



ExtremeWireless™ Access Points AP410i/e

Installation Guide

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Preface

This section discusses the conventions used in this guide, ways to provide feedback, additional help, and other Extreme Networks® publications.

Conventions

This section discusses the conventions used in this guide.

Text Conventions

The following tables list text conventions that are used throughout this guide.

Table 1: Notice Icons





Icon	Notice Type	Alerts you to...
	General Notice	Helpful tips and notices for using the product.
	Note	Important features or instructions.
	Caution	Risk of personal injury, system damage, or loss of data.
	Warning	Risk of severe personal injury.
<i>New!</i>	New Content	Displayed next to new content. This is searchable text within the PDF.

Table 2: Text Conventions

Convention	Description
<code>Screen displays</code>	This typeface indicates command syntax, or represents information as it appears on the screen.
The words enter and type	When you see the word “enter” in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says “type.”

Table 2: Text Conventions (continued)

Convention	Description
[Key] names	Key names are written with brackets, such as [Return] or [Esc] . If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press [Ctrl]+[Alt]+[Del]
<i>Words in italicized type</i>	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.

Providing Feedback to Us

Quality is our first concern at Extreme Networks, and we have made every effort to ensure the accuracy and completeness of this document. We are always striving to improve our documentation and help you work better, so we want to hear from you! We welcome all feedback but especially want to know about:

- Content errors or confusing or conflicting information.
- Ideas for improvements to our documentation so you can find the information you need faster.
- Broken links or usability issues.

If you would like to provide feedback to the Extreme Networks Information Development team, you can do so in two ways:

- Use our short online feedback form at <https://www.extremenetworks.com/documentation-feedback/>.
- Email us at documentation@extremenetworks.com.

Please provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Getting Help

If you require assistance, contact Extreme Networks using one of the following methods:

Extreme Portal

Search the GTAC (Global Technical Assistance Center) knowledge base, manage support cases and service contracts, download software, and obtain product licensing, training, and certifications.

The Hub

A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

Call GTAC

For immediate support: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

Subscribing to Service Notifications

You can subscribe to email notifications for product and software release announcements, Vulnerability Notices, and Service Notifications.

1. Go to www.extremenetworks.com/support/service-notification-form.
2. Complete the form with your information (all fields are required).
3. Select the products for which you would like to receive notifications.



Note

You can modify your product selections or unsubscribe at any time.

4. Click **Submit**.

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To find Extreme Networks product guides, visit our documentation pages at:

Current Product Documentation	www.extremenetworks.com/documentation/
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Release Notes	www.extremenetworks.com/support/release-notes
Hardware/Software Compatibility Matrices	https://www.extremenetworks.com/support/compatibility-matrices/
White papers, data sheets, case studies, and other product resources	https://www.extremenetworks.com/resources/

Training

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For more information, visit www.extremenetworks.com/education/.



Product Overview

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[AP310i/e AP410i/e Power Source on page 9](#)

[AP410i/e Power Tables on page 9](#)

[LED Indicators on page 10](#)

[Purchase Order Information on page 10](#)

The AP410i/e access points are indoor model 802.11ax access points. The “i” in AP410i indicates that the access point comes with internal antennas, and the “e” indicates that it comes with external antenna connectors. The access points feature built-in dual-band radios, two band-locked radios, eight WiFi internal or external antennas, and one Bluetooth Low Energy (BLE) antenna.

The AP410i/e can be mounted on a flat surface such as a wall, a solid flat ceiling, or to a junction box or gang box, and on a suspended or drop ceiling.



Note

The AP410i/e requires a minimum base firmware of WiNG 7.3.0.

In this document, the access points are addressed as AP410i/e when the product features and installation procedures are the same for both access points.

AP410i/e Features

- Radios: Three 802.11ax radios
 - One 2×2 2.4 GHz radio
 - One 4×4 5 GHz radio
 - One 2×2 2.4 GHz and 5 GHz radio
- One 2.4 GHz IoT radio
- Console port: RJ45
- Two Ethernet ports:
 - 1 × 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45
 - One multi-rate GE/2.5 GE Ethernet port
- LED indicators: Seven

All LED indicators will be powered on during reset and will connect to general purpose input/output (GPIO) pins.

- One reset button
- One Kensington lock
- One safety hanger provision
- One security torx screw lock to prevent the removal of the #37201 main mounting bracket
- One USB 2.0 type A connector
- Power: PoE 802.3at and 802.3bt (for more information on power used at 802.3at and 802.3bt modes, see [AP410i/e Power Tables](#))
- Antennas:
 - AP410i: Eight WiFi internal antennas and one BLE internal antenna
 - AP410e: Six RP-SMA external antenna ports and one BLE RP-SMA antenna
- Temperature:
 - AP410i: 0°C to +50°C (32°F to +122°F) @ 6000 ft.
 - AP410e: -20°C to +55°C (-4°F to +131°F) @ 6000 ft.
- Enclosure: Plastic

AP310i/e AP410i/e Power Source

Power source	Description
Power over Ethernet (PoE)	Power is provided through the 2.5 GE multi-rate Ethernet ports of AP410i/e, compliant to be powered with 802.3at and 802.3bt to provide full functionality. For reduced functionality, use 802.3af.
External 12V DC power supply (optional; ordering part #37215 PWR 12VDC, 2A, 2.5 mm x 5.5 mm connector)	Power is provided through an external DC power supply plugged into an AC source.

AP410i/e Power Tables

Table 3: AP410i power table

AP410i	802.3af	802.3at
Radio 0 (sensor)	2.4G and 5G - 2×2 (20dBm)	2.4G and 5G - 2×2 (20dBm)
Radio 1 (2.4G)	2×2 (20dBm)	2×2 (20dBm)
Radio 2 (5G)	2×2 (20dBm)	4×4 (20dBm)
BLE	On	On
USB	Off	On

Table 4: AP410e power table

AP410e	802.3af	802.3at
Radio 0 (sensor)	2.4G - 2×2 (19dBm) 5G - 2×2 (18dBm)	2.4G - 2×2 (19dBm) 5G - 2×2 (18dBm)
Radio 1 (2.4G)	2×2 (19dBm)	2×2 (19dBm)
Radio 2 (5G)	2×2 (18dBm)	4×4 (18dBm)
BLE	On	On
USB	Off	On

LED Indicators

The LED indicators are located on the front face of the access point but are not visibly marked.

Table 5: AP410i/e LED indicators

LED indicator	LED color	Description
Status	Amber	Non-operational status
	Green	Normal operational status
GE1 Ethernet	Amber	100 Mbps
	Green	1000 Mbps
	Purple	2.5G
GE2 Ethernet	Amber	100 Mbps
	Green	1000 Mbps
Radio 1	Amber	5G activity
Radio 2	Green	2.4G activity
Radio 3	White	Sensor activity
IoT radio (BLE)	Blue	Indicates BLE is enabled

Purchase Order Information

Table 6: Bracket purchase order information

Part number	Description
37201	Main mounting bracket for indoor access points (included in the access point box), along with the 27 mm M3 security screw pack for main mounting bracket
30518	WS-MBI-DCMTR01 bracket

Table 6: Bracket purchase order information (continued)

Part number	Description
30516	WS-MBI-WALLO4 bracket
37211	WS-MBI-DCFLUSH bracket

Table 7: Bracket accessory purchase order information

Part number	Description
KT-135628-01	Universal mounting kit for wireless LAN (WLAN) access points
37210	Flat metal easy-attach adapter for main mounting bracket
BRKT-000147A-01	Beam clip accessory
30525; WS-CAB-RJ45-FLT01	RJ45 flat cable accessory for ceiling mount brackets

Table 8: Power supply purchase order information

Part number	Description
37215	PWR 12V DC, 2A, 2.5 mm X 5.5 mm connector



Install the Access Point

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[Access Point Installation Options and Accessory Information](#) on page 13

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[Install the Access Point on a Beam](#) on page 28

About This Task

The access point is installed on flat surfaces such as drywall or wood wall, solid flat ceiling, suspended or drop ceiling with T-bar, to beams, or to a junction or gang box. Optional adapters and brackets are available for mounting the access point to non-flat ceiling tiles and T-bars.

See [purchase order information](#) for details on access points and optional brackets part numbers.

Before installing the access point:

Procedure

1. Verify the [box contents](#).
2. Visually inspect the access point, the bracket, and any other optional accessories you have ordered for physical damage.
If there is any damage, contact [Extreme Networks Support](#).
3. Read and review the [safety guidelines](#).

AP410i/e Box Contents

When you purchase the AP410i or AP410e access point, ensure that the following items are available in the box:

- An AP410i/e Quick Reference
- One access point (AP410i or AP410e)
- A stainless-steel mounting bracket for 802.11ax indoor access point

- Two Phillips pan head wood screws
- Two screw-in anchors



Note

All optional brackets and accessories are sold separately.

Access Point Installation Options and Accessory Information

The access point comes with the main mounting bracket (#37201; mounting bracket for 802.11ax indoor access points). There are various optional brackets, bracket adapters, and accessories that can be purchased separately.

Table 9: Bracket and accessory usage for various installation options

Mounting bracket or accessory	Wall install	Solid flat ceiling install	Ceiling install (T-bar)	Ceiling install (protruded T-bar)	Junction box install	Beam install	Ceiling tile protrusion	T-bar widths	Notes
37201; main mounting bracket	Yes	Yes	Yes	Yes, by adding the optional T-bar adapter to the main mounting bracket	No	Yes, by adding the beam clip accessory to the main mounting bracket	No	15/16 in.	This bracket is shipped with the access point. Installation methods: Wall mount or flush ceiling mount with single width.
KT-135628-01 accessory; used with main mounting bracket	No	No	Yes	Yes	No	No	Yes	15/16 in.	Wall mount or protruded ceiling mount with single width.
30518 WS-MBI-DCMTR01 bracket	No	No	Yes	Yes	No	No	Yes	9/16 in., 3/2 in., 15/16 in.	Protruded ceiling mount with varying widths.
30516 WS-MBI-WALL04 bracket	Yes	No	No	No	Yes	No	No	No	Wall mount with single width. Junction box installation.

Table 9: Bracket and accessory usage for various installation options (continued)

Mounting bracket or accessory	Wall install	Solid flat ceiling install	Ceiling install (T-bar)	Ceiling install (protruded T-bar)	Junction box install	Beam install	Ceiling tile protrusion	T-bar widths	Notes
37210 flat metal easy-attach adapter; used with main mounting bracket	Yes	Yes	No	No	No	No	No	N/A	Wall mount, ceiling mount, or install on any solid surface.
37211 WS-MBI-DCFLUSH bracket	No	No	Yes	Yes	No	No	No	9/16 in., 3/2 in., 15/16 in.	Protruded ceiling mount with varying widths.
BRKT-0001 47A-01; beam clip accessory	No	No	No	No	No	Yes	No	N/A	The beam clip is attached to the main mounting bracket.
30525 WS-CAB-RJ45-FLT01 accessory	No	Yes	Yes	No	No	No	No	N/A	This accessory can be used only with ceiling mount brackets listed in this table.

Install the Access Point on Drywall or Wood Wall, or to a Solid Flat Ceiling

About This Task

The access point is installed on drywall or wood wall or to a solid flat ceiling using:

- #37201, stainless-steel main mounting bracket that ships with the unit
- #30516, WS-MBI-WALL04 bracket, two Phillips pan-head screws, and screw-in anchors



Note

The WALL04 bracket, screws, and screw-in anchors are used for drywall mounting. For wood wall mounting, only the WALL04 bracket and screws are used.

- #37201, stainless-steel main mounting bracket with #37210, flat metal easy-attach adapter
- Phillips pan head screws

**Tip**

The best practice is to install the access point using the mounting brackets.

Install the Access Point Using the Main Mounting Bracket

About This Task

The main mounting bracket is a stainless-steel bracket that ships with the access point. It is used during drywall or wood wall installation, or solid flat ceiling installation.

**Tip**

The best practice is to use the main mounting bracket for all wall installations.

Procedure

1. Using the mounting bracket as a template, mark and drill two hole centers on the wall.

**Note**

The bracket feet must be pointing up.

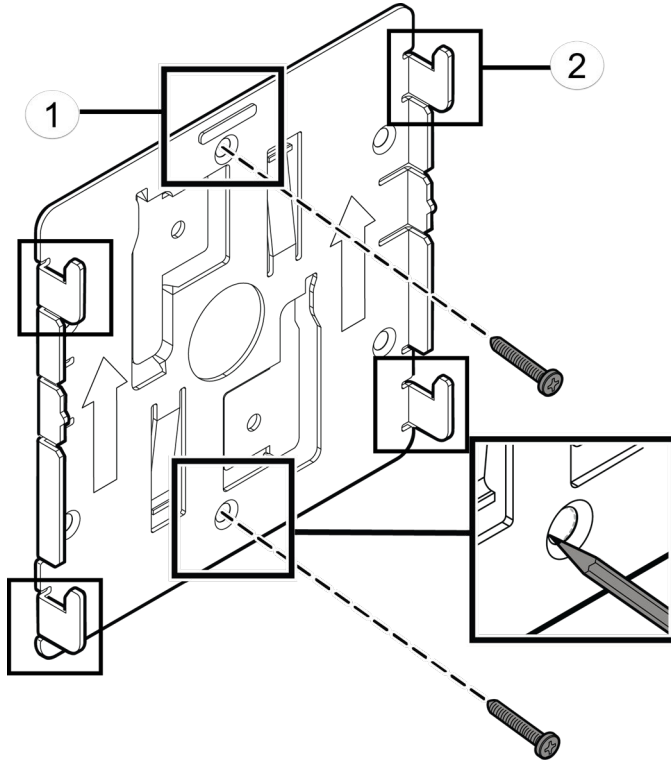


Figure 1: Main mounting bracket

Callout	Description
1	Main mounting bracket mounting holes
2	Main mounting bracket feet

2. Insert the Phillips pan head screws into the main mounting bracket holes and attach the bracket to the wall.
Use screw-in anchors, if needed.
3. Connect the Ethernet cable RJ45 connector into the GE1 port.
4. Place the access point onto the bracket feet and slide it down to lock it in place.

Install a Security Torx Locking Screw

About This Task

The security torx locking screw is used to prevent the access point from being removed from the main mounting bracket (#37201). There are two security lock screw holes on the rear of the access point.



Note

Perform this task after the access point is attached to the main mounting bracket on drywall or wood wall.

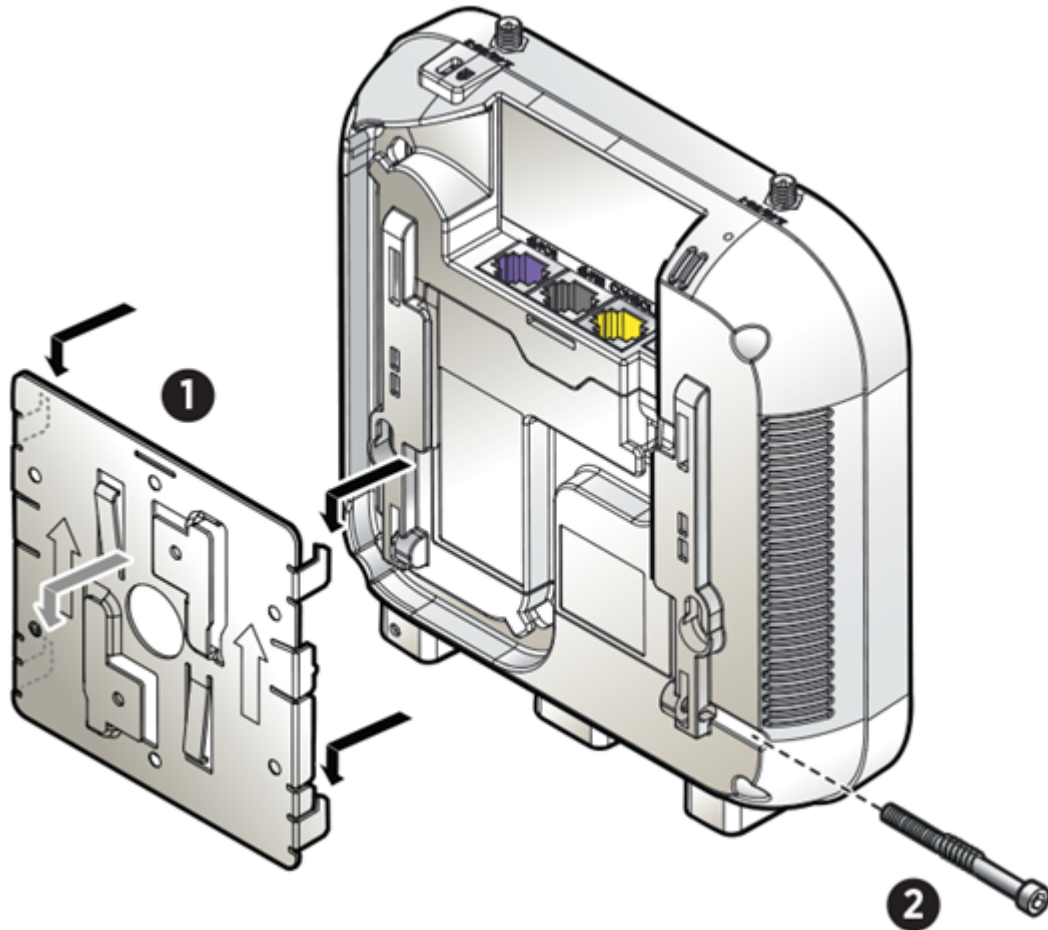


Note

You cannot remove the access point from the main mounting bracket until the security torx locking screw is removed.

Procedure

1. Line up the security torx locking screw using the rear guides on the access point.
2. Using a T8 bit screwdriver, tighten the security lock screw.
3. Turn the locking screw into the integral security screw hole until the security torx locking screw passes through the other side.

**Figure 2: Attach a security torx locking screw on the access point**

Callout	Description
1	Stainless-steel main mounting bracket attachment to the access point
2	Security torx locking screw to keep the bracket in place

Install the Access Point Using the WALL04 Bracket

About This Task

The optional WALL04 (#30516) bracket is used for wall installations, and ships with two Phillips pan head screws and two screw-in anchors. You must purchase the bracket separately.



Note

The locking tab on the WS-MBI-WALL04 bracket must be on the top side during installation.

Procedure

1. Using the WALL04 bracket as a template, mark and drill two holes on a wall.



Tip

The best practice is to use the "A" and "B" hole templates on the WALL04 bracket to mark the attachment holes.



Note

When using the "A" or "B" hole template, if the holes are not near the corners of the bracket, you can break off the corner to minimize the amount of bracket that is visible behind the access point.

2. Attach the WS-MBI-WALL04 bracket on a wall using two Phillips pan head screws.



Tip

The best practice is to install the screw-in anchors before attaching the pan head screws during drywall installations.

3. Connect the GE1 cable to the access point.
4. Insert the access point into the WALL04 bracket keyhole posts and slide it into place.
5. Lock the access point at approximately 1/4th in. from the bracket.

Install the Access Point Using the Main Mounting Bracket and Easy-Attach Adapter

About This Task

Use the flat metal easy-attach adapter (#37210) in combination with the main mounting bracket (#37201) when you do not want to use the screw holes on the main mounting bracket. The easy-attach adapter extends past the access point housing, thereby making it convenient to easily attach and remove the access point from a flat surface.

Procedure

1. Keep the adapter to the center of the main mounting bracket, push and rotate it.

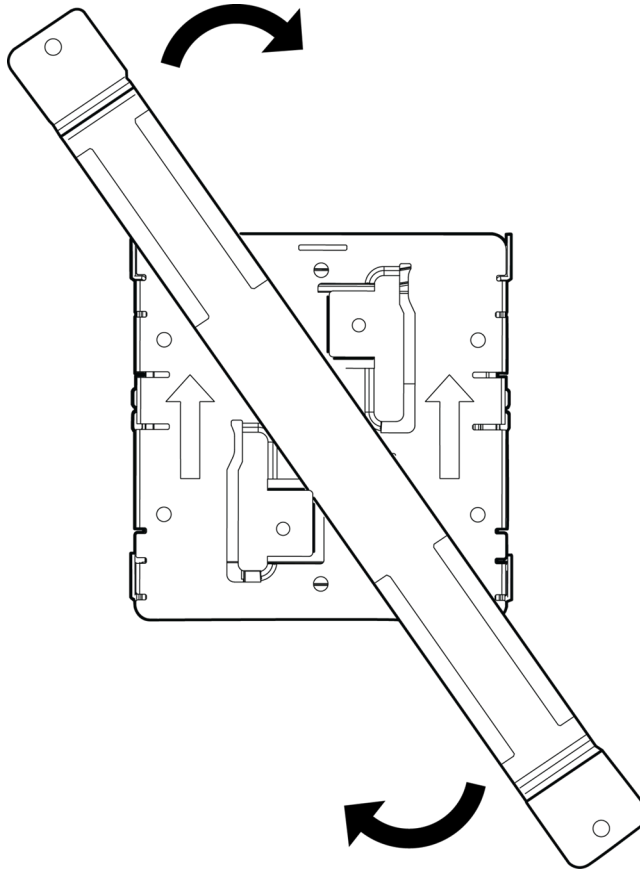


Figure 3: Flat metal easy-attach adapter being attached to the main mounting bracket

2. Using the attachment holes on the easy-attach adapter, mark and drill two hole centers on a wall or a solid flat ceiling.
3. Attach the easy-attach adapter to the wall using two Phillips pan-head screws.
Use screw-in anchors, if needed.
4. Connect the Ethernet cable RJ45 connector into the GE1 port.
5. Place the access point onto the bracket feet and slide it down to lock it in place.

**Note**

The bracket feet must be pointing up.

Install the Access Point Directly on a Wall

About This Task

If you do not want to use the main mounting bracket that ships with the access point, you can install the access point directly on a wall using two Phillips pan head screws.



Tip

The best practice is to use the main mounting bracket for wall installations.

Procedure

1. Measure and drill two holes 4.100 in. (104 mm) apart from each other on the wall.
2. Insert the Phillips pan head screws into the mounting holes on the wall.

Use screw-in anchors, if needed.



Note

Leave 1/8th in. gap between the screw head and the wall.

3. Connect the Ethernet cable RJ45 into the GE1 port.
4. Align the access point against the screw heads and slide it down.
5. Ensure that the access point is secured in place.

If the access point is loose, unmount it and decrease the distance between the two screw heads. Then, remount the access point.

Install the Access Point on a Suspended Ceiling or a Drop Ceiling with a Flat T-bar

About This Task

For suspended ceiling or drop ceiling installation, the main mounting bracket is used directly on the T-bar. If there is a ceiling tile protrusion, the optional T-bar adapter is attached to the main mounting bracket prior to T-bar installation.

The access point may be mounted to a suspended or a drop ceiling using:

- #37201, stainless-steel main mounting bracket to a flat 15/16 in. wide T-bar, with flat ceiling tiles
- #37201, stainless-steel main mounting bracket with KT-135628-01 adapter to a flat T-bar
- #37211, WS-MBI-DCFLUSH bracket to a flat T-bar, with flat ceiling tiles
- #30518, WS-MBI-DCMTR01 bracket to a T-bar

Install the Access Point on a Flat T-bar Using Main Mounting Bracket

Before You Begin

Ensure that the T-bar meets the following conditions before installing the main mounting bracket on a flat T-bar:

- T-bar width must be 15/16 in. (24 mm).
- T-bar bottom must be flat, all the way across the ceiling.

- T-bar must be structurally sound.
- T-bar maximum base thickness must not exceed 0.055 in. (1.400 mm).
- Ceiling tile over the T-bar must be flat, all the way across.

About This Task

The main mounting bracket is used on a T-bar when the ceiling model is a suspended or drop ceiling and when there is a T-bar on the ceiling.

Procedure

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

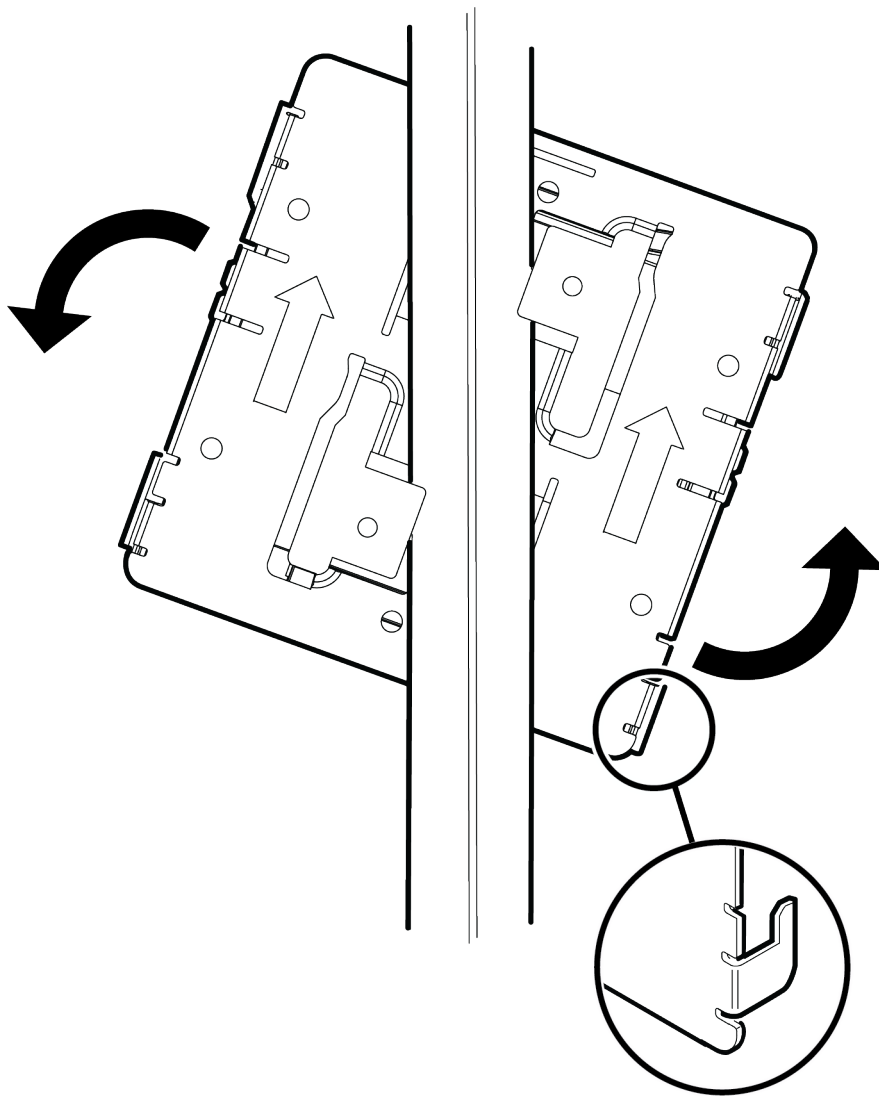


Figure 4: Install the main mounting bracket on a T-bar

3. Attach the RJ45 connector to the GE1 port.

4. Place the access point on the bracket feet and slide it down to lock it in place.
Hold the access point and rock it back and forth to ensure that it is securely mounted.
5. Replace the ceiling tiles.

Install the Access Point on a Flat T-bar Using Main Mounting Bracket and KT-135628-01 Adapter

Before You Begin

Ensure that the T-bar meets the following conditions before installing the main mounting bracket with the KT-135628-01 adapter on a T-bar:

- T-bar width can be 15/16 in. (24 mm).
- T-bar bottom must be flat all the way across.
- T-bar must be structurally sound.
- T-bar maximum base thickness must not exceed 0.055 in. (1.400 mm).
- Ceiling tile may protrude up to 0.35 in. (8.89 mm) below the T-bar.

About This Task

If the ceiling tile is not flat and has a protrusion, use the main mounting bracket with the KT-135628-01 adapter. Attach the adapter to the main mounting bracket before attaching the bracket to a T-bar.

Procedure

1. Attach the T-bar adapter to the main mounting bracket by lining up the small bends on the adapter with the long raised parts on the main bracket.
2. Pull up the KT-135628-01 adapter locking pin, and twist clockwise.

After the adapter is put on the main mounting bracket, untwist the locking pin, and ensure that the locking pin goes into the locking pin hole on the main bracket and locks in place.

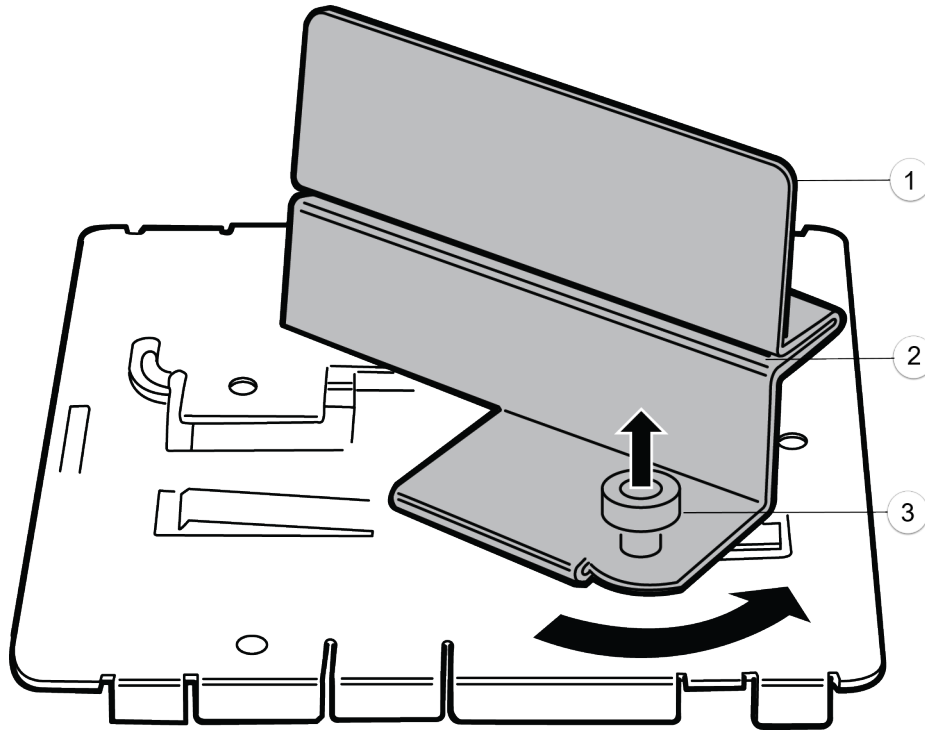


Figure 5: Attach the KT-135628-01 adapter on the main mounting bracket

Callout	Description
1	KT-135628-01 adapter
2	KT-135628-01 T-bar holder
3	KT-135628-01 adapter locking pin

- Slide the KT-135628-01 T-bar holder onto the T-bar and replace the tiles to hold the adapter onto the T-bar.
- Attach the RJ45 connector to the GE1 port.
- Hold and rock the access point back and forth to ensure that it is securely mounted.

Install the Access Point on a Flat T-bar Using the DCFLUSH bracket

Before You Begin

Ensure that the T-bar meets the following conditions before installing the DCFLUSH bracket on it:

- T-bar width must be 9/16 in. (15mm), 15/16 in. (24mm), or 1.5 in. (38 mm).
- T-bar bottom must be flat all the way across.
- T-bar must be structurally sound.
- T-bar maximum base thickness must not exceed 0.080 in. (2.000 mm).
- Ceiling tile must be flat all the way across.
- Maximum ceiling tile protrusion allowed is 0.015 in. (0.380 mm).

About This Task

The WS-MBI-DCFLUSH (#37211) bracket is used on a flat T-bar when you do not want to use the main mounting bracket or have a 9/16 in. wide or 1.5 in. wide T-bar.

Procedure

1. Remove the ceiling panels around the T-bar.
2. Open the movable sliding part of the DCFLUSH bracket to give the stationary and slider T-bar more space.

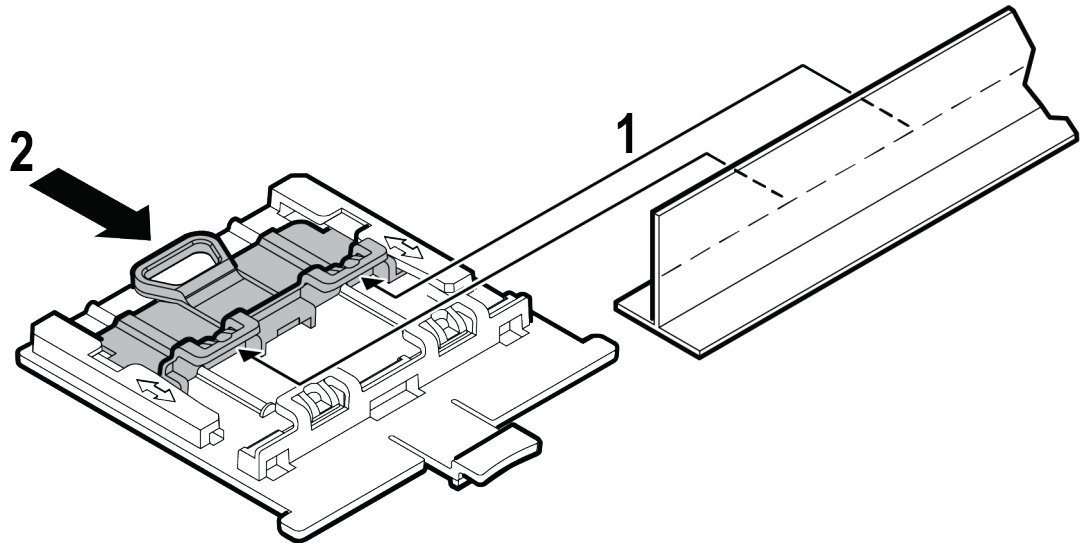


Figure 6: DCFLUSH bracket parts and T-bar

Callout	Description
1	T-bar
2	Movable sliding part of the DCFLUSH bracket

3. Hook the stationary end of the bracket onto the T-bar.
4. Tilt the T-bar up slightly in such a way that you are holding the stationary and movable parts of the bracket.
5. Squeeze the bracket parts together until you hear the T-bar locking tab click into place.
6. Slide the bracket base into the rear groove of the access point.
7. Hold and rock the access point back and forth to ensure that it is securely mounted.
8. Attach the RJ45 connector to the GE1 port.
9. Replace the ceiling tiles.

Install the Access Point on a Flat T-bar Using the DCMTR01 Bracket

Before You Begin

Ensure that the T-bar meets the following conditions before installing the DCMTR01 bracket on it:

- T-bar width must be 9/16 in. (15 mm), 15/16 in. (24 mm), or 1.5 in. (38 mm).
- T-bar must be structurally sound.
- T-bar maximum base thickness cannot exceed 0.118 in. (3 mm).
- T-bar maximum protrusion must be 0.625 in. (15.800 mm).
- Maximum protrusion of the ceiling tile cannot exceed 0.625 in. (15.800 mm).

About This Task

The optional WS-MBI-DCMTR01 (#30518) bracket is used for T-bar installations when the main mounting bracket is not used.

Procedure

1. Remove the ceiling panels around the T-bar.
2. Open the movable sliding part of the DCMTR01 bracket to give the stationary end of the bracket and the slider T-bar more space.

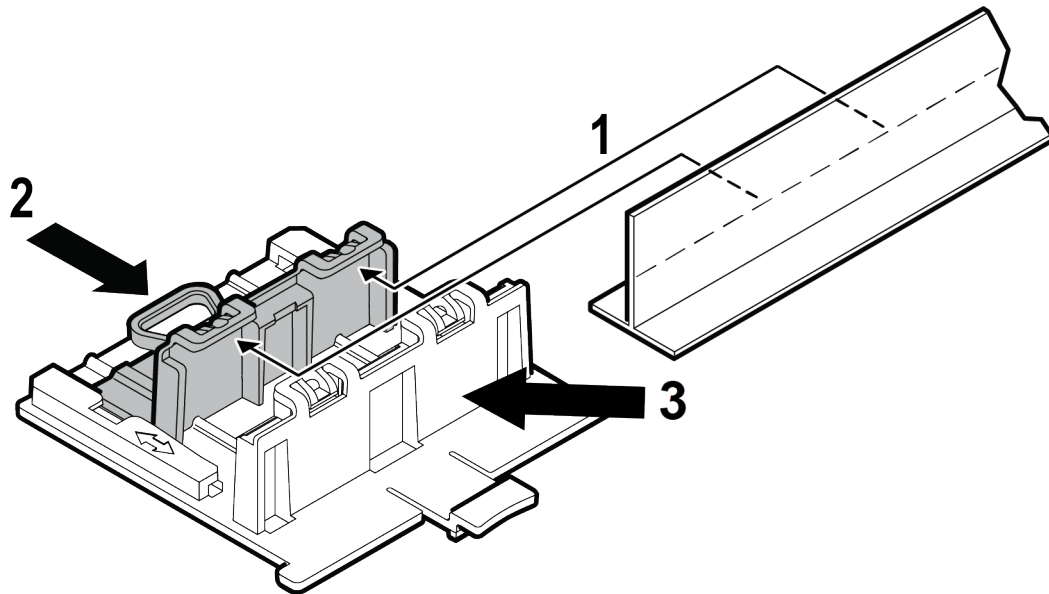


Figure 7: DCMTR01 bracket parts and T-bar

Callout	Description
1	T-bar
2	Movable sliding part of the DCMTR01 bracket
3	Stationary part of the DCMTR01 bracket

3. Hook the stationary end of the bracket onto the T-bar.
4. Tilt the T-bar up slightly in such a way that you are holding the stationary and movable parts of the bracket.

5. Squeeze the bracket parts together until you hear the T-bar locking tab click into place.
6. Slide the bracket base into the rear groove of the access point.
7. Hold and rock the access point back and forth to ensure that it is securely mounted.
8. Attach the RJ45 connector to the GE1 port.
9. Replace the ceiling tile.

Install the Access Point on a Junction Box or Gang Box

About This Task

The main mounting bracket or the optional WALL04 (#30516) bracket is used for installing the access point on a junction box or gang box. The main mounting bracket is used only when the mounting holes on the bracket and the box align.



Note

The box models are limited to the USA box models when using the main mounting bracket for installation.

If you are using the main mounting bracket to install the access point on a junction box:

Procedure

1. Remove the screws holding the box coverplate.
2. Remove the LAN cable from the coverplate.

3. Place the main mounting bracket, with the main mounting bracket holes against the coverplate holes on the box.

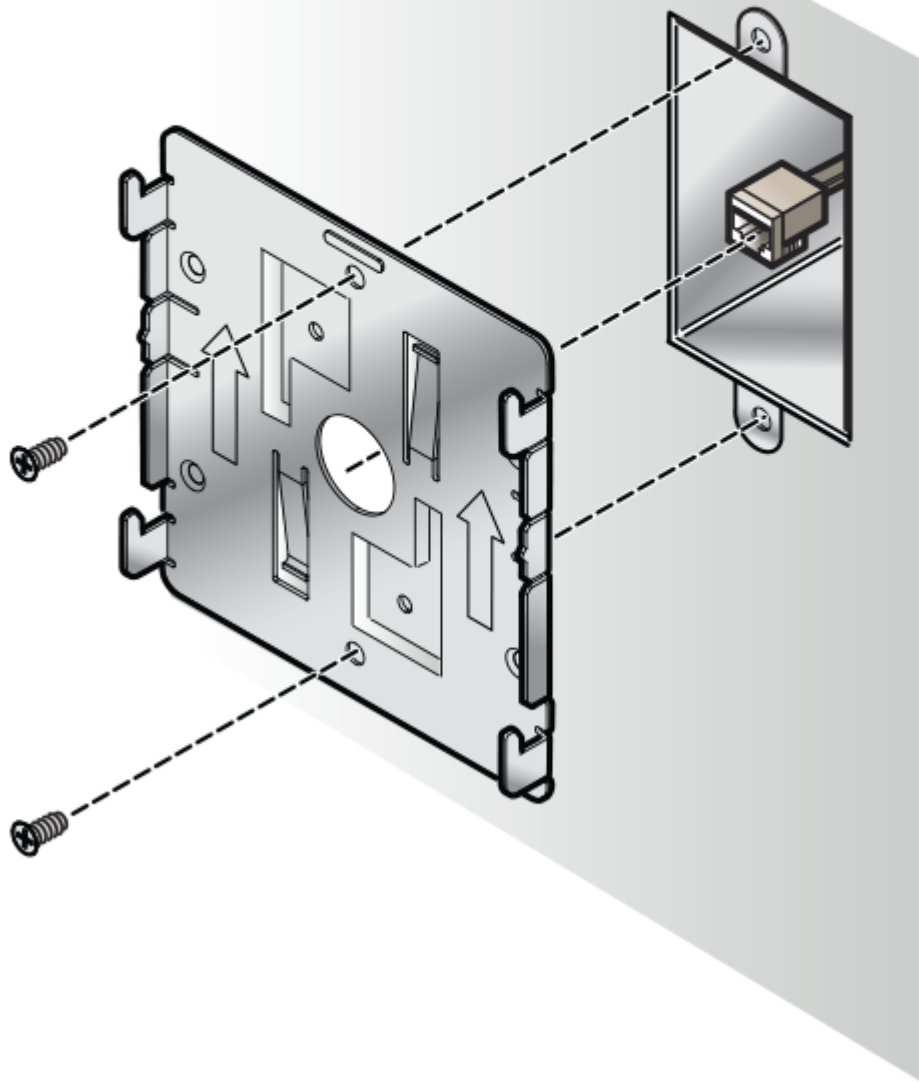


Figure 8: Main mounting bracket installation on a junction box

4. Using the screws removed from the coverplate of the box, attach the main mounting bracket to the box.

5. Connect the GE1 cable to the access point.
6. Place the access point onto the bracket feet and slide it down to lock it in place.

Install the Access Point on a Junction Box or Gang Box Using the WALL04 Bracket

Procedure

1. Remove the screws holding the box coverplate.
2. Remove the LAN cable from the coverplate.
3. Place the WALL04 bracket, with the locking tab pointing up, against the mounting holes on the box.



Note

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 sides of large center hole on the WALL04 bracket.

If the WALL04 bracket holes do not align with the mounting holes on the junction or gang box, cut or enlarge the holes on the WALL04 bracket.

4. Attach the WALL04 bracket to the junction or gang box using the screws removed from the junction or gang box.



Caution

Over tightening the screws will cause the WALL04 bracket to bend. If the bracket bends, you will not be able to align and slide the access point onto the keyhole posts.

5. Connect the GE1 cable to the access point.
6. Slide the access point on the keyhole slots of the WALL04 bracket until you hear it lock in place.

Install the Access Point on a Beam

Before You Begin

Verify that the:

- Beam attachment area is at least 0.5 in. (12.7 mm) wide and as long as the largest dimension of the access point.
- Beam mounting surface is less than 0.650 in. (16.5 mm) thick.

About This Task

If you do not want to install the access point on a solid flat surface, you can attach it to a beam using the beam clip accessory (BRKT-000147A-01). The access point can be attached to a beam only if the beam is flat, and can support the access point in all environmental conditions.

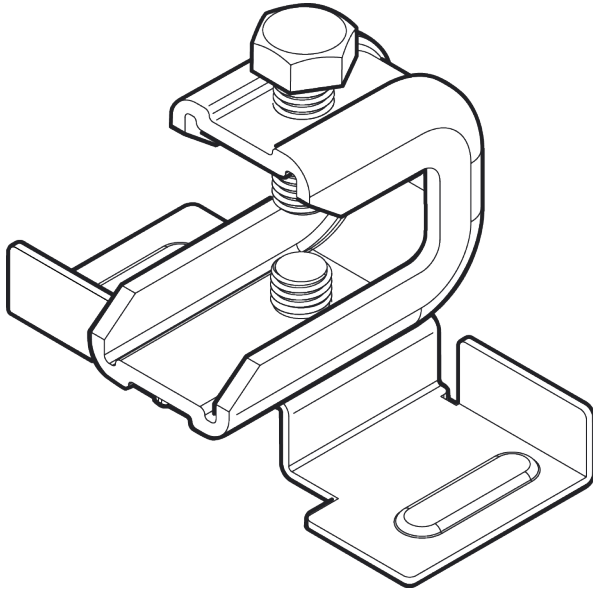


Figure 9: Beam clip accessory

Procedure

1. Attach the beam clip to the main mounting bracket.

Slide the beam clip accessory into the rear hinges on either side of the main mounting bracket and slightly twist it until the clip locks into place.

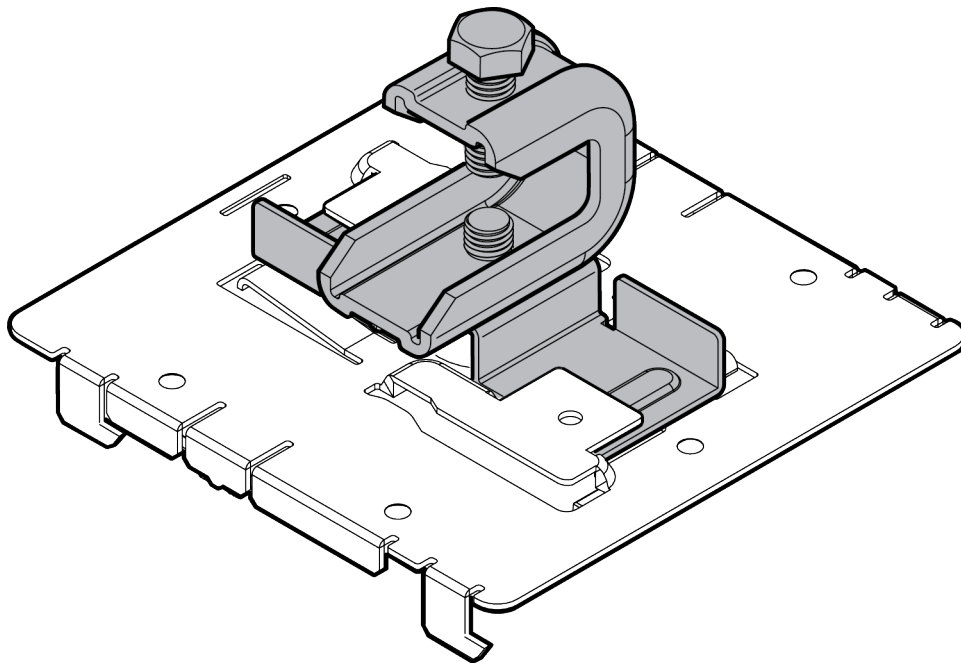


Figure 10: Beam clip accessory attached to the main mounting bracket

2. Place the access point onto the main mounting bracket feet and slide it down to lock it in place.

3. Place the beam clip accessory on a beam.

**Note**

Ensure that you leave enough space between the beam clip accessory screw and the clamp. This helps to tighten the beam clip accessory screw easily.

4. Tighten the beam clip accessory screw to secure the access point in place.

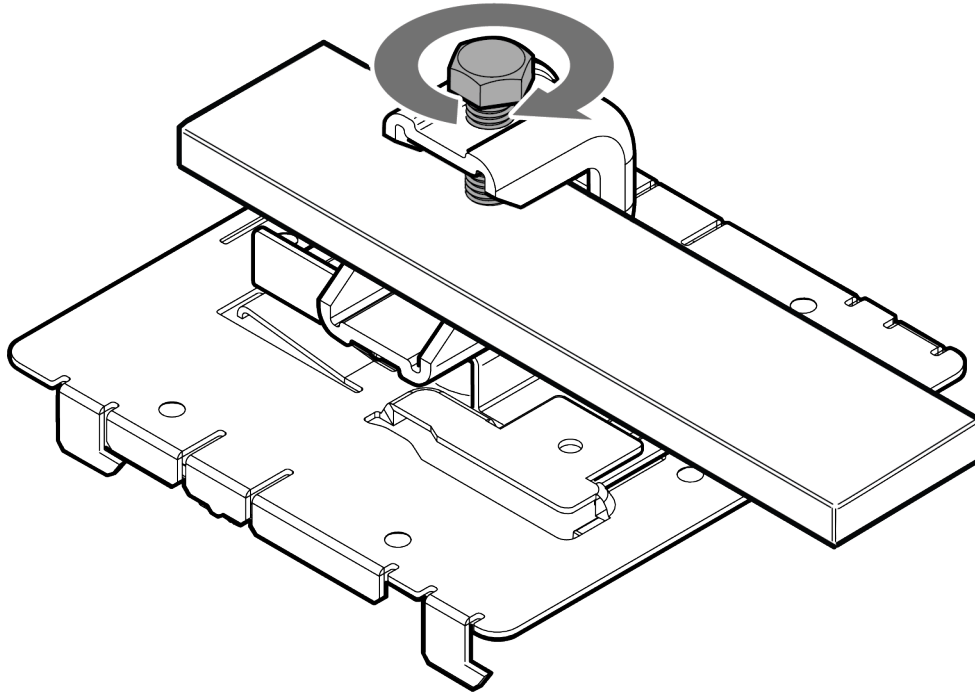
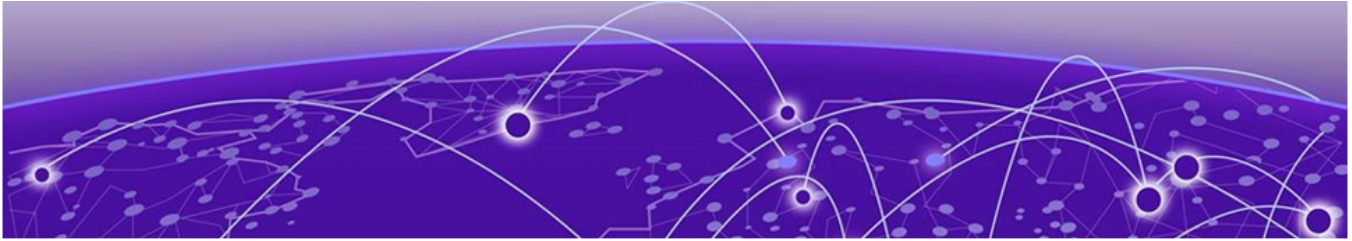


Figure 11: Beam clip accessory attached to a beam

5. Connect the Ethernet cable RJ45 into the GE1 port.



Antenna Configuration for External Antenna Model Access Point

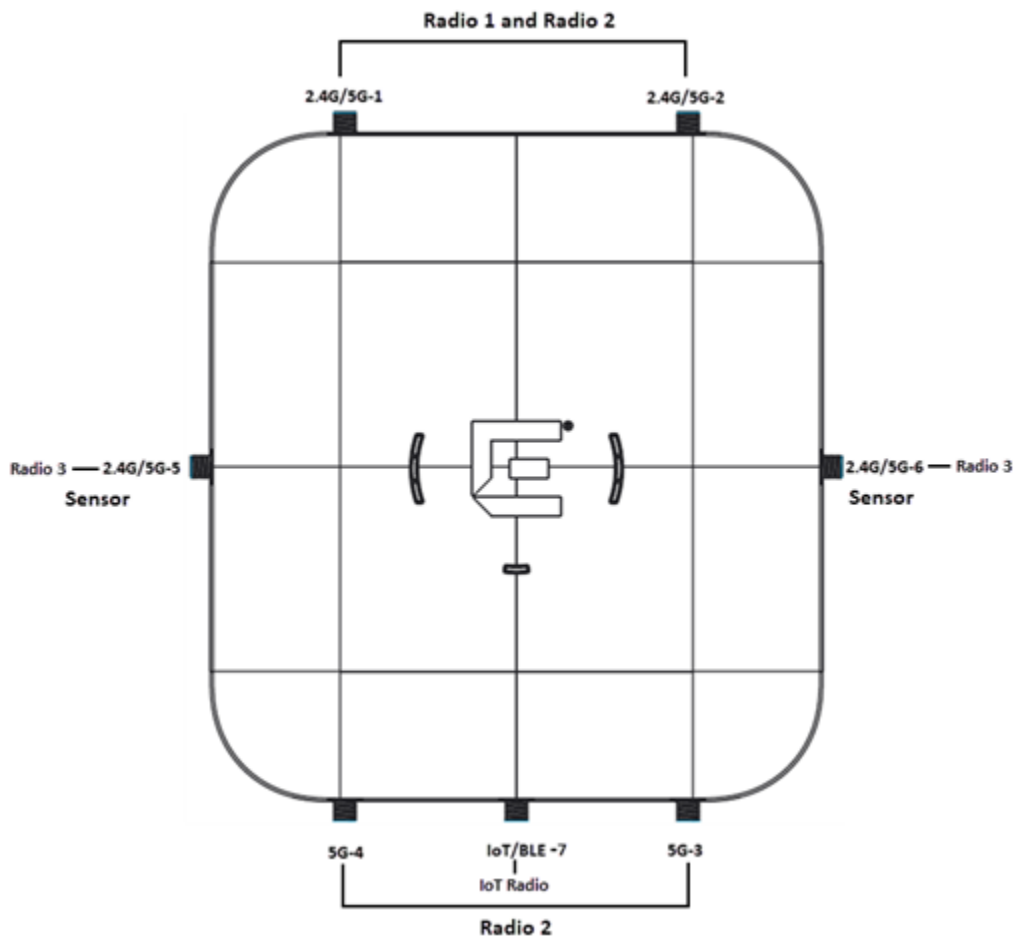


Figure 12: AP410e external antenna connector ports

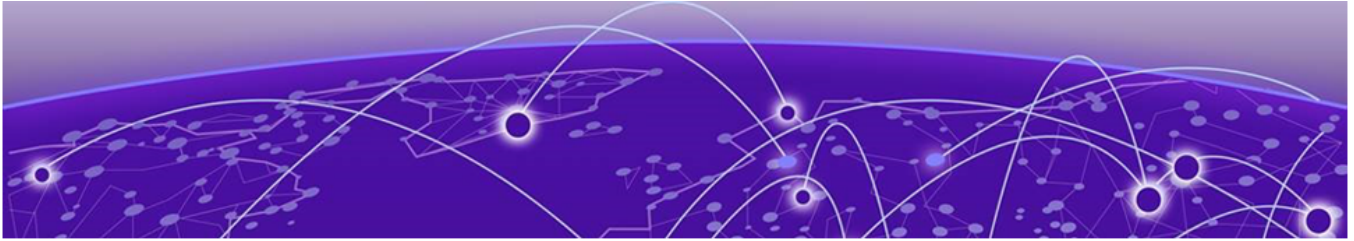


Note

The sensor and the BLE antennas come with dust caps on them. Do not remove the dust cap until you need to install the antennas.

Antenna socket radio mapping information

- Radio 1 (R1) - antennas 1 and 2
- Radio 2 (R2) - antennas 1, 2, 3, and 4
- Radio 3 (R3) - antennas 5 and 6
- IoT radio - antenna 7 (IoT or BLE antenna)



Internal Antenna Gains Information

Table 10: AP410i access point internal antenna gains

Software mode	Frequency	Wi-Fi 1	Wi-Fi 2	Wi-Fi 3	IoT radio
Dual-band	2.4 GHz	4.78 dBi	N/A	4.47 dBi	4.37 dBi
	5 GHz	N/A	5.36 dBi	5.00 dBi	



Access Points Specifications

Physical specifications

Item	Specification
Dimensions	6.5 in. × 7 in. × 1.8 in. (165 mm × 180 mm × 47 mm)
Weight	1.50 lbs. (0.68 kg)
Housing	Plastic
LED	Seven
Radios	Three 802.11ax radios
Console port	RJ45

Environmental specifications

Item	Specification
Operating temperature	AP410i: 0°C to +50°C (32°F to +122°F) AP410e: -20°C to +55°C (-4°F to +131°F)
Storage temperature	-40°C to +70°C (-40°F to +158°F)
Humidity	0% to 95% (non-condensing)
Operating altitude	6000 ft.



Regulatory Information

[Safety Guidelines](#) on page 35

[Maximum Permissible Exposure \(MPE\) Statement for Mobile Devices](#) on page 35

[Federal Communications Commission \(FCC\) Notice](#) on page 36

[Industry Canada Notice](#) on page 36

[Detachable Antenna Usage](#) on page 37

[Australia Notice](#) on page 38

[Brazil Anatel Statement](#) on page 38

[Hazardous Substances](#) on page 38

[Supplement to Product Instructions](#) on page 39

[NCC Statement](#) on page 39

[CE Information](#) on page 39

[European Waste Electrical and Electronic Equipment \(WEEE\) Notice](#) on page 40

[Declaration of Conformity in Languages of the European Community](#) on page 41

Safety Guidelines

The following safety guidelines are intended to protect your personal safety and prevent damage to the equipment.



Important

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.

Maximum Permissible Exposure (MPE) Statement for Mobile Devices

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 26 cm between the radiator and your body.

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 or 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 operated in conjunction with any other antenna or transmitter.



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 a minimum distance of 31 cm between the radiator and 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

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.

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.

**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 of 39 cm between the radiator and 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 39 cm de distance entre la source de rayonnement et votre corps.

Detachable Antenna Usage

ISED (IC) warning statement

This radio transmitter [IC: 4141B-AP410] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, 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 [IC: 4141B-AP410] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant 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.

Group	Brand	Model number	Antenna type	Antenna gain (dBi)		
				2.4 GHz	5 GHz	BLE or thread
1	Extreme	ML-2452-APA2-01	Omni	3.04	4.96	-
2	Extreme	ML-2452-APA2-02	Omni	3.04	4.96	-
3	Extreme	ML-2452-HPA5-036	Omni	3.9	5.7	-
4	Extreme	ML-2452-HPAG4A6-01	Omni	4	7.3	-
5	Extreme	ML-2452-PNA5-01R	Panel	4.5	5	-
6	Extreme	ML-2452-PTA4M4-036	Omni	5	6.6	-
7	Extreme	ML-2452-HPAG5A8-01	Omni	5	8	-
8	Extreme	WS-AO-DQ04360N	Omni	5.5	6	-
9	Extreme	AI-DQ04360S	Omni	5.5	6	-
10	Extreme	ML-2452-SEC6M4-036 / WS-AI-DQ05120	Panel	6.92	7.23	-
11	Extreme	WS-AI-DE07025	Panel	7.5	6.5	-
12	Extreme	ML-2452-PNA7-01R	Panel 1	7.8	10.7	7.8

Group	Brand	Model number	Antenna type	Antenna gain (dBi)		
				2.4 GHz	5 GHz	BLE or thread
13	Extreme	WS-AI-DE10055	Panel 2	10.5	7.5	-
14	Extreme	ML-2499-HPA8-01	Dipole	-	-	8

Australia Notice

AU co-location MPE Statement

This equipment complies with AU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 24 cm between the radiator and your body.

Brazil Anatel Statement

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.

Supplement to Product Instructions

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.

備考3. “—”係指該項限用物質為排除項目。
 Note 3: The “—” indicates that the restricted substance corresponds to the exemption.

NCC Statement

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。

無線資訊傳輸設備避免影響附近雷達系統之操作。

本器材須經專業工程人員安裝及設定，始得設置使用，且不得直接販售給一般消費者。

CE Information



Warning

CE co-location MPE Statement:

This equipment complies with CE 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 device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

Selling Countries:

	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), 802.11ax (HEW20), 802.11ax (HEW40), 802.15.4 (Thread), Bluetooth (LE)

5GHz: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80), 802.11ac (VHT160), 802.11ax (HEW20), 802.11ax (HEW40), 802.11ax (HEW80), 802.11ax (HEW160)

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

2412-2472 MHz: 19.98 dBm

2402-2480 MHz (LE): 6.23 dBm

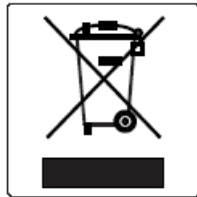
5180-5240 MHz: 22.98 dBm

5260-5320 MHz: 22.98 dBm

5500-5700 MHz: 29.98 dBm

2405-2480 MHz: 6.48 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 user's 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 the radio equipment type (AP410i/e) is in compliance with Directive 2014/53/EU. For full text of the EU Declaration of Conformity, contact Extreme Regulatory Compliance at compliancerequest@extremenetworks.com
Finnish	Valmistaja Extreme Networks vakuuttaa täten että Radio LAN device (AP410i/e) tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. EU-vaatimustenmukaisuusvaatimuksen täydellisestä tekstistä ota yhteyttä äärimmäisiin säädösten noudattamiseen osoitteessa compliancerequest@extremenetworks.com
Dutch	Hierbij verklaart Extreme Networks dat het toestel Radio LAN device (AP410i/e) in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU. Neem 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 l'appareil Radio LAN device (AP410i/e) est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU. Pour obtenir le texte intégral du processus de Déclaration de la conformité de l'UE, veuillez contacter la conformité réglementaire extrême à l'adresse suivante: compliancerequest@extremenetworks.com
Swedish	Härmed intygar Extreme Networks att radioutrustningstypen AP410i/e överensstämmer med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/ EU. För fullständig text av EU-försäkran om överensstämmelse, kontakta Extreme regulefterlevnad på compliancerequest@extremenetworks.com
Danish	Undertegnede Extreme Networks erklærer herved, at følgende udstyr Radio LAN device (AP410i/e) overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. For den fulde ordlyd af EU-overensstemmelseserklæringen bedes du kontakte Extreme Regulatory Compliance på compliancerequest@extremenetworks.com

<p>German</p>	<p>Hiermit erklärt Extreme Networks die Übereinstimmung des "WLAN Wireless Controller bzw. Access Points" (AP410i/e) mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 2014/53/EU. Für den vollständigen Wortlaut der EU-Konformitätserklärung wenden Sie sich bitte an extreme Regulatory Compliance unter compliancerequest@extremenetworks.com</p>
<p>Greek</p>	<p>ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Extreme Networks ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN device (AP410i/e) ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU. Για το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ, παρακαλούμε επικοινωνήστε με την ακραία κανονιστική συμμόρφωση στο compliancerequest@extremenetworks.com</p>
<p>Icelandic</p>	<p>Extreme Networks lýsir her með yfir að thessi bunadur, Radio LAN device (AP410i/e), uppfyllir allar grunnkröfur, sem gerðar eru í R&TTE tilskipun ESB nr 2014/53/EU. Fyrir fullan texta í ESB yfirlýsingu um samræmi, vinsamlegast hafðu samband við Extreme Reglufylgni á compliancerequest@extremenetworks.com</p>
<p>Italian</p>	<p>Con la presente Extreme Networks dichiara che questo Radio LAN device (AP410i/e) è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU. Per il testo integrale della Dichiarazione di conformità dell'UE, contattare Extreme Regulatory Compliance presso compliancerequest@extremenetworks.com</p>
<p>Spanish</p>	<p>Por medio de la presente Extreme Networks declara que el Radio LAN device (AP410i/e) cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU. Para obtener el texto completo de la Declaración de conformidad de la UE, póngase en contacto con Extreme Regulatory Compliance en compliancerequest@extremenetworks.com</p>

Portuguese	Extreme Networks declara que este Radio LAN device (AP410i/e) está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU. Para o texto integral da declaração de conformidade da UE, contacte a conformidade regulamentar extrema em compliancerequest@extremenetworks.com
Malti	Hawnhekk, Extreme Networks, jiddikjara li dan Radio LAN device (AP410i/e) jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 2014/53/EU. Għat-test sħiħ tad-dikjarazzjoni ta' konformità tal-UE, jekk jogħġbok ikkuntattja lill-konformità regolatorja compliancerequest@extremenetworks.com



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