Cambium Networks™

QUICK START GUIDE

Enterprise Wi-Fi Access Point

System Release 6.4.1

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Overview of Cambium Networks products

This User Guide describes various features supported by Cambium Network's Access Point (AP). It also provides detailed instructions for setting up and configuring the AP.

Intended audience

The guide is intended to assist system designers, system installers, and system administrators.

Purpose

This guide intends to instruct and assist personnel in the operation, installation and maintenance of the Cambium's equipment and ancillary devices. It is recommended that all personnel engaged in such activities must be trained properly.

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Related documents

Table 1 provides provides support information for the AP (Enterprise Wi-Fi products).

Table 1: Related documents

Document Type	Link for Reference
Enterprise Wi-Fi product details	https://www.cambiumnetworks.com/products/wifi/
Enterprise Wi-Fi AP User Guide (This document)	https://support.cambiumnetworks.com/files
Enterprise Wi-Fi AP Release Notes	https://support.cambiumnetworks.com/files
Software Resources	https://support.cambiumnetworks.com/files
Community	http://community.cambiumnetworks.com/
Support	https://www.cambiumnetworks.com/support/contact-support/
Warranty	https://www.cambiumnetworks.com/support/warranty/
Feedback	For feedback, e-mail to support@cambiumnetworks.com

New hardware platforms

The System Release 6.4.1 includes support for the following new hardware platform:

Table 2: New hardware platform

Hardware Platform	Description
XV2-2T1	Outdoor Wi-Fi 6 Access point, 2x2 Sector antenna Dual band 802.11ax 2x2, BLE, 2.5GbE

Existing hardware platforms

Table 3 lists the existing hardware platforms.

Table 3: List of existing hardware platforms

Hardware Platfrom	Description
XE3-4	4x4:4; 2x2:2; 2x2:2 802.11a/b/g/n/ac wave 2/ax Tri-Radio Indoor Wi-Fi 6e Access Point
XV3-8	8x8:8, 4x4:4 802.11a/b/g/n/ac wave 2/ax Tri-Radio indoor Access Point
XV2-2	2x2:2, 2x2:2 802.11a/b/g/n/ac wave 2/ax Dual-Radio indoor Access Point
XV2-2T	2x2:2, 2x2:2 802.11a/b/g/n/ac wave 2/ax Dual-Radio Outdoor Access Point, Omni, PoE out

Hardware Platfrom	Description
e410	2x2:2, 802.11a/b/g/n/ac wave 2 indoor Access Point
e510	2x2:2, 802.11a/b/g/n/ac wave 2 outdoor Access Point
e430	2x2:2, 802.11a/b/g/n/ac wave 2 indoor Access Point
e600	2x2:2 for 2.4 GHz and 4x4:4 for 5 GHz, 802.11a/b/g/n/ac wave 2 indoor Access Point
e700	2x2:2 for 2.4 GHz and 4x4:4 for 5 GHz, 802.11a/b/g/n/ac wave 2 indoor Access Point

Acess Point (AP) management options

Table 4: AP management options

Management Option	Description
Standalone	AP can be managed directly from its GUI by selecting the **Configure** tab on the menu, and setting up a wireless LAN.
On-Premises	AP can be onboarded to the cnMaestro network management system.
Cloud	AP can be onboarded to either cnMaestro Cloud or XMS-Cloud at https://cloud.cambiumnetworks.com or https://login.xirrus.com respectively.
Mobile Application	AP can be managed by using the Swift application. To download the Swift application from App Store, scan the QR code and follow instructions.

> **Note**
>
> For cloud and mobile pplication management, please ensure the AP has connectivity to the internet. Connectivity can be verified using tools such as ping from the **Troubleshooting** tab of the AP UI. Connection status can be monitored from the AP dashboard.

XMS-Cloud

1. Copy the Entitlement ID (EID) received via email, then go to support.cambiumnetworks.com > **Licensing** > **Activate Entitlements**.

   a. **New customers**: Create an account and login using the credentials that is sent by email.

   b. **Existing customer**s: Enter EID to activate licenses for new APs.

2. Open XMS-Cloud UI and add AP serial numbers: go to login.xirrus.com > **Access Point** tab.

3. Connect AP to the internet. It appears in the XMS-Cloud console in a few minutes.

Swift mobile application

1. Download the **Cambium Networks Swift** application from the Google Play Store or Apple App Store.

2. Open Swift app and follow the onscreen instructions.

cnMaestro Essentials and cnMaestro X

1. Go to cloud.cambiumnetworks.com and register as a new user or sign-in with the existing credentials.

2. Create a new cnMaestro account or select an existing account.

3. **To add AP serial numbers**: Go to **cnMaestro Home** > **Onboard Devices** > **Claim Device**.

4. Connect the AP to the internet. It appears in the cnMaestro **Devices** page in a few minutes. Approve the device to finish onboarding.

cnMaestro On-Premises

Consult user documentation to redirect the AP to an on-premises cnMaestro management server.

For support, go to support.cambiumnetworks.com.

	Note
	Enterprise Wi-Fi AP has a QR code that helps the customer to get to the quick start instructions.

Reporting problems

If any problems are encountered when installing or operating this equipment, follow this procedure to investigate and report:

1. Search this document and the software release notes of supported releases.

2. Visit the Support website: http://www.cambiumnetworks.com/support

3. Ask for assistance from the Cambium product supplier.

4. Gather information from affected units, such as any available diagnostic downloads.

5. Escalate the problem by emailing or telephoning support: https://www.cambiumnetworks.com/support/contact-support/

Security advice

Cambium Network's systems and equipment provide security parameters that can be configured by the operator based on their particular operating environment. Cambium recommends setting and using these parameters following industry recognized security practices. Security aspects to be considered are protecting the confidentiality, integrity, and availability of information and assets. Assets include the ability to communicate, information about the nature of the communications, and information about the parties involved.

In certain instances, Cambium makes specific recommendations regarding security practices, however the implementation of these recommendations and final responsibility for the security of the system lies with the operator of the system.

Cambium Network's Enterprise AP equipment is shipped with default web management interface login credentials. It is highly recommended that the following default username and password should be modified prior to system installation.

- Username: admin

- Password: admin

Safety and regulatory information

This section describes important safety and regulatory guidelines that must be observed by personnel installing or operating Enterprise Access Point equipment.

Important safety information

⚠	**Warning**
	To prevent loss of life or physical injury, observe the safety guidelines in this section.

Power lines

Exercise extreme care when working near power lines.

Working at heights

Exercise extreme care when working at heights.

Grounding and protective earth

Cambium Networks Enterprise Access Point (AP) devices must be properly grounded to protect against lightning. It is the responsibility of the user to install the equipment in accordance with national regulations. In the USA, follow Section 810 of the National Electric Code, ANSI/NFPA No.70-1984 (USA). In Canada, follow Section 54 of the Canadian Electrical Code. These codes describe correct installation procedures for grounding the outdoor unit, mast, lead-in wire and discharge unit, size of grounding conductors and connection requirements for grounding electrodes. Other regulations may apply in different countries and therefore it is recommended that installation be contracted to a professional installer.

Powering down before servicing

Always power down and unplug the equipment before servicing.

Primary disconnect device

The Enterprise AP power supply is the primary disconnect device.

RF exposure near the antenna

Strong Radio Frequency (RF) fields will be present close to the antenna when the transmitter is ON. Always turn OFF the power to the AP device before undertaking maintenance activities in front of the antenna.

Important regulatory information

The Enterprise Wi-Fi AP product is certified as an unlicensed device in frequency bands where it is not allowed to cause interference to licensed services (called primary users of the bands).

Radar avoidance

In countries where radar systems are the primary band users, the regulators have mandated special requirements to protect these systems from interference caused by unlicensed devices. Unlicensed devices must detect and avoid co-channel operation with radar systems.

The Enterprise Wi-Fi APs detects and avoids functionality for countries and frequency bands requiring protection for radar systems. The Enterprise Wi-Fi APs is qualified for ETSI/FCC DFS certification (see Note) for radar detection and avoidance as per the law.

	Note
	Country-specific limits apply, some bands require Dynamic Frequency Selection (DFS). DFS bands operation subject to regulatory approval. Check Software release notes for details.

Installers and users must meet all local regulatory requirements for radar detection. To meet these requirements, users must set the correct country code during commissioning of the Enterprise Wi-Fi APs equipment. If this is not done, installers and users may be liable to civil and criminal penalties.

Contact the Cambium helpdesk if more guidance is required.

Human exposure to radio frequency energy

Relevant standards (USA and EC) applicable when working with RF equipment are:

- ANSI IEEE C95.1-1991, IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

- Council recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) (1999/519/EC) and respective national regulations.

- Directive 2004/40/EC of the European Parliament and of the Council of 29 April 2004 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) (18th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).

- US FCC limits for the general population. See the FCC website at https://www.fcc.gov/, and the policies, guidelines, and requirements in Part 1 of Title 47 of the Code of Federal Regulations, as well as the guidelines and suggestions for evaluating compliance in FCC OET Bulletin 65.

- Health Canada limits for the general population. See the Health Canada website at http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/radio_guide-lignes_direct/index-eng.php and Safety Code 6.

- EN 50383:2002 to 2010 Basic standard for the calculation and measurement of electromagnetic field strength and SAR related to human exposure from radio base stations and fixed terminal stations for wireless telecommunication systems (110 MHz - 40 GHz).

- BS EN 50385:2002 Product standard to demonstrate the compliances of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference

levels related to human exposure to radio frequency electromagnetic fields (110 MHz – 40 GHz) – general public.

ICNIRP (International Commission on Non-Ionizing Radiation Protection) guidelines for the general public. See the ICNIRP website at http://www.icnirp.de/ and Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields.

USA and Canada specific information

Federal Communication Commission interference statement

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.

> **Attention**
>
> 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.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device and its antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

This device is restricted for indoor use.

FCC radiation exposure statement

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

IC statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

Pour les produits disponibles aux États-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

This device and it's antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with IC multi-transmitter product procedures.

Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionnement en association avec une autre antenne ou transmetteur.

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour uneutilisationà l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

IC radiation exposure statement

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

CE statement

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

Specific expertise and training required for professional installers

To ensure that the Enterprise Wi-Fi AP is installed and configured in compliance with the requirements of Industry Canada and the FCC, installers must have the radio engineering skills and training described in this section. This is particularly important when installing and configuring an Enterprise Wi-Fi AP system for operation in the 5 GHz band (5150 – 5250 MHz – FCC only, 5250 – 5350 MHz, 5470 – 5725 MHz and 5725 – 5850 MHz).

Avoidance of weather radars

The installer must be familiar with the requirements in FCC KDB 443999. Essentially, the installer must be able to:

- Access the FCC database of weather radar location and channel frequencies.

- Use this information to correctly configure the product (using the UI) to avoid operation on channels that must be avoided according to the guidelines that are contained in the KDB and explained in detail in this user guide.

- In ETSI regions, the band 5600 MHz to 5650 MHz is reserved for the use of weather radars.

Ethernet networking skill

The installer must have the ability to configure IP addressing on a PC and to set up and control products using a web browser interface.

Ethernet cabling types

Following are the recommended Ethernet cabling types for various APs which has Multi-gigabit capable Ethernet ports:

- XV3-8 (5Gbps)

- XV2-2, XE3-4, and XV2-2T (2.5Gbps)

For 2.5Gbps, Cambium Networks recommends CAT6 cable or better to cover the 100m maximum cable length runs. For shorter runs under about 30m, CAT5E cable is recommended. For high radio-frequency electric fields environments, shielded CAT5E or CAT6 type cabling is recommended.

For 5Gbps, Cambium Networks recommends CAT6 for cable runs under about 50m and CAT6a for lengths over 50m up to the maximum of 100m. Shielding cables should be used and the shielded CAT6\CAT6a needs to be continuous from the AP to its Ethernet switch.

Pole or tower mount guidelines

If you need to install AP to a metal tower or pole, then in addition to the general protection requirements, follow the below requirements:

- Ensure that the position of the equipment is lower than the top of the tower or its lightning air terminal.

- Ensure that the metal tower or pole is correctly grounded.

- Install a grounding kit at the first point of contact (top), between the drop cable and the tower.

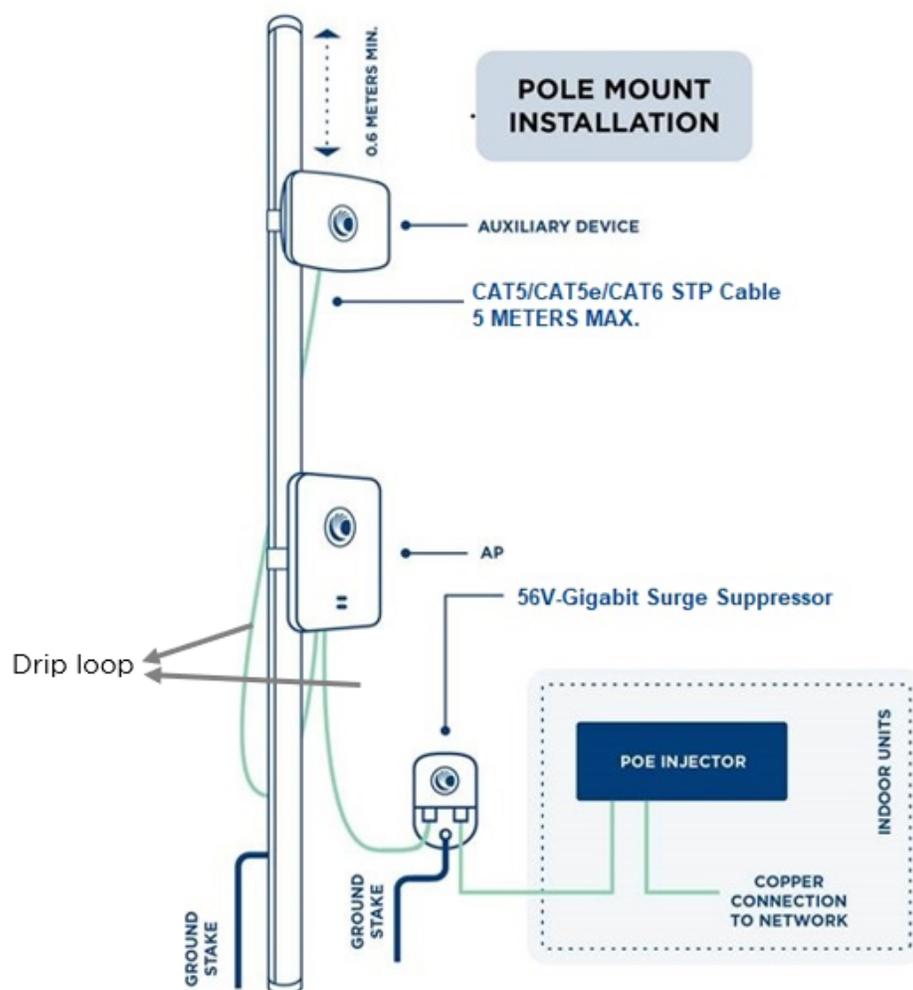- Install a grounding kit at the bottom of the tower, near the vertical to horizontal transition point.

> **Note**
>
> If grounding kit is installed, ensure the grounding kit is bonded to the tower or Tower Ground Bus Bar (TGB).

Connection examples of pole or tower installations are shown in below figure.

Wall mount guidelines

If you need to install AP on the wall of a building, then in addition to the general protection requirements, follow the below requirements also:

- Ensure that the position of the equipment is lower than the top of the building or its lightning air terminal.

- Ensure that the building is correctly grounded.

Connection examples of wall installations are shown in below figure.

Figure 2: *Grounding and lightning protection on wall*
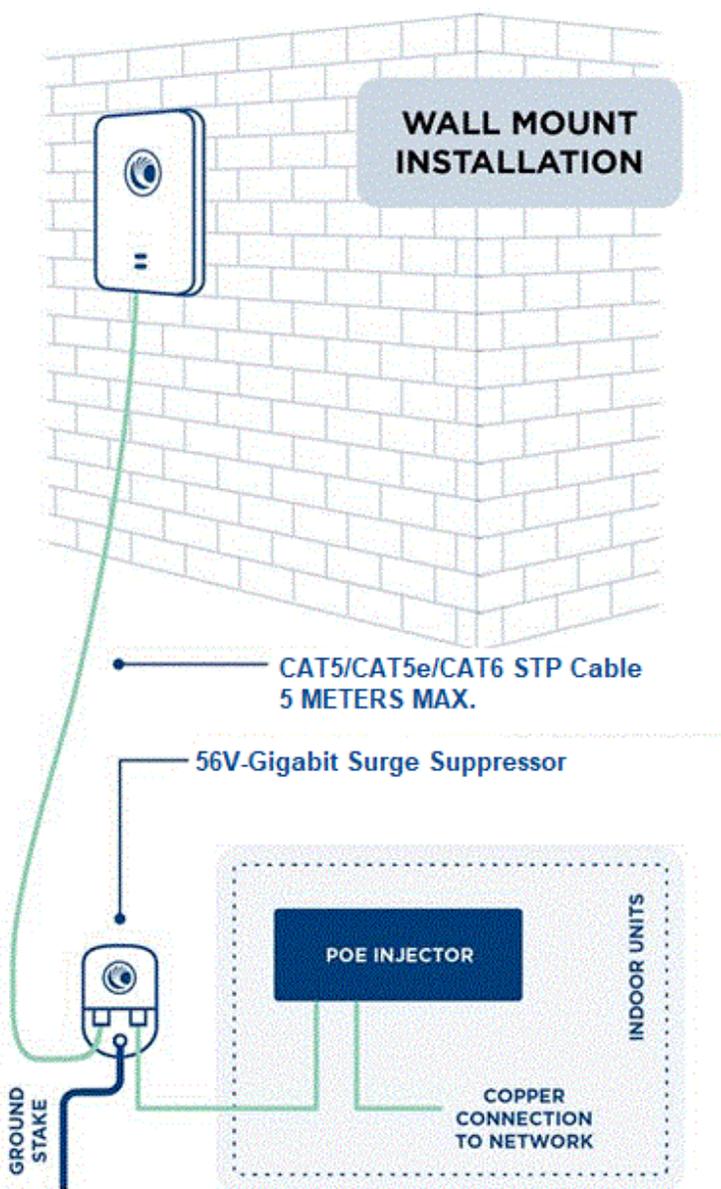
	Note
	There should be a drip loop immediately at the Ethernet port entrance going to the AP.

Training

The installer needs to have basic competence in radio and IP network installation. The specific requirements applicable to the Cambium Networks Enterprise Wi-Fi AP must be gained by reading this User Guide and by performing sample setups at base workshop before live installments.

Power density exposure limit

This section includes the following topics:

- Calculation of power density and distance

- Calculated distances and power compliance margins

Install the radios for the platform family of wireless solutions so as to provide and maintain the minimum separation distances from all persons.

The applicable FCC power density exposure limit for RF energy in the 2.4 and 5 GHz frequency bands is 1 mW/cm2.

The applicable ISEDC power density exposure limit for RF energy in unlicensed bands is 0.02619 * (f^ (0.6834)), where f is the lowest frequency of the supported band. For licensed bands, the power density exposure limit is 0.6455 * (f^ (0.5)), where f is the lowest frequency of the supported band.

Calculation of power density and distance

The following calculation is based on the ANSI IEEE C95.1-1991 method, as that it provides a worst-case analysis. Details of the assessment to EN50383:2002 can be provided, if required.

Peak power density in the far field of a radio frequency point source is calculated as follows:

$$S = \frac{P.G}{4\pi d^2}$$

Where:

- P – Maximum average transmit power capability of the radio, in W

- G – total Tx gain as a factor, converted from dB

- S – power density (W/m²)

- d – Distance from point source, in cm (Centimeters)

Table 5: Antenna details

AP	Antenna	Gain (for 2.4 GHz in dBi)	Gain (for 5 GHz in dBi)	Gain (for 6 GHz in dBi)
XV3-8	Omnidirectional	5.1	6.7	N/A
XV2-2	Omnidirectional	5.4	6.3	N/A
XV2-2T	Omnidirectional	5.3	9.0	N/A
XV2-2T1	Sector	11.8	13.6	N/A
XE3-4	Omnidirectional	4.85	5.6	6.3
e410	Omnidirectional	4.55	4.25	N/A
e510	Omnidirectional	8	8	N/A
e430	Omnidirectional	3	4	N/A

AP	Antenna	Gain (for 2.4 GHz in dBi)	Gain (for 5 GHz in dBi)	Gain (for 6 GHz in dBi)
e600	Omnidirectional	4.55	4.25	N/A
e700	Omnidirectional	7.5	8	N/A

For details on minimum safe distance value, please refer About This User Guide.

Calculated distances and power compliance margins

About This User Guide displays power density and minimum safe separation distance from point source for each frequency band and antenna combination for the USA and Canada. These are conservative distances that include compliance margins.

Cambium Networks Enterprise Wi-Fi AP adheres to all applicable EIRP limits for transmit power when operating in MIMO mode. Separation distances and compliance margins include compensation for both transmitters.

$$d = \sqrt{\frac{P.G}{4\pi.S}}$$

Explanation of terms used in the following tables:

- P – maximum average transmits power of the radio (Watt)

- G – total transmit gain as a factor, converted from dB

- S – power density (W/m^2)

- d – minimum safe separation distance from point source (Centimeters)

Table 6: Power density and distance

Product	Regulatory Domain	Power density S (mW/cm^2)	Distance d (cm)
XV3-8	FCC	0.21/0.33	31
	IC	0.22/0.35	30
	CE	0.197/7.47 (2.4G/5G W/m^2)	20
XV2-2	FCC	0.45/0.505	25
	IC	0.31/0.35	30
	CE	0.1966/7.598 (2.4G/5G W/m^2)	20
XV2-2T	FCC	0.36/0.597	23
	IC	0.26/0.433	27
	CE	0.1957/1.98 (2.4G/5G W/m^2)	20

Product	Regulatory Domain	Power density S (mW/cm²)	Distance d (cm)
XV2-2T1	FCC	0.466/0.461 (2.4G/5G)	26
	IC	0.328/0.324 (2.4G/5G)	31
	CE	0.193/1.97 (2.4G/5G W/m²)	20
XE3-4	FCC	0.24/0.35/0.02196 (2.4G/5G/6G)	30
	IC	0.20/0.29 (2.4G/5G)	33
	CE	0.1247/4.548/0.253 (2.4G/5G/6G W/m²)	25
e410	FCC	0.2506/0.4998	20
	IC	0.54/0.975 (2.4GHz/5GHz)	20
	CE	0.1947/5.737 (2.4G/5G W/ m²)	20
e510	FCC	0.28/0.65	20
	IC	0.22/0.186	20
	CE	0.19/7.35 (2.4G/5G W/ m²)	20
e430	FCC	0.139/0.164	20
	IC	0.27	20
	CE	0.1935/1.481 (2.4G/5G W/ m²)	20
e600	FCC	0.168/0.5487	24
	IC	0.49	20
	CE	0.1375/6.257 (2.4G/5G W/ m²)	24
e700	FCC	0.39317/0.55028	24
	IC	0.45/0.975 (2.4G/5G)	28
	CE	0.1375/6.257 (2.4G/5G W/ m²)	24

Chapter 2: Packaging and Installation of Access Point

This chapter describes the following topics:

- Unpacking the Access Point

- Package contents

- Mounting the device

Unpacking the Access Point

After you purchase a Cambium Networks Enterprise Wi-Fi AP, unpack the AP and check the package contents.

1. Open the AP package, and then carefully remove the contents.

2. Verify that all items listed in Package contents below are included in the package. Check each item for damage. If any item is damaged or missing, notify your authorized Cambium Networks Enterprise Wi-Fi AP sales representative.

Package contents

A complete Cambium Networks Enterprise Wi-Fi AP package contains all the items listed below:

1. Cambium Networks Enterprise Wi-Fi AP

2. Quick Start Guide (QSG)

   - Specifications
   - Safety Notice
   - Compliance

3. Hardware Accessories (Based on SKU/Model)

   - Mounting Kits

Mounting the device

This section includes the following topics:

- [Mounting XV3-8](#)

- [Mounting XV2-2](#)

- [Mounting XV2-2T/XV2-2T1](#)

- [Mounting XE3-4](#)

- [Mounting e410/e600](#)

- [Mounting e510](#)

- [Mounting e430](#)

- [Mounting e700](#)

Enterprise Wi-Fi APs features an attractive design with flexible mounting options that allows the APs to smoothly blend into any business environment. Enterprise Wi-Fi APs are mounted in the following methods:

- Wall Mount

- Celling Mount

- T-bar Mount

- Pole Mount

- Gang mount

[Table 6](#) provides an overview of the type of mountings each Enterprise Wi-Fi APs supports.

Table 7: Types of mounting the device

Access Point	Wall Mount	Ceiling Mount	T-bar Mount	Pole Mount	Gang Mount	Table Mount
XV3-8	✓	✓	✓			
XV2-2	✓	✓	✓			
XV2-2T	✓			✓		
XV2-2T1	✓			✓		
XE3-4	✓	✓	✓			
e410	✓	✓	✓			
e510	✓			✓		
e430	✓				✓	✓
e600	✓	✓	✓			
e700	✓			✓		

Mounting XV3-8

The XV3-8 units are mounted either by ceiling mount, wall mounting or T-bar mounting method.

Ceiling Mount

To mount the XV3-8 unit on the ceiling, perform the following steps:

1. Determine where XV3-8 needs to be mounted and remove the ceiling tile.

2. Using the hole template, mark the hole locations.

3. Drill the holes for the four mounting screws using a 5mm (3/6") diameter drill bit.

4. Drill a hole for the RJ45 cable using a 15 mm (5/8") diameter bit.

5. Hold the mounting plate on the top side of the ceiling tile and screw it on the mounting bracket.

6. Run the RJ45 cable (s) through the 15mm hole and remount the ceiling tile.

7. Attach the RJ45 cable (s) to the XV3-8 unit.

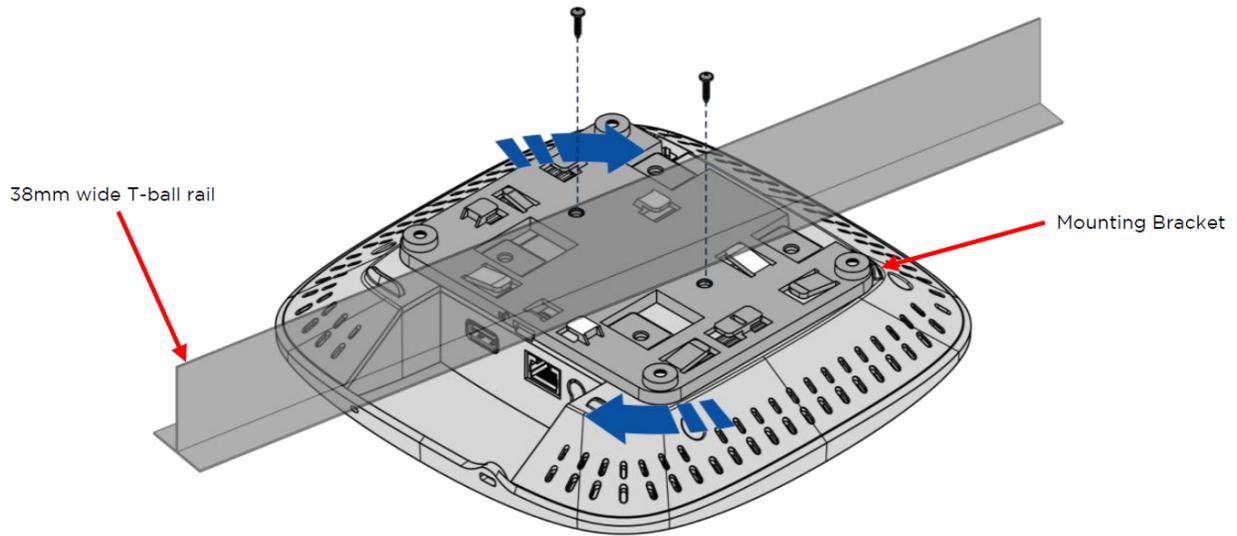8. Slide the XV3-8 unit into the mounting bracket.
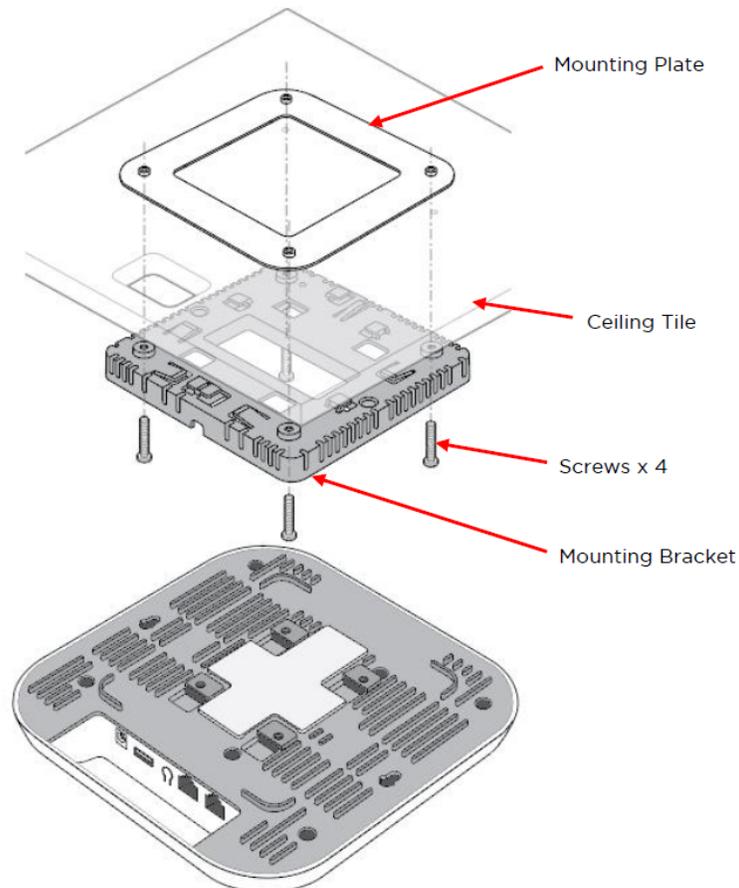
Wall Mounting

you can mount XV3-8/XE5-8 unit to any wall by using two screws with corresponding wall anchors. The ceiling mount bracket can be used as a template to align the screws with the unit.
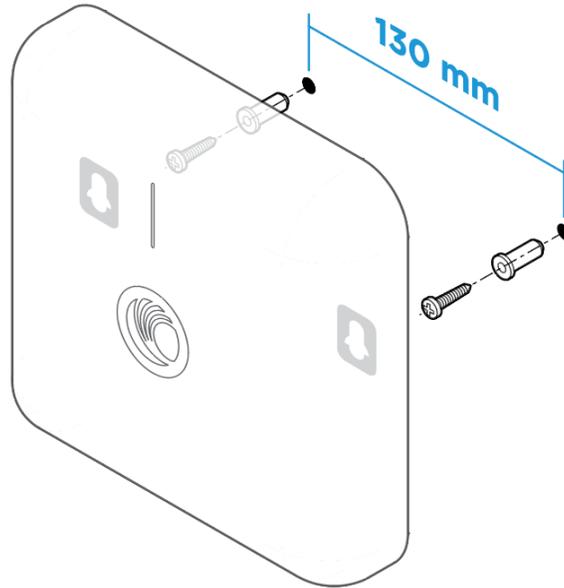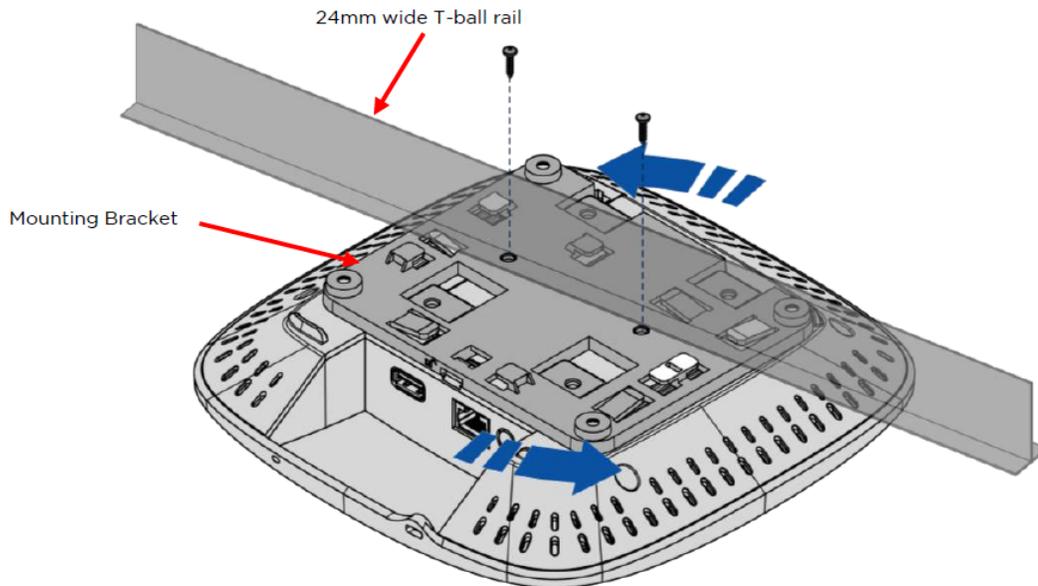

T-bar Mounting

The XV3-8/XE5-8 can be secured to a 38mm ceiling T-bar rail by using the ceiling mount bracket. The **A** marking on the bracket must be used for this width T-bar rail.
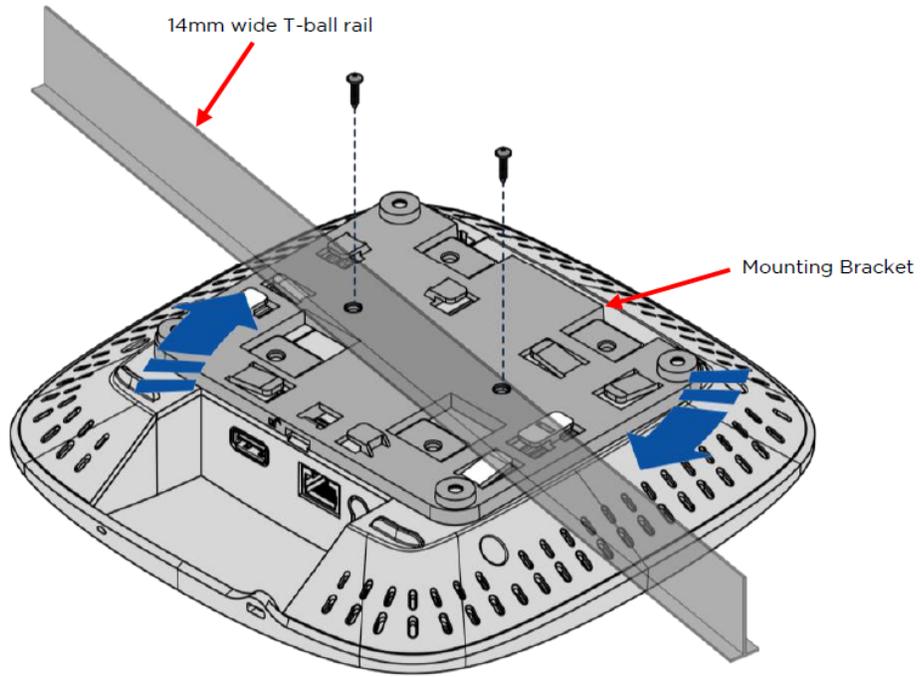
38mm T-Bar

24mm T-Bar

The XV3-8/XE5-8 unit can be mounted to a 24mm width T-bar rail using the clips built into the underside of the unit. The **B** marking on the bracket must be used for this width T-bar rail.

24mm wide T-ball rail
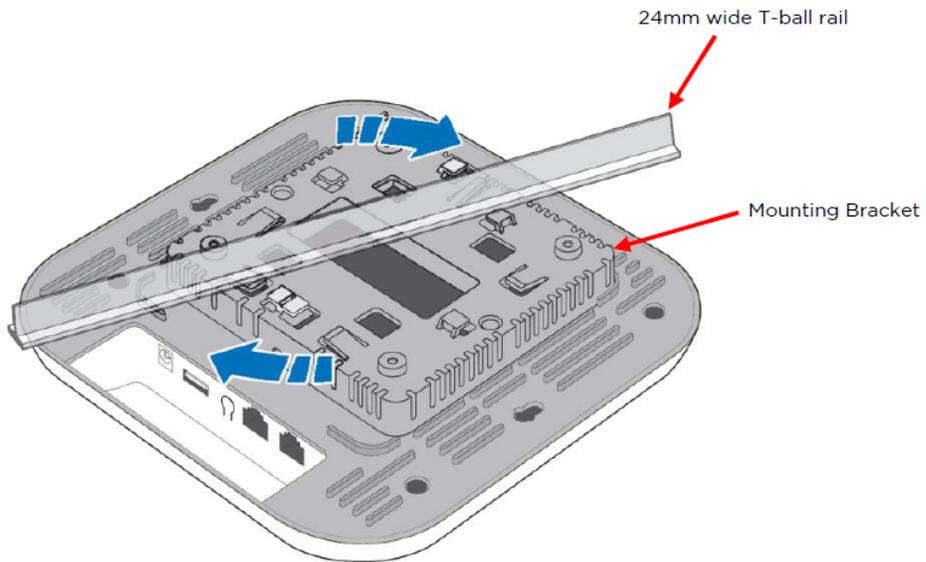
Mounting Bracket

14mm T-Bar

The XV3-8/XE5-8 unit can be mounted to a 14mm width T-bar rail using the clips built into the underside of the unit. The **C** marking on the bracket must be used for this width T-bar rail.

Mounting Bracket

24mm wide T-ball rail
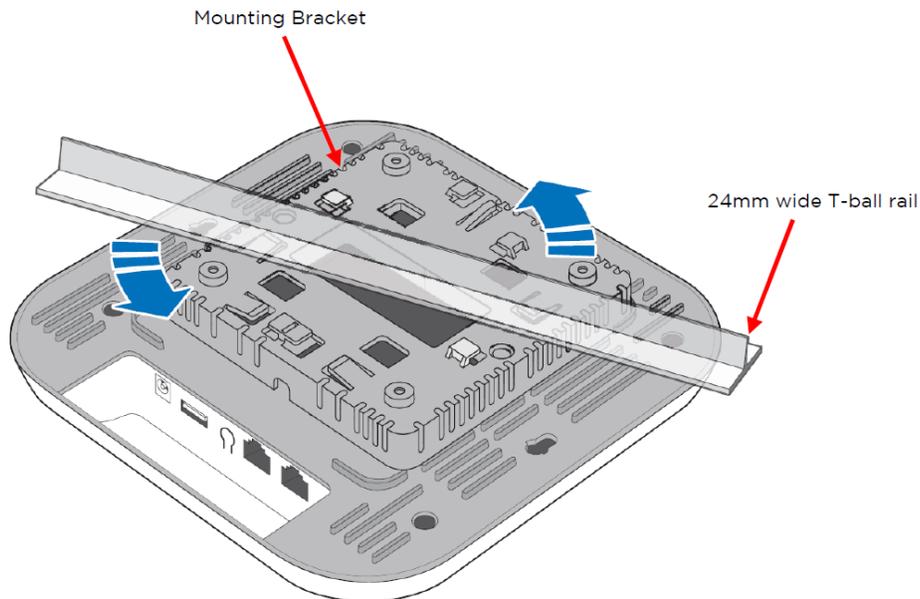
Mounting XV2-2

The XV2-2 units are mounted either by using the ceiling mount, wall mounting or T-bar mounting method.
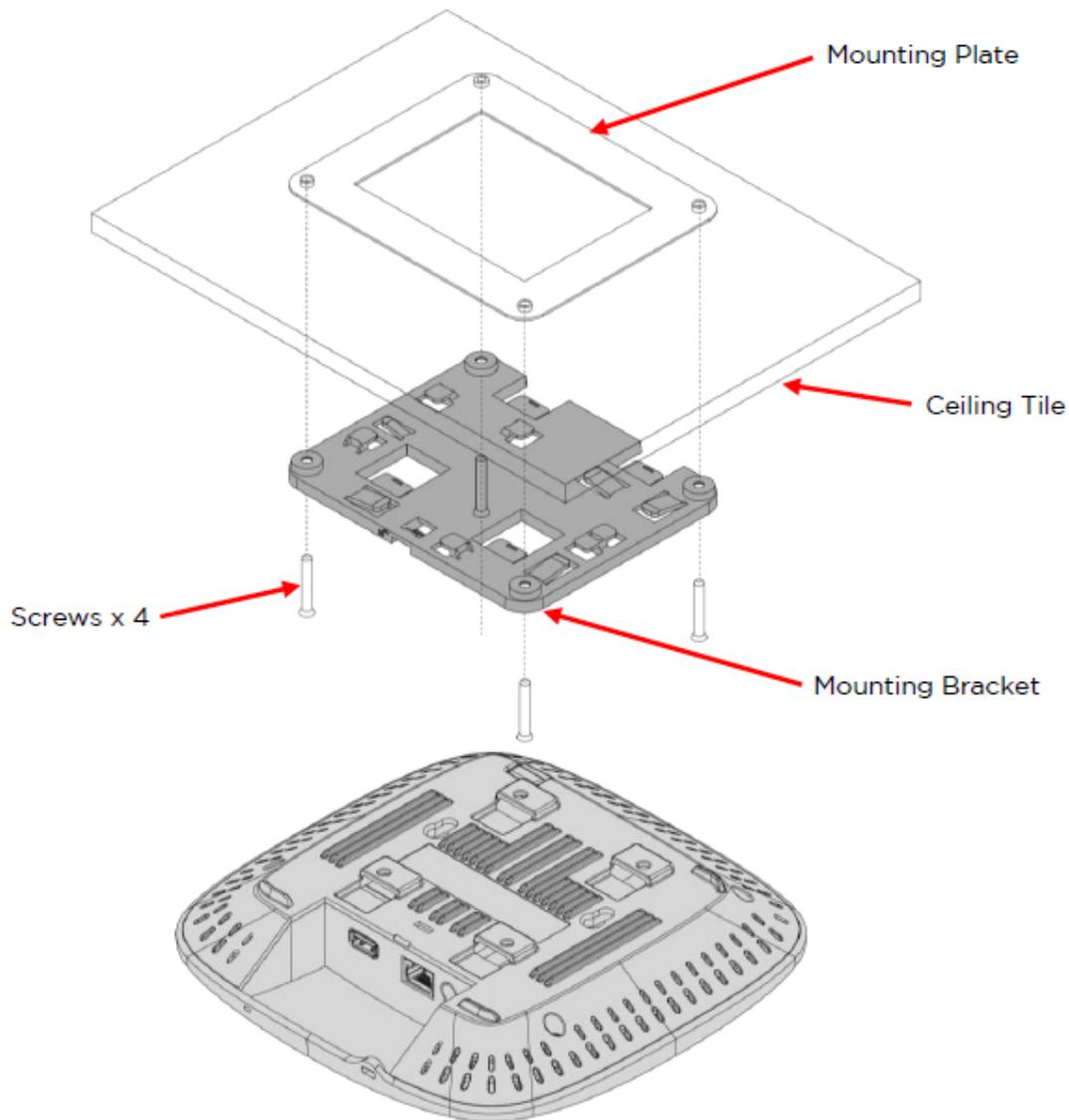
Ceiling mount

1. Determine where XV2-2 needs to be mounted and remove the ceiling tile.

2. Using the hole template, mark the hole locations.

3. Drill the holes for the 4 mounting screws using a 5mm (3/6") diameter drill bit.

4. Drill the RJ45 cable hole using a 15 mm (5/8") diameter bit.

5. Hold the mounting plate on the top side of the ceiling tile and screw it on the mounting bracket.

6.   Run the RJ45 cable (s) through the 15mm hole and remount the ceiling tile.

7.   Attach the RJ45 cable (s) to XV2-2 unit .

8.   Slide XV2-2 into the mounting bracket.

Wall mounting

You can mount XV2-2 unit to any wall by using two screws with corresponding wall anchors. The ceiling mount bracket can be used as a template to align the screws with the unit.
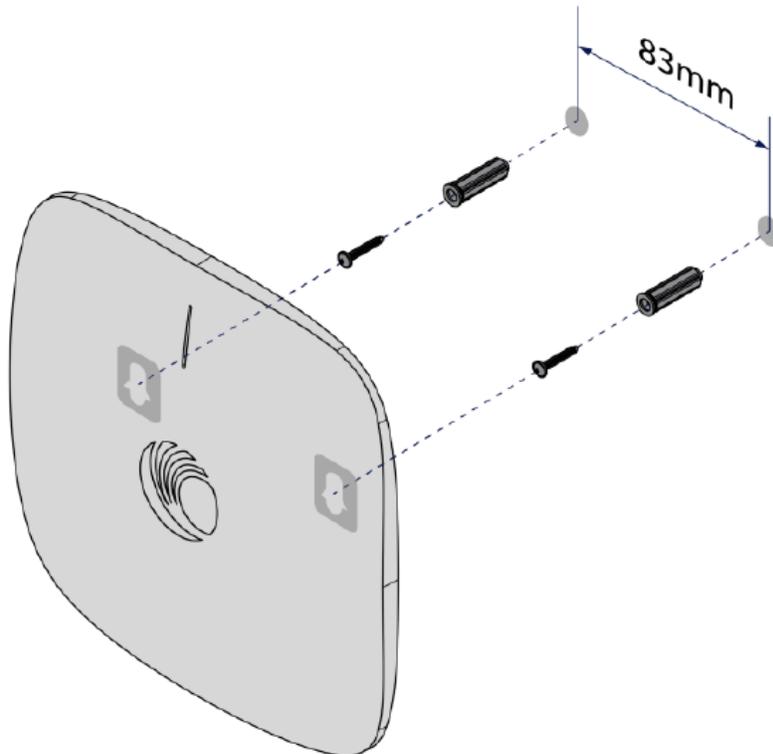
T-bar mounting

The XV2-2 unit can be secured to a 38mm ceiling T-bar rail by using the ceiling mount bracket. The **A** marking on the bracket must be used for this width T-bar rail.

38mm T-Bar

38mm wide T-ball rail

Mounting Bracket

24mm T-Bar

The XV2-2 unit can be mounted to a 24mm width T-bar rail using the clips built into the underside of the unit. The **B** marking on the bracket must be used for this width T-bar rail.

24mm wide T-ball rail

Mounting Bracket

14mm T-Bar

The XV2-2 unit can be mounted to a 14mm width T-bar rail using the clips built into the underside of the unit. The **C** marking on the bracket must be used for this width T-bar rail.

14mm wide T-ball rail

Mounting Bracket

Mounting XV2-2T/XV2-2T1

The XV2-2T/XV2-2T1 units are mounted either by using the wall mounting or pole mounting method.

Wall mounting

The XV2-2T/XV2-2T1 units can be mounted to any wall by using two screws with corresponding wall anchors. To mount the XV2-2T/XV2-2T1 unit on the wall, perform the following steps:

1. Drill two holes of each Ø6 mm (Ø0.25" Inch) on the wall where you want to mount the XV2-2T/XV2-2T1 AP.
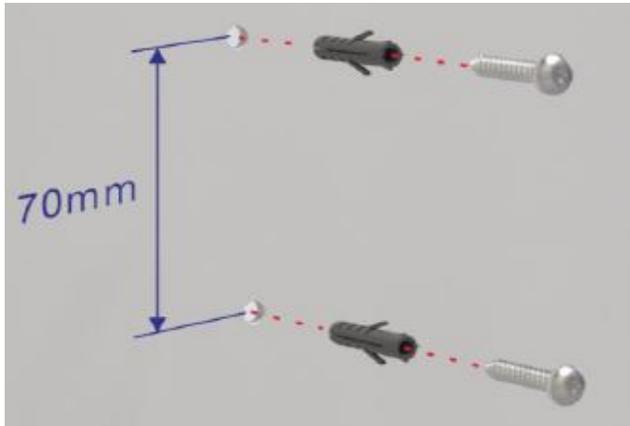
2. Press fit the plastic anchor and assemble fastener.
3. Leave 5mm to 6mm gap between the wall and the fastener head, as shwon in below figure.

4. Use the four mounting slots given on the back of the radio to mount it on the wall.
5. Make sure that four screws are attached to the back side of the XV2-2T/XV2-2T1 unit. Do not tighten the screws, completely.
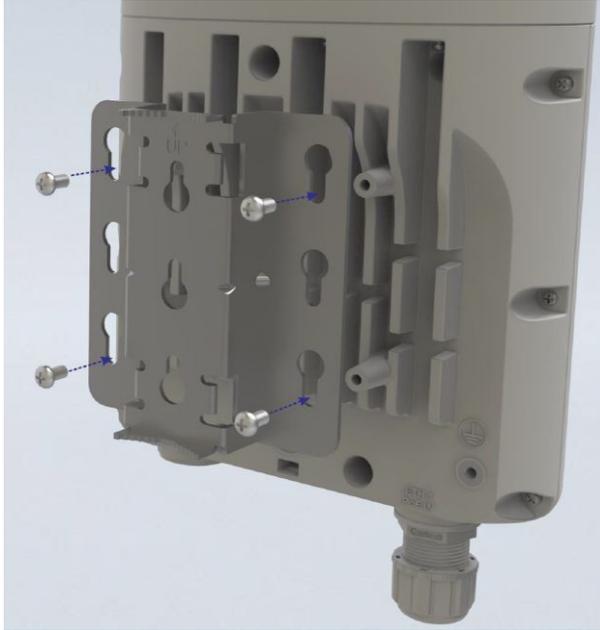
6. Hang the XV2-2T unit to the wall mount bracket and tighten the four screws as shown in below figure.

Reserve keyhole
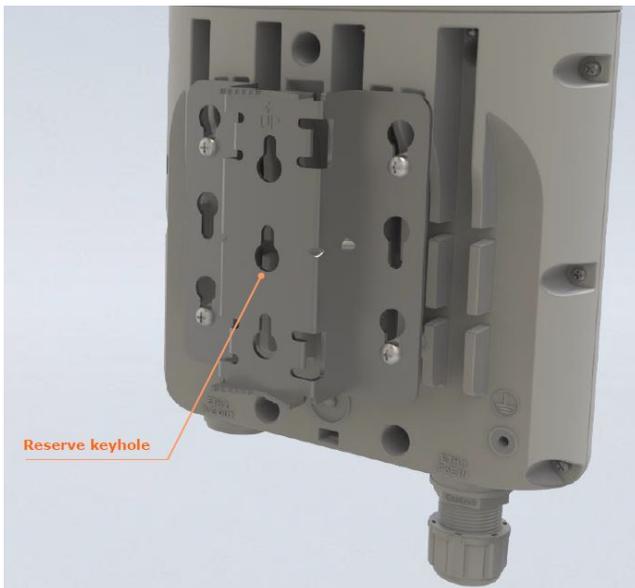
Pole mount with level bracket

To mount the XV2-2T/XV2-2T1 unit on the pole, perform the following steps:

1. Insert the hose mounting clamp though the pole mounting level bracket.

2. Fix the clamp to the pole by applying 9.0 Nm torque.

3. Fasten four mounting screws.

4. Align the chassis with the guide hole of the pole mounting level bracket and
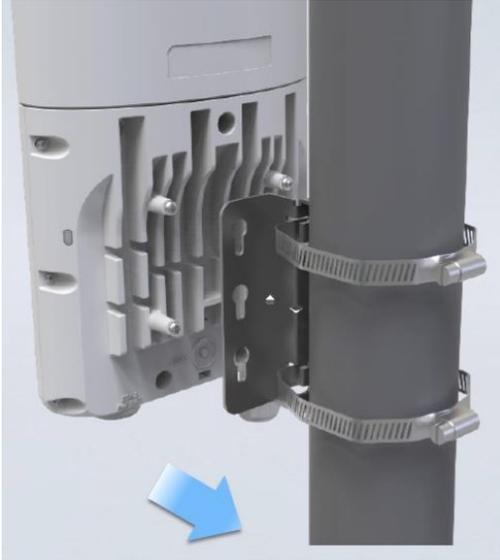
5. Slide it downwards.
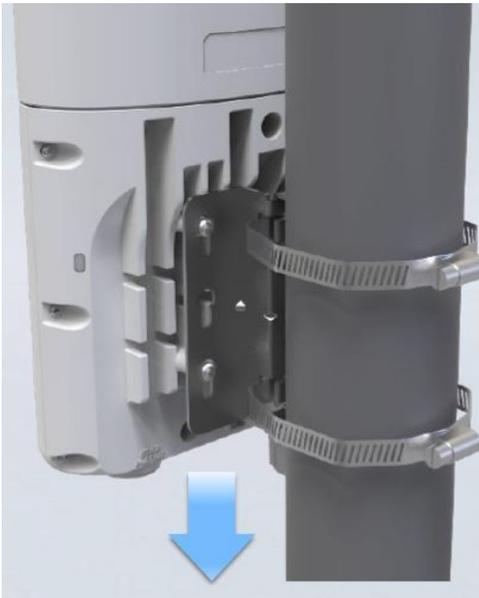
Pole mount with tilt bracket (Only for XV2-2T1)

To mount the XV2-2T1 unit on the pole, perform the following steps:

1. Assemble the pole mount holder to XV2-2T1 by using the four M5 screws, as shown below.

2. Install the pole mount bracket to the pole by using two hose clamps with the 9Nm torque.

3. Assemble XV2-2T1 (with pole mount holder) to pole mount bracket. Use M12 stud, washer, and M12 nut to secure it by applying 3Nm torque, as shown below.

Mounting XE3-4

The XE3-4 units are mounted by using one of the following mounting techniques:

- Ceiling mount,

- Wall mounting, or

- T-bar mounting.
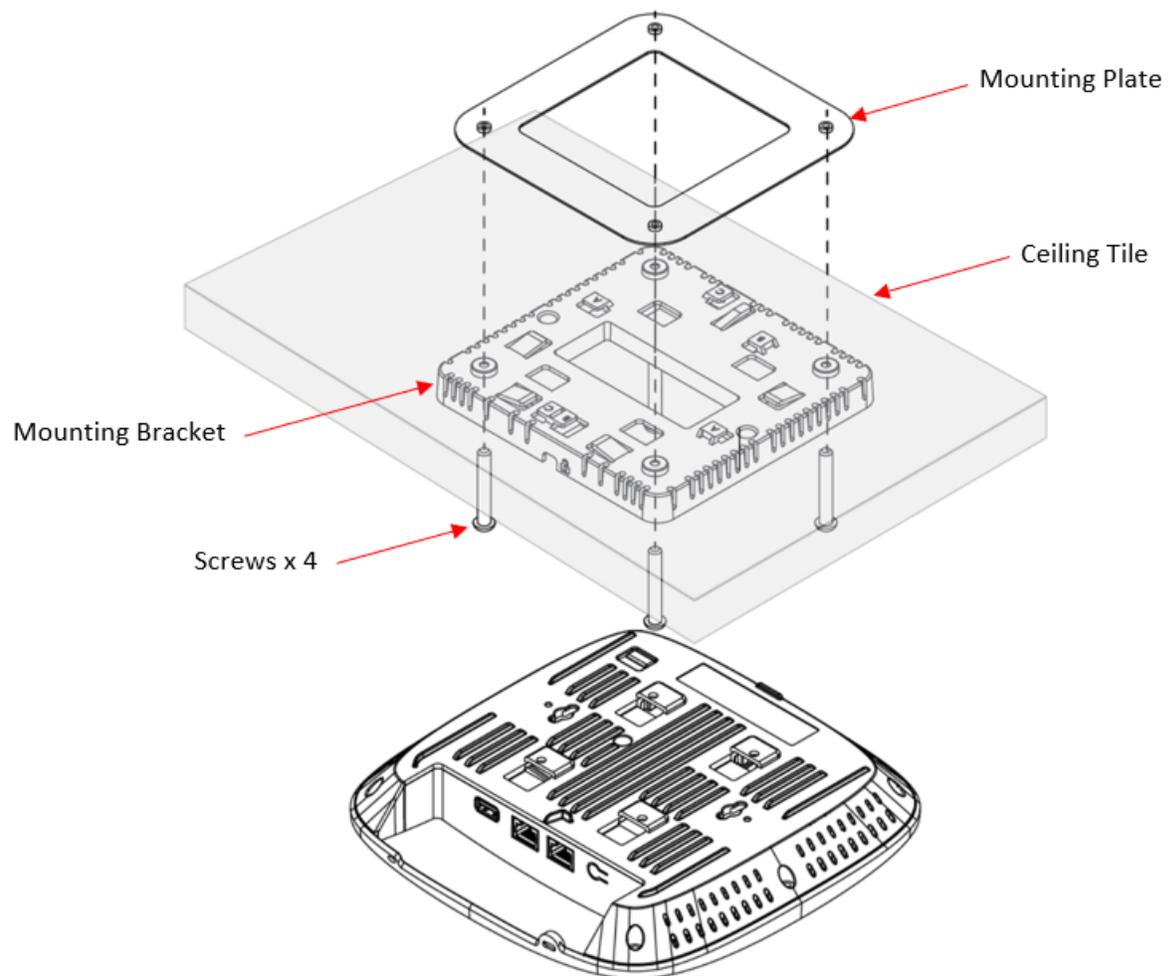
Ceiling mount

To mount the XE3-4 unit by using the ceiling mount technique, perform the following steps:

1. Determine a place or location where you want to mount the XE3-4 unit.

2. Remove the ceiling tile.

3. Using the hole template, mark the hole locations.

4. Drill the holes for the four mounting screws using a 5mm (3/6") diameter drill bit.

5. Drill the RJ45 cable hole using a 15 mm (5/8") diameter bit.

6. Hold the mounting plate on the top side of the ceiling tile and screw it on the mounting bracket.

7. Run the RJ45 cable (s) through the 15mm hole and remount the ceiling tile.

8. Attach the RJ45 cable (s) to XE3-4 unit.

9. Slide XE3-4 unit into the mounting bracket.

Wall mounting

You can mount XE3-4 to any wall by using two screws with corresponding wall anchors. The ceiling mount bracket can be used as a template to align the screws with the unit.
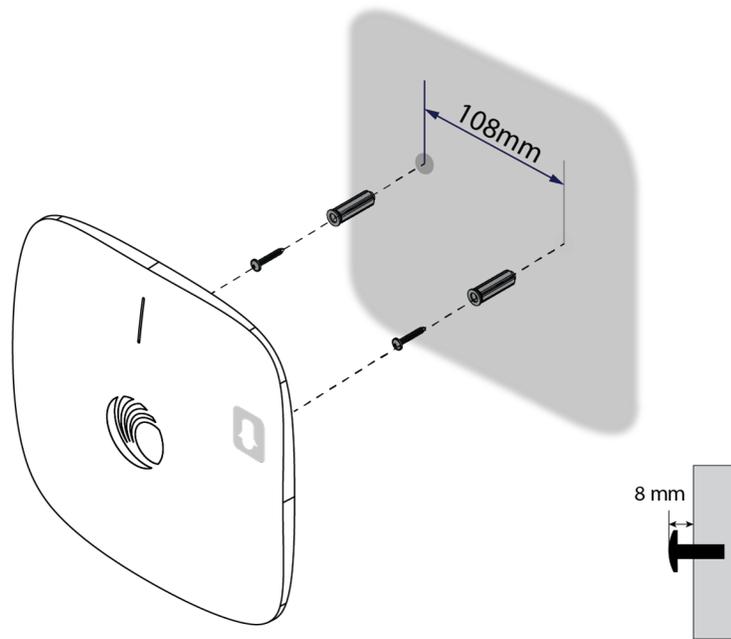
T-bar mounting

38mm T-Bar

The XE3-4 unit can be secured to a 38mm ceiling T-bar rail by using the ceiling mount bracket. The **A** marking on the bracket must be used for this width T-bar rail.

Screws x 4

Mounting Bracket

24mm T-Bar

The XE3-4 unit can be mounted to a 24mm width T-bar rail using the clips built into the underside of the unit. The **B** marking on the bracket must be used for this width T-bar rail.


Screws x 4

Mounting Bracket

14mm T-Bar

The XE3-4 unit can be mounted to a 14mm width T-bar rail using the clips built into the underside of the unit. The **C** marking on the bracket must be used for this width T-bar rail.

Screws x 4
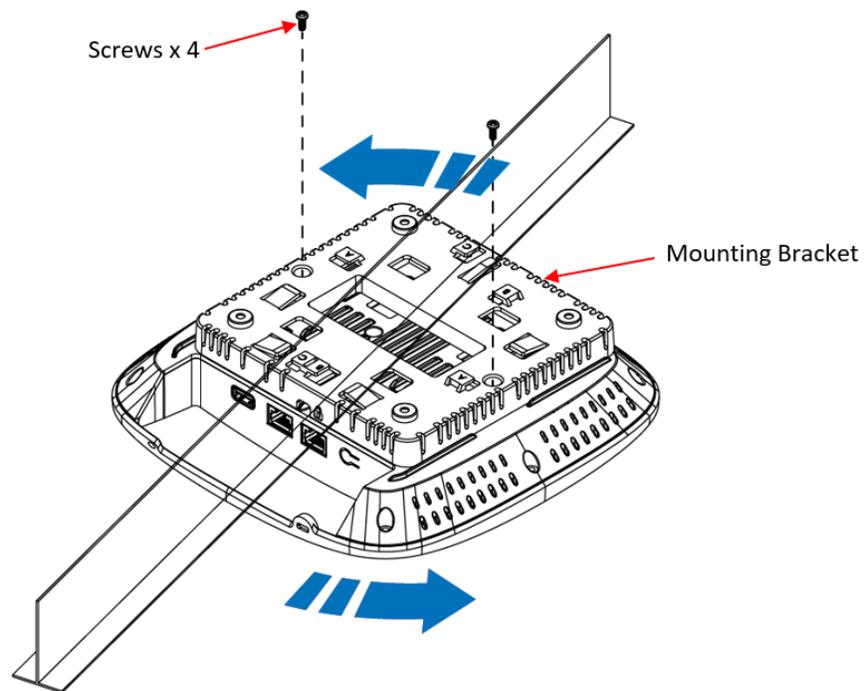
Mounting Bracket
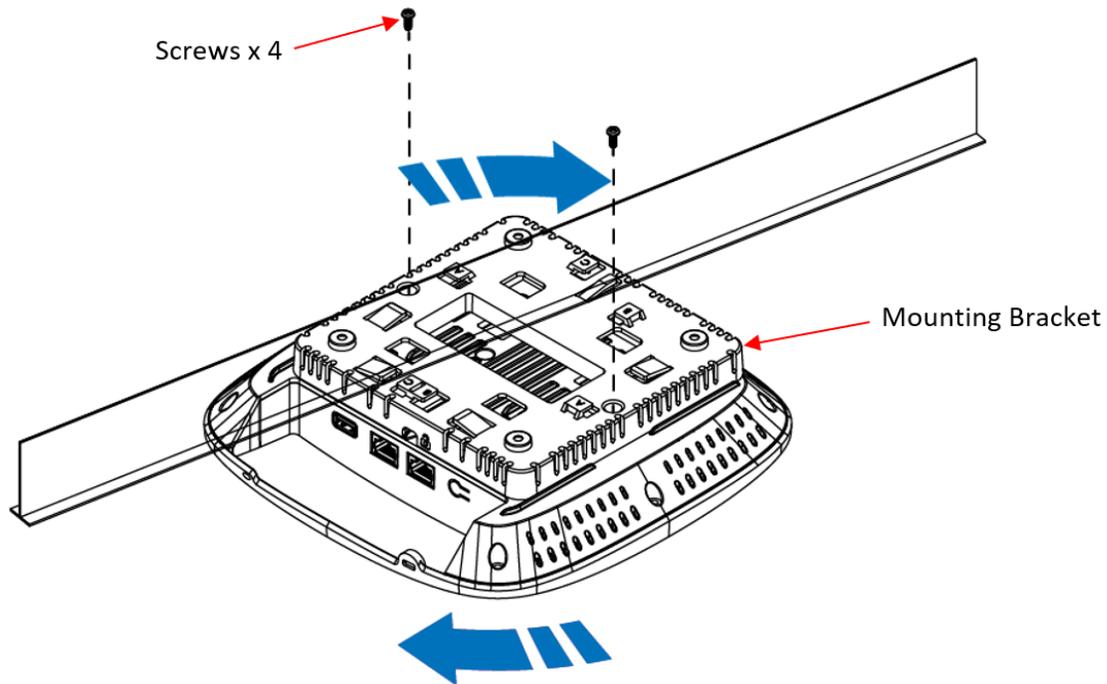
Mounting e410/e600

The e410/e600 units are mounted by using one of the following mounting techniques:

- Ceiling mount,

- Wall mounting, or

- T-bar mounting.
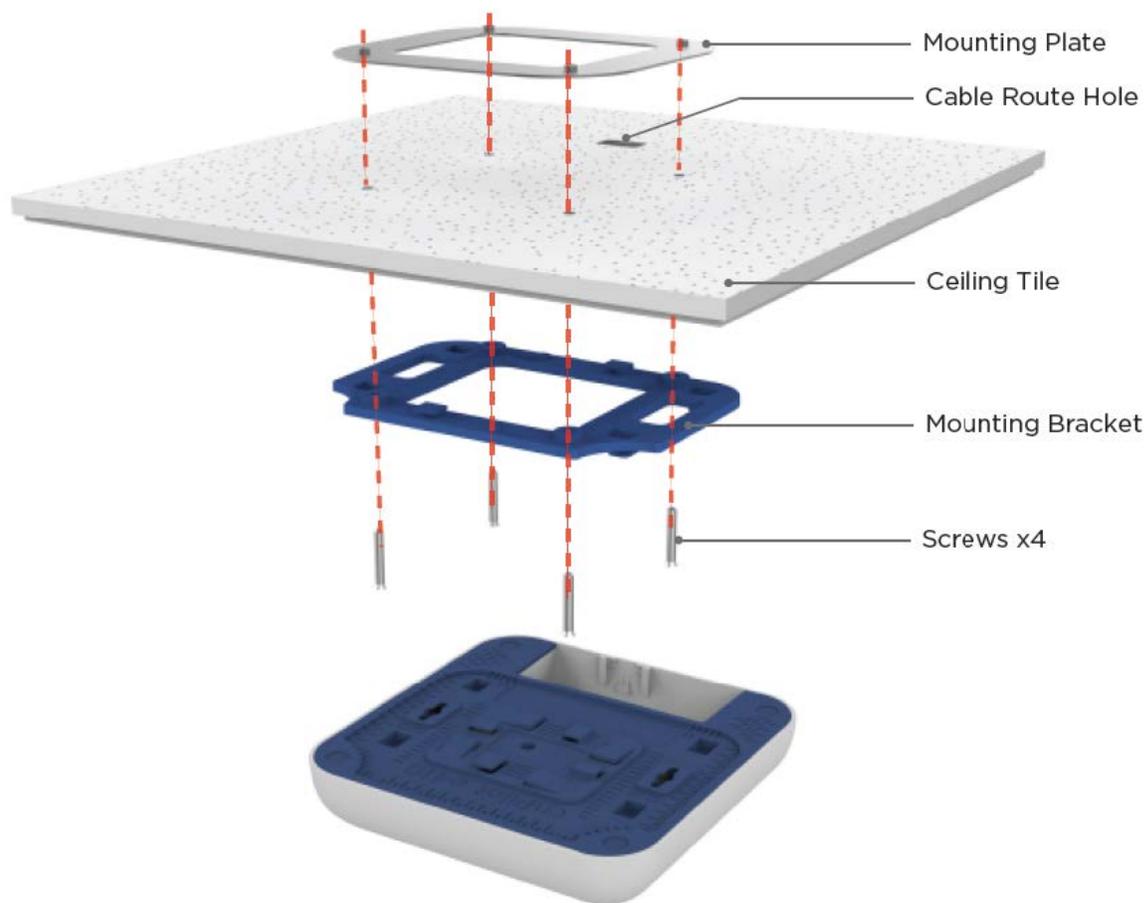
Ceiling mount

To mount the e410/e600 unit by using the ceiling mount technique, perform the following steps:

1. Determine where the AP needs to be mounted and remove the ceiling tile.

2. Using the hole template, mark the hole locations.

3. Drill the holes for the 4 mounting screws using a 5mm (3/6") diameter drill bit.

4. Drill the RJ45 cable hole using a 15 mm (5/8") diameter bit.

5. Hold the mounting plate on the top side of the ceiling tile and screw it on the mounting bracket.

6. Run the RJ45 cable through the 15mm hole and remount the ceiling tile.

7. Attach the RJ45 cable to the device.

8. Slide the device into the mounting bracket.
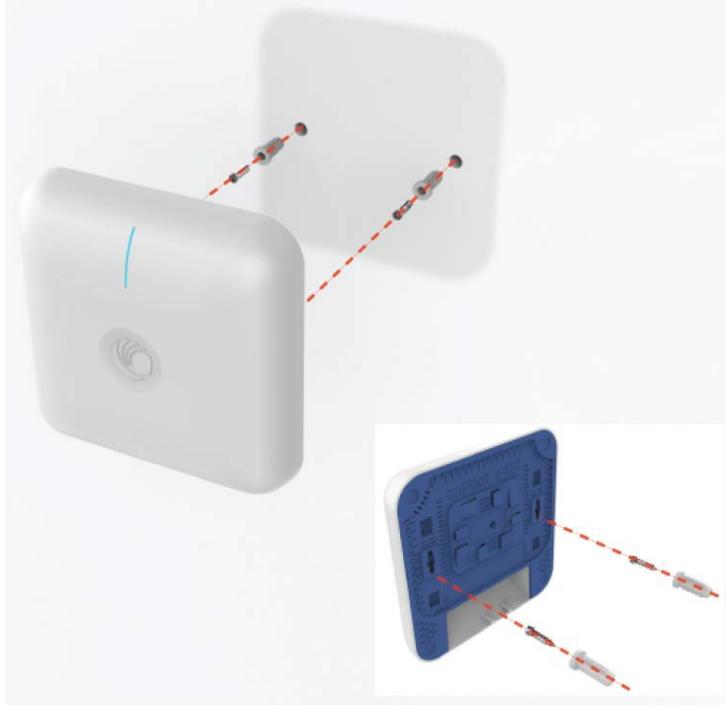
Wall mounting

You can mount e410/e600 to any wall by using two screws with corresponding wall anchors. The ceiling mount bracket can be used as a template to align the screws with the unit.
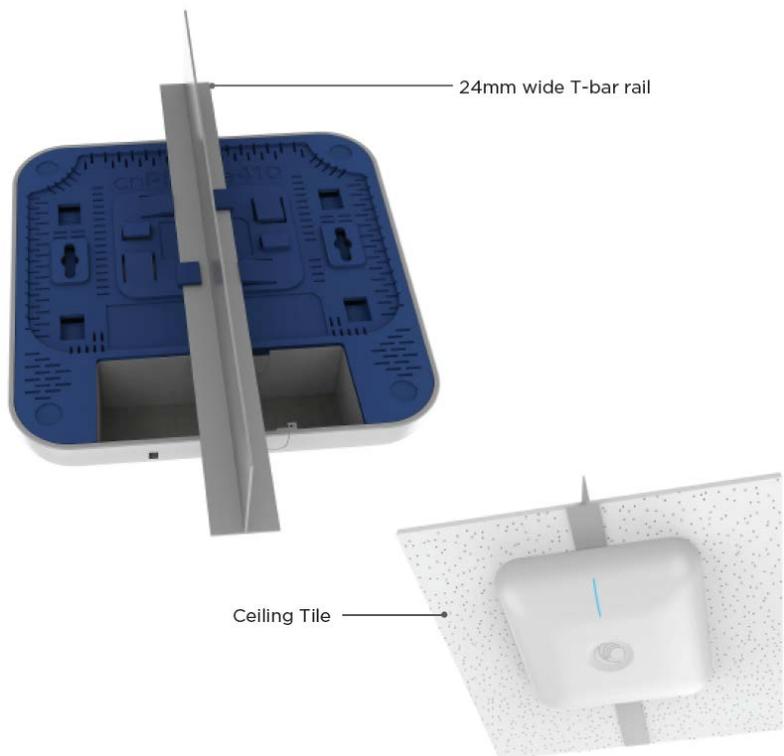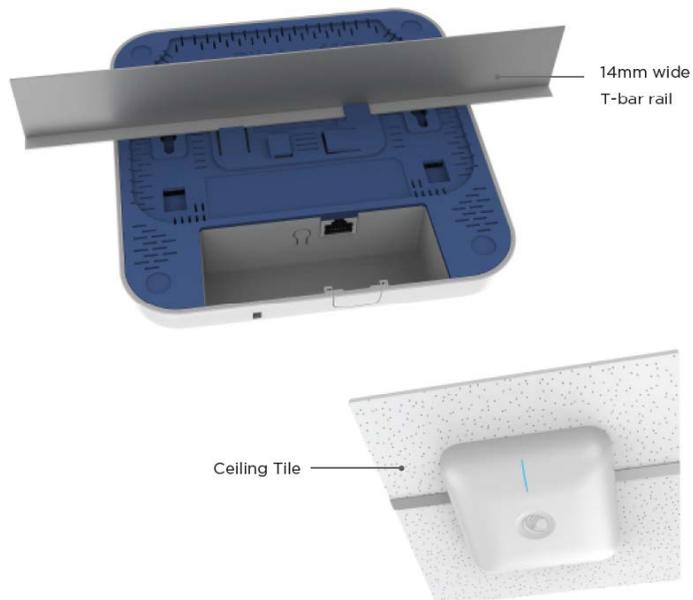
T-Bar mounting
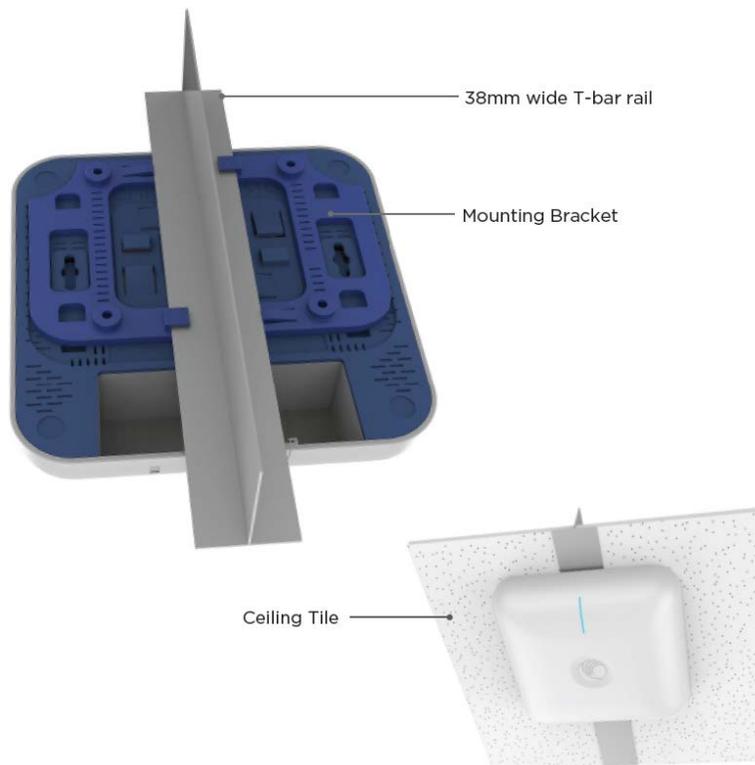
38mm T-Bar:

The e410/e600 can be secured to a 38mm ceiling T-bar rail by using the ceiling mount bracket.

24mm T-Bar

24mm wide T-bar rail

Ceiling Tile

The e410 can be mounted to a 24mm width T-bar rail using the clips built into the underside of the unit.

14mm T-Bar

14mm wide
T-bar rail

Ceiling Tile

The e410 can be mounted to a 14mm width T-bar rail using the clips built into the underside of the unit.

Mounting e510

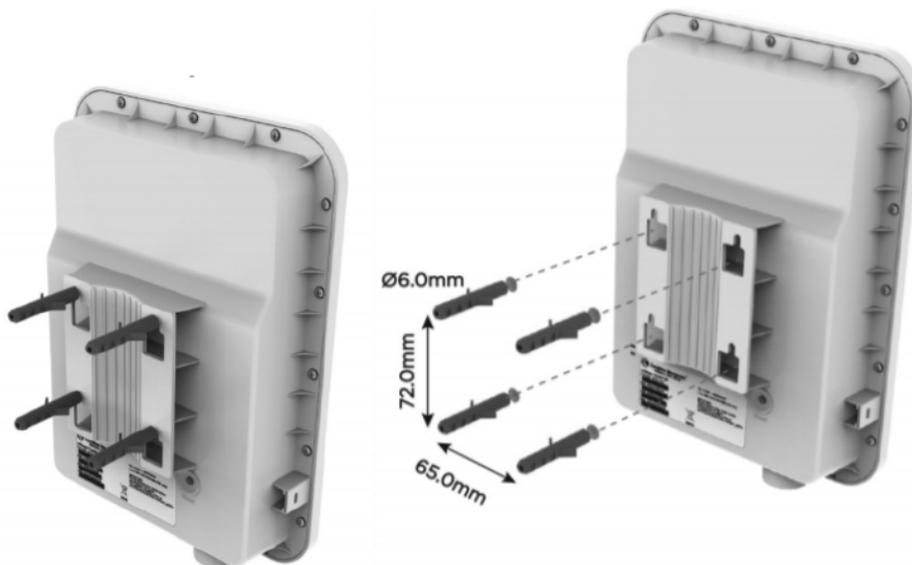The e510 units are mounted by using one of the following mounting techniques:

- Pole mount

- Wall mounting

Pole mount

Insert hose clamps through pole mounting bracket and clamp to pole by applying 6.0Nm torque.
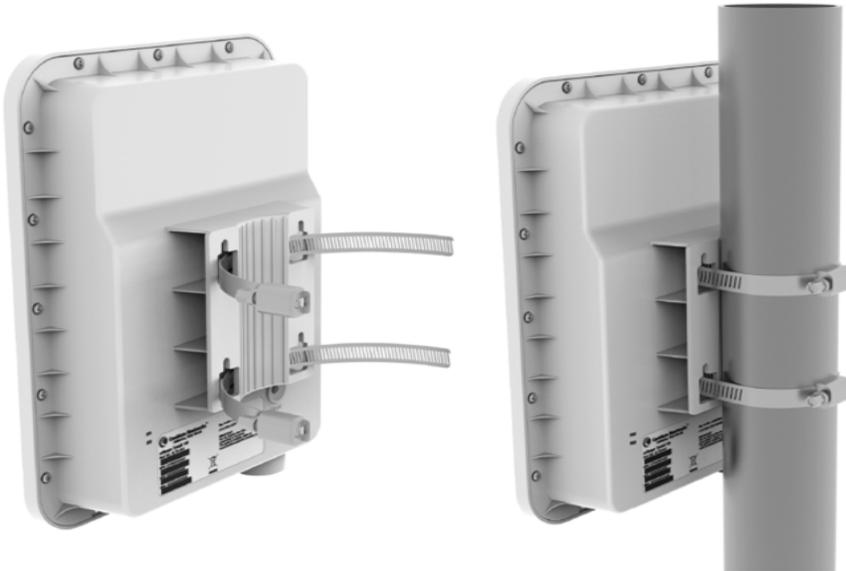
Wall mounting

1. Drill 4 holes of Ø6mm (Ø0.25" Inch) on wall.

2. Press fit plastic anchor and assembly fastener.

3. Leave 5mm to 6mm gap between wall and fastener head.

4. Use the four mounting slots given on the back of the radio to mount to the wall.

Mounting e430

Single gang mounting

1. Remove single-gang box cover.

2. Place Cambium single-gang wall bracket on the gang box and secure with at least 2 screws.

3. Connect Ethernet cable to the upper RJ-45 port labelled Eth1/PoE at the rear side of e430 to provide connectivity. Use the other RJ-45 port labelled Pass-Through for any additional cable that might need to pass through e430.

4. Align the two slots at rear side of the e430 with two hooks on the bracket.
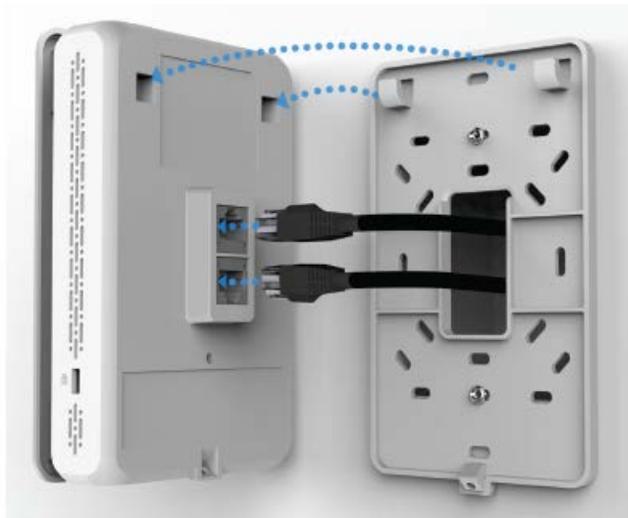
5. Secure e430 to the bracket with a screw at the bottom edge of e430 using standard Torx security screw or standard Philips head screw.

Dual gang mounting

1. Remove dual-gang box cover.

2. Place Cambium dual-gang wall bracket on the gang box and secure with at least two screws.

3. Slide the plastic cover over the exposed portion next to the mounted e430.

4. Connect Ethernet cable to the upper RJ-45 port labelled Eth1/PoE at the rear side of e430 to provide connectivity. Use the other RJ-45 port labelled Pass-thru for any additional cable that might need to pass through e430.
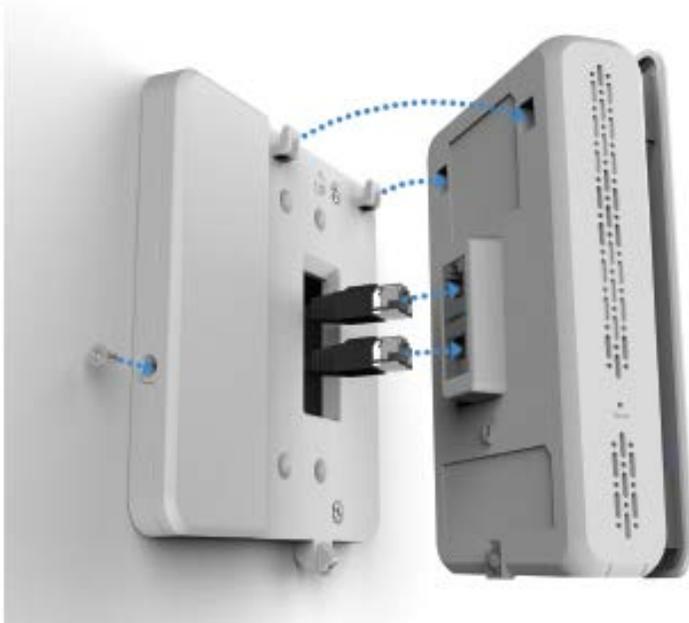
5. Align the two slots at rear side of e430 with two hooks on the bracket.

6. Secure e430 to the bracket with a screw at the bottom edge of e430 using standard Philips head or Torx security screwdriver.

Wall mounting

1. Choose location on the wall to mount the bracket using the four mounting screws and anchors (if needed).

2. Connect the short Ethernet jumper cable between the two RJ-45 connections on the rear side of e430.

3. Mount e430 into the Generic Wall bracket by aligning the hooks.

4. Secure e430 to the bracket using Torx (or standard) screw on the lower edge of e430.

5. Power e430 either with a 48Vdc/1A power adapter or using the PASS-THRU port at the bottom edge of the device using Ethernet power.

Mounting e700

The e700 units are mounted by using one of the following mounting techniques:

- Pole mount

- Wall mounting

Pole mount

1. Assemble the radio holder to the pole mounting bracket and secure it with M8 nuts by applying 3.0 Nm torque.

2. Insert hose clamps through pole mounting bracket and clamp to pole by applying 6.0 Nm torque.

3. Align the radio chassis with the guide rails of radio holder and slide it downwards until it clicks into place.
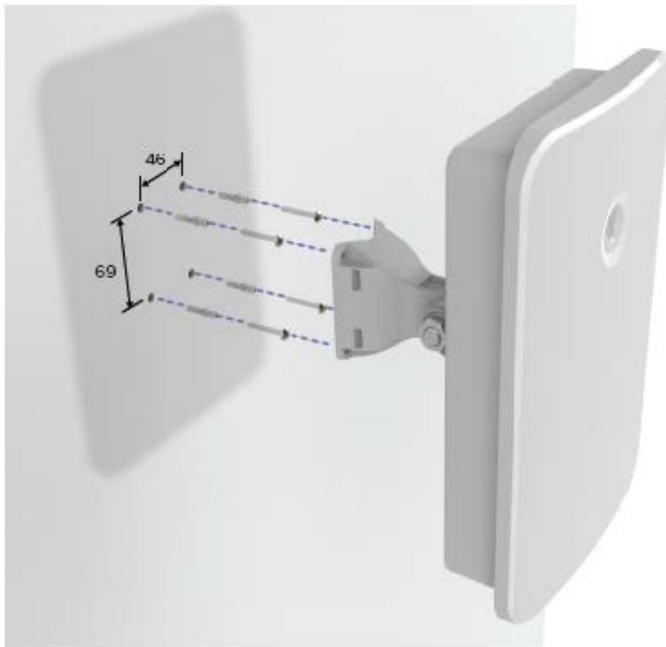
4. Insert RJ45 to radio housing and the lock cable gland to radio housing with 1.5Nm to 2Nm torque.

5. Align Radio to required angle by tilting up and down. The maximum radio tilting angle is ± 40°, with an incremental of 10°.

Wall mounting

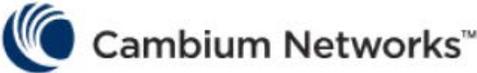

1. Drill 4 holes of Ø6mm (Ø0.25" Inch) on wall.

2. Press fit plastic anchor and assembly fastener.

3. Leave 5mm to 6mm gap between wall and fastener head.

4. Use the four mounting slots given on the back of the radio to mount to the wall.

Cambium Networks

Cambium Networks delivers wireless communications that work for businesses, communities, and cities worldwide. Millions of our radios are deployed to connect people, places and things with a unified wireless fabric that spans multiple standards and frequencies of fixed wireless and Wi-Fi, all managed centrally via the cloud. Our multi-gigabit wireless fabric offers a compelling value proposition over traditional fiber and alternative wireless solutions. We work with our Cambium certified ConnectedPartners to deliver purposebuilt networks for service provider, enterprise, industrial, and government connectivity solutions in urban, suburban, and rural environments, with wireless that just works.

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