

# Huawei AP7110 Series Brochure-Detailed



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Huawei AP7110 is a technology-leading Access Point (AP) that works in Fit mode on Wireless Local Area Networks (WLANs). It provides comprehensive service support capabilities and features high reliability, high security, simple network deployment, automatic Access Controller (AC) discovery and configuration, and real-time management and maintenance.



## Huawei AP7110SN-GN Access Point

- 2.4 GHz frequency band
- Compatibility with IEEE 802.11b/g/n

## Huawei AP7110DN-AGN Access Point

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

## Huawei AP7110 advantages:

- High-speed, reliable wireless access services: uses the latest 802.11n chip for higher performance and wider coverage; provides a rate of 450 Mbit/s for each radio; excellent for high-density applications.
- Comprehensive user access control capability: implements user access control based on user group policies; supports a maximum of 256 users.
- Solid 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 working channel, transmit power, 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-leading AP for good radio performance; recommended for use in large scenarios or scenarios with high user density, including exhibition centers, hospitals, factories, and stadiums
- 802.11n 3 x 3 Multiple-Input Multiple-Output (MIMO), three spatial streams, 450 Mbit/s for each radio, and 900 Mbit/s system rate for the AP7110DN-AGN
- Industry-level design with high waterproof and dustproof protection grades: applicable to challenging environments
- PoE power supply in compliance with IEEE 802.3af/at, simplifying AP installation
- External antenna enables flexible configuration of antenna gain and selection of deployment positions
- Value-added services such as spectrum analysis and locating service
- Wireless Distribution System (WDS)/Mesh
- Wireless Intrusion Detection System (WIDS)/Wireless Intrusion Prevention System (WIPS)
- Auto Radio
- High Density Boost
- User Awareness
- Beamforming
- IPv6 support
- Working frequencies:
  - AP7110SN-GN: 2.4 GHz
  - AP7110DN-AGN: 2.4 GHz and 5 GHz

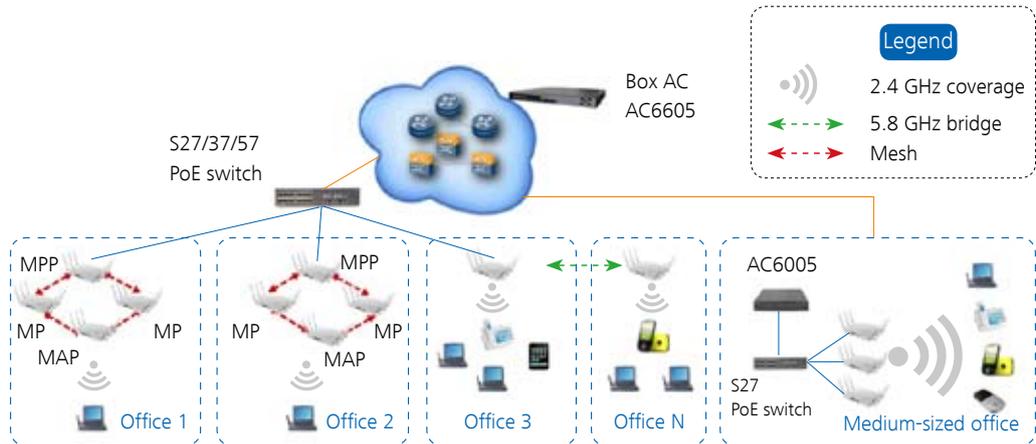
## Scalability

When coupled with ACs and Network Management Systems (NMSs), Huawei 802.11ac 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

Huawei AP7110SN-GN and AP7110DN-AGN can work in AP, WDS, or Mesh mode. The following figure shows typical AP7110SN-GN and AP7110DN-AGN networking.

### Fit AP networking



When working as Fit APs, the AP7110SN-GN and AP7110DN-AGN provide data forwarding functions. An AC is required for user access, AP management, authentication, routing, security, and QoS. The AP7110SN-GN and AP7110DN-AGN can also be deployed in a Wireless Distribution System (WDS) or mesh networking as Fit APs.

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

Mesh Points (MPs) interconnect to form a self-configuring, self-healing Wireless Mesh Network (WMN) backbone, and Mesh Portal Points (MPPs) provide a connection to the Internet. Stations (STAs) 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 Internet connection service stability.

## Basic Specifications

Item	Description	
Technical specifications	Dimensions (W x D x H)	200 mm x 200 mm x 45 mm
	Weight	1.0 kg
	System memory	<ul style="list-style-type: none"> <li>256 MB DDR3</li> <li>32 MB flash memory</li> </ul>

Power specifications	Power input	<ul style="list-style-type: none"> <li>• 12 V DC <math>\pm</math> 10%</li> <li>• PoE power supply: -48 V DC</li> <li>• AP7110SN-GN in compliance with IEEE 802.3af/at</li> <li>• AP7110DN-AGN in compliance with IEEE 802.3at</li> </ul>
	Maximum power consumption	<ul style="list-style-type: none"> <li>• AP7110DN-AGN: 15.7W</li> <li>• AP7110SN-GN: 8.7W</li> </ul> <p> NOTE The actual maximum power consumption depends on local laws and regulations.</p>
Environmental specifications	Operating temperature	-10°C to +55°C
	Storage temperature	-40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Waterproof and dustproof grade	IP41
	Altitude	-60 m to 4,000 m

## Radio Specifications

Item	Description
Antenna type	External antennas, RP-SMA
Antenna gain	AP7110DN-AGN: <ul style="list-style-type: none"> <li>• 2.4 GHz: 2.5 dBi</li> <li>• 5 GHz: 4 dBi</li> </ul> AP7110SN-GN: 2.5 dBi
Maximum number of users	$\leq$ 256
Maximum transmit power	20 dBm for each radio port  NOTE The actual transmit power depends on local laws and regulations.
Power increment	1 dBm
Receiver sensitivity	2.4 GHz 802.11b (CCK): -97 dBm @ 1 Mb/s; -89 dBm @ 11 Mb/s
	2.4 GHz 802.11g (non-HT20): -93 dBm @ 6 Mb/s; -74 dBm @ 54 Mb/s
	2.4 GHz 802.11n (HT20): -93 dBm @ MCS0; -73 dBm @ MCS23
	2.4 GHz 802.11n (HT40): -86 dBm @ MCS0; -70 dBm @ MCS23
	5 GHz 802.11a (non-HT20): -93 dBm @ 6 Mb/s; -74 dBm @ 54 Mb/s
	5 GHz 802.11n (HT20): -93 dBm @ MCS0; -69 dBm @ MCS23
	5 GHz 802.11n (HT40): -87 dBm @ MCS0; -66 dBm @ MCS23

## Product Features

WLAN features	<p>AP7110DN-AGN: compliance with IEEE 802.11a/b/g/n  AP7110SN-GN: compliance with IEEE 802.11b/g/n  AP7110SN-GN: maximum rate of 450 Mbit/s  AP7110DN-AGN: maximum rate of 900 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 AP7110DN-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  Automatically going online in Fit AP mode  WDS in Fit AP mode  Mesh in Fit AP mode</p>
Network features	<p>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  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</p>
QoS features	<p>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</p>

Security features	<p>Open system authentication</p> <p>WEP authentication/encryption</p> <p>WPA/WPA2-PSK authentication and encryption</p> <p>WPA/WPA2-802.1x authentication and encryption</p> <p>WAPI authentication and encryption</p> <p>WIDS including rogue AP and STA detection, attack detection, STA/AP blacklist and whitelist</p>
Maintenance features	<p>Unified management and maintenance on the AC in Fit AP mode</p> <p>Plug-and-Play (PnP) in Fit AP mode: automatically going online and loading configurations</p> <p>WDS zero-configuration deployment in Fit AP mode</p> <p>Mesh zero-configuration deployment in Fit AP mode</p> <p>Batch upgrade</p> <p>Local AP management using Telnet or through the serial port</p> <p>Real-time configuration monitoring and fast fault location using the NMS</p> <p>System status alarm</p>
BYOD	<p>Identifies the device type according to the Organizationally Unique Identifier (OUI) in the MAC address.</p> <p>Identifies the device type according to the User Agent (UA) information in an HTTP packet.</p> <p>Identifies the device type according to DHCP options.</p> <p>The RADIUS server delivers packet forwarding, security, and QoS policies according to the device type carried in the RADIUS authentication and accounting packets.</p>
Locating service	<p>Locates tags manufactured by AeroScout or Ekahau.</p> <p>Locates Wi-Fi terminals.</p>
Spectrum analysis	<p>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.</p> <p>Works with eSight to locate and perform spectrum analysis on interference sources.</p>

## Standards Compliance

Safety standards	<p>UL 60950-1</p> <p>CAN/CSA 22.2 No.60950-1</p> <p>IEC 60950-1</p> <p>EN 60950-1</p> <p>GB 4943</p>
Radio standards	<p>AP7110DN-AGN:</p> <p>ETSI EN 300 328</p> <p>ETSI EN 301 893</p> <p>FCC Part 15C: 15.247</p> <p>FCC Part 15C: 15.407</p> <p>RSS-210</p> <p>AS/NZS 4268</p> <p>AP7110SN-GN:</p> <p>ETSI EN 300 328</p> <p>FCC Part 15C: 15.247</p> <p>RSS-210</p> <p>AS/NZS 4268</p>

EMC standards	<p>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</p>
IEEE standards	<p>AP7110DN-AGN:  IEEE 802.11a/b/g  IEEE 802.11n  IEEE 802.11h  IEEE 802.11d  IEEE 802.11e</p> <p>AP7110SN-GN:  IEEE 802.11b/g  IEEE 802.11n  IEEE 802.11h  IEEE 802.11d  IEEE 802.11e</p>
Security standards	<p>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)</p>
Environmental standards	<p>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</p>
EMF	<p>CENELEC EN 62311  CENELEC EN 50385  OET65  RSS-102  FCC Parts 1 &amp; 2  FCC KDB series</p>
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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