## DATA SHEET

## HIGH PERFORMANCE, 802.11AC MID-RANGE SMART WI-FI ACCESS POINTS WITH ADAPTIVE ANTENNA TECHNOLOGY

Ruckus R500 Unleashed™ enables controller-less Wi-Fi architecture for small business environments with superior performance, lower costs and simplified management. Separate controllers and access point licenses are no longer needed, significantly reducing upfront costs. Set-up is also easy, thanks to a simplified web interface that helps businesses configure Wi-Fi in just 60 seconds.

The R500 Unleashed is ideal for wireless networks servicing mobile devices with dual-polarized antennas that adapt in real time to hand-held device movement and rotation ensuring consistent performance.

Each R500 Unleashed integrates Ruckus-patented BeamFlex, a software-controlled, high gain antenna array that continually forms and directs each Wi-Fi packet over the best performing signal path. The R500 Unleashed automatically selects channels for highest throughput potential using Ruckus ChannelFly dynamic channel management, adapting to environmental changes. Once deployed, enterprises never have to worry about constant site surveys as the environment changes.

A sleek and low-profile design, the R500 Unleashed was purpose-built for small-medium enterprises requiring reliable high speed client connectivity. It is ideal for a variety of medium density enterprise and hotspot environments including SMBs, venues, local retailers and non-franchise restaurants.

## BENEFITS

### UNLEASH THE PERFORMANCE
In the Unleashed version, the Ruckus R500 is capable of supporting controller-less deployments for up to 25 access points and 512 concurrent devices.

### EXTENDED RANGE REQUIRES FEWER APS
Adaptive antenna technology delivers up to 2x increase in Wi-Fi signal coverage minimizing the number of APs required to service any area

### SLEEK, LOW PROFILE ENCLOSURE FOR EASE-OF-DEPLOYMENT
Aesthetically-pleasing design and a range of mounting options

### CHANNEL SELECTION OPTIMIZES THROUGHPUT
ChannelFly dynamic channel management, based on throughput measurements, not just interference, chooses the best channel to give users the highest possible throughput

### SUPER SIMPLE CONFIGURATION AND MANAGEMENT
The industry's simplest configuration and management through a Web-based wizard and automated deployment capabilities

### FLEXIBLE DEPLOYMENT OPTIONS
Standalone or controller-based deployment

### ADAPTIVE POLARIZATION DIVERSITY (PD-MRC)
Dual-polarized antennas that are dynamically selected provide better reception for hard to hear clients and more consistent performance as clients constantly change orientation

### HASSLE FREE MIGRATION TO HIGHER SPEED WI-FI
Support for standard 802.3af power over Ethernet allows enterprises to use existing PoE switches without costly upgrades.

## PATENTED BEAMFLEX™ TECHNOLOGY EXTENDS SIGNAL RANGE, IMPROVES STABILITY OF CLIENT CONNECTIONS

All R500 Unleashed access points integrate a software-controlled smart antenna with PD-MRC (polarization diversity) that delivers up to an additional 6dB of BeamFlex gain and 15dB of interference mitigation. This is especially beneficial to enhance the performance of mobile devices which are constantly in motion and changing orientation.

## ADVANCED WLAN APPLICATIONS

Each R500 Unleashed supports a wide range of value-added applications such as guest networking, Dynamic PSK, hotspot authentication, wireless intrusion detection and many more. In a controller-less configuration, the R500 Unleashed works with a wide range of authentication servers including Microsoft's Active Directory and AAA/RADIUS.

## FLEXIBLE DEPLOYMENT OPTIONS

Ruckus Unleashed is custom-designed to help small business owners grow their business, deliver an excellent customer experience and manage costs while supporting Wi-Fi and a variety of mobile devices iwth minimal IT staff.

Unleashed access points have built-in controller capabilities, including user access controls, guest networking functions, advanced Wi-Fi security and traffic management.

As businesses grow to multiple sites or a larger scale deployment, Ruckus offers an eashy migration path to a controller-based Wi-Fi, using the same Wi-Fi access points.
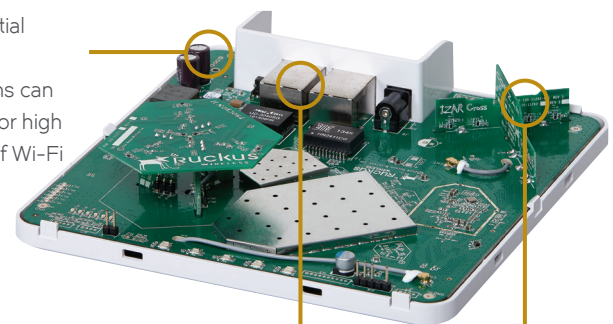
## COMPLETE LOCAL AND REMOTE MANAGEMENT

R500 Unleashed can be securely managed from anywhere at anytime using any browser on any device.

## FEATURES

- Dual-band concurrent (5GHz/2.4GHz)
- Adaptive antenna technology and advanced RF management
- Up to an additional 6dB BeamFlex gain / 15dB interference mitigation / 3dBi physical antenna gain
- Automatic interference mitigation, optimized for high-density environments
- Integrated smart antenna technology
- Standard 802.3af Power over Ethernet (PoE)
- Gateway mode with NAT and DHCP services
- IP multicast video streaming support
- Advanced QoS packet classification and automatic priority for latency-sensitive traffic
- Dynamic, pre-user rate-limiting for hotspot WLANs
- WPA-PSK (AES), 802.1X support for RADIUS and Active Directory
- Ethernet 802.1x port-based authentication (authenticator and supplicant)
- BYOD, Zero-IT and Dynamic PSK
- Admission control/load balancing
- Band balancing and airtime fairness support
- Captive portal and guest accounts
- Application recognition and control
- SmartWay Bonjour gateway
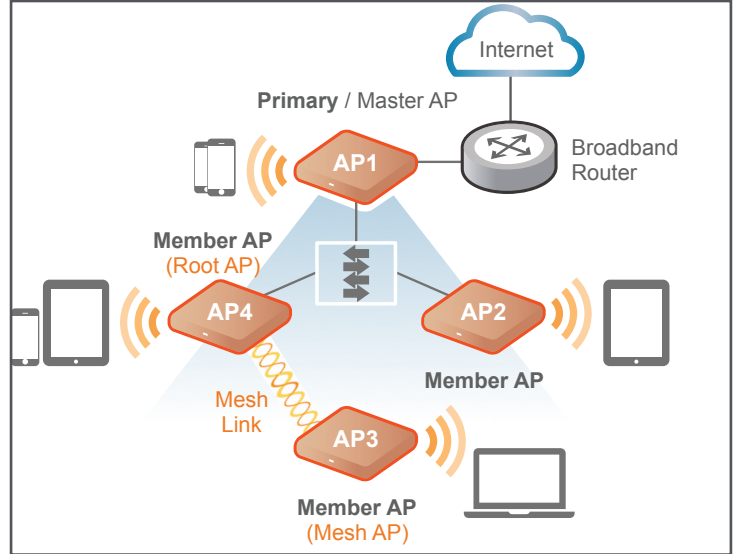- SecureHotspot
- SmartMesh

Many potential antenna combinations can be chosen for high availability of Wi-Fi

Two 10/1001000 Mbps ports; one with PoE

High-gain directional antenna elements not only delivers signal gain but also interference mitigation for range extension, reliability and high data rates

The R500 Unleashed integrates with your existing network infrastructure, delivering best-in-class 802.11ac performance and reliability at a competitive price — making it the ideal wireless solution for mid-range enterprise and branch office applications.



## DEPLOYMENT FOR RETAIL / BRANCH OFFICES

The R500 Unleashed is ideal for deployment in retail stores to provide inconspicuous wireless connection to high quality video, wireless IP phones and data access for handheld PoS bar code scanners.



Wired ports to connect devices such as cash registers, printers, etc.

Multiple SSIDs for differentiated user services (e.g., guest Wi-Fi, point of sale, voice)

Reliable Wi-Fi connectivity for point of sale devices

5GHz band and smart antenna system ideal for 11ac clients

## PHYSICAL CHARACTERISTICS

| | |
|---|---|
| Power | • DC Input: 12 VDC 1.0A <br> • Power over Ethernet 802.3af |
| Physical Size | • 15.8 cm x 15.8 cm x 4 cm (6.2 in x 6.2 in x 1.57 in) |
| Weight | • 350 g (0.77 lb.) |
| Data Ports | • 2 auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45, POE port (on one port) |
| Mounting Options | • Electrical wallbox; Standard US and EU single gang wall jack <br> • Optional bracket for offset & wall mount |
| Lock Options | • Hidden latching mechanism <br> • Kensington Lock Hole <br> • T-bar Torx <br> • Bracket (902-0108-0000) Torx screw & padlock (sold separately) |
| Environmental Conditions | • Operating Temperature: 0°C – 50°C <br> • Operating Humidity: 10% – 95% non-condensing |
| Power Draw | • Idle: 4W <br> • Typical: 6.13W <br> • Peak: 11.1W |

## PERFORMANCE AND CAPACITY

| | |
|---|---|
| Concurrent Stations | • 512 clients per AP |
| Simultaneous Voip Clients | • 30 |

## RF

| | |
|---|---|
| ANTENNA | • Adaptive antenna that provides up to 64 unique antenna patterns per radio <br> • Full omnidirectional polarization diversity |
| PHYSICAL ANTENNA GAIN | • Up to 3dBi |
| BEAMFLEX* SINR TX GAIN | • Up to 4dB |
| BEAMFLEX* SINR RX GAIN | • 3-5dB (PD-MRC) |
| INTERFERENCE MITIGATION | • Up to 10dB |
| MINIMUM RX SENSITIVITY | • Up to -101dBm |

\* BeamFlex gains are statistical system level effects translated to enhanced SINR based on observations over time in real-world conditions with multiple APs and many clients

## MANAGEMENT

| | |
|---|---|
| Deployment Options | • Ruckus Unleashed, controller-less |
| Configuration | • Basic SNMP support |

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

## WI-FI

| | |
|---|---|
| Standards | • IEEE 802.11a/b/g/n/ac <br> • 2.4GHz and 5GHz |
| Supported Data Rates | • 802.11n/ac: 6.5Mbps – 173.4Mbps (20MHz) <br> • 13.5Mbps – 400Mbps (40MHz) <br> • 29.3Mbps – 867Mbps (80MHz) <br> • 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6Mbps <br> • 802.11b: 11, 5.5, 2 and 1 Mbps <br> • 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6Mbps |
| Radio Chains | • 2 x 2 |
| Spatial Streams | • 2 |
| RF Power Output (Aggregate) | • 26dBm for 2.4GHz <br> • 25dBm for 5GHz |
| Channelization | • 20MHz, 40MHz, 80MHz |
| Operating Channels | • US/Canada: 1-11, Europe ( ETSI X30): 1-13, Japan X41: 1-13 <br> • 5 GHz channels: Country dependent |
| Frequency Band | • IEEE 802.11 b/g/n: 2.4 – 2.484 GHz <br> • IEEE 802.11a/ac: 5.15 – 5.25 GHz; 5.25 – 5.35 GHz; 5.47 – 5.725 GHz; 5.725 – 5.85 GHz |
| Power Save | • Supported |
| Wireless Security | • Authentication via 802.1X with the local authentication database, support for RADIUS, LDAP, DPSK and ActiveDirectory |
| Certifications** | • U.S., Europe, Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Hong Kong, India, Indonesia, Israel, Japan, Korea, Malaysia, Mexico, New Zealand, Peru, Philippines, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, UAE, Vietnam <br> • WEEE/RoHS compliance <br> • EN-60601-1-2 (Medical) <br> • Wi-Fi Alliance <br> • EN50121-1 Railway EMC <br> • EN50121-4 Railway Immunity <br> • IEC 61373 Railway Shock & Vibration <br> • UL 2043 plenum rated <br> • 5GHz UNII-1 (2014) |

† Maximum power varies by country
** For current certification status please see price list

## PRODUCT ORDERING INFORMATION

| MODEL | DESCRIPTION |
|---|---|
| Ruckus R500 Unleashed 802.11ac Access Point | |
| 9U1-R500-XX00 | Concurrent dual band 802.11ac Unleashed Access Point, no power adapter |
| **Optional Accessories** | |
| 902-0108-0000 | • Spare, Accessory Mounting Bracket |
| 902-0173-XXYY | • Power Adapter, AC/DC wall plug,100-240Vac 50/60Hz |
| 902-0162-XXYY | • PoE injector (sold in quantities of 10 or 100) |

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

## ruckus
Simply Better Wireless.