Huawei AirEngine 5760-51 Access Point Datasheet

Product Overview

AirEngine 5760-51 is a Wi-Fi 6 (802.11ax) standard wireless access point (AP) released by Huawei. AirEngine 5760-51 supports flexible switching between dual-radio and triple-radio modes to serve different customers and traffic types. The device can reach a rate of up to 5.375 Gbps, after loading the RTU license, the device can reach a rate of up to 5.95 Gbps. AirEngine 5760-51 has built-in smart antennas to move Wi-Fi signals with users, significantly enhancing users' wireless network experience. These strengths make AirEngine 5760-51 ideal for scenarios such as enterprise offices, cafes, and leisure centers.

AirEngine 5760-51

- Smart antenna array technology enables targeted signal coverage for mobile terminals, reduces interferences, and improves signal quality. Additionally, it implements millisecond-level switchover as STAs move.
- USB interface can be used for external power supply, external IoT expansion, and storage.
- Built-in IoT slots, supporting IoT expansion such as BLE 5.0, ZigBee, RFID, and Thread.
- Supports Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.
- Supports the Fat, Fit, and cloud three working modes.

Basic capabilities:

- Supports dual radios:
    - 2.4GHz (2x2 MU-MIMO and 2 spatial streams) + 5GHz (4x4 MU-MIMO and 4 spatial streams).
- Supports triple radios:
    - 2.4GHz (2x2 MU-MIMO and 2 spatial streams) + 5GHz (2x2 MU-MIMO and 2 spatial streams) + 5GHz (2x2 MU-MIMO and 2 spatial streams).
- These modes can be flexibly switched. The maximum rate is up to 575 Mbps at 2.4GHz band, 4.8 Gbps at 5GHz band, and 5.375 Gbps for the device.

RTU license upgrade:

- Supports dual radios:
    - 2.4GHz (4x4 MU-MIMO and 4 spatial streams) + 5GHz (4x4 MU-MIMO and 4 spatial streams).
- Supports triple radios:
    - 2.4GHz (2x2 MU-MIMO and 2 spatial streams) + 5GHz (2x2 MU-MIMO and 2 spatial streams) + 5GHz (4x4 MU-MIMO and 4 spatial streams).
    - 2.4GHz (2x2 MU-MIMO and 2 spatial streams) + 5GHz (4x4 MU-MIMO and 4 spatial streams) + independent radio scanning mode.
    - Independent radio scanning, achieving real-time detection of interference and rogue devices in real time and timely network optimization.

- These modes can be flexibly switched. The maximum rate is up to 1.15 Gbps at 2.4GHz band, 4.8 Gbps at 5GHz band, and 5.95 Gbps for the device.

> 📖 **NOTE**
>
> _● The basic mode refers to the capabilities supported in the default state._
>
> _● The RTU (Right to Use) mode refers to adding more spatial streams and features to the basic mode._

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.

- 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).

- 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.

> 📖 **NOTE**
>
> _● The function and features marked with * can be implemented through software upgrade. The following describes are the same._

MU-MIMO

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 array technology

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. 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.

High-speed access

- The AP supports 160 MHz frequency bandwidth, which increases the number of available data subcarriers, expands transmission channels. In addition, the AP uses 1024QAM modulation and MU-MIMO to achieve a rate of up to 4.8 Gbps on the 5 GHz band and 5.375Gbps for the device.

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 non-Wi-Fi interference sources

- Huawei APs can analyze the spectrum of non-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, DTLS/IPsec encryption and hardware 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 non-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 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
	Maximum ratio combining (MRC)
	Space time block code (STBC)
	Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD)
	Beamforming
	MU-MIMO
	OFDMA
	Compliance with 1024-QAM and compatibility with 256-QAM/64-QAM/16-QAM/8-QAM/QPSK/BPSK
	Target wake time (TWT)[*]
	Low-density parity-check (LDPC)
	Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)
	802.11 dynamic frequency selection (DFS)
	Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz, and 160 MHz modes
	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)
	WLAN channel management and channel rate adjustment

Item	Description
	NOTE *For detailed management channels, see the Country Code & Channel Compliance Table.* Automatic channel scanning and interference avoidance Separate service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Control and Provisioning of Wireless Access Points (APs) in Fit AP mode Automatic login in Fit AP mode Extended Service Set (ESS) in Fit AP mode Multi-user CAC Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks 802.11k and 802.11v smart roaming 802.11r fast roaming (≤ 50 ms)
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compliance with IEEE 802.1q SSID-based VLAN assignment Uplink VLAN trunks on Ethernet ports Management channel of the AP's uplink port in tagged and untagged mode DHCP client, obtaining IP addresses through DHCP Tunnel data forwarding and direct data forwarding 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 STA isolation in the same VLAN IPv4/IPv6 access control lists (ACLs) Link Layer Discovery Protocol (LLDP) Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode Unified authentication on the AC in Fit AP mode AC dual-link backup in Fit AP mode Network Address Translation (NAT) in Fat AP mode IPv6 in Fit AP mode Soft Generic Routing Encapsulation (GRE) IPv6 Source Address Validation Improvements (SAVI) Multicast Domain Name Service (mDNS) gateway protocol
QoS features	WMM parameter management for each radio WMM power saving Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience Airtime scheduling Air interface HQoS scheduling

Item	Description
	Application acceleration for VR and mobile gaming Application identification
	Intelligent multimedia sheduling
Security features	Open system authentication
	WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit encryption key
	WPA2-PSK authentication and encryption (WPA2 personal edition)
	WPA2-802.1X authentication and encryption (WPA2 enterprise edition)
	WPA3-SAE authentication and encryption (WPA3 personal edition)
	WPA3-802.1X authentication and encryption (WPA3 enterprise edition)
	WPA-WPA2 hybrid authentication
	WPA2-WPA3 hybrid authentication
	WPA2-PPSK authentication and encryption in Fit AP mode
	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
	802.1X authentication, MAC address authentication, and Portal authentication
	DHCP snooping
	Dynamic ARP Inspection (DAI)
	IP Source Guard (IPSG)
	802.11w Protected Management Frames (PMFs)
	IPsec/DTLS hardware encryption
Maintenance features	Unified management and maintenance on the AC in Fit AP mode
	Automatic login, automatic configuration loading, and plug-and-play (PnP) in Fit AP mode
	Automatic batch upgrade in Fit AP mode
	Telnet
	STelnet using SSHv2
	SFTP using SSHv2
	Remote wireless O&M through the Bluetooth console port
	Web system-based AP management in Fat AP mode, login through HTTP or HTTPS
	Real-time configuration monitoring and fast fault location using the NMS
	SNMP v1/v2/v3 in Fat AP mode
	System status alarm
	Network Time Protocol (NTP) in Fat AP mode
BYOD	**NOTE**
	The AP supports bring your own device (BYOD) only in Fit AP mode.
	Device type identification according to the organizationally unique identifier (OUI) in the MAC address
	Device type identification according to the user agent (UA) information in an HTTP packet
	Device type identification according to DHCP options
	The RADIUS server delivers packet forwarding, security, and QoS policies according to the device type carried in the RADIUS authentication and accounting packets.
Location service	**NOTE**
	The AP supports the location service only in Fit AP mode.
	STA location
	Working with the location server to locate rogue devices

Item	Description
Spectrum analysis	**NOTE** *The AP supports spectrum analysis only in Fit AP mode.* 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 Working with the location server to locate interference sources and perform spectrum analysis on them

Cloud-based management mode

Item	Description
WLAN features	Compliance with IEEE 802.11a/b/g/n/ac/ac Wave 2/ax Maximum ratio combining (MRC) Space time block code (STBC) Beamforming Low-density parity-check (LDPC) Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding WLAN channel management and channel rate adjustment **NOTE** *For detailed management channels, see the Country Code & Channel Compliance Table.* Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Automatic login
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compliance with IEEE 802.1q SSID-based VLAN assignment VLAN trunk on uplink Ethernet ports Management channel of the AP uplink port in tagged and untagged mode DHCP client, obtaining IP addresses through DHCP Tunnel data forwarding and direct data forwarding STA isolation in the same VLAN IPv4/IPv6 Access control lists (ACLs) Link Layer Discovery Protocol (LLDP) Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode Unified authentication on the AC in Fit AP mode AC dual-link backup in Fit AP mode Network Address Translation (NAT) in Fat AP mode IPv6 in Fit AP mode Soft Generic Routing Encapsulation (GRE)

Item	Description	
	IPv6 Source Address Validation Improvements (SAVI)	
	Multicast Domain Name Service (mDNS) gateway protocol	
QoS features	WMM parameter management for each radio	
	WMM power saving	
	Priority mapping for upstream packets and flow-based mapping for downstream packets	
	Queue mapping and scheduling	
	User-based bandwidth limiting	
	Airtime scheduling	
	Application acceleration for VR and mobile gaming	
	Air interface HQoS scheduling	
Security features	Open system authentication	
	WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit encryption key	
	WPA2-PSK authentication and encryption (WPA2 personal edition)	
	WPA2-802.1X authentication and encryption (WPA2 enterprise edition)	
	WPA3-SAE authentication and encryption (WPA3 personal edition)	
	WPA3-802.1X authentication and encryption (WPA3 enterprise edition)	
	WPA-WPA2 hybrid authentication	
	WPA2-WPA3 hybrid authentication	
	802.1x authentication, MAC address authentication, and Portal authentication	
	DHCP snooping	
	Dynamic ARP Inspection (DAI)	
	IP Source Guard (IPSG)	
Maintenance features	Unified management and maintenance on the Agile Controller	
	Automatic login and configuration loading, and plug-and-play (PnP)	
	Batch upgrade	
	Telnet	
	STelnet using SSH v2	
	SFTP using SSH v2	
	Remote wireless O&M through the Bluetooth console port	
	Web local AP management through HTTP or HTTPS	
	Real-time configuration monitoring and fast fault location using the NMS	
	System status alarm	
	Network Time Protocol (NTP)	

Technical Specifications

Item	Description	
Technical specifications	Dimensions (Diameter × Height)	Φ220 x 51mm
	Weight	1.15kg
	Interface type	1 x 100M/1000M/2.5G/5GE 1 x 10M/100M/1GE

Item		Description
		1 x USB interface **NOTE** • *5GE electrical port supports PoE input.*
	Internal IoT module	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	• DC: 42.5 V to 57 V • PoE power supply: In compliance with 802.3at/bt.

	PoE power supply mode	2.4GHz	5GHz	Maximum power consumption (excluding USB and IoT)
	802.3bt (PoE++)	4x4（RTU）	4x4 (RTU)	28.8W
		2x2（RTU）	2x2+4x4 (RTU)	
		2x2（Default）	4x4(Default)	<25.5W
		2x2（Default）	2x2+2x2(Default)	
	802.3at（PoE+）	4x4（RTU）	4x4 (RTU)	<25.5W
		2x2（RTU）	2x2+4x4 (RTU)	
		2x2（Default）	4x4(Default)	
		2x2（Default）	2x2+2x2(Default)	

NOTE
- *When 802.3at (PoE+), the port rate is limited, the 5GE port is degraded to 2.5GE and the GE port is unavailable. For details about the working status of the Ethernet port, frequency bandwidth，IoT, and USB in different power supply modes, see the Specification Query Tool.*
- *The actual maximum power consumption depends on local laws and regulations.*

Item		Description
Environmental specifications	Operating temperature	-10°C to +50°C
	Storage temperature	-40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	-60 m to +5000 m
	Atmospheric pressure	53 kPa to 106 kPa
Radio specifications	Antenna type	Built-in smart antennas
	Antenna gain	2.4GHz: 4.5dBi 5GHz: 5.5dBi **NOTE** • *The gains above are the single-antenna peak gains.* • *The equivalent antenna gain after all 2.4 GHz or 5 GHz antennas are combined is 3dBi in 2.4 GHz or 4 dBi in 5 GHz.*
	Maximum number of SSIDs for each radio	≤ 16

Item		Description
	Maximum number of users	≤ 1024 (dual-radio) (512/Radio)
		≤ 1152 (triple-radio) (128(2.4G Radio)+512(5G Radio1)+512(5G Radio2))
		NOTE
		The actual number of users varies according to the environment.
	Maximum transmit power	2.4GHz: 26 dBm (combined power)
		5GHz: 26 dBm (combined power)
		NOTE
		The actual transmit power depends on local laws and regulations.
	Power increment	1 dBm
	Maximum number of non-overlapping channels	2.4 GHz (2.412 GHz to 2.472 GHz)
		• 802.11b/g
		− 20 MHz: 3
		• 802.11n
		− 20 MHz: 3
		− 40 MHz: 1
		• 802.11ax
		− 20 MHz: 3
		− 40 MHz: 1
		5 GHz (5.18 GHz to 5.825 GHz)
		• 802.11a
		− 20 MHz: 13
		• 802.11n
		− 20 MHz: 13
		− 40 MHz: 6
		• 802.11ac
		− 20 MHz: 13
		− 40 MHz: 6
		− 80 MHz: 3
		− 160 MHz: 1
		• 802.11ax
		− 20 MHz: 13
		− 40 MHz: 6
		− 80 MHz: 3
		− 160 MHz: 1
		NOTE
		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 & Channels Compliance.
	Receiver sensitivity	• 2.4GHz 802.11b：-99dBm/1Mbit/s;-96dBm/2Mbit/s;-93dBm/5.5Mbit/s;-90dBm/11Mbit/s;
		• 2.4GHz 802.11g：-99dBm/6Mbit/s;-96dBm/9Mbit/s;-94dBm/12Mbit/s;-92dBm/18Mbit/s;-89dBm/24Mbit/s;-

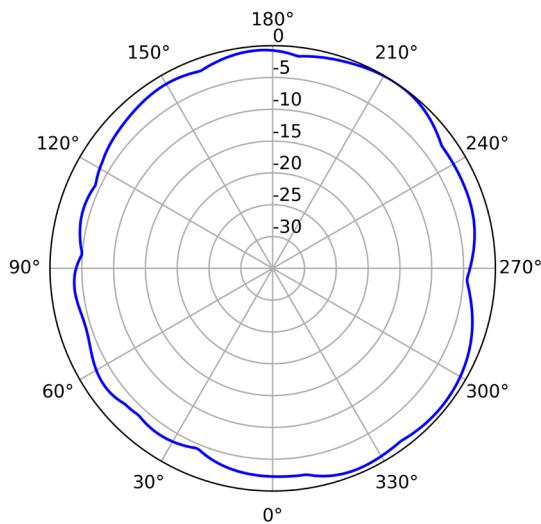| Item		Description
		86dBm/36Mbit/s;-82dBm/48Mbit/s;-80dBm/54Mbit/s;
		• 2.4GHz 802.11n(HT20)：-98dBm/MCS0;-96dBm/MCS1;-94dBm/MCS2;-91dBm/MCS3;-88dBm/MCS4;-84dBm/MCS5;-81dBm/MCS6;-80dBm/MCS7;
		• 2.4GHz 802.11n(HT40)：-95dBm/MCS0;-94dBm/MCS1;-91dBm/MCS2;-88dBm/MCS3;-85dBm/MCS4;-81dBm/MCS5;-79dBm/MCS6;-78dBm/MCS7;
		• 2.4GHz 802.11ac(VHT20)：-98dBm/MCS0NSS1;-96dBm/MCS1NSS1;-94dBm/MCS2NSS1;-91dBm/MCS3NSS1;-88dBm/MCS4NSS1;-84dBm/MCS5NSS1;-81dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;
		• 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;
		• 2.4GHz 802.11ax(HE20)：-98dBm/MCS0NSS1;-96dBm/MCS1NSS1;-94dBm/MCS2NSS1;-91dBm/MCS3NSS1;-88dBm/MCS4NSS1;-84dBm/MCS5NSS1;-81dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;-74dBm/MCS9NSS1;-72dBm/MCS10NSS1;-70dBm/MCS11NSS1;
		• 2.4GHz 802.11ax(HE40)：-95dBm/MCS0NSS1;-94dBm/MCS1NSS1;-91dBm/MCS2NSS1;-88dBm/MCS3NSS1;-85dBm/MCS4NSS1;-81dBm/MCS5NSS1;-79dBm/MCS6NSS1;-78dBm/MCS7NSS1;-73dBm/MCS8NSS1;-71dBm/MCS9NSS1;-68dBm/MCS10NSS1;-66dBm/MCS11NSS1;
		• 5GHz 802.11a：-96dBm/6Mbit/s;-94dBm/9Mbit/s;-93dBm/12Mbit/s;-91dBm/18Mbit/s;-88dBm/24Mbit/s;-85dBm/36Mbit/s;-81dBm/48Mbit/s;-78dBm/54Mbit/s;
		• 5GHz 802.11n(HT20)：-95dBm/MCS0;-92dBm/MCS1;-90dBm/MCS2;-87dBm/MCS3;-84dBm/MCS4;-80dBm/MCS5;-78dBm/MCS6;-77dBm/MCS7;
		• 5GHz 802.11n(HT40)：-93dBm/MCS0;-92dBm/MCS1;-90dBm/MCS2;-85dBm/MCS3;-82dBm/MCS4;-80dBm/MCS5;-77dBm/MCS6;-75dBm/MCS7;
		• 5GHz 802.11ac(VHT20)：-95dBm/MCS0NSS1;-92dBm/MCS1NSS1;-90dBm/MCS2NSS1;-87dBm/MCS3NSS1;-84dBm/MCS4NSS1;-80dBm/MCS5NSS1;-78dBm/MCS6NSS1;-77dBm/MCS7NSS1;-74dBm/MCS8NSS1;
		• 5GHz 802.11ac(VHT40)：-93dBm/MCS0NSS1;-92dBm/MCS1NSS1;-90dBm/MCS2NSS1;-85dBm/MCS3NSS1;-82dBm/MCS4NSS1;-80dBm/MCS5NSS1;-77dBm/MCS6NSS1;-75dBm/MCS7NSS1;-72dBm/MCS8NSS1;-70dBm/MCS9NSS1;
		• 5GHz 802.11ac(VHT80)：-90dBm/MCS0NSS1;-87dBm/MCS1NSS1;-85dBm/MCS2NSS1;-82dBm/MCS3NSS1;-80dBm/MCS4NSS1;-77dBm/MCS5NSS1;-75dBm/MCS6NSS1;-

Item		Description
		73dBm/MCS7NSS1;-69dBm/MCS8NSS1;-67dBm/MCS9NSS1;
		• 5GHz 802.11ac(VHT160)：-89dBm/MCS0NSS1;-86dBm/MCS1NSS1;-84dBm/MCS2NSS1;-81dBm/MCS3NSS1;-78dBm/MCS4NSS1;-74dBm/MCS5NSS1;-72dBm/MCS6NSS1;-69dBm/MCS7NSS1;-67dBm/MCS8NSS1;-65dBm/MCS9NSS1;
		• 5GHz 802.11ax(HE20)：-95dBm/MCS0NSS1;-92dBm/MCS1NSS1;-90dBm/MCS2NSS1;-87dBm/MCS3NSS1;-84dBm/MCS4NSS1;-80dBm/MCS5NSS1;-78dBm/MCS6NSS1;-77dBm/MCS7NSS1;-74dBm/MCS8NSS1;-72dBm/MCS9NSS1;-70dBm/MCS8NSS1;-67dBm/MCS9NSS1;
		• 5GHz 802.11ax(HE40)：-93dBm/MCS0NSS1;-92dBm/MCS1NSS1;-90dBm/MCS2NSS1;-85dBm/MCS3NSS1;-82dBm/MCS4NSS1;-80dBm/MCS5NSS1;-77dBm/MCS6NSS1;-75dBm/MCS7NSS1;-72dBm/MCS8NSS1;-70dBm/MCS9NSS1;-67dBm/MCS8NSS1;-64dBm/MCS9NSS1;
		• 5GHz 802.11ax(HE80)：-90dBm/MCS0NSS1;-87dBm/MCS1NSS1;-85dBm/MCS2NSS1;-82dBm/MCS3NSS1;-80dBm/MCS4NSS1;-77dBm/MCS5NSS1;-75dBm/MCS6NSS1;-73dBm/MCS7NSS1;-69dBm/MCS8NSS1;-67dBm/MCS9NSS1;-64dBm/MCS10NSS1;-62dBm/MCS11NSS1;
		• 5GHz 802.11ax(HE160)：-87dBm/MCS0NSS1;-84dBm/MCS1NSS1;-82dBm/MCS2NSS1;-79dBm/MCS3NSS1;-76dBm/MCS4NSS1;-72dBm/MCS5NSS1;-70dBm/MCS6NSS1;-67dBm/MCS7NSS1;-64dBm/MCS8NSS1;-63dBm/MCS9NSS1;-59dBm/MCS10NSS1;-57dBm/MCS11NSS1;

Standards Compliance

Item	Description		
Safety standards	• UL 60950-1 • EN 60950-1 • IEC 60950-1	• UL 62368-1 • EN 62368-1 • IEC 62368-1	• GB 4943.1 • CAN/CSA 22.2 No.60950-1
Radio standards	• ETSI EN 300 328	• ETSI EN 301 893	• AS/NZS 4268
EMC standards	• EN 301 489-1 • EN 301 489-17 • EN 60601-1-1 • EN 60601-1-2 • EN 55024	• GB 9254 • GB 17625.1 • GB 17625.2 • AS/NZS CISPR32 • CISPR 24	• IEC/EN61000-4-2 • IEC/EN 61000-4-3 • IEC/EN 61000-4-4 • IEC/EN 61000-4-5 • IEC/EN61000-4-6

Item	Description		
	• EN 55032 • EN 55035	• CISPR 32 • CISPR 35	• ICES-003
IEEE standards	• IEEE 802.11a/b/g • IEEE 802.11n • IEEE 802.11ac • IEEE 802.11ax	• IEEE 802.11h • IEEE 802.11d • IEEE 802.11e • IEEE 802.11k	• IEEE 802.11v • IEEE 802.11w • IEEE 802.11r
Security standards	• 802.11i，Wi-Fi Protected Access (WPA)，WPA2，WPA2-Enterprise，WPA2-PSK，WPA3，WAPI • 802.1X • Advanced Encryption Standards(AES)，Temporal Key Integrity Protocol(TKIP)，WEP，Open • EAP Type(s)		
EMF	• EN 62311	• EN 50385	
RoHS	• Directive 2002/95/EC & 2011/65/EU • (EU)2015/863		
Reach	• Regulation 1907/2006/EC		
WEEE	• Directive 2002/96/EC & 2012/19/EU		

Antennas Pattern

2.4GHz(Horizontal)
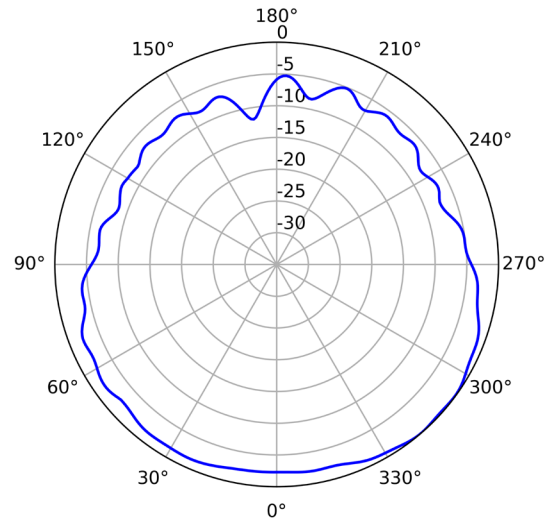
2.4GHz (Vertical)
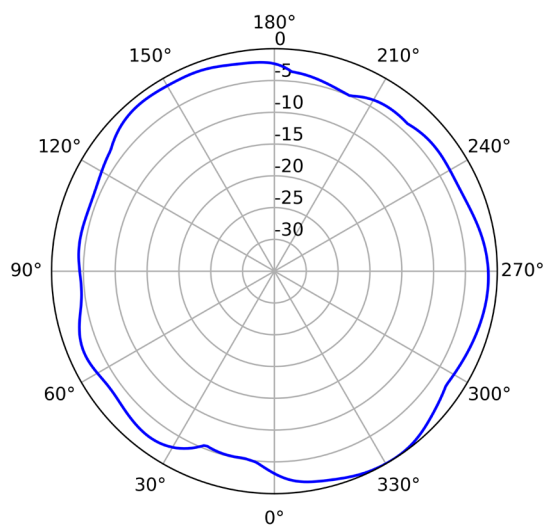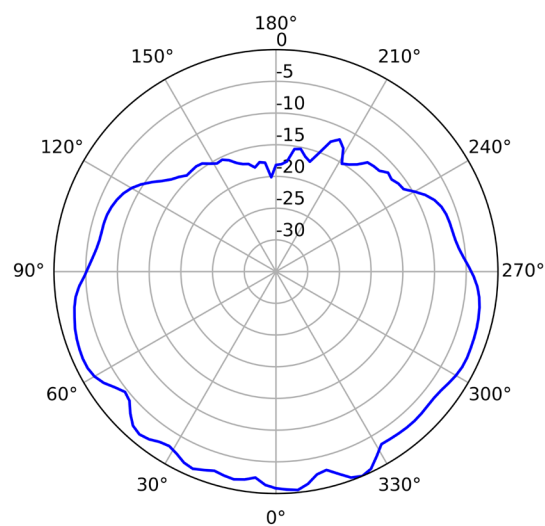
5GHz (Horizontal)   5GHz (Vertical)

More Information

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

- Global service hotline: http://e.huawei.com/en/service-hotline
- 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

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