COMMSCOPE®

R730

Indoor 802.11ax 8x8:8 Wi-Fi Access Point with Multi-gigabit backhaul

Benefits

Connect More Devices Simultaneously

Improve device performance, by enabling more simultaneous device connections with built-in 12 spatial streams (8x8:8 in 5GHz, 4x4:4 in 2.4GHz), MU-MIMO and OFDMA technology.

Ultra-High-Density Performance

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

Enhanced Security

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

Multi-Gigabit Access Speeds

Optimized multi-gigabit Wi-Fi performance delivered using built-in 5GbE/2.5GbE Ethernet ports to connect to multi-gigabit switches.

Device Management Options

Manage the R730 with on premise physical/virtual appliances and control auto-provisioning for faster deployment and seamless firmware upgrades.

Better Mesh Networking

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

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.

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.

The R730 is based on the latest Wi-Fi standard, 802.11ax and bridges the performance gap from 'gigabit' Wi-Fi to 'multi-gigabit' Wi-Fi in support of the insatiable demand for better and faster Wi-Fi.

The Ruckus R730 is our highest capacity dual-band, dual-concurrent 802.11ax AP that supports 12 spatial streams (8x8:8 in 5GHz, 4x4:4 in 2.4GHz). The R730, with OFDMA and MU-MIMO capabilities, efficiently manages more than 1K client connections with increased capacity, improved coverage and performance in ultra-high dense environments. Furthermore, 5 Gbps multi-gigabit Ethernet ports enhances backhaul capacity.

Additionally, the R730 is IoT- and LTE-ready, and supports wireless standards beyond Wi-Fi in combination with the Ruckus IoT Suite and our CBRS/OpenG modules.

The R730 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 R730 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 R730 is also easy to manage through Ruckus' appliance and virtual management options.

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Access Point Antenna Pattern

Ruckus' BeamFlex+ adaptive antennas allow the R730 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
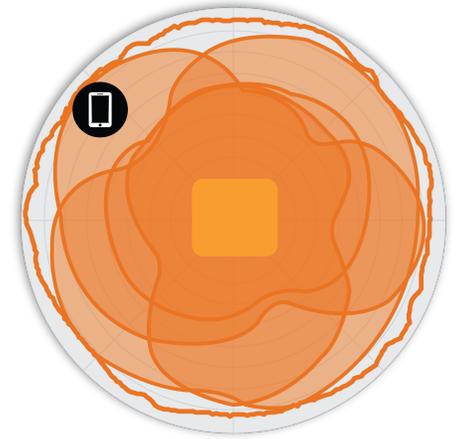
📱 Client   🟠 Composite Pattern   🟠 BeamFlex+

Figure 2. R730 2.4GHz Azimuth Antenna Patterns

Figure 3. R730 5GHz Azimuth Antenna Patterns

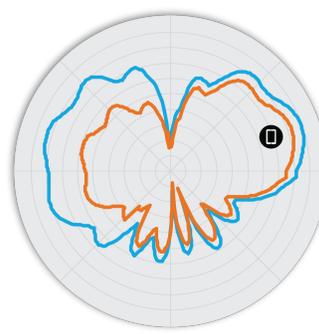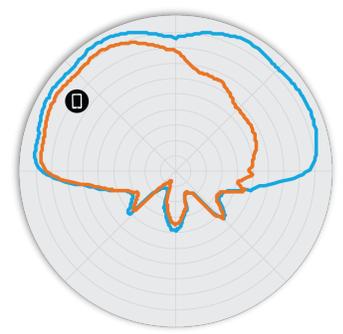Figure 4. R730 2.4GHz Elevation Antenna Patterns

Figure 5. R730 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 4800 Mbps • 802.11ac: 6.5 to 3467 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
MIMO	• 8x8 MU-MIMO • 8x8 SU-MIMO
Spatial Streams	• 8 MU-MIMO • 8 SU-MIMO
Radio Chains and Streams	• 8x8:8
Channelization	• 20, 40, 80MHz
Modulation	• OFDMA (up to 1024-QAM)
Security	• WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK • WIPS/WIDS
Other Wi-Fi Features	• WMM, Power Save, TxBF, LDPC, STBC, 802.11r/k/vHotspot • Hotspot 2.0 • Captive Portal • WISPr

RF	
Antenna Type	• BeamFlex+ Adaptive Antennas with 4000+ unique antenna patterns • Horiziontal and Vertical polarization (PD-MRC)
Antenna Gain (max)	• Up to 2 dBi
Frequency Bands	• 2.4 - 2.484 GHz • 5.17 - 5.33 GHZ • 5.49 - 5.71 GHz • 5.735 - 5.835 GHz

2.4GHZ RECEIVE SENSITIVITY

HT20		HT40		VHT20		VHT40	
MCS 0	MCS 7	MCS 0	MCS 7	MCS 0	MCS 7	MCS 0	MCS 7
-91	-73	-88	-70	-91	-73	-88	-70
HE20				HE40			
MCS 0	MCS 7	MCS 9	MCS 11	MCS 0	MCS 7	MCS 9	MCS 11
-91	-73	-68	-62	-88	-70	-65	-59

5GHZ RECEIVE SENSITIVITY

VHT20				VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-91	-72	-69	—	-88	-69	—	-65	-85	-66	—	-62
HE20				HE40				HE80			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-91	-72	-68	-62	-88	-69	-65	-59	-85	-66	-62	-56

2.4GHZ TX POWER TARGET (PER CHAIN)

Rate	Pout (dBm) - Full Power	Pout (dBm) - 802.3at
MCS0 HT20	20	20
MCS7 HT20	16	16
MCS8 VHT20	15	15
MCS9 VHT40	14	14
MCS11 HE40	12	12

5GHZ TX POWER TARGET (PER CHAIN)

Rate	Pout (dBm) - Full Power	Pout (dBm) - 802.3at
MCS0 VHT20	22	22
MCS7 VHT40, VHT80	16.5	16.5
MCS9 VHT40, VHT80	15	15
MCS11 HE20, HE40, HE80	12.5	12.5

PERFORMANCE AND CAPACITY	
Peak PHY Rates	• 2.4GHz: 1.148 Gbps (11ax) • 5GHz: 4.8 Gbps (11ax)
Client Capacity	• Up to 1024 clients per AP
Simultaneous VoIP Clients	• Up to 60 per AP
SSID	• Up to 16 per radio

RUCKUS RADIO MANAGEMENT	
Antenna Optimization	• BeamFlex+ • PD-MRC
Wi-Fi Channel Management	• ChannelFly
Client Density Management	• Band Balancing • Client Load Balancing • Airtime Fairness • Airtime-based WLAN Prioritization
Queuing & Scheduling	• SmartCast
Mobility	• SmartRoam
Diagnostic Tools	• Spectrum Analysis • SpeedFlex
High Density Deployments (RF Innovations)	• Perpacket Adaptive Power • Adaptive Wi-Fi Cell Size • Transient Client Management • Airtime Decongestion

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NETWORKING	
Controller Platform Support	• SmartZone (SZ3.6.2 and SZ v5.1.1) • ZD (ZD10.1.2) • Standalone • Please note: _R730 is *not* supported on SZ v5.0.x and SZ v5.1.0_
Mesh	• SmartMesh™ wireless meshing technology
IP	• IPv4, IPv6
VLAN	• 802.1Q • BSSID-based (16 BSSIDs / radio) • Port-based • Dynamic, per user based on RADIUS
802.1x	• Wired & wireless • Authenticator & Supplicant
Tunnel	• RuckusGRE, SoftGRE
Policy Management Tools	• Application Recognition and Control • Access Control Lists • Device Fingerprinting
IoT Capable	• Yes

OTHER RADIO TECHNOLOGIES	
IoT	• BLE, Zigbee

PHYSICAL INTERFACES	
Ethernet	• 1x 1/2.5/5 Gbps port, RJ-45 • 1x 10/100/1000 Mbps port, RJ-45
USB	• 1 USB 2.0 port, Type A

PHYSICAL CHARACTERISTICS	
Physical Size	• 22.19 x 24.96 x 6 cm • 8.74 x 9.83 x 2.36 in.
Weight	• 1.53 kg • 3.37 lbs
Mounting	• Wall, Acoustic ceiling, Desk • Secure Bracket (sold separately)
Physical Security	• Hidden Latching Mechanism
Operating Temperature	• -0C (32F) to 50°C (122°F)
Operating Humidity	• Up to 95%, non-condensing

POWER CONSUMPTION			
Mode	Power Consumption	System Configuration	Wi-Fi Radios
DC Power, PoH, uPoE (Idle)	16.1W	• 5Gbps & 1Gbps Ethernet enabled • USB Enabled (3W) • Zigbee/BLE Enabled (0.5W)	2.4GHz (4x4) enabled 5GHz (8x8) enabled (no clients associated)
DC Power, PoH, uPoE (Max)	31.0W	• 5Gbps & 1Gbps Ethernet enabled • USB Enabled (3W) • Zigbee/BLE Enabled (0.5W)	2.4GHz (4x4) Tx 20 dBm 5GHz (8x8) Tx 22 dBm
802.3at (Max)	23.8W	• 5Gbps & 1Gbps Ethernet enabled • USB Enabled (3W) • Zigbee/BLE Disabled	2.4GHz (4x4) Tx 20 dBm 5GHz (4x4) Tx 22 dBm
802.3af (Not re-commended)	12.4W	• 5Gbps & 1Gbps Ethernet enabled • USB disabled • Zigbee/BLE Disabled	2.4GHz disabled 5GHz disabled

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Passpoint® • Vantage
Standards Compliance	• 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 • EN 62311 Human Safety/RF Exposure • UL 2043 Plenum • WEEE & RoHS • ISTA 2A Transportation

SOFTWARE AND SERVICES	
Location Based Services	• SPoT
Network Analytics	• SmartCell Insight (SCI)
Security and Policy	• Cloudpath
IoT	• Ruckus IoT Suite

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ORDERING INFORMATION	
901-R730-XX00	R730 dual-band (5GHz and 2.4GHz concurrent) 802.11ax wireless access point, Ultra-High Density performance, 12 spatial streams, adaptive antennas, PoE support. Includes adjustable acoustic drop ceiling bracket. Two Ethernet ports with 1GbE and 5Gbe. Does not include power adaptor

PLEASE NOTE: When ordering Indoor APs, you must specify the destination region by indicating -US, -VW, 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.

OPTIONAL ACCESSORIES	
902-0180-XX00	• PoE Injector (60W)
902-1170-XX00	• Power Supply (48V, 0.75A, 36W)
902-0120-0000	• Spare, Accessory Mounting Bracket

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CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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