4 Indoor Settled AP

About This Chapter

Next-generation indoor settled access points (APs) are ideal for indoor coverage scenarios such as mobile office, high-density, education, and retail scenarios.

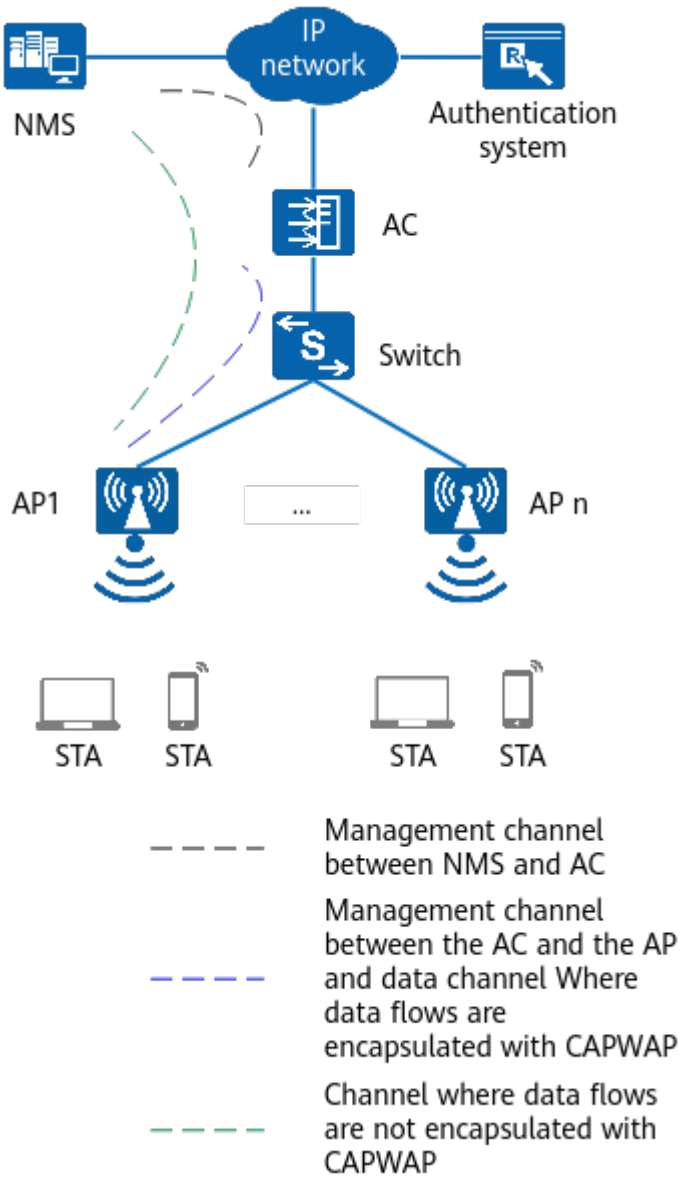
4.1 Application Scenarios

An indoor settled access point (AP) can work as a Fat, Fit, or cloud AP. It can switch flexibly among three working modes based on the network plan.

Typical Fit AP Networking

Figure 4-1 shows the Fit AP networking. Fit APs must work with an AC for user access, AP onboarding, authentication, routing, AP management, security, and QoS.

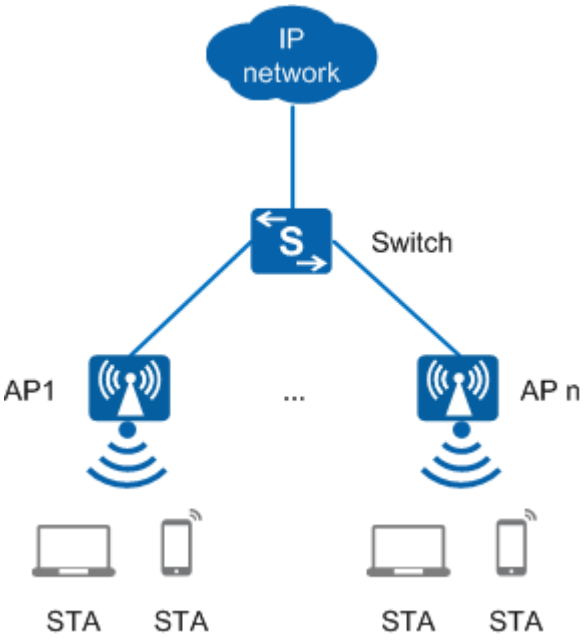
Figure 4-1 Typical Fit AP networking



Typical Fat AP Networking

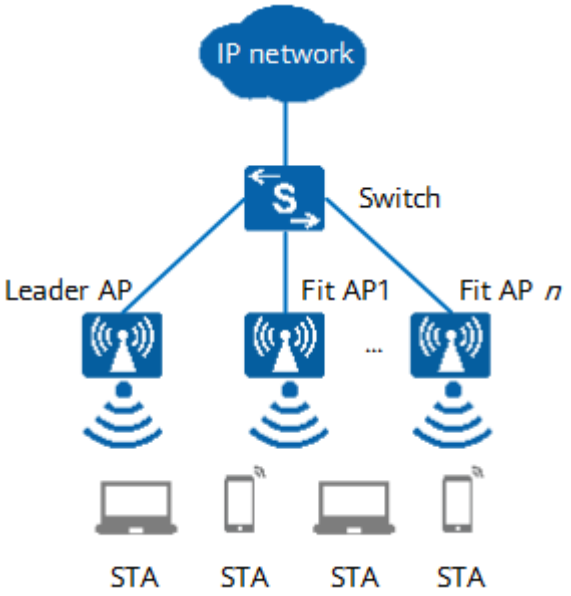
Figure 4-2 shows the Fat AP networking. Fat APs can independently implement functions such as user access, authentication, data security, service forwarding, and QoS.

Figure 4-2 Typical Fat AP networking



Starting from V200R020C10, some AP models running in Fat mode (depending on actual specifications) also support the leader AP networking and can manage a small number of Fit APs, thereby implementing small-scale batch deployment and simple O&M of basic WLAN services.

Figure 4-3 Leader AP networking

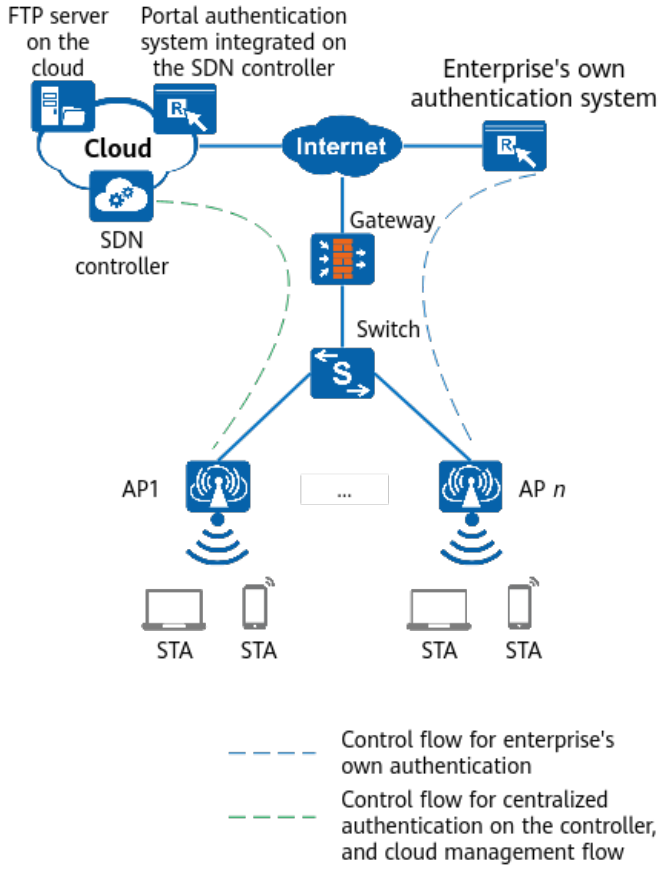


Typical Cloud AP Networking

In the networking, the device functions as a cloud AP and works with the SDN controller on the cloud for user access, AP onboarding, authentication, routing, AP management, security, and QoS. An enterprise can choose to use the Portal

authentication server integrated in the SDN controller or the authentication server deployed by itself.

Figure 4-4 Typical cloud AP networking



4.2 AirEngine 8771-X1T

4.2.1 Product Characteristics

Huawei AirEngine 8771-X1T is an indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It has built-in dynamic-zoom smart antennas and supports a maximum of 12 spatial streams. It can simultaneously provide services on 2.4 GHz (4x4 MIMO), 5 GHz (4x4 MIMO), and 6 GHz (4x4 MIMO) frequency bands, achieving a device rate of up to 18.67 Gbps. The AirEngine 8771-X1T excels in innovative application scenarios such as metacosm, XR remote collaboration, XR telemedicine, and XR interactive teaching.

- Triple-radio: 2.4 GHz (4x4 MIMO) + 5 GHz (4x4 MIMO) + 6 GHz (4x4 MIMO), achieving rates of up to 1.376 Gbps, 5.765 Gbps, and 11.53 Gbps respectively, and 18.67 Gbps for the device.
- 6 GHz radio that can be switched to the 5 GHz radio flexibly, adapting to scenarios where the use of the 6 GHz frequency band is not clear yet.
- 2 x 10GE electrical ports and 1 x 10G SFP+ port. The 10G SFP+ optical port supports 300 m long-distance PoE++ power supply with hybrid cable 2.0.

- Built-in dynamic-zoom smart antennas that can flexibly work in omnidirectional or high-density coverage mode. The former mode promises wider coverage, while the latter mode maximizes performance and optimizes user experience in dense environments. It makes the AP capable of adapting to omnidirectional and high-density scenarios dynamically based on STA access requirements.
- USB interface can be used for external IoT expansion (supporting protocols such as ZigBee and RFID).
- Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.
- Fit and cloud working modes.

4.2.2 Hardware Information

Overview

Table 4-1 Basic information about the AirEngine 8771-X1T

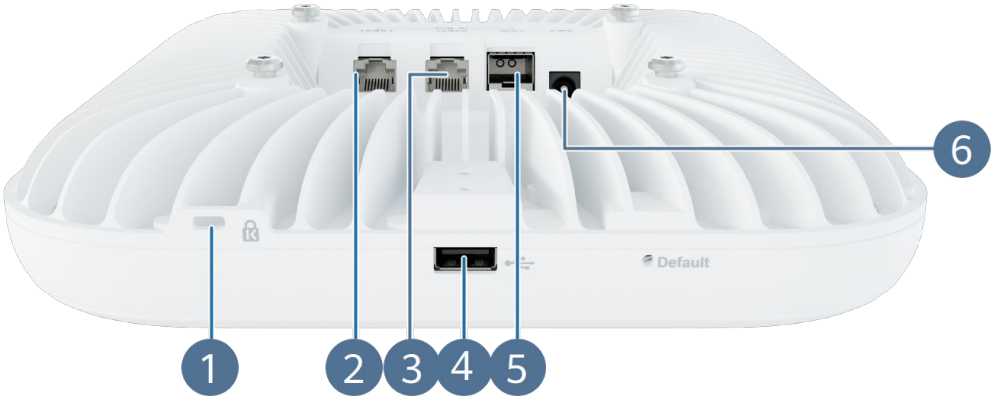
Item	Details
Description	AirEngine8771-X1T(11be indoor,4+4+4 Triple bands,Scan radio ,Dynamic-zoom smart antenna,USB,BLE)
Part Number	02355CXW
Model	AirEngine 8771-X1T
First supported version	V200R023C00
Remarks	The independent radio scanning function of the AirEngine 8771-X1T is unavailable currently, and will be available through software upgrade in the future.

Appearance

Figure 4-5 Appearance of the AirEngine 8771-X1T

Ports

Figure 4-6 Ports on the AirEngine 8771-X1T



1	Security slot	2	10GE1/PoE_IN

3	10GE0/PoE_IN	4	USB
5	SFP+/PoE_IN	6	DC 48V

Table 4-2 Ports on the AirEngine 8771-X1T

Port	Connector Type	Description	Available Components
10GE0/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
10GE1/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+/PoE_IN	SFP+	Ethernet optical port that supports 1G/2.5G/10G auto-sensing, supports PoE input, and works with a matching optical module. When the PSE supplies power to the AP through this port, the hybrid cable and hybrid module must be used.	Optical module
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V DC power adapter

Port	Connector Type	Description	Available Components
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-7 Indicators and buttons on the AirEngine 8771-X1T

1	Indicator	2	Default

Table 4-3 Indicators on the AirEngine 8771-X1T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		White	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-4 Buttons on the AirEngine 8771-X1T

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-5 Technical specifications of the AirEngine 8771-X1T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	50 mm x 220 mm x 220 mm (1.97 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.4 kg (3.09 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Eth Management port	N/A
Maximum power consumption [W]	44.4 (excluding USB)
Maximum heat dissipation [BTU/hour]	151.5 BTU/hour
Power supply mode	• PoE • PoE (hybrid cable) • DC adapter
Rated input voltage [V]	DC: 48 V PoE: 802.3bt/at
Input voltage range [V]	DC: 43.2–57.6 V PoE: 802.3bt/at x 3, supporting hybrid cables When multiple ports are used for receive PoE power: If the power supply classes are different, the port with the highest power class is used. If the power supply classes are the same, power supply backup can be implemented.
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 2, 100M/1000M/2.5GE/5GE/10GE auto-sensing 10GE (SFP+) x 1, GE/2.5GE/10GE auto-sensing

Item	Specification
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
BLE	BLE5.2
Radio number	4 (including the independent scanning radio)
Operating frequency band	• 2.4GHz • 5GHz • 6GHz
MIMO spatial streams	Four-radio 6G mode: • Radio 0 (2.4G): 4x4 • Radio 1 (5G): 4x4 • Radio 2 (6G): 4x4 • Radio 3 (independent scanning radio, limited to 2.4G and 5G frequency bands): 1x1 Four-radio dual-5G mode: • Radio 0 (2.4G): 4x4 • Radio 1 (5G, low band): 4x4 • Radio 2 (5G, high band): 4x4 • Radio 3 (independent scanning radio, limited to 2.4G and 5G frequency bands): 1x1
Wi-Fi standard	2.4G: 802.11b/g/n/ax/be 5G: 802.11a/n/ac/ac Wave 2/ax/be 6G: 802.11ax/be

Item	Specification
Radio interface	Built-in Dynamic-Zoom Smart Antennas
Antenna gain	Peak gain: 2.4 GHz: 4 dBi 5 GHz: 5 dBi 6 GHz: 5 dBi Independent scanning radio: 4 dBi BLE: 3 dBi Combined gain: 2.4 GHz: 2 dBi 5 GHz: 3 dBi 6 GHz: 3 dBi Independent scanning radio: 4 dBi BLE: 3 dBi
Maximum transmit power	MIMO combined power, excluding antenna gains 2.4 GHz: 26 dBm 5 GHz: 25 dBm 6 GHz: 25 dBm BLE: 10 dBm
Singal radio transmit power [dBm]	2.4G: –10 dBm to +20 dBm/chain 5G: –10 dBm to +19 dBm/chain 6G: –10 dBm to +19 dBm/chain
MTBF [year]	53.2 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	If the power class is 802.3bt Class 7 or Class 8, no function is restricted, and the USB port supports a maximum of 9 W output. If the power class is 802.3bt Class 6, the USB port supports a maximum of 2.5 W output, and other functions are not restricted.

Item	Specification
802.3at power supply description	Wi-Fi service: 2.4 GHz (2x2) + 5 GHz (4x4) + 6 GHz (4x4) + independent scanning radio Wired network ports: 10GE0/10GE1/SFP+. Only one of them is reserved, among which the optical port is preferentially used. If the optical port is not used, electrical ports are reserved based on the PoE supply sequence, and the rate is lowered to 5 Gbit/s. Other ports: The USB port supports a maximum of 2.5 W output. If the USB port is used, the Wi-Fi service supports a maximum of 2.4 GHz (2x2) + 5 GHz (4x4) + 6 GHz (2x2) + independent scanning radios.
802.3af power supply description	Not supported
DC power supply description	No function is restricted. The USB port supports a maximum of 9 W output.

4.3 AirEngine 8760-X1-PRO

4.3.1 Product Characteristics

Huawei AirEngine 8760-X1-PRO is a next-generation flagship indoor access point (AP) in compliance with the Wi-Fi 6 standard. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It provides uplink optical and electrical ports, allowing customers to select different deployment modes based on scenarios. These strengths make the AP ideal for scenarios such as enterprise office, government, higher education, and primary/secondary education.

- Working simultaneously on the 2.4 GHz and 5 GHz frequency bands
  - Dual-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (12x12:8 MIMO)
  - Triple-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (8x8:8 MIMO) + 5 GHz (4x4:4 MIMO)
  - Dual-radio + independent scanning radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (8x8:8 MIMO)
- 2 x 10GE electrical ports + 1 x 10GE SFP+ port
- USB port for IoT expansion
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the

application environment change, and provide accurate and stable coverage as STAs move

- Built-in IoT slots, supporting IoT expansion such as BLE 5.0, ZigBee, RFID, and Thread
- Built-in independent radio scanning module, achieving real-time detection for interference and rogue devices and timely network optimization
- Bluetooth serial interface-based O&M through built-in Bluetooth by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

NOTE

Independent radio scanning will be supported after the AP is upgraded to V200R020C00 or later.

4.3.2 Hardware Information (02353GSG-001)

Overview

Table 4-6 Basic information about the AirEngine 8760-X1-PRO

Item	Details
Description	AirEngine8760-X1-PRO(11ax indoor,Dedicated 3rd Radio,4+12 dual bands,smart antenna,USB,IoT Slot,BLE)
Part Number	02353GSG-001
Model	AirEngine 8760-X1-PRO
First supported version	V200R021C10SPC100

NOTE

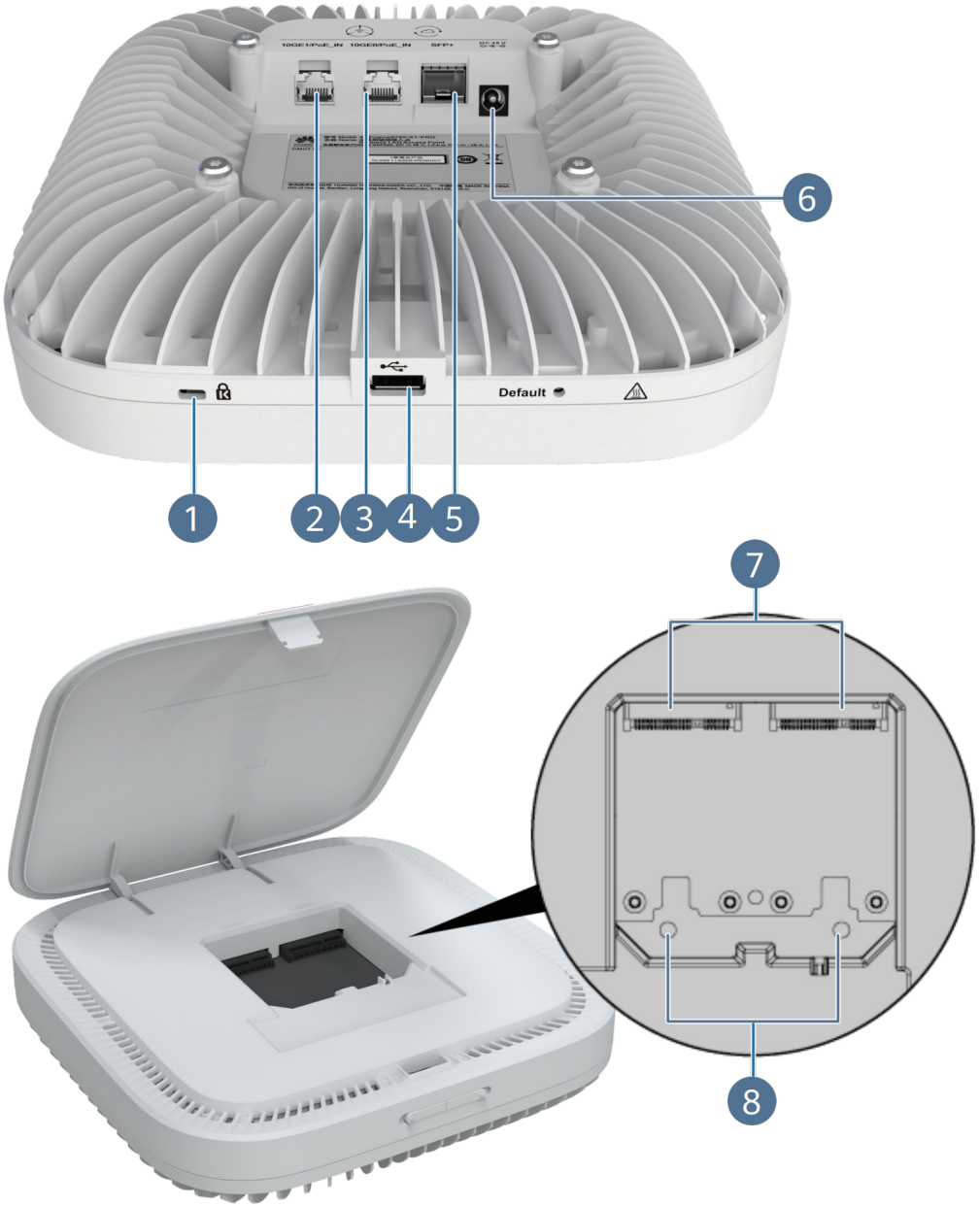
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-8 Appearance of the AirEngine 8760-X1-PRO

Ports

Figure 4-9 Ports on the AirEngine 8760-X1-PRO



1	Security slot	2	10GE1/PoE_IN
3	10GE0/PoE_IN	4	USB
5	SFP+	6	DC 48V

7	IoT slot	8	Built-in radio port connecting to an IoT card

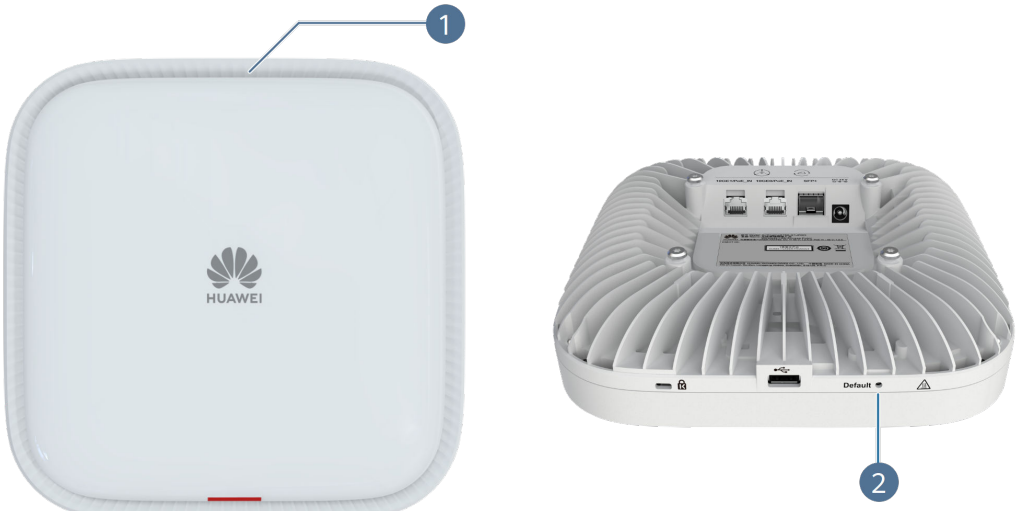
Table 4-7 Ports on the AirEngine 8760-X1-PRO

Port	Connector Type	Description	Available Components
10GE0/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
10GE1/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module	Optical module
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card

Port	Connector Type	Description	Available Components
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-10 Indicators and buttons on the AirEngine 8760-X1-PRO



1	Indicator	2	Default

Table 4-8 Indicators on the AirEngine 8760-X1-PRO

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-9 Buttons on the AirEngine 8760-X1-PRO

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-10 Technical specifications of the AirEngine 8760-X1-PRO

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	61 mm x 220 mm x 220 mm (2.40 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.85 kg (4.08 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	55.0 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	187.6 (without USB or IoT card)
Power supply mode	• DC adapter • PoE

Item	Specification
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at x 2 (When PoE power supply is used: If the power supply types of the two ports are different, the power supply in compliance with a later standard is used; if the power supply types of the two ports are the same, power supply backup is achieved.)
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 2, 10M/100M/1000M/2.5GE/5GE/10GE auto-sensing 10GE optical port (SFP+), GE/10GE auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 8x8 (low frequency band), maximum bandwidth of 80 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): In 12x12 configuration, the maximum bandwidth is 80 MHz; in the 8x8 configuration, the maximum bandwidth is 160 MHz.
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi 5 GHz: 5.5 dBi BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 31 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	59.4 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	When the AP is powered by 802.3bt class 8, no function is restricted. If dual 802.3bt class 6 power supplies are used, Wi-Fi: ● If no USB port or IoT card slot is used, the number of spatial streams and transmit power are not affected. ● If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. Wired network port: No function is restricted. Other ports: Both one USB port and two IoT card slots are available. If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. If single 802.3bt class 6 power supplies are used, Wi-Fi: ● If no USB port or IoT card slot is used, the number of spatial streams and transmit power are not affected. ● If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. Wired network port: Two 10GE electrical ports and the SFP+ optical port work as combo ports. When one of them is working, the other two are unavailable. Other ports: Both one USB port and two IoT card slots are available. If the USB port or IoT card slots are used, the number of spatial streams,

Item	Specification
	transmit power, and bandwidth may be affected. For details, contact your product manager.

Item	Specification
802.3at power supply description	If dual 802.3at power supplies are used, Wi-Fi: If no USB port or IoT card slot is used, the radio power is self-adapted. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent scanning radio mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent scanning radio If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. Wired ports: The rate of both 10GE electrical ports is reduced to GE or lower, and the SFP+ optical port is unavailable. Other ports: The 2.5 W USB and IoT card is mutually exclusive. That is, when one of them is working, the other is unavailable. The IoT card takes precedence. If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. If single 802.3at power supply is used, Wi-Fi: If no USB port or IoT card slot is used, the radio power is self-adapted. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent scanning radio mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent scanning radio If the USB port or IoT card slots are used, the number of spatial streams,

Item	Specification
	transmit power, and bandwidth may be affected. For details, contact your product manager. Wired ports: The rate of both 10GE electrical ports is reduced to 1 Gbit/s or lower, and work with the SFP+ optical port as combo ports. When one of them is working, the other two are unavailable. Other ports: The 2.5 W USB and IoT card is mutually exclusive. That is, when one of them is working, the other is unavailable. The IoT card takes precedence. If the USB port or IoT card slots are used, Wi-Fi can work only in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact your product manager.
DC power supply description	No function is limited.

4.3.3 Hardware Information (02353GSG)

Overview

Table 4-11 Basic information about the AirEngine 8760-X1-PRO

Item	Details
Description	AirEngine8760-X1-PRO(11ax indoor,Dedicated 3rd Radio,4+12 dual bands,smart antenna,USB,IoT Slot,BLE)
Part Number	02353GSG
Model	AirEngine 8760-X1-PRO
First supported version	V200R019C10

NOTE

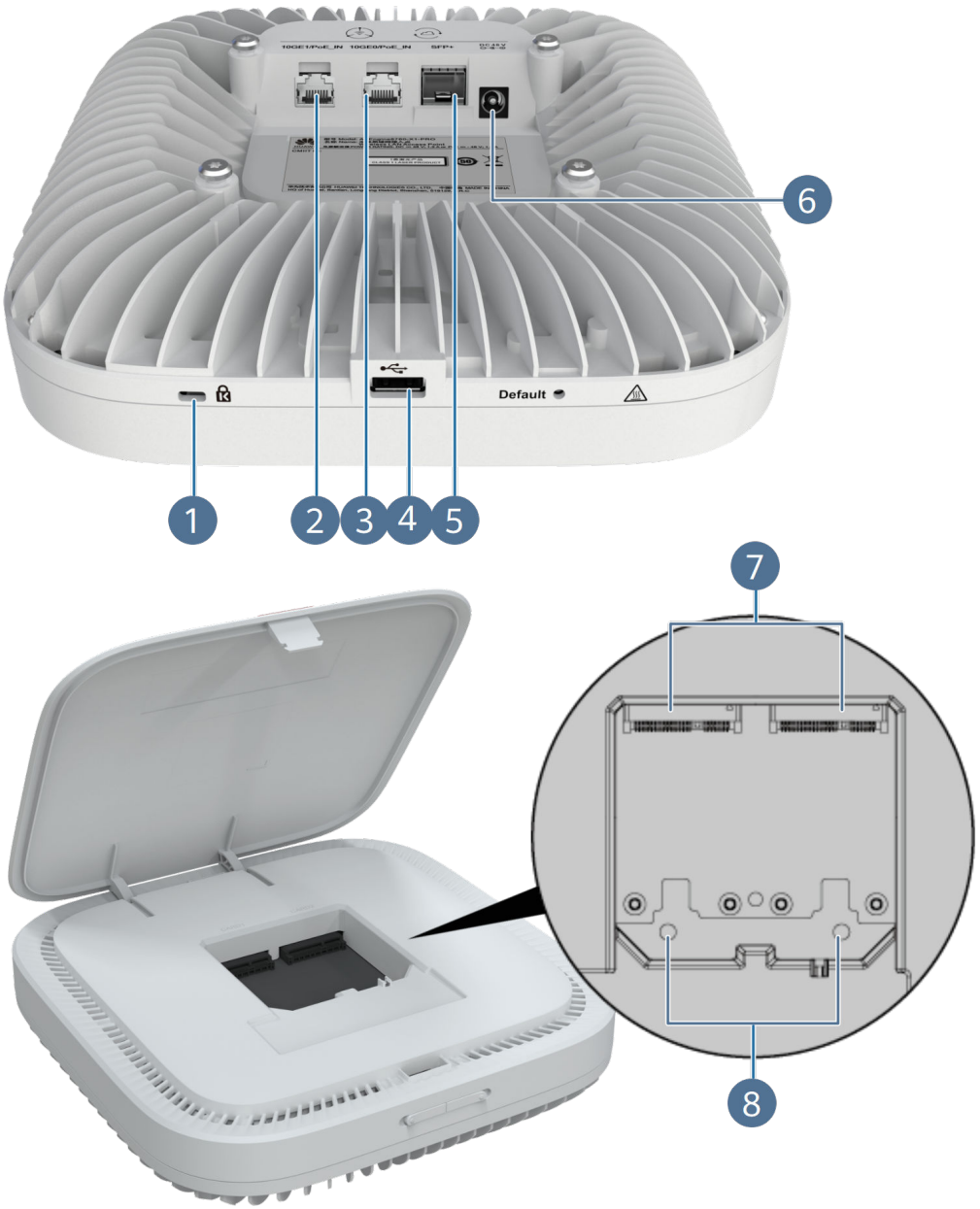
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-11 Appearance of the AirEngine 8760-X1-PRO

Ports

Figure 4-12 Ports on the AirEngine 8760-X1-PRO



1	Security slot	2	10GE1/PoE_IN
3	10GE0/PoE_IN	4	USB
5	SFP+	6	DC 48V

7	IoT slot	8	Built-in radio port connecting to an IoT card

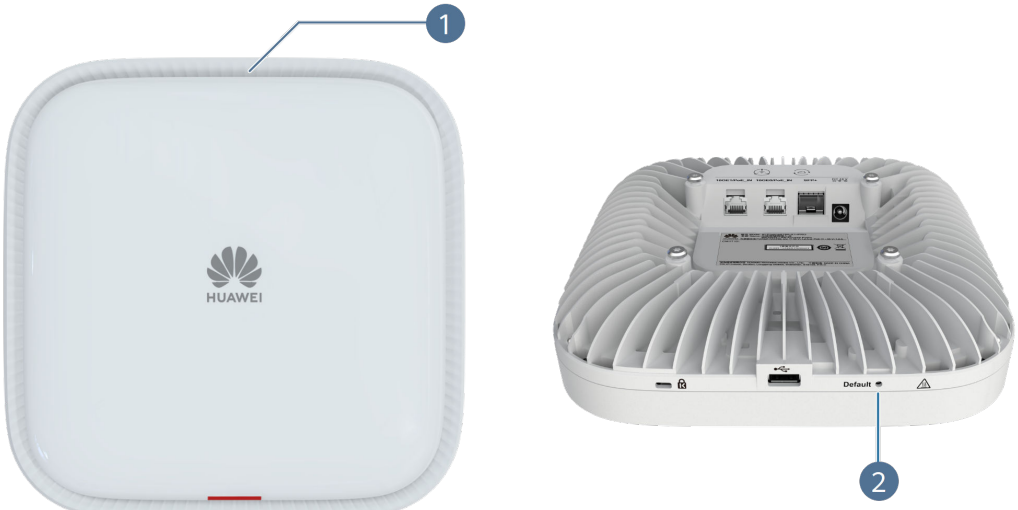
Table 4-12 Ports on the AirEngine 8760-X1-PRO

Port	Connector Type	Description	Available Components
10GE0/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
10GE1/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module	Optical module
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card

Port	Connector Type	Description	Available Components
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-13 Indicators and buttons on the AirEngine 8760-X1-PRO



1	Indicator	2	Default

Table 4-13 Indicators on the AirEngine 8760-X1-PRO

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-14 Buttons on the AirEngine 8760-X1-PRO

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-15 Technical specifications of the AirEngine 8760-X1-PRO

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	61 mm x 220 mm x 220 mm (2.40 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.85 kg (4.08 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	55.0 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	187.6 (without USB or IoT card)
Power supply mode	• DC adapter • PoE

Item	Specification
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at x 2 (When PoE power supply is used: If the power supply types of the two ports are different, the power supply in compliance with a later standard is used; if the power supply types of the two ports are the same, power supply backup is achieved.)
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 2, 10M/100M/1000M/2.5GE/5GE/10GE auto-sensing 10GE optical port (SFP+), GE/10GE auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 8x8 (low frequency band), maximum bandwidth of 80 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): In 12x12 configuration, the maximum bandwidth is 80 MHz; in the 8x8 configuration, the maximum bandwidth is 160 MHz.
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi 5 GHz: 5.5 dBi BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 31 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	59.4 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	When the AP is powered by 802.3bt class 8, no function is restricted. If dual 802.3bt class 6 power supplies are used, Wi-Fi: ● If no USB port or IoT card slot is used, the number of spatial streams and transmit power are not affected. ● If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. Wired network port: No function is restricted. Other ports: Both one USB port and two IoT card slots are available. If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. If single 802.3bt class 6 power supplies are used, Wi-Fi: ● If no USB port or IoT card slot is used, the number of spatial streams and transmit power are not affected. ● If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. Wired network port: Two 10GE electrical ports and the SFP+ optical port work as combo ports. When one of them is working, the other two are unavailable. Other ports: Both one USB port and two IoT card slots are available. If the USB port or IoT card slots are used, the number of spatial streams,

Item	Specification
	transmit power, and bandwidth may be affected. For details, contact your product manager.

Item	Specification
802.3at power supply description	If dual 802.3at power supplies are used, Wi-Fi: If no USB port or IoT card slot is used, the radio power is self-adapted. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent scanning radio mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent scanning radio If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. Wired ports: The rate of both 10GE electrical ports is reduced to GE or lower, and the SFP+ optical port is unavailable. Other ports: The 2.5 W USB and IoT card is mutually exclusive. That is, when one of them is working, the other is unavailable. The IoT card takes precedence. If the USB port or IoT card slots are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact your product manager. If single 802.3at power supply is used, Wi-Fi: If no USB port or IoT card slot is used, the radio power is self-adapted. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent scanning radio mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent scanning radio If the USB port or IoT card slots are used, the number of spatial streams,

Item	Specification
	transmit power, and bandwidth may be affected. For details, contact your product manager. Wired ports: The rate of both 10GE electrical ports is reduced to 1 Gbit/s or lower, and work with the SFP+ optical port as combo ports. When one of them is working, the other two are unavailable. Other ports: The 2.5 W USB and IoT card is mutually exclusive. That is, when one of them is working, the other is unavailable. The IoT card takes precedence. If the USB port or IoT card slots are used, Wi-Fi can work only in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact your product manager.
DC power supply description	No function is limited.

4.4 AirEngine 8761-X1

4.4.1 Product Characteristics

AirEngine 8761-X1 is a next-generation Wi-Fi 6 (802.11ax) access point (AP). It has built-in smart antennas and supports a maximum of 12 spatial streams: 4 at 2.4 GHz (4x4 MIMO) and 8 at 5 GHz (8x8 MIMO). This AP supports 10 Gbit/s Ethernet ports, which eliminates the bottleneck of upstream bandwidth and enables enterprise users to enjoy high-quality wireless services. These strengths make the AP applicable to high-bandwidth services such as HD video streaming, multimedia, and desktop cloud applications.

- Provides services simultaneously on both the 2.4 GHz and 5 GHz bands.
- Provides a 10GE uplink interface that supports 100M/1000M/2.5G/5G auto-sensing.
- Supports Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.
- USB port for external IoT expansion (supporting protocols such as ZigBee, and RFID)
- Working modes: Fit, Fat, and cloud management (In cloud management mode, Huawei's cloud management platform simplifies the management of APs and services, reducing network O&M costs.)

4.4.2 Hardware Information

Overview

Table 4-16 Basic information about the AirEngine 8761-X1

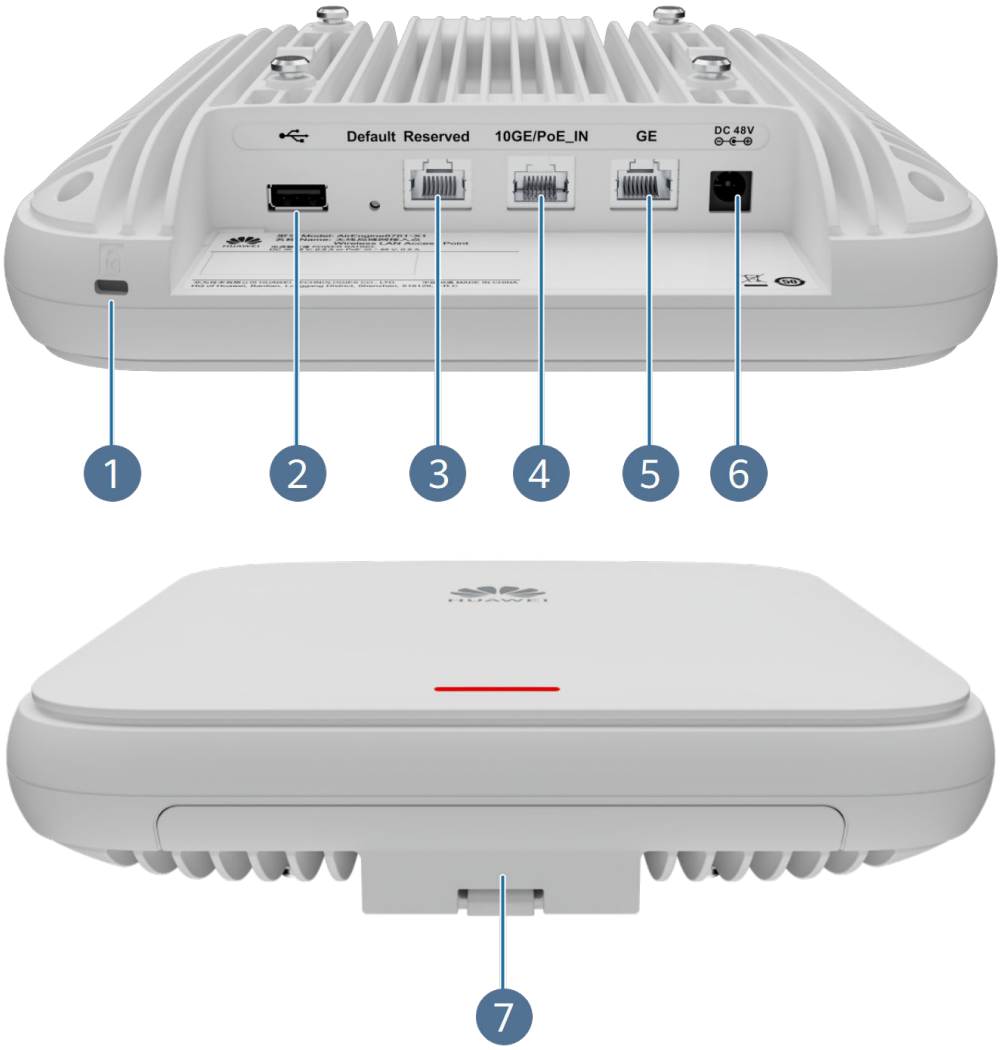
Item	Details
Description	AirEngine8761-X1 mainframe (11ax, indoor, 2.4G 4x4 + 5G 8x8 dual bands, smart antenna, 10GE+GE, USB, BLE)
Part Number	02355JRG
Model	AirEngine 8761-X1
First supported version	V200R022C10

Appearance

Figure 4-14 Appearance of the AirEngine 8761-X1

Ports

Figure 4-15 Ports on the AirEngine 8761-X1



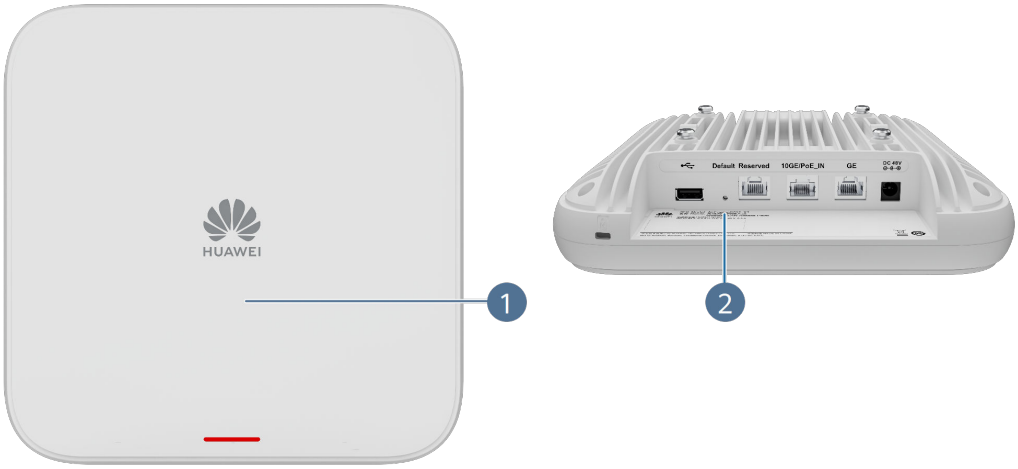
1	Security slot	2	USB
3	Reserved port 1	4	10GE/PoE_IN
5	GE	6	DC 48V
7	Reserved port 2	-	-

Table 4-17 Ports on the AirEngine 8761-X1

Port	Connector Type	Description	Available Components
10GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/ 2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module
Reserved port 1	RJ45	This port is reserved and is unavailable currently.	N/A
Reserved port 2	N/A	This port is reserved and is unavailable currently.	N/A

Indicators and Buttons

Figure 4-16 Indicators and buttons on the AirEngine 8761-X1



1	Indicator	2	Default

Table 4-18 Indicators on the AirEngine 8761-X1

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-19 Buttons on the AirEngine 8761-X1

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-20 Technical specifications of the AirEngine 8761-X1

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	57 mm x 220 mm x 220 mm (2.24 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.8 kg(lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	23.5 W (excluding USB)
Maximum heat dissipation [BTU/hour]	80 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2–57.6 V PoE: 802.3at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Types of fans	None
Number of fan modules	0
Maximum number of physical ports on the entire device	10GE (RJ45) x 1, 100M/1000M/2.5GE/5GE/10GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)

Item	Specification
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	Not supported
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 4x4 Radio 1 (5 GHz): 8x8
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	Maximum gain: 2.4 GHz: 4 dBi 5 GHz: 6 dBi BLE: 5 dBi Combined gain: 2.4 GHz: 2 dBi 5 GHz: 3 dBi
Beamwidth of the built-in antenna [degrees]	N/A
Maximum transmit power	2.4 GHz: 24 dBm 5 GHz: 27 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 18 dBm/chain 5 GHz: 18 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 18 dBm/chain 5G: -10 dBm to 18 dBm/chain

Item	Specification
MTBF [year]	74 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	The maximum output power of the USB port is 2.5 W. Other functions are not restricted.
802.3at power supply description	The maximum output power of the USB port is 2.5 W. The USB port does not support 5 W output. ● When the USB port is not used, other functions are not affected. ● When the USB port provides 2.5 W output power, the maximum transmit power of the 2.4 GHz and 5 GHz radios decreases by 1 dBm, and other functions are not affected.
DC power supply description	The maximum output power of the USB port is 2.5 W. Other functions are not restricted.

4.5 AirEngine 6776-57T

4.5.1 Product Characteristics

Huawei AirEngine 6776-57T is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO), and 6 GHz (4x4 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies and is equipped with built-in smart antennas to enable always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. These strengths make the AirEngine 6776-57T ideal for densely populated scenarios such as mobile offices, schools, and stadiums.

- Provides services simultaneously on both the 2.4 GHz (2x2), 5 GHz (2x2), and 6 GHz (4x4) frequency bands.
- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.5.2 Hardware Information

Overview

Table 4-21 Basic information about the AirEngine 6776-57T

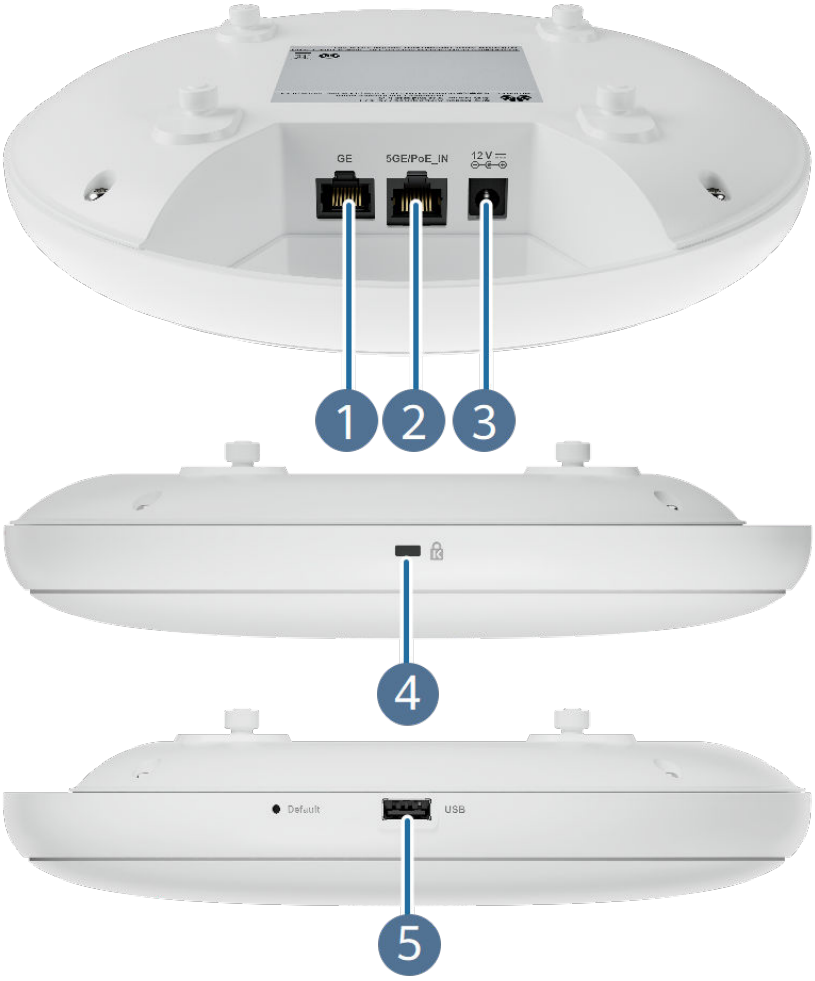
Item	Details
Description	AirEngine6776-57T(11be indoor,2+2+4 tri bands,smart antenna,USB,BLE)
Part Number	50086828
Model	AirEngine 6776-57T
First supported version	V600R023C10

Appearance

Figure 4-17 Appearance of the AirEngine 6776-57T

Ports

Figure 4-18 Ports on the AirEngine 6776-57T



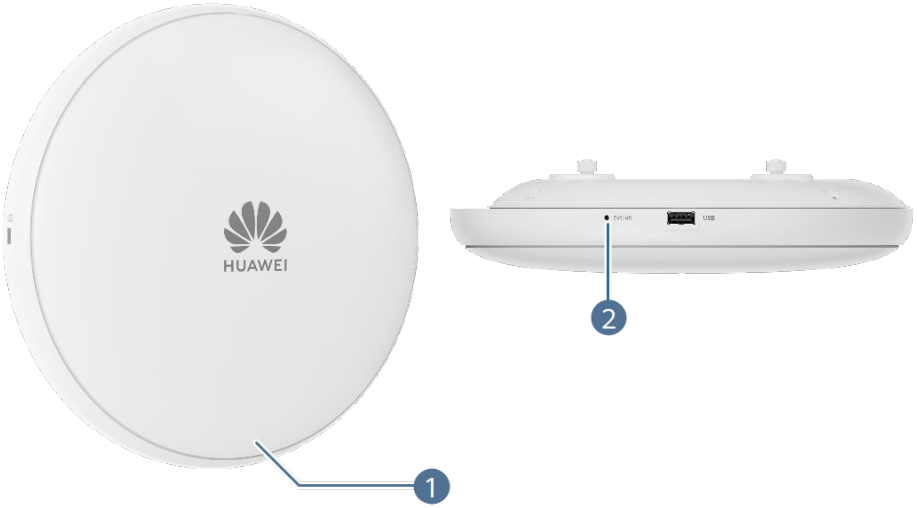
1	GE	2	5GE/PoE_IN
3	DC 12V	4	Security slot
5	USB	-	-

Table 4-22 Ports on the AirEngine 6776-57T

Port	Connector Type	Description	Available Components
5GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10M/100M/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V power adapter
USB	USB 3.0 Type A	Connects to an IoT terminal to implement IoT applications. The function is unavailable currently and will be supported through software upgrade in the future.	IoT module

Indicators and Buttons

Figure 4-19 Indicators and buttons on the AirEngine 6776-57T



1	Indicator	2	Default

Table 4-23 Indicators on the AirEngine 6776-57T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.
		Green	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.

Silkscreen	Name	Color	Status	Description
		Red	Steady on	The system is faulty.

Table 4-24 Buttons on the AirEngine 6776-57T

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-25 Technical specifications of the AirEngine 6776-57T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 45 mm (8.66 in. x 1.77 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	72 mm x 260 mm x 255 mm (2.83 in. x 10.24 in. x 10.04 in.)
Weight without packaging [kg(lb)]	0.745 kg (1.64 lb)
Weight with packaging [kg(lb)]	1.230 kg (2.71 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.1 W (excluding USB)
Maximum heat dissipation [BTU/hour]	66 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	5GE (RJ45) x 1, 100M/1000M/2500M/5000M auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH (non-condensing)
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 3.0 is unavailable currently and will be supported through software upgrade in the future.
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz • 6GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 Radio 2 (6 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz: 802.11a/n/ac/ac Wave 2/ax/be 6 GHz: 802.11a/n/ac/ac Wave 2/ax/be

Item	Specification
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 2 dBi (combined gain) 5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) 6 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) BT: 4 dBi
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 6 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4 GHz: –10 dBm to +20 dBm/chain 5 GHz: –10 dBm to +20 dBm/chain 6 GHz: –10 dBm to +20 dBm/chain
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	When the 5 W USB port is in use, the maximum transmit power of radio 0, radio 1, and radio 2 all decreases by 3 dBm. Other functions are not limited.
802.3af power supply description	This function is not supported currently and will be supported through software upgrade in the future.
DC power supply description	No function is limited.

4.6 AirEngine 6776-56TP

4.6.1 Product Characteristics

Huawei AirEngine 6776-56TP is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO), and 5 GHz (4x4 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies and is equipped with built-in smart antennas to enable always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. These strengths make the AirEngine 6776-56TP ideal for densely populated scenarios such as mobile offices, schools, and stadiums.

- Provides services simultaneously on both the 2.4 GHz (2x2), 5 GHz (2x2), and 5 GHz (4x4) frequency bands.
- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.6.2 Hardware Information

Overview

Table 4-26 Basic information about the AirEngine 6776-56TP

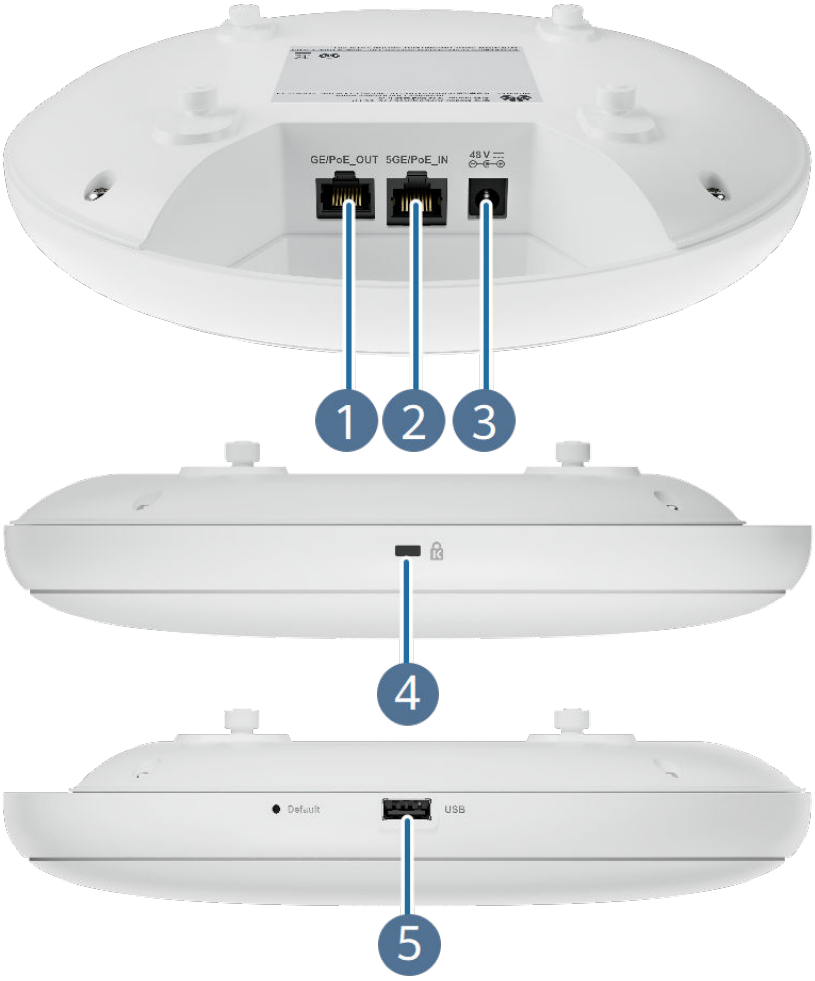
Item	Details
Description	AirEngine6776-56TP(11be indoor,2+2+4 tri bands,smart antenna,USB,BLE,PoE OUT)
Part Number	50086827-001
Model	AirEngine 6776-56TP
First supported version	V600R023C10

Appearance

Figure 4-20 Appearance of the AirEngine 6776-56TP

Ports

Figure 4-21 Ports on the AirEngine 6776-56TP



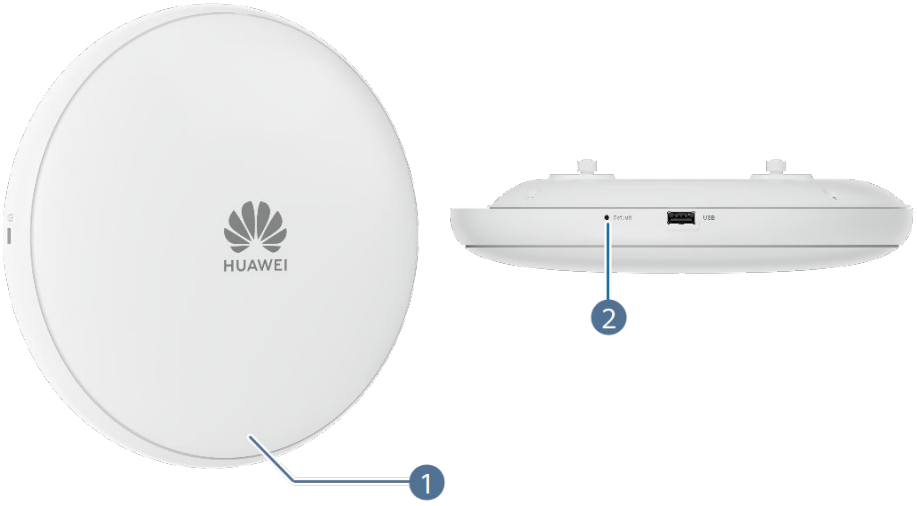
1	GE/PoE_OUT	2	5GE/PoE_IN
3	DC 48V	4	Security slot
5	USB	-	-

Table 4-27 Ports on the AirEngine 6776-56TP

Port	Connector Type	Description	Available Components
5GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
GE/PoE_OUT	RJ45	Ethernet electrical port that supports 10M/100M/1000M auto-sensing, connects to the wired Ethernet, and supports PoE output with a maximum output capability of 15.4 W.	Network cable
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V power adapter
USB	USB 3.0 Type A	Connects to an IoT terminal to implement IoT applications. The function is unavailable currently and will be supported through software upgrade in the future.	IoT module

Indicators and Buttons

Figure 4-22 Indicators and buttons on the AirEngine 6776-56TP



1	Indicator	2	Default

Table 4-28 Indicators on the AirEngine 6776-56TP

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.
		Green	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.

Silkscreen	Name	Color	Status	Description
		Red	Steady on	The system is faulty.

Table 4-29 Buttons on the AirEngine 6776-56TP

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-30 Technical specifications of the AirEngine 6776-56TP

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 45 mm (8.66 in. x 1.77 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	72 mm x 260 mm x 255 mm (2.83 in. x 10.24 in. x 10.04 in.)
Weight without packaging [kg(lb)]	0.740 kg (1.63 lb)
Weight with packaging [kg(lb)]	1.225 kg (2.7 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	22.3 W (excluding USB)
Maximum heat dissipation [BTU/hour]	70 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	48 V

Item	Specification
Input voltage range [V]	DC: 48–57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B
Maximum PoE output power [W]	The GE port supports PoE output, with a maximum output capability of 15.4 W and a maximum transmission distance of 40 m.
Maximum number of physical ports on the entire device	5GE (RJ45) x 1, 100M/1000M/2500M/5000M auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH (non-condensing)
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 3.0 is unavailable currently and will be supported through software upgrade in the future.
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 Radio 2 (5 GHz): 4x4

Item	Specification
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz: 802.11a/n/ac/ac Wave 2/ax/be 5 GHz: 802.11a/n/ac/ac Wave 2/ax/be
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 2 dBi (combined gain) 5 GHz-1: 5 dBi/chain (peak gain) 3 dBi (combined gain) 5 GHz-2: 5 dBi/chain (peak gain) 3 dBi (combined gain) BT: 4 dBi
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4 GHz: –10 dBm to +20 dBm/chain 5 GHz: –10 dBm to +20 dBm/chain 5 GHz: –10 dBm to +20 dBm/chain
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	1. The PoE OUT function is unavailable. 2. When the 5 W USB port is in use, the maximum transmit power of radio 0, radio 1, and radio 2 all decreases by 3 dBm.

Item	Specification
802.3af power supply description	This function is not supported currently and will be supported through software upgrade in the future.
DC power supply description	No function is limited.

4.7 AirEngine 6760-X1

4.7.1 Product Characteristics

Huawei AirEngine 6760-X1 is an indoor access point (AP) in compliance with the Wi-Fi 6 (802.11ax) standard. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It provides uplink optical and electrical ports, allowing customers to select different deployment modes and saving customers' investment. These strengths make the AP ideal for scenarios such as enterprise office and education.

- Working simultaneously on the 2.4 GHz and 5 GHz frequency bands

  By default, the dual-radio mode is supported with 4x4:4 MIMO on 2.4 GHz and 6x6:6 MIMO on 5 GHz.

  After an RTU license is loaded, more radio modes are supported.

  – Dual-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (8x8:8 MIMO)

  – Triple-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (4x4:4 MIMO) + 5 GHz (4x4:4 MIMO)

  – Dual-radio + independent scanning radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (6x6:6 MIMO)
- 1 x 10GE electrical port + 1 x GE electrical port + 1 x 10GE SFP+ optical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- Built-in IoT slots, supporting IoT expansion such as BLE 5.0, ZigBee, RFID, and Thread
- USB port for IoT expansion
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

NOTE

Independent radio scanning will be supported after the AP is upgraded to V200R020C00 or later.

4.7.2 Hardware Information (02353GSJ-001)

Overview

Table 4-31 Basic information about the AirEngine 6760-X1

Item	Details
Description	AirEngine6760-X1(11ax indoor,4+6 dual bands,smart antenna,USB,IoT Slot,BLE,Optional RTU upgrade to 4+8/4+4+4/4+6+Scan)
Part Number	02353GSJ-001
Model	AirEngine 6760-X1
First supported version	V200R021C10SPC100

NOTE

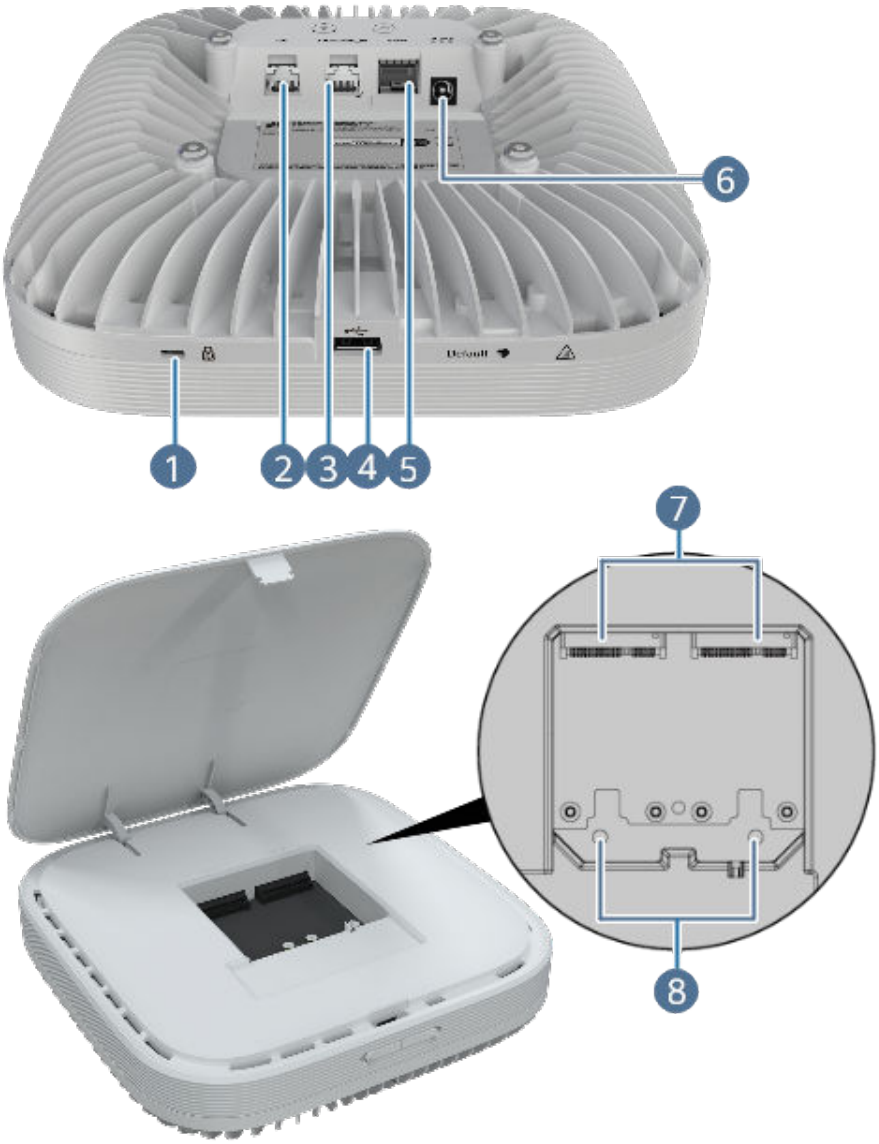
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-23 Appearance of the AirEngine 6760-X1

Ports

Figure 4-24 Ports on the AirEngine 6760-X1



1	Security slot	2	GE
3	10GE/PoE_IN	4	USB
5	SFP+	6	DC 48V

7	IoT slot	8	Built-in radio port connecting to an IoT card

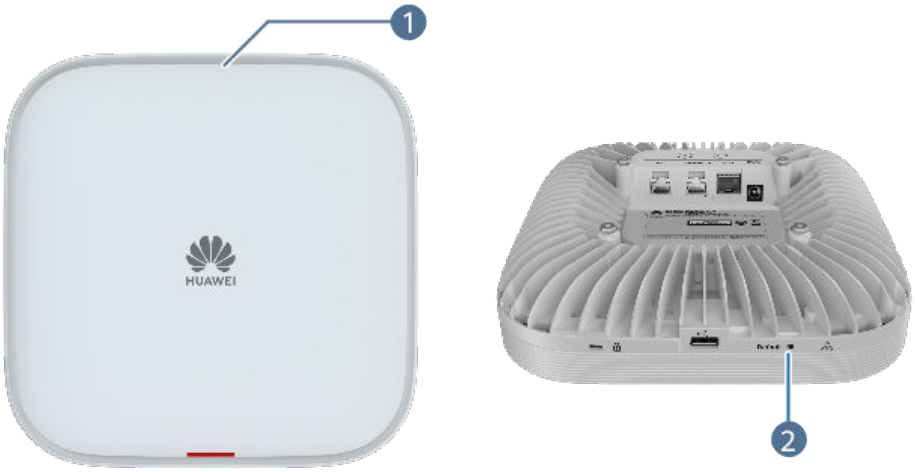
Table 4-32 Ports on the AirEngine 6760-X1

Port	Connector Type	Description	Available Components
10GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/ 2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module	Optical module
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card

Port	Connector Type	Description	Available Components
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-25 Indicators and buttons on the AirEngine 6760-X1



1	Indicator	2	Default

Table 4-33 Indicators on the AirEngine 6760-X1

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-34 Buttons on the AirEngine 6760-X1

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-35 Technical specifications of the AirEngine 6760-X1

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	61 mm x 220 mm x 220 mm (2.40 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.85 kg (4.08 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	39.9 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	136.1 (without USB or IoT card)
Power supply mode	• DC adapter • PoE

Item	Specification
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 1, 10M/100M/1000M/2.5GE/5GE/10GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing 10GE optical port (SFP+), GE/10GE auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 4x4 (low frequency band), maximum bandwidth 160 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 8x8, maximum bandwidth 160 MHz
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4.5 dBi 5 GHz: 6 dBi BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 29 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	74 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	In 802.3bt Class 8 power supply mode: • If an RTU license is loaded, no function is restricted. • If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted. In 802.3bt Class 6 power supply mode: - With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the number of spatial streams and transmit power are not affected. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. - Without an RTU license loaded: Wi-Fi: 2.4 GHz (4x4) + 5 GHz (6x6). The radio transmit power is not affected. If the USB port and IoT card slot are used, the radio working bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the radio working bandwidth may be affected. For details, contact the product manager.

Item	Specification
802.3at power supply description	With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent radio scanning mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent radio scanning If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager. Without an RTU license loaded: Wi-Fi: ● If no USB or IoT card slot is used, Wi-Fi can work only in 2.4 GHz (2x2) + 5 GHz (4x4) mode, and the radio transmit power is not affected. ● If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and

Item	Specification
	bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager.
DC power supply description	If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.

4.7.3 Hardware Information (02353GSJ)

Overview

Table 4-36 Basic information about the AirEngine 6760-X1

Item	Details
Description	AirEngine6760-X1(11ax indoor,4+6 dual bands,smart antenna,USB,IoT Slot,BLE,Optional RTU upgrade to 4+8/4+4+4/4+6+Scan)
Part Number	02353GSJ
Model	AirEngine 6760-X1
First supported version	V200R019C10

NOTE

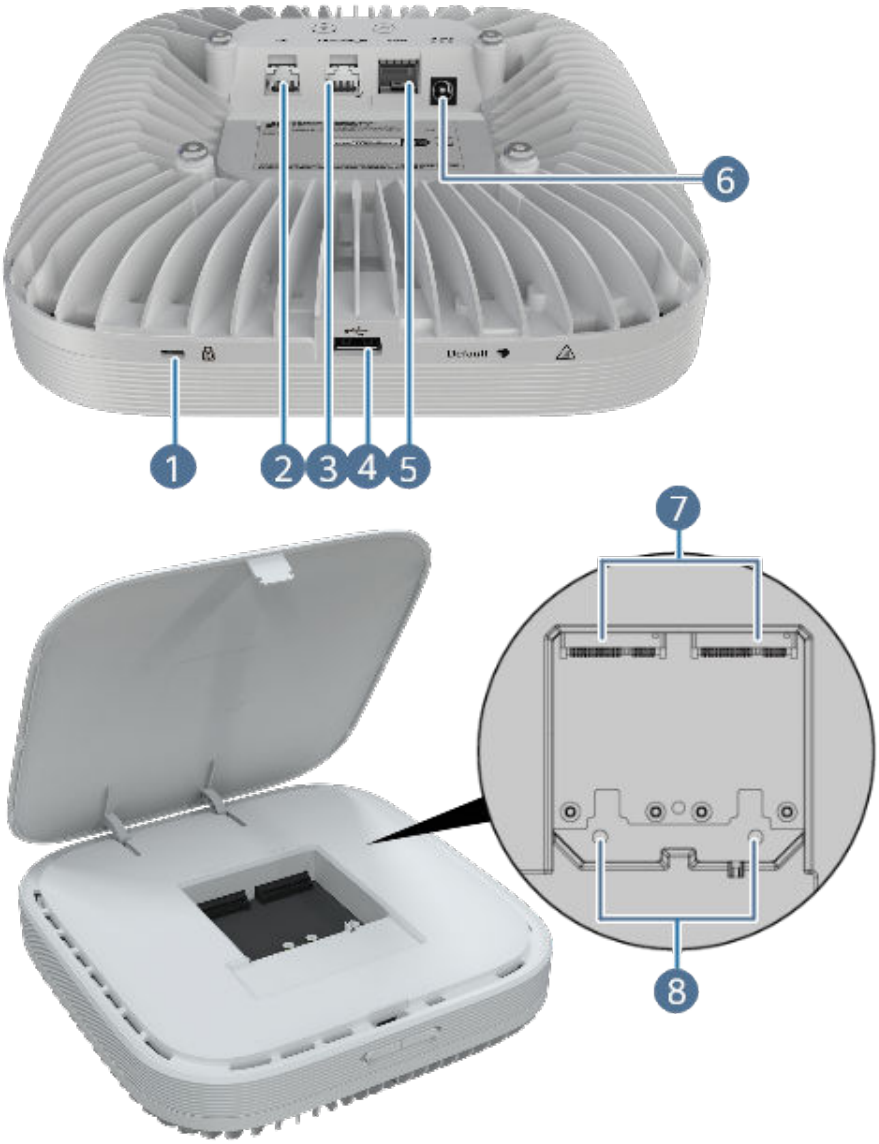
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-26 Appearance of the AirEngine 6760-X1

Ports

Figure 4-27 Ports on the AirEngine 6760-X1



1	Security slot	2	GE
3	10GE/PoE_IN	4	USB
5	SFP+	6	DC 48V

7	IoT slot	8	Built-in radio port connecting to an IoT card

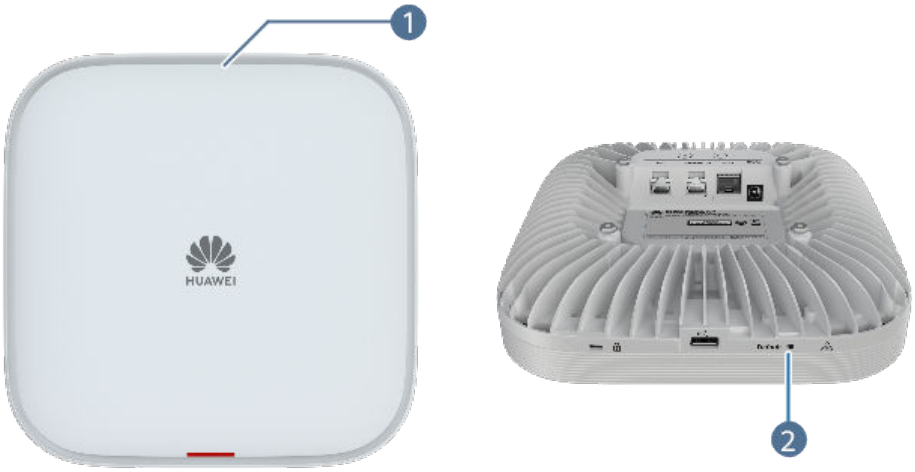
Table 4-37 Ports on the AirEngine 6760-X1

Port	Connector Type	Description	Available Components
10GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/ 2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module	Optical module
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card

Port	Connector Type	Description	Available Components
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-28 Indicators and buttons on the AirEngine 6760-X1



1	Indicator	2	Default

Table 4-38 Indicators on the AirEngine 6760-X1

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-39 Buttons on the AirEngine 6760-X1

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-40 Technical specifications of the AirEngine 6760-X1

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	61 mm x 220 mm x 220 mm (2.40 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.85 kg (4.08 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	39.9 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	136.1 (without USB or IoT card)
Power supply mode	• DC adapter • PoE

Item	Specification
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 1, 10M/100M/1000M/2.5GE/5GE/10GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing 10GE optical port (SFP+), GE/10GE auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 4x4 (low frequency band), maximum bandwidth 160 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 8x8, maximum bandwidth 160 MHz
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4.5 dBi 5 GHz: 6 dBi BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 29 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	74 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	In 802.3bt Class 8 power supply mode: • If an RTU license is loaded, no function is restricted. • If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted. In 802.3bt Class 6 power supply mode: - With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the number of spatial streams and transmit power are not affected. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. - Without an RTU license loaded: Wi-Fi: 2.4 GHz (4x4) + 5 GHz (6x6). The radio transmit power is not affected. If the USB port and IoT card slot are used, the radio working bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the radio working bandwidth may be affected. For details, contact the product manager.

Item	Specification
802.3at power supply description	With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent radio scanning mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent radio scanning If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager. Without an RTU license loaded: Wi-Fi: ● If no USB or IoT card slot is used, Wi-Fi can work only in 2.4 GHz (2x2) + 5 GHz (4x4) mode, and the radio transmit power is not affected. ● If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and

Item	Specification
	bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager.
DC power supply description	If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.

4.8 AirEngine 6760-X1E

4.8.1 Product Characteristics

Huawei AirEngine 6760-X1E is an indoor access point (AP) in compliance with the Wi-Fi 6 (802.11ax) standard. It provides uplink optical and electrical ports, allowing customers to select different deployment modes and saving customers' investment. These strengths make the AP ideal for scenarios such as enterprise office and education.

- Working simultaneously on the 2.4 GHz and 5 GHz frequency bands

  By default, the dual-radio mode is supported with 4x4:4 MIMO on 2.4 GHz and 6x6:6 MIMO on 5 GHz.

  After an RTU license is loaded, more radio modes are supported.

  – Dual-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (8x8:8 MIMO)

  – Triple-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (4x4:4 MIMO) + 5 GHz (4x4:4 MIMO)

  - Dual-radio + independent scanning radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (6x6:6 MIMO)
- 1 x 10GE electrical port + 1 x GE electrical port + 1 x 10GE SFP+ optical port
- Different external antennas based on application scenarios to enhance coverage
- Built-in IoT slots, supporting IoT expansion such as BLE 5.0, ZigBee, RFID, and Thread
- USB port for IoT expansion
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

NOTE

Independent radio scanning will be supported after the AP is upgraded to V200R020C00 or later.

4.8.2 Hardware Information (02353GSK-001)

Overview

Table 4-41 Basic information about the AirEngine 6760-X1E

Item	Details
Description	AirEngine6760-X1E(11ax indoor,4+6 dual bands,external antenna,USB,IoT Slot,BLE,Optional RTU upgrade to 4+8/4+4+4/4+6+Scan)
Part Number	02353GSK-001
Model	AirEngine 6760-X1E
First supported version	V200R021C10SPC100

NOTE

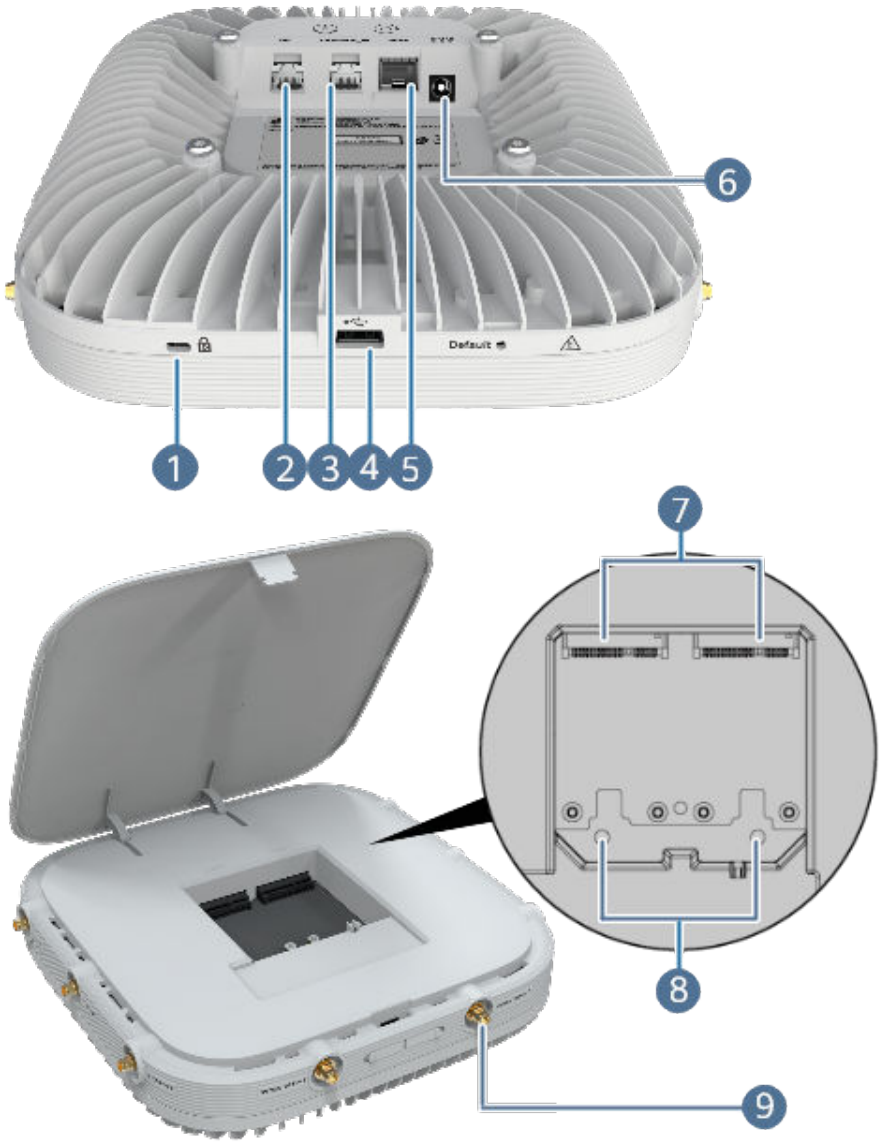
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-29 Appearance of the AirEngine 6760-X1E

Ports

Figure 4-30 Ports on the AirEngine 6760-X1E



1	Security slot	2	GE
3	10GE/PoE_IN	4	USB
5	SFP+	6	DC 48V

7	IoT slot	8	Built-in antenna port connecting to an IoT card
9	External antenna port	-	-

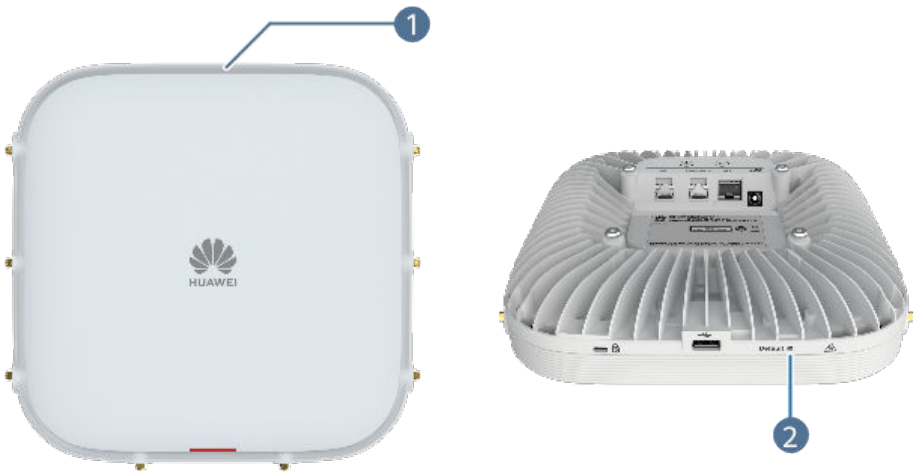
Table 4-42 Ports on the AirEngine 6760-X1E

Port	Connector Type	Description	Available Components
10GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/ 2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module	Optical module
Antenna port	RP-SMA-K (outside threads, inner pin)	Connects to an external antenna for transmitting and receiving service signals, and supports dual-band (2.4 GHz + 5 GHz) antennas.	Antenna
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter

Port	Connector Type	Description	Available Components
IoT slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-31 Indicators and buttons on the AirEngine 6760-X1E



1	Indicator	2	Default

Table 4-43 Indicators on the AirEngine 6760-X1E

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-44 Buttons on the AirEngine 6760-X1E

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-45 Technical specifications of the AirEngine 6760-X1E

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	61 mm x 220 mm x 220 mm (2.40 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.85 kg (4.08 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	39.9 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	136.1 (without USB or IoT card)
Power supply mode	• DC adapter • PoE

Item	Specification
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 1, 10M/100M/1000M/ 2.5GE/5GE/10GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing 10GE optical port (SFP+), GE/10GE auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 4x4 (low frequency band), maximum bandwidth 160 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 8x8, maximum bandwidth 160 MHz
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	External antenna
Antenna gain	BLE:4dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 29 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	74 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	In 802.3bt Class 8 power supply mode: • If an RTU license is loaded, no function is restricted. • If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted. In 802.3bt Class 6 power supply mode: - With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the number of spatial streams and transmit power are not affected. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. - Without an RTU license loaded: Wi-Fi: 2.4 GHz (4x4) + 5 GHz (6x6). The radio transmit power is not affected. If the USB port and IoT card slot are used, the radio working bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the radio working bandwidth may be affected. For details, contact the product manager.

Item	Specification
802.3at power supply description	With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent radio scanning mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent radio scanning If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager. Without an RTU license loaded: Wi-Fi: ● If no USB or IoT card slot is used, Wi-Fi can work only in 2.4 GHz (2x2) + 5 GHz (4x4) mode, and the radio transmit power is not affected. ● If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and

Item	Specification
	bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager.
DC power supply description	If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.

4.8.3 Hardware Information (02353GSK)

Overview

Table 4-46 Basic information about the AirEngine 6760-X1E

Item	Details
Description	AirEngine6760-X1E(11ax indoor,4+6 dual bands,external antenna,USB,IoT Slot,BLE,Optional RTU upgrade to 4+8/4+4+4/4+6+Scan)
Part Number	02353GSK
Model	AirEngine 6760-X1E
First supported version	V200R019C10

NOTE

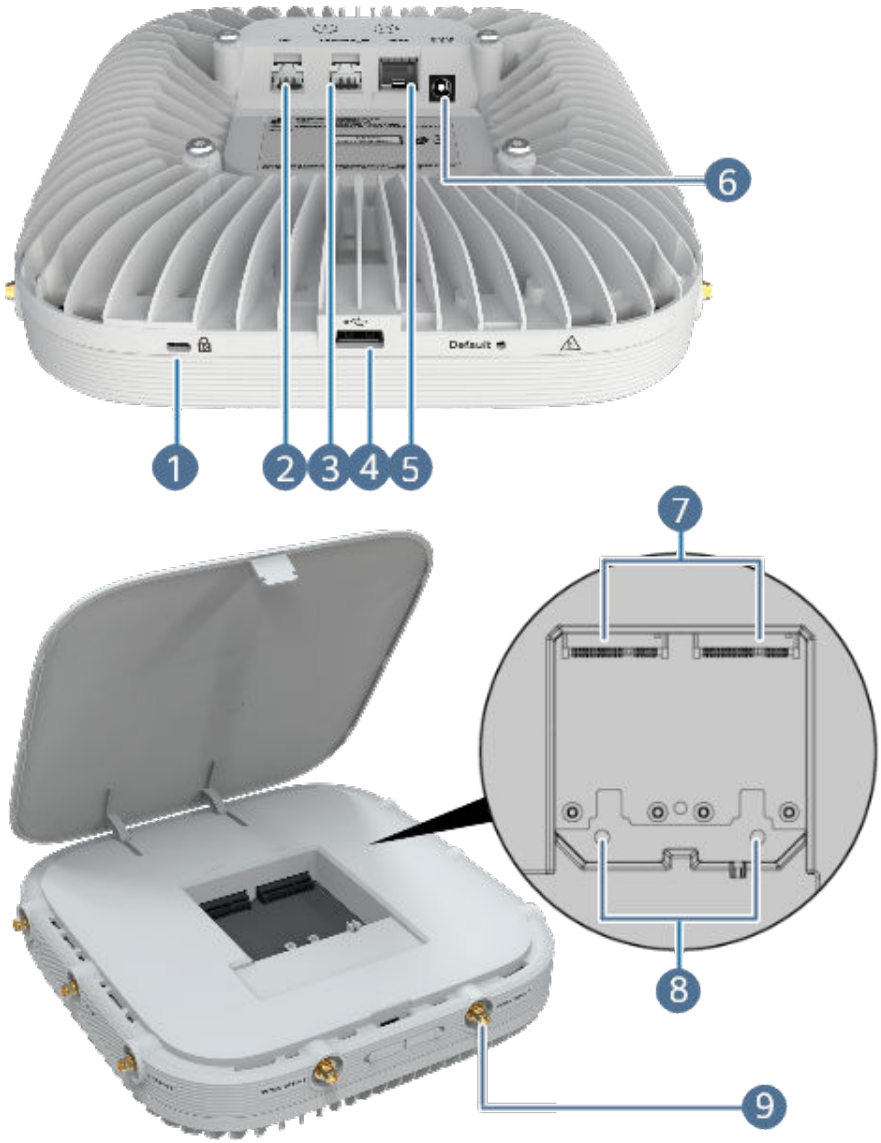
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-32 Appearance of the AirEngine 6760-X1E

Ports

Figure 4-33 Ports on the AirEngine 6760-X1E



1	Security slot	2	GE
3	10GE/PoE_IN	4	USB
5	SFP+	6	DC 48V

7	IoT slot	8	Built-in antenna port connecting to an IoT card
9	External antenna port	-	-

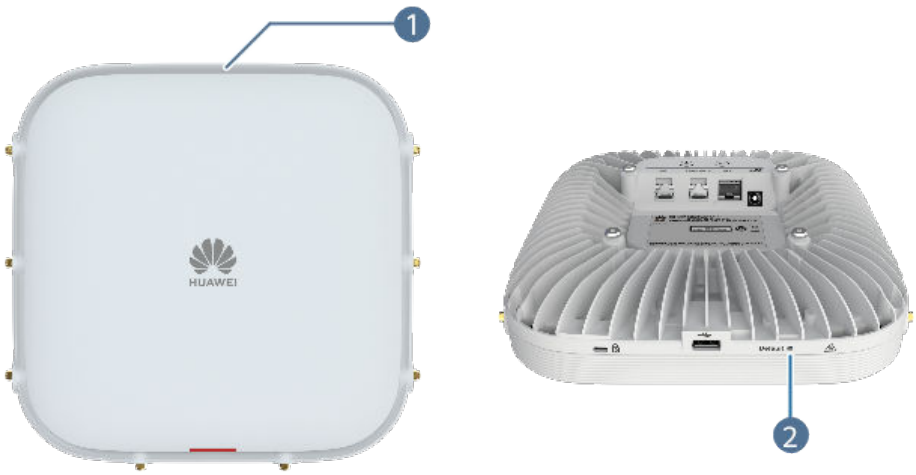
Table 4-47 Ports on the AirEngine 6760-X1E

Port	Connector Type	Description	Available Components
10GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G/10G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module	Optical module
Antenna port	RP-SMA-K (outside threads, inner pin)	Connects to an external antenna for transmitting and receiving service signals, and supports dual-band (2.4 GHz + 5 GHz) antennas.	Antenna
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter

Port	Connector Type	Description	Available Components
IoT slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-34 Indicators and buttons on the AirEngine 6760-X1E



1	Indicator	2	Default

Table 4-48 Indicators on the AirEngine 6760-X1E

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-49 Buttons on the AirEngine 6760-X1E

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-50 Technical specifications of the AirEngine 6760-X1E

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	61 mm x 220 mm x 220 mm (2.40 in. x 8.66 in. x 8.66 in.)
Weight without packaging [kg(lb)]	1.85 kg (4.08 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	39.9 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	136.1 (without USB or IoT card)
Power supply mode	• DC adapter • PoE

Item	Specification
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	10GE (RJ45) x 1, 10M/100M/1000M/2.5GE/5GE/10GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing 10GE optical port (SFP+), GE/10GE auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 4x4 (low frequency band), maximum bandwidth 160 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 8x8, maximum bandwidth 160 MHz
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	External antenna
Antenna gain	BLE:4dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 29 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	74 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	In 802.3bt Class 8 power supply mode: • If an RTU license is loaded, no function is restricted. • If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted. In 802.3bt Class 6 power supply mode: - With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the number of spatial streams and transmit power are not affected. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. - Without an RTU license loaded: Wi-Fi: 2.4 GHz (4x4) + 5 GHz (6x6). The radio transmit power is not affected. If the USB port and IoT card slot are used, the radio working bandwidth may be affected. For details, contact the product manager. Wired network port: not restricted Other ports: The USB port and IoT card slot are available. If they are used, the radio working bandwidth may be affected. For details, contact the product manager.

Item	Specification
802.3at power supply description	With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) ● Dual-radio + independent radio scanning mode: 2.4 GHz (2x2) + 5 GHz (2x2) + 5 GHz independent radio scanning If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager. Without an RTU license loaded: Wi-Fi: ● If no USB or IoT card slot is used, Wi-Fi can work only in 2.4 GHz (2x2) + 5 GHz (4x4) mode, and the radio transmit power is not affected. ● If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and

Item	Specification
	bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 10GE electrical port is reduced to GE or lower. The 10GE electrical port and SFP+ optical port are combo ports, and only one of them is available at the same time. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 2.5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in 2.4 GHz (2x2) + 5 GHz (2x2) mode. For details, contact the product manager.
DC power supply description	If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.

4.9 AirEngine 6761-21E

4.9.1 Product Characteristics

Huawei AirEngine 6761-21E is an indoor Wi-Fi 6 (802.11ax) access point (AP). It provides uplink 10GE optical and 2.5GE electrical ports, facilitating flexible deployment and saving the customer investment. These strengths make the AP ideal for densely populated scenarios such as mobile office, education, and stadiums.

- Working simultaneously on the 2.4 GHz (4x4) + 5 GHz (4x4) frequency bands
- 1 x 2.5GE electrical port + 1 x 10GE optical port (optical/electrical port, supporting hybrid cables)
- Independent scanning radio for scanning the air interface without affecting service performance, thereby achieving real-time monitoring and optimization for WLAN network quality

- Different external antennas based on application scenarios to enhance coverage
- USB port for IoT expansion
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.9.2 Hardware Information

Overview

Table 4-51 Basic information about the AirEngine 6761-21E

Item	Details
Description	AirEngine6761-21E(11ax indoor,4+4 dual bands,smart antenna,USB,BLE,Scan)
Part Number	02353VUY
Model	AirEngine 6761-21E
First supported version	V200R021C00

NOTE

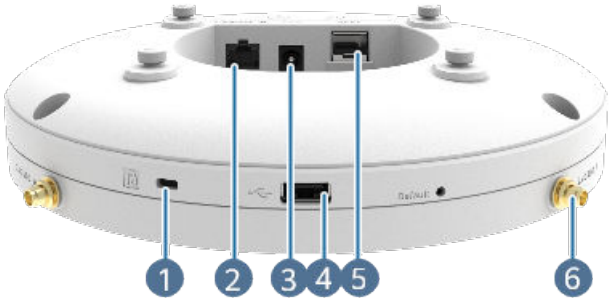
When an AirEngine 6761-21E is used as the extranet AP or backup AP in the zero-roaming distributed Wi-Fi solution, ensure that the AP software version is V200R023C00 or later.

Appearance

Figure 4-35 Appearance of the AirEngine 6761-21E

Ports

Figure 4-36 Ports on the AirEngine 6761-21E



1	Security slot	2	2.5GE/PoE_IN
3	DC 48V	4	USB

5	SFP+	6	Antenna port

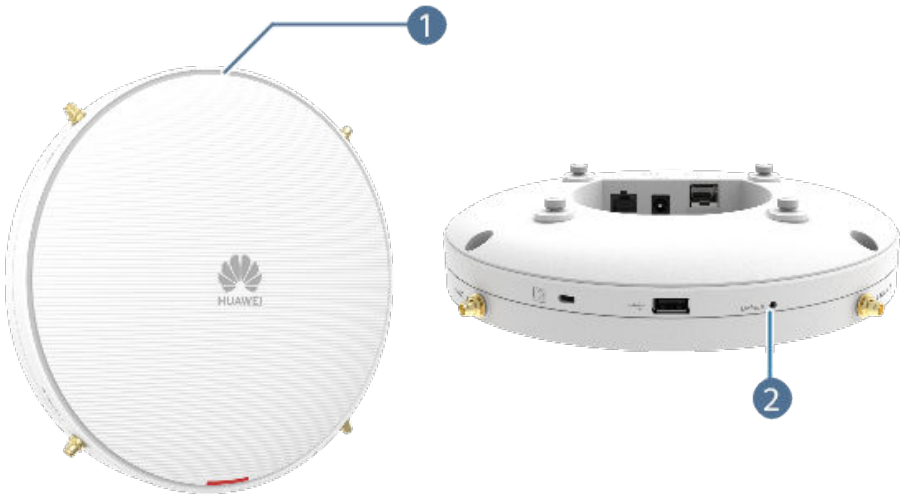
Table 4-52 Ports on the AirEngine 6761-21E

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module. It supports PoE input. When a PSE supplies power to the AP through this port, the matching hybrid cable and hybrid module must be used.	Optical module
Antenna port	RP-SMA-K (outside threads, inner pin)	Connects to an external antenna for transmitting and receiving service signals, and supports dual-band (2.4 GHz + 5 GHz) antennas.	Antenna
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V DC power adapter

Port	Connector Type	Description	Available Components
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-37 Indicators and buttons on the AirEngine 6761-21E



1	Indicator	2	Default

Table 4-53 Indicators on the AirEngine 6761-21E

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-54 Buttons on the AirEngine 6761-21E

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-55 Technical specifications of the AirEngine 6761-21E

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 53 mm (8.66 in. x 2.09 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	93 mm x 284 mm x 251 mm (3.66 in. x 11.18 in. x 9.88 in.)
Weight without packaging [kg(lb)]	1.14 kg (2.51 lb)
Weight with packaging [kg(lb)]	1.74 kg(lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	22.6 (excluding USB)
Maximum heat dissipation [BTU/hour]	77.1 (without USB)

Item	Specification
Power supply mode	• DC adapter • PoE
Input voltage range [V]	DC: 42.5 V to 57 V PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Relationship between PoE and system power modules [W]	No priorities are distinguisehd for the following power supply modes: DC power supply, PoE power supply over an Ethernet cable, and PoE power supply over a hybrid cable, which do not support hot backup. Either of the electrical port or the SFP+ hybrid port can be used for PoE input, but not both.
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 10M/100M/1000M/2.5GE auto-sensing 10GE (SFP+) x 1, 1000M/10GE auto-sensing Either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are used, the optical port is preferentially for communication.
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0

Item	Specification
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 4x4 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	SMA, connecting to external antennas
Antenna gain	BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 26 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	94 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	Wi-Fi: • If the USB port is not used or the USB port works at the 2.5 W output power, there is no restriction. • If the USB port works at the 5 W output power, the number of MIMO spatial streams on the 2.4 GHz radio decreases to 2x2. Wired network port: Either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication.

Item	Specification
802.3af power supply description	Wi-Fi: The number of MIMO spatial streams decreases to 2x2 on the 2.4 GHz frequency band, the maximum combined power is 23 dBm, and the 5 GHz frequency band is unavailable. Wired network port: ● In V200R021C00, the rate of the 2.5GE electrical port is reduced to GE and the SFP+ optical port is unavailable. ● In V200R021C10 and later versions, either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication. Other ports: The USB port is unavailable.
DC power supply description	Either the 2.5GE electrical port or SFP+ optical port can be used for data communication. If both ports are connected, the optical port is preferentially used for communication.

4.10 AirEngine 6761-22T

4.10.1 Product Characteristics

Huawei AirEngine 6761-22T is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on three frequency bands: 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO), and 6 GHz (4x4 MIMO). The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for scenarios such as mobile office, education, stadiums, and manufacturing.

- 1 x 2.5GE electrical port + 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)

- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.10.2 Hardware Information

Overview

Table 4-56 Basic information about the AirEngine 6761-22T

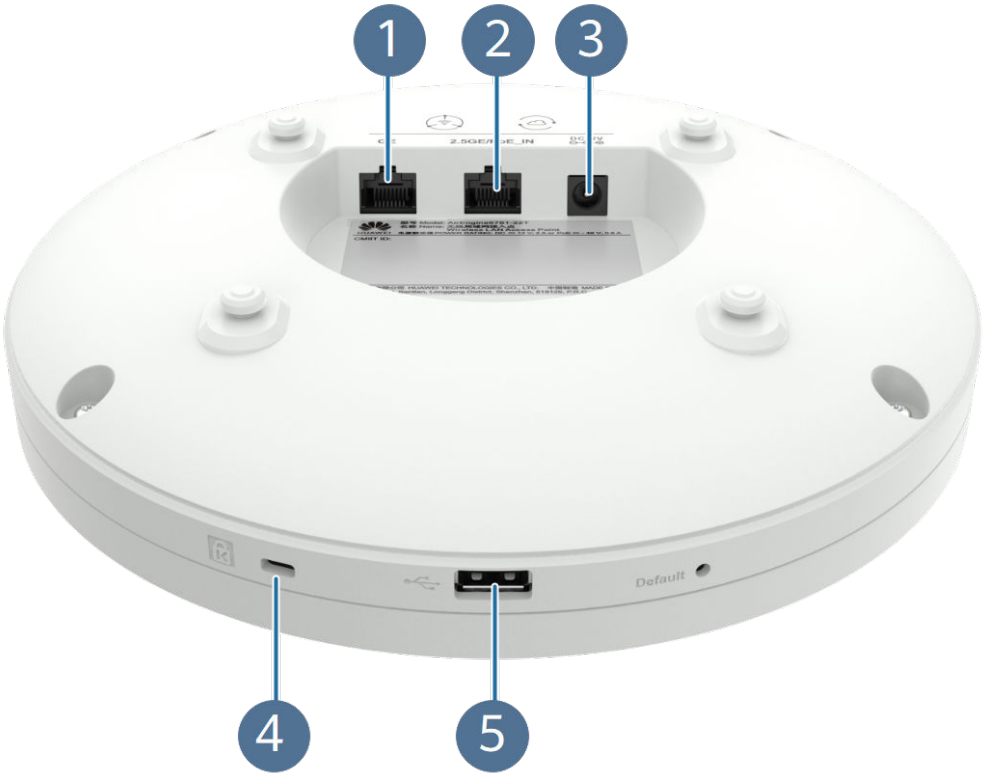
Item	Details
Description	AirEngine6761-22T(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)
Part Number	02354KPU
Model	AirEngine 6761-22T
First supported version	V200R021C10

Appearance

Figure 4-38 Appearance of the AirEngine 6761-22T

Ports

Figure 4-39 Ports on the AirEngine 6761-22T



1	GE	2	2.5GE/PoE_IN
3	DC 12V	4	Security slot
5	USB	-	-

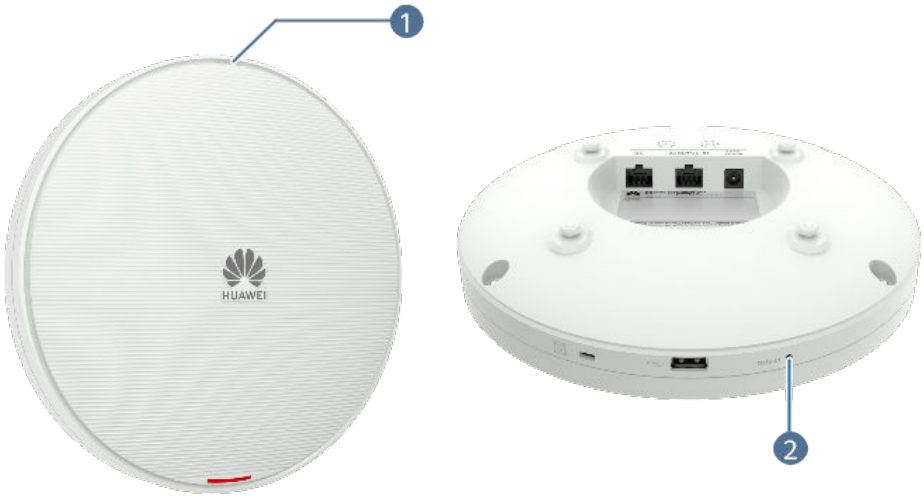
Table 4-57 Ports on the AirEngine 6761-22T

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable

Port	Connector Type	Description	Available Components
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-40 Indicators and buttons on the AirEngine 6761-22T



1	Indicator	2	Default

Table 4-58 Indicators on the AirEngine 6761-22T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-59 Buttons on the AirEngine 6761-22T

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-60 Technical specifications of the AirEngine 6761-22T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	93 mm x 284 mm x 251 mm (3.66 in. x 11.18 in. x 9.88 in.)
Weight without packaging [kg(lb)]	1.07 kg (2.36 lb)
Weight with packaging [kg(lb)]	1.53 kg (3.37 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	24.2 (without USB), supporting 802.3at/af power supply

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2500M auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz • 6GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 Radio 2 (6 GHz): 4x4

Item	Specification
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax 6G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi/chain (peak) 2 dBi (combined gain) 5 GHz: 5 dBi/chain (peak) 3 dBi (combined gain) 6 GHz: 5 dBi/chain (peak) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 6 GHz (4x4): 19 dBm/chain 25 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to +20 dBm/chain 5G: -10 dBm to +20 dBm/chain 6G: -10 dBm to +19 dBm/chain
MTBF [year]	117 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	In 802.3bt power supply mode, the AP still negotiates the power supply standard to 802.3at. The function constraints are the same as those in 802.3at power supply.

Item	Specification
802.3at power supply description	When the USB port is not used, no function is restricted. When the 2.5 W USB port is used: ● Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2) + 6 GHz (4x4). The maximum combined power is adjusted to 21 dBm (2.4 GHz), 21 dBm (5 GHz), and 23 dBm (6 GHz). ● Wired network port: not restricted. When the 5 W USB port is used: ● Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2) + 6 GHz (2x2). The maximum combined power is adjusted to 21 dBm (2.4 GHz), 21 dBm (5 GHz), and 20 dBm (6 GHz). ● Wired network port: not restricted.
802.3af power supply description	Wi-Fi: 2.4 GHz (1x1) + 5 GHz (1x1) + 6 GHz (1x1). The maximum combined power is adjusted to 18 dBm (2.4 GHz), 18 dBm (5 GHz), and 17 dBm (6 GHz). Wired network port: The speed of the 2.5GE/PoE_IN electrical port is reduced to GE, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	When the USB port is not used, no function is restricted. When the 2.5 W USB port is used: ● Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2) + 6 GHz (4x4). The maximum combined power is adjusted to 21 dBm (2.4 GHz), 21 dBm (5 GHz), and 23 dBm (6 GHz). ● Wired network port: not restricted. When the 5 W USB port is used: ● Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2) + 6 GHz (2x2). The maximum combined power is adjusted to 21 dBm (2.4 GHz), 21 dBm (5 GHz), and 20 dBm (6 GHz). ● Wired network port: not restricted.

4.11 AirEngine 6761-21T

4.11.1 Product Characteristics

Huawei AirEngine 6761-21T is a wireless access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on three frequency bands: 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO), and 5 GHz (4x4 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for densely populated scenarios such as mobile office, education, and stadiums.

- 02354VQH: 1 x 2.5GE electrical port + 1 x GE electrical port; 02353XBQ: 2 x GE electrical ports
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.11.2 Hardware Information (02354VQH)

Overview

Table 4-61 Basic information about the AirEngine 6761-21T

Item	Details
Description	AirEngine6761-21T(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)
Part Number	02354VQH
Model	AirEngine 6761-21T
First supported version	V200R021C10SPC100

NOTE

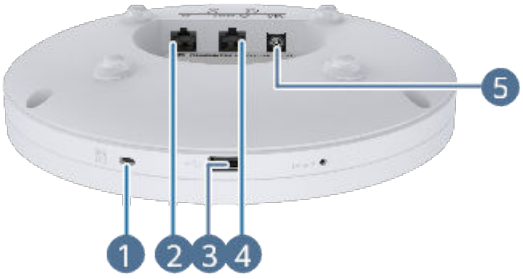
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-41 Appearance of the AirEngine 6761-21T

Ports

Figure 4-42 Ports on the AirEngine 6761-21T



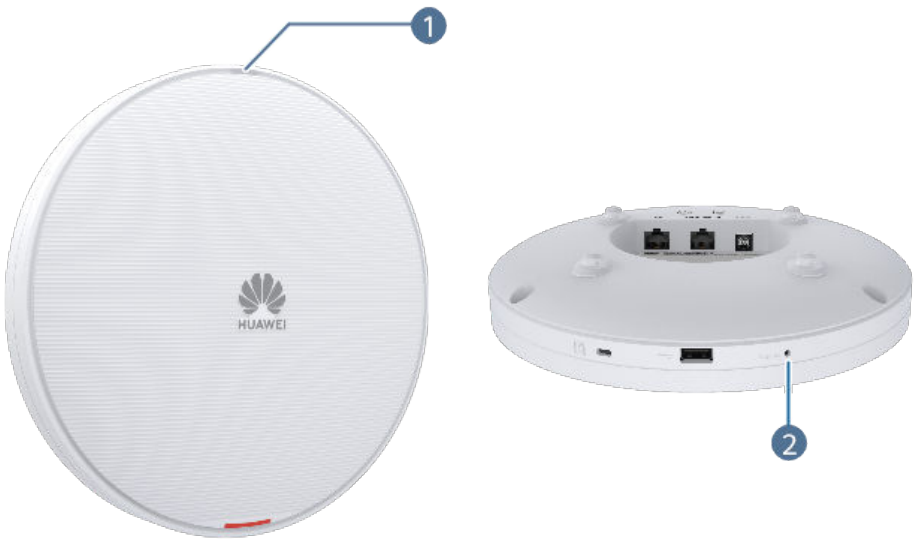
1	Security slot	2	GE
3	USB	4	2.5GE/PoE_IN
5	DC 12V	-	-

Table 4-62 Ports on the AirEngine 6761-21T

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-43 Indicators and buttons on the AirEngine 6761-21T



1	Indicator	2	Default

Table 4-63 Indicators on the AirEngine 6761-21T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-64 Buttons on the AirEngine 6761-21T

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-65 Technical specifications of the AirEngine 6761-21T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.08 kg (2.38 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.2 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5G auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 (high frequency band) Radio 2 (5 GHz): 4x4 (low frequency band)
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	96 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (1x1, high band) + 5 GHz (1x1, low band). The maximum combined power is adjusted to 21 dBm (2.4 GHz radio) and 18 dBm (5 GHz radio). Wired network port: The 2.5GE/PoE_IN electrical port is used as a GE port, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.11.3 Hardware Information (02353XBQ)

Overview

Table 4-66 Basic information about the AirEngine 6761-21T

Item	Details
Description	AirEngine6761-21T(11ax indoor,2+2+4 Three bands,smart antenna,USB,BLE)
Part Number	02353XBQ
Model	AirEngine 6761-21T
First supported version	V200R020C10

NOTE

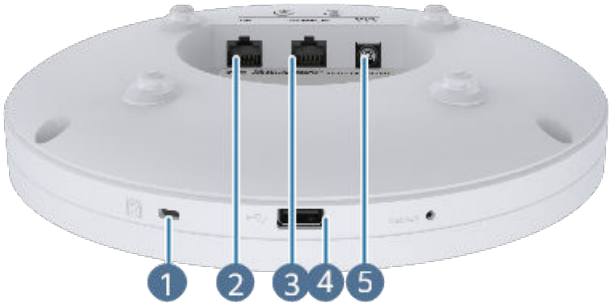
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-44 Appearance of the AirEngine 6761-21T

Ports

Figure 4-45 Ports on the AirEngine 6761-21T



1	Security slot	2	GE
3	GE/PoE_IN	4	USB
5	DC 12V	-	-

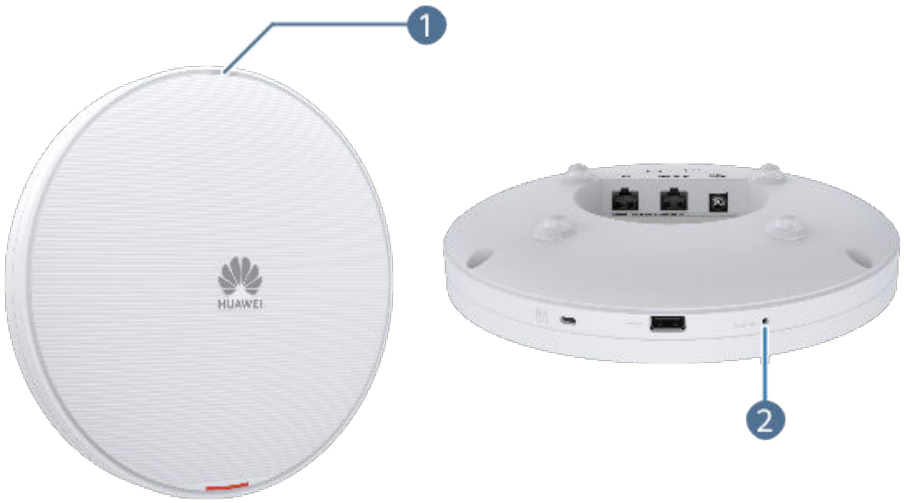
Table 4-67 Ports on the AirEngine 6761-21T

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Port	Connector Type	Description	Available Components
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-46 Indicators and buttons on the AirEngine 6761-21T



1	Indicator	2	Default

Table 4-68 Indicators on the AirEngine 6761-21T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-69 Buttons on the AirEngine 6761-21T

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-70 Technical specifications of the AirEngine 6761-21T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.08 kg (2.38 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.2 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 2, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 (high frequency band) Radio 2 (5 GHz): 4x4 (low frequency band)
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	96 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (1x1, high band) + 5 GHz (1x1, low band). The maximum combined power is adjusted to 21 dBm (2.4 GHz radio) and 18 dBm (5 GHz radio). Wired network port: The GE/PoE_IN electrical port is available, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.12 AirEngine 6761-21

4.12.1 Product Characteristics

Huawei AirEngine 6761-21 is an indoor access point (AP) in compliance with the Wi-Fi 6 (802.11ax) standard. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It provides uplink 10GE optical and 2.5GE electrical ports, facilitating flexible deployment and saving the customer investment. These strengths make the AP ideal for densely populated scenarios such as mobile office, education, and stadiums.

- Working simultaneously on the 2.4 GHz (4x4) + 5 GHz (4x4) frequency bands
- 1 x 2.5GE electrical port + 1 x 10GE optical port (optical/electrical port, supporting hybrid cables)
- Independent scanning radio for scanning the air interface without affecting service performance, thereby achieving real-time monitoring and optimization for WLAN network quality
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.12.2 Hardware Information

Overview

Table 4-71 Basic information about the AirEngine 6761-21

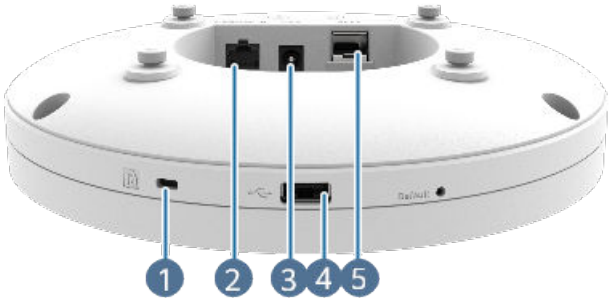
Item	Details
Description	AirEngine6761-21(11ax indoor,4+4 dual bands,smart antenna,USB,BLE,Scan)
Part Number	02353VUX
Model	AirEngine 6761-21
First supported version	V200R021C00

Appearance

Figure 4-47 Appearance of the AirEngine 6761-21

Ports

Figure 4-48 Ports on the AirEngine 6761-21



1	Security slot	2	2.5GE/PoE_IN
3	DC 48V	4	USB

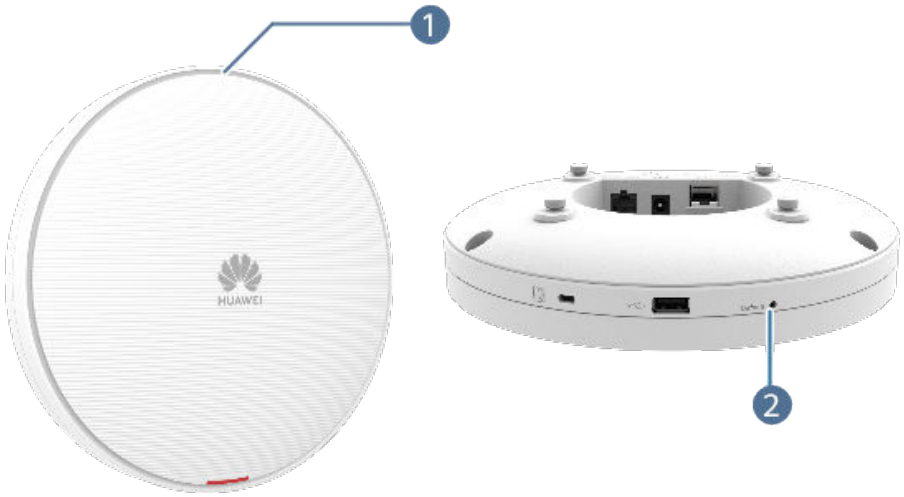
5	SFP+	-	-

Table 4-72 Ports on the AirEngine 6761-21

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module. It supports PoE input. When a PSE supplies power to the AP through this port, the matching hybrid cable and hybrid module must be used.	Optical module
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-49 Indicators and buttons on the AirEngine 6761-21



1	Indicator	2	Default

Table 4-73 Indicators on the AirEngine 6761-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts to boot, the indicator blinks white once. Then, the indicator is steady white until the system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-74 Buttons on the AirEngine 6761-21

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-75 Technical specifications of the AirEngine 6761-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 53 mm (8.66 in. x 2.09 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	93 mm x 284 mm x 251 mm (3.66 in. x 11.18 in. x 9.88 in.)
Weight without packaging [kg(lb)]	1.22 kg (2.69 lb)
Weight with packaging [kg(lb)]	1.76 kg (3.88 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	22.6 (excluding USB)
Maximum heat dissipation [BTU/hour]	77.1 (without USB)

Item	Specification
Power supply mode	• DC adapter • PoE
Input voltage range [V]	DC: 42.5 V to 57 V PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Relationship between PoE and system power modules [W]	No priorities are distinguisehd for the following power supply modes: DC power supply, PoE power supply over an Ethernet cable, and PoE power supply over a hybrid cable, which do not support hot backup. Either of the electrical port or the SFP+ hybrid port can be used for PoE input, but not both.
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5GE auto-sensing 10GE (SFP+) x 1, 1000M/10GE auto-sensing Either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication.
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground

Item	Specification
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 4x4 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in Dynamic-Zoom Smart Antennas
Antenna gain	2.4G: 4.5 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5.5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Beamwidth of the built-in antenna [degrees]	• Common indoor coverage scenario: omnidirectional coverage • Indoor high-density coverage scenario: lobe angle of 120°
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 26 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	69.7 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3at power supply description	Wi-Fi: • If the USB port is not used or the USB port works at the 2.5 W output power, there is no restriction. • If the USB port works at the 5 W output power, the number of MIMO spatial streams on the 2.4 GHz radio decreases to 2x2. Wired network port: Either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication.
802.3af power supply description	Wi-Fi: The number of MIMO spatial streams decreases to 2x2 on the 2.4 GHz frequency band, the maximum combined power is 23 dBm, and the 5 GHz frequency band is unavailable. Wired network port: • In V200R021C00, the rate of the 2.5GE electrical port is reduced to GE and the SFP+ optical port is unavailable. • In V200R021C10 and later versions, either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication. Other ports: The USB port is unavailable.
DC power supply description	Either the 2.5GE electrical port or SFP+ optical port can be used for data communication. If both ports are connected, the optical port is preferentially used for communication.

4.13 AirEngine 6761S-21

4.13.1 Product Characteristics

Huawei AirEngine 6761S-21 is an indoor access point (AP) in compliance with the Wi-Fi 6 (802.11ax) standard. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It provides uplink 10GE optical and 2.5GE electrical ports, facilitating flexible deployment and saving the customer investment. These strengths make the AP ideal for densely populated scenarios such as mobile office, education, and stadiums.

- Working simultaneously on the 2.4 GHz (4x4) + 5 GHz (4x4) frequency bands
- 1 x 2.5GE electrical port + 1 x 10GE optical port
- Independent scanning radio for scanning the air interface without affecting service performance, thereby achieving real-time monitoring and optimization for WLAN network quality
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.13.2 Hardware Information

Overview

Table 4-76 Basic information about the AirEngine 6761S-21

Item	Details
Description	AirEngine6761S-21(11ax indoor,4+4 dual bands,smart antenna,USB,BLE,Scan)
Part Number	02354JQH
Model	AirEngine 6761S-21
First supported version	V200R021C00

Appearance

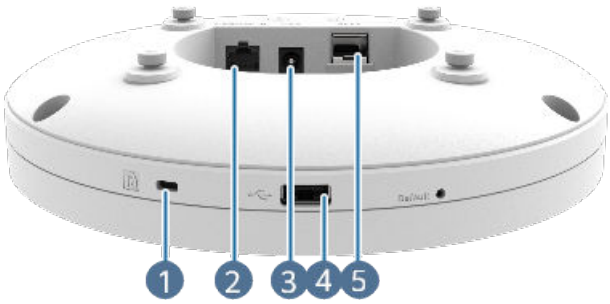
Figure 4-50 Appearance of the AirEngine 6761S-21

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-51 Ports on the AirEngine 6761S-21



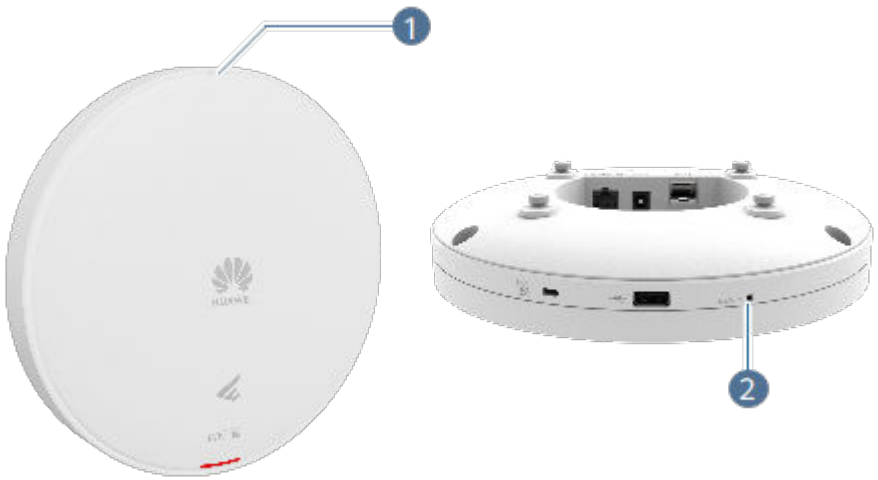
1	Security slot	2	2.5GE/PoE_IN
3	DC 48V	4	USB
5	SFP+	-	-

Table 4-77 Ports on the AirEngine 6761S-21

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
SFP+	SFP+	Ethernet optical port, supporting 1 Gbit/s or 10 Gbit/s auto-sensing and working with a matching optical module. It supports PoE input. When a PSE supplies power to the AP through this port, the matching hybrid cable and hybrid module must be used.	Optical module
DC 48V	DC connector	DC power port, used to connect to a 48 V power adapter.	48 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-52 Indicators and buttons on the AirEngine 6761S-21



1	Indicator	2	Default

Table 4-78 Indicators on the AirEngine 6761S-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-79 Buttons on the AirEngine 6761S-21

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-80 Technical specifications of the AirEngine 6761S-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 53 mm (8.66 in. x 2.09 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	93 mm x 284 mm x 251 mm (3.66 in. x 11.18 in. x 9.88 in.)
Weight without packaging [kg(lb)]	1.22 kg (2.69 lb)
Weight with packaging [kg(lb)]	1.76 kg (3.88 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	22.6 (excluding USB)
Maximum heat dissipation [BTU/hour]	77.1 (without USB)

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 42.5 V to 57 V PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Relationship between PoE and system power modules [W]	No priorities are distinguisehd for the following power supply modes: DC power supply, PoE power supply over an Ethernet cable, and PoE power supply over a hybrid cable, which do not support hot backup. Either of the electrical port or the SFP+ hybrid port can be used for PoE input, but not both.
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5GE auto-sensing 10GE (SFP+) x 1, 1000M/10GE auto-sensing Either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication.
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3

Item	Specification
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 4x4 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in Dynamic-Zoom Smart Antennas
Antenna gain	2.4G: 4.5 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5.5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Beamwidth of the built-in antenna [degrees]	• Common indoor coverage scenario: omnidirectional coverage • Indoor high-density coverage scenario: lobe angle of 120°
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 26 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	69.7 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3at power supply description	Wi-Fi: • If the USB port is not used or the USB port works at the 2.5 W output power, there is no restriction. • If the USB port works at the 5 W output power, the number of MIMO spatial streams on the 2.4 GHz radio decreases to 2x2. Wired network port: Either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication.
802.3af power supply description	Wi-Fi: The number of MIMO spatial streams decreases to 2x2 on the 2.4 GHz frequency band, the maximum combined power is 23 dBm, and the 5 GHz frequency band is unavailable. Wired network port: • In V200R021C00, the rate of the 2.5GE electrical port is reduced to GE and the SFP+ optical port is unavailable. • In V200R021C10 and later versions, either the 2.5GE electrical port or SFP+ optical port can be used for data communication at the same time. If both ports are connected, the optical port is preferentially used for communication. Other ports: The USB port is unavailable.
DC power supply description	Either the 2.5GE electrical port or SFP+ optical port can be used for data communication. If both ports are connected, the optical port is preferentially used for communication.

4.14 AirEngine 6761S-21T

4.14.1 Product Characteristics

Huawei AirEngine 6761S-21T is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on three frequency bands: 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO), and 5 GHz (4x4 MIMO). The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for densely populated scenarios such as mobile office, education, shopping malls, and supermarkets.

- 02354VQJ: 1 x 2.5GE electrical port + 1 x GE electrical port; 02353XBR: 2 x GE electrical ports
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.14.2 Hardware Information (02354VQJ)

Overview

Table 4-81 Basic information about the AirEngine 6761S-21T

Item	Details
Description	AirEngine6761S-21T(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)
Part Number	02354VQJ
Model	AirEngine 6761S-21T
First supported version	V200R021C10SPC100

NOTE

Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

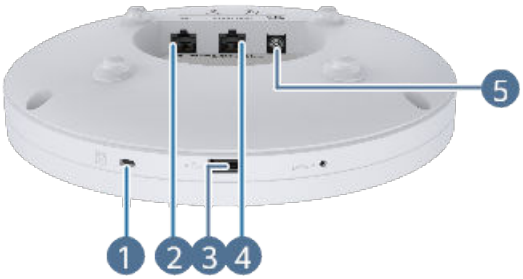
Figure 4-53 Appearance of the AirEngine 6761S-21T

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-54 Ports on the AirEngine 6761S-21T



1	Security slot	2	GE

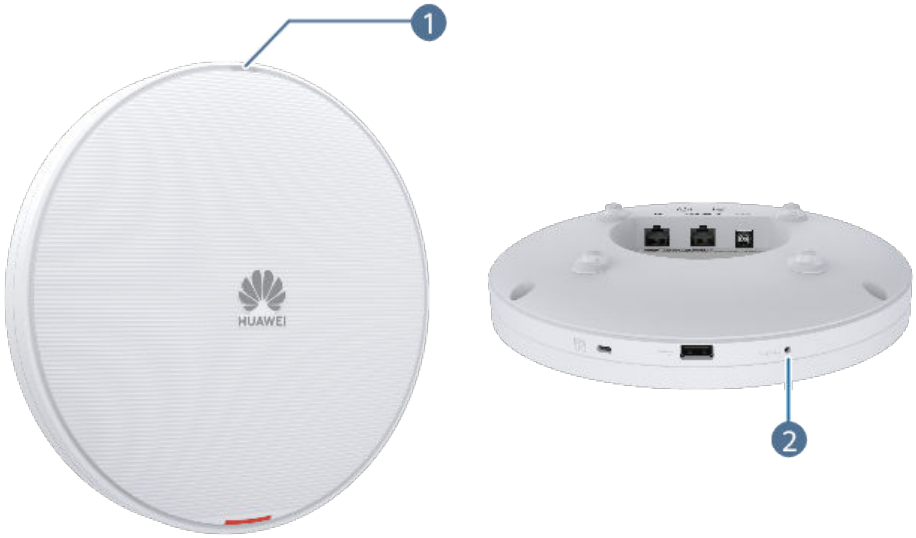
3	USB	4	2.5GE/PoE_IN
5	DC 12V	-	-

Table 4-82 Ports on the AirEngine 6761S-21T

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-55 Indicators and buttons on the AirEngine 6761S-21T



1	Indicator	2	Default

Table 4-83 Indicators on the AirEngine 6761S-21T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-84 Buttons on the AirEngine 6761S-21T

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-85 Technical specifications of the AirEngine 6761S-21T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.08 kg (2.38 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.2 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5G auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 (high frequency band) Radio 2 (5 GHz): 4x4 (low frequency band)
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	135 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (1x1, high band) + 5 GHz (1x1, low band). The maximum combined power is adjusted to 21 dBm (2.4 GHz radio) and 18 dBm (5 GHz radio). Wired network port: The 2.5GE/PoE_IN electrical port is used as a GE port, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.14.3 Hardware Information (02353XBR)

Overview

Table 4-86 Basic information about the AirEngine 6761S-21T

Item	Details
Description	AirEngine6761S-21T(11ax indoor,2+2+4 Three bands,smart antenna,USB,BLE)
Part Number	02353XBR
Model	AirEngine 6761S-21T
First supported version	V200R020C10

NOTE

Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

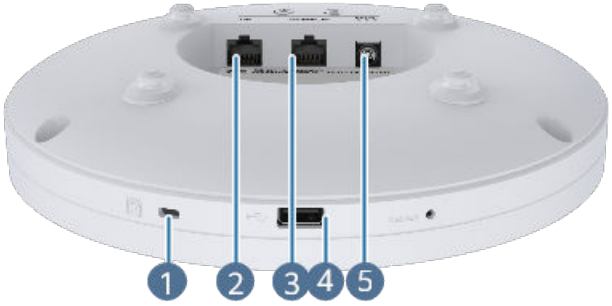
Figure 4-56 Appearance of the AirEngine 6761S-21T

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-57 Ports on the AirEngine 6761S-21T



1	Security slot	2	GE
3	GE/PoE_IN	4	USB
5	DC 12V	-	-

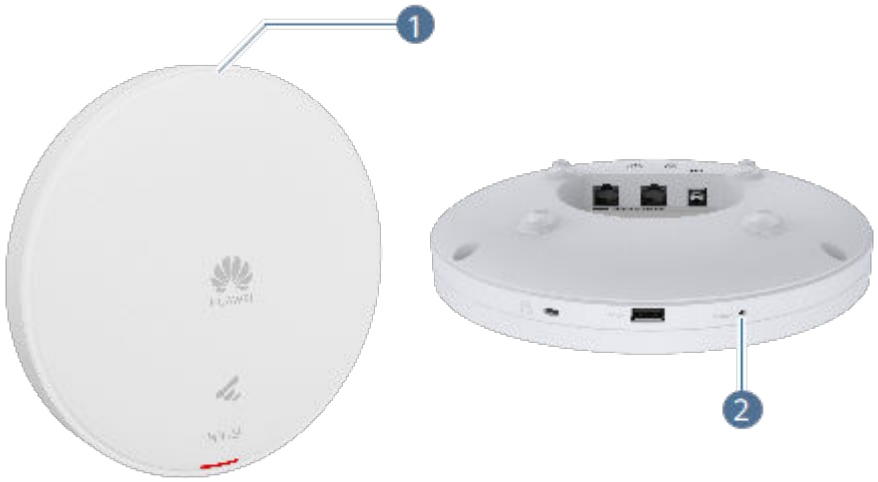
Table 4-87 Ports on the AirEngine 6761S-21T

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable

Port	Connector Type	Description	Available Components
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-58 Indicators and buttons on the AirEngine 6761S-21T



1	Indicator	2	Default

Table 4-88 Indicators on the AirEngine 6761S-21T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-89 Buttons on the AirEngine 6761S-21T

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-90 Technical specifications of the AirEngine 6761S-21T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.08 kg (2.38 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.2 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 2, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 (high frequency band) Radio 2 (5 GHz): 4x4 (low frequency band)
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	135 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (1x1, high band) + 5 GHz (1x1, low band). The maximum combined power is adjusted to 21 dBm (2.4 GHz radio) and 18 dBm (5 GHz radio). Wired network port: The GE/PoE_IN electrical port is available, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.15 AirEngine 6561-21T

4.15.1 Product Characteristics

Huawei AirEngine 6561-21T is an indoor AP in compliance with Wi-Fi 6 (802.11ax). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) ,5GHz (2x2 MIMO) and 5 GHz (4x4 MIMO) frequency bands. Built-in smart antennas of the AP enable always-on Wi-Fi signals for users, significantly enhancing users' wireless experiences. These strengths make AirEngine 6561-21T ideal for scenarios with high-density rooms such as enterprise offices, education institutions, and stadiums.

- Provides services simultaneously on both the 2.4GHz and 5GHz bands (include 5G1+5G2) .
- 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.

4.15.2 Hardware Information

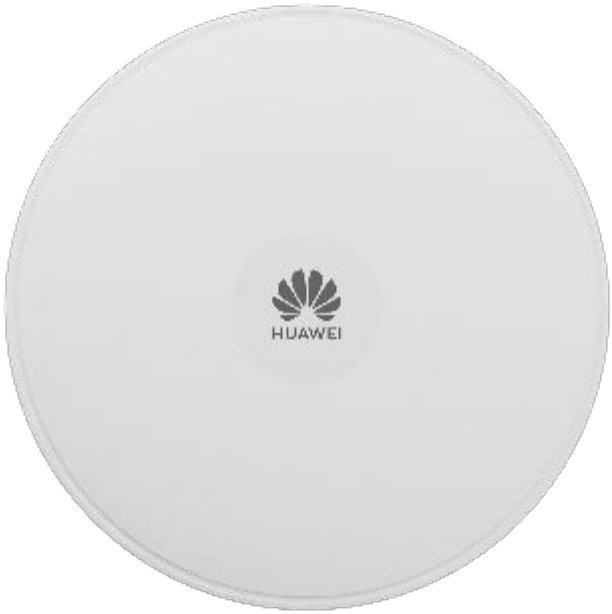
Overview

Table 4-91 Basic information about the AirEngine 6561-21T

Item	Details
Description	AirEngine6561-21T(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)
Part Number	02355XGA
Model	AirEngine 6561-21T
First supported version	V200R023C10

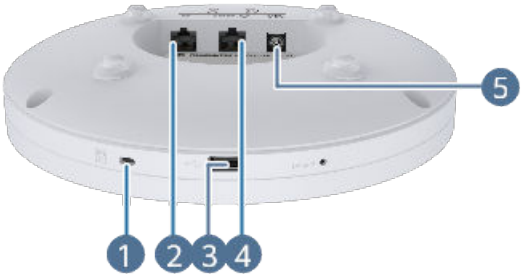
Appearance

Figure 4-59 Appearance of the AirEngine 6561-21T



Ports

Figure 4-60 Ports on the AirEngine 6561-21T



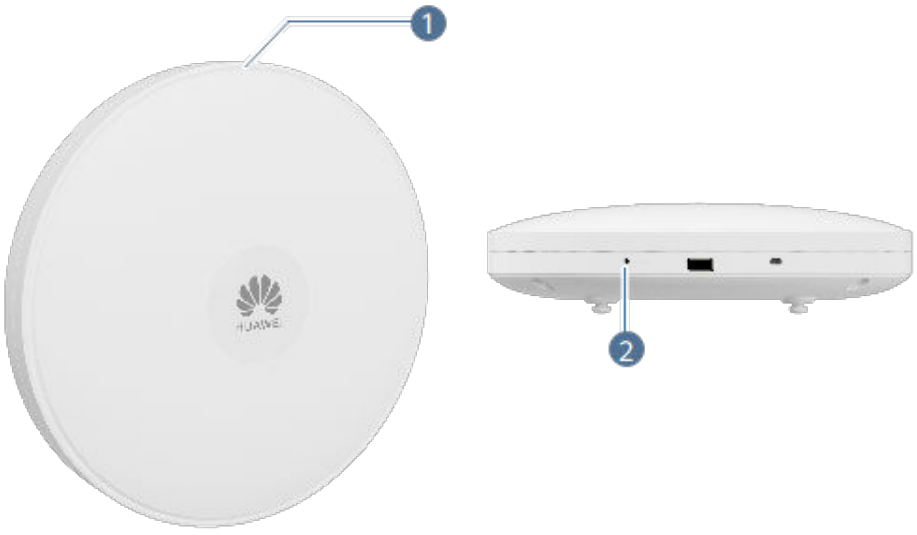
1	Security slot	2	GE
3	USB	4	2.5GE/PoE_IN
5	DC 12V	-	-

Table 4-92 Ports on the AirEngine 6561-21T

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-61 Indicators and buttons on the AirEngine 6561-21T



1	Indicator	2	Default

Table 4-93 Indicators on the AirEngine 6561-21T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-94 Buttons on the AirEngine 6561-21T

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-95 Technical specifications of the AirEngine 6561-21T

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.08 kg (2.38 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.2 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B

Item	Specification
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5G auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 (high frequency band) Radio 2 (5 GHz): 4x4 (low frequency band)
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi

Item	Specification
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	96 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (1x1, high band) + 5 GHz (1x1, low band). The maximum combined power is adjusted to 21 dBm (2.4 GHz radio) and 18 dBm (5 GHz radio). Wired network port: The 2.5GE/PoE_IN electrical port is used as a GE port, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.16 AirEngine 5760-51

4.16.1 Product Characteristics

Huawei AirEngine 5760-51 is an access point (AP) in compliance with the Wi-Fi 6 standard. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experiences. It is ideal for small- and medium-sized enterprises, airports, stations, stadiums, cafes, and recreation centers.

- Working simultaneously on the 2.4 GHz and 5 GHz frequency bands

  By default, the AP can work in the following radio modes:

  – Dual-radio mode: 2.4 GHz (2x2:2 MIMO) + 5 GHz (4x4:4 MIMO)

  – Triple-radio mode: 2.4 GHz (2x2:2 MIMO) + 5 GHz (2x2:2 MIMO) + 5 GHz (2x2:2 MIMO)

  After an RTU license is loaded, more radio modes are supported.

  – Dual-radio mode: 2.4 GHz (4x4:4 MIMO) + 5 GHz (4x4:4 MIMO)

  – Triple-radio mode: 2.4 GHz (2x2:2 MIMO) + 5 GHz (2x2:2 MIMO) + 5 GHz (4x4:4 MIMO)

  – Dual-radio + independent scanning radio mode: 2.4 GHz (2x2:2 MIMO) + 5 GHz (4x4:4 MIMO)
- 1 x 5GE electrical port + 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion
- Built-in IoT slots, supporting IoT expansion such as BLE 5.0, ZigBee, RFID, and Thread
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

NOTE

Independent radio scanning will be supported after the AP is upgraded to V200R020C00 or later.

The MIMO specifications are also affected by factors such as the supply power. For details, contact the product manager.

4.16.2 Hardware Information (02353GES-001)

Overview

Table 4-96 Basic information about the AirEngine 5760-51

Item	Details
Description	AirEngine5760-51(11ax indoor,2+4 dual bands,smart antenna,USB,IoT Slot,BLE,Optional RTU upgrade to 4+4/2+2+4/2+4+Scan)
Part Number	02353GES-001
Model	AirEngine 5760-51
First supported version	V200R021C10SPC100

NOTE

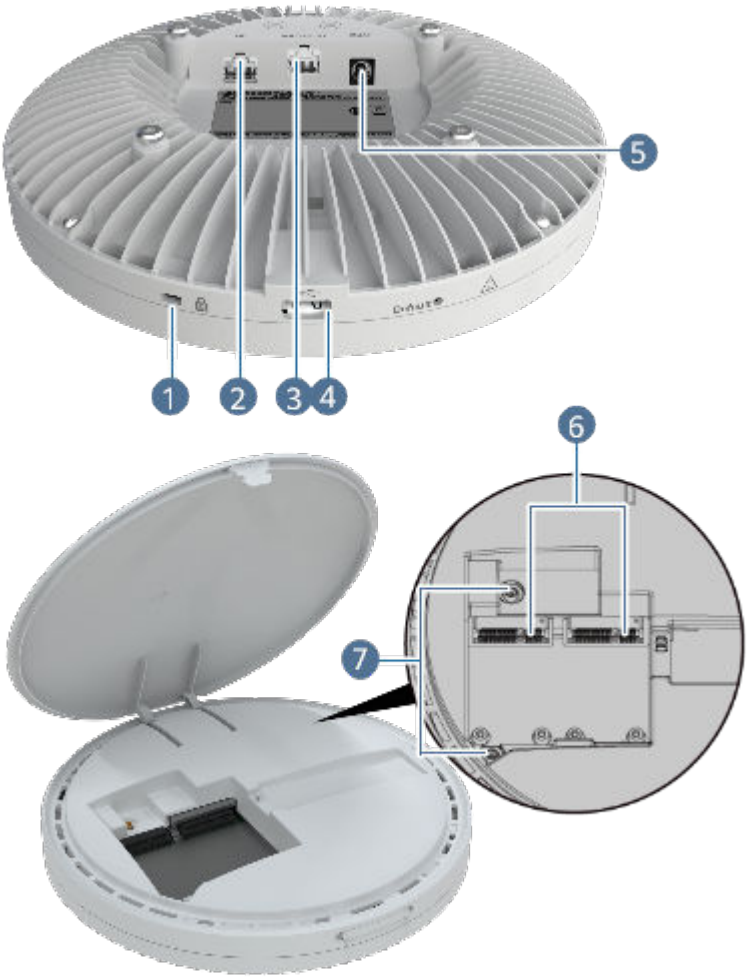
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-62 Appearance of the AirEngine 5760-51

Ports

Figure 4-63 Ports on the AirEngine 5760-51



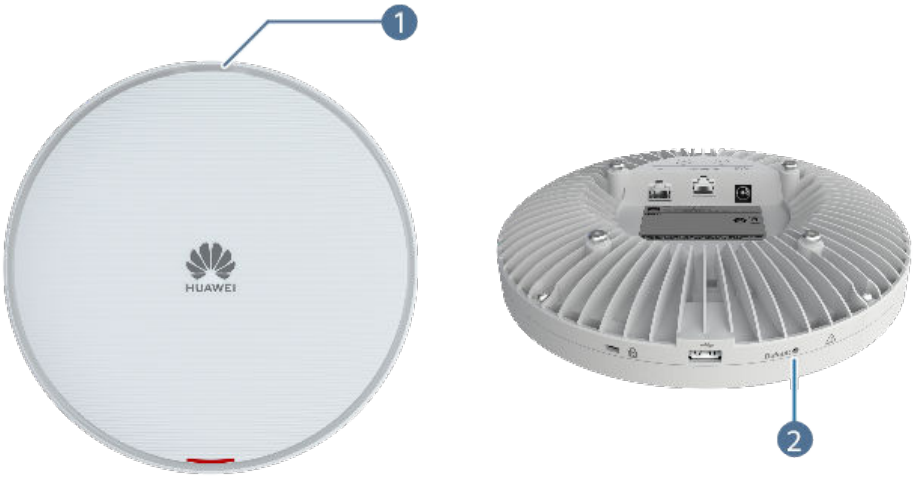
1	Security slot	2	GE
3	5GE/PoE_IN	4	USB
5	DC 48V	6	IoT slot
7	Built-in radio port connecting to an IoT card	-	-

Table 4-97 Ports on the AirEngine 5760-51

Port	Connector Type	Description	Available Components
5GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-64 Indicators and buttons on the AirEngine 5760-51



1	Indicator	2	Default

Table 4-98 Indicators on the AirEngine 5760-51

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-99 Buttons on the AirEngine 5760-51

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-100 Technical specifications of the AirEngine 5760-51

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 51 mm (8.66 in. x 2.01 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	94 mm x 306 mm x 285 mm (3.70 in. x 12.05 in. x 11.22 in.)
Weight without packaging [kg(lb)]	1.15 kg (2.53 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	28.8 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	98.3 (without USB or IoT card)

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	5GE (RJ45) x 1, 10M/100M/1000M/ 2.5GE/5GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 2x2, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 2x2 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 4x4 (low frequency band), maximum bandwidth of 80 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4, maximum bandwidth 160 MHz
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4.5 dBi 5 GHz: 5.5 dBi BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 26 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	69.7 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	For 802.3bt class 6/class 8 power supply: If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted: • Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) • Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band)

Item	Specification
802.3at power supply description	With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (4x4) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (4x4, low band) ● Dual-radio + independent radio scanning mode: 2.4 GHz (2x2) + 5 GHz (4x4) + 5 GHz independent radio scanning If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 5GE electrical port is reduced to 2.5GE or lower. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in dual-radio mode and the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Without an RTU license loaded: Wi-Fi: If no USB or IoT card slot is used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may

Item	Specification
	be affected. For details, contact the product manager. Wired network port: The speed of the 5GE electrical port is reduced to 2.5GE or lower. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in dual-radio mode and the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager.
DC power supply description	If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted: • Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) • Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band)

4.16.3 Hardware Information (02353GES)

Overview

Table 4-101 Basic information about the AirEngine 5760-51

Item	Details
Description	AirEngine5760-51(11ax indoor,2+4 dual bands,smart antenna,USB,IoT Slot,BLE,Optional RTU upgrade to 4+4/2+2+4/2+4+Scan)
Part Number	02353GES
Model	AirEngine 5760-51

Item	Details
First supported version	V200R019C10

NOTE

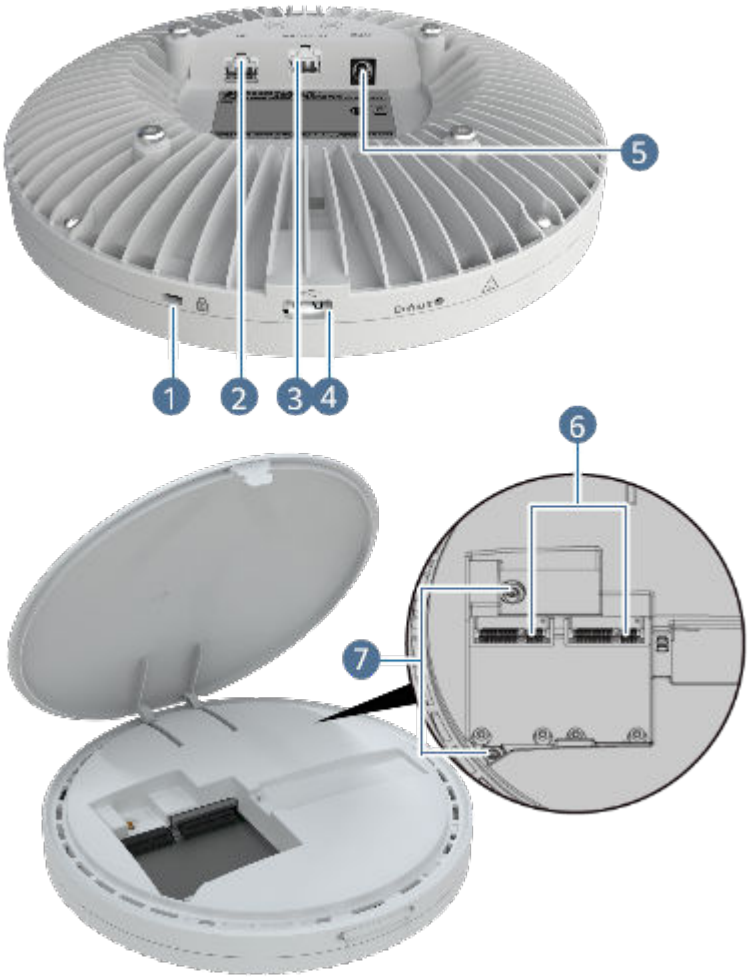
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-65 Appearance of the AirEngine 5760-51

Ports

Figure 4-66 Ports on the AirEngine 5760-51



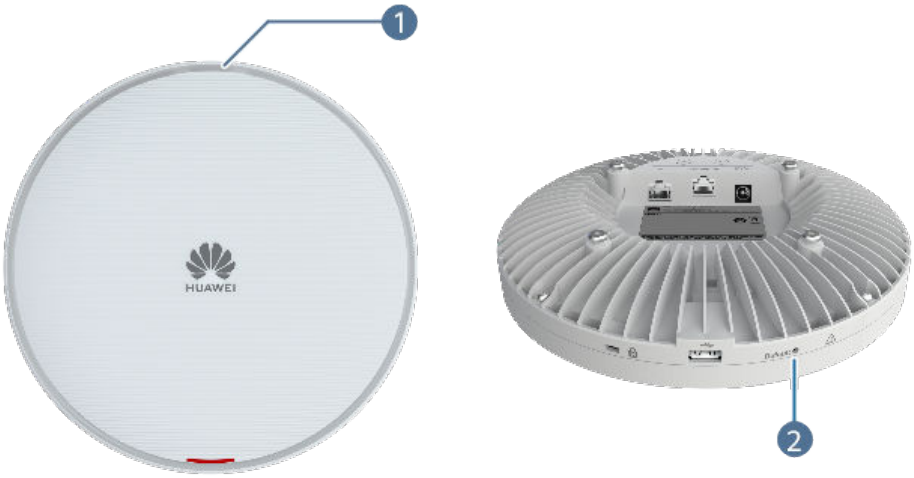
1	Security slot	2	GE
3	5GE/PoE_IN	4	USB
5	DC 48V	6	IoT slot
7	Built-in radio port connecting to an IoT card	-	-

Table 4-102 Ports on the AirEngine 5760-51

Port	Connector Type	Description	Available Components
5GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/2.5G/5G auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 48V	DC connector	Connects to a 48 V power adapter.	48 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-67 Indicators and buttons on the AirEngine 5760-51



1	Indicator	2	Default

Table 4-103 Indicators on the AirEngine 5760-51

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-104 Buttons on the AirEngine 5760-51

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-105 Technical specifications of the AirEngine 5760-51

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 51 mm (8.66 in. x 2.01 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	94 mm x 306 mm x 285 mm (3.70 in. x 12.05 in. x 11.22 in.)
Weight without packaging [kg(lb)]	1.15 kg (2.53 lb)
Storage	NAND Flash 512 MB; NOR Flash 16 MB
Console port	BLE console
Maximum power consumption [W]	28.8 (excluding USB and IoT cards)
Maximum heat dissipation [BTU/hour]	98.3 (without USB or IoT card)

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	48 V
Input voltage range [V]	DC: 43.2 V to 57.6 V PoE: 802.3bt/at
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	5GE (RJ45) x 1, 10M/100M/1000M/ 2.5GE/5GE auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	Ground
USB	USB 2.0
IoT slot	IoT card
BLE	BLE5.2
Radio number	2/3
Operating frequency band	• 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	Triple-radio mode: • Radio 0 (2.4 GHz): 2x2, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 2x2 (high frequency band), maximum bandwidth of 80 MHz • Radio 2 (5 GHz): 4x4 (low frequency band), maximum bandwidth of 80 MHz Dual-radio mode: • Radio 0 (2.4 GHz): 4x4, maximum bandwidth of 40 MHz • Radio 1 (5 GHz): 4x4, maximum bandwidth 160 MHz
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4.5 dBi 5 GHz: 5.5 dBi BLE: 4 dBi
Maximum transmit power	2.4 GHz: 26 dBm 5 GHz: 26 dBm (Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	69.7 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20

Item	Specification
802.3bt power supply description	For 802.3bt class 6/class 8 power supply: If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted: • Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) • Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band)

Item	Specification
802.3at power supply description	With an RTU license loaded: Wi-Fi: If the USB and IoT card slots are not used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (4x4) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (4x4, low band) ● Dual-radio + independent radio scanning mode: 2.4 GHz (2x2) + 5 GHz (4x4) + 5 GHz independent radio scanning If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Wired network port: The speed of the 5GE electrical port is reduced to 2.5GE or lower. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in dual-radio mode and the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager. Without an RTU license loaded: Wi-Fi: If no USB or IoT card slot is used, the radio transmit power is not affected. ● Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) ● Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band) If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may

Item	Specification
	be affected. For details, contact the product manager. Wired network port: The speed of the 5GE electrical port is reduced to 2.5GE or lower. (In V200R021C10 and later versions, the GE electrical port is also available in standard dual-radio mode.) Other ports: Either the 5 W USB port or IoT card slot can be used at the same time. The IoT card slot takes precedence. If both of them are used, Wi-Fi can only work in dual-radio mode and the number of spatial streams, transmit power, and bandwidth may be affected. For details, contact the product manager.
DC power supply description	If an RTU license is loaded, no function is restricted. If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted: • Dual-radio mode: 2.4 GHz (2x2) + 5 GHz (4x4) • Triple-radio mode: 2.4 GHz (2x2) + 5 GHz (2x2, high band) + 5 GHz (2x2, low band)

4.17 AirEngine 5761-21

4.17.1 Product Characteristics

Huawei AirEngine 5761-21 is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5 GHz (4x4 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for high-density indoor coverage scenarios, such as small- and medium-sized enterprise offices, retail, and education.

- 02354VQK: 1 x 2.5GE electrical port + 1 x GE electrical port; 02353VUT: 2 x GE electrical ports
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the

application environment change, and provide accurate and stable coverage as STAs move

- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.17.2 Hardware Information (02354VQK)

Overview

Table 4-106 Basic information about the AirEngine 5761-21

Item	Details
Description	AirEngine5761-21(11ax indoor,2+4 dual bands,smart antenna,USB,BLE)
Part Number	02354VQK
Model	AirEngine 5761-21
First supported version	V200R021C10SPC100

NOTE

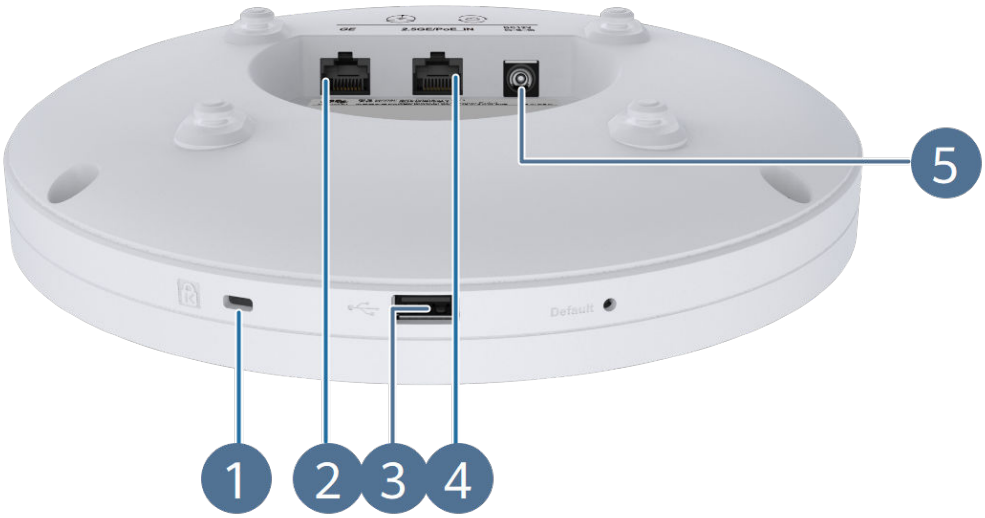
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-68 Appearance of the AirEngine 5761-21

Ports

Figure 4-69 Ports on the AirEngine 5761-21



1	Security slot	2	GE

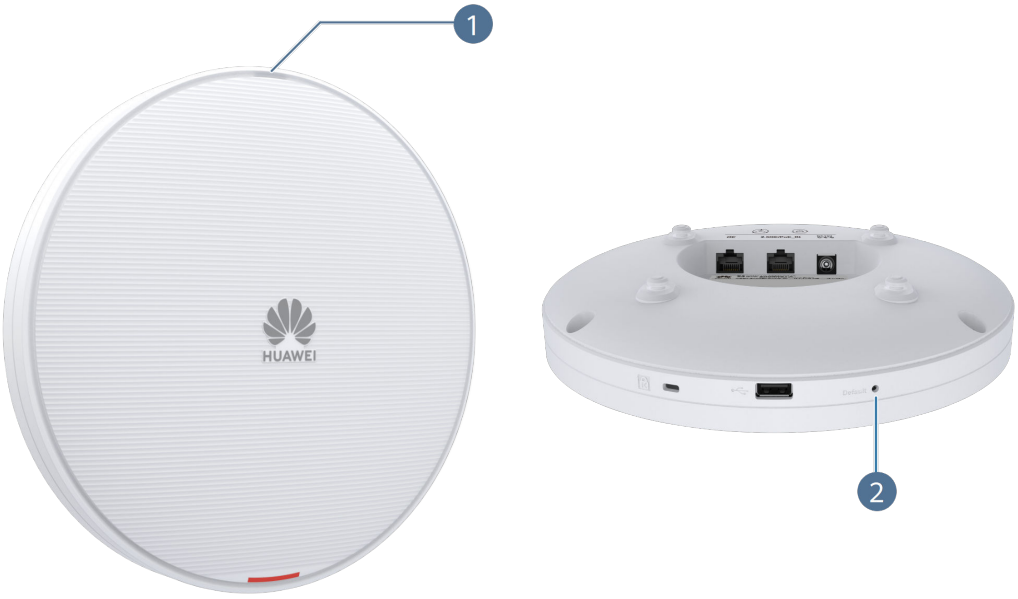
3	USB	4	2.5GE/PoE_IN
5	DC 12V	-	-

Table 4-107 Ports on the AirEngine 5761-21

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-70 Indicators and buttons on the AirEngine 5761-21



1	Indicator	2	Default

Table 4-108 Indicators on the AirEngine 5761-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-109 Buttons on the AirEngine 5761-21

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-110 Technical specifications of the AirEngine 5761-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.06 kg (2.34 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	17.9 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5G auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz: 22 dBm/chain 28 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 22 dBm/chain
MTBF [year]	784 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz) and 22 dBm (5 GHz). Wired network port: 2.5GE/POE_IN ports are used as GE ports, and GE electrical ports are unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.17.3 Hardware Information (02353VUT)

Overview

Table 4-111 Basic information about the AirEngine 5761-21

Item	Details
Description	AirEngine5761-21(11ax indoor,2+4 dual bands,smart antenna,USB,BLE)
Part Number	02353VUT
Model	AirEngine 5761-21
First supported version	V200R020C10

NOTE

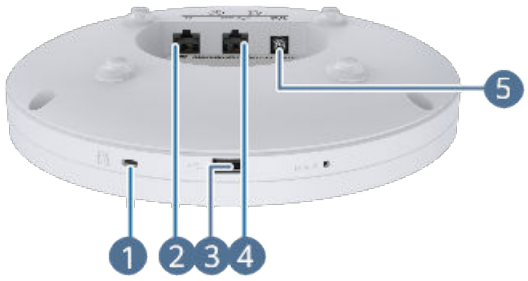
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 4-71 Appearance of the AirEngine 5761-21

Ports

Figure 4-72 Ports on the AirEngine 5761-21



1	Security slot	2	GE
3	USB	4	GE/PoE_IN
5	DC 12V	-	-

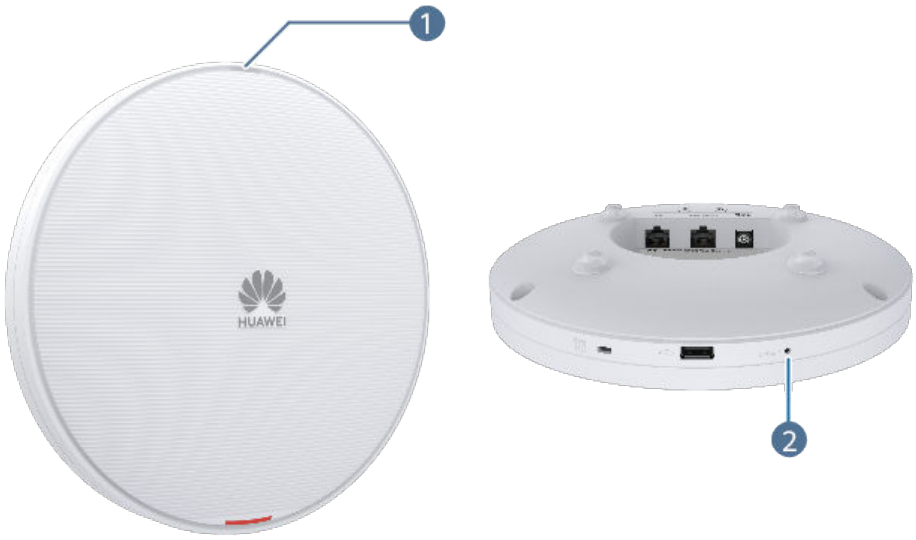
Table 4-112 Ports on the AirEngine 5761-21

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Port	Connector Type	Description	Available Components
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-73 Indicators and buttons on the AirEngine 5761-21



1	Indicator	2	Default

Table 4-113 Indicators on the AirEngine 5761-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-114 Buttons on the AirEngine 5761-21

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-115 Technical specifications of the AirEngine 5761-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.06 kg (2.34 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	17.9 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 2, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz: 22 dBm/chain 28 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 22 dBm/chain
MTBF [year]	145 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) +5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: The GE/POE_IN electrical port is available, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.18 AirEngine 5761-12

4.18.1 Product Characteristics

Huawei AirEngine 5761-12 is a next-generation indoor access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on

the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It supports high bandwidth, high concurrency, and compact size, facilitating flexible deployment and saving customer investment. It is applicable to indoor coverage scenarios, such as small- and medium-sized enterprise offices, hospitals, education, and cafes.

4.18.2 Hardware Information

Overview

Table 4-116 Basic information about the AirEngine 5761-12

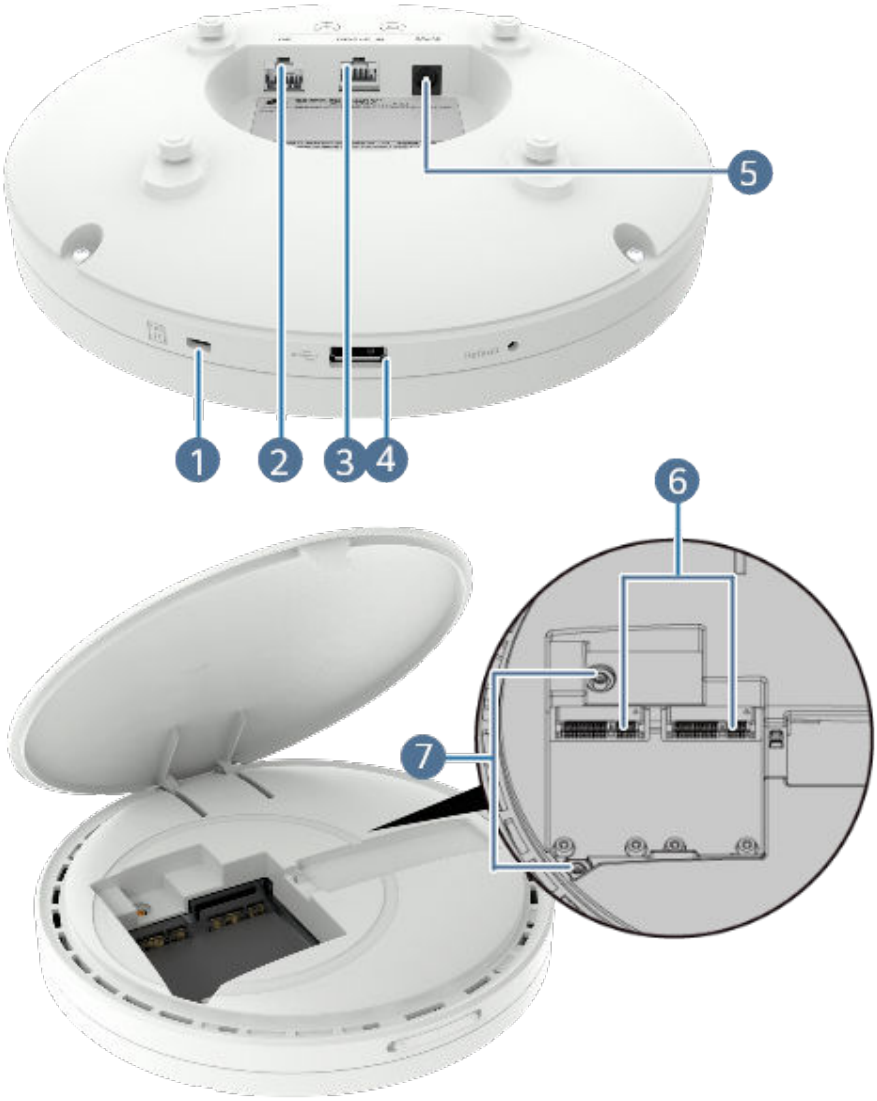
Item	Details
Description	AirEngine5761-12(11ax indoor,2+2 dual bands,smart antenna,USB,IoT Slot,BLE)
Part Number	02354MXJ
Model	AirEngine 5761-12
First supported version	V200R021C10

Appearance

Figure 4-74 Appearance of the AirEngine 5761-12

Ports

Figure 4-75 Ports on the AirEngine 5761-12



1	Security slot	2	GE
3	GE/PoE_IN	4	USB
5	DC 12V	6	IoT slot

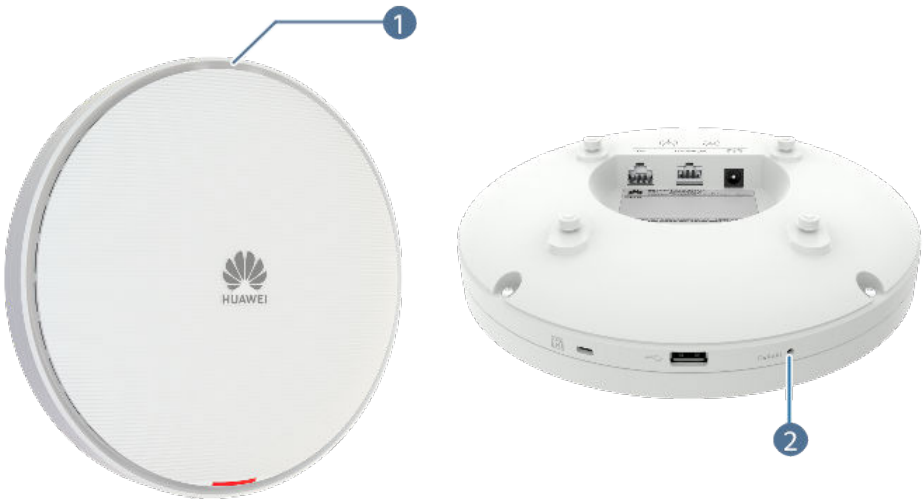
7	Built-in radio port connecting to an IoT card	-	-

Table 4-117 Ports on the AirEngine 5761-12

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-76 Indicators and buttons on the AirEngine 5761-12



1	Indicator	2	Default

Table 4-118 Indicators on the AirEngine 5761-12

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-119 Buttons on the AirEngine 5761-12

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-120 Technical specifications of the AirEngine 5761-12

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 51 mm (8.66 in. x 2.01 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	93 mm x 284 mm x 251 mm (3.66 in. x 11.18 in. x 9.88 in.)
Weight without packaging [kg(lb)]	1.09 kg (2.40 lb)
Weight with packaging [kg(lb)]	1.55 kg (3.42 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	12.63 (excluding USB)
Maximum heat dissipation [BTU/hour]	43.1 BTU/hour

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 2, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	147 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz) and 22 dBm (5 GHz). Wired network port: The GE/PoE_IN port is available, but the GE port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.19 AirEngine 5761-11

4.19.1 Product Characteristics

Huawei AirEngine 5761-11 is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for indoor coverage scenarios, such as small- and medium-sized enterprise offices, hospitals, and cafes.

- 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.19.2 Hardware Information

Overview

Table 4-121 Basic information about the AirEngine 5761-11

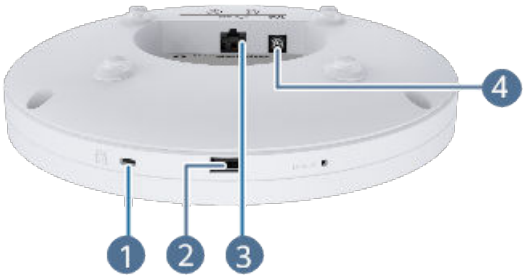
Item	Details
Description	AirEngine5761-11(11ax indoor,2+2 dual bands,smart antenna,USB,BLE)
Part Number	02353VUR
Model	AirEngine 5761-11
First supported version	V200R020C10

Appearance

Figure 4-77 Appearance of the AirEngine 5761-11

Ports

Figure 4-78 Ports on the AirEngine 5761-11



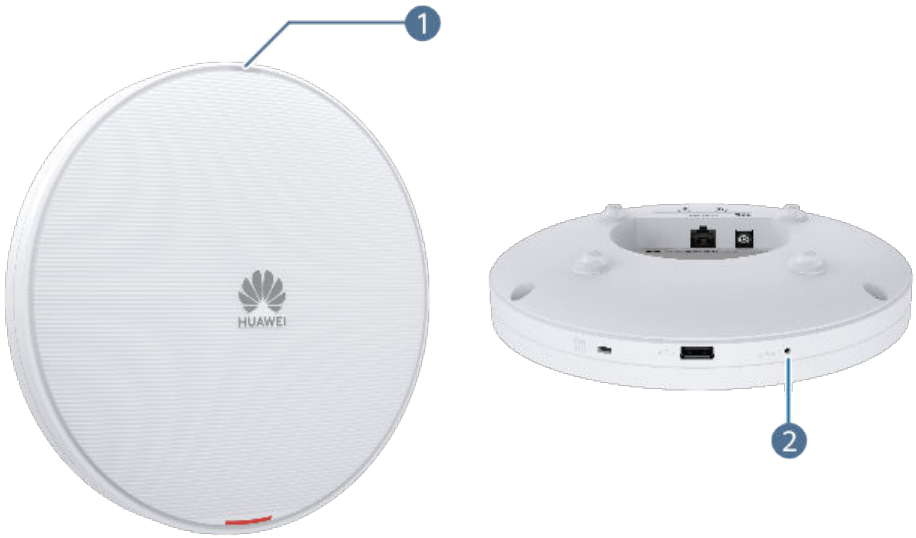
1	Security slot	2	USB
3	GE/PoE_IN	4	DC 12V

Table 4-122 Ports on the AirEngine 5761-11

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-79 Indicators and buttons on the AirEngine 5761-11



1	Indicator	2	Default

Table 4-123 Indicators on the AirEngine 5761-11

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-124 Buttons on the AirEngine 5761-11

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-125 Technical specifications of the AirEngine 5761-11

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	94 mm x 306 mm x 285 mm (3.70 in. x 12.05 in. x 11.22 in.)
Weight without packaging [kg(lb)]	1.05 kg (2.31 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	15.3 (excluding USB)
Maximum heat dissipation [BTU/hour]	52.2 BTU/hour

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 24 dBm/chain 27 dBm (combined power) 5G: 24 dBm/chain 27 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 24 dBm/chain 5G: -10 dBm to 24 dBm/chain
MTBF [year]	124 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2)+5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: No restriction is posed on wired network ports. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.20 AirEngine 5761S-21

4.20.1 Product Characteristics

Huawei AirEngine 5761S-21 is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5 GHz (4x4 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for high-density indoor coverage scenarios, such as small- and medium-sized enterprise offices and retail.

- 02354VQL: 1 x 2.5GE electrical port + 1 x GE electrical port; 02353XBP: 2 x GE electrical ports
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.20.2 Hardware Information (02354VQL)

Overview

Table 4-126 Basic information about the AirEngine 5761S-21

Item	Details
Description	AirEngine5761S-21(11ax indoor,2+4 dual bands,smart antenna,USB,BLE)
Part Number	02354VQL
Model	AirEngine 5761S-21
First supported version	V200R021C10SPC100

NOTE

Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

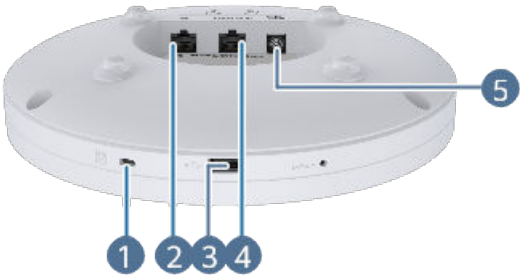
Figure 4-80 Appearance of the AirEngine 5761S-21

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-81 Ports on the AirEngine 5761S-21



1	Security slot	2	GE

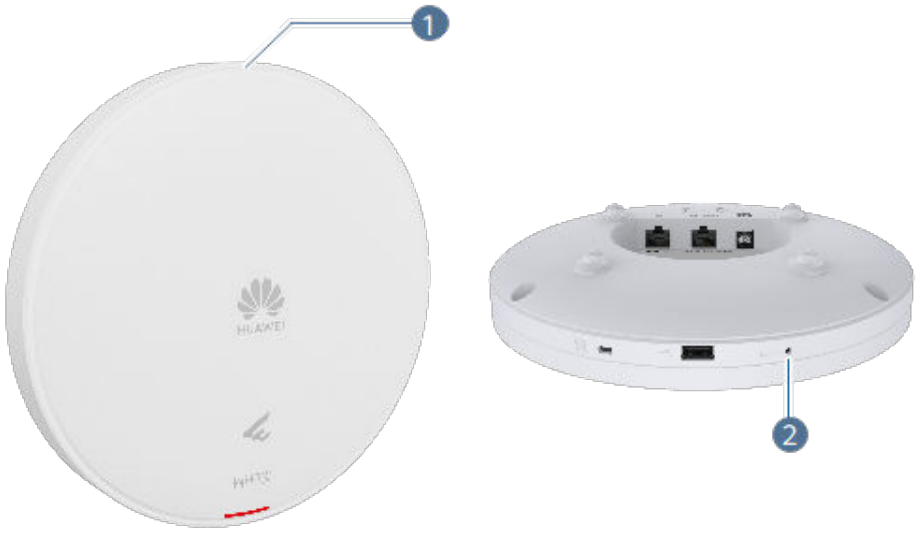
3	USB	4	2.5GE/PoE_IN
5	DC 12V	-	-

Table 4-127 Ports on the AirEngine 5761S-21

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-82 Indicators and buttons on the AirEngine 5761S-21



1	Indicator	2	Default

Table 4-128 Indicators on the AirEngine 5761S-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-129 Buttons on the AirEngine 5761S-21

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-130 Technical specifications of the AirEngine 5761S-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.06 kg (2.34 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	17.9 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5G auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz: 22 dBm/chain 28 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 22 dBm/chain
MTBF [year]	784 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: The 2.5GE/ POE_IN electrical port is used as a GE port, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.20.3 Hardware Information (02353XBP)

Overview

Table 4-131 Basic information about the AirEngine 5761S-21

Item	Details
Description	AirEngine5761S-21(11ax indoor,2+4 dual bands,smart antenna,USB,BLE)
Part Number	02353XBP
Model	AirEngine 5761S-21
First supported version	V200R020C10

NOTE

Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

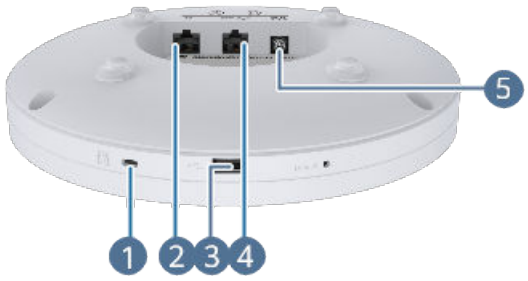
Figure 4-83 Appearance of the AirEngine 5761S-21

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-84 Ports on the AirEngine 5761S-21



1	Security slot	2	GE
3	USB	4	GE/PoE_IN
5	DC 12V	-	-

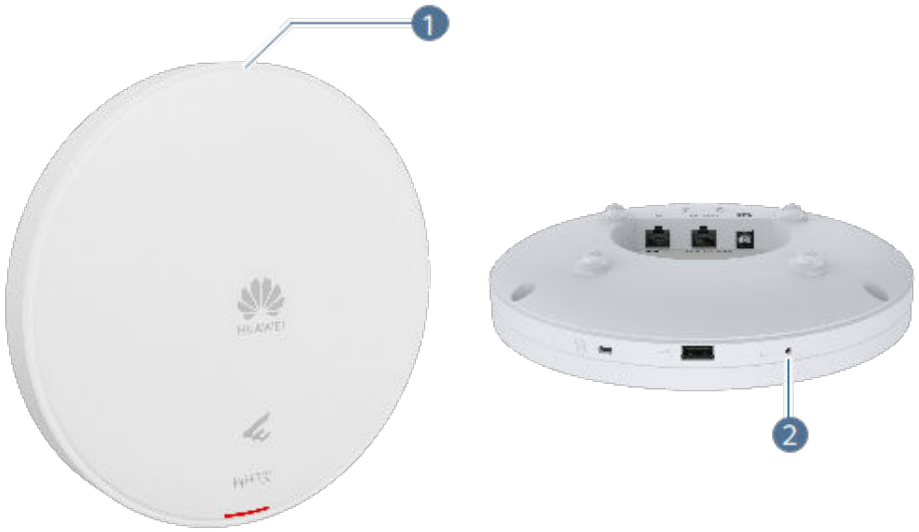
Table 4-132 Ports on the AirEngine 5761S-21

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Port	Connector Type	Description	Available Components
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-85 Indicators and buttons on the AirEngine 5761S-21



1	Indicator	2	Default

Table 4-133 Indicators on the AirEngine 5761S-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-134 Buttons on the AirEngine 5761S-21

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-135 Technical specifications of the AirEngine 5761S-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.06 kg (2.34 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	17.9 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 2, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz: 22 dBm/chain 28 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 22 dBm/chain
MTBF [year]	145 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) +5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: The GE/POE_IN electrical port is available, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.21 AirEngine 5761S-13

4.21.1 Product Characteristics

Huawei AirEngine 5761S-13 is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5

GHz (2x2 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for indoor coverage scenarios, such as small- and medium-sized enterprise offices, hospitals, and cafes.

- 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.21.2 Hardware Information

Overview

Table 4-136 Basic information about the AirEngine 5761S-13

Item	Details
Description	AirEngine5761S-13(11ax indoor,2+2 dual bands,smart antenna,USB,BLE)
Part Number	02354JQF
Model	AirEngine 5761S-13
First supported version	V200R021C00

Appearance

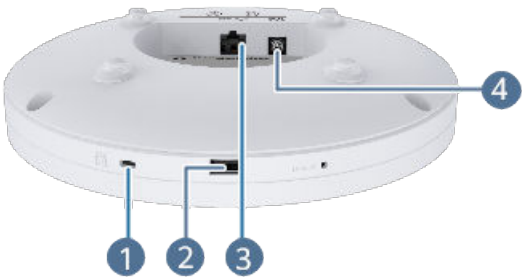
Figure 4-86 Appearance of the AirEngine 5761S-13

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-87 Ports on the AirEngine 5761S-13



1	Security slot	2	USB

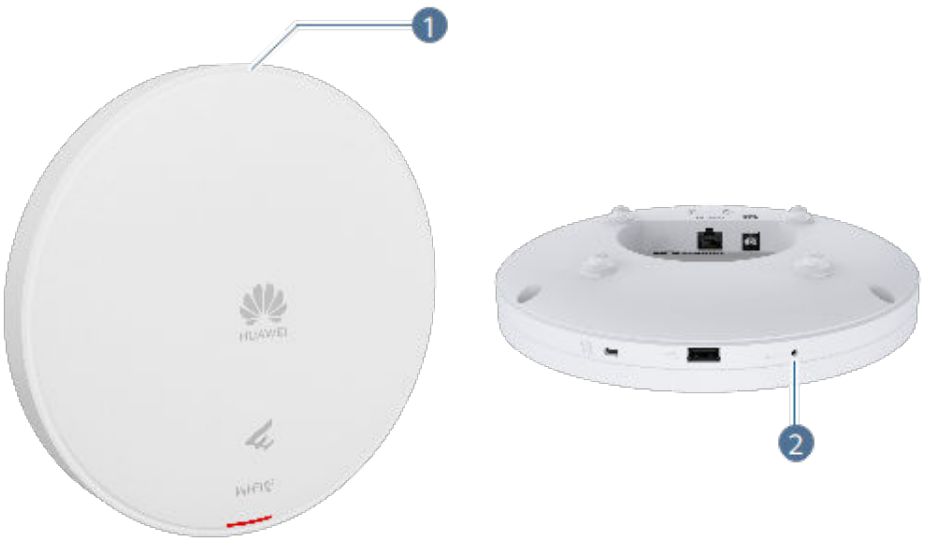
3	GE/PoE_IN	4	DC 12V

Table 4-137 Ports on the AirEngine 5761S-13

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-88 Indicators and buttons on the AirEngine 5761S-13



1	Indicator	2	Default

Table 4-138 Indicators on the AirEngine 5761S-13

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-139 Buttons on the AirEngine 5761S-13

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-140 Technical specifications of the AirEngine 5761S-13

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	94 mm x 306 mm x 285 mm (3.70 in. x 12.05 in. x 11.22 in.)
Weight without packaging [kg(lb)]	1.05 kg (2.31 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	15.3 (excluding USB)
Maximum heat dissipation [BTU/hour]	52.2 BTU/hour

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 24 dBm/chain 27 dBm (combined power) 5G: 24 dBm/chain 27 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 24 dBm/chain 5G: -10 dBm to 24 dBm/chain
MTBF [year]	134 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2)+5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: No restriction is posed on wired network ports. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.22 AirEngine 5761S-12

4.22.1 Product Characteristics

Huawei AirEngine 5761S-12 is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for indoor coverage scenarios, such as small- and medium-sized enterprise offices, hospitals, and cafes.

- 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.22.2 Hardware Information

Overview

Table 4-141 Basic information about the AirEngine 5761S-12

Item	Details
Description	AirEngine5761S-12(11ax indoor,2+2 dual bands,smart antenna,USB,BLE)
Part Number	02354JQG
Model	AirEngine 5761S-12
First supported version	V200R021C00

Appearance

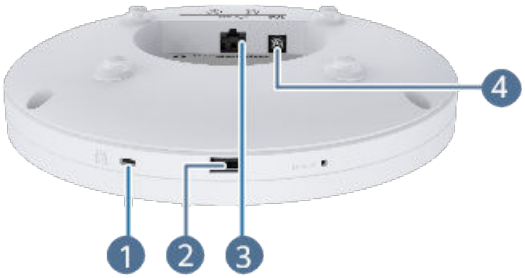
Figure 4-89 Appearance of the AirEngine 5761S-12

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-90 Ports on the AirEngine 5761S-12



1	Security slot	2	USB

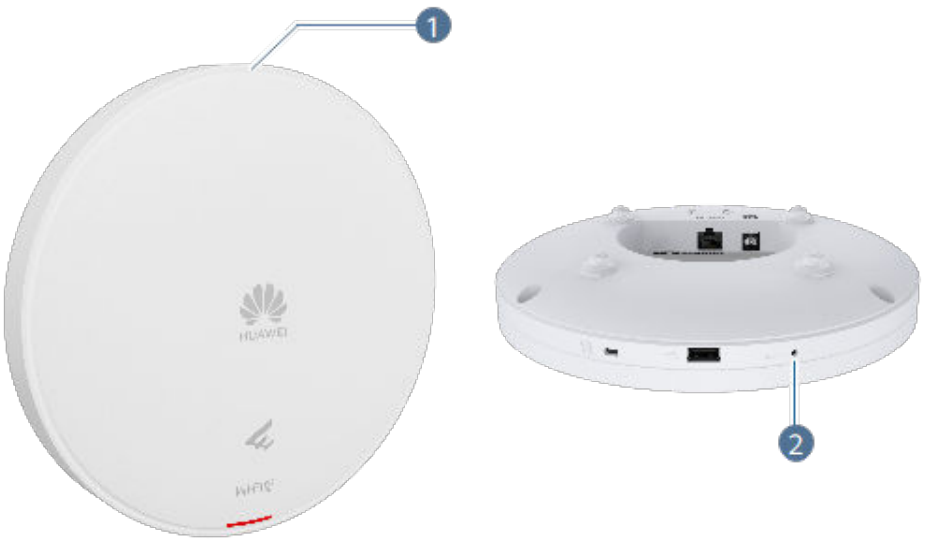
3	GE/PoE_IN	4	DC 12V

Table 4-142 Ports on the AirEngine 5761S-12

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-91 Indicators and buttons on the AirEngine 5761S-12



1	Indicator	2	Default

Table 4-143 Indicators on the AirEngine 5761S-12

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-144 Buttons on the AirEngine 5761S-12

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-145 Technical specifications of the AirEngine 5761S-12

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	94 mm x 306 mm x 285 mm (3.70 in. x 12.05 in. x 11.22 in.)
Weight without packaging [kg(lb)]	1.05 kg (2.31 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	14.6 (excluding USB)
Maximum heat dissipation [BTU/hour]	49.8 BTU/hour

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 22 dBm/chain 25 dBm (combined power) 5G : 22 dBm/chain 25 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 22 dBm/chain
MTBF [year]	192 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2)+5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: No restriction is posed on wired network ports. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.23 AirEngine 5761S-11

4.23.1 Product Characteristics

Huawei AirEngine 5761S-11 is an access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for indoor coverage scenarios, such as small- and medium-sized enterprise offices, hospitals, and cafes.

- 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.23.2 Hardware Information

Overview

Table 4-146 Basic information about the AirEngine 5761S-11

Item	Details
Description	AirEngine5761S-11(11ax indoor,2+2 dual bands,smart antenna,USB,BLE)
Part Number	02353XCA
Model	AirEngine 5761S-11
First supported version	V200R020C10

Appearance

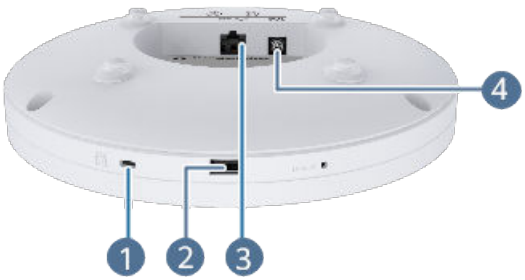
Figure 4-92 Appearance of the AirEngine 5761S-11

NOTE

Due to the brand change of this model, devices of this model delivered in different periods may have different appearances, which, however, does not involve function differences.

Ports

Figure 4-93 Ports on the AirEngine 5761S-11



1	Security slot	2	USB

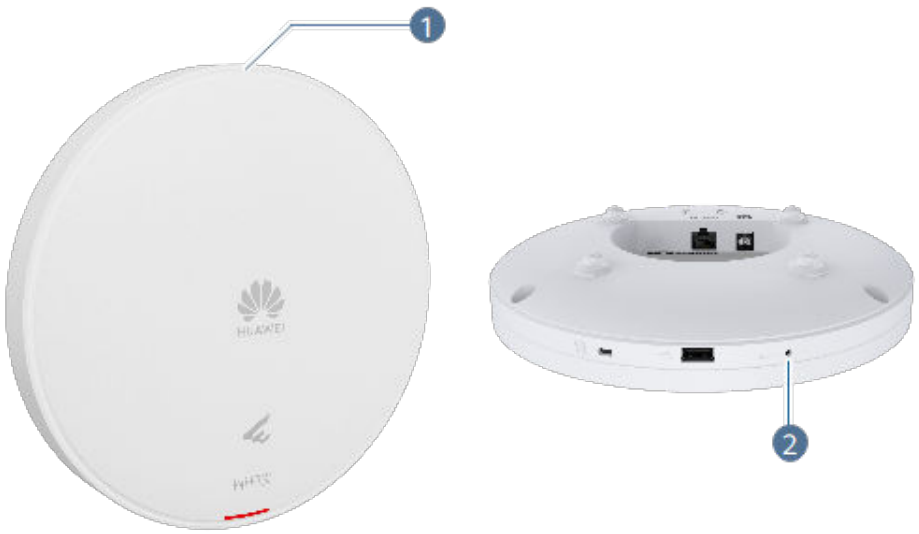
3	GE/PoE_IN	4	DC 12V

Table 4-147 Ports on the AirEngine 5761S-11

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-94 Indicators and buttons on the AirEngine 5761S-11



1	Indicator	2	Default

Table 4-148 Indicators on the AirEngine 5761S-11

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-149 Buttons on the AirEngine 5761S-11

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-150 Technical specifications of the AirEngine 5761S-11

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	94 mm x 306 mm x 285 mm (3.70 in. x 12.05 in. x 11.22 in.)
Weight without packaging [kg(lb)]	1.05 kg (2.31 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	14.2 (excluding USB)
Maximum heat dissipation [BTU/hour]	48.4 BTU/hour

Item	Specification
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	168 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2)+5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz radio) and 22 dBm (5 GHz radio). Wired network port: No restriction is posed on wired network ports. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.24 AirEngine 5762-12

4.24.1 Product Characteristics

Huawei AirEngine 5762-12 is an indoor access point (AP) in compliance with the Wi-Fi 6 (802.11ax) standard. It supports high bandwidth, high concurrency, and compact size, facilitating flexible deployment and saving customer investment. It is applicable to indoor coverage scenarios, such as small- and medium-sized enterprise offices, hospitals, and cafes.

- Working simultaneously on the 2.4 GHz (2x2) + 5 GHz (2x2) frequency bands
- 1 x GE electrical port
- Built-in smart antennas
- Bluetooth serial interface-based O&M through built-in Bluetooth by collaborating with CloudCampus APP
- Working modes: Fit, Fat, and cloud management

4.24.2 Hardware Information

Overview

Table 4-151 Basic information about the AirEngine 5762-12

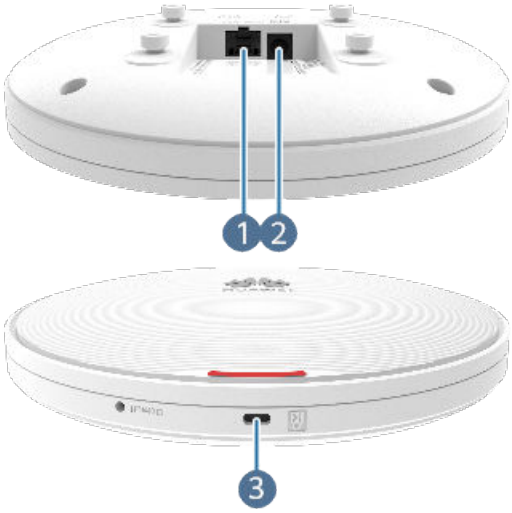
Item	Details
Description	AirEngine5762-12(11ax indoor,2+2 dual bands,smart antenna,BLE)
Part Number	50084987
Model	AirEngine 5762-12
First supported version	V200R021C01

Appearance

Figure 4-95 Appearance of the AirEngine 5762-12

Ports

Figure 4-96 Ports on the AirEngine 5762-12



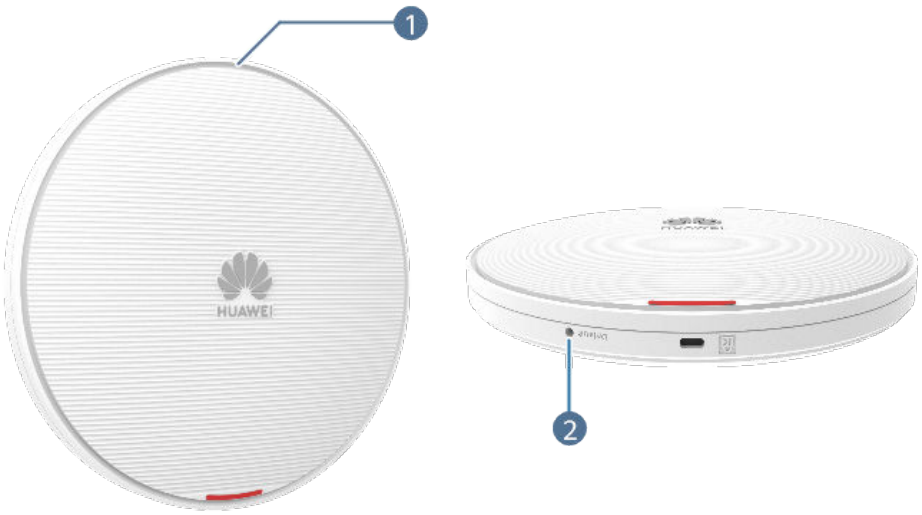
1	GE0/PoE_IN	2	DC 12V
3	Security slot	-	-

Table 4-152 Ports on the AirEngine 5762-12

Port	Connector Type	Description	Available Components
GE0/PoE_IN	RJ45	10/100/1000M auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Indicators and Buttons

Figure 4-97 Indicators and buttons on the AirEngine 5762-12



1	Indicator	2	Default

Table 4-153 Indicators on the AirEngine 5762-12

Silkscreen	Name	Color	Status	Description
-	System indicator	White	Steady on	Default status after power-on. The AP is just powered on and the software is not started yet.
		White	Steady on after blinking once	Software startup status. After the system is reset and starts uploading the software, the indicator blinks white once. Until the software is uploaded and started, the indicator remains steady white.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	Alarm. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online if it works in Fit AP or cloud-based management mode. The indicator remains in this state before the AP successfully goes online. • The AP works in Fit AP or cloud-based management mode and fails to go online.

Silkscreen	Name	Color	Status	Description
		Red	Steady on	Fault. A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-154 Buttons on the AirEngine 5762-12

Silkscreen	Name	Description
Default	Reset button	• For versions earlier than V200R022C00SPC100, hold down the button for more than 3 seconds to restore the factory settings and restart the device. • For V200R022C00SPC100 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-155 Technical specifications of the AirEngine 5762-12

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	95 mm x 280 mm x 250 mm (3.74 in. x 11.02 in. x 9.84 in.)
Weight without packaging [kg(lb)]	0.515 kg (1.135 lb)
Weight with packaging [kg(lb)]	0.890 kg (1.962 lb)
Storage	NAND Flash 256 MB
Console port	BLE console
Maximum power consumption [W]	11 W
Maximum heat dissipation [BTU/hour]	37.5 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH

Item	Specification
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	192 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.

Item	Specification
802.3af power supply description	No function is limited.
DC power supply description	No function is limited.

4.25 AirEngine 5762-10

4.25.1 Product Characteristics

Huawei AirEngine 5762-10 is a indoor access point (AP). It can simultaneously provide services on 2.4 GHz(2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. This AP features highbandwidth and high concurrency with compact size, facilitating flexible deployment and saving customers' investment. These strengths make the APs apply to indoor scenarios such as SOHO enterprise offices, small- and medium-sized hospitals,commercial real estate, economic chain hotels, and schools.

- Provides services simultaneously on both the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands.
- 1 x GE electrical port.
- Built-in smart antennas to provide precise coverage for STAs, reduce interference, and improve signal quality.
- Supports the Fit, Fat, and Cloud three working modes.

4.25.2 Hardware Information

Overview

Table 4-156 Basic information about the AirEngine 5762-10

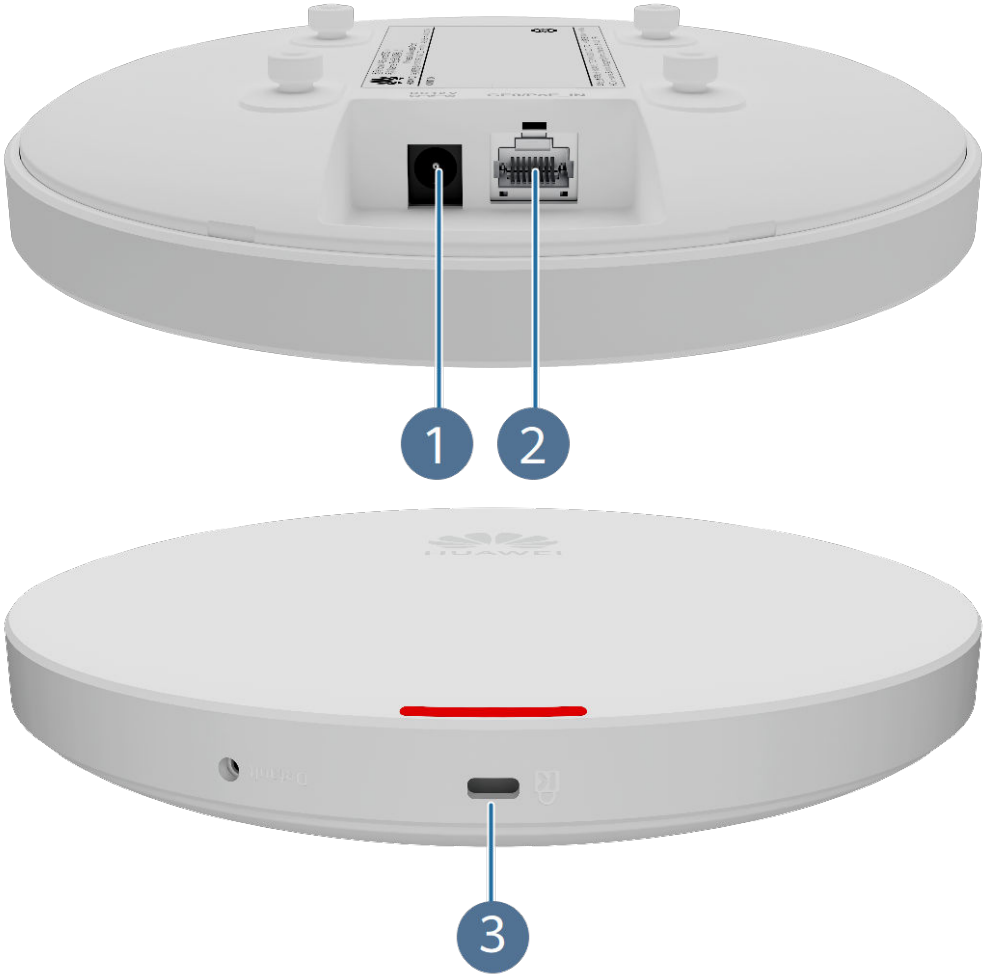
Item	Details
Description	AirEngine5762-10(11ax indoor,2+2 dual bands,smart antenna)
Part Number	50086104
Model	AirEngine 5762-10
First supported version	V200R022C10

Appearance

Figure 4-98 Appearance of the AirEngine 5762-10

Ports

Figure 4-99 Ports on the AirEngine 5762-10



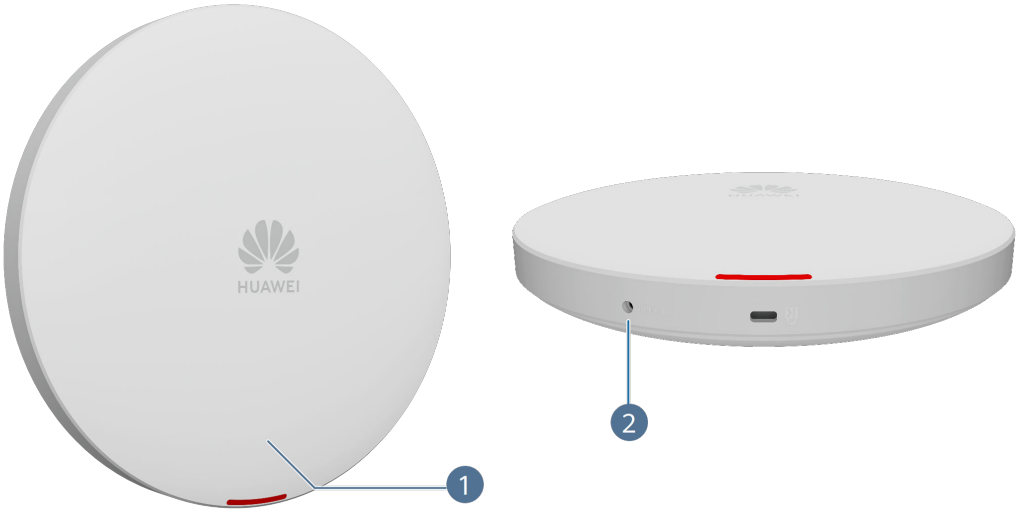
1	DC12V	2	GE0/PoE_IN
3	Security slot	-	-

Table 4-157 Ports on the AirEngine 5762-10

Port	Connector Type	Description	Available Components
GE0/PoE_IN	RJ45	10/100/1000M auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Indicators and Buttons

Figure 4-100 Indicators and buttons on the AirEngine 5762-10



The indicator is located inside the panel, which turns on after the AP is powered on.

1	Indicator	2	Default

Table 4-158 Indicators on the AirEngine 5762-10

Silkscreen	Name	Color	Status	Description
-	System indicator	Green	Steady on	The AP is just powered on and the software is not started yet.
		Green	Steady on after blinking once	After the system is reset and starts uploading the software, the indicator blinks green once. Until the software is uploaded and started, the indicator remains steady green.
		Green	Slow blinking (0.5 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	The AP works in Fat or Fit mode. • The software is being upgraded. • In Fit mode, the AP is requesting to go online or fails to go online.
		Blue	Slow blinking (0.5 Hz)	The AP works in cloud mode, has gone online on the cloud management controller, and is running properly.
		Blue	Blinking once every 0.25s (4 Hz)	The AP works in cloud mode and is connecting to the cloud management controller (including reconnection after disconnection).

Silkscreen	Name	Color	Status	Description
		Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-159 Buttons on the AirEngine 5762-10

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-160 Technical specifications of the AirEngine 5762-10

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	231mm x 200mm x 52mm

Item	Specification
Weight without packaging [kg(lb)]	0.46 kg (1.01 lb)
Weight with packaging [kg(lb)]	0.80 kg (1.76 lb)
Storage	NAND Flash 256 MB
Console port	None
Maximum power consumption [W]	11.2 W
Maximum heat dissipation [BTU/hour]	36.3 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3af
Service port surge protection	PoE port: Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion C
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
BLE	Not supported
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2

Item	Specification
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain)
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	205.07 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	No function is limited.
DC power supply description	No function is limited.

4.26 AirEngine 5776-26

4.26.1 Product Characteristics

Huawei AirEngine 5776-26 is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (4x4 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies and is equipped with built-in smart antennas to enable always-on Wi-Fi signals for users, significantly enhancing users' wireless

network experience. These strengths make the AirEngine 5776-26 ideal for indoor coverage scenarios such as SMB workplaces, schools, and retail stores.

- Provides services simultaneously on both the 2.4 GHz (2x2) and 5 GHz (4x4) frequency bands.
- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.26.2 Hardware Information

Overview

Table 4-161 Basic information about the AirEngine 5776-26

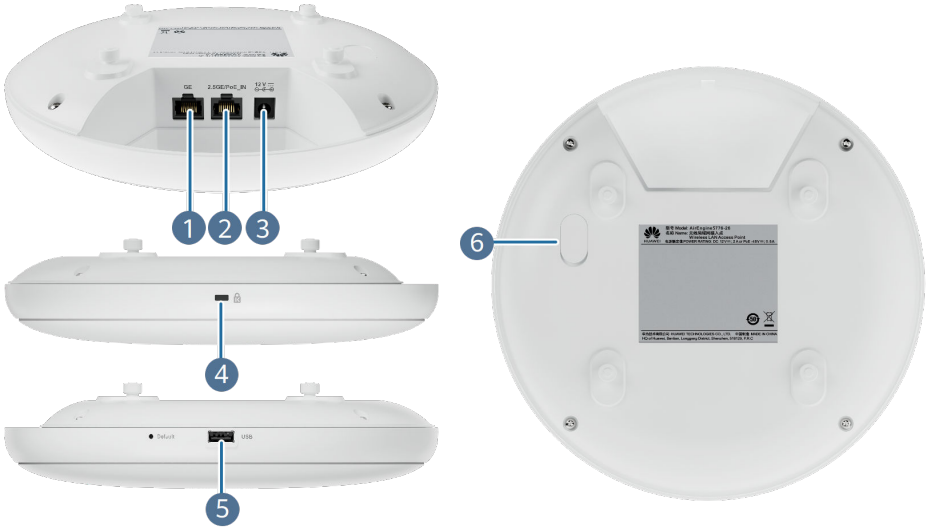
Item	Details
Description	AirEngine5776-26(11be indoor,2+4 dual bands,smart antenna,USB)
Part Number	50086829-001
Model	AirEngine 5776-26
First supported version	V600R023C10

Appearance

Figure 4-101 Appearance of the AirEngine 5776-26

Ports

Figure 4-102 Ports on the AirEngine 5776-26



1	GE	2	2.5GE/PoE_IN
3	DC 12V	4	Security slot
5	USB	6	Management console port

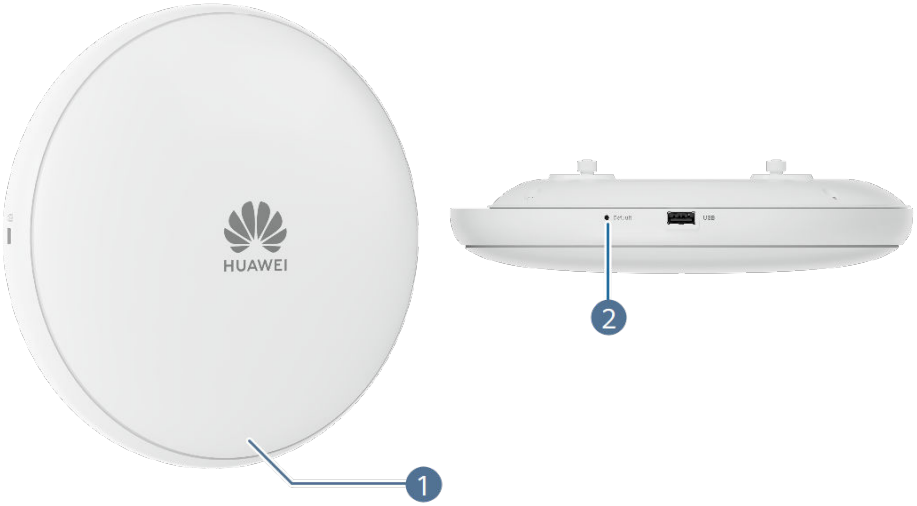
Table 4-162 Ports on the AirEngine 5776-26

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	Ethernet electrical port that supports 100M/1000M/ 2.5G auto-sensing, connects to the wired Ethernet, and supports PoE input.	Network cable

Port	Connector Type	Description	Available Components
GE	RJ45	Ethernet electrical port that supports 10M/100M/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V power adapter
USB	USB 3.0 Type A	Connects to an IoT terminal to implement IoT applications. The function is unavailable currently and will be supported through software upgrade in the future.	IoT module
Management console port	-	Management console port, allowing operations only by professionals	-

Indicators and Buttons

Figure 4-103 Indicators and buttons on the AirEngine 5776-26



1	Indicator	2	Default

Table 4-163 Indicators on the AirEngine 5776-26

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.
		Green	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.

Silkscreen	Name	Color	Status	Description
		Red	Steady on	The system is faulty.

Table 4-164 Buttons on the AirEngine 5776-26

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-165 Technical specifications of the AirEngine 5776-26

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 45 mm (8.66 in. x 1.77 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	72 mm x 260 mm x 255 mm (2.83 in. x 10.24 in. x 10.04 in.)
Weight without packaging [kg(lb)]	0.730 kg (1.61 lb)
Weight with packaging [kg(lb)]	1.215 kg (2.68 lb)
Storage	NAND Flash 512 MB
Console port	Bluetooth console port (This function is unavailable currently and will be supported through software upgrade in the future.)
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V

Item	Specification
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2500M auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH (non-condensing)
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 3.0 is unavailable currently and will be supported through software upgrade in the future.
BLE	Not supported
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 4x4
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz:802.11a/n/ac/ac Wave 2/ax/be
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 2 dBi (combined gain) 5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) BT: 4 dBi
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
Frequency stability [ppm]	+/-20
802.3bt power supply description	In 802.3bt power supply mode, the AP still negotiates the power supply standard to 802.3at. The function constraints are the same as those in 802.3at power supply.
802.3at power supply description	No function is limited.
802.3af power supply description	This function is not supported currently and will be supported through software upgrade in the future.
DC power supply description	No function is limited.

4.27 AirEngine 5773-21

4.27.1 Product Characteristics

Huawei AirEngine 5773-21 is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies and is equipped with built-in smart antennas

to enable always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. Additionally, it has a compact size, facilitating flexible deployment and saving customer investment. These strengths make the AirEngine 5773-21 ideal for indoor coverage scenarios such as SMB workplaces, hospitals, and shopping malls and supermarkets.

- Provides services simultaneously on both the 2.4 GHz (2x2) and 5 GHz (2x2) frequency bands.
- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.27.2 Hardware Information

Overview

Table 4-166 Basic information about the AirEngine 5773-21

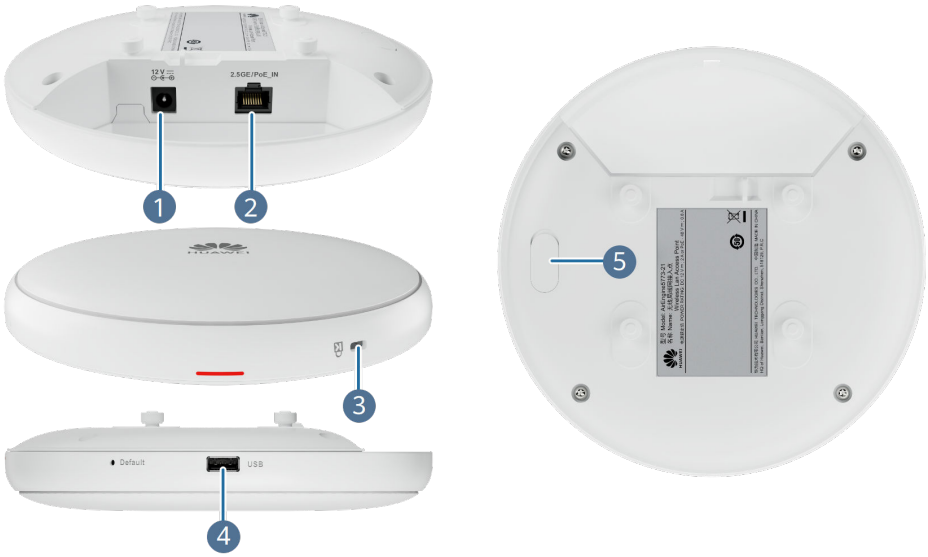
Item	Details
Description	AirEngine5773-21(11be indoor,2+2 dual bands,smart antenna,USB,BLE)
Part Number	50086767-001
Model	AirEngine 5773-21
First supported version	V600R023C10

Appearance

Figure 4-104 Appearance of the AirEngine 5773-21

Ports

Figure 4-105 Ports on the AirEngine 5773-21



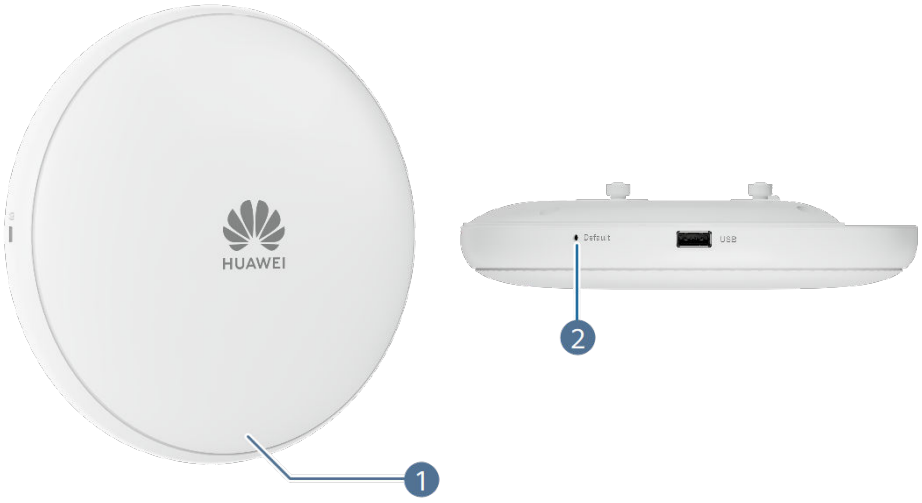
1	DC 12V	2	2.5GE/PoE_IN
3	Security slot	4	USB
5	Management console port	-	-

Table 4-167 Ports on the AirEngine 5773-21

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB Type A	Connects to an IoT terminal to implement IoT applications. The USB port is unavailable currently and will be supported through software upgrade in the future.	IoT module
Management console port	-	Management console port, allowing operations only by professionals	-

Indicators and Buttons

Figure 4-106 Indicators and buttons on the AirEngine 5773-21



1	Indicator	2	Default

Table 4-168 Indicators on the AirEngine 5773-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the system starts.
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	• The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-169 Buttons on the AirEngine 5773-21

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-170 Technical specifications of the AirEngine 5773-21

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	61 mm x 231 mm x 203 mm (2.40 in. x 9.09 in. x 7.99 in.)
Weight without packaging [kg(lb)]	0.47 kg (1.04 lb)
Weight with packaging [kg(lb)]	0.69 kg (1.52 lb)
Storage	NAND Flash 256 MB
Console port	BLE console
Maximum power consumption [W]	13.60 W
Maximum heat dissipation [BTU/hour]	44.1 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af

Item	Specification
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2500 Mbit/s auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa ~ 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	The USB function is unavailable and will be supported through software upgrade in the future.
BLE	BLE5.4
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz:802.11a/n/ac/ac Wave 2/ax/be
Radio interface	Built-in smart antennas

Item	Specification
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 1 dBi (combined gain) 5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) BLE: 4 dBi (peak gain)
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	158.215 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	The USB function is not supported. Other functions are not restricted.
DC power supply description	No function is limited.

4.28 AirEngine 5773-22P

4.28.1 Product Characteristics

Huawei AirEngine 5773-22P is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies and is equipped with built-in smart antennas to enable always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. Additionally, it has a compact size, facilitating flexible deployment and saving customer investment. These strengths make the AirEngine 5773-22P ideal for indoor coverage scenarios such as SMB workplaces, hospitals, and stores.

- Provides services simultaneously on both the 2.4 GHz (2x2) and 5 GHz (2x2) frequency bands.
- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.28.2 Hardware Information

Overview

Table 4-171 Basic information about the AirEngine 5773-22P

Item	Details
Description	AirEngine5773-22P(11be indoor,2+2 dual bands,smart antenna,USB,BLE,PoE OUT)
Part Number	50086833-001
Model	AirEngine 5773-22P
First supported version	V600R023C10

Indicators and Buttons

Table 4-172 Indicators on the AirEngine 5773-22P

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the system starts.
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	• The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-173 Buttons on the AirEngine 5773-22P

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Ports

Table 4-174 Ports on the AirEngine 5773-22P

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE/PoE_OUT	RJ45	10/100/1000M auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE output.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB Type A	Connects to an IoT terminal to implement IoT applications. The USB port is unavailable currently and will be supported through software upgrade in the future.	IoT module

Technical Specifications

Table 4-175 Technical specifications of the AirEngine 5773-22P

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	61 mm x 231 mm x 203 mm (2.40 in. x 9.09 in. x 7.99 in.)
Weight without packaging [kg(lb)]	0.51 kg (1.12 lb)
Weight with packaging [kg(lb)]	0.70 kg (1.54 lb)
Storage	NAND Flash 256 MB
Console port	BLE console
Maximum power consumption [W]	14.04 W
Maximum heat dissipation [BTU/hour]	45.5 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B
Maximum PoE output power [W]	10 W
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2500M auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing

Item	Specification
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa ~ 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	The USB function is unavailable and will be supported through software upgrade in the future.
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz:802.11a/n/ac/ac Wave 2/ax/be
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 1 dBi (combined gain) 5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) BLE: 4 dBi (peak gain)

Item	Specification
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	152.890 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	Either the USB or PoE OUT (10 W) function is available, and the PoE OUT function is preferentially guaranteed. The USB function is unavailable currently and will be supported through software upgrade in the future.
802.3af power supply description	The USB and PoE OUT functions are not supported. Other functions are not restricted.
DC power supply description	The PoE OUT function is not supported. Other functions are not restricted.

4.29 AirEngine 5773-23H

4.29.1 Product Characteristics

Huawei AirEngine 5773-23H is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies, significantly enhancing users' wireless network experience. Additionally, it supports hybrid cables and simplified architecture solution, facilitating flexible deployment and saving customer investment. These strengths make the AirEngine 5773-23H ideal for indoor coverage scenarios such as SMB workplaces, higher education institutions, and hospitals.

- Provides services simultaneously on both the 2.4 GHz (2x2) and 5 GHz (2x2) frequency bands.

- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.29.2 Hardware Information

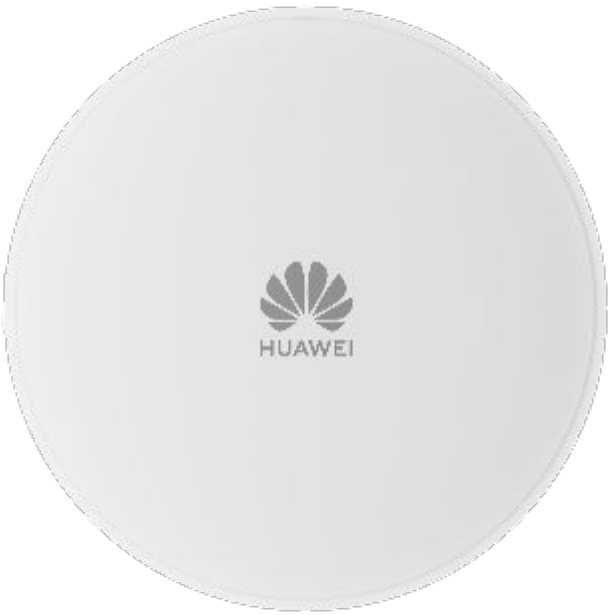
Overview

Table 4-176 Basic information about the AirEngine 5773-23H

Item	Details
Description	AirEngine5773-23H(11be indoor,2+2 dual bands,smart antenna,USB,BLE,1*2.5G/GE port with a BIDI LC connector)
Part Number	50086834
Model	AirEngine 5773-23H
First supported version	V600R023C10

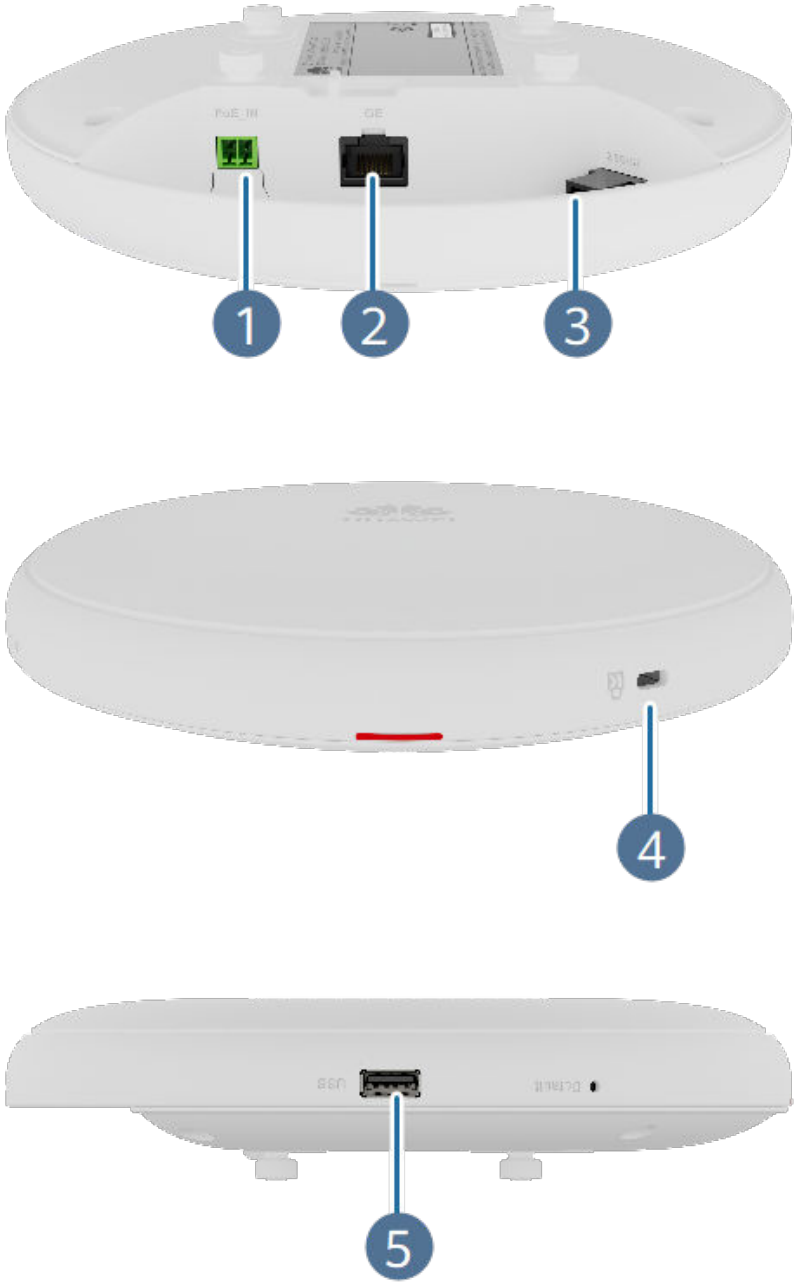
Appearance

Figure 4-107 Appearance of the AirEngine 5773-23H



Ports

Figure 4-108 Ports on the AirEngine 5773-23H



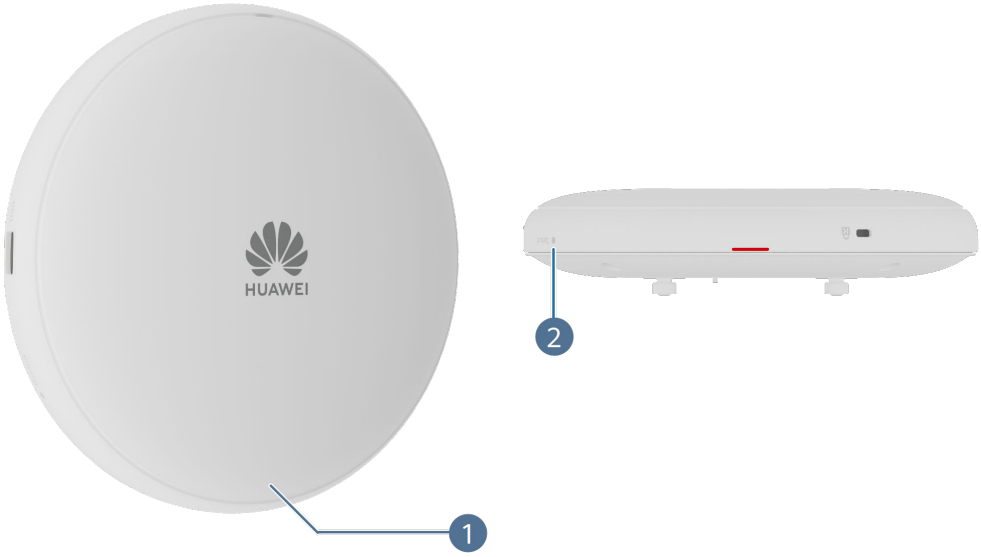
1	PoE_IN	2	GE
3	2.5G/GE	4	Security slot
5	USB	-	-

Table 4-177 Ports on the AirEngine 5773-23H

Port	Connector Type	Description	Available Components
2.5G/GE	LC	Optical port used for uplink Ethernet communication, supporting 2.5 Gbit/s and 1 Gbit/s.	LC optical fiber
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
PoE_IN	Phoenix terminal block	Supplies power to the device over the DC power cable in a hybrid cable when a PSE supplies power to the AP through this port.	Phoenix terminal block
USB	USB Type A	Connects to an IoT terminal to implement IoT applications. The USB port is unavailable currently and will be supported through software upgrade in the future.	IoT module

Indicators and Buttons

Figure 4-109 Indicators and buttons on the AirEngine 5773-23H



1	Indicator	2	Default

Table 4-178 Indicators on the AirEngine 5773-23H

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the system starts.
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	• The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-179 Buttons on the AirEngine 5773-23H

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-180 Technical specifications of the AirEngine 5773-23H

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	61 mm x 231 mm x 203 mm (2.40 in. x 9.09 in. x 7.99 in.)
Weight without packaging [kg(lb)]	0.52 kg (1.15 lb)
Weight with packaging [kg(lb)]	0.71 kg (1.57 lb)
Storage	NAND Flash 256 MB
Console port	BLE console
Maximum power consumption [W]	14.04 W
Maximum heat dissipation [BTU/hour]	45.5 BTU/hour
Power supply mode	PoE
Input voltage range [V]	PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B AC power adapter: Differential mode: 2.5 kV (1.2/50 us, 2 ohms), criterion B Common mode: 4 kV (1.2/50 μs, 12 ohms), criterion B Non-PoE ports: Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms, criterion B Hybrid optical-electrical DC port: 1 kV (2 ohms)/2 kV (12 ohms), criterion C
Maximum number of physical ports on the entire device	2.5GE (LC) optical port x 1 GE (RJ45) x 1, 10M/100M/1000M auto-sensing

Item	Specification
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa ~ 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	The USB function is unavailable and will be supported through software upgrade in the future.
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz:802.11a/n/ac/ac Wave 2/ax/be
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 1 dBi (combined gain) 5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) BLE: 4 dBi (peak gain)

Item	Specification
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	157.009 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	The USB function is not supported. Other functions are not restricted.

4.30 AirEngine 5573-23H

4.30.1 Product Characteristics

Huawei AirEngine 5573-23H is a next-generation indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. The AP is empowered by brand-new Wi-Fi 7 technologies, significantly enhancing users' wireless network experience. Additionally, it supports hybrid cables and simplified architecture solution, facilitating flexible deployment and saving customer investment. These strengths make the AirEngine 5773-23H ideal for indoor coverage scenarios such as SMB workplaces, higher education institutions, and hospitals.

- Provides services simultaneously on both the 2.4 GHz (2x2) and 5 GHz (2x2) frequency bands.
- Has built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm. Such capability enables the AP to flexibly adapt to the application environment changes, providing accurate and stable coverage as STAs move.

4.30.2 Hardware Information

Overview

Table 4-181 Basic information about the AirEngine 5573-23H

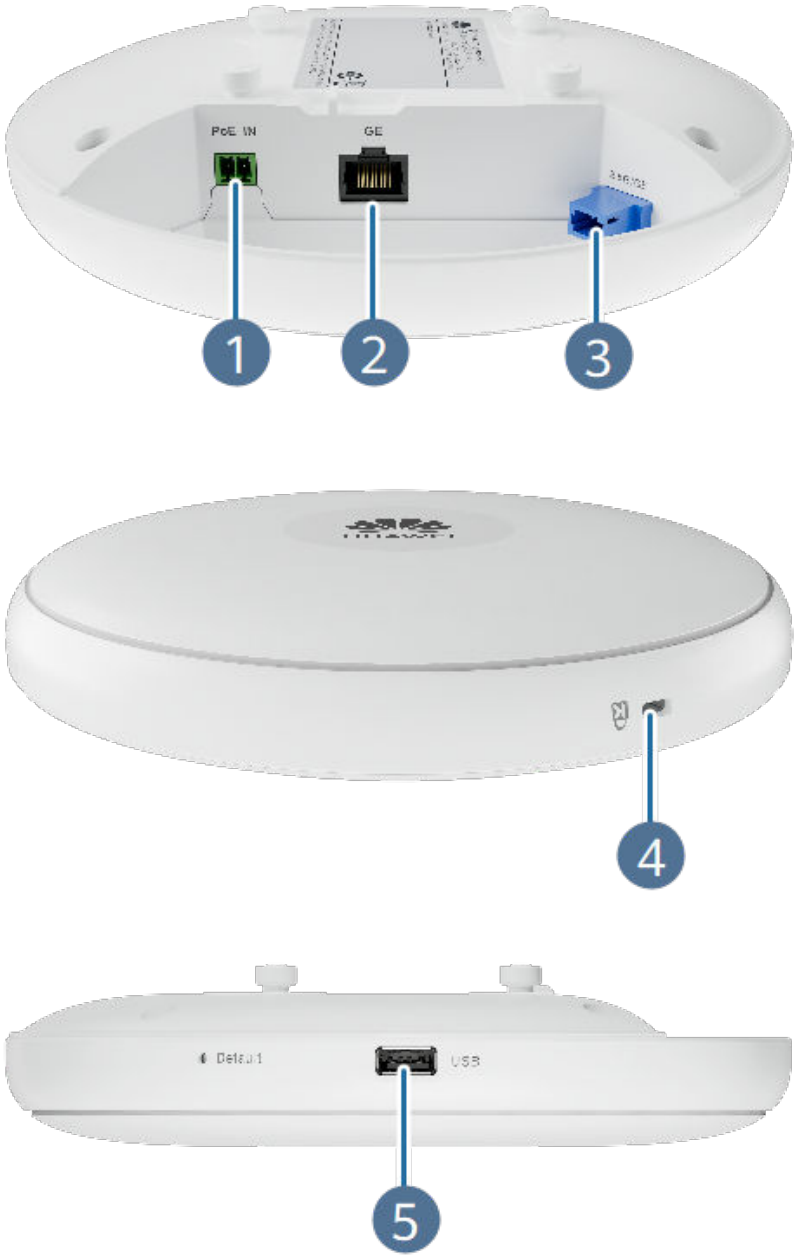
Item	Details
Description	AirEngine5573-23H(11be indoor,2+2 dual bands,smart antenna,USB,BLE,1*2.5G/GE port with a BIDI LC connector)
Part Number	50087251
Model	AirEngine 5573-23H
First supported version	V600R023C10

Appearance

Figure 4-110 Appearance of the AirEngine 5573-23H

Ports

Figure 4-111 Ports on the AirEngine 5573-23H



1	PoE_IN	2	GE

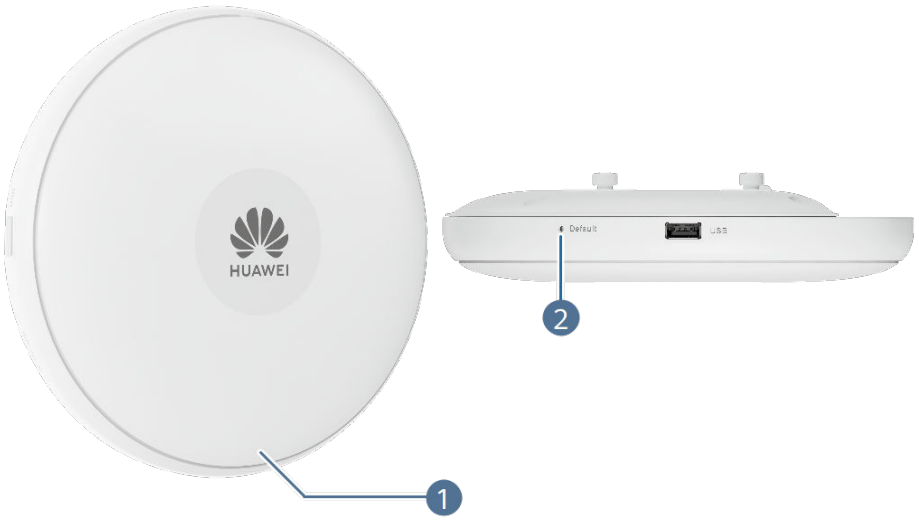
3	2.5G/GE	4	Security slot
5	USB	-	-

Table 4-182 Ports on the AirEngine 5573-23H

Port	Connector Type	Description	Available Components
2.5G/GE	LC	Optical port used for uplink Ethernet communication, supporting 2.5 Gbit/s and 1 Gbit/s.	LC optical fiber
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
PoE_IN	Phoenix terminal block	Supplies power to the device over the DC power cable in a hybrid cable when a PSE supplies power to the AP through this port.	Phoenix terminal block
USB	USB Type A	Connects to an IoT terminal to implement IoT applications. The USB port is unavailable currently and will be supported through software upgrade in the future.	IoT module

Indicators and Buttons

Figure 4-112 Indicators and buttons on the AirEngine 5573-23H



1	Indicator	2	Default

Table 4-183 Indicators on the AirEngine 5573-23H

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		Green	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the system starts.
		Green	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP is running properly, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	• The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-184 Buttons on the AirEngine 5573-23H

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-185 Technical specifications of the AirEngine 5573-23H

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	61 mm x 231 mm x 203 mm (2.40 in. x 9.09 in. x 7.99 in.)
Weight without packaging [kg(lb)]	0.52 kg (1.15 lb)
Weight with packaging [kg(lb)]	0.71 kg (1.57 lb)
Storage	NAND Flash 256 MB
Console port	BLE console
Maximum power consumption [W]	14.04 W
Maximum heat dissipation [BTU/hour]	45.5 BTU/hour
Power supply mode	PoE
Input voltage range [V]	PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B AC power adapter: Differential mode: 2.5 kV (1.2/50 us, 2 ohms), criterion B Common mode: 4 kV (1.2/50 μs, 12 ohms), criterion B Non-PoE ports: Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms, criterion B Hybrid optical-electrical DC port: 1 kV (2 ohms)/2 kV (12 ohms), criterion C
Maximum number of physical ports on the entire device	2.5GE (LC) optical port x 1 GE (RJ45) x 1, 10M/100M/1000M auto-sensing

Item	Specification
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa ~ 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	The USB function is unavailable and will be supported through software upgrade in the future.
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax/be 5 GHz:802.11a/n/ac/ac Wave 2/ax/be
Radio interface	Built-in smart antennas
Antenna gain	2.4 GHz: 4 dBi/chain (peak gain) 1 dBi (combined gain) 5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain) BLE: 4 dBi (peak gain)

Item	Specification
Maximum transmit power	2.4 GHz: 20 dBm/chain 23 dBm (combined power) 5 GHz: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	157.009 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	The USB function is not supported. Other functions are not restricted.

4.31 AirEngine 5562-10

4.31.1 Product Characteristics

Huawei AirEngine 5562-10 is a Wi-Fi 6 (802.11ax) indoor access point (AP). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. This AP features highbandwidth and high concurrency with compact size, facilitating flexible deployment and saving customers' investment. These strengths make the APs apply to indoor scenarios such as SOHO enterprise offices, small- and medium-sized hospitals,commercial real estate, economic chain hotels, and schools.

- Provides services simultaneously on both the 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands.
- 1 x GE electrical port.
- Built-in smart antennas to provide precise coverage for STAs, reduce interference, and improve signal quality.
- Supports the Fit, Fat, and Cloud three working modes.

4.31.2 Hardware Information

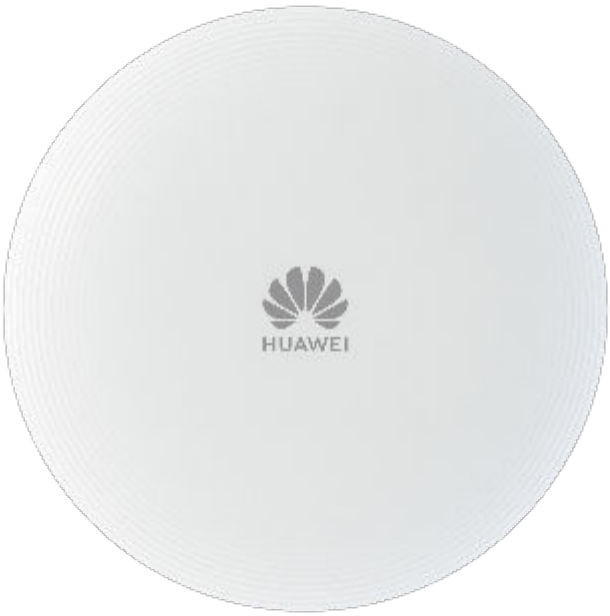
Overview

Table 4-186 Basic information about the AirEngine 5562-10

Item	Details
Description	AirEngine5562-10(11ax indoor,2+2 dual bands,smart antenna)
Part Number	50086387
Model	AirEngine 5562-10
First supported version	V200R022C10

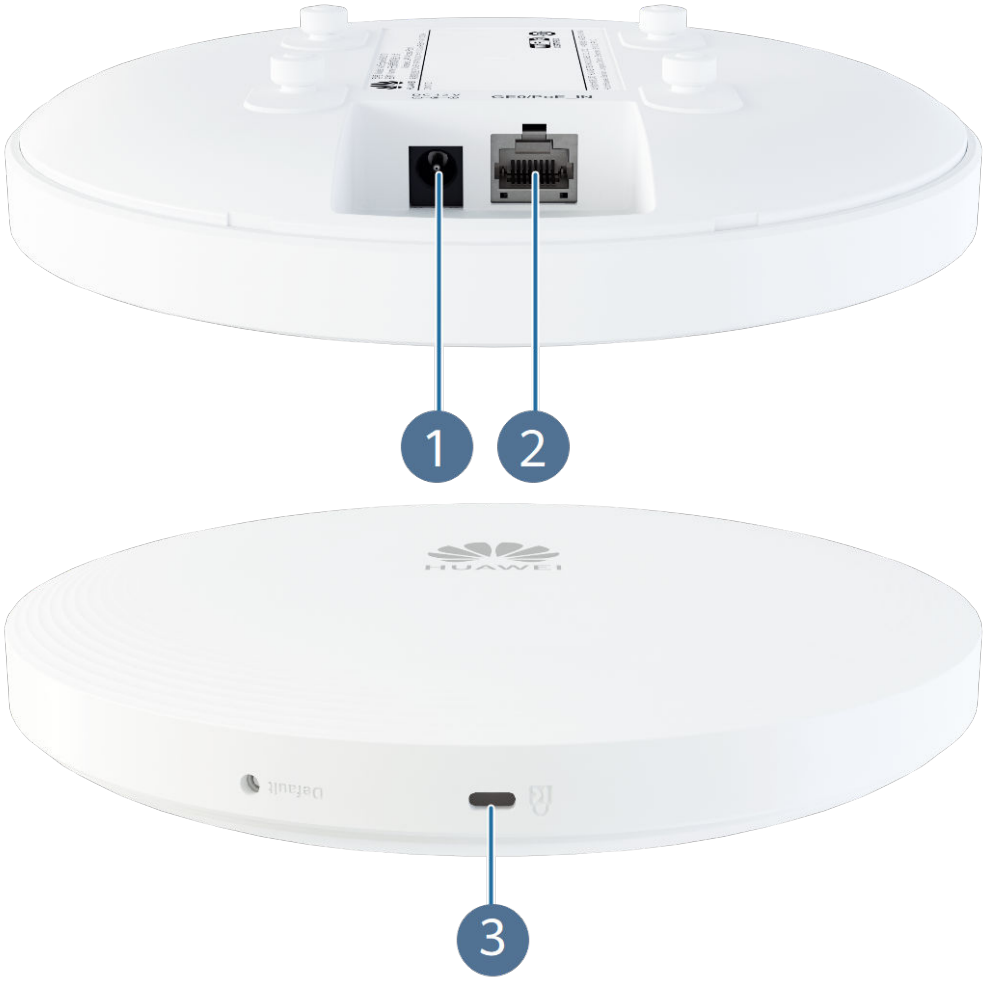
Appearance

Figure 4-113 Appearance of the AirEngine 5562-10



Ports

Figure 4-114 Ports on the AirEngine 5562-10



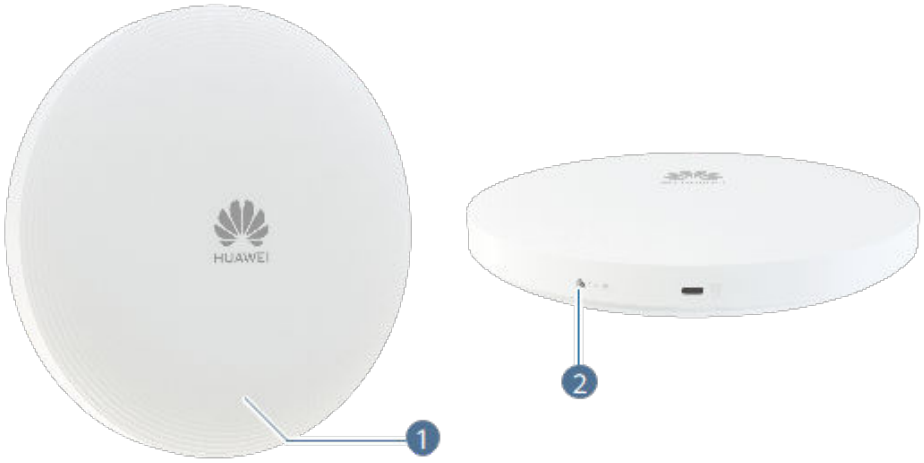
1	DC12V	2	GE0/PoE_IN
3	Security slot	-	-

Table 4-187 Ports on the AirEngine 5562-10

Port	Connector Type	Description	Available Components
GE0/PoE_IN	RJ45	10/100/1000M auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Indicators and Buttons

Figure 4-115 Indicators and buttons on the AirEngine 5562-10



The indicator is located inside the panel, which turns on after the AP is powered on.

1	Indicator	2	Default

Table 4-188 Indicators on the AirEngine 5562-10

Silkscreen	Name	Color	Status	Description
-	System indicator	Green	Steady on	The AP is just powered on and the software is not started yet.
		Green	Steady on after blinking once	After the system is reset and starts uploading the software, the indicator blinks green once. Until the software is uploaded and started, the indicator remains steady green.
		Green	Slow blinking (0.5 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	The AP works in Fat or Fit mode. • The software is being upgraded. • In Fit mode, the AP is requesting to go online or fails to go online.
		Blue	Slow blinking (0.5 Hz)	The AP works in cloud mode, has gone online on the cloud management controller, and is running properly.
		Blue	Blinking once every 0.25s (4 Hz)	The AP works in cloud mode and is connecting to the cloud management controller (including reconnection after disconnection).

Silkscreen	Name	Color	Status	Description
		Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-189 Buttons on the AirEngine 5562-10

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-190 Technical specifications of the AirEngine 5562-10

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	231mm x 200mm x 52mm

Item	Specification
Weight without packaging [kg(lb)]	0.46 kg (1.01 lb)
Weight with packaging [kg(lb)]	0.80 kg (1.76 lb)
Storage	NAND Flash 256 MB
Console port	None
Maximum power consumption [W]	11.2 W
Maximum heat dissipation [BTU/hour]	36.3 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3af
Service port surge protection	PoE port: Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion C
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (If the altitude is in the range of 1800 m to 5000 m, the temperature decreases by 1°C or 1.8°F every time the altitude increases by 300 m.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
BLE	Not supported
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2

Item	Specification
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain)
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	205.07 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	No function is limited.
DC power supply description	No function is limited.

4.32 AirEngine 5561-12

4.32.1 Product Characteristics

Huawei AirEngine 5561-12 is an indoor AP in compliance with Wi-Fi 6 (802.11ax). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands. Built-in smart antennas of the AP enable always-on Wi-Fi signals for users, significantly enhancing users' wireless experiences. This AP features high bandwidth and high concurrency with compact size, facilitating flexible deployment and saving customers' investment. These strengths make the

AirEngine 5561-12 ideal for scenarios requiring high bandwidth and high-quality network experience, such as small and midsize enterprise offices, education, and healthcare.

- Dual-radio mode: 2.4 GHz (2x2 MIMO) + 5 GHz (2x2 MIMO).
- 2 x GE port.
- Built-in smart antennas to provide precise coverage for STAs, reduce interference, and improve signal quality.
- Built-in IoT slots (PCIe) and USB port for IoT expansion 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.

4.32.2 Hardware Information

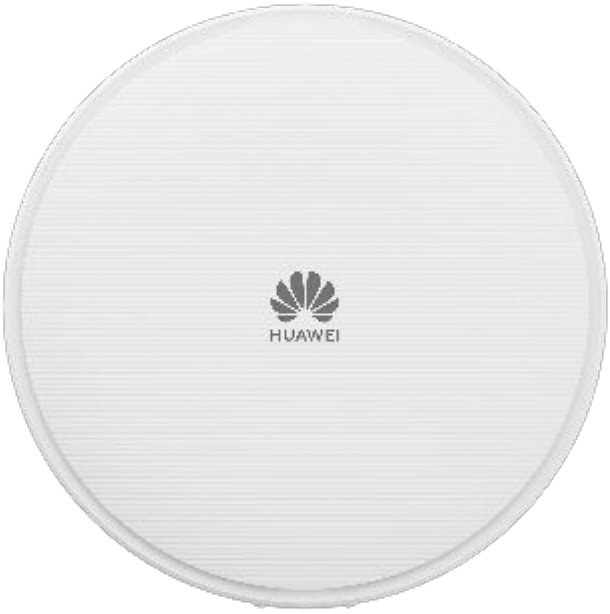
Overview

Table 4-191 Basic information about the AirEngine 5561-12

Item	Details
Description	AirEngine5561-12(11ax indoor,2+2 dual bands,smart antenna,USB,IoT Slot,BLE)
Part Number	02355XGC
Model	AirEngine 5561-12
First supported version	V200R023C10

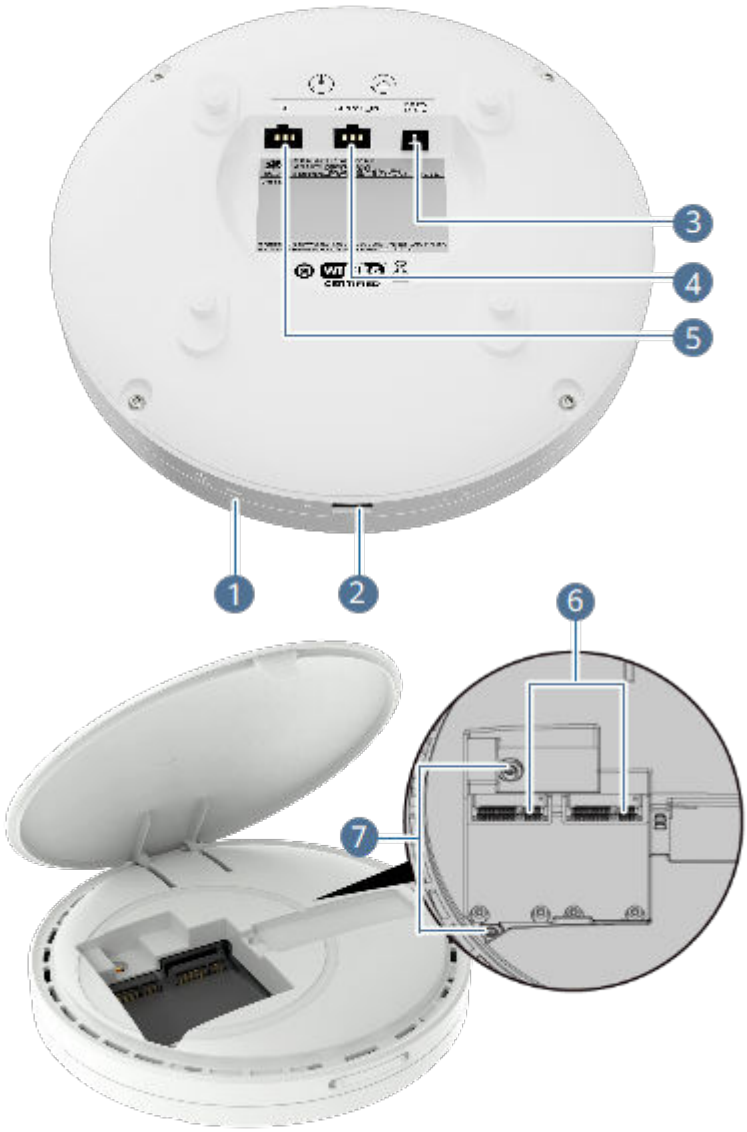
Appearance

Figure 4-116 Appearance of the AirEngine 5561-12



Ports

Figure 4-117 Ports on the AirEngine 5561-12



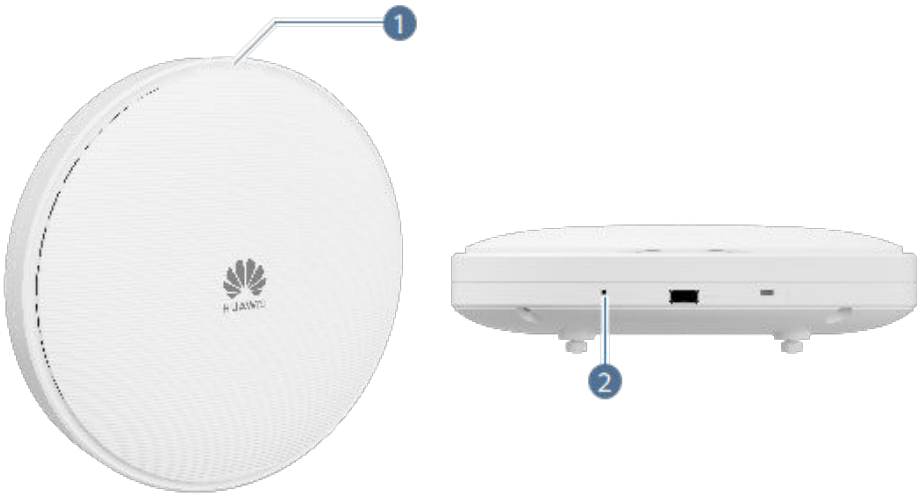
1	Security slot	2	USB
3	DC 12V	4	GE/PoE_IN
5	GE	6	IoT card slot
7	IoT antenna port	-	-

Table 4-192 Ports on the AirEngine 5561-12

Port	Connector Type	Description	Available Components
GE/PoE_IN	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing, connects to the wired Ethernet, and supports PoE input	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
IoT card slot	-	Connects to an IoT terminal to implement IoT applications.	IoT card
IoT antenna port	MCX	Connects an IoT card to the built-in IoT antenna of the AP. When installing an IoT card, you can use the built-in IoT antenna of the AP or an independent FPC antenna.	RF jumper
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-118 Indicators and buttons on the AirEngine 5561-12



1	Indicator	2	Default

Table 4-193 Indicators on the AirEngine 5561-12

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.

Silkscreen	Name	Color	Status	Description
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP. This state is supported in V200R022C00 and later versions.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal. For V200R022C00 and later versions, this state also indicates that no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-194 Buttons on the AirEngine 5561-12

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts.

Technical Specifications

Table 4-195 Technical specifications of the AirEngine 5561-12

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 51 mm (8.66 in. x 2.01 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	93 mm x 284 mm x 251 mm (3.66 in. x 11.18 in. x 9.88 in.)
Weight without packaging [kg(lb)]	1.09 kg (2.40 lb)
Weight with packaging [kg(lb)]	1.55 kg (3.42 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	12.63 (excluding USB)
Maximum heat dissipation [BTU/hour]	43.1 BTU/hour
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 2, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH

Item	Specification
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	147 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.

Item	Specification
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (2x2). The maximum combined power is adjusted to 22 dBm (2.4 GHz) and 22 dBm (5 GHz). Wired network port: The GE/PoE_IN port is available, but the GE port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.33 AP661

4.33.1 Product Characteristics

AP661 is a wireless access point (AP) in compliance with the Wi-Fi 6 standard. It can simultaneously provide services on three frequency bands: 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO), and 5 GHz (4x4 MIMO) frequency bands. The AP uses built-in smart antennas to ensure always-on Wi-Fi signals for users, significantly enhancing users' wireless network experience. It is ideal for densely populated scenarios such as mobile office, education, and stadiums.

- 1 x 2.5GE electrical port + 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the application environment change, and provide accurate and stable coverage as STAs move
- USB port for IoT expansion (such as ZigBee and RFID)
- Bluetooth serial interface-based O&M through the built-in Bluetooth module by collaborating with CloudCampus APP; collaboration with a location server to accurately locate Bluetooth terminals and tags
- Working modes: Fit, Fat, and cloud management

4.33.2 Hardware Information

Overview

Table 4-196 Basic information about the AP661

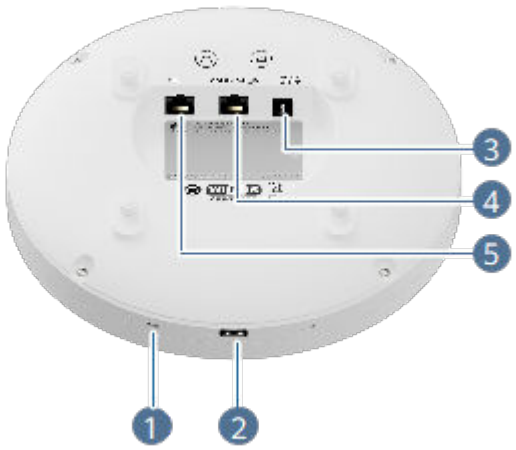
Item	Details
Description	AP661(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)
Part Number	02355VFC
Model	AP661
First supported version	V200R023C10

Appearance

Figure 4-119 Appearance of the AP661

Ports

Figure 4-120 Ports on the AP661



1	Security slot	2	USB
3	DC 12V	4	2.5GE/PoE_IN
5	GE	-	-

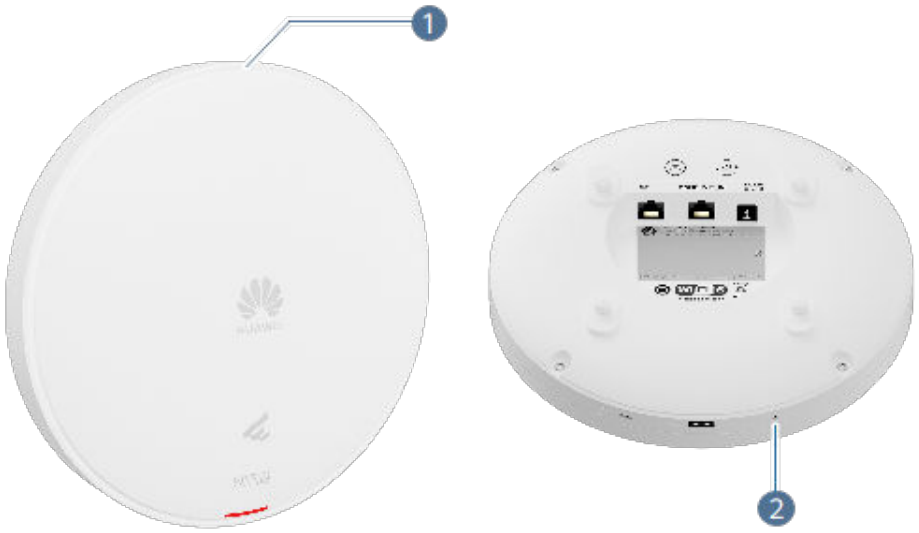
Table 4-197 Ports on the AP661

Port	Connector Type	Description	Available Components
2.5GE/PoE_IN	RJ45	100M/1000M/2.5G auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
GE	RJ45	Ethernet electrical port that supports 10/100/1000M auto-sensing and connects to the wired Ethernet.	Network cable

Port	Connector Type	Description	Available Components
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter
USB	USB 2.0 Type A	Connects to an IoT terminal to implement IoT applications.	IoT module

Indicators and Buttons

Figure 4-121 Indicators and buttons on the AP661



1	Indicator	2	Default

Table 4-198 Indicators on the AP661

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.

Silkscreen	Name	Color	Status	Description
		White	Steady on	• The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		White	Steady on after blinking once	After the hardware reset is cleared and the software starts, the indicator blinks once. Then, the indicator is steady on until the bottom-layer system starts.
		White	Slow blinking (0.5 Hz)	The AP is running properly, the Ethernet connection is normal, and STAs are associated with the AP.
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal.

Silkscreen	Name	Color	Status	Description
		White	Blinking once every 0.25s (4 Hz)	• The bottom-layer system is being started. • The software is being upgraded. • After the software is loaded and started, the AP requests to go online in Fit or cloud management mode. The indicator remains in this state till the AP successfully goes online.
		Red	Steady on	The system is faulty.

Table 4-199 Buttons on the AP661

Silkscreen	Name	Description
Default	Reset button	If you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the cloud mode, and restarts.

Technical Specifications

Table 4-200 Technical specifications of the AP661

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 220 mm x 50 mm (8.66 in. x 1.97 in.)
Weight without packaging [kg(lb)]	1.08 kg (2.38 lb)
Storage	NAND Flash 512 MB
Console port	BLE console
Maximum power consumption [W]	21.2 (excluding USB), 802.3at/af power supply
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3at/af
Service port surge protection	PoE port: Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	2.5GE (RJ45) x 1, 100M/1000M/2.5G auto-sensing GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)

Item	Specification
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
USB	USB 2.0
BLE	BLE5.2
Radio number	3
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2 (high frequency band) Radio 2 (5 GHz): 4x4 (low frequency band)
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain) BLE: 4 dBi
Maximum transmit power	2.4 GHz: 22 dBm/chain 25 dBm (combined power) 5 GHz (2x2): 20 dBm/chain 23 dBm (combined power) 5 GHz (4x4): 20 dBm/chain 26 dBm (combined power) BLE: < 10 dBm
Singal radio transmit power [dBm]	2.4G: -10 dBm to 22 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	96 year

Item	Specification
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3at power supply description	No function is limited.
802.3af power supply description	Wi-Fi: 2.4 GHz (2x2) + 5 GHz (1x1, high band) + 5 GHz (1x1, low band). The maximum combined power is adjusted to 21 dBm (2.4 GHz radio) and 18 dBm (5 GHz radio). Wired network port: The 2.5GE/PoE_IN electrical port is used as a GE port, and the GE electrical port is unavailable. Other ports: The USB port is unavailable.
DC power supply description	No function is limited.

4.34 AP362

4.34.1 Product Characteristics

AP362 is Huawei's indoor Wi-Fi 6 (802.11ax) AP. It can simultaneously provide services on the 2.4 GHz (2x2) and 5 GHz (2x2) frequency bands. This AP features high bandwidth, high concurrency, and compact size, facilitating flexible deployment and saving customer investment. Such strengths make the AP a good fit for indoor coverage in SME markets, such as SME Network enterprise offices, small- and medium-sized hospitals, commercial real estate, budget chain hotels, and primary and secondary schools.

- Working simultaneously on the 2.4 GHz (2x2) + 5 GHz (2x2) frequency bands
- 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the changing application environment, providing accurate and stable coverage as STAs move
- Working modes: Fit, Fat, and cloud management

4.34.2 Hardware Information

Overview

Table 4-201 Basic information about the AP362

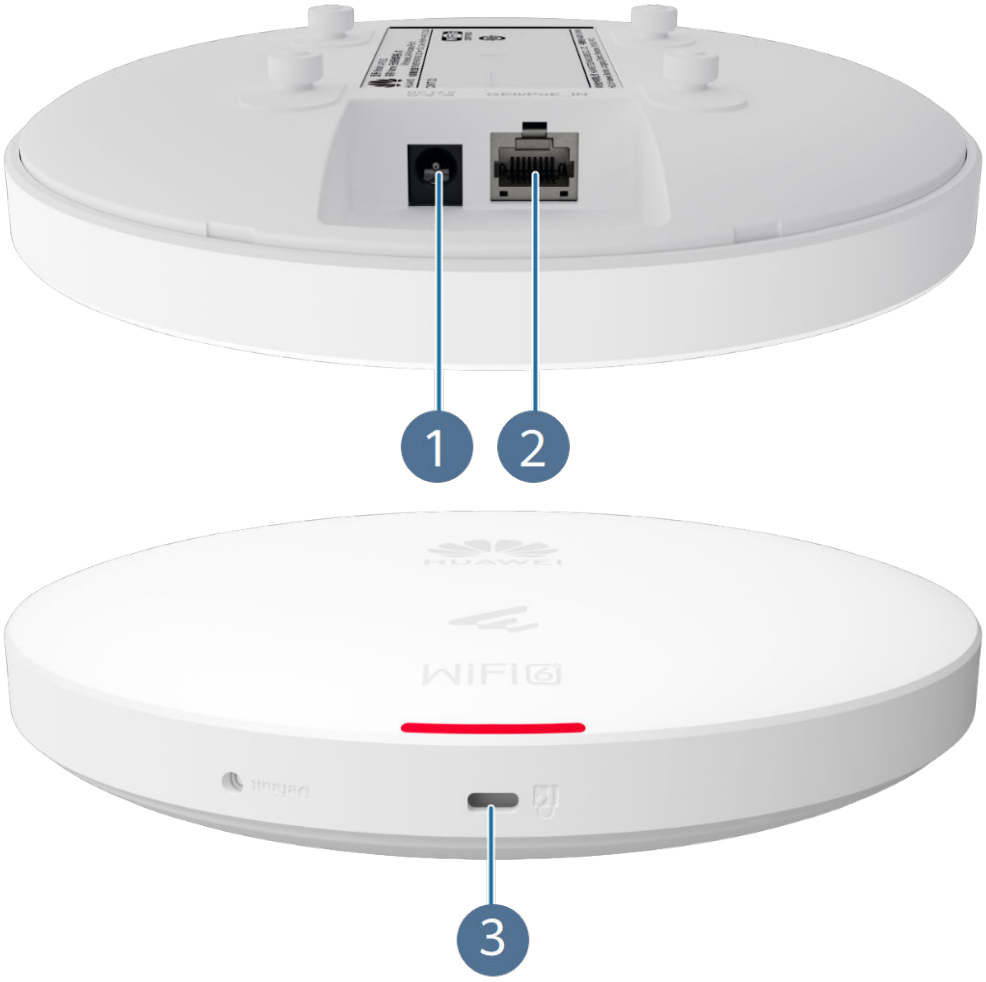
Item	Details
Description	AP362(11ax indoor,2+2 dual bands,smart antenna)
Part Number	50085706
Model	AP362
First supported version	V200R021C11

Appearance

Figure 4-122 Appearance of the AP362

Ports

Figure 4-123 Ports on the AP362



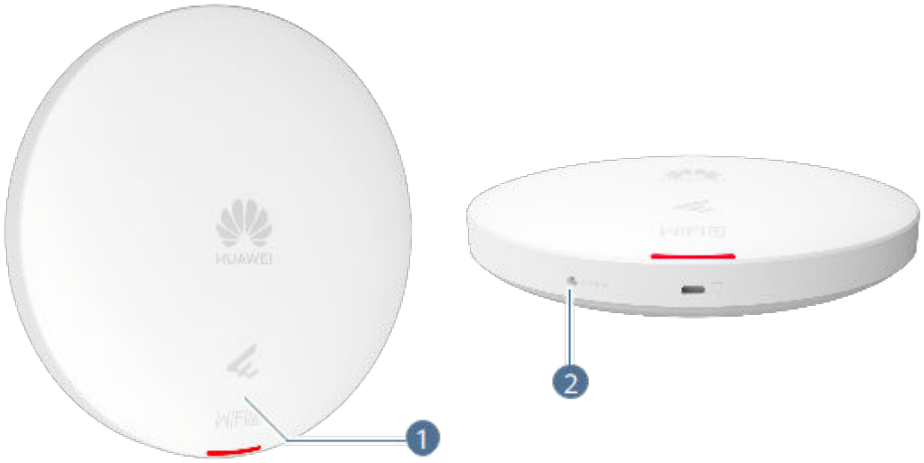
1	DC12V	2	GE0/PoE_IN
3	Security slot	-	-

Table 4-202 Ports on the AP362

Port	Connector Type	Description	Available Components
GE0/PoE_IN	RJ45	10/100/1000M auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable
DC 12V	DC connector	Connects to a 12 V power adapter.	12 V DC power adapter

Indicators and Buttons

Figure 4-124 Indicators and buttons on the AP362



The indicator is located inside the panel, which turns on after the AP is powered on.

1	Indicator	2	Default

Table 4-203 Indicators on the AP362

Silkscreen	Name	Color	Status	Description
-	System indicator	Green	Steady on	The AP is just powered on and the software is not started yet.
		Green	Steady on after blinking once	After the system is reset and starts uploading the software, the indicator blinks green once. Until the software is uploaded and started, the indicator remains steady green.
		Green	Slow blinking (0.5 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	The AP works in Fat or Fit mode. • The software is being upgraded. • In Fit mode, the AP is requesting to go online or fails to go online.
		Blue	Slow blinking (0.5 Hz)	The AP works in cloud mode, has gone online on the cloud management controller, and is running properly.
		Blue	Blinking once every 0.25s (4 Hz)	The AP works in cloud mode and is connecting to the cloud management controller (including reconnection after disconnection).

Silkscreen	Name	Color	Status	Description
		Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-204 Buttons on the AP362

Silkscreen	Name	Description
Default	Reset button	• For V200R023C00 and earlier versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts. • For V200R023C10 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the cloud mode, and restarts.

Technical Specifications

Table 4-205 Technical specifications of the AP362

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	200 mm x 231 mm x 52 mm (7.87 in. x 9.09 in. x 2.05 in.)
Weight without packaging [kg(lb)]	0.46 kg (1.01 lb)
Weight with packaging [kg(lb)]	0.80 kg (1.76 lb)
Storage	NAND Flash 256 MB
Console port	None
Maximum power consumption [W]	11.2 W
Power supply mode	• DC adapter • PoE
Rated input voltage [V]	12 V
Input voltage range [V]	DC: 12 V ± 10% PoE: 802.3af
Service port surge protection	PoE port: Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion C
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	–10°C to +50°C (14°F to 122°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)

Item	Specification
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
BLE	Not supported
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4 GHz: 802.11b/g/n/ax 5 GHz: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain)
Maximum transmit power	2.4G: 20 dBm/chain 23 dBm (combined power) 5G: 20 dBm/chain 23 dBm (combined power)
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 dBm/chain
MTBF [year]	205.07 year
MTTR [hour]	0.5 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	No function is limited.
DC power supply description	No function is limited.

4.35 AP361

4.35.1 Product Characteristics

Huawei eKitEngine AP361 is an indoor Wi-Fi 6 (802.11ax) AP. It can simultaneously provide services on the 2.4 GHz (2x2) and 5 GHz (2x2) frequency bands. This AP features high bandwidth, high concurrency, and compact size, facilitating flexible deployment and saving customer investment. Such strengths make the AP a good fit for indoor coverage in SME markets, such as SME Network enterprise offices, small- and medium-sized hospitals, commercial real estate, budget chain hotels, and primary and secondary schools.

- Working simultaneously on the 2.4 GHz (2x2) + 5 GHz (2x2) frequency bands
- 1 x GE electrical port
- Built-in smart antennas that automatically adjust the coverage direction and signal strength based on the intelligent switchover algorithm to adapt to the changing application environment, providing accurate and stable coverage as STAs move
- Working modes: Fit, Fat, and cloud management

4.35.2 Hardware Information

Overview

Table 4-206 Basic information about the AP361

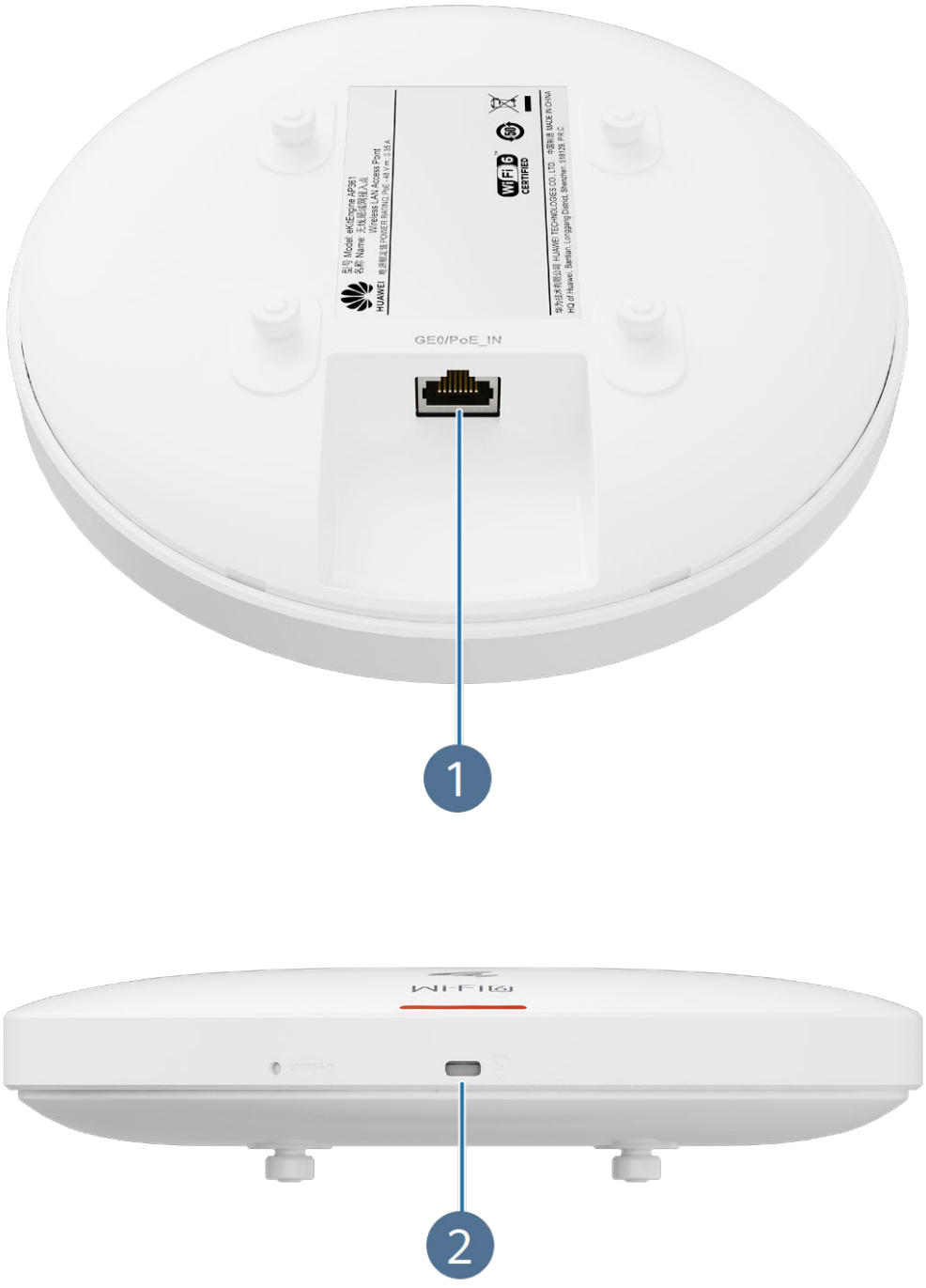
Item	Details
Description	AP361(11ax indoor,2+2 dual bands,smart antenna)
Part Number	50086871
Model	AP361
First supported version	V200R023C00

Appearance

Figure 4-125 Appearance of the AP361

Ports

Figure 4-126 Ports on the AP361



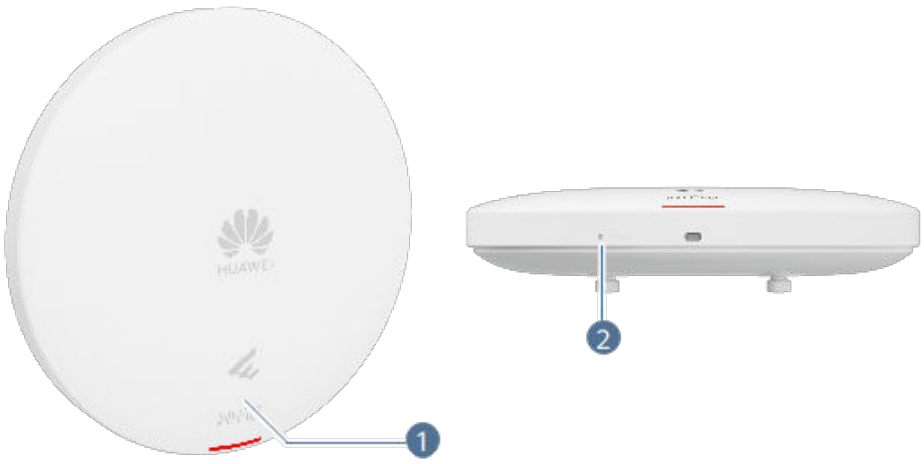
1	GE0/PoE_IN	2	Security slot

Table 4-207 Ports on the AP361

Port	Connector Type	Description	Available Components
GE0/PoE_IN	RJ45	10/100/1000M auto-sensing Ethernet electrical port that connects to the wired Ethernet and supports PoE input.	Network cable

Indicators and Buttons

Figure 4-127 Indicators and buttons on the AP361



The indicator is located inside the panel, which turns on after the AP is powered on.

1	Indicator	2	Default

Table 4-208 Indicators on the AP361

Silkscreen	Name	Color	Status	Description
-	System indicator	Green	Steady on	The AP is just powered on and the software is not started yet.
		Green	Steady on after blinking once	After the system is reset and starts uploading the software, the indicator blinks green once. Until the software is uploaded and started, the indicator remains steady green.
		Green	Slow blinking (0.5 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and STAs are associated with the AP.
		Green	Slow blinking (0.2 Hz)	The AP runs in Fat or Fit mode, the Ethernet connection is normal, and no STA is associated with the AP.

Silkscreen	Name	Color	Status	Description
		Green	Blinking once every 0.25s (4 Hz)	The AP works in Fat or Fit mode. • The software is being upgraded. • In Fit mode, the AP is requesting to go online or fails to go online.
		Blue	Slow blinking (0.5 Hz)	The AP works in cloud mode, has gone online on the cloud management controller, and is running properly.
		Blue	Blinking once every 0.25s (4 Hz)	The AP works in cloud mode and is connecting to the cloud management controller (including reconnection after disconnection).

Silkscreen	Name	Color	Status	Description
		Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

Table 4-209 Buttons on the AP361

Silkscreen	Name	Description
Default	Reset button	• For V200R023C00, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the Fit mode, and restarts. • For V200R023C10 and later versions, if you press the button, the device resets; if you hold down the button for more than 6 seconds, the device restores the factory settings, switches to the cloud mode, and restarts.

Technical Specifications

Table 4-210 Technical specifications of the AP361

Item	Specification
Installation Type	• Wall • Ceiling • T-Rail
Dimensions without packaging (H x W x D) [mm(in.)]	Diameter x depth: 180 mm x 35 mm (7.09 in. x 1.38 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	200 mm x 231 mm x 61 mm (7.87 in. x 9.09 in. x 2.40 in.)
Weight without packaging [kg(lb)]	0.45 kg (0.99 lb)
Weight with packaging [kg(lb)]	0.75 kg (1.65 lb)
Storage	NAND Flash 256 MB
Console port	None
Maximum power consumption [W]	8.8 W
Maximum heat dissipation [BTU/hour]	28.5 BTU/hour
Power supply mode	PoE
Rated input voltage [V]	NA
Input voltage range [V]	PoE: 802.3af
Service port surge protection	PoE port: Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B
Maximum number of physical ports on the entire device	GE (RJ45) x 1, 10M/100M/1000M auto-sensing
Long-term operating temperature [°C(°F)]	0°C to 40°C (32°F to 104°F) (From 1800 m to 5000 m [5905.51 ft. to 16404.20 ft.], the maximum temperature of the device decreases by 1°C [1.8°F] for every 300 m [984.25 ft.] increase in altitude.)
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH, non-condensing
Long-term operating altitude [m(ft.)]	–60 m to +5000 m (–196.85 ft to +16404.20 ft)

Item	Specification
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
BLE	Not supported
Radio number	2
Operating frequency band	• 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2
Wi-Fi standard	2.4G: 802.11b/g/n/ax 5G: 802.11a/n/ac/ac Wave 2/ax
Radio interface	Built-in smart antennas
Antenna gain	2.4G: 4 dBi/chain (peak) 2 dBi (combined gain) 5G: 5 dBi/chain (peak value) 3 dBi (combined gain)
Maximum transmit power	2.4G: 17 dBm/chain 20 dBm (combined power) 5G: 17 dBm/chain 20 dBm (combined power)
Singal radio transmit power [dBm]	2.4 GHz: 0 dBm to 17 dBm/chain 5 GHz: 0 dBm to 17 dBm/chain
MTBF [year]	440.3 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	No function is limited.
802.3at power supply description	No function is limited.
802.3af power supply description	No function is limited.
DC power supply description	DC power supply is not supported.

