

Installing the ExtremeWireless Internal Antenna AP-8432 Access Point

Overview of the AP-8432

Extreme Networks AP-8432 internal antenna Access Points are high-tier Access Points for dependable and efficient network performance. The Access Point's unique WiNG 5 software enables it to function as either a *Standalone Access Point*, an *Adaptive Access Point*, or a *Virtual Controller*.

This document is written for the qualified network device installer.

The AP-8432 Access Point has the following features:

- Two RJ-45 connectors (GE1/POE and Console)
- Four LED indicators
- One 5GHz 802.11ac radio, and a dual band 2.4GHz/5GHz 802.11ac radio
- One Bluetooth radio
- Baud rate: 115200
- PoE out support on 2nd Ethernet port
- GE1/POE accepts 802.3at or 802.3af compliant power from an external source.
- An AP-8432 supports the following dual-band antennas:

Antenna Type	2.4 GHz Gain (dBi)	5 GHz Gain (dBi)	Elevation Gain (dBi)
Monopole	Bluetooth: 7.7 Radio: 4.4	Radio1: 6.8 Radio 2: 5.9	Radio 1: 3.4 Radio 2: 4.1

AP-8432 Package Contents

Verify that the box contains the following items:

Table 1 Contents of the AP-8432 Box

Quantity	Item
1	AP-8432 Quick Reference Guide
1	AP-8432 Access Point
The following hardware is included	
1	Wall mount screws and mounting bracket

Hardware Installation

Site Preparation

- Consult your site survey and network analysis reports to determine specific equipment placement, power drops, and so on.
 - For optimal performance, install the Access Point away from transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators and other industrial equipment.
-  **Note:** When operating in a Gigabit Ethernet environment, CAT-5e or CAT-6 cable is recommended for Gigabit operation. The equipment is to be connected only to PoE networks. Extreme Networks does not recommend routing network cables outside.

- Assign installation responsibility to the appropriate personnel.
- Identify and document where all installed components are located.
- Identify and prepare Ethernet and console port connections.

Wall Mount Instructions

The AP-8432 can be mounted on any plaster, wood, or cement wall surface using the mounting brackets provided. The hardware required to install the AP-8432 on a wall consists of:

- Two wide-shoulder Phillips pan head self-tapping screws (M3.5 x 0.6 x 23 mm)
- Mounting bracket

Optional customer provided installation tools include:

- Phillips head screw driver, or drill and drill bit.

Wall Mount Procedure - New Installation

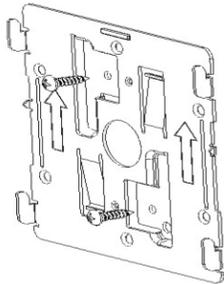
This section describes a new AP-8432 installation with no previous Access Point existing on the intended wall surface.

- 1 Place the mounting bracket against the wall.
- 2 Mark the screw hole locations on the intended deployment orientation of the unit.

 **Note:** When pre-drilling a hole, the recommended hole size is 4mm (0.16 in).

- 3 At each point, drill a hole in the wall and attach the mounting bracket (see Figure 1).
- 4 Place the Access Point on the mounting bracket.

Figure 1 Attaching Mounting Bracket to the Wall



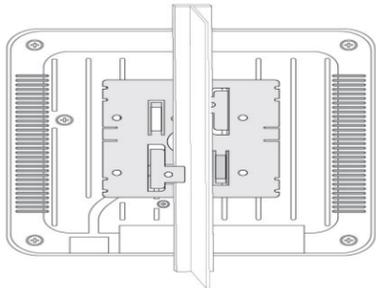
- 5 Cable the Access Point using either the Power Injector Solution (PD-9001GR-ENT) or the approved AP-8432 power supply (PWR-BGA48V45W0WW). For more information, refer to the *Extreme Wireless AP-8432 Installation Guide*.
- 6 Verify the unit has power by observing the LEDs. For more information on AP-8432 LED behavior, see the *ExtremeWireless AP-8432 Installation Guide*.

Suspended Ceiling T-Bar Mount Instructions

Ceiling mount requires holding the AP-8432 up against the T-bar of a suspended ceiling grid and twisting the unit on to the T-bar. If deploying the AP-8432 on a sculpted ceiling T-Bar, the Access Point mounting kit (Part No. KT-135628-01) can optionally be used as well.

- 1 Install the mounting bracket on the T-bar, then attach the mounting bracket using the mounting slots on the Access Point (see Figure 2).
- 2 Cable the Access Point using either the Power Injector solution (PD-9001GR-ENT) or the approved AP-8432 power supply (PWR-BGA48V45W0WW). See steps 5 and 6 in Wall Mount Procedure - New Installation.
- 3 Align the bottom of the ceiling T-bar with the back of the Access Point.
- 4 Orient the Access Point chassis by its length and the length of the ceiling T-bar.
- 5 Rotate the Access Point chassis 45 degree clockwise.
- 6 Push the back of the Access Point chassis on the bottom of the ceiling T-bar.

Figure 2 Installing Mounting Bracket on the T-bar



- 7 Rotate the Access Point chassis 45 degrees counter-clockwise. The clips click as they fasten to the T-bar.

Basic Access Point Configuration

Once the AP-8432 is installed and powered on, refer to the *ExtremeWireless AP-8432 Access Point Installation Guide* to configure it and access management functions.

Notice

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Legal Notices

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For product support, including documentation, visit:

www.extremenetworks.com/support/

Regulatory and Compliance Information

Bluetooth Wireless Technology

This is an approved Bluetooth® product. For more information or to view the End Product Listing, visit <https://www.bluetooth.org/tpg/listings.cfm>.

-  **Caution:** Only use Extreme Networks approved and UL Listed accessories, battery packs, and battery chargers.
- Caution:** Do NOT attempt to charge damp/wet mobile computers or batteries. All components must be dry before connecting to an external power source.
- Caution:** Declared maximum operating temperature: 60°C.

Wireless Device Country Approvals

 **Note:** This section is applicable only to WW/WR/EU configurations.

Regulatory markings subject to certification are applied to the device signifying the radio(s) is/are approved for use in the following countries and continents: United States, Canada, Japan, China, South Korea, Australia, and Europe.

 **Note:** Europe includes, Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

 **Caution:** Operation of the device without regulatory approval is illegal.

Please refer to the Declaration of Conformity (DoC) for details of other country markings. This is available at: www.extremenetworks.com

Country Selection

Select only the country in which you are using the device. Any other selection will make the operation of this device illegal.

Country Roaming

This device incorporates the International Roaming feature (IEEE802.11d) which will ensure the product operates on the correct channels for the particular country of use.

Frequency of Operation - FCC and IC 5 GHz Only

Industry Canada Statement:

 **Caution:** The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-Channel mobile satellite systems. High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:

Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

2.4 GHz Only

The available channels for 802.11bg operation in the US are Channels 1 to 11. The range of channels is limited by firmware.

Warnings for the use of Wireless Devices

 **Warning:** Please observe all warning notices with regard to the usage of wireless devices.

Potentially Hazardous Atmospheres - Vehicle Installation

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders).

Potentially Hazardous Atmospheres - Fixed Installations

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders).

Safety in Aircraft

Switch off your wireless device whenever you are instructed to do so by airport or airline staff. If your device offers a 'flight mode' or similar feature, consult airline staff as to its use in flight.

Safety in Hospitals

Wireless devices transmit radio frequency energy and may affect medical electrical equipment. When installed adjacent to other equipment, it is advised to verify that the adjacent equipment is not adversely affected. Wireless devices transmit radio frequency energy and may affect medical electrical equipment.

Wireless devices should be switched off wherever you are requested to do so in hospitals, clinics, or healthcare facilities. These requests are designed to prevent possible interference with sensitive medical equipment.

Wireless devices transmit radio frequency energy and may affect medical electrical equipment. When installed adjacent to other equipment, it is advised to verify that the adjacent equipment is not adversely affected.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers:

- Should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON.
- Should not carry the device in a breast pocket.
- Should use the ear furthest from the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, turn OFF your device.

Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.

RF Exposure Guidelines

Reducing RF Exposure - Use Properly

Only operate the device in accordance with the instructions supplied.

International

The device complies with internationally recognized standards covering human exposure to electromagnetic fields from radio devices. For information on "International" human exposure to electromagnetic fields refer to the Declaration of Conformity (DoC) at: www.extremenetworks.com

EU

Remote and Standalone Antenna Configurations

To comply with EU RF exposure requirements, antennas that are mounted externally at remote locations or operating near users at stand-alone desktop of similar configurations must operate with a minimum separation distance of 40cm from all persons.

US and Canada

Co-located statement

To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must not be co-located or operating in conjunction with any other transmitter/ antenna except those already approved in this filing.

To satisfy US and Canadian RF exposure requirements, a transmitting device must operate with a minimum separation distance of 40cm or more from a person's body.

Pour satisfaire aux exigences Américaines et Canadiennes d'exposition aux radiofréquences, un dispositif de transmission doit fonctionner avec une distance de séparation minimale de 40cm ou plus de corps d'une personne.

Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 40 cm between the radiator and your body.

NOTE IMPORTANT: (Pour l'utilisation de dispositifs mobiles)

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 40 cm de distance entre la source de rayonnement et votre corps.

Remote and Standalone Antenna Configurations

To comply with FCC RF exposure requirements, Antennas that are mounted externally must be professionally installed at a fixed location and operate with a minimum distance of 40 cm from all persons.

To comply with FCC Antenna requirements, the Antenna must be adjusted such that the RF emission lobes are below 30 degrees elevation.

Power Supply

This device must be powered from a 802.3af or 802.3at compliant power source which has been certified by the appropriate agencies, or by an Extreme approved UL LISTED ITE (IEC/EN 60950-1, LPS/SELV) power supply with electrical ratings: Output 48 Vdc, min 0.75 A or 55 Vdc min 0.6 A, with a recommended ambient temperature greater than 50 degrees C. Use of alternative power supply will invalidate any approvals given to this unit and may be dangerous.

Federal Communications Commission (FCC) Notice:

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/TV technician for help.

Radio Transmitters (Part 15)

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.

Radio Frequency Interference Requirements - Canada

CAC ICES-3 (B)/NMB-3(B)

Radio Transmitters

For RLAN Devices: The use of 5 GHz RLAN's, for use in Canada, have the following restrictions:

- Restricted Band 5.60 – 5.65 GHz

This device complies with 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.

In accordance with the regulations of Industry Canada, this radio transmitter can operate with an antenna of a type and a maximum gain (or lower) approved for the transmitter by Industry Canada. With the aim of reducing the risk of radio interference to other users, the chosen antenna type and its gain should be selected so that the equivalent isotropically radiated power (e.i.r.p.) does not exceed the intensity necessary for the establishment of a satisfactory connection.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectriqueà l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire àl'établissement d'une communication satisfaisante.

In compliance with respective local regulatory law, the AP software provides professional installers the option to configure the antenna type and antenna gain for approved antennas.

This radio transmitter (AP-8432) has been approved by Industry Canada to operate with the antenna types listed below and having a maximum gain allowable and the impedance required for each type of antenna. The antenna types not included in this list, or whose gain is higher than the maximum gain indicates, are strictly prohibited for the operation of the transmitter.

Le présent émetteur radio (AP-8432) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

CE Marking and European Economic Area (EEA)

The use of 2.4GHz RLAN's, for use through the EEA, have the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz.

Bluetooth® Wireless Technology for use through the EEA has the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 - 2.4835 GHz.

Statement of Compliance

Extreme Networks hereby declares that this radio equipment is in compliance with Directive 2011/65/EU and 1999/5/EC or 2014/53/EU (2014/53/EU supersedes 1999/5/EC from 13th June 2017).

Japan (VCCI) - Voluntary Control Council for Interference

この装置は、

この装置は、

この装置は、情報処理装置等電波障害自主規制協議会（V C C I）の基準に基づいたClass 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。

この装置は、

5.2/5.3GHz 屋内使用規定” or この製品は屋内においてのみ使用可能です

Korea Warning Statement for Class B ITE

기종별	사용자안내문
B급 기기 (가정용 방송통신기자재)	이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

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Other Countries

All 2.4GHz and 5GHz Wireless Devices:

Australia

Use of 5GHz RLAN's in Australia is restricted in the following band 5.50 – 5.65GHz.

Brazil (UNWANTED EMISSIONS - ALL PRODUCTS)

Regulatory Declarations for AP-8432I - BRAZIL

For more information consult the website <http://www.anatel.gov.br>.

Declarações Regulamentares para AP-8163 - Brasil



Note: A marca de certificação se aplica ao Transceptor, modelo AP-8163. Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário. Para maiores informações sobre ANATEL consulte o site: <http://www.anatel.gov.br>.

この装置は、

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela Anatel, de acordo com os procedimentos regulamentados pela Resolução nº242/2000 e atende aos requisitos técnicos aplicados, incluindo os limites de exposição da Taxa de Absorção Específica referente a campos elétricos, magnéticos e eletromagnéticos de radiofrequência, de acordo com as Resoluções nº 303/2002 e 533/2009.

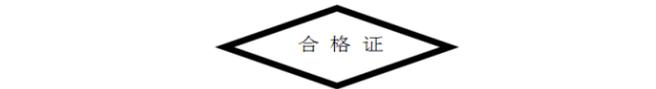
Este dispositivo está em conformidade com as diretrizes de exposição à radiofrequência quando posicionado pelo menos 25 centímetros de distância do corpo. Para maiores informações, consulte o site da Anatel.

Chile

Este equipo cumple con la Resolución No 403 de 2008, de la Subsecretaría de telecomunicaciones, relativa a radiaciones electromagnéticas.

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China



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Hong Kong

In accordance with HKTA1039, the band 5.15GHz - 5.35GHz is for indoor operation only.

この装置は、

Mexico

Restrict Frequency Range to: 2.450 – 2.4835 GHz.

La operación de este equipo está 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 operación no deseada.

S. Korea

For a radio equipment using 2400-2483.5MHz or 5725-5825MHz, the following two expression should be displayed:

この装置は、

무선설비는 운용 중 전파혼신 가능성이 있음

この装置は、

당해 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다.

Taiwan

この装置は、

低功率電波輻射性電機管理辦法

第十二條

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

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，應立即停用，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、科學及醫療用電波輻射性電機設備之干擾。

この装置は、

電磁波曝露量MPE標準値1mW/cm²・本產品使用時建議應距離人體：**40cm**

この装置は、

Turkey

Bu cihaz Türkçe karakterlerin tamamını ihtiva eden ETSI TS 123.038 V8.0.0 (veya sonraki sürümün kodu) ve ETSI TS 123.040 V8.1.0 (veya sonraki sürümün kodu) teknik özelliklerine uygundur.

この装置は、

Ukraine

Дане обладнання відповідає вимогам технічного регламенту №1057, № 2008 на обмеження щодо

використання деяких небезпечних речовин в електричних та електронних пристроях.

この装置は、

Thailand

この装置は、

เครื่องโทรคมนาคมและอุปกรณ์นี้ มีความสอดคล้องตามข้อกำหนดของ กทช.

この装置は、

Eurasian Customs Union



この装置は、

European Waste Electrical and Electronic Equipment (WEEE) Notice



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

- The symbol above indicates that separate collection of electrical and electronic equipment is required.
- 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.
- 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.
- 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.

TURKISH WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

Access Point China ROHS Compliance

部件名称 (Parts)	有害物质 					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 (Metal Parts)	X	0	0	0	0	0
电路模块 (Circuit Modules)	X	0	0	0	0	0
电缆及电缆组件 (Cables and Cable Assemblies)	X	0	0	0	0	0
塑料和聚合物部件 (Plastic and Polymeric Parts)	0	0	0	0	0	0
光学和光学组件 (Optics and Optical Components)	0	0	0	0	0	0
电池 (Batteries)	0	0	0	0	0	0

本表格依据 SJ/T 11364 的规定编制。
O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。

(企业可在此处，根据实际情况对上表中打“×”的技术原因进行进一步说明。)

Extreme Wireless™ WiNG™ Access Point

Quick Reference

AP-8432-680B30-US

AP-8432-680B30-1-WR