



WAC6303D-S

802.11ac Wave 2 Dual-Radio Unified Pro Access Point

Cloud management is a simpler, faster and much more efficient way to handle larger networks. However Zyxel knows that it's not always easy for administrators of busy venues to go for cloud immediately. In response to this challenge, the Zyxel WAC6303D-S 11ac Wave 2 Dual-Radio Unified Pro Access Point featuring NebulaFlex™ Pro offers the full flexibility for users to switch among standalone, controller-managed and cloud-managed modes. In addition, it comes with a 1-year bundled Nebula Professional pack license* that eliminates immediate licensing cost when migrating to full-featured cloud management.

The WAC6303D-S is a dual-band, dual-concurrent 3x3 MU-MIMO 11ac Wave 2 access point. Its specification is modest in the market yet it provides unparalleled performance in high-density deployments. Its core advantage comes from Zyxel's smart antenna – the best proven technology to mitigate co-channel interferences. The antenna scans for clients and any interference, and then changes antenna patterns on the packet basis to achieve the best performance.



NebulaFlex™ Pro allows users to switch among standalone, on-premises controller managed or intuitive Nebula cloud managed modes as needed



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



Unparalleled high-density performance boosted by Smart antenna, next generation beamforming and MU-MIMO technologies



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

Benefits

NebulaFlex™ Pro – simply manage it your way!

The NebulaFlex™ Pro provides extended flexibility, especially for those who hesitate to step up for cloud networking. You can easily switch network management modes among standalone, on-premises controller and our intuitive NCC cloud platform. You can even change your mind any time without additional cost while protecting previous investments on wireless technology. You can have the privilege to use advanced features with professional pack for one year upon registration on Nebula; these features include site-wide topology, 365-day statistics on the device and client monitoring along with more upcoming new features on NCC and its App.

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.

Unparalleled high-density performance

More and more large public venues adopt high-density deployments to relieve the peak traffics when visitors flock in. The uncomfortable truth is that performance won't simply increase with the number of access points due to the co-channel interference.

802.11 is a "listen-before-talk" (Clear-Channel-Assessment) protocol since it was established. In order to avoid collisions, any AP or station won't be able to transmit if others are communicating with stronger signals (higher than the CCA threshold). That means traditional APs working on the same channel in close distance won't be able to reuse the channel, but only to share the same channel capacity instead.

Only Zyxel's Smart antenna technology is proved to reuse the channel within ranges much closer than any other APs by shaping RF energy to the designated client on packet basis. That makes WAC6303D-S the perfect choice to provide latency-sensitive voice and data applications in high-density deployments such as airports, exhibition centers and shopping malls.

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 mobile infrastructure deployment at customer sites, users start to experience wireless performance degrade e.g. ping drops and high latency, however whenever users shutdown the mobile 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

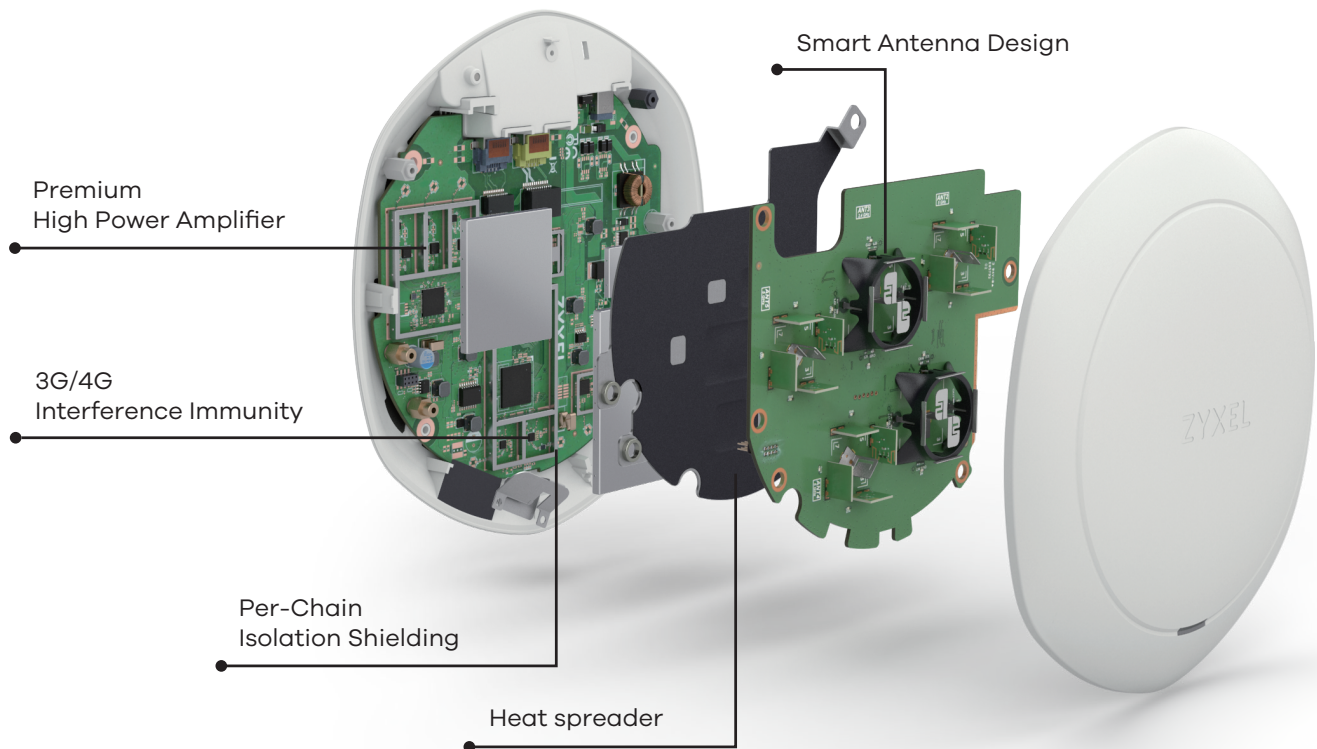
The Zyxel WAC6303D-S is an efficient WLAN solution for high-density deployments and it gives customers a futureproof BLE beacon-enabled network. It cooperates with third-party beacon management platforms to boost user engagement, especially for retailers who want to improve the in-store experience. With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

Optimized wireless experience with advanced features

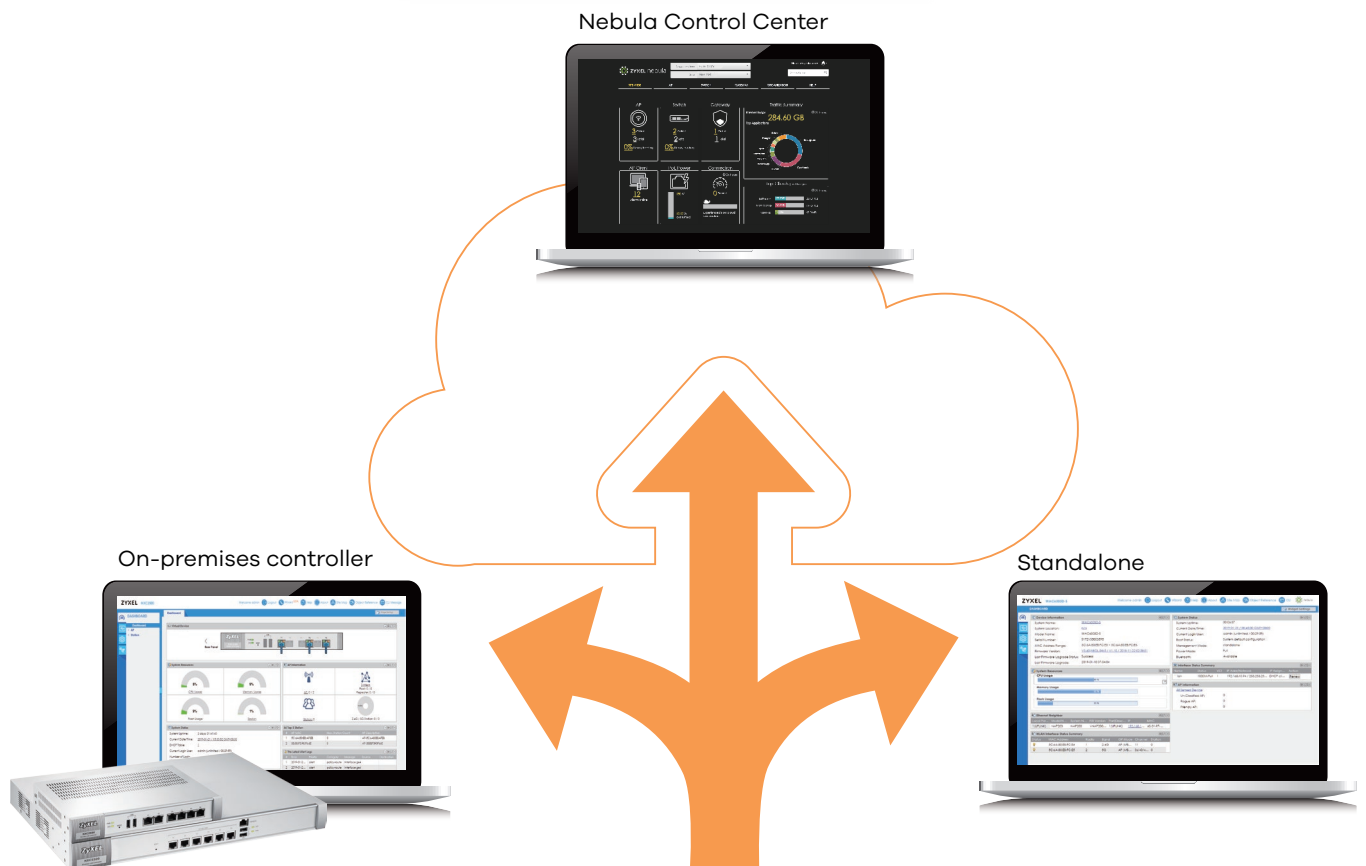
The WAC6303D-S ensures an optimized wireless experience for users with a range of wireless features such as Dynamic Channel Selection (DCS), Load Balancing and Smart Client Steering. DCS minimizes the interference of co-channel and overlapping channels. Load Balancing enables administrators to set limits 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.

* The licensing terms may vary depending on part numbers or regions
Please contact your local sales representative.


Powerful Hardware Design



Switch Among Triple Modes



Specifications

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

Model	WAC6303D-S
Management	
Operating mode	Nebula cloud managed/controller-managed/standalone
ZON Utility	<ul style="list-style-type: none"> • Discovery of Zyxel switches, APs and gateways • Centralized and batch configurations <ul style="list-style-type: none"> ▪ IP configuration ▪ IP renew ▪ Device reboot ▪ Device locating ▪ Web GUI access ▪ Firmware upgrade ▪ Password configuration ▪ One-click quick association with Zyxel AP Configurator (ZAC)
ZAC	<ul style="list-style-type: none"> • Batch AP configuration • Batch AP firmware upgrade • Batch AP profile backup
Zyxel Wireless Optimizer	<ul style="list-style-type: none"> • WiFi AP planning • WiFi coverage detection*4 • Wireless health management
Web UI/CLI	Yes
SNMP	Yes

Physical Specifications

Item	Dimensions (WxDxH)(mm/in.)	211 x 223 x 39/8.31 x 8.78 x 1.54
	Weight (g/lb.)	800/1.76
Packing	Dimensions (WxDxH)(mm/in.)	251 x 247 x 55/9.88 x 9.72 x 2.17
	Weight (g/lb.)	1040/2.29
Included accessories	<ul style="list-style-type: none"> • Wall/ceiling mount plate • Mounting screws 	
MTBF (hr)	3,960,217	

Physical Interfaces

Ethernet port	2 x 10/100/1000 Mbps (switch port)
Power	<ul style="list-style-type: none"> • 12 V 2 A DC input • 802.3at (Full mode; power draw 16.2 W) • 802.3af (Restrict 2.4G & 5G radio to one transmit stream only.)

Environmental Specifications

Operating	Temperature	-20°C to 60°C/-4°F to 140°F
	Humidity	10% to 90% (non-condensing)
Storage	Temperature	-40°C to 70°C/-40°F to 158°F
	Humidity	10% to 90%

Certifications

Radio	FCC part 15C, FCC part 15E, ETSI EN 300 328, EN 301 893, LP0002
EMC	FCC Part 15B, EN 301 489-1, EN 301 489-17, EN55032, EN55024, EN61000-3-2/-3, BSMI CNS13438
Safety	EN 60950-1, IEC 60950-1, BSMI CNS14336-1

*1: Conducted typical transmit output power excludes antenna gain. For total (EIRP) transmit power, add antenna gain.

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

*3: WDS, ZyMesh, Smart Mesh and Industry's Open Mesh, Easy Mesh are different mesh systems that do not work with one another.

*4: Supports when working with Zyxel NXC controller.

Optional Accessory

Part Number	Description
ACCESSORY-ZZ0104F	Universal power adapter (12 V/2.5 A)
ACCESSORY-ZZ0105F	Accessory, T-bar ceiling clips for ceiling mount AP to WAC6303D-S, 5 sets, ROHS
POE12-HP-EU0102F	802.3at PoE injector, ROHS
POE12-HP-US0102F	802.3at PoE injector, ROHS



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Datasheet [WAC6303D-S](#)

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