



Ultra-fast, Ultra-slim 802.11ac Wi-Fi Access Point Featuring Innovative Dual-Optimized Antenna Technology

- 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
- APFlex™ and ZyXEL One Network utilities make deployment simple and fast

To Wi-Fi users, it is not uncommon to have bad experience on Wi-Fi performance, and antenna design plays an important role while evaluating wireless performance. Today, most access points on the market are designed with single static radiation pattern, typically for ceiling-mount. When an AP with ceiling-mount pattern is installed in wall-mount scenario, its signal coverage does not fit for wall-mount deployment. Adapting an AP with external antenna may be the alternative option, however, external antenna installation requires know-how for antenna selection, and would look awkward for interior decoration. A flexibly installed Wi-Fi AP with optimal performance and stylish outlook is a prerequisite today, but a satisfactory solution has been missing for a long time.

ZyXEL's WAC6103D-I is a high performance 3-stream 802.11ac Wi-Fi AP featuring ultra-fast speeds of up to 1.75 Gbps with ground-breaking “dual-optimized” antenna design. Via the innovative adjustable antenna setting, the WAC6103D-I provides the best signal coverage fitting 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 Wi-Fi performance.

Benefits

Superior Gigabit Wi-Fi performance with innovative “Dual-optimized” antenna

Ceiling-mount installation is the most common type of wireless deployments, and it is not surprising that most APs on the market are designed with single static radiation pattern for ceiling-mount installations. In wall-mount scenarios, the ceiling-mount radiation pattern would create interference with devices on upper and lower floors, meanwhile it delivers short-range signal for wireless clients at the AP front. Choosing an AP with external antenna may be the alternative option for wall-mount installation. However, the installation usually requires professional knowledge for antenna accessory selection and signal coverage fine-tune.



ZyXEL **onenetwork**
Redefining network integration

WAC6103D-I
802.11ac Dual Radio
Dual-optimized Antenna
3x3 Access Point

Designed with the innovative “Dual-optimized” antenna, the WAC6103D-I adapts to both wall- and ceiling-mount installations. To boost Wi-Fi speed of your network, WAC6103D-I is definitely an excellent choice.

Ultra-slim, stylish outlook aesthetics blends into environments

The WAC6103D-I inherits the stylish honeycomb product design of ZyXEL WAC6500 Series; its low-profile white blends perfectly into all kinds of decorations in many buildings with extraordinary modern tastes. The compact and elegant aesthetics makes WAC6103D-I flexible for different decors – no matter to be outstanding or just invisible.

Streamlined deployment tools save valuable time

WAC6103D-I features APFlex™ to simplify managed/standalone AP mode configuration and to be integrated into the network environment automatically, which eliminates the need for pre-install preparation. Also, the ZWO (ZyXEL Wireless Optimizer) Utility allows IT managers to perform AP planning, coverage detection and wireless health management centrally. ZWO’s user-friendly presentation saves time and facilitates quick response to the network problems.

ZyXEL One Network experience

Aiming for relieving our customers from repetitive operations of deploying and managing a network, ZyXEL One Network is designed to simplify the configuration, management, and troubleshooting, allowing our customers to focus on the business priorities. ZyXEL One Network presents an easy-to-use tool, ZyXEL One Network Utility (ZON Utility), to realize speed network setup. ZyXEL Smart Connect allows ZyXEL networking equipment to be aware and recognize each other and further facilitating the network maintenance via one-click remote functions such as factory reset or power cycling. ZyXEL One Network redefines the network integration across multiple networking products from switch to Wi-Fi AP and to Gateway.

Optimized wireless experience with advanced feature settings

WAC6103D-I ensures to deliver optimized wireless experience for users with a range of wireless features such as Dynamic Channel Selection (DCS), Load Balancing, and Smart Client Steering etc. Dynamic Channel Selection (DCS) avoids the interference of co-channel and overlapping channel at initialization. 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 for stable and reliable wireless connection. Band Select and Signal Threshold monitor the capabilities of each wireless client and steer them to the less congested band and better signal AP. Band Balancing detects dual-radio clients and distributes clients across 2.4 GHz and 5 GHz bands on AP. With these technologies, the WAC6103D-I delivers smooth, consistent and uninterrupted wireless access experience.

Feature Highlights



Dual-Optimized Antenna

Dual-optimized antenna

ZyXEL's innovative "Dual-optimized" antenna design is a ground-breaking technology for both wall- and ceiling-mount installations. Instant antenna adjustment either by a hardware switch or software configuration, the signal pattern adjustment is completed in seconds without skillful experience for antenna accessory selection and installation. The WAC6103D-I embedded with a "Dual-optimized" antenna is able to deliver truly optimal Wi-Fi performance in a range of installation scenarios.



ZyXEL AP Flex

ZyXEL APFlex™

ZyXEL APFlex™ includes Zero-touch AP mode changing and Automatic IP configuration functions. The Zero-touch AP mode setting detects if there is an existing ZyXEL controller and to choose stand-alone or managed mode accordingly. The Automatic IP configuration removes manual configuration and allows the AP to set itself to fixed or dynamic IP address automatically. With these two intelligent features, IT administrators can skip the two critical settings that had to be handled manually on legacy products and focus to more critical configuration tasks instead.



ZyXEL Wireless Optimizer

ZyXEL Wireless Optimizer

ZyXEL Wireless Optimizer (ZWO) provides a powerful tool for centralized management covering initial planning, adjustment during deployment and after-sale maintenance of an AP network. Architects can simulate AP deployment on a map displaying the number of APs needed. During deployment, ZWO will also map actual signal coverage for architects to adjust their AP locations or configurations. After-sale, network administrators can access key performance details from ZWO, including channel in use, transmit retry rate and frame error rate, as well as the devices on the environment map. ZWO's user-friendly presentation saves time and facilitates quick response to the network problems.



WPA2 Enterprise

WPA2 Enterprise Certified

ZyXEL WAC6103D-I has been certified with industrial strength WPA2 enterprise protection and supports a wide range of Extensible Authentication Protocol (EAP) types. It can be seamlessly integrated with deployed corporate RADIUS servers.



Wireless L2 Isolation

Wireless Layer-2 Isolation

The Layer-2 isolation protects private networks among client users, allowing users to access their shared devices without entering the rest of a private network for enhanced security. In addition, the intra-BSS blocking prevents different WiFi clients associated with the same AP from seeing each other and each other's data.



ZON Utility

ZyXEL One Network Utility

To streamline the management process, the WAC6103D-I comes with the ZyXEL One Network (ZON) utility, allowing administrators to assign IP addresses to multiple APs through just one platform. Administrators can avoid the hassle logging into each AP to change the default IP addresses before physical installation.



ZyMESH

ZyMesh

Wireless Mesh is an array of access points automatically forming dynamic wireless links. Built on this foundation of mesh networking, ZyMesh is ZyXEL's proprietary protocol for creating wireless mesh links for easy configuration, optimized management and enhanced reliability.



ZyXEL AP Configurator

ZyXEL AP Configurator

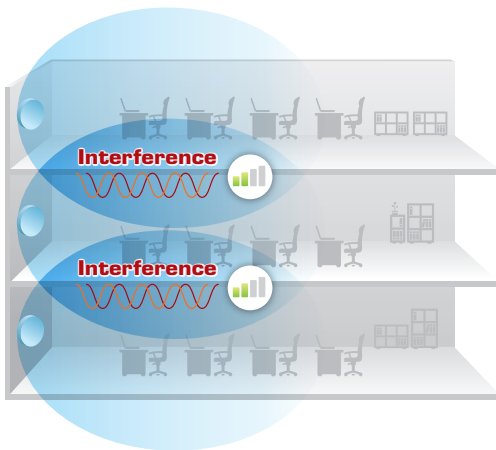
While deploying a number of APs, repetitive configuration of each unit takes time and effort. ZyXEL AP Configurator (ZAC) builds templates that allow users to copy one profile to several APs, allowing batch firmware upgrades and profile backups in three easy steps to significantly reduce configuration time and effort.

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)



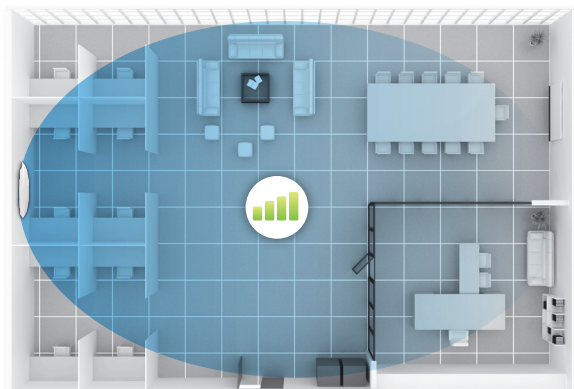
Traditional (Top View)

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



Dual-optimized (Top View)

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

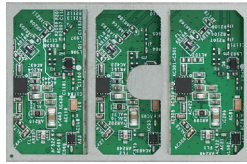


Robust Hardware

Fine art of RF design

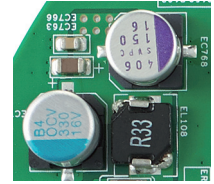
Noises between RF circuits usually impact performance, and it's a critical EMI challenge too. The WAC6103D-I isolates RF circuits by solid shielding frames.

Thus, electromagnetic interference (EMI) is mitigated while RF performance is enhanced as well.

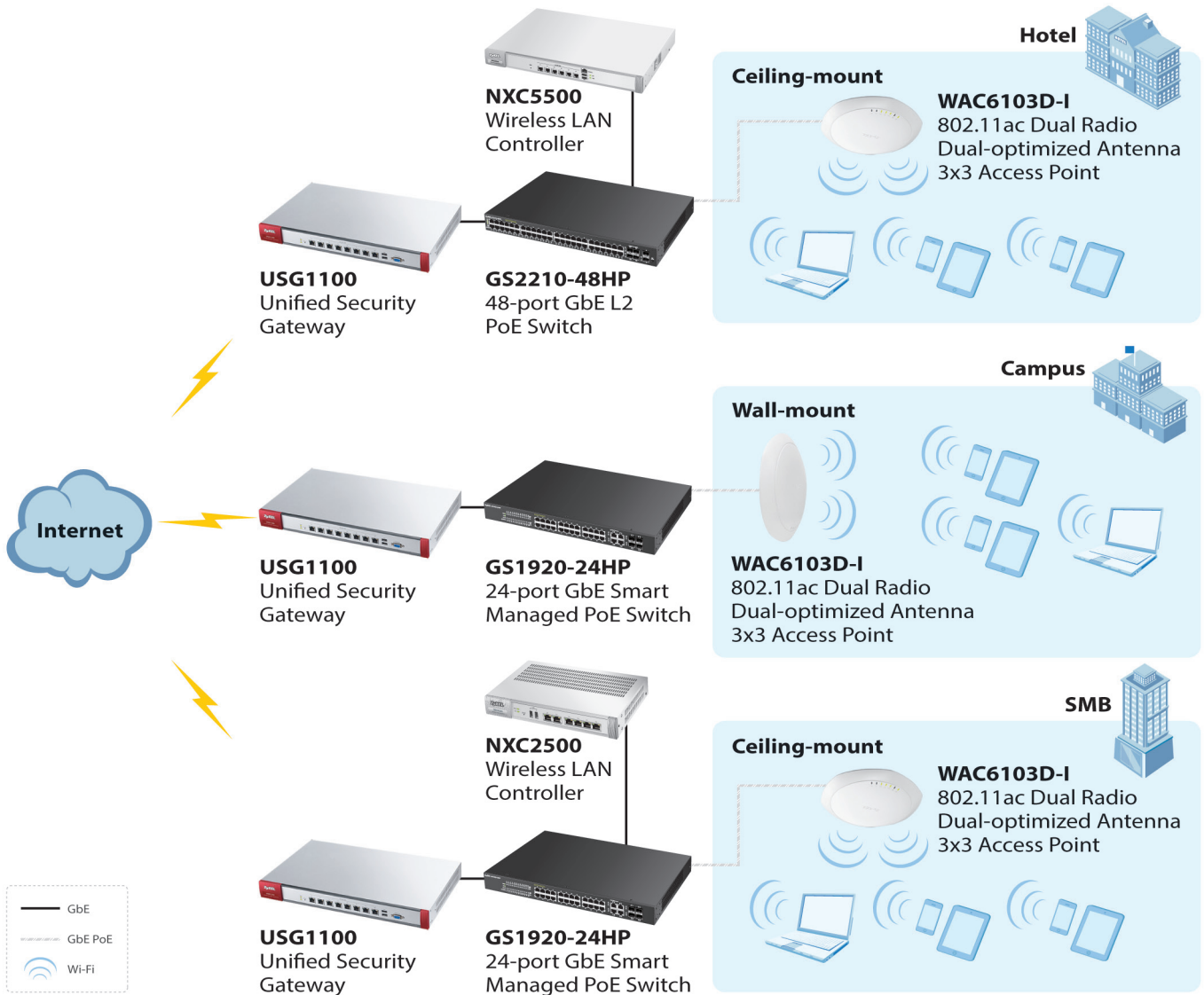


Solid capacitor for longevity

All-solid capacitor design provides up to 6 times lifespan than electrolytic capacitors. No more exploding capacitors that fail the AP, so better stability and reliability can be expected.



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	27
	FCC 11g/n	26
	FCC 11a	27
	FCC 11n/a (ac)	27
	EU 11b/g	18
	EU 11g/n	18
	EU 11a	22
	EU 11n/a (ac)	24
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)*
WLAN Features		
WLAN maximum throughput		Up to 900 Mbps
Mesh AP (By License)		Yes
Mesh AP for multiple SSID with VLAN (through tunnel mode)		Yes
Fast roaming		Pre-authentication and PMK caching

* 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.

Model	WAC6103D-I
Wireless Security	
WEP	Yes
WPA/WPA2-PSK	Yes
WPA/WPA2-Enterprise	Yes
WMM	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 (PG)	
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 ▪ Device reboot ▪ Firmware upgrad ▪ IP renew ▪ Device locating ▪ Password configuration ▪ Device factory reset ▪ Web GUI access ▪ 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"> • Wi-Fi AP planning • Wi-Fi 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 NXG 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 Accessories

Power Module

Model	Description
PoE12-HP	802.3af/at PoE Injector

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



Copyright © 2016 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.

