HUAWEI Enterprise WLAN Product Quick Reference Guide

HUAWEI TECHNOLOGIES CO., LTD.

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HUAWEI Enterprise WLAN Product Quick Reference Guide

HUAWEI AP5010 Series Access Point

The AP5010 series, as standard series indoor APs, provide 2.4 GHz and 5 GHz frequency bands to connect more users, comply with IEEE 802.11a/b/g/n, and support the MIMO technology and the Fit/Fat AP mode.

Huawei AP5010SN-GN Access Point

- Supports 2.4 GHz frequency band.
- Complies with IEEE 802.11b/g/n.
- IF Industrial Design Award

Huawei AP5010DN-AGN Access Point

- Supports 2.4 GHz and 5 GHz frequency bands.
- Complies with IEEE 802.11a/b/g/n.
- IF Industrial Design Award

The AP offers the following advantages:

- Elegant appearance
- Easy, zero touch deployment
- High performance: multi-service transmission and many concurrent users
- Energy saving and low consumptions
- High security: data encryption and authentication

The AP5010 series offers the following overall advantages:

- High reliability
- High security
- Simple network deployment
- Automatic AC discovery and configuration
- Real-time management and maintenance

Product Characteristics

- Uses an elegant design and recommended for use in buildings with a simple structure, small area, a high density of users, and require a high capacity, for example, small-scale meeting rooms, bars, and entertainment places.
- Uses an energy-efficient, new-generation 2 × 2 MIMO chip. provides up to 300 Mbit/s total data rate.
- Fit/Fat mode
- Mesh networking support
- WIDS/WIPS
- Spectrum Analysis
- Wireless Location
- Provides fast roaming switch, without interrupting service.
- Complies with 802.3af Power over Ethernet, providing easy installation.
- AP5010SN-GN supports 2.4 GHz frequency band.
- AP5010DN-AGN supports 2.4 GHz and 5 GHz frequency bands.

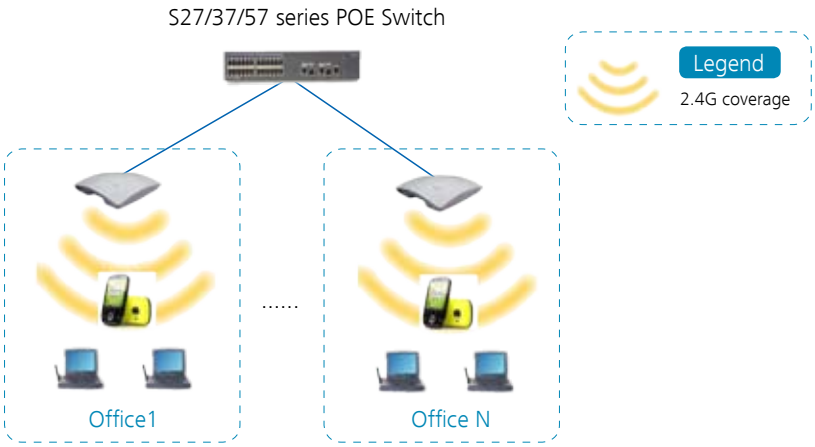
Scalability

Both Fit and Fat APs provide network access. Fit APs, which are managed by Access Controllers (ACs) provide centralized network management functions for simplified configuration and access control. The Automatic software upgrade technologies e feature of these WLANs allows users to seamlessly add and upgrade APs without incurring additional administrative or equipment expense. When coupled with ACs and Network Management Systems (NMS), Huawei 802.11n APs can implement real-time monitoring, intelligent RF management, spectrum analysis, wireless location, load balancing, spectrum analysis, wireless location, roaming, security policy control, wired network integration, as well as BYOD network security control and smart access strategy.

AP Networking

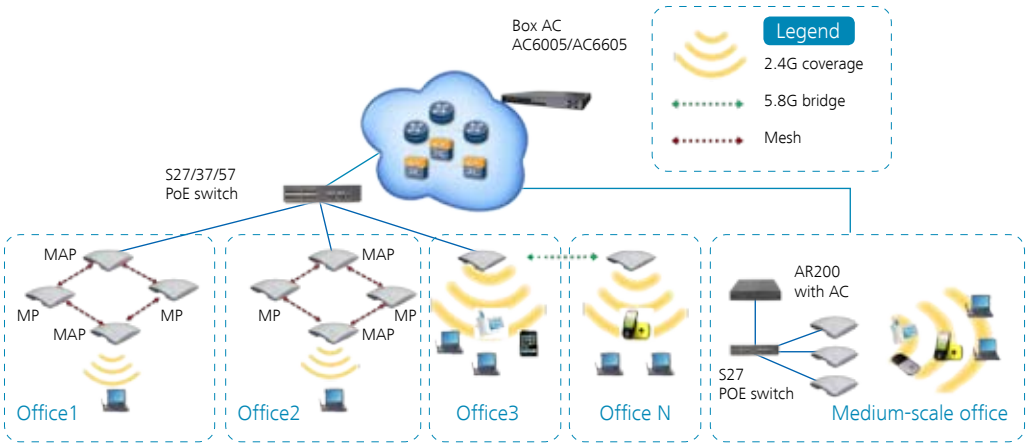
The following figures show typical networking of the AP5010SN-GN and AP5010DN-AGN.

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, 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 P2Pand P2MP networking modes. With 5 GHz and 2.4 GHz frequency bands, the AP can also implement wireless bridging and access functions.

Mesh Points (MPs) interconnect in a Mesh topology to form a self-configuring and self-healing the 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, high stability of the Internet connection service.

Product Specifications

<table>
<tr><th>Item</th><th colspan="5">Specifications</th></tr>
<tr><td>Part Number</td><td colspan="5">Huawei indoor AP with built-in antennas
02355547:AP5010DN -AGN 11a/g/n, indoor dual-frequency 2 × 2 AP with built-in antennas
02355674:AP5010SN -GN 11b/g/n, indoor single-frequency 2 × 2 AP with built-in antennas
WLAN service:
WLAN network design service
Huawei provides a comprehensive design service that considers the customer's requirements for signal coverage, network capacity, cost, security, and network performance.</td></tr>
<tr><td>Software</td><td colspan="5">Huawei WLAN AP V200R002C00 or later versions</td></tr>
<tr><td>WLAN AC</td><td colspan="5">Huawei WLAN AC6005
Huawei WLAN AC6605</td></tr>
<tr><td>802.11n functions</td><td colspan="5">2 × 2 multiple-Input Multiple-Output (MIMO) with two spatial streams
Maximal Ratio Combining (MRC)
Maximum Likelihood Detection (MLD)
Automatic Channel Scanning
802.11n and 802.11a/g beamforming
20MHz- and 40-MHz channels
Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx only)
802.11 Dynamic Frequency Selection (DFS)
Signal Sustain Technology (SST)
Unscheduled Automatic Power Save Delivery (U-APSD)</td></tr>
<tr><td rowspan="11">Supported data rate</td><td colspan="5">802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps</td></tr>
<tr><td colspan="5">802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</td></tr>
<tr><td colspan="5">802.11n data rates (2.4 GHz and 5 GHz):</td></tr>
<tr><td rowspan="2">MCS Index[1]</td><td colspan="2">GI = 800 ns</td><td colspan="2">GI = 400 ns</td></tr>
<tr><td>20-MHz Rate (Mbps)</td><td>40-MHz Rate (Mbps)</td><td>20-MHz Rate (Mbps)</td><td>40-MHz Rate (Mbps)</td></tr>
<tr><td>0</td><td>6.5</td><td>13.5</td><td>7.2</td><td>15</td></tr>
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<tr><td>2</td><td>19.5</td><td>40.5</td><td>21.7</td><td>45</td></tr>
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<tr><td>5</td><td>52</td><td>108</td><td>57.8</td><td>123</td></tr>
<tr><td>6</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr>
<tr><td>7</td><td>65</td><td>135</td><td>72.2</td><td>150</td></tr>
</table>

Item	Specifications				
Supported data rate	8	13	27	14.4	30
	9	26	54	28.9	60
	10	39	81	43.3	90
	11	52	108	57.8	120
	12	78	162	86.7	180
	13	104	216	115.6	240
	14	117	243	130	270
	15	130	270	144.4	300
Frequency band and 20-MHz operating channel	Note: Customers are responsible for verifying and obtaining approvals for channel and band frequencies used in their respective countries.				
Maximum number of non-overlapping channels	**2.4 GHz** 802.11b/g: 20 MHz: 3 802.11n: 20 MHz: 3; 40 MHz: 1		**5 GHz** 802.11a: 20 MHz: 24 802.11n: 20 MHz: 24; 40 MHz: 11		
Note: The maximum number of non-overlapping channels varies by regulatory domain.					
Receiver sensitivity	**802.11b (CCK)** - 91 dBm @ 1 Mb/s - 89 dBm @ 2 Mb/s - 88 dBm @ 5.5 Mb/s - 85 dBm @ 11 Mb/s	**802.11g (non HT20)** - 89 dBm @ 6 Mb/s - 88 dBm @ 9 Mb/s - 85 dBm @ 12 Mb/s - 83 dBm @ 18 Mb/s - 80 dBm @ 24 Mb/s - 76 dBm @ 36 Mb/s - 71 dBm @ 48 Mb/s - 70 dBm @ 54 Mb/s	**802.11a (non HT20)** - 89 dBm @ 6 Mb/s - 88 dBm @ 9 Mb/s - 85 dBm @ 12 Mb/s - 83 dBm @ 18 Mb/s - 80 dBm @ 24 Mb/s - 76 dBm @ 36 Mb/s - 71 dBm @ 48 Mb/s - 70 dBm @ 54 Mb/s	
	2.4-GHz 802.11n (HT20) - 83 dBm @ MC0/8 - 80 dBm @ MC1/9 - 78 dBm @ MC2/10 - 75 dBm @ MC3/11 - 71 dBm @ MC4/12 - 67 dBm @ MC5/13 - 66 dBm @ MC6/14 - 65 dBm @ MC7/15	**2.4-GHz 802.11n (HT40)** - 80 dBm @ MC0/8 - 77 dBm @ MC1/9 - 75 dBm @ MC2/10 - 72 dBm @ MC3/11 - 68 dBm @ MC4/12 - 64 dBm @ MC5/13 - 63 dBm @ MC6/14 - 62 dBm @ MC7/15	**5-GHz 802.11n (HT20)** - 83 dBm @ MC0/8 - 80 dBm @ MC1/9 - 78 dBm @ MC2/10 - 75 dBm @ MC3/11 - 71 dBm @ MC4/12 - 67 dBm @ MC5/13 - 66 dBm @ MC6/14 - 65 dBm @ MC7/15	**5-GHz 802.11n (HT40)** - 80 dBm @ MC0/8 - 77 dBm @ MC1/9 - 75 dBm @ MC2/10 - 72 dBm @ MC3/11 - 68 dBm @ MC4/12 - 64 dBm @ MC5/13 - 63 dBm @ MC6/14 - 62 dBm @ MC7/15

Item	Specifications	
Maximum transmit power	**2.4 GHz** 802.11b: 17 dBm, single antenna 802.11g: 17 dBm, single antenna 802.11n (HT20): 17 dBm, single antenna 802.11n (HT40): 17 dBm, single antenna	**5 GHz** 802.11a: 17 dBm, single antenna 802.11n (HT20): 17 dBm, single antenna 802.11n (HT40): 17 dBm, single antenna
Note: The maximum transmit power varies depending on channels and country regulations.		
Available transmit power setting	**2.4GHz** - 6 dBm (3.98 mW) - 7 dBm (5 mW) - 8 dBm (6.31 mW) - 9 dBm (7.94 mW) - 10 dBm (10 mW) - 11 dBm (12.59 mW) - 12 dBm (15.85 mW) - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW)	**5GHz** - 6 dBm (3.98 mW) - 7 dBm (5 mW) - 8 dBm (6.31 mW) - 9 dBm (7.94 mW) - 10 dBm (10 mW) - 11 dBm (12.59 mW) - 12 dBm (15.85 mW) - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW)
Note: The maximum transmit power setting varies depending on channels and country regulations.		
Integrated antenna	Built-in 2.4 GHz omni antenna, gain 4 dBi, horizontal beam width 360° Built-in 5 GHz omni antenna, gain 5 dBi, horizontal beam width 360°	
External antenna (sold separately)	None.	
Interface	10/100/1000BASE-T (RJ-45) Console interface (RJ-45)	
Indicator	Status LED: indicates the power module status, boot status, running status, idle status, and errors.	
Dimensions (W × D × H)	180 mm × 180 mm × 50 mm	
Weight	0.4 kg	
Environment	Storage temperature: –40°C to +70°C Operating temperature: –10°C to +50°C Operating humidity: 5% to 95% (non-condensing) Protection class: IP31	
System memory	128 MB DRAM 32 MB Flash	

Item	Specifications
Input power	DC power: 12V DC PoE: -48V DC
Power options	Power adapter (100 to 240 V AC; 50 to 60 Hz; 12V/2A output) 802.3af-compliant PoE power supply 802.3af-compliant PoE power adapter
Maximum power	AP5010SN-GN: 6.0 W AP5010DN-AGN: 9.5 W
Warranty	One year (Includes hardware and software)
Standards compliance	Safety standards: • UL 60950-1 • IEC 60950-1 • EN 60950-1 • CAN/CSA 22.2 No.60950-1 • GB4943 Radio standards: • ETSI EN 300 328 • Part 15C:15.247 • RSS-210 EMC standards: • EN 301.489–1 • EN 301.489–17 • FCC Part 15 (15.107, 15.109, 15.247, 15.407) • ICES-003 • YD/T 1312.2-2004 • EN55022 (Class B) IEEE standards: • IEEE 802.11a/b/g, IEEE 802.11n, • IEEE 802.11h, IEEE 802.11d, IEEE 802.11e Security: • 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA • 802.1X • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) • EAP Type(s) Environment standards: • ETSI 300 019-2-1 • ETSI 300 019-2-2 • ETSI 300 019-2-3 Multimedia: • Wi-Fi Multimedia (WMM™)

More Information

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

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The AP6010 series offers the following overall advantages:

- High reliability
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- Automatic AC discovery and configuration
- Real-time management and maintenance

Product Characteristics

- Uses an elegant design and is intended for use in medium- and large-scale deployment scenarios, such as educational institutions, enterprise offices, airports, stations, and retail.
- An energy-efficient, new-generation 2 × 2 MIMO chip.
- Fit/Fat Mode
- WIDS/WIPS
- Mesh networking support
- Spectrum Analysis
- Wireless Location
- Provides up to 300 Mbit/s total data rate on the AP6010SN-GN and up to 600Mbit/s on the AP6010DN-AGN and has built-in antennas.
- Complies with 802.3af/at Power over Ethernet, providing easy installation.
- AP6010SN-GN supports 2.4 GHz frequency band.
- AP6010DN-AGN supports 2.4 GHz and 5 GHz frequency bands.

Scalability

Both Fit and Fat APs provide network access. Fit APs, which are managed by Access Controllers (ACs) provide centralized network management functions for simplified configuration and access control. The Automatic software upgrade technologies e feature of these WLANs allows users to seamlessly add and upgrade APs without incurring additional administrative or equipment expense. When coupled with ACs and Network Management Systems (NMS), Huawei 802.11n APs can implement real-time monitoring, intelligent RF management, spectrum analysis, wireless location, load balancing, spectrum analysis, wireless location, roaming, security policy control, wired network integration, as well as BYOD network security control and smart access strategy.

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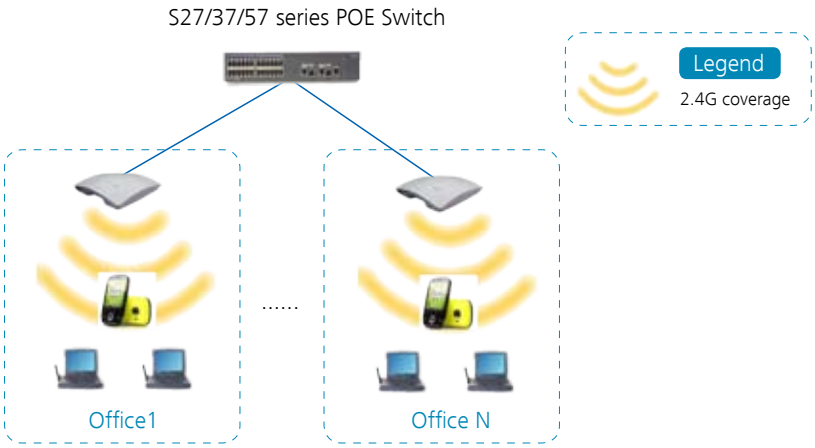

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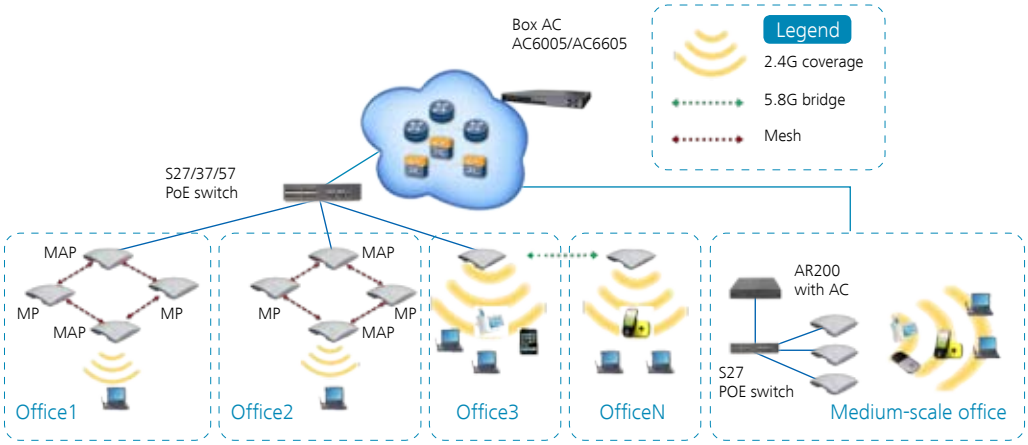

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02354197:AP6010SN -GN 11b/g/n, indoor single-frequency 2 × 2 AP with built-in antennas
WLAN service:
WLAN network design service
Huawei provides a comprehensive design service that considers the customer's requirements for signal coverage, network capacity, cost, security, and network performance.</td></tr>
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Maximum-Likelihood Detection (MLD)
Automatic Channel Scanning
802.11n and 802.11a/g beamforming
20MHz- and 40-MHz channels
Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx only)
802.11 Dynamic Frequency Selection (DFS)
Signal Sustain Technology (SST)
Unscheduled Automatic Power Save Delivery (U-APSD)
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</table>

Item	Specifications				
Supported data rate	7	65	135	72.2	150
	8	13	27	14.4	30
	9	26	54	28.9	60
	10	39	81	43.3	90
	11	52	108	57.8	120
	12	78	162	86.7	180
	13	104	216	115.6	240
	14	117	243	130	270
	15	130	270	144.4	300
Frequency band and 20-MHz operating channel	Note: Customers are responsible for verifying and obtaining approvals for channel and band frequencies used in their respective countries.				
Maximum number of non-overlapping channels	**2.4 GHz** 802.11b/g: 20 MHz: 3 802.11n: 20 MHz: 3; 40 MHz: 1		**5 GHz** 802.11a: 20 MHz: 24 802.11n: 20 MHz: 24; 40 MHz: 11		
Note: The maximum number of non-overlapping channels varies by regulatory domain.					
Receiver sensitivity	**802.11b (CCK)** - 97 dBm @ 1 Mb/s - 92 dBm @ 2 Mb/s - 92 dBm @ 5.5 Mb/s - 90 dBm @ 11 Mb/s	**802.11g (non HT20)** - 92 dBm @ 6 Mb/s - 91 dBm @ 9 Mb/s - 90 dBm @ 12 Mb/s - 87 dBm @ 18 Mb/s - 83 dBm @ 24 Mb/s - 80 dBm @ 36 Mb/s - 76 dBm @ 48 Mb/s - 74 dBm @ 54 Mb/s	**802.11a (non HT20)** - 89 dBm @ 6 Mb/s - 88 dBm @ 9 Mb/s - 85 dBm @ 12 Mb/s - 83 dBm @ 18 Mb/s - 80 dBm @ 24 Mb/s - 76 dBm @ 36 Mb/s - 71 dBm @ 48 Mb/s - 70 dBm @ 54 Mb/s	
	2.4-GHz 802.11n (HT20) - 92 dBm @ MC0/8 - 89 dBm @ MC1/9 - 86 dBm @ MC2/10 - 82 dBm @ MC3/11 - 79 dBm @ MC4/12 - 74 dBm @ MC5/13 - 73 dBm @ MC6/14 - 71 dBm @ MC7/15	**2.4-GHz 802.11n (HT40)** - 89 dBm @ MC0/8 - 86 dBm @ MC1/9 - 83 dBm @ MC2/10 - 79 dBm @ MC3/11 - 76 dBm @ MC4/12 - 72 dBm @ MC5/13 - 70 dBm @ MC6/14 - 68 dBm @ MC7/15	**5-GHz 802.11n (HT20)** - 88 dBm @ MC0/8 - 85 dBm @ MC1/9 - 84 dBm @ MC2/10 - 77 dBm @ MC3/11 - 74 dBm @ MC4/12 - 70 dBm @ MC5/13 - 68 dBm @ MC6/14 - 67 dBm @ MC7/15	**5-GHz 802.11n (HT40)** - 85 dBm @ MC0/8 - 80 dBm @ MC1/9 - 78 dBm @ MC2/10 - 74 dBm @ MC3/11 - 71 dBm @ MC4/12 - 67 dBm @ MC5/13 - 65 dBm @ MC6/14 - 63 dBm @ MC7/15

Item	Specifications	
Maximum transmit power	**2.4GHz** 802.11b: 20 dBm, single antenna 802.11g: 20 dBm, single antenna 802.11n (HT20): 20 dBm, single antenna 802.11n (HT40): 20 dBm, single antenna	**5.8GHz** 802.11a: 20 dBm, single antenna 802.11n (HT20): 20 dBm, single antenna 802.11n (HT40): 20 dBm, single antenna
Note: The maximum transmit power varies depending on channels and country regulations.		
Available transmit power setting	**2.4GHz** - 6 dBm (3.98 mW) - 7 dBm (5 mW) - 8 dBm (6.31 mW) - 9 dBm (7.94 mW) - 10 dBm (10 mW) - 11 dBm (12.59 mW) - 12 dBm (15.85 mW) - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW) - 18 dBm (63.09 mW) - 19 dBm (79.43 mW) - 20 dBm (100 mW)	**5GHz** - 6 dBm (3.98 mW) - 7 dBm (5 mW) - 8 dBm (6.31 mW) - 9 dBm (7.94 mW) - 10 dBm (10 mW) - 11 dBm (12.59 mW) - 12 dBm (15.85 mW) - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW) - 18 dBm (63.09 mW) - 19 dBm (79.43 mW) - 20 dBm (100 mW)
Note: The maximum transmit power setting varies depending on channels and country regulations.		
Integrated antenna	Built-in 2.4 GHz omni antenna, gain 4 dBi, horizontal beam width 360° Built-in 5 GHz omni antenna, gain 5 dBi, horizontal beam width 360°	
External antenna (sold separately)	None.	
Interface	10/100/1000BASE-T (RJ-45) Console interface (RJ-45)	
Indicator	Status LED: indicates the power module status, boot status, running status, idle status, and errors.	
Dimensions (W × D × H)	180 mm ×180 mm × 50 mm	
Weight	0.4kg	
Environment	Storage temperature: –40°C to +70°C Operating temperature: –10°C to +50°C Operating humidity: 10% to 95% (non-condensing) Protection class: IP31	

Item	Specifications
System memory	128 MB DRAM 32 MB Flash
Input power	DC power: 12V DC PoE: -48 V DC
Power options	Power adapter (100 to 240 V AC; 50 to 60 Hz; 12V/2A output) 802.3af-compliant PoE power supply 802.3af-compliant PoE power adapter
Maximum power	AP6010SN-GN: 6.5 W AP6010DN-AGN: 10.2 W
Warranty	One year (Includes hardware and software)
Standards compliance	Safety standards: • UL 60950-1 • IEC 60950-1 • EN 60950-1 • GB4943 Radio standards: • FCC Part 15.247, 15.407 • EN 300.328, EN 301.893 (Europe) • EMI and susceptibility (Class B) • FCC Part 15.107 and 15.109 • EN 301.489-1 and -17 (Europe) • GB9254 • EN60601-1-2 EMC requirements for the Medical Directive 93/42/EEC IEEE standards: • IEEE 802.11a/b/g, IEEE 802.11n, • IEEE 802.11h, IEEE 802.11d, IEEE 802.11e Security: • 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA • 802.1X • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) Multimedia: • Wi-Fi Multi-Media (WMM™)

More Information

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

HUAWEI AP6310SN-GN Access Point

The AP6310SN-GN is a enhanced series indoor Access Point (AP), offering high transmit power output- and high reliability, supports the 2.4 GHz frequency band, complies with IEEE 802.11a/b/g/n, and supports Fit AP mode.

Huawei AP6310SN-GN Access Point

- Supports 2.4 GHz frequency band.
- Complies with IEEE 802.11b/g/n.

The AP6310SN-GN offers the following advantages:

- Elegant appearance
- Easy, zero touch deployment
- High performance: multi-service transmission with many concurrent users
- Energy saving and low power consumptions
- High security: data encryption and authentication

The AP6310SN-GN offers the following advantages:

- Good serviceability
- High reliability
- High security
- Simple network deployment
- Automatic Access Controller (AC) discovery and configuration
- Real-time management and maintenance

Product Characteristics

- Provides a maximum transmit power of 500 mW.
- Spectrum analysis.
- WIDS/WIPS
- For use where there is high attenuation and where wide indoor coverage is required.
- Complies with 802.3af/at Power over Ethernet, providing easy installation.
- Single-frequency 802.11n AP that provides up to 150 Mbit/s total throughputs.

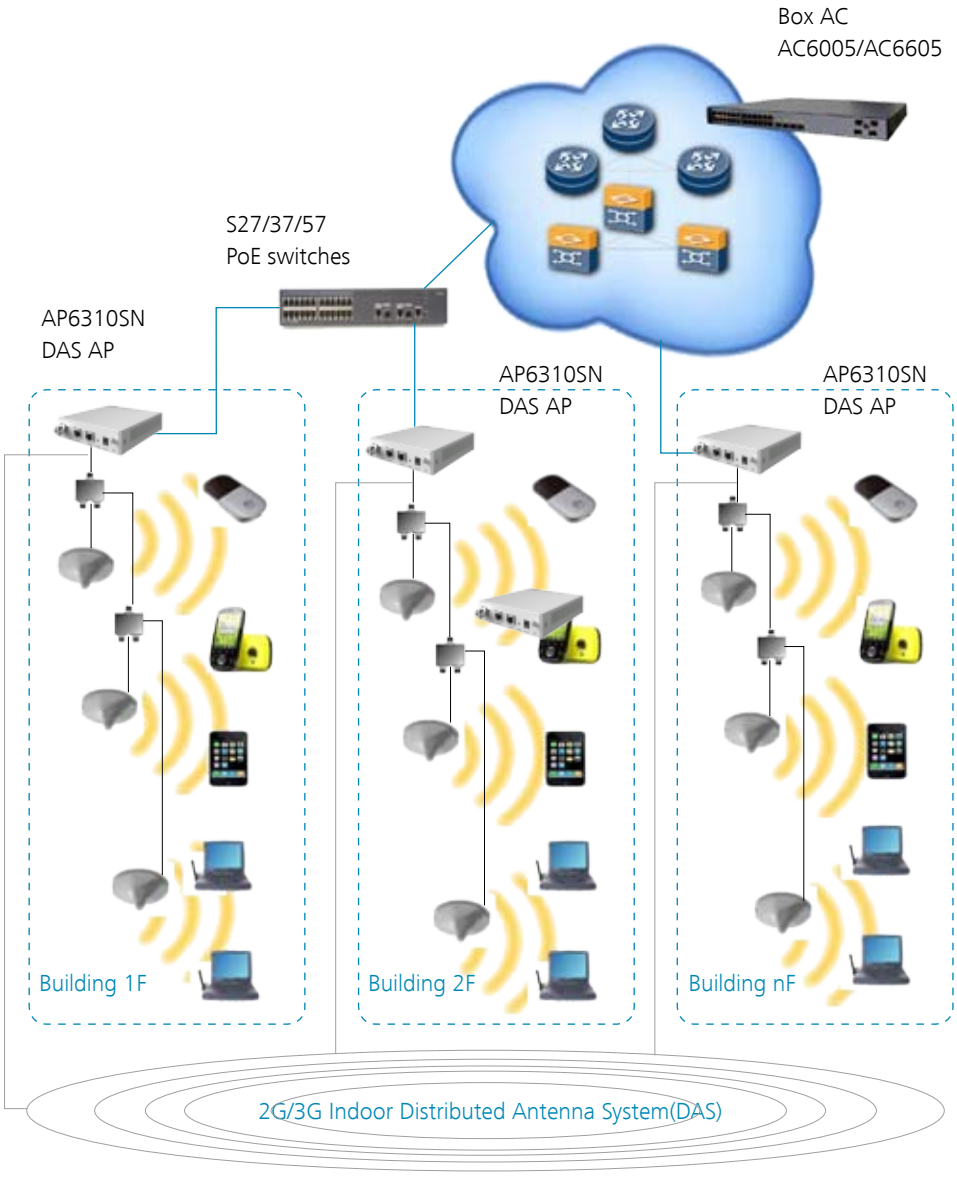
Scalability

Huawei Fit APs can be managed by Access Controllers s in a centralized manner. Automatic software upgrade technologies can be used to seamlessly increase the number of APs in the WLAN network and to protect the investment made in deployed APs. Huawei 802.11n APs can work with ACs and Network Management Systems (NMS) to implement real-time monitoring indoors and outdoors, to provide intelligent RF management, spectrum analysis, load balancing, inter-AP roaming, security policy control, integration with the wired network, as well as BYOD network security control and smart access strategy.

AP Network deployment

The AP6310SN-GN is designed for use in Fit AP network deployments.

Fit AP networking



In this network, the AP6310SN-GN functions as a Fit AP and provides only data forwarding functions. The AC is responsible for user access, authentication and AP management, configurations of security protocols, routing, and Quality of Service (QoS).

Product Specifications

<table>
<tr><th>Item</th><th colspan="5">Specifications</th></tr>
<tr><td>Part Number</td><td colspan="5">Huawei indoor distributed AP with external antennas
02354198:AP6310SN-GN 11g/n, indoor distributed single-frequency AP with external antennas
WLAN service:
WLAN network design service
Huawei provides a comprehensive design service that considers the customer's requirements for signal coverage, network capacity, cost, security, and network performance.</td></tr>
<tr><td>Software</td><td colspan="5">Huawei WLAN AP V200R001C00 or later versions</td></tr>
<tr><td>WLAN AC</td><td colspan="5">Huawei WLAN AC6005
Huawei WLAN AC6605</td></tr>
<tr><td>802.11n functions</td><td colspan="5">20MHz- and 40-MHz channels
Automatic Channel Scanning
Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx only)
Unscheduled Automatic Power Save Delivery (U-APSD)
Dying gasp</td></tr>
<tr><td rowspan="11">Supported data rate</td><td colspan="5">802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</td></tr>
<tr><td colspan="5">802.11n data rates (2.4 GHz):</td></tr>
<tr><td rowspan="2">MCS Index[1]</td><td colspan="2">GI = 800 ns</td><td colspan="2">GI = 400 ns</td></tr>
<tr><td>20-MHz Rate (Mbps)</td><td>40-MHz Rate (Mbps)</td><td>20-MHz Rate (Mbps)</td><td>40-MHz Rate (Mbps)</td></tr>
<tr><td>0</td><td>6.5</td><td>13.5</td><td>7.2</td><td>15</td></tr>
<tr><td>1</td><td>13</td><td>27</td><td>14.4</td><td>30</td></tr>
<tr><td>2</td><td>19.5</td><td>40.5</td><td>21.7</td><td>45</td></tr>
<tr><td>3</td><td>26</td><td>54</td><td>28.9</td><td>60</td></tr>
<tr><td>4</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr>
<tr><td>5</td><td>52</td><td>108</td><td>57.8</td><td>120</td></tr>
<tr><td>6</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr>
<tr><td>7</td><td>65</td><td>135</td><td>72.2</td><td>150</td></tr>
</table>

Item	Specifications	
Frequency band and 20-MHz operating channel	Note: Customers are responsible for verifying and obtaining approvals for channel and band frequencies used in their respective countries.	
Maximum number of non-overlapping channels	**2.4 GHz** 802.11b/g: 20 MHz: 3 802.11n: 20 MHz: 3; 40 MHz: 1	
Note: The maximum number of non-overlapping channels varies by regulatory domain.		
Receiver sensitivity	**802.11b (CCK)** - 97 dBm @ 1 Mb/s - 92 dBm @ 2 Mb/s - 92 dBm @ 5.5 Mb/s - 90 dBm @ 11 Mb/s	**802.11g (non HT20)** - 92 dBm @ 6 Mb/s - 91 dBm @ 9 Mb/s - 90 dBm @ 12 Mb/s - 87 dBm @ 18 Mb/s - 83 dBm @ 24 Mb/s - 80 dBm @ 36 Mb/s - 76 dBm @ 48 Mb/s - 74 dBm @ 54 Mb/s
	2.4-GHz **802.11n (HT20)** - 92 dBm @ MC0 - 89 dBm @ MC1 - 86 dBm @ MC2 - 82 dBm @ MC3 - 79 dBm @ MC4 - 74 dBm @ MC5 - 73 dBm @ MC6 - 71 dBm @ MC7	**2.4-GHz** **802.11n (HT40)** - 89 dBm @ MC0 - 86 dBm @ MC1 - 83 dBm @ MC2 - 79 dBm @ MC3 - 76 dBm @ MC4 - 72 dBm @ MC5 - 70 dBm @ MC6 - 68 dBm @ MC7
Maximum transmit power	**2.4GHz** 802.11b - 27 dBm 802.11g - 27 dBm 802.11n (HT20) - 27 dBm 802.11n (HT40) - 27 dBm	
Note: The maximum transmit power varies depending on channels and country regulations.		

Item	Specifications
Available transmit power setting	**2.4GHz** - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW) - 18 dBm (63.09 mW) - 19 dBm (79.43 mW) - 20 dBm (100 mW) - 21 dBm (125.89 mW) - 22 dBm (158.49 mW) - 23 dBm (199.53 mW) - 24 dBm (251.19 mW) - 25 dBm (316.23 mW) - 26 dBm (398.11 mW) - 27 dBm (500 mW)
Note: The maximum transmit power setting varies depending on channels and country regulations.	
Integrated antenna	None.
External antenna (sold separately)	Huawei provides a wide range of 802.11n antennas that deliver optimal coverage in various deployment scenarios.
Interface	10/100/1000BASE-T (RJ-45) Console interface (RJ-45)
Indicator	SYS LED: indicates the power module status, boot status, running status, and errors. Link LED: indicates the Ethernet link status. Wireless LED: indicates the RF status.
Dimensions (W × D × H)	150 mm × 130 mm × 35 mm
Weight	0.6 kg
Environment	Storage temperature: –40°C to +70°C Operating temperature: –10°C to +50°C Operating humidity: 10% to 95% (non-condensing) Protection class: IP31
System memory	128 MB DRAM 32 MB Flash
Input power	DC power: 12VDC PoE: -48 V DC

Item	Specifications
Power options	Power adapter (50 to 60 Hz; 54 V DC/0.65 A output) 802.3af-compliant PoE power supply 802.3af-compliant PoE power adapter
Maximum power	8.3 W
Warranty	One year (includes hardware and software)
Standards compliance	Safety standards: • UL 60950-1 • IEC 60950-1 • EN 60950-1 • GB4943 Radio standards: • FCC Part 15.247, 15.407 • EN 300.328, EN 301.893 (Europe) • EMI and susceptibility (Class B) • FCC Part 15.107 and 15.109 • EN 301.489-1 and -17 (Europe) • GB9254 • EN-60601-1-2 EMC requirements for the Medical Directive 93/42/EEC IEEE standards: • IEEE 802.11a/b/g, IEEE 802.11n, • IEEE 802.11h, IEEE 802.11d, IEEE 802.11e Security: • 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA • 802.1X • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) Multimedia: • Wi-Fi Multimedia (WMM™)

More Information

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

HUAWEI AP6510DN-AGN & AP6610DN-AGN Access Point

The AP6510DN-AGN/AP6610DN-AGN, as an enhanced outdoor AP, has enhanced coverage performance, is physically hardened, provides 2.4 GHz and 5 GHz frequency bands to connect more users, supports wireless network bridging, complies with IEEE 802.11a/b/g/n, and supports Fit/Fat AP mode, an optimized version of AP for centralized wireless architectures.

Huawei AP6510DN-AGN Access Point

- Supports 2.4 GHz and 5 GHz frequency bands
- Complies with IEEE 802.11a/b/g/n.

Huawei AP6610DN-AGN Access Point

- Supports 2.4 GHz and 5 GHz frequency bands.
- Complies with IEEE 802.11a/b/g/n.
- Connects to the Internet with fiber and obtains power from a connected Access Controller.

The AP offers the following advantages:

- Elegant appearance
- Easy, zero touch deployment
- High performance: multi-service transmission, with many concurrent users
- Energy saving and low power consumption
- High security: data encryption and authentication

The AP6510DN-AGN/AP6610DN-AGN has the following advantages:

- High reliability
- High security
- Simple network deployment
- Automatic (Access Controller)AC discovery and configuration
- Real-time management and maintenance

Product Characteristics

- Industry-grade AP; with a high level of physical protection, for use in pedestrian areas, factories, and other challenging environments.
- Supports fast start-up in low-temperature environments.
- Reduces maintenance costs with a built-in lightning protector.
- Uses an energy-efficient, new generation 2 × 2 MIMO chip.
- Provides up to 600 Mbit/s total data rate.
- Fit/Fat mode
- WIDS/WIPS
- Mesh networking support
- Spectrum Analysis
- Wireless Location
- AP6510DN-AGN supports an RJ45 Ethernet interface, PoE power supply.
- AP6610DN-AGN supports an RJ45 Ethernet interface and an optical interface and an AC power supply.

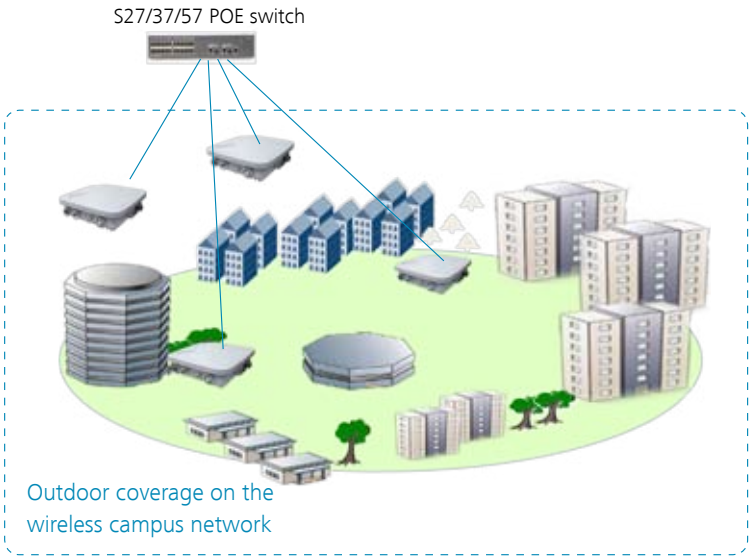
Scalability

Both Fit and Fat APs provide network access. Fit APs, which are managed by Access Controllers (ACs) provide centralized network management functions for simplified configuration and access control. The Automatic software upgrade feature of these WLANs allows users to seamlessly add and upgrade APs without incurring additional administrative or equipment expense. Huawei 802.11n APs can work with ACs and Network Management Systems (NMS) to implement real-time monitoring indoors and outdoors, to provide intelligent RF management, load balancing, spectrum analysis, wireless location, roaming, security policy control, integration with the wired network, as well as BYOD network security control and smart access strategy.

AP Networking

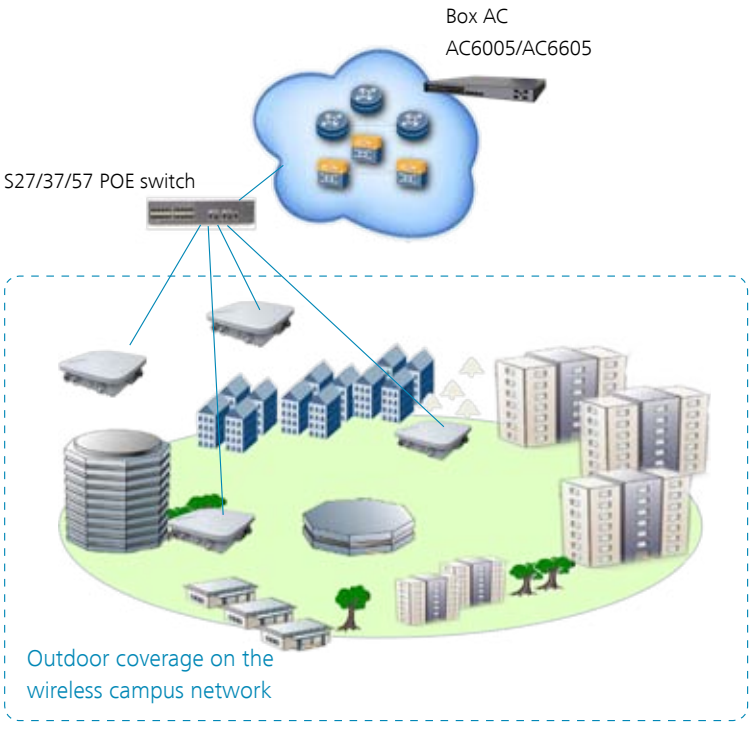
The following figures show typical networking of the AP6510DN-AGN and AP6610DN-AGN.

Fat AP networking



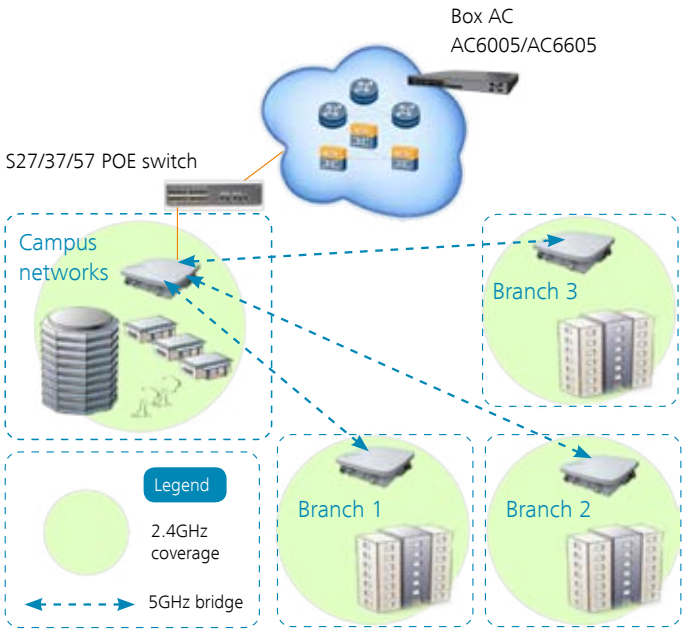
When working as a Fat AP, the AP6510DN-AGN and AP6610DN-AGN provides user authentication and access, data security, service data forwarding, QoS, and other functions without an AC.

Fit AP networking



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

Wireless Distribution System (WDS) networking (point-to-multipoint)



In a WDS network, the AP6510DN-AGN or AP6610DN-AGN connects two or more independent wired or wireless LANs through wireless links in order to construct a network. In Wireless Distribution System (WDS) mode, the AP6510DN-AGN or AP6610DN-AGN supports P2P and P2MP networking modes. With 5 GHz and 2.4 GHz frequency bands, the AP6510DN-AGN or AP6610DN-AGN can also implement wireless bridging and access functions.

Mesh networking

Mesh Points (MPs) interconnect in a Mesh topology to form a self-configuring and self-healing the 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, high stability of the Internet connection service.

Product Specifications

<table>
<tr><th>Item</th><th colspan="5">Specifications</th></tr>
<tr><td>Part Number</td><td colspan="5">Huawei outdoor AP:
02354195:AP6510DN-AGN 11a/b/g/n, outdoor dual-frequency 2 × 2 AP with external antennas, PoE power supply
02354194:AP6610DN-AGN 11a/b/g/n, outdoor dual-frequency 2 × 2 AP with external antennas, SFP, and AC power supply
WLAN service:
WLAN network design service
Huawei provides a comprehensive design service that considers the customer's requirements for signal coverage, network capacity, cost, security, and network performance.</td></tr>
<tr><td>Software</td><td colspan="5">Huawei WLAN AP V200R001C00 or later versions</td></tr>
<tr><td>WLAN AC</td><td colspan="5">Huawei WLAN AC6005
Huawei WLAN AC6605</td></tr>
<tr><td>802.11n functions</td><td colspan="5">2 × 2 multiple-input multiple-output (MIMO) with two spatial streams
Maximal Ratio Combining (MRC)
Maximum Likelihood Detection (MLD)
Automatic Channel Scanning
802.11n and 802.11a/g beamforming
20MHz- and 40-MHz channels
Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx only)
802.11 Dynamic Frequency Selection (DFS)
Signal Sustain Technology (SST)
Unscheduled Automatic Power Save Delivery (U-APSD)
Dying gasp</td></tr>
<tr><td rowspan="11">Supported data rate</td><td colspan="5">802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps</td></tr>
<tr><td colspan="5">802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</td></tr>
<tr><td colspan="5">802.11n data rates (2.4 GHz and 5 GHz)</td></tr>
<tr><td rowspan="2">MCS Index[1]</td><td colspan="2">GI = 800 ns</td><td colspan="2">GI = 400 ns</td></tr>
<tr><td>20-MHz rate (Mbps)</td><td>40-MHz rate (Mbps)</td><td>20-MHz rate (Mbps)</td><td>40-MHz rate (Mbps)</td></tr>
<tr><td>0</td><td>6.5</td><td>13.5</td><td>7.2</td><td>15</td></tr>
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<tr><td>6</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr>
</table>

Item	Specifications				
Supported data rate	7	65	135	72.2	150
	8	13	27	14.4	30
	9	26	54	28.9	60
	10	39	81	43.3	90
	11	52	108	57.8	120
	12	78	162	86.7	180
	13	104	216	115.6	240
	14	117	243	130	270
	15	130	270	144.4	300
Frequency band and 20-MHz operating channel	Note: Customers are responsible for verifying and obtaining approvals for channel and band frequencies used in their respective countries.				
Maximum number of non-overlapping channels	**2.4 GHz** 802.11b/g: 20 MHz: 3 802.11n: 20 MHz: 3; 40 MHz: 1		**5 GHz** 802.11a: 20 MHz: 24 802.11n: 20 MHz: 24; 40 MHz: 11		
Note: The maximum number of non-overlapping channels varies by regulatory domain.					
Receiver sensitivity	**802.11b (CCK)** - 97 dBm @ 1 Mb/s - 92 dBm @ 2 Mb/s - 92 dBm @ 5.5 Mb/s - 90 dBm @ 11 Mb/s	**802.11g (non HT20)** - 92 dBm @ 6 Mb/s - 91 dBm @ 9 Mb/s - 90 dBm @ 12 Mb/s - 87 dBm @ 18 Mb/s - 83 dBm @ 24 Mb/s - 80 dBm @ 36 Mb/s - 76 dBm @ 48 Mb/s - 74 dBm @ 54 Mb/s	**802.11a (non HT20)** - 90 dBm @ 6 Mb/s - 89 dBm @ 9 Mb/s - 87 dBm @ 12 Mb/s - 84 dBm @ 18 Mb/s - 81 dBm @ 24 Mb/s - 77 dBm @ 36 Mb/s - 72 dBm @ 48 Mb/s - 71 dBm @ 54 Mb/s	
	2.4-GHz 802.11n (HT20) - 92 dBm @ MC0/8 - 89 dBm @ MC1/9 - 86 dBm @ MC2/10 - 82 dBm @ MC3/11 - 79 dBm @ MC4/12 - 74 dBm @ MC5/13 - 73 dBm @ MC6/14 - 71 dBm @ MC7/15	**2.4-GHz 802.11n (HT40)** - 89 dBm @ MC0/8 - 86 dBm @ MC1/9 - 83 dBm @ MC2/10 - 79 dBm @ MC3/11 - 76 dBm @ MC4/12 - 72 dBm @ MC5/13 - 70 dBm @ MC6/14 - 68 dBm @ MC7/15	**5-GHz 802.11n (HT20)** - 84 dBm @ MC0/8 - 81 dBm @ MC1/9 - 79 dBm @ MC2/10 - 76 dBm @ MC3/11 - 72 dBm @ MC4/12 - 68 dBm @ MC5/13 - 67 dBm @ MC6/14 - 67 dBm @ MC7/15	**5-GHz 802.11n (HT40)** - 81 dBm @ MC0/8 - 78 dBm @ MC1/9 - 76 dBm @ MC2/10 - 73 dBm @ MC3/11 - 69 dBm @ MC4/12 - 65 dBm @ MC5/13 - 64 dBm @ MC6/14 - 64 dBm @ MC7/15

Item	Specifications	
Maximum transmit power	**2.4GHz** 802.11b - 27 dBm 802.11g - 27 dBm 802.11n (HT20) - 27 dBm 802.11n (HT40) - 27 dBm	**5GHz** 802.11a - 27 dBm（AP6610DN-AGN） - 23dBm（AP6510DN-AGN） 802.11n (HT20) - 27 dBm（AP6610DN-AGN） - 23dBm（AP6510DN-AGN） 802.11n (HT40) - 27 dBm（AP6610DN-AGN） - 23 dBm（AP6510DN-AGN）
Note: The maximum transmit power varies depending on channels and country regulations.		
Available transmit power setting	**2.4GHz** - 13dBm（19.95mW） - 14dBm（25.12mW） - 15dBm（31.62mW） - 16dBm（39.81mW） - 17dBm（50.12mW） - 18dBm（63.09mW） - 19dBm（79.43mW） - 20dBm（100mW） - 21dBm（125.89mW） - 22dBm（158.49mW） - 23dBm（199.53mW） - 24dBm（251.19mW） - 25dBm（316.23mW） - 26dBm（398.11mW） - 27dBm（500mW）	**5 GHz** - 13dBm（19.95mW） - 14dBm（25.12mW） - 15dBm（31.62mW） - 16dBm（39.81mW） - 17dBm（50.12mW） - 18dBm（63.09mW） - 19dBm（79.43mW） - 20dBm（100mW） - 21dBm（125.89mW） - 22dBm（158.49mW） - 23dBm（199.53mW） - 24dBm（251.19mW） - 25dBm（316.23mW） - 26dBm（398.11mW） - 27dBm（500mW）
Note: The maximum transmit power setting varies depending on channels and country regulations.		
Integrated antenna	None.	
External antenna (sold separately)	Huawei provides a wide range of 802.11n antennas that deliver optimal coverage in various deployment scenarios.	
Interface	10/100/1000BASE-T (RJ-45) SFP (only provided by the AP6610DN -AGN)	
Indicator	SYS LED: indicates the power module status, boot status, running status, and errors. Link LED: indicates the Ethernet link status. Wireless LED: indicates the RF status.	
Dimensions (W × D × H)	255 mm × 255 mm × 83 mm	
Weight	AP6510DN-AGN:2.2kg AP6610DN-AGN: 2.65kg	

Item	Specifications
Environment	Storage temperature: –40°C to +70°C Operating temperature: –40°C to +60°C Operating humidity: 0% to 100% (non-condensing) Protection class: IP67
System memory	128 MB DRAM 32 MB Flash
Input power	AC power: 100 to 240 VAC, 50 to 60 Hz PoE: 36 to 57 V DC
Power options	AC power supply (100 to 240VAC)-applies to the AP6610DN-AGN 802.3at-compliant PoE power supply (AP6510DN-AGN) 802.3at-compliant PoE power adapter (AP6510DN-AGN)
Maximum power	AP6510DN-AGN: 25.5 W AP6610DN-AGN: 30 W
Warranty	One year(Includes hardware and software)
Standards compliance	Safety standards: • UL 60950-1 • IEC 60950-1 • EN 60950-1 • EN 60950-22 • GB4943 Radio standards: • FCC Part 15.247, 15.407 • EN 300.328, EN 301.893 (Europe) • EMI and susceptibility (Class B) • FCC Part 15.107 and 15.109 • EN 301.489-1 and -17 (Europe) • GB9254 • EN60601-1-2 EMC requirements for the Medical Directive 93/42/EEC IEEE standards: • IEEE 802.11a/b/g, IEEE 802.11n, • IEEE 802.11h, IEEE 802.11d, IEEE 802.11e Security: • 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA • 802.1X • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) Multimedia: • Wi-Fi Multimedia (WMM™)

More Information

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

HUAWEI AP7110 Series Access Point

The AP7110 is a Fit AP as Premium Series AP. It offers the following overall advantages:

- Good serviceability
- High reliability
- High security
- Simple network deployment
- Automatic AC discovery and configuration
- Real-time management and maintenance

Huawei AP7110SN-GN Access Point

- Supports 2.4 GHz frequency bands.
- Complies with IEEE 802.11/b/g/n.
- Supports 3x3 MIMO.
- Provides 450 Mbit/s for radio.

Huawei AP7110DN-AGN Access Point

- Supports 2.4 GHz and 5 GHz frequency bands.
- Complies with IEEE 802.11a/b/g/n.
- Supports 3×3 MIMO.
- Provides 450 Mbit/s for each radio.
- Tolly Certification

The AP7110DN-AGN offers the following advantages:

- Elegant appearance
- Easy, zero touch deployment
- High performance: multi-service transmission with many concurrent users
- Energy saving and low power consumptions
- High security: data encryption and authentication

Product Characteristics

- provides highly reliable and secure wireless services and radio frequencies for high-density or large scenarios, such as exhibition centers, medical organizations, factories, and logistics networks
- 802.11n 3 × 3 MIMO AP supports three spatial streams and provides a total data rate of 900 Mbit/s, across either 2.4G or/and 5G frequencies.
- Indoor, industrial-grade AP; with a high level of physical protection for use in challenging environments.
- Complies with 802.3af/at Power over Ethernet Plus, providing easy installation.
- Uses external antennas. Antenna gains can be configured and deployment locations determined according to networking requirements.
- AP7110SN-GN supports 2.4 GHz frequency band.
- AP7110DN-AGN supports 2.4 GHz and 5 GHz frequency bands.
- WIDS/WIPS
- Mesh networking support
- Spectrum Analysis
- Wireless Location

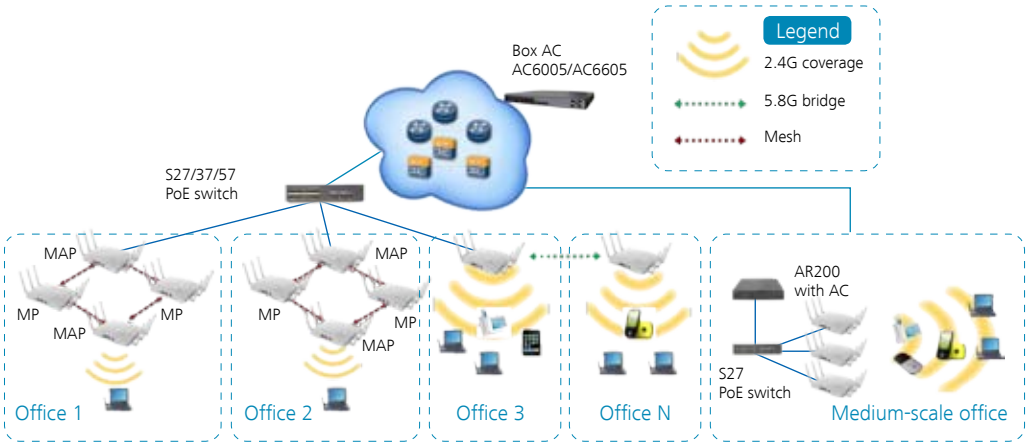
Scalability

Huawei Fit APs can be managed by Access Controllers s in a centralized manner. Automatic software upgrade technologies can be used to seamlessly increase the number of APs in the WLAN network and to protect the investment made in deployed APs. Huawei 802.11n APs can work with ACs and Network Management Systems (NMS) to implement real-time monitoring indoors and outdoors, to provide intelligent RF management, load balancing, spectrum analysis, wireless location, roaming, security policy control, integration with the wired network, as well as BYOD network security control and smart access strategy.

AP Networking

The AP7110SN-GN/ AP7110DN-AGN is designed for use in Fit AP network deployments. Typical networking models include access point mode, bridge mode, and Mesh.

Fit AP networking



In this network, the AP7110SN-GN/AP7110DN-AGN functions as a Fit AP and provides only data forwarding functions. The AC is responsible for user access, AP management, authentication, routing, security, and Quality of Service (QoS).

In Wireless Distribution System (WDS) mode, the AP supports P2Pand P2MP networking modes. With 5 GHz and 2.4 GHz frequency bands, the AP can also implement wireless bridging and access functions.

Mesh Points (MPs) interconnect in a Mesh topology to form a self-configuring and self-healing the 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, high stability of the Internet connection service.

Product Specifications

Item	Specifications
Part Number	**Huawei indoor AP with external antennas** 02355680：AP7110SN-GN 11b/g/n, indoor single-frequency 3×3 Premium Series AP 02355553：AP7110DN-AGN 11a/b/g/n, indoor dual-frequency 3×3 Premium Series AP **WLAN service:** WLAN network design service Huawei provides a comprehensive design service that considers the customer's requirements for signal coverage, network capacity, cost, security, and network performance. For details, visit:
Software	Huawei WLAN AP V200R002C00 or later versions
WLAN AC	Huawei WLAN AC6005 Huawei WLAN AC6605

Item	Specifications
802.11n functions	3 × 3 multiple-input multiple-output (MIMO) with three spatial streams Maximal Ratio Combining (MRC) Maximum Likelihood Decoding(MLD) Automatic Channel Scanning 802.11n and 802.11a/g beamforming 20MHz- and 40-MHz channels Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx only) 802.11 Dynamic Frequency Selection (DFS) Signal Sustain Technology (SST) Unscheduled Automatic Power Save Delivery (U-APSD) Dying gasp

Supported data rate

802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps

802.11b/g:1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps

802.11n data rates (2.4 GHz and 5 GHz):

MCS Index[1]	GI = 800 ns		GI = 400 ns	
	20-MHz Rate (Mbps)	40-MHz Rate (Mbps)	20-MHz Rate (Mbps)	40-MHz Rate (Mbps)
0	6.5	13.5	7.2	15
1	13	27	14.4	30
2	19.5	40.5	21.7	45
3	26	54	28.9	60
4	39	81	43.3	90
5	52	108	57.8	120
6	58.5	121.5	65	135
7	65	135	72.2	150
8	13	27	14.4	30
9	26	54	28.9	60
10	39	81	43.3	90
11	52	108	57.8	120
12	78	162	86.7	180
13	104	216	115.6	240
14	117	243	130	270

Item	Specifications				
Supported data rate	15	130	270	144.4	300
	16	19.5	40.5	21.7	45
	17	39	81	43.3	90
	18	58.5	121.5	65	135
	19	78	162	86.7	180
	20	117	243	130	270
	21	156	324	173.3	360
	22	175.5	364.5	195	405
	23	195	405	216.7	450
Frequency band and 20-MHz operating channel	Note: Customers are responsible for verifying and obtaining approvals for channel and band frequencies used in their respective countries.				
Maximum number of non-overlapping channels	**2.4 GHz** 802.11b/g: 20 MHz: 3 802.11n: 20 MHz: 3; 40 MHz: 1		**5 GHz** 802.11a: 20 MHz: 24 802.11n: 20 MHz: 24; 40 MHz: 11		
Note: The maximum number of non-overlapping channels varies by regulatory domain.					
Receiver sensitivity	**802.11b (CCK)** - 93 dBm @ 1 Mb/s - 91 dBm @ 2 Mb/s - 90 dBm @ 5.5 Mb/s - 87 dBm @ 11 Mb/s	**802.11g (non HT20)** - 91 dBm @ 6 Mb/s - 90 dBm @ 9 Mb/s - 87 dBm @ 12 Mb/s - 85 dBm @ 18 Mb/s - 82 dBm @ 24 Mb/s - 78 dBm @ 36 Mb/s - 73 dBm @ 48 Mb/s - 72 dBm @ 54 Mb/s	**802.11a (non HT20)** - 91 dBm @ 6 Mb/s - 90 dBm @ 9 Mb/s - 87 dBm @ 12 Mb/s - 85 dBm @ 18 Mb/s - 82 dBm @ 24 Mb/s - 78 dBm @ 36 Mb/s - 73 dBm @ 48 Mb/s - 72 dBm @ 54 Mb/s	
	2.4 GHz **802.11n (HT20)** - 85 dBm@MCS0/8/16 - 82 dBm@MCS1/9/17 - 80 dBm@MCS2/10/18 - 77 dBm@MCS3/11/19 - 73 dBm@MCS4/12/20 - 69 dBm@MCS5/13/21 - 68 dBm@MCS6/14/22 - 67 dBm@MCS7/15/23	**2.4 GHz** **802.11n (HT40)** - 82 dBm@MCS0/8/16 - 79 dBm@MCS1/9/17 - 77 dBm@MCS2/10/18 - 74 dBm@MCS3/11/19 - 70 dBm@MCS4/12/20 - 66 dBm@MCS5/13/21 - 65 dBm@MCS6/14/22 - 64 dBm@MCS7/15/23	**5 GHz** **802.11n (HT20)** - 85 dBm@MCS0/8/16 - 82 dBm@MCS1/9/17 - 80 dBm@MCS2/10/18 - 77 dBm@MCS3/11/19 - 73 dBm@MCS4/12/20 - 69 dBm@MCS5/13/21 - 68 dBm@MCS6/14/22 - 67 dBm@MCS7/15/23	**5 GHz** **802.11n (HT40)** - 82 dBm@MCS0/8/16 - 79 dBm@MCS1/9/17 - 77 dBm@MCS2/10/18 - 74 dBm@MCS3/11/19 - 70 dBm@MCS4/12/20 - 66 dBm@MCS5/13/21 - 65 dBm@MCS6/14/22 - 64 dBm@MCS7/15/23

Item	Specifications	
Maximum transmit power	**2.4GHz** 802.11b: 20 dBm, single antenna 802.11g: 20 dBm, single antenna 802.11n (HT20): 20 dBm, single antenna 802.11n (HT40): 20dBm, single antenna	**5GHz** 802.11a: 20 dBm, single antenna 802.11n (HT20): 20 dBm, single antenna 802.11n (HT40): 20 dBm, single antenna
Note: The maximum transmit power varies depending on channels and country regulations.		
Available transmit power setting	**2.4GHz** - 6 dBm (3.98 mW) - 7 dBm (5 mW) - 8 dBm (6.31 mW) - 9dBm (7.94 mW) - 10 dBm (10 mW) - 11 dBm (12.59 mW) - 12 dBm (15.85 mW) - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW) - 18 dBm (63.09 mW) - 19 dBm (79.43 mW) - 20 dBm (100 mW)	**5GHz** - 6 dBm (3.98 mW) - 7 dBm (5 mW) - 8 dBm (6.31 mW) - 9 dBm (7.94 mW) - 10 dBm (10 mW) - 11 dBm (12.59 mW) - 12 dBm (15.85 mW) - 13 dBm (19.95 mW) - 14 dBm (25.12 mW) - 15 dBm (31.62 mW) - 16 dBm (39.81 mW) - 17 dBm (50.12 mW) - 18 dBm (63.09 mW) - 19 dBm (79.43 mW) - 20 dBm (100 mW)
Note: The maximum transmit power setting varies depending on channels and country regulations.		
External antenna(as a free component of the AP7110)	External 2.4 GHz omni antenna, gain 2.5 dBi, horizontal beam width 360° External 5 GHz omni antenna, gain 4 dBi, horizontal beam width 360°	
Interface	10/100/1000BASE-T (RJ-45) Console interface (RJ-45)	
Indicator	SYS LED: indicates the power module status, boot status, running status, and errors. Link LED: indicates the Ethernet link status. Wireless LED: indicates the RF status.	
Dimensions (W × D × H)	200 mm × 200 mm × 45 mm	
Weight	1.0 kg	
Environment	Storage temperature: –40°C to +70°C Operating temperature: –10°C to +55°C Operating humidity: 10% to 95% (non-condensing) Protection class: IP41	
System memory	256 MB DRAM 32 MB Flash	

Item	Specifications
Input power	DC power: 12V DC PoE: -48V DC
Power options	Power adapter (100 to 240 V AC; 50 to 60 Hz; 12 V DC/2 A output) **AP7110SN-GN:** 802.3af-compliant PoE power supply 802.3af-compliant PoE power adapter **AP7110DN-AGN:** 802.3af/at-compliant PoE power supply 802.3af/at-compliant PoE power adapter
Maximum power	AP7110DN-AGN 15.7W(Max) AP7110SN-GN 8.7W(Max)
Warranty	One year (Includes hardware and software)
Standards compliance	Safety standards: • UL 60950-1 • IEC 60950-1 • EN 60950-1 • GB 4943 Radio standards: • ETSI EN 300 328 • ETSI EN 301 893 • Part 15C:15.247 • Part 15E: 15.407 • RSS-210 EMC standards: • EN 301.489–1 • EN 301.489–17 • FCC Part 15 (15.107, 15.109, 15.247, 15.407) • ICES-003 • YD/T 1312.2-2004 • EN55022 (Class B) IEEE standards: • IEEE 802.11a/b/g, IEEE 802.11n, • IEEE 802.11h, IEEE 802.11d, IEEE 802.11e Security: • 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA • 802.1x • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) • EAP Type(s) Environment standards: • ETSI 300 019-2-1 • ETSI 300 019-2-2 • ETSI 300 019-2-3 Multimedia: • Wi-Fi Multimedia (WMM™)

More Information

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

HUAWEI AC6005 Series Access Controller

The Huawei AC6005 access controller (AC) provides small- to medium-size enterprise networks with high-performance features and built-in reliability, flexibility, and scalability. This large-capacity AC integrates 1,000 M Ethernet switch functionality for both wired and wireless access control when deploying access points (APs), as well as extending hotspot coverage. Used with Huawei Premium Series APs, Enhanced Series APs and Standard Series APs, the AC6005 delivers a flexible networking solution that is easy to install and maintain for campus, industrial, and mid-size enterprise networks.

Multiple interface support

- 8 GE interfaces
- One RJ-45 serial maintenance interface
- One mini-USB serial maintenance interface

Large-capacity, high-performance design with proven reliability

- Connections for up to 128 APs per AC
- Backplane capacity of 4Gbit/s
- PoE support for maximum power on 8 ports
- Port backup using the Link Aggregation Control Protocol (LACP) or Multiple Spanning Tree Protocol (MSTP)

Easy to install and easy to maintain

- Convenient size (320 mm × 233.6 mm × 43.6 mm): small enough to fit a standard cabinet
- Local GUI-based management system
- eSight network management system support
- Support for an intra-board temperature probe, which monitors the operating environment of the AC in real time

Dynamic energy management

- Low-noise fans, which dynamically adjust to load changes to keep equipment noise and power consumption low
- Automatic power-saving mode, which engages during idle operation (when no peer device is connected)
- Highly integrated, energy-saving design, which provides even higher performance and lower power consumption when coupled with an intelligent device management system

Huawei offers two AC6005 models:

- Model AC6005-8
- Model AC6005-8-PWR with PoE support

Advanced Network Features

The Huawei Model AC6005 provides AP connection and control for small- to large-size enterprise and campus networks. The AC6005 offers these features:

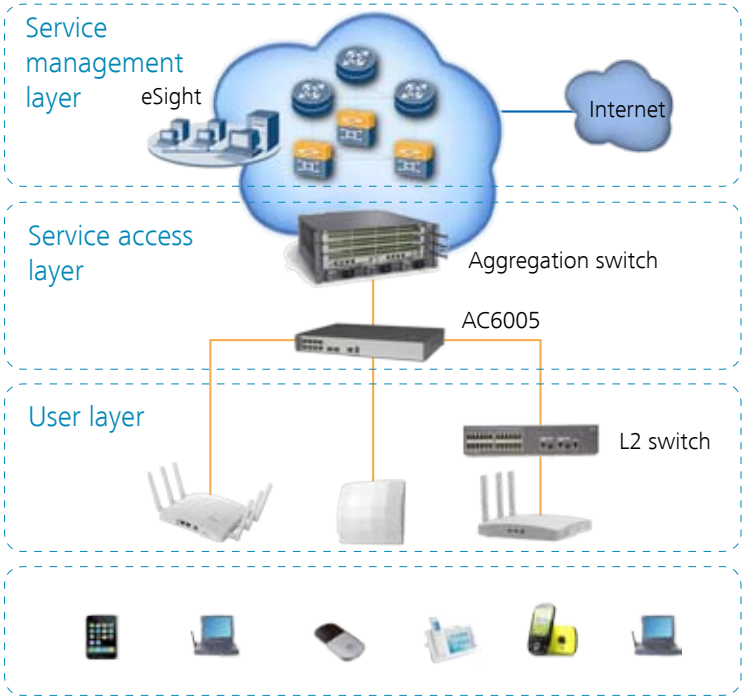
- licensing for multiple APs
- Flexible networking and forwarding
- Compatibility with 802.11a/b/g/n protocols
- Comprehensive user policy management and authorization control
- Secure and reliable N+1 backup
- Centralized authentication and distributed forwarding
- 4 Gbit/s switching capacity
- Centralized AP management and maintenance
- Integrated WLAN management

Typical Networking

The AC6005 can be deployed in branched, chain, and Wireless Distribution System (WDS) networks.

Branched Networking

In branched networking, the AC6005 connects to a network device (usually an aggregation switch) to manage the APs. Management flows are transmitted in Control and Provisioning of Wireless Access Points (CAPWAP) tunnels, and data flows are forwarded to the upper layer network by the aggregation switch and do not pass through the AC6005.

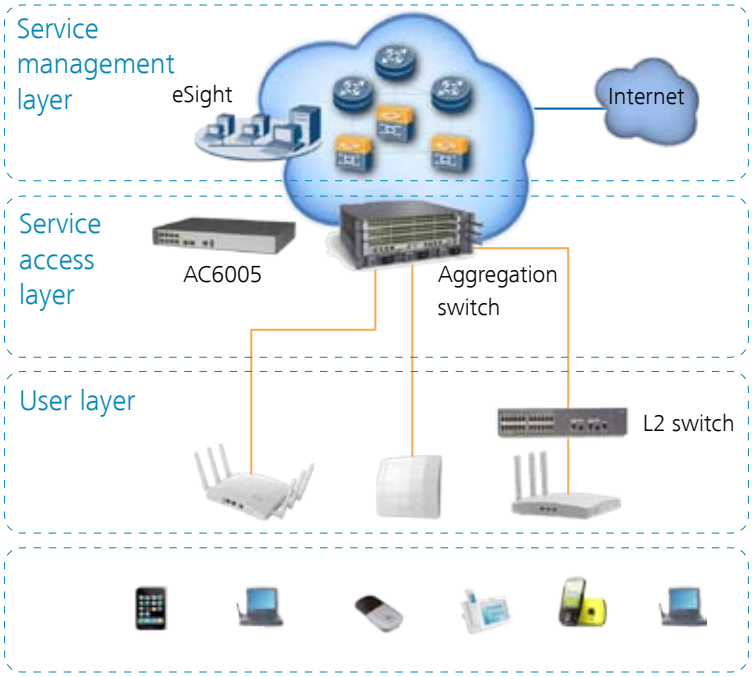


The AC6005 manages all the APs connected to the aggregation switch. This network topology works well where APs are scattered across hot spots. Because tunnel forwarding is commonly used for overlay network deployments, Huawei recommends using tunnel forwarding in branch network configurations for most enterprise networks.

Chain Networking

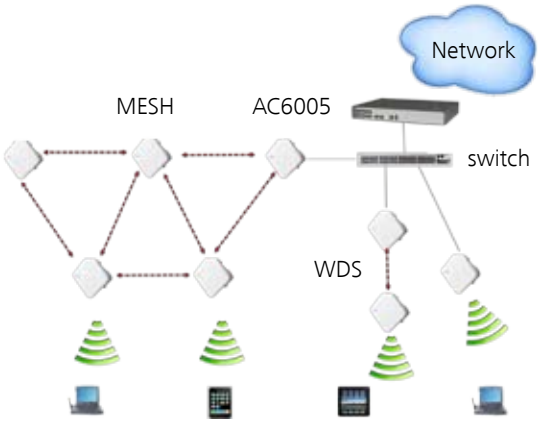
In chain networking, APs or access switches directly connect to the AC6005. The AC6005 functions as both an AC and an aggregation switch to forward and process data and management services for the APs.

In chain networking scenarios, the AC6005 sets up CAPWAP tunnels with APs to configure and manage these APs. Service data of wireless users can be forwarded between APs and the AC6005 over CAPWAP data tunnels or be directly forwarded by APs.



The AC6005 has a wired switching unit with powerful access, aggregation, and switching capabilities. Direct forwarding is often used in chain networking scenarios. This networking mode simplifies network architecture and is used with large-scale and centralized WLANs.

WDS and Mesh Networking



WDS and Mesh networking use a distributed network of APs. The WDS and Mesh networks connect to an AC through a switch, and the AC connects to the network through a network device, such as a gateway or an aggregation switch. The WDS and Mesh connect to user stations (STAs).

WDS and MESH networking are used to expand wireless coverage areas for outdoor wireless deployments.

AC6005 features

Feature	Benefit
Scalability	Licenses are available for managing 1, 8, 32APs.
Flexible networking capability	The AC and APs can be connected across a Layer 2 or Layer 3 network. Network Address Translation (NAT) can be deployed in configurations where APs are deployed on an internal network and the AC is deployed on an external network. Services can be mapped between VLANs and Service Set Identifiers (SSIDs). The number of service VLANs and number of SSIDs can be in a ratio of 1:1 or 1:N based on service requirements. You can assign user VLANs based on SSIDs, physical locations, or services. The AC can be deployed in chain, branched, and WDS/Mesh networks. Where PoE interfaces are required, the AC6005-8-PWR provides PoE power for up to 8 interfaces to support power-sourcing the APs from the AC.
Flexible forwarding	The AC6005 allows you to easily configure forwarding modes on Virtual Access Point (VAP) settings with selections for local or centralized forwarding based on network traffic and service control requirements. • Centralized forwarding meets the requirements of most network configurations; however, when bandwidth demands from users connected to the same AP steadily increase, traffic switching loads will increase. • Local forwarding improves bandwidth efficiency, but the AC does not provide user authentication, however, user authentication can not be controlled by the AC in local forwarding mode. The AC6005 solves this problem with support for both local forwarding and centralized authentication to accommodate changing needs.
Radio management	The AC6005 supports automatic selection and calibration of radio parameters in AP regions. The AC6005 provides: • Automatic signal level adjustment and channel selection on powerup. • Automatic signal re-calibration in the event of signal interference. - Partial calibration adjusts a specific AP to optimal signal levels. - Global calibration adjusts all APs in a specified region for optimal signal levels. • Automatic power compensation: When an AP is removed or goes offline, the AC6005 increases the power of neighboring APs to compensate for reduced signal strength .
Flexible user rights management	The AC6005 uses Access Control Lists (ACLs) based on APs, VAPs, or SSIDs, and provides isolation and bandwidth-limiting. The AC6005 also provides access controls for users and user roles to meet enterprise requirements regarding permissions, authentication and authorization, as well as bandwidth limitations per user and user group. • The AC6005 implements per-user access control based on ACLs, VLAN IDs, and bandwidth limits sent from the RADIUS server. • User groups are defined with access control policies. An ACL, user isolation policy, and bandwidth limitations can be applied to user groups for additional access control. • Inter-group user isolation or intra-group user isolation can also be configured.

Feature	Benefit
WDS	The AC6005 provides STA access and wireless bridge management functions, as well as network bridge management when in Fit AP mode. The AC6005 supports these networking modes: point-to-multipoint bridging, single-band/dual-band multi-hop relay, dual-band WDS bridging + WLAN access, and single-band WDS bridging + WLAN access. The AC6005 can also function as a wireless bridge between a central campus network and multiple branch campuses. This configuration works well for deployments with no wired network or where cable routing is inconvenient.
High reliability	Multiple ACs can be configured in a network to increase WLAN reliability. If an active AC experiences a fault or the link between the active AC and APs disconnects, the APs can switch to a standby AC. The AC6005 system provides N+1 active/standby mode, which allows multiple active ACs to share the same standby AC. This feature provides high reliability at reduced cost.
Load balancing	• Inter-AP load balancing: When an STA is in the coverage area of multiple APs, the AC6005 connects the STA to the AP with the lightest load, delivering STA-based or traffic-based load balancing. • Inter-STA resource balancing: The AC6005 can dynamically and evenly allocate bandwidth resources to prevent some STAs from overusing available bandwidth due to network adapter performance or special applications, such as BT Total Broadband. • The AC6005 first utilizes the 5 GHz band to increase overall utilization of bandwidth.
Visualized WLAN network management and maintenance	The AC6005 and APs use Fit AP + AC networking and standard Link Layer Discovery Protocol (LLDP) for centralized AP management and maintenance. When paired with Huawei's eSight network management tool, the AC6005 offers a simplified approach to managing and optimizing network performance with network topology displays.

AC6005 Specifications

Item	Specifications
Technical specifications	Dimensions (W × D × H): 320 mm × 233.6 mm × 43.6 mm Weight: 2.9 kg Operating temperature: -5°C to 50°C Storage temperature: –40°C to +70°C Humidity: 5% RH to 95% RH Input voltage: 100 V AC to 240 V AC, 50/60 Hz(Rated voltage) 90 V AC to 264 V AC, 47 Hz to 63 Hz(Maximum voltage) Maximum power consumption: 152 W (Device power consumption: 28 W, PoE: 124 W)
Interface type	8 × GE interfaces +2 × Combo interfaces; power for up to 8 PoE interfaces One RJ-45 serial maintenance interface One mini-USB serial maintenance interface

Item	Specifications
Number of managed APs	128
Number of APs controlled by each license	1, 8, 32
Number of access users	Entire device: 2 K
Number of Extended Service Set Identifiers (ESSIDs)	1 K
User group management	The AC supports 128 user groups: • Each user group can reference a maximum of eight ACLs • Each user group can associate with a maximum of 128 ACL rules
Number of MAC addresses	4 K
Number of VLANs	4 K
Number of ARP entries	4 K
Number of routing entries	4 K
Number of multicast forwarding entries	4 K
Number of DHCP IP address pools	128 IP address pools, each containing a maximum of 16 K IP addresses

Wireless features

Feature	Description
Network management and maintenance	Device management and statistics • Command line management based on SSH/Telnet/Console • SNMPv2/v3 • Web management • Standard MIBs and Huawei proprietary MIBs • Syslog • AP and station statistics • Alarms with different severity levels Centralized AP configuration and management • Region-based AP management • Centralized version management and automatic file updates • Built-in AP type and customized AP addition Graphic AP deployment and topology displays • AP LLDP • AC LLDP

Feature	Description
Wireless protocols	IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11h, and 802.11n
WLAN deployment	AP-AC networking • AP-AC Layer 2/3 networking • AC Layer 2 forwarding or Layer 3 routing • NAT traversal (APs are deployed on a private network and ACs are deployed on the public network) Data forwarding • AP-AC CAPWAP tunnel and DTLS encryption • VAP-based forwarding (centralized forwarding and local forwarding) • Centralized authentication and local forwarding VLAN deployment • Mapping between SSIDs and VLANs and VLAN assignment based on SSIDs or physical locations WDS deployment • Point-to-point and point-to-multipoint • Automatic topology detection and loop prevention (STP: Spanning Tree Protocol) AC active/standby mode • Dual-linked active and standby ACs with VRRP (Virtual Router Redundancy Protocol) • N:1 active and standby deployment
Radio management	Channel and power configuration • Centralized or static channel power configuration • Automatic channel allocation to implement global radio calibration or partial radio calibration • Automatic power adjustment to implement coverage hole compensation • AP region-based configuration and management Load balancing • Load balancing based on traffic volume on each radio • Load balancing based on number of users
Wireless service control	Extended Service Set (ESS)-based service management • ESS-based SSID hiding and AP isolation at Layer 2 • Maximum number of access users and associated aging time settings in an ESS • ESSs to service VLANs mapping • ESS associations with a security profile or a QoS profile • Optional Internet Group Management Protocol (IGMP) for APs in an ESS Wireless roaming • Layer 2 roaming • Inter-VLAN Layer 3 roaming • Pairwise Master Key Caching (PMK) caching, rapid key negotiation DHCP service control • Built-in DHCP server • DHCP snooping on APs support • DHCP relay and DHCP snooping on AC support Multicast service management • IGMP snooping • IGMP proxy

Feature	Description
Wireless user management	WLAN user management • User blacklist and whitelist • User access number limit • User disconnection • Support for multiple queries including online user information and statistics User group management • ACLs based on user groups • Isolation based on user groups
Wireless security and authentication	Authentication and encryption • OPEN/WEP/PSK/WPA (2) + 802.1x • WEP/TKIP/AES (CCMP) • WAPI User authentication and control • MAC address authentication, Portal authentication, and 802.1x authentication • MAC+Portal authentication • PEAP/TLS/MD5/CHAP Security and defense • ACLs based on interface, user, and user groups • Isolation based on VAPs and user groups • IP source guard for STAs • Detection of unauthorized APs and alarm function • User blacklist and whitelist AAA • Local authentication/local accounts (MAC addresses and accounts) • RADIUS authentication • Multiple authentication servers
Wireless QoS control	Flow control: • VAP-based rate limiting • User-group-based rate limiting • Rate limiting for a specified user • Dynamic traffic control, preventing resources from being wasted by STAs Priority mapping and scheduling • Mapping QoS settings of encapsulated data packets to 802.1p and DSCP fields of outer tunnel packets • Mapping between DSCP, 802.1p, and 802.11e

Wired features

Feature	Description
Ethernet features	802.1p, QinQ, Smart Link, LLDP Storm suppression, port isolation, and link aggregation
Ethernet loop protection	Spanning Tree Protocol (STP)/Rapid Spanning Tree Protocol (RSTP)/Multiple Spanning Tree Protocol (MSTP) Bridge Protocol Data Unit (BPDU) protection, root protection, and loop protection Partitioned STP and BPDU tunnels Rapid Ring Protection Protocol (RRPP) Hybrid networking of RRPP rings and other ring networks
IP routing	Unicast routing protocols: RIP, OSPF, BGP, and IS-IS
Device reliability	Virtual Router Redundancy Protocol (VRRP)
QoS features	Traffic classifier, traffic behavior, queue scheduling, congestion avoidance, and outbound interface rate limiting
Link detection	BFD EFM OAM, CFM OAM, and Y.1731
IP service control	ARP Built-in DHCP server RADIUS client Built-in FTP server DHCP relay and DHCP snooping

AC6005 purchase and accessory information

	Part Number	Product Name	Description
Bundle	02356813	AC6005-8-PWR-8AP Bundle	Including AC6005-8-PWR,Resource License 8AP.
Bundle	02356816	AC6005-8-8AP Bundle	Including AC6005-8,Resource License 8AP.
software	88031VEB	L_AC6005_1AP	Software Charge,AC6005,L-AC6005-1AP,AC6005 Access Controller AP Resource License(1 AP)

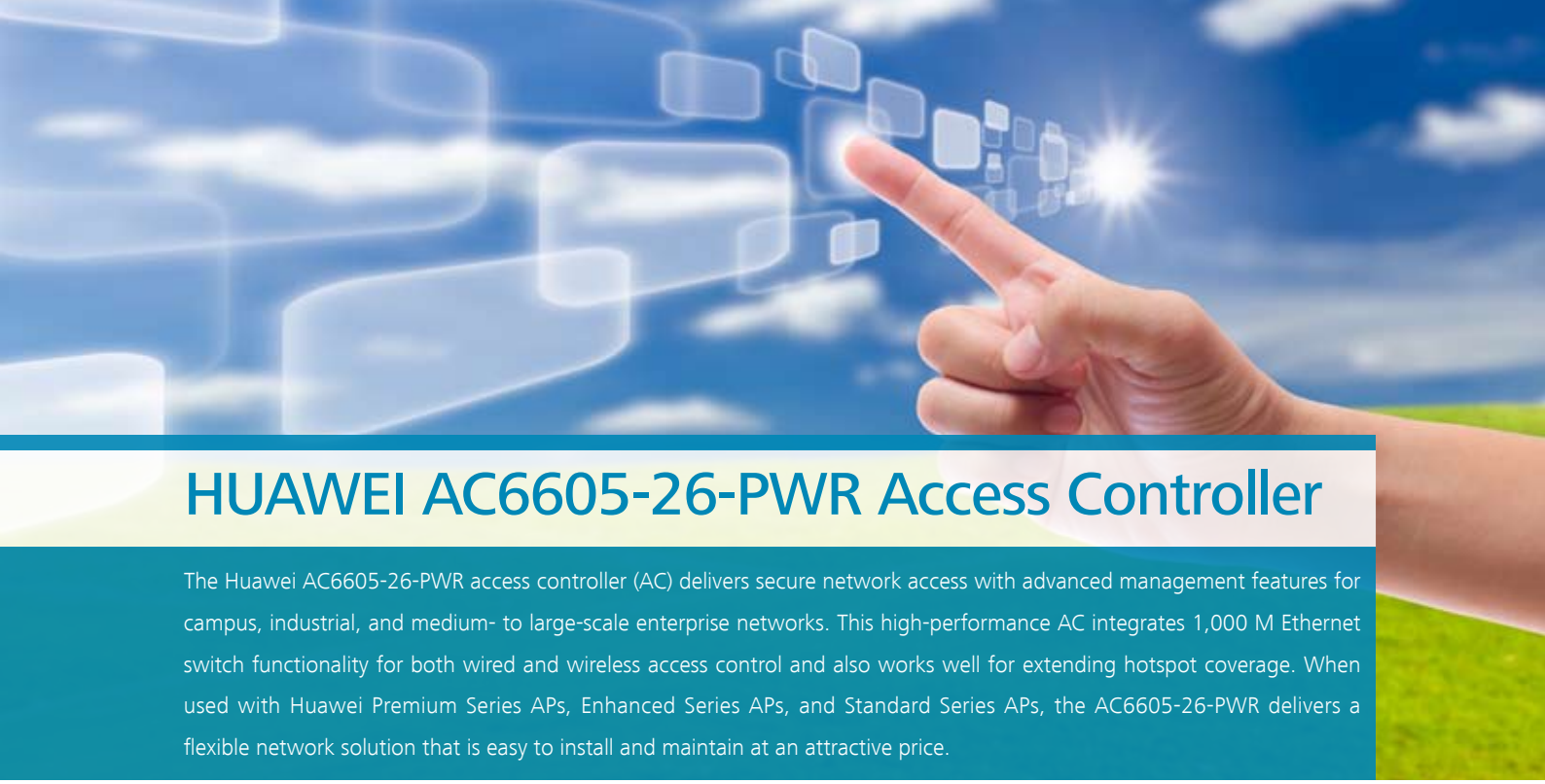
	Part Number	Product Name	Description
software	88031VEA	L_AC6005_8AP	Software Charge,AC6005,L-AC6005-8AP,AC6005 Access Controller AP Resource License(8 AP)
software	88031VEC	L_AC6005_32AP	Software Charge,AC6005,L-AC6005-32AP,AC6005 Access Controller AP Resource License(32 AP)
Power supply	Please refer to the ordering guide for more information.		
Power cable			
Optical module			
Optical connector			
Network cable			
Ground bar			

Professional Service and Support

Huawei Professional Services provides expert network design and service optimization tasks, helping customers design and deploy a high-performance network that is reliable and secure, maximizing return on investment as well as reducing operational expenses.

Company Addendum

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



HUAWEI AC6605-26-PWR Access Controller

The Huawei AC6605-26-PWR access controller (AC) delivers secure network access with advanced management features for campus, industrial, and medium- to large-scale enterprise networks. This high-performance AC integrates 1,000 M Ethernet switch functionality for both wired and wireless access control and also works well for extending hotspot coverage. When used with Huawei Premium Series APs, Enhanced Series APs, and Standard Series APs, the AC6605-26-PWR delivers a flexible network solution that is easy to install and maintain at an attractive price.

Multiple interface support

- 2 10-GE optical interfaces
- 24 GE and 4 GE combo interfaces
- 1 RJ-45 serial maintenance interface
- 1 RJ-45 network maintenance interface
- 1 mini-USB serial maintenance interface

Large-capacity, high-performance design with proven reliability

- Connections for up to 512 APs
- Backplane capacity of 128 Gbit/s with non-blocking data switching support
- Port backup using Link Aggregation Control Protocol (LACP) or Multiple Spanning Tree Protocol (MSTP)
- Dual, hot-swappable AC/DC power supplies

Easy to install and easy to maintain

- Convenient size (442 mm×420 mm×43.6 mm): small enough to fit a standard cabinet
- Power supplies are hot swappable
- Boolean port support for environmental monitoring and intra-board temperature probes, which monitor the operating environment of the AC in real time

Dynamic energy management

- Low-noise fans, which dynamically adjust to load changes to keep equipment noise and power consumption low
- Automatic power-saving mode, which engages during idle operation (when no peer device is connected)
- Highly integrated, energy-saving design, which provides even higher performance and lower power consumption when coupled with an intelligent device management system

Advanced Network Features

The Huawei AC6605-26-PWR provides AP connection and control for medium- to large-size enterprise and campus networks. The Huawei AC6605-26-PWR offers these features:

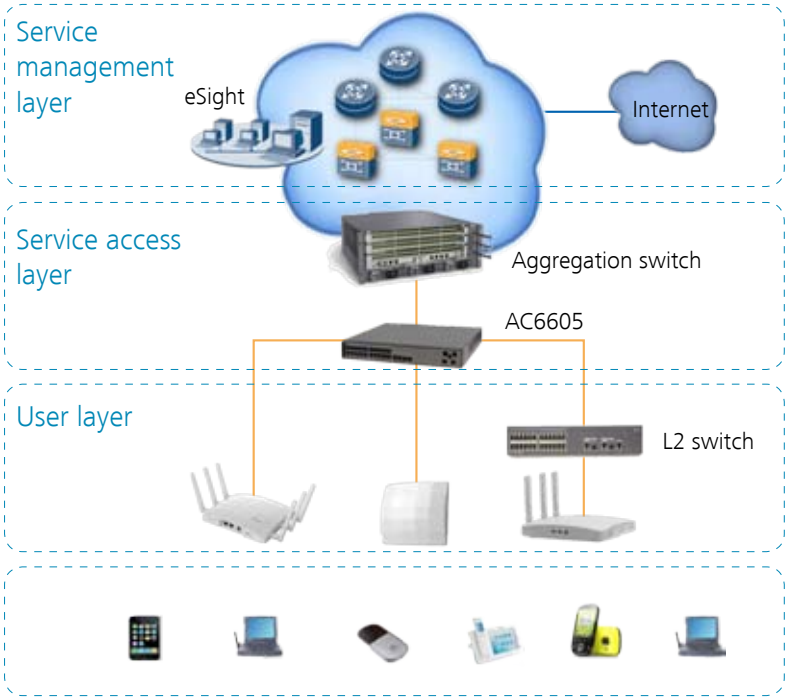
- licenses for managing multiple APs
- 128 Gbit/s switching capacity
- Compatibility with 802.11a/b/g/n
- PoE power supply for up to 24 interfaces
- Flexible networking and forwarding
- Comprehensive user policy management and authorization control
- Centralized authentication and distributed forwarding
- Secure and reliable N+1 backup
- Centralized AP management and maintenance
- Integrated WLAN management

Typical Network Configurations

The AC6605-26-PWR can be deployed in branched, chain, and distributed wireless networks (WDS and Mesh).

Branched Networking

In branched networking, the AC6605 connects to a network device (usually an aggregation switch) to manage the APs. Management flows are transmitted in Control and Provisioning of Wireless Access Points (CAPWAP) tunnels, and data flows are forwarded to the upper layer network by the aggregation switch and do not pass through the AC6605.

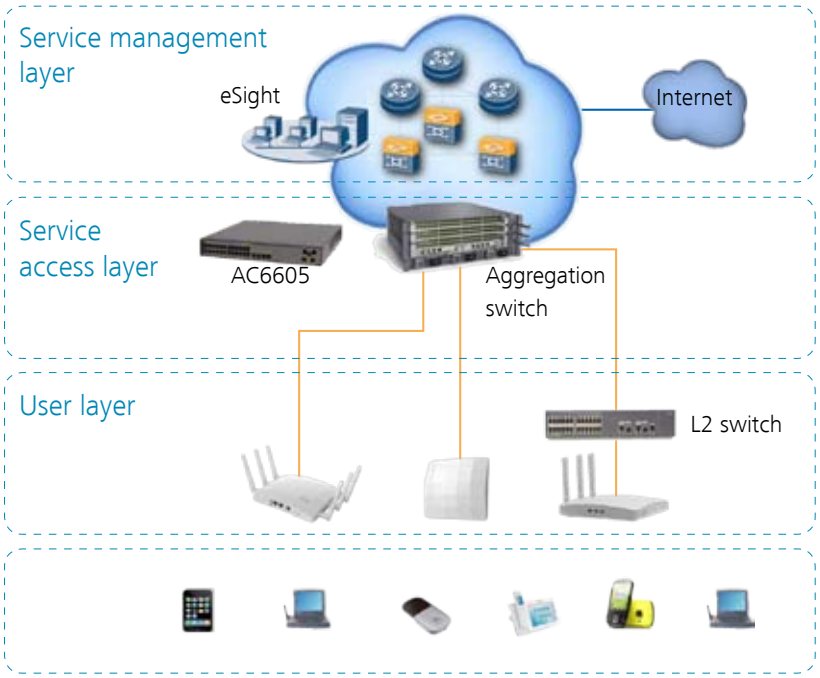


The AC6605 manages all the APs connected to the aggregation switch. This network topology works well where APs are scattered across hot spots. Because tunnel forwarding is commonly used for overlay network deployments, Huawei recommends using tunnel forwarding in branch network configurations for most enterprise networks.

Chain Networking

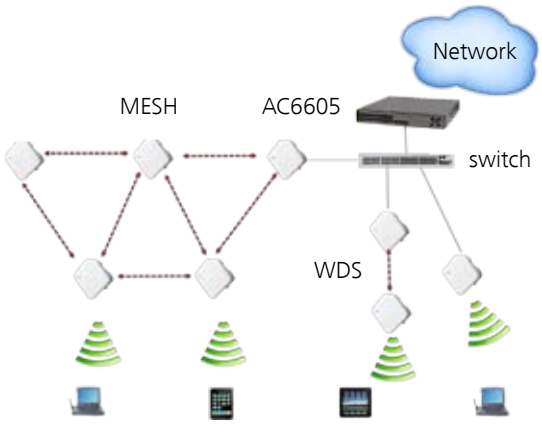
In chain networking, APs or access switches directly connect to the AC6605. The AC6605 functions as both an AC and an aggregation switch to forward and process data and management services for the APs.

In chain networking scenarios, the AC6605 sets up CAPWAP tunnels with APs to configure and manage these APs. Service data of wireless users can be forwarded between APs and the AC6605 over CAPWAP data tunnels or be directly forwarded by APs.



The AC6605 has a wired switching unit with powerful access, aggregation, and switching capabilities. Direct forwarding is often used in chain networking scenarios. This networking mode simplifies network architecture and is used with large-scale and centralized WLANs.

WDS and Mesh Networking



Wireless Distribution Systems (WDS) and Mesh networks use a distributed network of APs. The WDS and Mesh networks connect to an AC through a switch, and the AC connects to the network through a network device, such as a gateway or an aggregation switch. The WDS and Mesh connect to user stations (STAs).

WDS and MESH networking are used to expand wireless coverage areas for outdoor deployments.

AC6605-26-PWR features

Feature	Benefit
Scalability	Licenses are available for managing 16, 64, or 128 APs.
Flexible networking	The AC and APs can be connected across a Layer 2 or Layer 3 network. Network Address Translation (NAT) can be deployed in configurations where APs are deployed on an internal network and the AC is deployed on an external network. Services can be mapped between VLANs and Service Set Identifiers (SSIDs). The number of service VLANs and number of SSIDs can be in a ratio of 1:1 or 1:N based on service requirements. You can assign user VLANs based on SSIDs, physical locations, or services. The AC can be deployed in chain, branched, and WDS/Mesh networks. Where PoE interfaces are required, the AC6605-26-PWR provides power for up to 24 interfaces to support power-sourcing the APs from the AC.
Flexible forwarding	The AC6605-26-PWR allows you to easily configure local or centralized forwarding on Virtual Access Point (VAP) settings according to network traffic and service control requirements. • Centralized forwarding meets the requirements of most network configurations; however, when bandwidth demands from users connected to the same AP steadily increase, traffic switching loads will increase. • Local forwarding improves bandwidth efficiency, however, user authentication can not be controlled by the AC in local forwarding mode. The AC6605-26-PWR solves this problem with support for both local forwarding and centralized authentication to accommodate changing needs.
Radio management	The AC6605-26-PWR supports automatic selection and calibration of radio parameters in AP regions with these features: • Automatic signal level adjustment and channel selection on power-up. • Automatic signal re-calibration in the event of signal interference. - Partial calibration: Adjusts a specific AP to optimal signal levels. - Global calibration: Adjusts all APs in a specified region for optimal signal levels. • When an AP is removed or goes offline, the AC6605-26-PWR increases the power of neighboring APs to compensate for reduced signal strength.
Flexible user rights management	The AC6605-26-PWR uses Access Control Lists (ACLs) based on APs, VAPs, or SSIDs and provides isolation and bandwidth-limiting for each option. The AC AC6605-26-PWR also provides access controls for users and user roles to meet enterprise requirements regarding permissions, authentication, and authorization, as well as bandwidth limitations per user and user group. • The AC6605-26-PWR implements per-user access control based on ACLs, VLAN IDs, and bandwidth limits sent from the RADIUS server. • User groups are defined with access control policies. An ACL, user isolation policy, and bandwidth limitations can be applied to user groups for additional access control. • Inter-group user isolation or intra-group user isolation can also be configured..

Feature	Benefit
WDS	The AC6605-26-PWR provides STA access and wireless bridge management functions, as well as network bridge management when in Fit AP mode. The AC6605-26-PWR supports these networking modes: point-to-multipoint bridging, single-band/dual-band multi-hop relay, dual-band WDS bridging + WLAN access, and single-band WDS bridging + WLAN access. The AC6605-26-PWR can also function as a wireless bridge between a central campus network and multiple branch campuses. This configuration works well for deployments with no wired network or where cable routing is inconvenient.
High reliability	Multiple ACs can be configured in a network to increase WLAN reliability. If an active AC experiences a fault or the link between the active AC and APs disconnects, the APs can switch to a standby AC. The AC6605-26-PWR system provides N+1 active/standby mode, which allows multiple active ACs to share the same standby AC. This feature provides high reliability at reduced cost.
Load balancing	• Inter-AP load balancing: When an STA is in the coverage area of multiple APs, the AC6605-26-PWR connects the STA to the AP with the lightest load, delivering STA-based or traffic-based load balancing. • Inter-STA resource balancing: The AC6605-26-PWR can dynamically and evenly allocate bandwidth resources to prevent some STAs from overusing available bandwidth due to network adapter performance or special applications, such as BT Total Broadband. • The AC6605-26-PWR first utilizes the 5 GHz band to increase overall utilization of bandwidth.
Visualized WLAN network management and maintenance	The AC6605-26-PWR and APs use Fit AP + AC networking and standard Link Layer Discovery Protocol (LLDP) for centralized AP management and maintenance. When paired with Huawei’s eSight network management tool, the AC6605-26-PWR provides network topology displays to easily manage and optimize network performance.

AC6605-26-PWR Specifications

Item	Specifications
Technical specifications	Dimensions (W×D×H): 442 mm×420 mm×43.6 mm Weight: 5.48 kg Operating temperature: 0°C to 45°C Storage temperature: –40°C to +70°C Humidity: 5% to 95% Input voltage: 100 V AC to 240 V AC; 50/60 Hz; –48 V DC to –60 V DC Maximum power consumption: 85 W
Interface type	20×GE interfaces + 4×Combo interfaces + 2×10-GE optical interfaces Power for up to 24 PoE interfaces 1 RJ-45 serial maintenance interface 1 RJ-45 network maintenance interface 1 mini-USB serial maintenance interface Dual, hot-swappable AC/DC power supplies

Item	Specifications
Number of managed APs	16 to 512 (an integer multiple of 16)
Number of APs controlled by each license	16,64 or 128
Number of access users	Entire device: 10 K
Number of Number of Extended Service Set Identifiers (ESSIDs)	1 K
User group management	The AC supports 128 user groups: • Each user group can reference a maximum of 8 ACLs. • Each user group can associate with a maximum of 128 ACL rules.
Number of MAC addresses	16 K
Number of VLANs	4 K
Number of ARP entries	8 K
Number of routing entries	10 K
Number of multicast forwarding entries	4 K
Number of DHCP IP address pools	128 IP address pools, each containing a maximum of 16 K IP addresses

Wireless features

Feature	Description
Network management and maintenance	Device management and statistics • Command line management based on SSH/Telnet/Console • SNMPv2/v3 • Web management • Standard MIBs and Huawei proprietary MIBs • Syslog • AP and station statistics • Alarms with different severity levels Centralized AP configuration and management • Region-based AP management • Centralized version management and automatic version file load • Built-in AP type and customized AP addition Graphic AP deployment and topology displays • AP LLDP • AC LLDP

Feature	Description
Wireless protocols	IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11h, and 802.11n
WLAN deployment	AP-AC networking • AP-AC Layer 2/3 networking • AC Layer 2 forwarding or Layer 3 routing • NAT traversal (APs are deployed on a private network and ACs are deployed on the public network) Data forwarding • AP-AC CAPWAP tunnel and DTLS encryption • VAP-based forwarding (centralized forwarding and local forwarding) • Centralized authentication and local forwarding VLAN deployment • Mapping between SSIDs and VLANs and VLAN assignment based on SSIDs or physical locations WDS deployment • Point-to-point and point-to-multipoint • Automatic topology detection and loop prevention (STP) AC active/standby mode • Dual-linked active and standby ACs with Virtual Router Redundancy Protocol (VRRP) • N:1 activestandby deployment
Radio management	Channel and power configuration • Centralized or static channel power configuration • Automatic channel allocation to implement global radio calibration or partial radio calibration • Automatic power adjustment to implement coverage hole compensation • AP region-based configuration and management Load balancing • Load balancing based on the traffic volume on each radio • Load balancing based on the number of users
Wireless service control	Extended Service Set (ESS)-based service management • ESS-based SSID hiding and AP isolation at Layer 2 • Maximum number of access users and associated aging time settings in an ESS • ESSs to service VLANs mapping • ESS associations with a security profile or a QoS profile • Internet Group Management Protocol (IGMP) support for APs in an ESS Wireless roaming • Layer 2 roaming • Inter-VLAN Layer 3 roaming • Pairwise Master Key (PMK) caching, rapid key negotiation DHCP service control • Built-in DHCP server • Support for DHCP snooping on APs • Support for DHCP relay and DHCP snooping on AC Multicast service management • IGMP snooping • IGMP proxy

Feature	Description
Wireless user management	WLAN user management • User blacklist and whitelist • User access number limit • User disconnection • Support for multiple queries including online user information and statistics User group management • ACLs based on user groups • Isolation based on user groups
Wireless security and authentication	Authentication and encryption • OPEN/WEP/PSK/WPA(2) + 802.1x • WEP/TKIP/AES(CCMP) • WAPI User authentication and control • MAC address authentication, Portal authentication, and 802.1x authentication • MAC + Portal authentication • PEAP/TLS/MD5/CHAP Security and defense • ACLs based on interface, users, and user groups • Isolation based on VAPs and user groups • IP source guard for STAs • Detection of unauthorized APs and alarm function • User blacklist and whitelist AAA • Local authentication/local accounts (MAC addresses and accounts) • RADIUS authentication • Multiple authentication servers
Wireless QoS control	Flow control: • VAP-based rate limiting • User-group-based rate limiting • Rate limiting for a specified user • Dynamic traffic control, preventing resources from being wasted by STAs Priority mapping and scheduling • Mapping QoS settings of encapsulated data packets to 802.1p and DSCP fields of outer tunnel packets • Mapping between DSCP, 802.1p, and 802.11e

Wired features

Feature	Description
Ethernet features	802.1p, QinQ, Smart Link, LLDP Storm suppression, port isolation, and link aggregation
Ethernet loop protection	Spanning Tree Protocol (STP)/Rapid Spanning Tree Protocol (RSTP)/Multiple Spanning Tree Protocol (MSTP) Bridge Protocol Data Unit (BPDU) protection, root protection, and loop protection Partitioned STP and BPDU tunnels Rapid Ring Protection Protocol (RRPP) Hybrid networking of RRPP rings and other ring networks
IP routing	Unicast routing protocols: RIP, OSPF, BGP, and IS-IS
Device reliability	Virtual Router Redundancy Protocol (VRRP)
QoS features	Traffic classifier, traffic behavior, queue scheduling, congestion avoidance, and outbound interface rate limiting
Link detection	BFD EFM OAM, CFM OAM, and Y.1731
IP service control	ARP Built-in DHCP server RADIUS client Built-in FTP server DHCP relay and DHCP snooping

AC6605-26-PWR purchase and accessory information

Item	Part Number	Product Name	Description
Bundle	S4017388	AC6605-26-PWR-26-PWR-Bundle	AC6605-26-PWR-26-PWR-Bundle(Including AC6605-26-PWR-26-PWR,Resource License 16AP)
Bundle	S4017392	AC6605-26-PWR-32AP Bundle	Including AC6605-26-PWR-26-PWR,Resource License 32AP
Bundle	S4017393	AC6605-26-PWR-64AP Bundle	Including AC6605-26-PWR-26-PWR,Resource License 64AP
Bundle	S4017394	AC6605-26-PWR-128AP Bundle	Including AC6605-26-PWR-26-PWR,Resource License 128AP
Bundle	S4017395	AC6605-26-PWR-26-PWR-256AP Bundle	Including AC6605-26-PWR-26-PWR,Resource License 256AP

Item	Part Number	Product Name	Description
Bundle	S4017396	AC6605-26-PWR-26-PWR-512AP Bundle	Including AC6605-26-PWR-26-PWR,Resource License 512AP
License	88031BVE	L-AC6605-26-PWR-16AP	Software Charge,AC6605-26-PWR,L-AC6605-26-PWR-16AP,AC6605-26-PWR Access Controller AP Resource License(16 AP)
	88031BVF	L-AC6605-26-PWR-64AP	Software Charge,AC6605-26-PWR,L-AC6605-26-PWR-64AP,AC6605-26-PWR Access Controller AP Resource License(64 AP)
	88031FJP	L-AC6605-26-PWR-128AP	Software fee-AC6605-26-PWR-L-AC6605-26-PWR-128AP-AC6605-26-PWRwireless access control AP license(128 APs)
Power supply	02310JFA	ES0W2PSA0150	AC6605, ES0W2PSA0150,150W AC Power Module
	02310JFD	ES0W2PSD0150	AC6605, ES0W2PSD0150,150W DC Power Module
	2130983	W2PSA0500	AC/DC power module--25degC-55degC-90V-264V-12V/10A,-53.5V/7.1A
Power cable	Please refer to the ordering guide for more information.		
Optical module			
Optical connector			
Network cable			
Ground bar			

Professional Service and Support

Huawei Professional Services provides expert network design and service optimization tasks to help customers

- Design and deploy a high-performance network that is reliable and secure.
- Maximize return on investment and reduce operating expenses.

Company Addendum

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

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