



Huawei AirEngine 5762-17W Access Point Datasheet

Product Overview

Huawei AirEngine 5762-17W is a Wi-Fi 6 (802.11ax) wall plate access point (AP) that has built-in smart antennas. It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands, achieving a device rate of up to 2.975 Gbps. With four downlink GE ports, the AP is free of downlink bandwidth bottlenecks. Such strengths make the AP a good fit for high-density scenarios such as hotels, hospitals, and dormitories.



AirEngine 5762-17W

- Dual-radio mode: 2.4 GHz (2x2 MIMO) + 5 GHz (2x2 MIMO), achieving rates of up to 575 Mbps and 2.4 Gbps, respectively, and 2.975 Gbps for the device.
- Uplink: 1 x GE; downlink: 4 x GE.
- Various installation modes for easy deployment, including wall-mounting and plate-mounting.
- Built-in smart antennas to provide precise coverage for STAs, reduce interference, and improve signal quality.
- USB port for external IoT expansion (supporting protocols such as ZigBee, and RFID)
- Supports Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.
- Supports the Fat, Fit, and Cloud three working modes.

NOTE

- *The GE electrical ports are compatible with 10M/100M.*
- *The device rate is the theoretical speed of Wi-Fi and may vary based on different environments or devices.*

Feature Descriptions

Wi-Fi 6 (802.11ax) standard

- 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.
- 1024-QAM modulation, improving data transmission efficiency by 25% compared with 802.11ac (256-QAM).
- 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.

MU-MIMO

The AP supports MU-MIMO and supports a maximum of four spatial streams, two spatial streams at 2.4 GHz (2x2 MIMO) and two spatial streams at 5 GHz (2x2 MIMO). The 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 STA, bringing seamless 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 and expands transmission channels. In addition, the AP uses 1024-QAM modulation and MU-MIMO to achieve a rate of up to 0.575 Gbps at 2.4 GHz radio, 2.4 Gbps at 5 GHz radio, and 2.975 Gbps for the device.

The AP supports new technologies such as 1024 QAM (quadrature amplitude modulation), more available data subcarriers, and more efficient symbol scheduling, which enable the 2.4 GHz radio to reach 0.575 Gbit/s, the 5 GHz radio to reach 2.4 Gbit/s, and the entire device to reach 2.975 Gbit/s.

High Density Boost Technology

In high-density scenarios, Huawei uses the following technologies to address challenges such as terminal access problems, data congestion, and poor roaming performance.

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.

5G-prior Access

- The APs support both 2.4 GHz and 5 GHz frequency bands. The 5G-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.

Terminal Wireless Access Authentication and Encryption

- The APs support WEP, WPA/WPA2-PSK, WPA/WPA2/WPA3, 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 eSight, 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.

AP Wired Access Authentication and Encryption

- The AP access control ensures validity of APs. The CAPWAP link protection and DTLS 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 the interference caused by authorized APs, rogue APs, and No Wi-Fi APs and their loads, 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 to implement visualized control on Layer 4 to Layer 7 applications.

Traffic Identification

- Working with WLAN ACs, APs can identify more than 6000 common applications in various office scenarios. Based on the identification results, APs implement the policy control, such as priority adjustment, scheduling, blocking, and rate limiting, on user services to better use bandwidth resources, improve the service level of key services, and ensure the quality of service (QoS).

Traffic Statistics Collection

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

Leader AP

The leader AP integrates some functions of the WLAN AC and can be used to manage Fit APs in small- and medium-sized enterprises and stores. In addition, the clients do not need to purchase the AP management licenses, which effectively saves the overall 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 Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing Per-packet power control BSS Color TxBF Compliance with 1024-quadrature amplitude modulation (QAM) and compatibility with 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (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. Either automatic or manual rate adjustment mode is supported. (The rate is adjusted automatically by default.) WLAN channel management and channel rate adjustment NOTE <i>For detailed management channels, see the Country Codes & Channel Compliances.</i> Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Control and Provisioning of Wireless Access Points (CAPWAP) in Fit AP mode Extended Service Set (ESS) in Fit AP mode Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks Multi-user call admission control (CAC) 802.11k and 802.11v smart roaming 802.11r fast roaming (≤ 50 ms) Hotspot2.0
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)

Item	Description
	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 Telemetry in Fit AP mode, quickly collecting AP status and application experience parameters IPv6 Source Address Validation Improvements (SAVI) Multicast Domain Name Service (mDNS) gateway protocol
QoS features	Priority mapping and scheduling that are compliant with WMM to implement priority-based data processing and forwarding WMM parameter management for each radio WMM power saving Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience Airtime scheduling Air interface HQoS scheduling Intelligent multimedia 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) WPA2-802.1X authentication and encryption (WPA2-Enterprise) WPA3 authentication and encryption WPA-WPA2 hybrid authentication WPA2-WPA3 hybrid authentication WPA2-PPSK authentication and encryption in Fit AP mode WAPI authentication and encryption Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS), including rogue device detection and containment, 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)

Item	Description
	802.11w Protected Management Frames (PMF) DTLS encryption
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	Unified management and maintenance on the AC in Fit AP mode Automatic login and configuration loading, and plug-and-play (PnP) in Fit AP mode Batch upgrade in Fit AP mode Telnet STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth serial interface Web-based local AP management through HTTP or HTTPS in Fat AP mode Real-time configuration monitoring and fast fault locating using the NMS SNMP v1/v2/v3 in Fat AP mode System status alarm Network Time Protocol (NTP) in Fat AP mode

Cloud-based Management 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 Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing Per-packet power control BSS Color TxBF Compliance with 1024-quadrature amplitude modulation (QAM) and compatibility with 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (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 160MHz modes 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 <i>For detailed management channels, see the Country Codes & Channel Compliances.</i> Automatic channel scanning and interference avoidance

Item	Description
	Service set identifier (SSID) hiding Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD)
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 DHCP client, obtaining IP addresses through DHCP STA isolation in the same VLAN Access control lists (ACLs) Unified authentication on the cloud-based management platform Network Address Translation (NAT) Telemetry in Fit AP mode, quickly collecting AP status and application experience parameters
QoS features	Priority mapping and scheduling that are compliant with WMM to implement priority-based data processing and forwarding WMM parameter management for each radio WMM power saving Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Airtime scheduling 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) WPA2-802.1X authentication and encryption (WPA2-Enterprise) WPA3-SAE authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Enterprise) 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)
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	Unified management and maintenance on the Cloud management platform Automatic login and configuration loading, and plug-and-play (PnP) Batch upgrade Telnet STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth console port

Item	Description
	Web-based local AP management through HTTP or HTTPS Real-time configuration monitoring and fast fault locating using the NMS System status alarm Network Time Protocol (NTP)

Technical Specifications

Item	Description	
Technical specifications	Dimensions (H x W x D)	86 mm x 160 mm x 38 mm
	Weight	0.3 kg
	Interface type	1 x 10M/100M/1GE 4 x 10M/100M/1GE 1 x USB NOTE The uplink GE supports PoE input.
	Bluetooth	BLE 5.1
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system.
Power specifications	Power input	- DC: 12 V $\pm$ 10% - PoE power supply: in compliance with 802.3at/af NOTE When 802.3af is used, the USB is not available.
	Maximum power consumption	15 W (excluding USB) NOTE The actual maximum power consumption depends on local laws and regulations.
Environmental specifications	Operating temperature	0°C to +40°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	2.4 GHz: 2.5 dBi 5 GHz: 3 dBi 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 1 dBi at 2.4 GHz or 1 dBi at 5 GHz.
	Maximum number of SSIDs for each radio	$\leq$ 16

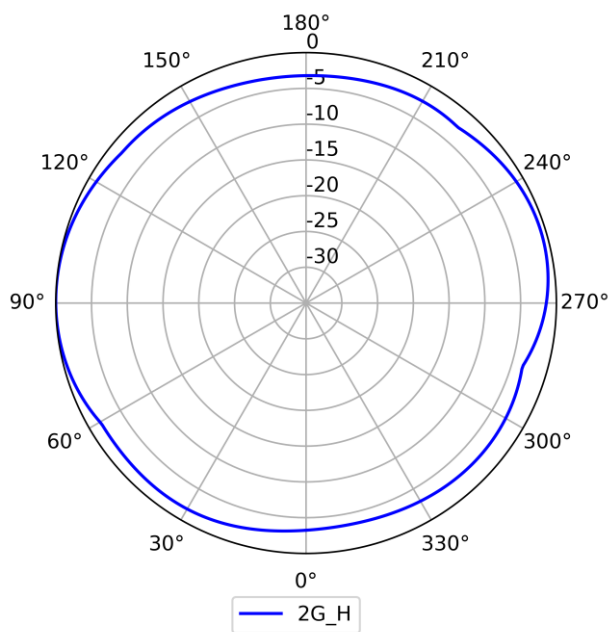
Item		Description
	Maximum number of users	≤ 256 NOTE <i>The actual number of users varies according to the environment.</i>
	Maximum transmit power	2.4 GHz: 20 dBm (combined power) 5 GHz: 20 dBm (combined power) NOTE <i>The actual transmit power depends on local laws and regulations.</i>
	Power increment	1 dBm
	Frequency bands	2.400 to 2.4835 GHz ISM 5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM NOTE <i>The available bands and channels are dependent on the configured regulatory domain (country).</i>

Standards Compliance

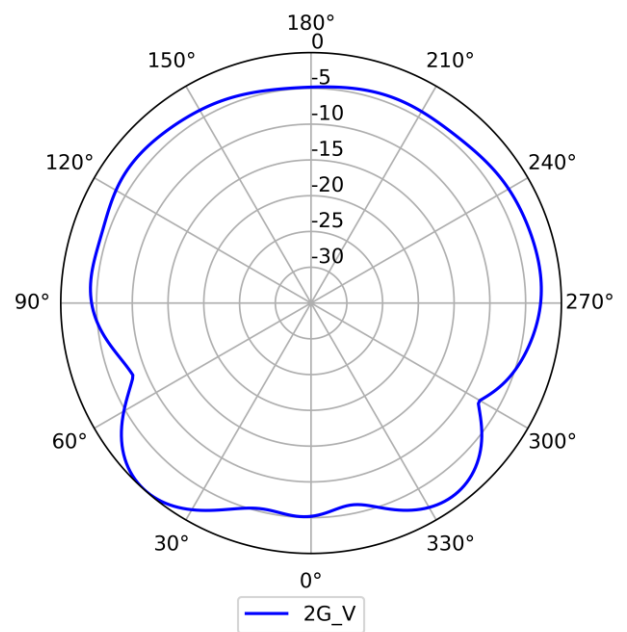
Item	Description			
Safety standards	- UL 60950-1 - EN 60950-1 - IEC 60950-1	- UL 62368-1 - EN 62368-1 - IEC 62368-1	- GB 4943.1 - CAN/CSA 22.2 No.60950-1	
Radio standards	ETSI EN 300 328	ETSI EN 301 893	AS/NZS 4268	
EMC standards	- EN 301 489-1 - EN 301 489-17 - EN 60601-1-2 - EN 55024 - EN 55032 - EN 55035	- GB 9254 - GB 17625.1 - GB 17625.2 - AS/NZS CISPR32 - CISPR 24 - CISPR 32 - CISPR 35	- IEC/EN61000-4-2 - IEC/EN 61000-4-3 - IEC/EN 61000-4-4 - IEC/EN 61000-4-5 - IEC/EN61000-4-6 - 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)			

Item	Description	
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	

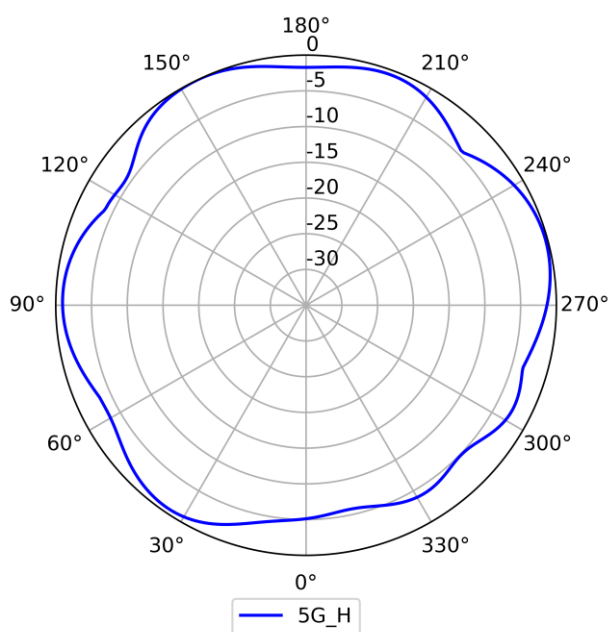
Antennas Pattern



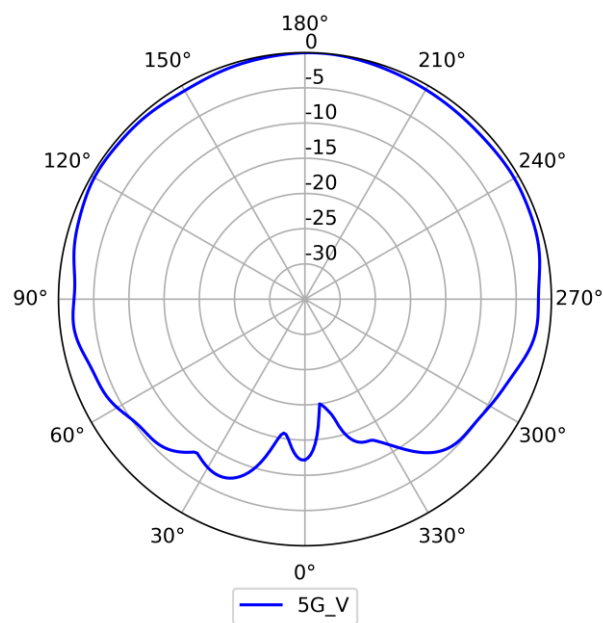
2.4G (Horizontal)



2.4G (Vertical)



5G (Horizontal)



5G (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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