

# A550

Entry-level Indoor Wi-Fi 6 (802.11ax) Access Point

## DATA SHEET



### 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

Eliminate siloed networks and unify Wi-Fi and non-Wi-Fi 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 Smart-Mesh wireless meshing technology to dynamically create self-forming, self-healing mesh networks.

The Access Networks A550 access point (AP) with the latest Wi-Fi 6 (802.11 ax) technology delivers the ideal combination of increased capacity, improved coverage and affordability for small to medium deployments.

The A550 is our entry-level dual-band, dual-concurrent Wi-Fi 6 AP that supports four spatial streams (2x2:2 in 2.4GHz/5GHz). The A550 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 Access Networks AP portfolio is equipped to solve these challenges.

The A550 has built-in IoT radios with onboard BLE and Zigbee capabilities. In addition, the A550 is a converged access point that allows customers to seamlessly integrate any new wireless technologies with the pluggable IoT module.

The A550 is packed with patented technologies in addition to Wi-Fi 6 features such as OFDMA, MU-MIMO and TWT. The A550 is ideal for small to medium density deployments.

The A550 Wi-Fi 6 AP incorporates patented technologies found only in the Access Networks & 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



Front view



Weight: 1.24 lbs (0.562 kg)

### ACCESS POINT ANTENNA PATTERN

BeamFlex+ adaptive antennas allow the A550 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 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

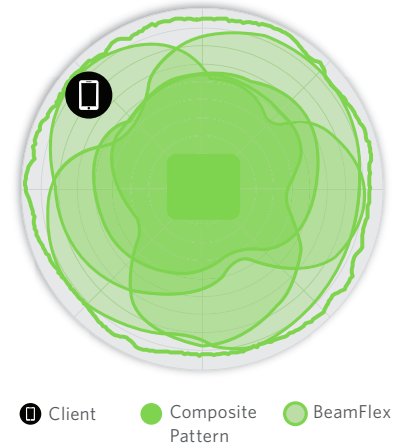


Figure 2. A550 2.4GHz Azimuth Antenna Patterns

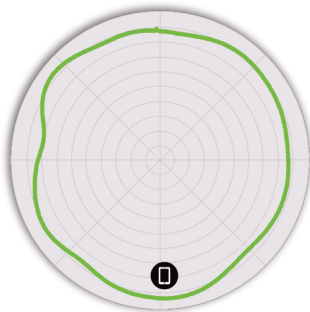


Figure 3. A550 5GHz Azimuth Antenna Patterns

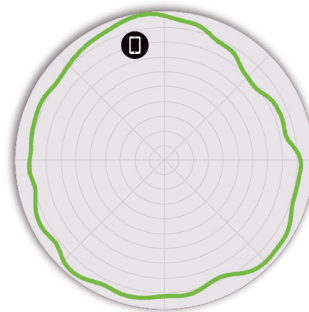


Figure 4. A550 2.4GHz Elevation Antenna Patterns

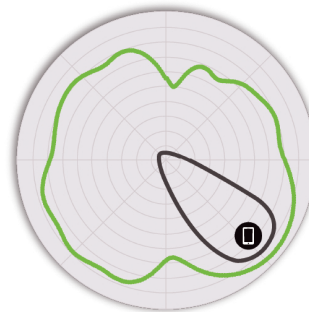
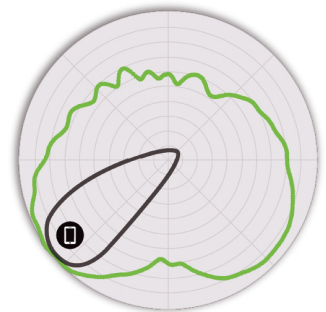


Figure 5. A550 5GHz Elevation Antenna Patterns



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	
<b>Wi-Fi Standards</b>	<ul style="list-style-type: none"> <li>IEEE 802/11a/b/g/n/ac/ax</li> </ul>
<b>Supported Rates</b>	<ul style="list-style-type: none"> <li>802.11ax: 4 to 1774 Mbps</li> <li>802.11ac: 6.5 to 867Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80)</li> <li>802.11n: 6.5 Mbps to 300Mbps (MCS0 to MCS15)</li> <li>802.11a/g: 6 to 54 Mbps</li> <li>802.11b: 1 to 11 Mbps</li> </ul>
<b>Supported Channels</b>	<ul style="list-style-type: none"> <li>2.4GHz: 1-13</li> <li>5GHz: 36-64, 100-144, 149-165</li> </ul>
<b>MIMO</b>	<ul style="list-style-type: none"> <li>2x2 SU-MIMO</li> <li>2x2 MU-MIMO</li> </ul>
<b>Spatial Streams</b>	<ul style="list-style-type: none"> <li>2 streams SU/MU MIMO 5GHz</li> <li>2 streams SU/MU MIMO 2.4GHz</li> </ul>
<b>Radio Chains and Streams</b>	<ul style="list-style-type: none"> <li>2x2:2 (5GHz)</li> <li>2x2:2 (2.4GHz)</li> </ul>
<b>Channelization</b>	<ul style="list-style-type: none"> <li>20, 40, 80MHz</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>WPA-PSK, WPA-TKIP, WPA2 AES, WPA3-Personal, WPA3-Enterprise, 802.11i, Dynamic PSK, OWE</li> <li>WIPS/WIDS</li> </ul>
<b>Other Wi-Fi Features</b>	<ul style="list-style-type: none"> <li>WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v</li> <li>Hotspot</li> <li>Hotspot 2.0</li> <li>Captive Portal</li> <li>WISPr</li> </ul>

RF	
<b>Antenna Type</b>	<ul style="list-style-type: none"> <li>BeamFlex+ adaptive antennas with polarization diversity</li> <li>Adaptive antenna that provides up to 64 unique antenna patterns per band</li> </ul>
<b>Antenna Gain (max)</b>	<ul style="list-style-type: none"> <li>Up to 3dBi</li> </ul>
<b>Peak Transmit Power (Tx port/chain + Combining gain)</b>	<ul style="list-style-type: none"> <li>2.4GHz: 26 dBm</li> <li>5GHz: 25 dBm</li> </ul>
<b>Frequency Bands</b>	<ul style="list-style-type: none"> <li>ISM (2.4-2.484GHz)</li> <li>U-NII-1 (5.15-5.25GHz)</li> <li>U-NII-2A (5.25-5.35GHz)</li> <li>U-NII-2C (5.47-5.725GHz)</li> <li>U-NII-3 (5.725-5.85GHz)</li> </ul>

2.4GHZ RECEIVE SENSITIVITY (dBm)							
HT20		HT40		VHT20		VHT40	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-97	-78	-94	-75	-97	-78	-94	-75
HE 20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-97	-78	-73	-67	-94	-75	-70	-64

5GHZ RECEIVE SENSITIVITY (dBm)											
VHT20				VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-97	-78	-75	-72	-94	-75	-72	-69	-91	-72	-69	-66
HE20				HE40				HE80			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-97	-78	-72	-67	-94	-75	-69	-64	-91	-72	-66	-61

2.4GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0 HT20	22
MCS7 HT20	18
MCS8 VHT20	17
MCS9 VHT40	16
MCS11 HE40	14

5GHZ TX POWER TARGET (PER CHAIN)	
Rate	Pout (dBm)
MCS0, VHT20	22
MCS7, VHT40, VHT80	17.5
MCS9, VHT40, VHT80	16
MCS11, HE20, HE40, HE80	13

PERFORMANCE AND CAPACITY	
<b>Peak PHY Rates</b>	<ul style="list-style-type: none"> <li>2.4GHz: 574 Mbps</li> <li>5GHz: 1200 Mbps</li> </ul>
<b>Client Capacity</b>	<ul style="list-style-type: none"> <li>Up to 512 clients per AP</li> </ul>
<b>SSID</b>	<ul style="list-style-type: none"> <li>Up to 31 per AP</li> </ul>

RUCKUS RADIO MANAGEMENT	
<b>Antenna Optimization</b>	<ul style="list-style-type: none"> <li>BeamFlex+</li> <li>Polarization Diversity with Maximal Ratio Combining (PD-MRC)</li> </ul>
<b>Wi-Fi Channel Management</b>	<ul style="list-style-type: none"> <li>ChannelFly</li> <li>Background Scan Based</li> </ul>
<b>Client Density Management</b>	<ul style="list-style-type: none"> <li>Adaptive Band Balancing</li> <li>Client Load Balancing</li> <li>Airtime Fairness</li> <li>Airtime-based WLAN Prioritization</li> </ul>
<b>SmartCast Quality of Service</b>	<ul style="list-style-type: none"> <li>QoS-based scheduling</li> <li>Directed Multicast</li> <li>L2/L3/L4 ACLs</li> </ul>
<b>Mobility</b>	<ul style="list-style-type: none"> <li>SmartRoam</li> </ul>
<b>Diagnostic Tools</b>	<ul style="list-style-type: none"> <li>Spectrum Analysis</li> <li>SpeedFlex</li> </ul>

NETWORKING	
<b>Controller Platform Support</b>	<ul style="list-style-type: none"> <li>SmartZone</li> <li>ZoneDirector</li> <li>Unleashed<sup>1</sup></li> <li>Standalone</li> <li>Cloud</li> </ul>
<b>Mesh</b>	<ul style="list-style-type: none"> <li>SmartMesh™ wireless meshing technology. Self-healing Mesh</li> </ul>
<b>IP</b>	<ul style="list-style-type: none"> <li>IPv4, IPv6, dual-stack</li> </ul>
<b>VLAN</b>	<ul style="list-style-type: none"> <li>802.1Q (1 per BSSID or dynamic per user based on RADIUS)</li> <li>VLAN Pooling</li> <li>Port-based</li> </ul>
<b>802.1x</b>	<ul style="list-style-type: none"> <li>Authenticator &amp; Supplicant</li> </ul>
<b>Tunnel</b>	<ul style="list-style-type: none"> <li>L2TP, GRE, Soft-GRE</li> </ul>
<b>Policy Management Tools</b>	<ul style="list-style-type: none"> <li>Application Recognition and Control</li> <li>Access Control Lists</li> <li>Device Fingerprinting</li> <li>Rate Limiting</li> </ul>
<b>IoT Capable</b>	<ul style="list-style-type: none"> <li>Integrated BLE and ZigBee (1 radio, switchable)</li> </ul>

PHYSICAL INTERFACES	
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>2 x 1GbE Ethernet ports</li> <li>Power over Ethernet (802.3af/at) with Category 5/5e/6 cable</li> <li>LLDP</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>1 USB 2.0 port, Type A</li> </ul>

PHYSICAL CHARACTERISTICS	
<b>Physical Size</b>	<ul style="list-style-type: none"> <li>17.60cm (L), 19.02cm (W), 4.78cm (H)</li> <li>6.93in (L) x 7.49in (W) x 1.88in (H)</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>0.562 kg</li> <li>1.24 lbs</li> </ul>
<b>Mounting</b>	<ul style="list-style-type: none"> <li>Wall, acoustic ceiling, desk</li> <li>Secure bracket (sold separately)</li> </ul>
<b>Physical Security</b>	<ul style="list-style-type: none"> <li>Hidden latching mechanism</li> <li>Kensington lock</li> <li>Bracket (902-0120-0000)</li> </ul>
<b>Operating Temperature</b>	<ul style="list-style-type: none"> <li>0°C (32°F) - 50°C (122°F)</li> </ul>
<b>Operating Humidity</b>	<ul style="list-style-type: none"> <li>Up to 95%, non-condensing</li> </ul>

OPTIONAL ACCESSORIES	
<b>902-0180-XX00</b>	<ul style="list-style-type: none"> <li>PoE Injector (60W)</li> </ul>
<b>902-1169-XX00</b>	<ul style="list-style-type: none"> <li>Power Supply (12V, 2.0A, 24W)</li> </ul>
<b>902-0120-0000</b>	<ul style="list-style-type: none"> <li>Spare, Accessory Mounting Bracket</li> </ul>
<b>902-0195-0000</b>	<ul style="list-style-type: none"> <li>Spare, T-bar ceiling mount kit for mounting to flush frame ceiling</li> </ul>

POWER <sup>2</sup>		
Power Supply	Operating Characteristics	Max Power Consumption
<b>802.3af PoE</b>	<ul style="list-style-type: none"> <li>2.4GHz radio: 2x2, 19dBm per chain</li> <li>5GHz radio: 2x,2 18dBm per chain</li> <li>2nd Ethernet port, onboard IoT &amp; USB disabled</li> </ul>	PoE: 12.71W
<b>802.3at PoE+</b>	Full Functionality	PoE+ : 18.71W
<b>DC Input 12VDC</b>	Full Functionality	16.58W

CERTIFICATIONS AND COMPLIANCE	
<b>Wi-Fi Alliance<sup>3</sup></b>	<ul style="list-style-type: none"> <li>Wi-Fi CERTIFIED™ a, b, g, n, ac</li> <li>Wi-Fi CERTIFIED 6™</li> <li>WPA3™-Enterprise, Personal</li> <li>Wi-Fi Enhanced Open™</li> <li>Wi-Fi Agile Multiband™</li> <li>Passpoint®</li> <li>Vantage</li> <li>WMM®</li> </ul>
<b>Standards Compliance<sup>4</sup></b>	<ul style="list-style-type: none"> <li>EN 60950-1 Safety</li> <li>EN 60601-1-2 Medical</li> <li>EN 61000-4-2/3/5 Immunity</li> <li>EN 50121-1 Railway EMC</li> <li>EN 50121-4 Railway Immunity</li> <li>IEC 61373 Railway Shock &amp; Vibration</li> <li>UL 2043 Plenum</li> <li>EN 62311 Human Safety/RF Exposure</li> <li>WEEE &amp; RoHS</li> <li>ISTA 2A Transportation</li> </ul>

SOFTWARE AND SERVICES	
<b>Location Based Services</b>	<ul style="list-style-type: none"> <li>SPoT</li> </ul>
<b>Network Analytics</b>	<ul style="list-style-type: none"> <li>SmartCell Insight (SCI), Ruckus Analytics</li> </ul>
<b>Security and Policy</b>	<ul style="list-style-type: none"> <li>Cloudpath</li> </ul>

ORDERING INFORMATION	
<b>901-A550-XX01</b>	<ul style="list-style-type: none"> <li>A550 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.</li> </ul>
<b>901-A550-XX00</b>	<ul style="list-style-type: none"> <li>A550 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.</li> </ul>

