



WAC500

802.11ac Wave 2 Dual-Radio Unified Access Point

The Zyxel WAC500 802.11ac Wave 2 Dual-Radio Unified Access Point is a highly future-proof WLAN solution perfect for growing business, hospitality and education environments. With a 3-in-1 standalone/controller/cloud-managed design, users can initially use it as a standalone AP, and convert it to a controller-managed or Nebula cloud-managed AP when WiFi demand grows. The WAC500 is designed with industry-leading technology to provide trouble-free wireless quality to lower IT overhead. The embedded antennas and signal output are fine-tuned to provide easy RF planning and maximum signal coverage. It also supports such features as dynamic channel selection, load balancing and pre-authentication for superb WiFi experience.

Benefits

Ceiling-mount design blends into environments

Different from traditional business routers, low-profile ceiling-mount design of Zyxel WAC500 provides better coverage and performance. The WAC500 is a PoE AP with a multifunction design that solves all problems by offering an advanced antenna design to enhance wireless performance and to eliminate coverage dead spots. Moreover, the signal outputs have been fine-tuned to provide easy RF planning and excellent signal coverage especially for hospitality and education environments.

The Zyxel WAC500 is constructed from non-toxic casing materials, making it safe to install in plenum areas, as it won't release hazardous vapor emissions in the event of a fire. This is life-critical issue, particularly when deploying in public venues such as offices, hotels, and schools.



Optimized RF performance for ceiling mounting deployment



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



The latest WPA3 security protocol provides safer connectivity



Enterprise class 2x2 802.11ac Wave 2 AP supports combined data rates of up to 1200 Mbps



Advanced Cellular Coexistence minimizes interferences from 4G/5G cellular networks



Next generation beamforming technology delivers maximum coverage

NebulaFlex Pro—simply manage it your way!

The NebulaFlex Pro provides extended flexibility, allowing users to easily switch among standalone, on-promises controller or our intuitive NCC (Nebula Control Center) modes any time according to your needs without additional cost while protecting wireless technology investments. The privilege of one-year professional pack you can get once upon registration on Nebula includes wireless health, site-wide topology, 365-day statistics on the devices and clients monitoring along with more upcoming advanced features on NCC and its App.

Zyxel one network experience

Aiming for relieving our customers from repetitive operations of deploying and managing a network, Zyxel one network is designed to simplify the configuration, management, and troubleshooting, allowing our customers to focus on the business priorities. Zyxel one network presents an easy-to-use tool, Zyxel one network utility (ZON utility), to realize speed network setup. Zyxel Smart Connect allows Zyxel networking equipment to be aware and recognize each other and further facilitating the network maintenance via one-click remote functions such as factory reset or power cycling. Zyxel one network redefines the network integration across multiple networking products from switch to WiFi AP and to Gateway.

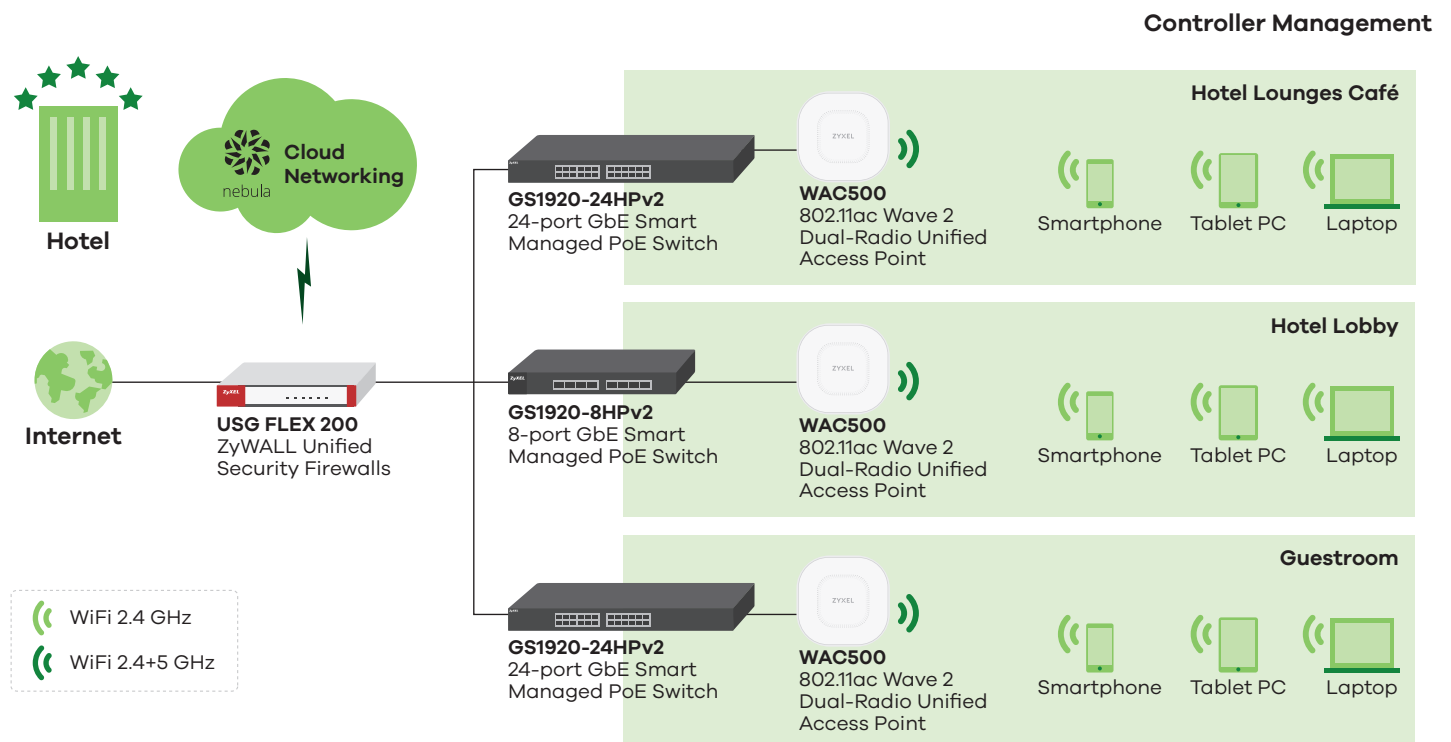
Ultra-fast Gigabit WiFi experience

Featuring the latest 802.11ac Wave 2 standard, the WAC500 not only provides data rates of up to 1200 Mbps, but also optimizes signal with its advanced antenna design to bring the best user experience through a higher number of parallel video data streams for minimized latency on the network. Additionally, the concurrent dual-band support enables WAC500 to satisfy clients using both 2.4 GHz and 5 GHz at the same time and is perfect for high-density applications such as hospitality, education and business.


Streamlined deployments for optimized WLAN experience

To deliver optimized wireless experience for users, the WAC500 features Dynamic Channel Selection (DCS), Load Balancing, Smart Client Steering and beamforming technology etc. Dynamic Channel Selection (DCS) avoids interference from co-channel and channel overlapping at initialization, while Load Balancing enables administrators to set limits on the number of clients associated with each AP. Furthermore, Smart Client steering features Band Select, Signal Threshold and Band Balancing for 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 the AP with better signal. Band Balancing detects dual-radio clients and distributes clients across 2.4 GHz and 5 GHz bands on AP. And, the second 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. These advanced functions ensure the WAC500 to provide a smooth, consistent and uninterrupted wireless access experience.

Applications Diagram



Specifications

Model	WAC500	
Product name	802.11ac Wave 2 Dual-Radio Unified Access Point	
		
Wireless		
Standard	IEEE802.11 ac/n/g/b/a	
MIMO	MU-MIMO	
Wireless speed	2.4 GHz	300Mbps
	5 GHz	866Mbps
Frequency band	2.4 GHz	<ul style="list-style-type: none"> • USA (FCC): 2.412 to 2.462 GHz • Europe (ETSI): 2.412 to 2.472 GHz
	5 GHz	<ul style="list-style-type: none"> • USA (FCC): 5.15 to 5.25 GHz; 5.725 to 5.850 GHz • European (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz
Bandwidth	20-, 40- and 80-MHz	
Conducted typical transmit output power*1 (limited by local regulatory requirements)	US (2.4GHz/5GHz)	23/26dBm
	EU (2.4GHz/5GHz)	19/26dBm
RF Design		
Antenna type	2x2 MIMO Embedded Antenna	
Antenna gain	2.4GHz	3 dBi
	5GHz	4 dBi
Minimum receive sensitivity	up to -99 dBm	
WLAN feature		
Band Steering	Yes	
WDS/ Mesh*2	Yes	
Fast roaming	Pre-authentication, PMK caching and 802.11r/k/v	
DCS	Yes	
Load balancing	Yes	
Security		
Encryption	WEP/ WPA/WPA2-PSK/WPA3	
Authentication	WPA/WPA2-Enterprise/ EAP/ IEEE 802.1X/ RADIUS authentication	
Access management	L2-isolation/ MAC filtering	
Networking		
IPv6	Yes	
VLANs	Yes	
WMM	Yes	
U-APSD	Yes	
DiffServ marking	Yes	

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

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

Model		WAC500
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 	
Zyxel Wireless Optimizer	<ul style="list-style-type: none"> • WiFi AP planning • WiFi coverage detection • Wireless health management 	
Web UI/ CLI	Yes	
SNMP	Yes	
Physical Specifications		
Item	Dimensions (WxDxH) (mm/in.)	140 x 140 x 37.5 / 5.51 x 5.51 x 1.48
	Weight (kg/lb.)	249/0.55
Packing	Dimensions (WxDxH) (mm/in.)	185 x 155 x 59 / 7.28 x 6.10 x 2.32
	Weight (kg/lb.)	419 / 0.92
Included accessories	<ul style="list-style-type: none"> • Ceiling-mount plate 	
MTBF(hr)	630,794	
Physical Interfaces		
Ethernet port	1 x 10/100/1000M LAN	
Power	<ul style="list-style-type: none"> • Input: AC 100 - 240V - 50/60 Hz 0.3A Output: DC +12V 1A • PoE (802.3af): power draw 11 W 	
Environmental Specifications		
Operating	Temperature	0°C to 50°C/32°F to 122°F
	Humidity	10% to 90% (non-condensing)
Storage	Temperature	-40°C to 70°C/-40°F to 158°F
	Humidity	10% to 90% (non-condensing)
Certifications		
Radio	FCC Part 15C, FCC Part 15E; ETSI EN 300 328, EN 301 893; LP0002, EN 60601-1-2	
EMC	FCC Part 15B, EN 301 489-1; EN 301 489-17, EN55022, EN55024, EN61000-3-2/-3, BSMI CNS13438	
Safety	EN 60950-1, IEC 60950-1; BSMI CNS14336-1	

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