

Install Internal Components and Field Replaceable Units

This document describes how to install internal components and field replaceable units (FRUs) in the Cisco Catalyst 8200 Series Edge Platforms. The installation information is contained in these sections:

- Safety Warnings, on page 1
- Locate and Access Internal Components, on page 3
- Remove and Replace DDR DIMMs, on page 5
- Install and Remove SFP Modules, on page 8
- Remove and Replace the USB Flash Token Memory Stick, on page 11
- Remove and Install an M.2 USB|NVMe Module, on page 11
- Remove the M.2 USB|NVMe Module, on page 12
- Install the M.2 USB|NVMe Module, on page 13
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Safety Warnings

Warning **Statement 1100**—Before Making Telecommunication Network Connection

High touch/leakage current—Permanently connected protective earth ground is essential before connecting to the telecommunication network.

Warning **Statement 1008**—Class 1 Laser Product

This product is a Class 1 laser product.

Warning **Statement 445**—Connect the Chassis to Earth Ground

To reduce the risk of electric shock, connect the chassis of this equipment to permanent earth ground during normal use.

Warning **Statement 1022—**Disconnect Device

To reduce the risk of electric shock and fire, a readily accessible disconnect device must be incorporated in the fixed wiring.

Warning **Statement 1051—**Laser Radiation

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

Warning **Statement 1056—**Unterminated Fiber Cable

Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not view directly with optical instruments. Viewing the laser output with certain optical instruments, for example, eye loupes, magnifiers, and microscopes, within a distance of 100 mm, may pose an eye hazard.

Note **Statement 1089—**Instructed and Skilled Person Definitions

An instructed person is someone who has been instructed and trained by a skilled person and takes the necessary precautions when working with equipment.

A skilled person or qualified personnel is someone who has training or experience in the equipment technology and understands potential hazards when working with equipment.

Warning **Statement 1090—**Installation by a Skilled Person

Only a skilled person should be allowed to install, replace, or service this equipment. See statement 1089 for the definition of a skilled person.

Warning **Statement 1091—**Installation by an Instructed Person or Skilled Person

Only an instructed person or skilled person should be allowed to install, replace, or service this equipment. See statement 1089 for the definition of an instructed person or skilled person.

Warning **Statement 1255—**Laser Compliance Statement

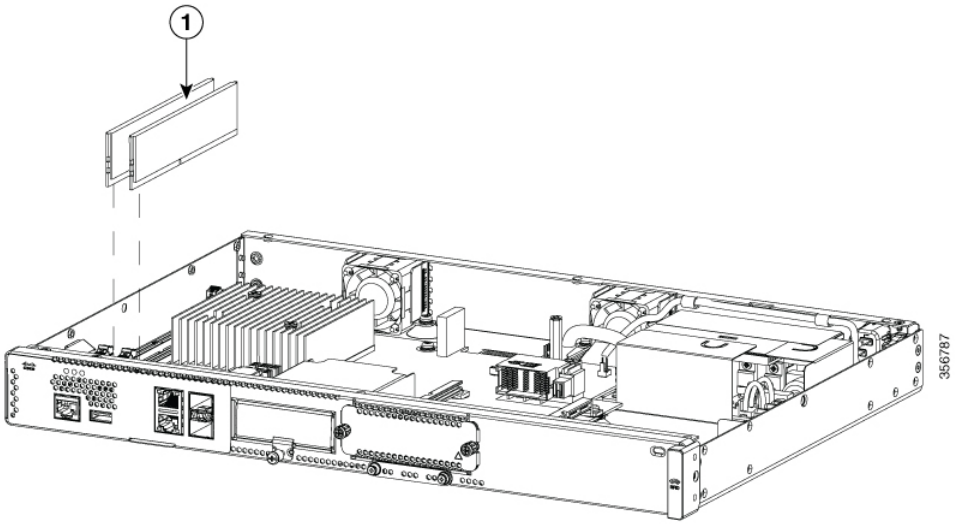
Pluggable optical modules comply with IEC 60825-1 Ed. 3 and 21 CFR 1040.10 and 1040.11 with or without exception for conformance with IEC 60825-1 Ed. 3 as described in Laser Notice No. 56, dated May 8, 2019.

Locate and Access Internal Components

The figures below show the locations of internal components on the motherboard. Internal modules include DIMMs on Cisco Catalyst 8200 Series Edge Platforms.

To access the internal components on the device, you must first remove the chassis cover. For instructions on how to remove and replace the chassis cover on the device, see the sections on Install and Remove Chassis Covers.

Figure 1: Internal Component Location in the Cisco 8200 Series Chassis



Sl. No	Modules
1	DIMMs

Remove and Replace the Chassis Cover

The Cisco Catalyst 8200 Series Edge Platforms have removable covers. Before removing the cover, do these steps:

- Do not run the device with the cover off. Doing so can cause the chassis to overheat very quickly.
- Disconnect all power cables.
- Remove the device from the rack.

Warning **Statement 1041—**Disconnect Telephone Network Cables

Before opening the unit, disconnect the telephone network cables to avoid contact with telephone network voltages.

Use a number-2 Phillips screwdriver to perform the following tasks.

Remove the Cover

To remove the cover, perform the following steps.

Procedure

Step 1 Read the Safety Warnings and disconnect the power supply before you perform any module replacement.

Step 2 Confirm the device is turned off and disconnected from the power supply or power supplies. If a redundant power is used, disconnect from the redundant power supply.

Step 3 Place the chassis on a flat surface.

Step 4 For Catalyst 8200 Series Edge Platforms, remove the 9 cover screws.

Step 5 Lift the cover straight up.

Replace the Cover

To replace the cover, perform the following steps.

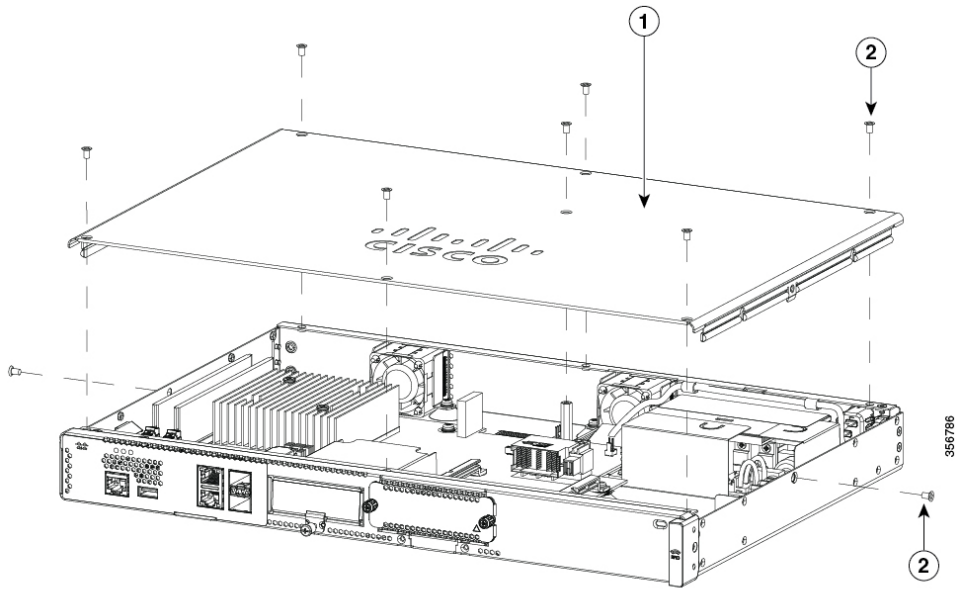
Procedure

Step 1 Place the chassis on a flat surface.

Step 2 Drop the cover straight down and ensure that the side flanges insert into the chassis. Care should be taken to not damage the EMC Gaskets.

Step 3 For Catalyst 8200 Series Edge Platforms, install the 9 cover screws.

Figure 2: Install the Cover on the Cisco 8200 Series Chassis



1	Cover
2	Screws

Remove and Replace DDR DIMMs

To access the DIMMs, you must remove the chassis cover as described in the Access and Install Modules section.

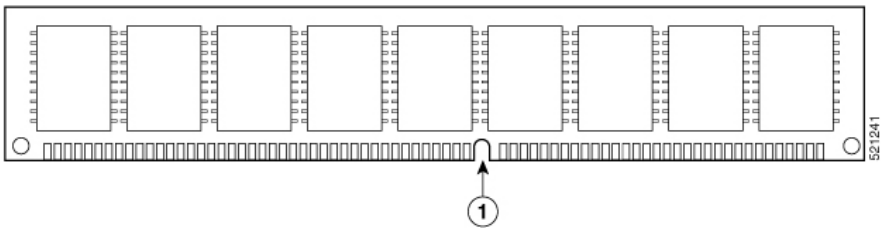
Caution Always wear an ESD-preventive wrist strap and ensure that it makes good contact with your skin when you remove or install DIMMs. Connect the equipment end of the wrist strap to the metal part of the chassis.

Caution Handle DIMMs by the edges only. DIMMs are ESD-sensitive components and can be damaged by mishandling.

Locate and Orient DIMM

DIMMs have a polarization notch on the mating edge to prevent incorrect insertion. The following image shows the polarization notch on a DIMM.

Figure 3: DIMM Showing Polarization Notch



1	Polarization notch

Remove a DIMM

Follow these steps to remove a DIMM:

Procedure

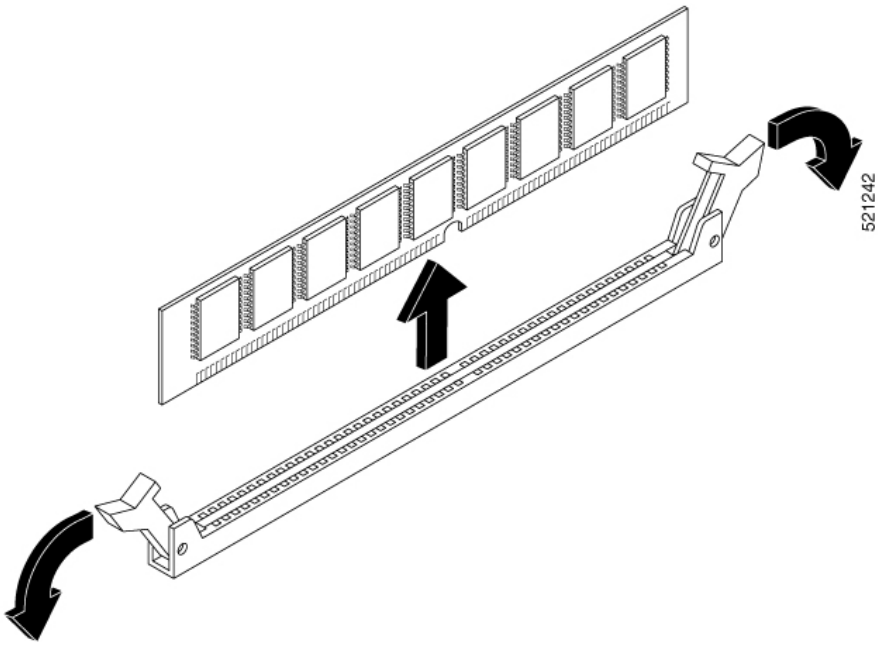
Step 1 Read the Safety Warnings section and disconnect the power supply before you perform any module replacement.

Step 2 If the cover is not already removed, remove the chassis cover.

Step 3 Locate the DIMM module to find the DIMM sockets on the chassis.

Step 4 Rotate DIMM connector handles downwards to extract the DIMM module.

Figure 4: Remove a DIMM



Install a DIMM

Follow these steps to install a DIMM on the Cisco Catalyst 8200 Series Edge Platforms.

Procedure

Step 1 Read the Safety Warnings section and disconnect the power supply before you perform any DIMM replacement.

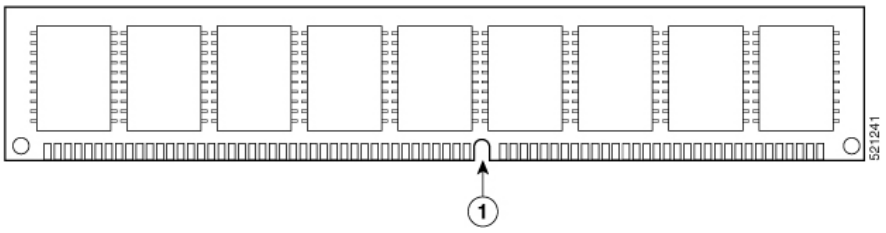
Step 2 If the cover is not already removed, remove the chassis cover.

Step 3 Locate the DIMM module to find the DIMM sockets on the device.

Step 4 Ensure that both latches on the DIMM connector are in the open position.

Step 5 Orient the DIMM so that the polarization notch lines up with the polarization key on the connector.

Figure 5: DIMM Showing Polarization Notch

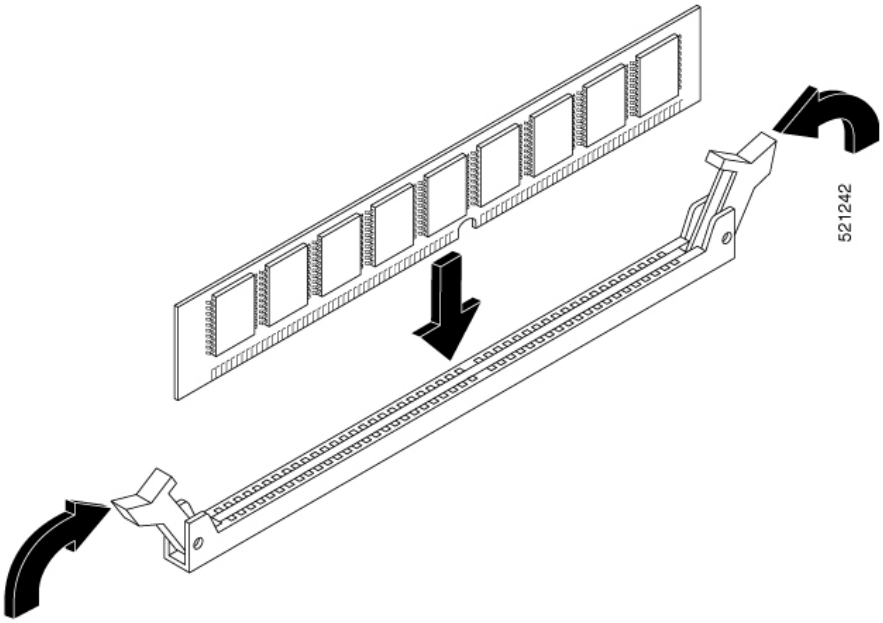


Step 6 Insert the DIMM into the connector one side at a time.

Step 7 Rotate the connector handles upward and click into place.

Step 8 Reinstall the chassis cover.

Figure 6: Install a DIMM



Step 9 Replace the chassis cover.

Install and Remove SFP Modules

Before you begin

See the Cisco Catalyst 8200 Series Edge Platforms's datasheet on cisco.com for a list of supported SFP modules. Use only supported SFP modules on the platform.

Warning **Statement 1008—**Class 1 Laser Product

This product is a Class 1 laser product.

- Do not remove the dust plugs from the SFP modules or the rubber caps from the fiber-optic cable until you are ready to connect the cable. The plugs and caps protect the module ports and cables from contamination and ambient light.
- Removing and installing an SFP module can shorten its useful life. Do not remove and insert any SFP module more often than is necessary.
- To prevent ESD damage, follow your normal board and component handling procedures when connecting cables to the switch and other devices.
- When you insert several SFP modules in multiple ports, wait for 5 seconds between inserting each SFP. This will prevent the ports from going into error disabled mode. Similarly, when you remove an SFP from a port, wait for 5 seconds before reinserting it.

Procedure

Step 1 Attach an ESD-preventive wrist strap to your wrist and to an earth ground surface.

Step 2 Find the send (TX) and receive (RX) markings that identify the top of the SFP module.

On some SFP modules, the send and receive (TX and RX) markings might be shown by arrows that show the direction of the connection.

Step 3 If the SFP module has a bale-clasp latch, move it to the open, unlocked position.

Step 4 Align the module in front of the slot opening, and push until you feel the connector snap into place.

Step 5 If the module has a bale-clasp latch, close it to lock the SFP module in place.

Step 6 Remove the SFP dust plugs and save.

Step 7 Connect the SFP cables.

Laser Safety Guidelines

Optical Small-Form Pluggable (SFPs) use a small laser to generate the fiber-optic signal. Keep the optical transmit and receive ports covered whenever a cable is not connected to the port.

Warning **Statement 1051—**Laser Radiation

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

Warning **Statement 9001—**Product Disposal

Ultimate disposal of this product should be handled according to all national laws and regulations.

Warning **Statement 1255—**Laser Compliance Statement

Pluggable optical modules comply with IEC 60825-1 Ed. 3 and 21 CFR 1040.10 and 1040.11 with or without exception for conformance with IEC 60825-1 Ed. 3 as described in Laser Notice No. 56, dated May 8, 2019.

To install an SFP module in your device, perform these steps:

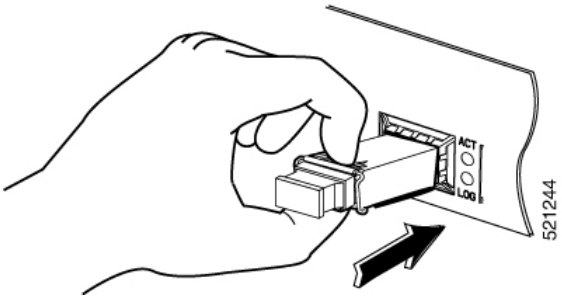
Procedure

Step 1 Read the Safety Warnings section and disconnect the power supply before you perform any module replacement.

Step 2 Slide the SFP into the device connector until it locks into position

Tip
If the SFP uses a bale-clasp latch (see Laser Safety Guidelines section, the handle should be on top of the SFP module.

Figure 7: Install a Small-Form Pluggable Module



Caution
Do not remove the optical port plugs from the SFP until you are ready to connect cabling.

Step 3 Connect the network cable to the SFP module.

Remove Small Form Pluggable Modules

Follow these steps to remove a Small Form Pluggable (SFP) from the device:

Procedure

Step 1 Read the Safety Warnings section and disconnect the power supply before you perform any module replacement.

Step 2 Disconnect all cables from the SFP.

Warning
Statement 1051—Laser Radiation

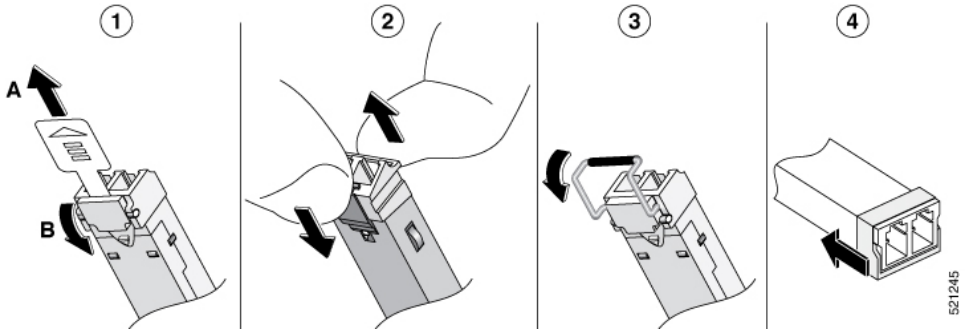
Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

Caution
The latching mechanism used on many SFPs locks the SFP into place when cables are connected. Do not pull on the cabling in an attempt to remove the SFP.

Step 3 Disconnect the SFP latch.

Note
SFP modules use various latch designs to secure the module in the SFP port. Latch designs are not linked to SFP model or technology type. For information on the SFP technology type and model, see the label on the side of the SFP.

Figure 8: Disconnecting SFP Latch Mechanisms



1	Sliding latch	3	Bale-clasp latch
2	Swing and slide latch	4	Plastic collar latch

Tip
Use a pen, screwdriver, or other small straight tool to gently release a bale-clasp handle if you cannot reach it with your fingers.

Step 4 Grasp the SFP on both sides and remove it from the device.

Remove and Replace the USB Flash Token Memory Stick

The Cisco Catalyst 8200 Series Edge Platforms contain ports for a USB memory stick to store Cisco configurations or Cisco IOS XE consolidated packages.

Caution Do not remove a USB Flash memory module when issuing some file access command or a read/write operation to the Flash memory module when it is processing. The router might reload or the USB Flash memory module can be damaged. You can check to see if the USB activity LED on the router front panel is flashing, prior to the removal of the USB device

To install, remove a USB memory stick from the device, follow these steps:

Procedure

Step 1 Place the USB stick into the USB port.

Step 2 Type-C memory sticks are supported on USB port 1 and type-C memory can be inserted in any direction. Type-A memory sticks are supported on USB port 0 and it must be oriented correctly to allow for proper insertion.

Note
A sample of how the memory stick is inserted into the port.

Figure 9: USB Memory Stick

Note
You can insert or remove the memory stick whether the device is powered on or not.

1	USB Type C (3.0) (USB 1)
2	USB stick
3	USB Type A (3.0) (USB 0)

What to do next

This completes the USB Flash memory installation procedure.

Remove and Install an M.2 USB|NVMe Module

This section describes installing and replacing an M.2 USB|NVMe module on the Cisco Catalyst 8200 Series Edge Platforms.

Prevent Electrostatic Discharge Damage

The M.2 module is sensitive to electrostatic discharge (ESD) damage, which can occur when electronic cards or components are handled improperly. ESD results in complete or intermittent failures.

To prevent ESD damage, follow these guidelines:

- Always use an ESD wrist or ankle strap and ensure that it makes good skin contact.
- Connect the equipment end of the strap to an unfinished chassis surface.
- Place the M.2 storage devices on an anti-static surface or in a static shielding bag. If you have to return the device to the factory, immediately place it in a static shielding bag.
- Avoid contact between the device and clothing. The wrist strap protects the device from ESD voltages on the body only; ESD voltages on clothing can still cause damage.
- Do not remove the wrist strap until the installation is complete.

Caution For safety, periodically check the resistance value of the anti static strap. The measurement should be between 1 and 10 megohms (Mohms).

Remove the M.2 USB|NVMe Module

To remove a M.2 USB|NVMe module, perform these steps:

Note The M.2 USB|NVMe modules for Cisco Catalyst 8200 Series Edge Platforms are flipped upside down.

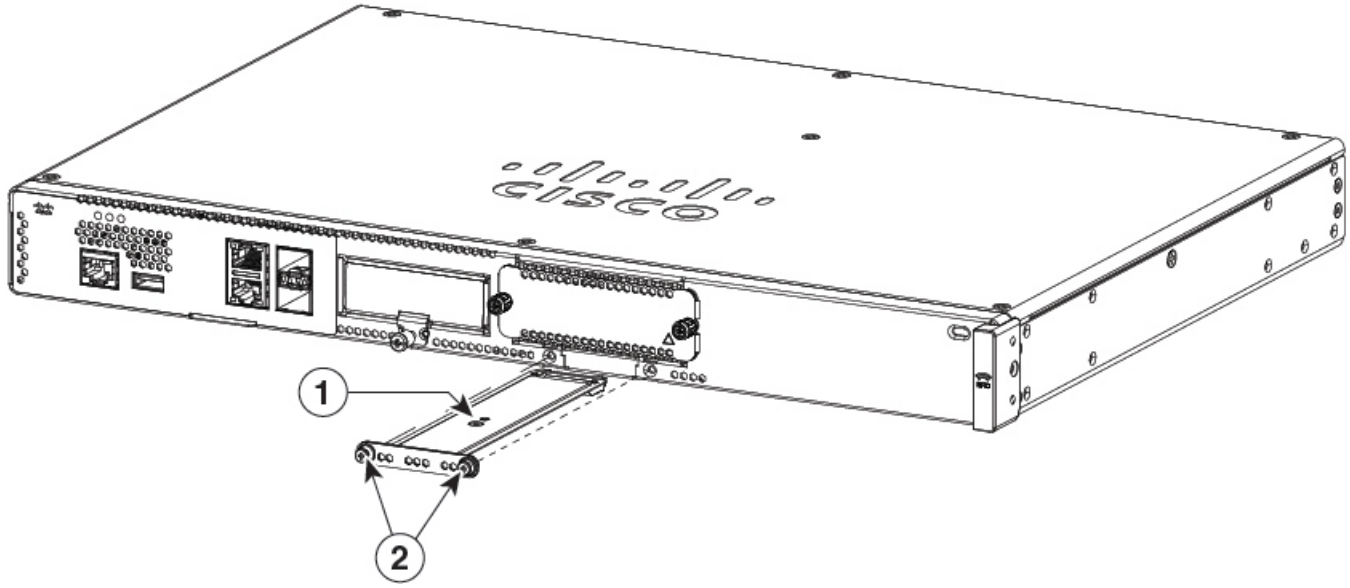
Procedure

Step 1 The device should be powered down and the power supply disconnected before you perform any module replacement.

Step 2 Loosen 2 mounting screws using a #1 Philips screwdriver.

Step 3 Gently pull the M.2 USB|NVMe module out and remove it from the device.

Figure 10: Remove the M.2 USB|NVMe Module (Cisco 8200 Series Chassis)



1	M.2 USB|NVMe module	2	Securing screws (torque 4-6 in-lbs)

Install the M.2 USB|NVMe Module

Note The M.2 USB|NVMe module's orientations are flipped. For the Cisco Catalyst 8200 Series device, the PCB faces down.

To install the M.2 USB|NVMe module, perform the following steps:

Procedure

Step 1 Read all Safety Warnings, ensure that the Cisco Catalyst 8200 Series device is not powered on.

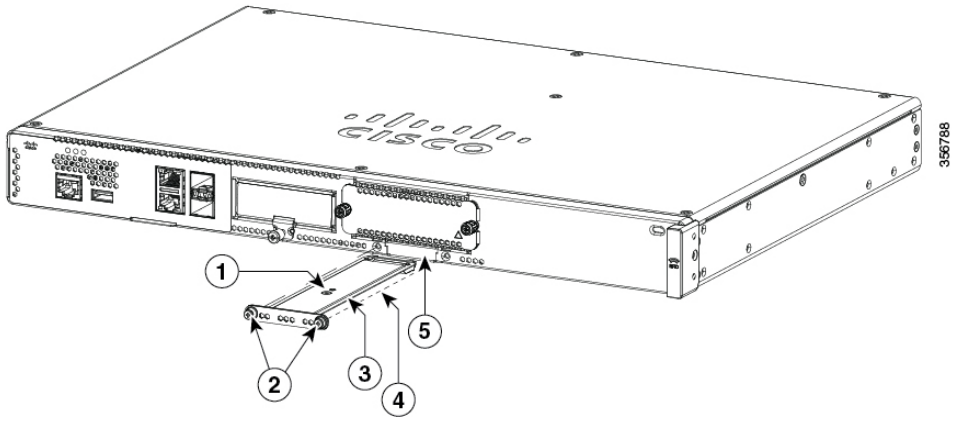
Step 2 Insert the M.2 USB|NVMe module into the slot of the device (as shown in the figure). The slide should engage the internal card guides.

Step 3 Gently slide the M.2 USB|NVMe module all the way in until the faceplate is flush with the device.

Step 4 Screw down and tighten the two Philips head screws. Torque it to 4-6 in lbs.

Step 5 The device can now be powered on.

Figure 11: Install the M.2 USB|NVMe (Cisco 8200 Series Chassis)



1	M.2 USB|NVMe	2	Securing screws (torque 4-6 in-lbs)
3	M.2 module orientation with metal carrier on top, M.2 module underneath.	4	M.2 module underneath
5	Chassis cutout prevents M.2 installation in wrong orientation.		

Remove and replace the battery

These instructions are provided in order to comply with the EU Battery Replaceability Requirement.

- This product was not specifically designed for battery replacement in the field.
- It is recommended that, whenever possible, follow the standard repair or return process for battery issues.

Caution Always wear an ESD-preventive wrist strap and ensure that it makes good contact with your skin when you remove or install the internal modules. Connect the equipment end of the wrist strap to the metal part of the chassis.

Remove the battery

Perform this procedure when the battery requires replacement or maintenance on supported hardware.

Note Follow proper electrostatic discharge (ESD) precautions before handling the battery or device.

Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the clip to an unpainted surface of the chassis frame to channel unwanted ESD voltages safely to ground. To guard against ESD damage and shocks, the wrist strap and cord must operate effectively.

Warning **Statement 1015**—Battery Handling

To reduce risk of fire, explosion or leakage of flammable liquid or gas:

- Replace the battery only with the same or equivalent type recommended by the manufacturer.
- Do not dismantle, crush, puncture, use sharp tool to remove, short external contacts, or dispose of in fire.
- Do not use if battery is warped or swollen.

Procedure

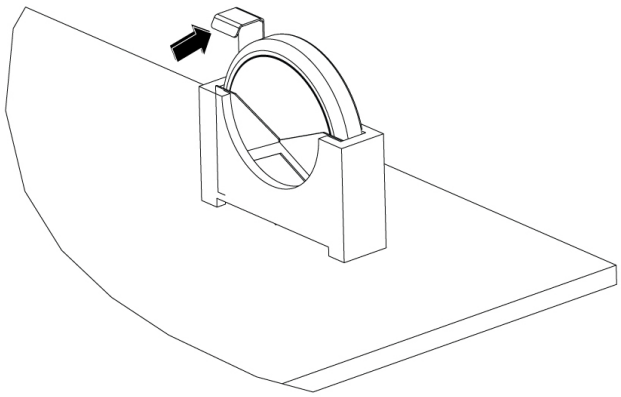
Step 1 Before you perform any module replacement, read the Safety Warnings section and disconnect the power supplies.

Step 2 Identify the type of battery holder and follow the instructions accordingly.

Step 3 For Battery Holder type 1, follow these instructions to remove the battery:

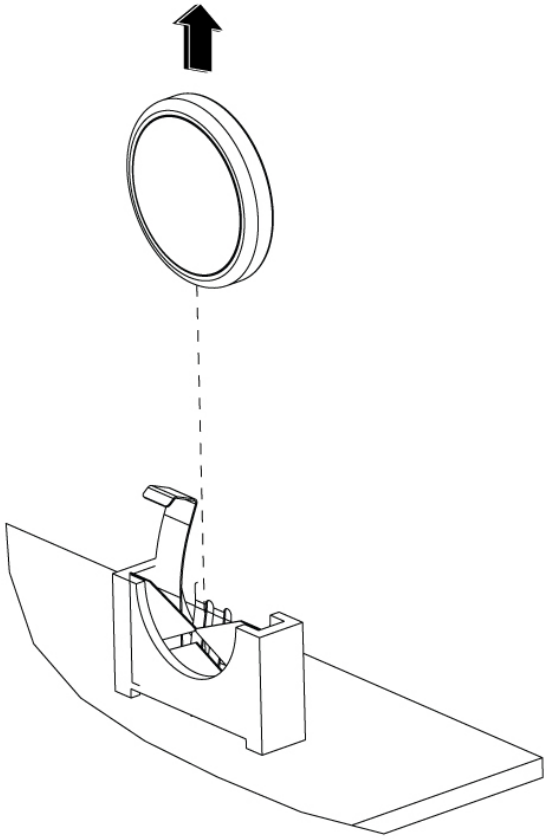
a) Pull the retention arm back from the battery.

Figure 12: Pull back the latch arm



b) Lift the battery out of the holder.

Figure 13: Remove the battery

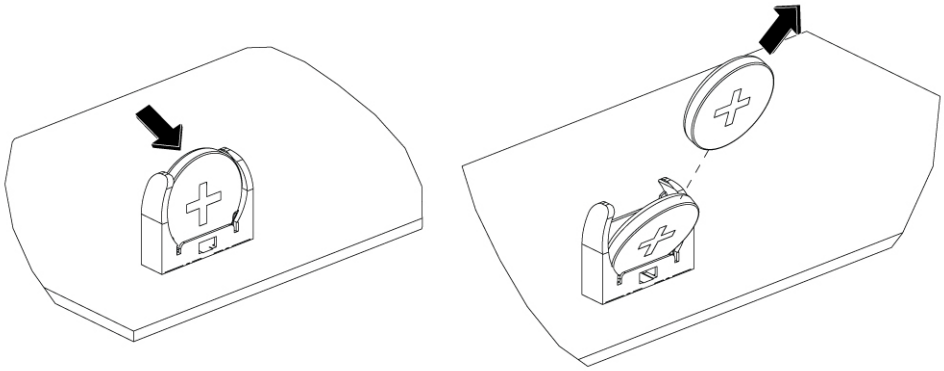


Step 4 For Battery Holder type 2, follow these instructions to remove the battery:

a) Pivot the battery in the direction shown.

b) Pull the battery out at an angle.

Figure 14: Remove the battery



Replace the battery

Replace the battery in the chassis following the safety procedures to ensure proper device functionality.

Note Follow proper electrostatic discharge (ESD) precautions before handling the battery or device.

Before you begin

- There are two types of battery holders that may be present on the PCBA. Identify the correct type and refer to the instructions specific to that type.
- The battery is a CR2032 or BR2032 type. Batteries should only be replaced with the same or an equivalent type recommended by the manufacturer.
  - Panasonic BR-2032/BN
  - VARTA CR2032

Procedure

Step 1 Read the Safety Warnings instructions and disconnect the power supplies before you perform any module replacement.

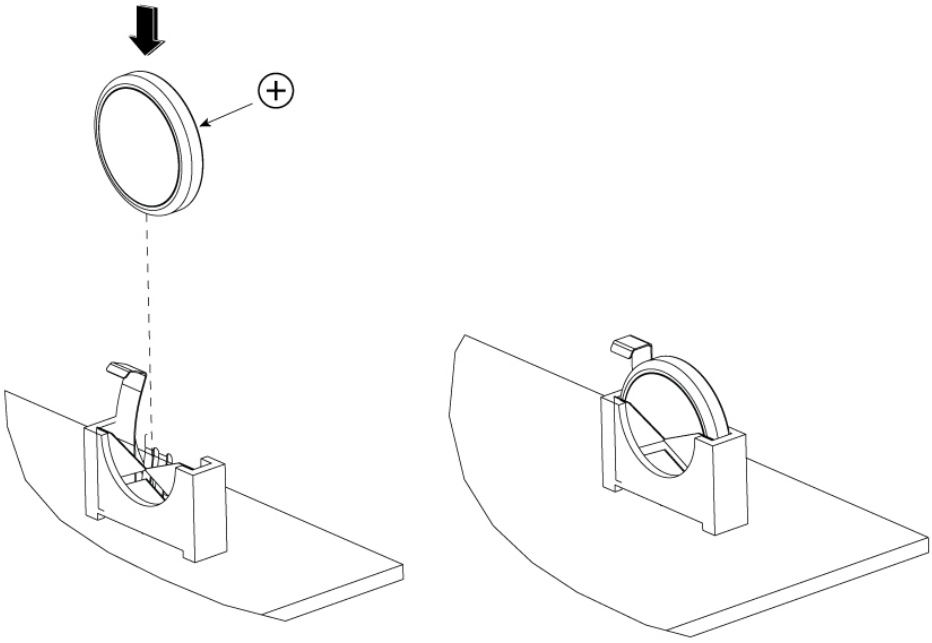
Step 2 Identify the type of battery holder and follow the instructions accordingly.

Step 3 For Battery Holder type 1, follow these instructions to replace the battery:

a) Orient the battery with positive polarity as shown.

b) Push the battery down into the holder. Once installed, the latch will snap back over the battery to secure it in place.

Figure 15: Install the battery



Step 4 For Battery Holder type 2, follow these instructions to replace the battery:

a) Orient the battery with positive polarity as shown.
b) Angle the battery so you can insert the edge of the battery into the holder base.
c) Rotate the battery and press into the base in the same motion to install the battery firmly in the holder.

Figure 16: Install the battery

