

ExtremeWireless 802.11ax AP4000 and AP4000U Indoor Access Points

AP4000 and AP4000U Overview

The AP4000 and AP4000U access points are high-performance 802.11ax Wi-Fi 6E, 6 GHz, 5 GHz band, and 2.4 GHz band access points designed for high-density indoor environments. The access points support IEEE 802.11ax Orthogonal Frequency-Division Multiple Access (OFDMA) multi-user access.

The access point can be installed on an indoor environment such as a ceiling rail, on non-standard ceilings, and on a wall.

The AP4000 and AP4000U access points have the following features:

- One multicolor LED status light
 - For LED activity description, see "Status LED Activity Description"
- One light sensor located at the top of the device
- Two Ethernet ports - Eth0 and Eth1
 - Ethernet ports (Eth0 and Eth1) automatically negotiate half- and full-duplex connections with the connecting device.
 - Eth0 is 100/1000/2500 Mbps auto-negotiation Ethernet port, RJ45 Power over Ethernet (PoE) at 802.3at
 - Eth1 is 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45
 - These ports are auto-sensing and adjust to straight-through and crossover standard Cat5e or better Ethernet cables automatically. The access point receives power through an Ethernet connection to the ETH0 port from power sourcing equipment (PSE) that is compatible with the 802.3at and 802.3at standards.
- One USB port
 - Use the USB port to connect USB-based beacons such as iBeacon and Internet of Things (IoT) devices. Remove the screw that secures the protective cover to access the USB port.
- One micro USB console port
- One reset button
- One Kensington lock
 - The best practice is to use Kensington locks for locking the device.
- Temperature:
 - Operating temperature: 0 °C to +50 °C (+32 °F to +122 °F)
 - Storage temperature: -40 °C to +70 °C (-40 °F to +158 °F)
- Relative humidity: 0% to 95% non-condensing

Power Specifications

- IEEE 802.3at PoE Power
- Ultra-wideband (UWB) support on AP4000U

Power Options

- Power Draw:
 - Typical: 13.0 W; Max: 14.5 W (without USB)
 - Typical: 15.8 W; Max: 17.3 W (with USB)

- 802.3at PoE capable
- Gigabit Ethernet port (RJ45 power input pins: Wires 4,5,7,8 or 1,2,3,6)

For detailed device and radio specifications, refer to the *AP4000 Data Sheet*.

Figure 1 AP4000 and AP4000U access points hardware components

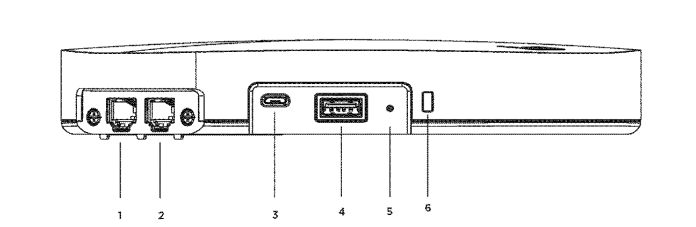


Table 1 AP4000 access point hardware ports

Callout	Description
1	Eth1
2	ETH0/PoE+
3	Console port
4	USB port
5	Reset button
6	Security Kensington lock

Status LED Activity Description

The AP4000 and AP4000U access points have one status light on top of the chassis. The status light conveys operational states for system power, firmware updates, Ethernet and wireless interface activity, and major alarms.

- Steady white: The device has successfully established a Control And Provisioning of Wireless Access Points (CAPWAP) connection to ExtremeCloud IQ and is operating normally.
- Slow-blinking white: The device has a CAPWAP connection to ExtremeCloud IQ, but is operating on 802.3af power instead of 802.3at power.
- Steady amber: The device is initializing, rebooting, or is running without a CAPWAP connection.
- Slow-blinking amber: The device has no CAPWAP connection to ExtremeCloud IQ, and is operating on 802.3af power instead of 802.3at power.
- Fast-blinking amber: The device is upgrading its IQ Engine firmware.
- Dark: power is off.

Micro USB Console Port

Through the console port, you can make a serial connection between your management system and the access point.

Note: When you connect to the device using the micro USB Console port, the management station from which you connect to the device must have a VT100 emulation program, such as Tera Term Pro® (a free terminal emulator) or Hilgraeve HyperTerminal® (provided with Windows operating systems from XP forward).

AP4000 and AP4000U Box Contents

Ensure that the following items are available:

Table 2 Contents of the AP4000 Box

Quantity	Item
1	An AP4000 or AP4000U access point
1	Mounting bracket for prelude T-bar ceiling installation (part number AH-ACC-BKT-AX-TB)
1	Quick Reference Guide

All optional brackets and accessories are sold separately. For detailed installation instructions about all mounting procedures, refer to the *ExtremeWireless AP4000 Access Point Installation Guide* and the *802.11ax and Cloud Access Points Accessories Guide* in the [Extreme Networks Documentation Support](#) site.

Position the Access Point before Installation

There is a red dot on the back of the access point and the bracket that will work as a guide to position the access point for installation. Line up the red dot on the access point and the bracket for ease of installation.

Install the Access Point

Electrical Hazard: Only qualified personnel must perform installation procedures.

Use these instructions as guidelines for mounting and connecting the AP4000 or the AP4000U access point easily and safely.

Install the Access Point on a Standard Ceiling Rail

The AP4000 and AP4000U access points ship with a mounting bracket for standard 15/16 in. dropped ceiling grid. For non-standard ceiling rail installations, see "Install the Access Point on a Non-Standard Ceiling Grid or a Wall" .

- Remove the ceiling tiles.
- Align the accessory on the ceiling rail in such a way that the accessory metal hinges are almost parallel to the sides of the ceiling rail.
- Rotate the accessory clockwise until the metal 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 accessory that holds on to the ceiling rail in place. Use your finger to push and unhook one side of the white tab if you want to remove the accessory from the ceiling rail.

Figure 2 AH-ACC-BKT-AX-TB bracket

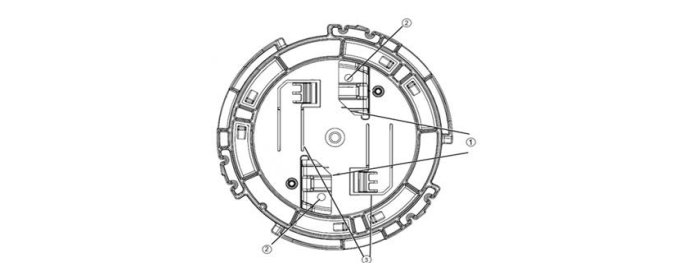


Table 3 AH-ACC-BKT-AX-TB bracket parts description

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

- Attach the Ethernet port cap to the access point Ethernet port. For more information about Ethernet cap, refer to Ethernet Cap Accessory Information on the *802.11ax and Cloud Access Points Accessories Guide*.
- Align the red dot on the back of the access point against the bracket red dot.

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

- Press and rotate the access point 1/8th turn clockwise until it clicks into place on the accessory.

Figure 3 AP4000 or AP4000U access point ceiling install



- Attach the Cat6 RJ45 cable to the ETH0 or ETH1 port.
- Place the cable cover over the Ethernet cable.
- Replace the ceiling tiles.

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

For detailed non-standard ceiling grid installation or wall installation instructions, refer to the *802.11ax and Cloud Access Points Accessories Guide*.

The access point can be installed on a non-standard ceiling grid using the following accessories:

Table 4 Non-standard ceiling grid and wall accessories information

Bracket part number	Description
	Mounting bracket for prelude 15/16 in.
AH-ACC-BKT-AX-TB	Mounting bracket for interlude ceilings and suprafine 9/16 in. ceilings and walls
AH-ACC-BKT-AX-IL	Mounting bracket for silhouette 1/8 in. and silhouette 1/4 in. ceiling grids
AH-ACC-BKT-AX-SL	Junction box or wall mounting for indoor access points
ACC-BKT-AX-JB	Beam mounting for indoor access points
ACC-BKT-AX-BEAM	

Bracket part number	Description
	Mounting bracket for direct-to-wall installations
AH-ACC-BKT-AX-WL	
	9/16 in. ceiling mount brackets for non-flat and protruded ceiling tiles. Use with AH-ACC-BKT-AX-TB
AH-ACC-BKT-916-KIT	Adapter bracket AH-ACC-BKT-TB for 15/16 in. wide T-Bars non-flat or protruded ceiling tiles
ACC-BKT-TB-NF	Adapter bracket for using cloud access point with WiNG mounting plate (#37201)
ACC-BKT-AX-WNGADAPT	

Note: The default bracket for wall installation is the ACC-BKT-AX-JB bracket. Order the -JB bracket for new wall installations. The AH-ACC-BKT-AX-WL bracket is for users who already have the -WL brackets.

Lock the Access Point after Installation

Secure the access point by using the Kensington lock on the side of the access point. The security feature is used to prevent the access point from being removed from the mounting accessory.

Antenna Information

The access points have internal antennas.

- 2 Dual-band 2.4G/5G antenna
- 2 6G band antenna
- 2 scanning 2.4G/5G/6G antenna
- 1 BLE antenna
- 1 UWB antenna (for AP4000U only)

Professional Installation Instruction

Installation personnel

This product is designed for specific application and needs to be installed by a qualified personnel who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

Installation procedure

Refer to the *ExtremeWireless AP4000 Access Point Installation Guide*.

Warning: Select the installation position and ensure that the final output power does not exceed the limit set forth in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation professionnelle

Installation

Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.

ProcEDURE d'installation

Consulter le manuel d'utilisation *ExtremeWireless AP4000 Access Point Installation Guide*.

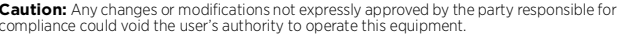
Warning: Avertissement: Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur. La violation de cette regle peut conduire a de serieuses penalites federales.

This section contains notices that are intended to protect your personal safety and to prevent damage to the equipment.

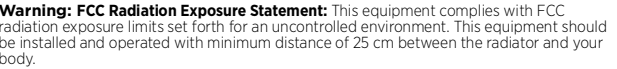
Electrical Hazard: Only qualified personnel must perform installation procedures. Within the context of the safety notes in this documentation, qualified persons are defined as persons who are authorized to commission grounding devices, systems, and circuits in accordance with established safety practices and standards. A qualified person understands the requirements and risks involved with installing outdoor electrical equipment in accordance with national codes.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or TV technician for help



This device is restricted for indoor use. This equipment may only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties. The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet. Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or Communications with unmanned aircraft systems.



For Japan, AP4000 access point is restricted for indoor use in the 5150-5350 MHz band only.

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

 Warning: This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

Restrictions or requirements in the UK	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK(NI)

Este produto está homologado pela ANATEL de acordo com os procedimentos regulamentados pela Resolução nº. 242/2000 e atende aos requisitos técnicos aplicados.

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL - www.anatel.gov.br

La operacion de este equipo esta sujeta a las siguientes dos condiciones
1 es posible que este equipo o dispositivo no cause interferencia perjudicial y
2 este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que
pueda causar su operacion no deseada.

The operation of this equipment is subject to the following two conditions:

- 1 It is possible that this equipment or device does not cause disruptive interference and
- 2 This equipment or device must accept any interference, including interference that may cause undesired operation.

This equipment complies with the UK and EEA radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

The frequency and the maximum transmitted power in the UK and European Conformity are listed below:

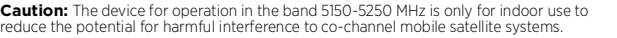
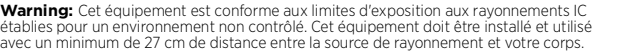
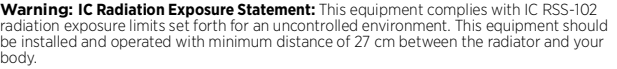
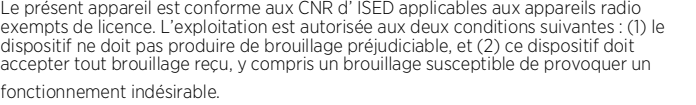
2402-2480MHz (LE):	9.63 dBm
2405-2480MHz:	9.81 dBm
2412-2472MHz:	19.96 dBm
5180-5240MHz:	22.95 dBm
5260-5320MHz:	22.98 dBm
5500-5700MHz:	22.98 dBm
5745-5825 MHz:	22.98 dBm
5955-6415MHz:	22.97 dBm
6489.6-7987.2MHz:	-41.58 dBm/RBW

Hereby, Extreme Networks declares that the radio equipment AP4000U, AP4000 is in compliance with Radio Equipment Regulations 2017.

Extreme Networks, UK Ltd.
250 Longwater Avenue Green Park
1st Floor
Reading, UK

 Warning: For indoor use only.
Pour une utilisation en intérieur uniquement.

This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



This radio transmitter [E-4141B-AP4000] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed in *ExtremeWireless AP4000 Access Point Installation Guide*, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [C: 441B-AP4000] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne répertoriés dans le Guide d'installation des points d'accès sans fil extrêmes AP4000, avec un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

第十二條一經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。第十四條一低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫用電波射性電機設備之干擾。

在 5.25-5.35 兆赫頻帶內操作之無線資訊傳輸設備，限於室內使用。

無線資訊傳輸設備的製造廠商應確保頻穩定性，如依製造廠商使用手冊上所述正常操作，發射的信號應維持於操作頻帶的帶寬。

電磁波曝露量 MPE 標準內 (MPE) $1\text{mW}/\text{cm}^2$ ，送測內品實內為 $0.734\text{mW}/\text{cm}^2$ 。

Avoid impacting the operation of nearby radar systems. 應避免影響附近雷達系統之操作。

High-gain directional antennas can only be used in stationary point-to-point systems. 高增益指向性天線只得應用於固定式點對點系統。

This product complies with the requirements of Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

in accordance with Directive 2012/19/EU of the European Parliament on waste electrical and electronic equipment (WEEE):

- 1 The symbol above indicates that separate collection of electrical and electronic equipment is required.
- 2 When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
- 3 It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
- 4 It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated.

For information about the available collection system, please contact Extreme Environmental Compliance at Green@extremenetworks.com.

單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁶⁺)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
金屬零件 (Metal Parts)	○	○	○	○ ¹⁾	○	○
電路模組 (Circuit Modules)	—	○	○	○	○	○
電線及電纜零件 (Cables & Cable Assemblies)	○	○	○	○	○	○
塑料和聚合物零件 (Plastic and Polymeric parts)	○	○	○	○	○	○

備註1、¹⁾“超出 0.01 wt %”或“超出 0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。
Note 1、¹⁾“Exceeding 0.01 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of the presence condition.

備註2、“○”係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2、“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備註3、“—”係指該項限用物質無排除項目。
Note 3、“—” indicates that the restricted substance corresponds to the exemption.

English	Hereby, Extreme Networks declares that the radio equipment type (AP4000) is in compliance with Directive 2014/53/EU. For full text of the EU Declaration of Conformity, please contact Extreme Regulatory Compliance at compliancerequest@extremenetworks.com
Finnish	Täten Extreme Networks vakuuttaa, että Radio laite tyyppi (AP4000) on direktiivin 2014/53/EU mukainen.EU vaatimustenmukaisuusvakuutuksen täydellisistä tekstistä ota yhteyttä äärimmäisiin viranomais säädoiksiin osoitteessa compliancerequest@extremenetworks.com
Dutch	Extreme Networks verklaart hierbij dat het type radioapparatuur (AP4000) in overeenstemming is met richtlijn 2014/53/EU.Voor de volledige tekst van de EU-conformiteitsverklaring u contact opnemen met extreme regelgeving op compliancerequest@extremenetworks.com
French	Par la présente, Extreme Networks déclare que le type d'équipement radio (AP4000) est conforme à la directive 2014/53/UE.Pour le texte intégral de la Déclaration de conformité de l'UE, veuillez communiquer avec Extreme Regulatory Compliance à compliancerequest@extremenetworks.com
Swedish	Härmed intygar Extreme Networks att radioustrustning typ (AP4000) överensstämmer med direktiv 2014/53/EU.För fullständig text av EU-försäkran om överensstämmelse, vänligen kontakta Extreme regel efterlevnad på compliancerequest@extremenetworks.com
Danish	Herved erklærer Extreme Networks, at radioudstyrs typen (AP4000) er i overensstemmelse med direktiv 2014/53/EU.For den fulde ordlyd af EU-overensstemmelseserklæringen bedes du kontakte Extreme Regulatory Compliance på compliancerequest@extremenetworks.com
German	Dabei erklärt Extreme Networks, dass der Funkgerädetyp (AP4000) mit der Richtlinie 2014/53/EU im Einklang steht.Für den vollständigen Wortlaut der EU-Konformitätserklärung wenden Sie sich bitte an extreme Regulatory Compliance unter compliancerequest@extremenetworks.com
Greek	Με την παρούσα, ακραία δίκτυα δηλώνουν ότι ο τύπος του ραδιοεξοπλισμού (AP4000) συμμορφώνεται με την οδηγία 2014/53/ΕΕ.Για το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ, παρακαλούμε επικοινωνήστε με την ακραία κανονιστική συμμόρφωση στο compliancerequest@extremenetworks.com
Icelandic	Hérliðnir, Extreme Networks, lýsa því yfir að útvörðsbúnaðargerðin (AP4000) sé í samræmi við tilskipun 2014/53/ESB.Fyrir fullan texta í ESÚ yfirlýsingu um samræmi, vinsamlegast hafðu samband við Extreme Regluglýgni á compliancerequest@extremenetworks.com
Italian	Di conseguenza, Extreme Networks dichiara che il tipo di apparecchiature radio (AP4000) è conforme alla direttiva 2014/53/EU.Per il testo integrale della Dichiarazione di conformità dell'UE, contattate Extreme Regulatory Compliance presso compliancerequest@extremenetworks.com
Spanish	Por la presente, Extreme Networks declara que el tipo de equipo radioeléctrico (AP4000) cumple con la Directiva 2014/53/UE.Para obtener el texto completo de la Declaración de conformidad de la UE, póngase en contacto con Extreme Regulatory Compliance en compliancerequest@extremenetworks.com
Portuguese	Por este meio, a Extreme Networks declara que o tipo de equipamento de rádio (AP4000) está em conformidade com a Diretiva 2014/53/UE.Para obter o texto integral da Declaração de Conformidade da UE, contacte o cumprimento regulamentar extremo em compliancerequest@extremenetworks.com
Malti	B' dan, networks estremi, jiddikjarja li t-tip ta ' tagħmir tar-radju (AP4000) huwa konformi mad-Direttiva 2014/53/UE.Għat-test shiħ tad-dikjarazzjoni ta ' konformità tal-UE, jekk joġġbok ikkuntattja lil-konformità regolatorja compliancerequest@extremenetworks.com

Quick Reference

AP4000

AP4000U

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