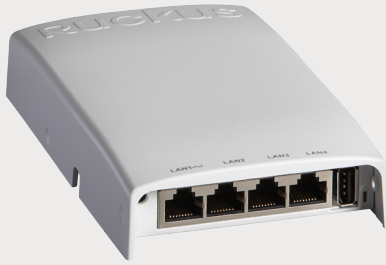


# H510 Access Point

Wall-switch 802.11ac Wave 2 2x2:2 Wi-Fi Access Point  
with 4GbE ports



## DATA SHEET



### BENEFITS

#### WAVE 2 MU-MIMO

Network performance improved by transmitting to multiple clients at the same instant.

#### CONVERGED IP SERVICES

Multiple SSIDs, port-based VLANs and four Gigabit Ethernet access ports make the H510 ideal for supporting concurrent IP-based services such as VoIP, IPTV, high-speed Internet access and in-room device connectivity — both wired and wireless

#### ADDITIVE PERFORMANCE WITH BEAMFLEX+

BeamFlex+ adaptive antennas improve Wi-Fi signal quality by adapting to device location and orientation, which is ideal for better performance on handheld mobile devices

#### MODULAR SUPPORT

The H510 has been designed to accommodate snap-on modules for a variety of applications including connectivity beyond Wi-Fi

#### STANDALONE OR CENTRALLY MANAGED

The H510 can be deployed in standalone mode or centrally managed by the Ruckus ZoneDirector, SmartZone, or Ruckus FlexMaster systems

#### FLEXIBLE DEPLOYMENT OPTIONS

The H510 requires a single cable drop and operates under standard 802.3af PoE, reducing cabling, switch ports and power sourcing equipment

#### SLEEK, INCONSPICUOUS COMPACT FORM FACTOR FOR BEST AESTHETICS

Installs into any standard electrical outlet box creating a low profile, secure design and front port access which eliminates unsightly cabling and disruptive furniture placement

#### INTEGRATED POE SUPPORT ELIMINATES MORE WIRES

POE out to power devices such as IP-based VoIP phones eliminates the need for more power cords and clutter

### HIGH PERFORMANCE 802.11AC WAVE 2 INTEGRATED WIRED/ WIRELESS WALL SWITCH

The H510 is the industry's first Wave 2 802.11ac wired and wireless wall switch using Ruckus' patented BeamFlex+ adaptive antenna technology to deliver high-speed 802.11ac Wi-Fi in an ultra-sleek, low-profile design that can be discretely installed over a standard electrical junction box. Ideal for offering converged services in hotel guest rooms, student residences, and multi-dwelling units, the H510 provides an easy way to offer multiple connections in a single room without multiple cables.

The H510 supports Multi-User MIMO (MU-MIMO) as a Wave 2 solution and can increase network throughput by transmitting to two Wave 2 clients at the same instant in time. This efficient utilization of the Wi-Fi channel boosts performance for Wave 2 clients but also frees up airtime for all clients, which means even non-Wave 2 clients see a performance benefit.

The "mobile device ready" H510 with BeamFlex+ adapts in real time to client device location and physical orientation, delivering consistent Wi-Fi performance. The BeamFlex+ adaptive antenna system of the H510 is optimized to deliver best-in-class Wi-Fi coverage and performance in hotel guest rooms and MDU residences.

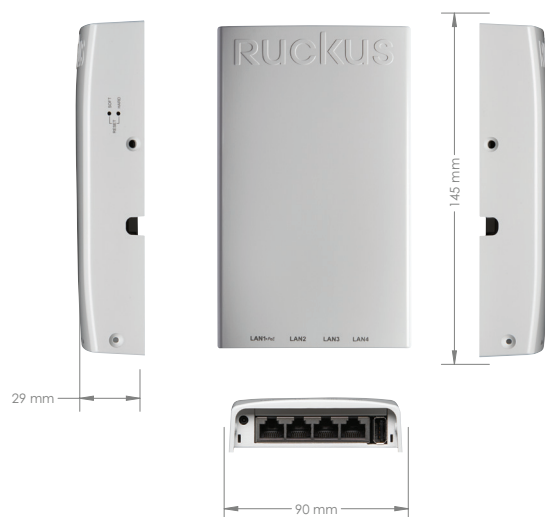
Equipped with four Ethernet ports for in-room access, the H510 can be used to connect a range of wired network devices such as IPTV set top boxes, IP telephones, or networked minibars while simultaneously providing dual band 802.11ac wireless LAN coverage. An IEEE 802.3af-compliant Power-over-Ethernet (PoE) port on the H510 allows devices such as IP telephones to be powered directly from the wall switch. The H510 itself may be powered via standard PoE or a DC power adapter.

The H510 offers maximum flexibility and future-proofed utility. It is designed to securely support future add-on radio modules via the USB port for wireless connectivity beyond best-in-class Wi-Fi. The cable pathways at the rear, support legacy cabling such as RG6 or CAT3/CAT5. Existing services such as video and voice over Ethernet can co-exist within the same junction box, reducing both installation time and construction costs. The H510 can be deployed as a standalone device or centrally managed by SmartZone, ZoneDirector, or FlexMaster management platforms.

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DATA SHEET



## FEATURES

### WIRELESS

- Integrated dual radio 2x2 802.11ac Wave 2 Wi-Fi AP and Ethernet wall switch supporting Multi-User MIMO (MU-MIMO)
- Ruckus patented BeamFlex+ adaptive antennas optimized for in-room performance and mobile clients
- Matched Band Coverage ensures similar Wi-Fi coverage for both 2.4 and 5 GHz client devices
- Multiple BSSIDs per radio with unique QoS and security policies
- WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i
- 802.1X support for RADIUS and Active Directory\*

### INTERFACES

- 1GbE RJ-45 for uplink Ethernet port
- USB port for hosting Internet-of-Things (IoT) devices such as Bluetooth Low Energy (BLE) smart beacons
- Cable channel for preserving legacy infrastructure (e.g. PBX phones)

### POWER

- Powered by either PoE or 48VDC
- Supplies PoE power for in-room devices such as VoIP phones

### ACCESSORIES

- Mounts over a standard US and EU single gang wall jack

### SOFTWARE

- SmartCast QoS
- Application recognition and control\*
- Dynamic PSK\*
- SmartMesh Networking\*

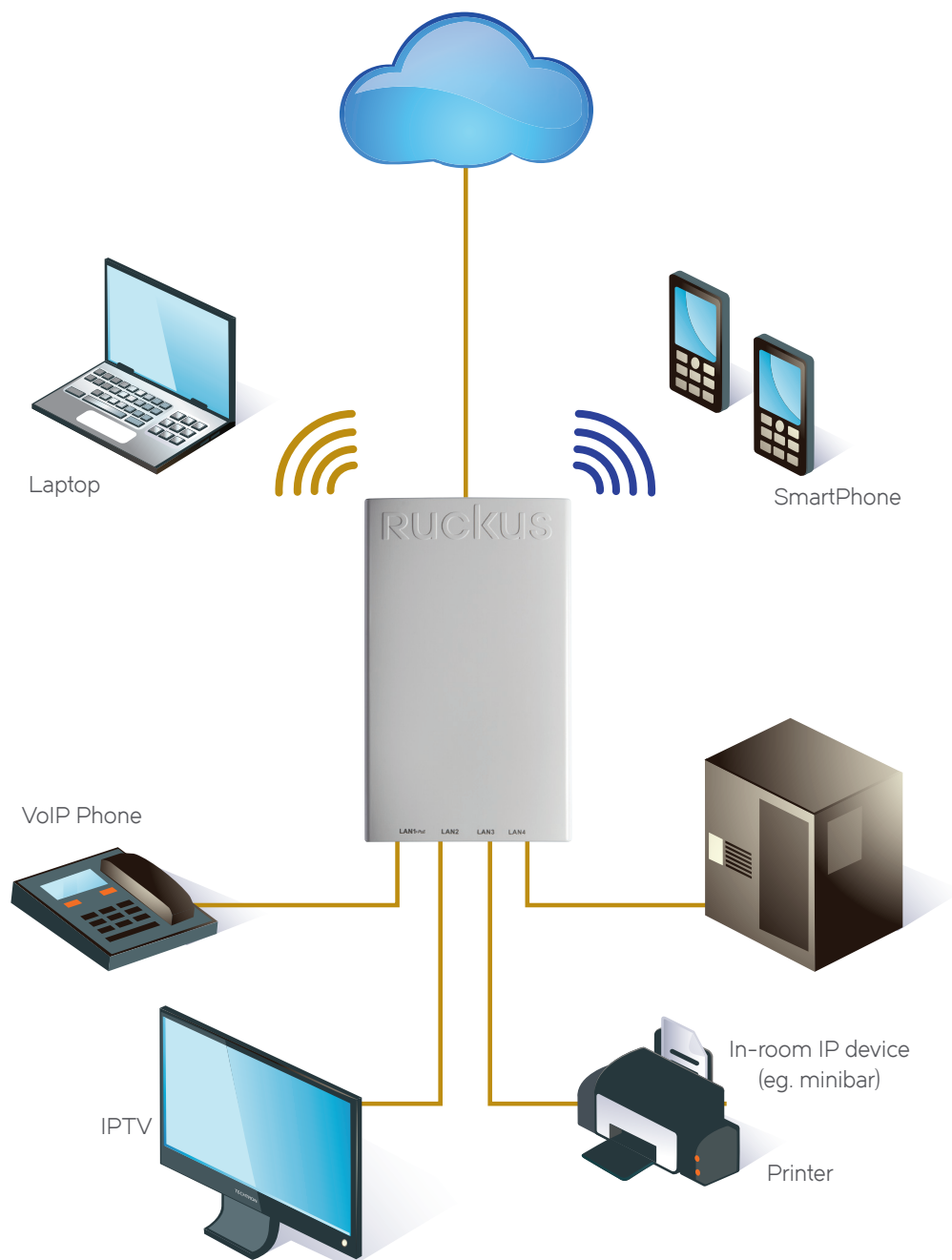
\* with management

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DATA SHEET

## CONVERGED WIRED AND WIRELESS SERVICES



# H510 Access Point

Wall-switch 802.11ac Wave 2 2x2:2 Wi-Fi Access Point with 4GbE ports

## DATA SHEET

### PHYSICAL CHARACTERISTICS

Power	<ul style="list-style-type: none"><li>POE 802.3af/802.3at</li><li>48VDC input</li></ul>
Physical Size	<ul style="list-style-type: none"><li>90 mm x 145 mm x 29 mm</li></ul>
Weight	<ul style="list-style-type: none"><li>230 g</li><li>292 g with bracket</li></ul>
Physical Ports	<ul style="list-style-type: none"><li>4 10/100/1000 Mbps Base-T 802.3, 802.3u, RJ-45 Ethernet access ports.</li><li>110/100/1000 Mbps Base-T 802.3, 802.3u, 802.3ab, 802.3af (802.3at class 4) PoE input, RJ-45</li><li>USB 2.0</li></ul>
Mounting Options	<ul style="list-style-type: none"><li>Electrical wallbox; Standard US and EU single gang wall jack</li><li>Optional bracket for offset &amp; wall mount</li></ul>
Environmental Conditions	<ul style="list-style-type: none"><li>Operating Temperature: 32°F (0°C) - 104°F (40°C)</li><li>Operating Humidity: 15% - 95% non-condensing</li></ul>
Power Draw	<ul style="list-style-type: none"><li>Idle: 6.5 W</li><li>Typical: 7.3 W</li><li>Peak, no PoE out load: 9.2W</li></ul> Max load on PoE out: <ul style="list-style-type: none"><li>4W with 802.3af for PoE</li><li>12.95W with 802.3at PoE in</li></ul>

### RF

Minimum Rx Sensitivity	<ul style="list-style-type: none"><li>Up to -99dBm</li></ul>
Beamflex* Sinr Tx Gain	<ul style="list-style-type: none"><li>2dB</li></ul>
Beamflex* Sinr Rx Gain	<ul style="list-style-type: none"><li>3-5dB (PD-MRC)</li></ul>
Interference Mitigation	<ul style="list-style-type: none"><li>5dB</li></ul>

\* 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

### PERFORMANCE AND CAPACITY

Concurrent users	<ul style="list-style-type: none"><li>100 per AP</li></ul>
Voice Calls	<ul style="list-style-type: none"><li>30 per AP</li></ul>
BSSID	<ul style="list-style-type: none"><li>8 BSSIDs per radio</li></ul>

### MULTIMEDIA AND QUALITY OF SERVICE

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

### NETWORK ARCHITECTURE

IP	<ul style="list-style-type: none"><li>IPv4, IPv6, dual-stack</li></ul>
VLANs	<ul style="list-style-type: none"><li>802.1Q (1 per BSSID or dynamic, per user based on RADIUS)</li><li>Port-based</li></ul>
802.1X For Ethernet Ports	<ul style="list-style-type: none"><li>Authenticator</li><li>Supplicant</li></ul>

### MANAGEMENT

Deployment Options	<ul style="list-style-type: none"><li>Standalone (individually managed)</li><li>Managed by ZoneDirector</li><li>Managed by SmartZone</li><li>Managed by FlexMaster</li></ul>
Configuration	<ul style="list-style-type: none"><li>Web User Interface (HTTP/S)</li><li>CLI (Telnet/SSH), SNMP v1, 2, 3</li></ul>

### WI-FI

Standards	<ul style="list-style-type: none"><li>IEEE 802.11a/b/g/n/ac</li></ul>
MIMO Configuration	<ul style="list-style-type: none"><li>2 x 2 : 2 SU-MIMO</li><li>2 x 2 : 2 MU-MIMO</li></ul>
Supported Data Rates	<ul style="list-style-type: none"><li>802.11n/ac: 6.5Mbps - 173.4Mbps (20MHz)</li><li>13.5Mbps - 400Mbps (40MHz)</li><li>29.3Mbps - 867Mbps (80MHz)</li><li>802.11a: 54, 48, 36, 24, 18, 12, 9 and 6Mbps</li><li>802.11b: 11, 5.5, 2 and 1 Mbps</li><li>802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps</li></ul>
Rf Power Output* (Aggregate)	<ul style="list-style-type: none"><li>2.4 GHz: 18dBm</li><li>5.0 GHz: 22dBm</li></ul>
Channelization	<ul style="list-style-type: none"><li>20MHz, 40MHz, 80MHz</li></ul>
Frequency Band	<ul style="list-style-type: none"><li>IEEE 802.11 b/g/n: 2.4 - 2.484 GHz</li><li>IEEE 802.11a/ac: 5.15 - 5.25 GHz; 5.25 - 5.35 GHz; 5.47 - 5.725 GHz; 5.725 - 5.85 GHz</li></ul>
Operating Channels	<ul style="list-style-type: none"><li>2.4GHz : 1-13</li><li>5GHz : 36-64, 100-140, 149-165</li><li>Channel availability is country dependent according to the local regulations</li></ul>
Wireless Security	<ul style="list-style-type: none"><li>WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i</li><li>Authentication via 802.1X with ZoneDirector, local authentication database, support for RADIUS, LDAP, and Active Directory</li></ul>

\* Maximum power varies by country

\*\*See price list for latest country certifications

## PRODUCT ORDERING INFORMATION

MODEL	DESCRIPTION
H510 Wi-Fi Wall Switch	
901-H510-XX00	Dual band Wave 2 802.11ac Wi-Fi Wall Switch
Optional Accessories	
902-0170-XX0	<ul style="list-style-type: none"><li>Power Supply (Qty. 1)</li></ul>
902-0162-XX00	<ul style="list-style-type: none"><li>PoE injector (Qty. 1)</li></ul>
902-0126-0000	<ul style="list-style-type: none"><li>Optional Surface-mount bracket</li></ul>

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

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

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