

Huawei AirEngine 5762-13W Access Point Datasheet



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Product Overview

Huawei AirEngine 5762-13W is a Wi-Fi 6 (802.11ax) wall plate access point (AP). 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. This AP features high bandwidth and high concurrency with compact size, facilitating flexible deployment and saving customers' investment. These strengths make the AirEngine 5762-13W ideal for indoor coverage scenarios of small and medium-sized enterprise offices, hospitals, and higher education.



AirEngine 5762-13W

• 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: 1 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.

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.

NOTE

The function and features marked with * can be implemented through software upgrade. The following describes are the same.

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.

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.

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 adjacentchannel 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 (band steering)

• 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.

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.

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 encryption provide security assurance, improving data transmission security between the AP and the WLAN 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.

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, then no need to deploy a WLAN AC and an authentication server. 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. 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 firstly. Then on site, you only need to power on the cloud APs and connect them to switch ports, then scan the QR code to implement AP plug-and-play. Pre-configurations are automatically delivered to devices, greatly shortening the network deployment time. The cloud management platform can monitor the network status, device status, and terminal connection status of all sites of a tenant in a comprehensive and intuitive manner to learn the network and service running status in real time.

Basic Specifications

Fat/Fit AP mode

ltem	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)
	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
	Automatic and manual rate adjustment (the rate is adjusted automatically by default)
	WLAN channel management and channel rate adjustment
	NOTE
	For detailed management channels, see the Country Codes & Channel Compliances.
	Automatic channel scanning and interference avoidance
	Service set identifier (SSID) hiding
	Signal sustain technology (SST)
	Unscheduled automatic power save delivery (U-APSD)

Item	Description		
	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)		
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		
	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-SAE authentication and encryption (WPA3-Personal)		
	WPA3-802.1X authentication and encryption (WPA3-Enterprise)		

Item	Description	
	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)	
	802.11w Protected Management Frames (PMF)	
	DTLS encryption	
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	
Locating service	NOTE	
	The AP supports the locating service only in Fit AP mode.	
	Wi-Fi terminal location	
	Working with a location server to locate rogue devices	

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)
	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)

Item	Description	
	Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)	
	802.11 dynamic frequency selection (DFS)	
	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	
	NOTE	
	For detailed management channels, see the Country Codes & Channel Compliances.	
	Automatic channel scanning and interference avoidance	
	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 management platform	
	Network Address Translation (NAT)	
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)	
Maintenance features	Unified management and maintenance on the Cloud management platform	
	 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 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) WPA3-SAE authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Enterprise) WPA3-WPA3 hybrid authentication B02.1X authentication, MAC address authentication, and Portal authentication DHCP snooping Dynamic ARP Inspection (DAI) 	

ltem	Description	
	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	
	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

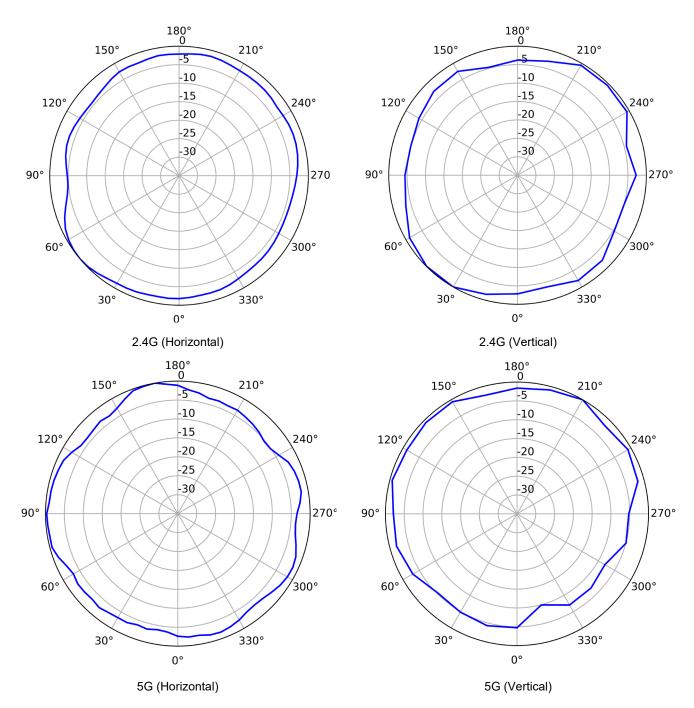
Item		Description	
Technical specifications	Dimensions (H x W x D)	160 mm x 86 mm x 38 mm	
	Weight	0.32 kg	
	Interface type	2 x 10M/100M/1GE (RJ45) 1 x USB NOTE • GE supports PoE input.	
	Bluetooth	BLE 5.0	
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system.	
Power specifications	Power input	 DC: 12 V ± 10% PoE power supply: in compliance with 802.3af 	
	Maximum power consumption	12 W (excluding USB) NOTE The actual maximum power consumption depends on local laws and regulations. 802.3af power supply by default; 802.3at power is required only if USB is required.	
Environmental	Operating temperature	0°C to +40°C	
specifications	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 dBi 5 GHz: 3 dBi NOTE The gains above are the single-antenna peak gains. 	

Item		Description
		• 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	≤ 16
	Maximum number of users	≤ 256 NOTE The actual number of users varies according to the environment.
	Maximum transmit power	 2.4 GHz: 23 dBm (combined power) 5 GHz: 23 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 • 802.11ac - 20 MHz: 6 • 802.11ac - 20 MHz: 6 - 80 MHz: 3 - 160 MHz: 1 • 802.11ax - 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 • 802.11ax - 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 • 802.11ax - 20 MHz: 13 - 40 MHz: 6 - 80 MHz: 3 - 160 MHz: 1 • 802.11ax - 20 MHz: 10 • 802.11ax - 20 Mz: 10 • 802.11ax
		 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-

Standards Compliance

ltem	Description		
Safety standards Radio standards	 UL 60950-1 EN 60950-1 IEC 60950-1 ETSI EN 300 328 	 UL 62368-1 EN 62368-1 IEC 62368-1 ETSI EN 301 893 	 GB 4943.1 CAN/CSA 22.2 No.60950-1 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) 		
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



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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Huawei Technologies Co., Ltd.

Address:Huawei Industrial Base Bantian, Longgang Shenzhen 518129 People's Republic of China

Website:www.huawei.com