

2 Indoor Settled Access Point

2.1 Hardware Description

2.1.1 AirEngine 8771-X1T

Overview

Table 2-1 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.

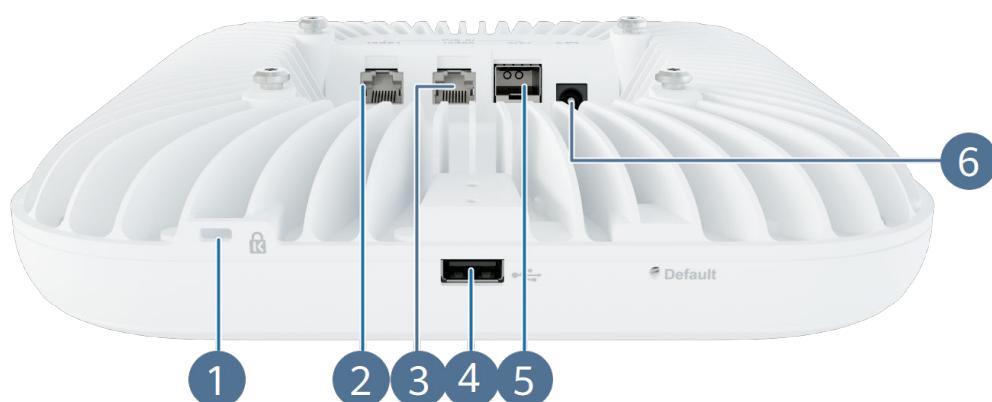
Appearance

Figure 2-1 Appearance of the AirEngine 8771-X1T



Ports

Figure 2-2 Ports on the AirEngine 8771-X1T



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

Table 2-2 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 2-3 Indicators and buttons on the AirEngine 8771-X1T



1	Indicator	2	Default
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Table 2-3 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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 2-4 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 2-5 Technical specifications of the AirEngine 8771-X1T

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 2.4GHz ● 5GHz ● 6GHz
MIMO spatial streams	<p>Four-radio 6G mode:</p> <ul style="list-style-type: none"> ● 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 <p>Four-radio dual-5G mode:</p> <ul style="list-style-type: none"> ● 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	<p>Peak gain: 2.4 GHz: 4 dBi 5 GHz: 5 dBi 6 GHz: 5 dBi Independent scanning radio: 4 dBi BLE: 3 dBi</p> <p>Combined gain: 2.4 GHz: 2 dBi 5 GHz: 3 dBi 6 GHz: 3 dBi Independent scanning radio: 4 dBi BLE: 3 dBi</p>
Maximum transmit power	<p>MIMO combined power, excluding antenna gains</p> <p>2.4 GHz: 26 dBm 5 GHz: 25 dBm 6 GHz: 25 dBm BLE: 10 dBm</p>
Singal radio transmit power [dBm]	<p>2.4G: -10 dBm to +20 dBm/chain 5G: -10 dBm to +19 dBm/chain 6G: -10 dBm to +19 dBm/chain</p>
MTBF [year]	53.2 year
MTTR [hour]	2 hour
Frequency stability [ppm]	+/-20
802.3bt power supply description	<p>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.</p> <p>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.</p>

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.

2.1.2 AirEngine 8760-X1-PRO (02353GSG-001)

Overview

Table 2-6 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.

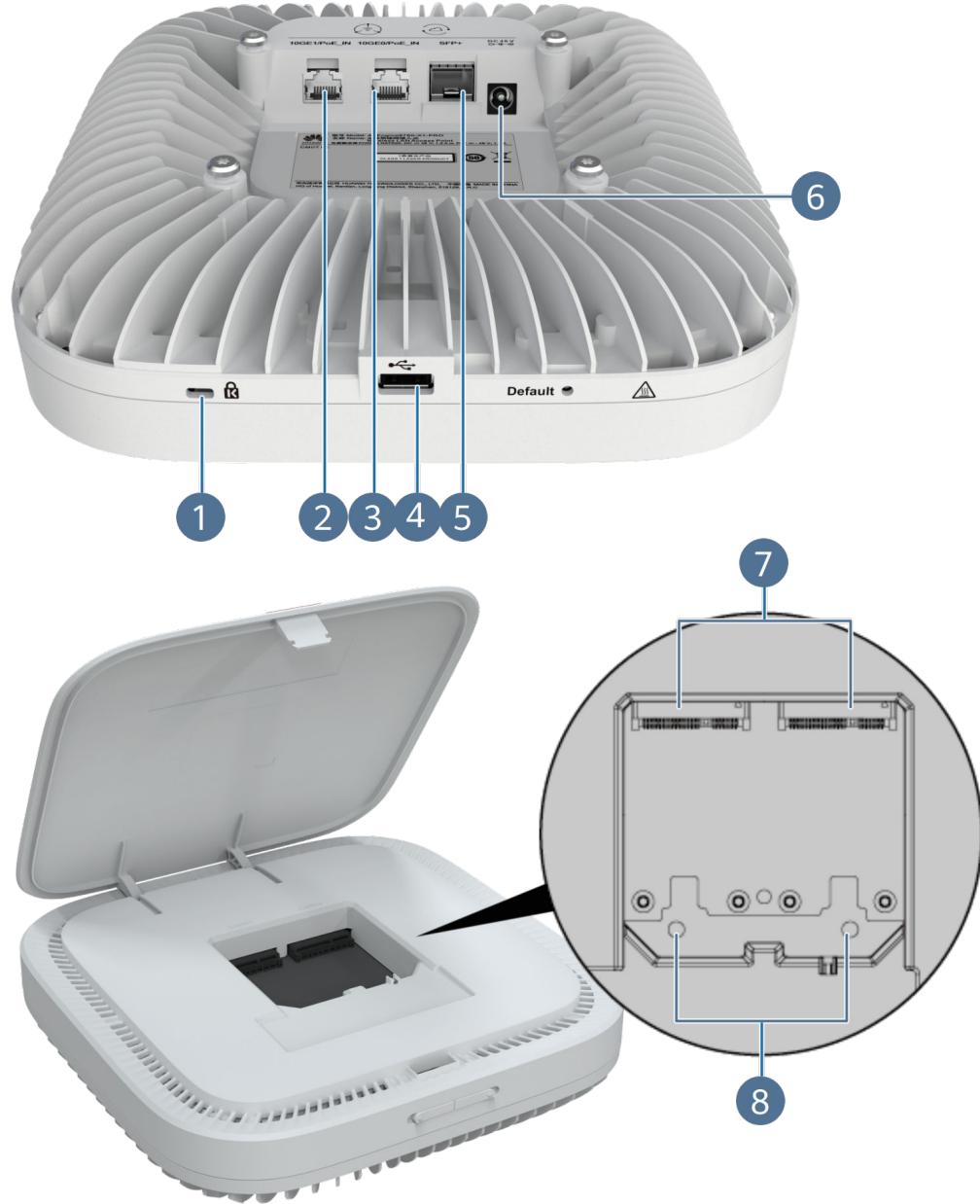
Appearance

Figure 2-4 Appearance of the AirEngine 8760-X1-PRO



Ports

Figure 2-5 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
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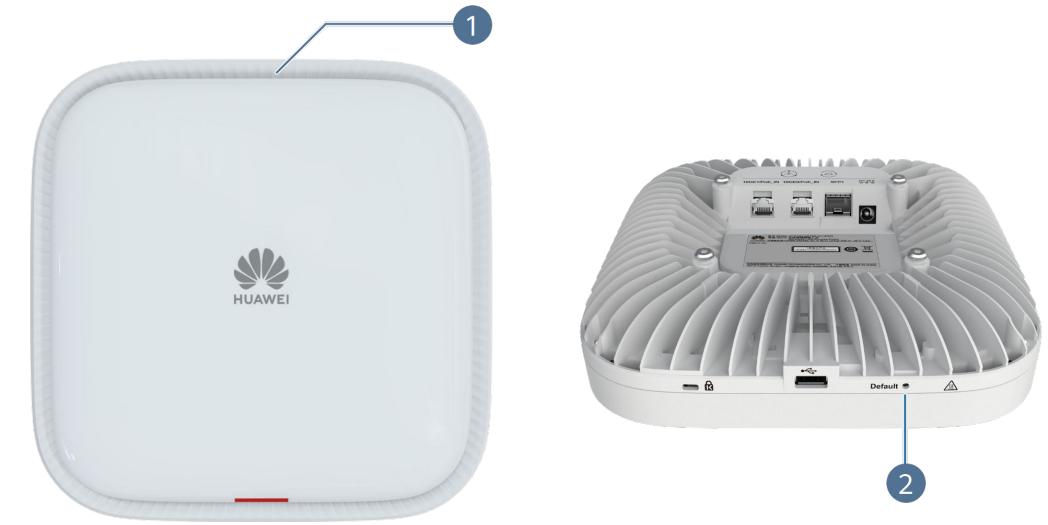
Table 2-7 Ports on the AirEngine 8760-X1-PRO

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 2-6 Indicators and buttons on the AirEngine 8760-X1-PRO



1	Indicator	2	Default
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Table 2-8 Indicators on the AirEngine 8760-X1-PRO

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-9 Buttons on the AirEngine 8760-X1-PRO

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-10 Technical specifications of the AirEngine 8760-X1-PRO

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 2.4GHz ● 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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
	<p>802.3bt power supply description</p> <p>When the AP is powered by 802.3bt class 8, no function is restricted.</p> <p>If dual 802.3bt class 6 power supplies are used,</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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. <p>Wired network port: No function is restricted.</p> <p>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.</p> <p>If single 802.3bt class 6 power supplies are used,</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>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,</p>

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

Item	Specification
802.3at power supply description	<p>If dual 802.3at power supplies are used,</p> <p>Wi-Fi:</p> <p>If no USB port or IoT card slot is used, the radio power is self-adapted.</p> <ul style="list-style-type: none"> ● 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 <p>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.</p> <p>Wired ports: The rate of both 10GE electrical ports is reduced to GE or lower, and the SFP+ optical port is unavailable.</p> <p>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.</p> <p>If single 802.3at power supply is used,</p> <p>Wi-Fi:</p> <p>If no USB port or IoT card slot is used, the radio power is self-adapted.</p> <ul style="list-style-type: none"> ● 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 <p>If the USB port or IoT card slots are used, the number of spatial streams,</p>

Item	Specification
	<p>transmit power, and bandwidth may be affected. For details, contact your product manager.</p> <p>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.</p> <p>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.</p>
DC power supply description	No function is limited.

2.1.3 AirEngine 8760-X1-PRO (02353GSG)

Overview

Table 2-11 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.

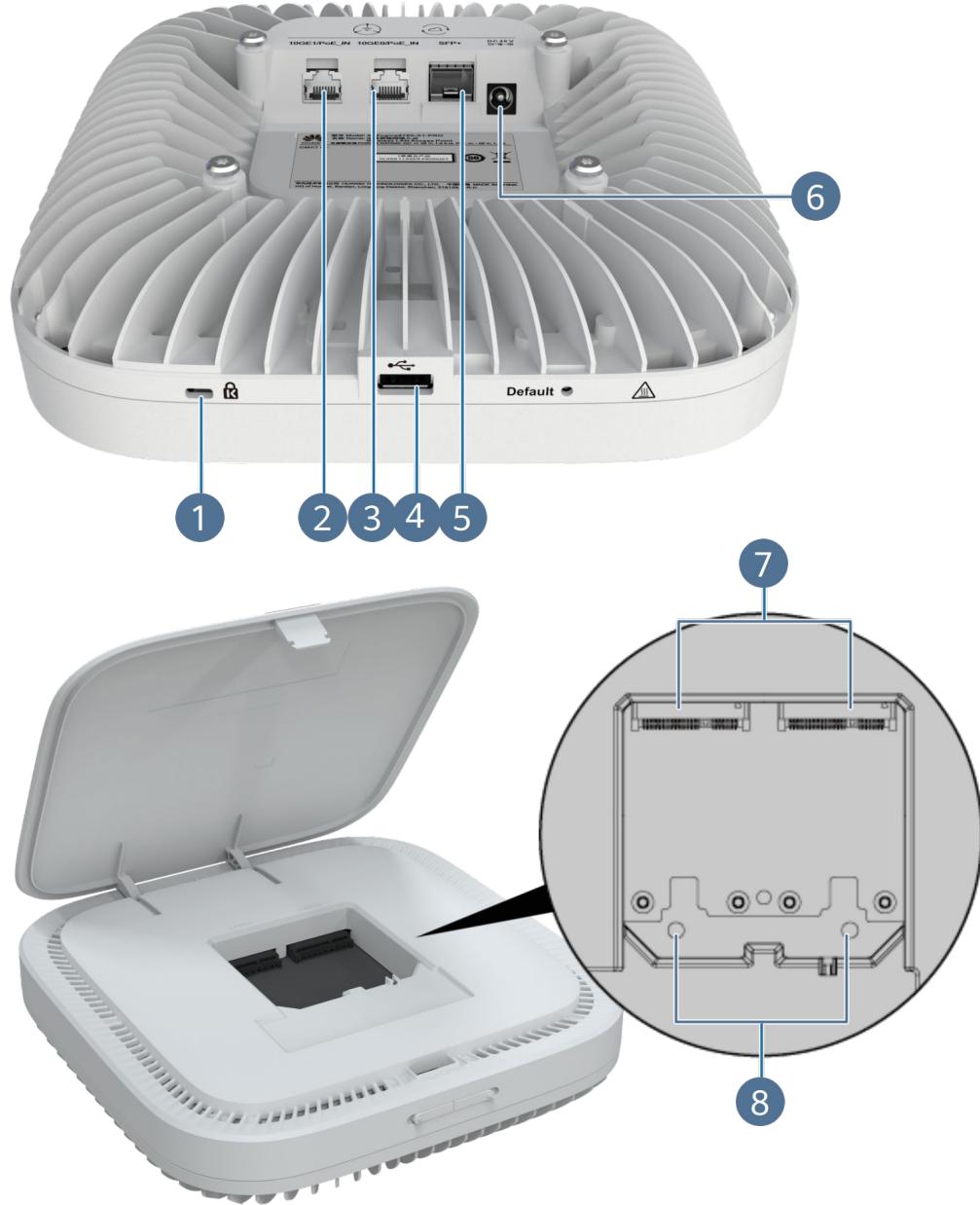
Appearance

Figure 2-7 Appearance of the AirEngine 8760-X1-PRO



Ports

Figure 2-8 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
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Table 2-12 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 2-9 Indicators and buttons on the AirEngine 8760-X1-PRO

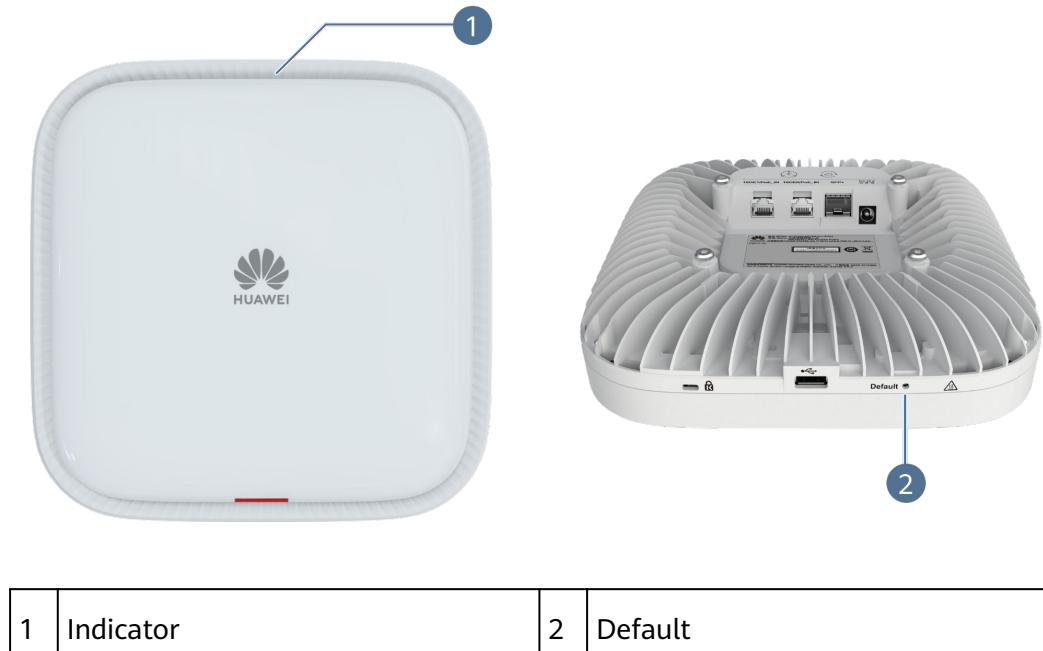


Table 2-13 Indicators on the AirEngine 8760-X1-PRO

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-14 Buttons on the AirEngine 8760-X1-PRO

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-15 Technical specifications of the AirEngine 8760-X1-PRO

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 2.4GHz ● 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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
	<p>802.3bt power supply description</p> <p>When the AP is powered by 802.3bt class 8, no function is restricted.</p> <p>If dual 802.3bt class 6 power supplies are used,</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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. <p>Wired network port: No function is restricted.</p> <p>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.</p> <p>If single 802.3bt class 6 power supplies are used,</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>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,</p>

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

Item	Specification
802.3at power supply description	<p>If dual 802.3at power supplies are used,</p> <p>Wi-Fi:</p> <p>If no USB port or IoT card slot is used, the radio power is self-adapted.</p> <ul style="list-style-type: none"> ● 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 <p>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.</p> <p>Wired ports: The rate of both 10GE electrical ports is reduced to GE or lower, and the SFP+ optical port is unavailable.</p> <p>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.</p> <p>If single 802.3at power supply is used,</p> <p>Wi-Fi:</p> <p>If no USB port or IoT card slot is used, the radio power is self-adapted.</p> <ul style="list-style-type: none"> ● 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 <p>If the USB port or IoT card slots are used, the number of spatial streams,</p>

Item	Specification
	<p>transmit power, and bandwidth may be affected. For details, contact your product manager.</p> <p>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.</p> <p>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.</p>
DC power supply description	No function is limited.

2.1.4 AirEngine 8761-X1

Overview

Table 2-16 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

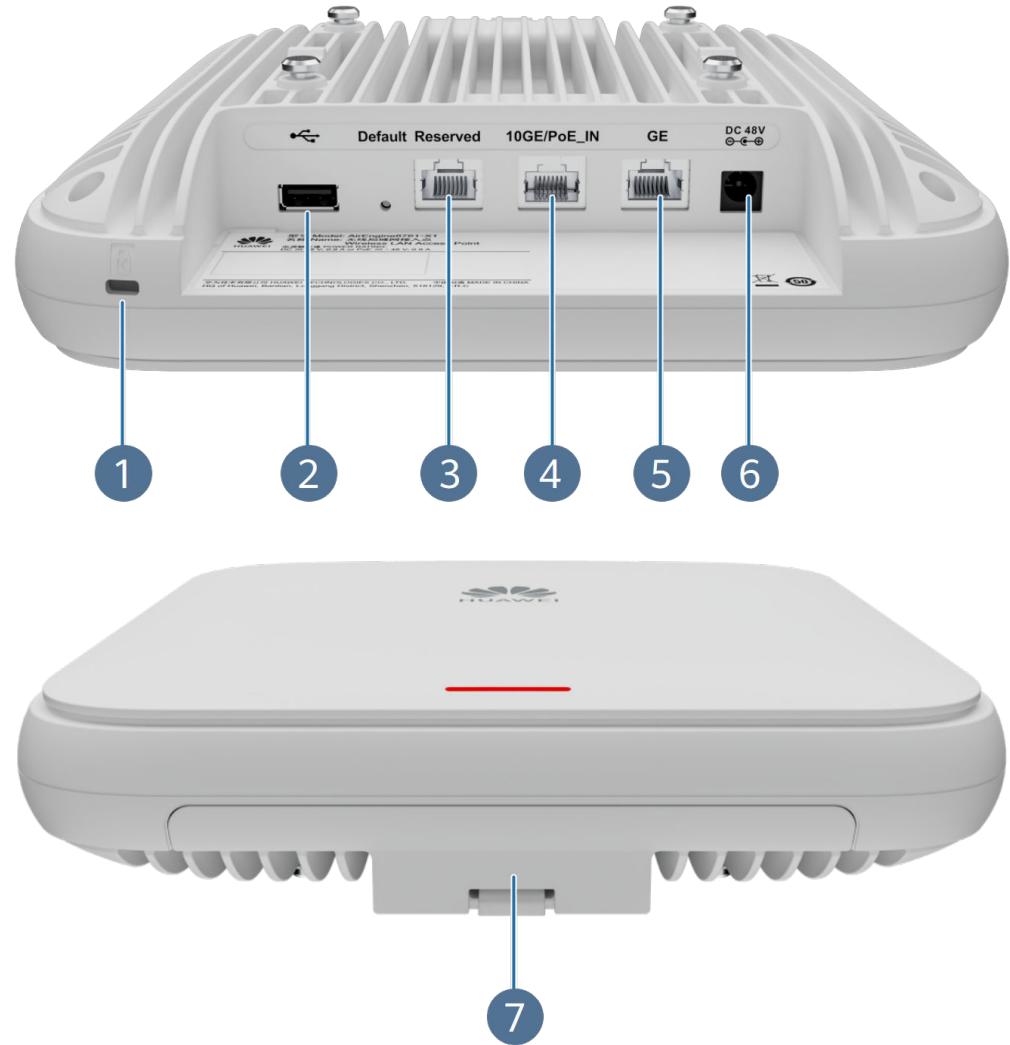
Appearance

Figure 2-10 Appearance of the AirEngine 8761-X1



Ports

Figure 2-11 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 2-17 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 2-12 Indicators and buttons on the AirEngine 8761-X1

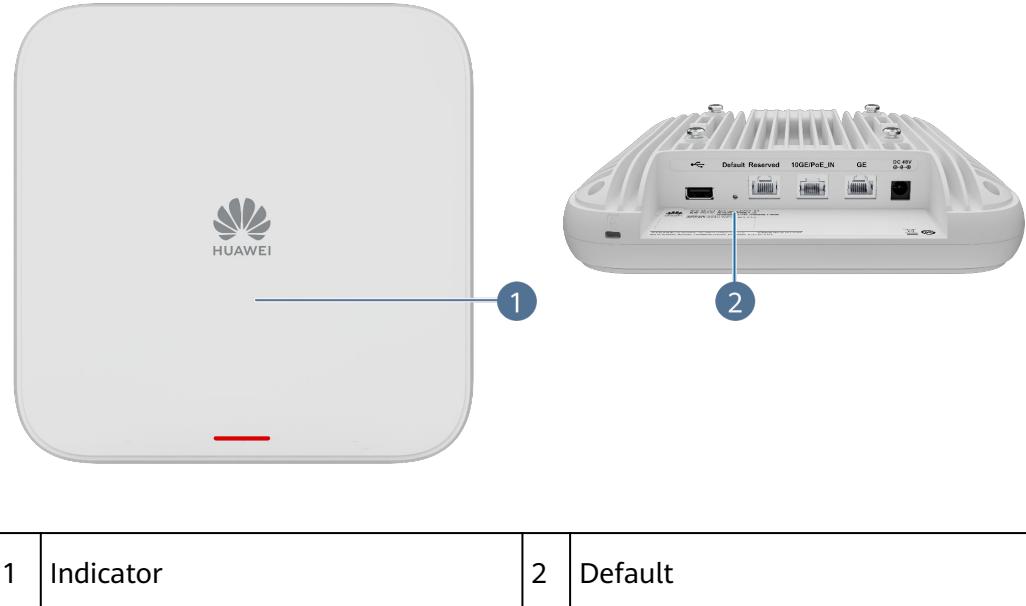


Table 2-18 Indicators on the AirEngine 8761-X1

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-19 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 2-20 Technical specifications of the AirEngine 8761-X1

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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. <ul style="list-style-type: none"> ● 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.

2.1.5 AirEngine 6776-57T

Overview

Table 2-21 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

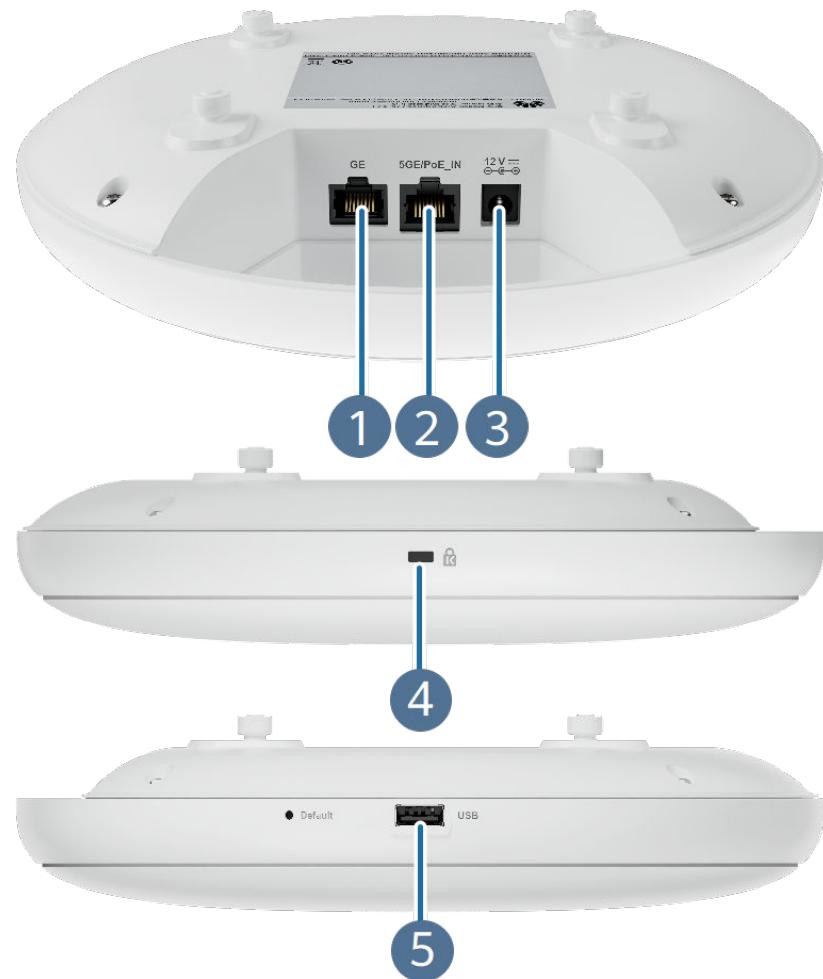
Appearance

Figure 2-13 Appearance of the AirEngine 6776-57T



Ports

Figure 2-14 Ports on the AirEngine 6776-57T



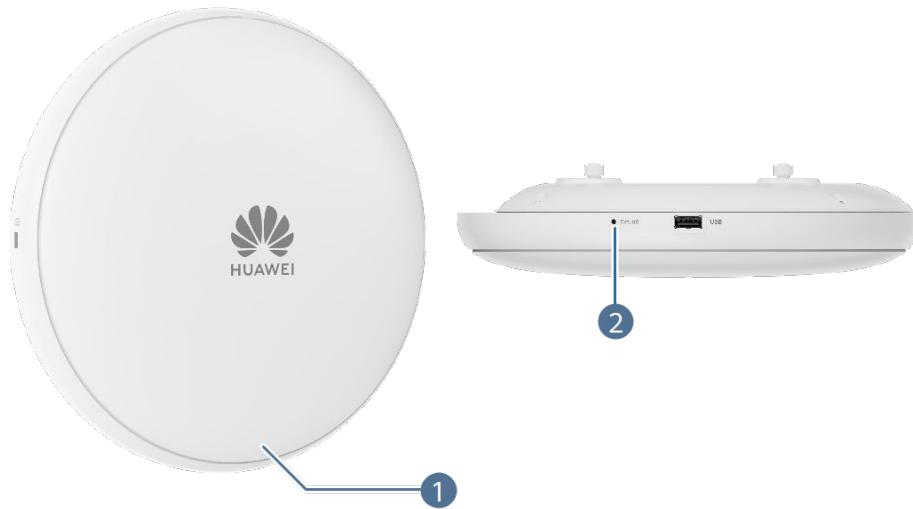
1	GE	2	5GE/PoE_IN
3	DC 12V	4	Security slot
5	USB	-	-

Table 2-22 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 2-15 Indicators and buttons on the AirEngine 6776-57T



1	Indicator	2	Default
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Table 2-23 Indicators on the AirEngine 6776-57T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> • 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 2-24 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 2-25 Technical specifications of the AirEngine 6776-57T

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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	For the Wi-Fi service, a maximum capability of 2.4 GHz (2x2) + 5 GHz (2x2) is supported. The USB function is unavailable. Other functions are not restricted.
DC power supply description	No function is limited.

2.1.6 AirEngine 6776-56TP

Overview

Table 2-26 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

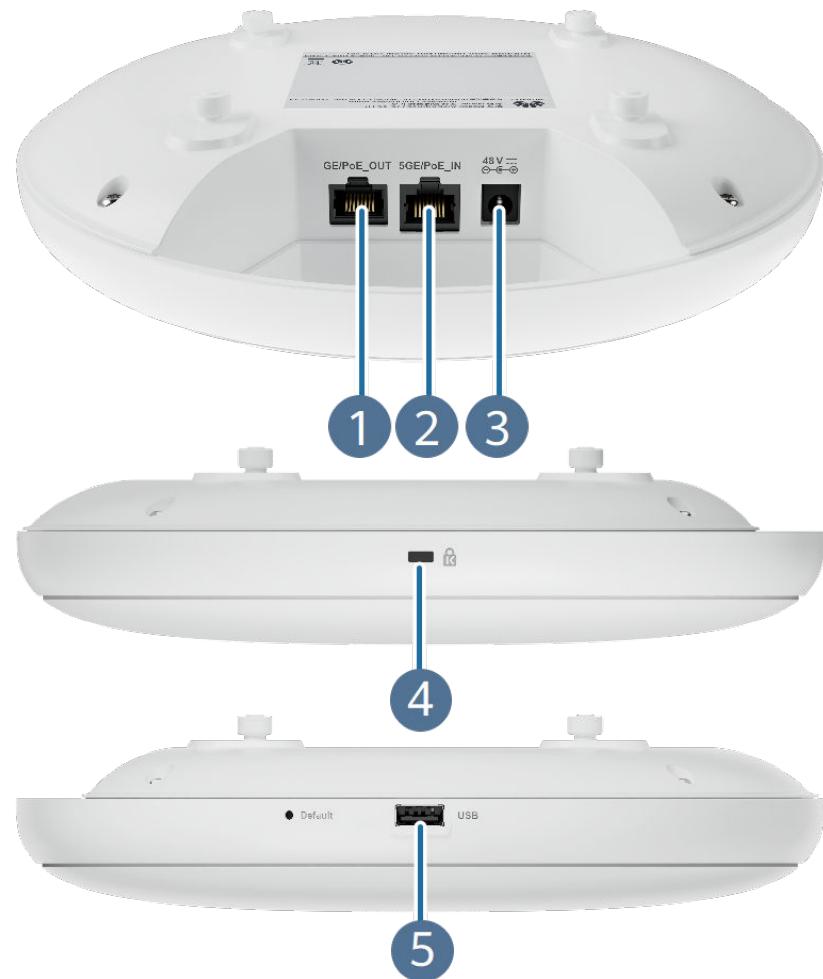
Appearance

Figure 2-16 Appearance of the AirEngine 6776-56TP



Ports

Figure 2-17 Ports on the AirEngine 6776-56TP



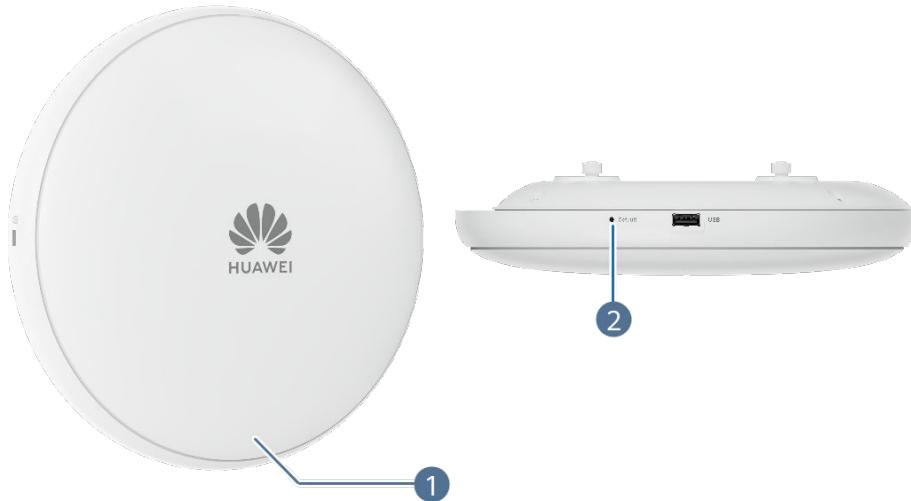
1	GE/PoE_OUT	2	5GE/PoE_IN
3	DC 48V	4	Security slot
5	USB	-	-

Table 2-27 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 2-18 Indicators and buttons on the AirEngine 6776-56TP



1	Indicator	2	Default
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Table 2-28 Indicators on the AirEngine 6776-56TP

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> • 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 2-29 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 2-30 Technical specifications of the AirEngine 6776-56TP

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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	For the Wi-Fi service, a maximum capability of 2.4 GHz (2x2) + 5 GHz (2x2) is supported. The USB and PoE OUT functions are unavailable. Other functions are not restricted.
DC power supply description	No function is limited.

2.1.7 AirEngine 6760-X1E (02353GSK-001)

Overview

Table 2-31 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.

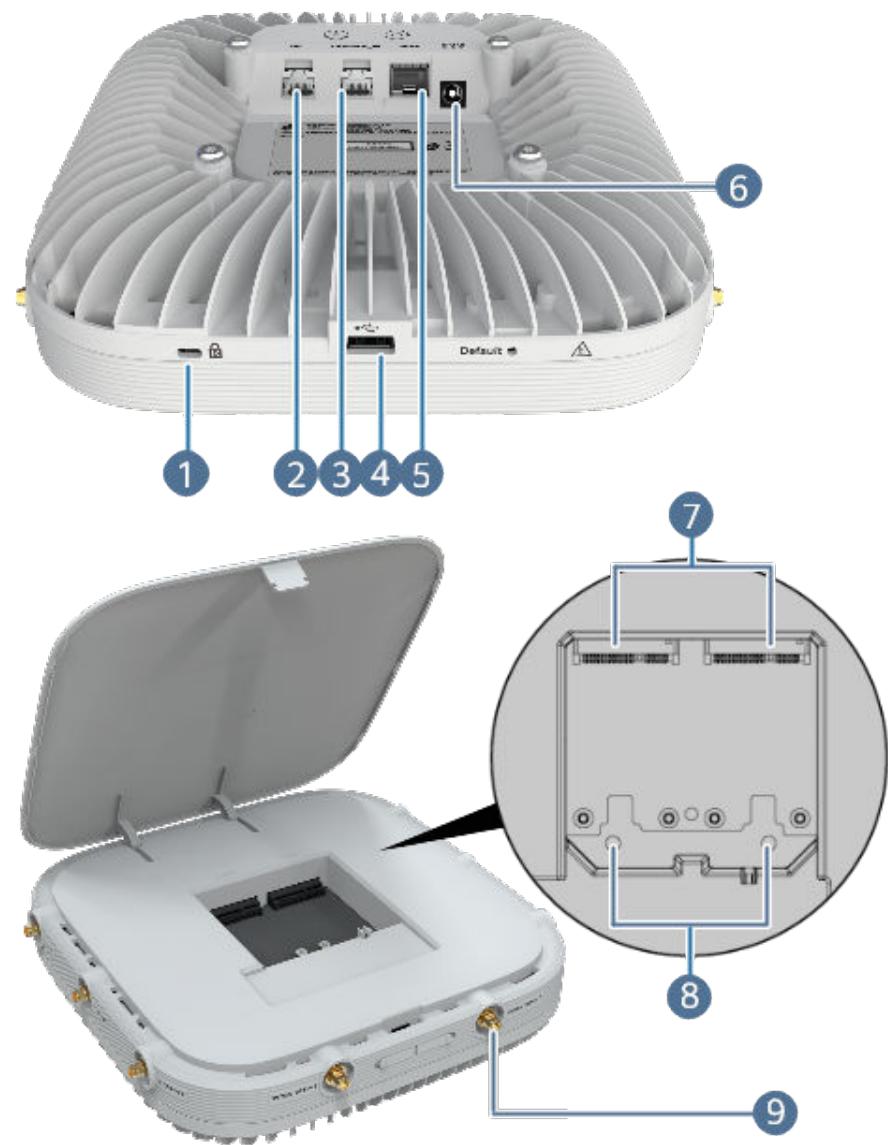
Appearance

Figure 2-19 Appearance of the AirEngine 6760-X1E



Ports

Figure 2-20 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 2-32 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 10M/100M/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 2-21 Indicators and buttons on the AirEngine 6760-X1E



1	Indicator	2	Default
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Table 2-33 Indicators on the AirEngine 6760-X1E

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-34 Buttons on the AirEngine 6760-X1E

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-35 Technical specifications of the AirEngine 6760-X1E

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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
	<p>802.3bt power supply description</p> <p>In 802.3bt Class 8 power supply mode:</p> <ul style="list-style-type: none"> • 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. <p>In 802.3bt Class 6 power supply mode:</p> <ul style="list-style-type: none"> - 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	<p>With an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If the USB and IoT card slots are not used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p> <p>Without an RTU license loaded:</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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
	<p>bandwidth may be affected. For details, contact the product manager.</p> <p>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.)</p> <p>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.</p>
DC power supply description	<p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.</p>

2.1.8 AirEngine 6760-X1E (02353GSK)

Overview

Table 2-36 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.

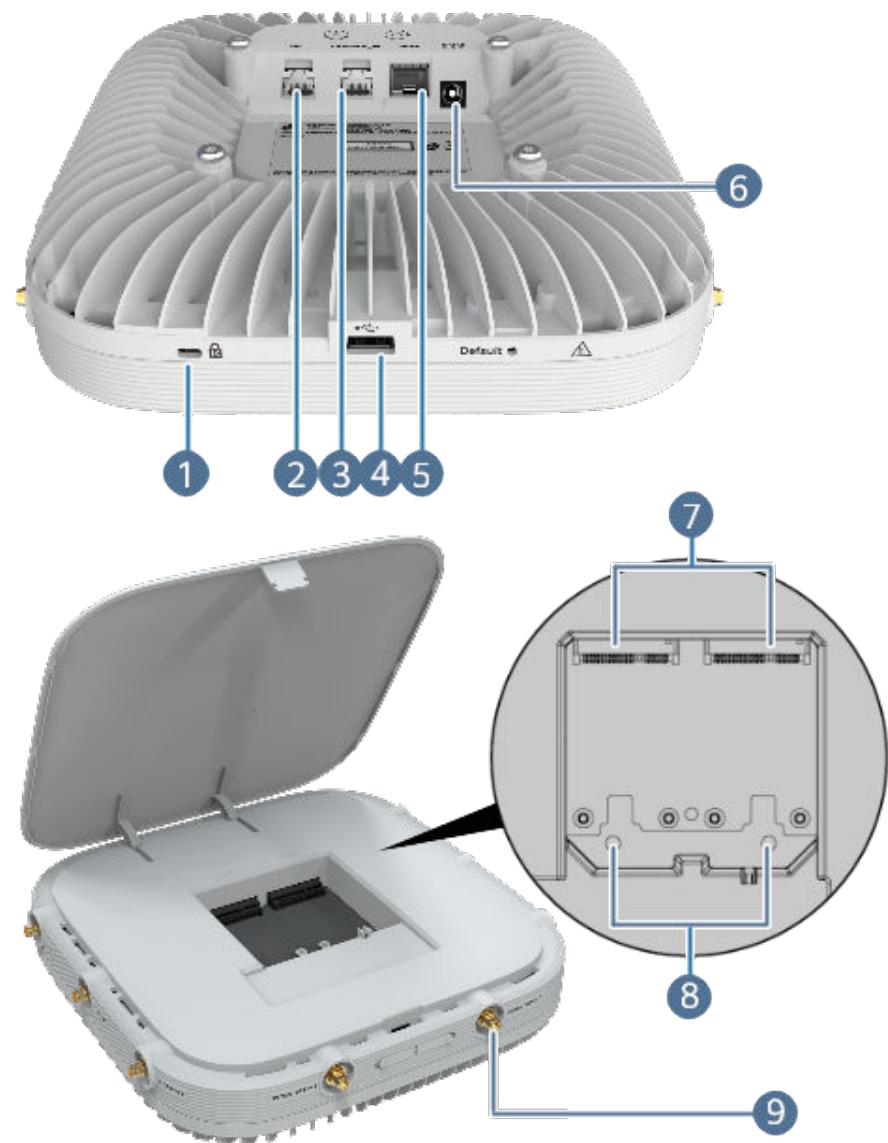
Appearance

Figure 2-22 Appearance of the AirEngine 6760-X1E



Ports

Figure 2-23 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 2-37 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 10M/100M/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 2-24 Indicators and buttons on the AirEngine 6760-X1E



1	Indicator	2	Default
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Table 2-38 Indicators on the AirEngine 6760-X1E

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-39 Buttons on the AirEngine 6760-X1E

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-40 Technical specifications of the AirEngine 6760-X1E

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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
	<p>802.3bt power supply description</p> <p>In 802.3bt Class 8 power supply mode:</p> <ul style="list-style-type: none"> • 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. <p>In 802.3bt Class 6 power supply mode:</p> <ul style="list-style-type: none"> - 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	<p>With an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If the USB and IoT card slots are not used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p> <p>Without an RTU license loaded:</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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
	<p>bandwidth may be affected. For details, contact the product manager.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p>
DC power supply description	<p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.</p>

2.1.9 AirEngine 6760-X1 (02353GSJ-001)

Overview

Table 2-41 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.

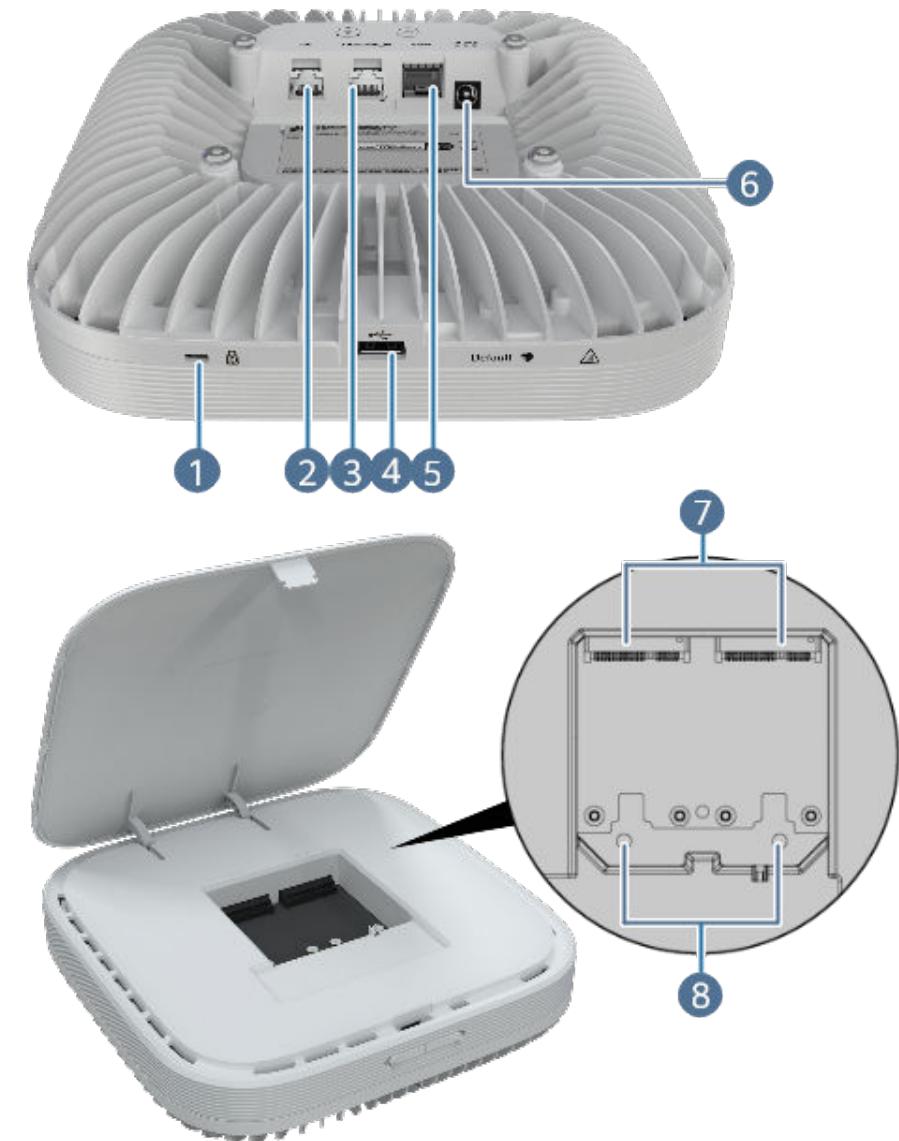
Appearance

Figure 2-25 Appearance of the AirEngine 6760-X1



Ports

Figure 2-26 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
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Table 2-42 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 10M/100M/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 2-27 Indicators and buttons on the AirEngine 6760-X1

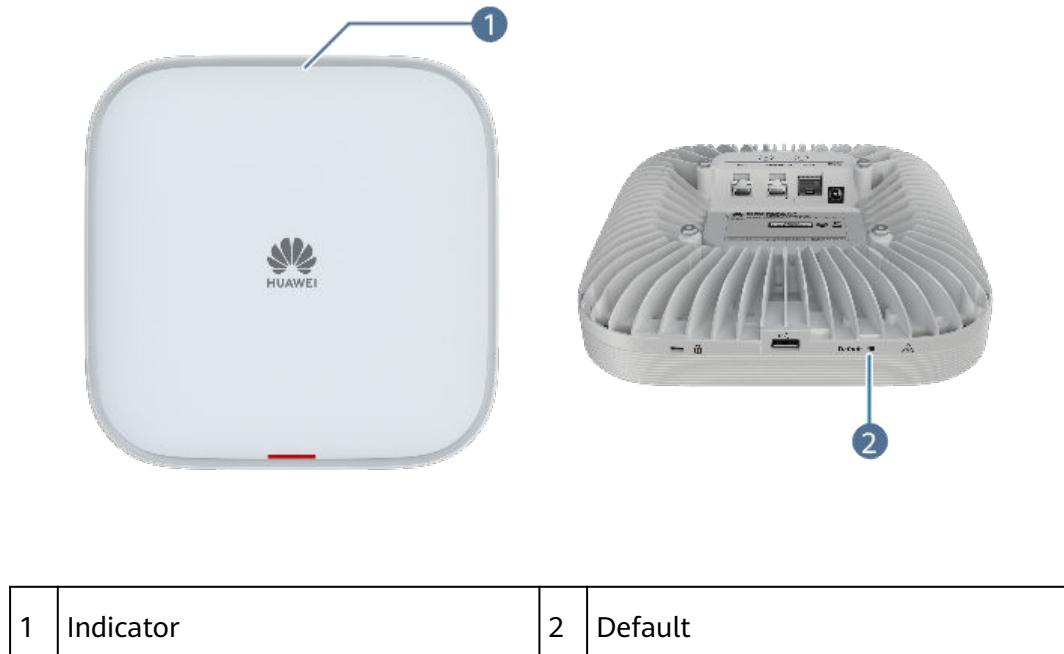


Table 2-43 Indicators on the AirEngine 6760-X1

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-44 Buttons on the AirEngine 6760-X1

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-45 Technical specifications of the AirEngine 6760-X1

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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
	<p>802.3bt power supply description</p> <p>In 802.3bt Class 8 power supply mode:</p> <ul style="list-style-type: none"> • 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. <p>In 802.3bt Class 6 power supply mode:</p> <ul style="list-style-type: none"> - 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	<p>With an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If the USB and IoT card slots are not used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p> <p>Without an RTU license loaded:</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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
	<p>bandwidth may be affected. For details, contact the product manager.</p> <p>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.)</p> <p>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.</p>
DC power supply description	<p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.</p>

2.1.10 AirEngine 6760-X1 (02353GSJ)

Overview

Table 2-46 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.

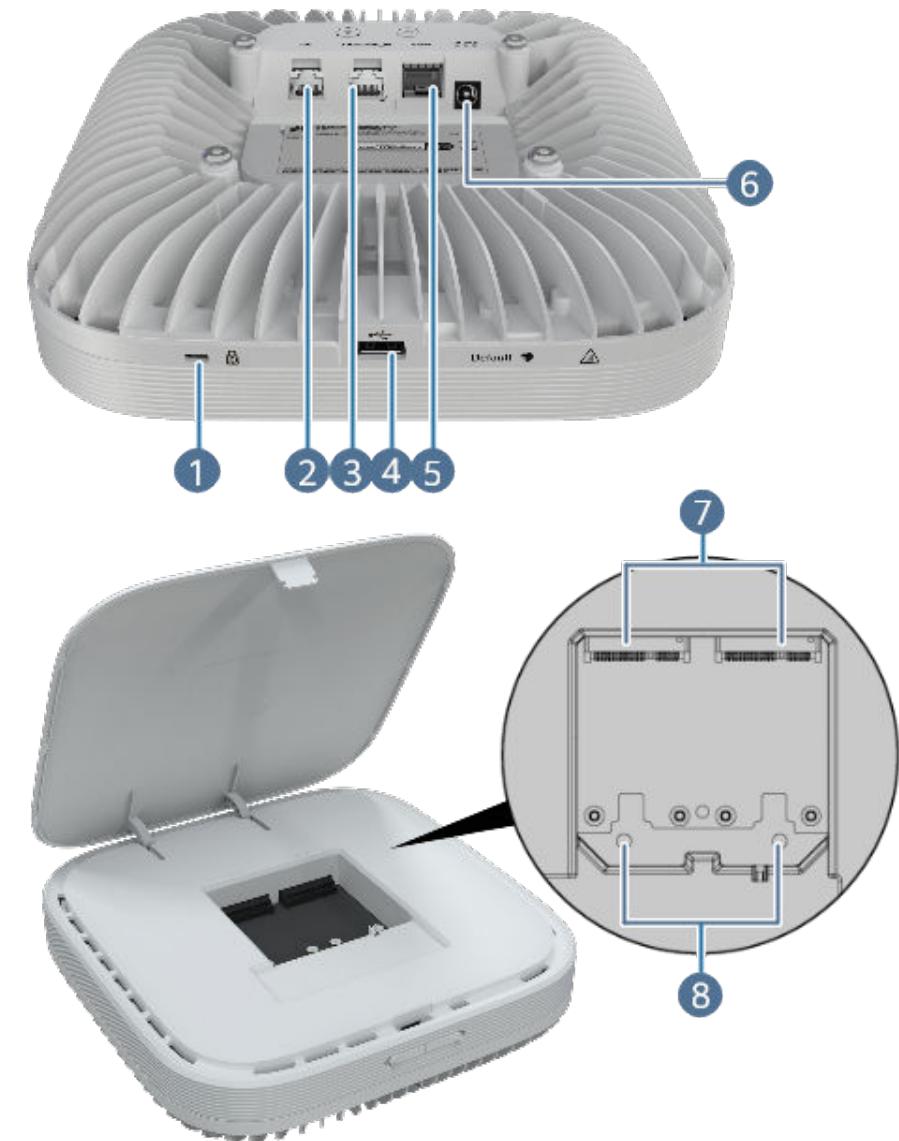
Appearance

Figure 2-28 Appearance of the AirEngine 6760-X1



Ports

Figure 2-29 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
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Table 2-47 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 10M/100M/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 2-30 Indicators and buttons on the AirEngine 6760-X1

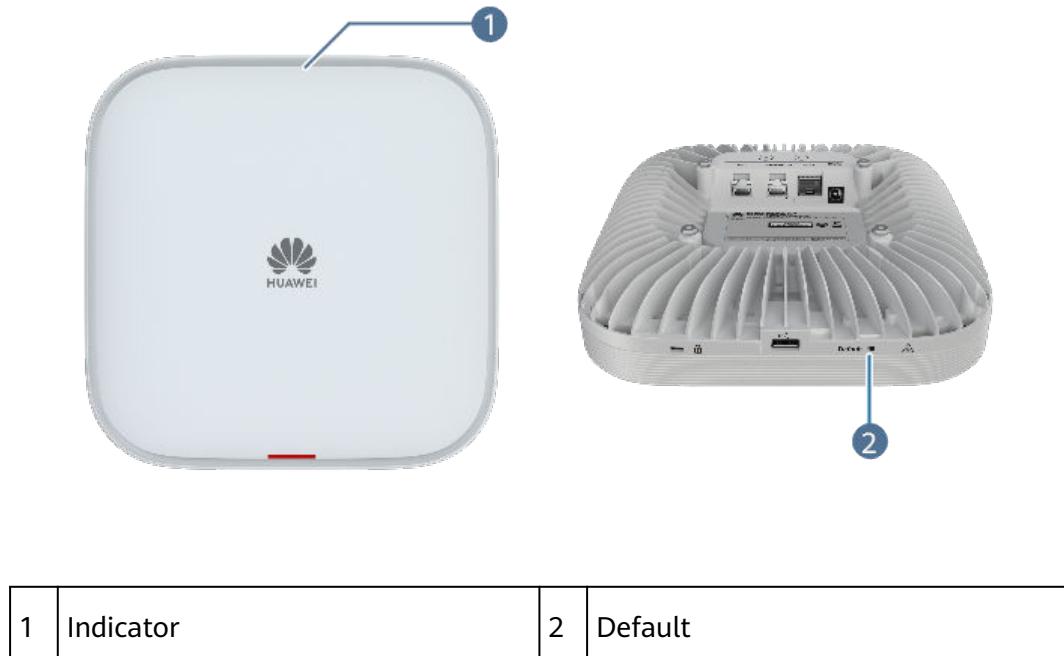


Table 2-48 Indicators on the AirEngine 6760-X1

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-49 Buttons on the AirEngine 6760-X1

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-50 Technical specifications of the AirEngine 6760-X1

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 2.4GHz • 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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
	<p>802.3bt power supply description</p> <p>In 802.3bt Class 8 power supply mode:</p> <ul style="list-style-type: none"> • 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. <p>In 802.3bt Class 6 power supply mode:</p> <ul style="list-style-type: none"> - 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	<p>With an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If the USB and IoT card slots are not used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p> <p>Without an RTU license loaded:</p> <p>Wi-Fi:</p> <ul style="list-style-type: none"> • 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
	<p>bandwidth may be affected. For details, contact the product manager.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p>
DC power supply description	<p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi works in 2.4 GHz (4x4) + 5 GHz (6x6) mode and other functions are not restricted.</p>

2.1.11 AirEngine 6761-21E

Overview

Table 2-51 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.

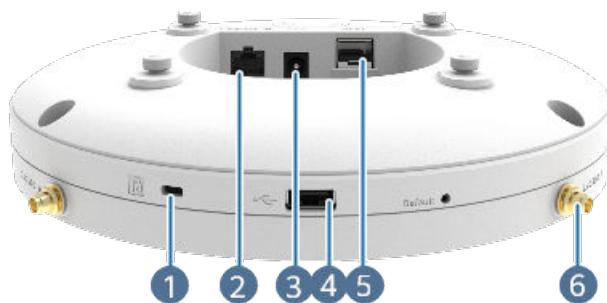
Appearance

Figure 2-31 Appearance of the AirEngine 6761-21E



Ports

Figure 2-32 Ports on the AirEngine 6761-21E



1	Security slot	2	2.5GE/PoE_IN
3	DC 48V	4	USB
5	SFP+	6	Antenna port

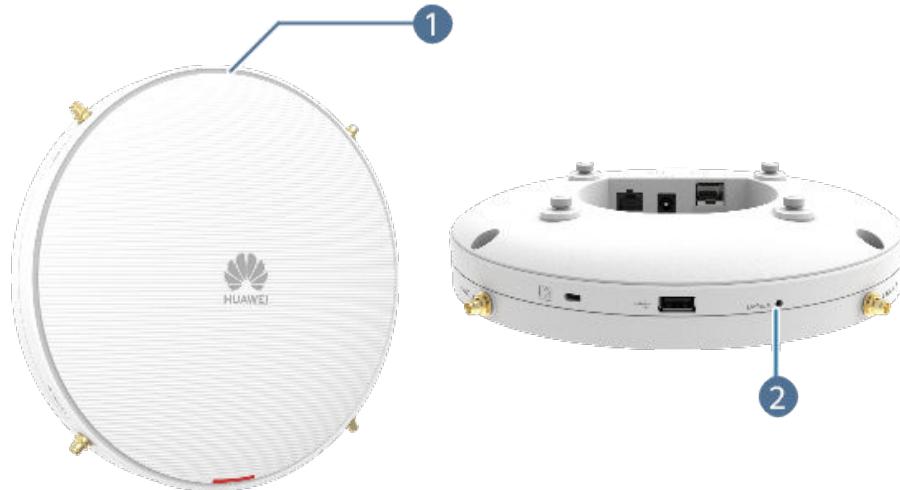
Table 2-52 Ports on the AirEngine 6761-21E

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

Port	Connector Type	Description	Available Components
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 2-33 Indicators and buttons on the AirEngine 6761-21E



1	Indicator	2	Default
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Table 2-53 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-54 Buttons on the AirEngine 6761-21E

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-55 Technical specifications of the AirEngine 6761-21E

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> DC adapter PoE
Input voltage range [V]	DC: 42.5 V to 57 V PoE: 802.3at/af
Service port surge protection	<p>PoE port:</p> <p>Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B</p> <p>Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B</p>
Relationship between PoE and system power modules [W]	<p>No priorities are distinguished 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.</p> <p>Either of the electrical port or the SFP+ hybrid port can be used for PoE input, but not both.</p>
Maximum number of physical ports on the entire device	<p>2.5GE (RJ45) x 1, 10M/100M/1000M/ 2.5GE auto-sensing</p> <p>10GE (SFP+) x 1, 1000M/10GE auto-sensing</p> <p>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.</p>
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	<ul style="list-style-type: none"> ● 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	<p>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</p>
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	<p>Wi-Fi:</p> <ul style="list-style-type: none"> ● 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. <p>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.</p>

Item	Specification
802.3af power supply description	<p>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.</p> <p>Wired network port:</p> <ul style="list-style-type: none"> 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. <p>Other ports: The USB port is unavailable.</p>
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.

2.1.12 AirEngine 6761-21T (02354VQH)

Overview

Table 2-56 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 2-34 Appearance of the AirEngine 6761-21T



Ports

Figure 2-35 Ports on the AirEngine 6761-21T



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

Table 2-57 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 2-36 Indicators and buttons on the AirEngine 6761-21T



1	Indicator	2	Default
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Table 2-58 Indicators on the AirEngine 6761-21T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-59 Buttons on the AirEngine 6761-21T

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-60 Technical specifications of the AirEngine 6761-21T

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.13 AirEngine 6761-21T (02353XBQ)

Overview

Table 2-61 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**

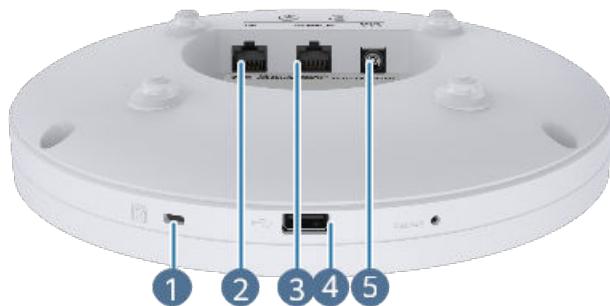
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 2-37 Appearance of the AirEngine 6761-21T

Ports

Figure 2-38 Ports on the AirEngine 6761-21T



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

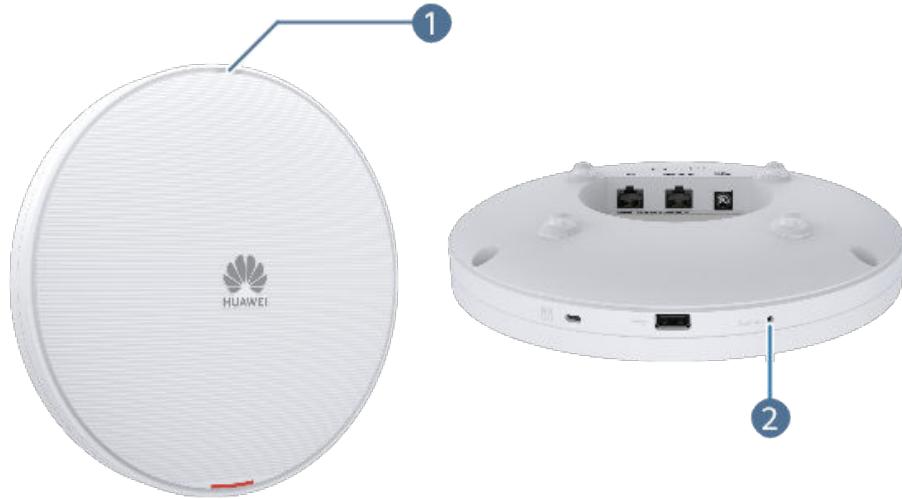
Table 2-62 Ports on the AirEngine 6761-21T

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 2-39 Indicators and buttons on the AirEngine 6761-21T



1	Indicator	2	Default
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Table 2-63 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-64 Buttons on the AirEngine 6761-21T

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-65 Technical specifications of the AirEngine 6761-21T

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.14 AirEngine 6761-22T

Overview

Table 2-66 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

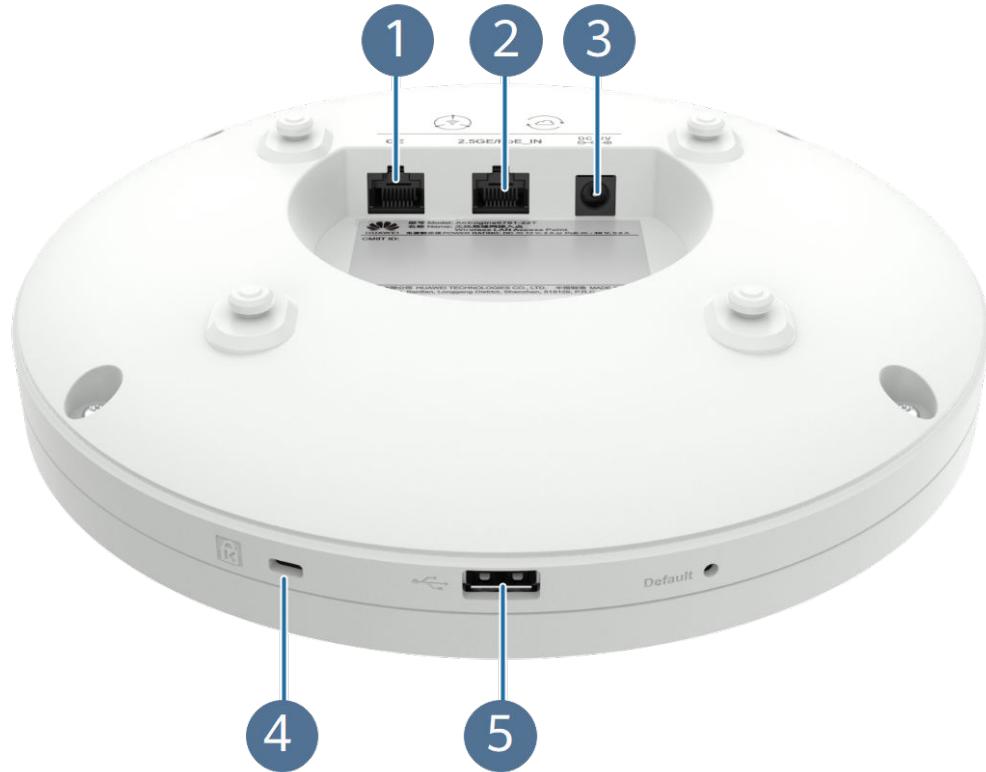
Appearance

Figure 2-40 Appearance of the AirEngine 6761-22T



Ports

Figure 2-41 Ports on the AirEngine 6761-22T



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

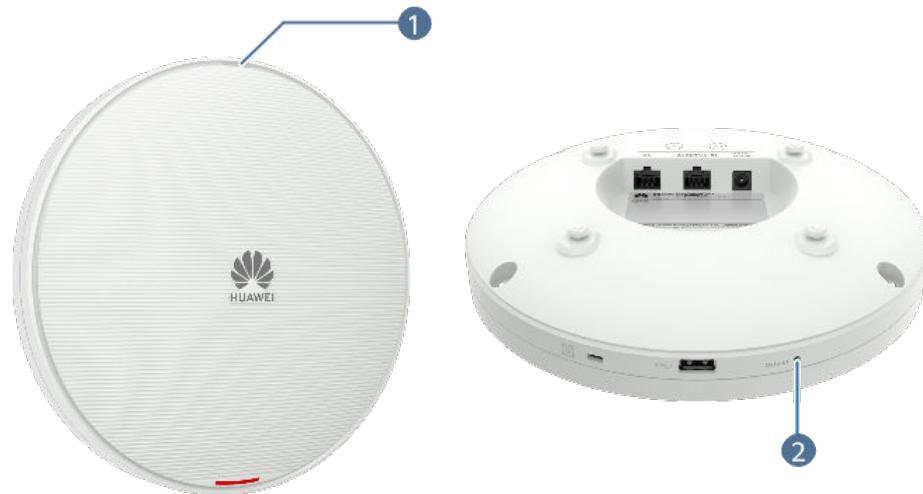
Table 2-67 Ports on the AirEngine 6761-22T

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 2-42 Indicators and buttons on the AirEngine 6761-22T



1	Indicator	2	Default
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Table 2-68 Indicators on the AirEngine 6761-22T

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-69 Buttons on the AirEngine 6761-22T

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-70 Technical specifications of the AirEngine 6761-22T

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<p>PoE port:</p> <p>Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B</p> <p>Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B</p>
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	<ul style="list-style-type: none"> 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	<p>When the USB port is not used, no function is restricted.</p> <p>When the 2.5 W USB port is used:</p> <ul style="list-style-type: none"> • 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. <p>When the 5 W USB port is used:</p> <ul style="list-style-type: none"> • 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	<p>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).</p> <p>Wired network port: The speed of the 2.5GE/PoE_IN electrical port is reduced to GE, and the GE electrical port is unavailable.</p> <p>Other ports: The USB port is unavailable.</p>
DC power supply description	<p>When the USB port is not used, no function is restricted.</p> <p>When the 2.5 W USB port is used:</p> <ul style="list-style-type: none"> • 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. <p>When the 5 W USB port is used:</p> <ul style="list-style-type: none"> • 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.

2.1.15 AirEngine 6761-21

Overview

Table 2-71 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

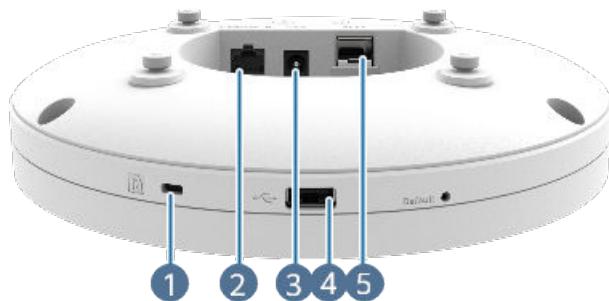
Appearance

Figure 2-43 Appearance of the AirEngine 6761-21



Ports

Figure 2-44 Ports on the AirEngine 6761-21



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

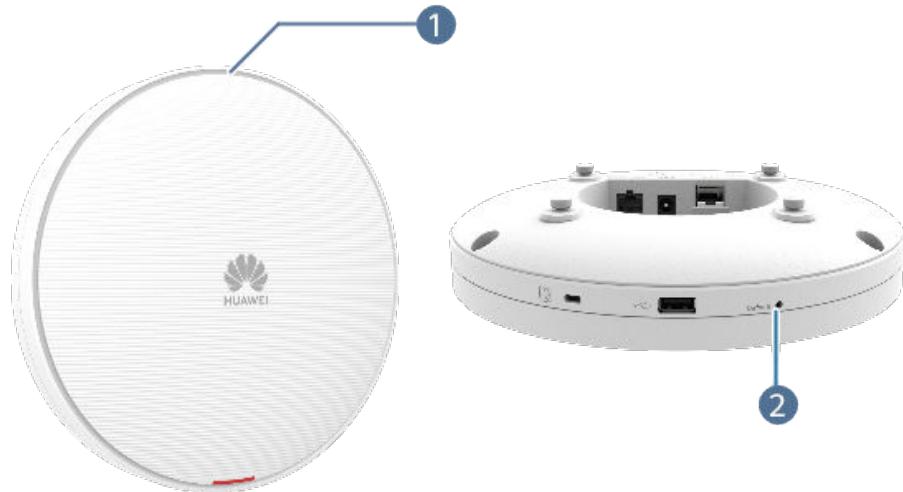
Table 2-72 Ports on the AirEngine 6761-21

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

Port	Connector Type	Description	Available Components
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 2-45 Indicators and buttons on the AirEngine 6761-21



1	Indicator	2	Default
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Table 2-73 Indicators on the AirEngine 6761-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-74 Buttons on the AirEngine 6761-21

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-75 Technical specifications of the AirEngine 6761-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> DC adapter PoE
Input voltage range [V]	DC: 42.5 V to 57 V PoE: 802.3at/af
Service port surge protection	<p>PoE port:</p> <p>Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B</p> <p>Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B</p>
Relationship between PoE and system power modules [W]	<p>No priorities are distinguished 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.</p> <p>Either of the electrical port or the SFP+ hybrid port can be used for PoE input, but not both.</p>
Maximum number of physical ports on the entire device	<p>2.5GE (RJ45) x 1, 100M/1000M/2.5GE auto-sensing</p> <p>10GE (SFP+) x 1, 1000M/10GE auto-sensing</p> <p>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.</p>
Long-term operating temperature [$^{\circ}\text{C}(\text{°F})$]	-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 [$^{\circ}\text{C}(\text{°F})$]	-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	<ul style="list-style-type: none"> • 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	<p>2.4G: 4.5 dBi/chain (peak value) 2 dBi (combined gain)</p> <p>5G: 5.5 dBi/chain (peak value) 3 dBi (combined gain)</p> <p>BLE: 4 dBi</p>
Beamwidth of the built-in antenna [degrees]	<ul style="list-style-type: none"> • Common indoor coverage scenario: omnidirectional coverage • Indoor high-density coverage scenario: lobe angle of 120°
Maximum transmit power	<p>2.4 GHz: 26 dBm 5 GHz: 26 dBm</p> <p>(Note: This is the total MIMO radio power, the same as: 2.4 GHz: 20 dBm/chain 5 GHz: 20 dBm/chain)</p> <p>BLE: < 10 dBm</p>
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	<p>Wi-Fi:</p> <ul style="list-style-type: none"> 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. <p>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.</p>
802.3af power supply description	<p>Wi-Fi:</p> <p>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.</p> <p>Wired network port:</p> <ul style="list-style-type: none"> 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. <p>Other ports:</p> <p>The USB port is unavailable.</p>
DC power supply description	<p>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.</p>

2.1.16 AirEngine 6761S-21

Overview

Table 2-76 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 2-46 Appearance of the AirEngine 6761S-21

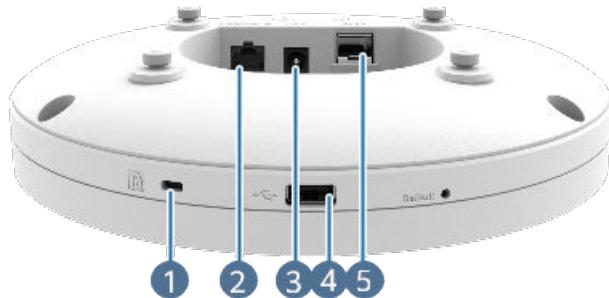


NOTE

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 2-47 Ports on the AirEngine 6761S-21



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

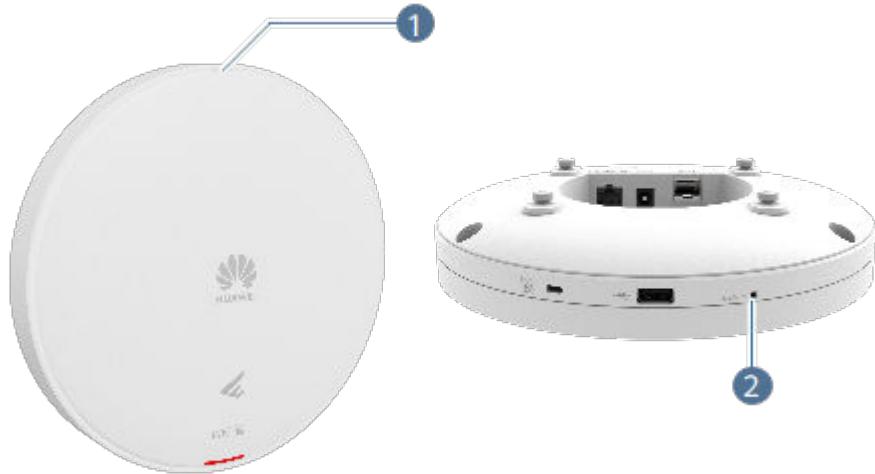
Table 2-77 Ports on the AirEngine 6761S-21

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

Port	Connector Type	Description	Available Components
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 2-48 Indicators and buttons on the AirEngine 6761S-21



1	Indicator	2	Default
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Table 2-78 Indicators on the AirEngine 6761S-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> 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 2-79 Buttons on the AirEngine 6761S-21

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-80 Technical specifications of the AirEngine 6761S-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<p>PoE port:</p> <p>Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B</p> <p>Common mode (8 wires to ground): 6 kV (1.2/50 us, 42 ohms), criterion B</p>
Relationship between PoE and system power modules [W]	<p>No priorities are distinguished 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.</p> <p>Either of the electrical port or the SFP+ hybrid port can be used for PoE input, but not both.</p>
Maximum number of physical ports on the entire device	<p>2.5GE (RJ45) x 1, 100M/1000M/2.5GE auto-sensing</p> <p>10GE (SFP+) x 1, 1000M/10GE auto-sensing</p> <p>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.</p>
Long-term operating temperature [$^{\circ}\text{C}({}^{\circ}\text{F})$]	-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 [$^{\circ}\text{C}({}^{\circ}\text{F})$]	-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	<ul style="list-style-type: none"> ● 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]	<ul style="list-style-type: none"> ● 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	<p>Wi-Fi:</p> <ul style="list-style-type: none"> 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. <p>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.</p>
802.3af power supply description	<p>Wi-Fi:</p> <p>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.</p> <p>Wired network port:</p> <ul style="list-style-type: none"> 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. <p>Other ports:</p> <p>The USB port is unavailable.</p>
DC power supply description	<p>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.</p>

2.1.17 AirEngine 6761S-21T (02354VQJ)

Overview

Table 2-81 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 2-49 Appearance of the AirEngine 6761S-21T

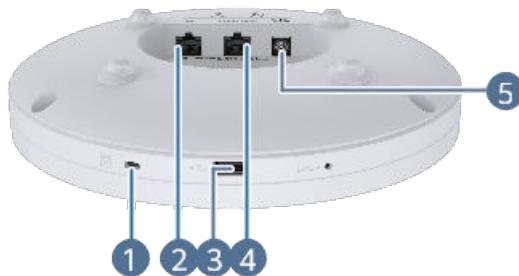


 **NOTE**

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 2-50 Ports on the AirEngine 6761S-21T



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

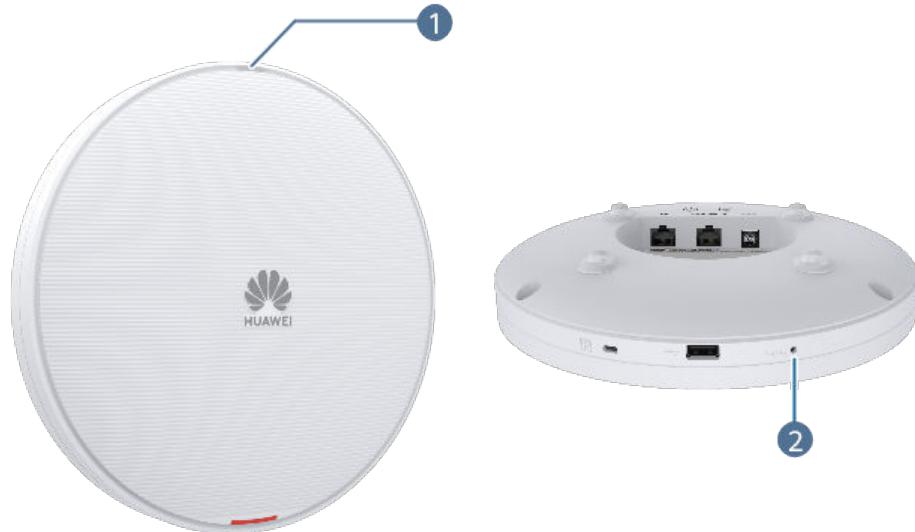
Table 2-82 Ports on the AirEngine 6761S-21T

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

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 2-51 Indicators and buttons on the AirEngine 6761S-21T



1	Indicator	2	Default
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Table 2-83 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-84 Buttons on the AirEngine 6761S-21T

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-85 Technical specifications of the AirEngine 6761S-21T

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.18 AirEngine 6761S-21T (02353XBR)

Overview

Table 2-86 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.

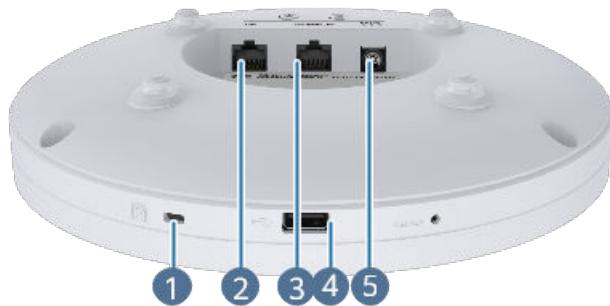
Appearance

Figure 2-52 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 2-53** Ports on the AirEngine 6761S-21T

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

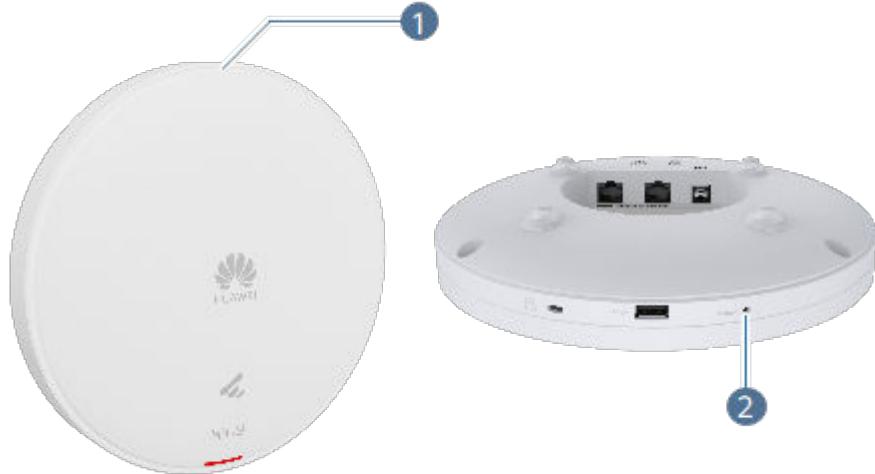
Table 2-87 Ports on the AirEngine 6761S-21T

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 2-54 Indicators and buttons on the AirEngine 6761S-21T



1	Indicator	2	Default
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Table 2-88 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-89 Buttons on the AirEngine 6761S-21T

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-90 Technical specifications of the AirEngine 6761S-21T

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.19 AirEngine 6561-21T

Overview

Table 2-91 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

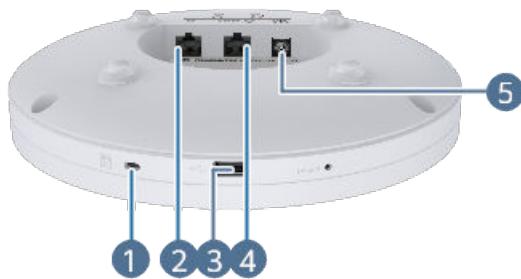
Appearance

Figure 2-55 Appearance of the AirEngine 6561-21T



Ports

Figure 2-56 Ports on the AirEngine 6561-21T



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

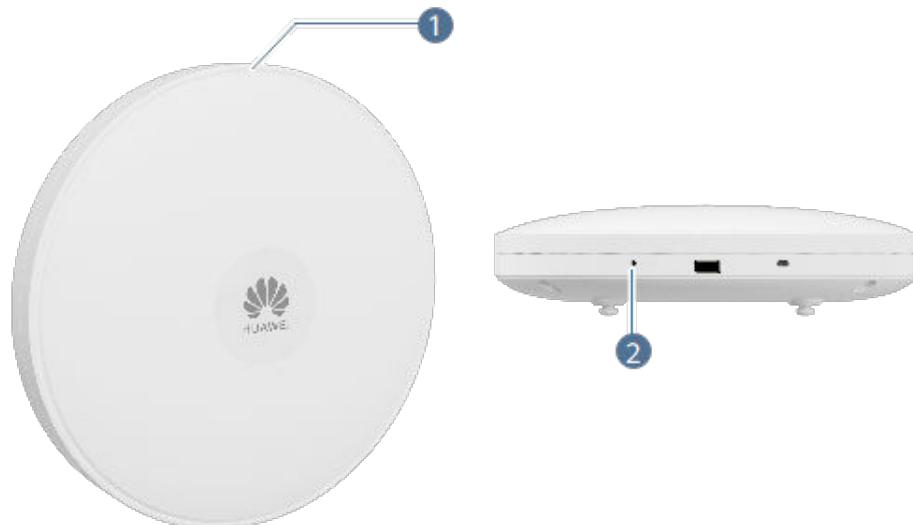
Table 2-92 Ports on the AirEngine 6561-21T

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

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 2-57 Indicators and buttons on the AirEngine 6561-21T



1	Indicator	2	Default
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Table 2-93 Indicators on the AirEngine 6561-21T

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

Silkscreen	Name	Color	Status	Description
		White	Steady on	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-94 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 2-95 Technical specifications of the AirEngine 6561-21T

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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	<p>2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain)</p> <p>5G: 5 dBi/chain (peak value) 3 dBi (combined gain)</p> <p>BLE: 4 dBi</p>

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.

2.1.20 AirEngine 5773-22P

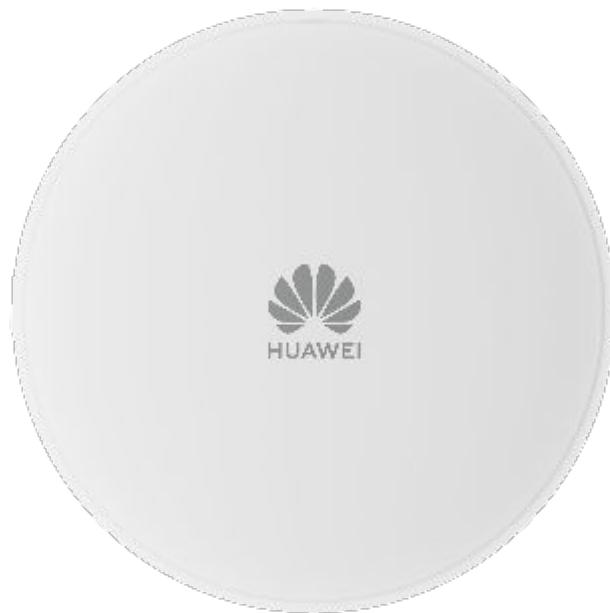
Overview

Table 2-96 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

Appearance

Figure 2-58 Appearance of the AirEngine 5773-22P



Indicators and Buttons

Figure 2-59 Indicators and buttons on the AirEngine 5773-22P

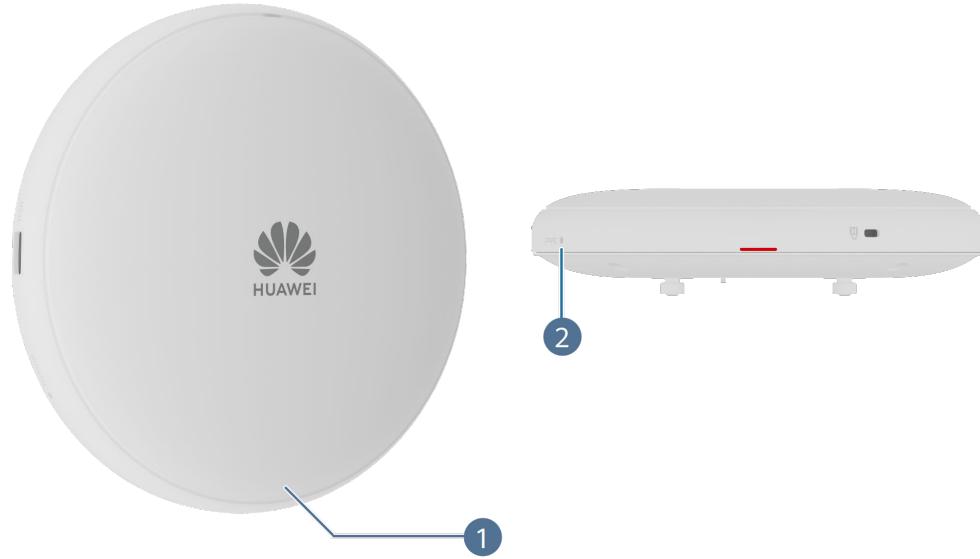


Table 2-97 Indicators on the AirEngine 5773-22P

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-98 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

Figure 2-60 Ports on the AirEngine 5773-22P

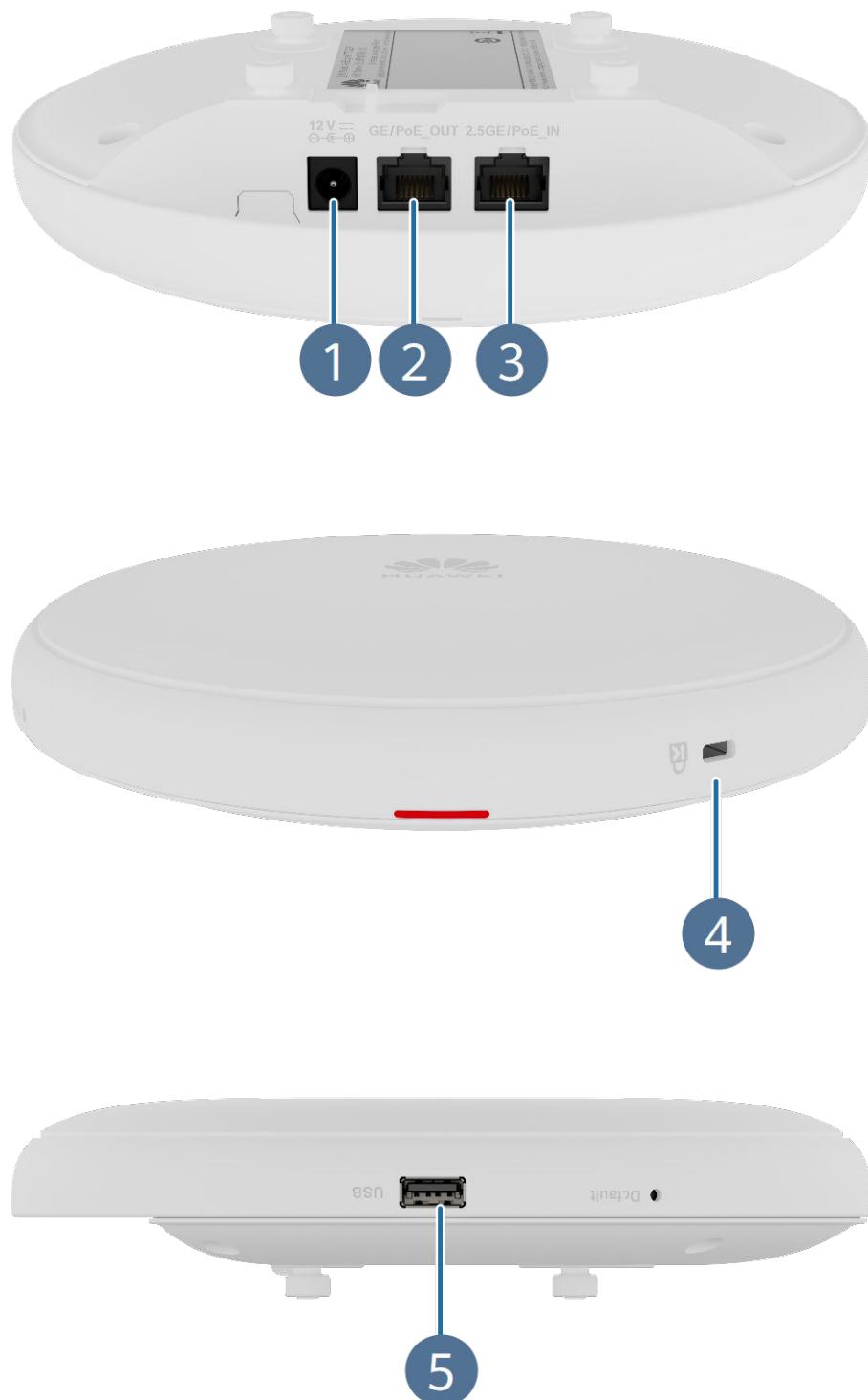


Table 2-99 Ports on the AirEngine 5773-22P

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 3.0 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 2-100 Technical specifications of the AirEngine 5773-22P

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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.)

Item	Specification
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	<ul style="list-style-type: none"> • 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
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

Item	Specification
USB	USB 3.0, which is unavailable currently and will be supported through software upgrade in the future
BLE	BLE5.2
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> ● 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	<p>2.4 GHz: 4 dBi/chain (peak gain) 1 dBi (combined gain)</p> <p>5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain)</p> <p>BLE: 4 dBi (peak gain)</p>
Maximum transmit power	<p>2.4 GHz: 20 dBm/chain 23 dBm (combined power)</p> <p>5 GHz: 20 dBm/chain 23 dBm (combined power)</p>
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

Item	Specification
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.

2.1.21 AirEngine 5773-23H

Overview

Table 2-101 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

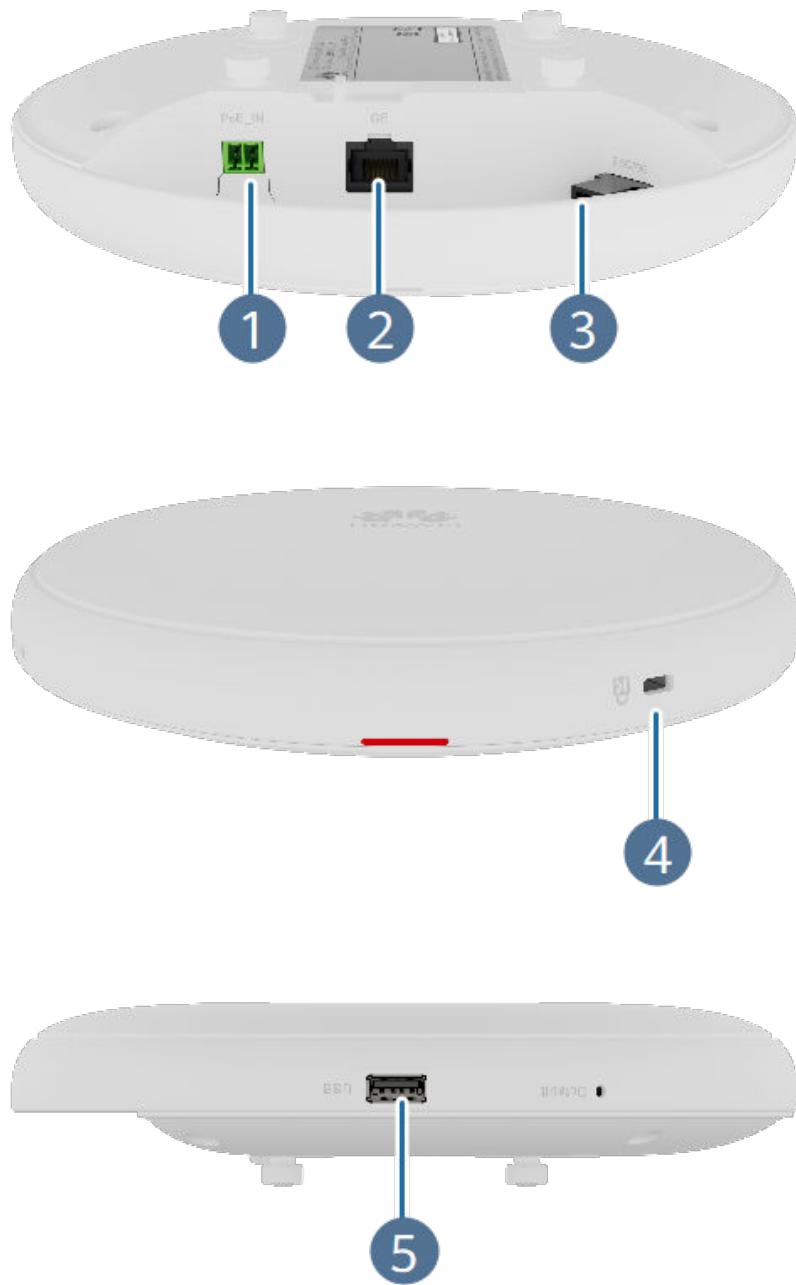
Appearance

Figure 2-61 Appearance of the AirEngine 5773-23H



Ports

Figure 2-62 Ports on the AirEngine 5773-23H



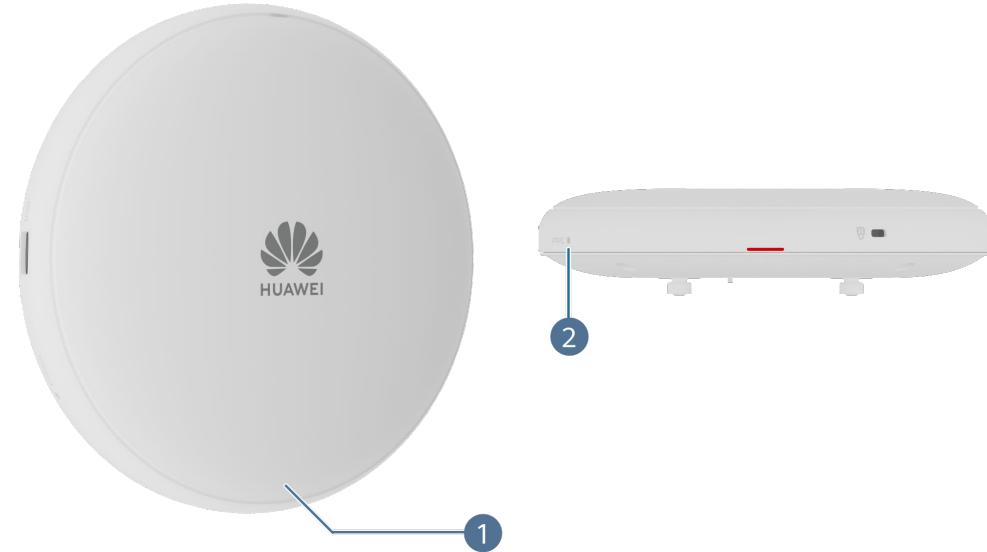
1	PoE_IN	2	GE
3	2.5G/GE	4	Security slot
5	USB	-	-

Table 2-102 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 10M/100M/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 3.0 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 2-63 Indicators and buttons on the AirEngine 5773-23H



1	Indicator	2	Default
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Table 2-103 Indicators on the AirEngine 5773-23H

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-104 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 2-105 Technical specifications of the AirEngine 5773-23H

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<p>PoE port:</p> <p>Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B</p> <p>Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B</p> <p>AC power adapter:</p> <p>Differential mode: 2.5 kV (1.2/50 us, 2 ohms), criterion B</p> <p>Common mode: 4 kV (1.2/50 µs, 12 ohms), criterion B</p> <p>Non-PoE ports:</p> <p>Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms, criterion B</p> <p>Hybrid optical-electrical DC port:</p> <p>1 kV (2 ohms)/2 kV (12 ohms), criterion C</p>
Maximum number of physical ports on the entire device	2.5G/GE (LC) optical port x 1 GE (RJ45) x 1, supporting 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	USB 3.0, which is unavailable currently and will be supported through software upgrade in the future
BLE	BLE5.2
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> ● 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.

2.1.22 AirEngine 5573-23H

Overview

Table 2-106 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

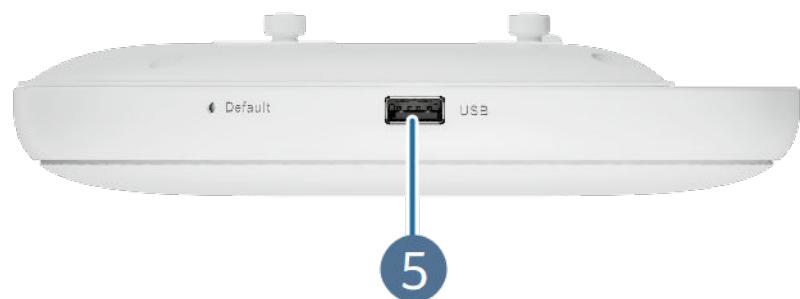
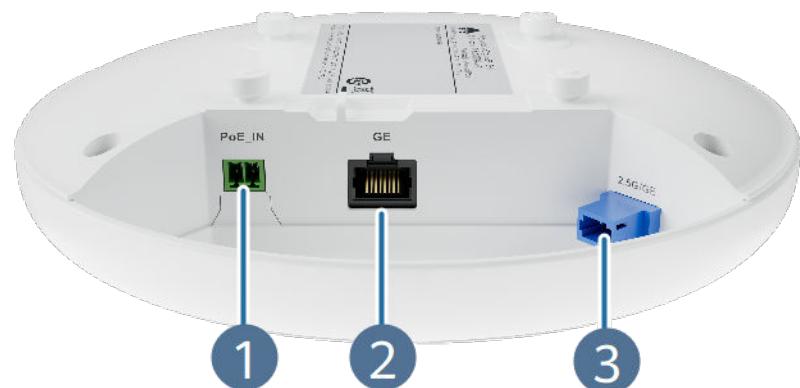
Appearance

Figure 2-64 Appearance of the AirEngine 5573-23H



Ports

Figure 2-65 Ports on the AirEngine 5573-23H



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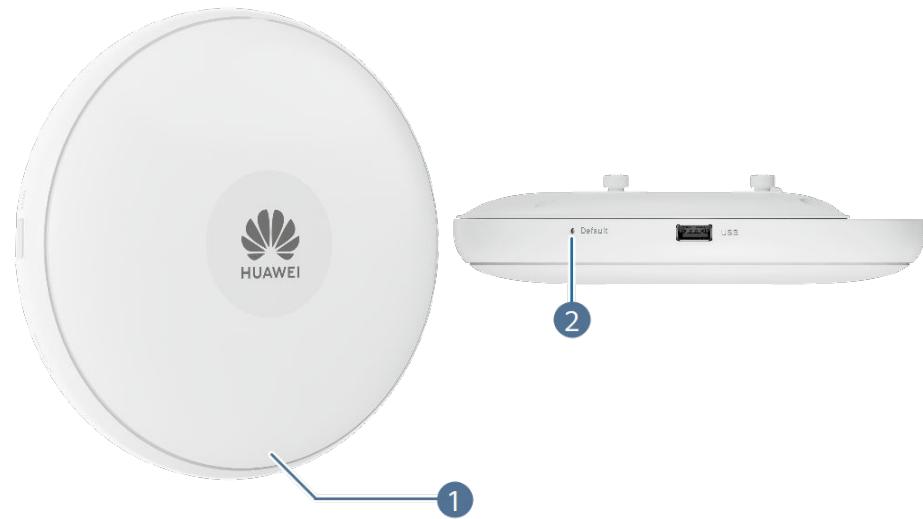
3	2.5G/GE	4	Security slot
5	USB	-	-

Table 2-107 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 10M/100M/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 3.0 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 2-66 Indicators and buttons on the AirEngine 5573-23H



1	Indicator	2	Default
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Table 2-108 Indicators on the AirEngine 5573-23H

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-109 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 2-110 Technical specifications of the AirEngine 5573-23H

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<p>PoE port:</p> <p>Differential mode (48 V-RTN): 0.5 kV (1.2/50 us, 42 ohms), criterion B</p> <p>Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms), criterion B</p> <p>AC power adapter:</p> <p>Differential mode: 2.5 kV (1.2/50 us, 2 ohms), criterion B</p> <p>Common mode: 4 kV (1.2/50 µs, 12 ohms), criterion B</p> <p>Non-PoE ports:</p> <p>Common mode (8 wires to ground): 4 kV (1.2/50 us, 42 ohms, criterion B</p> <p>Hybrid optical-electrical DC port:</p> <p>1 kV (2 ohms)/2 kV (12 ohms), criterion C</p>
Maximum number of physical ports on the entire device	2.5G/GE (LC) optical port x 1 GE (RJ45) x 1, supporting 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	USB 3.0, which is unavailable currently and will be supported through software upgrade in the future
BLE	BLE5.2
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> ● 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	<p>2.4 GHz: 4 dBi/chain (peak gain) 1 dBi (combined gain)</p> <p>5 GHz: 5 dBi/chain (peak gain) 3 dBi (combined gain)</p> <p>BLE: 4 dBi (peak gain)</p>

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.

2.1.23 AirEngine 5776-26

Overview

Table 2-111 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

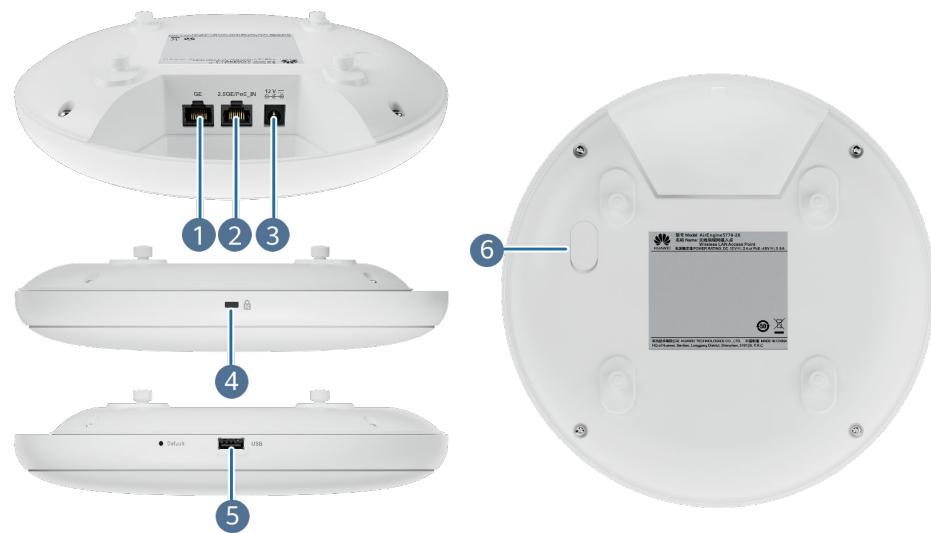
Appearance

Figure 2-67 Appearance of the AirEngine 5776-26



Ports

Figure 2-68 Ports on the AirEngine 5776-26



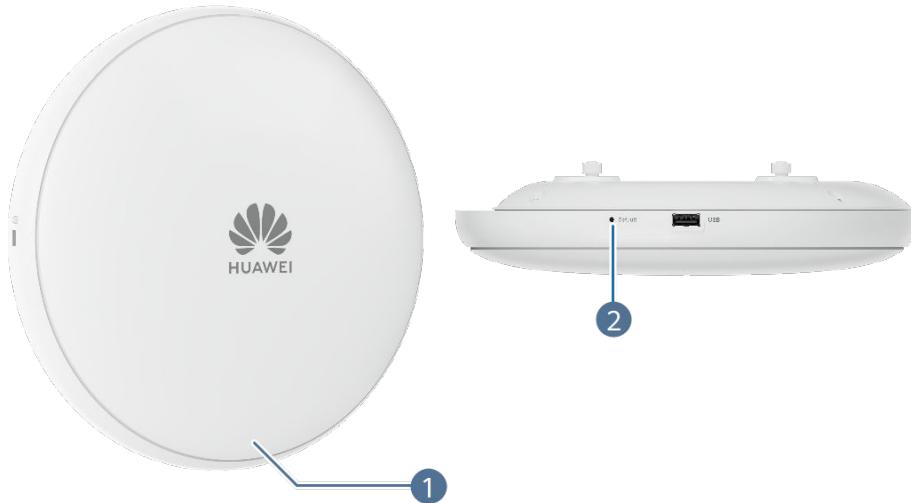
1	GE	2	2.5GE/PoE_IN
3	DC 12V	4	Security slot
5	USB	6	Management console port

Table 2-112 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
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	Pin header socket	Management console port, allowing operations only by professionals	-

Indicators and Buttons

Figure 2-69 Indicators and buttons on the AirEngine 5776-26



1	Indicator	2	Default
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Table 2-113 Indicators on the AirEngine 5776-26

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> • 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 2-114 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 2-115 Technical specifications of the AirEngine 5776-26

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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
802.3at power supply description	No function is limited.
802.3af power supply description	For the Wi-Fi service, a maximum capability of 2.4 GHz (2x2) + 5 GHz (2x2) is supported. The USB function is unavailable. Other functions are not restricted.
DC power supply description	No function is limited.

2.1.24 AirEngine 5773-21

Overview

Table 2-116 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

Item	Details
Model	AirEngine 5773-21
First supported version	V600R023C10

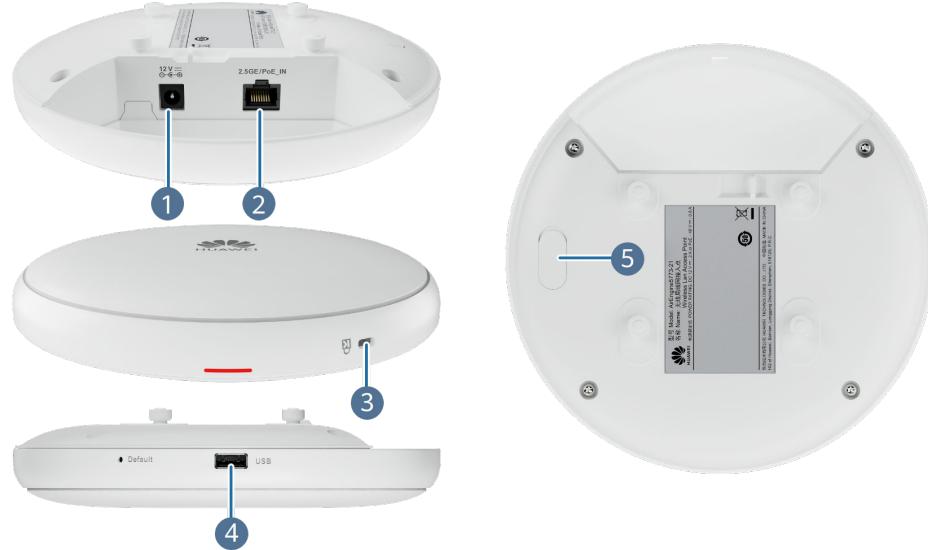
Appearance

Figure 2-70 Appearance of the AirEngine 5773-21



Ports

Figure 2-71 Ports on the AirEngine 5773-21



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

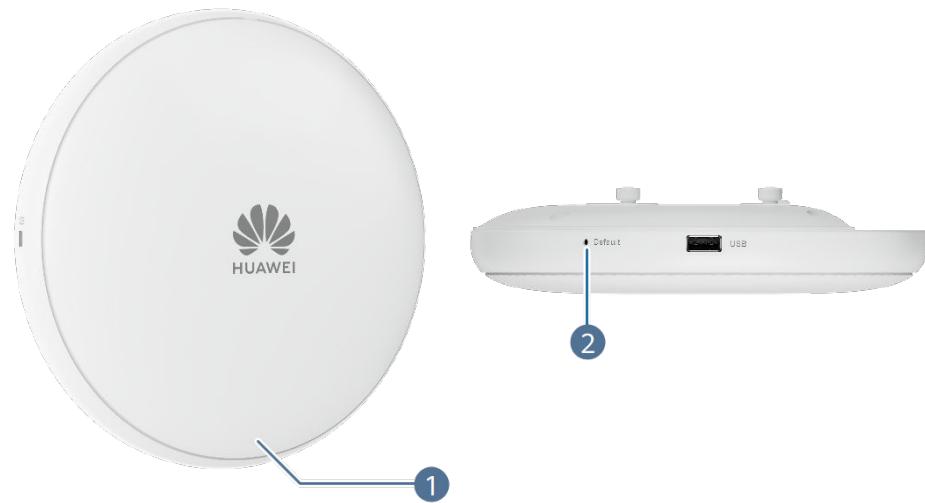
Table 2-117 Ports on the AirEngine 5773-21

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

Port	Connector Type	Description	Available Components
USB	USB 3.0 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	Pin header socket	Management console port, allowing operations only by professionals	-

Indicators and Buttons

Figure 2-72 Indicators and buttons on the AirEngine 5773-21



1	Indicator	2	Default
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Table 2-118 Indicators on the AirEngine 5773-21

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none"> • The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		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)	<ul style="list-style-type: none"> 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 2-119 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 2-120 Technical specifications of the AirEngine 5773-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	USB 3.0, which is unavailable currently and will be supported through software upgrade in the future
BLE	BLE5.4
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> ● 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.

2.1.25 AirEngine 5760-51 (02353GES-001)

Overview

Table 2-121 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

Item	Details
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.

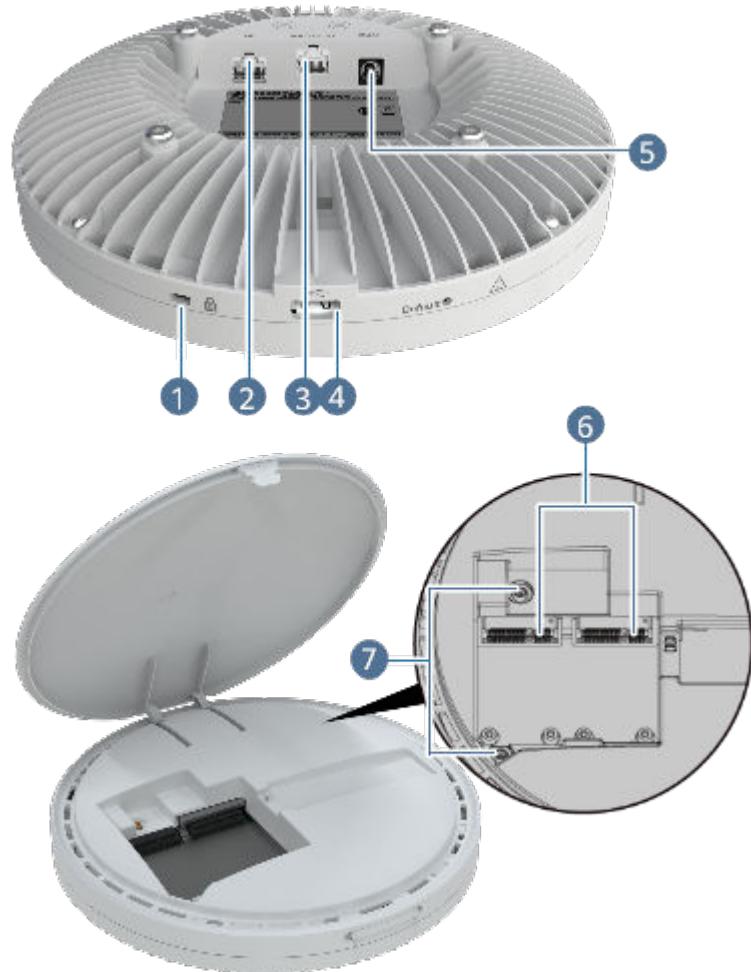
Appearance

Figure 2-73 Appearance of the AirEngine 5760-51



Ports

Figure 2-74 Ports on the AirEngine 5760-51



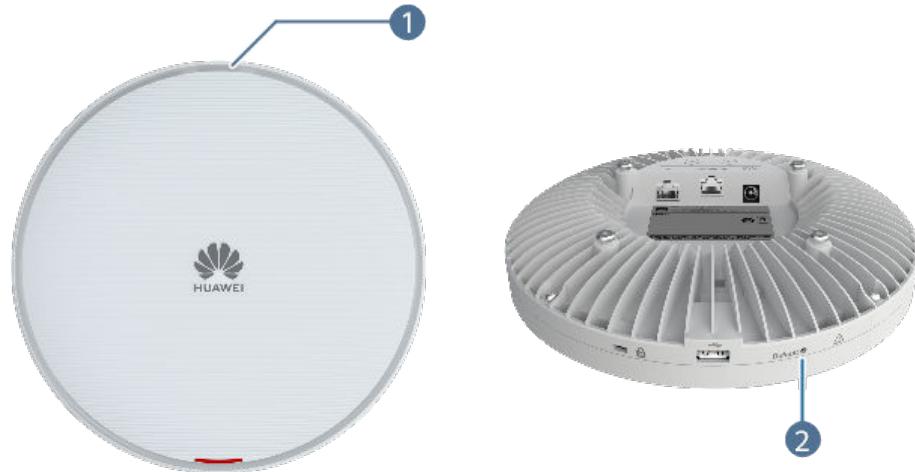
1	Security slot	2	GE
3	5GE/PoE_IN	4	USB
5	DC 48V	6	IoT slot
7	Built-in radio port connecting to an IoT card	-	-

Table 2-122 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 2-75 Indicators and buttons on the AirEngine 5760-51



1	Indicator	2	Default
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Table 2-123 Indicators on the AirEngine 5760-51

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-124 Buttons on the AirEngine 5760-51

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-125 Technical specifications of the AirEngine 5760-51

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 2.4GHz 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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	<p>For 802.3bt class 6/class 8 power supply:</p> <p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted:</p> <ul style="list-style-type: none">• 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	<p>With an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If the USB and IoT card slots are not used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> ● 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 <p>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.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p> <p>Without an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If no USB or IoT card slot is used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> ● 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) <p>If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may</p>

Item	Specification
	<p>be affected. For details, contact the product manager.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p>
DC power supply description	<p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted:</p> <ul style="list-style-type: none"> • 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)

2.1.26 AirEngine 5760-51 (02353GES)

Overview

Table 2-126 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.

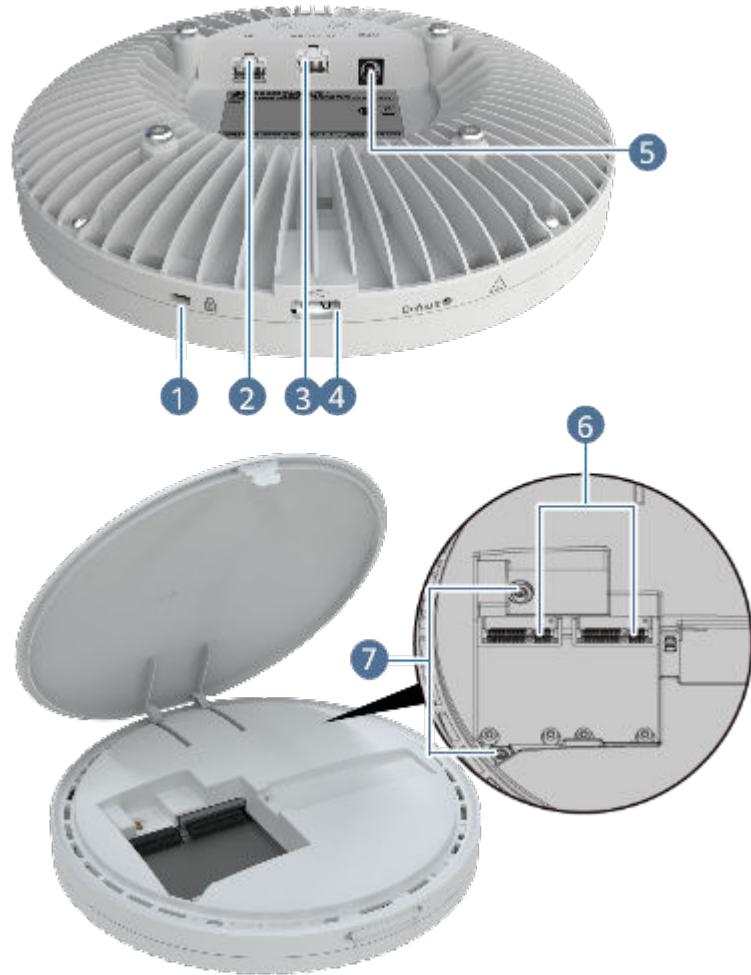
Apearance

Figure 2-76 Appearance of the AirEngine 5760-51



Ports

Figure 2-77 Ports on the AirEngine 5760-51



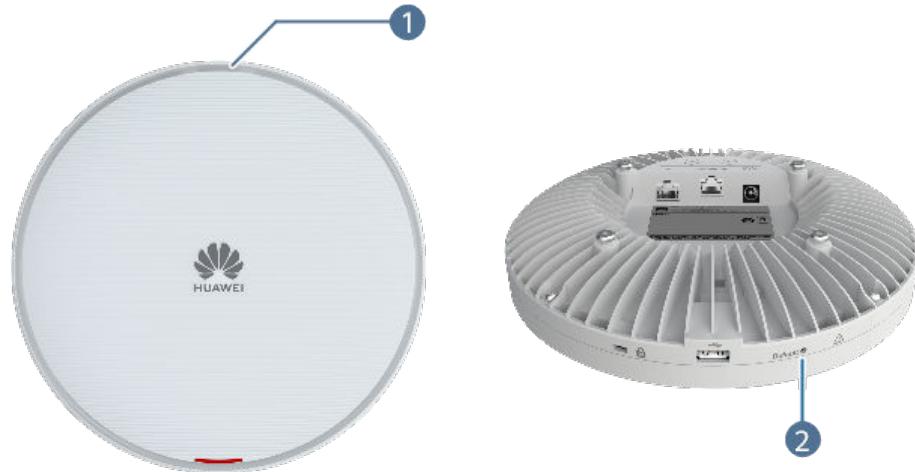
1	Security slot	2	GE
3	5GE/PoE_IN	4	USB
5	DC 48V	6	IoT slot
7	Built-in radio port connecting to an IoT card	-	-

Table 2-127 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 2-78 Indicators and buttons on the AirEngine 5760-51



1	Indicator	2	Default
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Table 2-128 Indicators on the AirEngine 5760-51

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> 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 2-129 Buttons on the AirEngine 5760-51

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-130 Technical specifications of the AirEngine 5760-51

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 2.4GHz 5GHz

Item	Specification
MIMO spatial streams	<p>Triple-radio mode:</p> <ul style="list-style-type: none"> 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 <p>Dual-radio mode:</p> <ul style="list-style-type: none"> 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	<p>For 802.3bt class 6/class 8 power supply:</p> <p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted:</p> <ul style="list-style-type: none">• 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	<p>With an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If the USB and IoT card slots are not used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> ● 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 <p>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.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p> <p>Without an RTU license loaded:</p> <p>Wi-Fi:</p> <p>If no USB or IoT card slot is used, the radio transmit power is not affected.</p> <ul style="list-style-type: none"> ● 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) <p>If the USB and IoT card slot are both used, the number of spatial streams, transmit power, and bandwidth may</p>

Item	Specification
	<p>be affected. For details, contact the product manager.</p> <p>Wired network port:</p> <p>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.)</p> <p>Other ports:</p> <p>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.</p>
DC power supply description	<p>If an RTU license is loaded, no function is restricted.</p> <p>If no RTU license is loaded, Wi-Fi supports only the following mode and other functions are not restricted:</p> <ul style="list-style-type: none"> • 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)

2.1.27 AirEngine 5761-11

Overview

Table 2-131 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

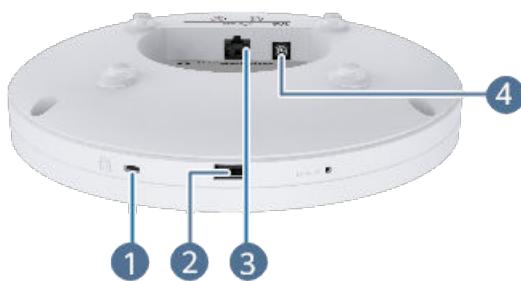
Appearance

Figure 2-79 Appearance of the AirEngine 5761-11



Ports

Figure 2-80 Ports on the AirEngine 5761-11



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

Table 2-132 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 2-81 Indicators and buttons on the AirEngine 5761-11

1	Indicator	2	Default
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Table 2-133 Indicators on the AirEngine 5761-11

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 2-134 Buttons on the AirEngine 5761-11

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-135 Technical specifications of the AirEngine 5761-11

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

2.1.28 AirEngine 5761-12

Overview

Table 2-136 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

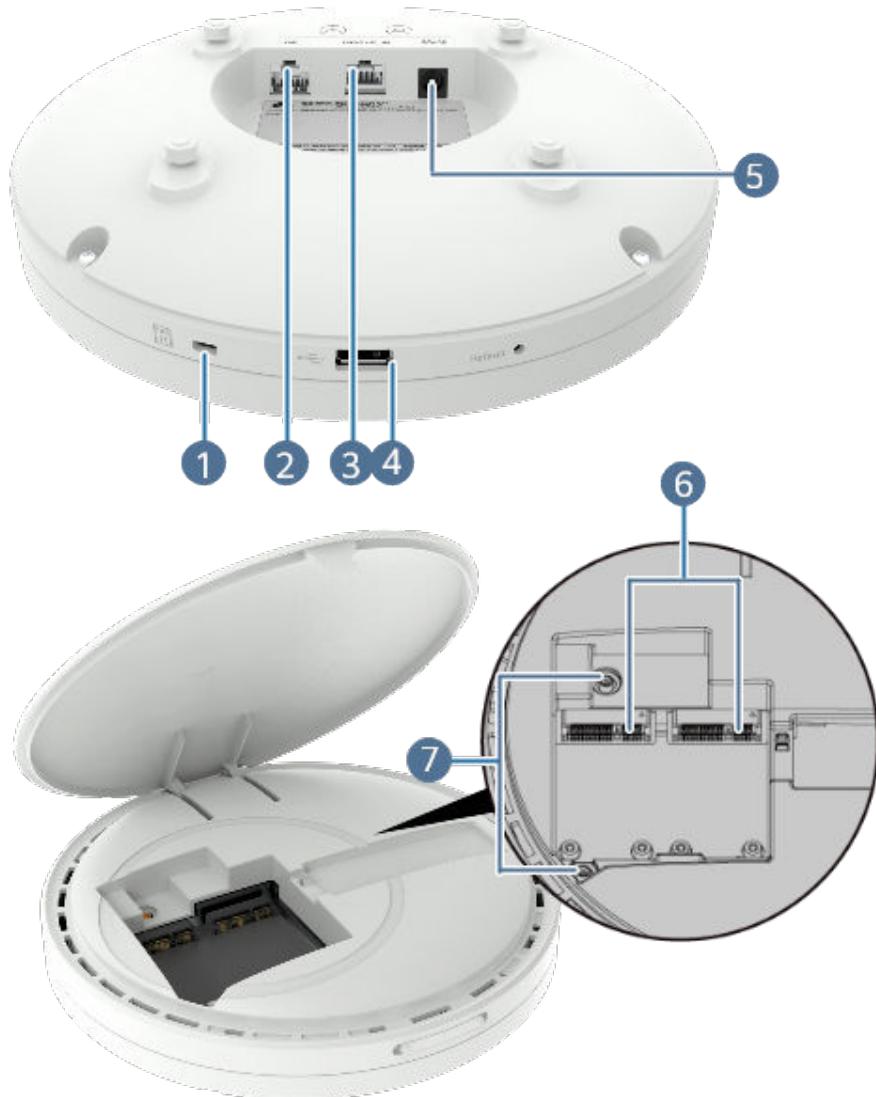
Appearance

Figure 2-82 Appearance of the AirEngine 5761-12



Ports

Figure 2-83 Ports on the AirEngine 5761-12



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

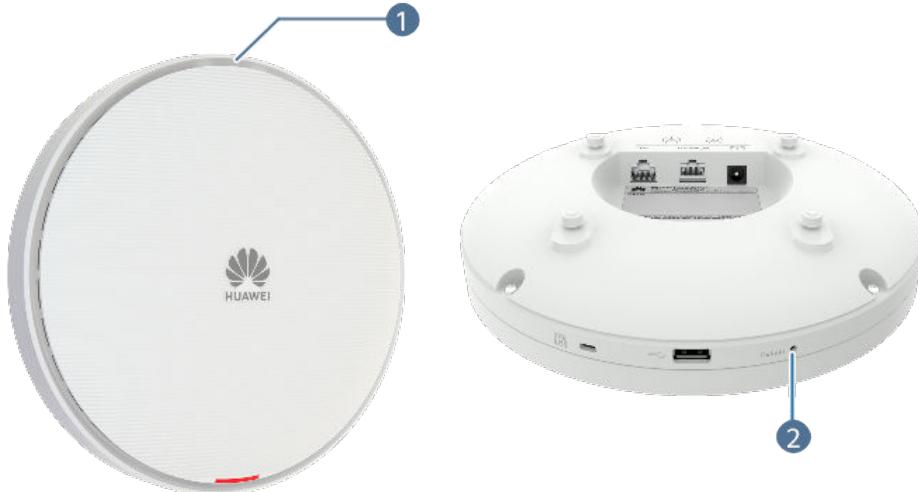
7	Built-in radio port connecting to an IoT card	-	-
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Table 2-137 Ports on the AirEngine 5761-12

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 2-84 Indicators and buttons on the AirEngine 5761-12



1	Indicator	2	Default
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Table 2-138 Indicators on the AirEngine 5761-12

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">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)	<ul style="list-style-type: none"> 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 2-139 Buttons on the AirEngine 5761-12

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-140 Technical specifications of the AirEngine 5761-12

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

2.1.29 AirEngine 5761-21 (02354VQK)

Overview

Table 2-141 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**

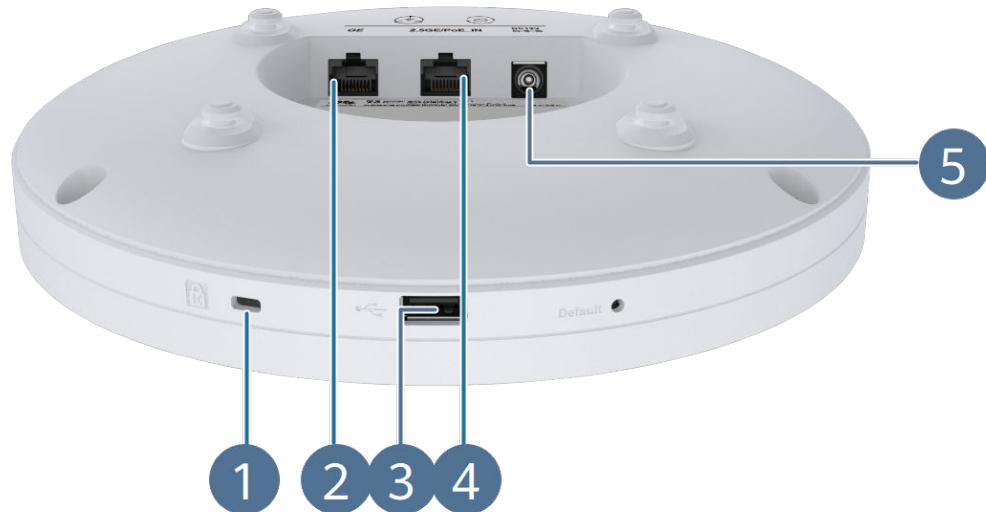
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 2-85 Appearance of the AirEngine 5761-21

Ports

Figure 2-86 Ports on the AirEngine 5761-21



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

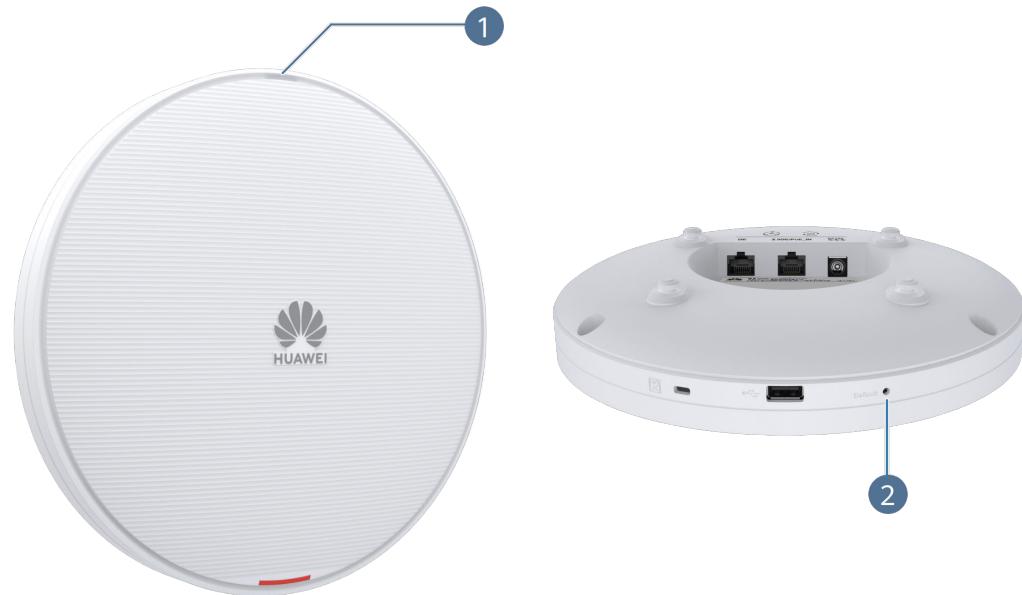
Table 2-142 Ports on the AirEngine 5761-21

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

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 2-87 Indicators and buttons on the AirEngine 5761-21



1	Indicator	2	Default
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Table 2-143 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-144 Buttons on the AirEngine 5761-21

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-145 Technical specifications of the AirEngine 5761-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 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.

2.1.30 AirEngine 5761-21 (02353VUT)

Overview

Table 2-146 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**

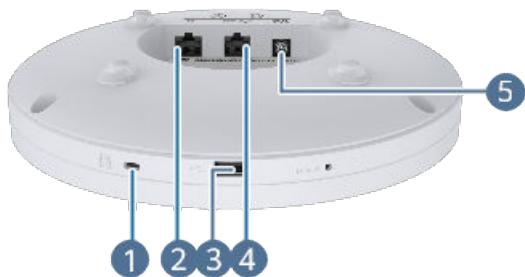
Due to different production batches, the device has multiple BOM codes. The software specifications are the same, but the initial supported versions are different. Hardware specifications such as weight and power consumption may be slightly different.

Appearance

Figure 2-88 Appearance of the AirEngine 5761-21

Ports

Figure 2-89 Ports on the AirEngine 5761-21



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

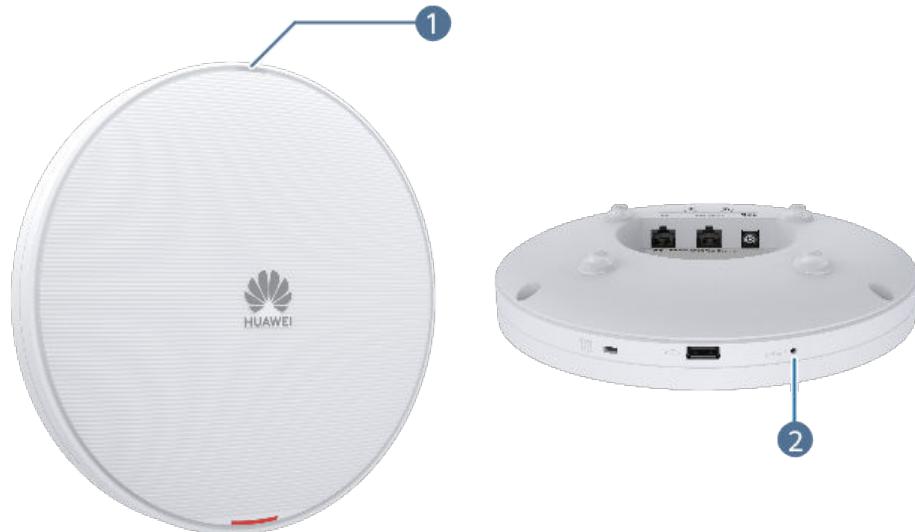
Table 2-147 Ports on the AirEngine 5761-21

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 2-90 Indicators and buttons on the AirEngine 5761-21



1	Indicator	2	Default
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Table 2-148 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-149 Buttons on the AirEngine 5761-21

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-150 Technical specifications of the AirEngine 5761-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.31 AirEngine 5761S-13

Overview

Table 2-151 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 2-91 Appearance of the AirEngine 5761S-13

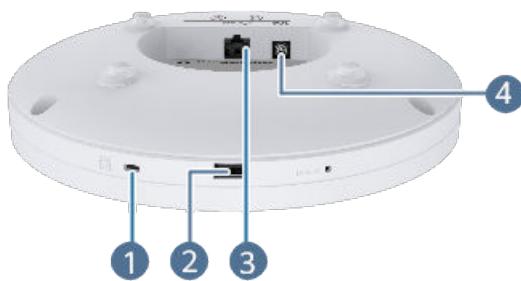


NOTE

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 2-92 Ports on the AirEngine 5761S-13



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

Table 2-152 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 2-93 Indicators and buttons on the AirEngine 5761S-13



1	Indicator	2	Default
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Table 2-153 Indicators on the AirEngine 5761S-13

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">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)	<ul style="list-style-type: none"> 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 2-154 Buttons on the AirEngine 5761S-13

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-155 Technical specifications of the AirEngine 5761S-13

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

2.1.32 AirEngine 5761S-12

Overview

Table 2-156 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 2-94 Appearance of the AirEngine 5761S-12

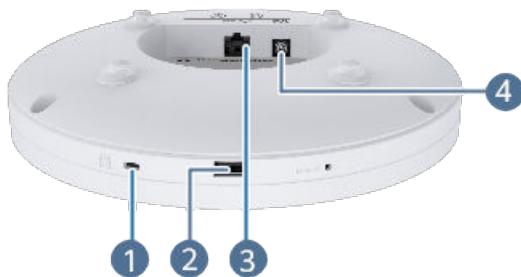


NOTE

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 2-95 Ports on the AirEngine 5761S-12



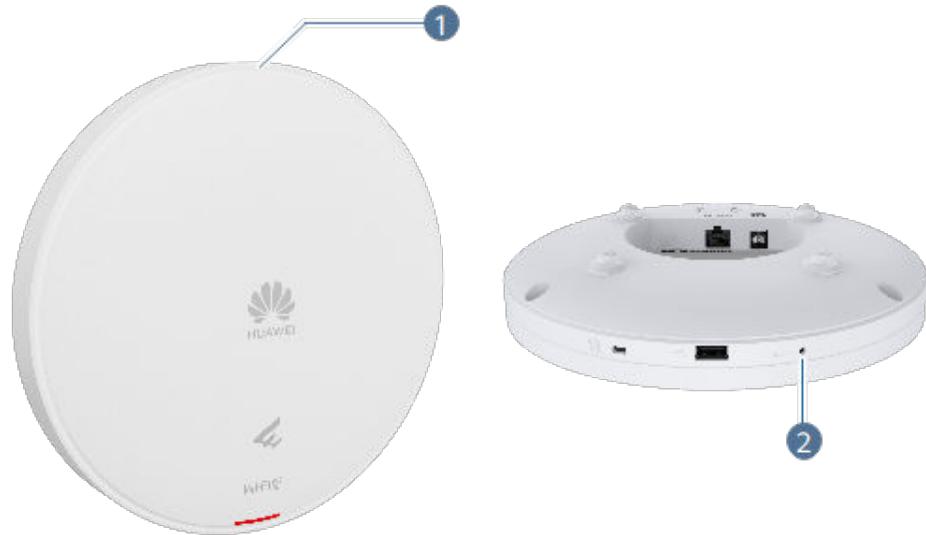
1	Security slot	2	USB
3	GE/PoE_IN	4	DC 12V

Table 2-157 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 2-96 Indicators and buttons on the AirEngine 5761S-12



1	Indicator	2	Default
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Table 2-158 Indicators on the AirEngine 5761S-12

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">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)	<ul style="list-style-type: none"> 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 2-159 Buttons on the AirEngine 5761S-12

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-160 Technical specifications of the AirEngine 5761S-12

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

2.1.33 AirEngine 5761S-11

Overview

Table 2-161 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 2-97 Appearance of the AirEngine 5761S-11

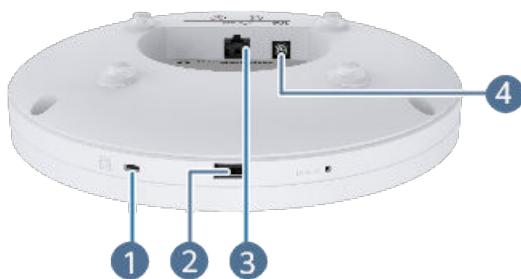


NOTE

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 2-98 Ports on the AirEngine 5761S-11



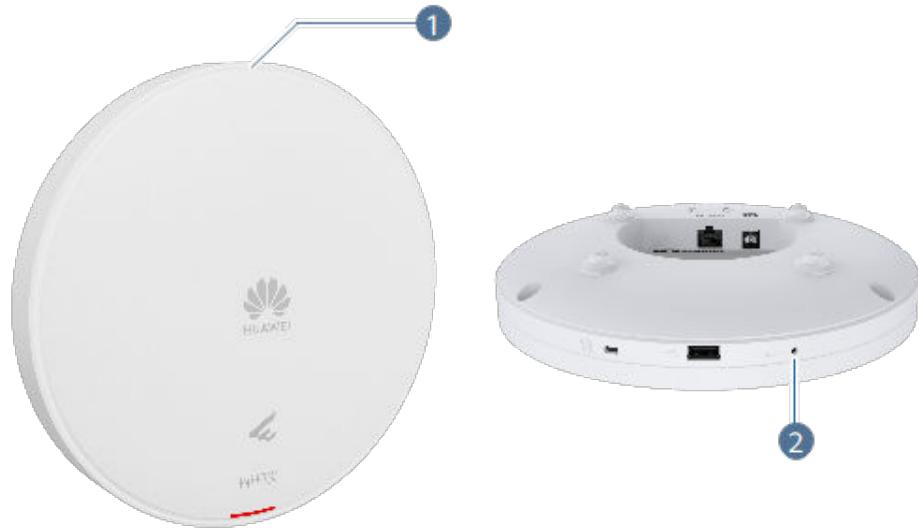
1	Security slot	2	USB
3	GE/PoE_IN	4	DC 12V

Table 2-162 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 2-99 Indicators and buttons on the AirEngine 5761S-11



1	Indicator	2	Default
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Table 2-163 Indicators on the AirEngine 5761S-11

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">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)	<ul style="list-style-type: none"> 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 2-164 Buttons on the AirEngine 5761S-11

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-165 Technical specifications of the AirEngine 5761S-11

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

2.1.34 AirEngine 5761S-21 (02354VQL)

Overview

Table 2-166 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 2-100 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 2-101 Ports on the AirEngine 5761S-21



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

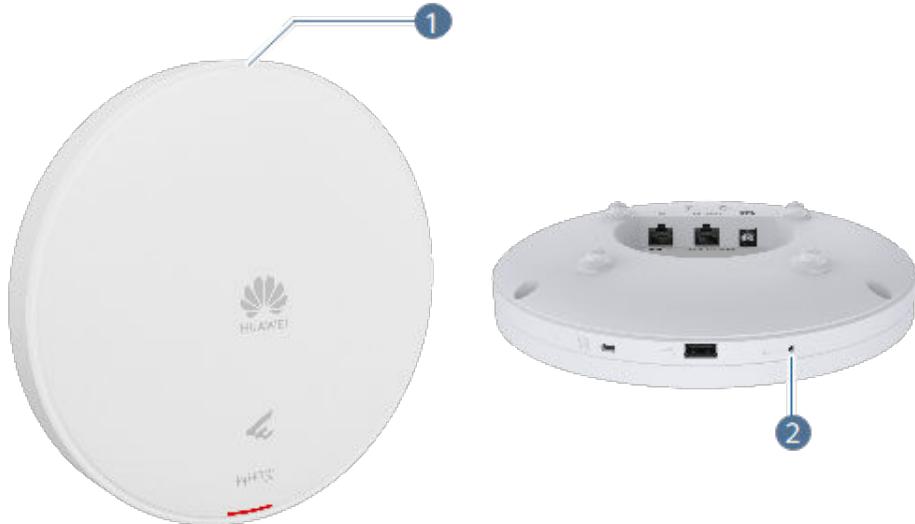
Table 2-167 Ports on the AirEngine 5761S-21

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

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 2-102 Indicators and buttons on the AirEngine 5761S-21



1	Indicator	2	Default
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Table 2-168 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-169 Buttons on the AirEngine 5761S-21

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-170 Technical specifications of the AirEngine 5761S-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.35 AirEngine 5761S-21 (02353XBP)

Overview

Table 2-171 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 2-103 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 2-104 Ports on the AirEngine 5761S-21



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

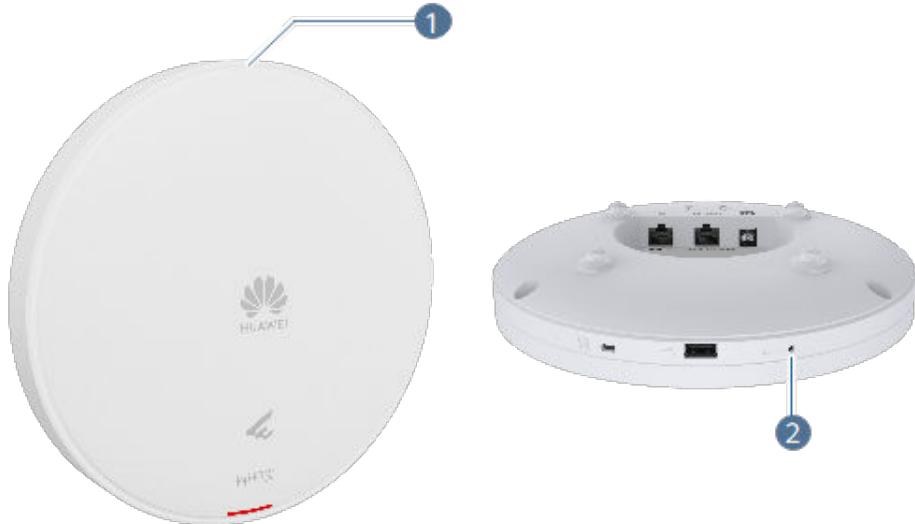
Table 2-172 Ports on the AirEngine 5761S-21

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 2-105 Indicators and buttons on the AirEngine 5761S-21



1	Indicator	2	Default
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Table 2-173 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> • 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 2-174 Buttons on the AirEngine 5761S-21

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-175 Technical specifications of the AirEngine 5761S-21

Item	Specification
Installation Type	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● 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.

2.1.36 AirEngine 5762-12

Overview

Table 2-176 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

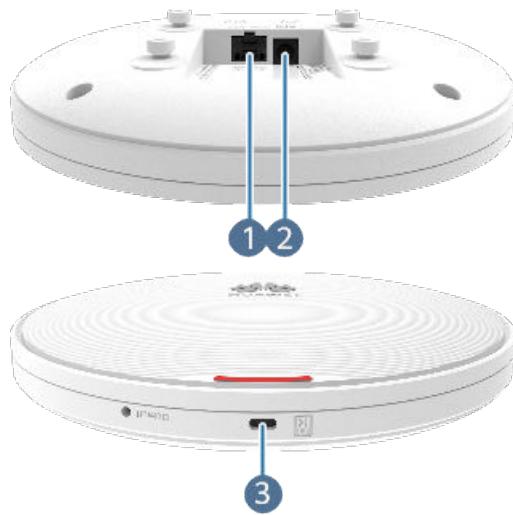
Appearance

Figure 2-106 Appearance of the AirEngine 5762-12



Ports

Figure 2-107 Ports on the AirEngine 5762-12



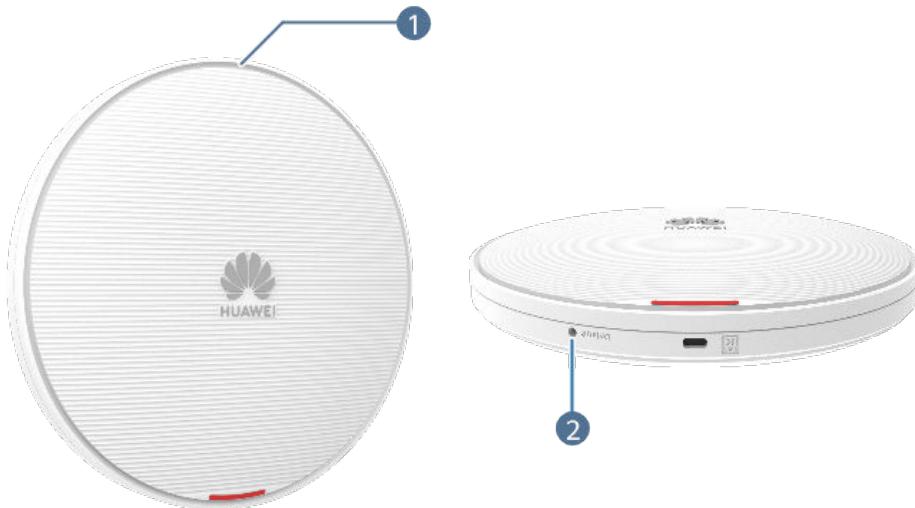
1	GE0/PoE_IN	2	DC 12V
3	Security slot	-	-

Table 2-177 Ports on the AirEngine 5762-12

Port	Connector Type	Description	Available Components
GE0/PoE_IN	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 DC power adapter

Indicators and Buttons

Figure 2-108 Indicators and buttons on the AirEngine 5762-12



1	Indicator	2	Default
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Table 2-178 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.

Silkscreen	Name	Color	Status	Description
		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.
		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)	<p>Alarm.</p> <ul style="list-style-type: none"> 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 2-179 Buttons on the AirEngine 5762-12

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-180 Technical specifications of the AirEngine 5762-12

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	Bluetooth console
Maximum power consumption [W]	11 W
Maximum heat dissipation [BTU/hour]	37.5 BTU/hour
Power supply mode	<ul style="list-style-type: none"> • 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) (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

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	<ul style="list-style-type: none"> • 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	<p>2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain)</p> <p>5G: 5 dBi/chain (peak value) 3 dBi (combined gain)</p> <p>BLE: 4 dBi</p>
Maximum transmit power	<p>2.4G: 20 dBm/chain 23 dBm (combined power)</p> <p>5G: 20 dBm/chain 23 dBm (combined power)</p> <p>BLE: < 10 dBm</p>
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.

2.1.37 AirEngine 5762S-12

Overview

Table 2-181 Basic information about the AirEngine 5762S-12

Item	Details
Description	AirEngine5762S-12(11ax indoor,2+2 dual bands,smart antenna,BLE)
Part Number	50084988
Model	AirEngine 5762S-12
First supported version	V200R021C01

Appearance

Figure 2-109 Appearance of the AirEngine 5762S-12

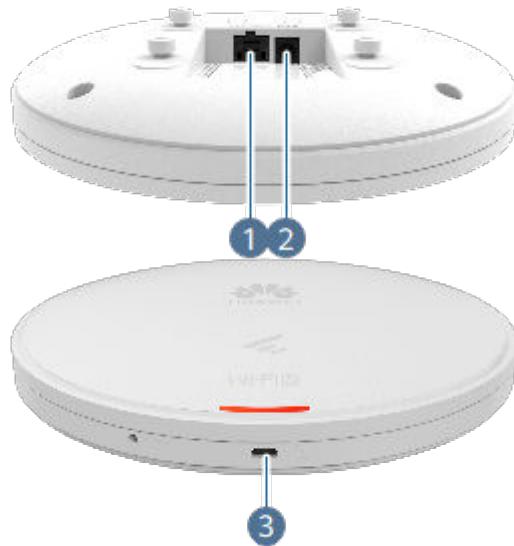


NOTE

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 2-110 Ports on the AirEngine 5762S-12



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

Table 2-182 Ports on the AirEngine 5762S-12

Port	Connector Type	Description	Available Components
GE0/PoE_IN	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 DC power adapter

Indicators and Buttons

Figure 2-111 Indicators and buttons on the AirEngine 5762S-12



1	Indicator	2	Default
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Table 2-183 Indicators on the AirEngine 5762S-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.

Silkscreen	Name	Color	Status	Description
		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.
		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)	<p>Alarm.</p> <ul style="list-style-type: none"> 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 2-184 Buttons on the AirEngine 5762S-12

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-185 Technical specifications of the AirEngine 5762S-12

Item	Specification
Installation Type	<ul style="list-style-type: none">• 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	Bluetooth console
Maximum power consumption [W]	11 W
Maximum heat dissipation [BTU/hour]	37.5 BTU/hour
Power supply mode	<ul style="list-style-type: none">• 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) (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

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	<ul style="list-style-type: none"> • 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	<p>2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain)</p> <p>5G: 5 dBi/chain (peak value) 3 dBi (combined gain)</p> <p>BLE: 4 dBi</p>
Maximum transmit power	<p>2.4G: 20 dBm/chain 23 dBm (combined power)</p> <p>5G: 20 dBm/chain 23 dBm (combined power)</p> <p>BLE: < 10 dBm</p>
Singal radio transmit power [dBm]	2.4G: -10 dBm to 20 dBm/chain 5G: -10 dBm to 20 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.

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

2.1.38 AirEngine 5762S-11

Overview

Table 2-186 Basic information about the AirEngine 5762S-11

Item	Details
Description	AirEngine5762S-11(11ax indoor,2+2 dual bands,smart antenna,BLE)
Part Number	50084985
Model	AirEngine 5762S-11
First supported version	V200R021C01

Appearance

Figure 2-112 Appearance of the AirEngine 5762S-11

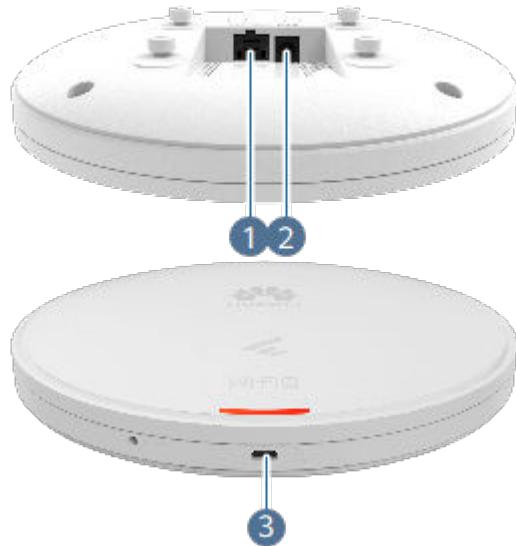


NOTE

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 2-113 Ports on the AirEngine 5762S-11



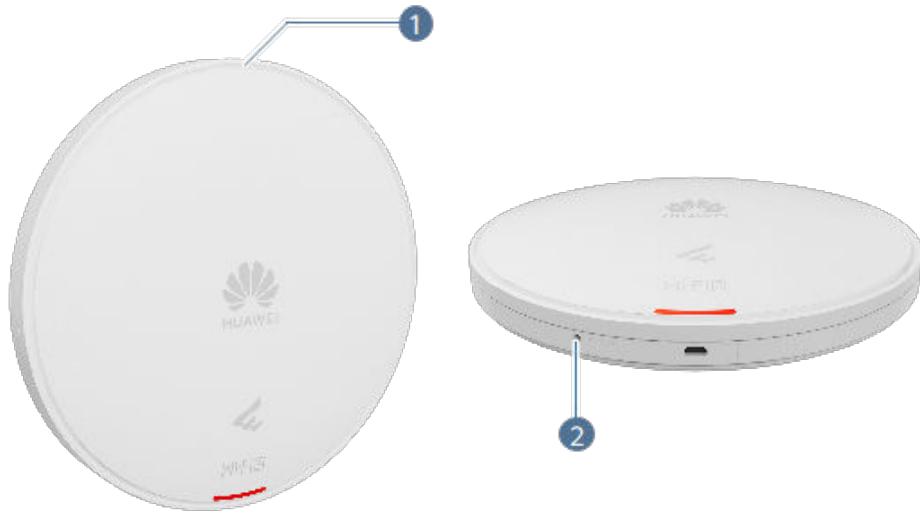
1	GE0/PoE_IN	2	DC 12V
3	Security slot	-	-

Table 2-187 Ports on the AirEngine 5762S-11

Port	Connector Type	Description	Available Components
GE0/PoE_IN	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 DC power adapter

Indicators and Buttons

Figure 2-114 Indicators and buttons on the AirEngine 5762S-11



1	Indicator	2	Default
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Table 2-188 Indicators on the AirEngine 5762S-11

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.

Silkscreen	Name	Color	Status	Description
		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.
		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)	<p>Alarm.</p> <ul style="list-style-type: none"> ● 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 2-189 Buttons on the AirEngine 5762S-11

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-190 Technical specifications of the AirEngine 5762S-11

Item	Specification
Installation Type	<ul style="list-style-type: none">• 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)]	0.510 kg (1.124 lb)
Weight with packaging [kg(lb)]	0.885 kg (1.951 lb)
Storage	NAND Flash 256 MB
Console port	Bluetooth console
Maximum power consumption [W]	10 W
Maximum heat dissipation [BTU/hour]	34 BTU/hour
Power supply mode	<ul style="list-style-type: none">• 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) (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

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	BLE5.0
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> • 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	<p>2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain)</p> <p>5G: 5 dBi/chain (peak value) 3 dBi (combined gain)</p> <p>BLE: 4 dBi</p>
Maximum transmit power	<p>2.4G: 17 dBm/chain 20 dBm (combined power)</p> <p>5G: 17 dBm/chain 20 dBm (combined power)</p> <p>BLE: < 10 dBm</p>
Singal radio transmit power [dBm]	2.4 GHz: -10 dBm to +17 dBm/chain 5 GHz: -10 dBm to +17 dBm/chain
MTBF [year]	578 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.

2.1.39 AirEngine 5762-10

Overview

Table 2-191 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

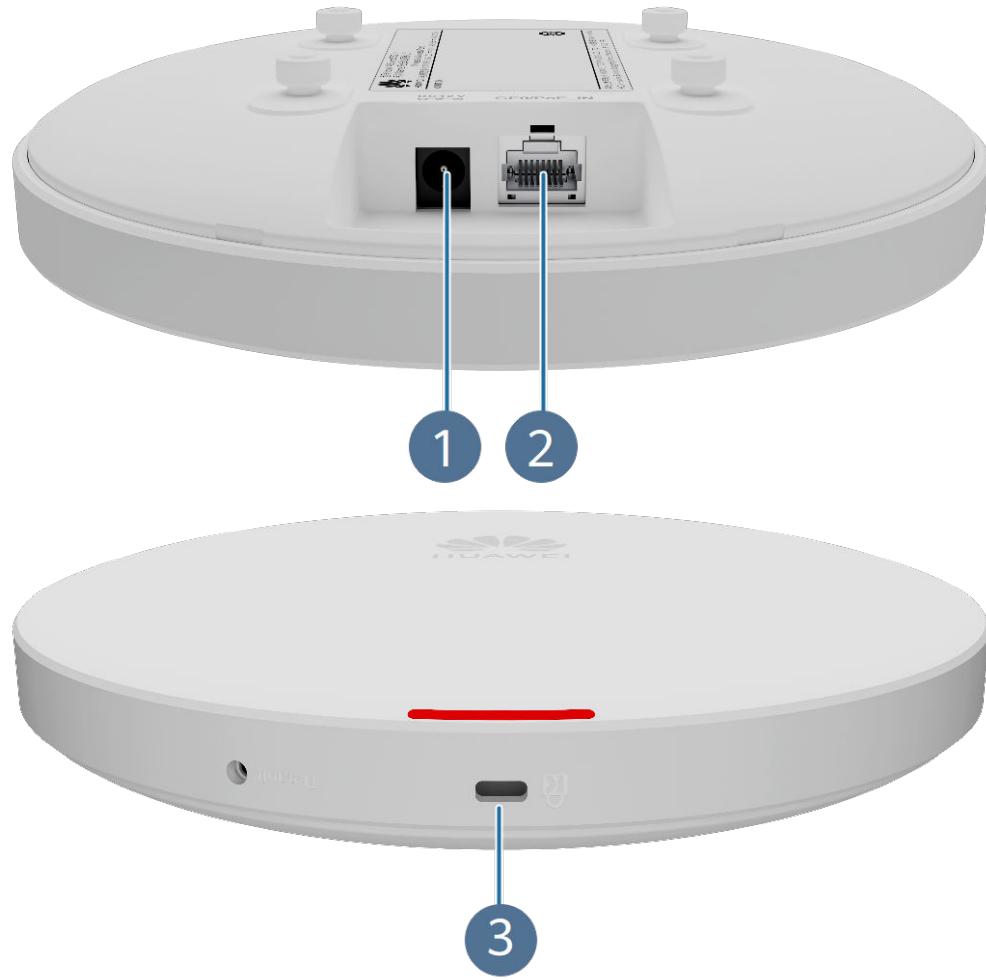
Appearance

Figure 2-115 Appearance of the AirEngine 5762-10



Ports

Figure 2-116 Ports on the AirEngine 5762-10

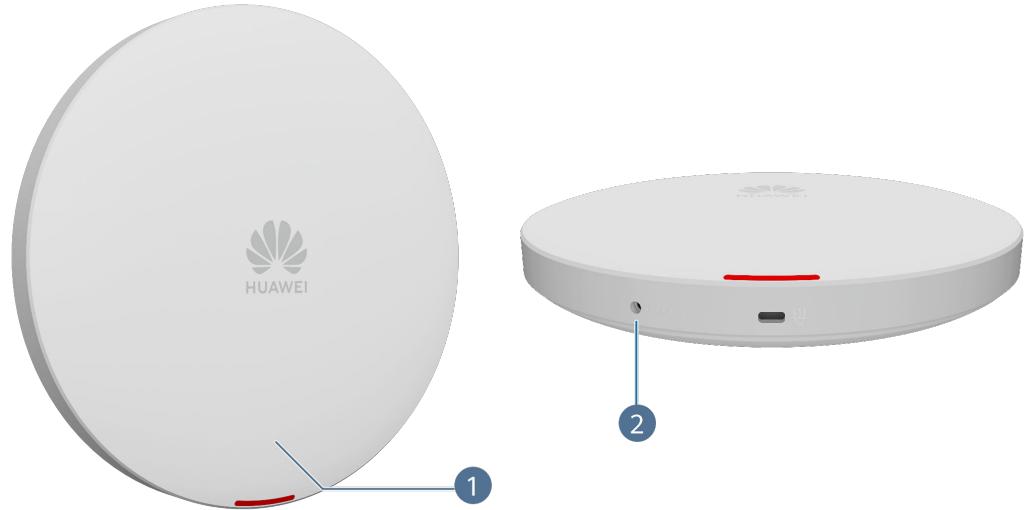


1	DC12V	2	GE0/PoE_IN
3	Security slot	-	-

Table 2-192 Ports on the AirEngine 5762-10

Port	Connector Type	Description	Available Components
GE0/PoE_IN	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 DC power adapter

Indicators and Buttons

Figure 2-117 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
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Table 2-193 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. <ul style="list-style-type: none"> • 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 2-194 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 2-195 Technical specifications of the AirEngine 5762-10

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)
Atmospheric pressure [kPa]	53kPa - 106kPa ETSI 300 019-2-3
Ground	floating ground
BLE	Not supported
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> • 2.4GHz • 5GHz
MIMO spatial streams	Radio 0 (2.4 GHz): 2x2 Radio 1 (5 GHz): 2x2

Item	Specification
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.

2.1.40 AirEngine 5561-12

Overview

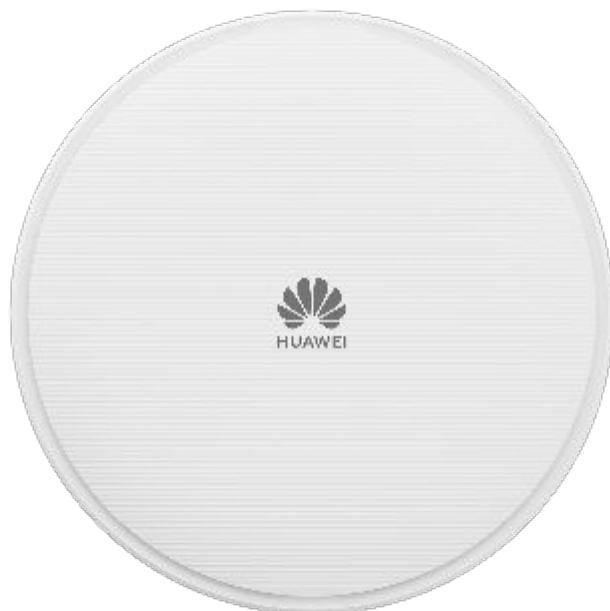
Table 2-196 Basic information about the AirEngine 5561-12

Item	Details
Description	AirEngine5561-12(11ax indoor,2+2 dual bands,smart antenna,USB,IoT Slot,BLE)

Item	Details
Part Number	02355XGC
Model	AirEngine 5561-12
First supported version	V200R023C10

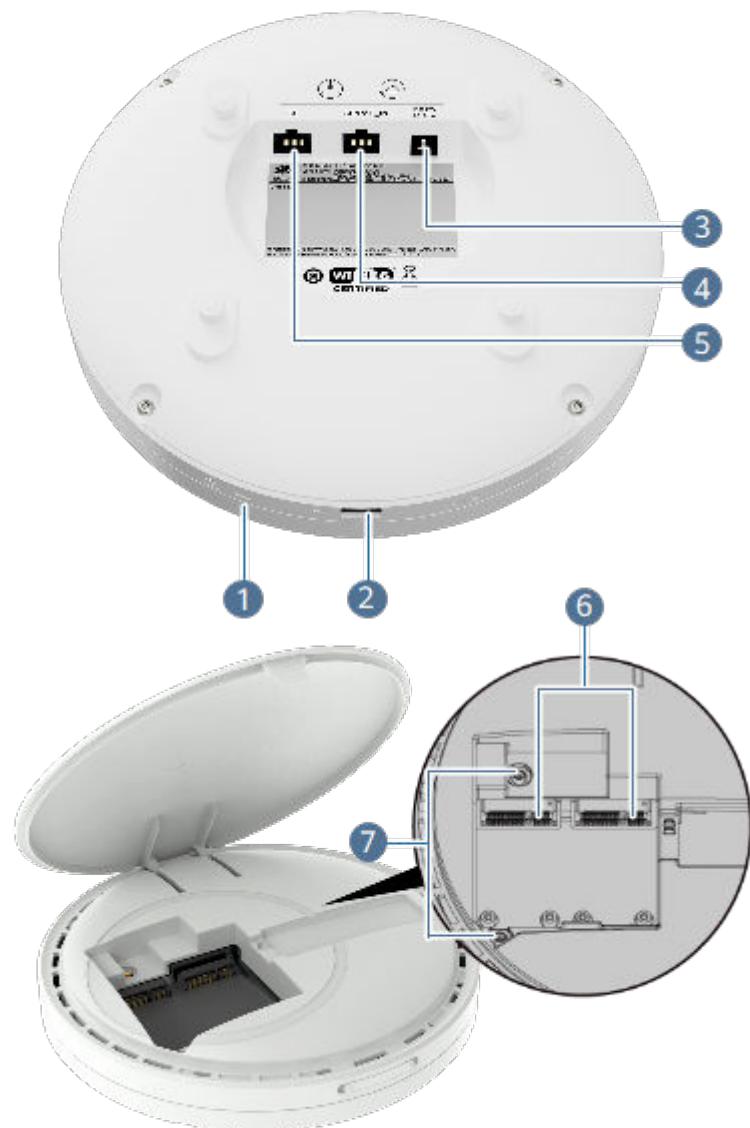
Appearance

Figure 2-118 Appearance of the AirEngine 5561-12



Ports

Figure 2-119 Ports on the AirEngine 5561-12



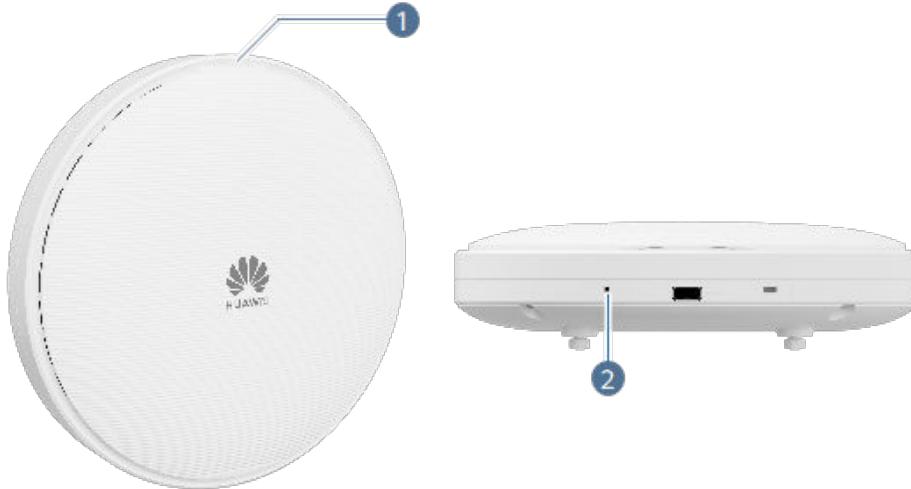
1	Security slot	2	USB
3	DC 12V	4	GE/PoE_IN
5	GE	6	IoT card slot
7	IoT antenna port	-	-

Table 2-197 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 2-120 Indicators and buttons on the AirEngine 5561-12



1	Indicator	2	Default
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Table 2-198 Indicators on the AirEngine 5561-12

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none">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)	<ul style="list-style-type: none"> 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 2-199 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 2-200 Technical specifications of the AirEngine 5561-12

Item	Specification
Installation Type	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> • 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.

2.1.41 AirEngine 5562-10

Overview

Table 2-201 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

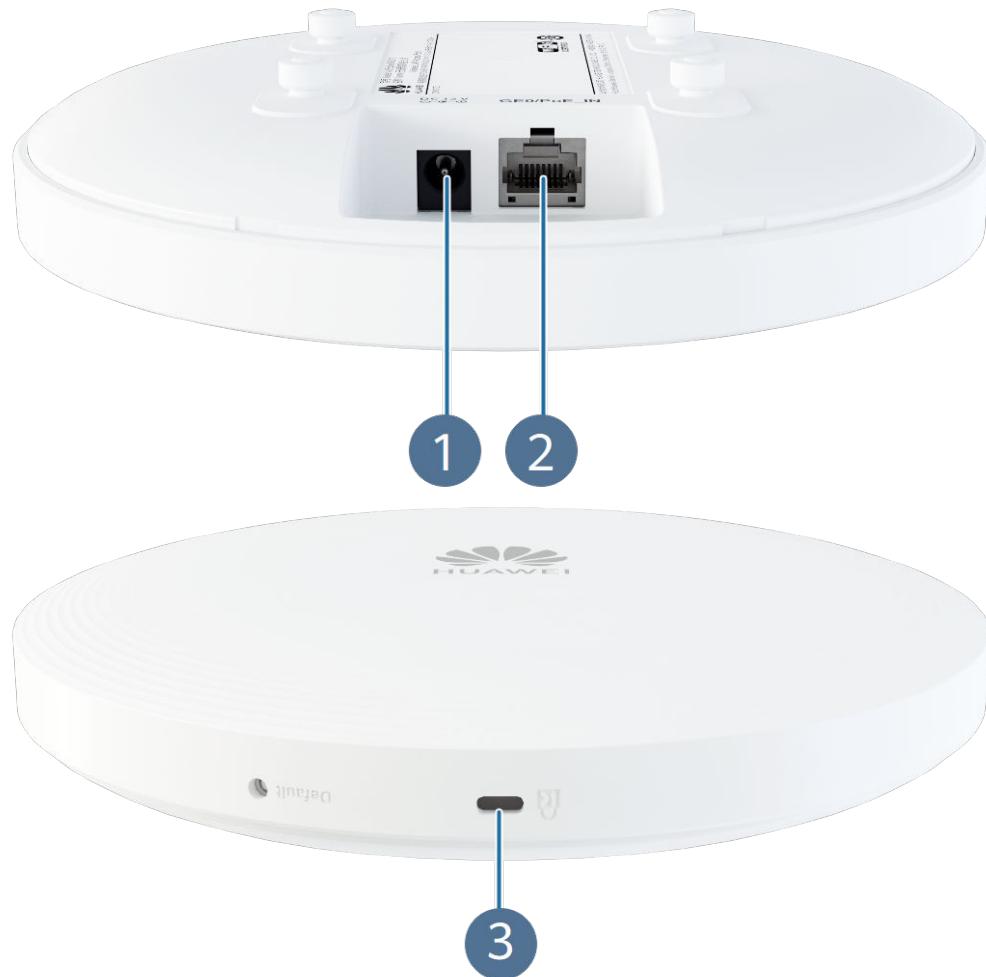
Appearance

Figure 2-121 Appearance of the AirEngine 5562-10



Ports

Figure 2-122 Ports on the AirEngine 5562-10

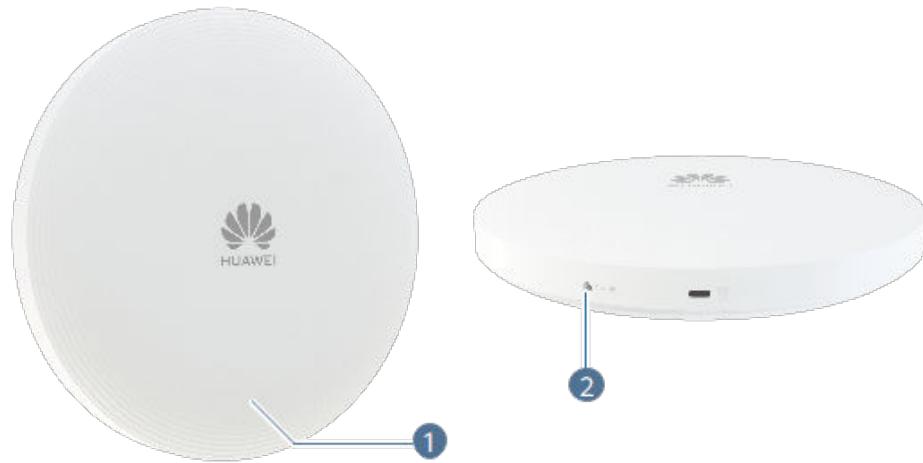


1	DC12V	2	GE0/PoE_IN
3	Security slot	-	-

Table 2-202 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 2-123 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
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Table 2-203 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. <ul style="list-style-type: none"> • 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 2-204 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 2-205 Technical specifications of the AirEngine 5562-10

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

2.1.42 AP661

Overview

Table 2-206 Basic information about the AP661

Item	Details
Description	AP661(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)

Item	Details
Part Number	02355VFC
Model	AP661
First supported version	V200R023C10

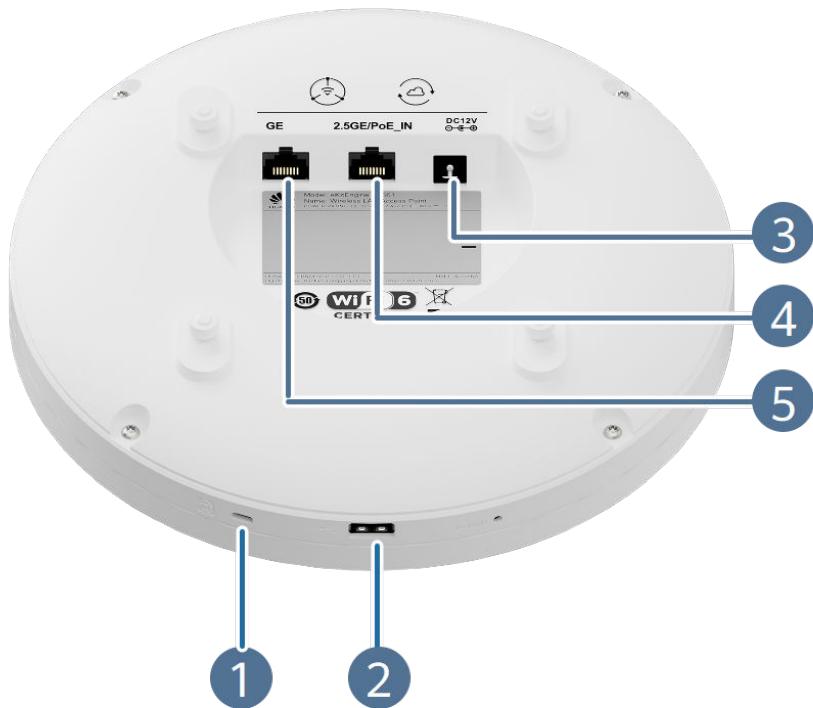
Appearance

Figure 2-124 Appearance of the AP661



Ports

Figure 2-125 Ports on the AP661

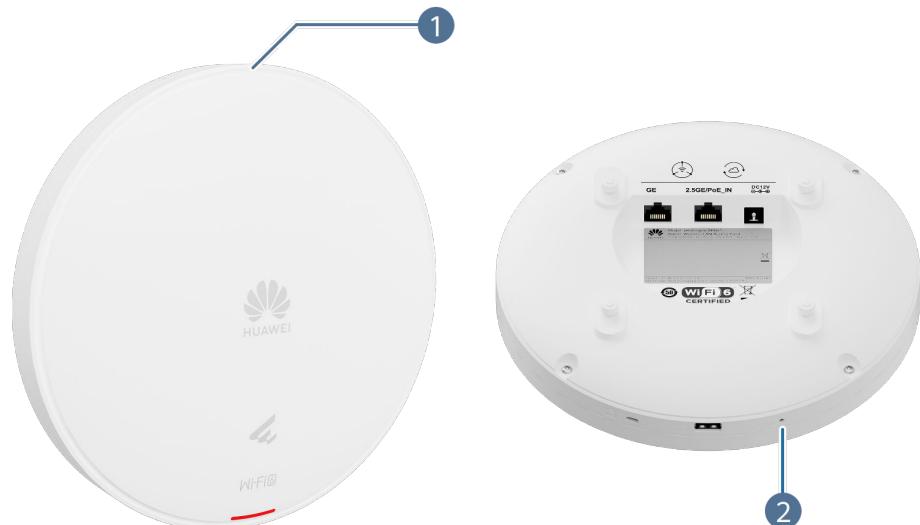


1	Security slot	2	USB
3	DC 12V	4	2.5GE/PoE_IN
5	GE	-	-

Table 2-207 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
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 2-126 Indicators and buttons on the AP661

1	Indicator	2	Default
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Table 2-208 Indicators on the AP661

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		White	Steady on	<ul style="list-style-type: none"> ● 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.

Silkscreen	Name	Color	Status	Description
		White	Slow blinking (0.2 Hz)	The AP is running properly, and the Ethernet connection is normal.
		White	Blinking once every 0.25s (4 Hz)	<ul style="list-style-type: none"> • 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 2-209 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 2-210 Technical specifications of the AP661

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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, 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	<ul style="list-style-type: none"> ● 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	<p>2.4G: 4 dBi/chain (peak value) 2 dBi (combined gain)</p> <p>5G: 5 dBi/chain (peak value) 3 dBi (combined gain)</p> <p>BLE: 4 dBi</p>

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.

2.1.43 AP371

Overview

Table 2-211 Basic information about the AP371

Item	Details
Description	AP371(11be indoor,2+2 dual bands,smart antenna,USB,BLE)
Part Number	50087399-001
Model	AP371
First supported version	V600R023C10

Appearance

Figure 2-127 Appearance of the AP371



Ports

Figure 2-128 Ports on the AP371



1	DC12V	2	2.5GE/PoE_IN
3	USB	4	Security slot
5	Management console port	-	-

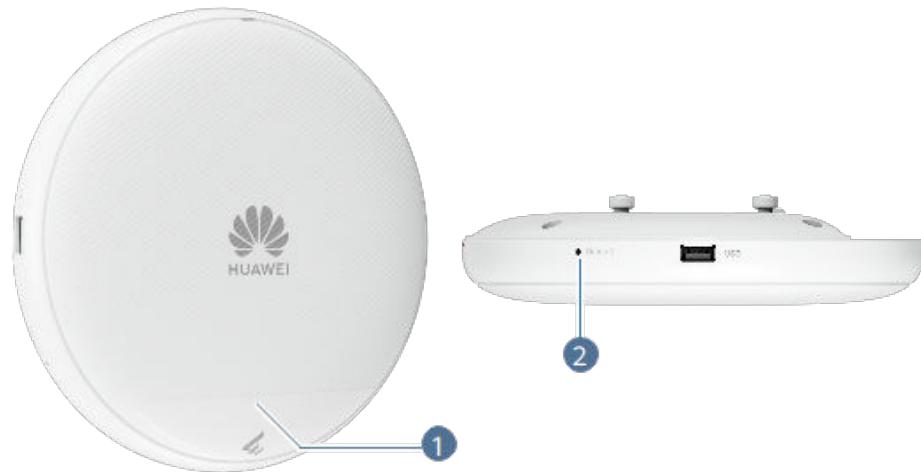
Table 2-212 Ports on the AP371

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

Port	Connector Type	Description	Available Components
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 2-129 Indicators and buttons on the AP371



1	Indicator	2	Default
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Table 2-213 Indicators on the AP371

Silkscreen	Name	Color	Status	Description
-	System indicator	-	Off	The system is not running.
		Green	Steady on	<ul style="list-style-type: none"> • The system is just powered on. • The system is starting after a reset. • The upper-layer system is starting.
		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)	<ul style="list-style-type: none"> 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.
		Blue	Slow blinking (0.5 Hz)	The AP works in cloud mode, has gone online on the cloud management controller, and is running properly.

Silkscreen	Name	Color	Status	Description
		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).
		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 2-214 Buttons on the AP371

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 2-215 Technical specifications of the AP371

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 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)

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	The USB function is unavailable and will be supported through software upgrade in the future.
BLE	BLE5.4
Radio number	2
Operating frequency band	<ul style="list-style-type: none"> ● 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)
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.

Item	Specification
802.3af power supply description	The USB function is not supported. Other functions are not restricted.
DC power supply description	No function is limited.

2.1.44 AP362

Overview

Table 2-216 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

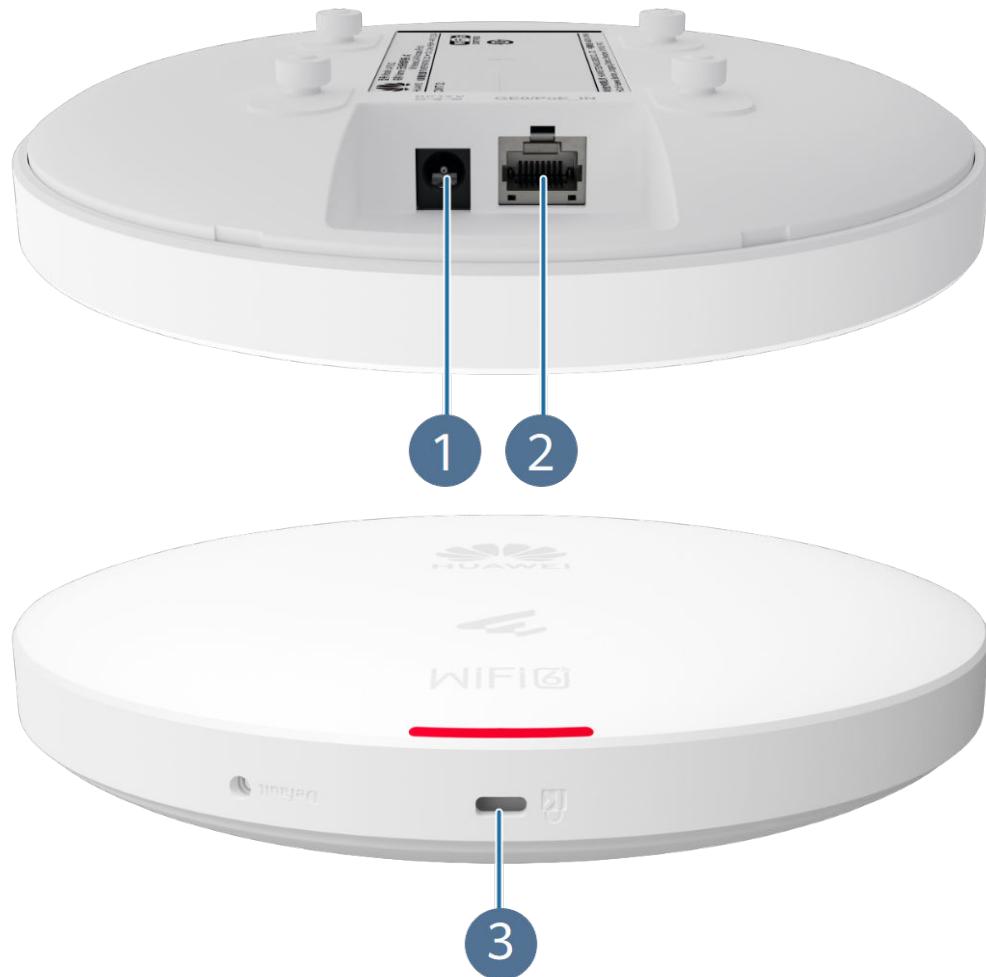
Appearance

Figure 2-130 Appearance of the AP362



Ports

Figure 2-131 Ports on the AP362



1	DC12V	2	GE0/PoE_IN
3	Security slot	-	-

Table 2-217 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 2-132 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
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Table 2-218 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. <ul style="list-style-type: none"> • 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 2-219 Buttons on the AP362

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-220 Technical specifications of the AP362

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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.

2.1.45 AP361

Overview

Table 2-221 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 2-133 Appearance of the AP361



Ports

Figure 2-134 Ports on the AP361

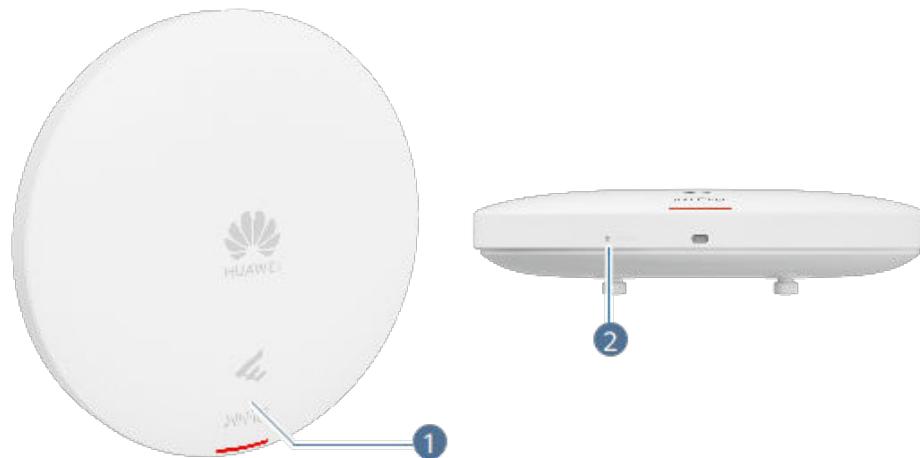


1	GE0/PoE_IN	2	Security slot
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Table 2-222 Ports on the AP361

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 2-135 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
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Table 2-223 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. <ul style="list-style-type: none"> • 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 2-224 Buttons on the AP361

Silkscreen	Name	Description
Default	Reset button	<ul style="list-style-type: none"> 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 2-225 Technical specifications of the AP361

Item	Specification
Installation Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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.

2.2 Installing Indoor Settled APs

2.2.1 Preparing for Installation

2.2.1.1 Safety Precautions

- Take proper measures to prevent injuries and device damage.
- Place the device in a dry and flat position away from any liquid and prevent the device from slipping.
- Keep the device clean.
- Do not put the device and tools in the aisles.

 CAUTION

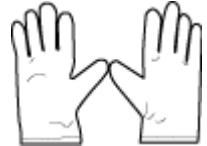
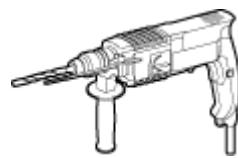
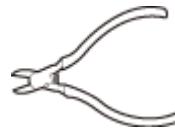
Only the qualified personnel are permitted to install and remove the device and its accessories. Before installation and operation, read the safety precautions carefully.

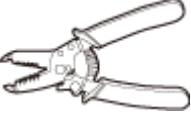
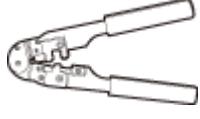
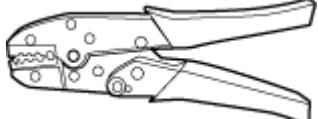
2.2.1.2 Preparing Installation Tools and Accessories

Tool Preparation

Table 2-226 lists the tools that may be used during installation.

Table 2-226 Tools

Phillips screwdriver 	Protective gloves 	ESD gloves 
Slip-proof gloves 	Marker 	Hammer drill 
Claw hammer 	Torque wrench 	Diagonal pliers 

		
		
		
	-	-

 NOTE

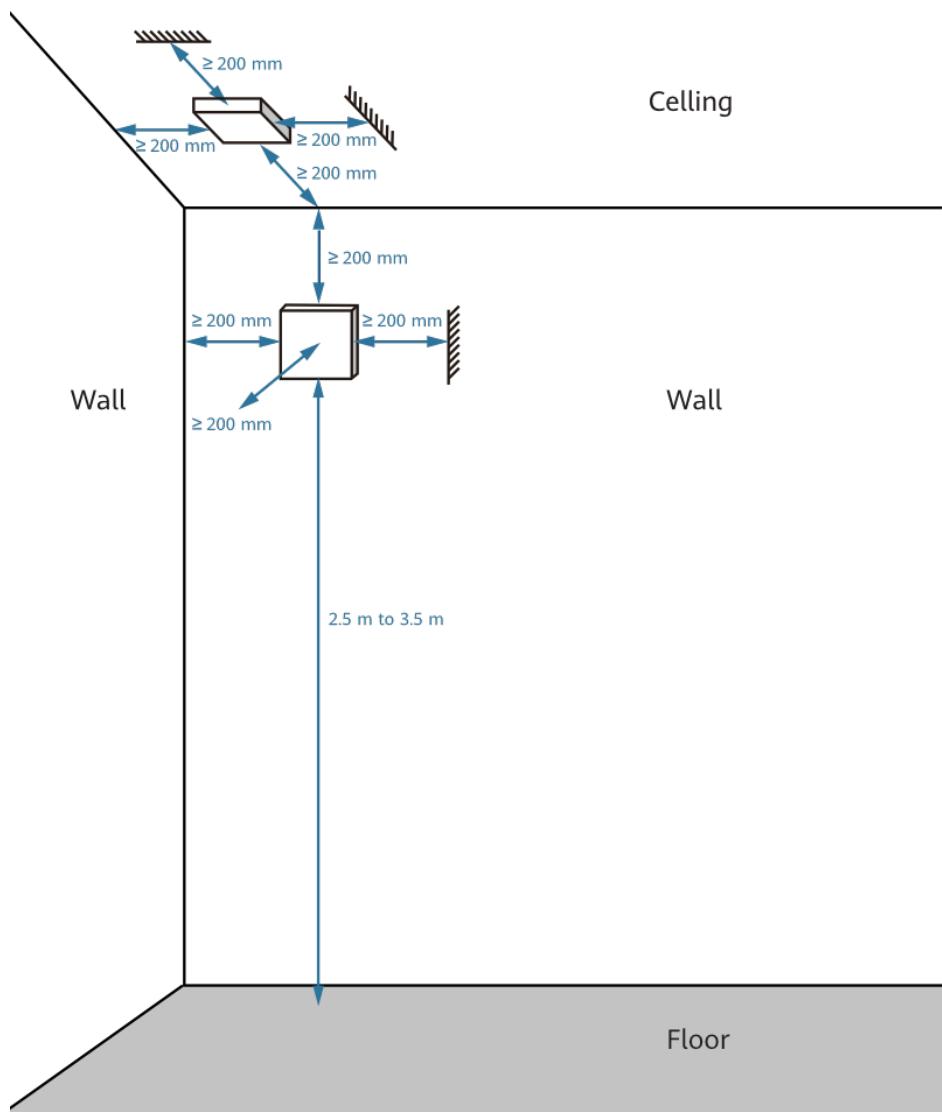
You are advised to use a torque screwdriver instead of a Phillips screwdriver.

2.2.1.3 Determining the Installation Position

 WARNING

To ensure good heat dissipation, do not place a working AP (with the top cover facing upwards) on a desk for a long time.

Indoor APs are usually mounted on a wall or ceiling using mounting brackets. The installation positions of the APs are determined by the site survey result. At least 200 mm clearance must be reserved between the cable outlet of an AP and the wall. It is recommended that an AP be mounted 2.5 m to 3.5 m high off the floor. [Figure 2-136](#) shows installation clearance requirements.

Figure 2-136 Installation reference diagram

When determining the AP installation position, comply with the following rules:

- Try to reduce the number of obstacles, such as walls, between the AP and STAs.
- Place the AP far away from electronic devices that may produce radio interference, such as microwave ovens, other APs, antennas, and other radio communication devices.
- The device cannot be installed in Class D environments (within 500 m away from the seaside or salt lakes).
- Install the AP at a site that is free from leaking or dripping water, heavy dew, and humidity, and take protective measures to prevent water from flowing into the device along the cable.
- Do not install the AP in an environment with high temperature, direct sunlight, dust, poisonous gases, flammable or explosive objects, electromagnetic interference (from a radar station, radio station, or substation), unstable voltage, violent shakes, or strong noise.

- Do not place the device shell, mounting bracket, screws, Ethernet cables, or power cables in contact with high-voltage conductors in order to avoid damage to the device or even injury to the human body.

Table 2-227 General requirements for the antenna anti-interference deployment distance

Scenario	Deployment Distance Requirement
Indoor installation	<ul style="list-style-type: none"> Distance between antennas: > 7 m Distance from carriers' base station antennas: > 5 m Far away from other electronic devices that may cause antenna interference, such as microwave ovens

NOTE

For a device with built-in antennas, the distance requirements for the antennas determine the deployment distance requirements for the device.

2.2.1.4 Unpacking the Equipment

Before unpacking the equipment from a carton, ensure that the packing carton is intact and not damaged or soaked. If the device is found eroded or damped, stop unpacking, check for the reason, and contact the equipment supplier.

Typically, the packing list contains the following items:

- AP device
- Mounting bracket
- Quick Start Guide
- SN/MAC label

NOTE

- Specific items are subject to the actual delivery.
- Use the standard mounting bracket delivered with the AP to prevent impact on device performance. For special requirements, contact technical support.
- To use a PoE or DC power adapter, purchase one that complies with related safety standards or is CCC certified. For specific adapter models, see [10 Power Modules](#).
- For details about how to select optical modules, see [12 Pluggable Modules for Optical Interfaces](#).
- The port availability may vary according to the power supply standard. For details, query the specifications based on the device model using [Info-Finder](#).

2.2.1.5 (Optional) Installing an IoT Card

This section uses an indoor settled AP that supports IoT cards as an example. This AP provides two IoT slots that can accommodate one dual-slot IoT card or two single-slot IoT cards. Depending on the IoT communications frequency band, the AP can use built-in antennas or independent FPC antennas.

The AP has two IoT antennas (supporting the 2.4 GHz and 6 GHz frequency bands) and also supports independent FPC antennas matching IoT cards. However,

the AP does not support external remote antennas. When an IoT card is installed, you can use built-in IoT antennas of the AP or corresponding FPC antennas. To ensure smooth installation, note the following:

- In a new deployment scenario, the RF jumpers and fastening screws are delivered with the newly purchased IoT card. You are advised to check that these materials are included in the IoT card accessories before installation.
- In an AP replacement scenario, if the built-in IoT antennas of the AP are used, you need to separately purchase RF jumpers based on the card type (for details, see the following table), and prepare fastening screws.

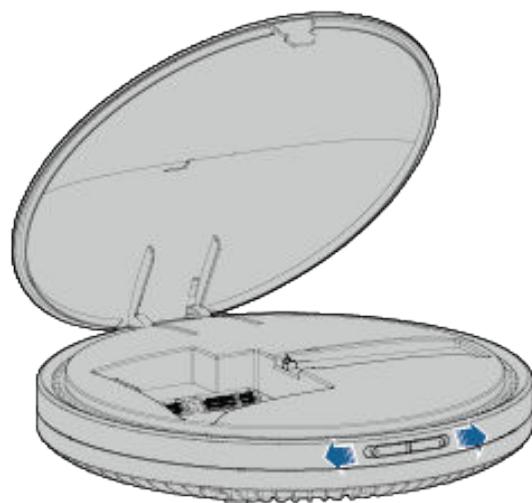
Part Number	Description	IoT Card Recommendation
041333 15	RF Cable Parts,0.11m,U.FL,RF1.37,MCX50AM	Used with ESL IoT cards of SES
041330 44	Radio Frequency Cable,0.11m,MCX50AM,RF1.37B,MMCX 50AM	Used with asset management IoT cards of Sense Technology

CAUTION

- IoT cards do not support hot swap. Perform this operation after the device is powered off.
- Use IoT cards that have been verified by Huawei. For details about the models, contact the product manager. Otherwise, network functions may be affected.

Installing an IoT Card

1. Slide the release button towards both sides to open the AP cover. Do not forcibly bend the cover to prevent damage.

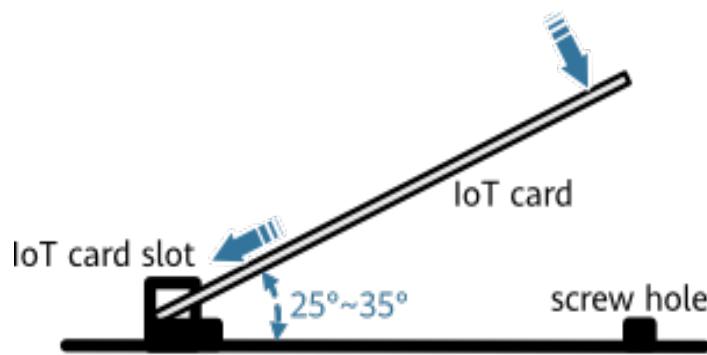
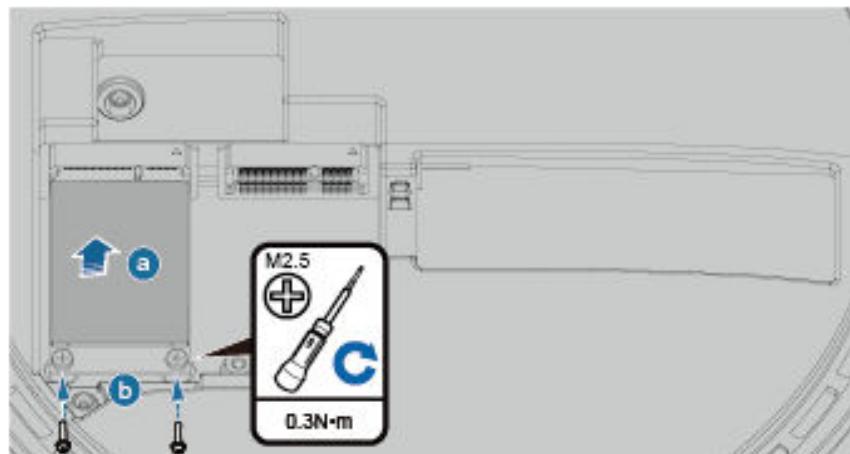


2. Install the IoT card in the slot.

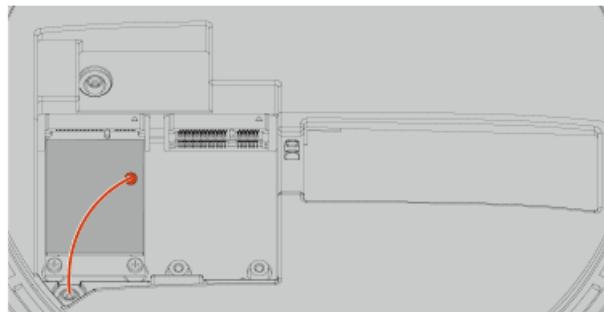
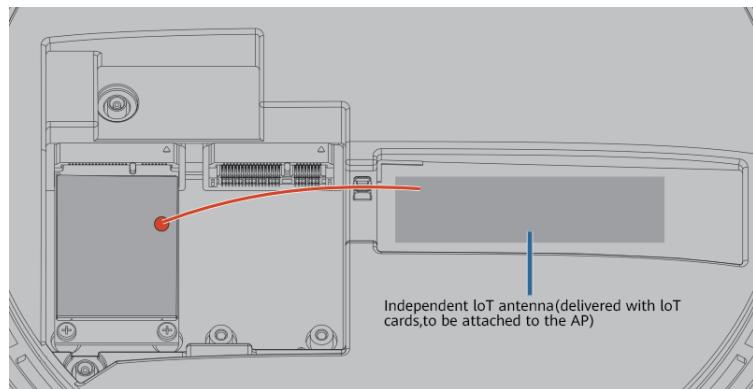
- Hold both sides of the card end, align the card with the slot, and gently push the card in.

To prevent the card or slot from any damage, insert the card downwards with an oblique angle to ensure that the top of the edge connector of the card is aligned with the slot.

- Press down the end of the card to align the mounting holes on the card with the screw holes on the AP. Then secure the card using two M2.5x6 screws with a torque of 0.3 N·m.



- Connect the IoT card to the built-in antennas of the AP or an FPC antenna using an RF jumper, as shown in [Figure 2-137](#) and [Figure 2-138](#).

Figure 2-137 Connecting an IoT card to the built-in antennas of an AP**Figure 2-138** Connecting an IoT card to an FPC antenna

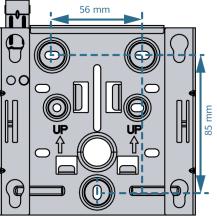
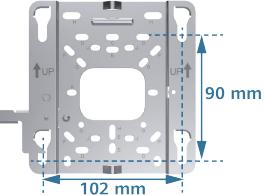
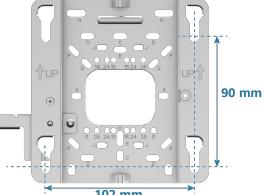
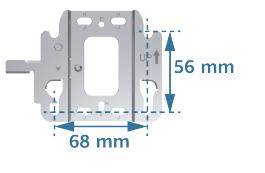
NOTE

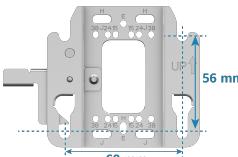
- Connect an IoT card to the nearest antenna using a jumper, and arrange the cables to prevent them from protruding or being twisted.
- Press the MCX connector. When you hear a click, the connector is successfully installed.
- CARD1 is preferred when you install a single-antenna IoT card.

2.2.2 Understanding Mounting Brackets and Installation Scenarios

The following table lists the standard mounting brackets that are delivered with indoor settled APs.

Mounting Bracket Appearance	Name	Part Number	Matching AP Model
	15 mm mounting bracket A	21154678	AirEngine 8760-X1-PRO AirEngine 5760-11DH AirEngine 6760-X1 AirEngine 6760-X1E AirEngine 5760-10

Mounting Bracket Appearance	Name	Part Number	Matching AP Model
	15 mm mounting bracket B	21242879	AirEngine 8761-X1
	7 mm mounting bracket A	21155588	AirEngine 5761 series settled APs AirEngine 5561 series settled APs AirEngine 6761 series settled APs AirEngine 6561 series settled APs MAP6000P-Clh AirEngine 8771-X1T AirEngine 5760-51 AP661 AirEngine 5776-26 AirEngine 6776-56TP AirEngine 6776-57T
	7 mm mounting bracket B -001	21155588-001	AirEngine 5776-26 AirEngine 6776-56TP AirEngine 6776-57T
	Small mounting bracket A	21155758	AirEngine 5762 series settled APs AirEngine 5562-10 AirEngine 3562-10 AirEngine 5773-22P AirEngine 5773-23H AirEngine 5573-23H AirEngine 5773-21 MAP3000C-Clh AP362 AP361

Mounting Bracket Appearance	Name	Part Number	Matching AP Model
	Small mounting bracket B	21155758-001	AirEngine 5773-22P AirEngine 5773-23H AirEngine 5573-23H AirEngine 5773-21 AP371

NOTE

- The AP mounting holes on the 15 mm mounting bracket are compatible with those on the 7 mm mounting bracket. The preceding APs with standard 7 mm mounting brackets can be directly fixed on 15 mm mounting brackets. However, for the sake of heat dissipation, do not install the AirEngine 8760-X1-PRO, AirEngine 6760-X1, or AirEngine 6760-X1E on a 7 mm mounting bracket.
- The following models that were shipped earlier are delivered with a 15 mm mounting bracket: AirEngine 6761-21T, AirEngine 5761-21, AirEngine 5761-11, AirEngine 6761S-21T, AirEngine 5761S-11, AirEngine 5761S-12, AirEngine 5761S-13, AirEngine 5761S-21, AirEngine 5760-51. Select a proper installation mode based on the delivered mounting bracket.
- Huawei's mounting brackets are recommended, instead of customized mounting brackets, to ensure heat dissipation, secure installation, and security and reliability.
- The 7 mm mounting bracket and small mounting bracket may slightly differ depending on their delivery periods. Compared with mounting bracket A, mounting bracket B has more holes to support AP mounting onto a T-rail by using T-rail brackets together.

The following table lists the installation scenarios supported by the three types of mounting brackets. For details about installation methods, see the corresponding installation guide.

Installation Scenario	Mounting Bracket Applicability (15 mm Mounting Bracket A)	Mounting Bracket Applicability (15 mm Mounting Bracket B)	Mounting Bracket Applicability (7 mm Mounting Bracket A)	Mounting Bracket Applicability (7 mm Mounting Bracket B)	Mounting Bracket Applicability (Small Mounting Bracket A)	Mounting Bracket Applicability (Small Mounting Bracket B)
Wall mounting	Supported (H)	Supported	Supported (H)	Supported (H)	Supported (H)	Supported (H)

Installation Scenario	Mounting Bracket Applicability (15 mm Mounting Bracket A)	Mounting Bracket Applicability (15 mm Mounting Bracket B)	Mounting Bracket Applicability (7 mm Mounting Bracket A)	Mounting Bracket Applicability (7 mm Mounting Bracket B)	Mounting Bracket Applicability (Small Mounting Bracket A)	Mounting Bracket Applicability (Small Mounting Bracket B)
Mounting on a spring tee ceiling	Supported (square holes) Steel wire ropes need to be separately prepared.	Not supported	Supported (J) Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes need to be separately prepared.
Mounting on a gypsum board ceiling	Supported (H) Hollow wall anchors need to be separately prepared.	Supported	Supported (H) Hollow wall anchors need to be separately prepared.	Supported (H) Hollow wall anchors need to be separately prepared.	Supported (H) Hollow wall anchors need to be separately prepared.	Supported (H) Hollow wall anchors need to be separately prepared.

Installation Scenario	Mounting Bracket Applicability (15 mm Mounting Bracket A)	Mounting Bracket Applicability (15 mm Mounting Bracket B)	Mounting Bracket Applicability (7 mm Mounting Bracket A)	Mounting Bracket Applicability (7 mm Mounting Bracket B)	Mounting Bracket Applicability (Small Mounting Bracket A)	Mounting Bracket Applicability (Small Mounting Bracket B)
T-rail mounting on a suspended ceiling	Supported (rail) Alternatively, route steel wire ropes through square holes for mounting an AP.	Supported Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes (21154869) or T-rail brackets need to be separately prepared. (Flat-edge T-rail bracket: 21156858; channel rail: 21156860)	Supported (J) Steel wire ropes (21154869) or T-rail brackets need to be separately prepared. (Flat-edge T-rail bracket: 21156858; channel rail: 21156860)	Supported (J) Steel wire ropes (21154869) or T-rail brackets need to be separately prepared. (Flat-edge T-rail bracket: 21156858; channel rail: 21156860)	Supported (J) Steel wire ropes (21154869) or T-rail brackets need to be separately prepared. (Flat-edge T-rail bracket: 21156858; channel rail: 21156860)
Beam mounting	Supported (square holes) Steel wire ropes need to be separately prepared.	Not supported	Supported (J) Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes need to be separately prepared.	Supported (J) Steel wire ropes need to be separately prepared.

Installation Scenario	Mounting Bracket Applicability (15 mm Mounting Bracket A)	Mounting Bracket Applicability (15 mm Mounting Bracket B)	Mounting Bracket Applicability (7 mm Mounting Bracket A)	Mounting Bracket Applicability (7 mm Mounting Bracket B)	Mounting Bracket Applicability (Small Mounting Bracket A)	Mounting Bracket Applicability (Small Mounting Bracket B)
Junction box mounting	<p>Supported</p> <ul style="list-style-type: none"> ● Junction box (86 mm) (A) ● Junction box (118 mm) (B) ● 1-gang junction box (120 mm) (C) ● 2-gang junction box (120 mm) (D) ● Octagonal junction box (E) 	<p>Not supported</p>	<p>Supported</p> <ul style="list-style-type: none"> ● Junction box (86 mm) (A) ● 1-gang junction box (120 mm) (C) ● 2-gang junction box (120 mm) (D) ● Octagonal junction box (E) 	<p>Supported</p> <ul style="list-style-type: none"> ● Junction box (86 mm) (A) ● 1-gang junction box (120 mm) (C) ● 2-gang junction box (120 mm) (D) ● Octagonal junction box (E) 	<p>Not supported</p>	<p>Not supported</p>

Installation Scenario	Mounting Bracket Applicability (15 mm Mounting Bracket A)	Mounting Bracket Applicability (15 mm Mounting Bracket B)	Mounting Bracket Applicability (7 mm Mounting Bracket A)	Mounting Bracket Applicability (7 mm Mounting Bracket B)	Mounting Bracket Applicability (Small Mounting Bracket A)	Mounting Bracket Applicability (Small Mounting Bracket B)
Threaded rod mounting	Supported (E) The support (part number: 21244035) and threaded rod need to be separately prepared.	Not supported	Supported (E) The support (part number: 21244035) and threaded rod need to be separately prepared.	Supported (E) The support (part number: 21244035) and threaded rod need to be separately prepared.	Supported (E) The support (part number: 21244035) and threaded rod need to be separately prepared.	Supported (E) The support (part number: 21244035) and threaded rod need to be separately prepared.

* The letters in the brackets indicate the mounting holes on a mounting bracket. For example, "Supported (H)" indicates that the specified mounting bracket is used to secure an AP using group H holes in the corresponding installation scenario.

Related Videos

Visit [hardware installation videos](#) to view the AP installation methods in typical installation scenarios.

2.2.3 Installing an AP (With the 15 mm Mounting Bracket A)

This section describes how to install an AP using the 15 mm mounting bracket A.

2.2.3.1 Solid Wall Mounting

Context

A wall for installing the device needs to meet the following requirements:

- The wall can bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the wall must be greater than or equal to 5 kg.

- When the tightening torque of a screw reaches 3.5 N·m, the screw still properly works, without crack or damage on the wall.

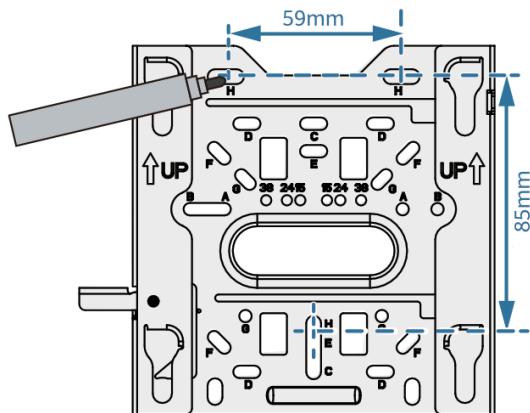
The following table lists the screws to be used.

Screw (Delivered with the Device)	Quantity	Description
ST3.5 expansion screw + expansion tube	3	Secures a mounting bracket to the wall.
M3x12 screw	1	Prevents the AP from falling off due to vibrations.

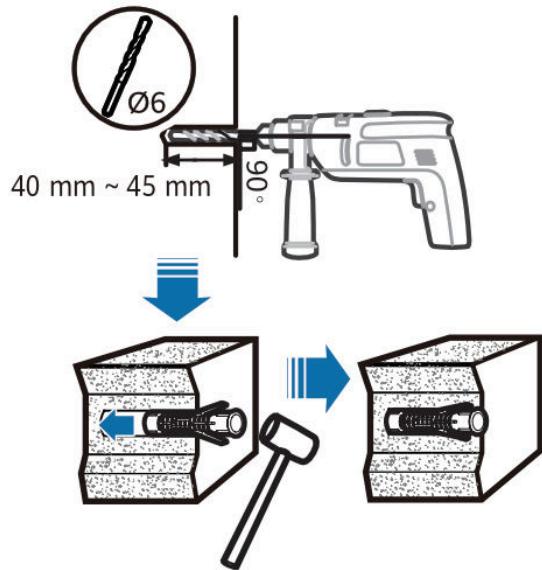
Procedure

When fixing the mounting bracket, ensure that the arrows of **UP**↑ point upwards.

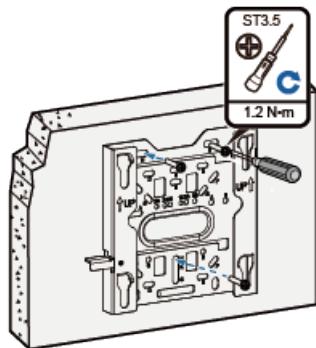
- Step 1** Attach the mounting bracket against the wall and adjust its position properly. Mark positions of the mounting holes with a marker, as shown in the following figure.



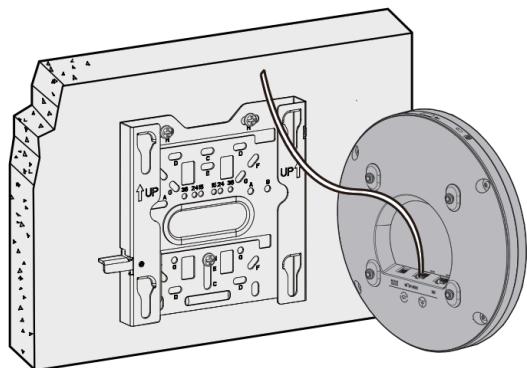
- Step 2** Use a 6 mm drill bit to drill 40 mm to 45 mm deep holes in the marked positions. Hammer the expansion tubes into the holes until the expansion tubes are flush with the wall.



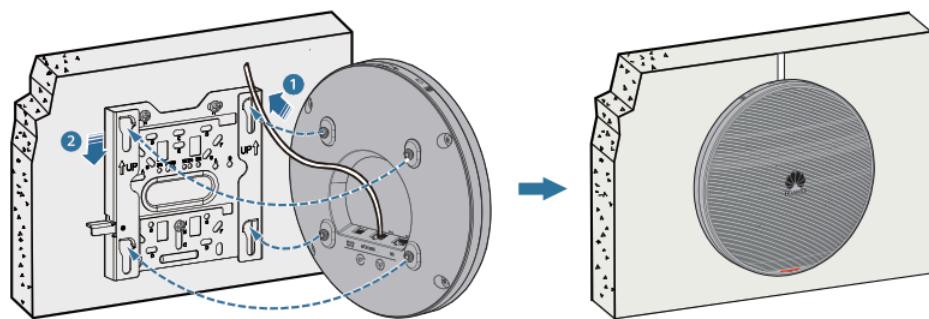
Step 3 Fix the mounting bracket to the wall and use the Phillips screwdriver to fasten three expansion screws into the expansion tubes.



Step 4 Connect and properly sort cables.



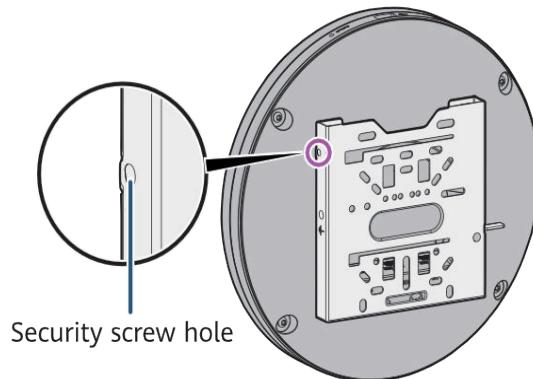
Step 5 Align the four rubber feet at the rear of the AP with the installation holes on the mounting bracket, and fasten the AP, as shown in the figure. When you hear a click, the AP is secured to the lock position.



----End

 NOTE

- After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.
- In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



2.2.3.2 Mounting on a Spring Tee Ceiling

Context

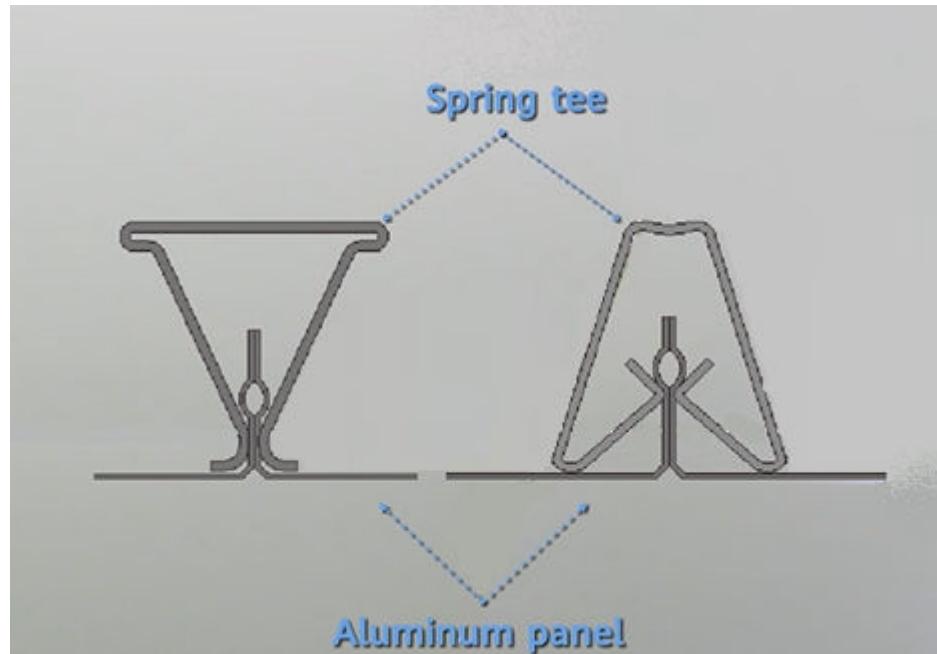
Spring tees are concealed within a ceiling and show only evenly distributed grid-shaped tiles seen from the bottom. This type of ceiling is made of aluminum panels, which do not have good load-bearing capacity. Therefore, APs cannot be directly fixed on such ceilings.

In this mounting mode, a spring tee for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the spring tee must be greater than or equal to 5 kg.

The following lists the materials required for installation.

Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures a mounting bracket to a spring tee.

Figure 2-139 Two typical structures of spring tee ceilings

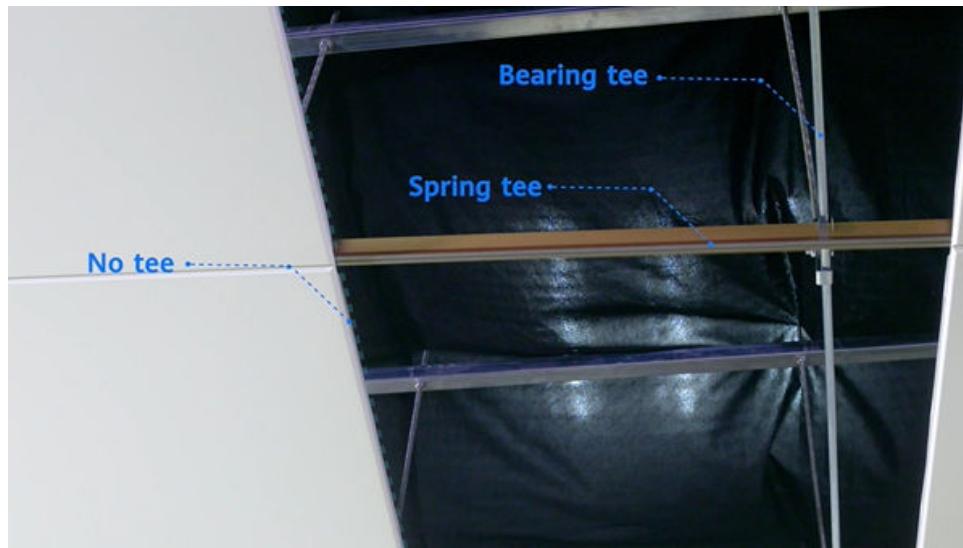


Prerequisites

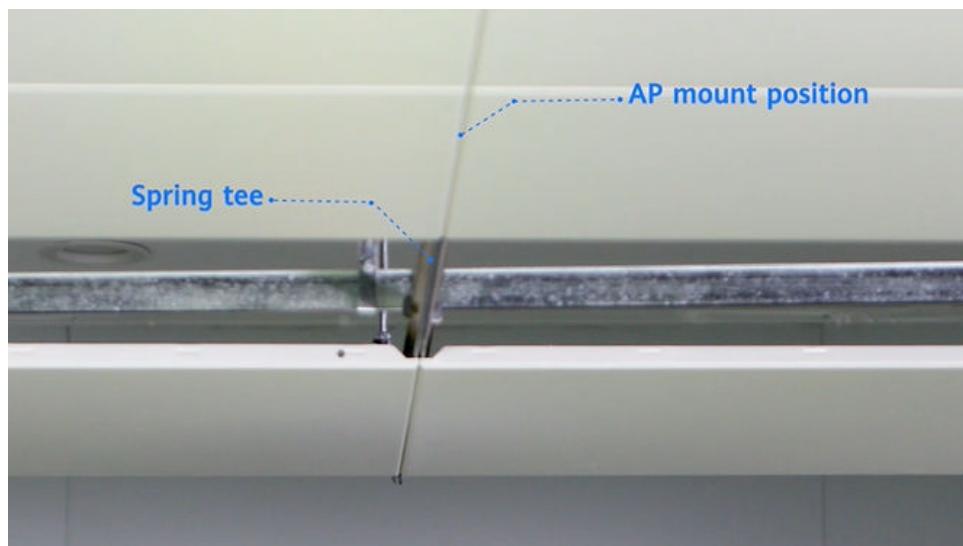
When installing an AP on a spring tee ceiling, it is recommended that self-locking steel ropes be used to mount the AP on spring tees. The steel ropes should pass through the aluminum panel and bind the AP. Before installing the AP, determine the position of the spring tee.



Remove one or two aluminum panels. The rails that clamp the two sides of the aluminum panel are the spring tees. Spring tees are distributed in parallel and in the same direction. They are not vertical to each other.

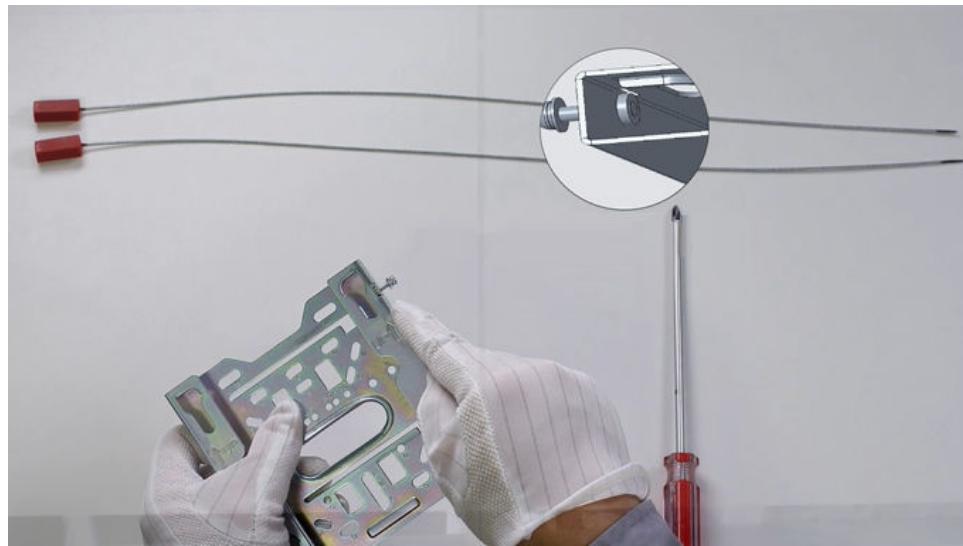


Therefore, the AP can only be mounted at the joint point between two aluminum panels where the spring tees are distributed, as shown in the following figure.

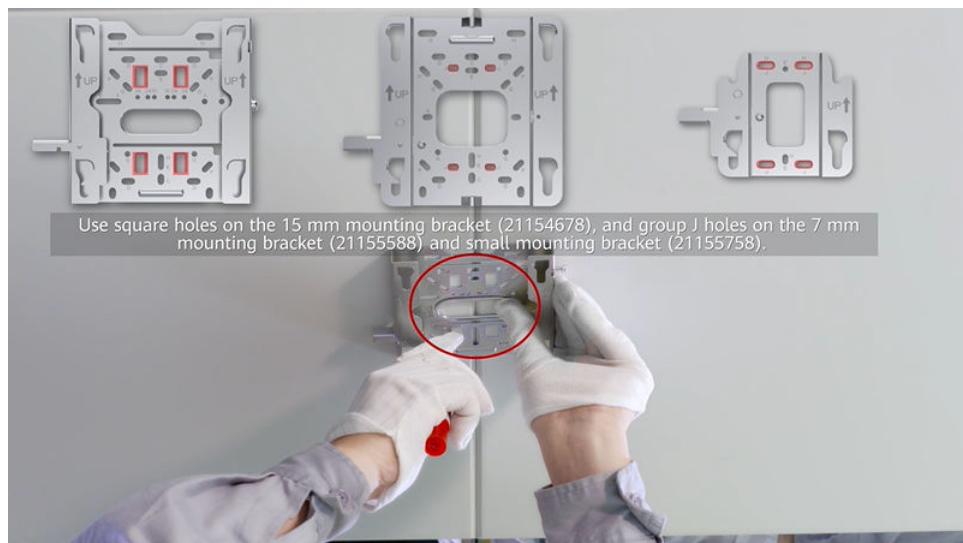


Procedure

- Step 1** Pre-install the safety screw on the mounting bracket. Note that the screw end should not protrude from the surface of the nut.



Step 2 Before the installation, mark the mounting hole positions on the two sides of the joint point with a marker. Square holes on the mounting bracket are recommended.



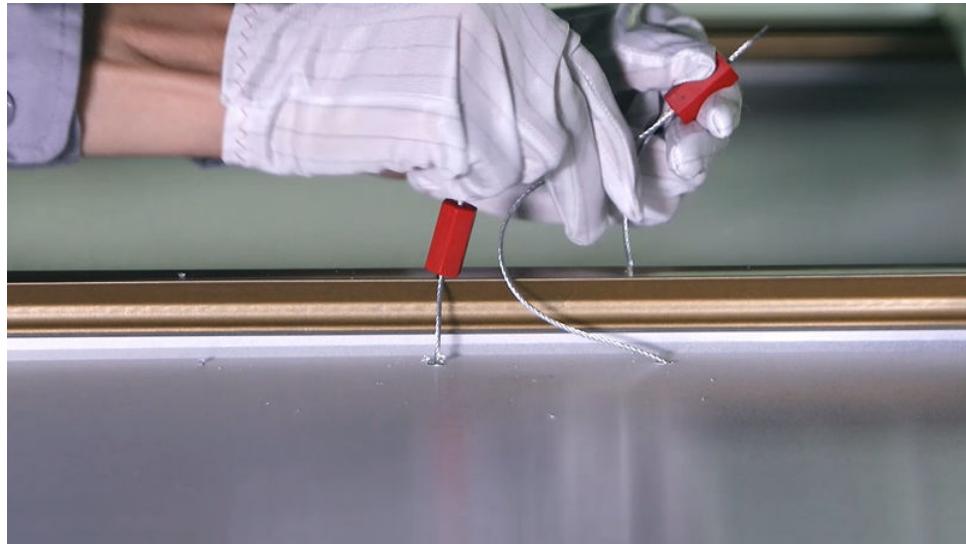
Step 3 Drill holes on the aluminum panels based on the marks. The diameters of holes should be slightly larger than those of steel wire ropes.



Step 4 Thread the steel rope across the two aluminum panels. It is recommended that two persons do this together. One person threads the rope from the top to the bottom, while the other threads it from the bottom to the top.



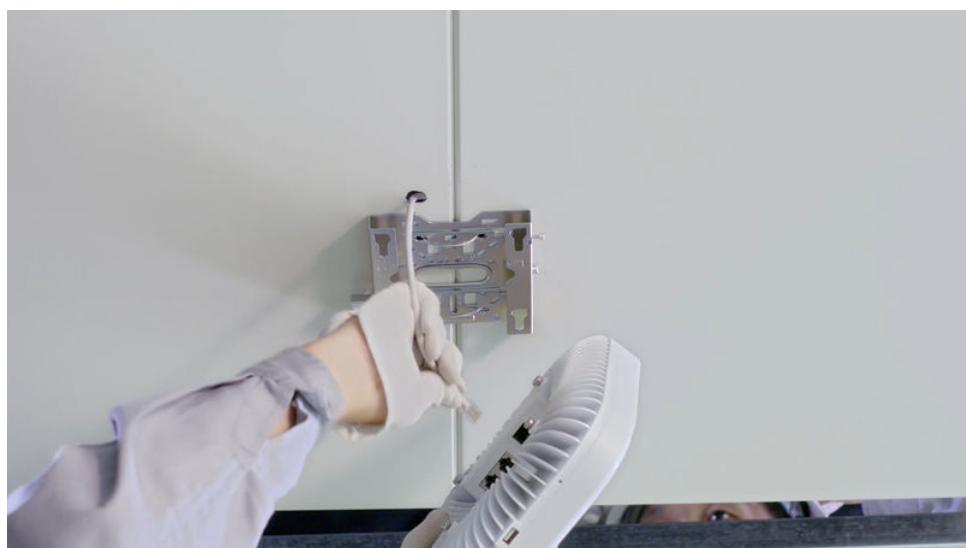
Step 5 Lock and tighten the rope above the spring tee. The bracket is installed successfully.



Step 6 Drill a cable hole on the ceiling in front of the mounting bracket.



Step 7 Route the cable and connect it to the corresponding port on the AP as required.



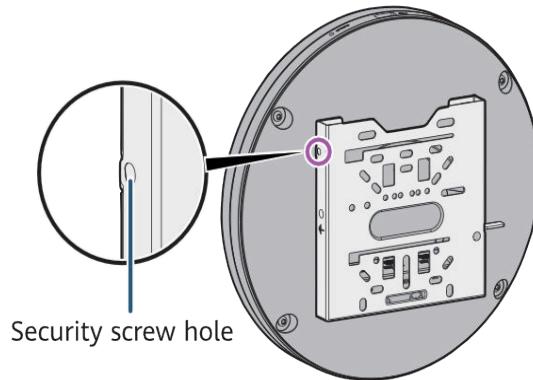
NOTE

If grounding is required, connect the ground cable to the position with the ground mark on the mounting bracket using the M4 ground screw delivered with the device. (The M4 OT terminal and ground cable need to be prepared separately.)

- Step 8** Clamp the AP on the mounting bracket. When you hear a click sound from the release lever, the AP is properly installed. Ensure that the four rubber feet fit into the mounting holes.

**NOTE**

In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



- Step 9** Install the ceiling plate.

----End

2.2.3.3 Mounting on a Gypsum Board Ceiling

Context

In this mounting mode, a gypsum board ceiling for installing the device must be able to bear the weight four times the total weight of the device and mounting

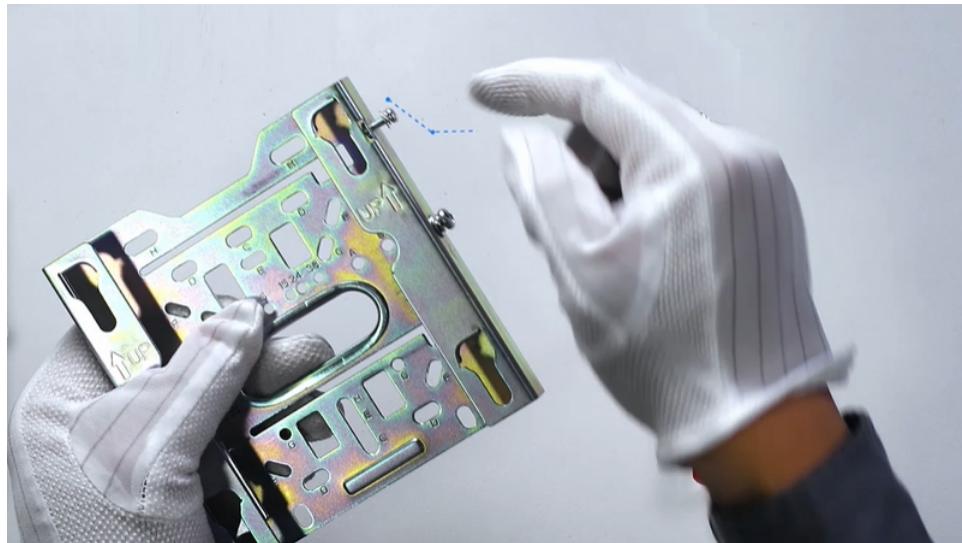
bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the gypsum board ceiling must be greater than or equal to 5 kg.

Expansion screws are used for mounting APs on a paper gypsum board ceiling. Before installing an AP, select a proper installation position based on the structural features of the paper gypsum board ceiling. Then, purchase proper materials listed in the following based on the thickness of the gypsum board.

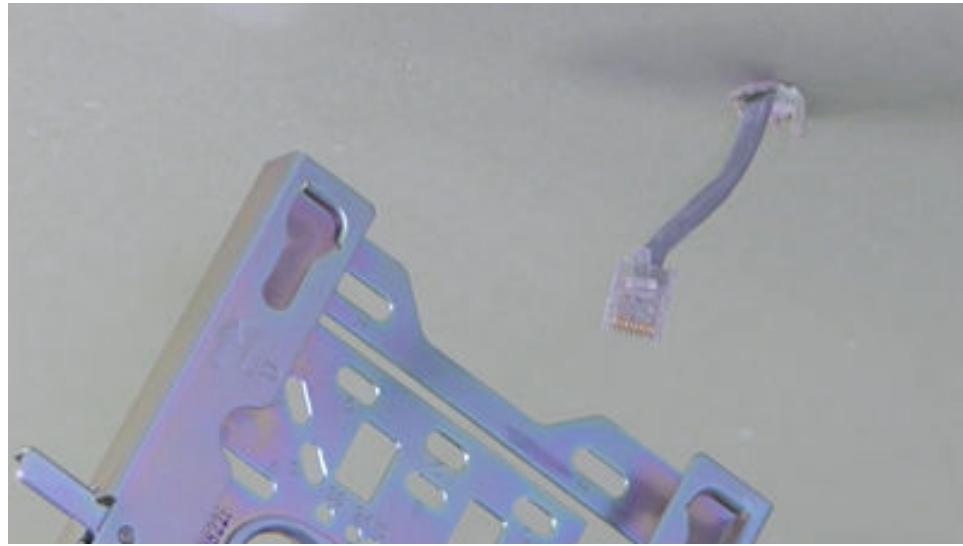
Screw (Delivered with the Device)	Quantity	Description
Expansion screw + expansion tube	3	Secures a mounting bracket to the wall.
M3x12 screw	1	Prevents the AP from falling off due to vibrations.

Procedure

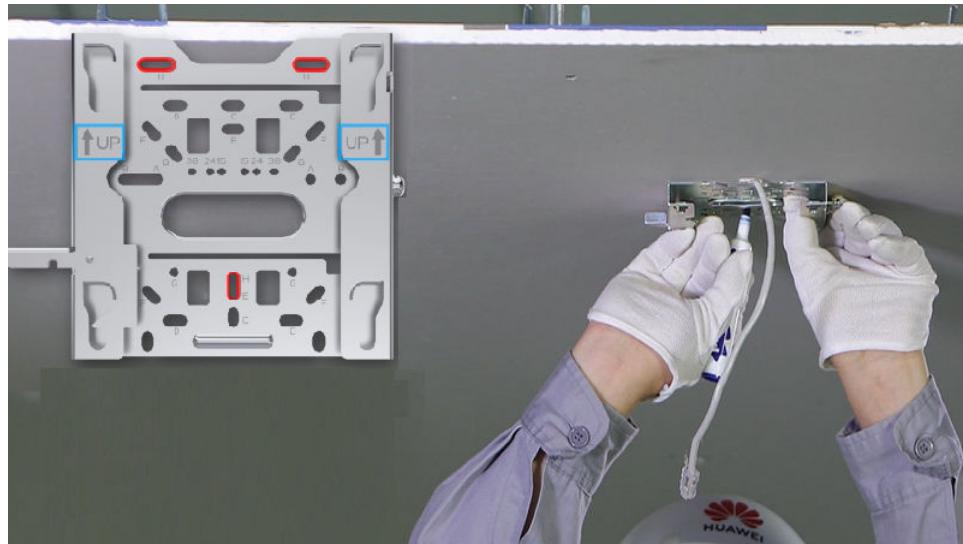
- Step 1** Pre-install the safety screw on the mounting bracket. Note that the screw end should not protrude from the surface of the nut.



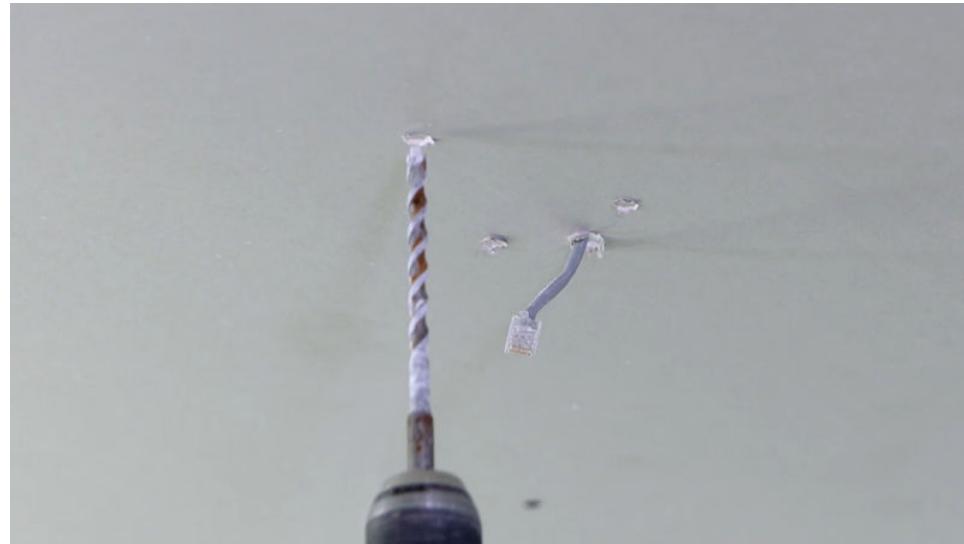
After determining a proper installation position, drill a hole on the gypsum board from the top to the bottom for the Ethernet cable to pass through. Determine where the AP will be mounted based on the position of this hole.



Step 2 Ensure that the Ethernet cable hole is in front of the mounting bracket (The arrows on the mounting bracket point to the front end of the mounting bracket).



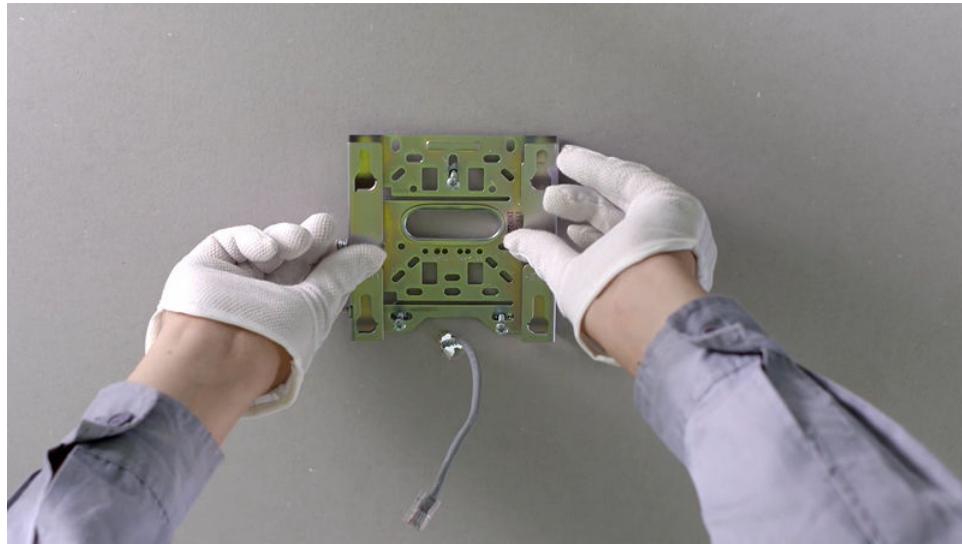
Step 3 Mark the positions for drilling holes for expansion screws using a marker. The holes should correspond to group H holes on the mounting bracket. Drill holes on the paper gypsum board upwards from bottom to top using a hand-held electric drill. Ensure that the hole diameters are not too large and just sufficient for the expansion screws of the selected model.



Step 4 Use a hollow wall anchor gun to fix the expansion screws to the paper gypsum board. Remove the screws from the expansion screws.



Step 5 Install the mounting bracket and install the ground cable (prepared separately) as required.



Step 6 Connect the Ethernet cable to the correct port on the AP and clamp the AP on the mounting bracket.

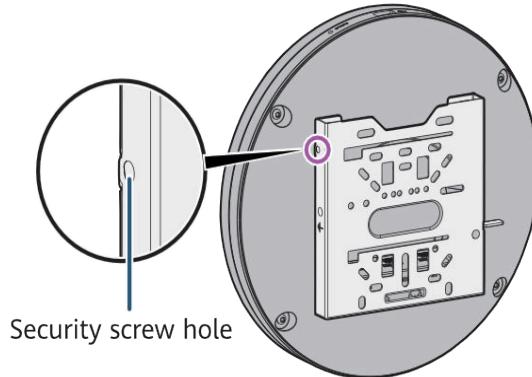


Step 7 Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.

----End

NOTE

In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



2.2.3.4 T-Rail Mounting

Context

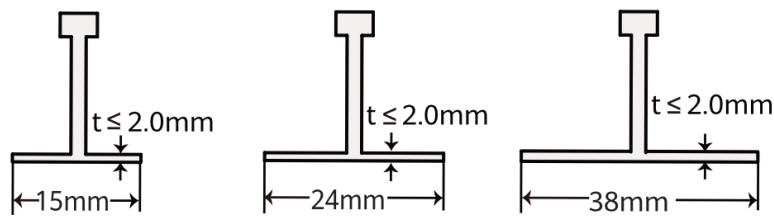
In this mounting mode, a T-rail for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the T-rail must be greater than or equal to 5 kg.

The following table lists the screws that may be used.

Screw (Delivered with the Device)	Quantity	Description
M3x8 screw	2	Secures the mounting bracket to T-rail brackets ST-F1 and ST-F2.
M3x6.2 screw	1	Secures the mounting bracket to the T-rail.
M3x12 screw	1	Prevents the AP from falling off due to vibrations.

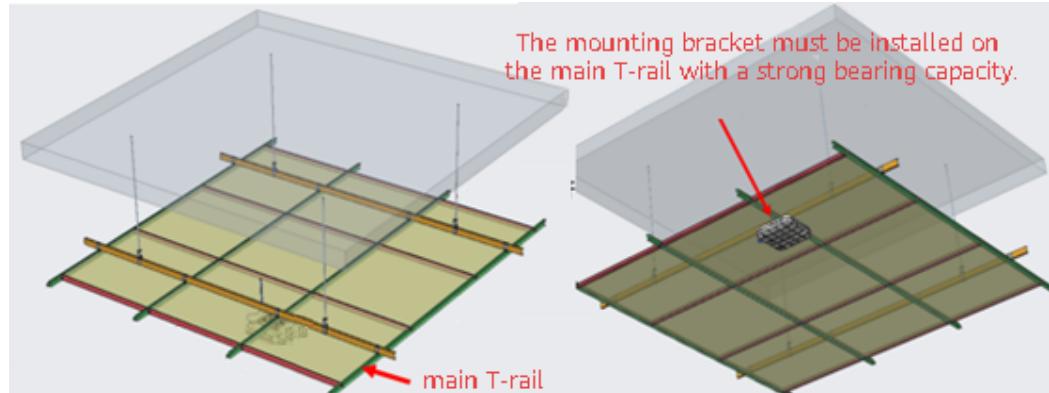
Procedure

- Step 1** Determine the model of the T-rail. The following figure shows the specifications of the T-rail supported by the mounting bracket. The following uses a flat-edge T-rail of 24 mm as an example.

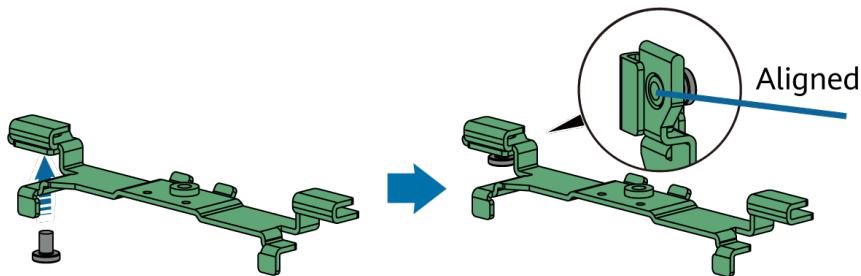


NOTE

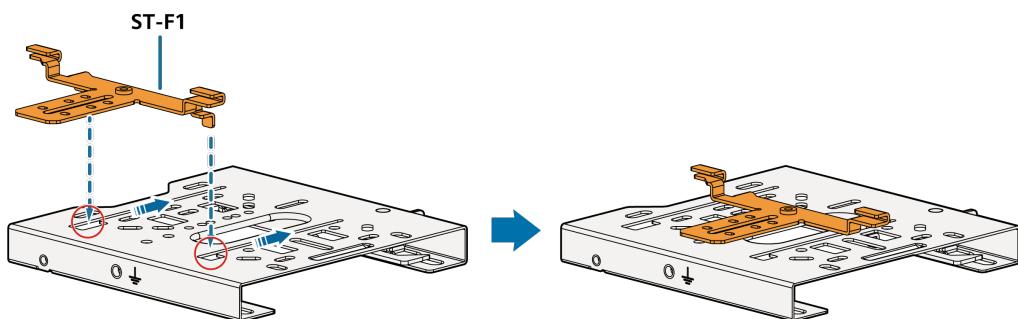
The mounting bracket must be installed on the main T-bar.

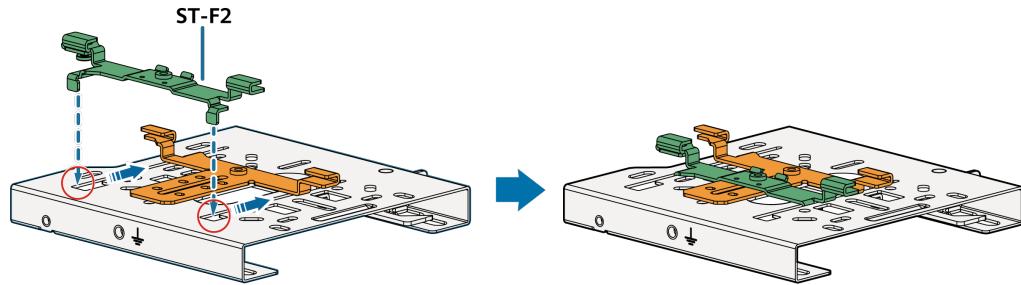


Step 2 Pre-tighten the M3x6.2 screw into T-rail bracket ST-F2.



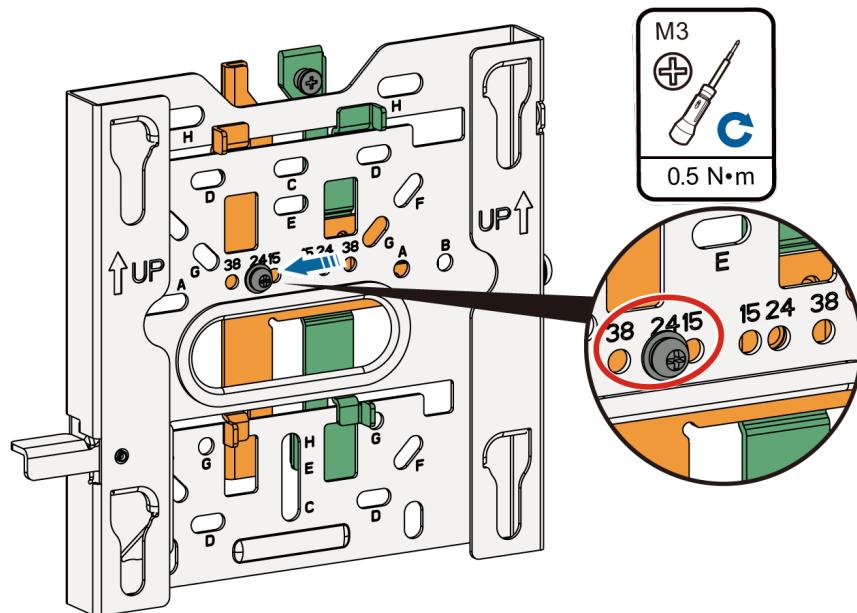
Step 3 Slide T-rail brackets ST-F1 and ST-F2 into the mounting bracket according to the sequence shown in the figure.



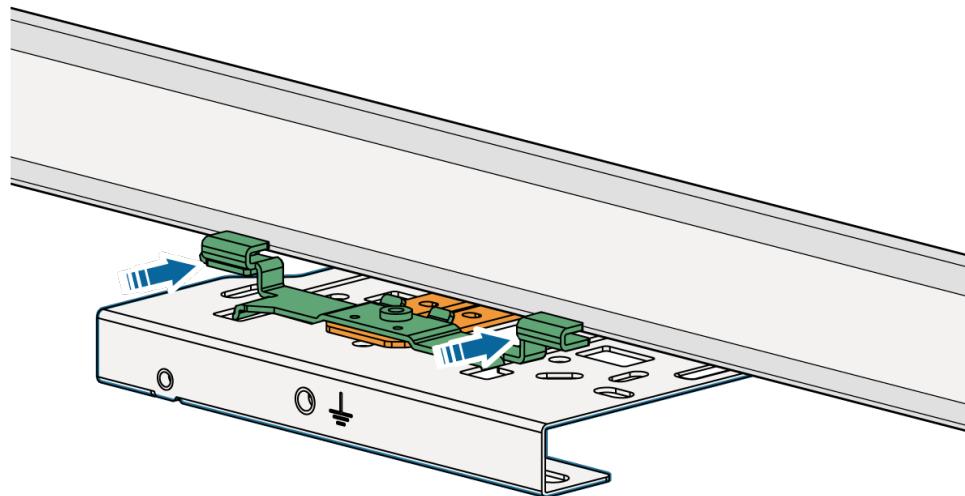


Step 4 Secure the M3x8 screw through hole 24 marked in the figure, and secure T-rail bracket ST-F1.

The T-rails of 15 mm and 38 mm correspond to holes 15 and 38 on the mounting bracket, respectively.

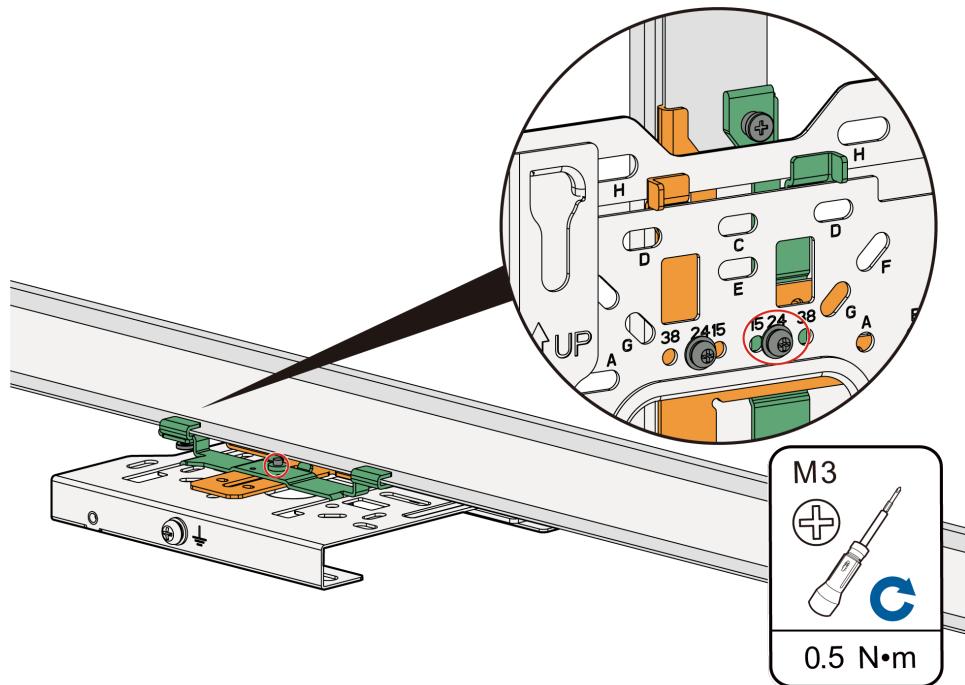


Step 5 Insert T-rail bracket ST-F1 into the T-rail, and slide bracket ST-F2 along the slot until the T-rail is tightened.

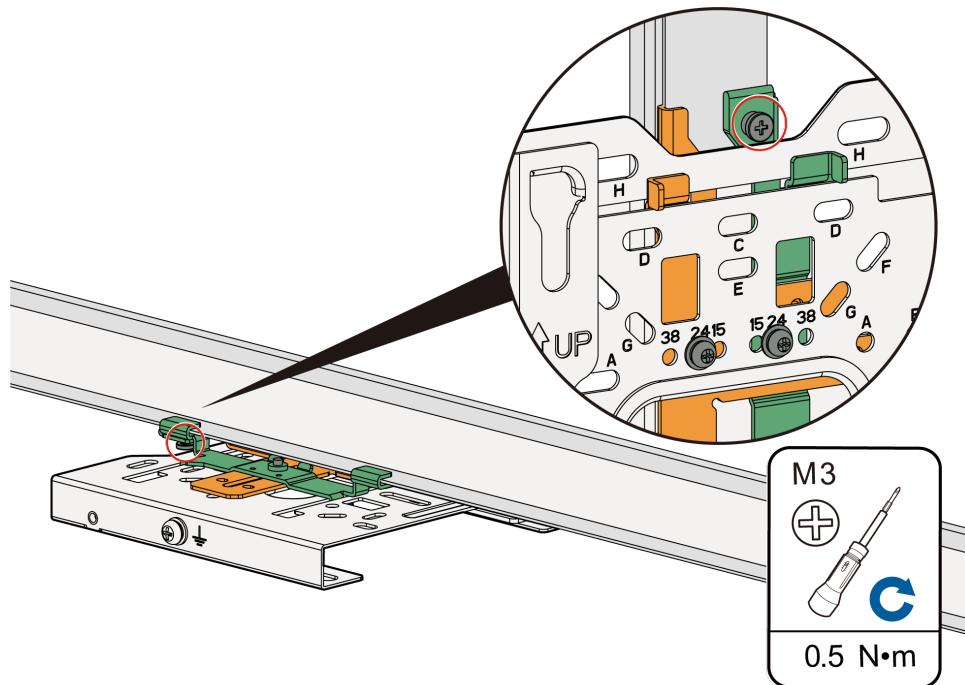


Step 6 Secure the M3x8 screw through hole 24 marked in the figure, and secure T-rail bracket ST-F2.

The T-rails of 15 mm and 38 mm correspond to holes 15 and 38 on the mounting bracket, respectively.



Step 7 Tighten the M3x6.2 security screw for installing the bracket.



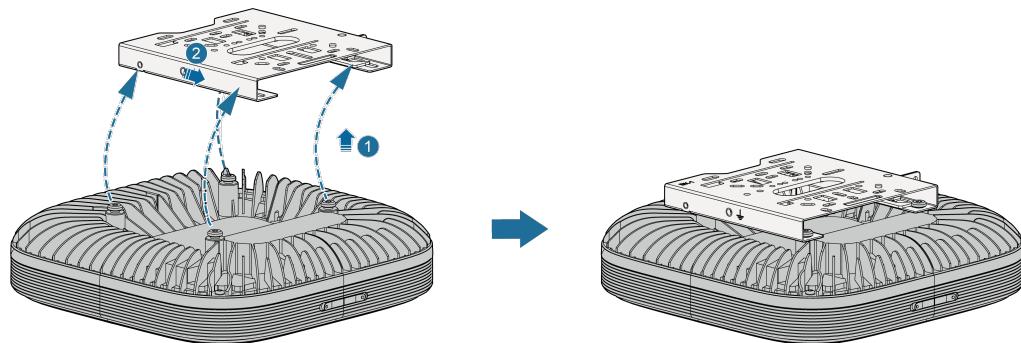
NOTE

After the security screw is tightened, the mounting bracket may be deformed. This is normal and does not affect the AP use.

Step 8 Connect the cables.

Step 9 Align the four rubber feet at the rear of the AP with the installation holes on the mounting bracket, and fasten the AP, as shown in the figure. When you hear a click, the AP is secured to the lock position.

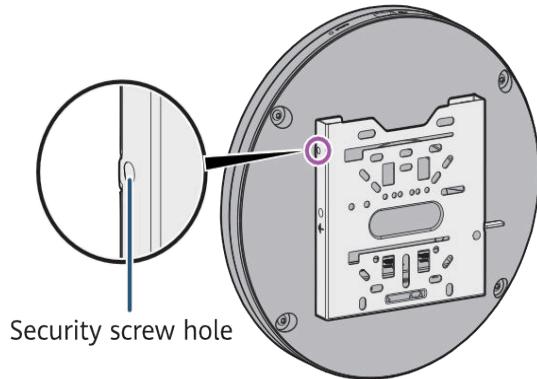
Before fastening the AP, ensure that the four rubber feet at the rear of the AP are aligned with the installation holes on the mounting bracket.



----End

NOTE

- After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.
- In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



2.2.3.5 Beam Mounting

Context

In scenarios such as airports, stations, and factories, steel structures are typically used. In these scenarios, APs can be mounted on the steel beams beneath a building's roof.

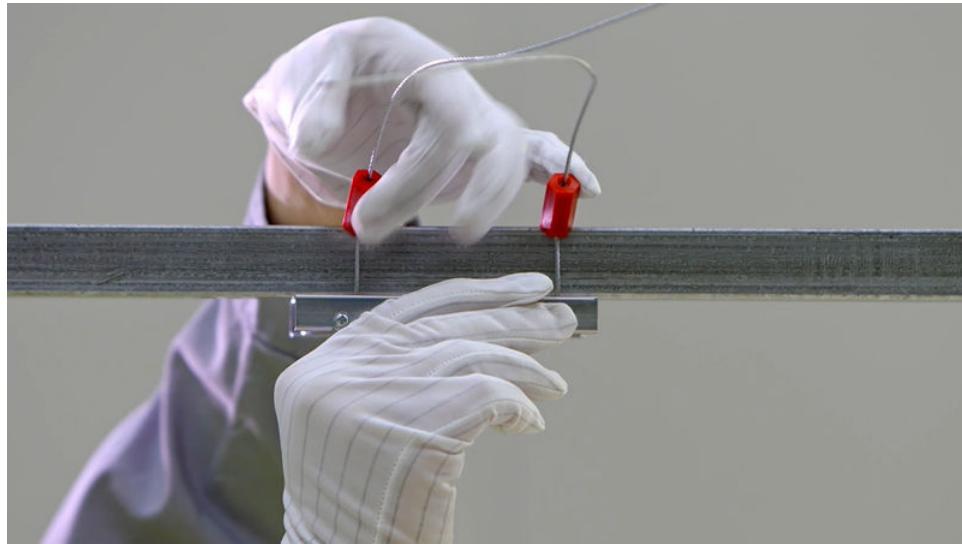
In this mounting mode, a beam for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the beam must be greater than or equal to 5 kg.

The following lists the materials required for installation.

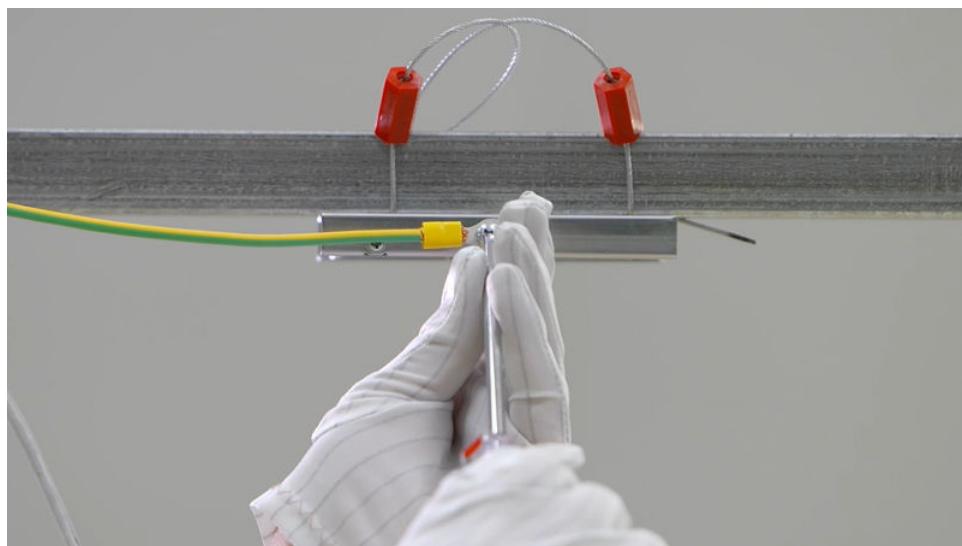
Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures a mounting bracket to a beam.

Procedure

- Step 1** Pre-assemble the accessories to facilitate installation, for example, pre-install the security screw on the mounting bracket.
- Step 2** Fix the mounting bracket on the beam by using two steel ropes. The group J holes are recommended. Tighten the steel ropes.

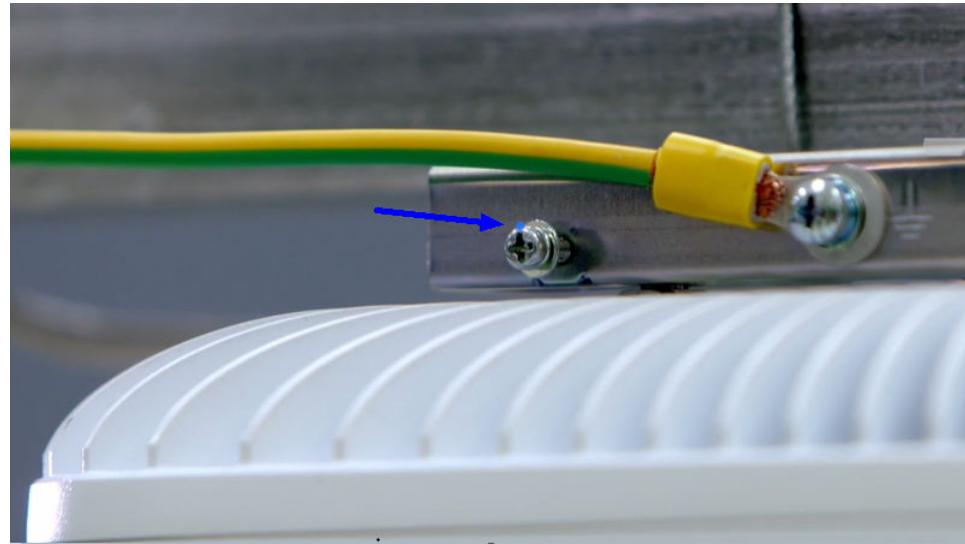


Step 3 Install the ground cable as required.



Step 4 Route the cable and connect it to the corresponding port on the AP as required.

Step 5 Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



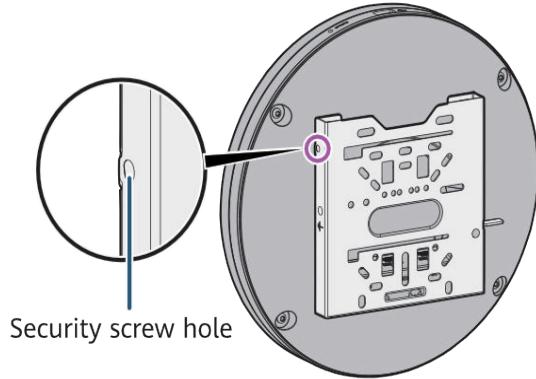
Step 6 Bundle the cable on the beam by using plastic ties to keep it orderly.



----End

 **NOTE**

In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



2.2.3.6 Junction Box Mounting

Context

An electric junction box is used for embedding cables in electrical engineering. Electric junction boxes are offered in 86 mm, 118 mm, 120 mm, and octagonal dimensions. The following uses an 86 mm junction box as an example to describe how to mount an AP on a standard junction box.

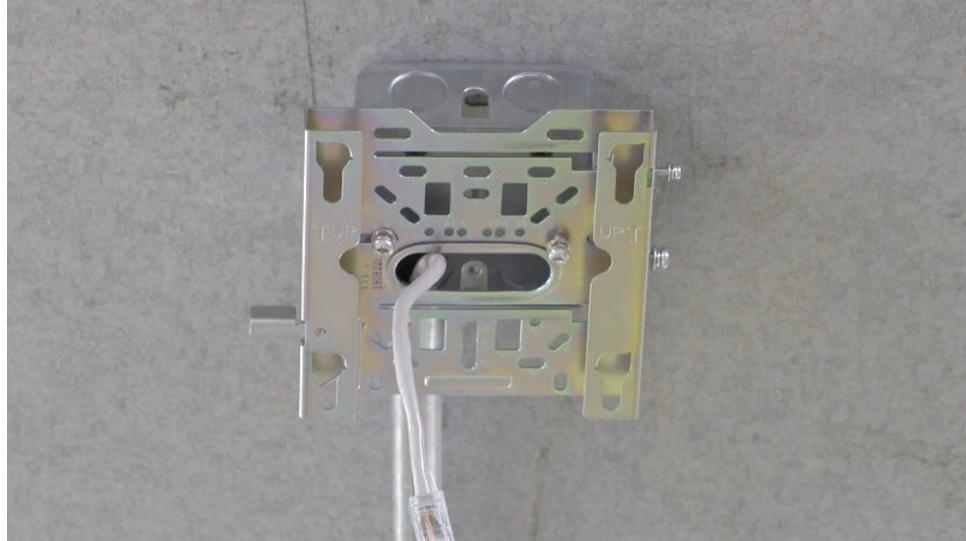
In this mounting mode, a junction box for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the junction box must be greater than or equal to 5 kg.

The following lists the materials required for installation.

Screw	Quantity	Description
Screws (purchased as required)	3	Secures a mounting bracket to a junction box.
M3x12 screw (delivered with the device)	1	Prevents the AP from falling off due to vibrations.

Procedure

- Step 1** Pre-assemble the accessories to facilitate installation, for example, pre-install the security screw on the mounting bracket.
- Step 2** Deploy the Ethernet cable and junction box in advance. Thread the Ethernet cable through the oval cable hole on the mounting bracket. Secure the mounting bracket on the junction box with screws.



 **NOTE**

The junction box type determines which mounting holes on the bracket. Group A holes are used for mounting an AP on the 86 mm junction box.

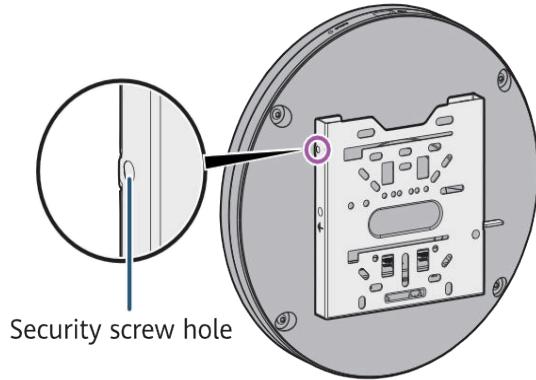
- Step 3** Route the cable and connect it to the corresponding port on the AP as required. Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



----End

NOTE

In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



2.2.3.7 Threaded Rod Mounting on a Ceiling

Context

Some scenarios do not have suspended ceilings, such as warehouse supermarkets, factory buildings, and garages. Various metal pipes for fire protection, ventilation, and wiring are densely deployed beneath the building top. These metal pipes block AP signals. As such, threaded rod mounting is recommended.

In this mounting mode, a threaded rod for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the threaded rod must be greater than or equal to 5 kg.

Materials (Prepared by the Customer)	Quantity	Description
Ω-shaped support (part number: 21244035, including captive screws)	1	Secures a mounting bracket to a thread rod.

Prerequisites

Before the installation, ensure that the network cable has been deployed at a proper position and the threaded rod cut to the required length has been installed on the concrete ceiling where the cable ends.

The optional mounting bracket (part number: 21244035) can be installed on a threaded rod (diameter: 8 mm). The threaded rod and related nuts need to be purchased by the customer.

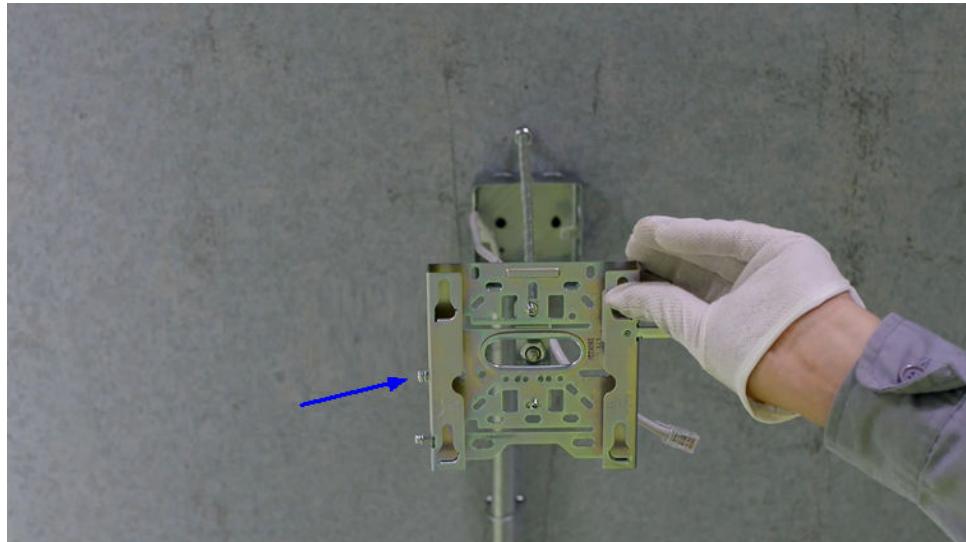


Procedure

Step 1 Secure the Ω -shaped fixing bracket to the mounting bracket, install the mounting bracket to the end of the threaded rod, and tighten the screw.



Step 2 Install the ground cable as required.



Step 3 Route the cable and connect it to the corresponding port on the AP as required.



Step 4 Clamp the AP on the mounting bracket. When you hear a click sound from the release lever, the AP is properly installed.



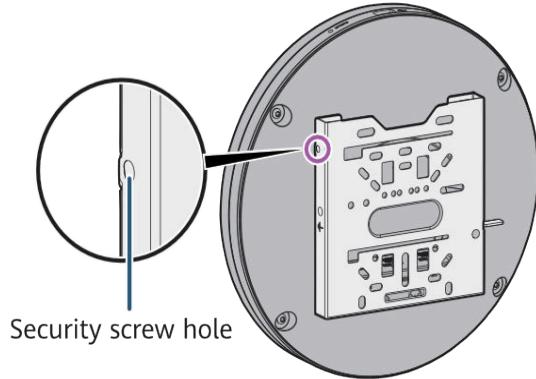
Step 5 Ensure that the four rubber feet fit into the mounting holes. Bundle the cable on the threaded rod by using plastic ties to keep it orderly.



----End

NOTE

In a scenario with heavy vibrations, tighten the AP to the mounting bracket using an M3x12 screw with a torque of 0.5 N m. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install this screw.



2.2.3.8 Mounting Together with External Antennas (AirEngine 6760-X1E as an Example)

Background

When an AirEngine 6760-X1E is used with the antenna 27013718 or 27013719, the mounting bracket material package 02313LGC can be purchased separately to assemble the AP and antenna together.

NOTE

- The package includes a mounting support, an angle-adjustable mounting bracket, screws, nuts, an extension cable, SMA-to-N RF cables, hose clamps, and cable ties.
- By following this installation guide, the IoT card function will be unavailable.

Wall Mounting

NOTE

A wall for installing the device needs to meet the following requirements:

- The wall can bear the weight of four times the total weight of the device and mounting bracket without damage.
- When the tightening torque of a screw reaches 12 N·m, the screw still properly works, without crack or damage on the wall.

Table 2-228 Wall mounting screws

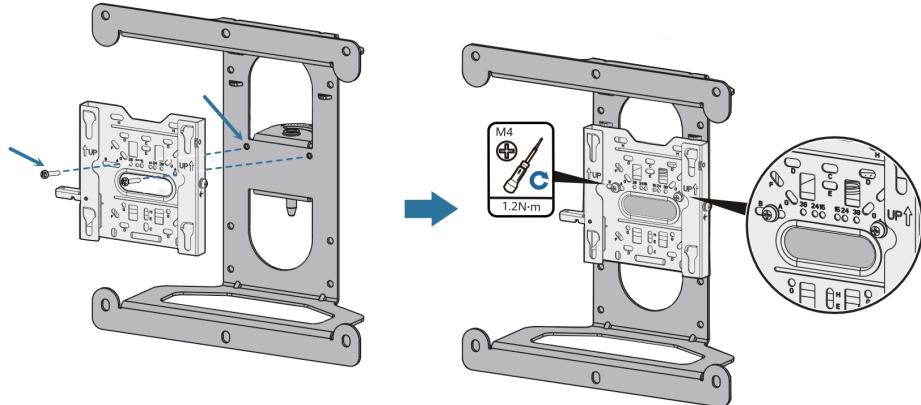
Screw	Quantity	Description
Expansion screw	2	Secure the mounting bracket to the wall.
M4x12 screw	2	Secure the AP mounting bracket to the mounting support.

Screw	Quantity	Description
M6 hexagon nut (with a flat washer and a spring washer)	6	Secure the antenna to the mounting support.

Step 1 Use two M4x12 screws to secure the AP mounting bracket to the mounting support.

 **NOTE**

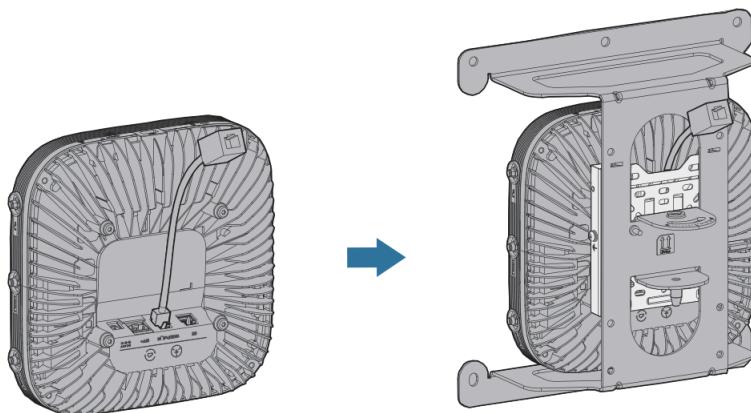
- During installation, ensure that the AP mounting bracket and the mounting support face the same direction according to the signs on them.
- Install both M4x12 screws in the A holes on the AP mounting bracket.



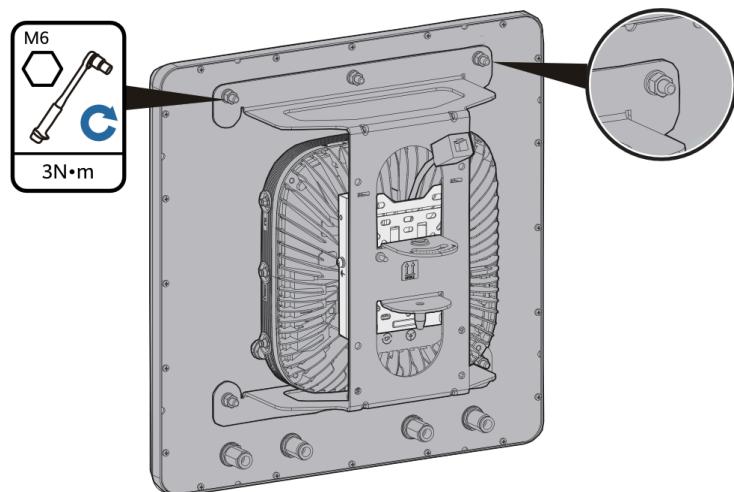
Step 2 Connect the extension cable to the AP, route the cable through the hole on the mounting support, and hang the AP on the AP mounting bracket.

 **NOTE**

When installing the device on the mounting support, ensure that the arrows on the mounting support point upward and the Huawei logo on the device cover is the right way up.



Step 3 Use flat washers, spring washers, and M6 nuts to secure the antenna to the mounting support, as shown in the following figure.



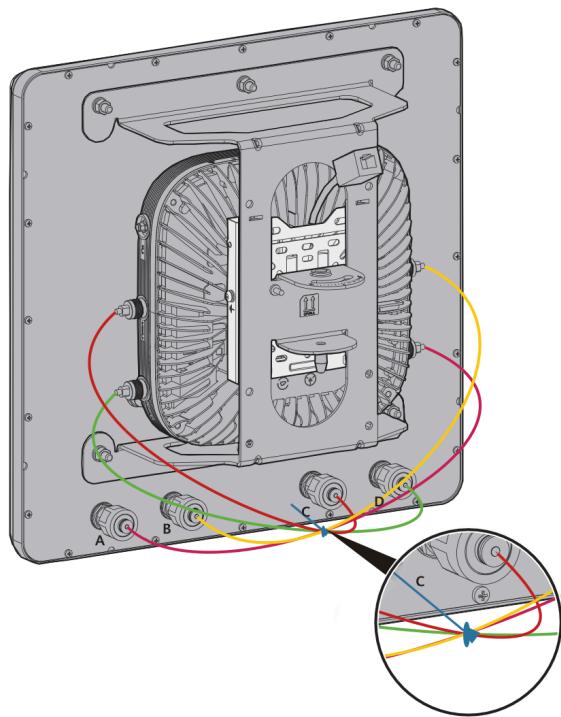
Step 4 Connect four SMA-to-N RF cables according to [Table 2-229](#). After the cables are connected, tighten the RF cables at their junction.

Table 2-229 Port relationships for RF cable connections

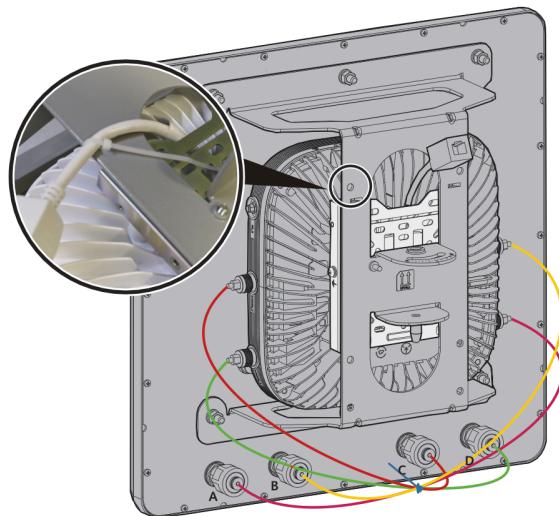
AP RF Port	Antenna RF Port
2.4G&5G_A	B
2.4G&5G_B	A
2.4G&5G_C	D
2.4G&5G_D	C

NOTE

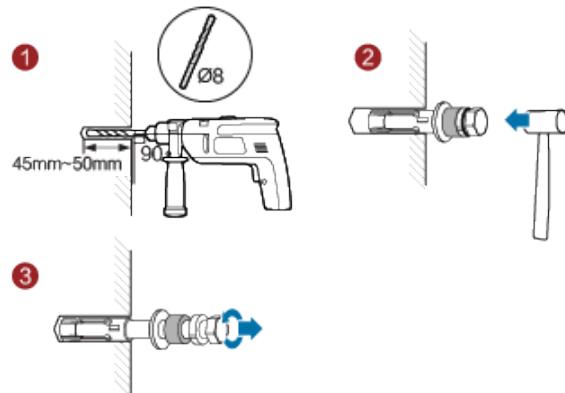
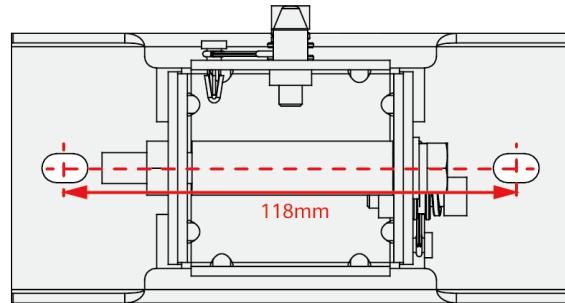
- Do not connect the SMA connectors to the 5G ports on both sides of the AP.
- The bend radius of an SMA-to-N RF cable is 30 mm.
- Insert RF loads (50 ohms) into idle RF ports to prevent radio interference. Huawei offers 50-ohm RF loads (part number: 27110089) for purchase.



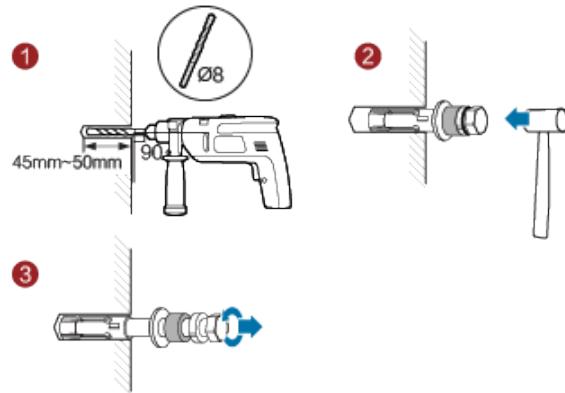
Step 5 Fasten the extension cable to the mounting support to ensure that the network cable is securely connected.



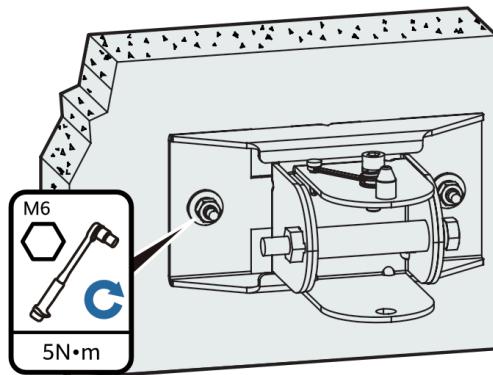
Step 6 Attach the angle-adjustable mounting bracket against the wall and adjust its position properly. Mark positions of the mounting holes with a marker, as shown in the following figure.



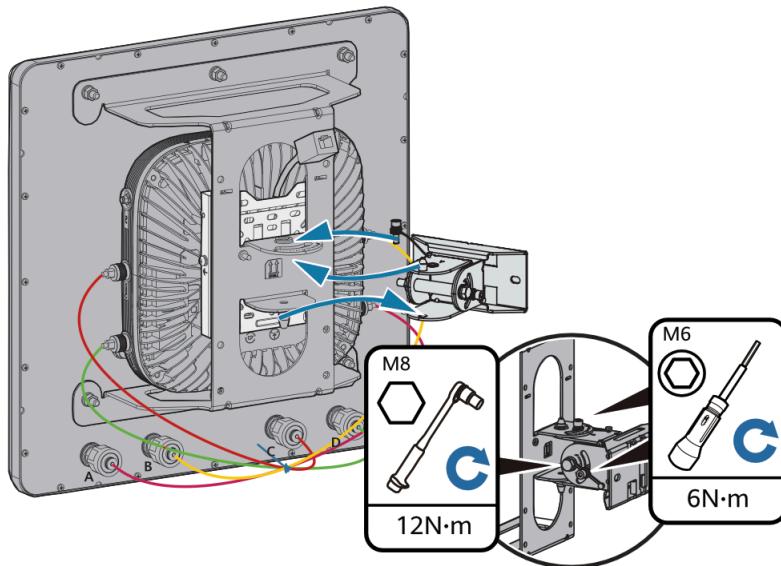
Step 7 Use an 8 mm drill bit to drill 45 mm to 50 mm deep holes in the drilling positions and hammer the expansion screws into the installation holes until the flat washers are completely attached to the wall. Then, remove the nut, spring washer, and flat washer in order.



Step 8 Fit the angle-adjustable mounting bracket onto the expansion screws, and place the flat washers, spring washers, and nuts onto the expansion screws in sequence. Then, use a wrench to tighten the expansion screws to secure the angle-adjustable mounting bracket to the wall.



Step 9 Loosen the screw on the top of the angle-adjustable mounting bracket. Mount the assembly on the bracket. Then, loosely tighten the screw onto the horizontal scale plate.



Step 10 Loosen the vertical M6 screw, adjust the AP's angle at the horizontal and vertical directions based on the scale plate, and then tighten the M6 and M8 screws.

 **NOTE**

- The length of the M6 inner hexagon screwdriver must be greater than or equal to 200 mm.
- The angle adjustment range of the angle-adjustable mounting bracket used with an AirEngine 6760-X1E is -20° to $+30^\circ$ in the vertical direction and $\pm 40^\circ$ in the horizontal direction.

Step 11 Connect the PoE network cable to the extension cable on the AP.

----End

Pole Mounting

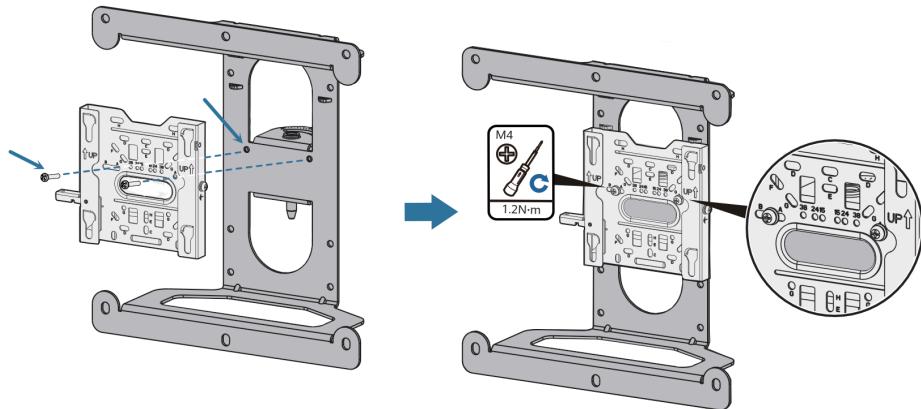
Table 2-230 Pole mounting screws

Screw	Quantity	Description
M4x12 screw	2	Secure the AP mounting bracket to the mounting support.
M6 hexagon nut (with a flat washer and a spring washer)	6	Secure the antenna to the mounting support.

Step 1 Use two M4x12 screws to secure the AP mounting bracket to the mounting support.

 **NOTE**

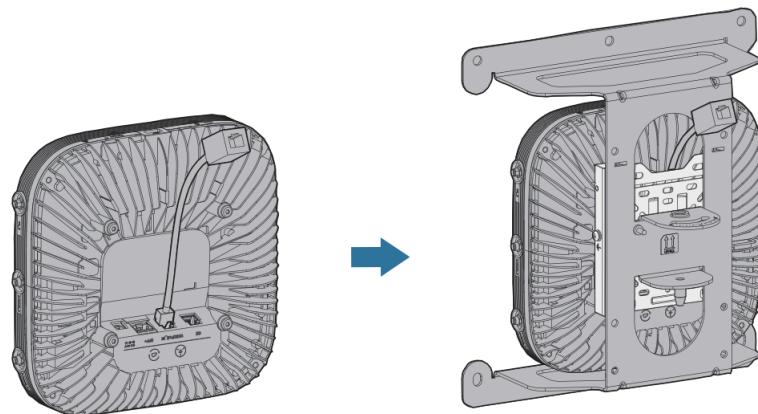
- During installation, ensure that the AP mounting bracket and the mounting support face the same direction according to the signs on them.
- Install both M4x12 screws in the A holes on the AP mounting bracket.



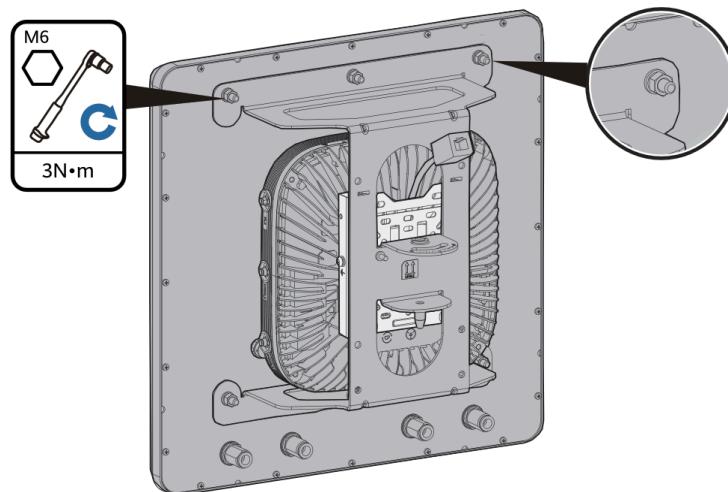
Step 2 Connect the extension cable to the AP, route the cable through the hole on the mounting support, and hang the AP on the AP mounting bracket.

 **NOTE**

When installing the device on the mounting support, ensure that the arrows on the mounting support point upward and the Huawei logo on the device cover is the right way up.



Step 3 Use flat washers, spring washers, and M6 nuts to secure the antenna to the mounting support, as shown in the following figure.



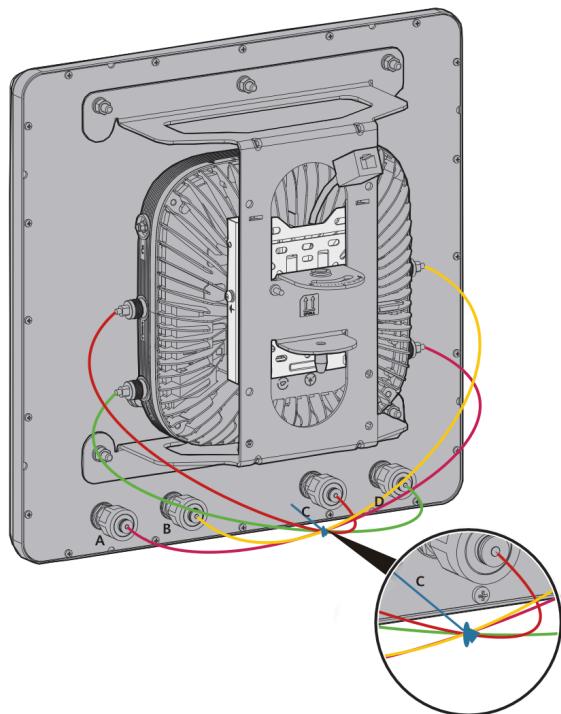
Step 4 Connect four SMA-to-N RF cables according to [Table 2-231](#). After the cables are connected, tighten the RF cables at their junction.

Table 2-231 Port relationships for RF cable connections

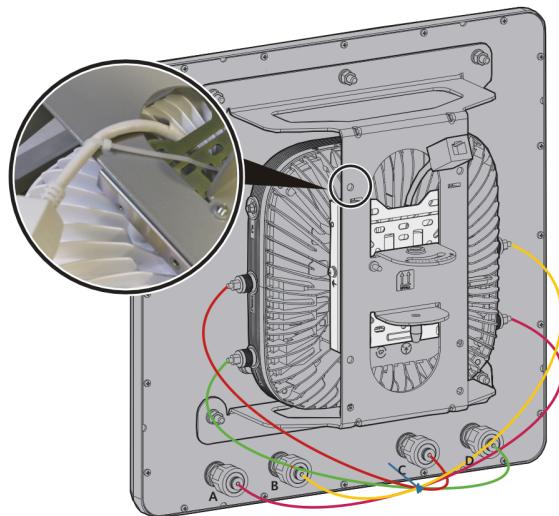
AP RF Port	Antenna RF Port
2.4G&5G_A	B
2.4G&5G_B	A
2.4G&5G_C	D
2.4G&5G_D	C

NOTE

- Do not connect the SMA connectors to the 5G ports on both sides of the AP.
- The bend radius of an SMA-to-N RF cable is 30 mm.
- Insert RF loads (50 ohms) into idle RF ports to prevent radio interference. Huawei offers 50-ohm RF loads (part number: 27110089) for purchase.

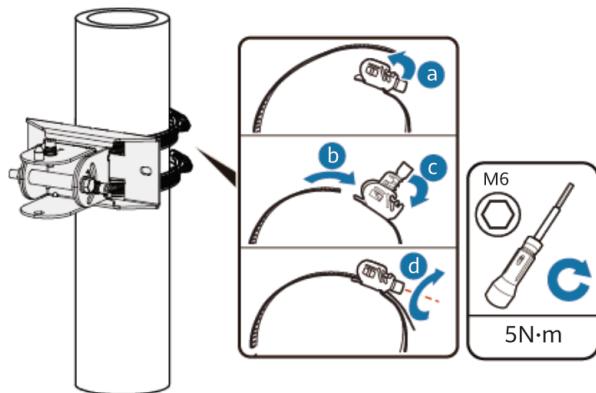


Step 5 Fasten the extension cable to the mounting support to ensure that the network cable is securely connected.

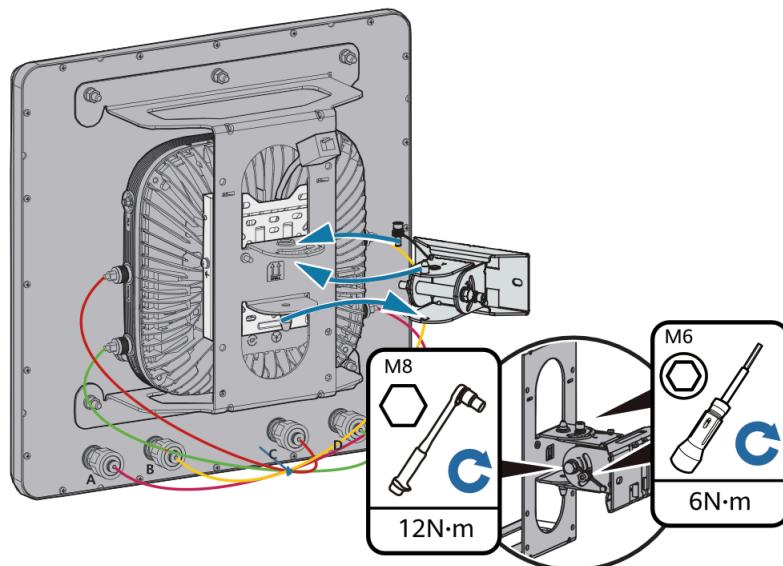


Step 6 Determine the installation position of the AP on the pole and use hose clamps to secure the angle-adjustable mounting bracket on the pole.

1. Use an M6 inner hex torque screwdriver to loosen the screw on the hose clamp to open it.
2. Lead the hose clamp through the mounting bracket and secure the mounting bracket to the pole.
3. Tighten and close the hose clamp.
4. Use an M6 inner hex torque screwdriver to tighten the screw.



Step 7 Loosen the screw on the top of the angle-adjustable mounting bracket. Mount the assembly on the bracket. Then, loosely tighten the screw onto the horizontal scale plate.



Step 8 Loosen the vertical M6 screw, adjust the AP's angle at the horizontal and vertical directions based on the scale plate, and then tighten the M6 and M8 screws.

NOTE

- The length of the M6 inner hexagon screwdriver must be greater than or equal to 200 mm.
- The angle adjustment range of the angle-adjustable mounting bracket used with an AirEngine 6760-X1E is -20° to $+30^\circ$ in the vertical direction and $\pm 40^\circ$ in the horizontal direction.

Step 9 Connect the PoE network cable to the extension cable on the AP.

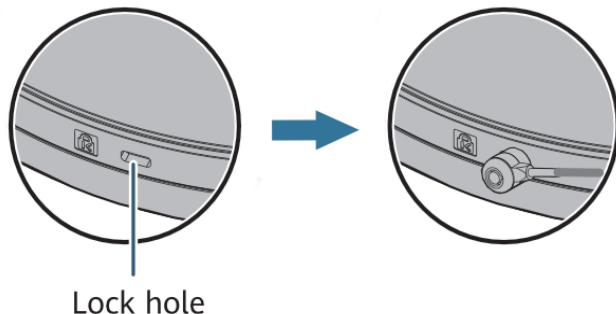
----End

2.2.3.9 Anti-Theft and Removal

Anti-Theft Lock Mode

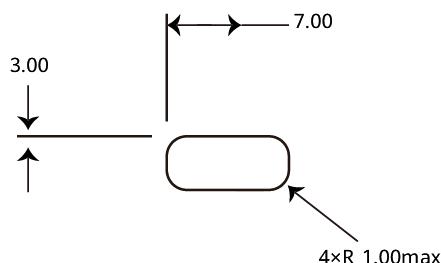
There is a security slot on the device. You can lock the device to an immovable object to prevent theft. The detailed procedure is as follows:

1. Fasten the cable of the security lock to an immovable object around.
2. Insert the security lock into the security slot and lock it.



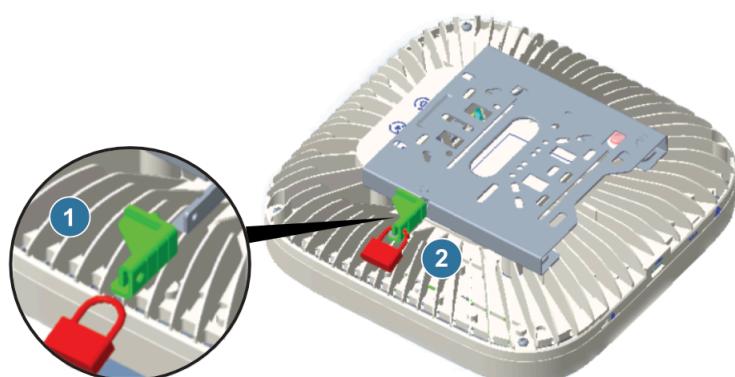
NOTE

You need to purchase the security lock separately. The security slot is 7 mm long and 3 mm wide. The maximum radius of its four round corners is 1 mm.



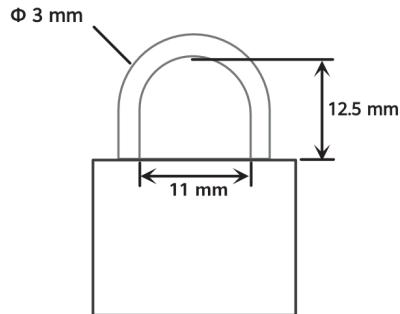
U-shaped Brass Padlock Mode

There is a keyhole on the release lever of a 15 mm mounting bracket, which can work with a plastic part (part number: 21205724). You can then use a U-shaped padlock to lock the device and the mounting bracket for anti-theft.



The padlock needs to be purchased separately. [Figure 2-140](#) shows the dimensions of a padlock.

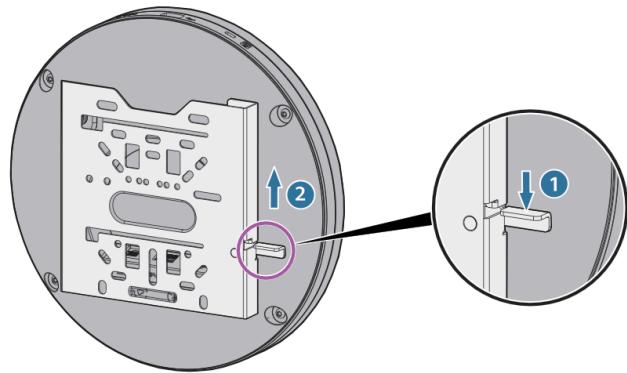
Figure 2-140 Padlock dimensions



Removing an AP

Remove the security screw. Hold the AP securely. Press down the release lever on the mounting bracket, and slide the AP out of the mounting bracket to unlock the AP.

Figure 2-141 Removing an AP



NOTE

When removing an AP, do not pull out the AP directly. Otherwise, the device may fall down, or the cables and connectors may be damaged.

2.2.4 Installing an AP (With the 15 mm Mounting Bracket B)

This section describes how to install an AP using the 15 mm mounting bracket B.

2.2.4.1 Solid Wall Mounting

Context



A wall for installing the device needs to meet the following requirements:

- The wall can bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the wall must be greater than or equal to 5 kg.
- When the tightening torque of a screw reaches 3.5 N·m, the screw still properly works, without crack or damage on the wall.

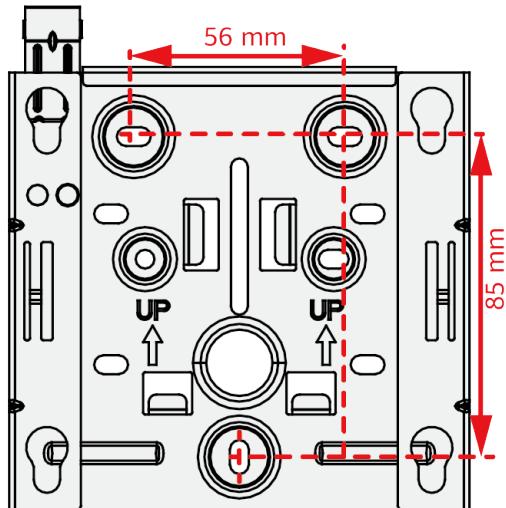
A mounting bracket and expansion tubes are required to install the AP on a wall. The procedure is as follows:

Procedure

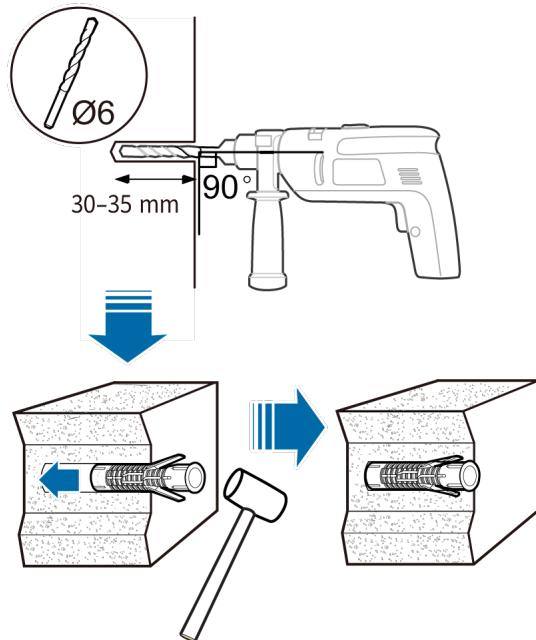


When fixing the mounting bracket, ensure that the arrows of point upwards.

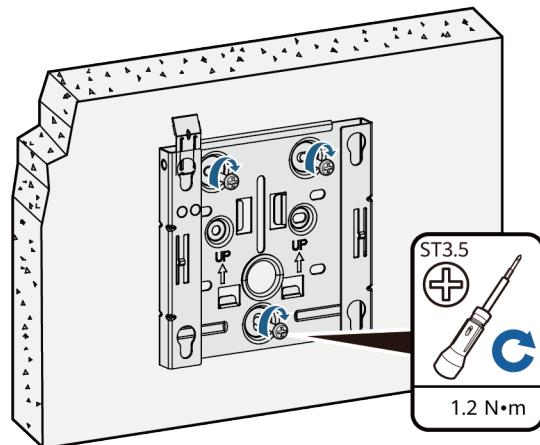
1. Attach the mounting bracket against the wall and adjust its position properly. Mark positions of the mounting holes with a marker, as shown in the following figure.



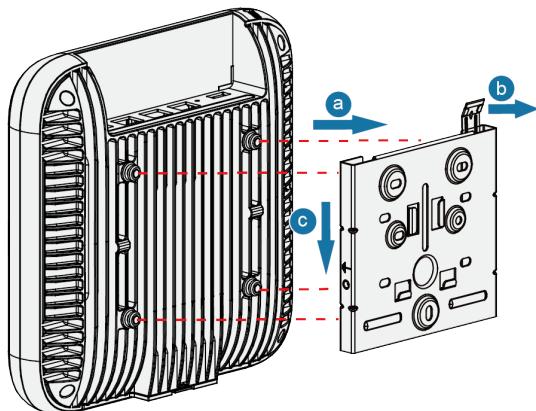
2. Use a 6 mm drill bit to drill 35 mm to 40 mm deep holes in the marked positions. Hammer the expansion tubes into the holes until the expansion tubes are flush with the wall.



3. Fix the mounting bracket to the wall and use the Phillips screwdriver to fasten three expansion screws into the expansion tubes.

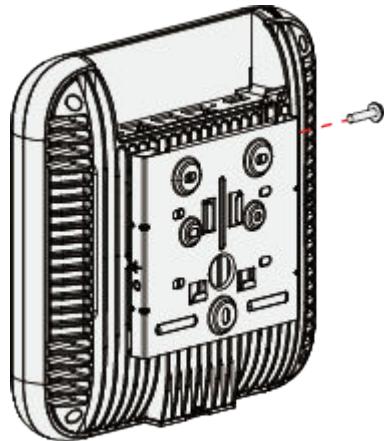


4. Connect cables to the AP.
5. Align the rubber feet of the AP over the mounting holes on the mounting bracket and vertically push the AP. When the AP presses up the release lever, push the AP downwards. When you hear a click, the AP is secured to the mounting bracket.



 NOTE

In a scenario with heavy vibrations, tighten the AP to the mounting bracket using M4x30 screws. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install these screws.



2.2.4.2 Mounting on a Gypsum Board Ceiling

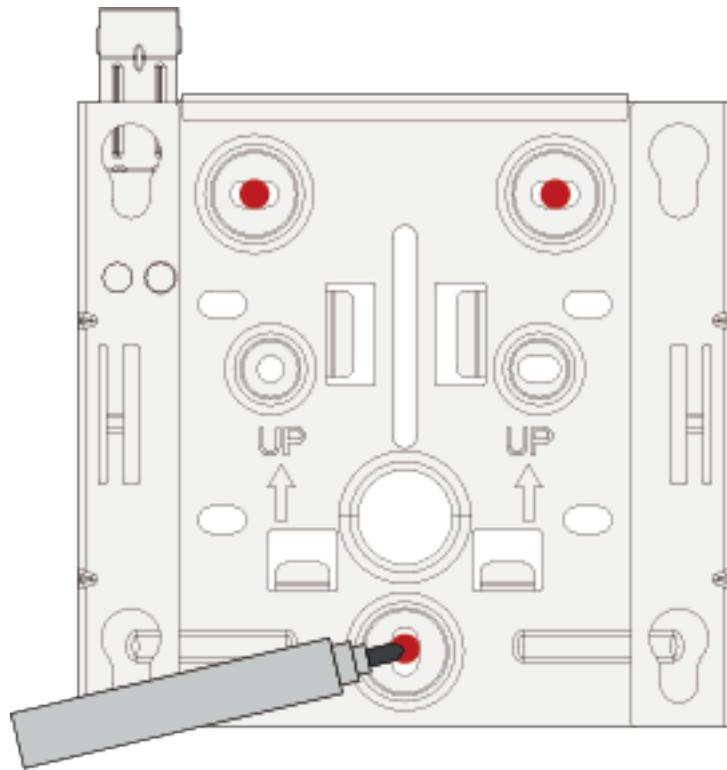
Context

In this mounting mode, a gypsum board ceiling for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the gypsum board ceiling must be greater than or equal to 5 kg.

Expansion screws are used for mounting APs on a paper gypsum board ceiling. Before installing an AP, select a proper installation position based on the structural features of the paper gypsum board ceiling. Then, select expansion screws of proper specifications based on the thickness of the gypsum board. The expansion screws need to be purchased by the customer as required.

Procedure

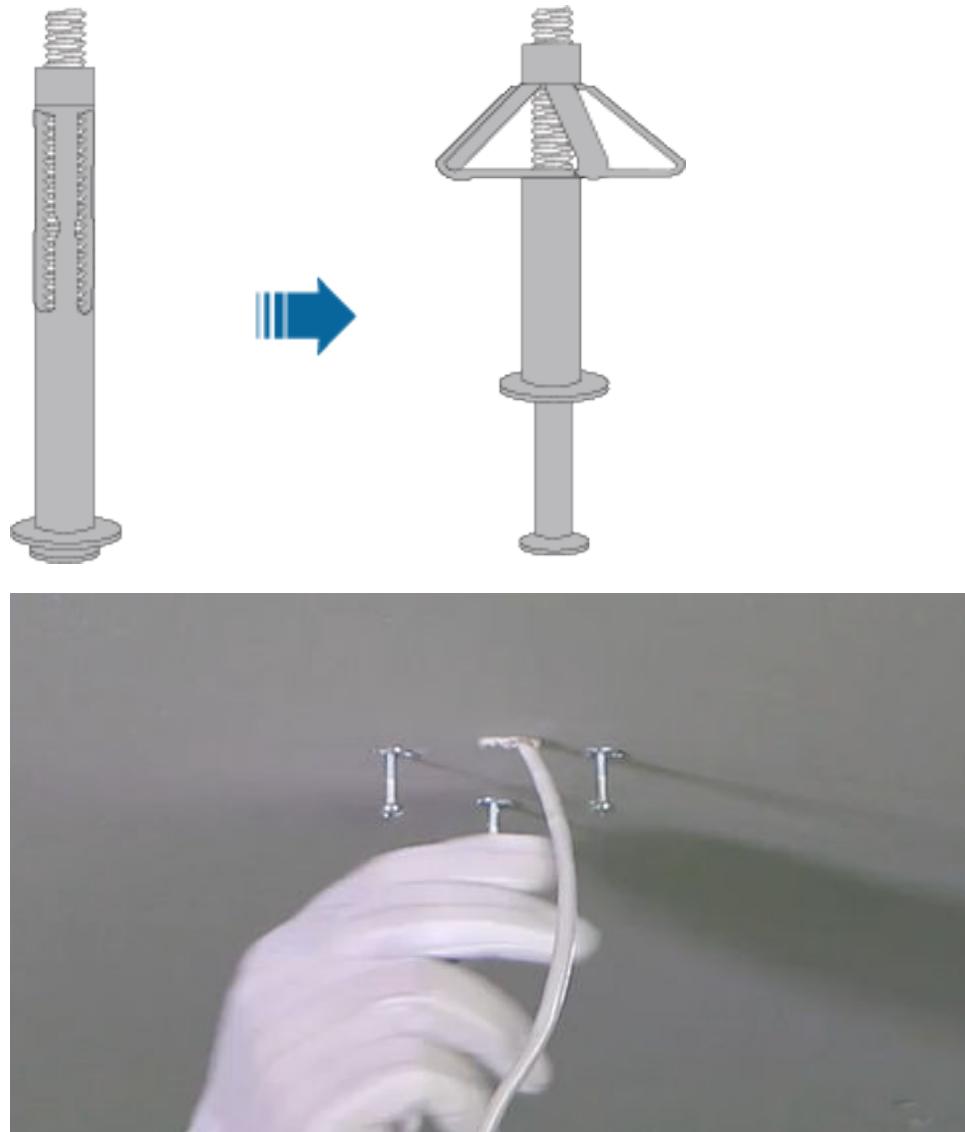
- Step 1** Attach the mounting bracket against the paper gypsum board and mark positions of the mounting holes (group H) with a marker.



Step 2 Drill holes on the paper gypsum board upwards from bottom to top using a hand-held electric drill. Ensure that the hole diameters are not too large and just sufficient for the expansion screws of the selected model.



Step 3 Use a hollow wall anchor gun to fix the expansion screws to the paper gypsum board.



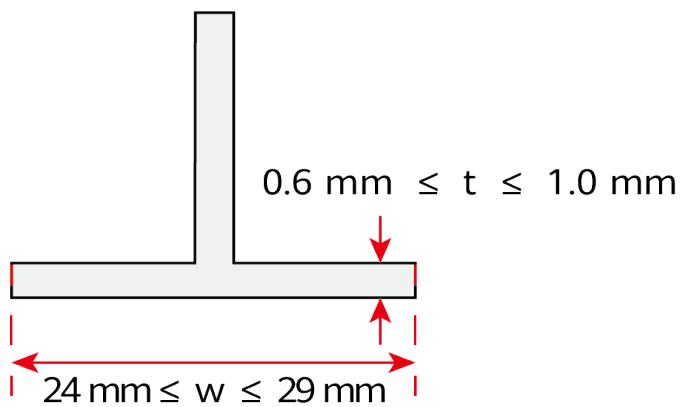
Step 4 Remove the expansion screws, route the screws through the holes in group H, and secure the mounting bracket to the paper gypsum board.

Step 5 Connect the Ethernet cable to the correct port on the AP and clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. Tighten the security screw.

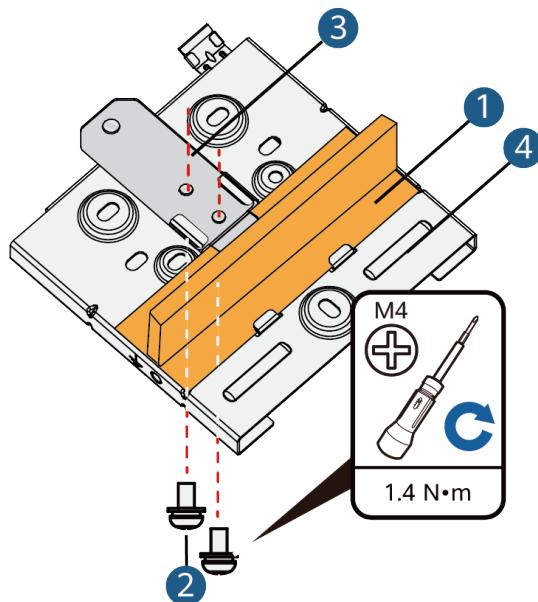
----End

2.2.4.3 T-Rail Mounting

A T-rail needs to bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the T-rail must be greater than or equal to 5 kg. [Figure 2-142](#) shows the T-rail dimensions requirements (t: thickness; w: width).

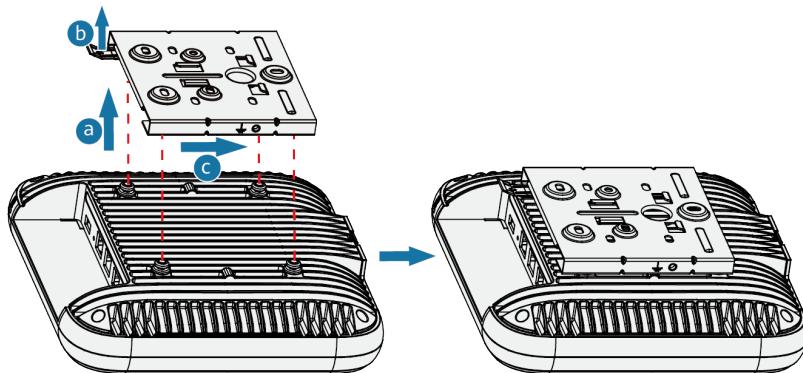
Figure 2-142 Section of a T-rail

1. Remove the two ceilings near the T-rail. Use screws to pre-tighten the sliding plates to the mounting bracket, and then adjust the sliding plate to secure the T-rail between the sliding plate and the metal buckle on the mounting bracket. Tighten the screw on the sliding plate.



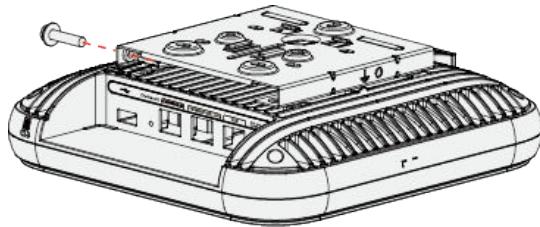
1. T-rail	2. M4x8 screw (delivered with the device)	3. Adjustable buckle (delivered with the device)	4. Mounting bracket
-----------	---	--	---------------------

2. Connect cables to the AP.
3. Align the rubber feet of the AP over the mounting holes on the mounting bracket and vertically push the AP. When the AP presses up the release lever, push the AP horizontally. When you hear a click, the AP is secured to the mounting bracket.



NOTE

- Before fixing the adjustable buckle with a screw, adjust the buckle to a proper position based on the T-rail width.
- Ensure that the AP is properly installed on the mounting bracket. Ensure that the installation space meets the specified requirements to facilitate future maintenance.
- In a scenario with heavy vibrations, tighten the AP to the mounting bracket using M4x30 screws. This prevents the AP from falling off due to vibrations. In normal scenarios, you do not need to install these screws.



2.2.5 Installing an AP (With a 7 mm Mounting Bracket)

This section describes how to install an AP using a 7 mm mounting bracket.

2.2.5.1 Solid Wall Mounting

Context

A wall for installing the device needs to meet the following requirements:

- The wall can bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the wall must be greater than or equal to 5 kg.
- When the tightening torque of a screw reaches 3.5 N·m, the screw still properly works, without crack or damage on the wall.

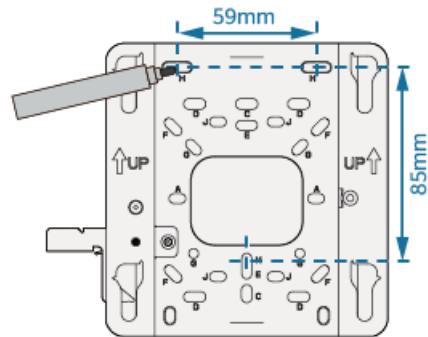
The following table lists the screws to be used.

Screw (Delivered with the Device)	Quantity	Description
ST3.5 expansion screw + expansion tube	3	Secures a mounting bracket to the wall.

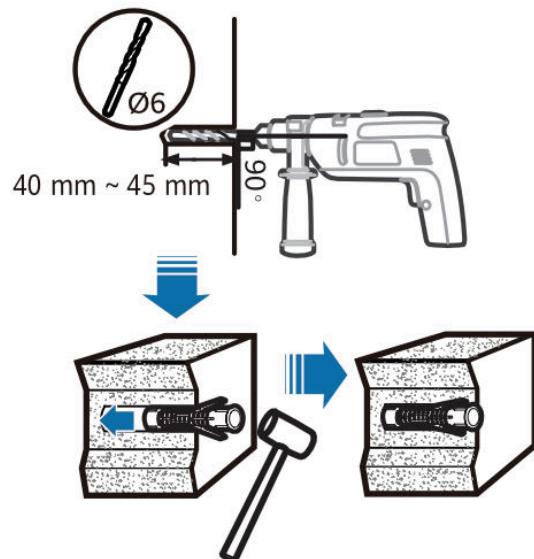
Procedure

When fixing the mounting bracket, ensure that the arrows of **UP** point upwards.

- Step 1** Attach the mounting bracket against the wall and adjust its position properly. Mark positions of the mounting holes with a marker, as shown in the following figure.

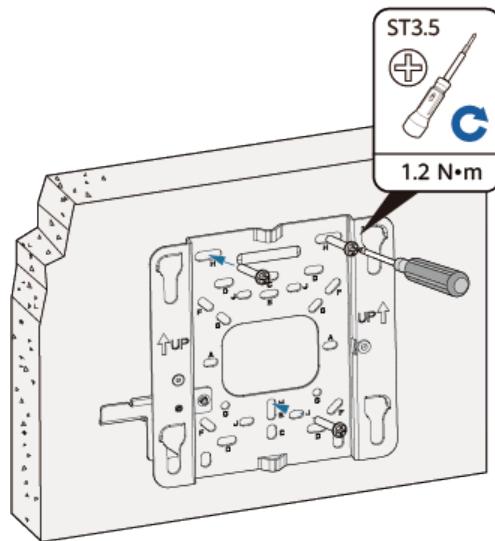


- Step 2** Use a 6 mm drill bit to drill 40 mm to 45 mm deep holes in the marked positions. Hammer the expansion tubes into the holes until the expansion tubes are flush with the wall.

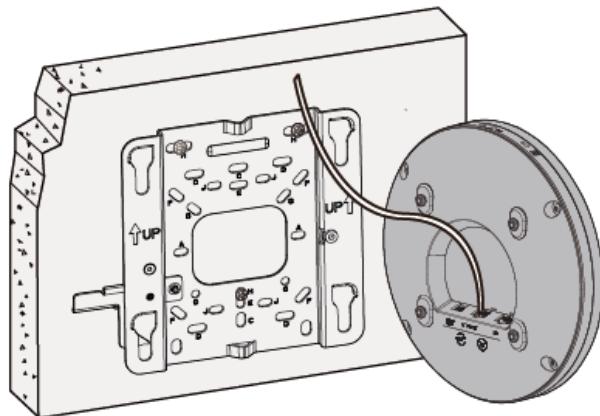


- Step 3** Use the M3 screw delivered with the device to connect the equipotential cable at the rear of the mounting bracket to the ground bar. (The OT terminal needs to be prepared separately).

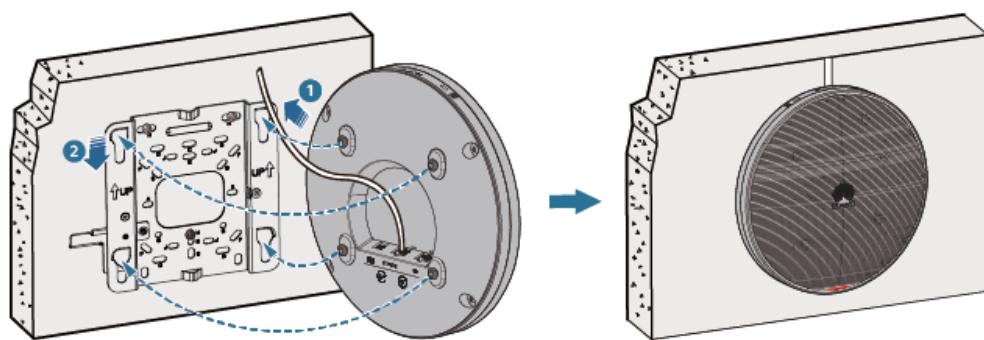
- Step 4** Fix the mounting bracket to the wall and use the Phillips screwdriver to fasten three expansion screws into the expansion tubes.



Step 5 Connect and properly sort cables.



Step 6 Fasten the AP according to the figure. When you hear a click, the AP is secured to the lock position.



NOTE

After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.

----End

2.2.5.2 Mounting on a Spring Tee Ceiling

Background

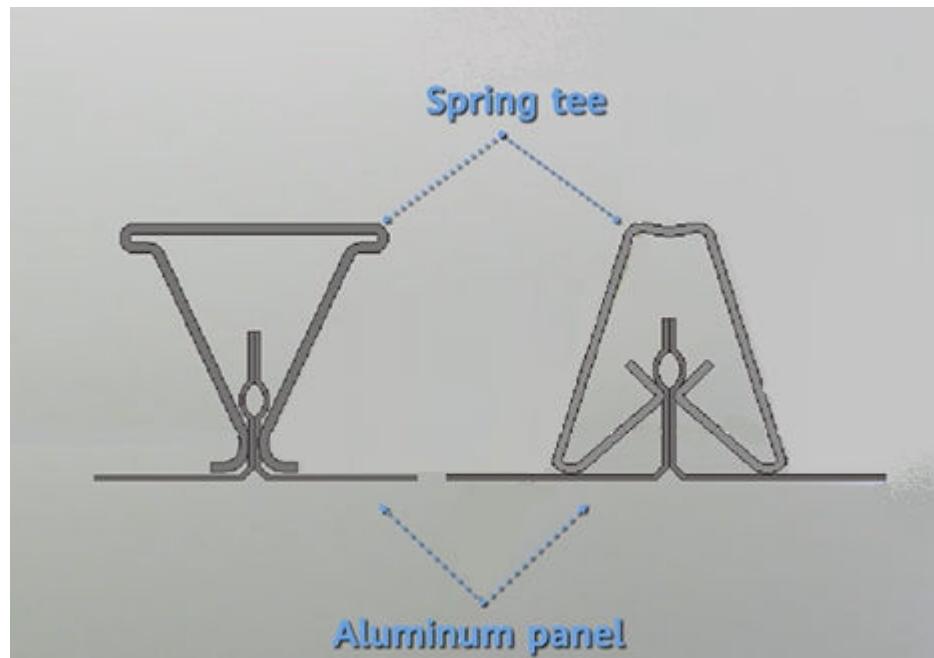
Spring tees are concealed within a ceiling and show only evenly distributed grid-shaped tiles seen from the bottom. This type of ceiling is made of aluminum panels, which do not have good load-bearing capacity. Therefore, APs cannot be directly fixed on such ceilings.

In this mounting mode, a spring tee for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the spring tee must be greater than or equal to 5 kg.

The following lists the materials required for installation.

Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures the mounting bracket to a spring tee.

Figure 2-143 Two typical structures of spring tee ceilings

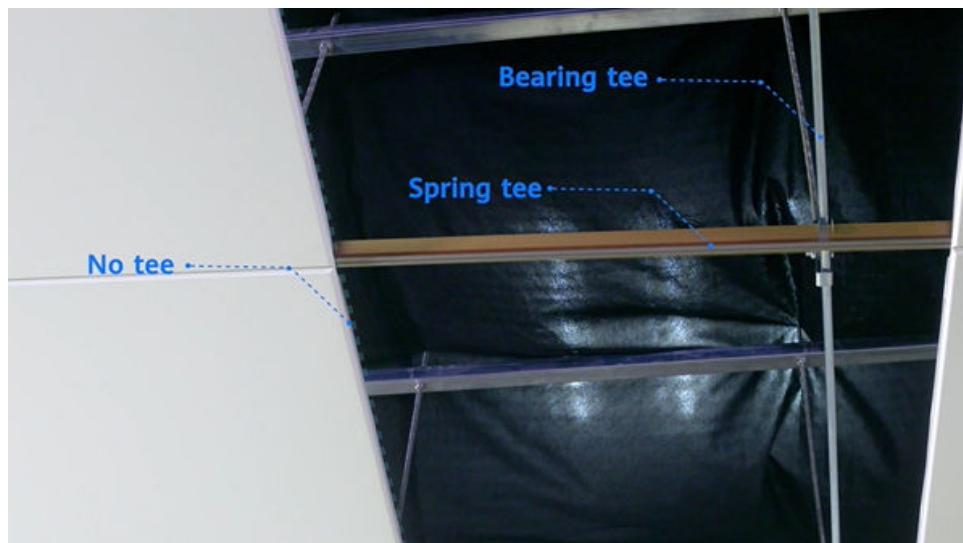


Prerequisites

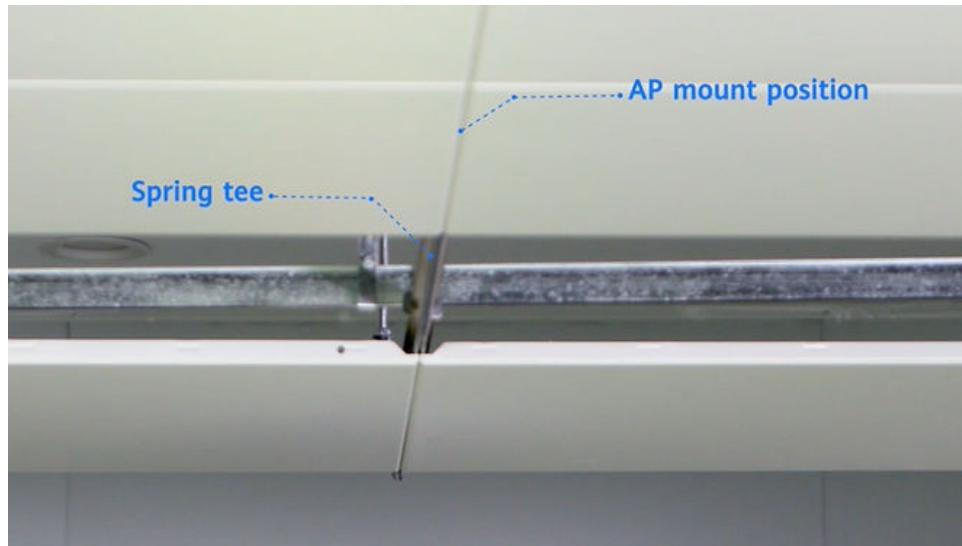
When installing an AP on a spring tee ceiling, it is recommended that self-locking steel ropes be used to mount the AP on spring tees. The steel ropes should pass through the aluminum panel and bind the AP. Before installing the AP, determine the position of the spring tee.



Remove one or two aluminum panels. The rails that clamp the two sides of the aluminum panel are the spring tees. Spring tees are distributed in parallel and in the same direction. They are not vertical to each other.

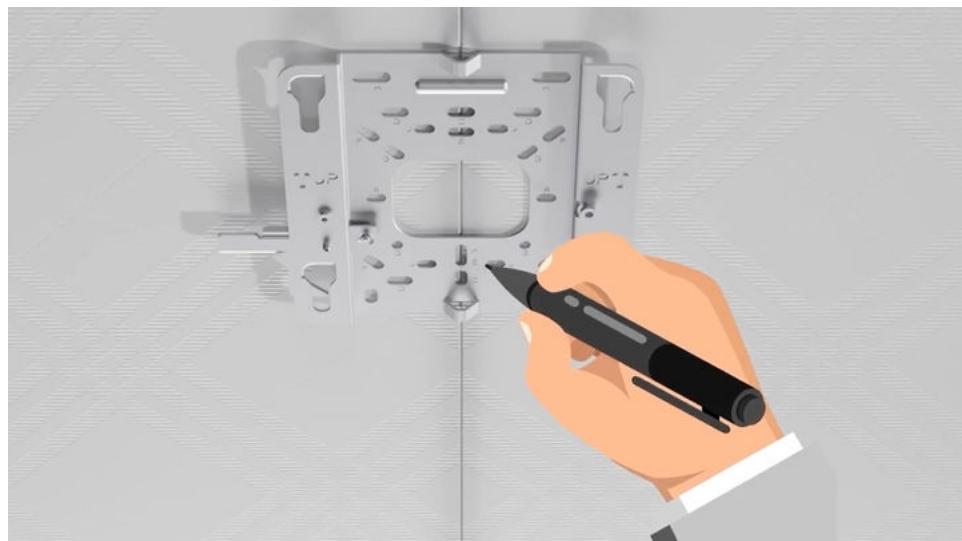


Therefore, the AP can only be mounted at the joint point between two aluminum panels where the spring tees are distributed, as shown in the following figure.



Procedure

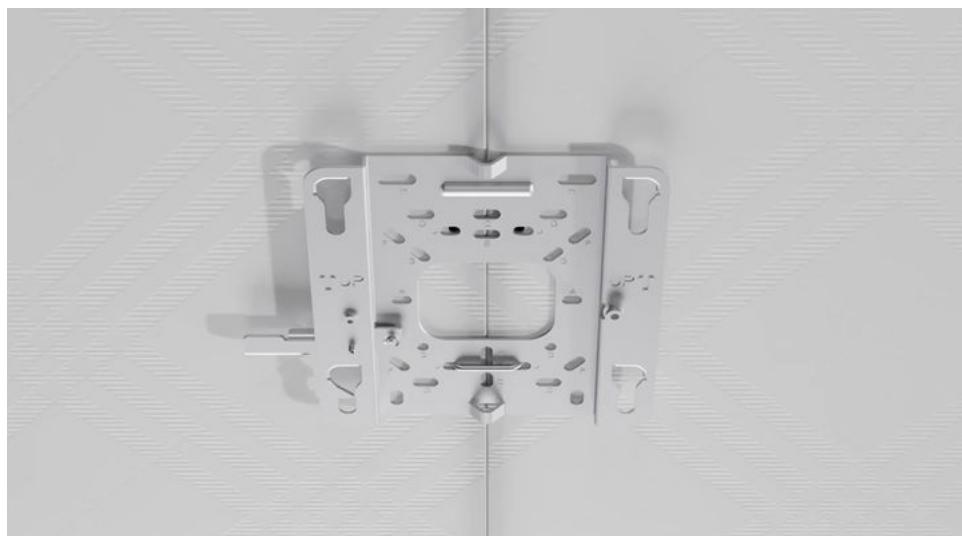
Step 1 Before the installation, mark the mounting hole positions on the two sides of the joint point with a marker. Group J holes on the mounting bracket are recommended.



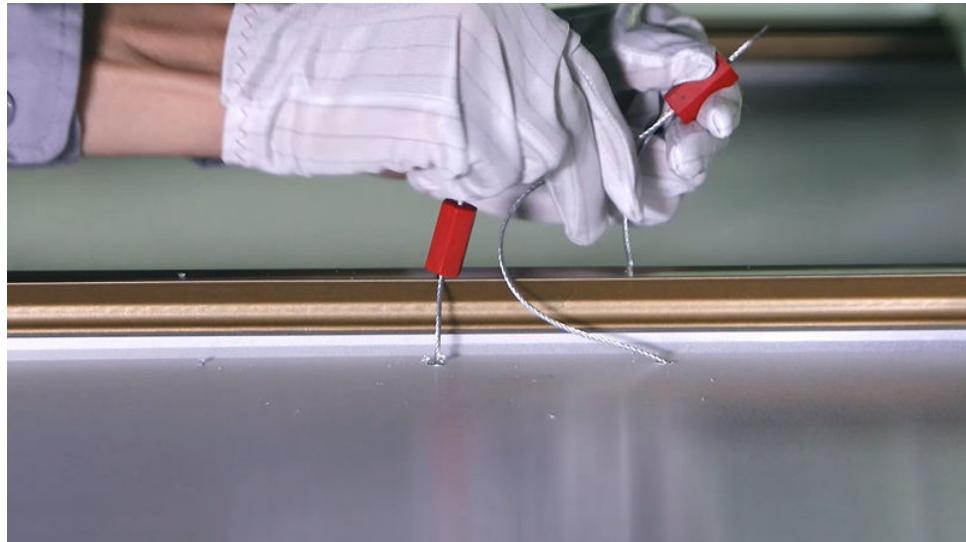
Step 2 Drill holes on the aluminum panels based on the marks. The diameters of holes should be slightly larger than those of steel wire ropes.



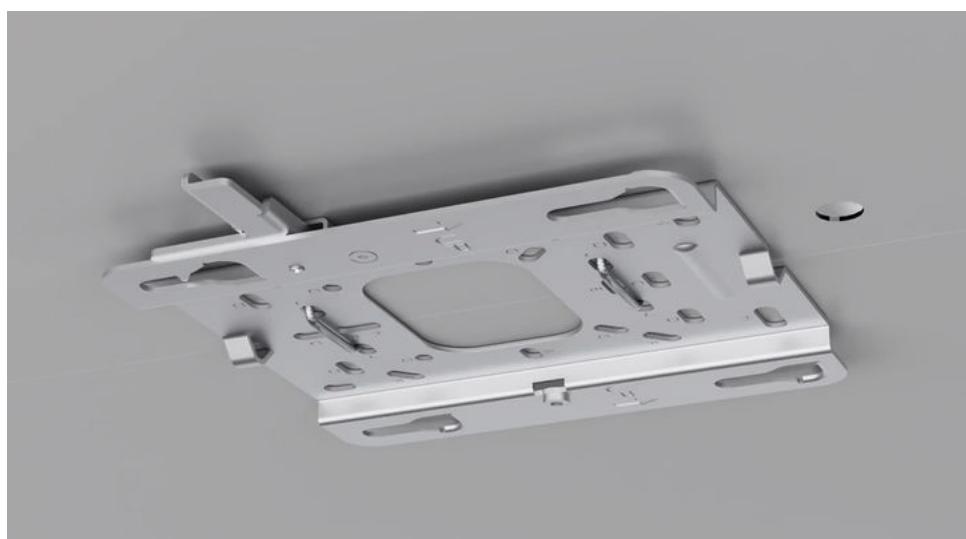
Step 3 Thread the steel rope across the two aluminum panels. It is recommended that two persons do this together. One person threads the rope from the top to the bottom, while the other threads it from the bottom to the top.



Step 4 Lock and tighten the rope above the spring tee. The bracket is installed successfully.



Step 5 Drill a cable hole on the ceiling in front of the mounting bracket.



Step 6 Route the cable and connect it to the corresponding port on the AP as required.



NOTE

If grounding is required, connect the ground cable to the position with the ground mark on the mounting bracket using the M3 ground screw delivered with the device. (The M3 OT terminal and ground cable need to be prepared separately.)

- Step 7** Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



- Step 8** Install the ceiling plate.

----End

2.2.5.3 Mounting on a Gypsum Board Ceiling

Context

In this mounting mode, a gypsum board ceiling for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the gypsum board ceiling must be greater than or equal to 5 kg.

Expansion screws are used for mounting APs on a paper gypsum board ceiling. Before installing an AP, select a proper installation position based on the structural features of the paper gypsum board ceiling. Then, select expansion screws of proper specifications based on the thickness of the gypsum board. The expansion screws need to be purchased by the customer as required.

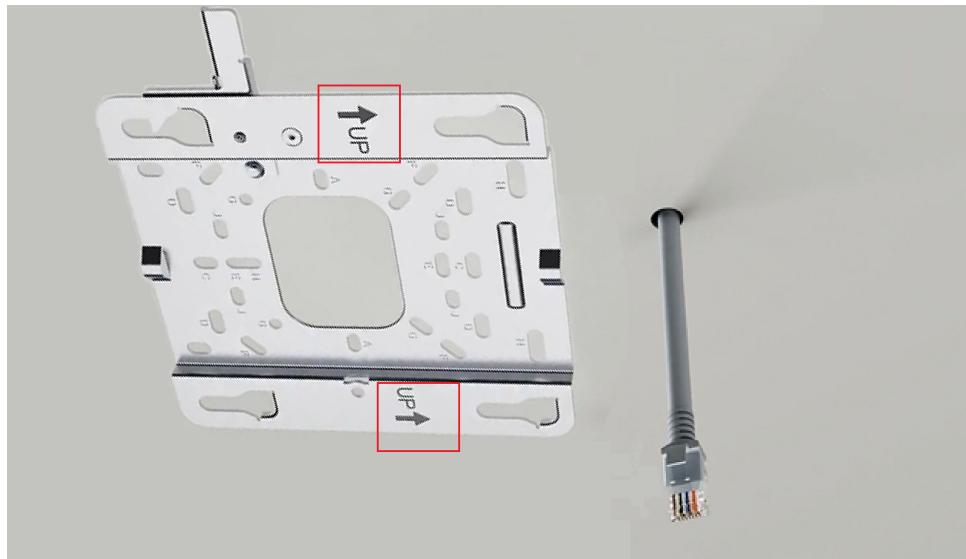
Screw (Delivered with the Device)	Quantity	Description
Expansion screw + expansion tube	3	Secures the mounting bracket to a gypsum board.

Procedure

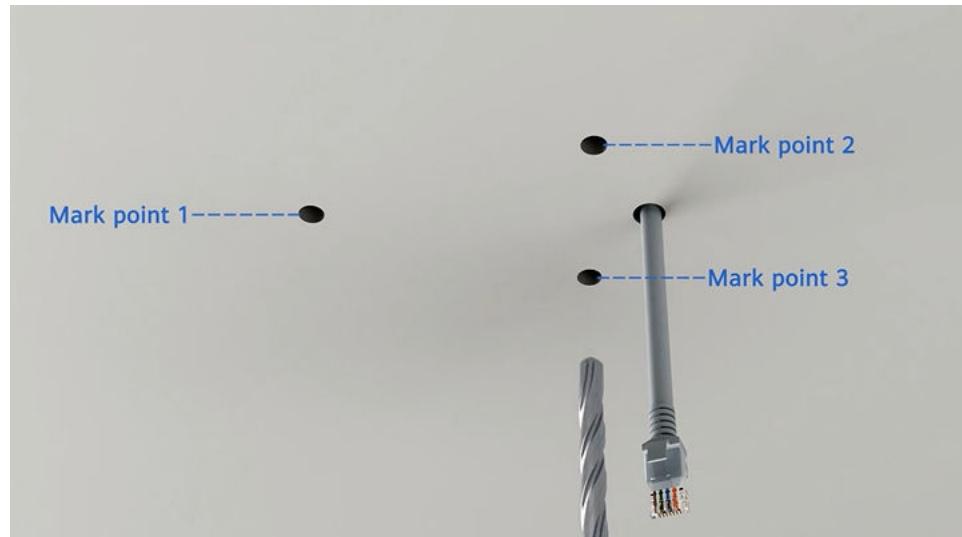
- Step 1** After determining a proper installation position, drill a hole on the gypsum board from the top to the bottom for the Ethernet cable to pass through. Determine where the AP will be mounted based on the position of this hole.



- Step 2** Ensure that the Ethernet cable hole is in front of the mounting bracket (The arrows on the mounting bracket point to the front end of the mounting bracket).



- Step 3** Mark the positions for drilling holes for expansion screws using a marker. The holes should correspond to group H holes on the mounting bracket. Drill holes on the ceiling upwards from bottom to top using a hand-held electric drill. Ensure that the hole diameters are not too large and just sufficient for the expansion screws of the selected model.



Step 4 Use a hollow wall anchor gun to fix the expansion screws to the paper gypsum board. Remove the screws from the expansion screws.



Step 5 Install the mounting bracket and install the ground cable (prepared separately) as required.



Step 6 Connect the cable to the corresponding port on the AP as required. Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes.



Step 7 When you hear a click sound from the release lever, the AP is properly installed.

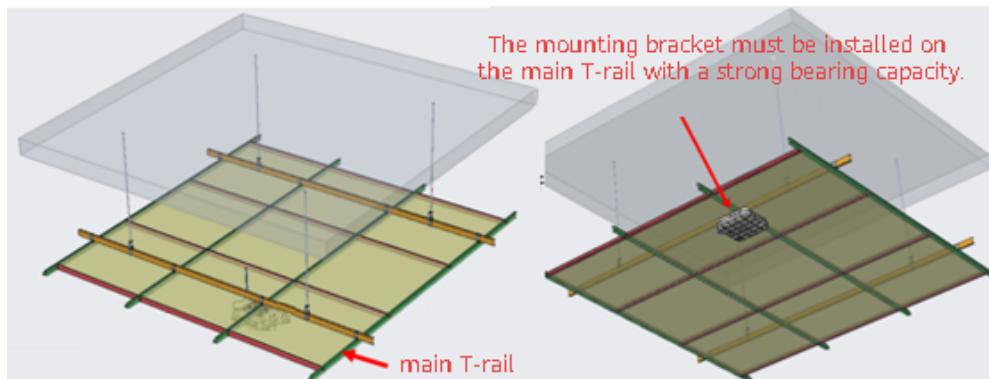


----End

2.2.5.4 T-Rail Mounting (Using Steel Wire Ropes)

Context

The mounting bracket must be installed on the main T-rail with a strong bearing capacity, which can bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the T-rail must be greater than or equal to 5 kg.

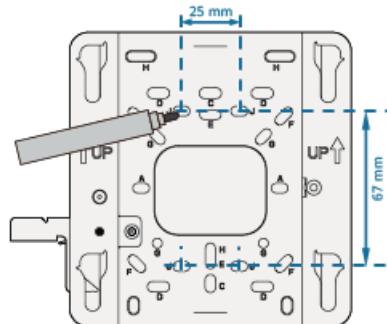


The following lists the materials required for installation.

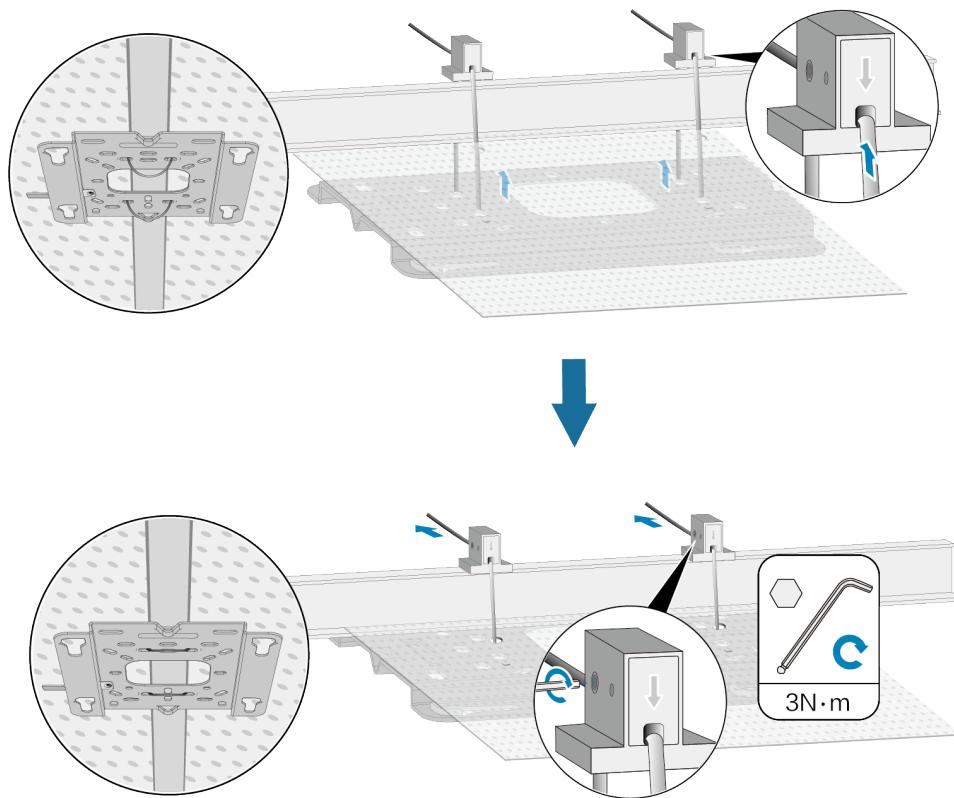
Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secure the mounting bracket to a T-rail.

Procedure

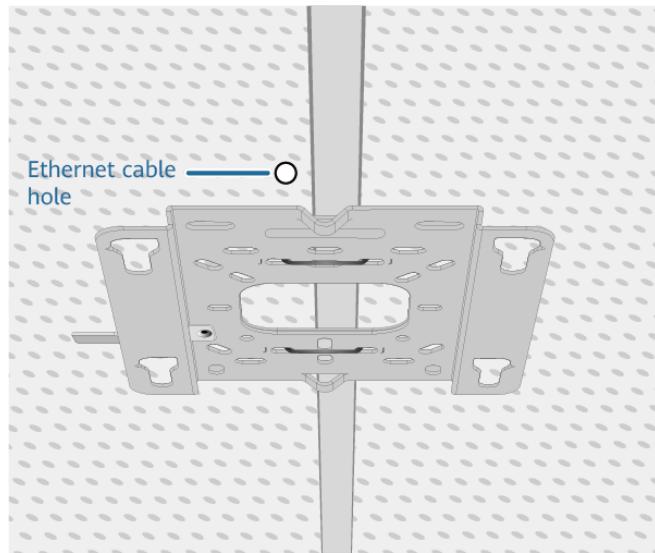
- Step 1** Attach the mounting bracket against the ceiling and adjust its position properly. Mark positions of the mounting holes (group J) with a marker, as shown in the following figure.



- Step 2** Use an electric drill to drill holes on the ceiling based on the marked positions. It is recommended that the hole diameter be greater than or equal to 3 mm.
- Step 3** Lead the steel wire ropes through the group J holes on the mounting bracket and the holes on the ceiling in sequence, tighten the ropes, and use a hex key to tighten the heads of ropes. The mounting bracket is secured to the ceiling.

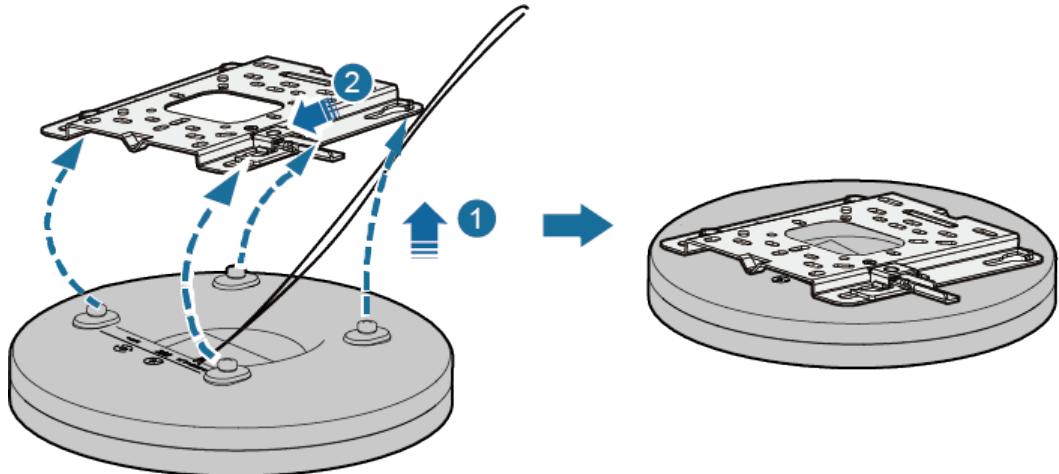


- Step 4** Drill a cable hole on the ceiling in front of the mounting bracket. Take cable protection measures for the cable hole.



Step 5 Connect cables to the AP. Arrange the cables and route them through the cable hole.

Step 6 Fasten the AP according to the figure. When you hear a click, the AP is secured to the lock position.



NOTE

After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.

----End

2.2.5.5 T-Rail Mounting (Using T-Rail Brackets)

Context

In this mounting mode, a T-rail for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the T-rail must be greater than or equal to 5 kg.

The following table lists the screws that may be used.

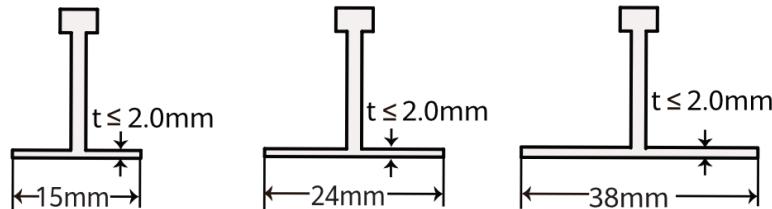
Screw (Delivered with the Device)	Quantity	Description
M3x6 screw	6	Four screws are used to secure the mounting bracket to T-rail brackets ST-F1 and ST-F2. Two screws are used to secure the T-rail brackets to the T-rail.

NOTE

In this scenario, only 7 mm mounting bracket B can be used.

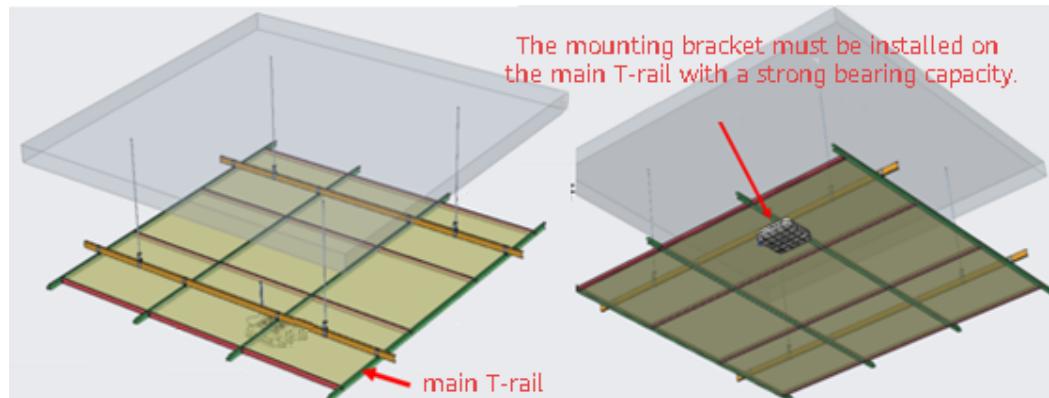
Procedure

- Step 1** Determine the model of the T-rail. The following figure shows the specifications of the T-rail supported by the mounting bracket. The following uses a flat-edge T-rail of 15 mm as an example.

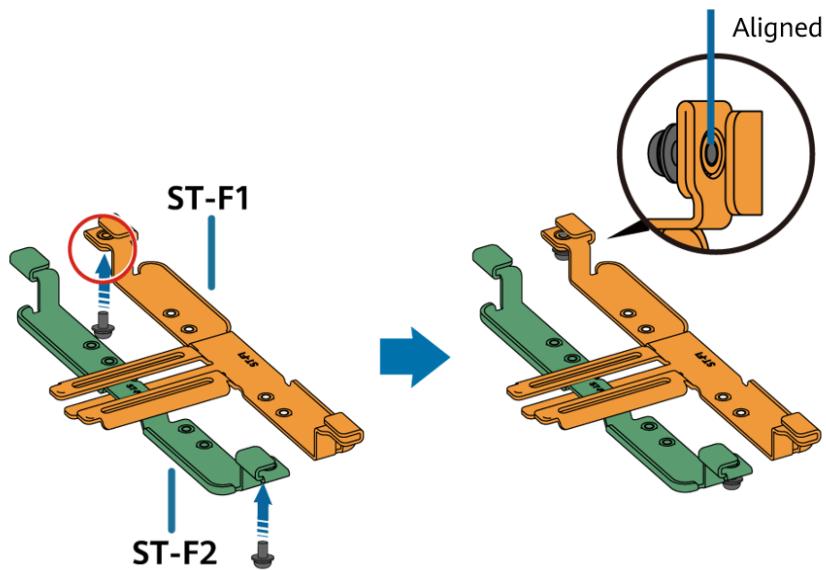


NOTE

The mounting bracket must be installed on the main T-bar.

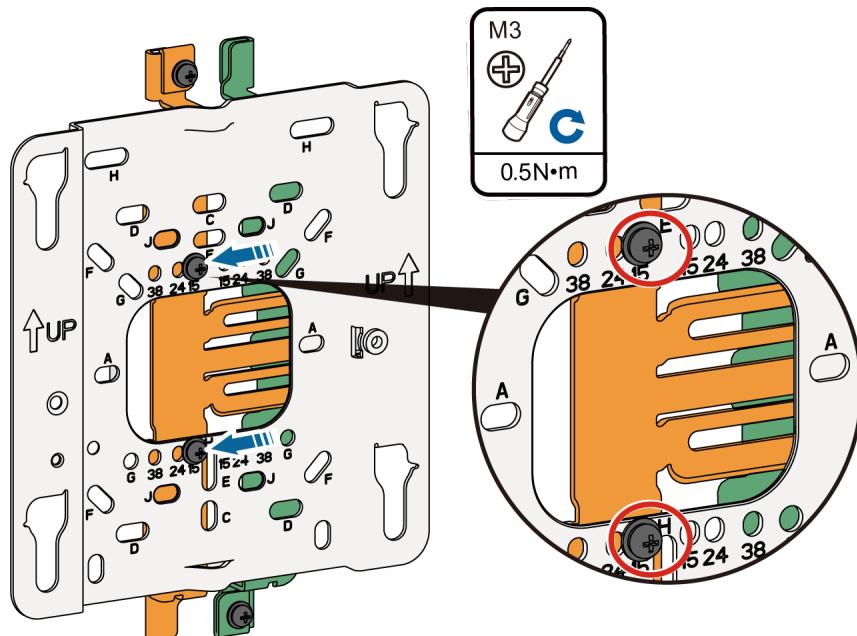


- Step 2** Partially tighten two M3x6 screws into T-rail brackets ST-F1 and ST-F2.

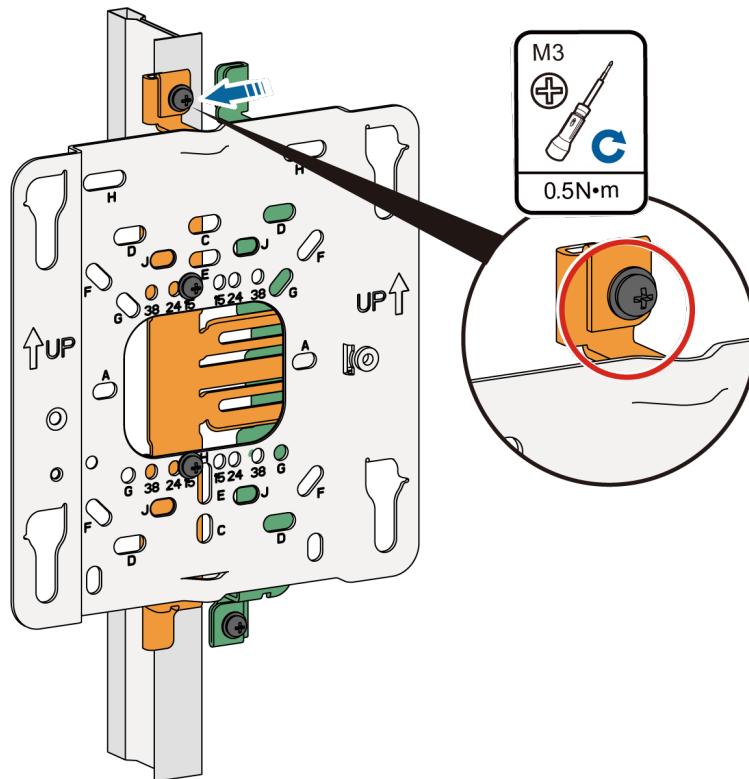


Step 3 Secure the M3x6 screws through holes 15 marked in the figure, and tighten T-rail bracket ST-F1 to the mounting bracket.

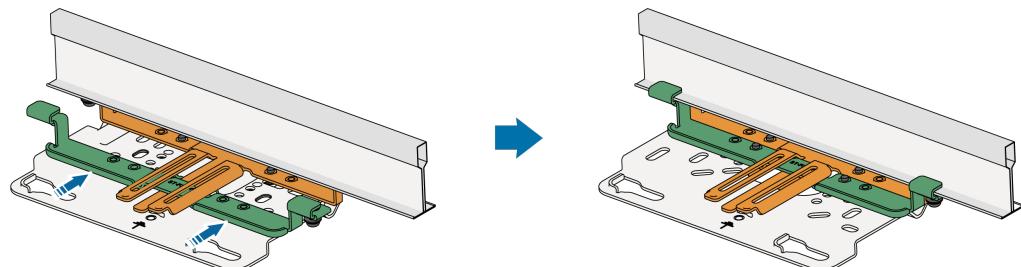
The T-rails of 24 mm and 38 mm correspond to holes 24 and 38 on the mounting bracket, respectively.



Step 4 Insert T-rail bracket ST-F1 into the T-rail, and tighten the M3x6 security screw to T-rail bracket ST-F1.

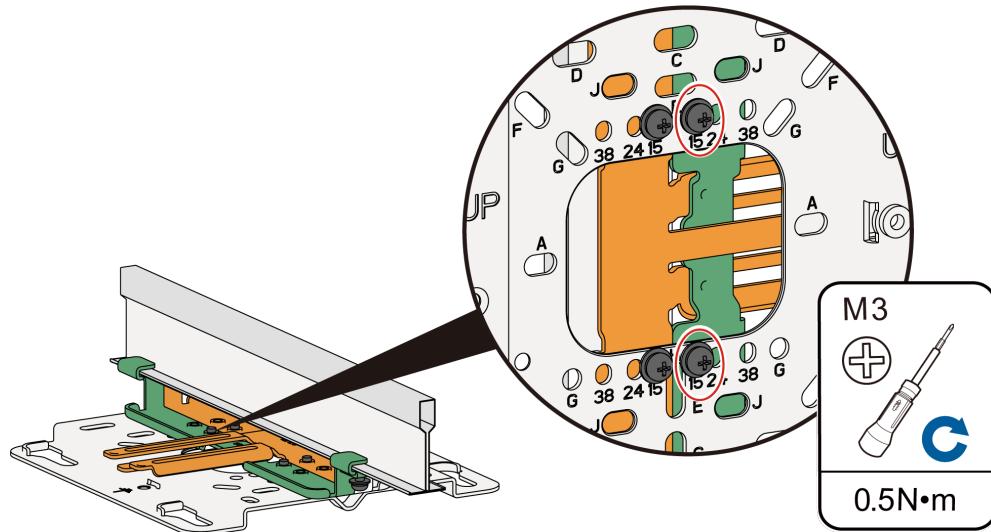


Step 5 Slide T-rail bracket ST-F2 inward until the T-rail is tightened.

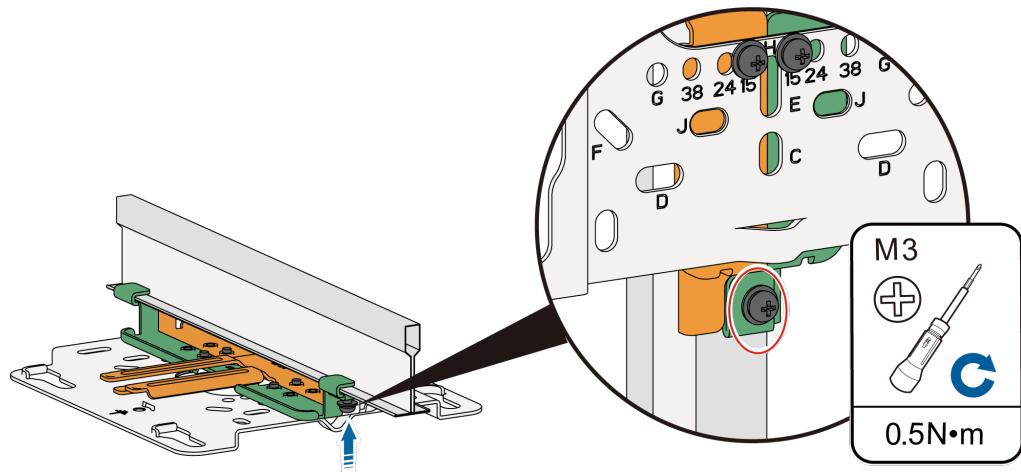


Step 6 Secure the M3x6 screws through holes 15 marked in the figure, and tighten T-rail bracket ST-F2 to the mounting bracket.

The T-rails of 24 mm and 38 mm correspond to holes 24 and 38 on the mounting bracket, respectively.



Step 7 Tighten the M3x6 security screw on T-rail bracket ST-F2.

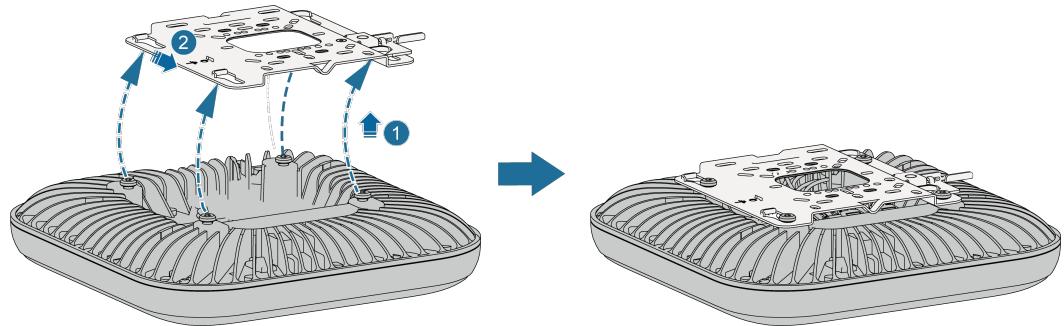


NOTE

- After the security screw is tightened, the mounting bracket may be deformed. This is normal and does not affect the AP use.
- Four screws are used to secure T-rail brackets to the AP mounting bracket, and two screws are used to secure the T-rail brackets to the T-rail. No missing screws are allowed.

Step 8 Connect cables to the AP.

Step 9 Align the four rubber feet at the rear of the AP with the installation holes on the mounting bracket, and fasten the AP, as shown in the figure. When you hear a click, the AP is secured to the lock position.



----End

NOTE

After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.

2.2.5.6 Beam Mounting

Background

In scenarios such as airports, stations, and factories, steel structures are typically used. In these scenarios, APs can be mounted on the steel beams beneath a building's roof.

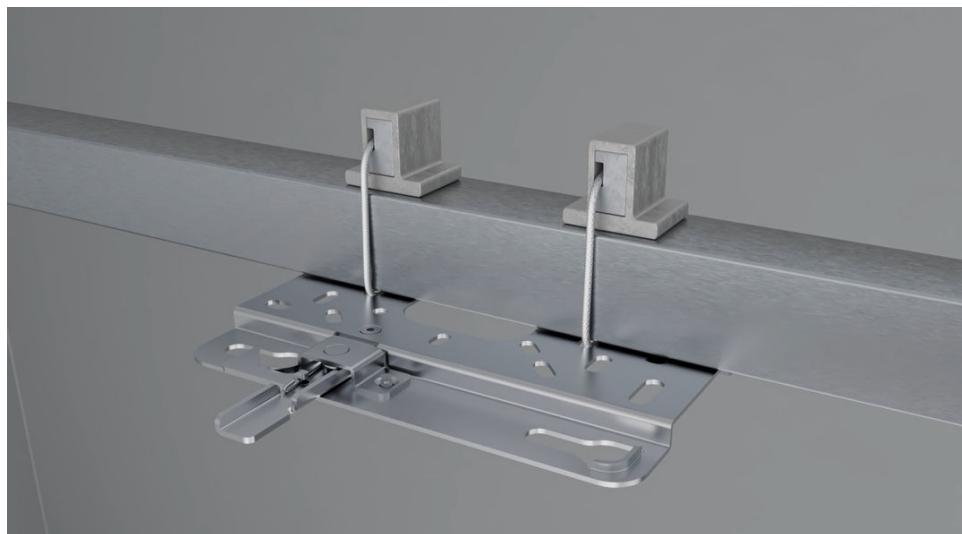
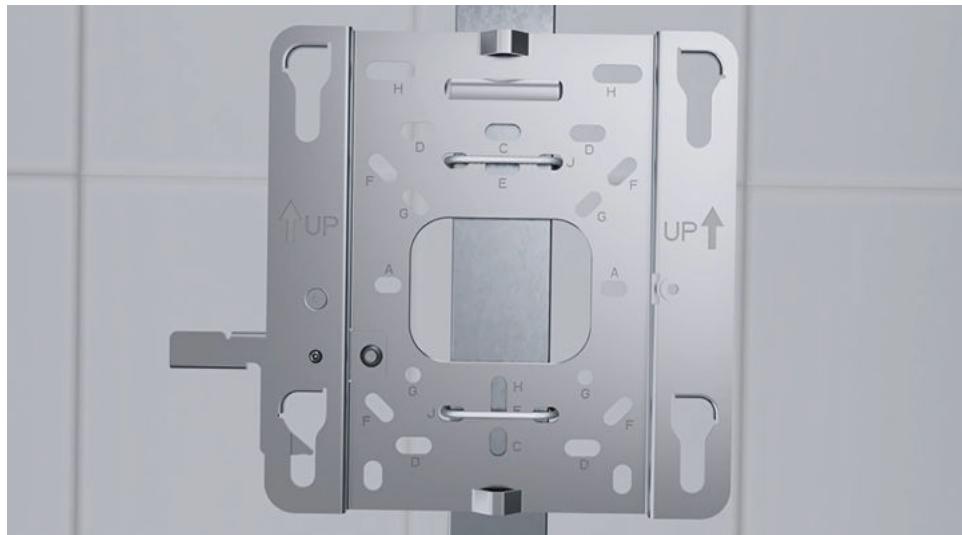
In this mounting mode, a beam for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the beam must be greater than or equal to 5 kg.

The following lists the materials required for installation.

Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures the mounting bracket to a beam.

Procedure

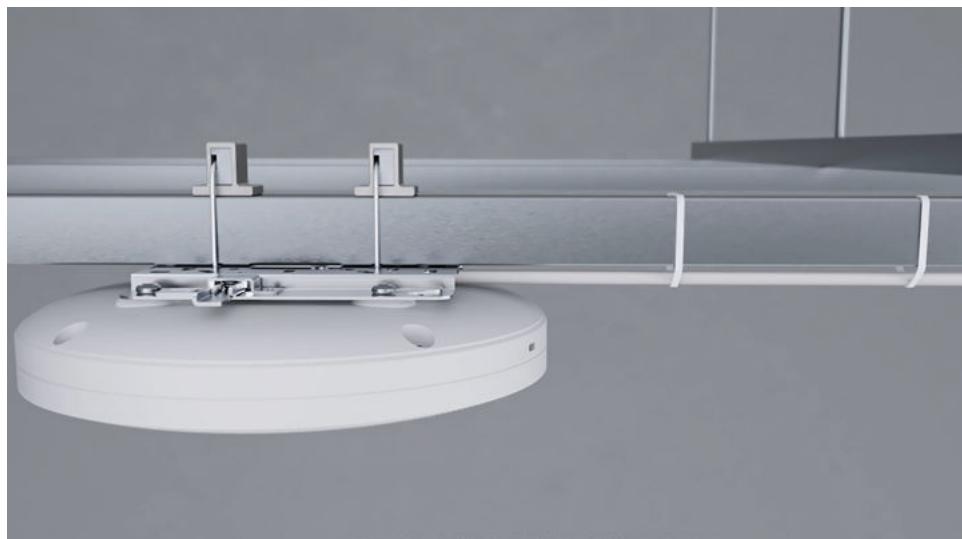
- Step 1** Fix the mounting bracket on the beam by using two steel ropes. The group J holes are recommended. Tighten the steel ropes.



- Step 2** Use the M3 screw delivered with the device to connect the equipotential cable at the rear of the mounting bracket to the ground bar. (The OT terminal needs to be prepared separately).
- Step 3** Connect the cable to the corresponding port on the AP as required. Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



Step 4 Bundle the cable on the beam by using plastic ties to keep it orderly.



----End

2.2.5.7 Junction Box Mounting

Background

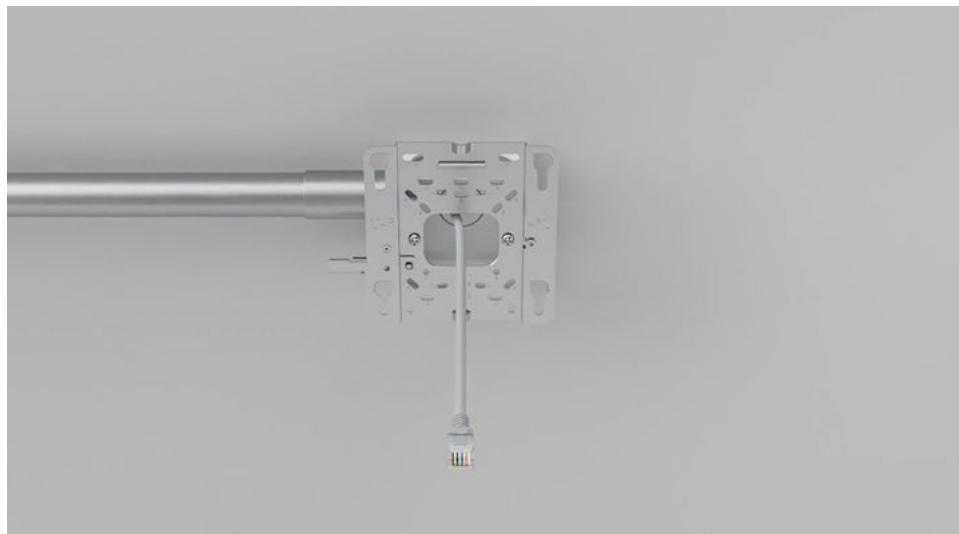
An electric junction box is used for embedding cables in electrical engineering. Electric junction boxes are offered in 86 mm, 118 mm, 120 mm, and octagonal dimensions. The following uses an 86 mm junction box as an example to describe how to mount an AP on a standard junction box.

In this mounting mode, a junction box for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the junction box must be greater than or equal to 5 kg.

Screw	Quantity	Description
Screws (purchased as required)	3	Secures the mounting bracket to a junction box.

Procedure

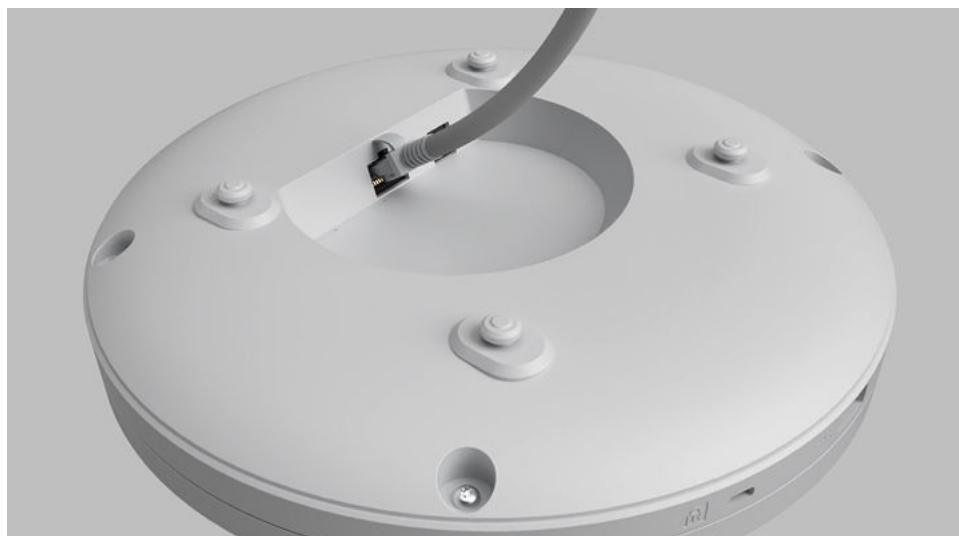
- Step 1** Deploy the Ethernet cable and junction box in advance. Thread the Ethernet cable through the oval cable hole on the mounting bracket. Secure the mounting bracket on the junction box with screws.



NOTE

The junction box type determines which mounting holes on the bracket. Group A holes are used for mounting an AP on the 86 mm junction box.

- Step 2** Connect the cable to the corresponding port on the AP as required.



- Step 3** Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



----End

2.2.5.8 Threaded Rod Mounting on a Ceiling

Background

Some scenarios do not have suspended ceilings, such as warehouse supermarkets, factory buildings, and garages. Various metal pipes for fire protection, ventilation, and wiring are densely deployed beneath the building top. These metal pipes block AP signals. As such, threaded rod mounting is recommended.

In this mounting mode, a threaded rod for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the threaded rod must be greater than or equal to 5 kg.

Materials (Prepared by the Customer)	Quantity	Description
Ω-shaped support (part number: 21244035, including captive screws)	1	Secures the mounting bracket to a thread rod.

Prerequisites

The optional mounting bracket (part number: 21244035) can be installed on a threaded rod (diameter: 8 mm). The threaded rod and related nuts need to be purchased by the customer.

Before the installation, ensure that the network cable has been deployed at a proper position and the threaded rod cut to the required length has been installed on the concrete ceiling where the cable ends.



Procedure

- Step 1** Secure the Ω -shaped fixing bracket to the mounting bracket, install the mounting bracket to the end of the threaded rod, and tighten the screw.



- Step 2** Install the ground cable as required.

- Step 3** Connect the cable to the corresponding port on the AP as required.



Step 4 Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



Step 5 Bundle the cable on the beam by using plastic ties to keep it orderly.



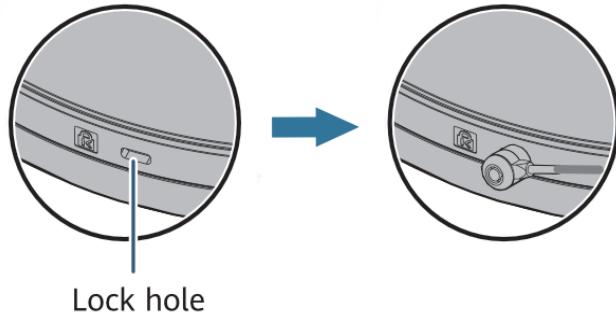
----End

2.2.5.9 Anti-Theft and Removal

Anti-Theft Lock Mode

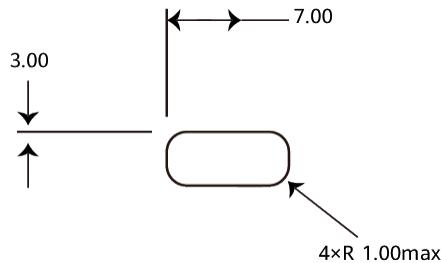
There is a security slot on the device. You can lock the device to an immovable object to prevent theft. The detailed procedure is as follows:

1. Fasten the cable of the security lock to an immovable object around.
2. Insert the security lock into the security slot and lock it.



NOTE

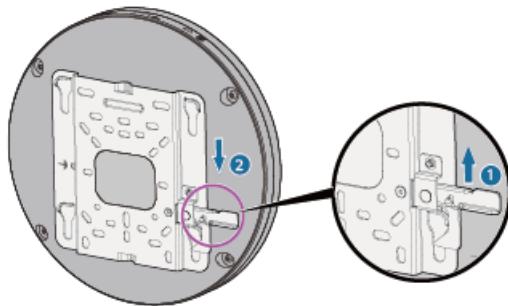
You need to purchase the security lock separately. The security slot is 7 mm long and 3 mm wide. The maximum radius of its four round corners is 1 mm.



Removing an AP

Hold the AP tightly, push the release lever on the mounting bracket upwards using a screwdriver, and slide the AP downwards to unlock the AP.

Figure 2-144 Removing an AP



NOTE

When removing an AP, do not pull out the AP directly. Otherwise, the device may fall down, or the cables and connectors may be damaged.

2.2.6 Installing an AP (With a Small Mounting Bracket)

This section describes how to install an AP using a small mounting bracket.

2.2.6.1 Solid Wall Mounting

Context

A wall for installing the device needs to meet the following requirements:

- The wall can bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the wall must be greater than or equal to 5 kg.
- When the tightening torque of a screw reaches 3.5 N·m, the screw still properly works, without crack or damage on the wall.

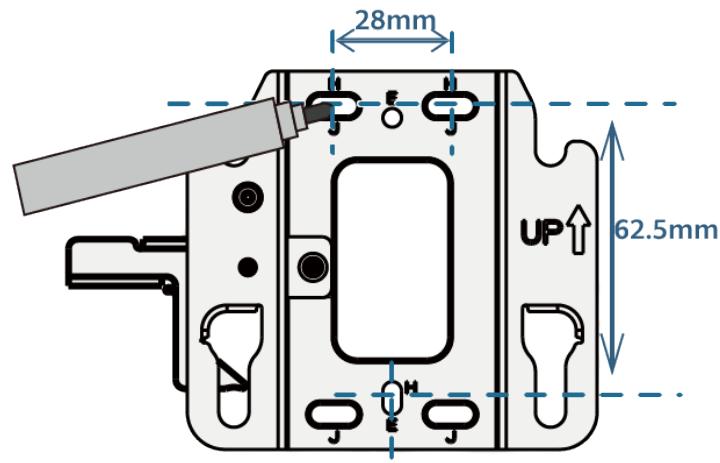
The following table lists the screws to be used.

Screw (Delivered with the Device)	Quantity	Description
ST3.5 expansion screw + expansion tube	3	Secures a mounting bracket to the wall.

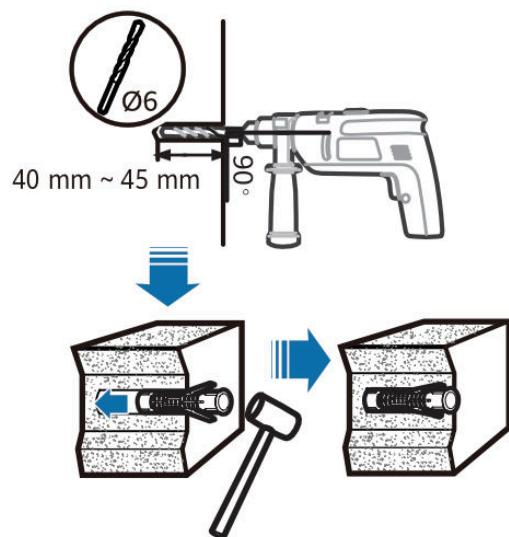
Procedure

When fixing the mounting bracket, ensure that the arrows of point upwards.

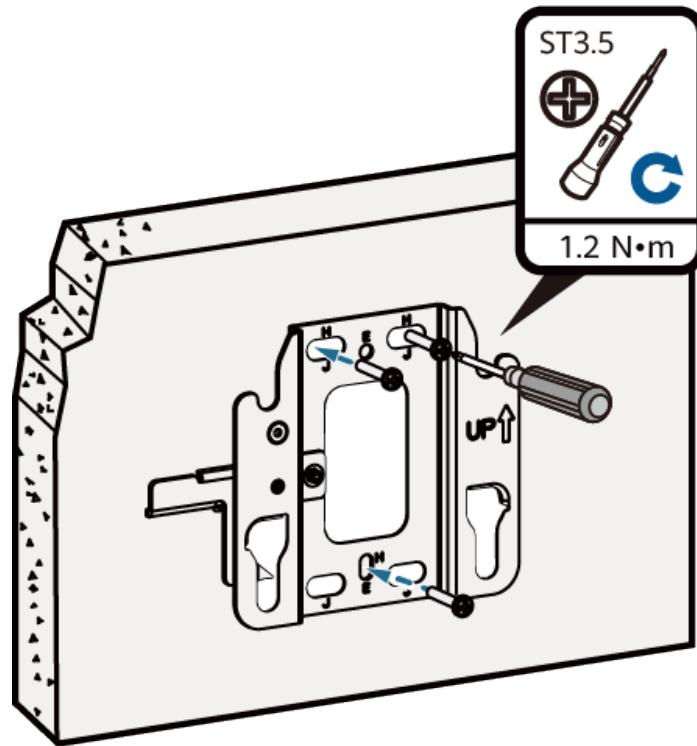
- Step 1** Attach the mounting bracket against the wall and adjust its position properly. Mark positions of the mounting holes (group H) with a marker, as shown in the following figure.



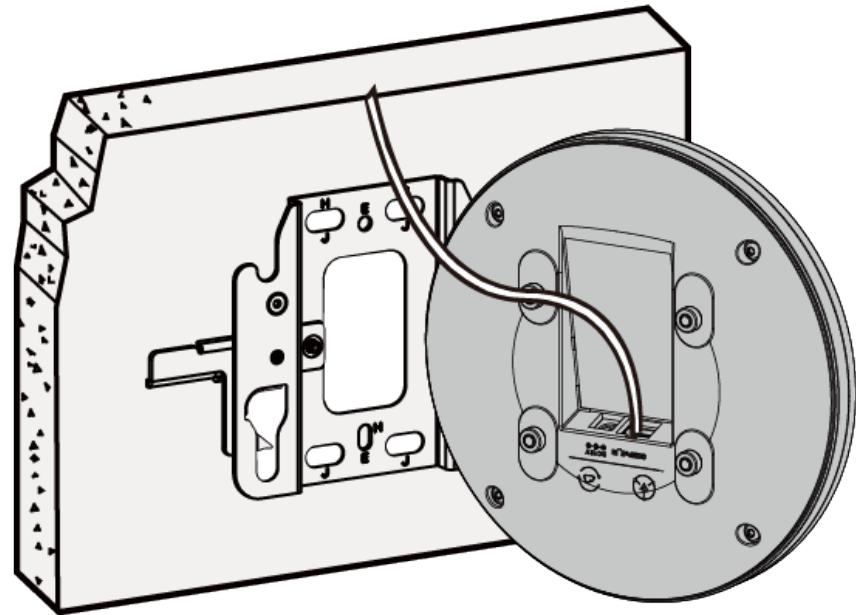
- Step 2** Use a 6 mm drill bit to drill 40 mm to 45 mm deep holes in the marked positions. Hammer the expansion tubes into the holes until the expansion tubes are flush with the wall.



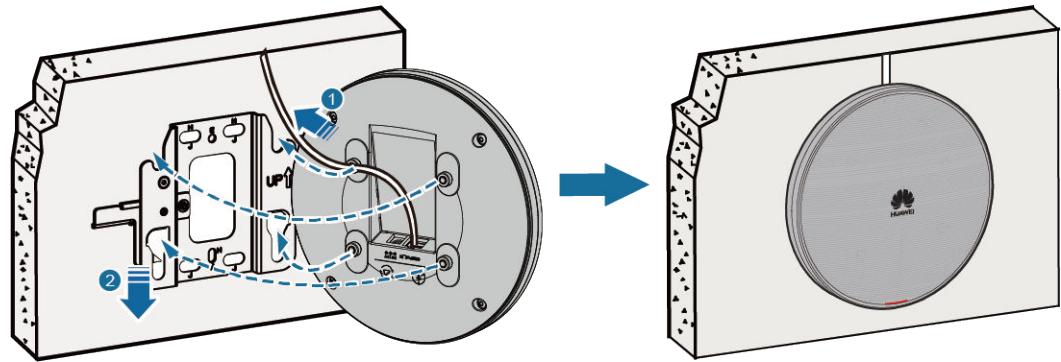
- Step 3** Fix the mounting bracket to the wall and use the Phillips screwdriver to fasten three expansion screws into the expansion tubes.



Step 4 Connect and properly sort cables.



Step 5 Fasten the AP according to the figure. When you hear a click, the AP is secured to the lock position.



 **NOTE**

After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.

----End

2.2.6.2 Mounting on a Spring Tee Ceiling

Background

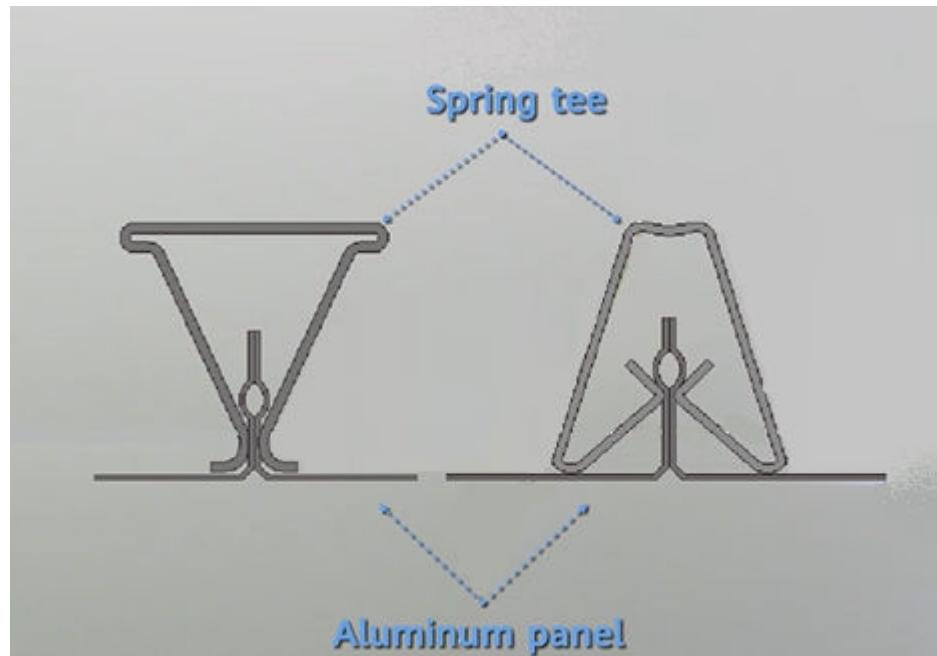
Spring tees are concealed within a ceiling and show only evenly distributed grid-shaped tiles seen from the bottom. This type of ceiling is made of aluminum panels, which do not have good load-bearing capacity. Therefore, APs cannot be directly fixed on such ceilings.

In this mounting mode, a spring tee for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the spring tee must be greater than or equal to 5 kg.

The following lists the materials required for installation.

Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures the mounting bracket to a spring tee.

Figure 2-145 Two typical structures of spring tee ceilings

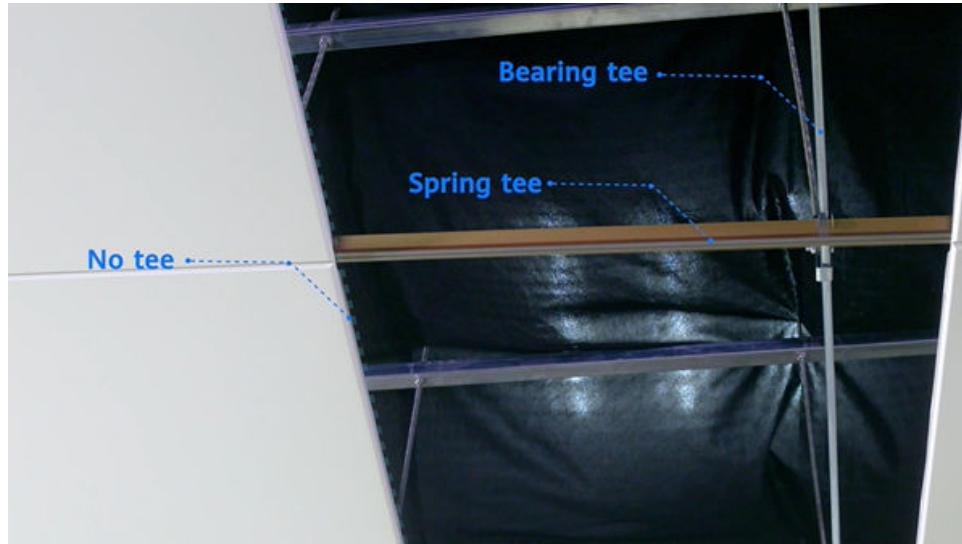


Prerequisites

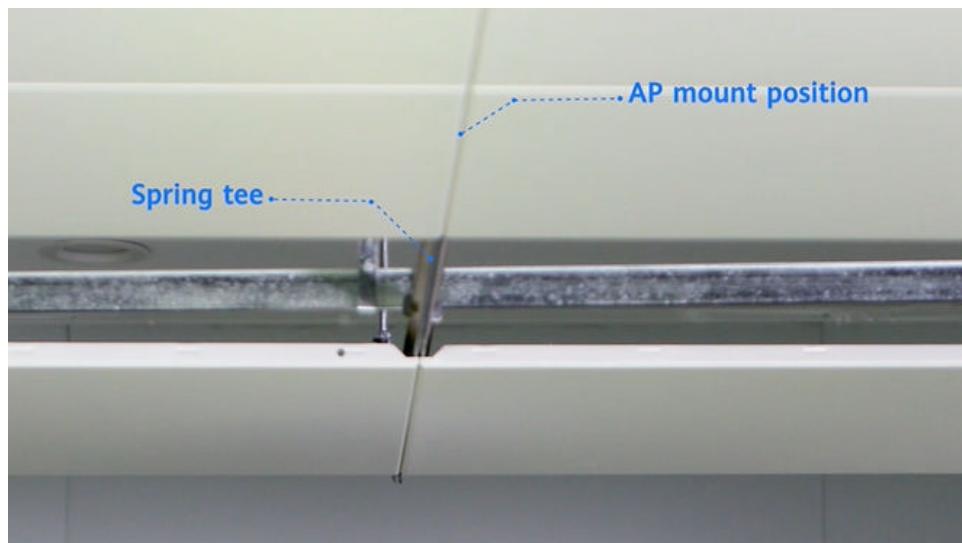
When installing an AP on a spring tee ceiling, it is recommended that self-locking steel ropes be used to mount the AP on spring tees. The steel ropes should pass through the aluminum panel and bind the AP. Before installing the AP, determine the position of the spring tee.



Remove one or two aluminum panels. The rails that clamp the two sides of the aluminum panel are the spring tees. Spring tees are distributed in parallel and in the same direction. They are not vertical to each other.



Therefore, the AP can only be mounted at the joint point between two aluminum panels where the spring tees are distributed, as shown in the following figure.

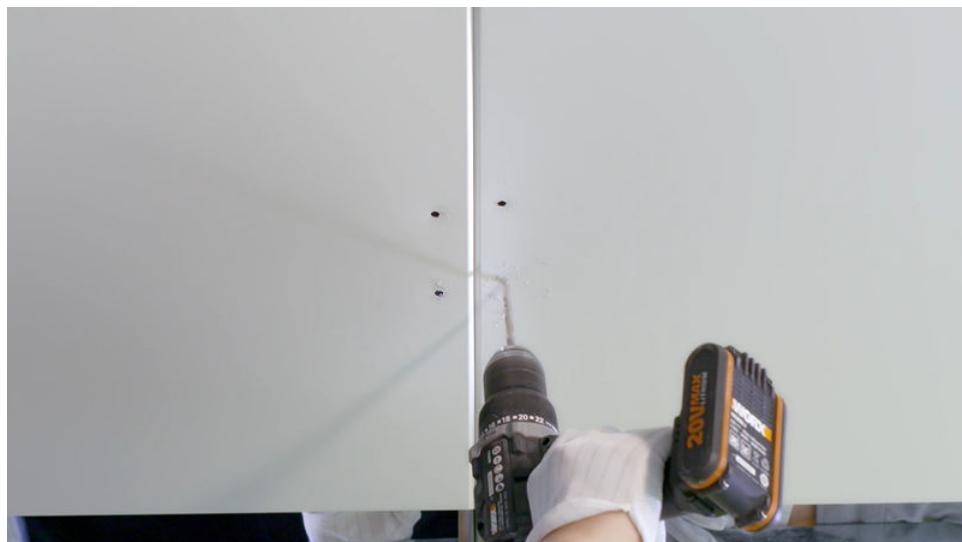


Procedure

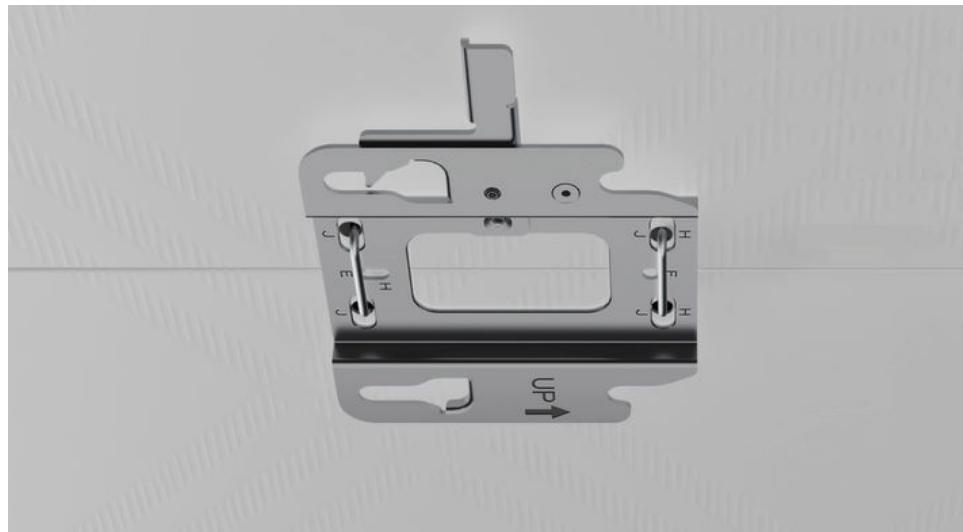
- Step 1** Before the installation, mark the mounting hole positions on the two sides of the joint point with a marker. Group J holes on the mounting bracket are recommended.



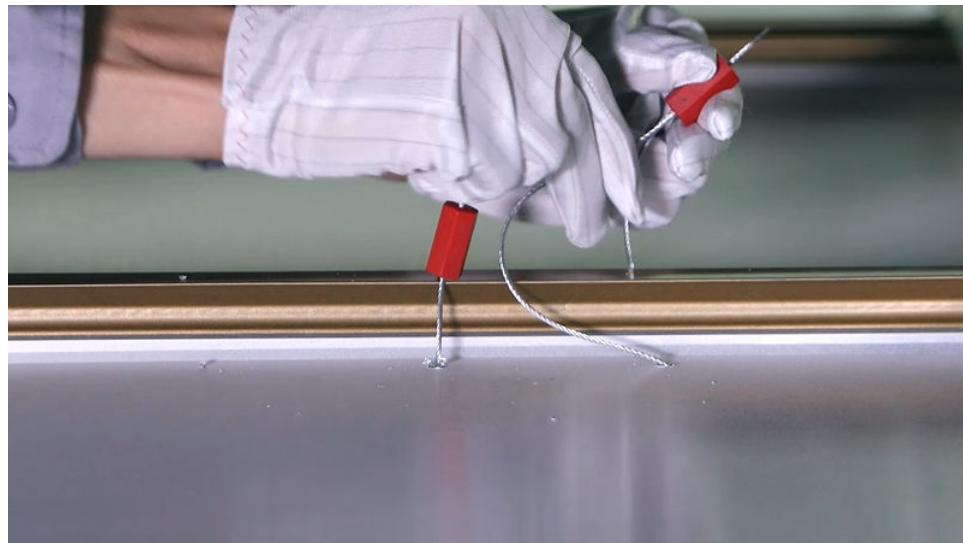
Step 2 Drill holes on the aluminum panels based on the marks. The diameters of holes should be slightly larger than those of steel wire ropes.



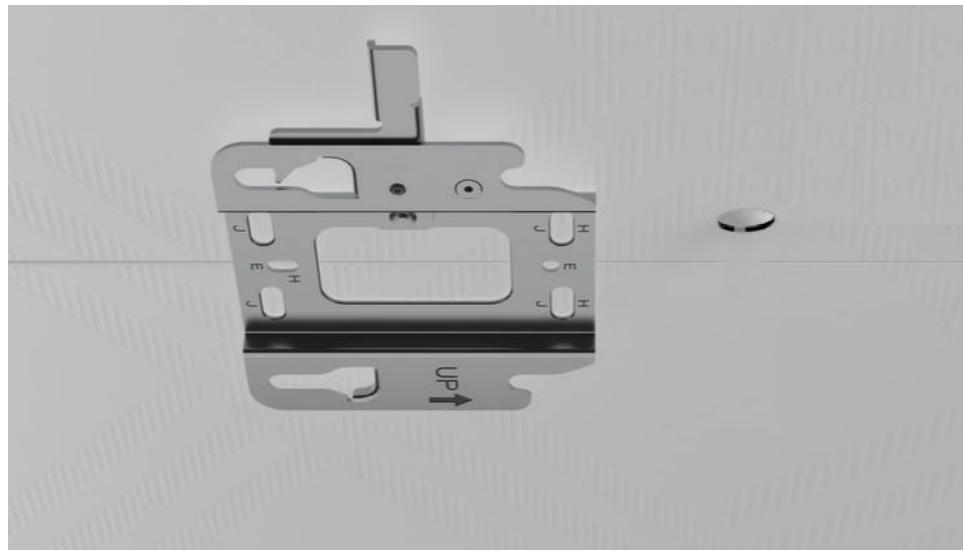
Step 3 Thread the steel rope across the two aluminum panels. It is recommended that two persons do this together. One person threads the rope from the top to the bottom, while the other threads it from the bottom to the top.



Step 4 Lock and tighten the rope above the spring tee. The bracket is installed successfully.



Step 5 Drill a cable hole on the ceiling in front of the mounting bracket.



Step 6 Route the cable and connect it to the corresponding port on the AP as required.



Step 7 Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



Step 8 Install the ceiling plate.

----End

2.2.6.3 Mounting on a Gypsum Board Ceiling

Background

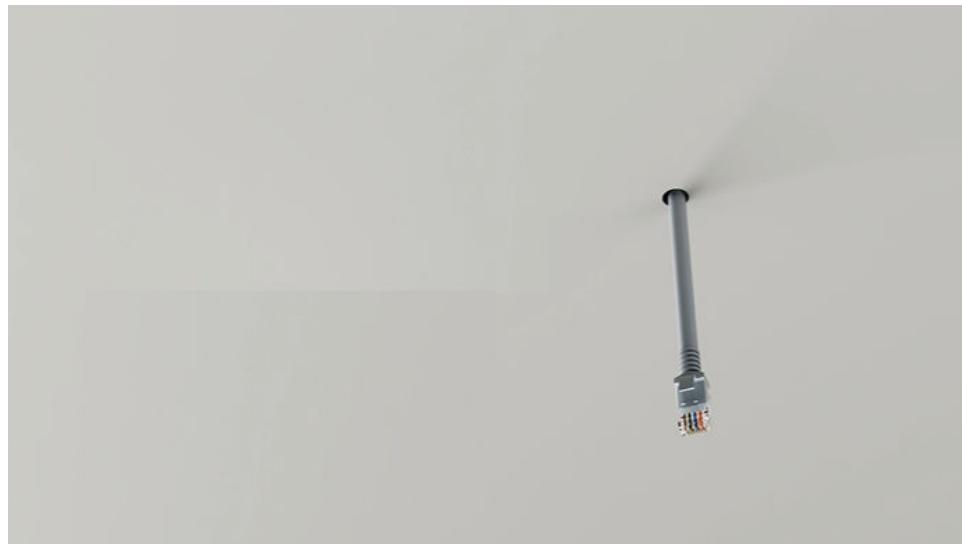
In this mounting mode, a gypsum board ceiling for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the gypsum board ceiling must be greater than or equal to 5 kg.

Expansion screws are used for mounting APs on a paper gypsum board ceiling. Before installing an AP, select a proper installation position based on the structural features of the paper gypsum board ceiling. Then, select expansion screws of proper specifications based on the thickness of the gypsum board. The expansion screws need to be purchased by the customer as required.

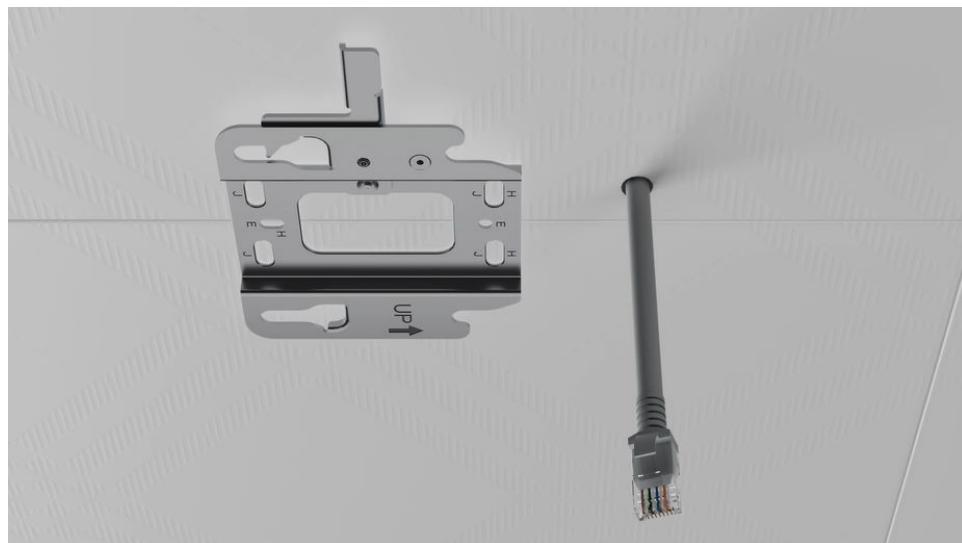
Screw (Delivered with the Device)	Quantity	Description
Expansion screw + expansion tube	3	Secures the mounting bracket to the wall.

Procedure

Step 1 After determining a proper installation position, drill a hole on the gypsum board from the top to the bottom for the Ethernet cable to pass through. Determine where the AP will be mounted based on the position of this hole.



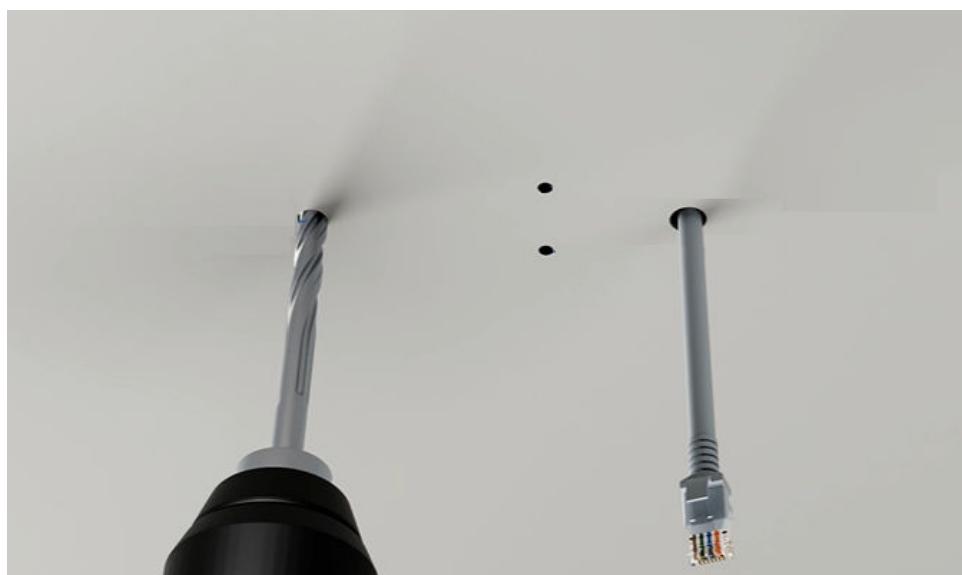
Step 2 Ensure that the Ethernet cable hole is in front of the mounting bracket (The arrows on the mounting bracket point to the front end of the mounting bracket).



Step 3 Mark the positions for drilling holes for expansion screws using a marker. The holes should correspond to group H holes on the mounting bracket.



Step 4 Drill holes on the ceiling upwards from bottom to top using a hand-held electric drill. Ensure that the hole diameters are not too large and just sufficient for the expansion screws of the selected model.



Step 5 Use a hollow wall anchor gun to fix the expansion screws to the paper gypsum board. Remove the screws from the expansion screws.



Step 6 Install the mounting bracket.



Step 7 Connect the cable to the corresponding port on the AP as required.



Step 8 Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes.



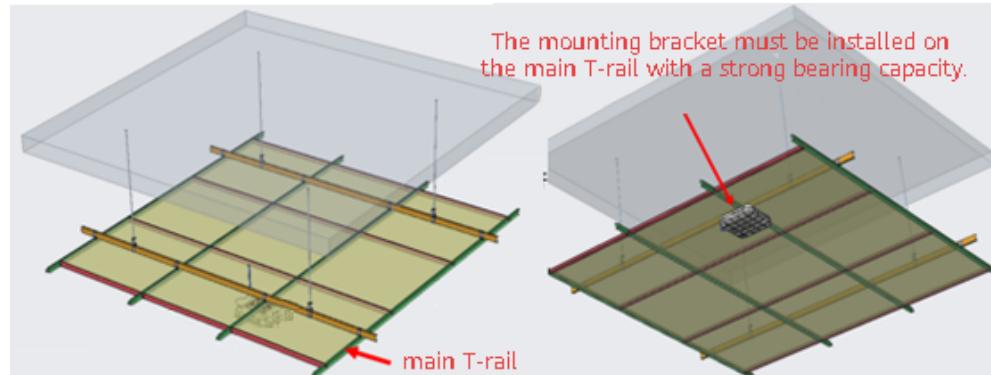
Step 9 When you hear a click sound from the release lever, the AP is properly installed.

----End

2.2.6.4 T-Rail Mounting (Using Steel Wire Ropes)

Context

The mounting bracket must be installed on the main T-rail with a strong bearing capacity, which can bear the weight of four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the T-rail must be greater than or equal to 5 kg.

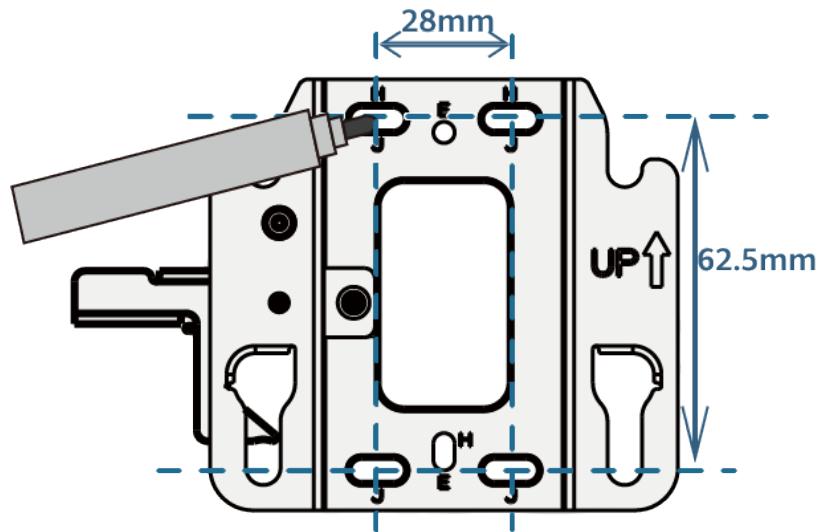


The following lists the materials required for installation.

Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secure the mounting bracket to a T-rail.

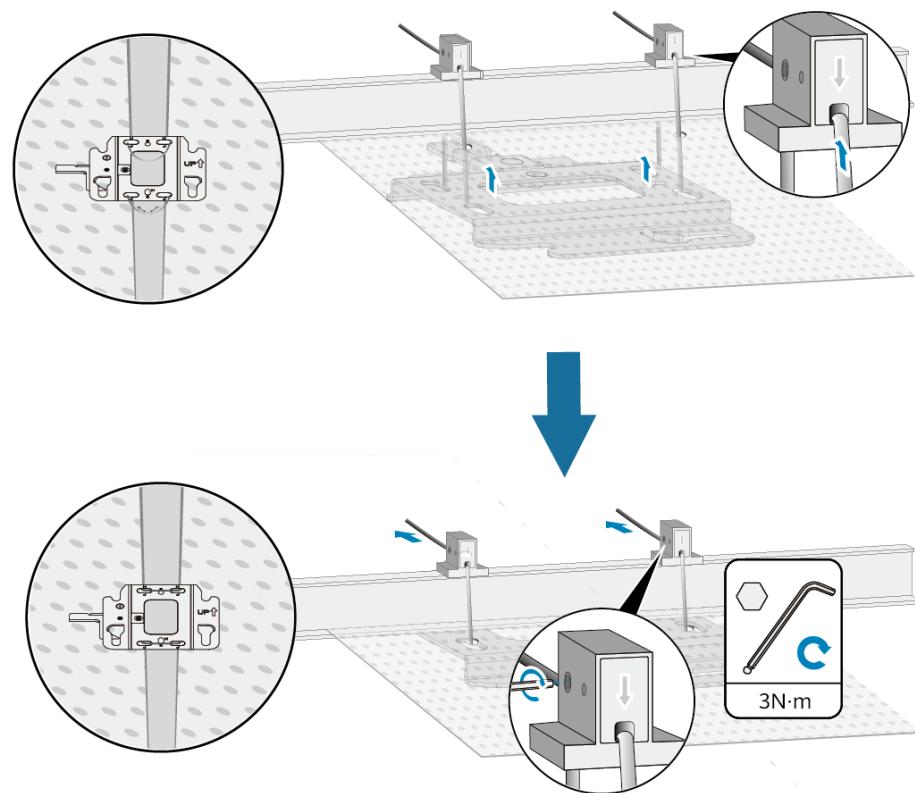
Procedure

- Step 1** Attach the mounting bracket against the ceiling and adjust its position properly. Mark positions of the mounting holes (group J) with a marker, as shown in the following figure.



- Step 2** Use an electric drill (with a 3 mm drill bit) to drill holes on the ceiling based on the marked positions. It is recommended that the hole diameter be greater than or equal to 3 mm.

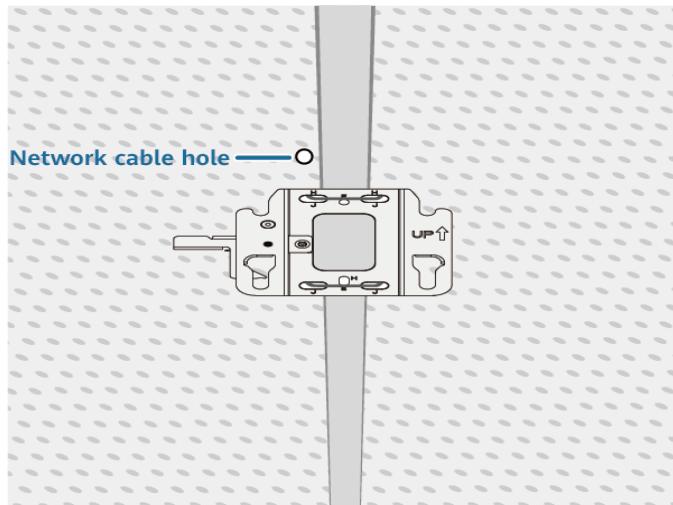
- Step 3** Lead the steel wire ropes through the clips fixed on the rail or beam, holes on the ceiling, and group J holes on the mounting bracket in sequence from one side, and lead the ropes back in the opposite direction. Tighten the ropes, and use a hex key to tighten the clips. The mounting bracket is secured to the ceiling.



NOTE

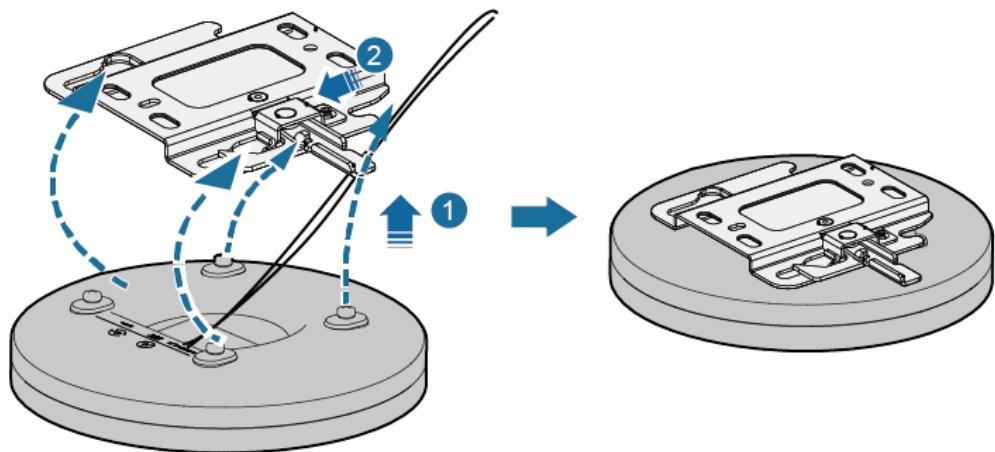
The steel wire rope set needs to be purchased separately.

- Step 4** Drill a network cable hole at a proper position on the ceiling in front of the mounting bracket. Take protection measures for cables threading the hole.



- Step 5** Connect cables to the AP. Arrange the cables and route them through the cable hole.

- Step 6** Fasten the AP according to the figure. When you hear a click, the AP is secured to the lock position.



NOTE

After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.

----End

2.2.6.5 T-Rail Mounting (Using T-Rail Brackets)

Context

In this mounting mode, a T-rail for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the T-rail must be greater than or equal to 5 kg.

The following table lists the screws that may be used.

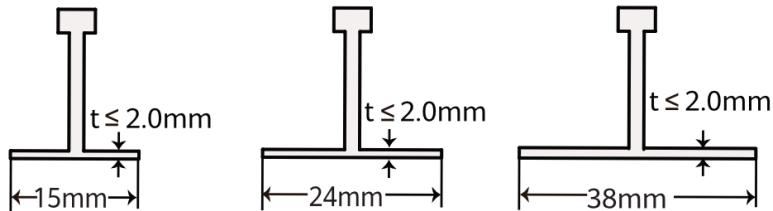
Screw (Delivered with the Device)	Quantity	Description
M3x6 screw	6	Four screws are used to secure the mounting bracket to T-rail brackets ST-F1 and ST-F2. Two screws are used to secure the T-rail brackets to the T-rail.

NOTE

In this scenario, only small mounting bracket B can be used.

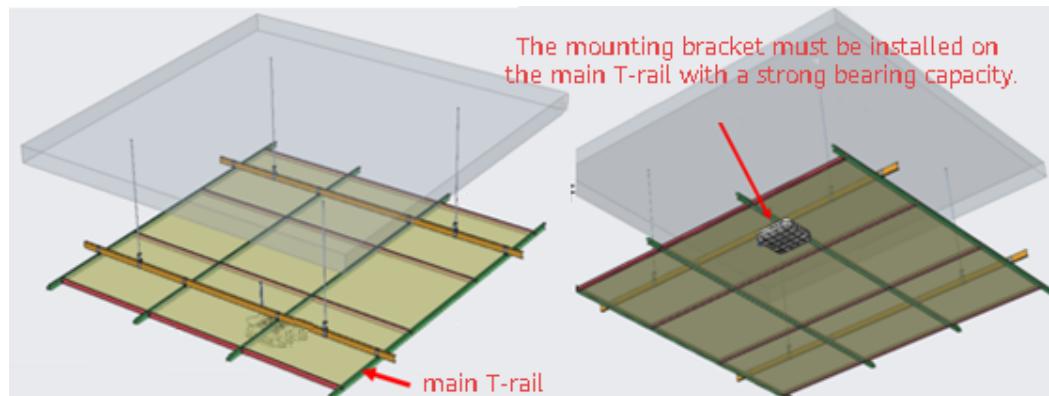
Procedure

Step 1 Determine the model of the T-rail. The following figure shows the specifications of the T-rail supported by the mounting bracket. The following uses a flat-edge T-rail of 15 mm as an example.

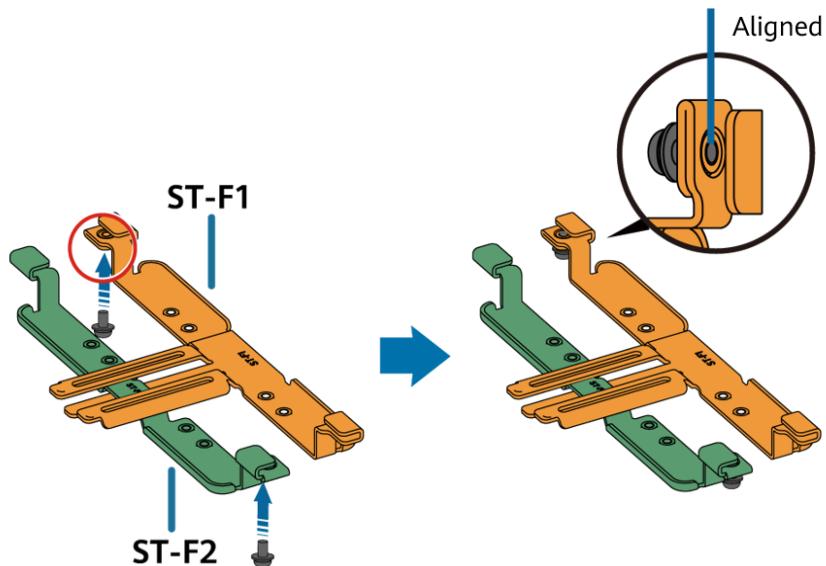


NOTE

The mounting bracket must be installed on the main T-bar.

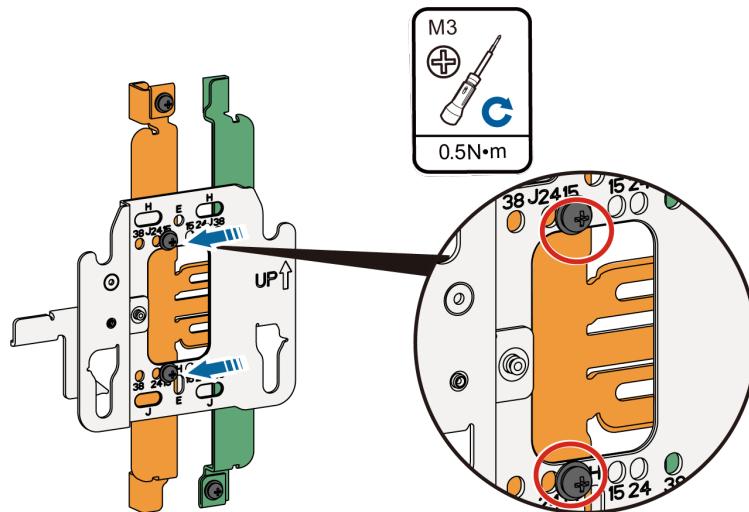


Step 2 Partially tighten two M3x6 screws into T-rail brackets ST-F1 and ST-F2.

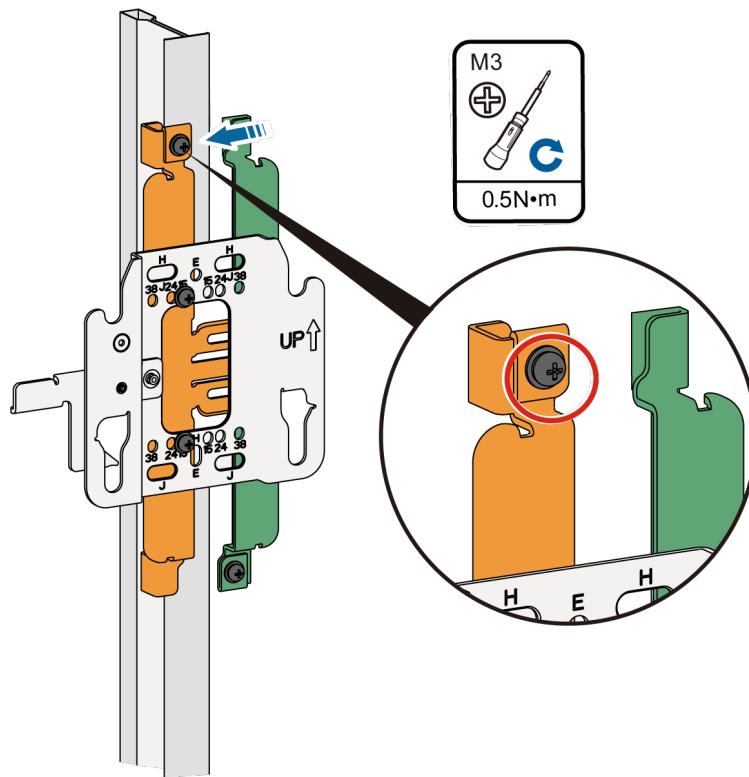


Step 3 Secure the M3x6 screws through holes 15 marked in the figure, and tighten T-rail bracket ST-F1 to the mounting bracket.

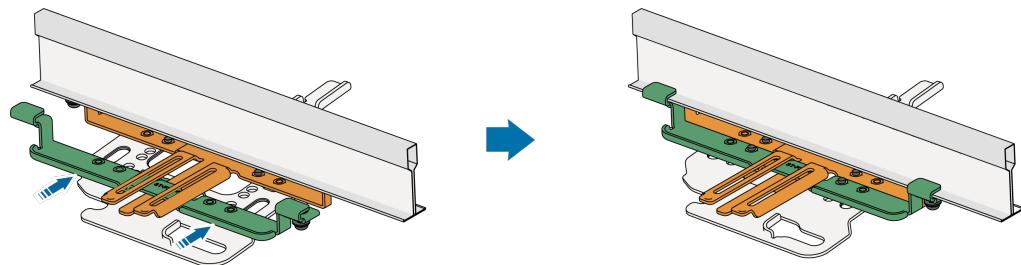
The T-rails of 24 mm and 38 mm correspond to holes 24 and 38 on the mounting bracket, respectively.



Step 4 Insert T-rail bracket ST-F1 into the T-rail, and tighten the M3x6 security screw to T-rail bracket ST-F1.

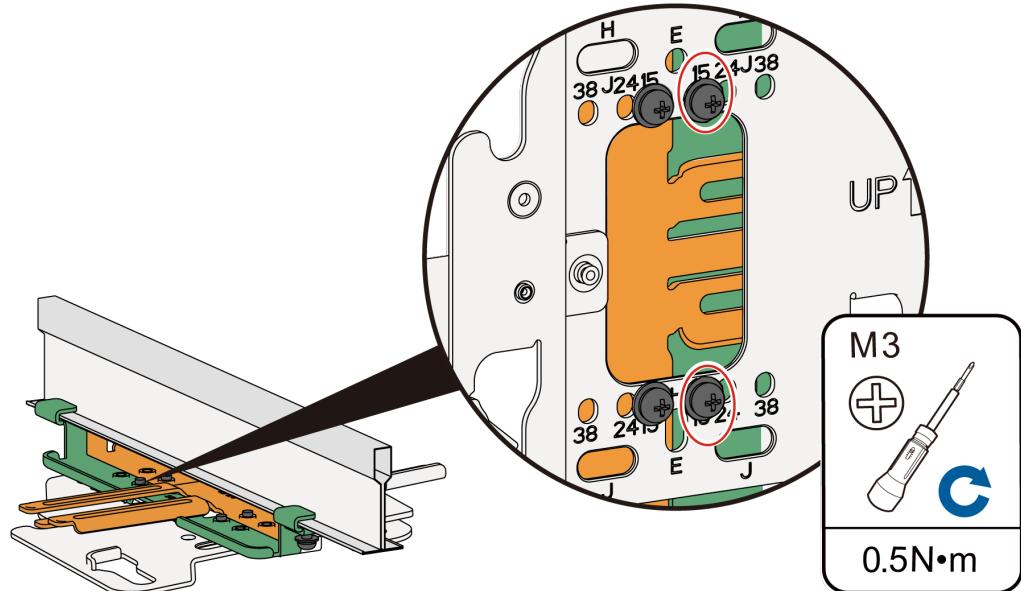


Step 5 Slide T-rail bracket ST-F2 inward until the T-rail is tightened.

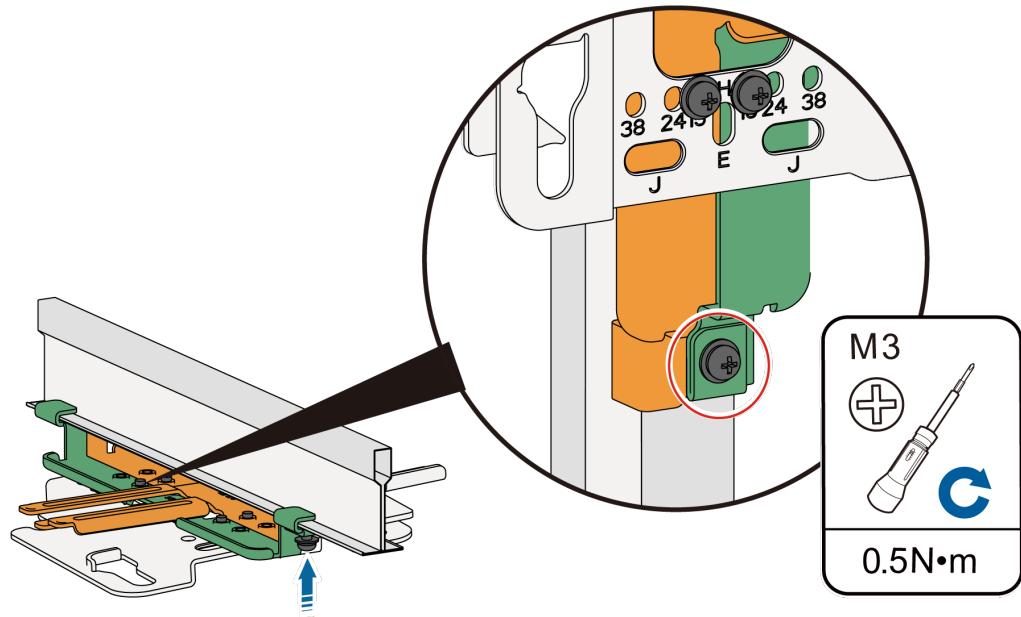


Step 6 Secure the M3x6 screws through holes 15 marked in the figure, and tighten T-rail bracket ST-F2 to the mounting bracket.

The T-rails of 24 mm and 38 mm correspond to holes 24 and 38 on the mounting bracket, respectively.



Step 7 Tighten the M3x6 security screw on T-rail bracket ST-F2.

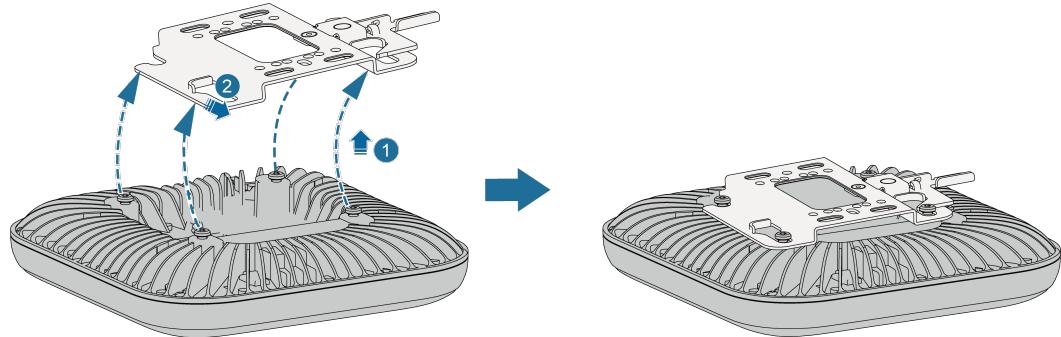


NOTE

- After the security screw is tightened, the mounting bracket may be deformed. This is normal and does not affect the AP use.
- Four screws are used to secure T-rail brackets to the AP mounting bracket, and two screws are used to secure the T-rail brackets to the T-rail. No missing screws are allowed.

Step 8 Connect cables to the AP.

- Step 9** Align the four rubber feet at the rear of the AP with the installation holes on the mounting bracket, and fasten the AP, as shown in the figure. When you hear a click, the AP is secured to the lock position.



----End

NOTE

After the device is installed, ensure that the release lever springs back in place. Ensure that the installation space meets the specified requirements to facilitate future maintenance.

2.2.6.6 Beam Mounting

Background

In scenarios such as airports, stations, and factories, steel structures are typically used. In these scenarios, APs can be mounted on the steel beams beneath a building's roof.

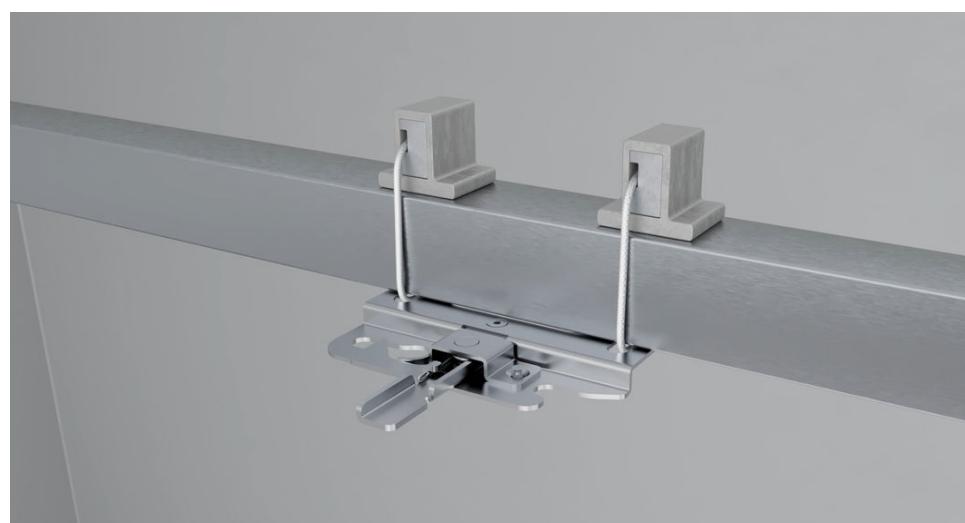
In this mounting mode, a beam for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is less than 1.25 kg, the load-bearing capability of the beam must be greater than or equal to 5 kg.

The following lists the materials required for installation.

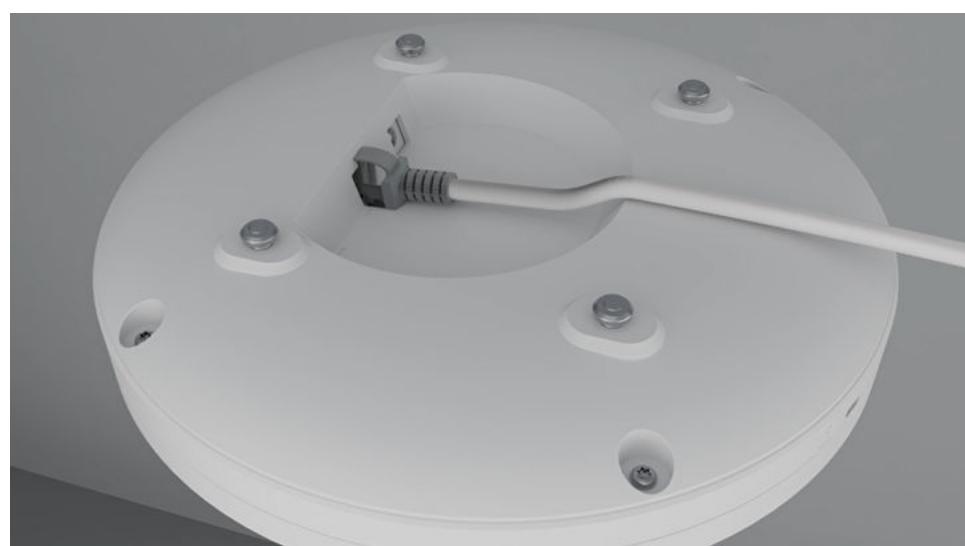
Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures the mounting bracket to a beam.

Procedure

- Step 1** Fix the mounting bracket on the beam by using two steel ropes. The group J holes are recommended. Tighten the steel ropes.



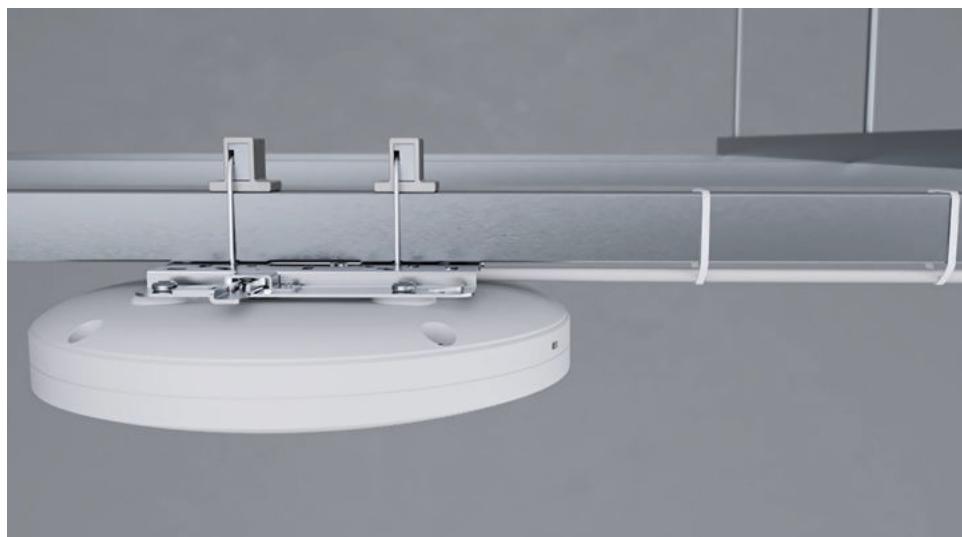
Step 2 Connect the cable to the corresponding port on the AP as required.



- Step 3** Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



- Step 4** Bundle the cable on the beam by using plastic ties to keep it orderly.



----End

2.2.6.7 Threaded Rod Mounting on a Ceiling

Background

Some scenarios do not have suspended ceilings, such as warehouse supermarkets, factory buildings, and garages. Various metal pipes for fire protection, ventilation, and wiring are densely deployed beneath the building top. These metal pipes block AP signals. As such, threaded rod mounting is recommended.

In this mounting mode, a threaded rod for installing the device must be able to bear the weight four times the total weight of the device and mounting bracket without damage. When the total weight of the device and mounting bracket is

less than 1.25 kg, the load-bearing capability of the threaded rod must be greater than or equal to 5 kg.

Materials (Prepared by the Customer)	Quantity	Description
Ω-shaped support (part number: 21244035, including captive screws)	1	Secures the mounting bracket to a thread rod.

Prerequisites

The optional mounting bracket (part number: 21244035) can be installed on a threaded rod (diameter: 8 mm). The threaded rod and related nuts need to be purchased by the customer.

Before the installation, ensure that the network cable has been deployed at a proper position and the threaded rod cut to the required length has been installed on the concrete ceiling where the cable ends.



Procedure

- Step 1** Secure the Ω-shaped fixing bracket to the mounting bracket, install the mounting bracket to the end of the threaded rod, and tighten the screw.



Step 2 Connect the cable to the corresponding port on the AP as required.



Step 3 Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



Step 4 Bundle the cable on the beam by using plastic ties to keep it orderly.



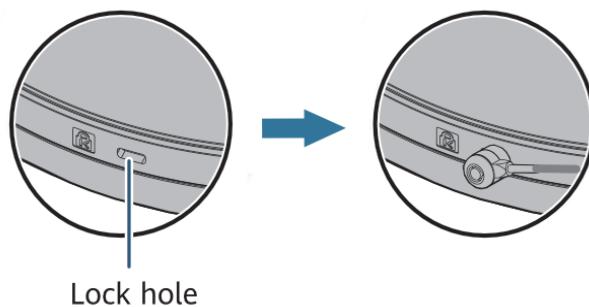
----End

2.2.6.8 Anti-Theft and Removal

Anti-Theft Lock Mode

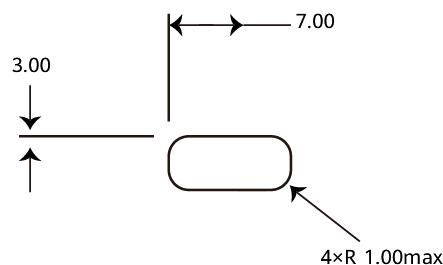
There is a security slot on the device. You can lock the device to an immovable object to prevent theft. The detailed procedure is as follows:

1. Fasten the cable of the security lock to an immovable object around.
2. Insert the security lock into the security slot and lock it.



NOTE

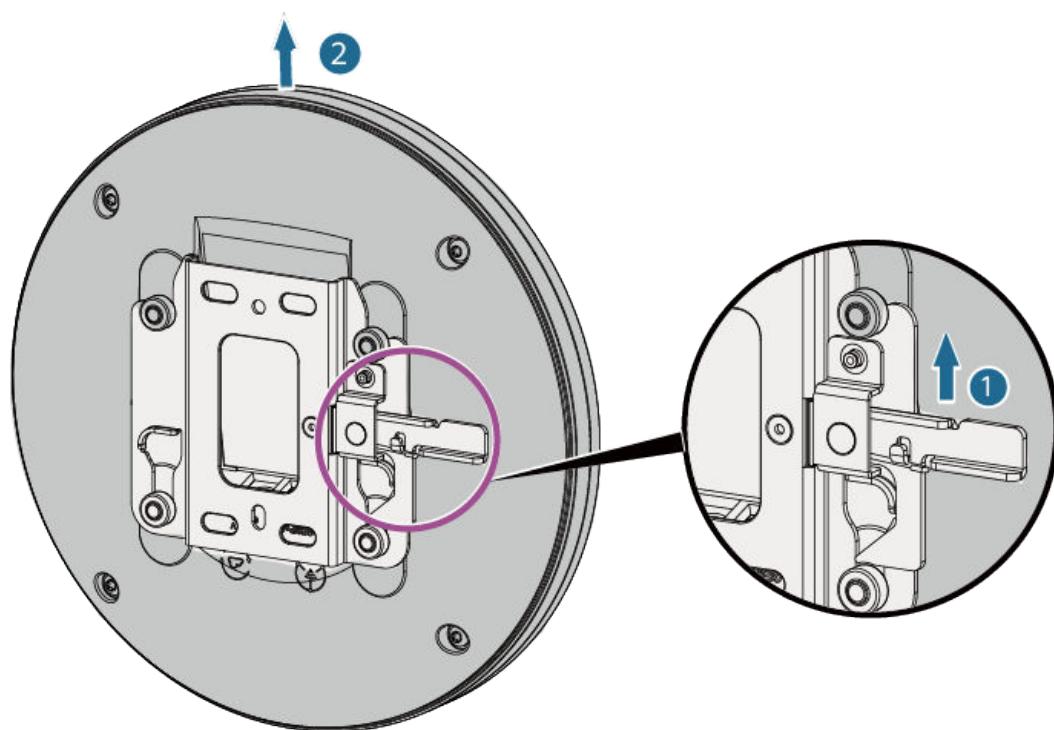
You need to purchase the security lock separately. The security slot is 7 mm long and 3 mm wide. The maximum radius of its four round corners is 1 mm.



Removing an AP

Hold the AP tightly, push the release lever on the mounting bracket upwards using a screwdriver, and slide the AP upwards to unlock the AP.

Figure 2-146 Removing an AP



 NOTE

When removing an AP, do not pull out the AP directly. Otherwise, the device may fall down, or the cables and connectors may be damaged.

2.2.7 Installing an AP (With a Fiber Management Tray)

2.2.7.1 Precautions for Installing a Fiber Management Tray

The fiber coiling operations described in this document are applicable to the following model:

- AirEngine 5773-23H
- AirEngine 5573-23H

 CAUTION

- The following operations use a settled fiber management tray (part number: 21207914).
- If T-rail mounting brackets are used, the fiber management tray can be used only for coiling optical fibers. The fiber management tray must be placed on the ceiling but cannot be installed between the T-rail mounting brackets and the AP mounting bracket.
- In a threaded rod mounting scenario, purchase screws of proper specifications (GB9074.8-88-M3XL, L ≥ 15 mm) based on the fiber management tray thickness.
- The maximum length of a fiber splicing rod is 60 mm, and its diameter does not exceed 3.0 mm after fiber slicing. A heat shrink tubing with the dimensions of 3.8 mm x 40 mm (diameter x length) is recommended.

2.2.7.2 Wall or Ceiling Mounting

Context

A wall or ceiling for installing the device needs to meet the following requirements:

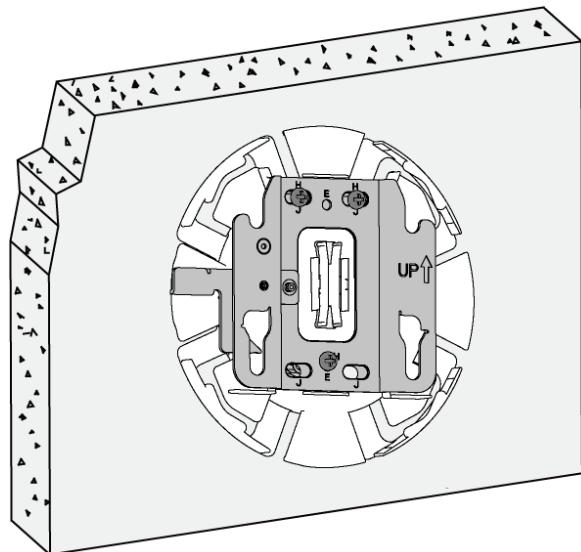
- The wall or ceiling can bear the weight of four times the total weight of the device, fiber management tray, and mounting bracket without damage. When the total weight of the device, fiber management tray, and mounting bracket is less than 1.25 kg, the load-bearing capability of the wall or ceiling must be greater than or equal to 5 kg.
- When the tightening torque of a screw reaches 3.5 N·m, the screw still properly works, without crack or damage on the wall or ceiling.

The following table lists the screws to be used.

Screw (Delivered with the Device)	Quantity	Description
ST3.5 expansion screw + expansion tube	3	Secures the mounting bracket to a wall or ceiling.

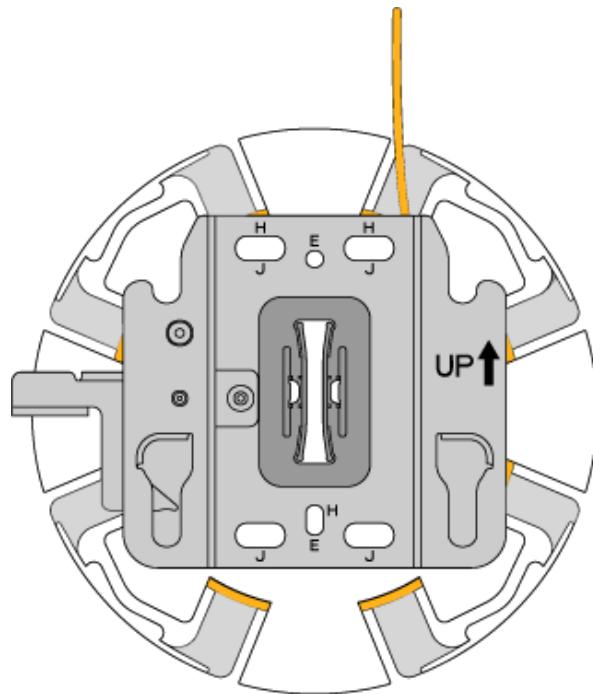
Installing a Fiber Management Tray

Use expansion screws to secure the fiber management tray onto the wall or ceiling through the mounting bracket based on the actual scenario. For details, see the settled AP installation guide.



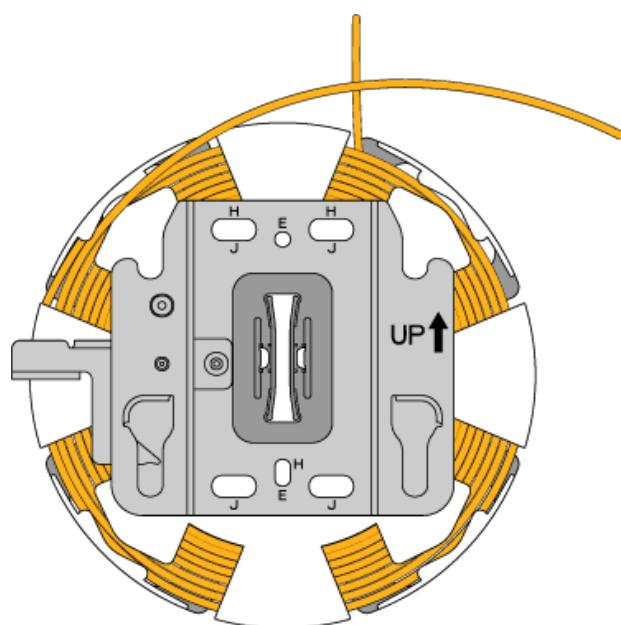
Fiber Coiling

1. Route the optical fiber into the fiber management tray and coil the optical fiber.

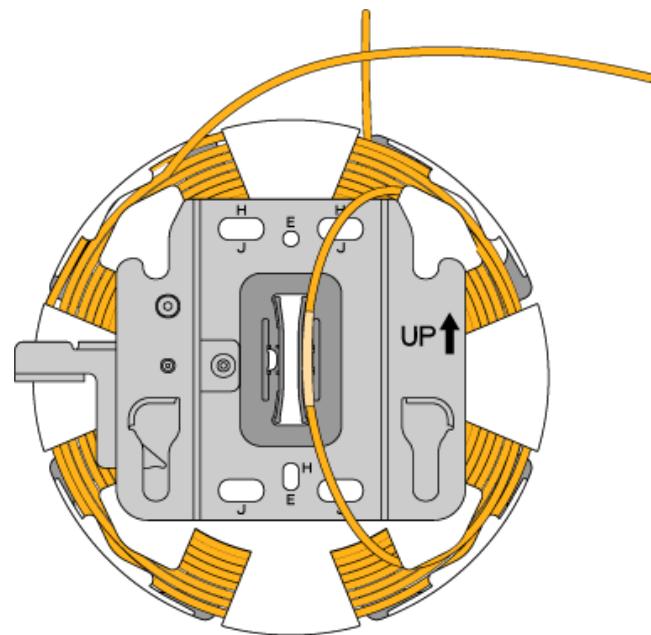


 **NOTE**

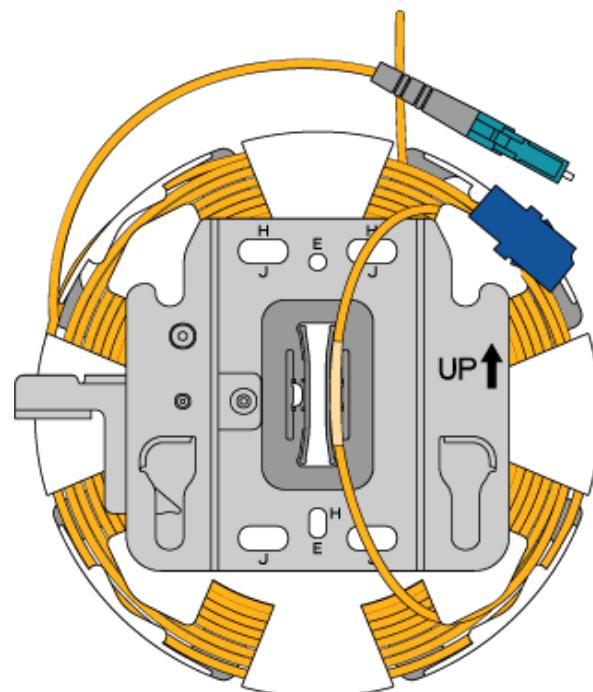
- Fiber coiling direction: Clockwise is recommended.
 - Fiber coiling specifications: The maximum coiling length is 4 m for an optical fiber with a diameter of 2 mm (including a pigtail).
 - After an optical fiber with a diameter of 2 mm is coiled for 3 m:
If the pigtail with a diameter of 3 mm is not stripped, the pigtail can be coiled for 0.75 m.
If the pigtail with a diameter of 3 mm is stripped, the pigtail can be coiled for 1 m.
2. Coil the optical fiber layer by layer in order.



3. During fiber coiling, when the fiber is coiled close to the fiber splicing rod, fix the fiber splicing rod on the clamping structure and continue to coil the fiber.



4. Route the optical fiber out of the fiber management tray and reserve a proper length of the fiber.

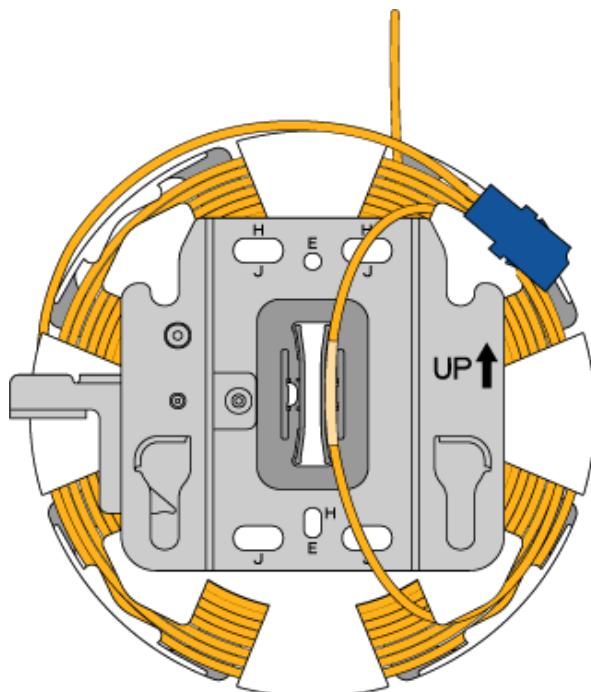


 NOTE

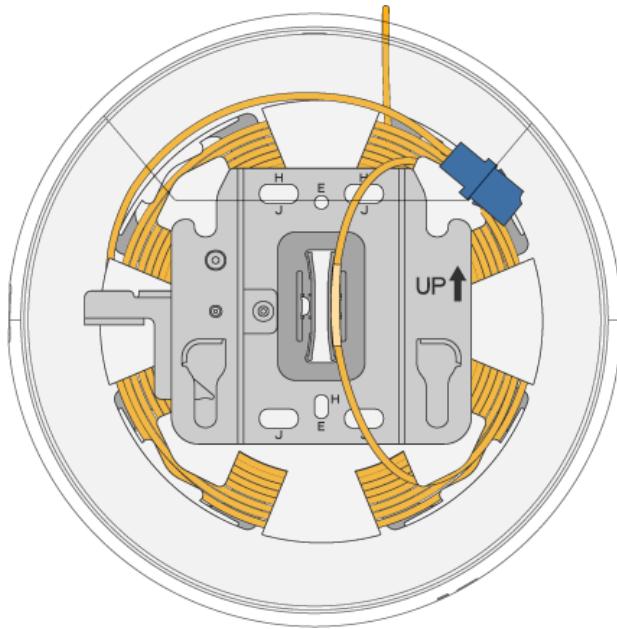
It is recommended that the optical fiber be routed out of the third fiber outlet before the flange plate.

The following describes fiber coiling suggestions for pigtails of different lengths:

1. If a proper length of the pigtail is remaining at the outlet of the fiber management tray, insert the pigtail into the AP.
2. If a long length (about 1/4 to 3/4 circle) of the pigtail is remained at the outlet of the fiber management tray, loosen the last circle of the coiled fiber, put the redundant optical fiber into the fiber management tray, attach the other part of the fiber to the device using foam adhesive, and then insert the pigtail into the AP.
3. If a very long length (about 3/4 to 1 circle) of the pigtail is remained at the outlet of the fiber management tray, route the optical fiber around the fixing structure of the fiber splice rod in the middle of the fiber management tray, fix the fiber using foam adhesive, put the redundant optical fiber into the fiber management tray, and then insert the pigtail into the AP.
5. Insert the optical fiber connector into the LC flange connector of the device.



6. Install the AP on the mounting bracket.



2.2.7.3 Beam Mounting

Context

In scenarios such as airports, stations, and factories, steel structures are typically used. In these scenarios, APs can be mounted on the steel beams beneath a building's roof.

In this mounting mode, a beam for installing the device must be able to bear the weight four times the total weight of the device, fiber management tray, and mounting bracket without damage. When the total weight of the device, fiber management tray, and mounting bracket is less than 1.25 kg, the load-bearing capability of the beam must be greater than or equal to 5 kg.

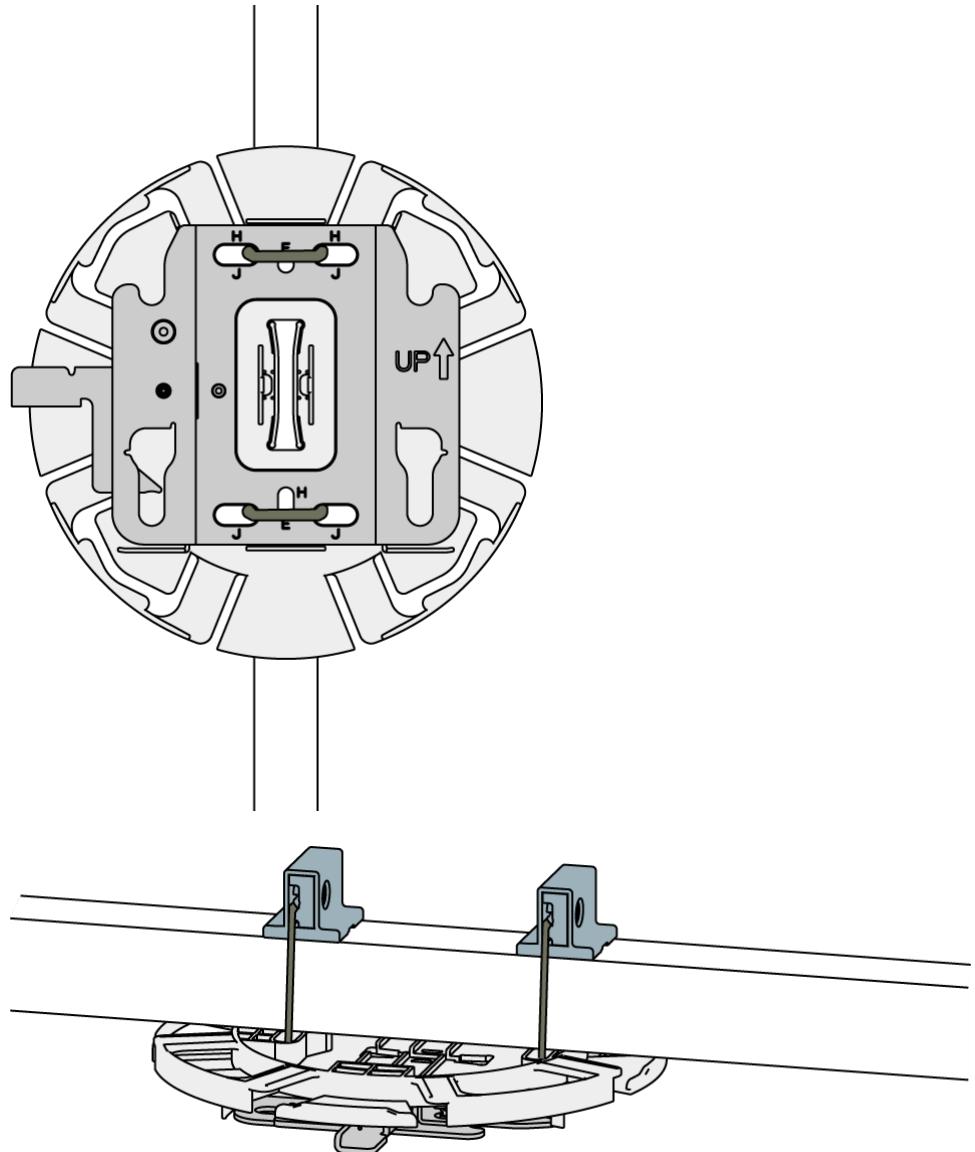
The following lists the materials required for installation.

Materials (Prepared by the Customer)	Quantity	Description
Steel wire rope (part number: 21154869)	2	Secures the mounting bracket to a beam.

Procedure

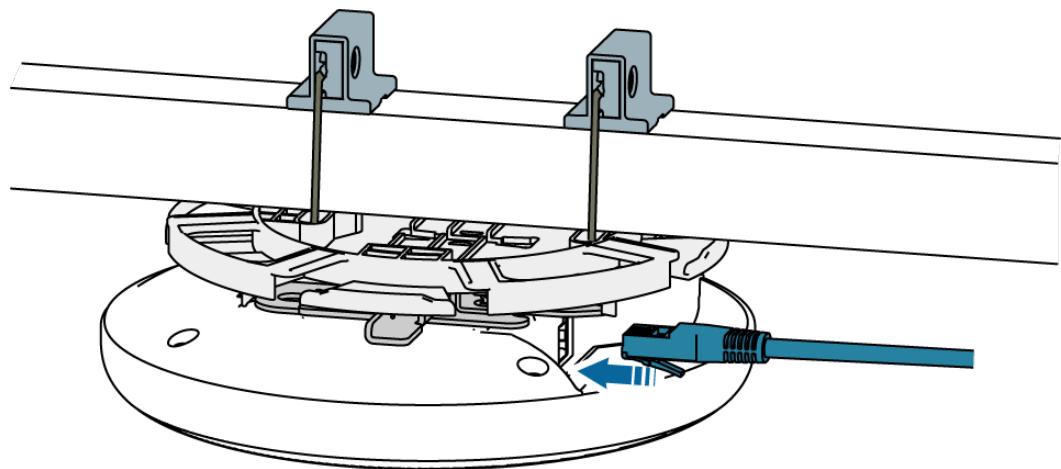
Step 1 Secure the mounting bracket to the fiber management tray.

Step 2 Fix the mounting bracket and fiber management tray on the beam by using two steel ropes. The group J holes are recommended. Tighten the steel ropes.

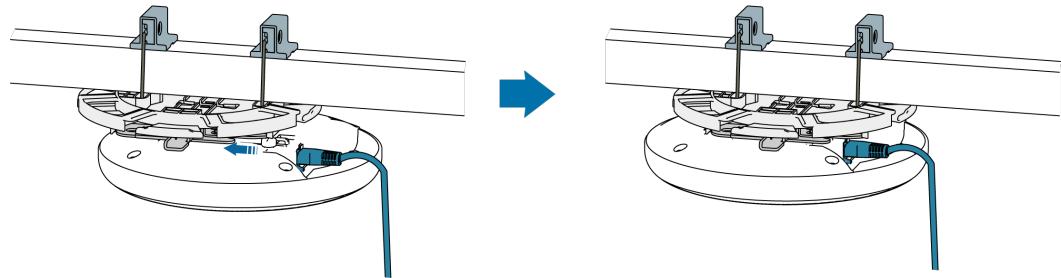


Step 3 Coil the fiber by referring to [Fiber Coiling](#).

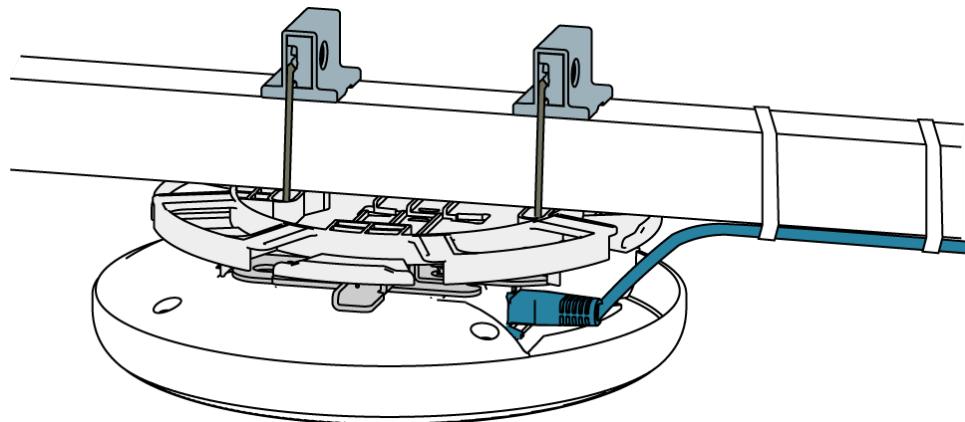
Step 4 Connect the cable to the corresponding port on the AP as required.



- Step 5** Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



- Step 6** Bundle the cable on the beam by using plastic ties to keep it orderly.



----End

2.2.7.4 Threaded Rod Mounting on a Ceiling

Context

Some scenarios do not have suspended ceilings, such as warehouse supermarkets, factory buildings, and garages. Various metal pipes for fire protection, ventilation, and wiring are densely deployed beneath the building top. These metal pipes block AP signals. As such, threaded rod mounting is recommended.

In this mounting mode, a threaded rod for installing the device must be able to bear the weight four times the total weight of the device, fiber management tray, and mounting bracket without damage. When the total weight of the device, fiber management tray, and mounting bracket is less than 1.25 kg, the load-bearing capability of the threaded rod must be greater than or equal to 5 kg.

Materials (Prepared by the Customer)	Quantity	Description
Ω-shaped support (part number: 21244035, including captive screws)	1	Secures the mounting bracket to a thread rod.

Prerequisites

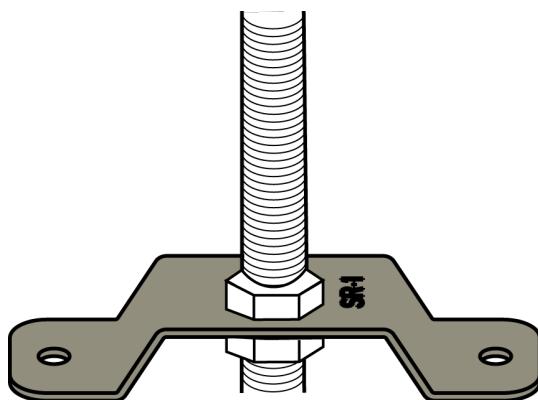
The optional mounting bracket (part number: 21244035) can be installed on a threaded rod (diameter: 8 mm). The threaded rod and related nuts need to be purchased by the customer.

Before the installation, ensure that the network cable has been deployed at a proper position and the threaded rod cut to the required length has been installed on the concrete ceiling where the cable ends.



Procedure

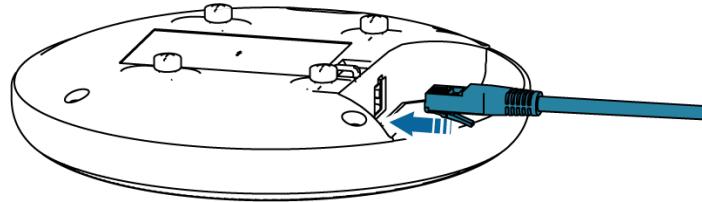
- Step 1** Secure the Ω-shaped support to the end of the threaded rod, and tighten the screws.



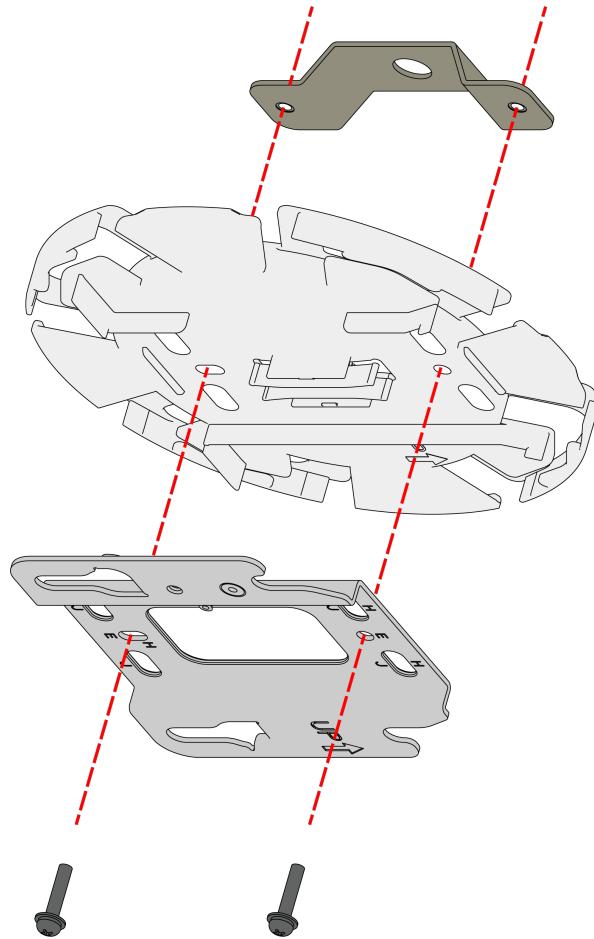
NOTE

After the Ω-shaped support is secured, ensure that the threaded rod does not exceed the bottom of the Ω-shaped bracket.

- Step 2** Connect the cable to the corresponding port on the AP as required.

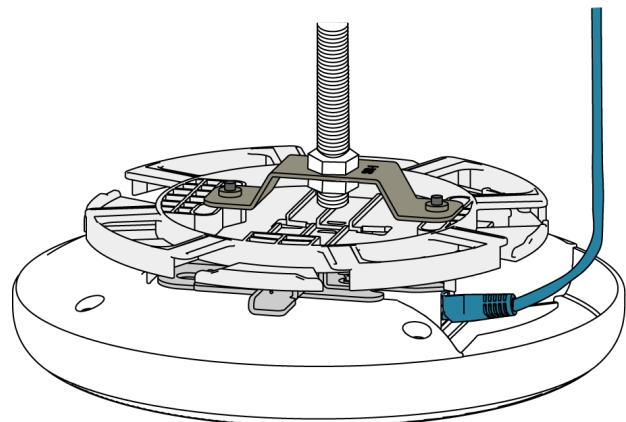


Step 3 Install the fiber management tray and mounting bracket on the Ω -shaped support, and secure them using screws through group E holes on the mounting bracket.

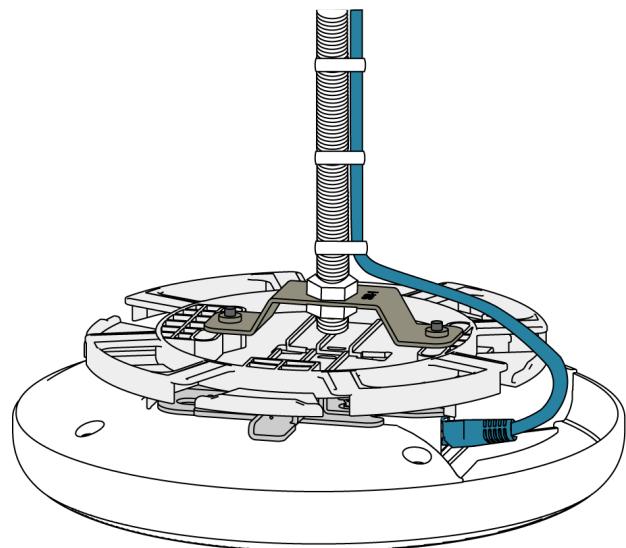


Step 4 Coil the fiber by referring to [Fiber Coiling](#).

Step 5 Clamp the AP on the mounting bracket. Ensure that the four rubber feet fit into the mounting holes. When you hear a click sound from the release lever, the AP is properly installed.



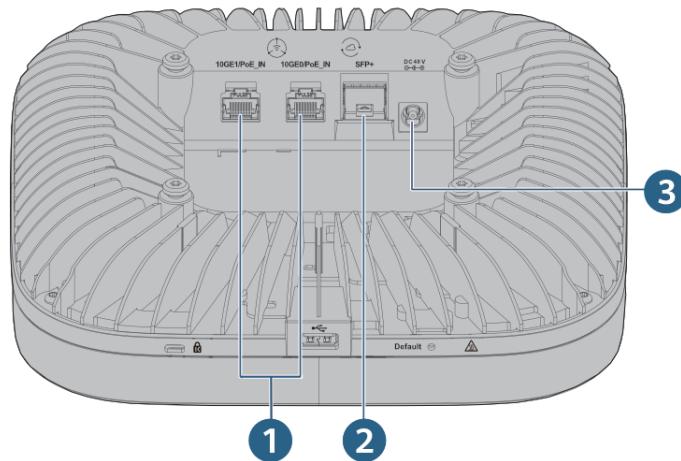
Step 6 Bundle the cable on the beam by using plastic ties to keep it orderly.



----End

2.2.8 Connecting Cables

[Table 2-232](#) shows cable connections for a settled AP.

Figure 2-147 Appearance**Table 2-232** Cable connections

No.	Cable or Device	Description
1	Ethernet cable	<ul style="list-style-type: none"> For the supported Ethernet cable types and length requirements, see Table 2-233. If the AP needs to connect to the Ethernet, ensure that the Ethernet cable is working properly. If the Ethernet cable is not working properly, for example, RJ45 connectors are short-circuited, the AP may fail to be powered on or fail to work properly. Before connecting an Ethernet cable to the AP, use the cable test tool to check whether the cable is qualified. If not, replace it.
2	Optical fiber	Install an optical module on the SFP+ port and connect it to the corresponding port of the peer device using an optical fiber.
3	DC power adapter	When the device uses the DC power supply, use a power adapter for power supply; otherwise, the device may be damaged.

NOTE

- The AP is powered by either the DC power supply or PoE power supply. Power hot backup is not supported.
- Both Ethernet electrical ports support PoE input. When PoE power supply is used:
 - When the power supply types of the two ports are different, the power supply in compliance with a later standard is used.
 - When the power supply types of the two ports are the same, the power supply is superimposed by default.

When installing a cable, you must make a drip loop to prevent water from flowing into devices along the cable. For details, see [13.9 Guide to Making Drip Loops](#).

Pay attention to the following points when bundling the cables:

- Different types of cables must be separately routed with the minimum spacing of 30 mm and cannot be entangled or crossed. Cables should be parallel or separated using dedicated separators.
- The cables must be bound tightly and neatly, and the cable sheaths must not be damaged.
- Cable ties are bound neatly facing the same direction, and those at the same horizontal line must be in a straight line. Cable tie tails should be cut smoothly and evenly.
- Labels or nameplates must be attached to the cables after they are installed.

2.2.8.1 Connecting Ethernet Cables

Table 2-233 Ethernet cable types supported by Ethernet interfaces and maximum transmission distances

Interface Rate	Ethernet Cable Type	Maximum Transmission Distance
GE	CAT5E or higher	100 m
2.5GE	CAT5E or higher	100 m
5GE	CAT5E or higher	100m*
10GE	CAT6	55 m
	CAT6A or higher	100 m

 NOTE

- * When the data rate is 5GE, the maximum length of an unshielded CAT5e cable is 55 m if the 6-a-1 bundle mode is used for the entire cable or 100 m if the 6-a-1 bundling mode is used only for the first 30 m of the cable.
- Connecting UTP network cables to 5GE interfaces poses high risks and is not recommended. The causes are as follows:
 - 802.3bz requires that the ALSNR value for alien crosstalk between network cables be greater than 0, but the standards for CAT5E and CAT6 unshielded twisted pairs do not specify the required ALSNR value. Therefore, such cables may not meet the crosstalk requirement in 802.3bz, causing severe problems such as continuous packet loss.
 - According the cabling specification TIA TSB-5021, using CAT5E and CAT6 cables for 5G poses medium and high risks.
 - Currently, no clear onsite testing or evaluation method is available for checking whether ALSNR of cables conforms to 802.3bz.
- If a network cable does not meet the preceding requirements, replace it with a compliant one or reduce the interface speed.
 - For a switch that supports rate decrease auto-negotiation, it is recommended that this function be enabled. The **set ethernet speed down-grade** command is used to enable rate decrease auto-negotiation on Huawei switches.
 - For a switch that does not support rate decrease auto-negotiation, it is recommended that a fixed port rate be configured based on the network cable type.
- 6-a-1 stands for the six-around-one cable bundle mode, with one cable in the center and six cables bundled evenly around it.

2.2.8.2 Connecting Optical Fibers

 NOTICE

- Before the installation, take ESD protection measures, for example, wear ESD gloves or an ESD wrist strap.
- When installing an optical module, do not touch the edge connector of the optical module without wearing gloves.
- Do not insert the optical module with optical fibers directly into the optical interface. You need to install the optical module first and then the optical fibers.
- Cover idle optical interfaces with dust plugs.

Tools and Accessories

ESD wrist strap or ESD gloves

Procedure

1. Wear an ESD wrist strap. Ensure that the ESD wrist strap is grounded and in a close contact with your wrist.
2. Take out an optical module from the ESD bag and verify that the optical module is the model you need.
3. Remove the dust plug from an optical port.

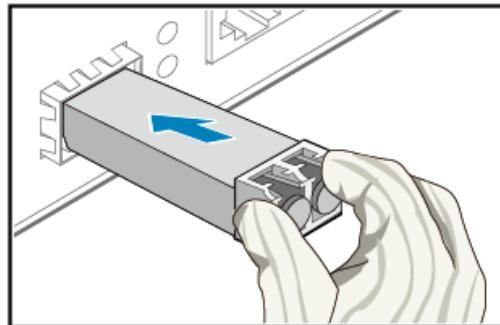
 NOTE

- Install dust plugs on optical modules not connected to optical fibers.
 - Keep the dust plugs properly for future use.
4. Insert the optical module into the optical interface smoothly until you hear a crack sound.

 NOTICE

If an optical module cannot be completely inserted into an optical interface, do not push it with force. Turn the optical module over and try again.

Figure 2-148 Installing an optical module



5. Check that the optical module is installed correctly.
Keep the release handle closed and try pulling the optical module by pressing the optical module with your forefinger and thumb to see if the optical module can be removed.
- If not, the optical module is installed correctly.
 - If so, the optical module is installed incorrectly and must be reinstalled.

2.2.8.3 Connecting Hybrid Cables 2.0

Procedure

1. Assemble and test a hybrid cable 2.0 by referring to [13.2.5 Assembling a Hybrid Cable 2.0](#).
2. Remove dust plugs from the optical ports on a switch and an AP, and install optical modules by referring to [2.2.8.2 Connecting Optical Fibers](#).
3. Connect a hybrid cable 2.0 to the switch and AP through the optical modules.

 CAUTION

- When connecting optical fibers, ensure that the bending of optical fibers at the end does not exceed 180°.
- For an AirEngine 5773-23H, you can connect an optical fiber directly to its optical port, without the need to install an optical module on the AP.

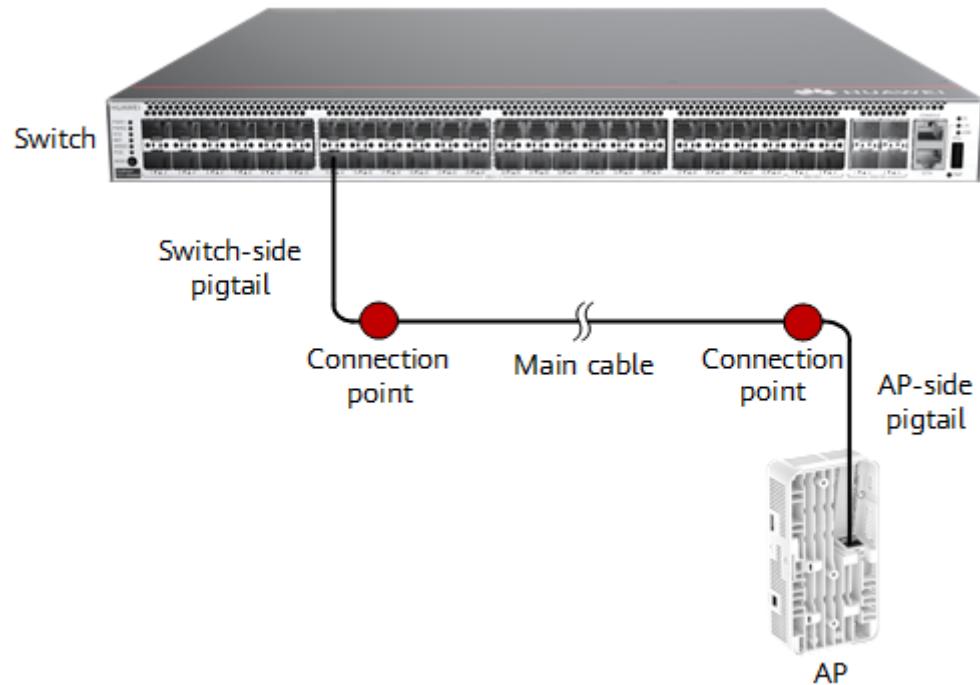
4. Route the cable according to the cabling requirements in [13.2.5 Assembling a Hybrid Cable 2.0](#), and bundle the cable using cable ties.

 **NOTE**

In a splicing scenario, minimize the pigtail length and reserve sufficient cabling space based on the pigtail length.

5. Attach a label to the cable.

Figure 2-149 Connections of a hybrid cable 2.0



2.2.8.4 Connecting RF Cables (AirEngine 6760-X1E)

Table 2-234 Signal frequency bands supported by each RF port on an AirEngine 6760-X1E

Radio Mode	Effective Radio on Each RF Port (Note: White Words on Black Background and Blue Words Indicate Silk Screen and Signals, Respectively.)																
4+8	<table border="1"> <tr> <td>5G_F</td> <td>5G</td> <td>5G_E</td> </tr> <tr> <td>2.4G&5G_A</td> <td>2.4G&5G</td> <td>2.4G&5G_D</td> </tr> <tr> <td>2.4G&5G_B</td> <td>2.4G&5G</td> <td>2.4G&5G_C</td> </tr> <tr> <td>2.4G&5G_G/SCAN</td> <td>5G</td> <td>2.4G&5G_H/SCAN</td> </tr> <tr> <td></td> <td>5G</td> <td></td> </tr> </table>	5G_F	5G	5G_E	2.4G&5G_A	2.4G&5G	2.4G&5G_D	2.4G&5G_B	2.4G&5G	2.4G&5G_C	2.4G&5G_G/SCAN	5G	2.4G&5G_H/SCAN		5G		
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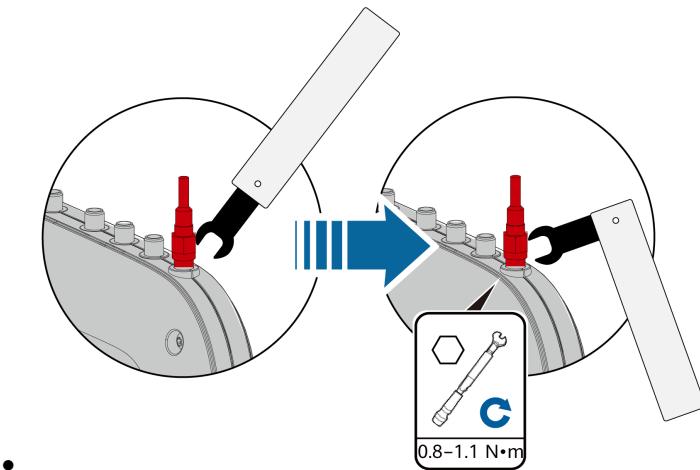
Radio Mode	Effective Radio on Each RF Port (Note: White Words on Black Background and Blue Words Indicate Silk Screen and Signals, Respectively.)										
2+2	 <table border="1"> <tr> <td>5G_F N/A</td> <td>5G_E N/A</td> </tr> <tr> <td>2.4G&5G_A 2.4G&5G</td> <td>2.4G&5G_D N/A</td> </tr> <tr> <td>2.4G&5G_B 2.4G&5G</td> <td>2.4G&5G_C N/A</td> </tr> <tr> <td colspan="2">2.4G&5G_G/SCAN N/A</td> </tr> <tr> <td colspan="2">2.4G&5G_H/SCAN N/A</td> </tr> </table>	5G_F N/A	5G_E N/A	2.4G&5G_A 2.4G&5G	2.4G&5G_D N/A	2.4G&5G_B 2.4G&5G	2.4G&5G_C N/A	2.4G&5G_G/SCAN N/A		2.4G&5G_H/SCAN N/A	
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2.4G&5G_G/SCAN 5G (Scan)											
2.4G&5G_H/SCAN 5G (Scan)											
4+4+5G scanning	 <table border="1"> <tr> <td>5G_F N/A</td> <td>5G_E N/A</td> </tr> <tr> <td>2.4G&5G_A 2.4G&5G</td> <td>2.4G&5G_D 2.4G&5G</td> </tr> <tr> <td>2.4G&5G_B 2.4G&5G</td> <td>2.4G&5G_C 2.4G&5G</td> </tr> <tr> <td colspan="2">2.4G&5G_G/SCAN 5G (Scan)</td> </tr> <tr> <td colspan="2">2.4G&5G_H/SCAN 5G (Scan)</td> </tr> </table>	5G_F N/A	5G_E N/A	2.4G&5G_A 2.4G&5G	2.4G&5G_D 2.4G&5G	2.4G&5G_B 2.4G&5G	2.4G&5G_C 2.4G&5G	2.4G&5G_G/SCAN 5G (Scan)		2.4G&5G_H/SCAN 5G (Scan)	
5G_F N/A	5G_E N/A										
2.4G&5G_A 2.4G&5G	2.4G&5G_D 2.4G&5G										
2.4G&5G_B 2.4G&5G	2.4G&5G_C 2.4G&5G										
2.4G&5G_G/SCAN 5G (Scan)											
2.4G&5G_H/SCAN 5G (Scan)											

Radio Mode	Effective Radio on Each RF Port (Note: White Words on Black Background and Blue Words Indicate Silk Screen and Signals, Respectively.)
2+2+5G scanning	<p>5G_F N/A</p> <p>5G_E N/A</p> <p>2.4G&5G_D N/A</p> <p>2.4G&5G_C N/A</p> <p>2.4G&5G_H/SCAN 5G (Scan)</p> <p>2.4G&5G_G/SCAN 5G (Scan)</p> <p>2.4G&5G_B 2.4G&5G</p> <p>2.4G&5G_A 2.4G&5G</p>
4+4+4	<p>5G_F 5G1</p> <p>5G_E 5G1</p> <p>2.4G&5G_D 2.4G&5G2</p> <p>2.4G&5G_C 2.4G&5G2</p> <p>2.4G&5G_H/SCAN 5G1</p> <p>2.4G&5G_G/SCAN 5G1</p> <p>2.4G&5G_B 2.4G&5G2</p> <p>2.4G&5G_A 2.4G&5G2</p>
4+2+4	<p>5G_F 5G1</p> <p>5G_E 5G1</p> <p>2.4G&5G_D 2.4G&5G2</p> <p>2.4G&5G_C 2.4G&5G2</p> <p>2.4G&5G_H/SCAN N/A</p> <p>2.4G&5G_G/SCAN N/A</p> <p>2.4G&5G_B 2.4G&5G2</p> <p>2.4G&5G_A 2.4G&5G2</p>

Radio Mode	Effective Radio on Each RF Port (Note: White Words on Black Background and Blue Words Indicate Silk Screen and Signals, Respectively.)
2+2+2	 <p>The diagram shows a circular Huawei access point with eight RF ports arranged around its perimeter. The ports and their effective radios are labeled as follows:</p> <ul style="list-style-type: none">Top-left port: 5G_F (black), 5G1 (blue)Top-right port: 5G_E (black), 5G1 (blue)Bottom-left port: 2.4G&5G_A (black), 2.4G&5G2 (blue)Bottom-right port: 2.4G&5G_B (black), 2.4G&5G2 (blue)Left side port: 2.4G&5G_G/SCAN (black), N/A (white)Right side port: 2.4G&5G_H/SCAN (black), N/A (white)

 NOTE

- Before installing or replacing an antenna, power off the AP.
- When whip antennas are used, it is recommended that a maximum of eight antennas be configured. If antennas are not fully configured, connect the antennas to RF ports in the sequence of A to H.
- If antennas with four RF ports are used, it is recommended that two such antennas be configured. In this full configuration, connect RF ports A to D of the AP to one antenna and RF ports E to H to the other. If only one such antenna is used, connect the antenna to RF ports A to D. Install RF loads on the idle RF ports.
- To use the independent scanning radio, ensure that RF ports G and H are connected to an antenna.
- In 802.3at power supply mode, ensure that RF ports A, B, C, and D are connected to antennas. If 2x2 antennas are used, connect RF ports A and B to one antenna and RF ports C and D to the other.
- The grounding requirements of antennas are the same as the AP where the antennas are installed. Determine whether grounding is required for an AP on [Info-Finder](#).
- Check how to install antennas by referring to [WLAN Antenna Quick Start](#).
- Connect the antennas based on the power supply, IoT card, and USB usage of the AP and whether an RTU license is available. For details, see [Table 2-234](#).
- When connecting an RF feeder, use a torque wrench with an open end size of 8 mm to tighten the SMA connector of the feeder. For example, when a mechanical torque wrench is used, if the head of the wrench pivots as shown in the following figure, the set torque is achieved.



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- If directional antennas are connected to an AirEngine X760 series AP requiring external antennas, ensure that the number of antennas used to cover the same area is not less than half of the total number of antennas on a single radio of the AP. Otherwise, issues such as a long service delay will occur. For example, to use 5 GHz directional antennas on an AirEngine 6760-X1E in 4+8 radio mode to cover multiple areas, ensure that at least four 5 GHz antennas are used to cover the same area.

The following figures show the correct and incorrect connections between antennas and RF ports (eight 5 GHz antennas as an example). In the correct example, every four RF ports are connected to a directional antenna through feeders, and the antennas are used to cover two areas. In the incorrect example, every two RF ports are connected to a directional antenna through feeders, and the antennas are used to cover four areas.

Figure 2-150 Correct example

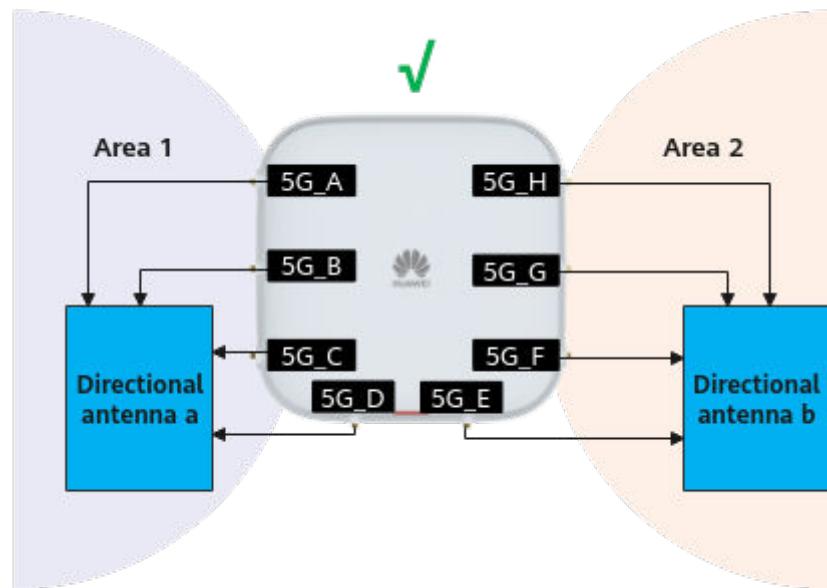
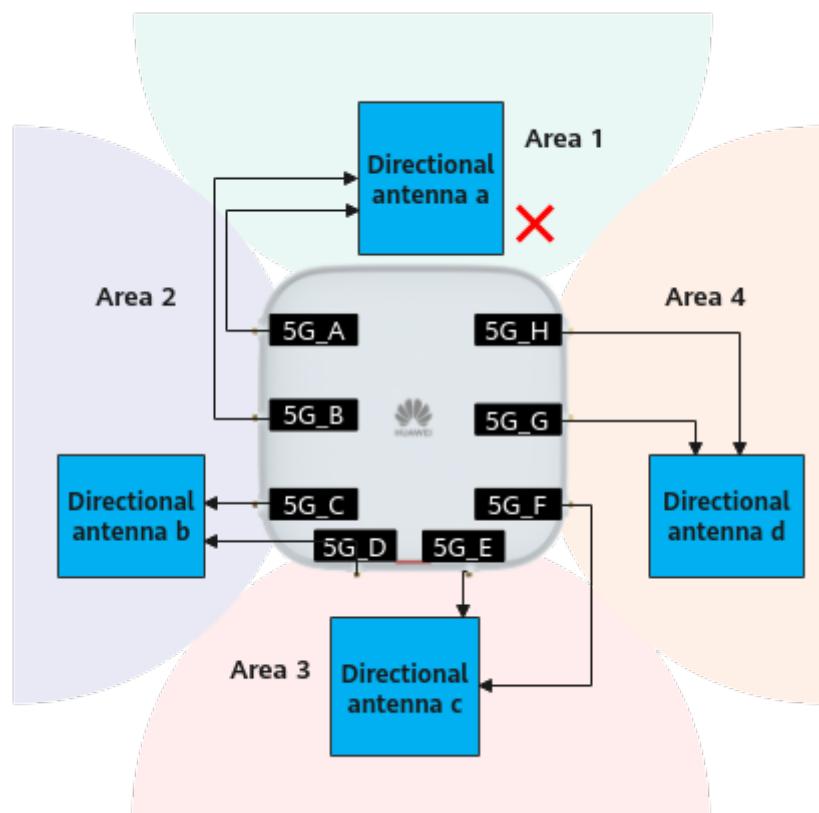


Figure 2-151 Incorrect example



2.2.8.5 Connecting RF Cables (AirEngine 6761-21E)

Table 2-235 Signal frequency bands supported by each RF port on an AirEngine 6761-21E

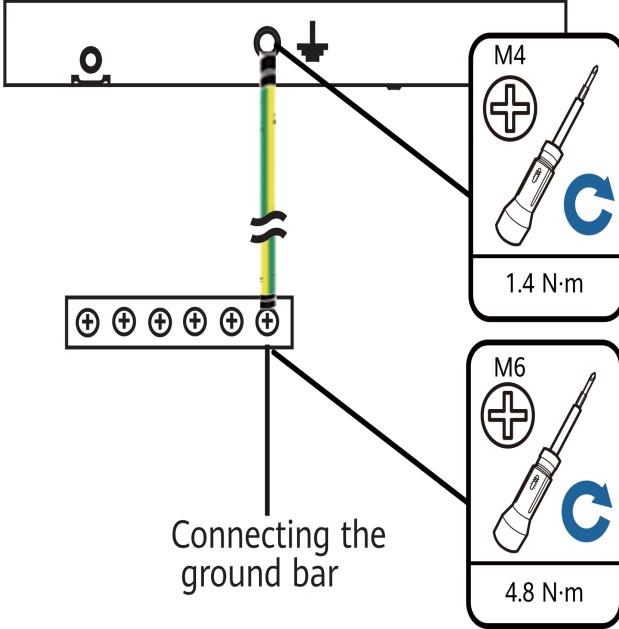
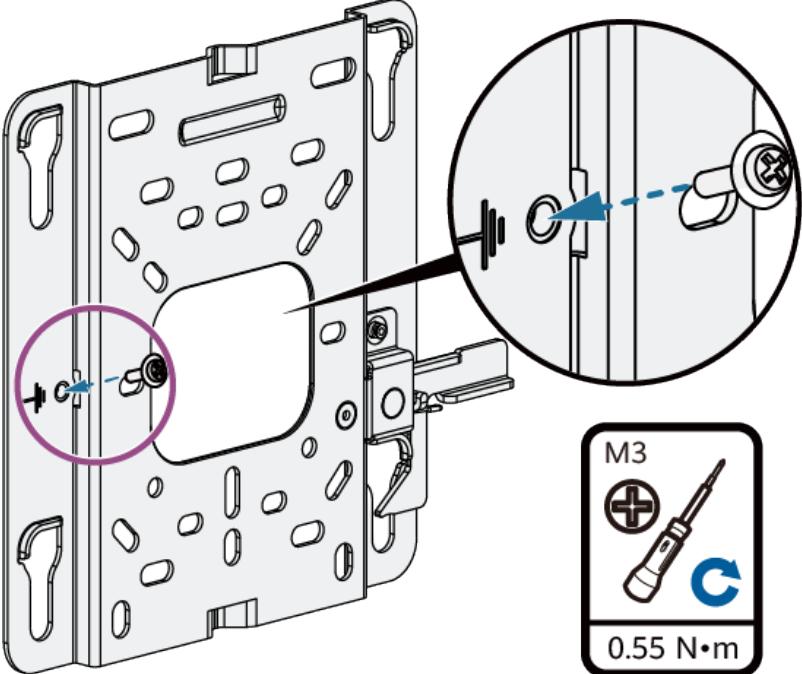
Radio Mode	Effective Radio on Each RF Port (Note: White Words on Black Background and Blue Words Indicate Silk Screen and Signals, Respectively.)
4+4	 <p>2.4G&5G_A 2.4G&5G</p> <p>2.4G&5G_B 2.4G&5G</p> <p>2.4G&5G_D 2.4G&5G</p> <p>2.4G&5G_C 2.4G&5G</p>
2+4	 <p>2.4G&5G_A 2.4G&5G</p> <p>2.4G&5G_B 2.4G&5G</p> <p>2.4G&5G_D 5G</p> <p>2.4G&5G_C 5G</p>

Radio Mode	Effective Radio on Each RF Port (Note: White Words on Black Background and Blue Words Indicate Silk Screen and Signals, Respectively.)
2+0	 <p>2.4G&5G_A 2.4G</p> <p>2.4G&5G_B 2.4G</p> <p>2.4G&5G_C N/A</p> <p>2.4G&5G_D N/A</p>

NOTE

- Before installing or replacing an antenna, power off the AP.
- To fully leverage radio resources, it is recommended that a maximum of four antennas be configured. Install RF loads on the idle RF ports without antennas installed. Connect the antennas based on the power supply and USB usage of the AP. For details, see [Table 2-235](#).
- The grounding requirements of antennas are the same as the AP where the antennas are installed. Determine whether grounding is required for an AP on [Info-Finder](#).
- Check how to install antennas by referring to [WLAN Antenna Quick Start](#).
- When connecting an RF feeder, use a torque wrench with an open end size of 8 mm to tighten the SMA connector of the feeder. For example, when a mechanical torque wrench is used, if the head of the wrench pivots as shown in the following figure, the set torque is achieved.

2.2.8.6 Connecting Ground Cables

Mounting Bracket	Grounding Diagram
15 mm mounting bracket	 <p>Connecting the ground bar</p>
7 mm mounting bracket	
Small mounting bracket	Grounding is not supported.

Grounding does not affect the functionality of Huawei indoor APs. Determine the necessity of grounding APs based on local laws and environmental conditions. The

grounding operation can prevent some issues in case of risky scenarios, for example, close proximity of an AP to electromagnetic interference sources or connection of a mounting bracket to a power cable. You are advised to check the local and national electrical specifications for further confirmation.

Determine whether APs need to be grounded by referring to [Info-Finder](#). If an AP model requires grounding, ground the mounting bracket by using a ground screw and ground cable. Make the ground cable on site. Use an M4 OT terminal on a 15 mm mounting bracket or an M3 OT terminal on a 7 mm mounting bracket. Use an M6 OT terminal on the ground bar, and the terminal selection can also be determined based on site requirements. The cables need to be cut into the required length based on site requirements. The OT terminals and ground cables need to be purchased by the customer. For details, see [Table 2-236](#).

NOTE

OT terminals with Huawei part numbers have been preinstalled with insulation tubes; therefore, no additional heat shrink tubing is required. If the OT terminals purchased by the customer are not preinstalled with insulation tubes, heat shrink tubing needs to be prepared separately based on the OT terminals and ground cables.

Table 2-236 Mapping between OT terminals and ground cables

OT Terminal	OT Terminal Type	Part Number of an OT Terminal	Applicable Ground Cable Specifications	Part Number of a Ground Cable
OT terminal for a 15 mm mounting bracket	M4	14170005	1.5-2.5 mm ² (16-14AWG)	25030075
		14170017	4.0-6.0 mm ² (12-10AWG)	25030188
OT terminal for a 7 mm mounting bracket	M3	14170004	1.5-2.5 mm ² (16-14AWG)	25030075
OT terminal for a ground bar (Ensure that the model matches the dimensions of the installation port on the ground bar and the diameter of the ground cable.)	M3	14170004	1.5-2.5 mm ² (16-14AWG)	25030075
	M4	14170005	1.5-2.5 mm ² (16-14AWG)	25030075
		14170017	4.0-6.0 mm ² (12-10AWG)	25030188
	M5	14170009	1.5-2.5 mm ² (16-14AWG)	25030075
		14170012	4.0-6.0 mm ² (12-10AWG)	25030188
	M6	14170008	1.5-2.5 mm ² (16-14AWG)	25030075

OT Terminal	OT Terminal Type	Part Number of an OT Terminal	Applicable Ground Cable Specifications	Part Number of a Ground Cable
		14170023	4.0-6.0 mm ² (12-10AWG)	25030188
	M8	14170057	1.5-2.5 mm ² (16-14AWG)	25030075
		14170013	4.0-6.0 mm ² (12-10AWG)	25030188

Tighten the screws on the ground bar with the following torque settings:

- M3: 0.55 N m
- M4: 1.4 N m
- M5: 2.8 N m
- M6: 4.8 N m
- M8: 12 N m

Ground cable deployment requirements are as follows:

- Connect the ground cables to the same ground bar.
- Ensure that the bend radius of a ground cable is greater than or equal to five times the cable diameter.
- Bury ground cables underground or arrange them indoors. Do not route ground cables overhead outdoors.
- Ensure that the external conductor of the coaxial cable and both ends of the shield layer of the shielded cable are in good electric contact with the metal shell of the connected device.
- Separate the ground cable from signal cables to reduce interference between them.
- Do not add any switch or fuse on the ground cable.
- Do not use another device for an electrical connection with the ground cable.
- Ensure that all conductive metal components inside the enclosure properly connect to protection ground terminals.

For details about how to assemble and install a ground cable, see [13.2.7 Assembling a Ground Cable](#) and [13.2.8 Installing a Ground Cable](#).

2.2.9 Verifying the Installation

[Table 2-237](#) shows the items to be checked after installation is complete. For more details, see [13.8 Installation Checklist](#) in the appendix.

Table 2-237 Installation checklist

No.	Check Item
1	The device is installed by strictly following the design draft. The installation position meets space requirements, with maintenance space reserved.
2	The device is securely installed.
3	Power cables are intact and not spliced.
4	Terminals of power cables are welded or crimped firmly.
5	All power cables are not short-circuited or reversely connected and must be intact with no damage.
6	Power cables and ground cables are separated from other cables and bundled separately.
7	The working grounding, protection grounding, and surge protection grounding share the same group of grounding bars.
8	Connectors of signal cables are complete, intact, and tightly connected, and the signal cables are not damaged or broken.
9	Labels are correct, legible, and complete. Labels at both ends of cables, feeders, and jumpers are correct.

After an AP is powered on, observe indicators on the AP to determine the system running status. For details, see the indicator description.

 **NOTE**

Do not frequently power on and off the device.