ZYXEL

NAP203

802.11ac Dual-Radio, Dual-Optimized Antenna 3x3 Nebula Cloud Managed Access Point

The Zyxel Nebula NAP203 802.11ac Dual-Radio, Dual-optimized Antenna 3x3 Nebula Cloud Managed Access Point is a high-performance 3-stream 802.11ac WiFi AP featuring ultra-fast speeds of up to 1.75 Gbps with a groundbreaking "dual-optimized" antenna design. Through the innovative adjustable antenna setting, the NAP203 can provide the best signal coverage in both ceiling-mount and wall-mount deployments to deliver constant, no-compromise WiFi performance. Additionally, the ultra-slim ID design at 32 mm height blends perfectly into modern interior decorations.

Every Nebula AP has been engineered for cloud management. Based on the NETCONF standard, all data traffics between the cloud and APs are exchanged using secure transports to ensure transaction-safe configuration on all Nebula devices. Furthermore, with the intuitive management interface, administrators are able to control all the APs quickly even without training.

Benefits

Zero-touch deployments

The Zyxel Nebula APs auto-configure themselves after installation, and then automatically connect to the Nebula cloud to join the network; so auto-configuration, provision, monitoring and diagnostics can be performed anytime, anywhere. This simplifies network setup and enables deployment of Nebula APs to a remotely located network even by non-IT professionals.

- Cloud-managed, dual-radio 3x3 MIMO 802.11ac access point
- Supports combined data rates of up to 1.75 Gbps
- Dual-optimized antenna allows pattern optimization adapting to wall- or ceiling-mount installations
- Self-configuration and zero-touch deployment
- Enterprise-class security and RF optimization
- Dynamic Channel Selection, Load Balancing and Smart Client Steering
- Ultra-slim ID design at 32 mm height blends into modern interior decorations

nebula

Dual-optimized antenna design

Ceiling-mount installation is now the major type of wireless deployments; it is still common that most APs on the market today are designed with a single static radiation pattern for ceiling-mount installations. However, this kind of design may create interference with devices on upper and lower floors, and it delivers only short-range signals to wireless clients placed in front of the wall-mount AP. To deliver optimal WiFi performance in both ceiling- and wall-mount installations, the Zyxel NAP203 features an innovative "Dual-optimized" antenna. Pattern of the antenna can be adjusted via a physical switch or cloud configuration in just seconds.

Optimized wireless experience

The Zyxel Nebula NAP203 delivers optimized wireless experience for users with comprehensive wireless features such as Dynamic Channel Selection (DCS), Load Balancing, and Smart Client Steering, etc. DCS avoids interference from co-channeling and overlapping channels continuously, while Load Balancing and Smart Client Steering which features Band Select and Balance for more spectrum to provide more stable, reliable wireless connections.

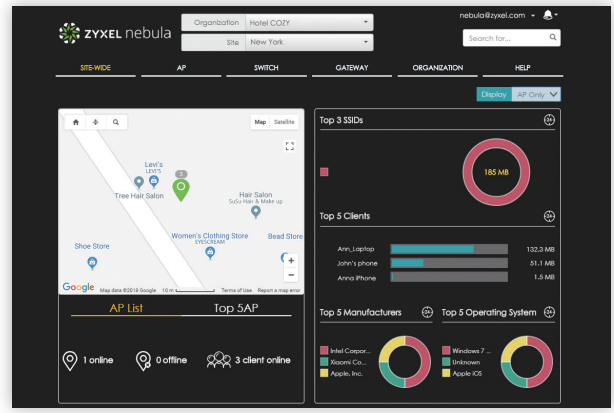
Enterprise-class security

The Zyxel Nebula NAP203 inherits the NETCONF protocol for secure configuration changes. In terms of authentication and data encryption, it supports WPA2 enterprise protection and a wide range of Extensible Authentication Protocol (EAP) types, including EAP SIM for smartphones. Besides, the NAP203 also features access control and Layer-2 isolation for privacy protection. The comprehensive security features ensure NAP203 to deliver enterprise-grade protection to the entire network.

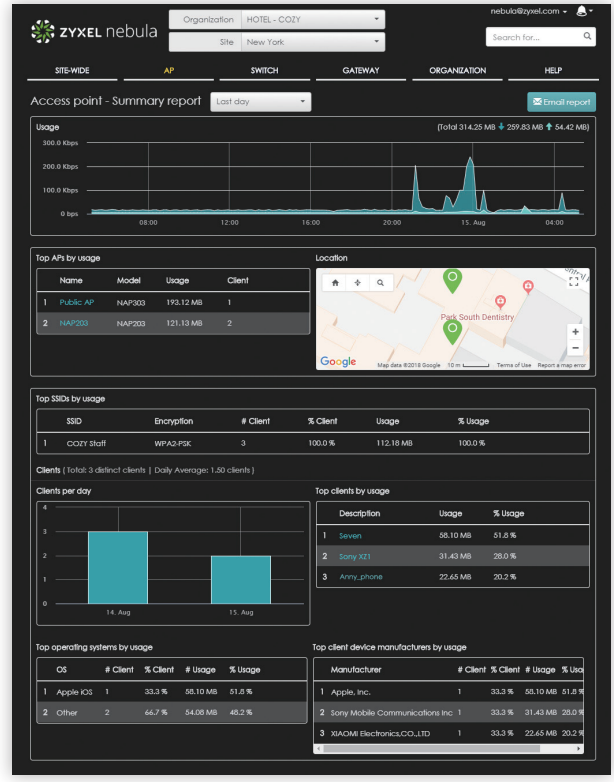
Ultra-slim exterior design

Zyxel Nebula NAP203's ultra-slim exterior (32 mm in height) and understated white color blend perfectly into all kinds of decorations in various buildings with extraordinary modern tastes. The compact, elegant aesthetics makes NAP203 suitable for different decors no matter it's meant to be visible or not.

Real-time control of all the devices through a single pane of glass



Monitor wireless network status at a glance



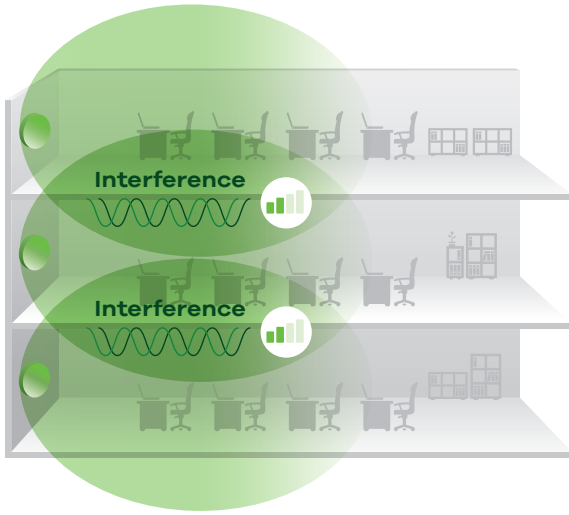
Monitor AP usage and client report by different time intervals and view historical status record via the intuitive management interface

Dual-optimized Antenna

The unprecedented Dual-optimized Antenna is an adjustable internal antenna with “just fit” pattern options optimized for wall- or ceiling-mount that the installation technician can instantly change the antenna pattern simply via the physical antenna switch without booting the device. If needed, administrators can base on their know-how to perform granular signal optimization per floor plan via software configuration remotely. With the flexibility, the NAP203 can fit for wall-mount or ceiling-mount deployment without the hassles of antenna accessory selection and signal coverage adjustment.

Traditional (Side View)

Pattern for wall-mount (H-plane, side view)

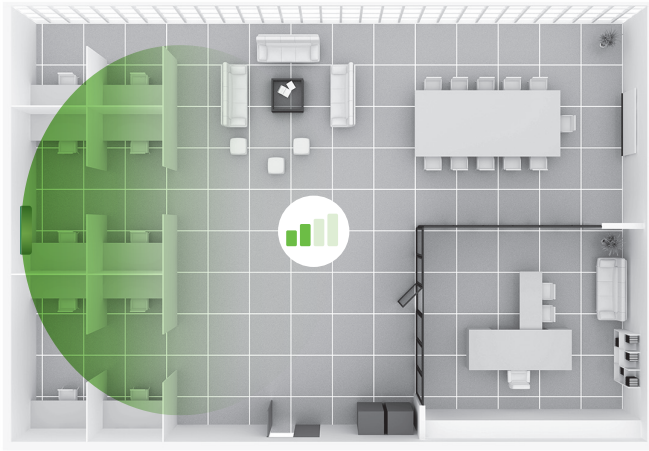


Dual-optimized (Side View)

Pattern for wall-mount (H-plane, side view)

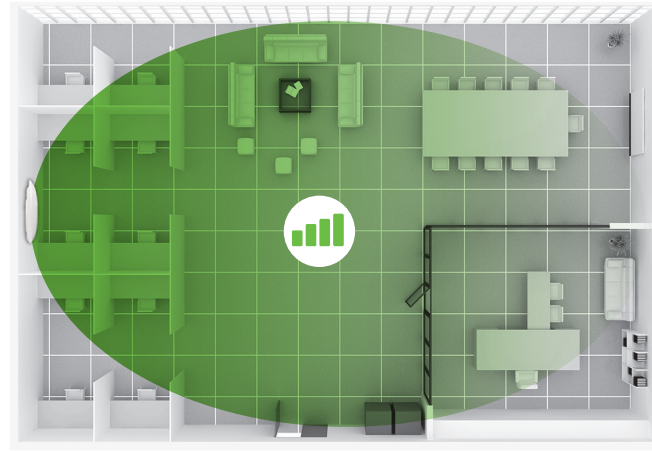
Traditional (Top View)

Pattern for wall-mount (E-plane, top view)



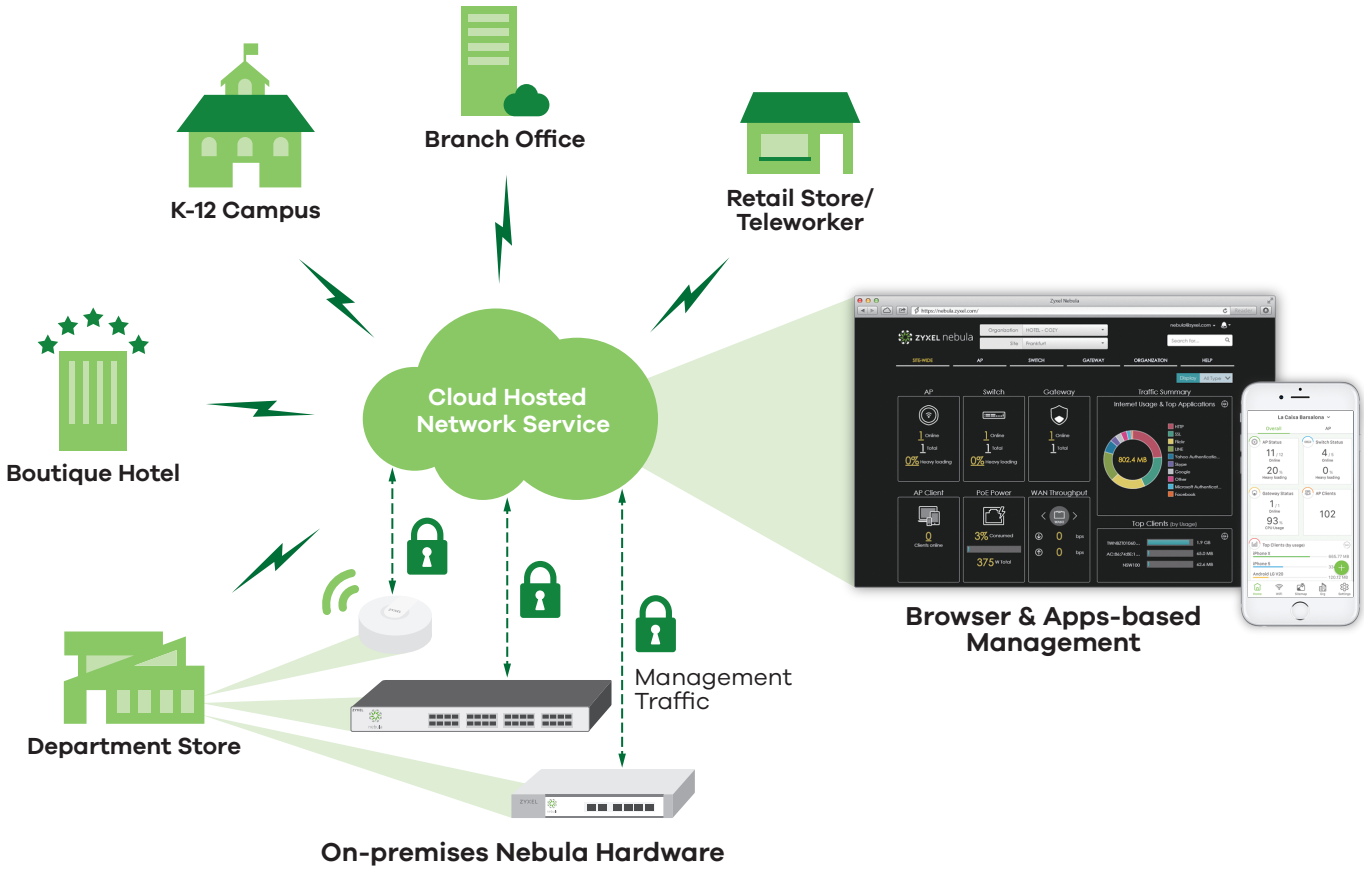
Dual-optimized (Top View)

Pattern for wall-mount (E-plane, top view)

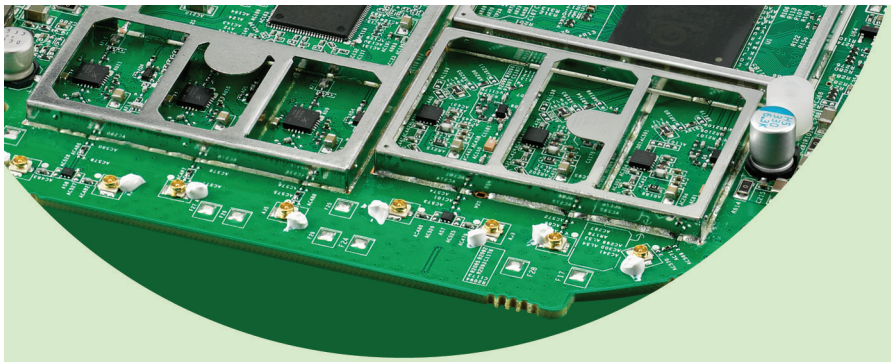


Applications Diagram

Nebula cloud management architecture



Robust Hardware

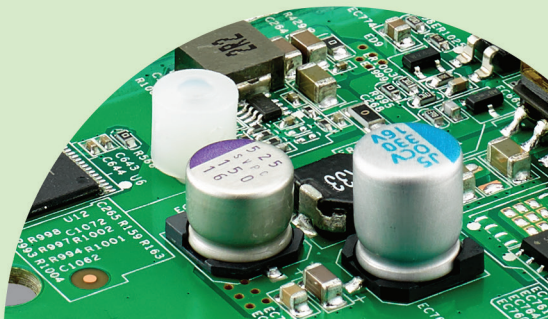


Fine art of RF design

Noises between RF circuits usually impact performance, and it's a critical EMI challenge too. The NAP203 isolates RF circuits by solid shielding frames. Thus, electromagnetic interference (EMI) is mitigated while RF performance is enhanced as well.

Solid capacitor for longevity

All-solid capacitor design provides up to 6 times lifespan than electrolytic capacitors that delivers better stability and reliability.



Specifications

Model		NAP203	
Product name		802.11ac Dual-Radio, Dual-Optimized Antenna 3x3 Nebula Cloud Managed Access Point 	
RF Specifications			
Frequency band		2.4 GHz (IEEE 802.11 b/g/n) • 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) • USA (FCC): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz • Europe (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz • Taiwan (TW): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz
802.11n/ac premium features		• 3x3 Multiple-Input Multiple-Output (MIMO) with three spatial streams • Maximal Ratio Combining (MRC) • 20-, 40- and 80-Mhz channels • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)	• Cyclic Delay Diversity (CSD) support • Maximum Likelihood Demodulation (MLD) support • Low Density Parity Check (LDPC) support
Conducted typical transmit output power (dBm)	**FCC 11b/g**	28	
	FCC 11g/n	28	
	FCC 11a	28	
	FCC 11n/a (ac)	28	
	EU 11b/g	20	
	EU 11g/n	20	
	EU 11a	21	
	EU 11n/a (ac)	26	
Antenna system		Dual-optimized internal antenna	
Antenna gain		Ceiling: 2.4 GHz 3 dBi; 5 GHz 4 dBi Wall: 2.4 GHz 4 dBi; 5 GHz 5 dBi	
Support data rate		• 802.11 a/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps • 802.11n: up to 450 Mbps in MCS23 (40 MHz) • 802.11ac: up to 1300 Mbps in MCS9 (80 MHz)	
Receive sensitivity		Min. Rx sensitivity up to to -102 dBm	
Interfaces			
Number of 10/100/1000M LAN		2	
Console port		4-Pin serial	
PoE		Yes	
PoE power draw		12.48 W (802.3at PoE)*	
WLAN Features			
Smart mesh		Yes	
Mesh AP for multiple SSID with VLAN		Yes	
Fast Roaming		Pre-authentication, PMK caching and 802.11 r/k/v	
Wireless Security			
WPA2-PSK		Yes	
WPA2-Enterprise		Yes	
WLAN access control list		Yes	
EAP types		EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST, EAP-AKA and EAP-SIM	
IEEE 802.1X		Yes	

* Max. power draw is 12.48 W. In extreme cases, the inrush current is greater than 802.3af limit, thus 802.3at PoE is required.

Wireless Security		
Number of SSID		8 (per radio)
MAC filtering		Yes
Layer-2 isolation		Yes
RADIUS authentication		Yes
Captive portal		Yes
Network		
VLANs		Yes
DHCP client		Yes
QoS (PG)		
WMM		Yes
WMM power save		Yes
DiffServ marking		Yes
Management		
Cloud managed		Yes
ZON utility		Support
Smart connect		Neighbor device discovery
Others		
Plenum rating		Yes
Input power		802.3at PoE only (No DC jack)
MTBF (hr)		1,005,235
Standard Compliance		
Ethernet		IEEE 802.3, IEEE 802.3u, IEEE 802.11ab, IEEE 802.3au IEEE 802.3az, IEEE 802.3at
PoE		IEEE 802.3af
WLAN		• 802.11b: DBPSK, DQPSK, CCK • 802.11g: BPSK, QPSK, 16-QAM, 64-QAM • 802.11a: BPSK, QPSK, 16-QAM, 64-QAM • 802.11n: BPSK, QPSK, 16-QAM, 64-QAM • 802.11ac: BPSK, QPSK, 64-QAM, 256-QAM
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, EN55022, EN55024, EN61000-3-2/-3, EN60601-1-2, BSMI CNS13438
Safety		EN 60950-1, IEC 60950-1, BSMI CNS14336-1
Physical Specifications		
Item	**Dimensions (WxDxH)(mm/in.)**	203.9 x 191.7 x 34.7/8.03 x 7.55 x 1.37
	Weight (g/lb.)	445/0.98
Packing	**Dimensions (WxDxH)(mm/in.)**	235 x 246 x 60/9.25 x 9.69 x 2.36
	Weight (g/lb.)	938/2.07
Included accessories		Wall/Ceiling-mount plate
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)

Optional Accessory

Part Number	Description
ACCESSORY-ZZ0105F	Accessory, T-bar ceiling clips for ceiling mount AP to WAC6303D-S, 5 sets, ROHS

Weather-Proof Mounting Option

Outdoor Enclosure

People like to enjoy the combination of great view, fresh air and WiFi service when they're outdoors. This weather-resistant enclosure brings the Zyxel indoor AP outdoors to make deployments in places such as parks, campus, poolside or camping yard convenient and affordable. This enclosure allows the AP to be easily mounted on any wall or pole. The durable enclosure is designed to withstand a wide range of temperature from 50°C to -20°C, waterproof the APs with IPX5 rating certified and extend lifespan with the UV stabilized plastic, which makes it the most reliable weatherproof enclosure.

Features

- **Compatible with various APs** including unified, cloud-managed and standalone units
- **Wide operating temperature** range from 50°C to -20°C
- **Compact size** easily blends into any environment seamlessly
- **UV stabilized plastic** extends enclosure lifetime
- **Flexible mount design** for wall mount, or pole mount installation with pole mount kit (sold separately)
- **IPX5 rating** makes Zyxel indoor AP weatherproof

Wall mount installation

Pole mount installation

Specifications

Model	Enclosure
Dimensions (WxDxH)(mm/in.)	238.54 x 249.72 x 86.97/9.39 x 9.83 x 3.42
Weight (kg/lb.)	0.64/1.4
Mounting options	Wall, pole (pole mount kit is sold separately)
Certified	IPX5
Adjustability	Swivel +/-40°; Tilt +/-15°

Compatibility List

Model	
• NWA1123-ACv2 • NWA5121-NI • NWA5123-AC • NAP102	
• NWA1123-AC PRO • WAC6103D-I • NAP203	

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

5-100-00719008 02/19

Datasheet NAP203