

# ZYXEL



## WAC6303D-S

### 802.11ac Wave 2 Dual-Radio Unified Pro Access Point

Networking administrators managing busy venues such as airports, exhibition centers or shopping malls must understand how visitors longed for WiFi and how challenging it is to meet the demands within limited budgets. The Zyxel WAC6303D-S 802.11ac Wave 2 Dual-Radio Unified Pro Access Point delivers superior wireless experience in high-density areas at an affordable price. Powered by 3x3 MU-MIMO that provides triple performance and Zyxel smart antenna technology with the proven ability to mitigate co-channel interferences, the WAC6303D-S not only resolves the challenge today but also guarantees future-proof scalability for the ever-growing mobility demands.

### Benefits

#### Second Generation MU-MIMO — the true breakthrough in wireless connectivity

Stepping up from 802.11ac, the Wave 2 technology introduces Multi-User MIMO (MU-MIMO). This is an important WiFi development that enables an AP to communicate with multiple clients at a time offering up to 300% performance for a 3x3 AP. The benefits of Wave 2 technology are clear, but there are still two well-known technical challenges: the airtime cost when performing channel measurement, and the data rate being limited by the slowest client in the MU group.

To overcome those challenges, the WAC6303D-S uses next generation transmit beamforming technology incorporating Low End Sensitivity Improvements and Time Domain Channel Smoothing allowing data rates to increase for not only MU-MIMO clients, but for all existing ones as well. Additionally, the WAC6303D-S is built with Smart antenna, premium power amplifiers and low-noise elements delivering superior wireless performance over other Wave 2 access points on the market.

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Excellent wireless coverage and performance with the latest 3x3 Wave 2 802.11ac technology



Smart antenna technology and next generation beamforming deliver maximum coverage



Innovative MU-MIMO technology increases downstream throughput by simultaneously talking to multiple devices at the same time



Simple installation with APFlex™ or Zyxel Utility makes installation and setup a breeze whether for just single or multiple units at once



Solid state capacitors and advanced heat dissipation ensure high reliability and long life—even in the toughest environments



Advanced Cellular Coexistence minimizes interference from 3G/4G cellular networks



Zykel**one**network  
Redefining network integration

## Unbeatable coverage

Maximizing wireless coverage is more than just a game of output power. Every hardware design details including the layout, the antenna and the ability to distinguish between numerous sources of noise all contribute in determining coverage and throughput. The Zyxel WAC6303D-S features Smart antenna technology with the proven ability to mitigate co-channel interference, and adaptively adjust antenna patterns to fit high-density applications. Unlike most products on the market that measure only conducted sensitivity without considering the effect of antennas, Zyxel examines sensitivity with antenna (a.k.a. OTA sensitivity) as a whole wireless system to minimize the degradation in sensitivity at receiver end. In short, Zyxel has optimized the design of the WAC6303D-S to boost sensitivity and maximize real world performance.

## ThermoSense Adjustment Technology

Zyxel's ThermoSense Adjustment Technology is an innovative feature that extends the operating temperature range to as high as to 60°C. It does this by monitoring the temperature threshold intelligently and making adjustments to operating parameters. This ensures continued performance in extreme environments such as warehouses and factory floors.

## 3G/4G Cellular Network Coexistence

With gradually pervasive 3G infrastructure deployment at customer sites, users start to experience wireless performance degrade e.g. ping drops and high latency, however whenever users shutdown the 3G equipment, wireless service resumes working smooth. To enable 3G/4G cellular network coexistence and minimize interference from 3G/4G antennas or signal boosters, the WAC6303D-S has built-in 3G/4G interference filters. As a result, installation of the AP no longer needs to worry about the visible or invisible 3G/4G indoor antennas around.

## BLE Beacons gain insight into your consumers

The Zyxel WAC6303D-S is an efficient WLAN solution for high-density deployments and it gives customers a future-proof BLE beacon-enabled network. It cooperates with third-party beacon management platforms to boost user engagement, especially for retailers who want to improve the in-store experience. With the most accurate indoor location technology, retailers can navigate customers to in-store events or push in-time coupon to passersby carrying beacon-compatible devices.

## Zyxel One Network experience

Aimed at minimizing the repetitive task of deploying and managing networks, Zyxel One Network (ZON) simplifies configuration, management and troubleshooting of multiple AP and switch deployments. This enables users to focus on their other key business priorities. The Zyxel One Network incorporates Zyxel One Network Utility (ZON Utility), an easy-to-use tool designed for instant network setup and Zyxel Smart Connect, which allows Zyxel networking equipment to find and recognize each other automatically. Zyxel One Network further facilitates remote network maintenance with one-click functions, and works across multiple networking products from Switch to Wireless to Gateway.

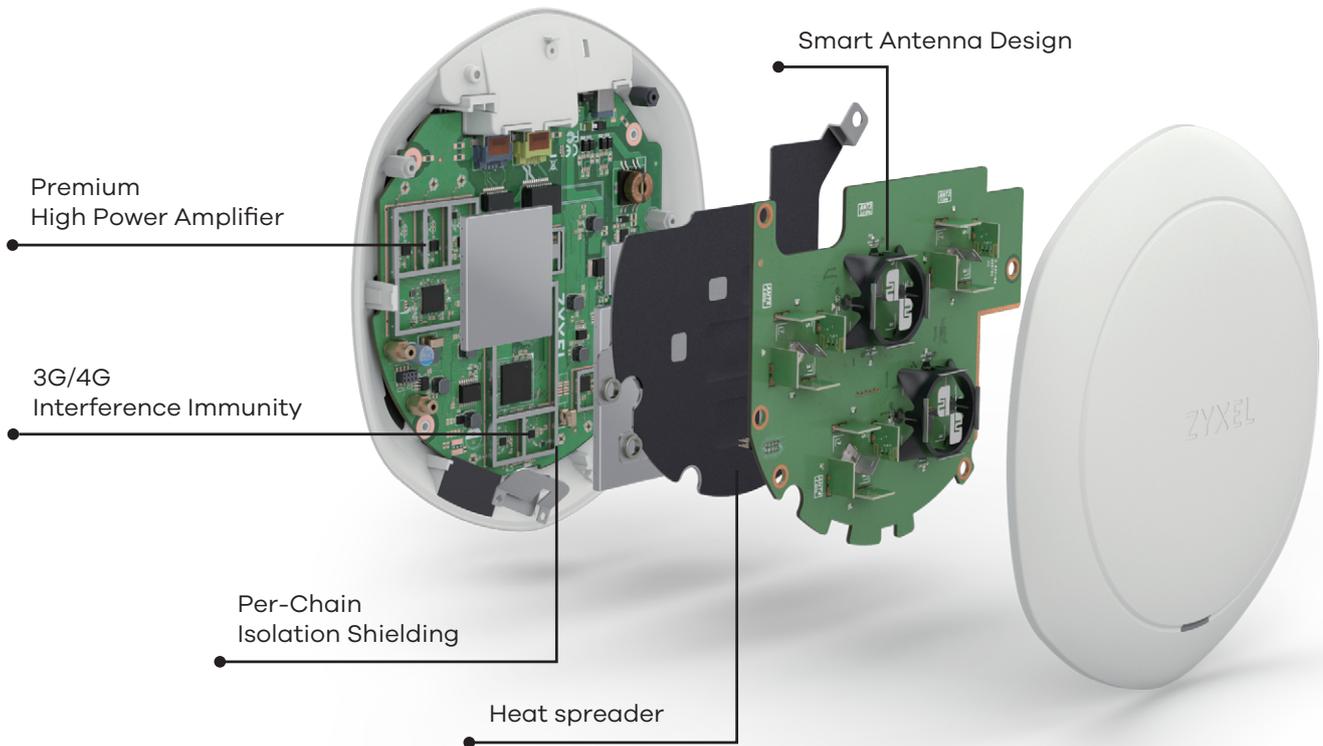
## Optimized wireless experience with advanced features

The WAC6303D-S ensures an optimized wireless experience for users with a range of wireless features such as Dynamic Channel Selection (DCS), Load Balancing and Smart Client Steering. DCS minimizes the interference of co-channel and overlapping channels. Load Balancing enables administrators to set limits on the number of clients associated with each AP. Furthermore, Smart Client Steering features with Band Select, Signal Threshold and Band Balancing combine to deliver stable, reliable wireless connections. Band Select and Signal Threshold monitor the capabilities of each wireless client and steer them to the less-congested band and AP with better signals. Band Balancing detects dual-radio clients and distributes clients across 2.4 GHz and 5 GHz bands on AP. All of these deliver a smooth, consistent and uninterrupted wireless experience to its users.

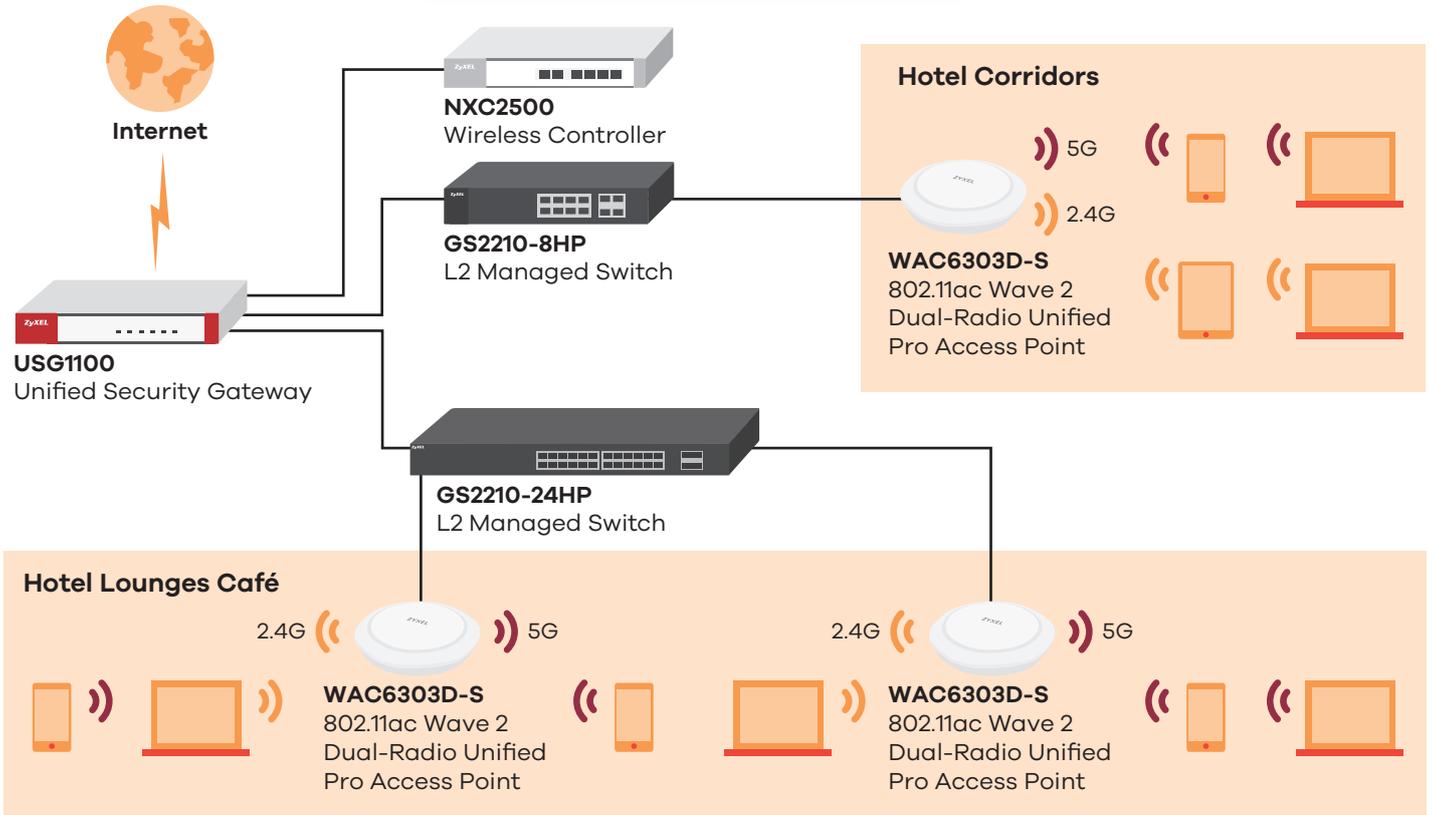
## Grow your business with a scalable wireless network

The WAC6303D-S can be configured as a fully functional standalone AP. However, it is also capable of working with a Wireless LAN Controller to form a robust controller-based WLAN solution with centralized management as WiFi demand grows. Thanks to the innovative APFlex™ technology, no manually configuration is required to choose between standalone or controller mode; the WAC6303D-S will automatically put itself into managed mode if a compatible wireless controller is found on the network. Using industry standard CAPWAP technology ensures secure and reliable communication between the controller and AP, even if the controller is located off-site.

## Powerful Hardware Design



## Application Diagram



\* WAC6303D-S will support repeater mode and ZyMesh in further features enhancement.

## Specifications

<b>Model</b>		<b>WAC6303D-S</b>	
<b>Product name</b>		802.11ac Wave 2 Dual-Radio Unified Pro Access Point	
			
<b>Wireless</b>			
<b>Standard</b>		IEEE802.11 ac/n/g/b/a	
<b>MIMO</b>		SU-MIMO and MU-MIMO	
<b>Wireless speed</b>	<b>2.4 GHz</b>	300 Mbps	
	<b>5 GHz</b>	1300 Mbps	
<b>Frequency band</b>		2.4 GHz (IEEE 802.11 b/g/n) <ul style="list-style-type: none"> <li>• USA (FCC): 2.412 to 2.462 GHz</li> <li>• Europe (ETSI): 2.412 to 2.472 GHz</li> <li>• Taiwan (TW): 2.412 to 2.462 GHz</li> </ul>	5 GHz (IEEE 802.11 a/n/ac) <ul style="list-style-type: none"> <li>• USA (FCC): 5.150 to 5.250 GHz; 5.250 to 5.350 GHz; 5.470 to 5.725 GHz; 5.725 to 5.850 GHz</li> <li>• European (ETSI): 5.150 to 5.350 GHz; 5.470 to 5.725 GHz</li> <li>• Taiwan (TW): 5.150 to 5.250 GHz; 5.250 to 5.350 GHz; 5.470 to 5.725 GHz; 5.725 to 5.850 GHz</li> </ul>
<b>Bandwidth</b>		20-, 40- and 80-MHz	
<b>Transmission power<sup>1</sup></b>	<b>US (2.4 GHz/5 GHz)</b>	25/28 dBm	
	<b>EU (2.4 GHz/ 5GHz)</b>	20/26 dBm	
<b>RF Design</b>			
<b>Antenna type</b>	<b>2.4 GHz</b>	2x2 MIMO smart antenna	
	<b>5 GHz</b>	3x3 MIMO smart antenna	
<b>Antenna gain</b>	<b>2.4 GHz</b>	3 dBi	
	<b>5 GHz</b>	4 dBi	
<b>Minimum Receive sensitivity<sup>2</sup></b>		Min. Rx sensitivity up to -103 dBm	
<b>WLAN Feature</b>			
<b>Band Steering</b>		Yes	
<b>WDS</b>		Future support	
<b>Mesh AP (By license)</b>		Future support	
<b>Mesh AP for multiple SSID with VLAN</b>		Future support	
<b>Fast roaming<sup>3</sup></b>		Pre-authentication and PMK caching, 802.11r	
<b>Security</b>			
<b>Encryption</b>		WEP/ WPA/WPA2-PSK	
<b>Authentication</b>		WPA/WPA2-Enterprise/ EAP (-TLS, -TTLS, -PEAP, -FAST, -AKA and -SIM)/ IEEE 802.1X/ RADIUS authentication	
<b>Access management</b>		L2-isolation/ MAC filtering/ Rogue AP detection	
<b>Networking</b>			
<b>IPv6 host</b>		Yes	
<b>VLANs</b>		Yes	
<b>WMM</b>		Yes	
<b>U-APSD</b>		Yes	
<b>DiffServ marking</b>		Yes	

<b>Model</b>		<b>WAC6303D-S</b>
<b>Management</b>		
<b>Operating mode</b>	Controller-managed / Standalone	
<b>ZON Utility</b>	<ul style="list-style-type: none"> <li>• Discovery of Zyxel switches, APs and gateways</li> <li>• Centralized and batch configurations <ul style="list-style-type: none"> <li>▪ IP configuration</li> <li>▪ IP renew</li> <li>▪ Device reboot</li> <li>▪ Device locating</li> <li>▪ Web GUI access</li> </ul> </li> <li>▪ Firmware upgrade</li> <li>▪ Password configuration</li> <li>▪ One-click quick association with Zyxel AP Configurator (ZAC)</li> </ul>	
<b>ZAC</b>	<ul style="list-style-type: none"> <li>• Batch AP configuration</li> <li>• Batch AP firmware upgrade</li> <li>• Batch AP profile backup</li> </ul>	
<b>Zyxel Wireless Optimizer</b>	<ul style="list-style-type: none"> <li>• WiFi AP planning</li> <li>• WiFi coverage detection<sup>*3</sup></li> <li>• Wireless health management</li> </ul>	
<b>Web UI/ CLI</b>	Yes	
<b>SNMP</b>	Yes	
<b>Physical Specifications</b>		
<b>Item</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	211 x 223 x 39/8.31 x 8.78 x 1.54
	<b>Weight (g/lb.)</b>	800/1.76
<b>Packing</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	251 x 247 x 55/9.88 x 9.72 x 2.17
	<b>Weight (g/lb.)</b>	1040/2.29
<b>Included accessories</b>	<ul style="list-style-type: none"> <li>• Wall/ceiling mount plate</li> <li>• Mounting screws</li> </ul>	
<b>MTBF (hr)</b>	3,960,217	
<b>Physical Interfaces</b>		
<b>Ethernet port</b>	2x 10/100/1000 Mbps (switch port)	
<b>Power</b>	<ul style="list-style-type: none"> <li>• 12 V 2 A DC input</li> <li>• 802.3at (Full mode; power draw 16.2 W)</li> <li>• 802.3af (Restrict 2.4G &amp; 5G radio to one transmit stream only.)</li> </ul>	
<b>Environmental Specifications</b>		
<b>Operating</b>	<b>Temperature</b>	-20°C to 60°C/-4°F to 140°F
	<b>Humidity</b>	10% to 90% (non-condensing)
<b>Storage</b>	<b>Temperature</b>	-40°C to 70°C/-40°F to 158°F
	<b>Humidity</b>	10% to 90%
<b>Certifications</b>		
<b>Radio</b>	FCC part 15C, FCC part 15E, ETSI EN 300 328, EN 301 893, LP0002	
<b>EMC</b>	FCC Part 15B, EN 301 489-1, EN 301 489-17, EN55032, EN55024, EN61000-3-2/-3, BSMI CNS13438	
<b>Safety</b>	EN 60950-1, IEC 60950-1, BSMI CNS14336-1	

\*1: Max power varies by country setting, band, and MCS rate

\*2: Rx sensitivity varies by band, channel width, and MCS rate

\*3: Supports when working with Zyxel NXC controller

# ZYXEL

Your Networking Ally

For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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