

R730

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



DATA SHEET



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 locating 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.

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

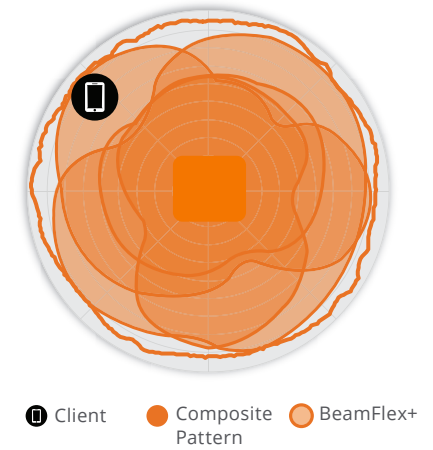


Figure 2. R730 2.4GHz Azimuth Antenna Patterns



Figure 3. R730 5GHz Azimuth Antenna Patterns



Figure 4. R730 2.4GHz Elevation Antenna Patterns

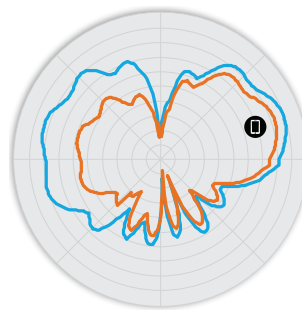
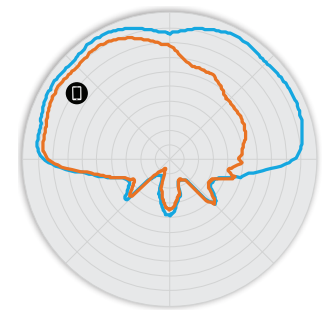


Figure 5. R730 5GHz Elevation Antenna Patterns



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.

| WI-FI | |
|----------------------|--|
| Wi-Fi Standards | <ul style="list-style-type: none"> IEEE 802.11a/b/g/n/ac/ax |
| Supported Rates | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165 |
| MIMO | <ul style="list-style-type: none"> 8x8 MU-MIMO 8x8 SU-MIMO |
| Spatial Streams | <ul style="list-style-type: none"> 8 MU-MIMO 8 SU-MIMO |
| Channelization | <ul style="list-style-type: none"> 20, 40, 80MHz |
| Modulation | <ul style="list-style-type: none"> OFDMA (up to 1024-QAM) |
| 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, TxBF, LDPC, STBC, 802.11r/k/v Hotspot Hotspot 2.0 Captive Portal WISPr |

| RF | |
|--------------------|---|
| Antenna Type | 2.4GHz Antennas <ul style="list-style-type: none"> Omni: 2 Antennas BeamFlex+ Adaptive: 2 Antennas Polarization: 3 Vertical & 1 Horizontal 5GHz Antennas <ul style="list-style-type: none"> Omni: 4 Antennas BeamFlex+ adaptive: 4 Antennas Polarization: 6 Vertical & 2 Horizontal |
| Antenna Gain (max) | <ul style="list-style-type: none"> Up to 2 dBi |
| Frequency Bands | <ul style="list-style-type: none"> 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 | |
| MCS0 | MCS7 | MCS0 | MCS7 | MCS0 | MCS7 | MCS0 | MCS7 |
| -91 | -73 | -88 | -70 | -91 | -73 | -88 | -70 |
| HE20 | | | | HE40 | | | |
| MCS0 | MCS7 | MCS9 | MCS11 | MCS0 | MCS7 | MCS9 | MCS11 |
| -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 | <ul style="list-style-type: none"> 2.4GHz: 1.148 Gbps (11ax) 5GHz: 4.8 Gbps (11ax) |
| Client Capacity | <ul style="list-style-type: none"> Up to 1024 clients per AP |
| Simultaneous VoIP Clients | <ul style="list-style-type: none"> Up to 60 per AP |
| SSID | <ul style="list-style-type: none"> Up to 16 per radio |

| RUCKUS RADIO MANAGEMENT | |
|---|---|
| Antenna Optimization | <ul style="list-style-type: none"> BeamFlex+ PD-MRC |
| Wi-Fi Channel Management | <ul style="list-style-type: none"> ChannelFly |
| Client Density Management | <ul style="list-style-type: none"> Band Balancing Client Load Balancing Airtime Fairness Airtime-based WLAN Prioritization |
| Queuing & Scheduling | <ul style="list-style-type: none"> SmartCast |
| Mobility | <ul style="list-style-type: none"> SmartRoam |
| Diagnostic Tools | <ul style="list-style-type: none"> Spectrum Analysis SpeedFlex |
| High Density Deployments (RF Innovations) | <ul style="list-style-type: none"> Perpacket Adaptive Power Adaptive Wi-Fi Cell Size Transient Client Management Airtime Decongestion |

| NETWORKING | |
|------------------------------------|--|
| Controller Platform Support | <ul style="list-style-type: none"> SmartZone ZD Standalone |
| Mesh | <ul style="list-style-type: none"> SmartMesh™ wireless meshing technology |
| IP | <ul style="list-style-type: none"> IPv4, IPv6 |
| VLAN | <ul style="list-style-type: none"> 802.1Q BSSID-based (16 BSSIDs / radio) Port-based Dynamic, per user based on RADIUS |
| 802.1x | <ul style="list-style-type: none"> Wired & wireless Authenticator & Supplicant |
| Tunnel | <ul style="list-style-type: none"> RuckusGRE, SoftGRE |
| Policy Management Tools | <ul style="list-style-type: none"> Application Recognition and Control Access Control Lists Device Fingerprinting |

| OTHER RADIO TECHNOLOGIES | |
|--------------------------|---|
| IoT | <ul style="list-style-type: none"> BLE, Zigbee |

| PHYSICAL INTERFACES | |
|---------------------|--|
| Ethernet | <ul style="list-style-type: none"> 1x 1/2.5/5 Gbps port, RJ-45 1x 10/100/1000 Mbps port, RJ-45 |
| USB | <ul style="list-style-type: none"> 1 USB 2.0 port, Type A |

| PHYSICAL CHARACTERISTICS | |
|------------------------------|--|
| Physical Size | <ul style="list-style-type: none"> 22.19 x 24.96 x 6 cm 8.74 x 9.83 x 2.36 in. |
| Weight | <ul style="list-style-type: none"> 1.53 kg 3.37 lbs |
| Mounting | <ul style="list-style-type: none"> Wall, Acoustic ceiling, Desk Secure Bracket (sold separately) |
| Physical Security | <ul style="list-style-type: none"> Hidden Latching Mechanism |
| Operating Temperature | <ul style="list-style-type: none"> -0C (32F) to 50°C (122°F) |
| Operating Humidity | <ul style="list-style-type: none"> Up to 95%, non-condensing |

| POWER CONSUMPTION | | | |
|----------------------------|-------------------|---|--|
| Mode | Power Consumption | System Configuration | Wi-Fi Radios |
| DC Power, PoH, uPoE (Idle) | 16.1W | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 5Gbps & 1Gbps Ethernet enabled USB Enabled (3W) Zigbee/BLE Disabled | 2.4GHz (4x4) Tx 20 dBm 5GHz (4x4) Tx 22 dBm |
| 802.3af (Not recommended) | 12.4W | <ul style="list-style-type: none"> 5Gbps & 1Gbps Ethernet enabled USB disabled Zigbee/BLE Disabled | 2.4GHz disabled 5GHz disabled |

| CERTIFICATIONS AND COMPLIANCE | |
|-------------------------------|--|
| Wi-Fi Alliance | <ul style="list-style-type: none"> Wi-Fi CERTIFIED™ a, b, g, n, ac Passpoint® Vantage |
| Standards Compliance | <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 EN 62311 Human Safety/RF Exposure UL 2043 Plenum 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 |
| IoT | <ul style="list-style-type: none"> Ruckus IoT Suite |

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, -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.

OPTIONAL ACCESSORIES

| | |
|---------------|--|
| 902-0180-XX00 | <ul style="list-style-type: none"> PoE Injector 60W (90 – 264VAC, 47-63Hz) |
| 902-1170-XX00 | <ul style="list-style-type: none"> AC/DC Power Supply 48V, 36W |
| 902-0120-0000 | <ul style="list-style-type: none"> Secure mounting bracket for walls, junction boxes and cable ties |

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