



## NWA110BE

### BE6500 WiFi 7 Dual-Radio NebulaFlex Access Point

Meet the NWA110BE: a high-performance access point with BandFlex radio design that harnesses the full power of WiFi 7. It combines easy setup and flexibility to future-proof your small/home business networks.

The BE6500 (2.4GHz: 2x2:2, 5 or 6GHz: 4x4:2) dual-radio access point offers blazingly fast WiFi 7 speeds of up to 6.5Gbps, ensuring lower latency for real-time responsiveness.

With two additional antennas in the 5GHz/6GHz bands compared to other dual-radio (2x2+2x2) AP models on the market, it extends coverage range further and boosts performance.

Its flexible BandFlex radio can support either 5GHz or 6GHz by configuration, making it the most economical choice to fit into your existing 5GHz coverage as well as futureproofing the use of 6GHz.

Coupled with Zyxel Nebula's extensive suite of management and security innovations, it guarantees robust connectivity and reliability for today's modern office demands.

The NWA110BE, equipped with NebulaFlex technology, offers users complete flexibility to seamlessly switch between standalone mode or the intuitive Nebula cloud-managed mode as needed.



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BandFlex design supports either 5GHz or 6GHz by configuration, fitting seamlessly into existing 5GHz coverage while futureproofing for 6GHz



The advanced RF filter prevents interference between the 5GHz and 6GHz bands while guaranteeing performance in all channels



Can be powered by PoE at (PoE+) or USB Type C charger to offer flexible powering options



NebulaFlex allows users to switch between standalone or intuitive Nebula cloud managed modes as needed

## Benefits

### Bringing next generation WiFi within reach

WiFi 7, also known as IEEE 802.11be, represents the next evolution in WiFi standards, supporting all three frequency bands – 2.4GHz, 5GHz, and 6GHz. With its revolutionary technological advancements, it promises to redefine the concept of speed, delivering unprecedented rates to elevate online experiences in the digital realm.

Coupled with Zyxel's comprehensive range of management and security innovations, the NWA110BE ensures the utmost connectivity and reliability for demanding enterprise-grade connectivity.

### MLO: Transforming WiFi 7 for unprecedented connectivity

Fundamentally, one of the most pioneering advancements of WiFi 7 is the introduction of MLO (Multiple Link Operation). MLO represents a WiFi technology that empowers devices linked to a WiFi access point (AP) to concurrently transmit and/or receive data through various frequency bands and channels. This entails simultaneous connections across the 2.4GHz, 5GHz, and 6GHz bands, a capability absent in earlier WiFi generations where devices were restricted to a solitary WiFi band connection.

The result is a significant amplification in data throughput, a reduction in latency, and an enhancement in reliability. These outcomes undeniably enhance the user experience and unveil novel opportunities for emerging applications such as VR/AR, online gaming, remote office setups, and cloud computing.

### RF first by design

The advanced RF filter design eliminates interference between the 5GHz and 6GHz bands, while the built-in 4G/5G interference filter allows seamless coexistence with 4G/5G cellular networks and minimizes interference, all of which guarantees a seamless WiFi experience without interruptions.

Additionally, 4K QAM (MCS-13) requires a good Signal-to-Noise Ratio (SNR). The rectangular design helps maintain excellent isolation between antennas, meeting this requirement more effectively than a circular design.

### NebulaFlex – simply manage it your way!

NebulaFlex offers extended flexibility, enabling users to effortlessly switch between standalone mode and our intuitive cloud-managed NCC (Nebula Control Center) modes at any time, without incurring additional costs. This ensures adaptability to changing needs while safeguarding investments in wireless technology.

### Nebula, the intelligent cloud management

Nebula offers comprehensive monitoring and reporting capabilities, including real-time notifications for critical events via email or the mobile app. With Nebula, you can enjoy a streamlined experience for network installation and management without the need for additional costs for software or hardware controllers.

#### • Enhance your WiFi with Nebula

Nebula automates wireless network management and optimization with features like WiFi Aid and Wireless Health, ensuring the best possible user experience. These features enhance network performance and reliability, delivering an exceptional WiFi experience.

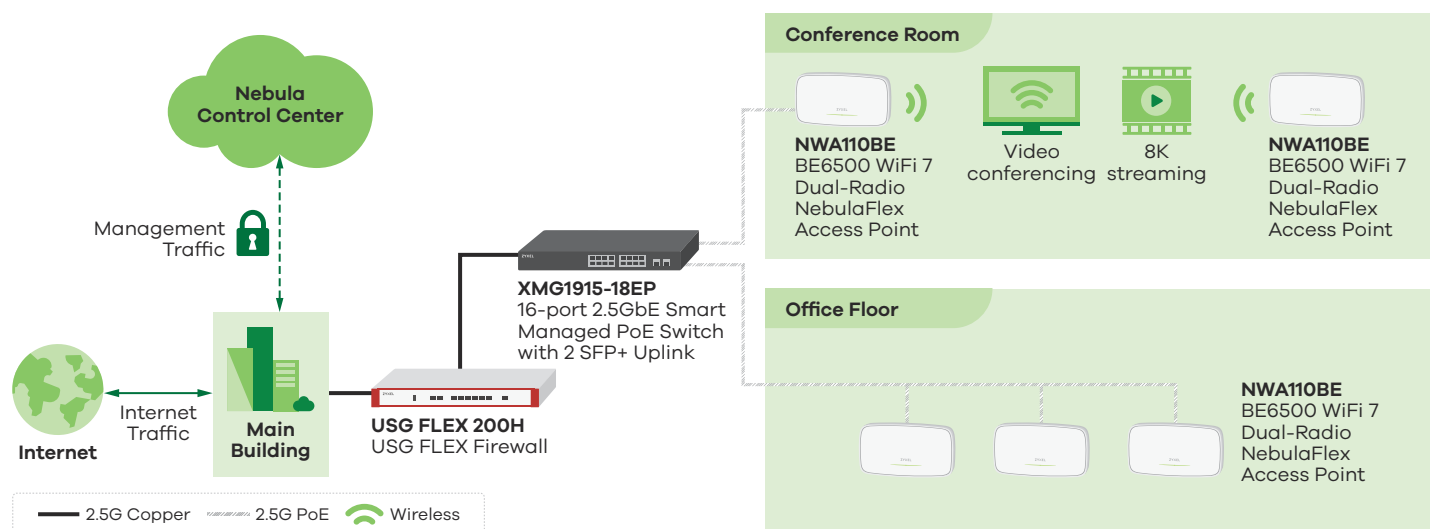
#### • Smooth and secure wireless experience

Powerful security add-on features like CNP/CNP+, DPPSK, and advanced authentication methods work together to create a robust and protected environment for your network.

### Optimized wireless experience with advanced features

The NWA110BE 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 and triple-radio clients and distributes clients across 2.4GHz, 5GHz, and 6GHz bands on AP. All of these deliver a smooth, consistent and uninterrupted wireless experience to its users.

# Application Diagram



# Specifications

Model	NWA110BE
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Product name	BE6500 WiFi 7 Dual-Radio NebulaFlex Access Point
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Wireless	
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Standard	IEEE 802.11 be/ax/ac/n/g/b/a	
MIMO	MU-MIMO	
Wireless speed	2.4GHz	688Mbps
	5GHz	4324Mbps
	6GHz	5764Mbps
Frequency band	2.4GHz	<ul style="list-style-type: none"> <li>USA (FCC): 2.412 to 2.462GHz</li> <li>Europe (ETSI): 2.412 to 2.472GHz</li> </ul>
	5GHz	<ul style="list-style-type: none"> <li>USA (FCC): 5.15 to 5.35GHz; 5.470 to 5.850GHz</li> <li>European (ETSI): 5.15 to 5.35GHz; 5.470 to 5.725GHz</li> </ul>
	6GHz	<ul style="list-style-type: none"> <li>USA (FCC): 5.925 to 6.425GHz; 6.525 to 7.125GHz</li> <li>European (ETSI): 5.925 to 6.425GHz</li> </ul>
Bandwidth	20-, 40-, 80-, 160-, 240- and 320-MHz	
Conducted typical transmit output power*1	US (2.4GHz/5GHz/6GHz)	26/28/25dBm
	EU (2.4GHz/5GHz/6GHz)	19/26/22dBm

RF Design	
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Antenna type	Internal antenna	
Antenna gain	2.4GHz	1.49dBi, 2x2:2SS
	5GHz	2.78dBi, 4x4:2SS
	6GHz	3.17dBi, 4x4:2SS

Minimum receive sensitivity	Min. Rx sensitivity up to -99dBm
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\*1: Maximum transmit power is limited by local regulatory settings.

<b>Model</b>	<b>NWA110BE</b>	
<b>WLAN Feature</b>		
<b>Band steering</b>	Yes	
<b>WDS/Mesh*2</b>	Yes	
<b>Fast roaming</b>	Pre-authentication, PMK caching and 802.11r/k/v	
<b>DCS</b>	Yes	
<b>Load balancing</b>	Yes	
<b>Advanced cellular coexistence</b>	Yes	
<b>Security</b>		
<b>Encryption</b>	WEP/WPA/WPA2/WPA3	
<b>Authentication</b>	IEEE 802.1X/RADIUS authentication	
<b>Access management</b>	L2-isolation/MAC filtering/Rogue AP detection	
<b>Networking</b>		
<b>IPv6</b>	Yes	
<b>VLANs</b>	Yes	
<b>WMM</b>	Yes	
<b>U-APSD</b>	Yes	
<b>Management</b>		
<b>Operating mode</b>	Cloud 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> </ul> </li> <li>▪ Web GUI access</li> <li>▪ Firmware upgrade</li> <li>▪ Password configuration</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>	250 x 160 x 47/9.84 x 6.30 x 1.85
	<b>Weight (g/lb.)</b>	810/1.79
<b>Packing</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	279.5 x 180.5 x 66/11.00 x 7.11 x 2.60
	<b>Weight (g/lb.)</b>	1035/2.28
<b>Included accessories</b>	<ul style="list-style-type: none"> <li>• Mount plate</li> <li>• Mounting screws</li> </ul>	
<b>MTBF (hr)</b>	691,722	
<b>Physical Interfaces</b>		
<b>Ethernet port</b>	1 x 1/2.5GbE LAN	
<b>Power</b>	<ul style="list-style-type: none"> <li>• PoE (802.3at): power draw 21.5W</li> <li>• DC input: USB PD 15 VDC 2A (Type C)</li> </ul>	
<b>PoE modes</b>	<b>IEEE 802.3af</b>	No wireless
	<b>IEEE 802.3at</b>	Unrestricted
	<b>IEEE 802.3bt</b>	Unrestricted
<b>Environmental Specifications</b>		
<b>Operating</b>	<b>Temperature</b>	0°C to 50°C/32°F to 122°F
	<b>Humidity</b>	10% to 95% (non-condensing)
<b>Storage</b>	<b>Temperature</b>	-40°C to 70°C/-40°F to 158°F
	<b>Humidity</b>	10% to 90% (non-condensing)
<b>Certifications</b>		
<b>Radio</b>	FCC Part 15C, FCC Part 15E, FCC Part 2.1091, ETSI EN 300 328, EN 301 893, Draft EN 303 687, EN 50385, EN 50665, EN IEC 62311, LPO002	
<b>EMC</b>	FCC Part 15B, EN 301 489-1, EN 301 489-17, EN55032, EN55035, EN61000-3-2/-3, EN60601-1-2, BSMI CNS15936	
<b>Safety</b>	EN 62368-1, IEC 62368-1, BSMI CNS15598-1	

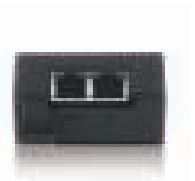
\*2: WDS, ZyMesh, Smart Mesh and Industry's Open Mesh, Easy Mesh are different mesh systems that do not work with one another.

## Recommended Accessories

### Mounting Accessory

<b>Model</b>	<b>ACCESSORY-ZZ0105F</b>
<b>Product photo</b>	
<b>Description</b>	BAR ceiling clips for ceiling mount Zyxel AP (5 sets)

### PoE Injector

<b>Model</b>	<b>PoE12-60W</b>
<b>Product photo</b>	
<b>Description</b>	<ul style="list-style-type: none"><li>• RJ-45 (Data) input: 1</li><li>• RJ-45 (Data + Power) output: 1</li><li>• Data rate: 100Mbps and 1/2.5/5Gbps</li><li>• PoE standard: PoE, PoE+, PoE++</li><li>• Total PoE budget: 60watts</li></ul>

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

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25/09/24