Huawei AP5010 Series Brochure-Detailed

HUAWEI TECHNOLOGIES CO., LTD.

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Huawei AP5010 wireless Access Point (AP) series offers superior value and flexibility with 2.4 GHz and 5 GHz radios, IEEE 802.11a/b/g/n standards compliance, and Fit AP or Fat AP operation. It supports Multiple-Input Multiple-Output (MIMO) technology, provides radio coverage in a larger area, and offers services simultaneously on 2.4 GHz and 5 GHz frequency bands to connect more users.

The AP5010 provides comprehensive service support capabilities and features proven reliability, high security, simple network deployment, automatic AC discovery and configuration, and real-time management and maintenance for indoor environments.

Huawei AP5010SN-GN Access Point

- 2.4 GHz frequency band
- Compatibility with IEEE 802.11b/g/n
- iF Design Award winner for superior value

Huawei AP5010DN-AGN Access Point

- 2.4 GHz and 5 GHz frequency bands
- Compatibility with IEEE 802.11a/b/g/n
- iF Design Award winner for superior value

Huawei AP5010 offers the following advantages:

- High-speed and reliable wireless access services: uses the latest 802.11n chip for better performance and wider coverage
- Comprehensive user access control capability: implements user access control based on user group policies and supports a maximum of 128 users.
- High network security: supports multiple authentication and encryption modes, as well as rogue AP and STA detection.
- Flexible networking and strong environment adaptability: provides access and bridging services and automatically adjusts transmission rate, channel, transmit power, and bandwidth to adapt to various environments.
- Easy management and maintenance: supports Plug-and-Play (PnP)

Product Features

- Recommended for smaller locations with simple building structures, high user density, and high capacity demands, such as enterprise offices, campuses, hospitals, large shopping malls, and exhibition centers
- 2 x 2 MIMO technology, with built-in antennas and a maximum rate of 300 Mbit/s for each radio
- Integrated Fit AP and Fat AP functions
- Value-added services, such as spectrum analysis and locating service
- Wireless Distribution System (WDS)/Mesh networking
- Wireless Intrusion Detection System (WIDS)/Wireless Intrusion Prevention System (WIPS)
- Auto Radio
- High Density Boost
- User Awareness
- Fast roaming without service interruption
- Beamforming
- IPv6 support
- PoE power supply in compliance with IEEE 802.3af/at, simplifying installation
- Single-band AP5010SN-GN: works on the 2.4 GHz frequency band
- Dual-band AP5010DN-AGN: works on both 2.4 GHz and 5 GHz frequency bands

Scalability

When coupled with Access Controllers (ACs) and Network Management Systems (NMSs), Huawei 802.11n APs can implement real-time monitoring, intelligent Radio Frequency (RF) management, spectrum analysis, wireless positioning, load balancing, roaming, security policy control, wired/wireless network integration, as well as Bring Your Own Device (BYOD) network security control and a smart access strategy. The AC + Fit AP architecture is highly scalable and supports centralized management of multiple Fit APs on a single AC. Software upgrade technologies allow users to seamlessly add and upgrade APs without incurring additional administrative or equipment expense.
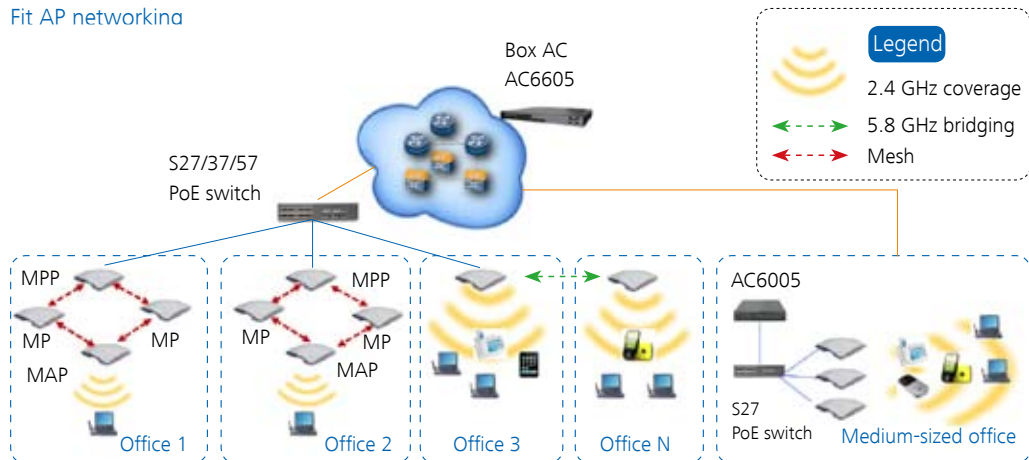
Typical Networking

The following figures show typical AP5010SN-GN and AP5010DN-AGN networking.

Fat AP networking
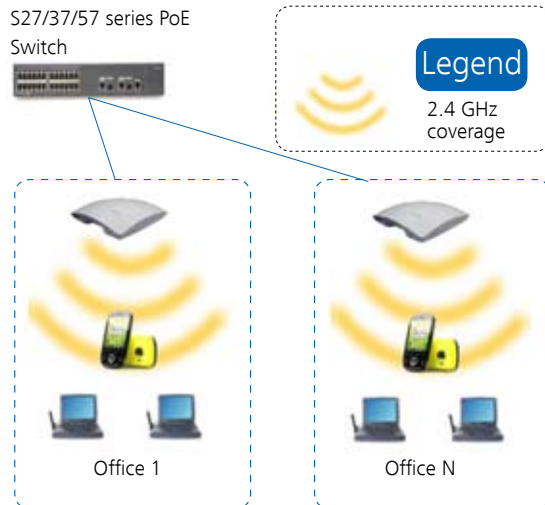
When working as a Fat AP, the AP5010SN-GN and AP5010DN-AGN provide user authentication and access, data security, service data forwarding, Quality of Service (QoS), and other functions, without an AC.

Fit AP networking

When working as a Fit AP, the AP5010SN-GN and AP5010DN-AGN provide data forwarding functions. An AC is required for user access, AP management, authentication, routing, security, and QoS. The AP5010SN-GN and AP5010DN-AGN can also be deployed in a Wireless Distribution System (WDS) or mesh networking as a Fit AP.

In WDS mode, the AP supports Point-to-Point (P2P) and Point-to-Multi-Point (P2MP) networking. With 5 and 2.4 GHz frequency bands, the AP provides wireless bridging and access functions.

Mesh Points (MPs) interconnect in a mesh topology to form a self-configuring and self-healing Wireless Mesh Network (WMN) backbone, and Mesh Portal Points (MPPs) provide a connection to the Internet. Stations connect to the WMN network through Mesh Access Points (MAPs). Dedicated mesh routing protocols provide better transmission quality and ensure high bandwidth and Internet connection service stability.

Basic Specifications

Item		Description
Technical specifications	Dimensions (W x D x H)	180 mm x 180 mm x 50 mm
	Weight	0.4 kg
	System memory	• 128 MB DDR2 • 32 MB flash memory
Power specifications	Power input	• 12V DC $\pm$ 10% • PoE power supply: −48V DC (in compliance with IEEE 802.3af/at)
	Maximum power consumption	• AP5010DN-AGN: 9.5W • AP5010SN-GN: 6.0W ☐ NOTE The actual maximum power consumption depends on local laws and regulations.
Environmental specifications	Operating temperature	−10°C to +50°C
	Storage temperature	−40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Waterproof and dustproof grade	IP31
	Altitude	−60 m to 4,000 m

Radio Specifications

Item	Description
Antenna type	Built-in antennas
Antenna gain	AP5010DN-AGN: • 2.4 GHz: 4 dBi • 5 GHz: 5 dBi AP5010SN-GN: 4 dBi
Maximum number of users	≤ 128
Maximum transmit power	17 dBm for each radio port ☐ NOTE The actual transmit power depends on local laws and regulations.
Power increment	1 dBm

Item	Description
Receiver sensitivity	2.4 GHz 802.11b (CCK): -96 dBm @ 1 Mb/s; -88 dBm @ 11 Mb/s
	2.4 GHz 802.11g (non-HT20): -91 dBm @ 6 Mb/s; -74 dBm @ 54 Mb/s
	2.4 GHz 802.11n (HT20): -91 dBm @ MCS0; -71 dBm @ MCS15
	2.4 GHz 802.11n (HT40): -88 dBm @ MCS0; -68 dBm @ MCS15
	5 GHz 802.11a (non-HT20): -89 dBm @ 6 Mb/s; -71 dBm @ 54 Mb/s
	5 GHz 802.11n (HT20): -90 dBm @ MCS0; -71 dBm @ MCS15
	5 GHz 802.11n (HT40): -85 dBm @ MCS0; -68 dBm @ MCS15

Product Features

WLAN features	AP5010DN-AGN: compliance with IEEE 802.11a/b/g/n AP5010SN-GN: compliance with IEEE 802.11b/g/n AP5010SN-GN: maximum rate of 300 Mbit/s AP5010DN-AGN: maximum rate of 600 Mbit/s Maximum Ratio Combining (MRC) Maximum Likelihood Detection (MLD) Data unit aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Rx only) 802.11 Dynamic Frequency Selection (DFS) for the AP5010DN-AGN Short Guard Interval (GI) Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding Automatic and manual rate adjustment (the rate is adjusted automatically by default) WLAN channel management and channel rate adjustment Automatic channel scanning and interference avoidance Service Set Identifier (SSID) hiding Signal Sustain Technology (SST) Unscheduled Automatic Power Save Delivery (U-APSD) Control and Provisioning of Wireless Access Points (CAPWAP) in Fit AP mode Automatic access in Fit AP mode WDS in Fit AP mode Mesh in Fit AP mode
Network features	Compliance with IEEE 802.3u Auto-negotiation of the rate and duplex mode; automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) SSID-based VLAN assignment VLAN trunk on uplink Ethernet ports 4,094 VLAN IDs (1 to 4,094) and a maximum of 16 virtual APs (VAPs) for each radio AP control channel in tagged and untagged mixed mode DHCP client, obtaining IP addresses through DHCP Tunnel forwarding and direct forwarding STA isolation in the same VLAN Access Control Lists (ACLs) Link Layer Discovery Protocol (LLDP) Service holding upon CAPWAP link disconnection in Fit AP mode Unified authentication on the AC in Fit AP mode AC dual-link backup in Fit AP mode

QoS features	Priority mapping and packet scheduling based on a WMM profile to implement priority-based data processing and forwarding WMM parameter management for each radio WMM power saving Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (the system dynamically adjusts bandwidth allocation based on the user quantity and environment to improve user experience) Airtime scheduling
Security features	Open system authentication WEP authentication/encryption WPA/WPA2-PSK authentication and encryption WPA/WPA2-802.1x authentication and encryption WAPI authentication and encryption WIDS including rogue AP and STA detection, attack detection, STA/AP blacklist and whitelist
Maintenance features	Unified management and maintenance on the AC in Fit AP mode Plug-and-Play (PnP) in Fit AP mode: automatically going online and loading configurations WDS zero-configuration deployment in Fit AP mode Mesh zero-configuration deployment in Fit AP mode Batch upgrade Local AP management using Telnet or through the serial port Real-time configuration monitoring and fast fault location using the NMS System status alarm
BYOD	Identifies the device type according to the Organizationally Unique Identifier (OUI) in the MAC address. Identifies the device type according to the User Agent (UA) information in an HTTP packet. Identifies the device type according to DHCP options. The RADIUS server delivers packet forwarding, security, and QoS policies according to the device type carried in the RADIUS authentication and accounting packets.
Locating service	• Locates tags manufactured by AeroScout or Ekahau. • Locates Wi-Fi terminals.
Spectrum analysis	Identifies interference sources such as baby monitors, Bluetooth devices, digital cordless phones (at 2.4 GHz frequency band only), wireless audio transmitters (at both the 2.4 GHz and 5 GHz frequency bands), wireless game controllers, and microwave ovens. Works with Huawei eSight to locate and perform spectrum analysis on interference sources.

Standards Compliance

Safety standards	UL 60950-1 CAN/CSA 22.2 No.60950-1 IEC 60950-1 EN 60950-1 GB 4943
Radio standards	AP5010DN-AGN: ETSI EN 300 328 ETSI EN 301 893 FCC Part 15C: 15.247 FCC Part 15C: 15.407 RSS-210 AS/NZS 4268 AP5010SN-GN: ETSI EN 300 328 FCC Part 15C: 15.247 RSS-210 AS/NZS 4268
EMC standards	EN 301 489-1 EN 301 489-17 ETSI EN 60601-1-2 FCC Part 15 ICES-003 YD/T 1312.2-2004 ITU k.21 GB 9254 GB 17625.1 AS/NZS CIPSR22 EN 55022 EN 55024 CISPR 22 CISPR 24 IEC61000-4-6 IEC61000-4-2
IEEE standards	AP5010DN-AGN: IEEE 802.11a/b/g IEEE 802.11n IEEE 802.11h IEEE 802.11d IEEE 802.11e AP5010SN-GN: IEEE 802.11b/g IEEE 802.11n IEEE 802.11h IEEE 802.11d IEEE 802.11e

Security standards	802.11i, Wi-Fi Protected Access 2 (WPA2), and WPA 802.1X Advanced Encryption Standards (AES) and Temporal Key Integrity Protocol (TKIP) EAP Type (s)
Environmental standards	ETSI 300 019-2-1 ETSI 300 019-2-2 ETSI 300 019-2-3 ETSI 300 019-1-1 ETSI 300 019-1-2 ETSI 300 019-1-3
EMF	CENELEC EN 62311 CENELEC EN 50385 OET65 RSS-102 FCC Parts 1 & 2 FCC KDB series
RoHS	Directive 2002/95/EC & 2011/65/EU
Reach	Regulation 1907/2006/EC
WEEE	Directive 2002/96/EC & 2012/19/EU

Professional Service and Support

Huawei WLAN planning tools deliver expert network design and optimization services using the most professional simulation platform in the industry. Backed by fifteen years of continuous investment in wireless technologies, extensive network planning and optimization experience, as well as rich expert resources, Huawei helps customers:

· Design, deploy, and operate a high-performance network that is reliable and secure.

· Maximize return on investment and reduce operating expenses.

More Information

For more information, please visit http://e.huawei.com or contact your local Huawei office.

Enterprise Services	Product Overview	Marketing Documentation