**Benefits**

**Stunning Wi-Fi performance**
Mitigate interference and extend coverage with patented BeamFlex+™ adaptive antenna technology utilizing several directional antenna patterns.

**Serve more devices**
Connect more devices simultaneously with four MU-MIMO spatial streams and concurrent dual-band 2.4/5GHz radios while enhancing device performance.

**Converged Access Point**
Allows customers to eliminate siloed networks and unify WiFi and non-WiFi wireless technologies into one single network by using built-in BLE and Zigbee, and also expand to any future wireless technologies through the USB port.

**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.

**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.

**More Than Wi-Fi**
Support services beyond Wi-Fi with Ruckus IoT Suite, Cloudpath security and onboarding software, SPoT Wi-Fi locationing engine, and RUCKUS analytics.

Wi-Fi capacity requirements in classrooms, office spaces, and medium-size venues are rising due to the increase in the number of Wi-Fi connected devices. An increase in bandwidth requirements for applications and an ever-growing assortment of IoT devices puts further strain on already stretched Wi-Fi networks.

The RUCKUS R550 access point (AP) with the latest Wi-Fi 6 (802.11ax) technology delivers the ideal combination of increased capacity, improved coverage and affordability in dense environments. The R550 is our mid- range dual-band, dual-concurrent AP that supports four spatial streams (2x2:2 in 2.4GHz/5GHz). The R550 supports peak data rates of up to 1774 Mbps and efficiently manages up to 512 clients connections.

Also, wireless requirements within enterprises are expanding beyond Wi-Fi with BLE, Zigbee and many other non-Wi-Fi wireless technologies resulting in creation of network silos. Enterprises need a unified platform to eliminate network silos. The RUCKUS AP portfolio is equipped to solve these challenges.

The R550 has built-in IoT radios with onboard BLE and Zigbee capabilities. In addition, the R550 is a converged access point that allows customers to seamlessly integrate any new wireless technologies with the pluggable IoT module.

The R550 is packed with ruckus patented technologies in addition to Wi-Fi 6 features such as OFDMA, MU-MIMO and TWT. The R550 is ideal for medium-density deployments such as, K-12 classrooms, residence halls, hallways and office spaces.

The R550 Wi-Fi 6 AP incorporates patented technologies found only in the RUCKUS Wi-Fi portfolio.

- **BeamFlex+ Antennas**: Extended coverage and optimized throughput with patented multi-directional antennas and radio patterns
- **ChannelFly**: Improved throughput with dynamically changing the channels to use least congested channel

Whether you are deploying ten or ten thousand APs, the R550 is also easy to manage through RUCKUS’ cloud, physical, virtual and controllerless management options.
RUCKUS R550
Indoor Wi-Fi 6 (802.11ax) Access Point for Dense Environments

Dimensions:
- Front view: 1.88 in (4.78 cm)
- Width: 6.93 in (17.60 cm)
- Depth: 7.49 in (19.02 cm)

Weight: 1.24 lbs (0.562 kg)
Access Point Antenna Pattern

RUCKUS’ BeamFlex+ adaptive antennas allow the R550 AP to dynamically choose among a host of antenna patterns (up to 64 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.
### Wi-Fi

**Wi-Fi Standards**
- IEEE 802.11a/b/g/n/ac/ax

**Supported Rates**
- 802.11ax: 4 to 1774 Mbps
- 802.11ac: 6.5 to 867 Mbps (MC50 to MC59, NSS = 1 to 2 for VHT20/40/80)
- 802.11n: 6.5 Mbps to 300 Mbps (MC50 to MC59, NSS = 1 to 2 for VHT20/40/80)
- 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**
- 2x2 SU-MIMO
- 2x2 MU-MIMO

**Spatial Streams**
- 2 streams SU/MU MIMO 5GHz
- 2 streams SU/MU MIMO 2.4GHz

**Radio Chains and Streams**
- 2 streams SU/MU MIMO 5GHz
- 2 streams SU/MU MIMO 2.4GHz

**Channelization**
- 20, 40, 80MHz

**Security**
- WPA-PSK, WPA-TKIP, WPA2 AES, WPA3-Personal, WPA3-Enterprise, 802.11i, Dynamic PSK, OWE
- WIPS/WIDS

**Other Wi-Fi Features**
- WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v
- Hotspot
- Captive Portal
- WISPr

### RF

**Antenna Type**
- BeamFlex+ adaptive antennas with polarization diversity
- Adaptive antenna that provides up to 64 unique antenna patterns per band

**Antenna Gain (max)**
- Up to 3dBi

**Peak Transmit Power (Tx port/chain + Combining gain)**
- 2.4GHz: 26 dBm
- 5GHz: 25 dBm

**Frequency Bands**
- ISM (2.4-2.484GHz)
- U-NII-1 (5.15-5.25GHz)
- U-NII-2C (5.47-5.725GHz)
- U-NII-3 (5.725-5.85GHz)

### 2.4GHz RECEIVE SENSITIVITY (dBm)

<table>
<thead>
<tr>
<th>Rate</th>
<th>VHT20</th>
<th>VHT40</th>
<th>VHT80</th>
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### 5GHz RECEIVE SENSITIVITY (dBm)

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<tbody>
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<td>MCS7</td>
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</tr>
</tbody>
</table>

### PERFORMANCE AND CAPACITY

**Peak PHY Rates**
- 2.4GHz: 574 Mbps
- 5GHz: 1200 Mbps

**Client Capacity**
- Up to 512 clients per AP

**SSID**
- Up to 31 per AP

### RUCKUS RADIO MANAGEMENT

**Antenna Optimization**
- BeamFlex+
- Polarization Diversity with Maximal Ratio Combining (PD-MRC)

**Wi-Fi Channel Management**
- ChannelFly
- Background Scan Based

**Client Density Management**
- Adaptive Band Balancing
- Client Load Balancing
- Airtime Fairness
- Airtime-based WLAN Prioritization

**SmartCast Quality of Service**
- QoS-based scheduling
- Directed Multicast
- L2/L3/L4 ACLs

**Mobility**
- SmartRoam

**Diagnostic Tools**
- Spectrum Analysis
- SpeedFlex

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## RUCKUS R550

**Indoor Wi-Fi 6 (802.11ax) Access Point for Dense Environments**

### NETWORKING

**Controller Platform Support**
- SmartZone
- ZoneDirector
- Unleashed<sup>1</sup>
- Standalone
- Cloud

**Mesh**
- SmartMesh™ wireless meshing technology. Self-healing Mesh

**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 & Suppliant

**Tunnel**
- L2TP, GRE, Soft-GRE

**Policy Management Tools**
- Application Recognition and Control
- Access Control Lists
- Device Fingerprinting
- Rate Limiting

**IoT Capable**
- Integrated BLE and ZigBee (1 radio, switchable)

### PHYSICAL INTERFACES

**Ethernet**
- 2 x 1GbE Ethernet ports
- Power over Ethernet (802.3af/at) with Category 5e/5e/6 cable
- LLDP

**USB**
- 1 USB 2.0 port, Type A

### PHYSICAL CHARACTERISTICS

**Physical Size**
- 17.60cm (L), 19.02cm (W), 4.78cm (H)
- 6.93in (L) x 7.49in (W) x 1.88in (H)

**Weight**
- 0.562 kg
- 1.24 lbs

**Mounting**
- Wall, acoustic ceiling, desk
- Secure bracket (sold separately)

**Physical Security**
- Hidden latching mechanism
- Kensington lock
- Bracket (902-0120-0000)

**Operating Temperature**
- 0°C (32°F) - 50°C (122°F)

**Operating Humidity**
- Up to 95%, non-condensing

### POWER<sup>2</sup>

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Operating Characteristics</th>
<th>Max Power Consumption</th>
</tr>
</thead>
</table>
| 802.3af PoE      | • 2.4GHz radio: 2x2, 19dBm per chain  
                  | • 5GHz radio: 2x2, 18dBm per chain  
                  | • 2nd Ethernet port, onboard IoT & USB disabled | PoE: 12.71W |
| 802.3at PoE+     | Full Functionality | PoE+: 18.71W |
| DC Input 12VDC   | Full Functionality | 16.58W |

### CERTIFICATIONS AND COMPLIANCE<sup>3</sup>

**Wi-Fi Alliance**
- Wi-Fi CERTIFIED™ a, b, g, n, ac
- Wi-Fi CERTIFIED 6™
- WPA3™-Enterprise, Personal
- Wi-Fi Enhanced Open™
- Wi-Fi Agile Multiband™
- Passpoint®
- Vantage
- WMM®

**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
- UL 2043 Plenum
- EN 62311 Human Safety/RF Exposure
- WEEE & RoHS
- ISTA 2A Transportation

### SOFTWARE AND SERVICES

**Location Based Services**
- SPoT

**Network Analytics**
- SmartCell Insight (SCI), Ruckus Analytics

**Security and Policy**
- Cloudpath

### ORDERING INFORMATION

- **901-R550-XX01**
  - R550 dual-band (5GHz and 2.4GHz concurrent) 802.11ax wireless access point, 2x2:2 + 2x2:2 streams, adaptive antennas, dual ports, onboard BLE and Zigbee, PoE support. Not plenum rated. Includes adjustable acoustic drop ceiling bracket. Does not include power adaptor.

- **901-R550-XX00**
  - R550 dual-band (5GHz and 2.4GHz concurrent) 802.11ax wireless access point, 2x2:2 + 2x2:2 streams, adaptive antennas, dual ports, onboard BLE and Zigbee, PoE support. Plenum rated. Includes adjustable acoustic drop ceiling bracket. Does not include power adaptor.

### Notes

1. Refer to Unleashed datasheets for SKU ordering information.
2. Max power varies by country setting, band, and MCS rate.
3. For complete list of WFA certifications, please see Wi-Fi Alliance website.
4. For current certification status, please see price list.

---

<sup>1</sup> Refer to Unleashed datasheets for SKU ordering information.
<sup>2</sup> Max power varies by country setting, band, and MCS rate.
<sup>3</sup> For complete list of WFA certifications, please see Wi-Fi Alliance website.
<sup>4</sup> For current certification status, please see price list.
## Optional Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>902-0180-XX00</td>
<td>PoE Injector (60W)</td>
</tr>
<tr>
<td>902-1169-XX00</td>
<td>Power Supply (12V, 2.0A, 24W)</td>
</tr>
<tr>
<td>902-0120-0000</td>
<td>Spare, Accessory Mounting Bracket</td>
</tr>
<tr>
<td>902-0195-0000</td>
<td>Spare, T-bar ceiling mount kit for mounting to flush frame ceiling</td>
</tr>
</tbody>
</table>

**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.

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