# Extreme Wireless 802.11be
## Wi-Fi 7 Indoor AP4020X

**Overview of AP4020X**

The AP4020X is an ExtremeCloud IQ managed, Wi-Fi 7 (802.11be) universal indoor access point (AP). It has a quad-radio design with three 2x2:2 radios for use across the 6 GHz, 5 GHz, and 2.4 GHz bands. It also features a dedicated sensor and dual IoT radios.

Use these instructions as you mount and connect the AP4020X. The AP ships with the AH-ACC-BKT-AX-TB mounting bracket for use on flat t-bar ceiling grids and flat surfaces.

## Technical Specifications

**Fig. 1** AP4020X.

The AP4020X has the following features and specifications. For more information, see the Data Sheet.

**Radios**
The AP4020X has a quad-radio design with three 2x2:2 radios (6 GHz, 5 GHz, and 2.4 GHz bands), a dedicated sensor and dual IoT radios.
Operational Modes:
- **Mode 1**: 2.4 GHz /5 GHz/6 GHz data radios and sensor
- **Mode 2**: 2.4 GHz, and dual 5 GHz, and sensor

**Ports**
- ETH0: 100/1000/2500/5000Mbps autosensing link speed Ethernet port, PoE PD; wired (RJ45)
- ETH1: 100/1000/2500Mbps autosensing link speed Ethernet port, PoE PD; wired (RJ45)
- 802.3az Energy-Efficient Ethernet (EEE)
- USB 2.0: Type A, 5V/500mA with PoE 802.3at or 5V/1,000mA with PoE 802.3bt

**Security**
- One Kensington security slot
- Trusted Platform Module (TPM)

**Power Options**
The following power options are supported:
- Power Draw: 802.3at PoE - Typical 21W with USB 2.5W; Max: 25.5W with USB 2.5W
- Power Draw: 802.3bt - Max: 28W with USB 5W
- 12V DC/3A. DC power has priority when both DC and PoE power sources are available with PoE Failover

**Physical Dimensions**
- Dimensions: 288 mm x 245 mm x 43 mm (11.34 in. x 9.65 in. x 1.69 in.)
- Weight: 1.43 kg (3.2 lbs)

**Antennas**
The AP4020X supports the following antennas.
Integral:
- Two (2) single band 6 GHz antennas permanently attached or integrated into the AP
External Ports:
- Two (2) dual band 2.4 GHz and 5 GHz
- One (1) dual band 2.4 GHz (IoT Radio 1) and 5 GHz
- One (1) single band 5 GHz
Internal:
- IoT Radio 1: Selectable between internal and external
- IoT Radio 2: Two (2) selectable internal antennas
- One (1) 2.4 GHz / 5 GHz / 6 GHz sensor

**Temperature:**
- Operating: -20°C to 55°C (-4°F to 131°F)
- Storage/Transportation: 0°C to 70°C (32°F to 158°F)

- Humidity: 0% to 95% (non-condensing)

**Enclosure**: Plastic top, aluminum bottom.

**Fig.2** AP4020X Ports

**Table 1.** *AP4020X Ports and Connections*

| Item | Port |
|------|------|
| 1 | Console port. The console port can only be used with the Extreme Networks console cable. You will damage the AP if you use another cable.. |
| 2 | USB 2.0 type A port. |

**Fig. 3** AP4020X Ports
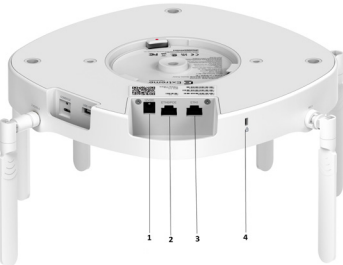
**Table 2.** *AP4020X Ports and Connections*

| Item | Port |
|------|------|
| 1 | 12VDC |
| 2 | ETH0/PoE port |
| 3 | ETH1 port |
| 4 | Kensington security slot |

## Box Contents

Confirm the following items shipped with your AP before you begin the installation. Contact your dealer if any items are damaged or missing.

**Table 3.** *Box contents*

| Quantity | Item |
|----------|------|
| 1 | AP4020X |
| 1 | AH-ACC-BKT-AX-TB mounting bracket |
| 1 | Regulatory guide |
| 2 | Philips pan head wood screws |
| 2 | Phillips head plastic screw-in anchors |
| 4 | AI-TS06360 3.5dBi (2.4 GHz) and 5.5dBi (5 and 6 GHz) Indoor Dipole Tri-band with RP-SMA connector |

## Micro USB Console Port

Through the console port, you can make a serial connection between your management system and the access point.
Use the SKU ACC-WIFI-MICRO-USB if you need to order the Micro USB cable. The console port can only be used with the Extreme Networks console cable. You could damage the AP if you use another cable.

## Status LED Activity

The AP4020X has a LED on top of the chassis. It shows the operational states for power, firmware updates, Ethernet and wireless interface activity, and alarms.

**Table 4. ExtremeCloud IQ LED Activity**

| LED | Description |
|-----|-------------|
| Dark | Power is off. |
| Solid white | The device power is on and the AP is ready to use. The device has successfully established a Control And Provisioning of Wireless Access Points (CAPWAP) connection to ExtremeCloud IQ and is operating normally. |
| Solid amber: | The device power is on and the access point is in boot up mode, or is running without a CAPWAP connection. |
| Fast-blinking amber | The IQ Engine firmware is updating. |

**Table 5. ExtremeCloud IQ Controller Status LED Activity**

| LED | Description |
|-----|-------------|
| Dark: | Power is off or the AP is taken over by the controller. Configuration pushes down to AP from controller to turn off the LED. |
| Solid white | The AP is starting up or is already taken over by the controller. |
| Flashing fading white: | Configuration pushes down to AP from controller helping the user locate the AP by sight. |
| Solid amber | A firmware upgrade is occurring. |
| Fast-blinking amber | The AP is acquiring the DHCP IP. |

## Position the Access Point before Installation

Line up the red dot on the access point and the bracket for ease of installation. The AP and bracket lock in place.

**Fig. 4.** AH-ACC-BKT-AX-TB bracket red dot
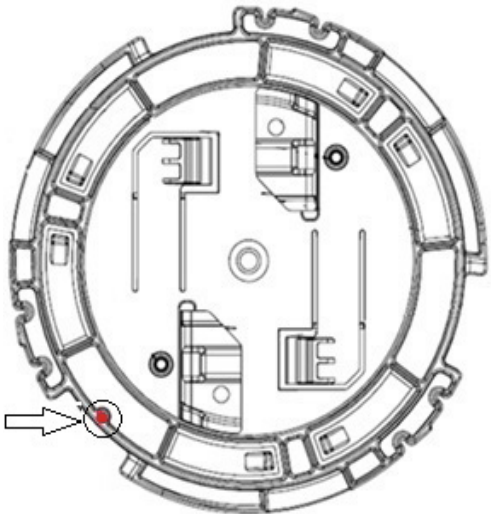
## Install the Access Point to a Wall with AH-ACC-BKT-AX-WL

**Before you begin**
You need the following items:
- One AP4020X
- Three M3.5 screws and three screw-in anchors, shipped with the -WL bracket.
- One AH-ACC-BKT-AX-TB or one AH-ACC-BKT-AX-WL bracket.

Use the AH-ACC-BKT-AX-WL bracket when you need a 1.25 inch space between the wall and the AP. If you want less space, than use the AH-ACC-BKT-AX-TB bracket that comes with the AP.

1. Using the -WL bracket as a template, mark and drill mounting holes on the wall.
2. Bring the LAN cable from the wall through the bracket hole. Align the cable before attaching the bracket to the wall.

   **Note:** A standard Ethernet cable can be used if you want the cable visible. A flat cable and a cable cap are required if you want to hide the Ethernet cable.

3. Attach the wall bracket to the wall using three M3.5 screws and three screw-in anchors.
4. Align the access point red dot against the three red dots on the -WL bracket.
5. Press and rotate the access point clockwise about one-sixth turn until it locks into place on the bracket.
6. Attach the network cable.

## Install the Access Point on a Standard Flat Ceiling Rail with Sculpted Ceiling Tiles

The AP ships with a mounting bracket for standard 15/16" (24mm) wide t-bars or 9/16" (14mm) wide t-bar rails.
For nonstandard ceiling rail installations, see *"Install the Access Point on a Non-standard Ceiling Grid or a Wall"*. You may need the ACC-BKT-TB-NF bracket for sculpted ceiling tiles.
The AP will protrude 1 1/4 inches (31.75mm) from the wall.
1. Remove the ceiling tiles.
2. Align the accessory on the ceiling rail so that the accessory metal hinges are almost parallel to the sides of the ceiling rail.
3. Rotate the accessory clockwise until the metal hinges hook over the edge of the rail and the white tabs click in place.

   **Note:** The two white tabs on the back of the accessory hold the ceiling rail in place. Use your finger and to push and to unhook one side of the white tab if you want to remove the accessory from the ceiling rail.

4. Attach the LAN cable ethernet plug to the appropriate Acces Point Ethernet receptacle.
5. Align the red dot on the back of the AP against the red dot on the bracket. The accessory has a circular tip that fits into the circular depression on the back of the access point.
6. Press and rotate the access point 1/8th turn clockwise until it clicks into place on the accessory.
7. Attach the Cat6 RJ45 cable to the ETH0 or ETH1 port
8. Replace the ceiling tiles.
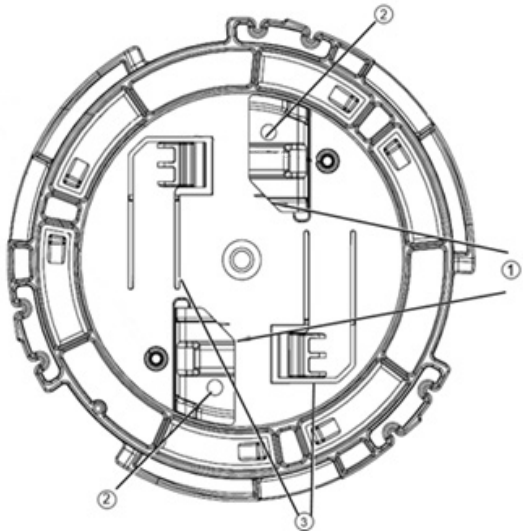
**Fig. 5.** Standard Ceiling Rail installation



**Table 6.** *AP4020X Standard Rail Components*

| Callout | Description |
|---------|-------------|
| 1 | Metal hinges on the AH-ACC-BKT-AX-TB bracket |
| 2 | Mounting holes for wall mounting |
| 3 | White tab on the AH-ACC-BKT-AX-TB bracket |

## Install the Access Point on a Non-standard Ceiling Grid or a Wall

Install the AP on a nonstandard ceiling grid with the following accessories:

**Table 7.** *Non-standard ceiling grid and wall accessories*

| Bracket part number | Description |
|---------------------|-------------|
| AH-ACC-BKT-AX-TB | Mounting bracket for Prelude ceilings (15/16 in. ceiling grid), Suprafine ceilings (9/16 in. flat ceiling grid), and walls |
| AH-ACC-BKT-AX-IL | Mounting bracket for Interlude (9/16 wide T-bar with protrusion) ceiling grid or t-bars. |
| AH-ACC-BKT-AX-SL | Mounting bracket for Silhouette ceilings (ceiling grid with 1/8 in. or 1/4 in. bottom opening) |
| ACC-BKT-AX-JB | Junction box or wall mounting for indoor access points. |
| ACC-BKT-AX-BEAM | Beam mounting for indoor access points |
| AH-ACC-BKT-AX-WL | Mounting bracket for direct-to-wall installations |
| AH-ACC-BKT-916-KIT | Mounting kit for 9/16" wide t-bars. |
| ACC-BKT-AX-WNG-ADAPT | Adapter backet for cloud AP to wing mounting plate (#37201). 10 pack. |
| ACC-BKT-TB-NF. | Mounting bracket for 15/16" wide t-bars. |
| AC-BTK-AX-TBW | Mounting bracket for 1.5" wide extruded T-Bars with flat ceiling tiles. |

**Note**: The default bracket for wall installation is the ACC-BKT-AX-TB bracket. One -TB bracket ships with the AP for users who already have you -WL brackets.

## Install the Access Point on a Beam

### Before you begin
You need the following items:
- AP4020X
- ACC-BKT-AX-BEAM mounting bracket

Find a location that supports the following requirements:
- The beam must be able to support the AP in all environmental conditions.
- The beam must be flat.
- Beam attachment area is at least 0.5 in. (12.7mm) wide and as long as the access point's largest dimension.
- Beam mounting surface is at least 0.040 in. (1.0 mm) thick, but less than 0.650 in. (16.5mm) thick.

If you are installing the AP in a warehouse or other industrial environments, then you might have to install the AP on a beam instead of a ceiling.

1. Align the red dot on the AP with the red dot on the accessory bracket.
2. Insert the plastic part posts into the AP back recess.
3. Push the AP onto the plastic part, and rotate the AP about one-sixth turn clockwise to make it lock in place.
   If you can turn or twist the AP, it was not locked in place properly. Remove the AP and attach it again until it locks in place.
4. Connect the network cable.
5. Open the top screw as necessary and place the beam clip onto a beam. You must hold the AP when attaching the beam clip.
6. Tighten the beam clip top screw to a torque of 50 in-lbs.

## Install the Access Point on a Silhouette Ceiling

### Before you begin
You need the following items:
- AP4020X
- AH-ACC-BKT-AX-SL bracket.

You can mount the access point to a ceiling grid with 1/8 in. or 1/4 in. bottom opening.

**Note:** Silhouette is an Armstrong Ceiling Solutions name.

**Table 8.** *AH-ACC-BKT-SL Bracket Components*

| Callout | Description |
|---------|-------------|
| 1 | Metal hinges on the AH-ACC-BKT-AX-SL bracket. |
| 2 | White tabs on the AH-ACC-BKT-AX-SL bracket. |
| 3 | Drawing of 1/8 in. or 1/4 in. ceiling grid. |

1. Remove the ceiling tiles.
2. Place the bracket on the ceiling rail in such a way that the accessory metal hinges are almost perpendicular to the sides of the ceiling rail with the ceiling rail over the center hole.
3. Lightly push onto to the ceiling rail and rotate the accessory clockwise until the hinges hook over the edge of the rail and the white tabs click in place.

**Note:** There are two white tabs in the back of the bracket that holds on to the ceiling rail. Use your finger to pull and unhook one side of the white tab if you want to remove the accessory from the ceiling rail. Gently rotate the bracket counterclockwise and if there is resistance, the other white tab in the back of the accessory must also be released.

4. Align the red dot on the back of the access point against the accessory bracket red dot.

**Note:** The accessory has a circular tip that fits into the circular depression on the back of the access point.

5. Press and rotate the access point clockwise until it locks into place on the accessory.
6. Connect the network cable.
7. Replace the ceiling tiles.

**Fig. 6.** AH-ACC-BKT-AX-SL accessory bracket
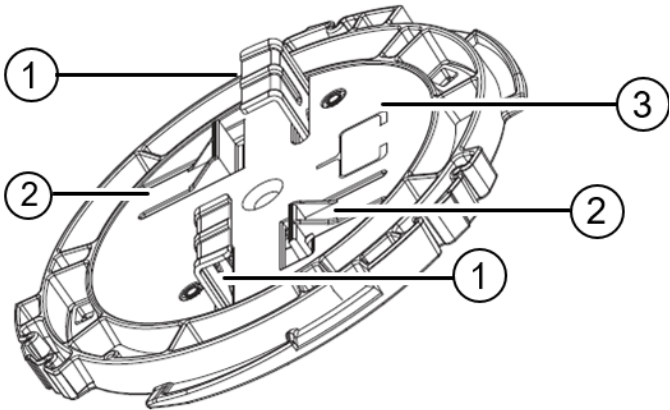


## Install the Access Point to a 9/16th-inch T-bar Ceiling

### Before you begin
You need the following items:
- AP4020X
- One AH-ACC-BKT-AX-TB accessory bracke if the t-bar bottom is flat, one AH-ACC-BKT-AX-IL accessory bracket if there is a protrusion in the center of the t-bar bottom, or the AH-ACC-BKT-916-KIT if you have a protruded ceiling tile and you are using the AH-ACC-BKT-AX-TB bracket.

You can mount the access point to a ceiling that has a 9/16 in. wide T-bar.

1. Remove the ceiling tiles.
2. Place the bracket on the ceiling rail in such a way that the accessory center is over the protrusion and the metal hinges are between perpendicular and about one-eighth of a turn from the sides of the ceiling rail.
3. Push up gently and rotate the bracket clockwise until the hinges hook over the edge of the rail and the white tabs click in place.

**Note:** There are two white tabs in the back of the bracket that holds on to the ceiling rail in place. Use your finger to pull and unhook one side of the white tab if you want to remove the accessory from the ceiling rail. Gently rotate the bracket counterclockwise and if there is resistance, the other white tab in the back of the accessory must also be released.

4. Gently rotate the bracket counterclockwise and if

there is resistance, the other white tab in the back of the accessory must also be released.
5. Align the red dot on the back of the access point against the accessory bracket red dot.

**Note:** The accessory has a circular tip that fits into the circular depression on the back of the access point.

6. Press and rotate the access point clockwise about one-sixth of a turn until it locks into place on the accessory bracket.
7. Connect the network cable.
8. Place the cable cover over the Ethernet cable.
9. Replace the ceiling tiles.

## Install the Access Point on a Junction Box

### Before you begin
You need the following items:
- AP4020X
- ACC-BKT-AX-JB for junction box mounting.

Install a access point to a junction box if you want to power the AP using an electrical connection.

The ACC-BKT-AX-JB accessory bracket is used when you need to install the access point on an indoor junction box. The ACC-BKT-AX-JB has two parts:
- A metal part that attaches to the junction box.
- A plastic part that attaches to the metal part and the access point.

1. Align the red dot on the back of the access point against the red dot on the plastic part.
2. Push the access point onto the plastic part and turn it clockwise until you hear it lock in place.
3. Insert the RJ45 cable connector to the Ethernet connector on the access point.

## Connect the Antennas

### Before you begin
The AP4020X has two integral antennas which cannot be removed. An integral antenna is fixed to the AP and cannot be disconnected. It is also called a fixed antenna or integrated antenna.

The AP4020X supports up to six RPSMA antennas, which you can attach to the AP.

1. Thread the antennas onto the RP-SMA connector.
2. Torque the antennas to 5 in-pounds.
3. Twist all antennas so the bend opening is towards the radome.
4. Rotate each antenna to the 45 or 90-degree position for maximum signal strength.

## Connect the AP to the Network

### Before you begin
You will need a Ethernet cable. Locate the Ethernet ports on the AP before you begin.

Do one of the following:
- Connect the Ethernet cable to the ETH0/PoE port for PoE.
- Connect the Ethernet cable to the ETH1, for non-PoE.

## Connect a Power Supply

If you require an external 12V DC power supply, you can plug the power cord into the power connector at the back of the AP.

The LED on the top of the AP lights up white when you

connect the power supply. For more information, see *"Status LED Activity on page 3"*.

*F*or more information about installing the AP, see *ExtremeWireless Access Point AP4020X Installation Guide*.

## Secure the Access Point after Installation (Optional)

**Before you begin**

You will need a Kensington security lock.

Secure the access point from damage or theft. The AP's security is determined by the cable attachment or the radome breaking.

1. Securely attach the free end of the Kensington lock cable near the AP.
2. Unlock the Kensington lock.
3. Insert the rectangular lock end into the Kensington security slot on the AP.
4. Lock the Kensington lock.

*Fig. 7.* Kensington Security Slot



*Table 9.* Kensingston Security slot

| Callout | Item |
|---------|------|
| 1 | Kensingston security slot |

## Downloads

Commission, monitor, and troubleshoot devices easily with **ExtremeCloud IQ** Companion Mobile Application (supported on iOS and Android).

If you need to manually download the applications, then you can use the URLs below.

- ExtremeCloud IQ Companion Mobile:  Application Onboarding: https://extremecloudiq.com/login

- ExtremeCloud IQ Companion Android Mobile Application : https://play.google.com/store/apps/details?id=com.extremenetworks.xiqmobileapp

- ExtremeCloud IQ Companion iOS Mobile Application: https://apps.apple.com/us/app/extremecloud-iq-companion/id1526789768

## Documentation

You can find documentation for all of your Extreme Networks products at the Extreme documentation portal at https://supportdocs.extremenetworks.com/support/documentation/.

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# Extreme Wireless
## Access Point

QUICK INSTALLATION
AP4020X

### Scan to Download the ExtremeCloud IQ Companion Mobile Application

Commission, monitor, and troubleshoot devices easily with ExtremeCloud IQ Companion Mobile Application (supported on iOS and Android).

Use your mobile device camera to scan the serial number, capture installation images, assign or change device location, and network policy. The ExtremeCloud IQ Companion Mobile Application enables you to access the device CLI for troubleshooting and view device and client status.



**ExtremeCloud IQ**
Companion Android
Mobile Application



**ExtremeCloud IQ**
Companion iOS Mobile
Application

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