



# Huawei AirEngine 8760-X1- PRO Access Point Datasheet

# Product Overview

Huawei AirEngine 8760-X1-PRO is a next-generation flagship indoor access point (AP) that complies with the Wi-Fi 6 (802.11ax) standards. This high-performance AP supports flexible switching among three modes: dual-radio, triple-radio, and dual-radio + one scanning radio\*, achieving a device rate of up to 10.75 Gbps. The AP uses built-in smart antennas to move Wi-Fi signals with users, significantly enhancing users' wireless network experience. The AP provides uplink optical and electrical ports, allowing customers to select different deployment modes based on scenarios. These strengths make AirEngine 8760-X1-PRO ideal for scenarios such as enterprise office, government, higher education, and primary/secondary education.



AirEngine 8760-X1-PRO

- Supports dual radios: 2.4GHz (4x4) + 5GHz (12x12), dual radios: 2.4GHz (4x4) + 5GHz (8x8) + independent radio scanning mode\*, triple radios: 2.4GHz (4x4) + 5GHz (8x8) + 5GHz (4x4). These modes can be flexibly switched. The maximum rate is up to 1.15 Gbps at 2.4GHz band, 9.6 Gbps at 5GHz band, and 10.75 Gbps for the device.
- 2 x 10 GE electrical and 1 x 10 GE SFP+.
- USB interface can be used for external power supply, external IoT expansion, and storage.
- Smart antenna enables targeted signal coverage for mobile terminals, reduces interferences, and improves signal quality. Additionally, it implements millisecond-level switchover as STAs move.
- Built-in IoT slots, supporting IoT expansion such as BLE 5.0, ZigBee, RFID, and Thread.
- Independent radio scanning\*, achieving real-time detection of interference and rogue devices in real time and timely network optimization.
- Supports Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP, and precise locating of Bluetooth terminals by collaborating with location server.
- Supports the Fat, Fit, and cloud three working modes.

## NOTE

- *Two 10GE electrical ports support dual PoE in hot backup power supply.*
- *10GE electrical port can also support 100M/1000M/2.5GE/5GE.*
- *The function and features marked with \* can be implemented through software upgrade. The following describes are the same.*

# Feature Descriptions

## Wi-Fi 6 (802.11ax) standards

- As the latest generation Wi-Fi standards of IEEE 802.11, 802.11ax improves user experience in high-density access scenarios and supports 2.4 GHz and 5 GHz frequency bands.
- UL/DL MU-MIMO on both the 2.4 GHz and 5 GHz frequency bands, allowing an AP to transmit data to and receive data from multiple STAs simultaneously and multiplying the utilization of radio spectrum resources.
- 1024QAM modulation, improving data transmission efficiency by 25% compared with 802.11ac (256QAM).
- UL/DL OFDMA scheduling enables multiple users to receive and send information at the same time, reducing latency and improving network efficiency.
- Spatial reuse (SR) technology uses basic service set (BSS) coloring to enable APs and STAs to distinguish BSSs, minimizing co-channel interference.
- The target wake time (TWT)\* allows APs and STAs to negotiate the sleep and wake time with each other, thereby improving the battery life of the STAs.

## Flexible radio mode switchover

The AP can flexibly switch among three modes: dual-radio, triple -radio, and dual-radio + independent dual-band scanning.

- The dual-radio mode is recommended in scenarios dominated by high-bandwidth services to provide ultra-large throughput of more than 10 Gbps.
- The triple-radio mode is recommended in high-density access or high-concurrency scenarios to allow more users to get access to the network.
- The dual-radio + independent dual-band scanning mode is recommended in scenarios where the network status and interference need to be monitored in real time. In this mode, the network quality is monitored and optimized in real time through independent dual-band scanning with no sacrifice of the user access performance and user throughput.
- In large-scale networking, APs working in different radio modes can be deployed. This practice is well suited to different service scenarios and traffic types, effectively improving the network-wide performance and reducing the total cost of operation (TCO).

## MU-MIMO

The AP supports a maximum of 16 spatial streams: four spatial streams for the 2.4 GHz radio and 12 spatial streams for 5 GHz radios. UL/DL MU-MIMO technology enables an AP to send data to multiple STAs simultaneously, which doubles the radio spectrum resource usage, increases the number of access users and bandwidth, and improves user experience in high-density access scenarios.

## Smart antenna

The AP equipped with the dual-band smart antenna array and intelligent switchover algorithm can intelligently detect the application environment and access density, achieving more accurate signal coverage and interference suppression. In addition, each smart antenna has four elements that are controlled by a high-frequency electronic switch to achieve better performance. This design helps provide the optimal signal coverage direction and signal quality for each mobile access STA, bringing seamless and smooth wireless network access experience to the users.

## Wired & wireless signal transmission @ 10GE

- The AP provides 160 MHz bandwidth, signifying many more available data subcarriers and extending the signal transmission channel. In addition, the AP adopts 1024-QAM and MU-MIMO technologies, increasing the rate of 5 GHz radios up to 9.6 Gbps. The AP rate can reach 10.75 Gbps for the device.
- The AP provides dual 10GE ports, dual PoE power supplies, and dual-link redundancy backup, achieving a much stable device performance. In addition, the AP provides a 10GE SPF+ uplink port, which frees users from the optical/electrical port selection issue and helps implement flexible networking in scenarios requiring internal/external network isolation and hybrid networking of optical/electrical ports.

## High density boost technology

Huawei uses the following technologies to address challenges in high-density scenarios, including access problems, data congestion, and poor roaming experience:

### SmartRadio for air interface optimization

- Load balancing during smart roaming: The load balancing algorithm can work during smart roaming for load balancing detection among APs on the network after STA roaming to adjust the STA load on each AP, improving network stability.
- Intelligent DFA technology: The dynamic frequency assignment (DFA) algorithm is used to automatically detect adjacent-channel and co-channel interference, and identify any 2.4 GHz redundant radio. Through automatic inter-AP negotiation, the redundant radio is automatically switched to another mode (dual-5G AP models support 2.4G-to-5G switchover) or is disabled to reduce 2.4 GHz co-channel interference and increase the system capacity.
- Intelligent conflict optimization technology: The dynamic enhanced distributed channel access (EDCA) and airtime scheduling algorithms are used to schedule the channel occupation time and service priority of each user. This ensures that each user is assigned relatively equal time for using channel resources and user services are scheduled in an orderly manner, improving service processing efficiency and user experience.

### Air interface performance optimization

- In high-density scenarios where many users access the network, increased number of low-rate STAs consumes more resources on the air interface, reduces the AP capacity, and lowers user experience. Therefore, Huawei APs will check the signal strength of STAs during access and rejects access from weak-signal STAs. At the same time, the APs monitor the rate of online STAs in real time and forcibly disconnect low-rate STAs so that the STAs can reassociate with APs that have stronger signals. The terminal access control technology can increase air interface use efficiency and allow access from more users.

### 5GHz-prior access (band steering)

- The APs support both 2.4G and 5G frequency bands. The 5GHz-prior access function enables an AP to steer STAs to the 5 GHz frequency band first, which reduces load and interference on the 2.4 GHz frequency band, improving the user experience.

## Wired and wireless dual security guarantee

To ensure data security, Huawei APs integrate wired and wireless security measures and provide comprehensive security protection.

### Authentication and encryption for wireless access

- The APs support WEP, WPA/WPA2-PSK, WPA3-SAE\*, WPA/WPA2-PPSK, WPA/WPA2/WPA3\*-802.1x, and WAPI\* authentication/encryption modes to ensure security of the wireless network. The authentication mechanism is used to authenticate user identities so that only authorized users can access network resources. The encryption mechanism is used to encrypt data transmitted over wireless links to ensure that the data can only be received and parsed by expected users.

### Analysis on no Wi-Fi interference sources\*

- Huawei APs can analyze the spectrum of no Wi-Fi interference sources and identify them, including 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. Coupled with Huawei NCE-Campus, the precise locations of the interference sources can be detected, and the spectrum of them displayed, enabling the administrator to remove the interference in a timely manner.

### Rogue device monitoring

- Huawei APs support WIDS/WIPS, and can monitor, identify, defend, counter, and perform refined management on the rogue devices, to provide security guarantees for air interface environment and wireless data transmission.

### Wired access authentication and encryption for the AP

- The AP access control ensures validity of APs. The CAPWAP link protection and DTLS/IPsec encryption provide security assurance, improving data transmission security between the AP and the AC.

## Automatic radio calibration

- Automatic radio calibration allows an AP to collect signal strength and channel parameters of surrounding APs and generate an AP topology according to the collected data. Based on interference from and loads of authorized APs, rogue APs,

and no Wi-Fi interference sources, each AP automatically adjusts its transmit power and working channel to make the network operate at the optimal performance. In this way, network reliability and user experience are improved.

## Automatic application identification

Huawei APs support smart application control technology and can implement visualized control on Layer 4 to Layer 7 applications.

### Traffic identification

- Coupled with Huawei WLAN ACs, the APs can identify over 6000 common applications in various office scenarios. Based on the identification results, policy control can be implemented on user services, including priority adjustment, scheduling, blocking, and rate limiting to ensure efficient bandwidth resource use and improve quality of key services.

### Traffic statistics collection

- Traffic statistics of each application can be collected globally, by SSID, or by user, enabling the network administrator to know application use status on the network. The network administrator or operator can implement visualized control on service applications on smart terminals to enhance security and ensure effective bandwidth control.

## IoT extension

The AP has a built-in IoT slot and provides a more stable PCIE port, achieving flexible extension of IoT protocols, such as RFID, ZigBee, BLE, and Thread. This practice helps implement the most comprehensive indoor IoT solution. Therefore, the AP is widely applied in shopping malls, supermarkets, office campuses, classrooms, and industrial IoT scenarios. In addition, the AP has a unique industrial-grade shell. After opening the shell in one-click, you can install an IoT card that is plug-and-play (PnP) with no need to route cables, presenting a pleasant appearance and simplifying O&M.

## Leader AP\*

The leader AP integrates some WLAN AC functions and can be used to manage Fit APs in small- and medium-sized enterprises and stores, implementing WLAN AC-free access not requiring licenses and saving customer investment.

## Cloud-based management

The AP can be managed via cloud, eliminating the need to deploy a WLAN AC. In cloud-based management mode, abundant authentication functions, such as pre-shared key (PSK) authentication, Portal authentication, SMS authentication, and social media authentication, can be implemented with no authentication server. This mode significantly simplifies the networking and reduces the capital expenditure (CAPEX). In addition, multiple advanced functions, such as online cloud-based network planning, cloud-based deployment, cloud-based inspection, and cloud-based O&M, can be implemented through Huawei cloud management platform. In multi-branch deployment scenarios, cloud APs are pre-configured on the cloud management platform. During onsite network deployment, you only need to power on the cloud APs, connect them to the network ports of switches, and implement plug-and-play (PnP) of the APs by scanning the QR codes. The pre-configurations then are automatically delivered to the APs, significantly shortening the network deployment time. The cloud management platform can monitor the network status, device status, and STA connection status of all sites in a comprehensive and intuitive manner.

# Basic Specifications

## Fat/Fit AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11ax and compatibility with IEEE 802.11a/b/g/n/ac/ac Wave 2 Flexible switchover between triple-radio and dual-radio modes, 16 spatial streams, providing up to 10.75 Gbps Maximum ratio combining (MRC) Space time block code (STBC) Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) Beamforming

Item	Description
	<p>DL/UL MU-MIMO</p> <p>DL/UL OFDMA</p> <p>Compliance with 1024-QAM and compatibility with 256-QAM/64-QAM/16-QAM/8-QAM/QPSK/BPSK</p> <p>Target wake time (TWT)*</p> <p>Low-density parity-check (LDPC)</p> <p>Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)</p> <p>802.11 dynamic frequency selection (DFS)</p> <p>Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz, and 160 MHz modes</p> <p>Priority mapping and scheduling that are compliant with Wi-Fi multimedia (WMM) to implement priority-based data processing and forwarding. Automatic and manual rate adjustment (the rate is adjusted automatically by default)</p> <p>WLAN channel management and channel rate adjustment</p> <p><b>NOTE</b></p> <p><i>For detailed management channels, see the Country Code &amp; Channel Compliance Table.</i></p> <p>Automatic channel scanning and interference avoidance</p> <p>Separate service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs</p> <p>Signal sustain technology (SST)</p> <p>Unscheduled automatic power save delivery (U-APSD)</p> <p>Control and Provisioning of Wireless Access Points (APs) in Fit AP mode</p> <p>Automatic login in Fit AP mode</p> <p>Extended Service Set (ESS) in Fit AP mode</p> <p>Multi-user CAC</p> <p>Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks</p> <p>802.11k and 802.11v smart roaming</p> <p>802.11r fast roaming (<math>\leq 50</math> ms)</p>
Network features	<p>Compliance with IEEE 802.3ab</p> <p>Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X)</p> <p>Compliance with IEEE 802.1q</p> <p>SSID-based VLAN assignment</p> <p>Uplink VLAN trunks on Ethernet ports</p> <p>Management channel of the AP's uplink port in tagged and untagged mode</p> <p>DHCP client, obtaining IP addresses through DHCP</p> <p>Tunnel data forwarding and direct data forwarding</p> <p>Application identification and QoS classification when AP local forwarding (also called direct forwarding), which can significantly improve voice quality for applications such as Skype, QQ, and WeChat</p> <p>STA isolation in the same VLAN</p> <p>IPv4/IPv6 access control lists (ACLs)</p> <p>Link Layer Discovery Protocol (LLDP)</p> <p>Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode</p> <p>Unified authentication on the AC in Fit AP mode</p> <p>AC dual-link backup in Fit AP mode</p> <p>Network Address Translation (NAT) in Fat AP mode</p> <p>IPv6 in Fit AP mode</p>

Item	Description
	<p>Soft Generic Routing Encapsulation (GRE)</p> <p>IPv6 Source Address Validation Improvements (SAVI)</p> <p>Multicast Domain Name Service (mDNS) gateway protocol</p>
QoS features	<p>WMM parameter management for each radio</p> <p>WMM power saving</p> <p>Priority mapping for upstream packets and flow-based mapping for downstream packets</p> <p>Queue mapping and scheduling</p> <p>User-based bandwidth limiting</p> <p>Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience</p> <p>Airtime scheduling</p> <p>Air interface HQoS scheduling</p>
Security features	<p>Open system authentication</p> <p>WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit* encryption key</p> <p>WPA2-PSK authentication and encryption (WPA2 personal edition)</p> <p>WPA2-802.1X authentication and encryption (WPA2 enterprise edition)</p> <p>WPA3-SAE authentication and encryption (WPA3 personal edition)*</p> <p>WPA3-802.1X authentication and encryption (WPA3 enterprise edition)*</p> <p>WPA-WPA2 hybrid authentication</p> <p>WPA2-WPA3 hybrid authentication*</p> <p>WPA2-PPSK authentication and encryption in Fit AP mode</p> <p>Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS), including rogue device detection and countermeasure, attack detection and dynamic blacklist, and STA/AP blacklist and whitelist</p> <p>802.1X authentication, MAC address authentication, and Portal authentication</p> <p>DHCP snooping</p> <p>Dynamic ARP Inspection (DAI)</p> <p>IP Source Guard (IPSG)</p> <p>802.11w Protected Management Frames (PMFs)</p>
Maintenance features	<p>Unified management and maintenance on the AC in Fit AP mode</p> <p>Automatic login, automatic configuration loading, and plug-and-play (PnP) in Fit AP mode</p> <p>Automatic batch upgrade in Fit AP mode</p> <p>Telnet</p> <p>STelnet using SSHv2</p> <p>SFTP using SSHv2</p> <p>Remote wireless O&amp;M through the Bluetooth console port</p> <p>Web system-based AP management in Fat AP mode, login through HTTP or HTTPS</p> <p>Real-time configuration monitoring and fast fault location using the NMS</p> <p>SNMP v1/v2/v3 in Fat AP mode</p> <p>System status alarm</p> <p>Network Time Protocol (NTP) in Fat AP mode</p>
BYOD	<p><b>NOTE</b></p> <p><i>The AP supports bring your own device (BYOD) only in Fit AP mode.</i></p> <p>Device type identification according to the organizationally unique identifier (OUI) in the MAC</p>

Item	Description
	<p>address</p> <p>Device type identification according to the user agent (UA) information in an HTTP packet</p> <p>Device type identification 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>
Location service	<p><b>NOTE</b></p> <p><i>The AP supports the location service only in Fit AP mode.</i></p> <p>STA location</p> <p>Working with the location server to locate rogue devices</p> <p>Bluetooth location</p>
Spectrum analysis	<p><b>NOTE</b></p> <p><i>The AP supports spectrum analysis only in Fit AP mode.</i></p> <p>Identification of more than eight interference sources including Bluetooth devices, microwave ovens, cordless phones, ZigBee devices, game controllers, 2.4 GHz/5 GHz wireless video and audio devices, and baby monitors</p> <p>Working with the location server to locate interference sources and perform spectrum analysis on them</p>

## Cloud-based management mode

Item	Description
WLAN features	<p>Compliance with IEEE 802.11a/b/g/n/ac/ac Wave 2/ax</p> <p>Flexible switchover between triple-radio and dual-radio modes, 16 spatial streams, providing up to 10.75 Gbps</p> <p>Maximum ratio combining (MRC)</p> <p>Space time block code (STBC)</p> <p>Beamforming</p> <p>Low-density parity-check (LDPC)</p> <p>Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)</p> <p>802.11 dynamic frequency selection (DFS)</p> <p>Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding</p> <p>WLAN channel management and channel rate adjustment</p> <p><b>NOTE</b></p> <p><i>For detailed management channels, see the Country Code &amp; Channel Compliance Table.</i></p> <p>Automatic channel scanning and interference avoidance</p> <p>Service set identifier (SSID) hiding</p> <p>Signal sustain technology (SST)</p> <p>Unscheduled automatic power save delivery (U-APSD)</p> <p>Automatic login</p>
Network features	<p>Compliance with IEEE 802.3ab</p> <p>Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X)</p> <p>Compliance with IEEE 802.1q</p> <p>SSID-based VLAN assignment</p> <p>VLAN trunk on uplink Ethernet ports</p>

Item	Description
	<ul style="list-style-type: none"> <li>Management channel of the AP uplink port in tagged and untagged mode</li> <li>DHCP client, obtaining IP addresses through DHCP</li> <li>Tunnel data forwarding and direct data forwarding</li> <li>STA isolation in the same VLAN</li> <li>IPv4/IPv6 Access control lists (ACLs)</li> <li>Link Layer Discovery Protocol (LLDP)</li> <li>Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode</li> <li>Unified authentication on the AC in Fit AP mode</li> <li>AC dual-link backup in Fit AP mode</li> <li>Network Address Translation (NAT) in Fat AP mode</li> <li>IPv6 in Fit AP mode</li> <li>Soft Generic Routing Encapsulation (GRE)</li> <li>IPv6 Source Address Validation Improvements (SAVI)</li> <li>Multicast Domain Name Service (mDNS) gateway protocol</li> </ul>
QoS features	<ul style="list-style-type: none"> <li>WMM parameter management for each radio</li> <li>WMM power saving</li> <li>Priority mapping for upstream packets and flow-based mapping for downstream packets</li> <li>Queue mapping and scheduling</li> <li>User-based bandwidth limiting</li> <li>Airtime scheduling</li> <li>Application acceleration for VR and mobile gaming</li> <li>Air interface HQoS scheduling</li> </ul>
Security features	<ul style="list-style-type: none"> <li>Open system authentication</li> <li>WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit* encryption key</li> <li>WPA2-PSK authentication and encryption (WPA2 personal edition)</li> <li>WPA2-802.1X authentication and encryption (WPA2 enterprise edition)</li> <li>WPA3-SAE authentication and encryption (WPA3 personal edition)*</li> <li>WPA3-802.1X authentication and encryption (WPA3 enterprise edition)*</li> <li>WPA-WPA2 hybrid authentication</li> <li>WPA2-WPA3 hybrid authentication*</li> <li>802.1x authentication, MAC address authentication, and Portal authentication</li> <li>DHCP snooping</li> <li>Dynamic ARP Inspection (DAI)</li> <li>IP Source Guard (IPSG)</li> </ul>
Maintenance features	<ul style="list-style-type: none"> <li>Unified management and maintenance on the Agile Controller</li> <li>Automatic login and configuration loading, and plug-and-play (PnP)</li> <li>Batch upgrade</li> <li>Telnet</li> <li>STelnet using SSH v2</li> <li>SFTP using SSH v2</li> <li>Remote wireless O&amp;M through the Bluetooth console port</li> <li>Web local AP management through HTTP or HTTPS</li> <li>Real-time configuration monitoring and fast fault location using the NMS</li> <li>System status alarm</li> </ul>

Item	Description
	Network Time Protocol (NTP)

## Technical Specifications

Item	Description			
Technical specifications	Dimensions (H x W x D)	220x220x61mm		
	Weight	1.85kg		
	Interface type	2 x 10 GE electrical and 1 x 10 GE SFP+ 1 x USB <b>NOTE</b> <ul style="list-style-type: none"> <li>10GE electrical port can also support 100M/1000M/2.5GE/5GE.</li> <li>10G optical port can also support 10GE/GE/GPON optical modules.</li> </ul>		
	IoT expansion	Build in IoT slots: Supporting PCIE cards such as ZigBee, RFID, and Thread.		
	Bluetooth	Build in BLE5.0		
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system.		
Power specifications	Power input	<ul style="list-style-type: none"> <li>DC: 43.2 V to 57.6 V</li> <li>PoE power supply: In compliance with 802.3at/bt.</li> </ul> <b>NOTE</b> <ul style="list-style-type: none"> <li>Two 10GE electrical ports work in PoE In hot backup mode.</li> <li>Two 10GE electrical ports (802.3at PoE+) can be aggregation power supply.</li> </ul>		
	PoE power supply mode	2.4GHz	5GHz	Maximum power consumption (excluding USB and IoT)
	802.3bt (PoE++) Class 8	4x4	12x12	55W
		4x4	4x4+8x8	
	802.3bt (PoE++) Class 6	4x4	12x12	<51W
		4x4	4x4+8x8	
	802.3at (PoE+)	2x2	4x4	<25.5W
		2x2	2x2+2x2	
	<b>NOTE</b> <ul style="list-style-type: none"> <li>For details about the working status of the Ethernet port, IoT, and USB in different power supply modes, see the <a href="#">Specification Query Tool</a>.</li> <li>The actual maximum power consumption depends on local laws and regulations.</li> <li>When 802.3bt (PoE++) Class 6 power supply is used, only one 10GE interface can work properly, it can be electrical port or SFP+ optical port.</li> </ul>			
	Environmental specifications	Operating temperature	-10°C to +50°C	
Storage temperature		-40°C to +70°C		
Operating humidity		5% to 95% (non-condensing)		

Item	Description	
	Altitude	-60 m to +5000 m
	Atmospheric pressure	53 kPa to 106 kPa
Radio specifications	Antenna type	Built-in smart antennas
	Antenna gain	2.4G: 4dBi 5G: 5dBi <b>NOTE</b> <ul style="list-style-type: none"> <li>• <i>The gains above are the single-antenna peak gains.</i></li> </ul>
	Maximum number of SSIDs for each radio	≤ 16
	Maximum number of users	≤ 1024 (dual-radio) (512/Radio) ≤ 1152 (triple-radio) (128(2.4G Radio)+512(5G Radio1)+512(5G Radio2)) <b>NOTE</b> <i>The actual number of users varies according to the environment.</i>
	Maximum transmit power	2.4G: 26dBm (combined power) 5G: 31dBm (combined power) <b>NOTE</b> <i>The actual transmit power depends on local laws and regulations.</i>
	Power increment	1 dBm
	Maximum number of non-overlapping channels	2.4 GHz (2.412 GHz to 2.472 GHz) <ul style="list-style-type: none"> <li>• 802.11b/g               <ul style="list-style-type: none"> <li>- 20 MHz: 3</li> </ul> </li> <li>• 802.11n               <ul style="list-style-type: none"> <li>- 20 MHz: 3</li> <li>- 40 MHz: 1</li> </ul> </li> <li>• 802.11ax               <ul style="list-style-type: none"> <li>- 20 MHz: 3</li> <li>- 40 MHz: 1</li> </ul> </li> </ul> 5 GHz (5.18 GHz to 5.825 GHz) <ul style="list-style-type: none"> <li>• 802.11a               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> </ul> </li> <li>• 802.11n               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> <li>- 40 MHz: 6</li> </ul> </li> <li>• 802.11ac               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> <li>- 40 MHz: 6</li> <li>- 80 MHz: 3</li> <li>- 160 MHz: 1</li> </ul> </li> <li>• 802.11ax               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> <li>- 40 MHz: 6</li> <li>- 80 MHz: 3</li> </ul> </li> </ul>

Item	Description
	<p>- 160 MHz: 1</p> <p><b>NOTE</b></p> <p><i>The table uses the number of non-overlapping channels supported by China as an example. The number of non-overlapping channels varies in different countries. For details, see the Country Codes &amp; Channels Compliance</i></p>
Receiver sensitivity	<ul style="list-style-type: none"> <li>• 2.4GHz 802.11b: -99dBm/1Mbit/s;-96dBm/2Mbit/s;-93dBm/5.5Mbit/s;-90dBm/11Mbit/s;</li> <li>• 2.4GHz 802.11g: -99dBm/6Mbit/s;-96dBm/9Mbit/s;-94dBm/12Mbit/s;-92dBm/18Mbit/s;-89dBm/24Mbit/s;-86dBm/36Mbit/s;-82dBm/48Mbit/s;-80dBm/54Mbit/s;</li> <li>• 2.4GHz 802.11n(HT20): -98dBm/MCS0;-96dBm/MCS1;-94dBm/MCS2;-91dBm/MCS3;-88dBm/MCS4;-84dBm/MCS5;-81dBm/MCS6;-80dBm/MCS7;</li> <li>• 2.4GHz 802.11n(HT40): -95dBm/MCS0;-94dBm/MCS1;-91dBm/MCS2;-88dBm/MCS3;-85dBm/MCS4;-81dBm/MCS5;-79dBm/MCS6;-78dBm/MCS7;</li> <li>• 2.4GHz 802.11ac(VHT20): -98dBm/MCS0NSS1;-96dBm/MCS1NSS1;-94dBm/MCS2NSS1;-91dBm/MCS3NSS1;-88dBm/MCS4NSS1;-84dBm/MCS5NSS1;-81dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;</li> <li>• 2.4GHz 802.11ac(VHT40): -95dBm/MCS0NSS1;-94dBm/MCS1NSS1;-91dBm/MCS2NSS1;-88dBm/MCS3NSS1;-85dBm/MCS4NSS1;-81dBm/MCS5NSS1;-79dBm/MCS6NSS1;-78dBm/MCS7NSS1;-73dBm/MCS8NSS1;-71dBm/MCS9NSS1;</li> <li>• 2.4GHz 802.11ax(HT20): -98dBm/MCS0NSS1;-96dBm/MCS1NSS1;-94dBm/MCS2NSS1;-91dBm/MCS3NSS1;-88dBm/MCS4NSS1;-84dBm/MCS5NSS1;-81dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;-74dBm/MCS9NSS1;-72dBm/MCS10NSS1;-70dBm/MCS11NSS1;</li> <li>• 2.4GHz 802.11ax(HT40): -95dBm/MCS0NSS1;-94dBm/MCS1NSS1;-91dBm/MCS2NSS1;-88dBm/MCS3NSS1;-85dBm/MCS4NSS1;-81dBm/MCS5NSS1;-79dBm/MCS6NSS1;-78dBm/MCS7NSS1;-73dBm/MCS8NSS1;-71dBm/MCS9NSS1;-68dBm/MCS10NSS1;-66dBm/MCS11NSS1;</li> <li>• 5GHz 802.11a: -99dBm/6Mbit/s;-97dBm/9Mbit/s;-96dBm/12Mbit/s;-94dBm/18Mbit/s;-91dBm/24Mbit/s;-88dBm/36Mbit/s;-84dBm/48Mbit/s;-54dBm/81Mbit/s;</li> <li>• 5GHz 802.11n(HT20): -98dBm/MCS0;-95dBm/MCS1;-93dBm/MCS2;-90dBm/MCS3;-87dBm/MCS4;-83dBm/MCS5;-81dBm/MCS6;-80dBm/MCS7;</li> <li>• 5GHz 802.11n(HT40): -96dBm/MCS0;-95dBm/MCS1;-93dBm/MCS2;-88dBm/MCS3;-85dBm/MCS4;-83dBm/MCS5;-80dBm/MCS6;-77dBm/MCS7;</li> <li>• 5GHz 802.11ac(VHT20): -98dBm/MCS0NSS1;-95dBm/MCS1NSS1;-93dBm/MCS2NSS1;-90dBm/MCS3NSS1;-87dBm/MCS4NSS1;-83dBm/MCS5NSS1;-81dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;</li> <li>• 5GHz 802.11ac(VHT40): -96dBm/MCS0NSS1;-95dBm/MCS1NSS1;-93dBm/MCS2NSS1;-88dBm/MCS3NSS1;-85dBm/MCS4NSS1;-83dBm/MCS5NSS1;-80dBm/MCS6NSS1;-78dBm/MCS7NSS1;-75dBm/MCS8NSS1;-73dBm/MCS9NSS1;</li> <li>• 5GHz 802.11ac(VHT80): -93dBm/MCS0NSS1;-90dBm/MCS1NSS1;-88dBm/MCS2NSS1;-85dBm/MCS3NSS1;-</li> </ul>

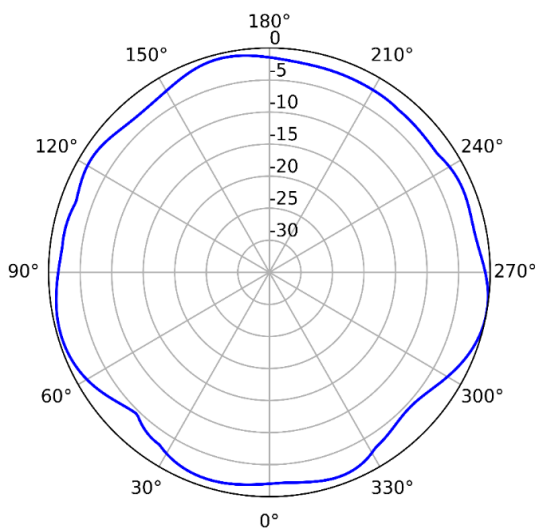
Item	Description
	<p>83dBm/MCS4NSS1;-80dBm/MCS5NSS1;-78dBm/MCS6NSS1;-76dBm/MCS7NSS1;-72dBm/MCS8NSS1;-70dBm/MCS9NSS1;</p> <ul style="list-style-type: none"> <li>• 5GHz 802.11ac(VHT160): -90dBm/MCS0NSS1;-87dBm/MCS1NSS1;-85dBm/MCS2NSS1;-82dBm/MCS3NSS1;-79dBm/MCS4NSS1;-75dBm/MCS5NSS1;-73dBm/MCS6NSS1;-70dBm/MCS7NSS1;-68dBm/MCS8NSS1;-66dBm/MCS9NSS1;</li> <li>• 5GHz 802.11ax(HT20): -98dBm/MCS0NSS1;-95dBm/MCS1NSS1;-93dBm/MCS2NSS1;-90dBm/MCS3NSS1;-87dBm/MCS4NSS1;-83dBm/MCS5NSS1;-81dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;-75dBm/MCS9NSS1;-73dBm/MCS8NSS1;-70dBm/MCS9NSS1;</li> <li>• 5GHz 802.11ax(HT40): -96dBm/MCS0NSS1;-95dBm/MCS1NSS1;-93dBm/MCS2NSS1;-88dBm/MCS3NSS1;-85dBm/MCS4NSS1;-83dBm/MCS5NSS1;-80dBm/MCS6NSS1;-78dBm/MCS7NSS1;-75dBm/MCS8NSS1;-73dBm/MCS9NSS1;-70dBm/MCS8NSS1;-67dBm/MCS9NSS1;</li> <li>• 5GHz 802.11ax(HT80): -93dBm/MCS0NSS1;-90dBm/MCS1NSS1;-88dBm/MCS2NSS1;-85dBm/MCS3NSS1;-83dBm/MCS4NSS1;-80dBm/MCS5NSS1;-78dBm/MCS6NSS1;-76dBm/MCS7NSS1;-72dBm/MCS8NSS1;-70dBm/MCS9NSS1;-67dBm/MCS10NSS1;-65dBm/MCS11NSS1;</li> <li>• 5GHz 802.11ax(HT160): -90dBm/MCS0NSS1;-87dBm/MCS1NSS1;-85dBm/MCS2NSS1;-82dBm/MCS3NSS1;-79dBm/MCS4NSS1;-75dBm/MCS5NSS1;-73dBm/MCS6NSS1;-70dBm/MCS7NSS1;-68dBm/MCS8NSS1;-66dBm/MCS9NSS1;-63dBm/MCS10NSS1;-62dBm/MCS11NSS1;</li> </ul>

## Standards Compliance

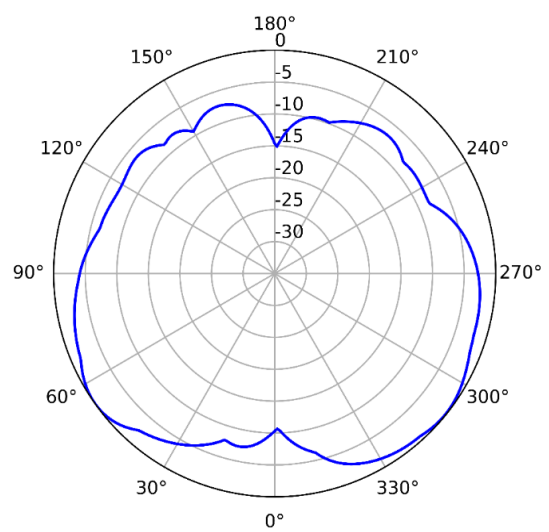
Item	Description																		
Safety standards	<table border="1"> <tr> <td>UL 62368-1</td> <td>GB 4943</td> <td>CAN/CSA 22.2 No.60950-1</td> </tr> <tr> <td>EN 62368-1</td> <td>EN 60950-1</td> <td>IEC 60950-1</td> </tr> <tr> <td>IEC 62368-1</td> <td>UL 60950-1</td> <td></td> </tr> </table>	UL 62368-1	GB 4943	CAN/CSA 22.2 No.60950-1	EN 62368-1	EN 60950-1	IEC 60950-1	IEC 62368-1	UL 60950-1										
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Radio standards	<table border="1"> <tr> <td>ETSI EN 300 328</td> <td>RSS-210</td> <td>AS/NZS 4268</td> </tr> <tr> <td>ETSI EN 301 893</td> <td></td> <td></td> </tr> </table>	ETSI EN 300 328	RSS-210	AS/NZS 4268	ETSI EN 301 893														
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EMC standards	<table border="1"> <tr> <td>EN 301 489-1</td> <td>ITU k.20</td> <td>EN 55024</td> </tr> <tr> <td>EN 301 489-17</td> <td>GB 9254</td> <td>CISPR 22</td> </tr> <tr> <td>ETSI EN 60601-1-2</td> <td>GB 17625.1</td> <td>CISPR 24</td> </tr> <tr> <td>FCC Part 15</td> <td>AS/NZS CISPR22</td> <td>IEC61000-4-6</td> </tr> <tr> <td>ICES-003</td> <td>EN 55022</td> <td>IEC61000-4-2</td> </tr> <tr> <td>YD/T 1312.2-2004</td> <td></td> <td></td> </tr> </table>	EN 301 489-1	ITU k.20	EN 55024	EN 301 489-17	GB 9254	CISPR 22	ETSI EN 60601-1-2	GB 17625.1	CISPR 24	FCC Part 15	AS/NZS CISPR22	IEC61000-4-6	ICES-003	EN 55022	IEC61000-4-2	YD/T 1312.2-2004		
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IEEE standards	<table border="1"> <tr> <td>IEEE 802.11a/b/g</td> <td>IEEE 802.11h</td> <td>IEEE 802.11u</td> </tr> <tr> <td>IEEE 802.11n</td> <td>IEEE 802.11d</td> <td>IEEE 802.11v</td> </tr> <tr> <td>IEEE 802.11ac</td> <td>IEEE 802.11e</td> <td>IEEE 802.11w</td> </tr> <tr> <td>IEEE 802.11ax</td> <td>IEEE 802.11k</td> <td>IEEE 802.11r</td> </tr> </table>	IEEE 802.11a/b/g	IEEE 802.11h	IEEE 802.11u	IEEE 802.11n	IEEE 802.11d	IEEE 802.11v	IEEE 802.11ac	IEEE 802.11e	IEEE 802.11w	IEEE 802.11ax	IEEE 802.11k	IEEE 802.11r						
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IEEE 802.11ac	IEEE 802.11e	IEEE 802.11w																	
IEEE 802.11ax	IEEE 802.11k	IEEE 802.11r																	
Security standards	<ul style="list-style-type: none"> <li>• 802.11i, Wi-Fi Protected Access 2(WPA2), WPA, WPA2, WPA2-Enterprise, WPA2-PSK, WPA3*, WAPI*</li> </ul>																		

Item	Description		
	<ul style="list-style-type: none"> <li>802.1X</li> <li>Advanced Encryption Standards(AES), Temporal Key Integrity Protocol(TKIP), WEP, Open</li> <li>EAP Type(s)</li> </ul>		
EMF	CENELEC EN 62311 CENELEC EN 50385	OET65 RSS-102	FCC Part1&2 FCC KDB Series
RoHS	Directive 2002/95/EC & 2011/65/EU		
Reach	Regulation 1907/2006/EC		
WEEE	Directive 2002/96/EC & 2012/19/EU		

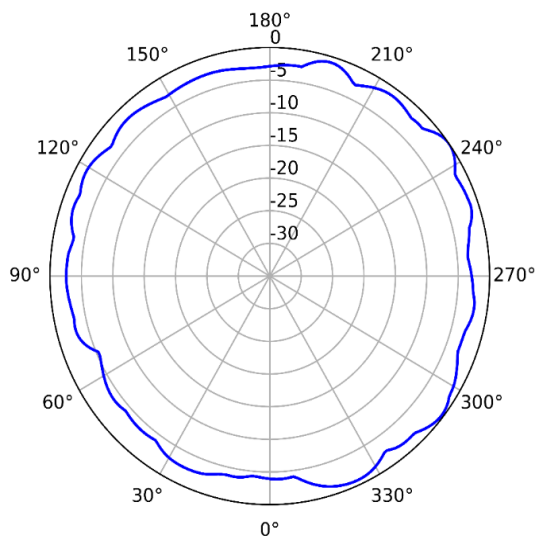
## Antennas Pattern



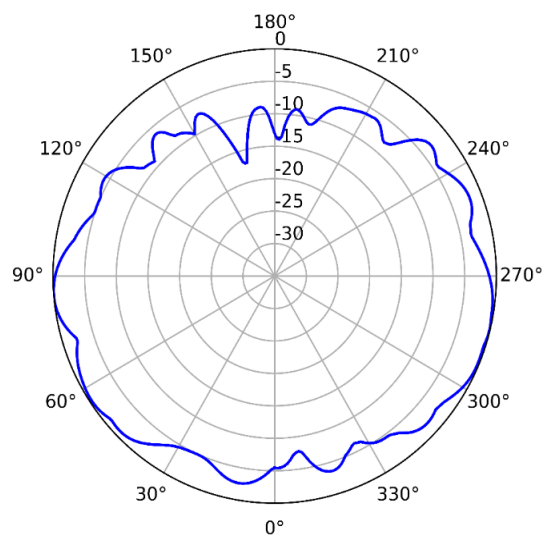
2.4GHz (Horizontal)



2.4GHz (Vertical)



5GHz (Horizontal)



5GHz (Vertical)

## More Information

For more information about Huawei WLAN products, visit <http://e.huawei.com> or contact us in the following ways:

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- Logging in to the Huawei Enterprise technical support web: <http://support.huawei.com/enterprise/>
- Sending an email to the customer service mailbox: [support\\_e@huawei.com](mailto:support_e@huawei.com)

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