



HUAWEI eKit

# Huawei eKitEngine AP162E Wireless Access Point Datasheet

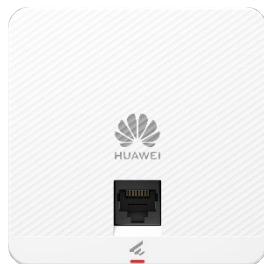


AX3000 Ultra-Thin Dual-Band Wi-Fi 6 Wall Plate AP

Make SME Network Easier and Smarter



# Product Overview



Elegant white

Huawei eKitEngine AP162E is a wall plate 86x86 access point (AP) in compliance with the Wi-Fi 6 (802.11ax) standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands with four spatial streams, delivering a data rate of up to 2.975 Gbps.

The AP is designed with an international standard size of 86 mm x 86 mm and has an ultra-thin body that is only 8 mm higher than the wall. It comes in four colors: Elegant white, Tahiti gray, Baroque gold, and Graphite black, making it a perfect fit for various decoration styles. Its compact size facilitates flexible deployment and applies to indoor coverage scenarios such as budget hotels, small- and medium-sized enterprise offices, and commercial stores.

You can use the EasyWeb or wireless access controller (WAC) to locally deploy and manage APs, or use the HUAWEI eKit App & SNC platform to remotely manage and maintain APs. In this way, network projects can be handed over or managed together, simplifying network O&M.

## Feature Description

### Wi-Fi 6 (802.11ax) Standard

- As the latest Wi-Fi standard defined in IEEE 802.11, 802.11ax improves the user access capacity and bandwidth in high-density access scenarios, reducing service latency and enhancing user experience.
- Multi-user multiple-input multiple-output (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-quadrature amplitude modulation (QAM), improving data transmission efficiency by 25% compared with 802.11ac (256-QAM).

### MU-MIMO

The AP supports MU-MIMO and supports a maximum of four spatial streams (two on the 2.4 GHz frequency band and two on the 5 GHz frequency band). 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 Dual-Band Access

The AP supports 160 MHz frequency bandwidth, which increases the number of available data subcarriers and expands transmission channels. In addition, the AP adopts 1024-QAM and MU-MIMO to achieve a rate of up to 575 Mbps on the 2.4 GHz band and 2.4 Gbps on the 5 GHz band, meaning up to 2.975 Gbps for the device.

### Smart Antenna

The dual-band smart antenna array technology and intelligent switchover algorithm enable the AP to intelligently sense the application environment and access density, achieving accurate Wi-Fi coverage and interference suppression. They together provide the optimal coverage direction and signal quality for each access STA, and offer seamless and smooth wireless network experience to users.

## Wired and Wireless 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 AP supports WEP, WPA/WPA2-PSK, WPA3-SAE, WPA/WPA2-PPSK, and WPA/WPA2/WPA3-802.1X authentication/encryption modes to ensure the security of wireless networks. 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 data can only be received and parsed by authorized users.

### Authentication and encryption for wired access

The AP access control mechanism ensures that only authorized users can access the AP. Control and provisioning of wireless access point (CAPWAP) link protection and Datagram Transport Layer Security (DTLS) encryption provide security guarantee and improve data transmission security between the AP and WAC.

## Automatic Radio Calibration

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

## Cloud Management

The AP supports cloud-based management. It provides various authentication functions, such as PSK and Portal authentication, without the need of a WAC or an authentication server. This greatly simplifies networking and reduces CAPEX. In addition, the AP can be deployed on the Huawei SNC platform to implement cloud-based network planning, deployment, inspection, and O&M.

## Deployment and O&M Through HUAWEI eKit App

The HUAWEI eKit App supports Wi-Fi-based deployment and barcode scanning-based deployment. After the deployment is complete, you can perform more project maintenance operations on the HUAWEI eKit App.

### Wi-Fi-based deployment

- Quick deployment mode: You can use a mobile phone to connect to the management Wi-Fi network of an AP to deploy a network project. In this way, devices can automatically go onboarded and be remotely managed on the HUAWEI eKit App.

### Barcode scanning-based deployment

- Another deployment mode: Use a mobile phone to scan the serial number (SN) of the device chassis and synchronize the device information to HUAWEI eKit to implement device onboarding management.

## Product Features

### Fat/Fit AP Mode

Item	Description
WLAN features	Compliance with IEEE 802.11ax and compatibility with IEEE 802.11a/b/g/n/ac/ac wave2 Maximum ratio combining (MRC) Space time block code (STBC) Cyclic delay diversity (CDD)/Cyclic shift diversity (CSD) Beamforming

Item	Description
	<p>MU-MIMO</p> <p>Compliance with 1024-QAM and compatibility with 256-QAM/64-QAM/16-QAM/8-QAM/QPSK/BPSK</p> <p>802.11 dynamic frequency selection (DFS)</p> <p>Short GI in 20 MHz, 40 MHz, 80 MHz, and 160 MHz modes</p> <p>Wi-Fi Multimedia (WMM)</p> <p>WLAN channel management and channel rate adjustment</p> <p><b>NOTE</b></p> <p>For detailed management channels, see <i>Country Code &amp; Channel Compliance Table</i>.</p> <p>Separate service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs</p> <p>Unscheduled automatic power save delivery (U-APSD)</p> <p>Control and Provisioning of Wireless Access Points (CAPWAP) in Fit AP mode</p> <p>Extended service set (ESS) in Fit AP mode</p> <p>802.11k and 802.11v smart roaming</p> <p>802.11r fast roaming</p>
Network features	<p>Compliance with IEEE 802.3ab</p> <p>Auto-negotiation of the rate and duplex mode</p> <p>SSID-based VLAN assignment</p> <p>Management channel of the AP's uplink port in tagged or untagged mode</p> <p>DHCP client, obtaining IP addresses through DHCP</p> <p>STA isolation in the same VLAN</p> <p>IPv4/IPv6 access control list (ACL)</p> <p>Link layer discovery protocol (LLDP)</p> <p>Uninterrupted service forwarding upon CAPWAP tunnel disconnection in Fit AP mode</p> <p>Unified authentication on the WAC in Fit AP mode</p> <p>Network address translation (NAT) in Fat AP mode</p>
QoS features	<p>WMM parameter management for each radio</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) for user experience improvement</p> <p>Airtime scheduling</p>
Security features	<p>Open system authentication</p> <p>WEP authentication and encryption using a 64-bit, 128-bit, 152-bit, or 192-bit encryption key</p> <p>WPA2-PSK authentication and encryption</p> <p>WPA2-802.1X authentication and encryption</p> <p>WPA3-SAE authentication and encryption</p> <p>WPA3-802.1X authentication and encryption</p> <p>WPA-WPA2/WPA2-WPA3 hybrid authentication</p> <p>WPA2-PPSK authentication and encryption in Fit AP mode</p> <p>802.1X authentication, MAC address authentication, Portal authentication, etc.</p> <p>DHCP snooping</p> <p>Dynamic ARP inspection (DAI)</p> <p>IP Source Guard (IPSG)</p>

Item	Description
	802.11w Protected Management Frames (PMF) DTLS encryption
Maintenance features	Unified management and maintenance on the WAC 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 and STelnet using SSHv2 SFTP using SSHv2 Web system-based AP management and login through HTTP or HTTPS in Fat AP mode Real-time configuration monitoring and fast fault locating using the NMS SNMPv1/v2/v3 in Fat AP mode System status alarm Network Time Protocol (NTP) in Fat AP mode

## Cloud 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) Cyclic delay diversity (CDD)/Cyclic shift diversity (CSD) Beamforming MU-MIMO Compliance with 1024-QAM and compatibility with 256-QAM/64-QAM/16-QAM/8-QAM/QPSK/BPSK 802.11 dynamic frequency selection (DFS) Short GI in 20 MHz, 40 MHz, 80 MHz and 160 MHz modes Priority mapping and scheduling in compliance with Wi-Fi Multimedia (WMM) WLAN channel management and channel rate adjustment <b>NOTE</b> For detailed management channels, see <i>Country Code &amp; Channel Compliance Table</i> . Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding Unscheduled automatic power save delivery (U-APSD) 802.11k and 802.11v smart roaming 802.11r fast roaming
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode SSID-based VLAN assignment DHCP client, obtaining IP addresses through DHCP STA isolation in the same VLAN Access control list (ACL) Unified authentication on the cloud management platform Network address translation (NAT)
QoS features	Priority mapping and scheduling in compliance with WMM

Item	Description
	<p>WMM parameter management for each radio</p> <p>Queue mapping and scheduling</p> <p>User-based bandwidth limiting</p> <p>Airtime scheduling</p>
Security features	<p>Open system authentication</p> <p>WEP authentication and encryption using a 64-bit, 128-bit, 152-bit, or 192-bit encryption key</p> <p>WPA2-PSK authentication and encryption</p> <p>WPA2-802.1X authentication and encryption</p> <p>WPA3-SAE authentication and encryption</p> <p>WPA3-802.1X authentication and encryption</p> <p>WPA-WPA2/WPA2-WPA3 hybrid authentication</p> <p>802.1X authentication, MAC address authentication, Portal authentication, etc.</p> <p>DHCP snooping</p> <p>Dynamic ARP inspection (DAI)</p> <p>IP Source Guard (IPSG)</p>
Maintenance features	<p>Unified management and maintenance on the cloud management platform</p> <p>Batch upgrade</p> <p>Telnet and STelnet using SSHv2</p> <p>SFTP using SSHv2</p> <p>Web-based NMS, and login through HTTP or HTTPS</p> <p>Real-time configuration monitoring and fast fault locating using the NMS</p> <p>System status alarm</p> <p>Network Time Protocol (NTP)</p>

## Product Specifications

Item	Description	
Technical specifications	Dimensions (H x W x D)	86 mm x 86 mm x 42.5 mm
	Weight	0.14 kg
	Port	<p>Uplink: 1 x 100M/GE electrical port</p> <p>Downlink: 1 x 100M/GE electrical port</p> <p><b>NOTE</b></p> <p>The uplink GE electrical port supports PoE IN.</p>
	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>PoE power supply: in compliance with IEEE 802.3af</li> </ul>
	Maximum power consumption	<ul style="list-style-type: none"> <li>9.1 W</li> </ul> <p><b>NOTE</b></p> <p>The actual maximum power consumption depends on local laws and regulations.</p>

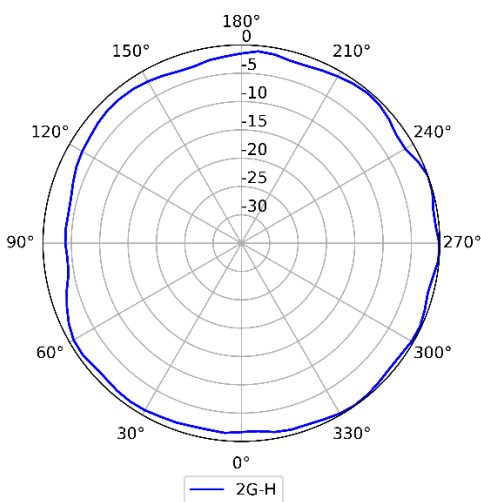
Item		Description
Environmental specifications	Operating temperature	0°C to 40°C (From 1800 m to 5000 m, the maximum temperature of the device decreases by 1°C for every 300 m increase in altitude.)  <b>NOTE</b> The temperature on part of the AP shell may be higher than its operating temperature upper limit. The AP's performance will not be affected as long as the shell temperature complies with the safety standards.
	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: 3 dBi 5 GHz: 2 dBi  <b>NOTE</b> The preceding gains are the peak gains of a single antenna.
	Maximum quantity of SSIDs	16
	Maximum number of access STAs	128  <b>NOTE</b> The actual number of users varies according to the environment.
	Maximum transmit power	2.4 GHz: 20 dBm (combined power) 5 GHz: 20 dBm (combined power)  <b>NOTE</b> The actual transmit power varies according to local laws and regulations.
	Power adjustment increment	1 dBm

## Standards Compliance

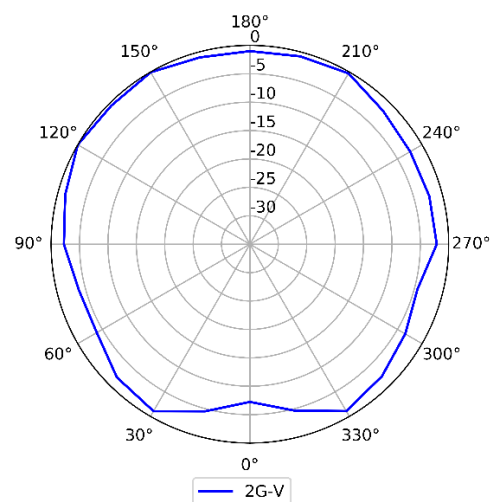
Item	Description		
Safety standards		<ul style="list-style-type: none"> <li>UL 62368-1</li> <li>EN 62368-1</li> <li>IEC 62368-1</li> <li>SCA 62368-1</li> </ul>	<ul style="list-style-type: none"> <li>GB 4943.1</li> </ul>
Radio standards	<ul style="list-style-type: none"> <li>ETSI EN 300 328</li> </ul>	<ul style="list-style-type: none"> <li>ETSI EN 301 893</li> </ul>	<ul style="list-style-type: none"> <li>AS/NZS 4268</li> </ul>
EMC standards	<ul style="list-style-type: none"> <li>EN 301 489-1</li> <li>EN 301 489-17</li> <li>EN 60601-1-1</li> </ul>	<ul style="list-style-type: none"> <li>GB 9254</li> <li>GB 17625.1</li> <li>GB 17625.2</li> </ul>	<ul style="list-style-type: none"> <li>IEC/EN61000-4-2</li> <li>IEC/EN 61000-4-3</li> <li>IEC/EN 61000-4-4</li> </ul>

Item	Description		
	<ul style="list-style-type: none"> <li>EN 60601-1-2</li> <li>EN 55024</li> <li>EN 55032</li> <li>EN 55035</li> </ul>	<ul style="list-style-type: none"> <li>AS/NZS CISPR32</li> <li>CISPR 24</li> <li>CISPR 32</li> <li>CISPR 35</li> </ul>	<ul style="list-style-type: none"> <li>IEC/EN 61000-4-5</li> <li>IEC/EN 61000-4-6</li> <li>ICES-003</li> </ul>
IEEE standards	<ul style="list-style-type: none"> <li>IEEE 802.11a/b/g</li> <li>IEEE 802.11n</li> <li>IEEE 802.11ac</li> <li>IEEE 802.11ax</li> </ul>	<ul style="list-style-type: none"> <li>IEEE 802.11h</li> <li>IEEE 802.11d</li> <li>IEEE 802.11e</li> <li>IEEE 802.11k</li> </ul>	<ul style="list-style-type: none"> <li>IEEE 802.11v</li> <li>IEEE 802.11w</li> <li>IEEE 802.11r</li> </ul>
Security standards	<ul style="list-style-type: none"> <li>802.11i, Wi-Fi Protected Access (WPA), WPA2, WPA2-Enterprise, WPA2-PSK, WPA3, WAPI</li> <li>802.1X</li> <li>Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP), WEP, Open</li> <li>EAP Type(s)</li> </ul>		
EMF standards	<ul style="list-style-type: none"> <li>EN 62311</li> </ul>	<ul style="list-style-type: none"> <li>EN 50385</li> </ul>	
RoHS standards	<ul style="list-style-type: none"> <li>Directive 2002/95/EC &amp; 2011/65/EU</li> <li>(EU)2015/863</li> </ul>		
Reach standards	<ul style="list-style-type: none"> <li>Regulation 1907/2006/EC</li> </ul>		
WEEE standards	<ul style="list-style-type: none"> <li>Directive 2002/96/EC &amp; 2012/19/EU</li> </ul>		

## Antennas Pattern

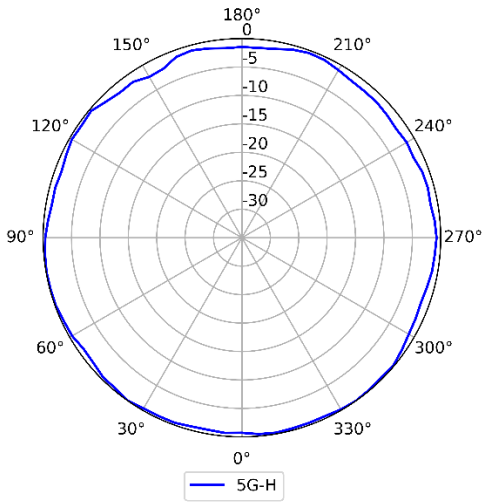


2.4GHz (Horizontal)

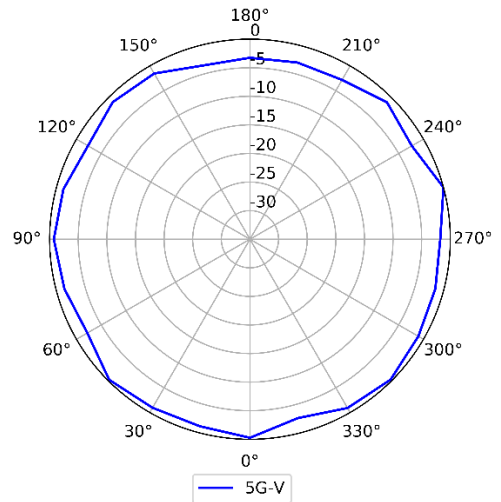


2.4GHz (Vertical)





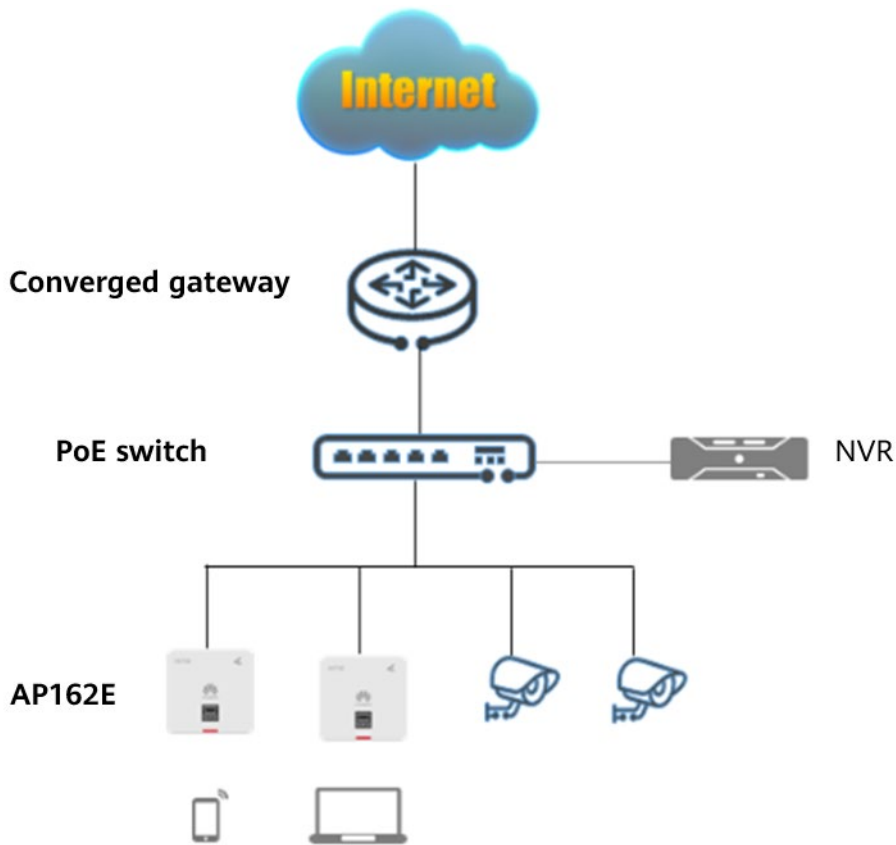
5GHz (Horizontal)



5GHz (Vertical)

## Typical Networking

Commercial store scenario



# More Information

For more information about Huawei eKitEngine WLAN products, visit <http://ekit.huawei.com> or contact Huawei's local sales office.

Alternatively, you can contact us through one of the following methods:

1. Global service hotline: <http://e.huawei.com/en/service-hotline>
2. Enterprise technical support website: <https://support.huawei.com/enterprise/>
3. Service email address for enterprise users: support\_e@huawei.com

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