H320

Wall-Mounted 802.11ac Wave 2 Wi-Fi Access Point and Switch

DATA SHEET

Wi-Fi is a critical amenity as users bring more devices into hotel rooms, meeting rooms, and classrooms. However, providing great Wi-Fi performance in every room is cost-prohibitive.

The H320 combines an 802.11ac Wave 2 Wi-Fi access point and wired switch into one wall-mount device. Designed specifically for per-room deployments, the H320 is compact, inconspicuous, secure, and easy to mount to an electrical junction box. Bottom facing Ethernet ports eliminate unsightly cabling and accommodates any furniture placement.

Easily supports converged wired and wireless services with one device, that include VoIP, IPTV, high-speed Internet access and in-room Wi-Fi device connectivity.

This 802.11ac Wave 2 Wi-Fi AP and switch incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.
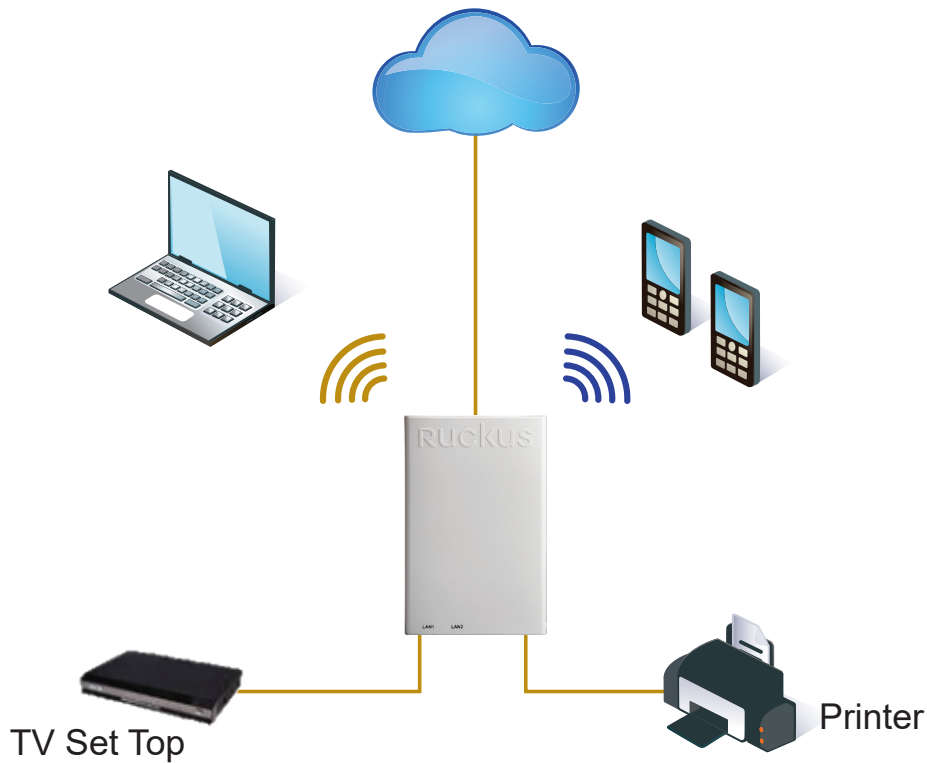
- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns
- Improved throughput with ChannelFly which dynamically find less congested Wi-Fi channels to use

The H320 supports Multi-User MIMO (MU-MIMO) which increases network throughput by transmitting to multiple clients simultaneously.

Support per-room wired IP devices from TVs to phones with 2 onboard Ethernet ports. Also, with built-in visual troubleshooting tools within Ruckus Wi-Fi controllers, administrators can accelerate resolution of trouble tickets.

Whether organizations are deploying ten or ten thousand APs, the H320 can be deployed as a standalone AP or centrally managed by SmartZone or ZoneDirector management platforms.

BENEFITS

AFFORDABLE ALL-IN-ONE

Deliver great in-room Wi-Fi and concurrent wired IP connectivity with 802.11ac Wave 2 speed and a built-in 2-port switch.

STUNNING PERFORMANCE

Extends coverage with patented BeamFlex+™ adaptive antenna technology while mitigating interference by utilizing multi-directional antenna patterns.

MULTIPLE MANAGEMENT OPTIONS

Manage the H320 from the cloud, or with on-premises physical/virtual appliances.

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

SERVICE MORE DEVICES

Connect more devices simultaneously with two MU-MIMO spatial streams and concurrent dual-band 2.4/5GHz radios while enhancing non-Wave 2 device performance.

SUPPORT MORE SERVICES

Multiple SSIDs and switch ports help support services such as VoIP, IPTV, and high-speed Internet access and in-room device connectivity

KEEP YOUR SWITCHES AND CABLES

Designed to operate on existing PoE switches and CAT 5e cabling to minimize costs.

MORE THAN WI-FI

Support services beyond Wi-Fi with Ruckus IoT Suite, Cloudpath security and onboarding software, SPoT Wi-Fi locationing engine, and SCI network analytics.

144 mm

29 mm

90 mm

LAN1   LAN2

RESET   SOFT   HARD

TV Set Top

Printer

ACCESS POINT ANTENNA PATTERN

Ruckus' BeamFlex+ adaptive antennas allow the H320 AP to dynamically choose among a host of antenna patterns 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

Client · Composite Pattern · BeamFlex+
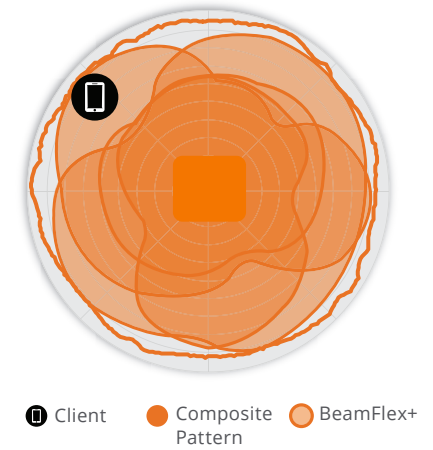
Figure 2. H320 2.4GHz Azimuth Antenna Patterns

Figure 3. H320 5GHz Azimuth Antenna Patterns

Figure 4. H320 2.4GHz Elevation Antenna Patterns

Figure 5. H320 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	• IEEE 802.11a/b/g/n/ac Wave 2
Supported Rates	• 802.11ac: 6.5 to 867Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80) • 802.11n: 6.5 Mbps to 300Mbps (MCS0 to MCS15) • 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps
Supported Channels*	• 2.4GHz: 1-13 • 5GHz: 36-64, 100-144, 149-165
MIMO	• 1x1 2.4GHz • 2x2 MU-MIMO 5GHz
Spatial Streams	• 1 Stream 2.4GHz • 2 Streams SU/MU-MIMO 5GHz
Channelization	• 20, 40, 80MHz
Security	• WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK • WIPS/WIDS
Other Wi-Fi Features	• WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v • Captive Portal • Hotspot • Hotspot 2.0 • WISPr

* Channel availability is country dependent according to the local regulations

RF	
Antenna Type	• BeamFlex+ adaptive antennas with polarization diversity • Adaptive antenna that provides multiple-antenna patterns per band
Antenna Gain (max)	• 2.4GHz: 0dBi • 5GHz: 3dBi
Peak Transmit Power (aggregate across MIMO chains)	• 2.4GHz: 16dBm • 5GHz: 20dBm
Minimum Receive Sensitivity[1]	• -99dBm
Frequency Bands	• ISM 2.4-2.484GHz • U-NII-1 5.15-5.25GHz • U-NII-2A 5.25-5.35GHz • U-NII-2C 5.47-5.725GHz • U-NII-3 5.725-5.85GHz

2.4GHZ RECEIVE SENSITIVITY			
HT20		HT40	
MCS0	MCS7	MCS0	MCS7
-93	-75	-90	-72

5GHZ RECEIVE SENSITIVITY					
VHT20		VHT40		VHT80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-93	-76	-90	-73	-87	-71

2.4GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 HT20	16
MCS7 HT20	15

5GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 VHT20	17
MCS7 VHT20	14
MCS0 VHT40, VHT80	17
MCS7 VHT40, VHT80	14
MCS9 VHT40, VHT80	12

PERFORMANCE AND CAPACITY	
Peak PHY Rates	• 2.4GHz: 150Mbps • 5GHz: 867Mbps
Client Capacity	• Up to 100 clients per AP
SSID	• Up to 16 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

NETWORKING	
Controller Platform Support	• SmartZone • ZoneDirector • Cloud Wi-Fi • Unleashed[2] • Standalone
IP	• IPv4, IPv6, dual-stack
VLAN	• 802.1Q (1 per BSSID or dynamic per user based on RADIUS) • Port-based
802.1x	• Authenticator and Supplicant
Policy Management Tools	• Application Visibility and Control • Access Control Lists • Device Fingerprinting

PHYSICAL INTERFACES	
Ethernet	• One 1GbE port backhaul, PoE (802.11af/at) • 2 x 10/100Mbps Ethernet switch ports

[1] Rx sensitivity varies by band, channel width and MCS rate.
[2] Refer to Unleashed datasheets for SKU ordering information.

PHYSICAL CHARACTERISTICS

Physical Size	• 89mm (L), 136mm (W), 29mm (H) • 3.5in (L) x 5.35in (W) x 1.1in (H)
Weight	• 195g without bracket (6.9oz) • 276g with bracket (9.7oz)
Mounting	• Electrical wallbox; Standard US and EU single gang wall jack • Optional bracket for offset and wall mount
Operating Temperature	• 0°C (32°F) - 40°C (104°F)
Operating Humidity	• Up to 95%, non-condensing

POWER[3]

Power Supply	802.3af for full AP feature support
Power Draw	• Idle: 3W • Typical: 4W • Peak: 6W

CERTIFICATIONS AND COMPLIANCE

Wi-Fi Alliance[4]	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Passpoint®, Vantage
Standards Compliance[5]	• 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 • WEEE & RoHS • ISTA 2A Transportation

SOFTWARE AND SERVICES

Location Based Services	• SPoT
Network Analytics	• SmartCell Insight (SCI)
Security and Policy	• Cloudpath

ORDERING INFORMATION

901-H320-XX00	• Dual band Wave 2 802.11ac Wi-Fi Wall Switch. Does not include power adapter or PoE injector

See Ruckus price list for country-specific ordering information.
Warranty: Sold with a limited lifetime warranty.
For details see: http://support.ruckuswireless.com/warranty.

OPTIONAL ACCESSORIES

902-1120-0000	• Optional Surface-mount bracket
902-0162-YY00	• Spare, PoE Adapter, 10/100/1000BaseT, with YY country code, Qty 1

XX: US/KS/JP/Z2/WW
For expansion of XX and YY: Please consult current Ruckus Price List.
Region availability subject to Certification Date per region.

[3] Max power varies by country setting, band, and MCS rate.
[4] For complete list of WFA certifications, please see Wi-Fi Alliance website.
[5] For current certification status, please see price list.

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