

ZYXEL



WAC6103D-I

802.11ac Dual Radio Dual-optimized Antenna 3x3 Access Point

Cloud management is a simpler, faster and much more efficient way to handle larger networks. However Zyxel knows that it's not always easy for administrators of busy venues to go for cloud immediately. In response to this challenge, the Zyxel WAC6103D-I featuring NebulaFlex Pro offers the full flexibility for users to switch among standalone, controller-managed and cloud-managed modes. In addition, it comes with a 1-year bundled Nebula Professional pack license* that eliminates immediate licensing cost when migrating to full-featured cloud management.

Most access points on the market are designed with single static radiation pattern and it's typically only support ceiling-mount installation. However, in the real world ceiling-mount deployment is not always feasible for locations such as high ceiling warehouses, fancy ceiling lobbies or atriums. An AP with ceiling-mount pattern installed as wall-mount cannot achieve its best signal coverage and could cause interference. It's no doubt that a WiFi AP with installation flexibility, optimal performance and stylish exterior is a necessity today.

Zyxel's WAC6103D-I is a high performance 3-stream 802.11ac WiFi AP featuring ultra-fast speeds of up to 1.75 Gbps with groundbreaking "Dual-optimized" antenna design. With the innovative adjustable antenna, the WAC6103D-I provides two optimized signal coverage types for either ceiling-mount or wall-mount deployments. Even better, the stylish, ultra-slim industrial design perfectly blends into modern decorations. Choose WAC6103D-I for constant, no-compromise WiFi performance.



NebulaFlex Pro allows users to switch among standalone, on-premises controller managed or intuitive Nebula cloud managed modes as needed



Enterprise class 3x3 802.11ac AP supports combined data rates of up to 1.75 Gbps



"Dual-optimized antenna" allows pattern optimization adapting to wall- or ceiling-mount installations



Dynamic Channel Selection, Load Balancing and Smart Client Steering ensure optimal wireless experience



Stylish, ultra-slim ID design as the 32 mm height blends perfectly into modern interior decorations

Benefits

NebulaFlex Pro – simply manage it your way!

The NebulaFlex Pro provides extended flexibility, especially for those who hesitate to step up for cloud networking. You can easily switch network management modes among standalone, on-premises controller and our intuitive NCC cloud platform. You can even change your mind any time without additional cost while protecting previous investments on wireless technology. You can have the privilege to use advanced features with professional pack for one year upon registration on Nebula; these features include site-wide topology, 365-day statistics on the device and client monitoring along with more upcoming new features on NCC and its App.

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 WAC6103D-I 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 WAC6103D-I is definitely an excellent choice.

Ultra-slim, stylish exterior blends into environments

The WAC6103D-I inherits the stylish honeycomb exterior design of the Zyxel WAC6500 Series; its low-profile white color blends perfectly into most modern decorations. The compact, elegant design makes WAC6103D-I flexible for different decors – it can be as outstanding as understated.

Streamlined deployment tools save valuable time

WAC6103D-I features APFlex™ to simplify managed/standalone AP mode configuration and to facilitate integration into network environments automatically so pre-install preparation can be eliminated. The ZWO (Zyxel Wireless Optimizer) Utility also allows IT managers to perform AP planning, coverage detection and wireless health management centrally. ZyMesh is Zyxel’s proprietary protocol for creating wireless mesh links for easy configuration, optimized management and enhanced reliability. These user-friendly tools not only save time, but also facilitate faster responses to network issues.

Optimized wireless experience with advanced feature settings

With a range of wireless features, the WAC6103D-I ensures optimized wireless experience for users. Dynamic Channel Selection (DCS) avoids interference of co-channel and overlapping channel at initialization, while Load Balancing enables administrators to limit the number of clients associated with each AP. Smart Client Steering features with Band Select, Signal Threshold and Band Balancing, offering stable, reliable wireless connections. The WAC6103D-I has been certified with industrial-strength WPA2 enterprise protection and features Layer-2 isolation. With these technologies, the WAC6103D-I is capable of delivering consistent, uninterrupted and highly secured wireless access experience to its users.

Robust Hardware



Fine art of RF design

The WAC6103D-I isolates RF circuits by solid shielding frames. Thus, RF noise and electromagnetic interference (EMI) is mitigated meanwhile 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.



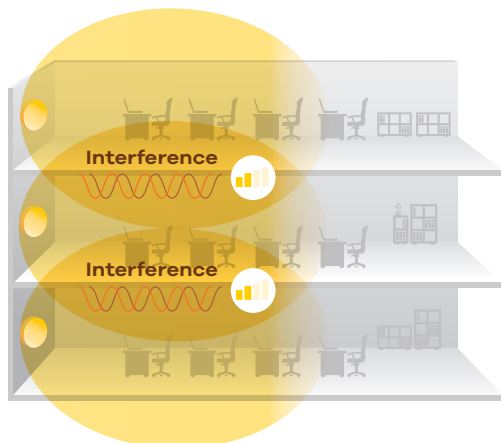
Dual-optimized Antenna

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 WAC6103D-I 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)



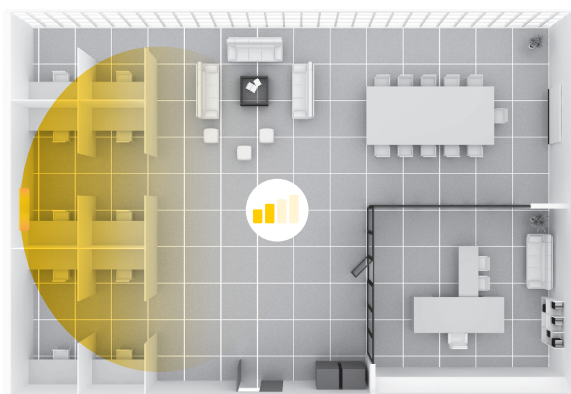
Dual-optimized (Side View)

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



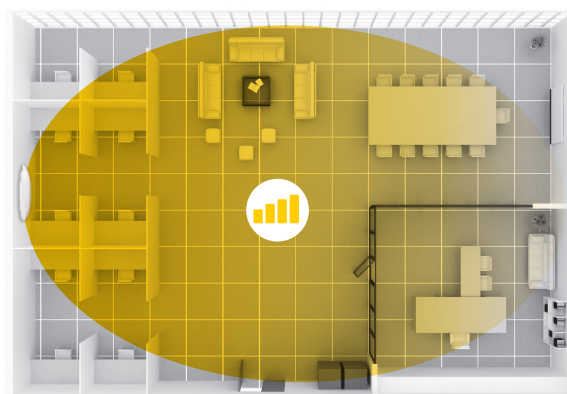
Traditional (Top View)

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

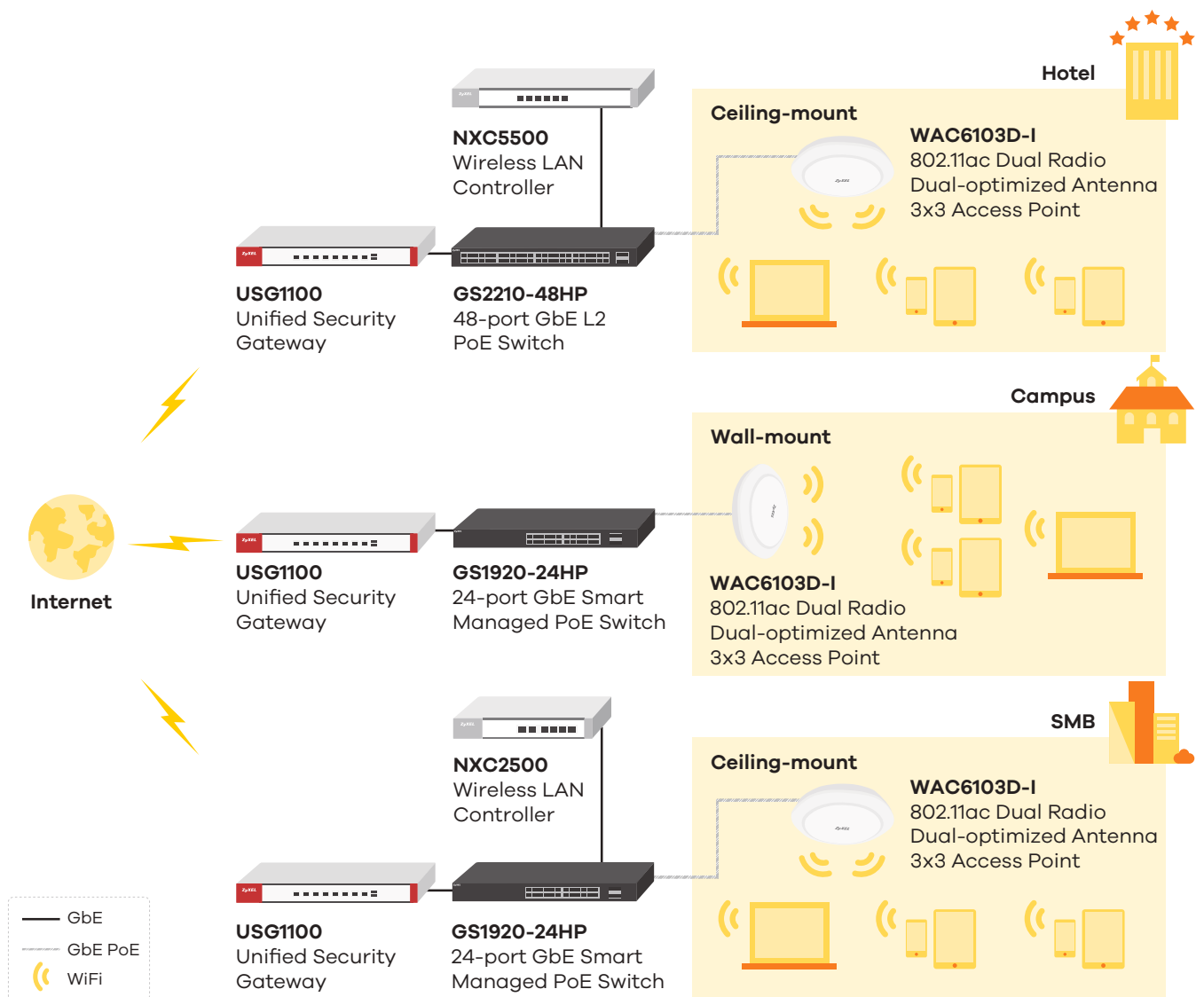


Dual-optimized (Top View)


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



Application Diagram



Specifications

Model	WAC6103D-I	
Product name	802.11ac Dual Radio Dual-optimized Antenna 3x3 Access Point	
		
Main Design		
Wireless frequency	2.4 and 5 GHz	
Radio	2	
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 5.25 GHz; 5.725 to 5.850 GHz • European (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz • Taiwan (TW): 5.15 to 5.25 GHz; 5.725 to 5.850 GHz
802.11n/ac premium features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Ceiling: 2.4 GHz 3 dBi; 5 GHz 4 dBi • Wall: 2.4 GHz 4 dBi; 5 GHz 5 dBi 	
Support data rate	<ul style="list-style-type: none"> • 802.11a/g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps • 802.11b: 1, 2, 5.5 and 11 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 to -102 dBm	
Interfaces		
Number of 10/100/1000M LAN	2 x switch ports	
Console port	4-Pin serial	
PoE	Yes	
PoE power draw	12.48 W (802.3at PoE) ^{*1}	
WLAN Features		
WLAN maximum throughput	Up to 900 Mbps	
ZyMesh (Controller-managed mode)	Yes (by License) ^{*2}	
Smart mesh (Cloud mode)	Yes	
Fast roaming	Pre-authentication, PMK caching and 802.11r/k/v	

*1: 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.

*2: Supports when working with Zyxel NXC controller

Model	WAC6103D-I
Wireless Security	
WEP	Yes
WPA/WPA2-PSK	Yes
WPA/WPA2-Enterprise	Yes
WMM(WiFi certified)	Yes
Wireless Security	
WLAN access control list	Yes
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST, EAP-AKA and EAP-SIM
IEEE 802.1X	Yes
Number of SSID	16
Web authentication*	Yes
MAC filtering	Yes
Layer-2 isolation	Yes
RADIUS authentication	Yes
Microsoft AD authentication*	Yes
LDAP authentication*	Yes
MAC authentication*	Yes
Rogue AP detection	Yes
Rogue AP containment	Yes
Network	
IPv6 host	Yes
VLANs	Yes
DHCP client	Yes
QoS	
WMM	Yes
WMM power save	Yes
DiffServ marking	Yes
Management	
ZON Utility	<ul style="list-style-type: none"> • Discovery of Zyxel switches, APs and gateways • Centralized and batch configurations <ul style="list-style-type: none"> ▪ IP configuration ▪ IP renew ▪ Device factory reset ▪ Device reboot ▪ Device locating ▪ Web GUI access ▪ Firmware upgrade ▪ Password configuration ▪ One-click quick association with Zyxel AP Configurator (ZAC)
Smart Connect	<ul style="list-style-type: none"> • Neighbor device discovery • One-click remote management access to the neighboring Zyxel devices
Zyxel AP Configurator	<ul style="list-style-type: none"> • Batch AP configuration • Batch AP firmware upgrade • Batch AP profile backup
Zyxel Wireless Optimizer	<ul style="list-style-type: none"> • WiFi AP planning • WiFi coverage detection • Wireless health management
Standalone AP mode	Yes
Managed AP mode	Yes
CLI	Yes
Web UI	Yes
SNMP	v2c/v3

* Supports when working with Zyxel NXC controller

Model		WAC6103D-I
Others		
Plenum rating	Yes	
Input power	802.3at PoE only (No DC jack)	
MTBF (hr)	1,005,235	
Standard Compliance		
Ethernet	<ul style="list-style-type: none"> • IEEE 802.3 • IEEE 802.3u • IEEE 802.11ab • IEEE 802.3au • IEEE 802.3az • IEEE 802.3at 	
PoE	IEEE 802.3at	
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	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 ceiling rails, 5 sets, ROHS
POE12-HP-EU0102F	802.3at PoE injector, ROHS
POE12-HP-US0102F	802.3at PoE injector, 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	
	<ul style="list-style-type: none">• NWA1123-ACv2• NWA5121-NI• NWA5123-AC• NAP102
	<ul style="list-style-type: none">• NWA1123-AC PRO• WAC6103D-I• NAP203



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

Copyright © 2019 Zyxel Communications Corp. All rights reserved. Zyxel, Zyxel logo are registered trademarks of Zyxel Communications Corp. All other brands, product names, or trademarks mentioned are the property of their respective owners. All specifications are subject to change without notice.

Datasheet [WAC6103D-I](#)

