ExtremeWireless™ AP510i Access Point Installation Guide

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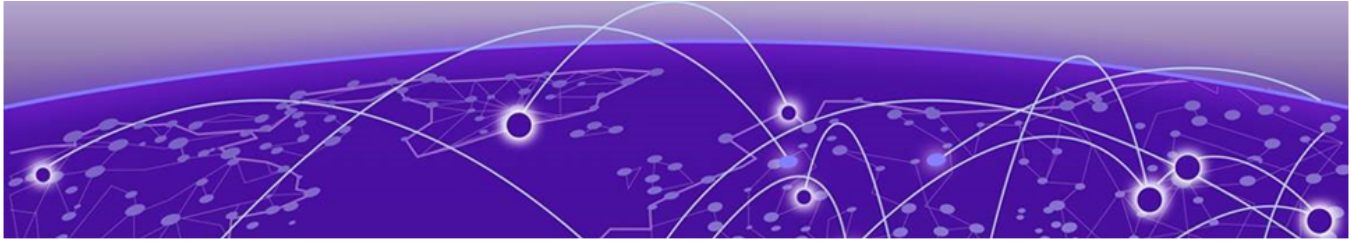

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Preface

This section describes the text conventions used in this document, where you can find additional information, and how you can provide feedback to us.

Conventions

This section discusses the conventions used in this guide.

Providing Feedback

The Information Development team at Extreme Networks has 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 we especially want to know about:

- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information in the document.
- Broken links or usability issues.

If you would like to provide feedback, you can do so in three ways:

- In a web browser, select the feedback icon and complete the online feedback form.
- Access the feedback form at https://www.extremenetworks.com/documentation-feedback/.
- Email us at documentation@extremenetworks.com.

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: (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, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions 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

Subscribe to Product Announcements

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

1. Go to The Hub.
2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

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

Documentation and Training

Find Extreme Networks product information at the following locations:

Current Product Documentation
Release Notes
Hardware and software compatibility for Extreme Networks products
Extreme Optics Compatibility
Other resources such as white papers, data sheets, and case studies

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

Overview

Access Point Features on page 7
AP510i LED Status Indicators on page 9
AP510i Powering Methods on page 10

The AP510i is a next generation, indoor ceiling mount model enterprise class 802.11ax access point (AP). The “i” in AP510i indicates that it comes with internal antennas. The AP features a dual-band radio and comes with eight WiFi internal antennas and one Bluetooth Low Energy (BLE) antenna.

The AP510i can be mounted on a drywall or a wood wall, solid flat ceiling, junction box, and on a suspended or drop ceiling.

Note
The AP510i requires a minimum base firmware of WiNG 7.1.0.0-138R.

Access Point Features

Learn about AP510i access point radios, side ports, LED, and console information.

The enterprise class 802.11ax AP510i access point has the following features:

- Radios: 2 radios; 1 IoT radio (2.4 GHz).
- Console Port: RJ45.
- ◦ 1 x 100/1000/2500/5000 Mbps auto-negotiation Ethernet port, RJ45
  ◦ 1 x 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45
- LEDs: 6 – All LEDs will be on during reset (see AP510i LEDs Status for details).
- One reset button.
- Power: PoE 802.3af; 12VDC external power in connector (see AP510i Powering Methods for details).
- Antennas: – Eight WiFi internal antennas and One BLE internal antenna.
- Temperature:
  ◦ 0 °C to +50 °C (+32 °F to +122 °F) @ 6000 ft
  ◦ 0 °C to +45 °C (+32 °F to +113 °F) @ Sea Level
- Enclosure: Plastic only.

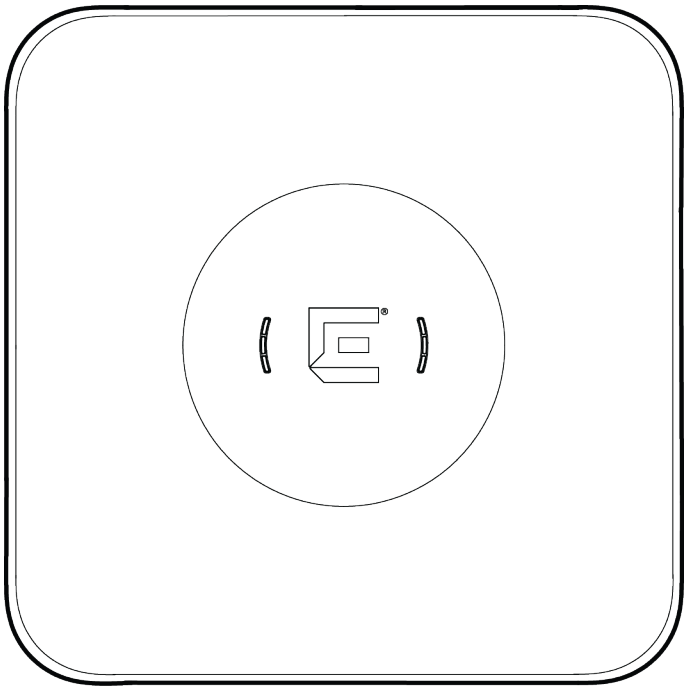

Figure 1: Top view of AP510i

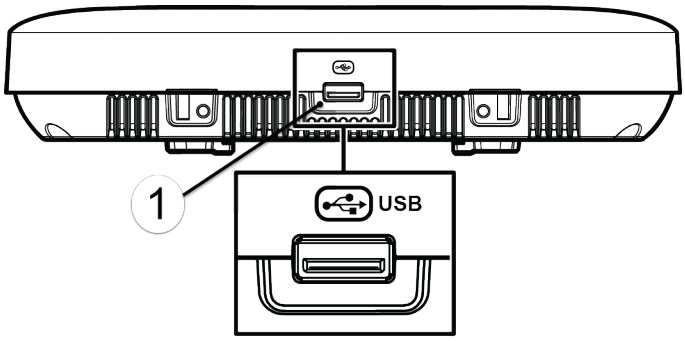

Figure 2: Side view of AP510i

Figure 3: AP510i back ports

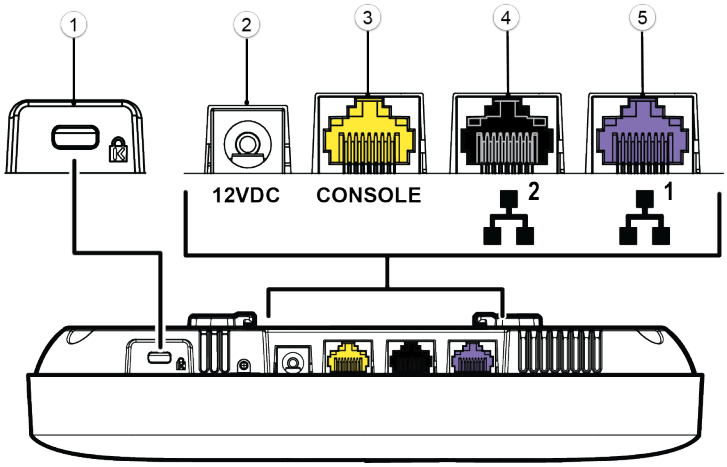

Table 1: AP510i back ports description

Callout	Description
1	Kensignton lock
2	12V DC power supply
3	Console port (yellow)
4	LAN 2 (GE) (black)
5	LAN1 (5 GE) (purple)

Note

On the access point, there is a hole near the Kensington lock in the top-rear that can be used as a provision for safety hanger. There is also a hole on the rear of the access point that can be used as a safety hanger provision.

The safety hanger can be a wire or a cable that is used to secure the access point and keep it from falling in case ceiling and wall installation using the main mounting bracket fails.

The Kensington lock can use a 3 mm diameter safety hangar cable and the rear hole can accommodate a 2.9 mm diameter safety hanger cable.

AP510i LED Status Indicators

LED description and status indicators.

LED location

The AP510i LEDs are located on the front face of the access point but are not visibly marked.

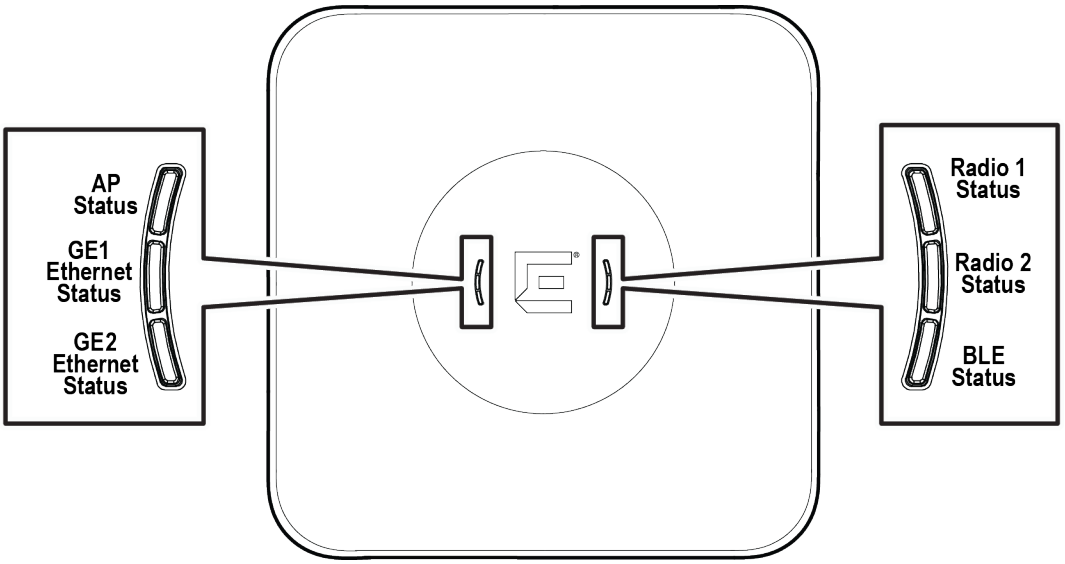

Figure 4: AP510i LEDs

Table 2: AP510i LED status

LED icon	LED color	Description
Status	Green	Normal operational status
	Amber	Non-operational status
GE1 Ethernet	Amber	100Mbps
	Green	1000Mbps
	Purple	2.5G/5G
GE2 Ethernet	Amber	100Mbps
	Green	1000MBps
Radio#1 Status	Green	2.4GHz
	Amber	5GHz
	White	Sensor
	Off	Non-operational status
Radio#2 Status	Amber	5GHz
	Off	Non-operational status
IoT (BLE)	Blue	Indicates BLE is enabled
	Off	Non-operational status

AP510i Powering Methods

Details about AP510i access point power options.

You can power the access point through the RJ45 Ethernet port (LAN 1 (5GE) and LAN2 (GE) ports), see AP510i back ports).

If you need to power the AP510i with an external 12V DC power supply, you can plug the power cord into the power connector on the back of the access point. There is no wall mount bracket for the 12V DC power supply. When the device is powered on, the LED on the front face of the access point is lit.

Table 3: AP510i powering methods

Power source	Description
Power over Ethernet (PoE)	Redundant power is provided through the RJ45 Ethernet ports (LAN ports) of AP510i. The ports are compliant to be powered with 802.3af and provide full functionality with 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, 2.5 mm × 5.5 mm connector)	The AP510i can also be powered by an external DC power supply plugged into an AC source. Plug the supply's input jack into the 12V DC port.

Note
PoE is disabled when external power supply is used.

The following configuration will allow you to bring up the access point in 802.11af power mode. AP510i 802.11af profile:

- 2×2 (16dBm for both 2.4G and 5G at u.fl connector)
- Only dual band (mode 1), doesn't support dual 5G (mode 3)
- Only 1GE Ethernet, multi-rate Ethernet will be disabled

AP510i Power Table

The following table provides information on the status of the back ports on the access point when powered using 802.3af and 802.3at technology:

AP510i	802.3af	802.3at
Radio 1	2x2 (16dBm)	4x4 (18dBm)
Radio 2	2x2 (16dBm)	4x4 (18dBm)
BLE	On	On
GE1	On	On
GE2	On	On
Dual band	Yes	Yes
Dual 5G	No	Yes

Installation Process

Verify the Box Contents on page 12
Mount and Connect the Access Point on page 13
Mounting Brackets and Accessories Usage on page 13
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About This Task

Follow this procedure to install the AP510e access point:

Procedure

1. Verify the box contents.
2. Review the Safety Guidelines.
3. Mount the AP to a drywall or wood wall, solid flat ceiling, on a suspended or drop ceiling, junction box, or to a beam.
4. Connect the power supply.

Verify the Box Contents

List of items shipped with the access point.

About This Task

Before you install the access point, ensure that you have all the necessary parts.

Procedure

1. Verify that the box contains the following items:
   - One AP510i Quick Reference
   - One mounting bracket for 802.11ax access point (also called the main mounting bracket)
   - One AP510i access point
   - Two Phillips pan-head wood screws
   - Two screw-in anchors
2. If you find any issues with the access point or the box contents, contact Extreme Networks Support.

Mount and Connect the Access Point

Caution
Only qualified personnel must perform installation procedures.

Use these instructions as guidelines for mounting and connecting the AP510i easily and safely.

The AP510i 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, beams, and some junction boxes. An adapter and brackets are available for mounting the AP to non-flat ceiling tiles and T-bars. To mount the AP510i on a junction box, use the optional bracket (WS-MBI-WALL04; #30516). All additional and optional parts are sold separately. For more information on brackets and accessories, refer to Mounting Brackets and Accessories Usage on page 13.

Mounting Brackets and Accessories Usage

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

Table 4: Bracket purchase order information

Part number	Description
37201	Main mounting bracket for indoor access points (included in the access point box), along with the 50 mm M3 security screw pack for main mounting bracket
30518	WS-MBI-DCMTR01 bracket
30516	WS-MBI-WALL04 bracket
37211	WS-MBI-DCFLUSH bracket

Table 5: 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
30516	WS-MBI-WALL04 bracket
37211	WS-MBI-DCFLUSH bracket

Table 6: 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

Table 6: Bracket accessory purchase order information (continued)

Part number	Description
BRKT-000147A-01	Beam clip accessory
30525; WS-CAB-RJ45-FLT01	RJ45 flat cable accessory for ceiling mount brackets

Table 7: Power supply purchase order information

Part number	Description
37215	PWR 12V DC, 3A, 2.5 mm X 5.5 mm connector

Table 8: Power supply purchase order information

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

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.

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
30516 WS-MBI-WALL04 bracket	Yes	No	No	No	Yes	No	No	No	Wall mount with single width. Junction box installation.
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.

Mount the Access Point on a Drywall or a Wood Wall or 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.

Mount the Access Point to a Wall using the Main Mounting Bracket

Learn how to install the access point on a wall using the main mounting bracket that is shipped with the unit.

About This Task

The main mounting bracket (#37201) ships with the AP and can be used to mount the AP onto a wall. This is the recommended method of installation for a wall mounting procedure.

Procedure

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

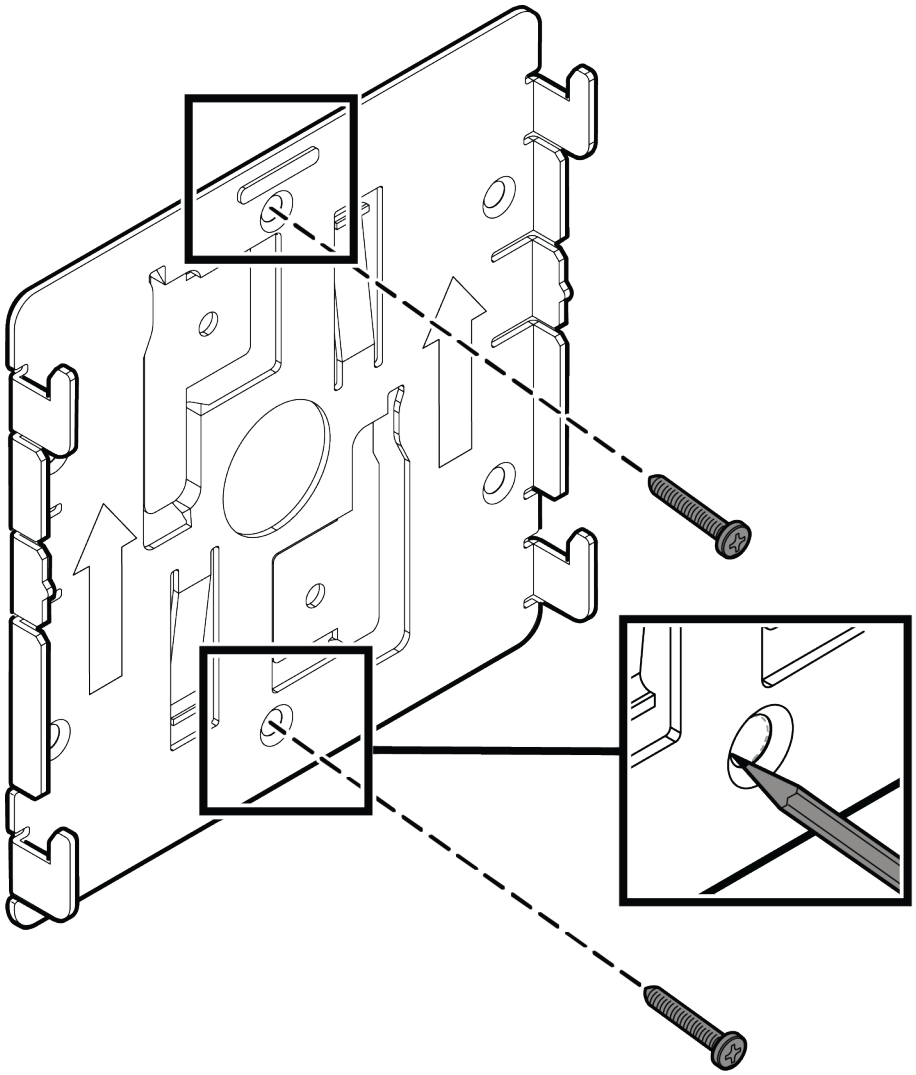


Figure 5: Main mounting bracket

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 LAN1/GE1 port.
4. Insert the access point onto the bracket's four feet and slide it down to lock it in place.

Note
The feet of the bracket must be pointing up.

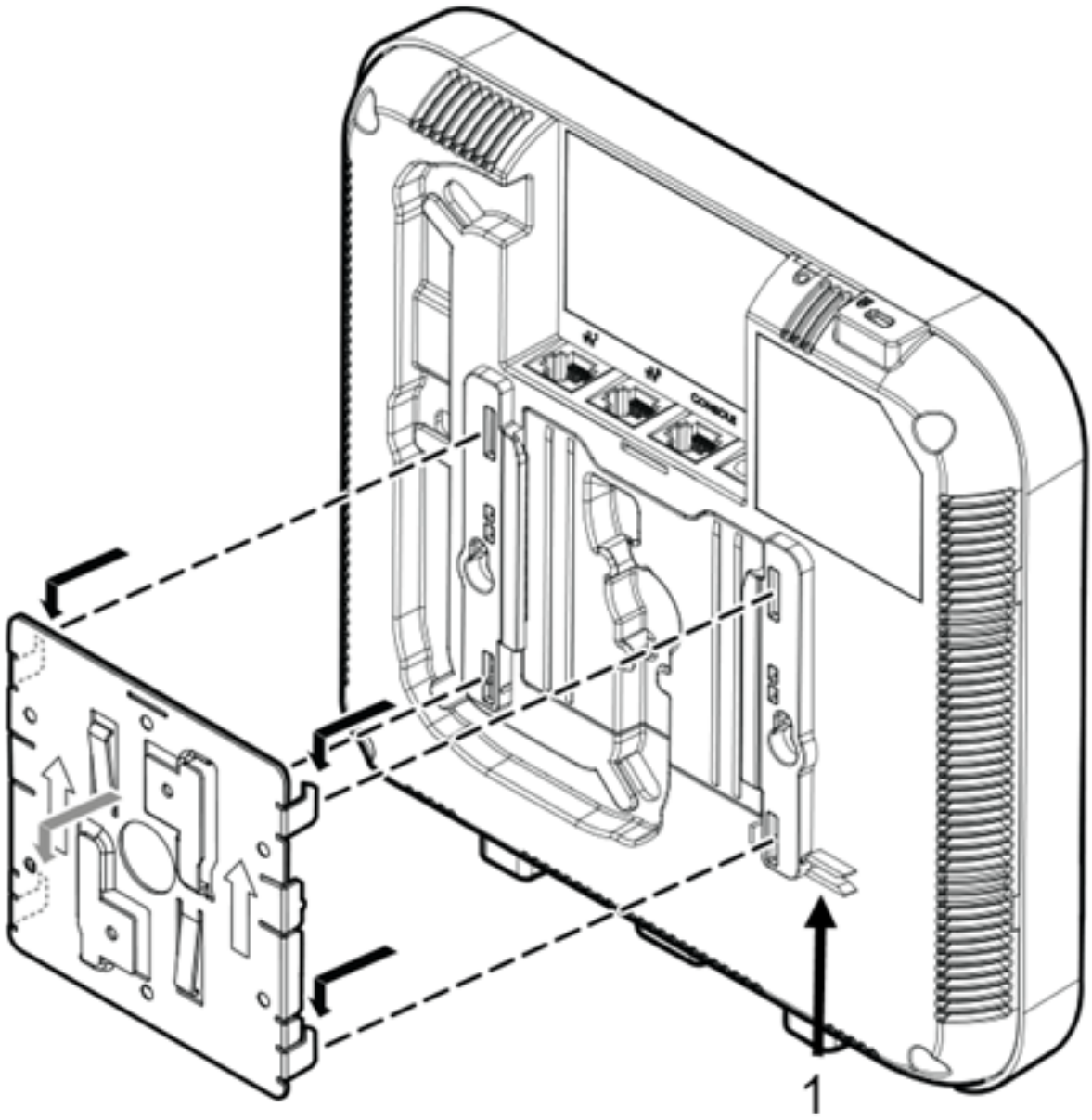


Figure 6: Attaching the access point to the main mounting bracket

Callout	Description
1	Guide posts to attach the security torx locking screw

5. Attach the security torx locking screw to keep the main mounting bracket in place.

   For more information, see Install a Security Torx Locking Screw on page 19.

Install a Security Torx Locking Screw

Details about how to install the secuirity torx locking screw on the access point.

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. Follow this procedure to install the security torx locking screw using one of the security lock holes on the access point.

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

Procedure

1. Line up the security torx locking screw using the rear guides on the access point.
2. Using a T10 bit screwdriver, tighten the security torx locking screw.

3. Turn the locking screw into the security screw hole until the security torx locking screw passes through to the other side and touches the screw stop feature.

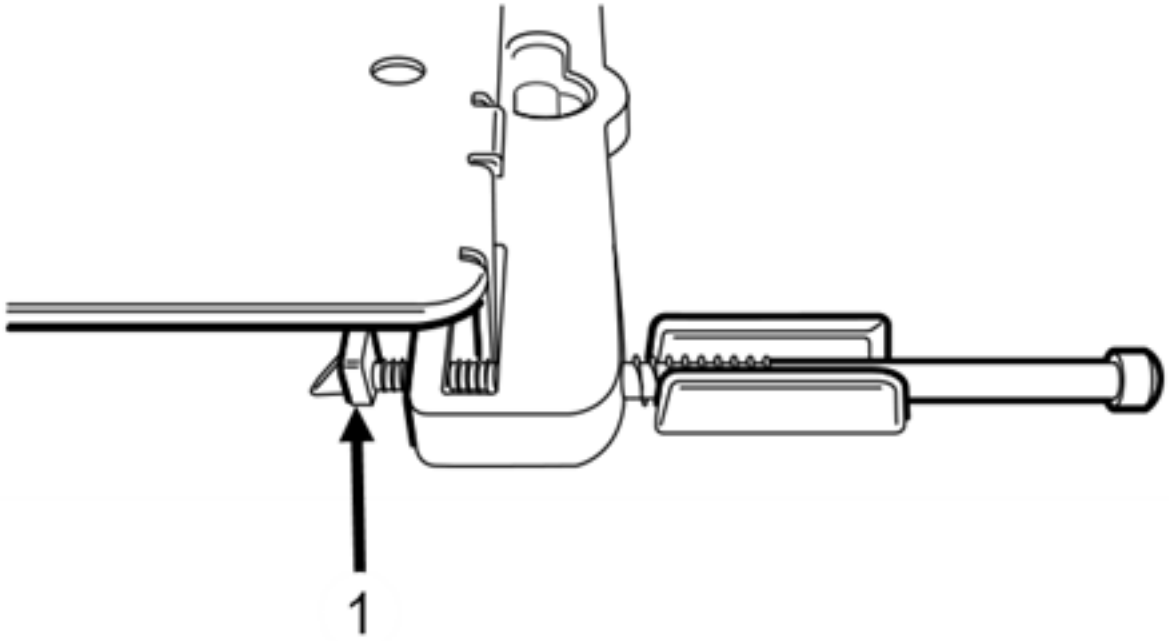


Figure 7: Security torx locking screw stop feature

Callout	Description
1	Security torx locking screw stop feature

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

Mount the Access Point to a Wall Using an Optional Wall and Box Bracket

Learn how to install the access point to a wall using the WALL-04 bracket part.

About This Task

Mounting the AP to a flat ceiling requires the WS-MBI-WALL04 (#30516) bracket, two Philips Pan-head screws, and two screw-in anchors. They must be purchased separately.

Procedure

1. Install the WS-MBI-WALL04 bracket on a wall/ceiling with the two screws and screw-in anchors.

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

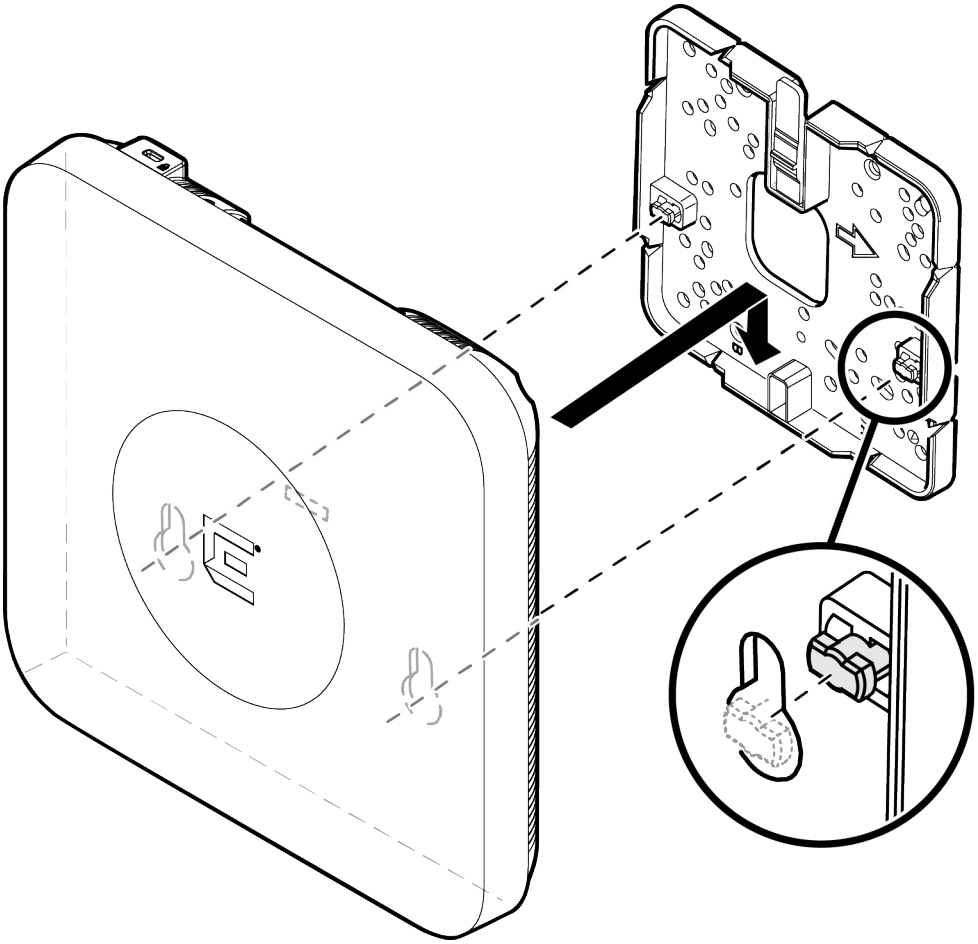


Figure 8: Mounting the AP using the WS-MBI-WALL04 Bracket

- Use the WS-MBI-WALL04 as a template and mark the holes to be used to mount the AP. It is recommended to use the holes marked "A" or "B".
- Drill the holes and attach the bracket using the screws and screw-in anchors.

Note
When using the "A" or "B" holes, if the holes are not near the corners of the bracket, you can break off the corner to decrease the bracket's visibility once the AP is installed.

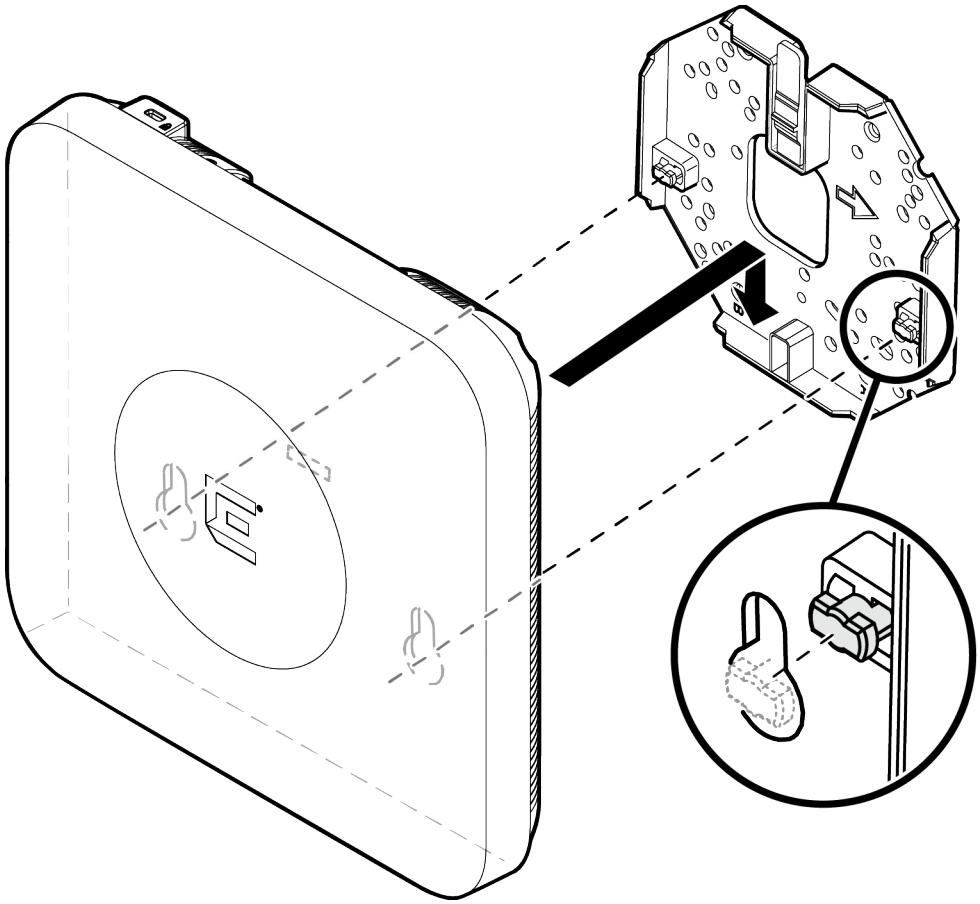


Figure 9: Mounting the AP using the WS-MBI-WALL04 Bracket (when bracket corners are broken off)

2. Connect the LAN or Ethernet cable to the AP.
3. Insert the AP onto the keyhole posts and slide the AP.
4. Lock the AP into place at about 1/4th inch.

Mount the Access Point onto a Wall Using the Main Bracket and the Flat Metal Easy-Attach Adapter

About This Task

The AP can be mounted onto a wall or a solid ceiling by attaching a flat metal easy-attach adapter to the main mounting bracket. The flat metal easy-attach adapter (#37210) must be purchased separately.

Procedure

1. Attach the flat metal indoor bracket to the main bracket. Keep the bracket to the center of the main bracket, push and rotate it.

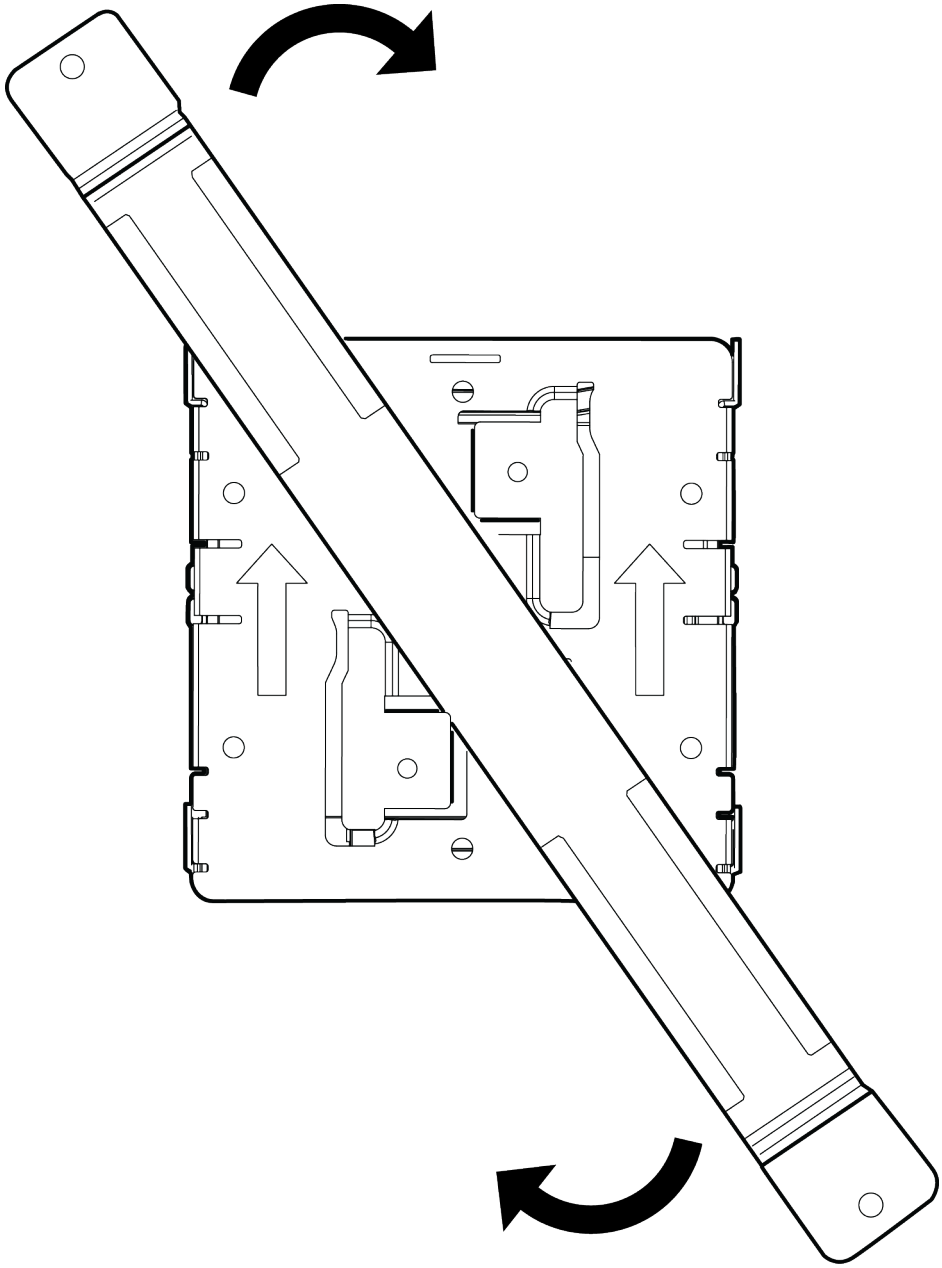


Figure 10: Attach the optional Flat Metal Indoor Adaptor to the main mounting bracket

2. Hold the AP to the surface to which it needs to be attached and use the optional bracket's end holes as a template to mark the attachment holes.
3. Drill two holes on the wall where you want to mount the AP.
4. Connect the LAN or Ethernet cable to the back of the AP.

Mount the Access Point to a Wall Using the Phillips Pan-Head Screws

About This Task

You can mount the access point directly onto a drywall or a solid wall using the Phillips pan-head screws. This is an optional installation method and not the preferred mode of installation.

Procedure

1. Drill two holes 104 mm (4.100 in.) apart from each other on the wall where you want to mount the AP.
2. Insert the screws into the holes and use the screw-in anchors if needed.

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

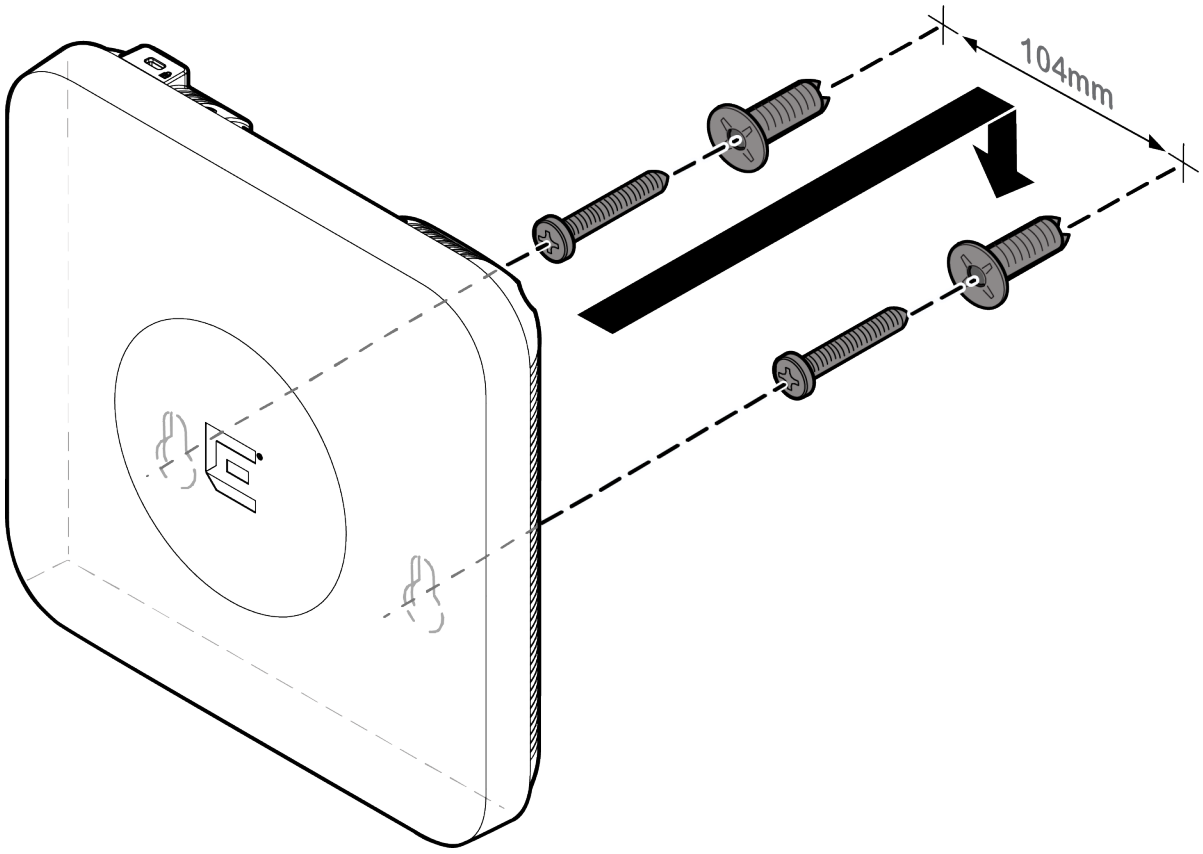


Figure 11: Mount the AP directly on a drywall or a wood wall using the Phillips pan-head screws

3. Insert the Ethernet cable's RJ45 connector into the LAN1 port.
4. Align the AP against the screw heads and slide it down.

   Ensure that the AP is secured in place and tightened. If the AP is loose, unmount the AP and decrease the distance between the screw head and the wall. Remount the AP.

Mount the Access Point to a Suspended or Drop Ceiling

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

Mount the Access Point Using the Main Mounting Bracket to a Flat T-bar

About This Task

The AP can be mounted on a T-bar using the main mounting bracket that is shipped with the unit.

Before You Begin

- T-bar width must be 15/16th inches wide (24 mm)
- T-bar bottom must be flat all the way across
- T-bar minimum base thickness: N/A; must be structurally sound
- T-bar maximum base thickness: 0.055 in.
- Ceiling tile must be flat all the way across

Procedure

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.

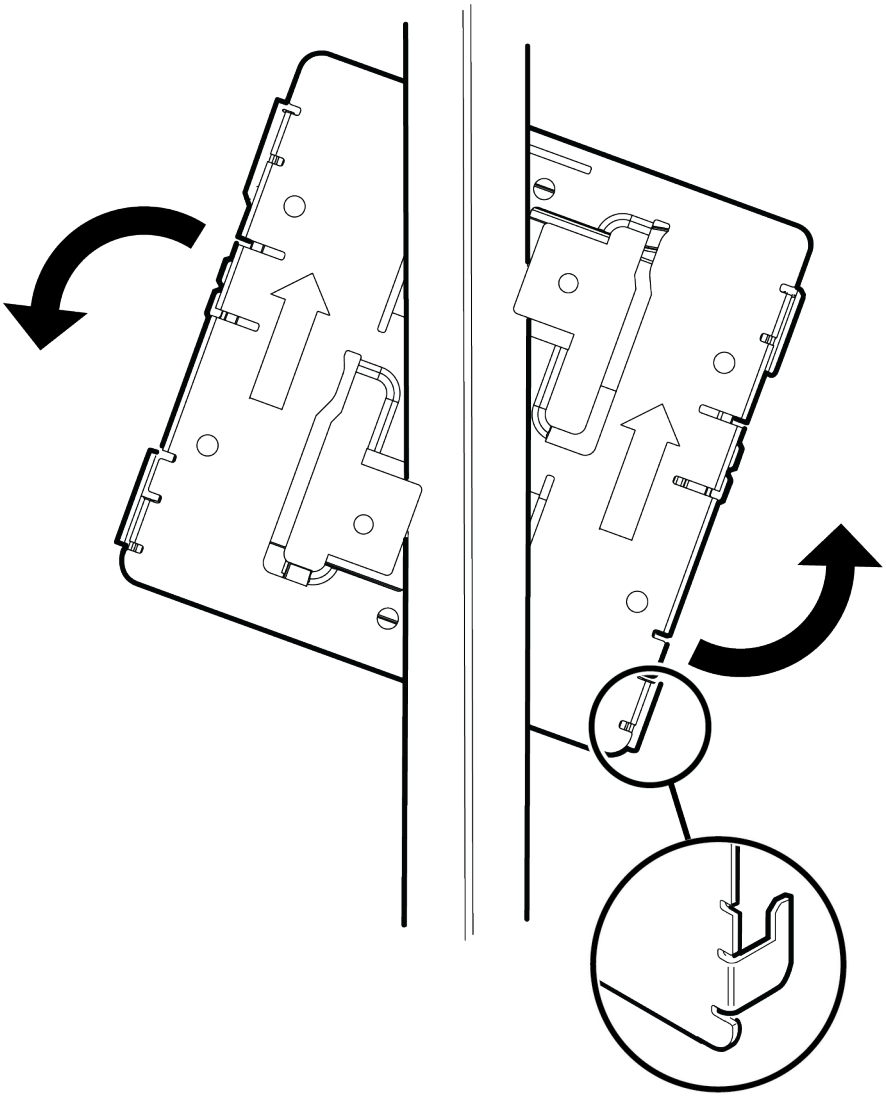


Figure 12: Attach the main mounting bracket to a T-bar

2. Attach the access point to the main mounting bracket.
3. Hold the AP and rock it back and forth to ensure it is securely mounted.
4. Replace the tiles.
5. Attach the Ethernet cable's RJ45 connector to the LAN1 port.

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

About This Task

Mounting the AP to a suspended or a 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 in. protrusion from the T-bar.

Before You Begin

- T-bar width can be either 9/16 in. (15 mm) or 15/16 in. (24 mm).
- T-bar bottom must be flat all the way across
- T-bar minimum base thickness: N/A; must be structurally sound
- T-bar maximum base thickness: 0.055 in. Due to manufacturing variation some adaptors may be able to accommodate up to 0.060 in.
- Ceiling tile may protrude up to 0.3 in. below the T-bar

Procedure

1. Attach the T-bar adapter by lining up the small bends on the adaptor with the long raised parts on the main bracket, pull up on the adapter's locking pin, and twist.

   Ensure that the locking pin goes into the locking pin hole on the main bracket and locks in place.
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 port.

Mount the Access Point Using the WS-MBI-DCFLUSH Bracket to a Flat T-bar

About This Task

The optional WS-MBI-DCFLUSH (#37211) bracket can also be used for T-bar installations without the mounting bracket.

Before You Begin

- T-bar width must be 9/16 in. (15 mm), 15/16 in. (24 mm), 1.5 in. (38 mm)
- T-bar bottom must be flat all the way across
- T-bar minimum base thickness: N/A; must be structurally sound
- T-bar maximum base thickness is 0.080 in. (2 mm)
- Ceiling tile must be flat all the way across
- Maximum ceiling tile protrusion allowed is 0.015 in. (0.38 mm)

Procedure

1. Remove the ceiling panels around the drop ceiling T-bar rail.

2. Open the movable sliding part of the bracket to give the stationary and slider T-bar more space.

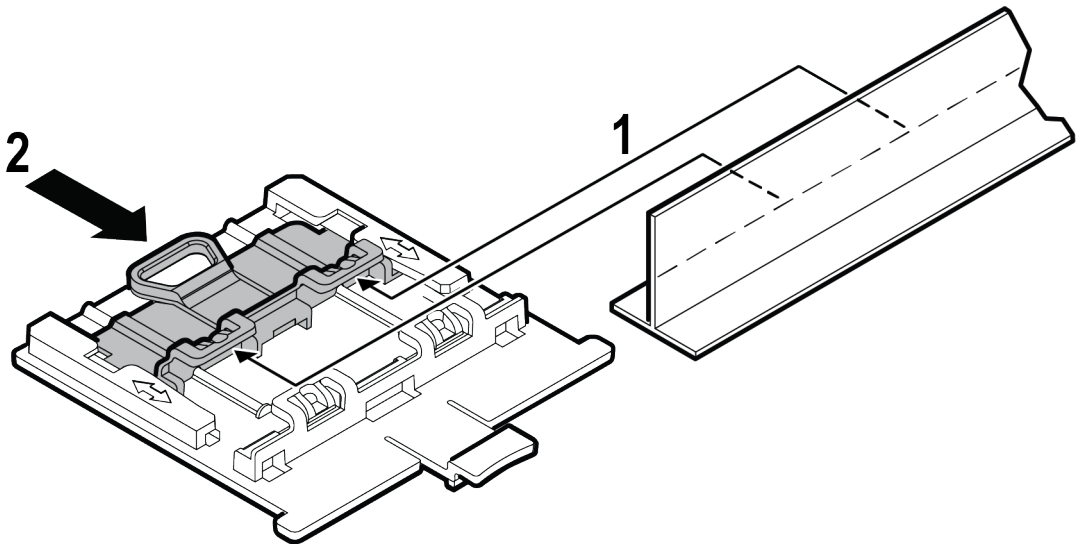


Figure 13: Install the WS-MBI-DCFLUSH bracket

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

3. Hook the stationary end of the T-bar bracket onto the T-bar.
4. Tilt the T-bar up slightly in such a way that you are holding the stationary and movable sides of the bracket.
5. Squeeze the bracket parts together until you hear the T-bar locking tab click into place.

6. Slide the T-bar ceiling mount bracket base into the back of the access point. The locking tab fits into a groove in the outside of the AP.

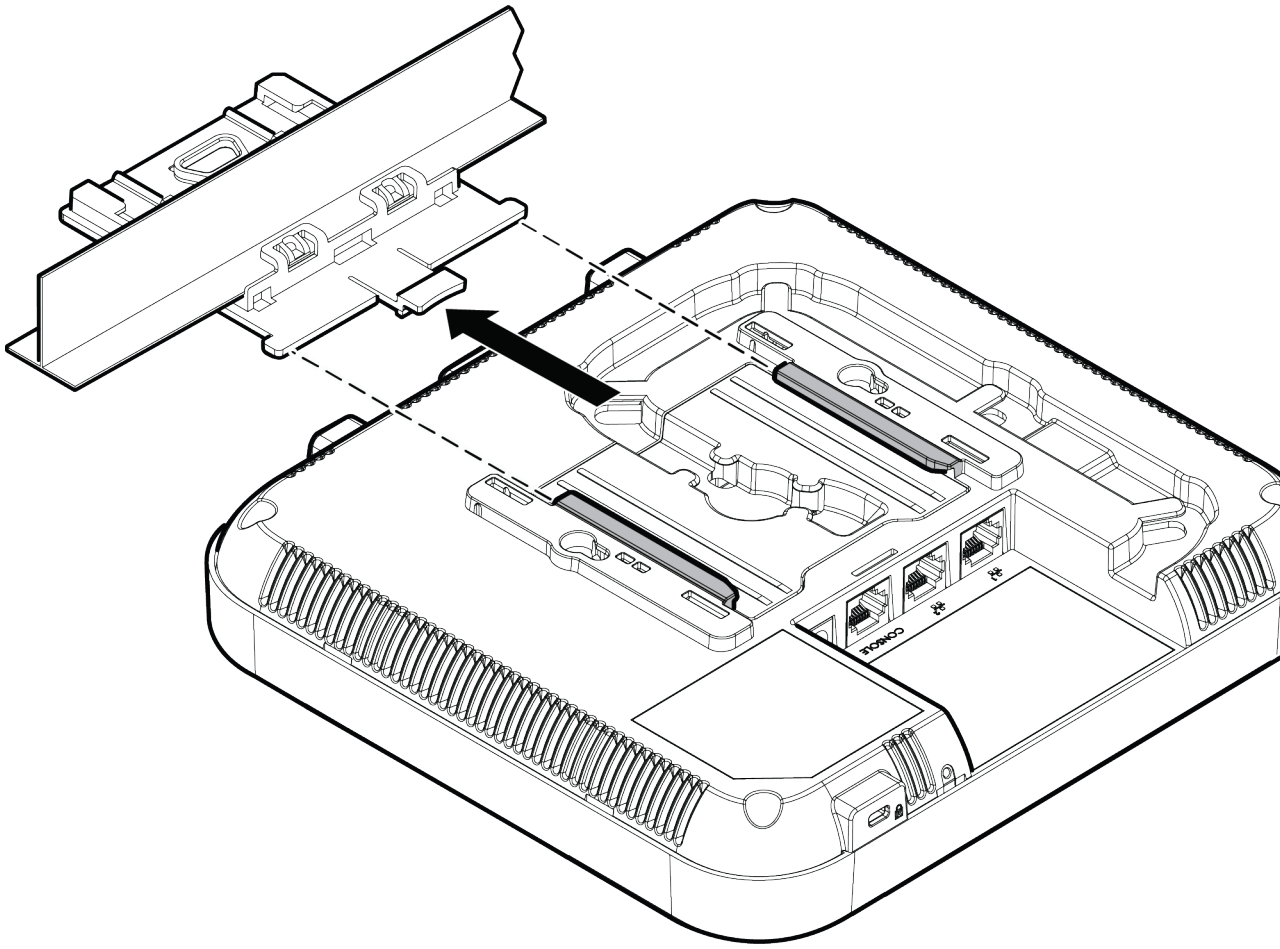


Figure 14: Attach the AP unit onto the WS-MBI-DCFLUSH bracket

7. Hold the AP and rock it back and forth to ensure that it is securely mounted.
8. Attach the Ethernet cable's RJ45 connector to the LAN1 port.
9. Place the ceiling tile back in place.

Mount the Access Point Using the WS-MBI-DCMTR01 Bracket

About This Task

The optional WS-MBI-DCMTR01 (#30518) bracket can also be used for T-bar installations without the mounting bracket.

Before You Begin

- T-bar width must be 9/16 in. (15 mm), 15/16 in. (24 mm), 1.5 in. (38 mm)
- T-bar minimum base thickness: N/A; must be structurally sound
- T-bar maximum base thickness is 0.118 in. (3 mm)

- T-bar can have a maximum protrusion of 0.625 in. (15.8 mm)
- Maximum protrusion of the ceiling tile can be 0.625 in. (15.8 mm). 1 Remove the ceiling panels around the drop ceiling T-bar rail

Procedure

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

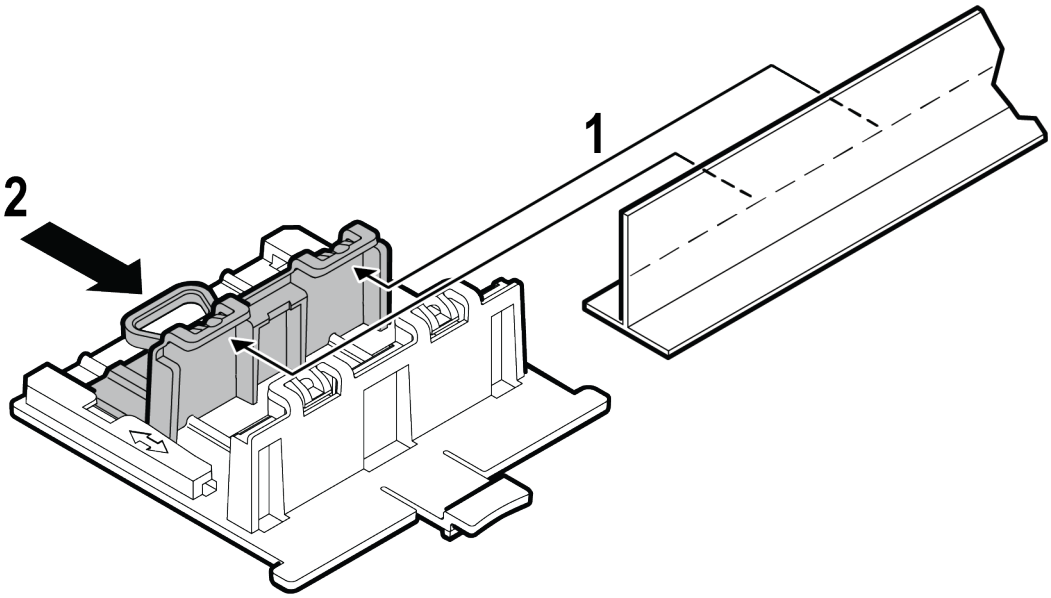


Figure 15: Install the WS-MBI-DCMTR01 bracket to a T-bar

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

3. Hook the stationary end of the T-bar bracket onto the T-bar.
4. Tilt the T-bar up slightly in such a way that you are holding the stationary and movable sides of the bracket.
5. Squeeze the bracket parts together until you hear the T-bar locking tab click into place.

6. Slide the T-bar ceiling mount bracket base into the back of the access point. The locking tab fits into a groove in the outside of the AP.

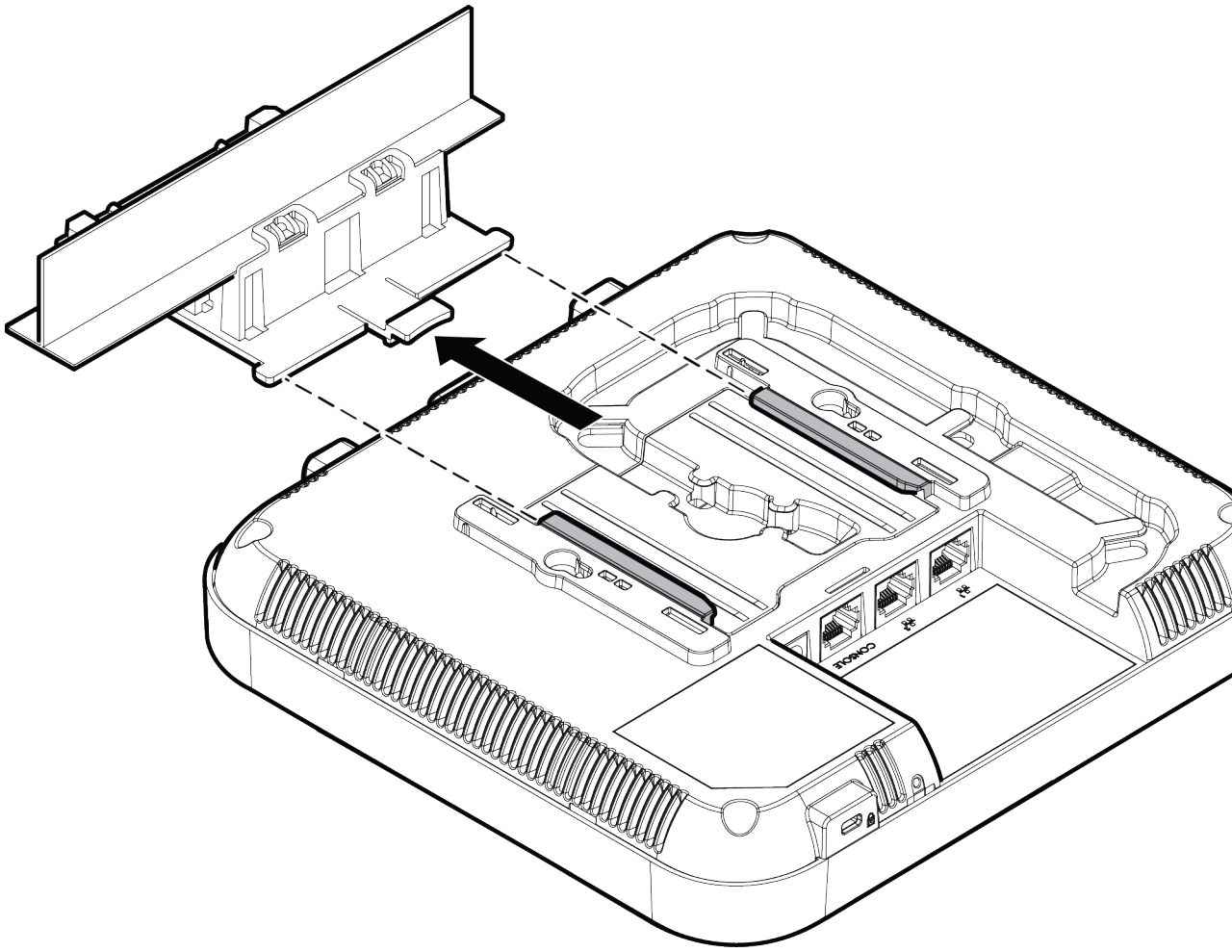


Figure 16: Attach the AP unit onto the WS-MBI-DCMTR01 bracket

7. Hold the AP and rock it back and forth to ensure that it is securely mounted.
8. Attach the Ethernet cable's RJ45 connector to the LAN1 port.
9. Place the ceiling tile back in place.

Mount the Access Point to a Junction Box

About This Task

You can mount the access point to a junction box using the #37201 main mounting bracket that comes with the unit or a WS-MBI-WALL04 bracket, which must be purchased separately.

Note

The junction box models are limited to USA box models when using the #37201 main mounting bracket.

Procedure

1. Remove the screws holding the junction box coverplate and remove the LAN cable from the coverplate if necessary.
2. Line up the bracket holes on the junction box and ensure that they align. If the holes do not align, then use the WS-MBI-WALL04 bracket.

   Note
   When you line up the holes, the locking tab on the WALL04 bracket must be pointing down and the junction 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 WALL04 bracket, break off the corner to decrease bracket's visibility once the AP is installed.

3. Using the holes aligned together or the new ones drilled, attach the bracket to the junction box using the screws removed from the junction box earlier. Do not over tighten.

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

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

Mount the Access Point to a Beam

About This Task

The access point can be mounted onto a beam using a beam clip accessory (BRKT-000147A-01) to the main mounting bracket.

Before You Begin

- 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 in. (12.7 mm) wide and as long as the AP's largest dimension
- Beam mounting surface is less than 0.650 in. (16.5 mm) thick

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

Procedure

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.

Specifications

Product specifications for the AP510i indoor access point.

Table 10: Product specifications

Part Number: AP510i-FCC	Cloud-ready, Dual 5GHz, Dual Band, Sensor radio, Dual Radio 802.11ax/ac/abgn, 4x4:4 MIMO Indoor 11ax access point. Internal Antenna. Domain: US, Peurto Rico, and Columbia
Part Number: AP510i-WR	Cloud-ready, Dual 5GHz, Dual Band, Sensor radio, Dual Radio 802.11ax/ac/abgn, 4x4:4 MIMO Indoor 11ax access point. Internal Antenna. Domain: EMEA and Rest of World
Dimensions	9 in. × 9 in. × 1.89 in. (229 mm × 229 mm × 48.15 mm)
Weight	3.40 lbs
Enclosure Material	Plastic only

Table 11: Environmental specifications

Operating temperature	0 °C to +50 °C (+32 °F to +122 °F) @ 6000 ft 0 °C to +45 °C (+32 °F to +113 °F) @ Sea Level
Storage and transportation temperature	-40°C to +70°C (-40°F to +158°F)
Humidity	0% to 95% (non-condensing)

For more information, refer to the AP510i datasheet.

Antenna Information

Internal Antenna Access Point

The AP510i is an indoor access point with eight WiFi internal antennas and one BLE internal antenna.

Table 12: AP510i internal antenna

Access point model	Application	Description	Gain (dBi)	Frequency (GHz)	Connector
AP510i	Indoor	MIMO	4 dBi	2.4 GHz	None
			6 dBi	5 GHz	None

Antenna Patterns - 2.4 GHz

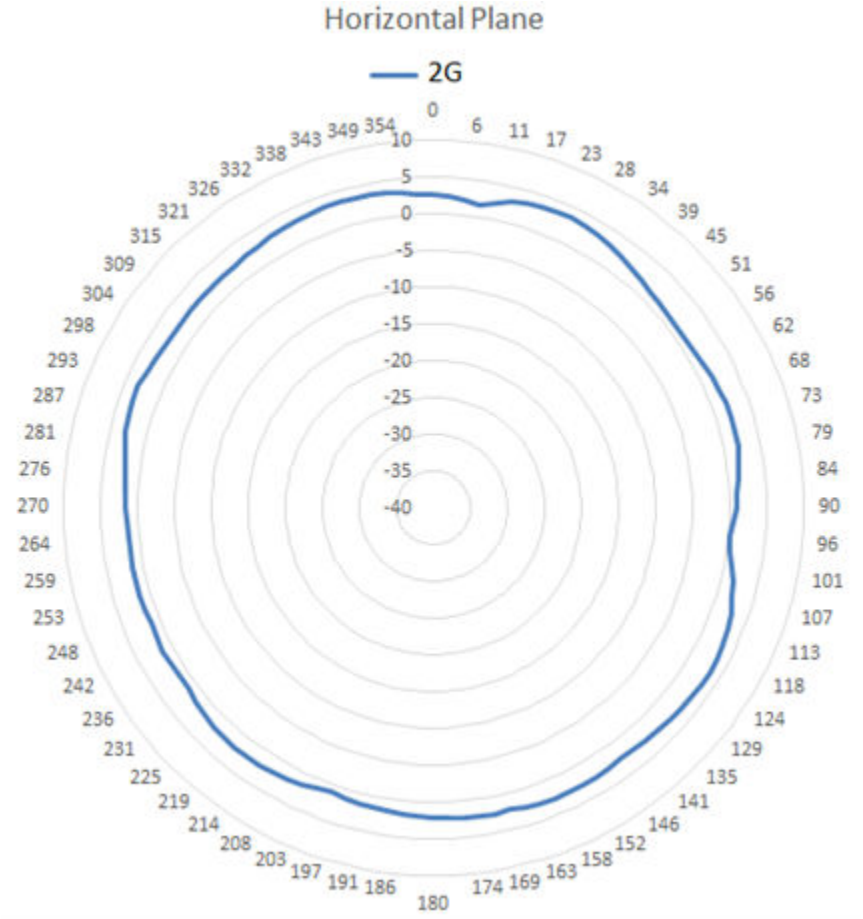


Figure 17: Horizontal Radiation Pattern 2.4 GHz

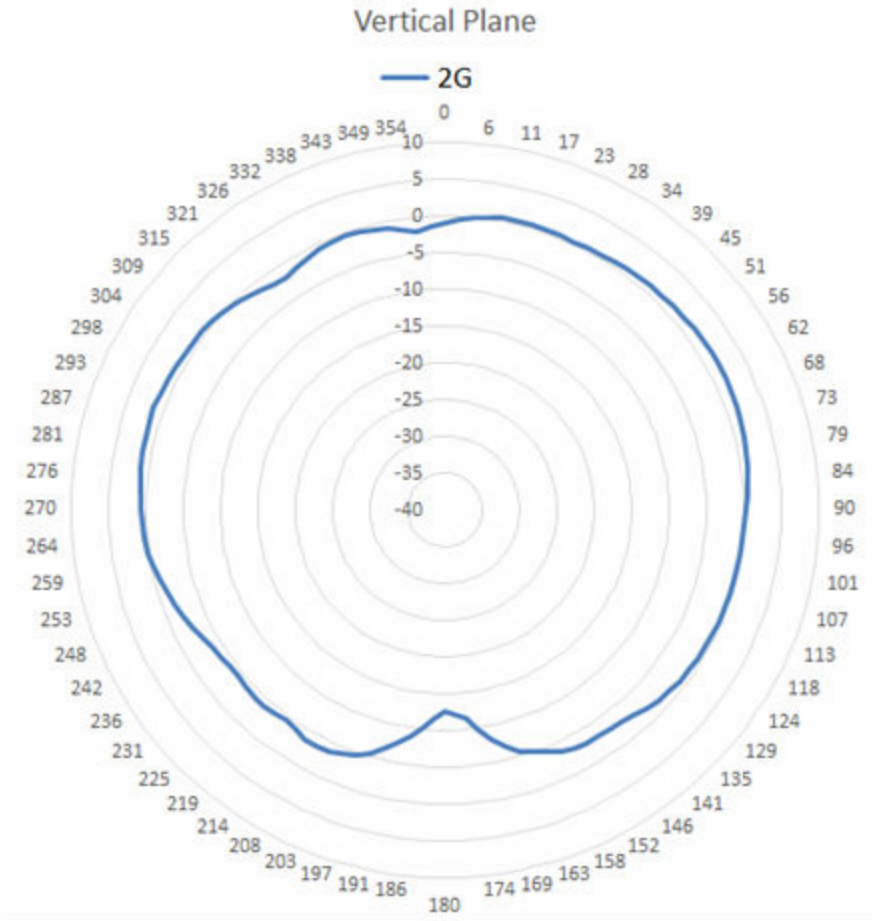


Figure 18: Vertical Radiation Pattern 2.4 GHz

Antenna Patterns - 5 GHz

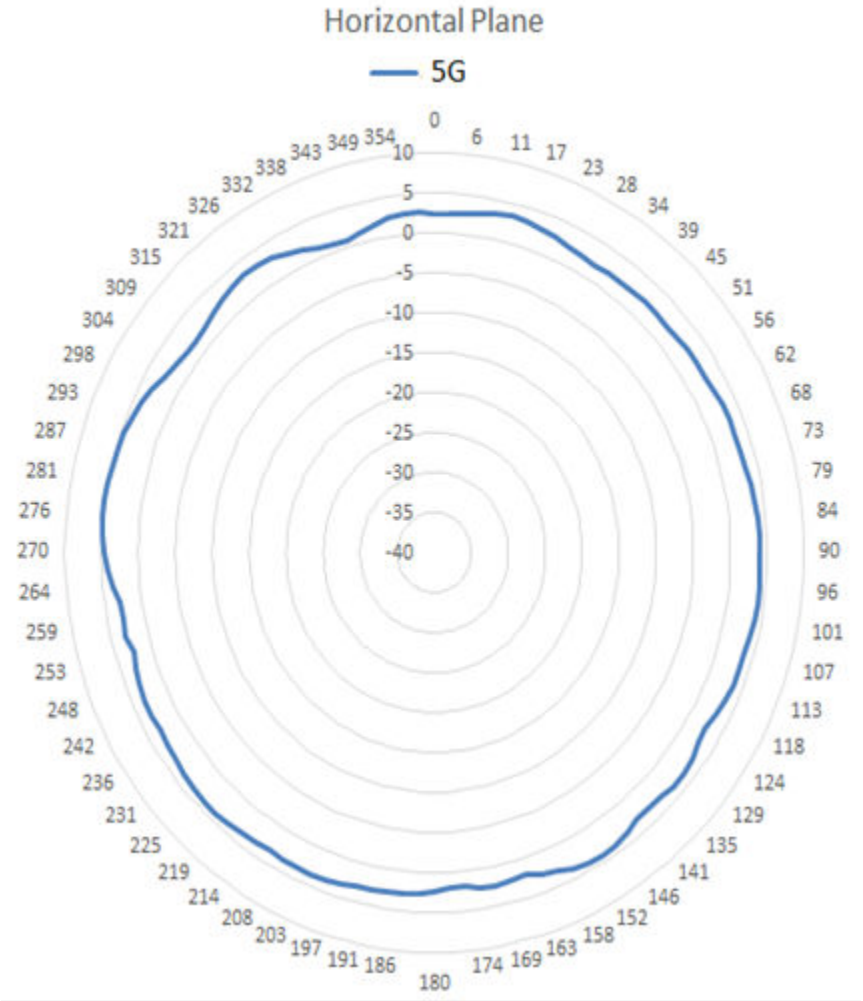


Figure 19: Horizontal Radiation Pattern 5GHz - Radio 1

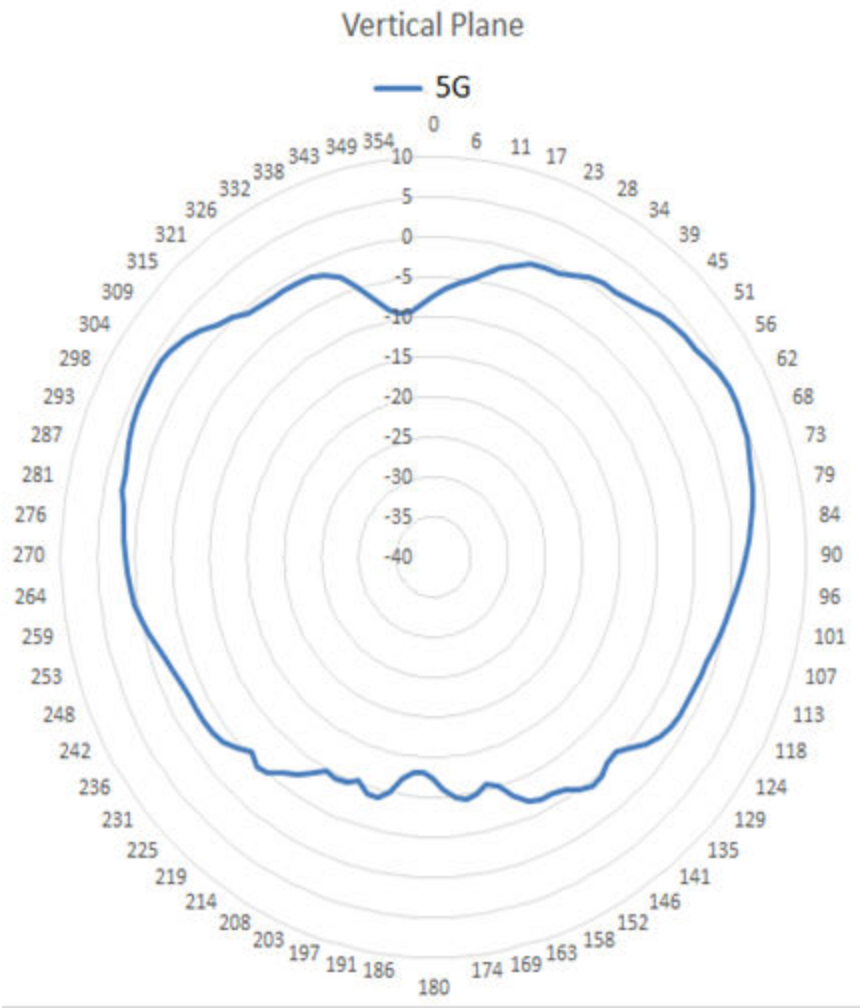


Figure 20: Vertical Radiation Pattern 5GHz - Radio 1

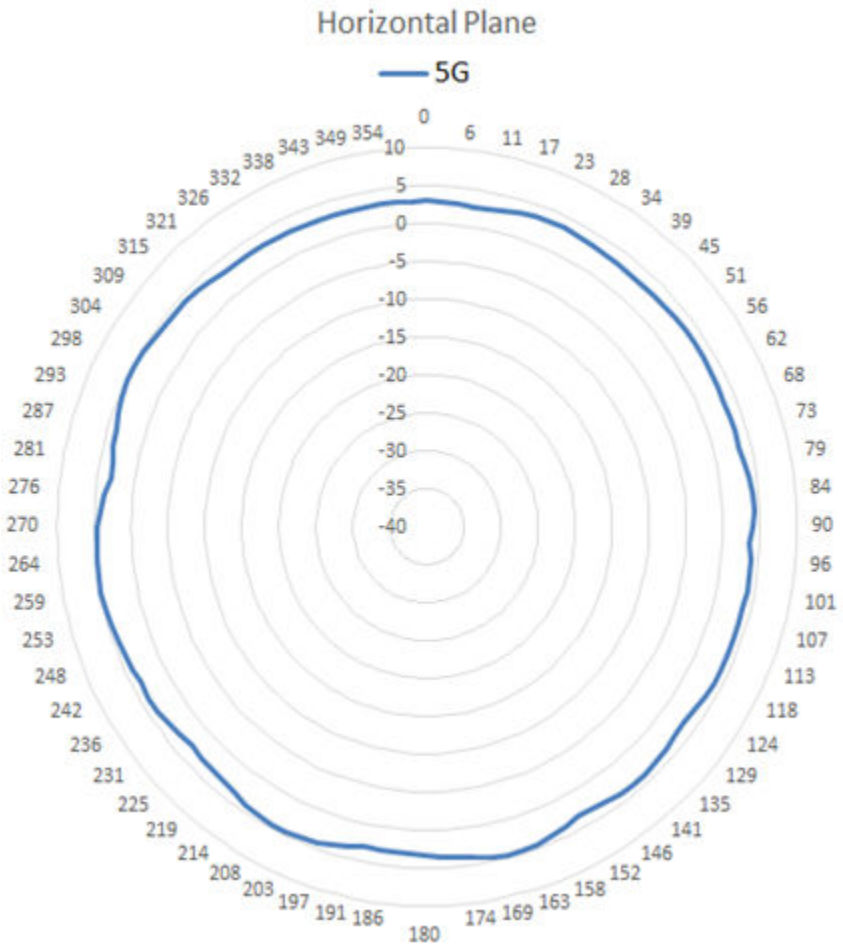


Figure 21: Horizontal Radiation Pattern 5 GHz - Radio 2

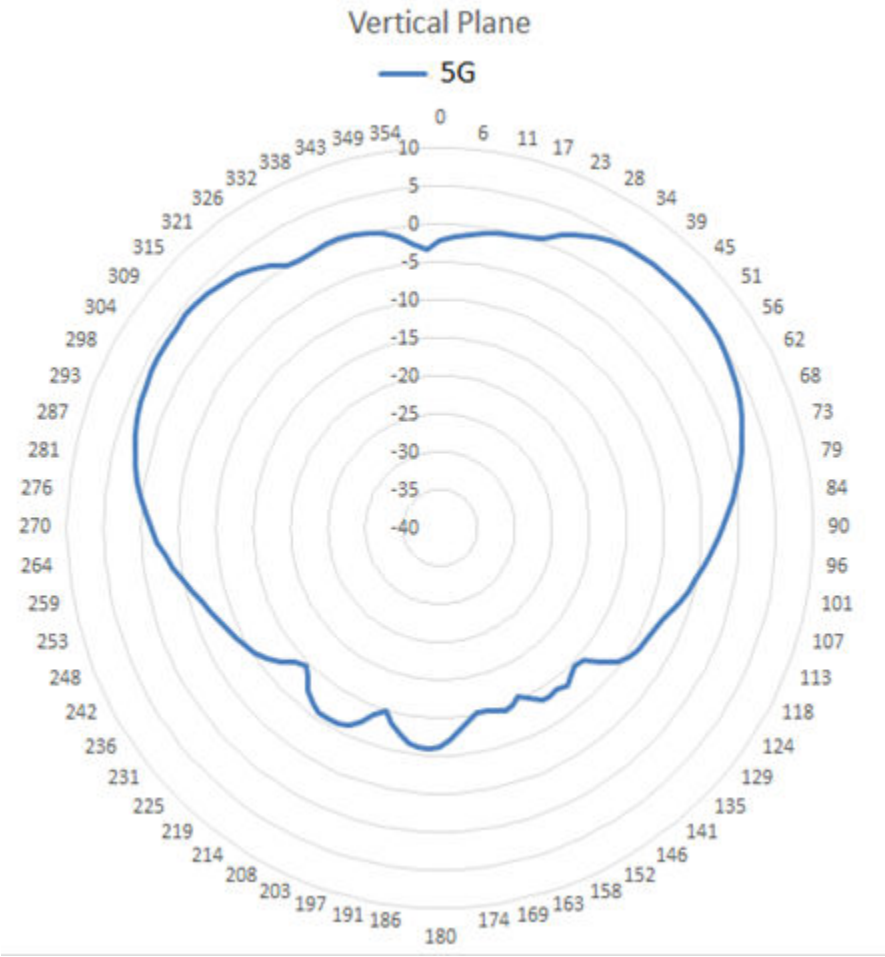


Figure 22: Vertical Radiation Pattern 5GHz - Radio 2

Table 13: Maximum antenna gain for integrated antenna

Software Mode	Radio 1	Radio 2	IoT Radio
Mode 1	4dBi; 2.4GHz	6dBi; 5GHz	5dBi
Mode 2	4dBi; 2.4GHz	6dBi; 5GHz	5dBi
	5dBi; 5 GHz		
Mode 3	4dBi; 5GHz	6dBi; 5GHz	5dBi

Regulatory and Compliance Information

Safety Guidelines on page 42
Federal Communications Commission (FCC) Notice on page 42
Industry Canada Notice on page 43
Brazil Agência Nacional De Telecomunicações (Anatel) Statement on page 44
Hazardous Substances on page 44
Supplement to Product Instructions on page 45
NCC Statement on page 45
CE Information on page 46
European Waste Electrical and Electronic Equipment (WEEE) Notice on page 46
Declaration of Conformity in Languages of the European Community on page 47

Learn about safety guidelines, compliance notices, and regulatory information pertaining to various countries in which the device can be used.

Safety Guidelines

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

Important
Only qualified personnel must perform installation procedures. Within the context of the safety notes in this documentation, qualified persons are defined as persons who are authorized to commission grounding, 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.

This device is 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 a minimum distance of 26 cm between the radiator and your body.

Note
For products available in the USA and Canada markets, only channel 1-11 can be operated. Other channels cannot be selected.

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.

Caution
Avertissement: 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 26cm 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 26cm de distance entre la source de rayonnement et votre corps.

Brazil Agência Nacional De Telecomunicações (Anatel) Statement

Details about certification from Brazil's local authority Agência Nacional De Telecomunicações (Anatel) for access point usage in Brazil.

Este produto está homologado pela Anatel, de acordo com os procedimentos regulamentados 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

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/cm²，送測產品實測值為 0.963mW/cm²

1. 使用此產品時應避免影響附近雷達系統之操作。

CE Information

CE Information

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), 802.11ax (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:

- 2412-2472MHz: 19.98 dBm
- 2402-2480MHz (LE): 6.23 dBm
- 5180-5240MHz: 22.98 dBm
- 5260-5320MHz: 22.98 dBm
- 5500-5700MHz: 29.98 dBm
- 2405-2480MHz: 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.

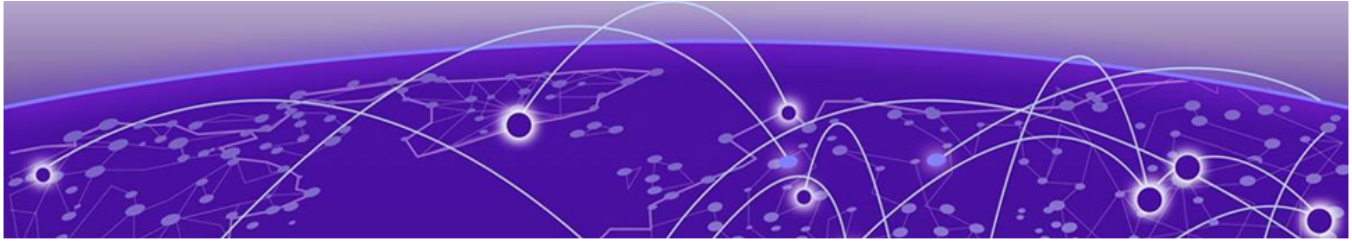
3. It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
4. It is the user's responsibility to utilize the available collection system 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, , declares that the radio equipment type (AP510i) is in compliance with Directive 2014/53/EU. For full text of the EU Declaration of Conformity, please contact Extreme Regulatory Compliance at compliancerequest@extremenetworks.com
Finnish	Valmistaja vakuuttaa täten että Radio LAN device (AP510i) tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch	Hierbij verklaart dat het toestel Radio LAN device (AP510i) in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.
French	Par la présente déclare que l'appareil Radio LAN device (AP510i) est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU.
Swedish	Härmed intygar överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Danish	Undertegnede erklærer herved, at følgende udstyr Radio LAN device (AP510i) overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU.
German	Hiermit erklärt die Übereinstimmung des "WLAN Wireless Controller bzw. Access Points" (AP510i) mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 2014/53/EU.
Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN device (AP510i) ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU.
Icelandic	lysir her med yfir að thessi bunadur, Radio LAN device (AP510i), uppfyllir allar grunnkrofur, sem gerdar eru i R&TTE tilskipun ESB nr 2014/53/EU.

Italian	Con la presente dichiara che questo Radio LAN device (AP510i) è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU.
Spanish	Por medio de la presente declara que el Radio LAN device (AP510i) cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU.
Portuguese	declara que este Radio LAN device (AP510i) está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU.
Malti	Hawnhekk, , jiddikjara li dan Radio LAN device (AP510i) jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 2014/53/EU.



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