

Installing the ExtremeMobility 802.11 ax Indoor AP505i Access Point

Overview of the AP505i

The AP505i is a next generation, indoor ceiling mount model enterprise-class 802.11ax access point. The “i” in AP505i indicates that it comes with internal antennas. The AP features two simultaneous 4 x 4 radios, eight WiFi internal antennas, and one Bluetooth Low Energy (BLE) antenna.

The AP505i can be mounted on a dry or wood wall, solid-flat ceiling, junction/gang box, and on a suspended or drop ceiling.

 **Note:** The AP505i requires a minimum base firmware of WiNG 7.0.

The AP505i model has the following features:

- Radios: 2 radios (one band locked at 2.4GHz and the other band at 5GHz) 1 IoT Radio (2.4 GHz)
- Console Port: RJ45
- Two Ethernet Ports
 - One multi-rate GE/2.5 GE port(LAN1) with PoE
 - 10/100/1000 Ethernet Port (LAN2)
- LEDs: 6
 - All LEDs will be on during reset.
- One Reset button
- Power: PoE 802.3af; 12VDC external power in connector (see Table 1 for details)
- Antennas:
 - Eight WiFi **internal** antennas
 - One BLE **internal** antenna
- Temperature:
 - 0 to +40°C (32°F to 104°F) operating temperature

• Enclosure: Plastic only
In Figure 1, the top image indicates the top view of AP505i. In the bottom one, you can see the side view of AP505i.

Figure 1 Top and Side View of AP505i

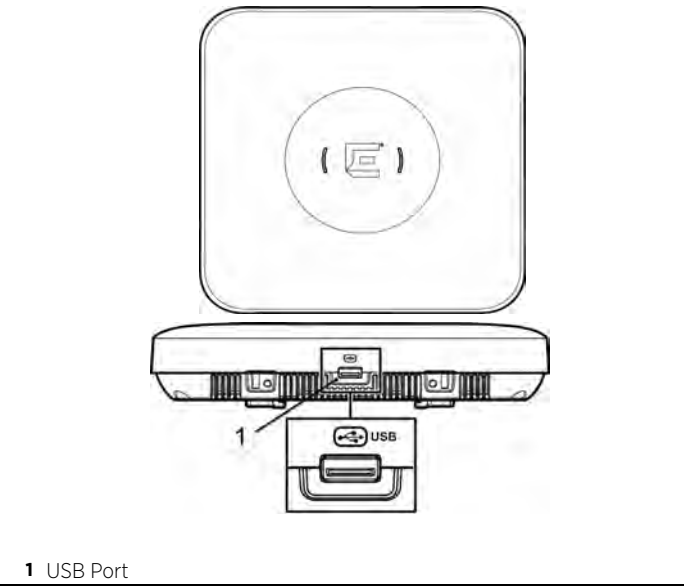


Table 1 AP505i Powering Methods

Power Source	Description
Power over Ethernet (PoE)	Power is provided through the RJ45 Ethernet port (CONSOLE port) to the right of the 12V DC port of AP505i, compliant to be powered by 802.3af and 802.3at. This is the preferred method of powering the AP on ceiling and high wall installations.
External 12V DC power supply (optional; ordering part #37219 - PWR 12VDC, 3A, 2.1mm x 5.5mm connector)	The AP505i can also be powered by an external DC power supply plugged into an AC source. Plug the supply’s input jack into the DC-In port.

 **Note:** PoE is disabled when external power supply is used.

Figure 2 AP505i back ports

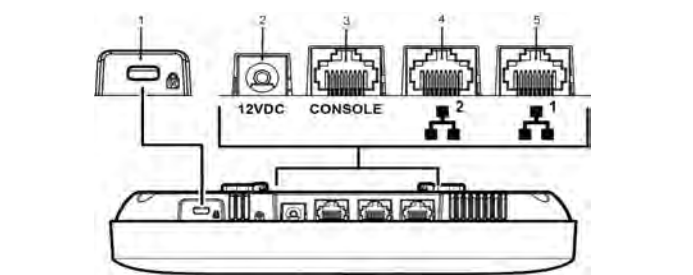


Table 2 Description of back ports on AP505i

Number	Description
1	Kensington lock
2	12V DC Power Supply
3	Console Port
4	LAN 2 (GE)
5	LAN 1 (2.5 GE)

LEDs Status

The LEDs are located on the front face of the AP but are not visibly marked.

Table 3 AP505i LED Status

LED Icon	LED Color	Description
Status	GREEN	Normal operational status
	AMBER	Non-operational status
GE1 Ethernet	AMBER	100 Mbps
	GREEN	1000 Mbps
	PURPLE	2.5G/5G
GE2 Ethernet	AMBER	100 Mbps
	GREEN	1000 Mbps
Radio #1 Status	GREEN	2.4GHz
Radio #2 Status	GREEN	5GHz
	AMBER	5GHz
IoT (BLE)	BLUE	Indicates BLE is enabled
	OFF	Non-operational status

For detailed installation information about the AP505i, see the *ExtremeWireless AP505i Installation Guide*.

Verifying the AP505i Box Contents

Verify the contents of the box and ensure that the following items are available:

Table 4 Contents of the AP505i Box

Quantity	Item
1	AP505i Quick Reference
1	Mounting Bracket for 802.11ax Indoor AP
1	Cloud Quick Start Card
1	AP505i access point
2	Phillips Pan-head wood screws
2	Screw-in anchors

Mounting and Connecting the AP

Use these instructions as guidelines for mounting and connecting the AP505i easily and safely.

The AP505i comes with a Mounting Bracket (#37201) that can be used to mount the AP on a flat t-bar with flat ceiling tiles, flat surfaces, and beams. An adaptor and brackets are available for mounting the AP to non-flat ceiling tiles and t-bars. To mount the AP505i on a junction/gang box, use the optional bracket (WS-MBI-WALL04; #30516). All additional and optional parts are sold separately.

 **Note:** The mounting procedures for installing the AP using the WS-MBI-DCFLUSH (ordering part #37211) adaptor to a T-bar, WS-MBI-DCMTR01 (ordering part #30518) to a T-bar, and using the main mounting bracket (ordering part #37201) along with a flat metal-easy attach adaptor (ordering part #37210), Accessory BRKT-000147A-01 (beam clip), and KT-135628-01 are covered in the *ExtremeWireless AP505i Installation Guide*.

Mounting the AP on a Dry or Wood Wall/Solid Flat Ceiling

Pre-installation checklist:

- The mounting surface, item, and hardware must be able to support the AP in all environmental conditions.
- The mounting surface should be flat.

To install the AP on a dry wall or flat surface:

Option 1: Using the Main Mounting Bracket

- 1 Use the mounting bracket as a template and mark the hole centers on the wall.

 **Note:** The four feet of the bracket and the direction of the arrow mark must be vertical and pointing up and the flat part of the bracket must be touching the surface it is being attached to.

- 2 Insert the screws into the holes of the mounting bracket and use the screw-in anchors if needed.
- 3 Insert the Ethernet cable’s RJ45 connector into the LAN/GE port.
- 4 Insert the AP onto the bracket’s four feet and slide it down to lock it in place.

Option 2: Using an optional Wall and Box bracket

 **Note:** Mounting the AP to a flat ceiling requires the WS-MBI-WALL04 (#30516) bracket, two Philips Pan-head screws, and two screw-in anchors.

- 1 Install the WS-MBI-WALL04 bracket onto a wall/ceiling with two screws and anchors if appropriate, and ensure that the locking tab is on the top side.
- Use the optional wall and box bracket as a template and mark the holes to be used. For wall mounting procedure, Extreme Networks recommends using the “A” or “B” hole centers.
- Mark the hole centers to be used, on the attachment surface.
- Drill the holes and attach the bracket using the screws and anchors provided in the kit.
- 2 Connect the LAN/Ethernet cable to the AP.
- 3 Insert the AP onto the keyhole posts and slide the AP and lock it into place at about 1/4th inch.

Mounting the AP to a Suspended or Drop Ceiling

The AP505i can be mounted to a suspended or drop ceiling directly using the mounting bracket on the t-bar. If there is a ceiling tile protrusion, add the optional T-bar adaptor to the main mounting bracket prior to T-bar installation.

Option 1: Using the Main Mounting Bracket to a Flat T-bar

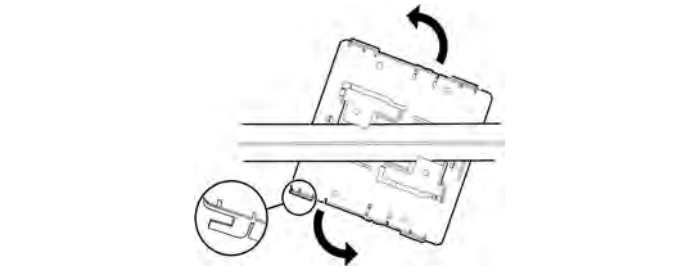
Before installation ensure that:

- The base thickness of the T-bar that supports the ceiling tile is 0.031”.
- The maximum base thickness of the T-bar of the T-bar is 0.055”.

 **Note:** The T-bar width can be either 9/16” (15mm) or 15/16” (24mm).

- 1 Remove the ceiling tiles, push and rotate the main mounting bracket onto the T-bar in such a way that the center angled locking tabs of the main bracket gets attached to the T-bar.

Figure 3 Attaching the main mounting bracket to a T-bar



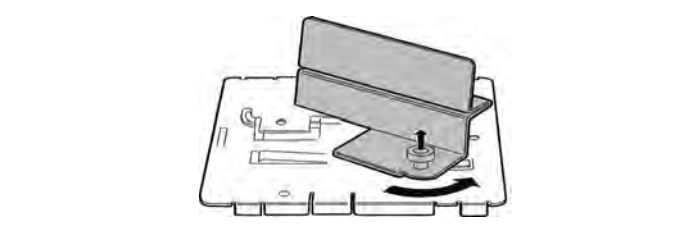
- 2 Replace the tiles to hold the T-bar in place.
- 3 Hold the AP and rock it back and forth to ensure it is securely mounted.
- 4 Attach the Ethernet cable’s RJ45 connector to the LAN1/GE1 port.

Option 2: Mounting the AP by attaching an adaptor to the main bracket

 **Note:** Mounting the AP to a suspended or drop ceiling requires the optional adaptor (Universal Mounting Kit for WLAN APs; # KT-135628-01). The adaptor requires a flat T-bar and fits a ceiling tile with up to a 0.35” protrusion from the bar.

- 1 Attach the T-bar adaptor by lining up the small bends on the adaptor with the long raised parts on the main bracket, pull up on the adaptor’s locking pin, and twist. Make sure the locking pin goes into the locking pin hole on the main bracket and locks in place.

Figure 4 Attaching the adapter to the main bracket



- 2 Slide the T-bar holder onto the T-bar and replace the tiles to hold the adaptor onto the T-bar.
- 3 Hold the AP and rock it back and forth to ensure that it is securely mounted.
- 4 Attach the Ethernet cable’s RJ45 connector to the LAN1/GE1 port.

The optional WS-MBI-DCMTR01 (#30518) adaptor can also be used for T-bar installations without the mounting bracket. For detailed instructions, see the *ExtremeWireless AP505i Installation Guide*.

Mounting the AP to a Bracket on a Junction or Gang Box

To mount the AP to a Bracket on a Junction or Gang box:

- 1 Use the Wall and Box Bracket WS-MBI-WALL04 (#30516).
- 2 Remove the screws from the junction/gang box.
- 3 Line up the bracket holes on the junction/gang box and ensure that they align. If the holes do not align, drill new holes.

 **Note:** When you line up the holes, the locking tab on the bracket must be pointing up and the junction/gang box must be fully covered by the bracket. The bracket must be square to the rest of the room walls and the two holes that are being used must be on the opposite side of large center hole on the bracket.

 **Note:** If the holes that you need to use are not near the corners of the bracket, break off the corner to decrease bracket’s visibility once the AP is installed.

- 4 Using the holes aligned together or the new ones drilled, attach the bracket to the junction/gang box using the screws removed from the box earlier.

 **Caution:** Over tightening the screws will cause the bracket to bend. If the bracket bends, you will not be able to slide the AP onto the keyhole posts.

- 5 Connect the LAN/Ethernet cable to the AP.
- 6 Align the keyhole slots and posts and slide the AP onto the bracket until you hear it lock in place.

Mounting the AP to a Beam

Pre-installation checklist:

- The beam must be able to support the AP in all environmental conditions.
- The beam should be flat.

Before attaching the AP onto a beam, verify that:

- Beam attachment area is at least 0.5” (12.7mm) wide and as long as the AP’s largest dimension.
- Beam mounting surface is less than 0.650” (16.5mm) thick.

To attach an AP to a beam, attach a beam clip (Accessory BRKT-000147A-01) to the mounting bracket:

- 1 Attach the adapter to the mounting bracket by using a twisting motion.
- 2 Attach the mounting bracket to the AP.
- 3 Place the adapter on a beam in such a way that there is enough space between the screw and clamp to be tightened.
- 4 Use the screw and clamp on the top of the adapter to secure the AP in place on the beam.
- 5 Insert the Ethernet plug into the AP.

Connecting a Power Supply to the AP505i

If you need to power the AP505i with an external 12V DC power supply, you can plug the power cord into the power connector on the back of the AP. There is no wall mount for the 12V DC power supply. When the device is powered on, the power LED on the front face of the AP is lit. Refer to the *ExtremeWireless AP505i Installation Guide* for information about optional power supplies.

LAN/Console Connections

The AP505i has two LAN (Ethernet) ports and a Console port. During administration and maintenance through the LAN or Console, the AP must still have a power connection through either an Ethernet PoE cable or a DC power supply.

Regulatory and Compliance Information

Safety Guidelines

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

Qualified Personnel:



Electrical Hazard: Only qualified personnel should perform installation procedures. Within the context of the safety notes in this documentation, qualified persons are defined as persons who are authorized to commission, ground and label 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.

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.



Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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. Operations in the 5.15-5.25GHz band are restricted to indoor usage only.



Warning: FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 23cm between the radiator & your body.

Industry Canada Notice

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.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution :

- 1 The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- 2 The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- 3 Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:

- 1 les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- 2 le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;
- 3 De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.



Warning: IC Radiation Exposure Statement: This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 27cm between the radiator & your body.



Warning: Déclaration d'exposition aux radiations: Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 27cm de distance entre la source de rayonnement et votre corps.



Warning: DFS Warning: Dynamic Frequency Selection (DFS) for devices operating in the bands 5250- 5350 MHz, 5470-5600 MHz and 5650-5725 MHz.



Warning: DFS Warning: Sélection dynamique de fréquences (DFS) pour les dispositifs fonctionnant dans les bandes 5250-5350 MHz, 5470-5600 MHz et 5650-5725 MHz.

Other Countries

Brazil

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

Hazardous Substances

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.

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)	○	○	○	○	○	○
電路模組 (Circuit Modules)	—	○	○	○	○	○
電纜及電纜組件 (Cables & Cable Assemblies)	○	○	○	○	○	○
塑料和聚合物零件 (Plastic and Polymeric parts)	○	○	○	○	○	○
備考1: “超出0.1 wt %”及“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: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition. 備考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 condition. 備考3: “—”係指該項限用物質為豁免項目。 Note 3: “—” indicates that the restricted substance corresponds to the exemption.						

NCC Statement
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、科學及醫療用電波輻射性電機設備之干擾。
電磁波曝露量MPE標準值1mW/cm ² ，送測產品實測值為0.963mW/cm ²
1. 使用此產品時應避免影響附近雷達系統之操作。

CE Information



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

The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

	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

All Operational Modes

2.4GHz: 802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), Bluetooth(BR/EDR, LE)
5GHz: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80)

The frequency and the maximum transmitted power in EU are listed below:

2412-2472MHz: XX.XX dBm
2402-2480MHz (BR/EDR): XX.XX dBm
2402-2480MHz (LE): XX.XX dBm
5180-5240MHz: XX.XX dBm
5260-5320MHz: XX.XX dBm
5500-5700MHz: XX.XX dBm

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):

- 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.

Declaration of Conformity in Languages of the European Community

English	Hereby, Extreme Networks, declares that this Radio LAN device (AP505i) is in compliance with Directive 2014/53/EU. The full text of the EU Deceleration of Conformity is available at: www.extremenetworks.com/support/documentation
Finnish	Valmistaja Extreme Networks vakuuttaa täten että Radio LAN device tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch	Hierbij verklaart Extreme Networks dat het toestel Radio LAN device (AP505i) in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.
French	Par la présente Extreme Networks déclare que l'appareil Radio LAN device (AP505i) est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU.
Swedish	Härmed intygar Extreme Networks att denna Radio LAN device (AP505i) står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Danish	Undertegnede Extreme Networks erklærer herved, at følgende udstyr Radio LAN device (AP505i) overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU.
German	Hiermit erklärt Extreme Networks die Übereinstimmung des "WLAN Wireless Controller bzw. Access Points" (AP505i) mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 2014/53/EU.
Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Extreme Networks ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN device (AP505i) ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU.
Icelandic	Extreme Networks lýsir her með yfir að thessi bunadur, Radio LAN device (AP505i), uppfyllir allar grunnkröfur, sem gerðar eru í R&TTE tilskipun ESB nr 2014/53/EU.
Italian	Con la presente Extreme Networks dichiara che questo Radio LAN device (AP505i) è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU.
Spanish	Por medio de la presente Extreme Networks declara que el Radio LAN device (AP505i) cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU.
Portuguese	Extreme Networks declara que este Radio LAN device (AP505i) está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU.
Malti	Hawnhekk, Extreme Networks, jiddikjara li dan Radio LAN device (AP505i) jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Direttiva 2014/53/EU.

Notice

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