

R720 Unleashed

Indoor 802.11ac Wave 2 4x4:4 Wi-Fi Access Point
with 2.5Gbps backhaul



DATA SHEET



BENEFITS

DEPLOY IN UNDER 5 MINUTES

Setup your Wi-Fi network in under 5 minutes from a mobile device or browser with an intuitive and easy to understand User Interface.

POWER IN YOUR POCKET

Manage your network, get detailed insights about your network and understand your network usage patterns from the free mobile app available on Google Play and App Store.

PROTECT YOUR INVESTMENT

Expand across multiple locations with Unleashed Multi-Site Manager. If your network grows even further, Migrate to a Controller based or a Cloud based solution with your Unleashed APs.

STUNNING PERFORMANCE

Provide a great user experience no matter how challenging the environment with BeamFlex+™ adaptive antenna technology.

SERVICE MORE DEVICES

Connect more devices simultaneously with four MU-MIMO spatial streams and concurrent dual-band.

GET 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.

BETTER MESH NETWORKING

Reduce expensive cabling, and complex mesh configurations by checking a box with SmartMesh™ wireless meshing technology to dynamically create self-forming, self-healing mesh networks.

MULTI-GIGABIT ACCESS SPEEDS

Liberate the multi-gigabit power of Wave 2 Wi-Fi by using built-in 2.5GbE (802.3bz) backhaul to connect to multi-gigabit switches.

A perfect storm of technology trends—the Internet of Things (IoT), bandwidth-hungry cloud and video applications, an explosion of new devices—is driving organizations in every industry to upgrade their WLAN infrastructure. 802.11ac Wave 2 can deliver the performance you need, but it can also quickly overload existing 1 Gbps backhaul connections. Who wants to bear the cost of running more Ethernet and using more switch ports to ensure greater throughput between wired and wireless?

The Ruckus R720 Unleashed indoor access point is our highest-capacity four-stream 802.11ac Wave 2 Wi-Fi AP. It features multi-gigabit technology, so you can step up to faster Wi-Fi speeds and 2.5GbE backhaul connectivity without having to replace your Cat 5e cabling or use additional switch ports. Deploy a high-performance, highly resilient Wi-Fi network without breaking the bank.

The Ruckus R720 Unleashed provides an affordable controller-less Wi-Fi solution with premium performance and simplified management. There is no need for separate controllers and access point licenses, significantly reducing upfront costs. With an intuitive and easy to understand user interface, Unleashed network can be setup in under 5 minutes on the mobile phone or a web browser without need of networking expertise.

With hundreds of devices and nonstop wireless noise and interference, busy indoor environments can be the most challenging Wi-Fi deployments. The R720 Unleashed makes it easy to deliver reliable, high-performance connectivity in large enterprises, office buildings, university campuses, convention centers, and practically any other indoor space.

The R720 Unleashed 802.11ac Wave 2 Wi-Fi AP incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.

- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns
- Improved throughput with ChannelFly which dynamically find less congested Wi-Fi channels to use

With four stream MU-MIMO connectivity, the R720 Unleashed can simultaneously transmit to multiple Wave 2 clients in the widest available channels, drastically improving RF efficiency even for non-Wave 2 clients.



Figure 1: Binding Fast Wave 2 4x4:4 802.11ac with MU-MIMO.

BEST IN CLASS PERFORMANCE

BeamFlex+—Patented Adaptive Antenna Technology

The Ruckus R720 Unleashed integrates patented software-controlled adaptive antennas. BeamFlex+ antenna adapts automatically to client locations and environmental conditions; the smart antenna technology optimizes the RF energy toward client on a per packet basis. This allows for substantially higher performance than traditional solutions.

ChannelFly—Machine Learning Auto Channel

ChannelFly is a new approach to optimizing RF channel selection based on capacity averages across all channels. Specialized algorithms select the best channel based on historical values. In combination with the adaptive antenna technology, ChannelFly delivers substantially higher throughput than our competitors.

SmartMesh™—Self-Forming and Self-Healing Mesh

SmartMesh simplifies the deployment of your unleashed network by reducing cumbersome radio planning and costly cabling needed to reliably connect every Wi-Fi access point. SmartMesh automatically establishes wireless connections between individual access points using patented smart antenna technology and self-heals in the event of a failed link.

BETTER FOR YOUR BUSINESS

Easy to Deploy and Manage

The Ruckus R720 Unleashed can be deployed in under 5 minutes from your laptop browser (eg. Chrome, Safari) or from your mobile device (eg. iPhone). Unleashed app is free and available on App Store and Google Play. With the intuitive user interface, you can setup an access point in less than 60 seconds. Configure the Master AP and it automatically configures all the other APs.

Low CAPEX and Low OPEX

Controller functions are integrated into the R720 Unleashed. Separate controllers and access point licenses are no longer needed, significantly reducing upfront costs. R720 Unleashed is so easy to deploy and manage that you don't need IT.

Network Investment Protection

We ensured that your network investment with Ruckus is fully protected. If your business grows or your needs change, you can migrate to a Controller based or a Cloud based solution using your Unleashed APs without any additional cost.

ENTERPRISE-GRADE FEATURES

The Ruckus R720 Unleashed is loaded with enterprise-grade features to provide great Wi-Fi experience for your customers and employees. Some of the key features include:

Feature	Benefit
Zero IT	Easily onboard customers or employees onto your Wi-Fi through an interactive portal.
Guest Features	Customize the Wi-Fi service with your logo, brand and messages. Create Guest Passes, Guest Wi-Fi access or Wi-Fi access through social media to gain better customer insights.
Resiliency	Continue to access your network even if internet connectivity fails. In case of any disruption, network will continue to work as long as at least one AP is up.
App Recognition	Gain insights into your network usage patterns of over 2200 applications with Deep Packet Inspection.
Security	Secure your network and protect your client with encryption, WPA-PSK, Dynamic PSK, client isolation and 802.1x for RADIUS and AD.
Multiple language support	Create and manage your Wi-Fi network in your own language. Supports 13 languages currently.
Remote Management	Manage your Unleashed network setup across multiple locations with a single pane view through the mobile app or the Ruckus Unleashed Multi-Site Manager for more advanced options. Manage up to 10 Unleashed networks using the mobile app.

PHYSICAL CHARACTERISTICS	
Power ¹	<ul style="list-style-type: none"> DC Input: 12 VDC 2A PoE: 802.3af/at/bt
Physical Size	<ul style="list-style-type: none"> 23 cm (L), 21 cm (W), 6 cm (H)
Weight	<ul style="list-style-type: none"> 1.12 kg (2.5 lb.)
Ethernet Ports	<ul style="list-style-type: none"> One 2.5Gbps Ethernet port and one 1Gbps Ethernet port Power over Ethernet (802.3af/at/bt) with Category 5/5e/6 cable
USB Port	<ul style="list-style-type: none"> USB 2.0 Type A connector - ideal for BLE dongles and sensors
Mounting Options	<ul style="list-style-type: none"> Electrical wallbox; Standard US and EU single gang wall jack Optional bracket for offset & wall mount
Environmental Conditions	<ul style="list-style-type: none"> Operating Temperature: -4°F (-20°C) - 140°F (60°C) Operating Humidity: up to 95% non-condensing
Lock Options	<ul style="list-style-type: none"> Hidden latching mechanism Kensington Lock Hole T-bar Torx Bracket (902-0108-0000) Torx screw & padlock (sold separately)
Power Draw	<ul style="list-style-type: none"> 5.5W (minimum) 11.4W (typical) 12.95W peak with 802.3af 25W peak with 802.3at 35W peak with full power

RF	
Antenna	<ul style="list-style-type: none"> Adaptive antenna that provides up to 4000+ unique antenna patterns Maximum transmit power (aggregate) is 28dBm for both 2.4 & 5GHz
Physical Antenna Gain	<ul style="list-style-type: none"> 3dB (2.4 and 5GHz)
Beamflex+ SINR Tx Gain ²	<ul style="list-style-type: none"> up to 6dB
Beamflex+ SINR Rx Gain	<ul style="list-style-type: none"> up to 3-5dB
Interference Mitigation	<ul style="list-style-type: none"> up to 15dB
Minimum Rx Sensitivity ³	<ul style="list-style-type: none"> -104dBm

PERFORMANCE AND CAPACITY	
Phy Data Rates	<ul style="list-style-type: none"> Up to 800Mbps (2.4GHz) Up to 1733Mbps (5GHz)
Concurrent Stations	<ul style="list-style-type: none"> Up to 512
Simultaneous VoIP Clients	<ul style="list-style-type: none"> Up to 60 (802.11e/WMM), 30 per radio

NETWORK ARCHITECTURE	
IP	<ul style="list-style-type: none"> IPv4, IPv6, dual-stack
VLANs	<ul style="list-style-type: none"> 802.1Q (1 per BSSID or dynamic, per user based on RADIUS) Port-based
802.1X for Wired Ports	<ul style="list-style-type: none"> Authenticator Supplicant
Tunneling	<ul style="list-style-type: none"> L2TP

MULTIMEDIA AND QUALITY OF SERVICE	
802.11e/WMM	<ul style="list-style-type: none"> Supported
Software Queues	<ul style="list-style-type: none"> Per WLAN priority (2), Per traffic type (4), per client
Traffic Classification	<ul style="list-style-type: none"> Automatic, heuristics and TOS based or VLAN-defined
Rate Limiting	<ul style="list-style-type: none"> Dynamic per-user or per-WLAN

¹Ruckus wireless proprietary and confidential. Specifications subject to change without notice.

MANAGEMENT	
Deployment Options	<ul style="list-style-type: none"> Locally managed using Unleashed Web UI, Mobile App, and Multi-Site Manager

WI-FI	
Standards	<ul style="list-style-type: none"> IEEE 802.11a/b/g/n/ac
Supported Data Rates	<ul style="list-style-type: none"> 802.11ac: 29.3 Mbps - 1733 Mbps (160MHz⁴) 802.11n: 6.5 Mbps - 216.7 Mbps(20MHz) 13.5 Mbps - 800 Mbps (40MHz) 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps 802.11b: 11, 5.5, 2 and 1 Mbps 802.11 Gbps: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
Radio Chains	<ul style="list-style-type: none"> 4x4
Spatial Streams	<ul style="list-style-type: none"> 4
MIMO	<ul style="list-style-type: none"> SU-MIMO - Up to 4 streams MU-MIMO - Up to 4 streams
Channelization	<ul style="list-style-type: none"> 20MHz, 40MHz, 80MHz, 80+80MHz and/or 160MHz
Frequency Band	<ul style="list-style-type: none"> IEEE 802.11ac: 5.15 - 5.85GHz IEEE 802.11a/n: 5.15 - 5.85GHz IEEE 802.11b: 2.4 - 2.484GHz
BSSIDs	<ul style="list-style-type: none"> Up to 16 (2.4GHz) Up to 16 (5GHz)
Power Save	<ul style="list-style-type: none"> Supported
Certifications	<ul style="list-style-type: none"> WEEE/RoHS compliance EN 60601-1-2 Medical Wi-Fi Alliance certified UL 2043 plenum rated
Subway and Railroad Certifications	<ul style="list-style-type: none"> EN50121-1 EMC EN50121-4 Immunity IEC 61373 Shock & Vibration

PRODUCT ORDERING INFORMATION

MODEL	DESCRIPTION
Ruckus R720 Unleashed Wi-Fi 802.11ac Wave 2 Access Point	
9U1-R720-XX00 ⁵	R720 dual-band (5GHz and 2.4GHz concurrent) Wave 2 802.11ac wireless access point, 4x4:4 streams, adaptive antennas, dual ports, PoE support. Includes adjustable acoustic drop ceiling bracket. One Ethernet port is 2.5GbE. Does not include power adaptor.
Optional Accessories	
902-0180-XX00	<ul style="list-style-type: none"> PoE injector (90 - 264 VAC 47-63 Hz)
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

When ordering Ruckus 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

- Max power varies by country setting, band, and MCS rate
- BeamFlex+ gains are statistical system-level effects (including TxBF), translated to enhanced SINR here, and based on observations over time in real-world conditions with multiple APs and many clients
- Rx sensitivity varies by band, channel width, and MCS rate
- With 160MHz channelization enabled, the R720 runs in two spatial stream mode (2x2:2)
- Refer to price list for the complete list of current country certifications

Warranty: Sold with a limited lifetime warranty. sFor details see: <http://support.ruckuswireless.com/warranty>.

