WAX620D-6E

AXE5400 WiFi 6E Dual-Radio Access Point

Featuring 6 spatial streams (4x4 in 6 GHz/5 GHz selectable, 2x2 in 2.4 GHz) with the maximum data rate of 5.4 Gbps, the Zyxel WAX620D-6E is the dual-radio access point with a BandFlex radio that can support either 5 GHz or 6 GHz by configuration, making it the most economical choice to fit into your existing 5 GHz coverage as well as futureproofing the use of 6 GHz.

WAX620D-6E includes all the benefits of WiFi 6 capabilities like OFDMA, MU-MIMO, BSS Coloring, and brings them into the brand-new, interference-free 6 GHz that more than doubles the WiFi capacity to deliver multi-gigabit speed, and low-latency connections.

The brand-new, interference-free 6GHz band presents a solution to quenching the thirst for today's network hungry for more bandwidth, making it a perfect choice for high-density WiFi and emerging technology connectivity. To reach the full potential of the new band, Zyxel 6E Boost, using the high-gain 4x4 streams in 6 GHz, increases the maximum gains in transmit beamforming and receive MIMO to extend its range and ensure the highest performance is delivered.

The WAX620D-6E is ideal in high density environments such as transport hubs, exhibition halls, schools, offices, hotels, restaurants, or any other organizations that need to accommodate a large number of devices as it can offer the optimal premium service for everyone, every time they connect to WiFi.

802.11axe AP (4x4 in 6 GHz/ 5 GHz selectable, 2x2 in 2.4 GHz) to deliver maximum data rate of 5.4 Gbps

The BandFlex radio design can support either 5 GHz or 6 GHz by configuration, to fit into your 5 GHz coverage as well as futureproofing the use of 6 GHz

Zyxel 6E Boost, using the high-gain 4 streams in 6 GHz, helps extend range and maximize performance of the new band

Dual-optimized antenna provides the optimum radio patterns for both wall and ceiling mounting to fit into your installation

NebulaFlex Pro offers the full flexibility for users to easily switch between Nebula cloud-managed, controller-managed, and standalone modes

nebula

Zyxel one network
Redefining network integration

Benefits

WiFi 6E — bringing WiFi 6 into 6 GHz spectrum

WiFi 6E is the WiFi 6 extended into 6 GHz spectrum.
It includes all the WiFi 6 features, plus the following:

- 2.5X More Capacity: 2.5 times more spectrum with the extended 6 GHz band with no legacy devices
- Superwide Channels: Utilizing up to seven additional superwide 160 MHz channels in 6 GHz for bandwidth-demanding applications like VR/AR, WiFi calling, and high-definition video streaming
- No Interference: No interference from microwaves and the non-6E devices. Only Wi-Fi 6E capable devices can use the 6 GHz band.

Superior performance with innovative "Dual-optimized" antenna

People without RF expertise may not realize that installing an AP optimized for ceiling-mount as wall-mount may cause the ceiling-mount radiation pattern to interfere with other devices up- or downstairs as well as to deliver signals with shorter-than-expected range for its clients. Designed with the innovative "Dual-optimized" antenna, the WAX620D-6E adapts to both wall- and ceiling-mount installations. Thus, users can switch between the two optimized antenna modes easily to fit either situation. To boost WiFi speeds for your network, the WAX620D-6E is definitely an excellent choice.
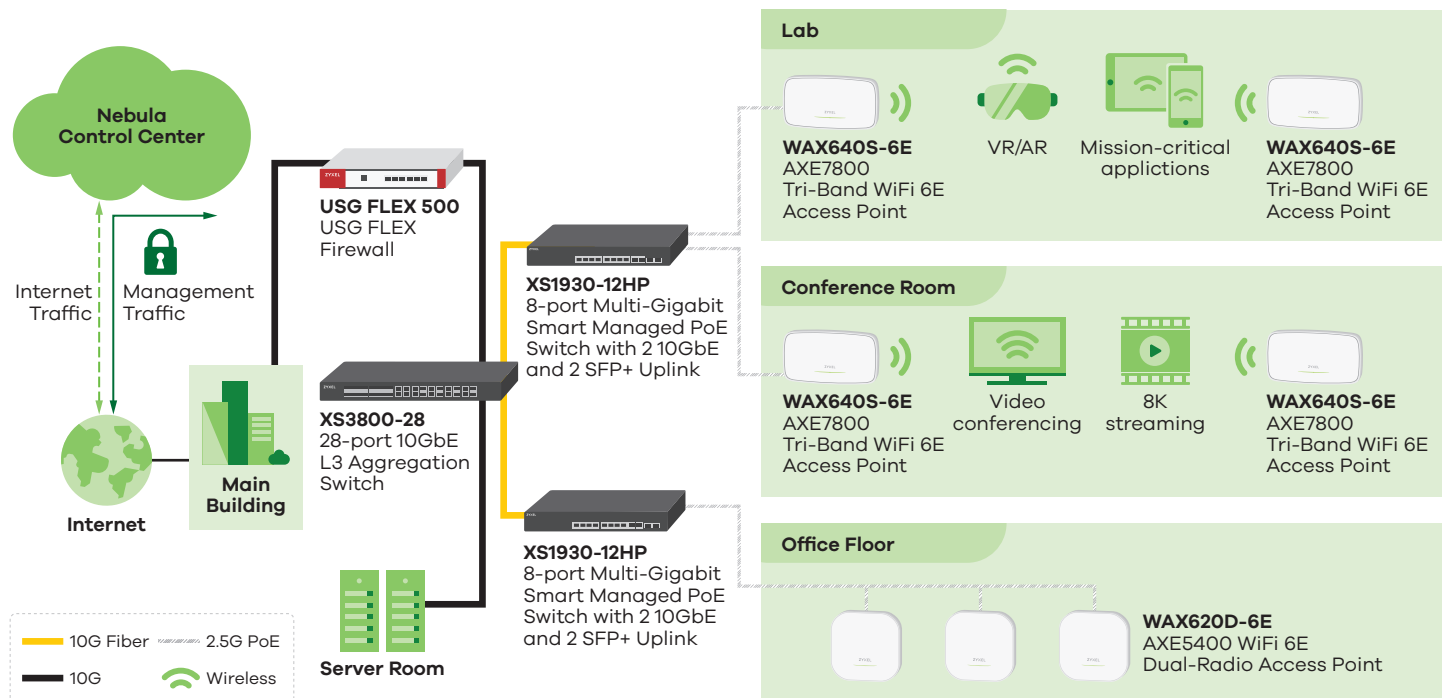
NebulaFlex Pro — simply manage it your way!

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.

4G/5G cellular network coexistence

With the exponential growth of mobile devices in the wireless network, users start to experience degraded performance, such as ping drops and high latency; users have to reduce the use of their mobile devices in order to maintain a smooth, working wireless service. Thus, to enable 4G/5G cellular network coexistence and minimize interference from 4G/5G antennas or signal boosters, the WAX620D-6E has built-in 4G/5G interference filters. As a result, the visible or invisible 4G/5G indoor antennas in the environment is no longer an issue when installing APs.

Application Diagram

Lab

WAX640S-6E
AXE7800
Tri-Band WiFi 6E
Access Point

VR/AR

Mission-critical applictions

WAX640S-6E
AXE7800
Tri-Band WiFi 6E
Access Point

Conference Room

WAX640S-6E
AXE7800
Tri-Band WiFi 6E
Access Point

Video conferencing

8K streaming

WAX640S-6E
AXE7800
Tri-Band WiFi 6E
Access Point

Office Floor

WAX620D-6E
AXE5400 WiFi 6E
Dual-Radio Access Point

Nebula Control Center

Internet Traffic

Management Traffic

Main Building

Internet

USG FLEX 500
USG FLEX Firewall

XS3800-28
28-port 10GbE
L3 Aggregation Switch

XS1930-12HP
8-port Multi-Gigabit
Smart Managed PoE
Switch with 2 10GbE
and 2 SFP+ Uplink

XS1930-12HP
8-port Multi-Gigabit
Smart Managed PoE
Switch with 2 10GbE
and 2 SFP+ Uplink

Server Room

— 10G Fiber ···· 2.5G PoE
— 10G   Wireless

Specifications

Model	WAX620D-6E
Product name	AXE5400 WiFi 6E Dual-Radio Access Point

Wireless		
Standard		IEEE 802.11 ax/ac/n/g/b/a
MIMO		MU-MIMO
Wireless speed	2.4 GHz	575 Mbps
	5 GHz	4800 Mbps
	6 GHz	4800 Mbps
Frequency band	2.4 GHz	• USA (FCC): 2.412 to 2.462 GHz • Europe (ETSI): 2.412 to 2.472 GHz
	5 GHz	• USA (FCC): 5.15 to 5.35 GHz; 5.470 to 5.850 GHz • European (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz
	6 GHz	• USA (FCC): 5.925 to 6.425 GHz; 6.525 to 7.125 GHz • European (ETSI): 5.925 to 6.425 GHz
Bandwidth		20-, 40-, 80- and 160-MHz
Conducted typical transmit output power	US (2.4 GHz/5 GHz) or +/6 GHz)	24/28/24 dBm
	EU (2.4 GHz/5 GHz) or +/6 GHz)	18/25/19 dBm

RF Design		
Antenna type		4x4 + 2x2 dual-optimized antenna
Antenna gain	2.4 GHz	Peak gain 3 dBi
	5 GHz	Peak gain 5 dBi
	6 GHz	Peak gain 6 dBi
Minimum receive sensitivity		Min. Rx sensitivity up to -101 dBm

WLAN Feature	
Band steering	Yes
WDS/Mesh	Yes
Fast roaming	Pre-authentication, PMK caching and 802.11r/k/v
DCS	Yes
Load balancing	Yes
Advanced cellular coexistence	Yes

Security	
Encryption	WEP/WPA/WPA2-PSK/WPA3
Authentication	WPA/WPA2/WPA3-Enterprise/EAP/IEEE 802.1X/RADIUS authentication
Access management	L2-isolation/MAC filtering/Rogue AP detection

Networking	
IPv6	Yes
VLANs	Yes
WMM	Yes
U-APSD	Yes

Model	WAX620D-6E
Management	
Operating mode	Nebula Cloud managed/controller-managed/standalone

ZON Utility	• Discovery of Zyxel switches, APs and gateways
	• Centralized and batch configurations
	  ▪ IP configuration ▪ Web GUI access
	  ▪ IP renew ▪ Firmware upgrade
	  ▪ Device reboot ▪ Password configuration
	  ▪ Device locating

Zyxel Wireless Optimizer	• WiFi AP planning • WiFi coverage detection • Wireless health management
Web UI/CLI	Yes
SNMP	Yes

Physical Specifications		
Item	Dimensions (WxDxH)(mm/in.)	180 x 180 x 42/7.09 x 7.09 x 1.65
	Weight (g/lb.)	650/1.43
Packing	Dimensions (WxDxH)(mm/in.)	197 x 190 x 60/7.76 x 7.48 x 2.36
	Weight (g/lb.)	780/1.72
Included accessories		• Mount plate • Mounting screws
MTBF (hr)		711,333

Physical Interfaces		
Ethernet port		• 1 x 1/2.5 Gbps LAN • 1 x 1 Gbps LAN
Power		• PoE (802.3)at: power draw 21.5 W • DC input: 12 V DC 2 A
PoE modes	IEEE 802.3af	No wireless
	IEEE 802.3at	Unrestricted
	IEEE 802.3bt	Unrestricted

Environmental Specifications		
Operating	Temperature	0°C to 50°C/32°F to 122°F
	Humidity	10% to 95% (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, EN 303 687, LP0002
EMC	FCC Part 15B, EN 301 489-1, EN 301 489-17, EN55022, EN55024, EN60601-1-2, BSMI CNS13438
Safety	Safety EN 62368, BSMI CNS14336-1

Accessory

Item	Part Number
PoE injector	POE12-30W-EU0101F, POE12-30W-US0101F
Power adapter	ACCESSORY-ZZ0104F
Mounting waterproof enclosure	ACCESSORY-ZZ0102F
T-bar clips	ACCESSORY-ZZ0105F

For more product information, visit us on the web at www.zyxel.com

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Datasheet WAX620D-6E