



NAP102

802.11ac Dual-Radio Nebula Cloud Managed Access Point

The Zyxel Nebula NAP102 802.11ac Dual-Radio Nebula Cloud Managed Access Point is a high-performance, cloud-managed 2x2 MIMO 802.11ac AP designed for deployments in offices, schools, hospitals, hotels and retail stores. With ultra-fast speeds of up to 1.2 Gbps, the Nebula NAP102 has revolutionized cloud managed wireless networking to a higher entry level. Featuring dual-concurrent, dual-band operation and advanced technologies such as Dynamic Channel Selection, Load Balancing and Smart Client Steering, the NAP102 delivers high throughput and reliable coverage for a superb WiFi experience.

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

Benefits

Zero-touch deployments

The Zyxel Nebula NAP102 auto-configures itself after installation and then automatically connects 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 2x2 MIMO 802.11ac access point



Supports combined data rates of up to 1200 Mbps



Self-configuration and zero-touch deployment



Enterprise-class security and RF optimization



Dynamic Channel Selection, Load Balancing and Smart Client Steering



Optimized wireless experience

The Zyxel Nebula NAP102 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.

Ceiling-mount design that blends into environments

Different from traditional business access points, the Zyxel Nebula NAP102 comes in a ceiling-mount design. Its non-invasive exterior eliminates the need to be hidden behind ceiling tiles, and the ceiling mount-optimized RF design provides desirable performance and coverage. Better yet, the plenum-rated NAP102 is made of non-toxic materials without hazardous emission – critical for public indoor wireless deployments.

Enterprise-class security

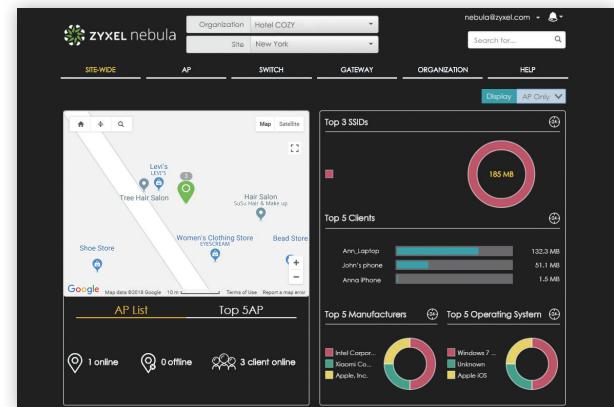
The Zyxel Nebula NAP102 inherits the NETCONF protocol for secure configuration changes. In terms of authentication and data encryption, it supports WPA2 enterprise protection and a wide range of Extensible Authentication Protocol (EAP) types, including EAP SIM for smartphones. Besides, the NAP102 also features access control and Layer-2 isolation for privacy protection. The comprehensive security features ensure NAP102 to deliver enterprise-grade protection to the entire network.

Ultra-fast speed

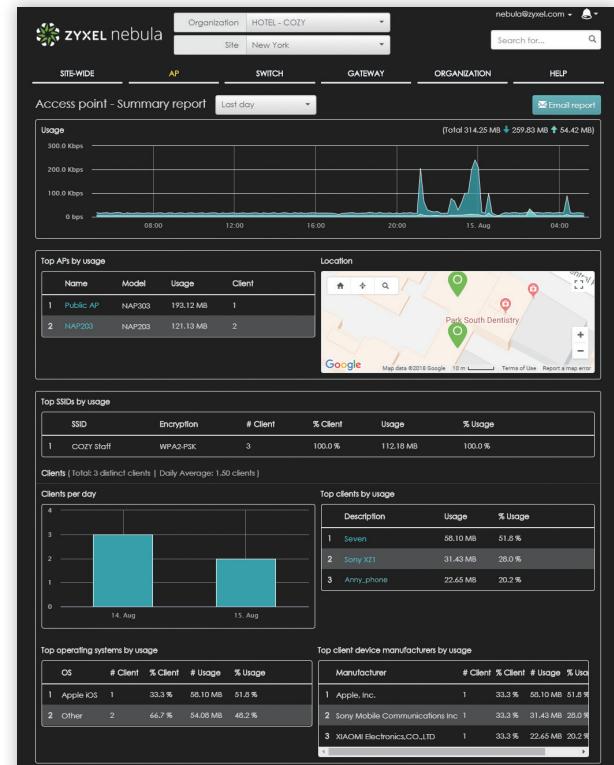
The Zyxel Nebula NAP102 is a 2x2 802.11ac AP that provides Gigabit WiFi experience. The concurrent dual-band support meets the pervasive BYOD demands to support more clients with equal signal coverage in both 2.4 GHz and 5 GHz bands.



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



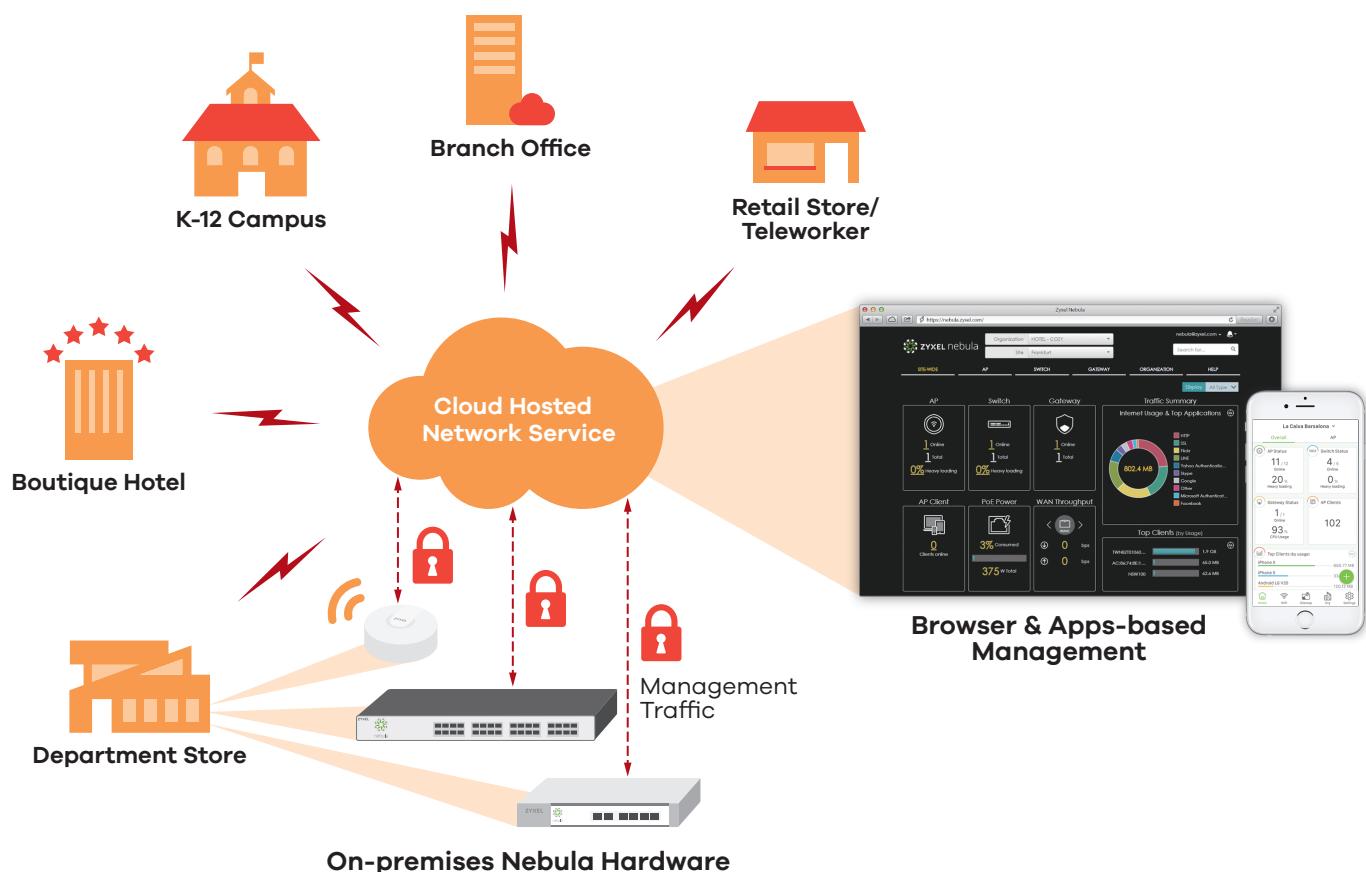
Monitor wireless network status at a glance



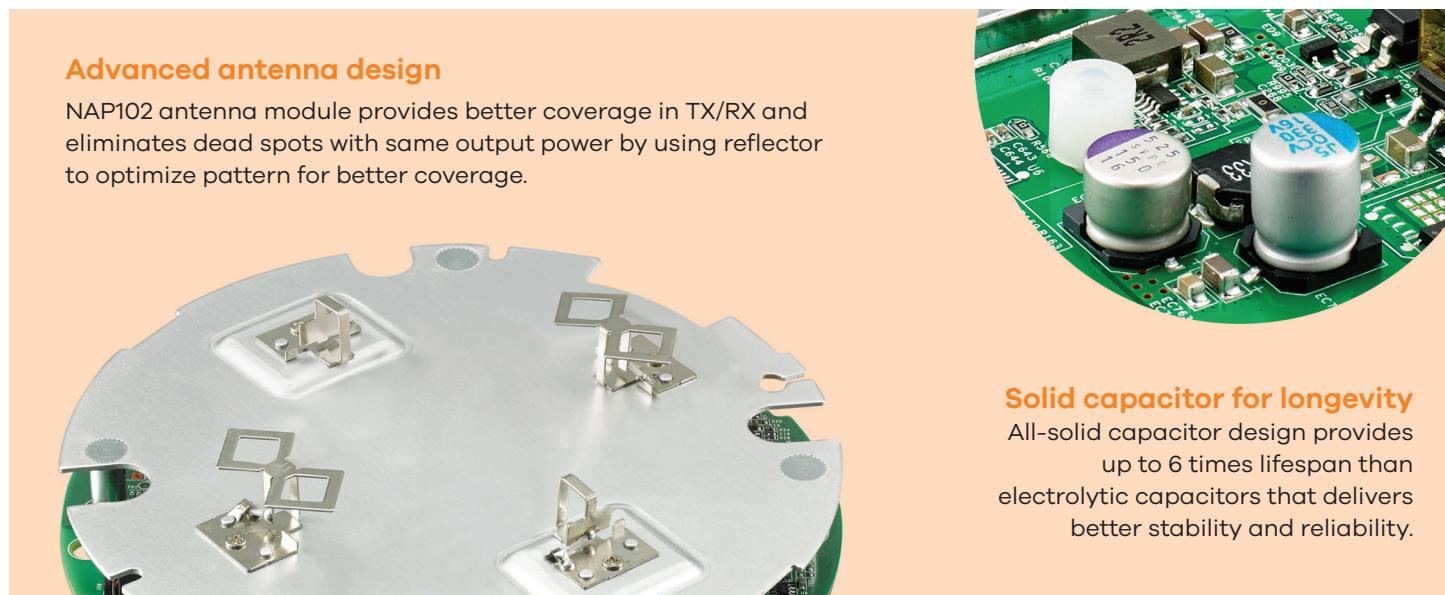
Monitor AP usage and client report by different time intervals and view historical status record via the intuitive management interface

Applications Diagram

Nebula cloud management architecture



Robust Hardware



Specifications

Model	NAP102																	
Product name	802.11ac Dual-Radio Nebula Cloud Managed Access Point																	
																		
RF Specifications																		
Frequency band	2.4 GHz (IEEE 802.11 b/g/n) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 2x2 Multiple-Input Multiple-Output (MIMO) with two spatial streams • Maximal Ratio Combining (MRC) • 20-, 40- and 80-Mhz channels • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) 	<ul style="list-style-type: none"> • Cyclic Delay Diversity (CSD) support • Maximum Likelihood Demodulation (MLD) support • Low Density Parity Check (LDPC) support 																
Conducted typical transmit output power (dBm)	<table> <tr> <td>FCC 11b/g</td><td>23</td></tr> <tr> <td>FCC 11g/n</td><td>23</td></tr> <tr> <td>FCC 11a</td><td>26</td></tr> <tr> <td>FCC 11n/a (ac)</td><td>26</td></tr> <tr> <td>EU 11b/g</td><td>20</td></tr> <tr> <td>EU 11g/n</td><td>20</td></tr> <tr> <td>EU 11a</td><td>26</td></tr> <tr> <td>EU 11n/a (ac)</td><td>26</td></tr> </table>		FCC 11b/g	23	FCC 11g/n	23	FCC 11a	26	FCC 11n/a (ac)	26	EU 11b/g	20	EU 11g/n	20	EU 11a	26	EU 11n/a (ac)	26
FCC 11b/g	23																	
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FCC 11n/a (ac)	26																	
EU 11b/g	20																	
EU 11g/n	20																	
EU 11a	26																	
EU 11n/a (ac)	26																	
Antenna system	Embedded internal antenna																	
Antenna gain	2.4 GHz 3 dBi; 5 GHz 4 dBi																	
Support data rate	<ul style="list-style-type: none"> • 802.11 a/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps • 802.11n: up to 300 Mbps in MCS15 (40 MHz; GI = 400 ns) • 802.11ac: up to 866 Mbps in MCS9 (80 MHz; 2 spatial streams; GI = 400 ns) 																	
Receive sensitivity	Min. Rx sensitivity up to -99 dBm																	
Interfaces																		
Number of 10/100/1000M LAN	1																	
Console port	4-Pin serial																	
PoE	Yes																	
PoE power draw	9 W																	
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	TLS, TTLS, PEAP, FAST, AKA and SIM																	
IEEE 802.1X	Yes																	
Number of SSID	8 (per radio)																	
MAC filtering	Yes																	

Wireless Security		
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	12 VDC, 1 A	
MTBF (hr)	1,241,824	
Standard Compliance		
Ethernet	IEEE 802.3, IEEE 802.3u	
PoE	IEEE 802.3af	
WLAN	<ul style="list-style-type: none"> 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	ETSI EN 300 328 V1.7.1: 11-2006, EN 301 893 V1.5.1 FCC Part 15.247, FCC Part 15E, LP0002, EN 60601-1-2: 2007	
EMC	EN 301 489-1 V1.8.1: 11-2008, EN 301 489-17 V2.1.1: 05-2009 EN55022: 2010, EN55024: 2010, EN61000-3-2/-3 FCC Part 15.107, BSMI CNS13438.99, CNS14336: 99	
Safety	EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011, IEC 60950-1: 2005; BSMI	
Physical Specifications		
Item	Dimensions (WxDxH)(mm/in.)	130 x 130 x 54.7/5.12 x 5.12 x 2.17
	Weight (g/lb.)	300/0.67
Packing	Dimensions (WxDxH)(mm/in.)	278 x 209 x 72/10.94 x 8.23 x 2.83
	Weight (g/lb.)	700/1.54
Included accessories	<ul style="list-style-type: none"> Power adapter 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	-30°C to 70°C/-22°F to 158°F
	Humidity	10% to 90%

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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Datasheet NAP102

5-100-00719007 02/19