weight	1.79kg 3.95lbs
Mounting	- Wall, acoustic ceiling, desk - Secure bracket (sold separately)
Physical Security	- Hidden latching mechanism - Safety Cable - Bracket (902-0120-0000) (sold separately)
Operating Temperature	-10°C (14°F) to 50°C (122°F)
Operating Humidity	Up to 95%, non-condensing

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance ³	- Wi-Fi CERTIFIED™ a, b, g, n, ac, 6, 6E - Passpoint® R3, Vantage R2
Standards Compliance ⁴	- IEC/EN/UL 60950-1 Safety - IEC/EN/UL 62368-1 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

² To be available in subsequent release.

³ For complete list of WFA certifications, please see Wi-Fi Alliance website.

⁴ For current certification status, please see price list.

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SOFTWARE AND SERVICES	
Location Based Services	• SPoT
Network Analytics	• RUCKUS Analytics
Security and Policy	• Cloudpath

ORDERING INFORMATION	
901-R760-XX00	802.11ax Tri-Radio (6GHz/5GHz/2.4GHz 4x4:4) Indoor AP, with support for Concurrent Tri-Band operation in 6GHz, 5GHz and 2.4GHz bands. (1x) 10Gbps PoE In port, (1x) 1 GbE port, USB 2.0, BeamFlex+, onboard IOT, PoE support. Includes adjustable acoustic drop ceiling bracket. Does not include power adapter or PoE injector. Includes Limited Lifetime Warranty.

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	
902-1180-XX00	• Multigigabit PoE injector (2.5/5/10)-BaseT PoE port, 60W
902-0120-0000	• Spare, Accessory Mounting Bracket
902-2171-XX00	• Universal Power Adapter, 48V/50W (115/230VAC), with Power Cord

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.

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