



## WBE530

### BE11000 (WiFi 7) Triple-Radio NebulaFlex Pro Access Point

Crafted specifically for modern classrooms, the WBE530 boasts a Qualcomm quad-core CPU, delivering lightning-fast WiFi 7 speeds of up to 11 Gbps and a significant capacity boost.

The inclusion of 2 x 2.5G Ethernet ports for multi-Gig networks offers a fitting and cost-effective solution, facilitating easy upgrades to enjoy WiFi 7 performance while seamlessly integrating with existing infrastructure, eliminating the need for expensive re-cabling.

Paired with Zyxel Nebula's comprehensive suite of management and security features, it ensures robust connectivity and reliability to meet the demands of today's educational settings.

The WBE530, equipped with NebulaFlex Pro technology, offers users complete flexibility to seamlessly switch between standalone mode, controller-managed mode, or the intuitive Nebula cloud-managed mode as needed.



BE11000 (2x2 in 2.4, 5, and 6 GHz) tri-radio access point provides blazingly fast WiFi 7 speeds up to 11Gbps and lower latency for real-time responsiveness



The 2 x 2.5G Ethernet ports enable seamless integration with the existing infrastructure without re-cabling



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



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



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

## Benefits

### Revolutionizing education with WiFi 7 connectivity

Providing high-speed internet in schools cannot be emphasized enough. However, many educational institutions still face significant obstacles in delivering stable and sufficient internet bandwidth, directly impacting the quality of education they offer.

But Wi-Fi 7 Can Help — this innovative technology offers a solution to not only satisfy the demand for greater internet bandwidth but also assists in constructing future-proof networks to meet the needs of both current and future students.

Zykel's WBE530 WiFi 7 access point promises higher speeds, greater capacity, and superior cybersecurity features, helping schools to revolutionize online learning experiences, ensuring efficiency, security, and responsiveness for students to thrive in today's tech-driven world.

### 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 – 2.4 GHz, 5 GHz, and 6 GHz. 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 Zykel's comprehensive range of management and security innovations, the WBE530 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 2.4 GHz, 5 GHz, and 6 GHz 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 5 GHz and 6 GHz 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 Pro – simply manage it your way!

The NebulaFlex Pro provides extended flexibility, allowing users to easily switch among standalone, on-premises 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.

### Nebula, the Intelligent cloud management

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

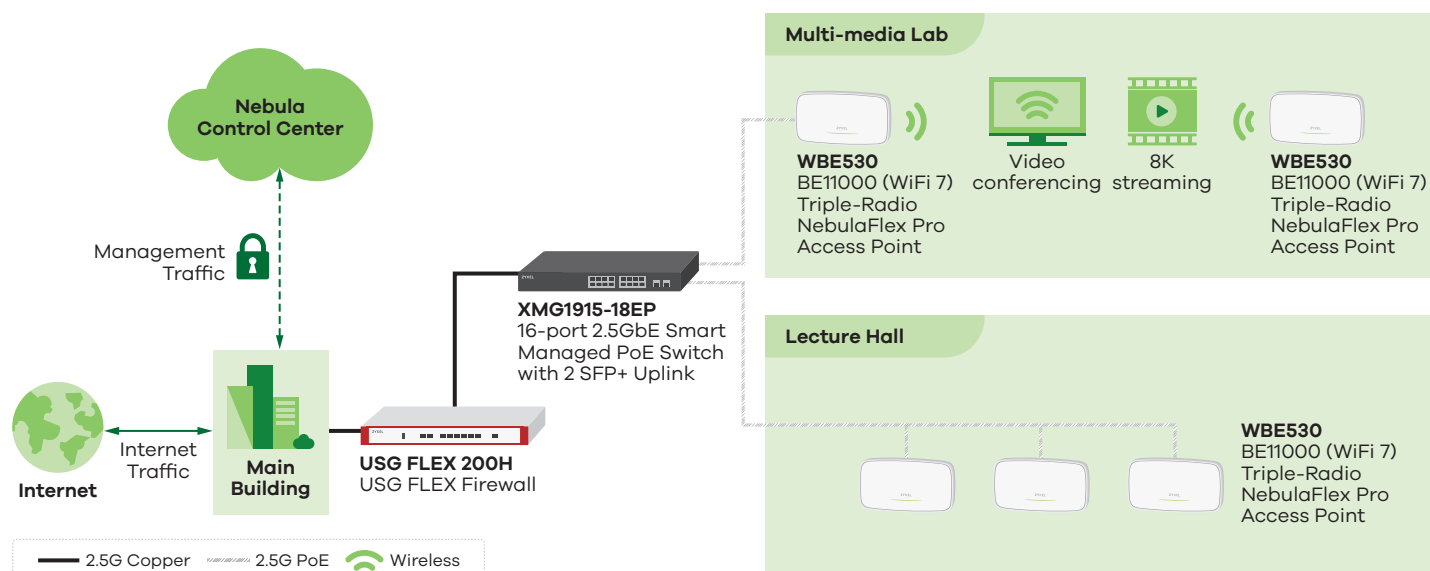
#### • Automated WLAN management & optimization

With features like WiFi Aid and Wireless health, Nebula enables automated wireless network management and optimization, ensuring the best possible WiFi user experience.

#### • Enhanced privacy & security

A range of security add-on features like CDR, Secure WiFi, CNP/CNP+, DPPSK, and advanced authentication methods work together to create a robust and protected environment for your network.

# Application Diagram



## Specifications

### Model **WBE530**

**Product name** BE10000 (WiFi 7) Triple-Radio NebulaFlex Pro Access Point



### Wireless

<b>Standard</b>	IEEE 802.11 be/ax/ac/n/g/b/a	
<b>MIMO</b>	MU-MIMO	
<b>Wireless speed</b>	<b>2.4 GHz</b>	688 Mbps
	<b>5 GHz</b>	4324 Mbps
	<b>6 GHz</b>	5764 Mbps
<b>Frequency band</b>	<b>2.4 GHz</b>	<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> </ul>
	<b>5 GHz</b>	<ul style="list-style-type: none"> <li>USA (FCC): 5.15 to 5.35 GHz; 5.470 to 5.850 GHz</li> <li>European (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz</li> </ul>
	<b>6 GHz</b>	<ul style="list-style-type: none"> <li>USA (FCC): 5.925 to 6.425 GHz; 6.525 to 7.125 GHz</li> <li>European (ETSI): 5.925 to 6.425 GHz</li> </ul>
<b>Bandwidth</b>	20-, 40-, 80-, 160-, 240- and 320-MHz	
<b>Conducted typical transmit output power*1</b>	<b>US</b>	27/25/23 dBm
	<b>EU</b>	19/25/21 dBm
	<b>(2.4 GHz/5 GHz/6 GHz)</b>	<b>(2.4 GHz/5 GHz/6 GHz)</b>

### RF Design

<b>Antenna type</b>	Internal antenna	
<b>Antenna gain</b>	<b>2.4 GHz</b>	3 dBi, 2x2: 2SS
	<b>5 GHz</b>	4 dBi, 2x2: 2SS
	<b>6 GHz</b>	4 dBi, 2x2: 2SS
<b>Minimum receive sensitivity</b>	Min. Rx sensitivity up to -99 dBm	

\*1: Maximum transmit power is limited by local regulatory settings.

<b>Model</b>	<b>WBE530</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>	Nebula cloud managed/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> <li>▪ Firmware upgrade</li> <li>▪ Password configuration</li> </ul> </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>	808/1.79
<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>	1032/2.28
<b>Included accessories</b>	<ul style="list-style-type: none"> <li>• Mount plate</li> <li>• Mounting screws</li> </ul>	
<b>MTBF (hr)</b>	698,312	
<b>Physical Interfaces</b>		
<b>Ethernet port</b>	2 x 1/2.5 Gbps LAN	
<b>Power</b>	<ul style="list-style-type: none"> <li>• PoE (802.3at) power draw 24 W</li> <li>• DC input: 12 VDC 2 A</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, LP0002	
<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>PoE12-30W</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: 100 Mbps and 1/2.5 Gbps</li><li>• PoE standard: PoE, PoE+</li><li>• Total PoE budget: 30 watts</li></ul>

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

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