



# Huawei AP6750-10T Access Point Datasheet

# Product Overview

Huawei AP6750-10T is an access point (AP) that supports 802.11ac Wave 2, has built-in adaptive array antennas, and provides triple radios: one 2.4 GHz radio and two 5 GHz radios. The 2.4 GHz radio supports 2x2 MIMO and two spatial streams, one 5 GHz radio supports 2x2 MIMO and two spatial streams, and the other 5 GHz radio supports 4x4 MIMO and four spatial streams. AP6750-10T complies with 802.11n, 802.11ac, and 802.11ac Wave 2, outperforms other APs in network compatibility, and provides optimal wireless network experience for users. With these features, AP6750-10T best adapts to high-density scenarios such as e-classrooms and supermarkets.



AP6750-10T

- Provides services simultaneously on one 2.4 GHz radio and two 5 GHz radios, at a rate of 3 Gbit/s for the entire device. The 2.4 GHz radio supports 2x2 MIMO, providing a maximum rate of 400 Mbit/s. One 5 GHz radio supports 2x2 MIMO, and the other 5 GHz radio supports 4x4 MIMO, providing a maximum rate of 867 Mbit/s and 1733 Mbit/s, respectively.
- Uses adaptive array antenna technology to enable targeted signal coverage for mobile terminals and improve signal quality. Additionally, this technology implements switchover as STAs move.
- Supports Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP, and precise locating of Bluetooth terminals and tags by collaborating with the location server.
- Provides a USB interface for external power supply and storage. An IoT module can also be installed on the USB interface to implement flexible IoT application extension.
- Supports the Fat, Fit, and cloud modes and enables Huawei cloud management platform to manage and operate APs and services on the APs, reducing network O&M costs.

## Feature Descriptions

### Triple-radio design

The AP has triple radios: one 2.4 GHz radio and two 5GHz radios. When all the triple radios work, the device rate can reach 3 Gbit/s.

### Adaptive array antennas (smart antennas)

The AP integrates adaptive array antennas (smart antennas) and implicit beamforming to implement more precise user detection, suppress interference, and improve signal quality, bringing seamless and smooth wireless network experience at the users' fingertips.

### Cloud-based management

Huawei Cloud Managed Network (CMN) Solution consists of the cloud management platform and a full range of cloud managed network devices. The cloud management platform provides various functions including management of APs, tenants, applications, and licenses, network planning and optimization, device monitoring, network service configuration, and value-added services.

## 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, enabling load balancing detection between APs on the network after STA roaming to adjust the STA load on each AP, improving network stability.
- Intelligent Dynamic Frequency Assignment (DFA) technology: The DFA algorithm is used to automatically detect adjacent-channel and co-channel interference, and identify any redundant 2.4 GHz radio. Through automatic inter-AP negotiation, a 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: Dynamic enhanced distributed channel access (EDCA) and airtime scheduling algorithms are used to schedule the channel occupation time and service priority of each STA. This ensures that each STA is assigned a relatively equal amount of 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 STAs access the network, an increased number of low-rate STAs consume more resources on the air interface, reduce the AP capacity, and lower user experience. Therefore, Huawei APs will check the signal strength of STAs during access and reject 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. Terminal access control technology can increase air interface use efficiency and allow access of more STAs.

### 5GHz-prior access

- The AP supports both 2.4G and 5G 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 user experience.

### Automatic radio calibration

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

## 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

- Huawei APs support WEP, WPA/WPA2-PSK, WPA/WPA2-PPSK, WPA/WPA2-802.1X, and WAPI authentication/encryption modes to ensure security of a 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 (on 2.4 GHz frequency band only), wireless audio transmitters (on both the 2.4 GHz and 5 GHz frequency bands), wireless game controllers, and microwave ovens. Coupled with Huawei eSight, the APs can accurately detect interference sources, and display the spectrum of them on eSight, enabling the administrator to remove the interference in a timely manner.

### Rogue device monitoring

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

## Automatic application identification

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

### Traffic identification

- Coupled with Huawei 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.

## Basic Specifications

### Fat/Fit AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11a/b/g/n/ac/ac Wave 2 Triple radios, eight spatial streams, providing a maximum rate of 3 Gbit/s Maximum ratio combining (MRC) Space-Time Block Coding (STBC) Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) Beamforming MU-MIMO Low Density Parity Check (LDPC) Maximum-Likelihood Detection (MLD) 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, and 80 MHz modes Automatic and manual rate adjustment WLAN channel management and channel rate adjustment 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 (CAPWAP) in Fit AP mode Automatic login in Fit AP mode Extended Service Set (ESS) in Fit AP mode Mesh networking in Fit AP mode Multi-user CAC Hotspot2.0 Smart roaming based on 802.11k and 802.11v 802.11r fast roaming ( $\leq 50$ ms) WAN authentication escape between APs and WLAN ACs. In local forwarding mode, this feature keeps existing STAs online and allows for the access of new STAs when APs are disconnected from WLAN ACs, ensuring service continuity.

Item	Description
Network features	<p>Compliance with IEEE 802.3ab</p> <p>Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X)</p> <p>Compliance with IEEE 802.1Q</p> <p>SSID-based VLAN assignment</p> <p>VLAN trunk on uplink Ethernet ports</p> <p>Management channel of the AP uplink port in tagged and untagged mode</p> <p>DHCP client, obtaining IP addresses through DHCP</p> <p>Tunnel forwarding and direct forwarding of service data</p> <p>STA isolation in the same VLAN</p> <p>Access control list (ACL)</p> <p>Link Layer Discovery Protocol (LLDP)</p> <p>Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode</p> <p>Unified authentication on the AC in Fit AP mode</p> <p>AC dual-link backup in Fit AP mode</p> <p>Network Address Translation (NAT) in Fat AP mode</p> <p>IPv6 in Fit AP mode</p> <p>IPv4/IPv6 ACL</p> <p>Soft Generic Routing Encapsulation (GRE)</p> <p>IPv6 Source Address Validation Improvements (SAVI)</p> <p>Multicast Domain Name Service (mDNS) gateway protocol: supports AirPlay and AirPrint service sharing between users of different VLANs</p>
QoS features	<p>Priority mapping and packet scheduling that are compliant with Wi-Fi multimedia (WMM) to implement priority-based data processing and forwarding</p> <p>WMM parameter management for each radio</p> <p>WMM power saving</p> <p>Priority mapping for upstream packets and flow-based mapping for downstream packets</p> <p>Queue mapping and scheduling</p> <p>User-based bandwidth limiting</p> <p>Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience</p> <p>Smart Application Control (SAC) in Fit AP mode</p> <p>Airtime scheduling</p> <p>Support for Microsoft Lync APIs and high voice call quality through Lync API identification and scheduling</p>
Security features	<p>Open system authentication</p> <p>WEP authentication/encryption using a 64-bit, 128-bit, or 152-bit encryption key</p> <p>WPA2-PSK authentication/encryption (WPA2-Personal edition)</p> <p>WPA2-802.1X authentication/encryption (WPA2-Enterprise edition)</p> <p>WPA-WPA2 hybrid authentication</p> <p>WPA2-PPSK authentication/encryption</p> <p>802.1X authentication, MAC address authentication, and Portal authentication</p> <p>DHCP snooping</p> <p>Dynamic ARP Inspection (DAI)</p> <p>IP Source Guard (IPSG)</p>

Item	Description
	802.11w Protected Management Frames (PMFs) Application identification
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 SSH v2 SFTP using SSH v2 Remote wireless O&M through Bluetooth console ports Local AP management through the serial interface Web NMS-based management in Fat AP mode upon login through HTTP or HTTPS 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
BYOD	<b>NOTE</b> <i>The AP supports bring your own device (BYOD) only in Fit AP mode.</i> Identifies the device type according to the organizationally unique identifier (OUI) in the MAC address. Identifies the device type according to the user agent (UA) information in an HTTP packet. Identifies the device type 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	<b>NOTE</b> <i>The AP supports the locating service only in Fit AP mode.</i> Locates tags in compliance with proprietary protocols of AeroScout and Ekahau. Locates Wi-Fi terminals. Works with the location server to locate rogue devices.
Spectrum analysis	<b>NOTE</b> <i>The AP supports spectrum analysis only in Fit AP mode.</i> Identifies 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. Works with the location server to locate and perform spectrum analysis on interference sources.

#### Cloud-based management mode

Item	Description
WLAN features	Compliance with IEEE 802.11a/b/g/n/ac/ac Wave 2 Triple radios, eight spatial streams, providing a maximum rate of 3 Gbit/s Maximum ratio combining (MRC) Space time block code (STBC) MU-MIMO MLD

Item	Description
	<p>Beamforming</p> <p>Low-density parity-check (LDPC)</p> <p>Maximum-likelihood detection (MLD)</p> <p>Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)</p> <p>802.11 dynamic frequency selection (DFS)</p> <p>Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding</p> <p>WLAN channel management and channel rate adjustment</p> <p><b>NOTE</b></p> <p><i>For detailed management channels, see the Country Code &amp; Channel Compliance Table.</i></p> <p>Automatic channel scanning and interference avoidance</p> <p>Service set identifier (SSID) hiding</p> <p>Signal sustain technology (SST)</p> <p>Unscheduled automatic power save delivery (U-APSD)</p> <p>Automatic login</p>
Network features	<p>Compliance with IEEE 802.3ab</p> <p>Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X)</p> <p>Compliance with IEEE 802.1q</p> <p>SSID-based VLAN assignment</p> <p>DHCP client, obtaining IP addresses through DHCP</p> <p>STA isolation in the same VLAN</p> <p>Access control lists (ACLs)</p> <p>Unified authentication on the Agile Controller</p> <p>Network Address Translation (NAT)</p>
QoS features	<p>Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding</p> <p>WMM parameter management for each radio</p> <p>WMM power saving</p> <p>Priority mapping for upstream packets and flow-based mapping for downstream packets</p> <p>Queue mapping and scheduling</p> <p>User-based bandwidth limiting</p> <p>Airtime scheduling</p>
Security features	<p>Open system authentication</p> <p>WEP authentication/encryption using a 64-bit, 128-bit, or 152-bit encryption key</p> <p>WPA2-PSK authentication/encryption (WPA2-Personal edition)</p> <p>WPA2-802.1X authentication/encryption (WPA2-Enterprise edition)</p> <p>WPA-WPA2 hybrid authentication</p> <p>WPA/WPA2-PPSK authentication/encryption</p> <p>802.1X authentication, MAC address authentication, and Portal authentication</p> <p>DHCP snooping</p> <p>Dynamic ARP Inspection (DAI)</p> <p>IP Source Guard (IPSG)</p>
Maintenance features	<p>Unified management and maintenance on the Agile Controller</p>

Item	Description
	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 Bluetooth console port Web NMS-based management upon login 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 (H x W x D)	47 mm x 220 mm x 220 mm
	Weight	1.2 kg
	Interface type	2 x 10/100/1000M adaptive Ethernet ports (RJ45) 1 x USB port
	Built-in Bluetooth	BLE5.0
	External IoT module	Support for IoT modules expanded through the USB port
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system.
Power specifications	Power input	<ul style="list-style-type: none"> <li>DC: 12 V <math>\pm</math> 10%</li> <li>PoE power supply: in compliance with 802.3at.</li> </ul>
	Maximum power consumption	19.3 W (excluding output power consumption of the USB port) <b>NOTE</b> <i>The actual maximum power consumption depends on local laws and regulations.</i>
Environmental specifications	Operating temperature	-10°C to +50°C
	Storage temperature	-40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Dustproof and waterproof grade	IP41
	Altitude	-60 m to +5000 m
	Atmospheric pressure	53 kPa to 106 kPa
Radio specifications	Antenna type	Built-in adaptive array antennas (smart antennas)
	Antenna gain	2.4 GHz: 3.5 dBi 5 GHz-0: 5 dBi 5 GHz-1: 5 dBi <b>NOTE</b>



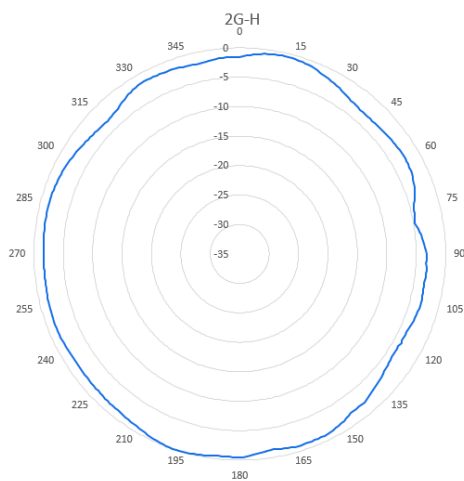
Item		Description
		<p>1. The gains above are the single-antenna peak gains.</p> <p>2. The equivalent antenna gain after all 2.4 GHz or 5 GHz antennas are combined is 1 dBi in 2.4 GHz, 2 dBi in 5 GHz-0, 3dBi in 5 GHz-1.</p>
	Maximum number of SSIDs for each radio	≤ 16
	Maximum number of users	≤ 768 <b>NOTE</b> <i>The actual number of users varies according to the environment.</i>
	Maximum transmit power	2.4 GHz: 23 dBm (combined power) 5 GHz-0: 24 dBm (combined power) 5 GHz-1: 27 dBm (combined power) <b>NOTE</b> <i>The actual transmit power depends on local laws and regulations.</i>
	Power increment	1 dBm
	Maximum number of non-overlapping channels	2.4 GHz (2.412 GHz~2.472 GHz) <ul style="list-style-type: none"> <li>• 802.11b/g               <ul style="list-style-type: none"> <li>- 20 MHz: 3</li> </ul> </li> <li>• 802.11n               <ul style="list-style-type: none"> <li>- 20 MHz: 3</li> <li>- 40 MHz: 1</li> </ul> </li> </ul> 5 GHz (5.18 GHz~5.825 GHz) <ul style="list-style-type: none"> <li>• 802.11a               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> </ul> </li> <li>• 802.11n               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> <li>- 40 MHz: 6</li> </ul> </li> <li>• 802.11ac               <ul style="list-style-type: none"> <li>- 20 MHz: 13</li> <li>- 40 MHz: 6</li> <li>- 80 MHz: 3</li> </ul> </li> </ul> <b>NOTE</b> <i>The table uses the number of non-overlapping channels supported by China as an example. The number of non-overlapping channels varies in different countries. For details, see the Country Codes &amp; Channels Compliance</i>

## Standards Compliance

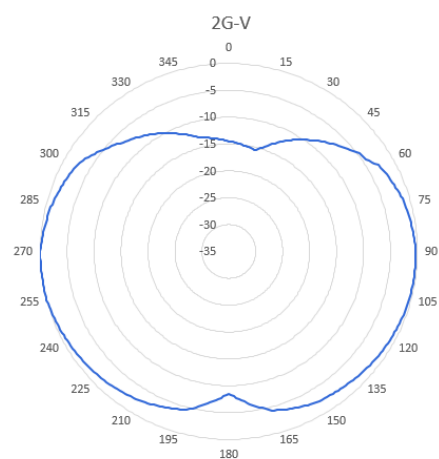
Item	Description		
Safety standards	UL 62368-1 EN 62368-1 IEC 62368-1	GB 4943 EN 60950-1 UL 60950-1	CAN/CSA 22.2 No.60950-1 IEC 60950-1
Radio	ETSI EN 300 328	RSS-210	AS/NZS 4268

Item	Description		
standards	ETSI EN 301 893	FCC Part 15C: 15.247	
EMC standards	EN 301 489-1 EN 301 489-17 ETSI EN 60601-1-2 FCC Part 15 ICES-003 YD/T 1312.2-2004	ITU k.20 GB 9254 GB 17625.1 AS/NZS CISPR22 EN 55022	EN 55024 CISPR 22 CISPR 24 IEC61000-4-6 IEC61000-4-2
IEEE standards	IEEE 802.11a/b/g IEEE 802.11n IEEE 802.11ac	IEEE 802.11h IEEE 802.11d IEEE 802.11e IEEE 802.11k	IEEE 802.11u IEEE 802.11v IEEE 802.11w IEEE 802.11r
Security standards	802.11i, Wi-Fi Protected Access 2(WPA2), WPA 802.1X Advanced Encryption Standards(AES), Temporal Key Integrity Protocol(TKIP) EAP Type(s)		
EMF	CENELEC EN 62311 CENELEC EN 50385	OET65 RSS-102	FCC Part1&2 FCC KDB Series
RoHS	Directive 2002/95/EC & 2011/65/EU		
Reach	Regulation 1907/2006/EC		
WEEE	Directive 2002/96/EC & 2012/19/EU		

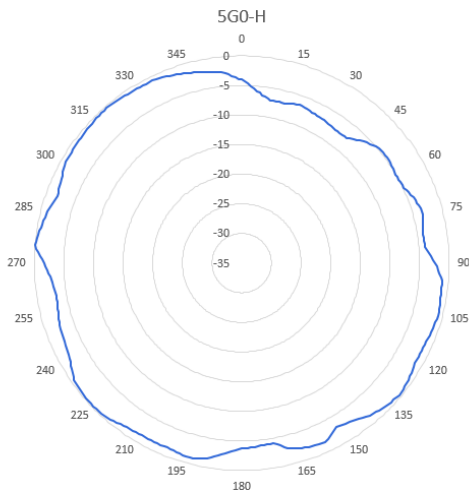
## Antennas Pattern



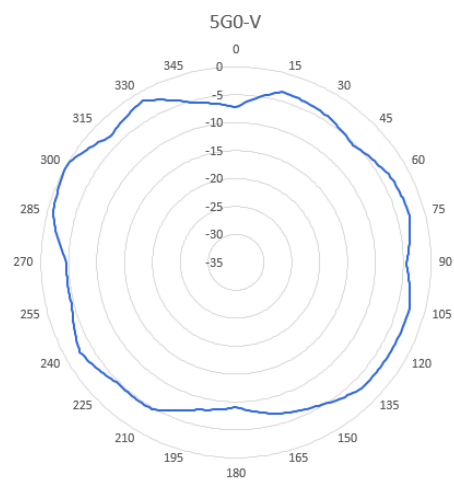
2.4 GHz (Horizontal)



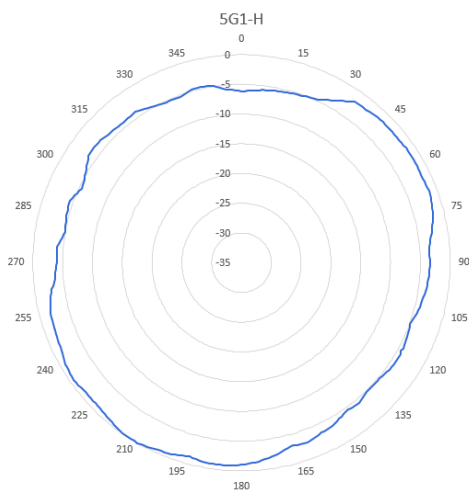
2.4 GHz (Vertical)



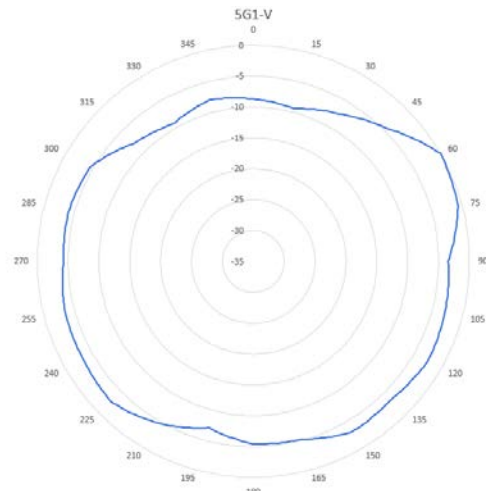
5 GHz-0 (Horizontal)



5 GHz-0 (Vertical)



5 GHz-1 (Horizontal)



5 GHz-1 (Vertical)

## Ordering Information

Part Number	Description
02352NAM	AP6750-10T mainframe (11ac Wave 2, indoor, triple-radio, built-in antenna, 2*GE, USB, BLE)

## 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](mailto:support_e@huawei.com)

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