H510

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

Ruckus
Simply Better Wireless.

DATA SHEET

BENEFITS

GREAT ALL-IN-ONE

Deliver great in-room Wi-Fi and enable converged IP services with 802.11ac Wave 2 speed and a built-in 4-port Gigabit Ethernet switch.

STUNNING WI-FI PERFORMANCE

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

MULTIPLE MANAGEMENT OPTIONS

Manage the H510 from the cloud, with on-premises physical/virtual appliances, or without a controller.

GET 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.

SERVE 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 EXISTING SWITCHES AND CABLES

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

MORE THAN WI-FI

Enhance your network with Cloudpath security and management software, SPoT real-time Wi-Fi location engine and analytics software, and SCI network analytics.

How many devices can you connect in a single room? It sounds like the start of a riddle. But if you operate a hotel, apartment building, or other multi-dwelling unit (MDU) structure, your answer can have a big impact on your bottom line.

The Ruckus H510 wall-mounted access point and switch makes it easy to support the most demanding in-room connectivity requirements. It starts with Ruckus' patented Wi-Fi optimization intelligence to deliver the industry's highest-performing wireless connectivity. Combine that with four-ports of Gigabit Ethernet to connect multiple in-room wired devices, without extra cabling. Put it all in a sleek, low-profile design that can be discretely installed over a standard electrical outlet.

The H510 is a perfect choice for delivering converged services in hospitality and residential locations such as hotel guest rooms, student residence halls, apartments, and other MDU structures. It can connect wired network devices such as IPTV set-top boxes, IP phones, or networked minibars, while simultaneously providing dual-band 802.11ac Wi-Fi coverage. A PoE port and pass-through features can connect and power devices directly from the wall switch. And, an included cable channel can connect even legacy devices, like digital phones that require native access to PBX systems. All of these in-room services can coexist within the same junction box, dramatically reducing cabling, installation time, and construction costs.

The H510 wall-mounted 802.11ac Wave 2 Wi-Fi AP incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.

- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

With MultiUser-MIMO connectivity, the H510 can simultaneously transmit to multiple Wave 2 clients, improving network RF efficiency and overall performance, even for non-Wave 2 clients. The H510 also features a USB port to support future add-on radio modules, easy-to-deploy mesh networking capabilities, and support for up to 100 clients per room.

Whether you're deploying ten or ten thousand APs, the H510 is also easy to manage

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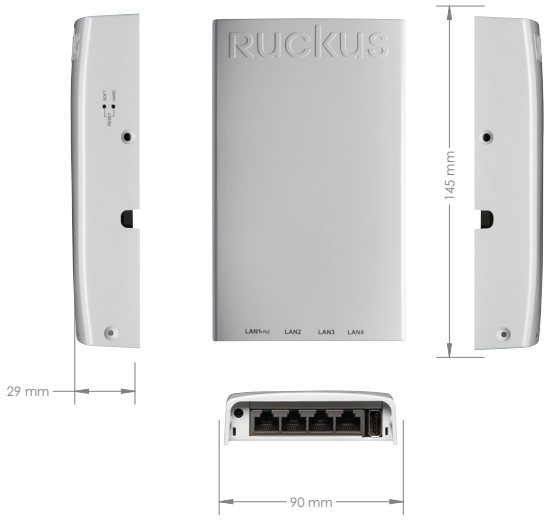


FEATURES

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 antenna technology 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

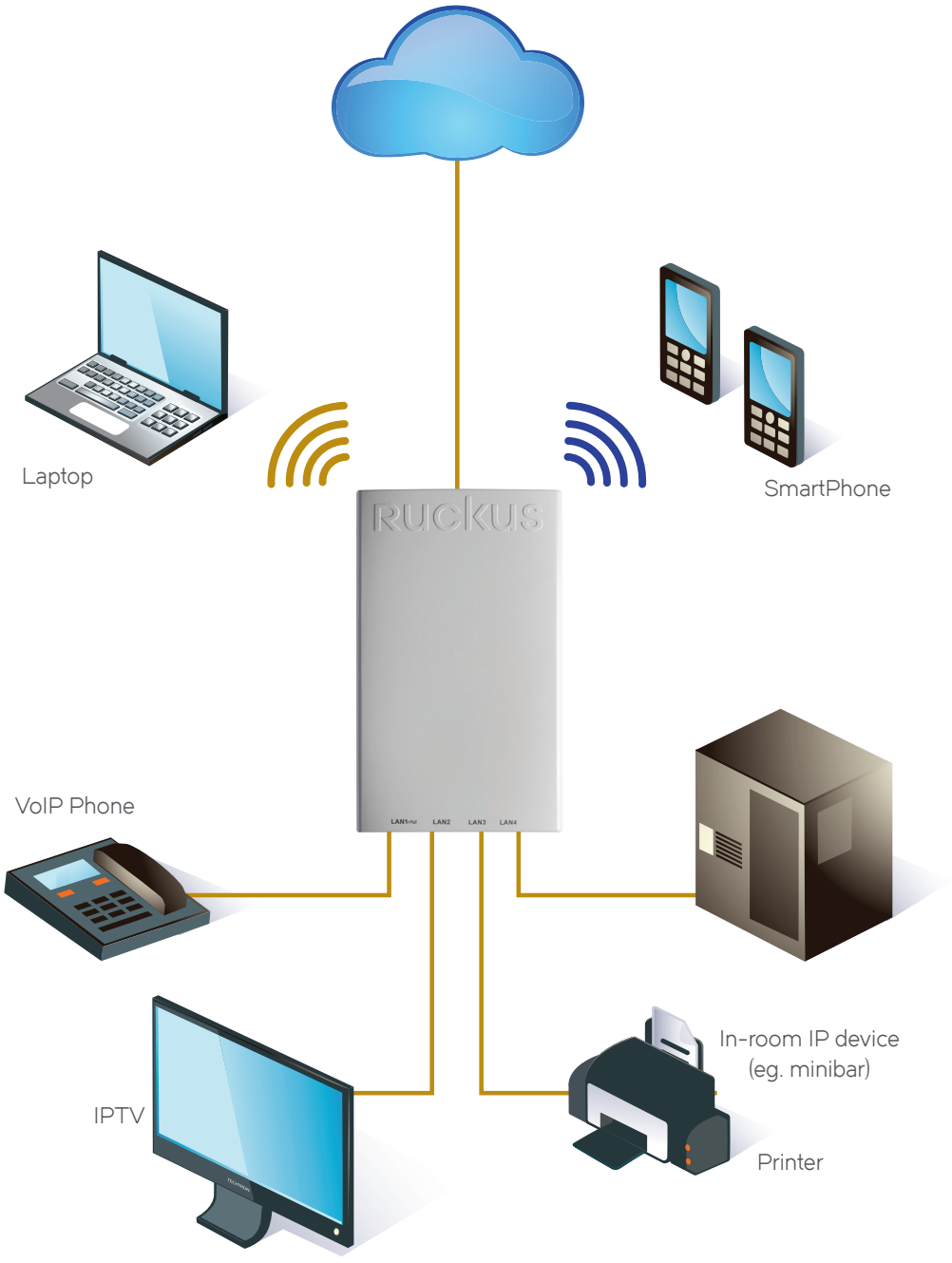
- Mounts over a standard US and EU single gang wall jack

SOFTWARE

- Smart Positioning Technology (Real-time location engine and analytics software)
- Cloudpath (Security and management software)
- SmartCell Insight (Networks analytics engine)
- SmartCast QoS
- Application recognition and control*
- Dynamic PSK*
- SmartMesh wireless networking technology*

* with management

CONVERGED WIRED AND WIRELESS SERVICES



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through Ruckus' appliance, virtual, and cloud management options.

PHYSICAL CHARACTERISTICS	
Power	• POE 802.3af/802.3at • 48VDC input
Physical Size	• 90 mm x 145 mm x 29 mm
Weight	• 230 g • 292 g with bracket
Physical Ports	• 4 10/100/1000 Mbps Base-T 802.3, 802.3u, RJ-45 Ethernet access ports. • 1 10/100/1000 Mpbs Base-T 802.3, 802.3u, 802.3ab, 802.3af (802.3at class 4) PoE input, RJ-45 • USB 2.0
Mounting Options	• Electrical wallbox; Standard US and EU single gang wall jack • Optional bracket for offset & wall mount
Environmental Conditions	• Operating Temperature: 32°F (0°C) - 104°F (40°C) • Operating Humidity: 15% - 95% non-condensing
Power Draw	• Idle: 6.5 W • Typical: 7.3 W • Peak, no PoE out load: 9.2W Max load on PoE out: • 4W with 802.3af for PoE • 12.95W with 802.3at PoE in

RF	
Minimum Rx Sensitivity	• Up to -99dBm
Beamflex* Sinr Tx Gain	• 2dB
Beamflex* Sinr Rx Gain	• 3-5dB (PD-MRC)
Interference Mitigation	• 5dB

* 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	• 100 per AP
Voice Calls	• 30 per AP
BSSID	• 8 BSSIDs per radio

MULTIMEDIA AND QUALITY OF SERVICE	
802.11e/WMM	• Supported
Software Queues	• Per traffic type (4), per client
Traffic Classification	• Automatic, heuristics and TOS based or VLAN-defined
Rate Limiting	• Dynamic, per-user or per-WLAN

NETWORK ARCHITECTURE	
IP	• IPv4, IPv6, dual-stack
VLANs	• 802.1Q (1 per BSSID or dynamic, per user based on RADIUS) • Port-based

NETWORK ARCHITECTURE	
802.1X For Ethernet Ports	• Authenticator • Supplicant

MANAGEMENT	
Deployment Options	• Standalone (individually managed) • Managed by ZoneDirector • Managed by SmartZone • Managed by FlexMaster
Configuration	• Web User Interface (HTTP/S) • CLI (Telnet/SSH), SNMP v1, 2, 3

WI-FI	
Standards	• IEEE 802.11a/b/g/n/ac
MIMO Configuration	• 2 x 2 : 2 SU-MIMO • 2 x 2 : 2 MU-MIMO
Supported Data Rates	• 802.11n/ac: 6.5Mbps – 173.4Mbps (20MHz) • 13.5Mbps – 400Mbps (40MHz) • 29.3Mbps – 867Mbps (80MHz) • 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps • 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
Rf Power Output* (Aggregate)	• 2.4 GHz: 18dBm • 5.0 GHz: 22dBm
Channelization	• 20MHz, 40MHz, 80MHz
Frequency Band	• IEEE 802.11 b/g/n: 2.4 – 2.484 GHz • IEEE 802.11a/ac: 5.15 – 5.25 GHz; 5.25 – 5.35 GHz; 5.47 – 5.725 GHz; 5.725 – 5.85 GHz
Operating Channels	• 2.4GHz : 1-13 • 5GHz : 36-64, 100-140, 149-165 • Channel availability is country dependent according to the local regulations
Wireless Security	• WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i • Authentication via 802.1X with ZoneDirector, local authentication database, support for RADIUS, LDAP, and Active Directory

* 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	• Power Supply (Qty. 1)
902-0162-XX00	• PoE injector (Qty. 1)
902-0126-0000	• Optional Surface-mount bracket

Ruckus™ Simply Better Wireless.

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