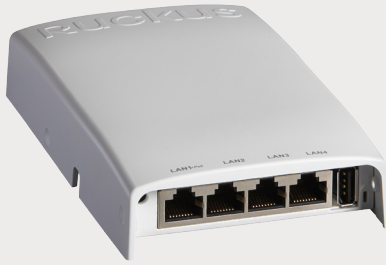


## DATA SHEET



## BENEFITS

### UNLEASH THE PERFORMANCE

In the Unleashed version, the ZoneFlex H510 is capable of supporting controller-less deployments for up to 25 access points and 100 concurrent devices per AP.

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

### FLEXIBLE DEPLOYMENT OPTIONS

The ZoneFlex H510 Unleashed 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

Ruckus H510 Unleashed enables controller-less Wi-Fi architecture for hospitality and small business environments with superior performance, lower costs and simplified management. Separate controllers and access point licenses are no longer needed, significantly reducing upfront costs. Set-up is also easy, thanks to a simplified web interface that helps businesses configure Wi-Fi in just 60 seconds.

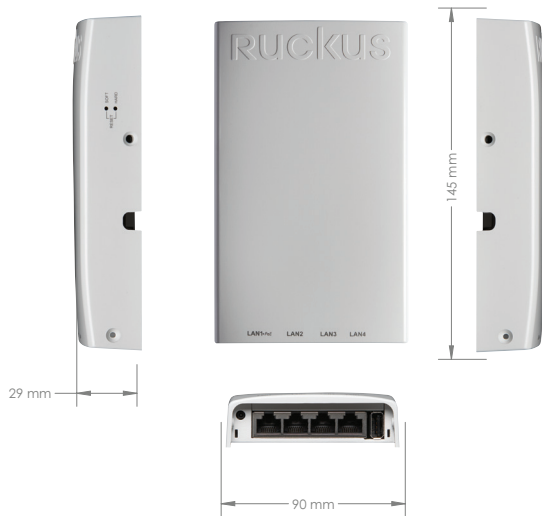
The ZoneFlex™ H510 Unleashed is the industry's first Wave 2 802.11ac wired and wireless wall switch using Ruckus' patented BeamFlex+ adaptive antenna technology to deliver high-speed 802.11ac Wi-Fi in an ultra-sleek, low-profile design that can be discretely installed over a standard electrical junction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

The ZoneFlex H510 Unleashed 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" ZoneFlex H510 Unleashed 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 ZoneFlex H510 Unleashed 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 ZoneFlex H510 Unleashed 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 Unleashed allows devices such as IP telephones to be powered directly from the wall switch. The H510 Unleashed itself may be powered via standard PoE or a DC power adapter.

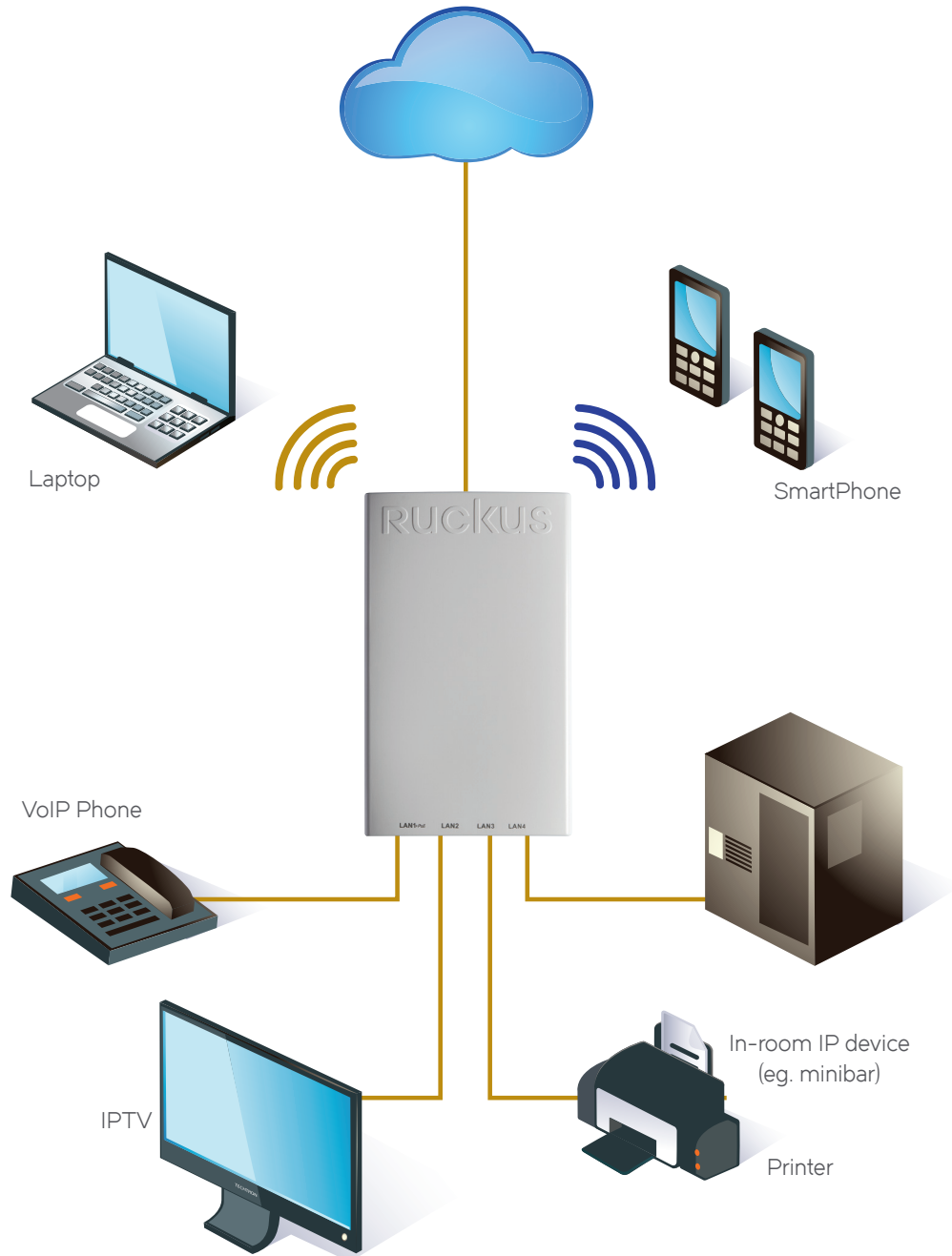
The ZoneFlex H510 Unleashed offers maximum flexibility and future-proofed utility. It is designed to securely support future add-on radio modules for wireless connectivity beyond best-in-class Wi-Fi. The cable pathways at the rear, support legacy cabling such as RG6 or CAT3/CAT5. Existing services such as video and voice over Ethernet can co-exist within the same junction box, reducing both installation time and construction costs.



### FEATURES

- 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
- Modular options for add-on radios
- Powered by either PoE or 48VDC
- Supplies PoE power for in-room devices such as VoIP phones
- SmartCast QoS
- 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
- Dynamic PSK\*
- Gateway mode with NAT and DHCP services
- Application recognition and control
- Mounts over a standard US and EU single gang wall jack
- RJ-45 for uplink Ethernet port
- Cable channel for preserving legacy infrastructure (e.g. PBX phones)
- SmartMesh Networking

## CONVERGED WIRED AND WIRELESS SERVICES



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> <p>Max load on PoE out:</p> <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</li> </ul>
Voice Calls	<ul style="list-style-type: none"> <li>30</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</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>Ruckus Unleashed, controller-less</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>2.4GHz: 18dBm</li> <li>5.0GHz: 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 - 2.484GHz</li> <li>IEEE 802.11a/ac: 5.15 - 5.25GHz; 5.25 - 5.35GHz; 5.47 - 5.725GHz; 5.725 - 5.85GHz</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 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
ZoneFlex H510 Wi-Fi Wall Switch	
9U1-H510-XX00	ZoneFlex 802.11ac dual-band concurrent 2.4 GHz & 5 GHz, Wired/Wireless Wall Switch, BeamFlex+, 110/100/1000 & 4 10/100 Ethernet Access Ports, POE in, PoE out (one port), USB port. Does not include DC power supply.
Optional Accessories	
902-0170-XX00	<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 ZoneFlex 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>