Huawei AP6510DN-AGN and AP6610DN-AGN Brochure-Detailed

HUAWEI TECHNOLOGIES CO., LTD.

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Huawei AP6510DN-AGN is a standard outdoor dual-band Access Point (AP) that offers services over 2.4 GHz and 5 GHz frequency bands.
Huawei AP6610DN-AGN, a "hardened" outdoor dual-band AP, features improved coverage and offers simultaneous services on both 2.4 GHz and 5 GHz to connect more users. It supports wireless network bridging, complies with IEEE 802.11a/b/g/n, and works in Fit and Fat AP modes.
Both APs provide comprehensive service support capabilities and feature high reliability, high security, simple network deployment, automatic Access Controller (AC) discovery and configuration, and real-time management and maintenance, which meets outdoor settled network requirements.

Wi Fi CERTIFIED

Huawei AP6510DN-AGN Access Point

- 2.4 GHz and 5 GHz frequency bands
- Compatibility with IEEE 802.11a/b/g/n

Huawei AP6610DN-AGN Access Point

- 2.4 GHz and 5 GHz frequency bands
- Compatibility with IEEE 802.11a/b/g/n
- Connection to upstream devices through optical fibers
- Local AC power supply

AP6510DN-AGN and AP6610DN-AGN advantages:

- High reliability and surge protection: high-level, built-in surge protector; no additional surge protection device required. This design simplifies installation and saves costs.
- High-speed, reliable wireless access services: uses the latest 802.11n chip to achieve higher performance; targeted at high-density applications.
- Comprehensive user access control capability: implements fine-grained management.
- Solid network security: 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 radio parameters and bandwidth to adapt to various environments.
- Easy management and maintenance: supports Plug-and-Play (PnP) and deployment based on expert network planning and optimization tools.

Product Features

- Industry-grade 802.11n AP with IP67 dustproof and waterproof protection for use in coverage applications such as squares, pedestrian streets, and amusement parks. Bridging applications include wireless harbors, data backhaul, and video surveillance, and train-to-ground backhaul.
- Built-in, high-level surge protector simplifies deployment and reduces costs.
- Latest-generation 2 x 2 Multiple-Input Multiple-Output (MIMO) chips, energy-efficient design, and a rate of up to 600 Mbit/s
- Integrated Fit and Fat AP functions
- Wireless Intrusion Detection System (WIDS)/Wireless Intrusion Prevention System (WIPS)
- Wireless Distribution System (WDS)/Mesh
- Auto Radio
- High Density Boost
- User Awareness
- Beamforming
- IPv6 support
- Value-added services such as spectrum analysis and locating service
- AP6510DN-AGN: auto-sensing uplink GE electrical ports and PoE power supply
- AP6610DN-AGN: uplink GE optical ports and AC power supply

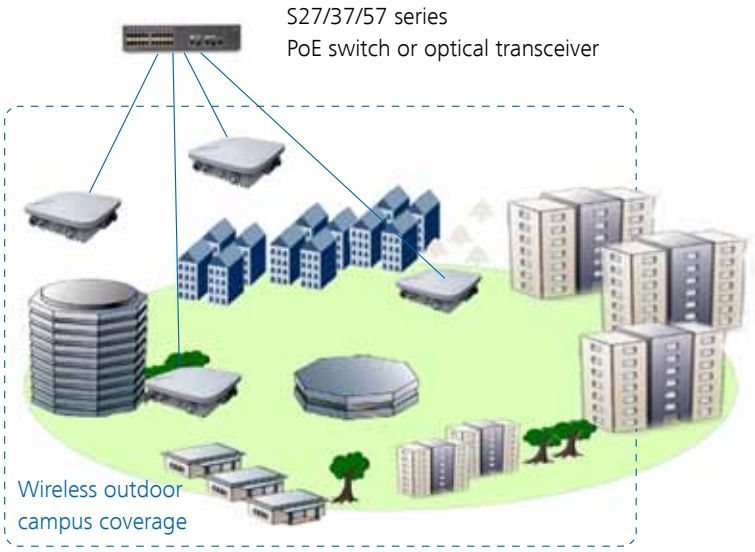
Scalability

When coupled with 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

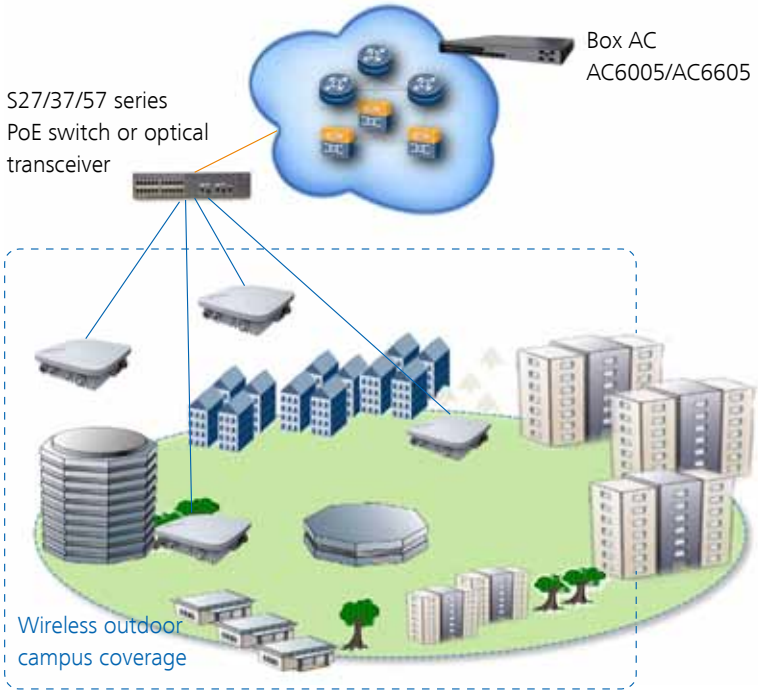
The following figures show typical AP6510DN-AGN and AP6610DN-AGN networking.

Fat AP networking



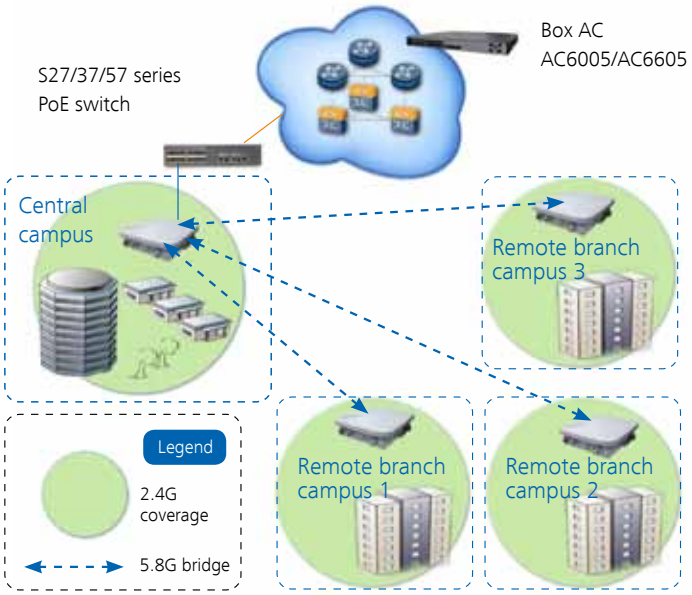
When working as Fat APs, the AP6510DN-AGN and AP6610DN-AGN provide user authentication and access, data security, service data forwarding, Quality of Service (QoS), and other functions without an AC.

Fit AP networking



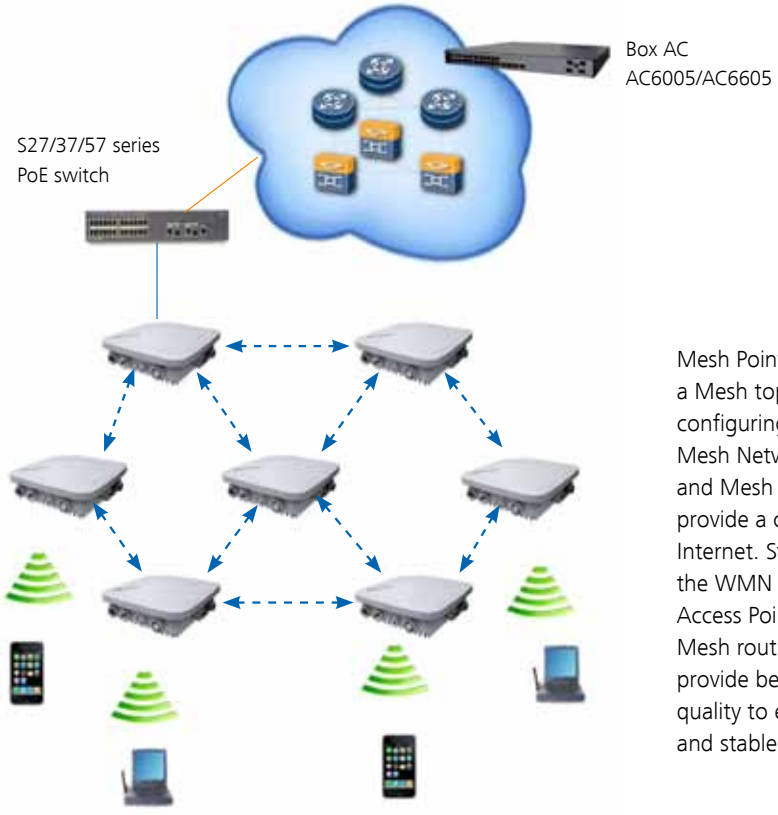
When working as Fit APs, the AP6510DN-AGN and AP6610DN-AGN provide data forwarding functions. An AC is required for user access, AP management, authentication, routing, security, and QoS.

Fit AP WDS networking (P2MP)



In WDS networking, the AP6510DN-AGN or AP6610DN-AGN uses wireless links to connect two or more independent wired or wireless LANs so that users in these LANs can communicate with each other. In WDS mode, the AP supports Point-to-Point (P2P) and Point-to-Multi-Point (P2MP) networking modes. With 5 and 2.4 GHz frequency bands, the AP can implement wireless bridging and access functions.

Fit AP Mesh networking



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

Basic Specifications

Item		Description
Technical specifications	Dimensions (W x D x H)	255 mm x 255 mm x 83 mm
	Weight	• AP6510DN-AGN: 2.2 kg • AP6610DN-AGN: 2.65 kg
	System memory	128 MB DDR2 32 MB flash memory
Power specifications	Power input	• AP6510DN-AGN: PoE power supply -48 V DC (in compliance with IEEE 802.3at) • AP6610DN-AGN: AC power supply Rated voltage range: 100 V AC to 240 V AC, 50/60 Hz Maximum voltage range: 90 V AC to 264 V AC, 47 Hz to 63 Hz NOTE The AP6610DN-AGN does not support PoE power supply. Ensure that reliable AC power supply is available where the AP is installed.
	Maximum power consumption	• AP6510DN-AGN: 25.5W • AP6610DN-AGN: 30W NOTE The actual maximum power consumption depends on local laws and regulations.
Environmental specifications	Operating temperature	-40°C to +60°C
	Storage temperature	-40°C to +70°C
	Operating humidity	0% to 100% (non-condensing)
	Waterproof and dustproof grade	IP67
	Altitude	-60 m to 5,000 m

Radio Specifications

Item	Description
Antenna type	Dual-polarized antennas or common outdoor antennas
Maximum number of users	≤ 256 NOTE The number of concurrent online users on each VAP cannot exceed 128. The number of concurrent online users on each radio cannot exceed 128.
Maximum transmit power	• AP6510DN-AGN: 2.4 GHz: 26 dBm for each radio port; 5 GHz: 20 dBm for each radio port • AP6610DN-AGN: 2.4 GHz: 27 dBm for each radio port; 5 GHz: 24 dBm for each radio port NOTE The actual transmit power depends on local laws and regulations.

Item	Description
Power increment	1 dBm
Receiver sensitivity	2.4 GHz 802.11b (CCK): -97 dBm @ 1 Mb/s; -90 dBm @ 11 Mb/s
	2.4 GHz 802.11g (non-HT20): -92 dBm @ 6 Mb/s; -74 dBm @ 54 Mb/s
	2.4 GHz 802.11n (HT20): -92 dBm @ MCS0; -71 dBm @ MCS15
	2.4 GHz 802.11n (HT40): -89 dBm @ MCS0; -68 dBm @ MCS15
	5 GHz 802.11a (non-HT20): -90 dBm @ 6 Mb/s; -71 dBm @ 54 Mb/s
	5 GHz 802.11n (HT20): -84 dBm @ MCS0; -67 dBm @ MCS15
	5 GHz 802.11n (HT40): -81 dBm @ MCS0; -64 dBm @ MCS15

Product Features

WLAN	Compliance with IEEE 802.11a/b/g/n AP6510DN-AGN and AP6610DN-AGN: maximum rate of 300 Mbit/s for each radio Maximum Ratio Combining (MRC) Cyclic Shift Diversity (CSD) Maximum Likelihood Detection (MLD) Data unit aggregation, including MAC Protocol Data Unit Aggregation (A-MPDU — Tx/Rx) and MAC Service Data Unit Aggregation (A-MSDU — Rx only) 802.11 Dynamic Frequency Selection (DFS) for the AP6010DN-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, support for SSIDs in Chinese Signal Sustain Technology (SST) Unscheduled Automatic Power Save Delivery (U-APSD) Control and Provisioning of Wireless Access Points (CAPWAP) in Fit AP mode Automatically going online in Fit AP mode WDS in Fit AP mode Mesh in Fit AP mode Dual-MPP Mesh networking in Fit AP mode Hotspot2.0 in Fit AP mode 802.11k and 802.11v smart roaming in Fit AP mode

Network	Compliance with IEEE 802.3u Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) SSID-based VLAN assignment 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 Multicast Domain Name Service (mDNS) gateway protocol: supports AirPlay and AirPrint service sharing between users of different VLANs 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 Soft GRE
QoS	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	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 802.11w Protected Management Frames (PMFs)
Maintenance	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 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 eSight to locate and perform spectrum analysis on interference sources.

Standards Compliance

Safety standards	UL 60950-1 UL 60950-22 CAN/CSA 22.2 No.60950-1 CAN/CSA 22.2 No.60950-22 IEC 60950-1	IEC 60950-22 EN 60950-1 EN 60950-22 GB 4943
Radio standards	ETSI EN 300 328 ETSI EN 301 893 FCC Part 15C: 15.247	FCC Part 15C: 15.407 RSS-210 AS/NZS 4268
EMC standards	ETSI EN 301 489-1 ETSI 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	IEEE 802.11a/b/g IEEE 802.11n IEEE 802.11h IEEE 802.11d IEEE 802.11e	IEEE 802.11k IEEE 802.11u IEEE 802.11v IEEE 802.11w
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 300 019-2-4 IEC 60068-2-52	ETSI 300 019-1-1 ETSI 300 019-1-2 ETSI 300 019-1-4
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

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