

Dell Pro 5 Micro

P5M1260

Service Manual

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Working inside your computer

Safety instructions

Use the following safety guidelines to protect your computer from potential damage and to ensure your personal safety. Unless otherwise noted, each procedure in this document assumes that you have read the safety information that shipped with your computer.

 **WARNING:** Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see [Dell Regulatory Compliance Home Page](#).

 **WARNING:** Disconnect your computer from all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting your computer to an electrical outlet.

 **CAUTION:** To avoid damaging the computer, ensure that the work surface is flat, dry, and clean.

 **CAUTION:** You should only perform troubleshooting and repairs as authorized or directed by the Dell technical support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

 **CAUTION:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity which could harm internal components.

 **CAUTION:** To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.

 **CAUTION:** When you disconnect a cable, pull it by its connector or its pull tab, not the cable itself. Some cables have connectors with locking tabs or thumbscrews that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending the connector pins. When connecting cables, ensure that the connector on the cable is correctly oriented and aligned with the port.

 **CAUTION:** Press and eject any installed card from the media-card reader.

Before working inside your computer

About this task

 **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

Steps

1. Save and close all open files and exit all open applications.

2. Shut down your computer. For Windows operating system, click **Start** >  **Power** > **Shut down**.

 **NOTE:** If you are using a different operating system, see the documentation of your operating system for shut-down instructions.

3. Turn off all the attached peripherals.

4. Disconnect your computer from the electrical outlet.

5. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.

 **CAUTION:** To disconnect a network cable, unplug the cable from your computer.

6. Remove any media card and optical disc from your computer, if applicable.

Safety precautions

This section details the primary steps to be followed before disassembling any device or component.

Observe the following safety precautions before any installation or break-fix procedures involving disassembly or reassembly:

- Turn off the computer and all attached peripherals.
- Disconnect the computer from AC power.
- Disconnect all network cables and peripherals from the computer.
- Use an ESD field service kit when working inside your computer to avoid electrostatic discharge (ESD) damage.
- Place the removed component on an anti-static mat after removing it from the computer.
- Press and hold the power button for 15 seconds to discharge the residual power in the system board.

Bonding

Bonding is a method for connecting two or more grounding conductors to the same electrical potential. This is done by using a field service electrostatic discharge (ESD) kit. When connecting a bonding wire, ensure that it is connected to bare metal and never to a painted or nonmetal surface. Ensure that the wrist strap is secure and in full contact with your skin. Remove all jewelry, watches, bracelets, or rings before grounding yourself and the equipment.

Electrostatic discharge—ESD protection

ESD is a major concern when you handle electronic components, especially sensitive components such as expansion cards, processors, memory modules, and system boards. A slight charge can damage circuits in ways that may not be obvious, such as intermittent problems or a shortened product life span. As the industry pushes for lower power requirements and increased density, ESD protection is an increasing concern.

Two recognized types of ESD damage are catastrophic and intermittent failures.

- **Catastrophic** – Catastrophic failures represent approximately 20 percent of ESD-related failures. The damage causes an immediate and complete loss of device functionality. An example of catastrophic failure is a memory module that has received a static shock and immediately generates a "No POST/No Video" symptom with a beep code that is emitted for missing or nonfunctional memory.
- **Intermittent** – Intermittent failures represent approximately 80 percent of ESD-related failures. The high rate of intermittent failures means that most of the time when damage occurs, it is not immediately recognizable. The memory module receives a static shock, but the tracing is merely weakened and does not immediately produce outward symptoms that are related to the damage. The weakened trace may take weeks or months to melt, and in the meantime may cause degradation of memory integrity, intermittent memory errors, and so on.

Intermittent failures that are also called latent or "walking wounded" are difficult to detect and troubleshoot.

Perform the following steps to prevent ESD damage:

- Use a wired ESD wrist strap that is properly grounded. Wireless anti-static straps do not provide adequate protection. Touching the chassis before handling parts does not ensure adequate ESD protection on parts with increased sensitivity to ESD damage.
- Handle all static-sensitive components in a static-safe area. If possible, use anti-static floor pads and workbench pads.
- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the anti-static packing material until you are ready to install the component. Before unwrapping the anti-static packaging, use the anti-static wrist strap to discharge the static electricity from your body.

 **NOTE:** You can protect against ESD and discharge static electricity from your body by touching a metal-grounded object before you interact with anything electronic, for example, an unpainted metal surface on your computer's I/O panel. When connecting a peripheral (including handheld digital assistants) to your computer, you should always ground both yourself and the peripheral before connecting it to the computer. In addition, as you work inside the computer, periodically touch a metal-grounded object to remove any static charge that your body may have accumulated.

For more information about the wrist strap and ESD wrist strap tester, see [Components of an ESD Field Service Kit](#).

- Before transporting a static-sensitive component, place it in an anti-static container or packaging.

ESD Field Service kit

The unmonitored field service kit is the most commonly used service kit. Each Field Service kit includes three main components: anti-static mat, wrist strap, and bonding wire.

 **CAUTION:** It is critical to keep ESD-sensitive devices away from internal parts that are insulated and often highly charged, such as plastic heat sink casings.

Working environment

Before the ESD Field Service kit is deployed, conduct an evaluation of the site to ensure proper setup and readiness. For example, deploying the kit for a server environment is different than for a desktop or laptop environment. Servers are typically installed in a rack within a data center; desktops or laptops are typically placed on office desks or cubicles. Always look for a large open flat work area that is free of clutter and large enough to deploy the ESD kit with additional space to accommodate the type of computer that is being repaired. The workspace should also be free of insulators that can cause an ESD event. On the work area, insulators such as styrofoam and other plastics should always be moved at least 12 inches or 30 centimeters away from sensitive parts before physically handling any hardware components.

ESD packaging

All ESD-sensitive devices must be shipped and received in static-safe packaging. Metal, static-shielded bags are preferred. However, you should always return the damaged component using the same ESD bag and packaging that the new part arrived in. The ESD bag should be folded over and taped shut and all the same foam packing material should be used in the original box that the new part arrived in. ESD-sensitive devices should be removed from packaging only at an ESD-protected work surface, and parts should never be placed on top of the ESD bag because only the inside of the bag is shielded. Always place parts in your hand, on the anti-static mat, in the computer, or inside an ESD bag.

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – If an anti-static mat is not being used, the wrist strap and bonding wire should be connected directly between your wrist and an exposed metal part of the hardware. If you are using an anti-static mat, connect the wrist strap and bonding wire to the anti-static mat to ensure protection for any hardware placed on the mat. The physical connection of the wrist strap and bonding wire between your skin, the anti-static mat, and the hardware is known as bonding. Use only Field Service kits with a wrist strap, anti-static mat, and bonding wire. Never use wireless wrist straps. Always be cautious that the internal wires of a wrist strap are prone to damage from normal wear and tear, and must be checked regularly with a wrist strap tester in order to avoid accidental ESD hardware damage. It is recommended to test the wrist strap and bonding wire at least once per week.
- **ESD Wrist Strap Tester** – The wires inside an ESD strap are prone to damage over time. When using an unmonitored ESD kit, it is recommended to test the wrist strap regularly—ideally before each service session, and at a minimum, once per week. The most reliable method for testing is with a wrist strap tester. To perform the test, connect the bonding wire of the wrist strap to the tester while wearing the strap. Press the test button to initiate the check. A green LED indicates a successful test, while a red LED and audible alarm signal a failure.

 **NOTE:** It is recommended to always use the traditional wired ESD grounding wrist strap and protective anti-static mat when servicing Dell products. In addition, it is critical to keep sensitive parts separate from all insulator parts while servicing the computer.

Transporting sensitive components

When transporting ESD sensitive components such as replacement parts or parts to be returned to Dell, it is critical to place these parts in anti-static bags for safe transport.

Lifting equipment

Adhere to the following guidelines when lifting heavy equipment:

 **CAUTION:** Do not lift greater than 50 pounds. Always obtain additional resources or use a mechanical lifting device.

1. Get a firm balanced footing. Keep your feet apart for a stable base, and point your toes out.
2. Tighten stomach muscles. Abdominal muscles support your spine when you lift, offsetting the force of the load.
3. Lift with your legs, not your back.
4. Keep the load close. The closer it is to your spine, the less force it exerts on your back.
5. Keep your back upright, whether lifting or setting down the load. Do not add the weight of your body to the load. Avoid twisting your body and back.
6. Follow the same technique in reverse to set the load down.

After working inside your computer

About this task

 **CAUTION:** Leaving stray or loose screws inside your computer may severely damage your computer.

Steps

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, discs, or any other components that you removed before working on your computer.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

Information on repairability for Québec - From Dell Canada Inc. - to Quebec consumers

Dell does not guarantee the availability of replacement parts, repair services, or information necessary for maintenance or repair.

BitLocker

When updating the BIOS on a computer with BitLocker enabled, consider the following precautions.

 **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, refer [Updating the BIOS on Dell systems with BitLocker enabled](#).

The installation of the following components triggers BitLocker:

- Hard disk drive or solid state drive
- System board

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- Phillips screwdriver #1
- Plastic scribe

Screw list

NOTE: When removing screws from a component, it is recommended to note the screw type and the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.

NOTE: Some computers have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.

NOTE: Screw color may vary depending on the configuration ordered.

Table 1. Screw list

Component	Screw type	Quantity	Screw image
Side cover	#6-32x9.3	1	
M.2 2230 solid-state drive in a single SSD configuration	M2x3.5	2	
M.2 2280 solid-state drive in a single SSD configuration	M2x3.5	1	
M.2 2230 solid-state drive in a dual SSD configuration	M2x3.5	1	
	M2x6	1	
M.2 2280 solid-state drive in a dual SSD configuration	M2x3.5	1	
Wireless card	M2x3.5	1	
External puck antenna	Captive	1	
SMA antenna module	M3x3	1	

Table 1. Screw list (continued)

Component	Screw type	Quantity	Screw image
Optional module (Dual USB 3.2 Gen 2 / USB Type-C / DisplayPort / HDMI / VGA / PS/2 and Serial / Serial / DisplayPorts (DP1.4a HBR2) Video Expansion Module)	Captive	1	
		1	
Optional fiber optic port module	Captive	2	
		1	
Heat sink	Captive	3	
Internal antenna module	M3x3	2	
	Captive	1	
Speaker holder	M3x5	3	
System board	M3x5	3	
	Standoff nut	1	

Major components of Dell Pro 5 Micro P5M1260

The following image shows the major components of Dell Pro 5 Micro P5M1260.

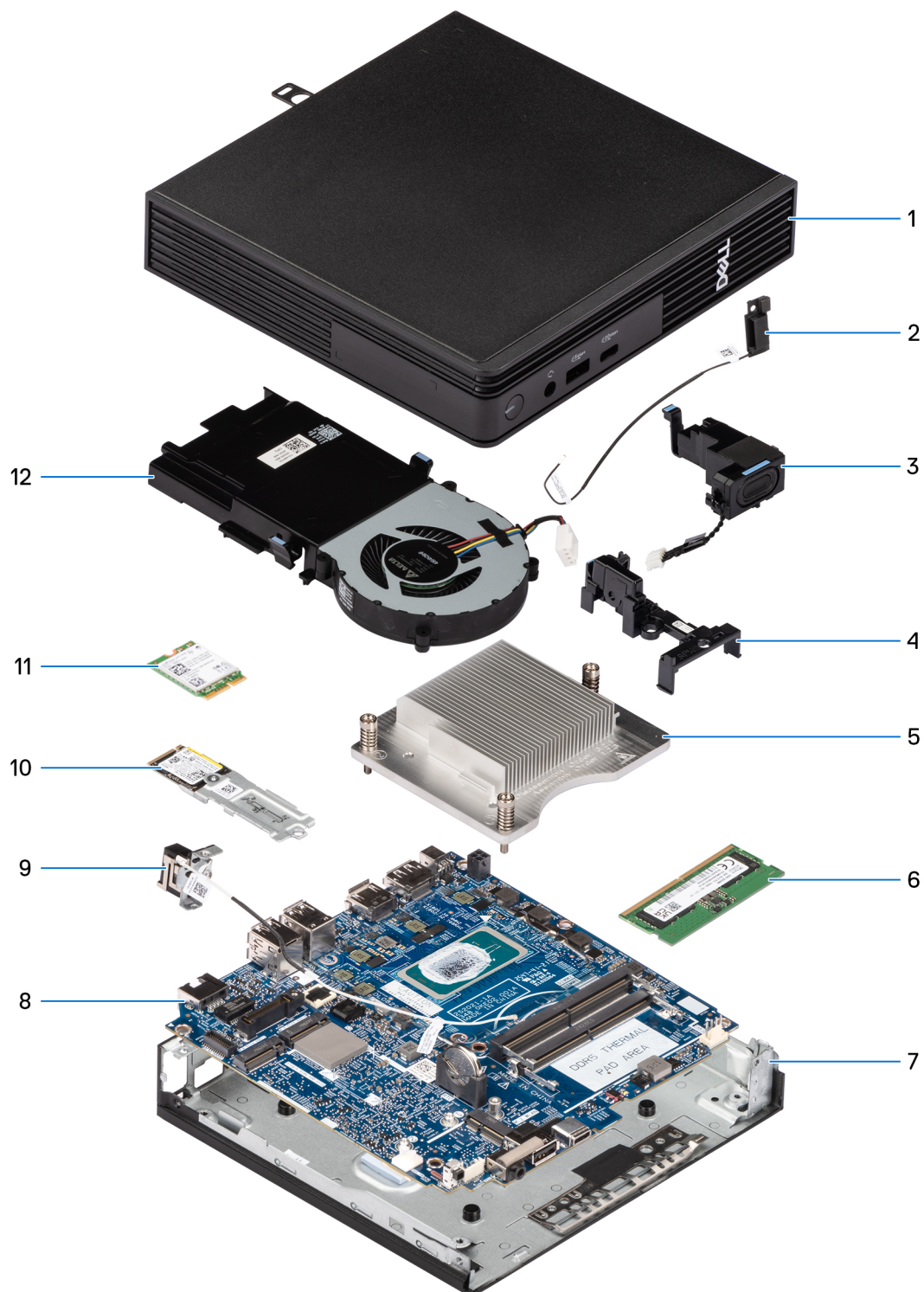


Figure 1. Major components of Dell Pro 5 Micro P5M1260

1. Top cover
2. Internal antenna module (black cable)
3. Speaker
4. Speaker holder
5. Heat sink
6. Memory module
7. Chassis

8. System board
9. Internal antenna module (white cable)
10. Solid state drive assembly
11. Wireless card
12. Fan

NOTE: Dell provides a list of components and their part numbers for the original computer configuration purchased. These parts are available depending on the warranty coverage that is selected at the time of purchase. Components from upsell or upgraded variants may not be covered under the standard computer warranty. For more details or to explore purchase options, contact your Dell sales representative.

Customer Replaceable Units (CRUs) and Field Replaceable Units (FRUs) list

The replaceable components in Dell Pro 5 Micro P5M1260 are either Customer Replaceable Units (CRUs) or Field Replaceable Units (FRUs).

CAUTION: CRUs may be replaced by the customer, following the safety precautions and replacement procedures.

CAUTION: FRUs should be replaced by an authorized service technician, who is a trained technical repair specialist.

CAUTION: Replacement of FRUs by persons other than authorized service technicians may result in damage to the computer or data loss.

NOTE: Damages resulting from improper replacement or from failure to follow instructions are not covered by your warranty. Consider having a trained technical repair specialist perform replacements of FRU components.

Table 2. CRU and FRU list

Customer Replaceable Unit (CRU)	Field Replaceable Unit (FRU)
Speaker	Heat sink
Solid-state drive	Processor
Wireless card	Speaker holder
Fan	Internal antenna module
Memory module	System board
External puck antenna	
SMA antenna module	
Optional modules NOTE: The following are optional modules that can be shipped with your computer: • Dual USB 3.2 Gen 2 • USB Type-C • DisplayPort • HDMI • VGA • PS/2 and Serial • Serial • Fiber optic • DisplayPorts (DP1.4a HBR2) Video Expansion Module	

Removing and installing top cover

The replaceable components in this chapter are Customer Replaceable Units (CRUs).

 **CAUTION:** CRUs may be replaced by the customer, following the safety precautions and replacement procedures.

 **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

Removing the top cover

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).

About this task

The following images indicate the location of the top cover and provide a visual representation of the removal procedure.

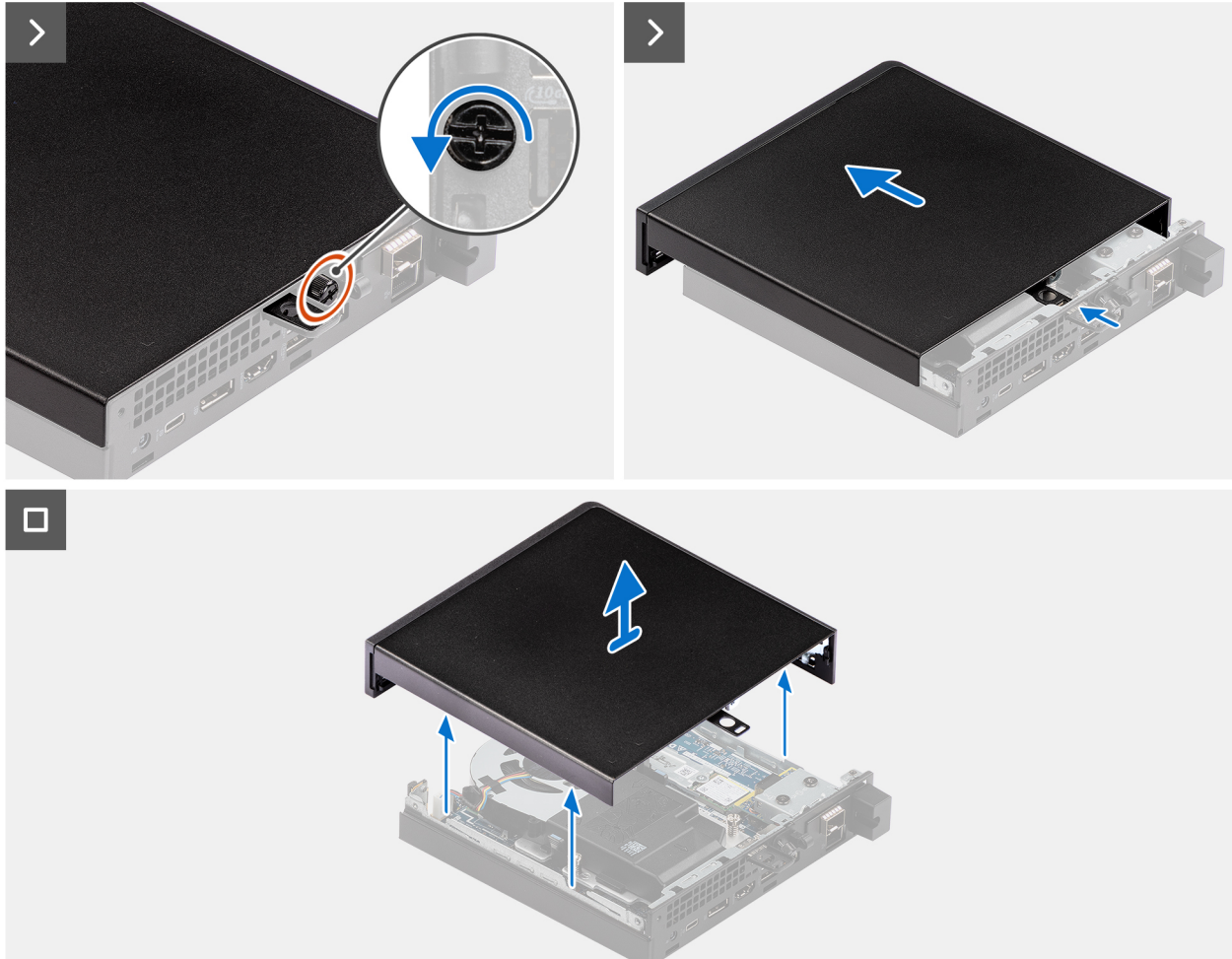


Figure 2. Removing the top cover

Steps

1. Place your computer on its side with the top cover facing up.
2. Loosen the thumbscrew (6x32) that secures the top cover to the chassis.
3. Slide and lift the top cover off the chassis.

Installing the top cover

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the top cover and provide a visual representation of the installation procedure.

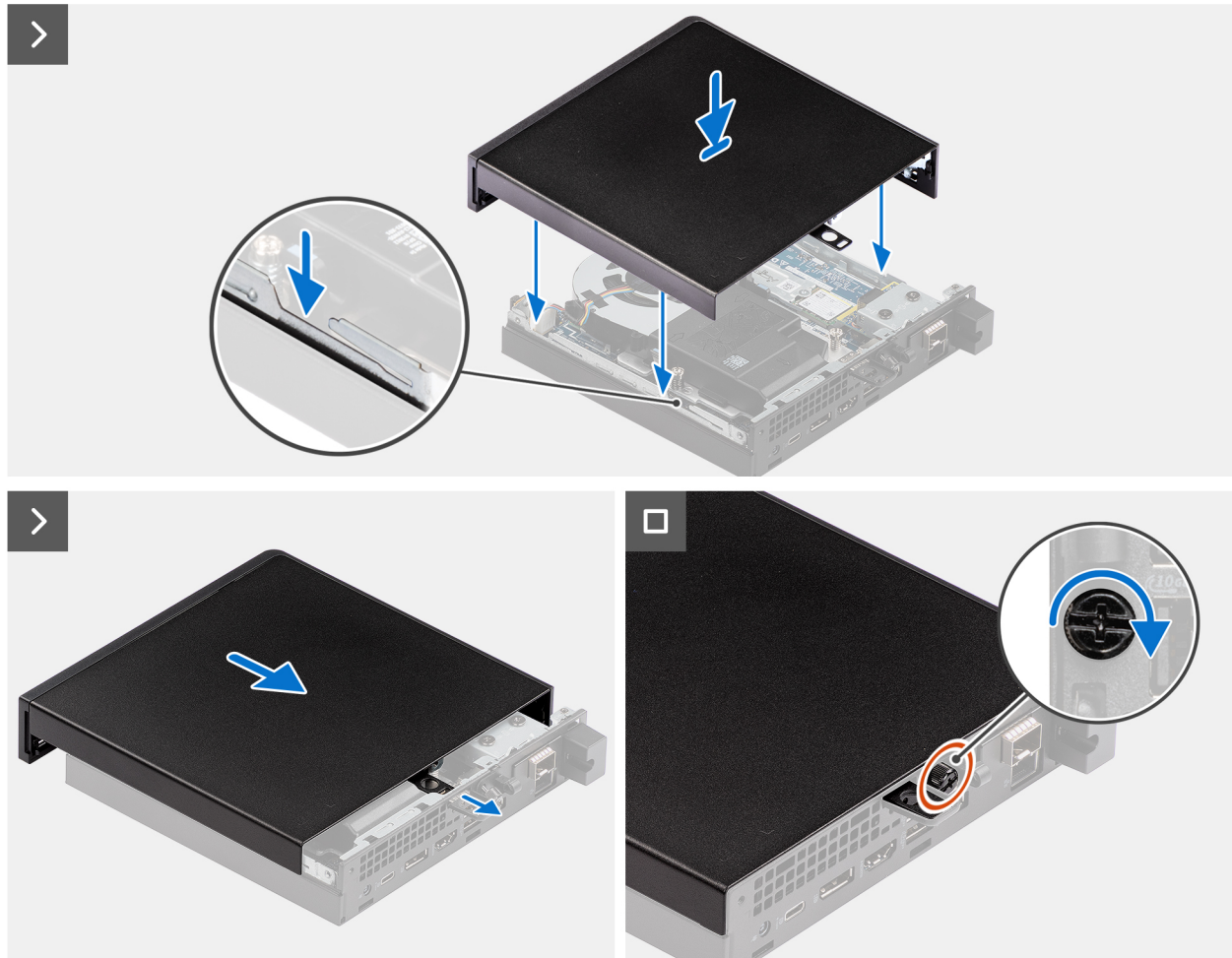


Figure 3. Installing the top cover

Steps

1. Place the top cover on the chassis by aligning the tabs on the top cover with the slots on the chassis.
2. Slide the top cover towards the rear of the computer.
3. Tighten the thumbscrew (6x32) that secures the top cover to the chassis.

Next steps

1. Follow the procedure in [After working inside your computer.](#)

Removing and installing Customer Replaceable Units (CRUs)

The replaceable components in this chapter are Customer Replaceable Units (CRUs).

 **CAUTION:** CRUs may be replaced by the customer, following the safety precautions and replacement procedures.

 **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

Coin-cell battery

Removing the coin-cell battery

 **CAUTION:** Removing the coin-cell battery clears the CMOS and resets BIOS settings.

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the coin-cell battery and provide a visual representation of the removal procedure.

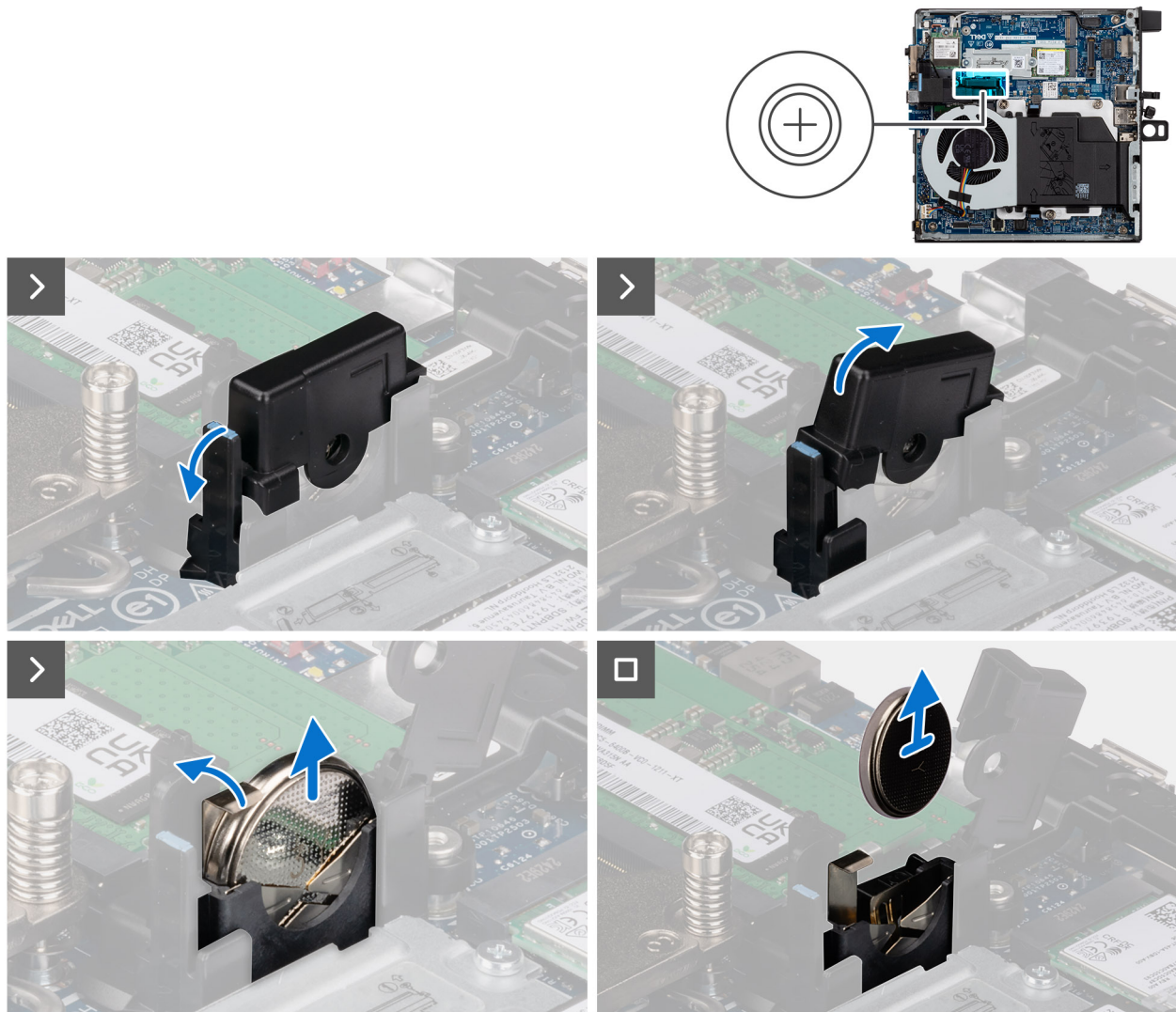


Figure 4. Removing the coin-cell battery

Steps

1. Pull the coin-cell battery-cover tab and rotate the coin-cell battery cover to access the coin-cell battery.
2. Press the coin-cell battery-release lever on the coin-cell battery socket and pull the coin-cell battery slightly upwards.
3. Lift and remove the coin-cell battery from the coin-cell battery socket.

Installing the coin-cell battery

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the coin-cell battery and provide a visual representation of the installation procedure.

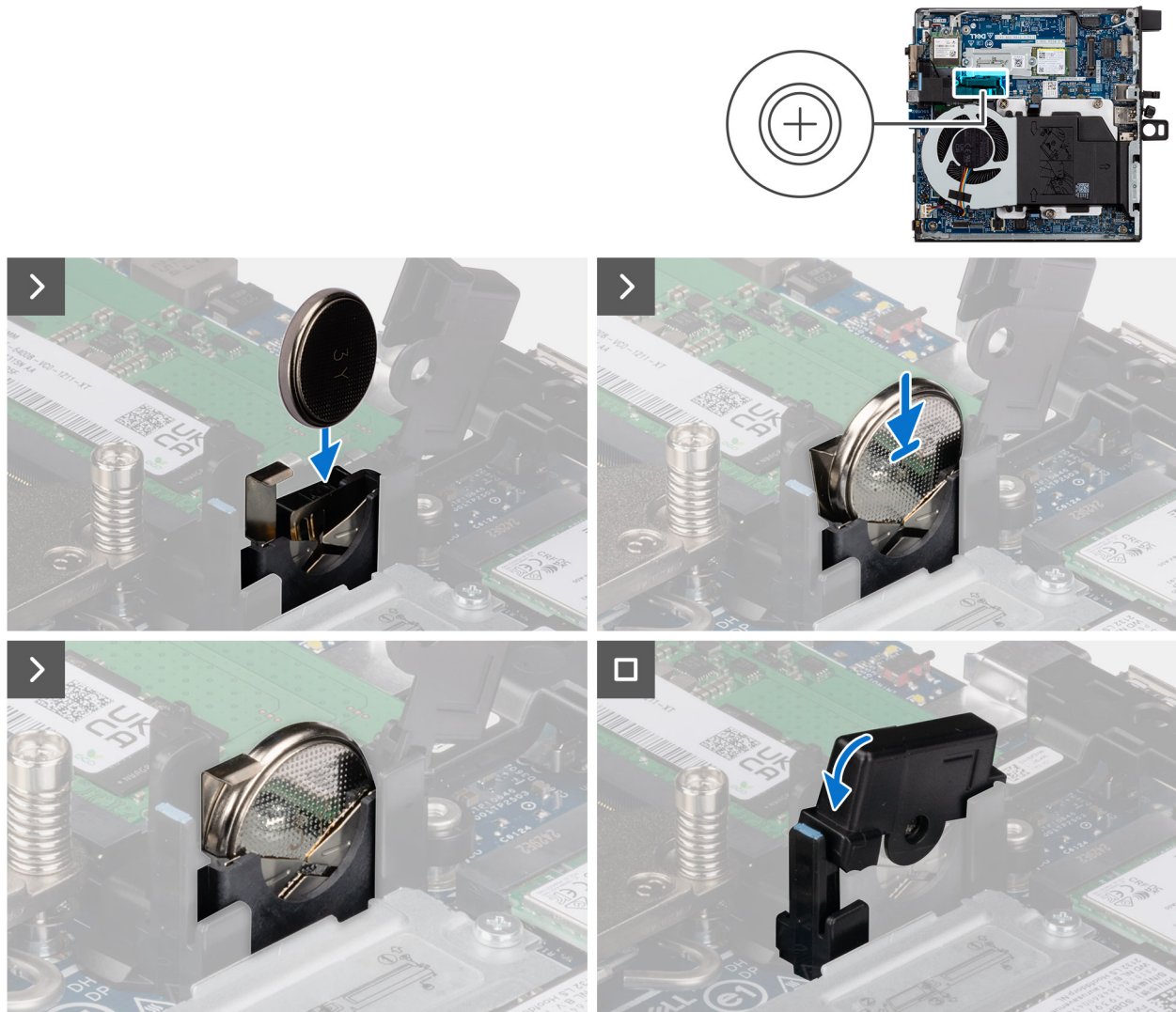


Figure 5. Installing the coin-cell battery

Steps

1. With the positive side (+) facing towards the front side of the computer, insert the coin-cell battery into the coin-cell battery socket and snap the battery into place.
2. Rotate and press the coin-cell battery cover until it snaps into its place.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Solid state drive

NOTE: Your computer supports two SSD configurations.

- **Single SSD configuration:** One SSD is installed in either of the two slots.
- **Dual SSD configuration:** SSDs are installed in both slots.

To upgrade from a single SSD configuration to a dual configuration by adding an SSD, users must install SSD thermal pads on both SSDs to ensure optimal performance. These thermal pads must be purchased separately.

Removing the M.2 2230 solid state drive in a single SSD configuration

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the M.2 2230 solid state drive and provide a visual representation of the removal procedure.

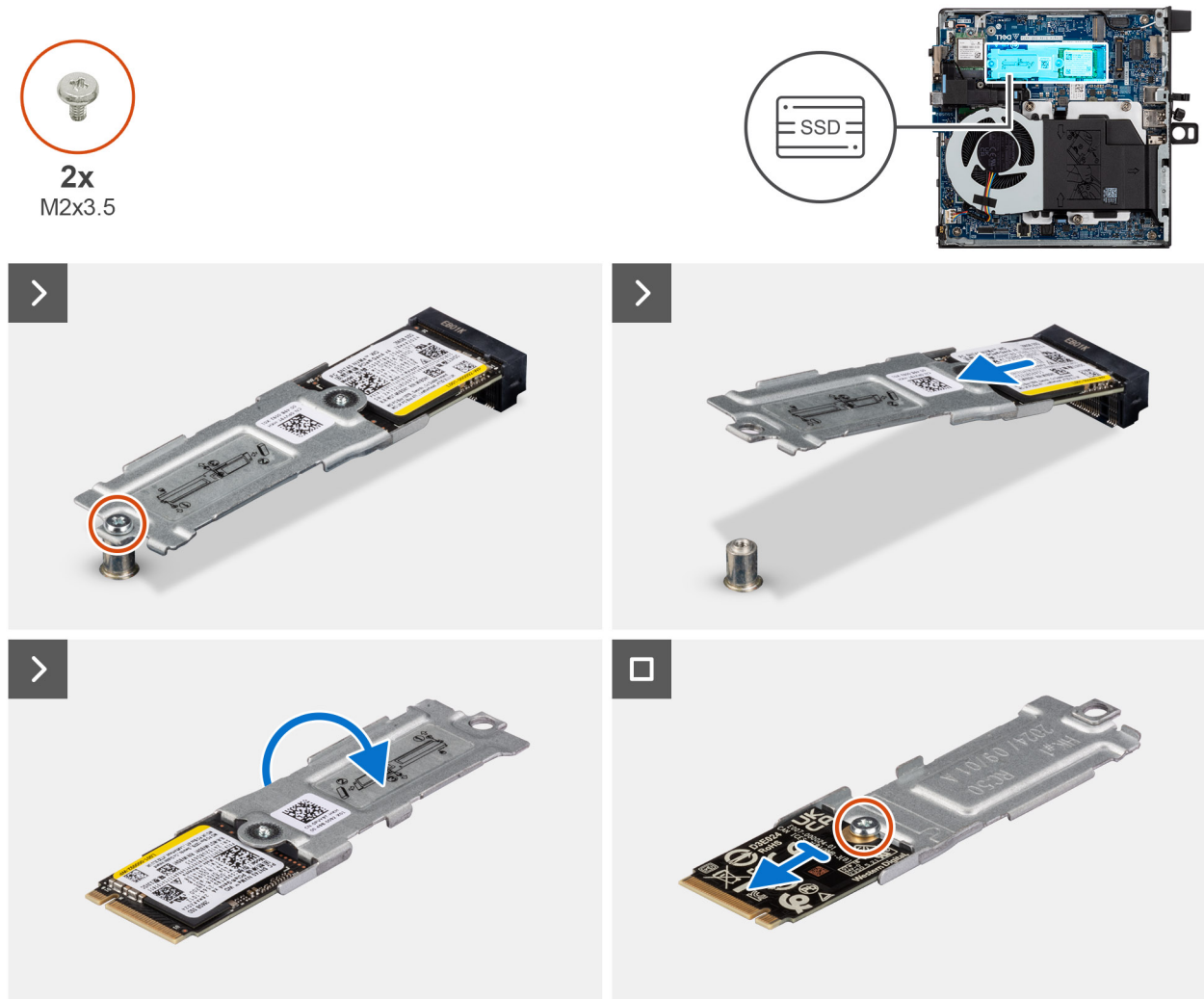


Figure 6. Removing the 2230 solid state drive

Steps

1. Remove the screw (M2x3.5) that secures the M.2 2230 solid state drive assembly to the system board.
2. Slide and lift the M.2 2230 solid state drive assembly off the solid state drive slot (M.2 PCIe SSD-0) on the system board.
3. Hold the M.2 2230 solid state drive assembly and flip it over.
4. Remove the screw (M2x3.5) that secures the M.2 2230 solid state drive to its bracket.
5. Remove the M.2 2230 solid state drive from the bracket.

Installing the M.2 2230 solid state drive in a single SSD configuration

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

NOTE: This procedure is only applicable if you are installing an M.2 2230 solid state drive in the solid state drive slot (M.2 PCIe SSD 0).

The following images indicate the location of the M.2 2230 solid state drive and provide a visual representation of the installation procedure.

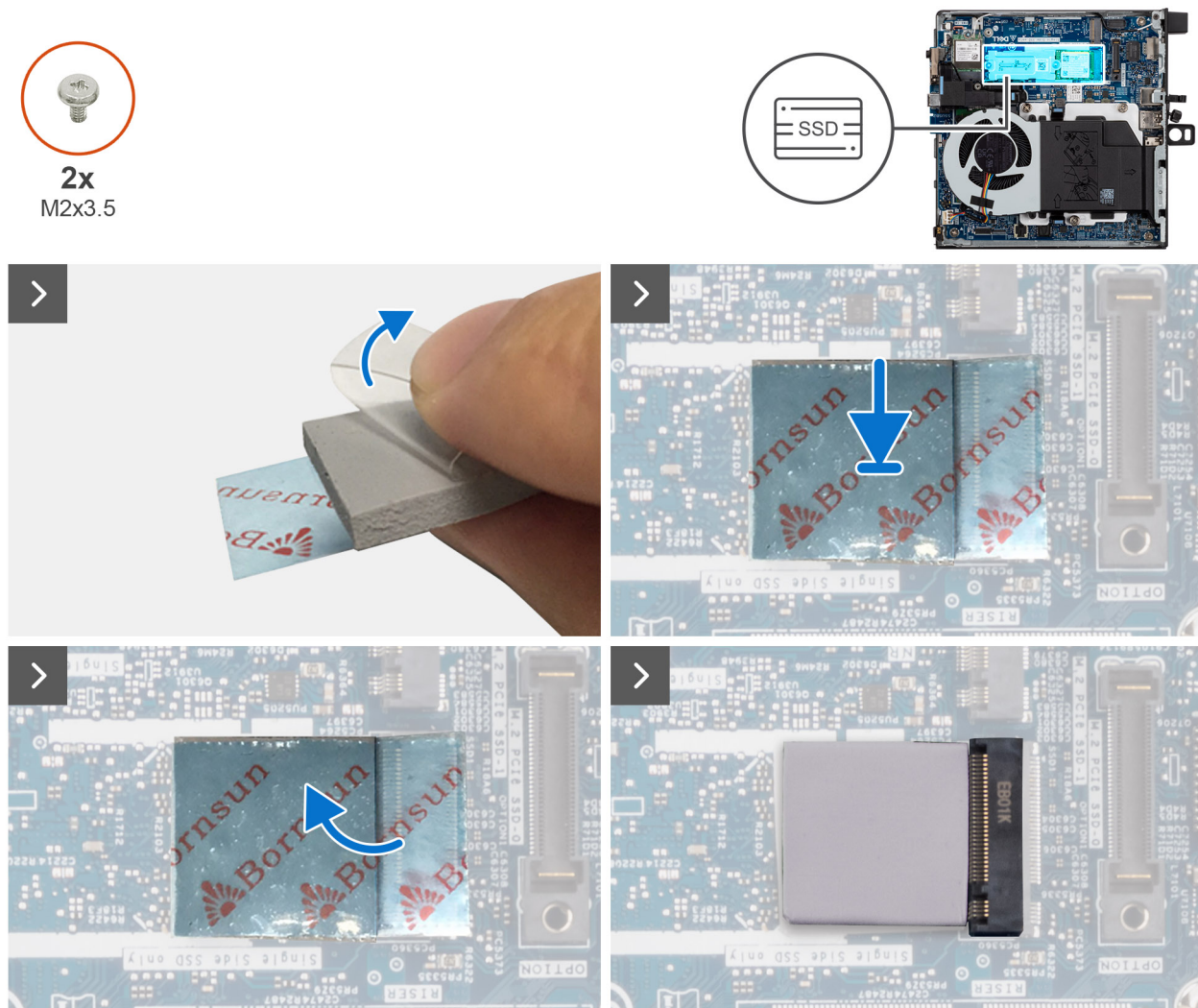


Figure 7. Installing the 2230 solid state drive

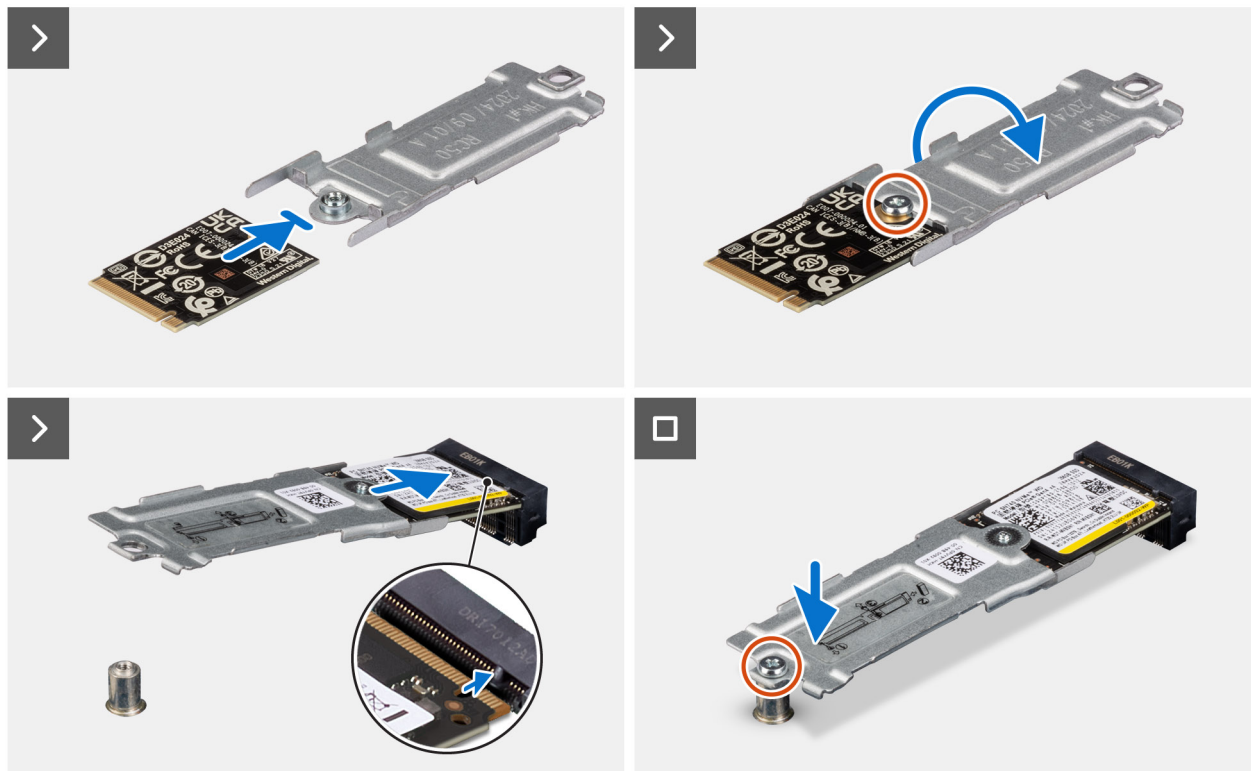


Figure 8. Installing the 2230 solid state drive

Steps

NOTE: Steps 1 to Step 5 are applicable to the installation of the SSD thermal pad on the system board.

1. Remove the plastic liner covering the solid state drive thermal pad, exposing the adhesive surface halfway.
2. Place the solid state drive thermal pad over the M.2 solid state-drive thermal pad area, ensuring accurate alignment and secure positioning.
3. Remove the remaining plastic liner from the solid state drive thermal pad, and carefully apply the pad to the M.2 solid state drive thermal pad area, ensuring a secure and even bond.
4. Use a plastic scraper to gently press and flatten the solid state drive thermal pad onto the M.2 solid state drive thermal pad area, ensuring a smooth and even surface for optimal adhesion.
5. Remove the remaining plastic liner from the solid state drive thermal pad.
6. Align the screw hole on the M.2 2230 solid state drive with the screw hole on the solid state drive bracket.
7. Replace the screw (M2x3.5) to secure the M.2 2230 solid state drive to the solid state drive bracket.
8. Then flip over the solid state drive assembly.
9. Align the notch on the M.2 2230 solid state drive with the tab on the solid state drive slot (M.2 PCIe SSD-0).
10. Slide the M.2 2230 solid state drive assembly into the solid state drive slot (M.2 PCIe SSD-0) on the system board.
11. Press and align the screw hole on the solid state drive bracket with the screw mount on the system board.
12. Replace the screw (M2x3.5) to secure the M.2 2230 solid state drive assembly to the system board.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Removing the M.2 2280 solid state drive in a single SSD configuration

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the M.2 2280 solid state drive and provide a visual representation of the removal procedure.

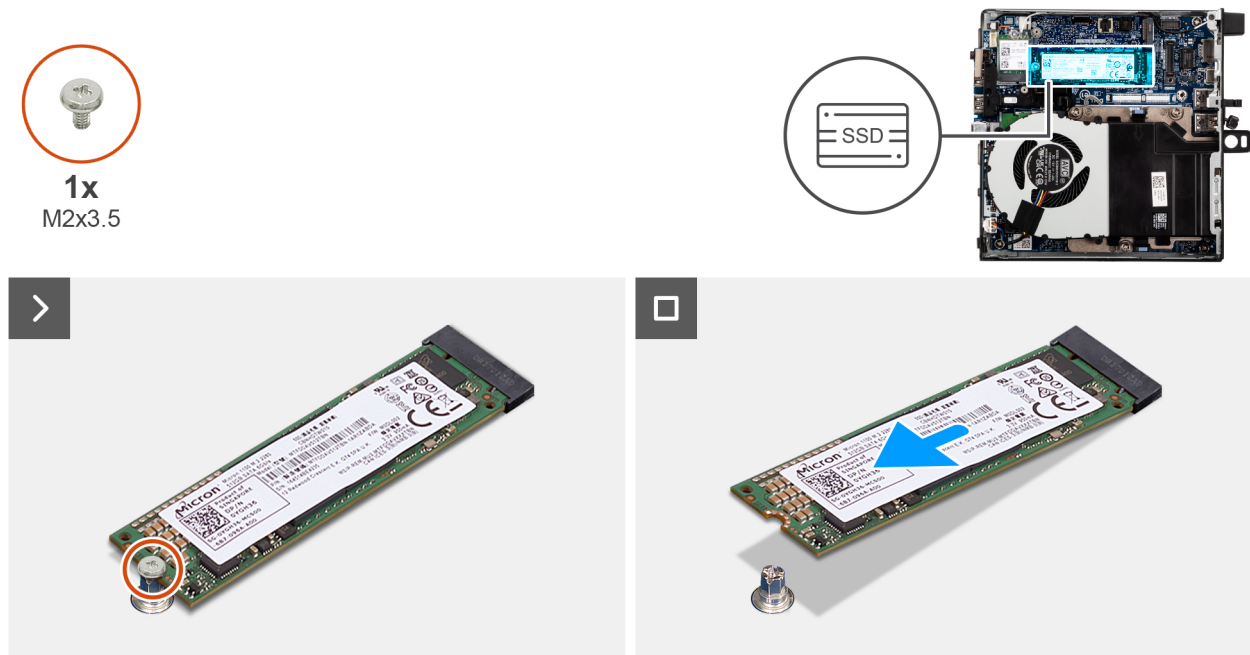


Figure 9. Removing the M.2 2280 solid state drive

Steps

1. Remove the screw (M2x3.5) that secures the M.2 2280 solid state drive to the system board.
2. Slide and lift the M.2 2280 solid state drive off the solid state drive slot (M.2 PCIe SSD-0) on the system board.

Installing the M.2 2280 solid state drive in a single SSD configuration

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

NOTE: This procedure is only applicable if you are installing an M.2 2280 solid state drive in the solid state drive slot (M.2 PCIe SSD 0).

The following images indicate the location of the M.2 2280 solid state drive and provide a visual representation of the installation procedure.

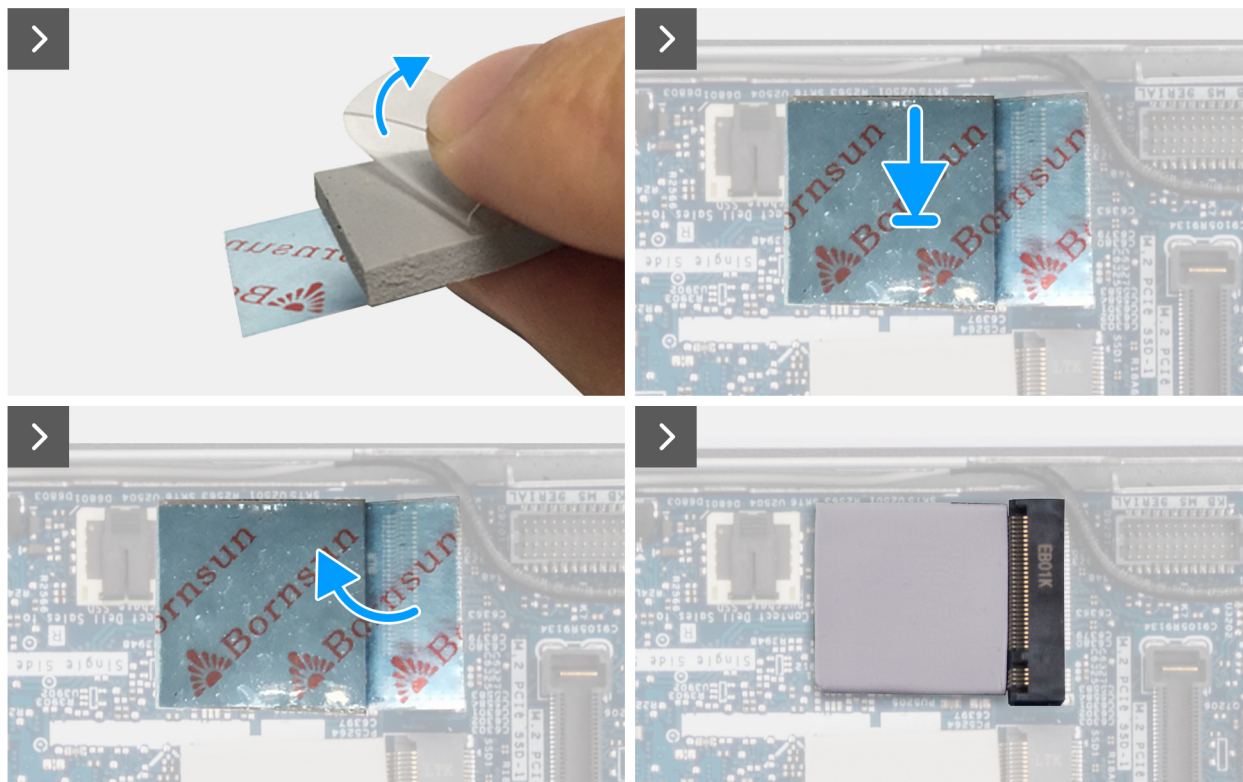
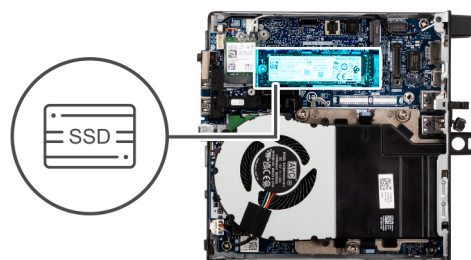


Figure 10. Installing the M.2 2280 solid state drive

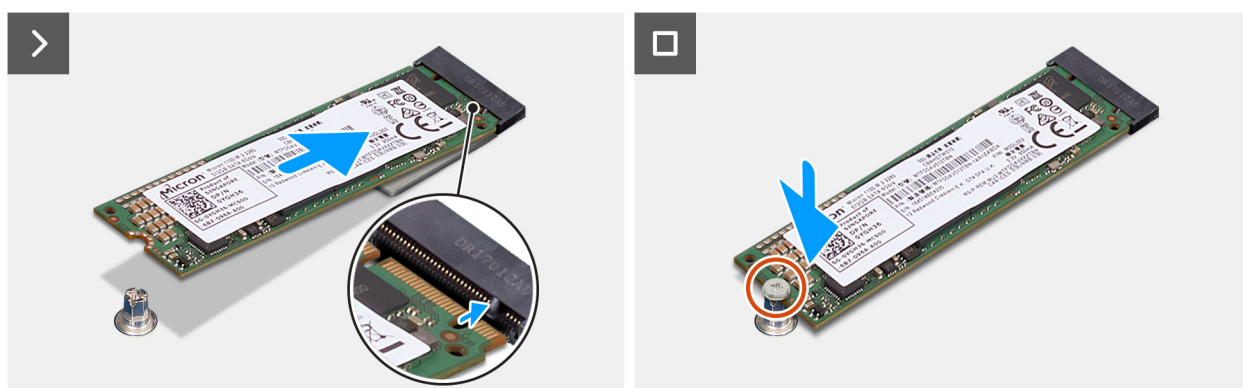


Figure 11. Installing the M.2 2280 solid state drive

Steps

NOTE: Steps 1 to Step 5 are applicable to the installation of the SSD thermal pad on the system board.

1. Remove the plastic liner covering the solid state drive thermal pad, exposing the adhesive surface halfway.
2. Place the solid state drive thermal pad over the M.2 solid state-drive thermal pad area, ensuring accurate alignment and secure positioning.

3. Remove the remaining plastic liner from the solid state drive thermal pad, and carefully apply the pad to the M.2 solid state drive thermal pad area, ensuring a secure and even bond.
4. Use a plastic scraper to gently press and flatten the solid state drive thermal pad onto the M.2 solid state drive thermal pad area, ensuring a smooth and even surface for optimal adhesion.
5. Remove the remaining plastic liner from the solid state drive thermal pad.
6. Align the notch on the M.2 2280 solid state drive with the tab on the solid state drive slot (M.2 PCIe SSD-0).
7. Slide the M.2 2280 solid state drive into the solid state drive slot (M.2 PCIe SSD-0) on the system board.
8. Replace the screw (M2x3.5) to secure the M.2 2280 solid state drive to the system board.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Removing the M.2 2230 solid state drive in a dual solid state drive configuration

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the solid state drive and provide a visual representation of the removal procedure.

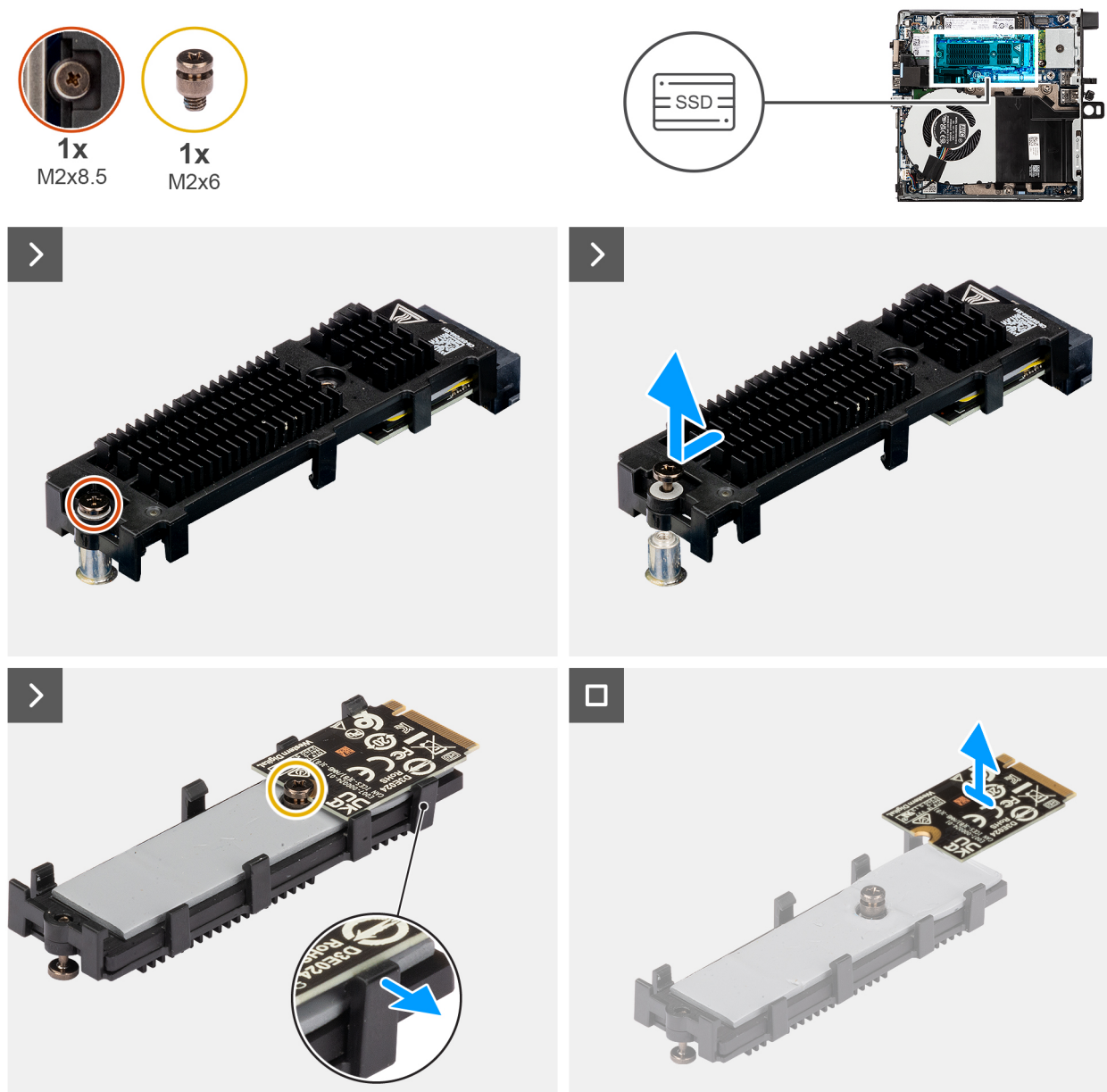


Figure 12. Removing the M.2 2230 PCIe solid state drive

Steps

1. Loosen the screw (M2x8.5) that secures the solid state drive-extender bracket to the system board.
2. Slide and lift the solid state drive-extender bracket from the system board.
3. Flip over the extender bracket.
4. Release the four snaps holding the M.2 2230 solid state drive card.
5. Remove the M.2 2230 solid state drive from the extender bracket.

NOTE: Repeat steps 1 to 5 for removing M.2 2230 solid state drive from slot-two (if applicable)

Installing the M.2 2230 solid state drive in a dual solid state drive configuration

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following image indicates the location of the solid state drive and provides a visual representation of the installation procedure.

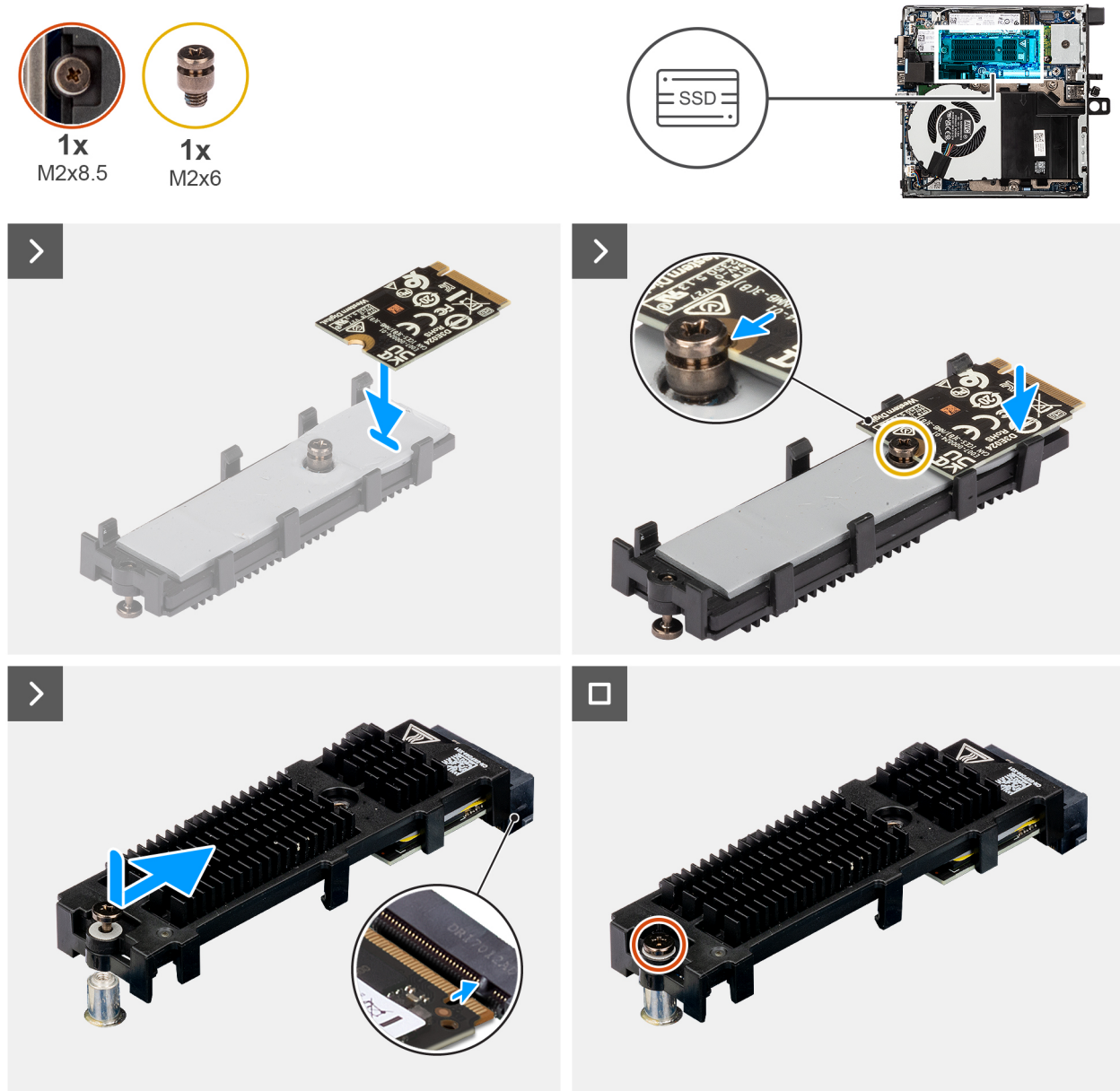


Figure 13. Installing the M.2 2230 PCIe solid state drive

Steps

1. Place the M.2 2230 solid state drive card on the extender bracket at a 45-degree angle.
2. Align the notch of the card with the screw (M2x6) on the extender bracket.
3. Press until the M.2 2230 solid state drive card snaps into place.

4. Flip the extender bracket and align the notch with the tab on the solid state drive connector on the system board.
5. Insert the solid state drive-extender bracket at a 45-degree angle into the M.2 connector on the system board.
6. Tighten the screw (M2x8.5) to secure the M.2 2230 solid state drive-extender bracket to the system board.

 **NOTE:** Repeat steps 1 to 6 for installing the M.2 2230 solid state drive in slot-two (if applicable).

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Removing the M.2 2280 solid state drive in a dual solid state drive configuration

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the solid state drive and provide a visual representation of the removal procedure.



1x
M2x8.5

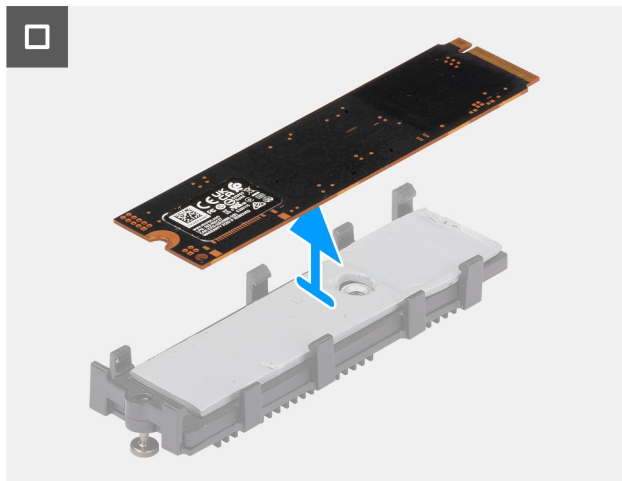
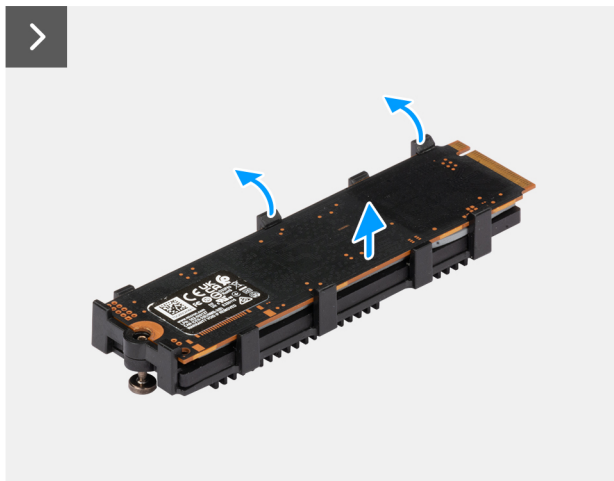
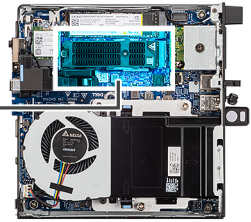


Figure 14. Removing the M.2 2280 PCIe solid state drive

Steps

1. Loosen the screw (M2x8.5) that secures the solid state drive-extender bracket to the system board.
2. Slide and lift the solid state drive-extender bracket from the system board.
3. Flip over the bracket and remove the M.2 2280 solid state drive from the extender bracket.

Installing the M.2 2280 solid state drive in a dual solid state drive configuration

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following image indicates the location of the solid state drive and provides a visual representation of the installation procedure.

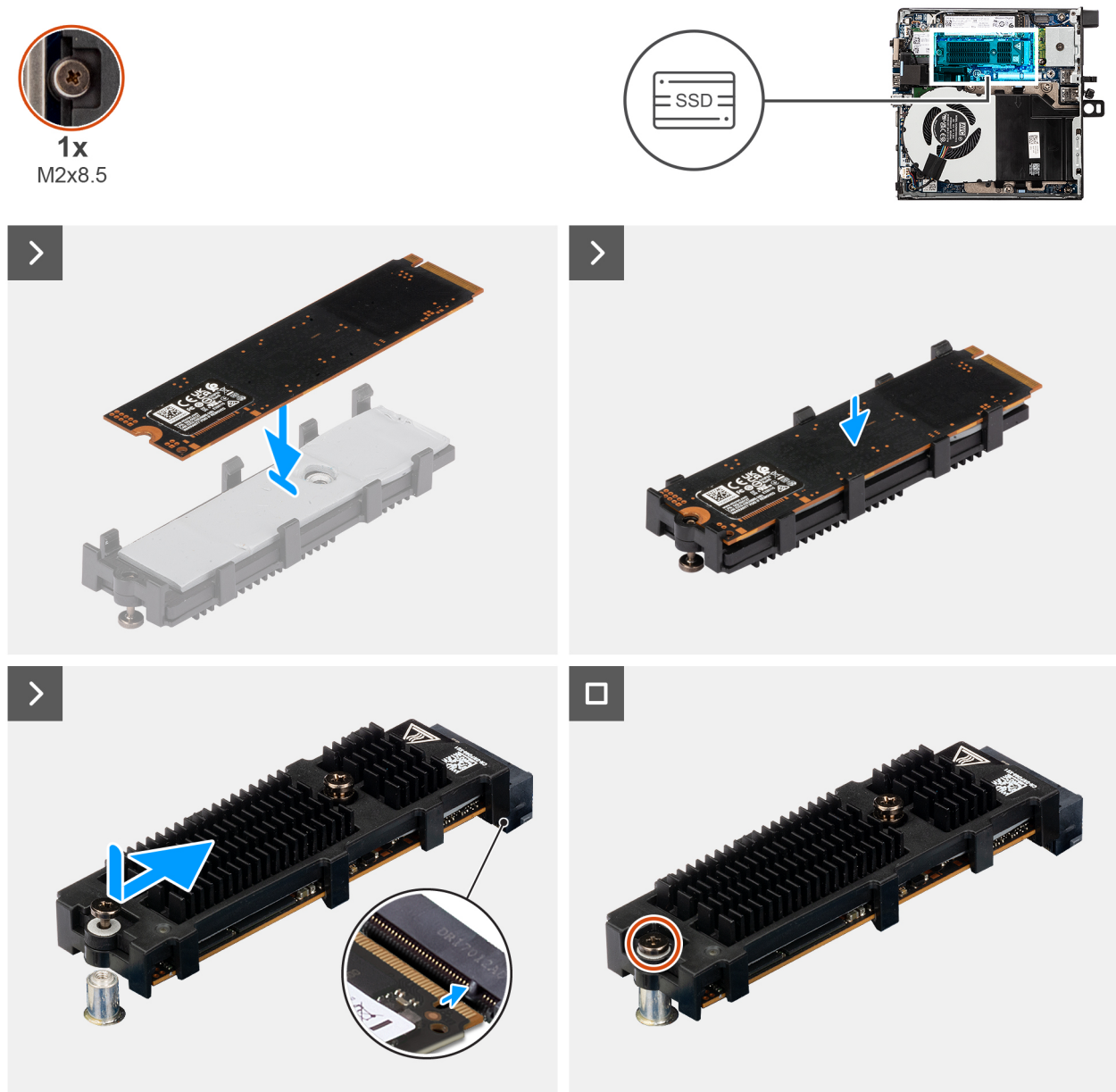


Figure 15. Installing the M.2 2280 PCIe solid state drive

Steps

1. Place the M.2 2280 solid state drive on the solid state drive-extender bracket.
2. Flip over the bracket and align the notch with the tab on the solid state drive connector on the system board.
3. Insert the solid state drive-extender bracket at a 45-degree angle into the M.2 connector on the system board.
4. Tighten the screw (M2x8.5) to secure the M.2 2280 solid state drive-extender bracket to the system board.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Wireless card

Removing the wireless card

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the wireless card and provide a visual representation of the removal procedure.

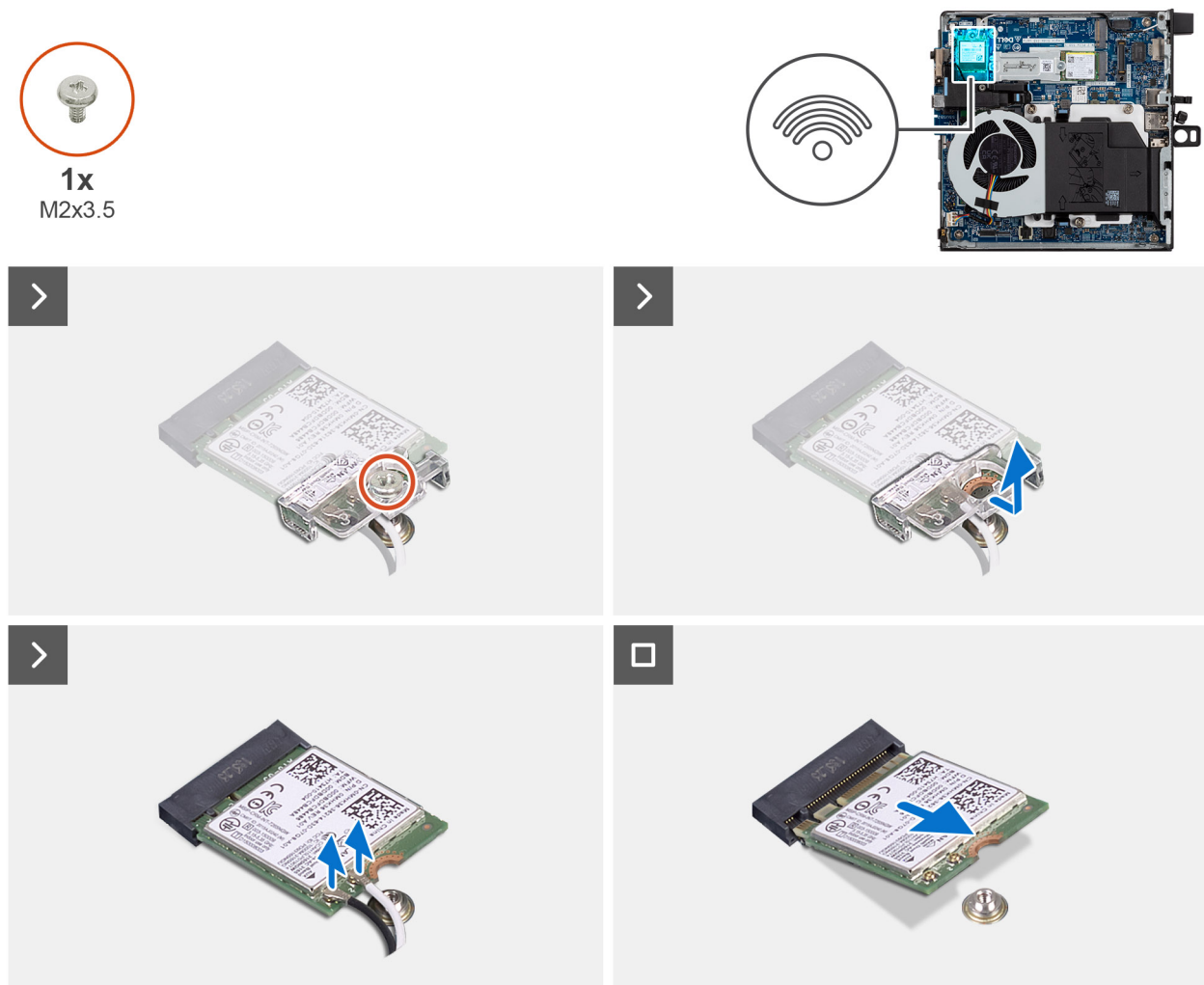


Figure 16. Removing the wireless card

Steps

1. Remove the screw (M2x3.5) that secures the wireless-card bracket to the wireless card.
2. Lift the wireless-card bracket off the wireless card.
3. Disconnect the antenna cables from the connectors on the wireless card.
4. Slide and remove the wireless card from the wireless-card slot (M.2 WLAN).

Installing the wireless card

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the wireless card and provide a visual representation of the installation procedure.

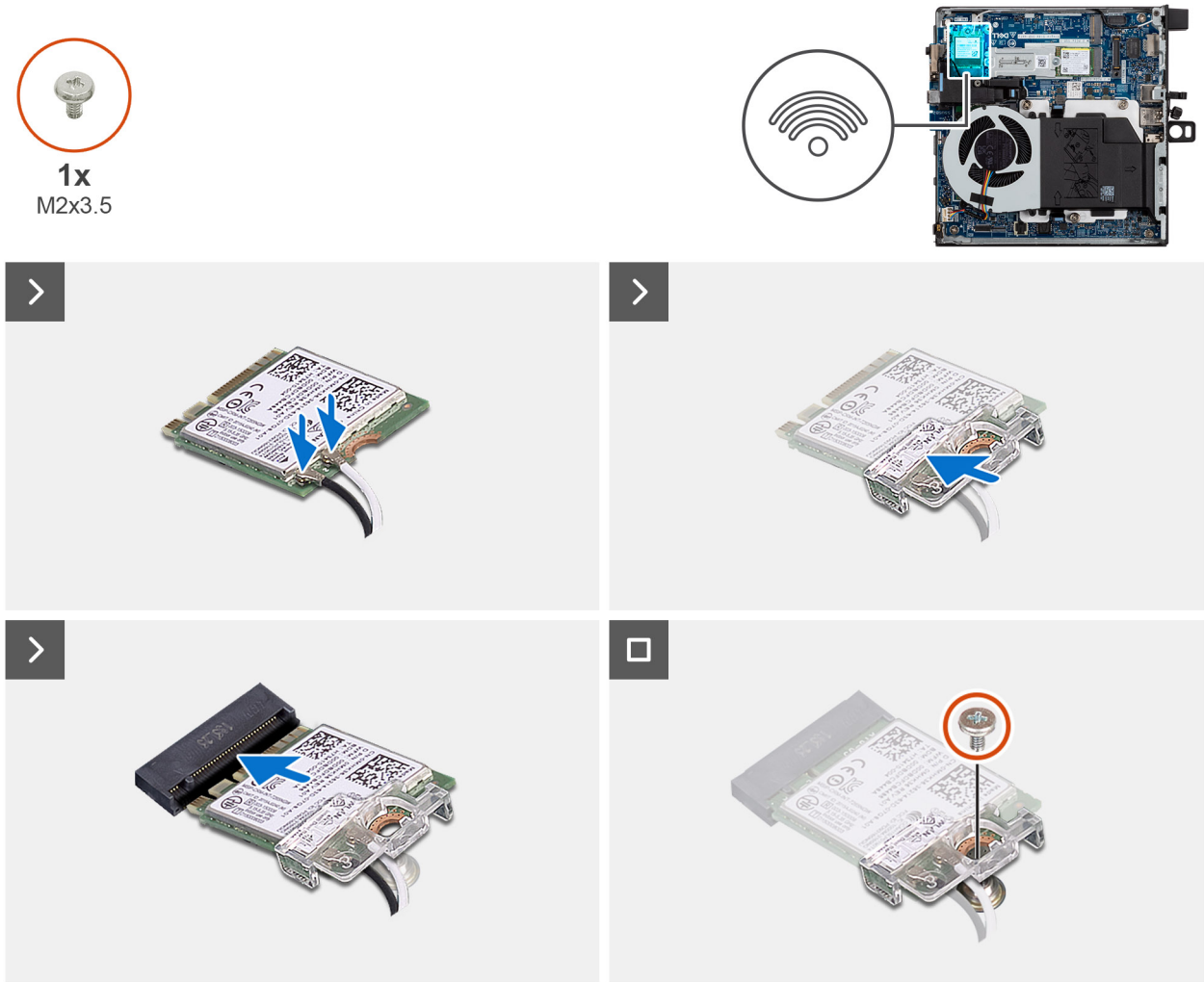


Figure 17. Installing the wireless card

Steps

1. Connect the antenna cables to the connectors on the wireless card.

Table 3. Antenna-cable color scheme

Connector on the wireless card	Antenna-cable color	Silkscreen marking	
Main	White	MAIN	△ (white triangle)
Auxiliary	Black	AUX	▲ (black triangle)

2. Align the notch on the wireless card with the tab on the wireless-card slot (M.2 WLAN).
3. Slide the wireless card at an angle into the wireless-card slot (M.2 WLAN).
4. Place the wireless-card bracket on the wireless card.

5. Replace the screw (M2x3.5) to secure the wireless-card bracket to the wireless card.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Fan

Removing the fan

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the fan and provide a visual representation of the removal procedure.

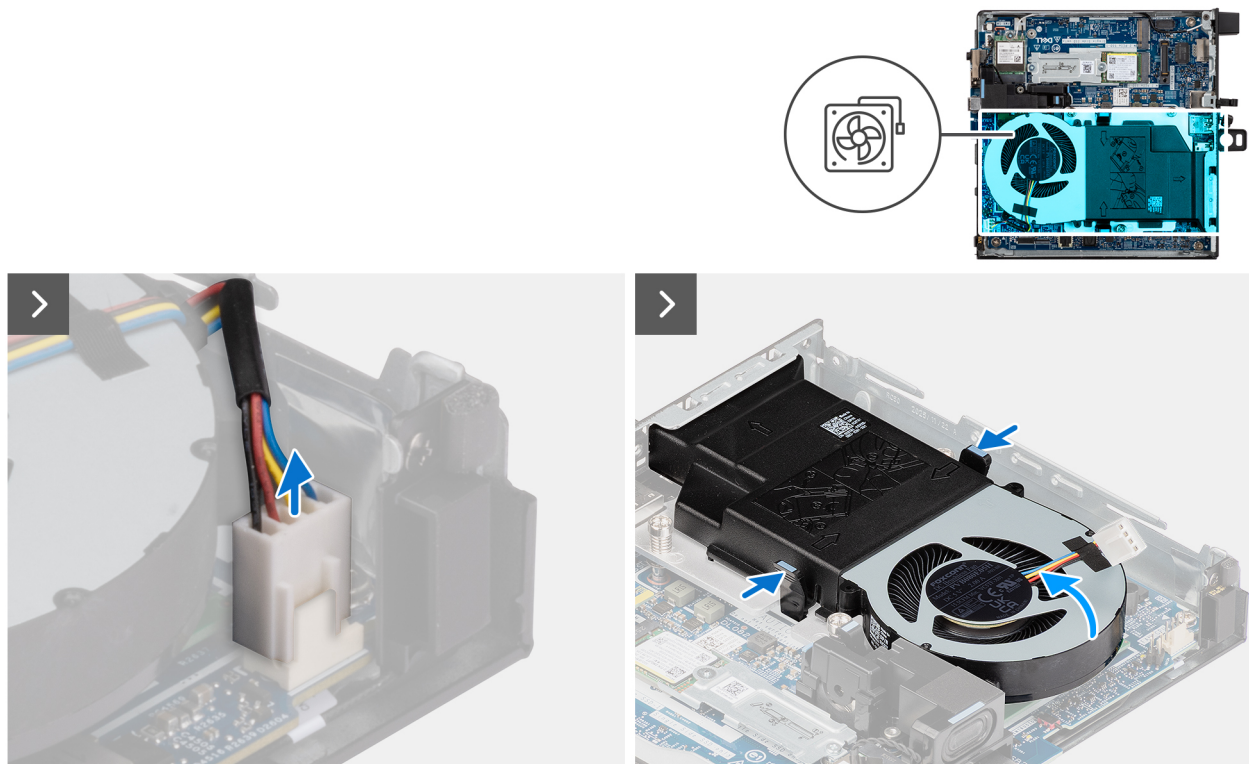


Figure 18. Removing the fan

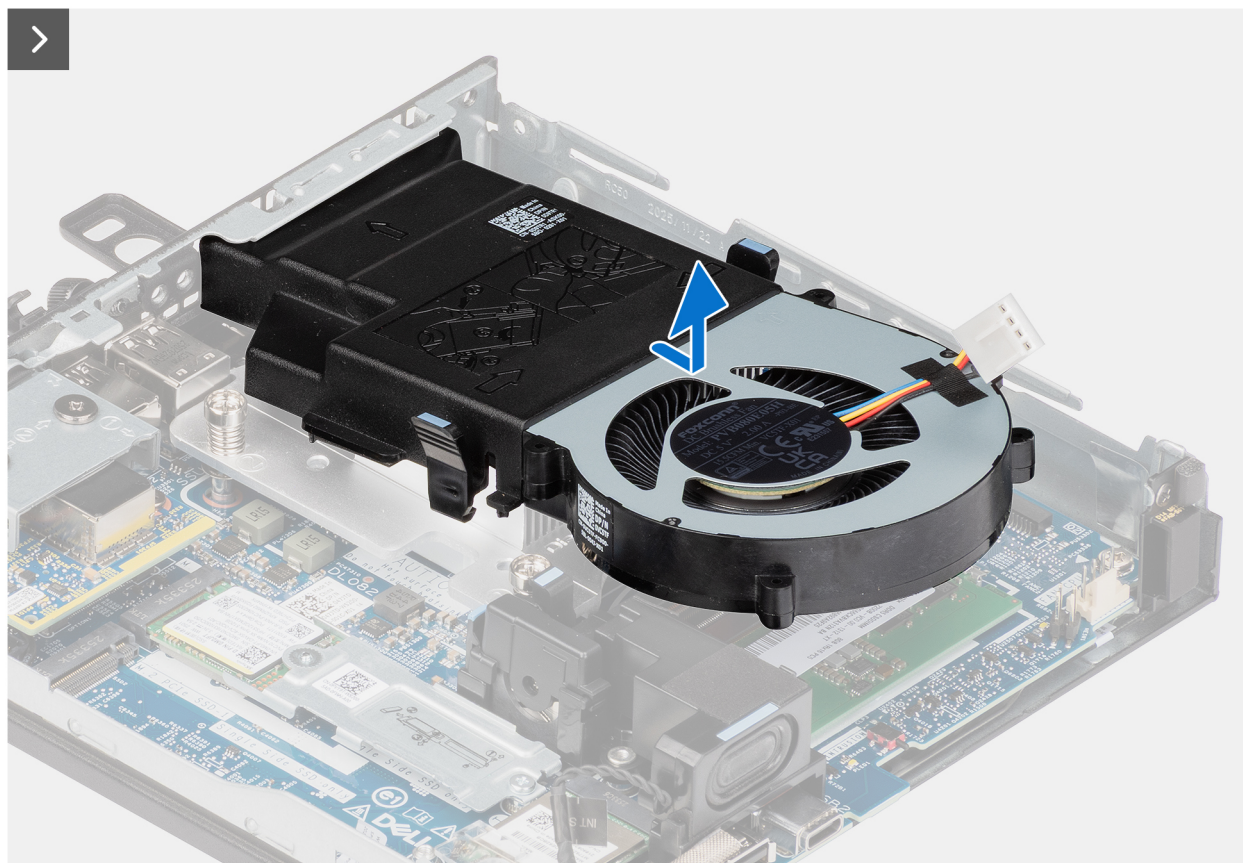


Figure 19. Removing the fan

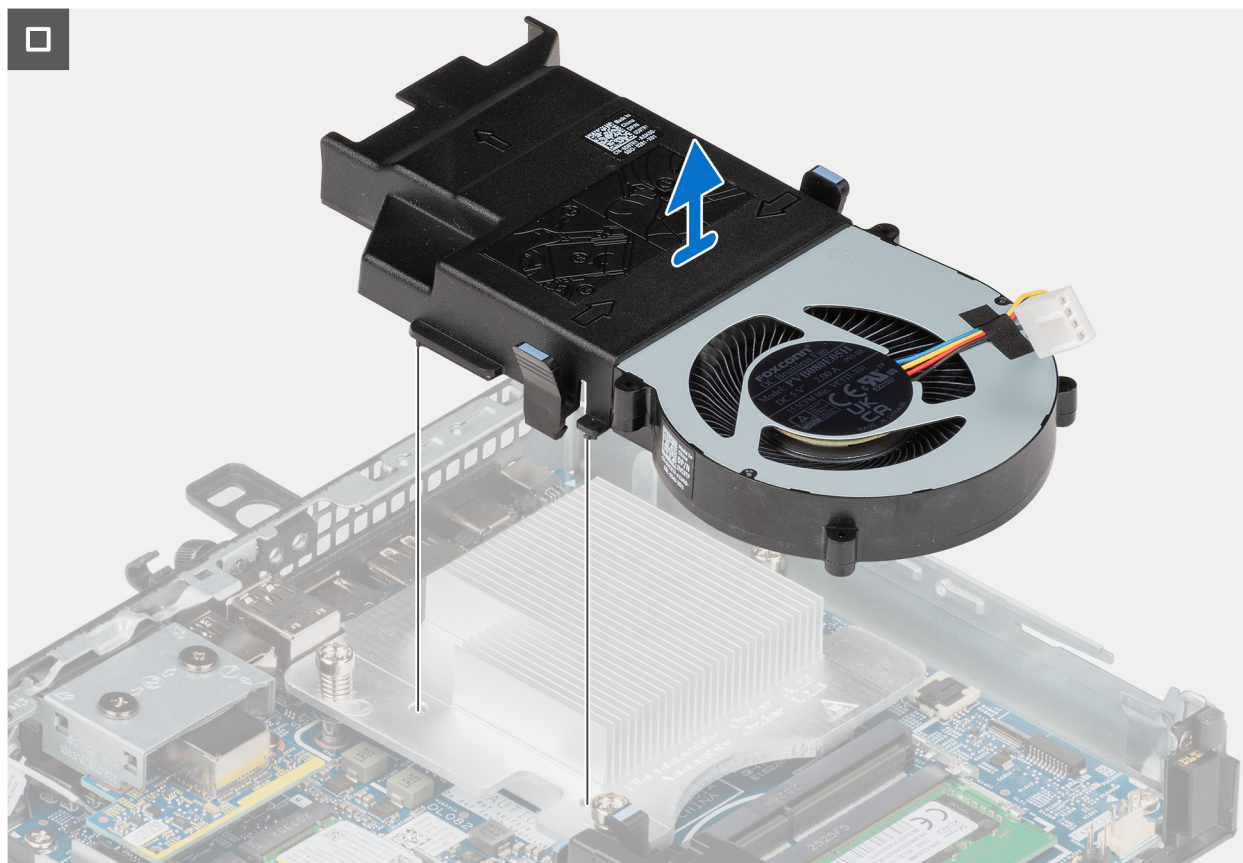


Figure 20. Removing the fan

Steps

1. Disconnect the fan cable from its connector (FAN CPU) on the system board.
2. Grip the tabs on the fan and lift it upward, holding it at the desired angle.
3. Slide the fan outwards and remove the fan away from the chassis.

Installing the fan

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the fan and provide a visual representation of the installation procedure.

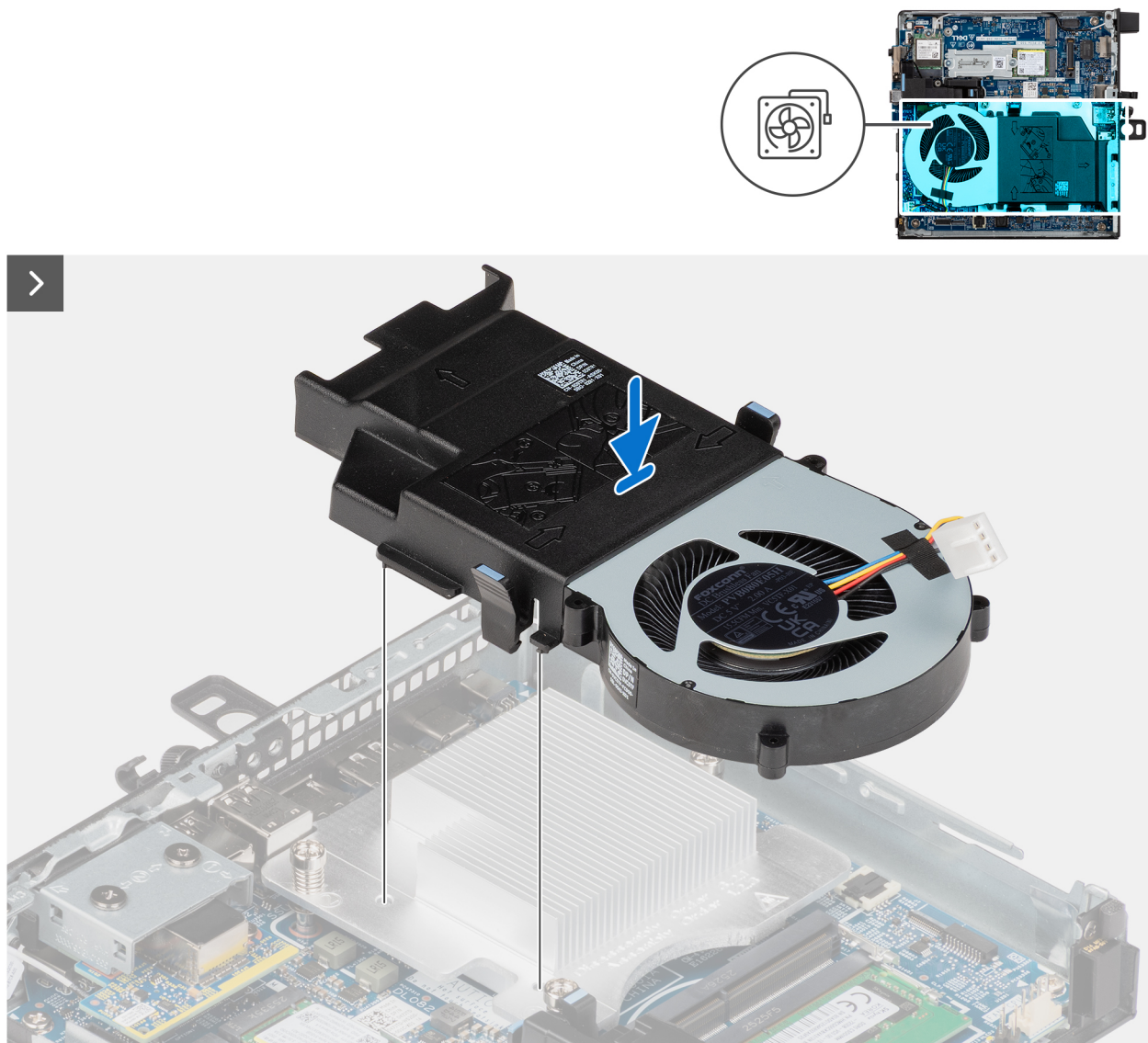


Figure 21. Installing the fan

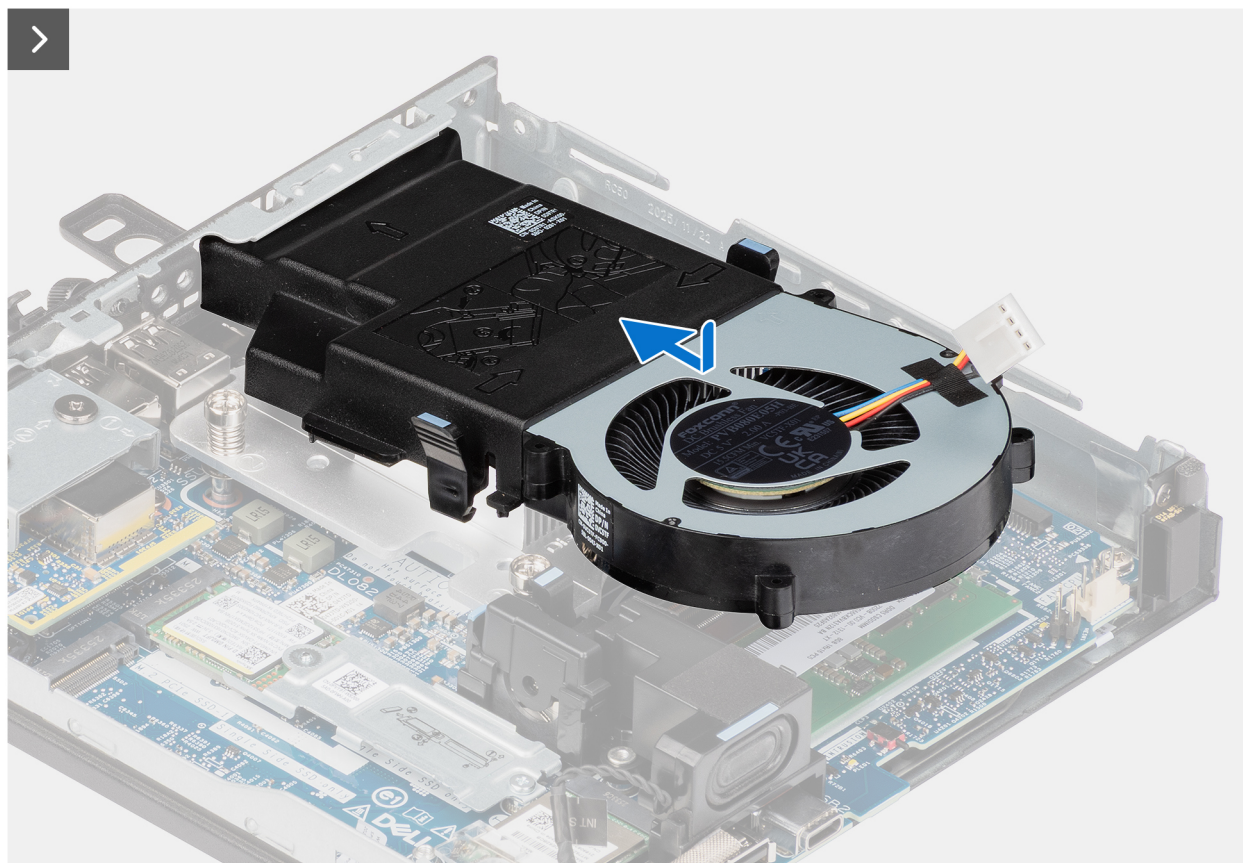


Figure 22. Installing the fan



Figure 23. Installing the fan

Steps

1. Slide the fan at a certain angle into its slot on the chassis.
2. Press the fan downwards until it snaps into place.
i NOTE: Ensure that the tabs are snapped into position on the heat sink.
3. Connect the fan cable to its connector (FAN CPU) on the system board.

Next steps

1. Install the [top cover](#).

2. Follow the procedure in [After working inside your computer](#).

Memory

Removing the memory module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).
3. Remove the [fan](#).

About this task

The following images indicate the location of the memory modules and provide a visual representation of the removal procedure.

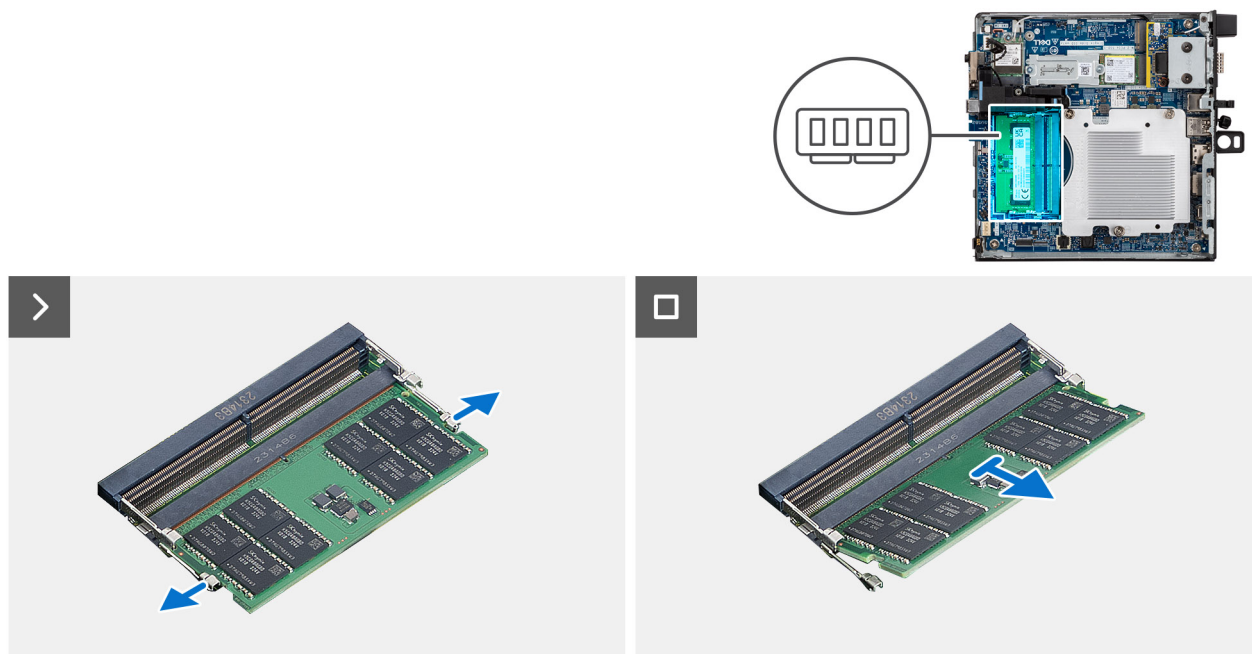


Figure 24. Removing the memory module

Steps

1. Carefully spread apart the securing-clips on each end of the memory-module slot (DIMM1 or DIMM2).
2. Grasp the memory module near the securing clip, and then gently ease the memory module out of the memory-module slot.

CAUTION: To prevent damage to the memory module, hold the memory module by the edges. Do not touch the components on the memory module.

NOTE: Repeat **Step 1** and **Step 2** to remove any other memory modules installed in your computer.

NOTE: Note the slot and the orientation of the memory module in order to replace it in the correct slot.

Installing the memory module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the memory modules and provide a visual representation of the installation procedure.

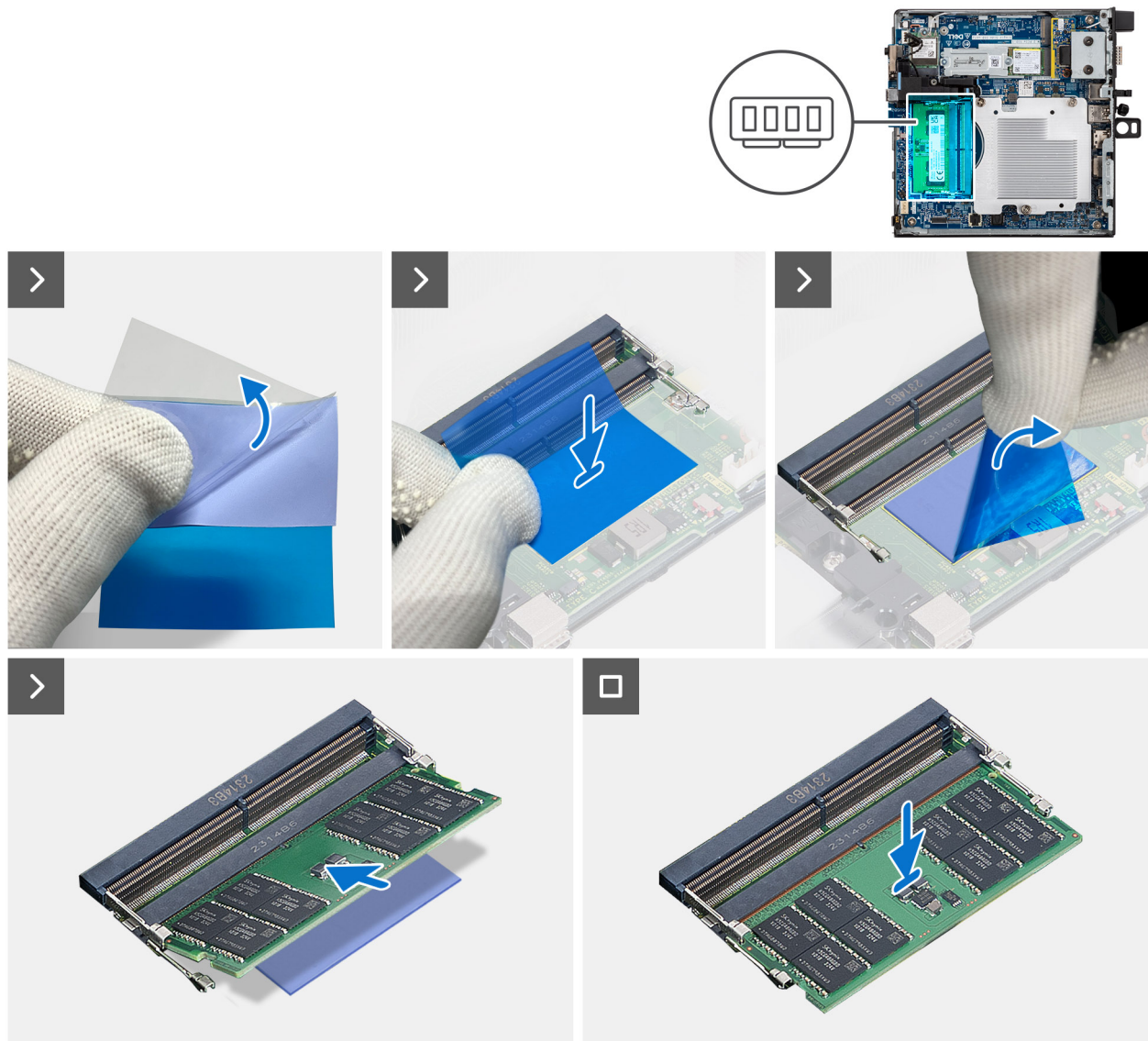


Figure 25. Installing the memory module

Steps

NOTE: Step 1 to Step 6 are applicable when installing the DDR5 thermal pad.

1. Remove halfway of the protective covering from the back of the DDR5 thermal pad.
2. Align the DDR5 thermal pad over the DDR5 thermal pad area.
NOTE: Ensure the corners of the DDR5 thermal pad are aligned to the corners of the DDR5 thermal pad area.
3. Peel the remaining protective covering off the DDR5 thermal pad and paste the DDR5 thermal pad onto the DDR5 thermal pad area.
4. Flatten the DDR5 thermal pad with a plastic scrapper to ensure proper adhesion.
5. Peel the protective layer from the DDR5 thermal pad.
6. Align the notch on the memory module with the tab on the memory-module slot (DIMM1 or DIMM2).
7. Press down on the memory module until the memory module snaps into position and the securing clips lock in place.

CAUTION: To prevent damage to the memory module, hold the memory module by the edges. Do not touch the components on the memory module.

 **NOTE:** Repeat **Step 6** and **Step 7** when installing more than one memory module in your computer.

Next steps

1. Install the [fan](#).
2. Install the [top cover](#).
3. Follow the procedure in [After working inside your computer](#).

Speaker

Removing the speaker

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the speaker and provide a visual representation of the removal procedure.

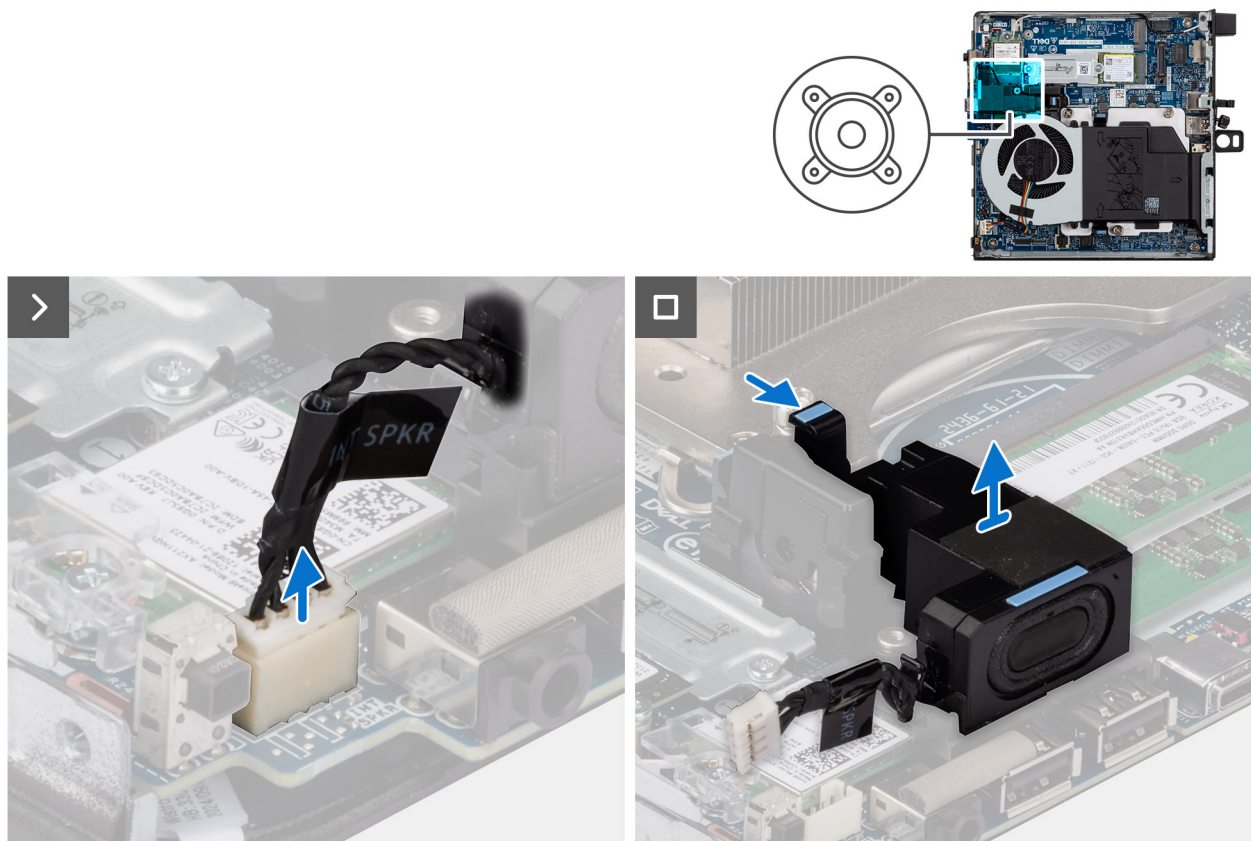


Figure 26. Removing the speaker

Steps

1. Disconnect the speaker cable from its connector (INT SPKR) on the system board.
2. Press the tab that secures the speaker to the speaker-support bracket.
3. Lift the speaker off the bracket.

Installing the speaker

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the speaker and provide a visual representation of the installation procedure.

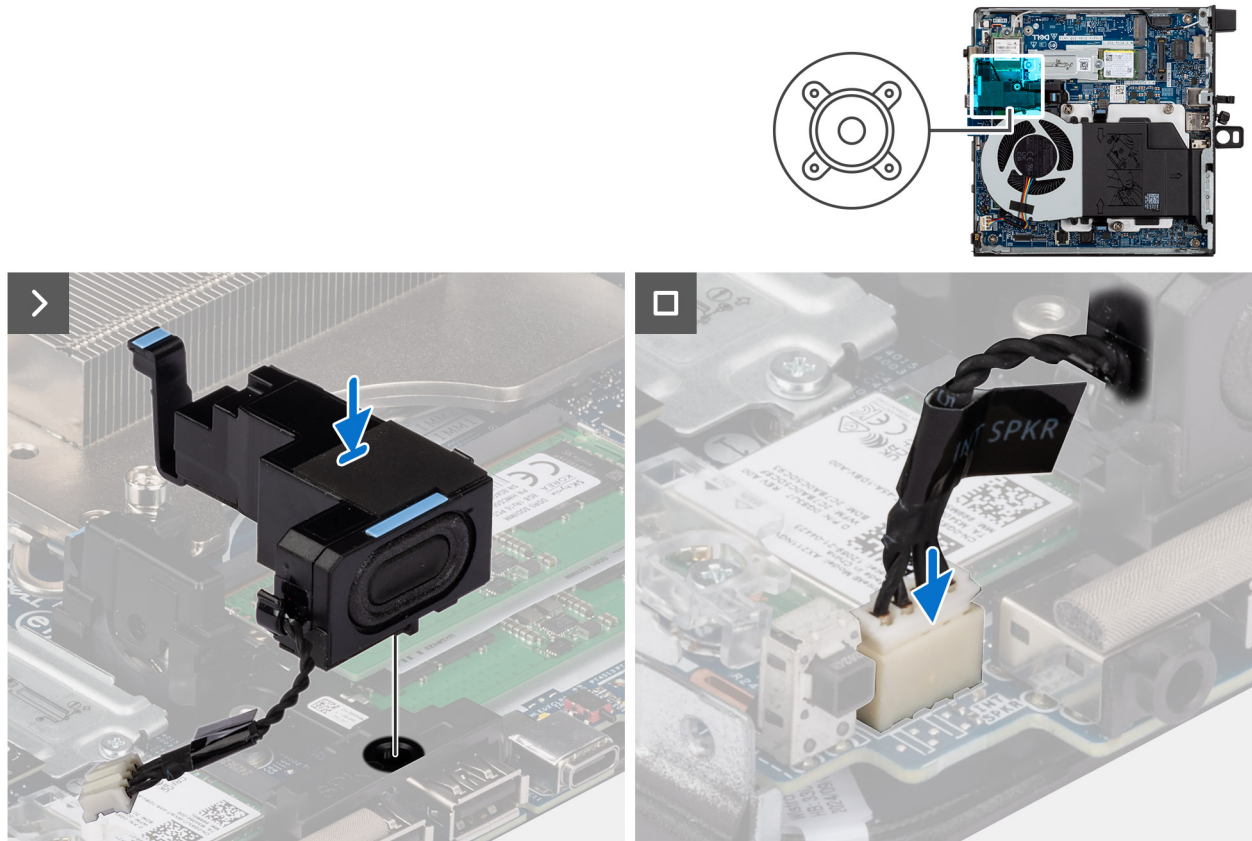


Figure 27. Installing the speaker

Steps

1. Align the tab on the speaker with its slot in the speaker-support bracket.
2. Place the speaker into the speaker-support bracket and press it downwards to snap the speaker into its place.
3. Connect the speaker cable to its connector (INT SPKR) on the system board.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Optional modules

Dual USB 3.2 Gen 2 ports module

Removing the dual USB 3.2 Gen 2 ports module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the optional I/O module and provide a visual representation of the removal procedure.

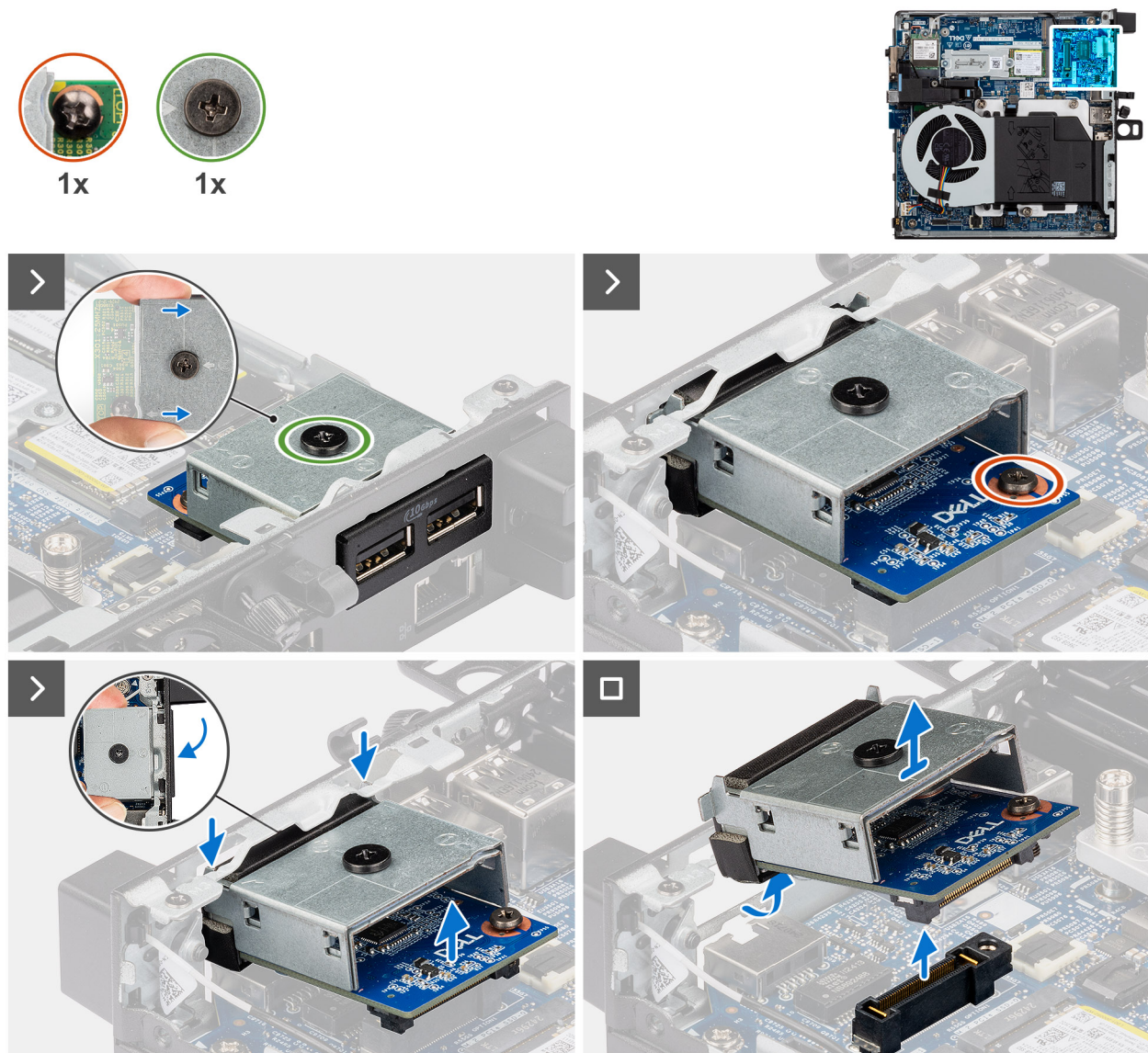


Figure 28. Removing the dual USB 3.2 Gen 2 ports module

Steps

1. Loosen the two captive screws that secure the dual USB 3.2 Gen 2 ports module to the chassis.

2. Disconnect the dual USB 3.2 Gen 2 ports module from the connector (OPTION) on the system board.
3. Lift the dual USB 3.2 Gen 2 ports module from its connector end at an angle, then move it downwards to detach it from the mounting points on the chassis.
4. Slide the dual USB 3.2 Gen 2 ports module and lift it away from the chassis.

Installing the dual USB 3.2 Gen 2 ports module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the dual USB 3.2 Gen 2 ports module and provide a visual representation of the installation procedure.

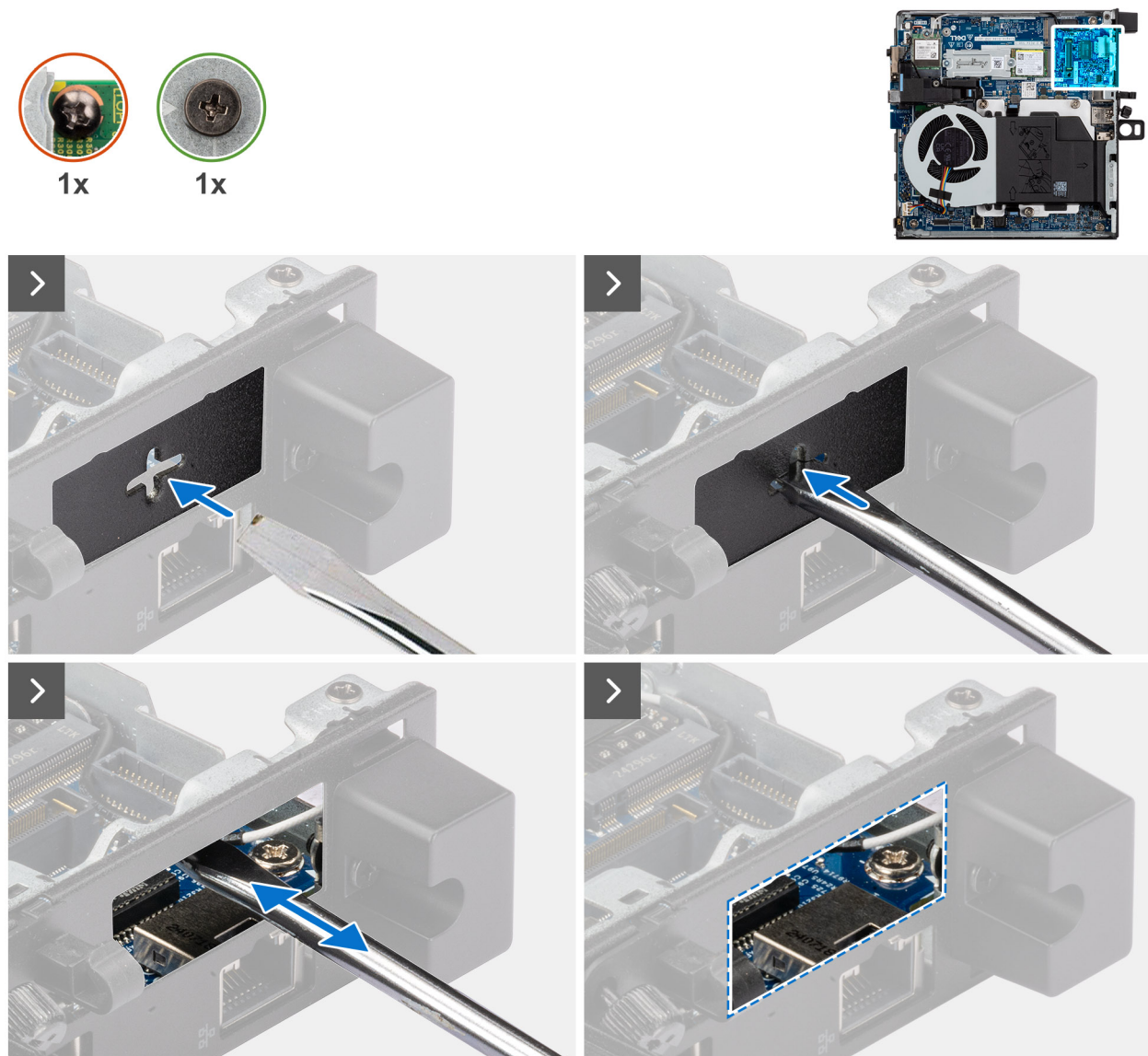


Figure 29. Installing the dual USB 3.2 Gen 2 ports module

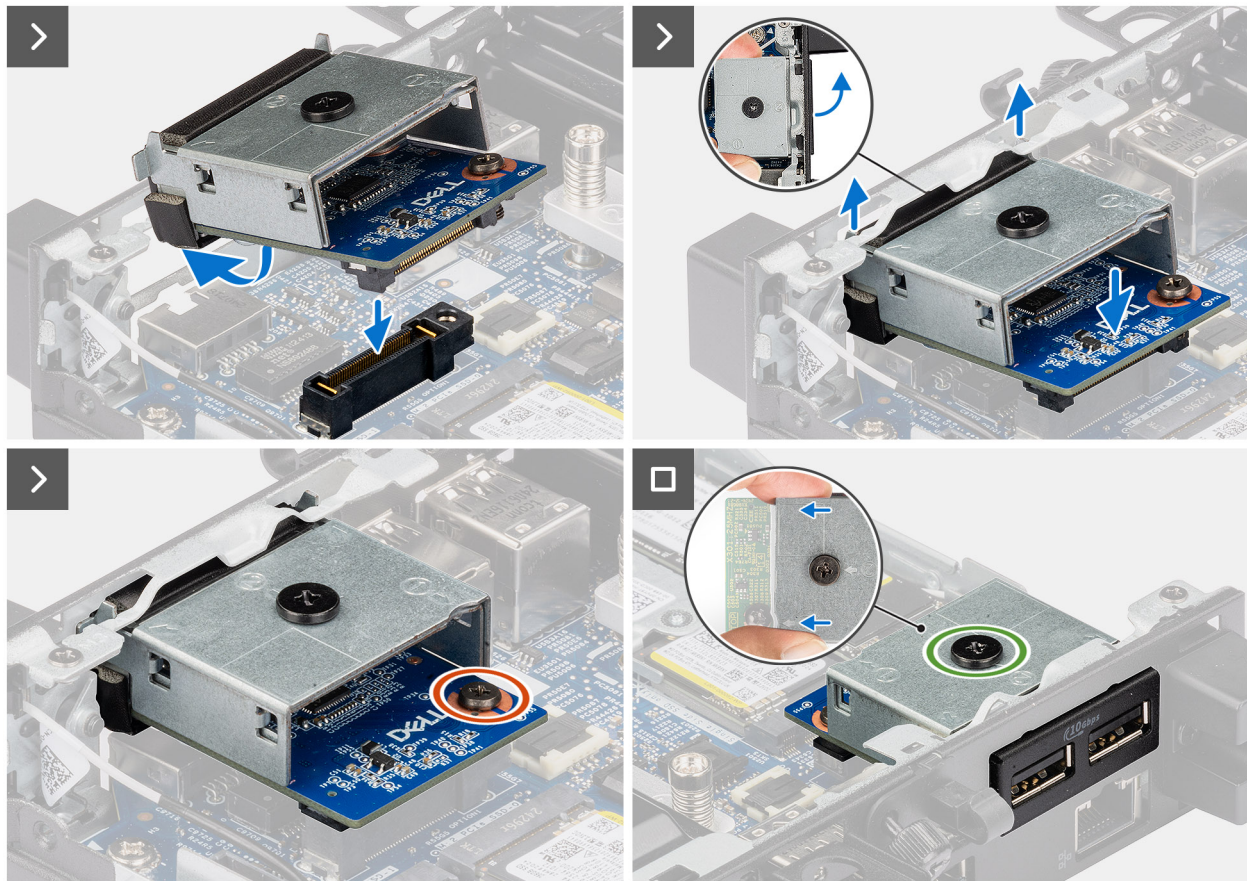


Figure 30. Installing the dual USB 3.2 Gen 2 ports module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the dual USB 3.2 Gen 2 ports module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the dual USB 3.2 Gen 2 ports module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the dual USB 3.2 Gen 2 ports module to the connector (OPTION) on the system board.
4. Tighten the two captive screws to secure the dual USB 3.2 Gen 2 ports module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

USB Type-C port module with DisplayPort Alt mode

Removing the USB Type-C port module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the USB Type-C port module and provide a visual representation of the removal procedure.

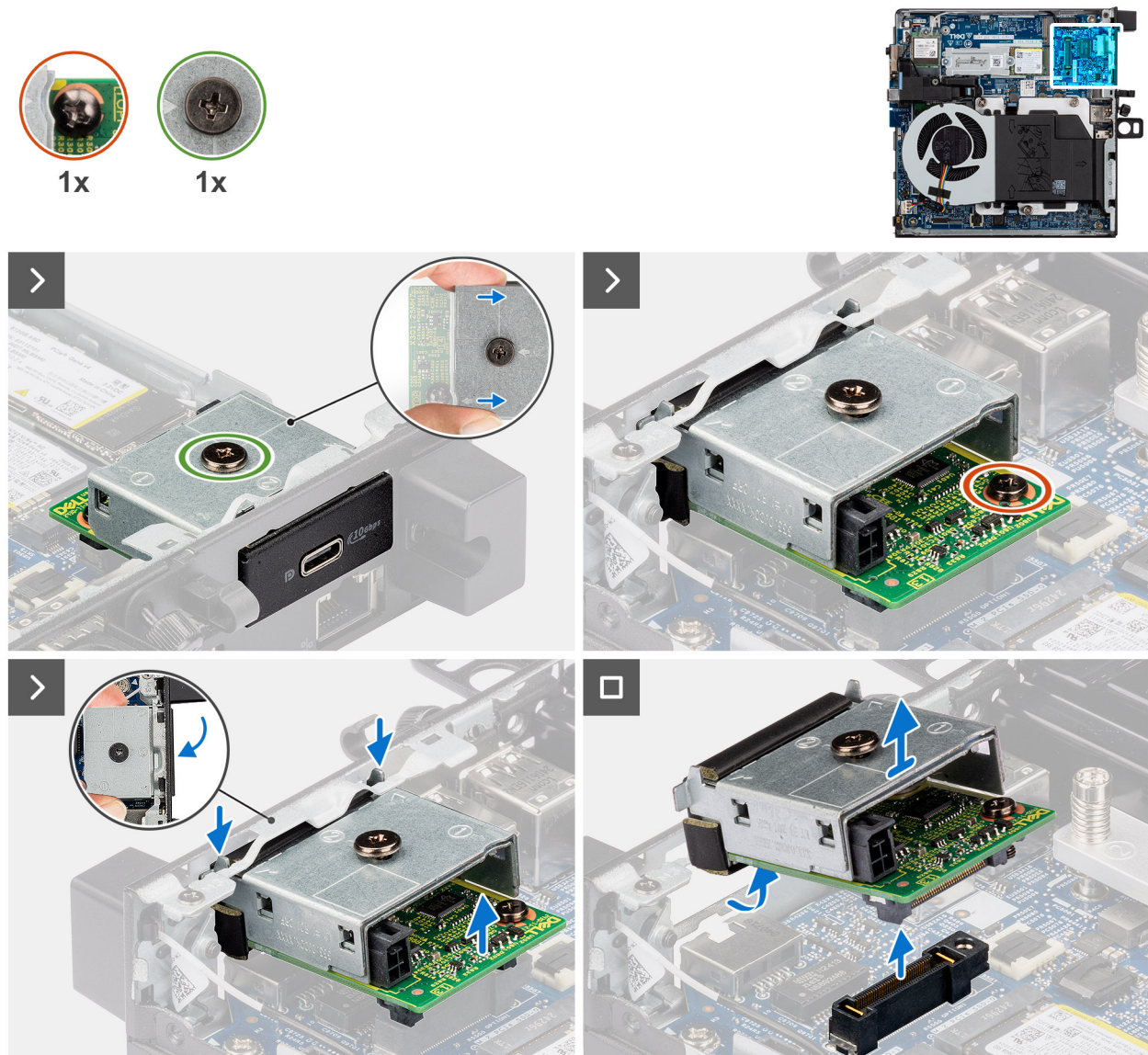


Figure 31. Removing the USB Type-C port module

Steps

1. Loosen the two captive screws that secure the USB Type-C port module to the chassis.
2. Disconnect the USB Type-C port module from the connector (OPTION) on the system board.
3. Lift the USB Type-C port module from its connector end to a certain angle and move the USB Type-C port module downwards to detach it from the mounting points on the chassis.
4. Slide the USB Type-C port module and lift it away from the chassis.

Installing the USB Type-C port module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the USB Type-C port module and provide a visual representation of the installation procedure.

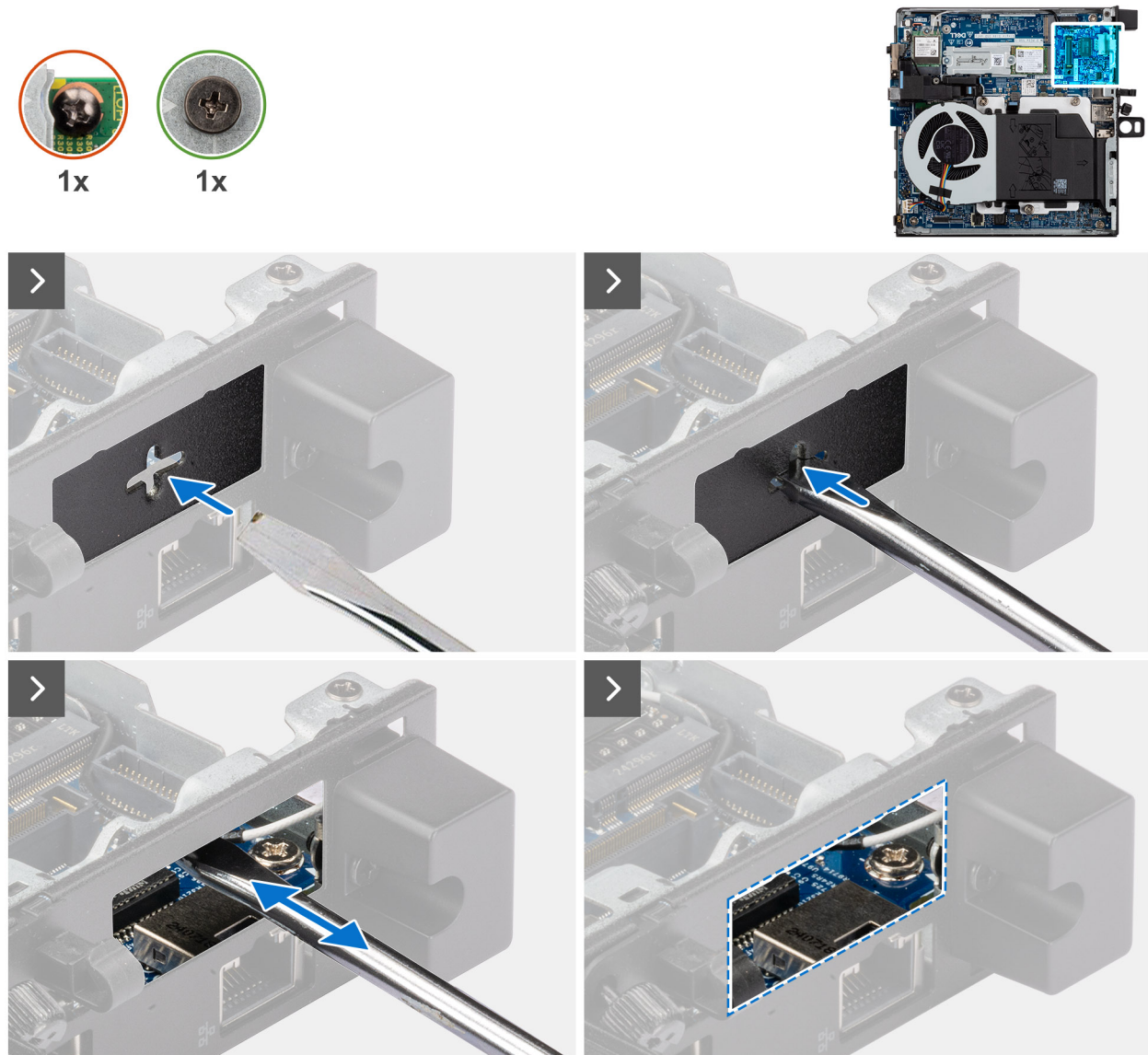


Figure 32. Installing the USB Type-C port module

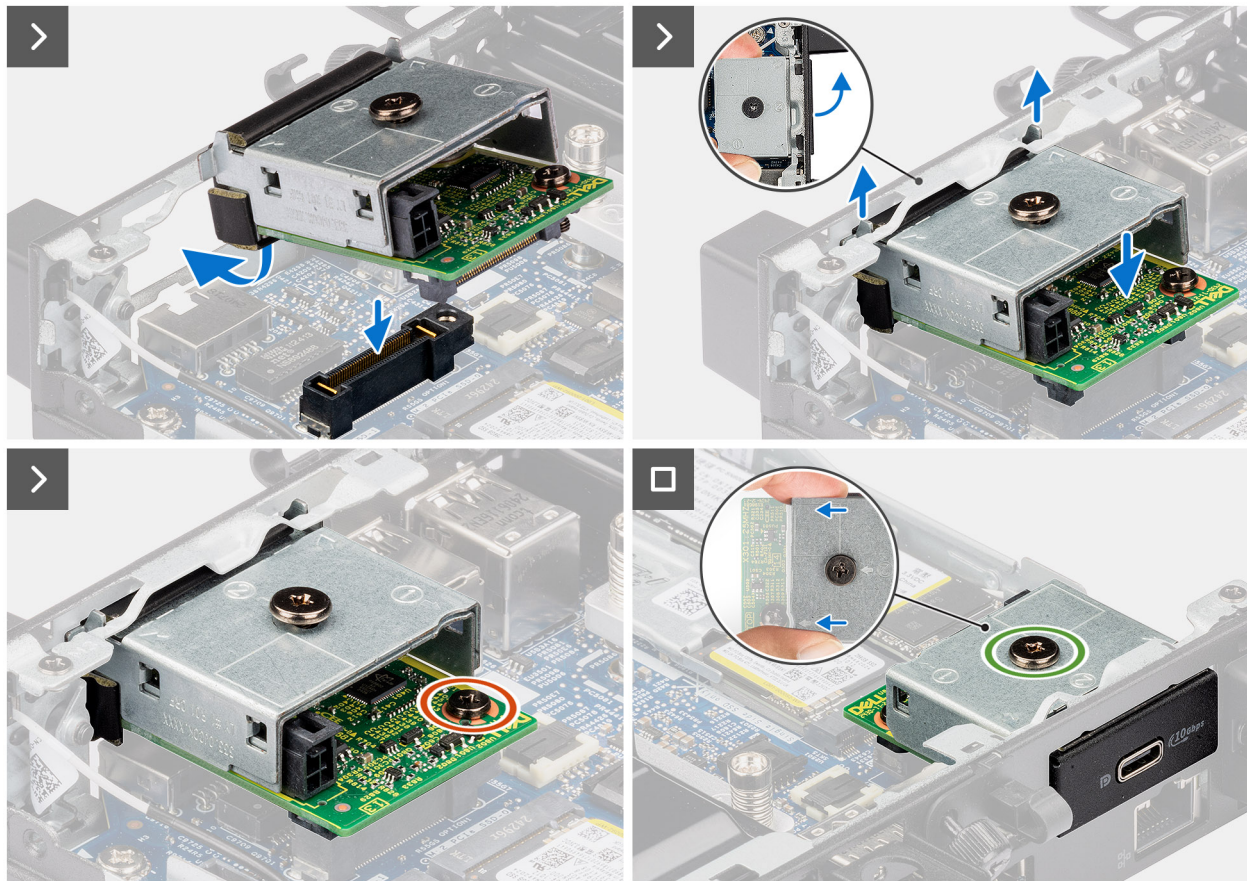


Figure 33. Installing the USB Type-C port module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the USB Type-C port module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the USB Type-C port module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the USB Type-C port module to the connector (OPTION) on the system board.
4. Tighten the two captive screws to secure the USB Type-C port module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

DisplayPort module

Removing the DisplayPort module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the DisplayPort module and provide a visual representation of the removal procedure.

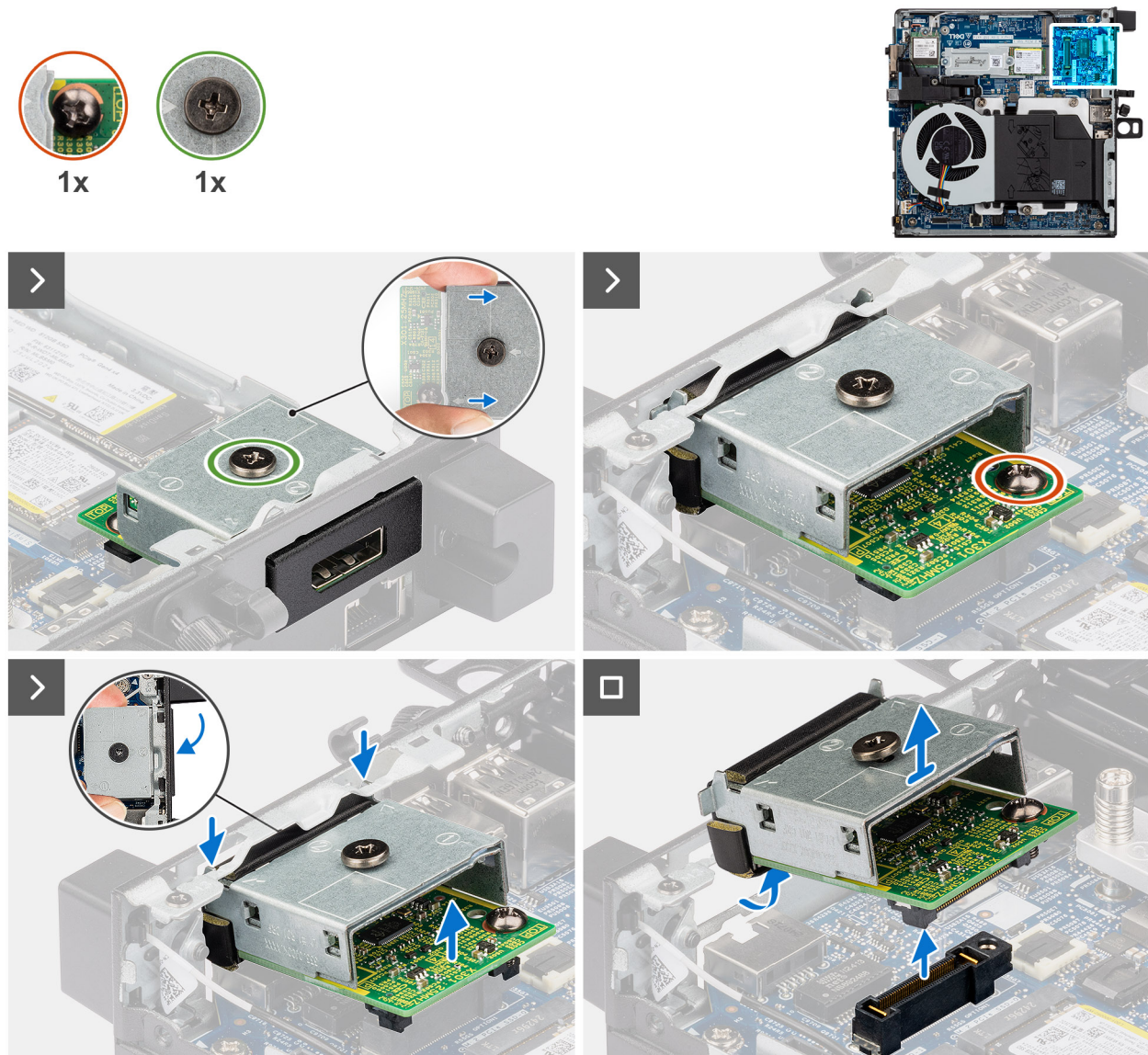


Figure 34. Removing the DisplayPort module

Steps

1. Loosen the two captive screws that secure the DisplayPort module to the chassis.
2. Disconnect the DisplayPort module from the connector (OPTION) on the system board.
3. Lift the DisplayPort module from its connector end to a certain angle and move the DisplayPort module downwards to detach it from the mounting points on the chassis.
4. Slide the DisplayPort module and lift it away from the chassis.

Installing the DisplayPort module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the DisplayPort module and provide a visual representation of the installation procedure.

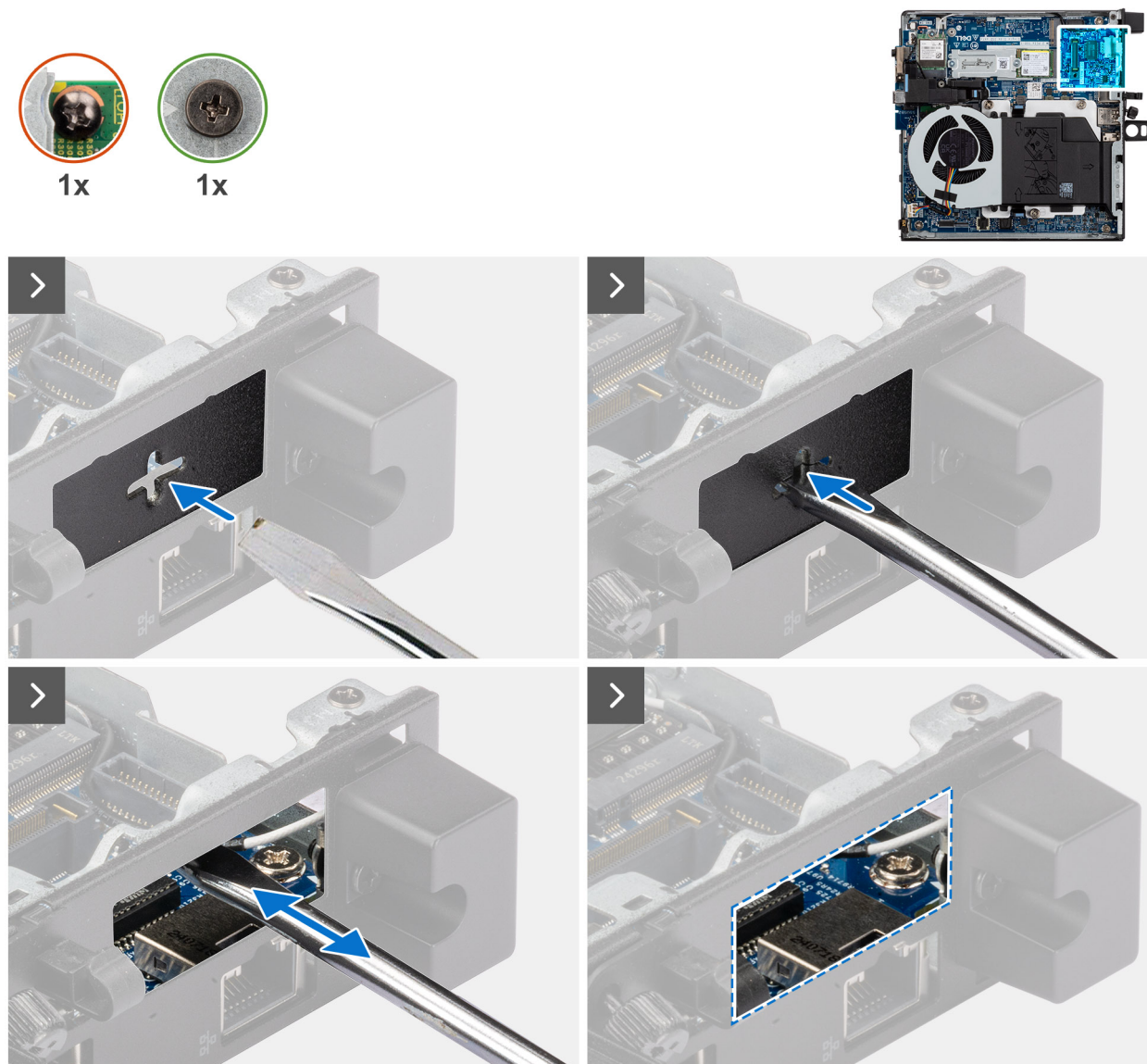


Figure 35. Installing DisplayPort module

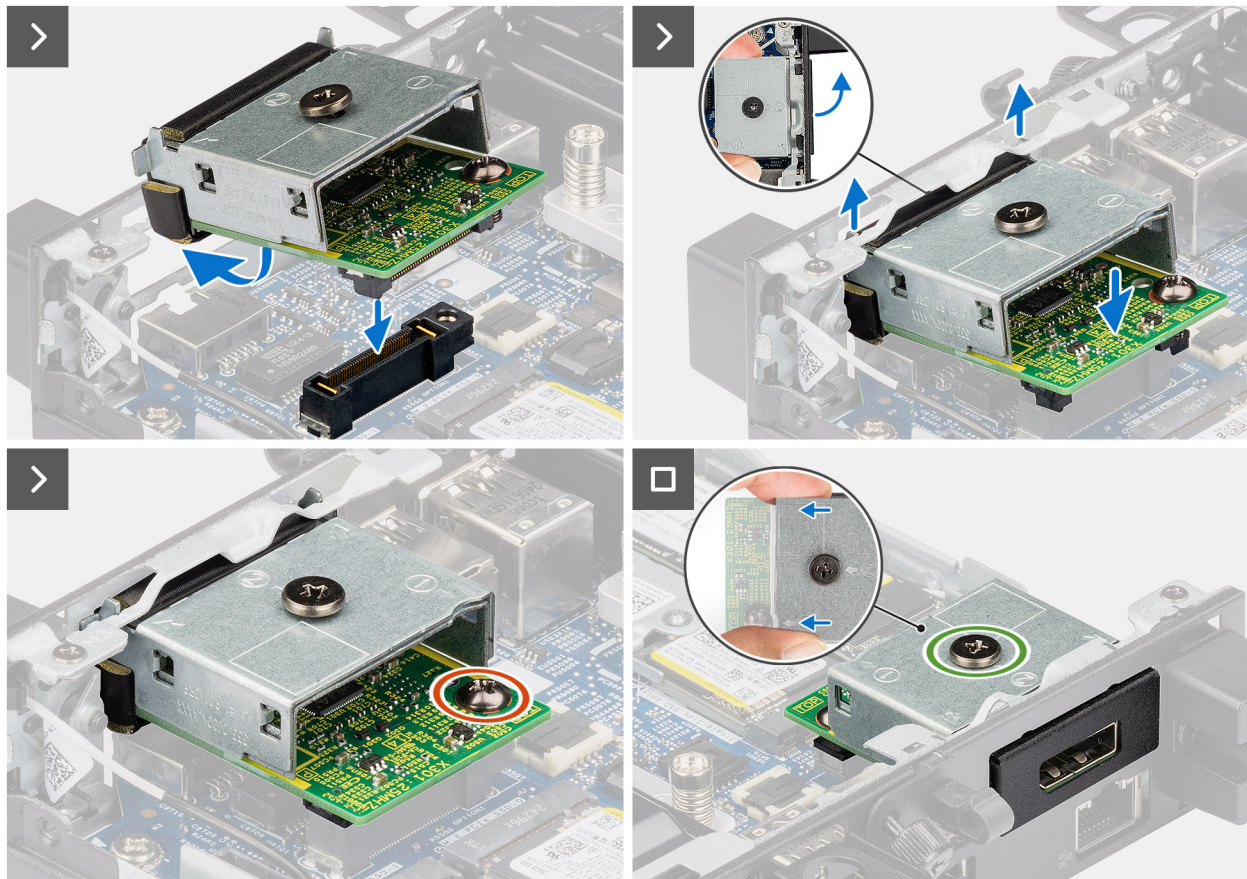


Figure 36. Installing DisplayPort module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the DisplayPort module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the DisplayPort module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the DisplayPort module to the connector (OPTION) on the system board.
4. Tighten the two captive screws to secure the DisplayPort module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

HDMI port module

Removing the HDMI port module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the HDMI port module and provide a visual representation of the removal procedure.

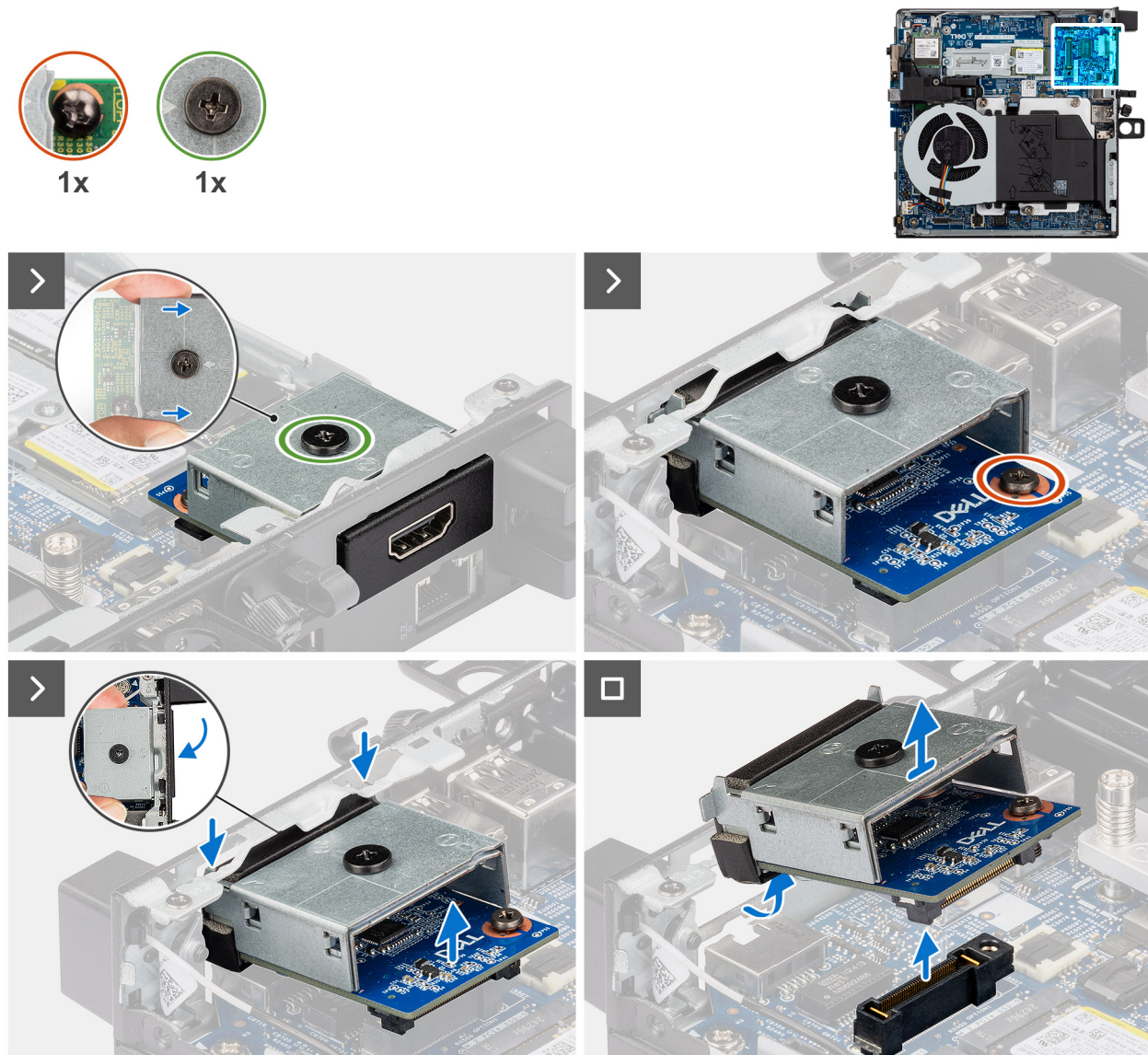


Figure 37. Removing the HDMI port module

Steps

1. Loosen the two captive screws that secure the HDMI Port module to the chassis.
2. Disconnect the HDMI port module from the connector (OPTION) on the system board.
3. Lift the HDMI port module from its connector end to a certain angle and move the HDMI port module downwards to detach it from the mounting points on the chassis.
4. Slide the HDMI port module and lift it away from the chassis.

Installing the HDMI port module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the HDMI port module and provide a visual representation of the installation procedure.

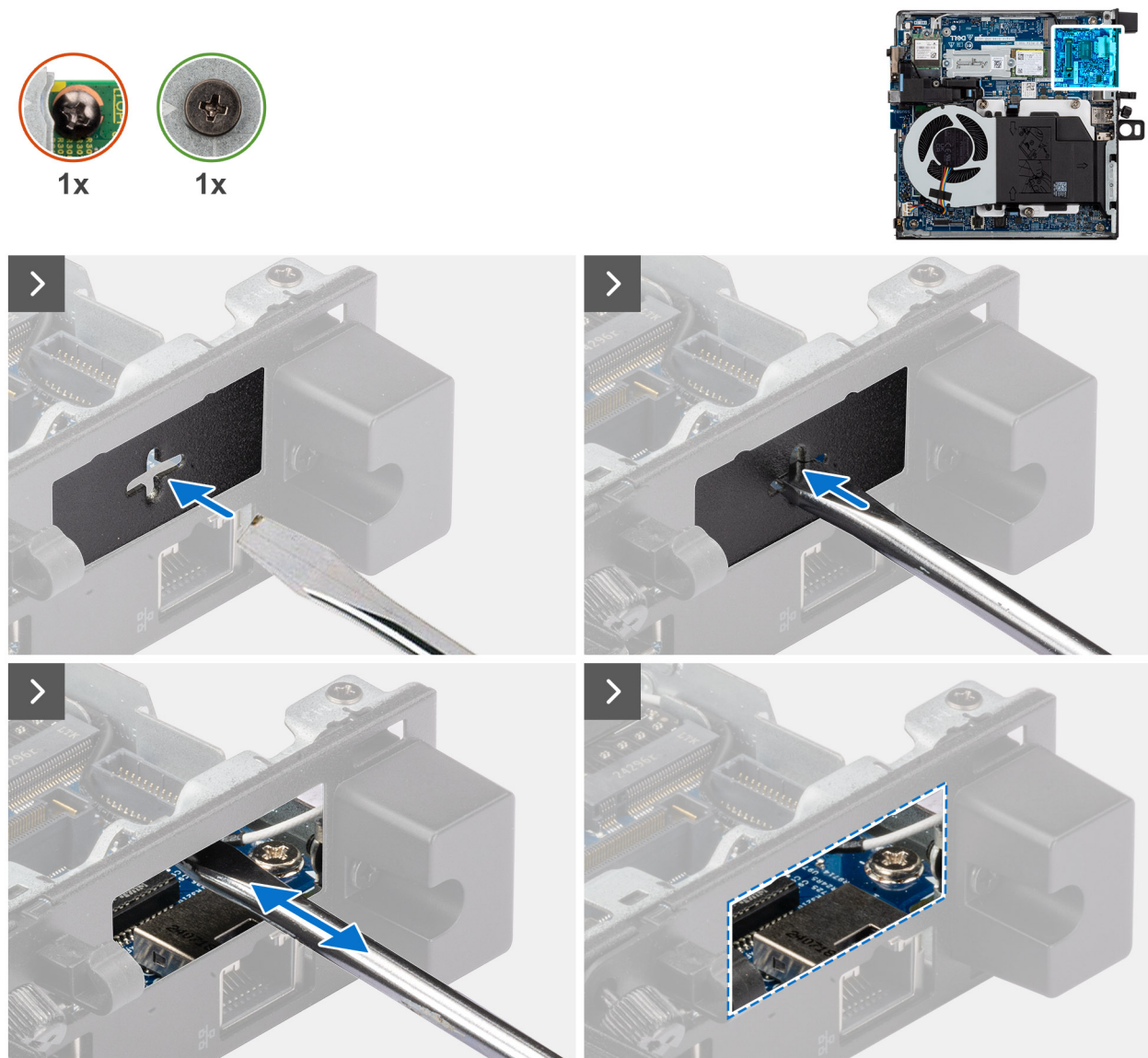


Figure 38. Installing HDMI port module

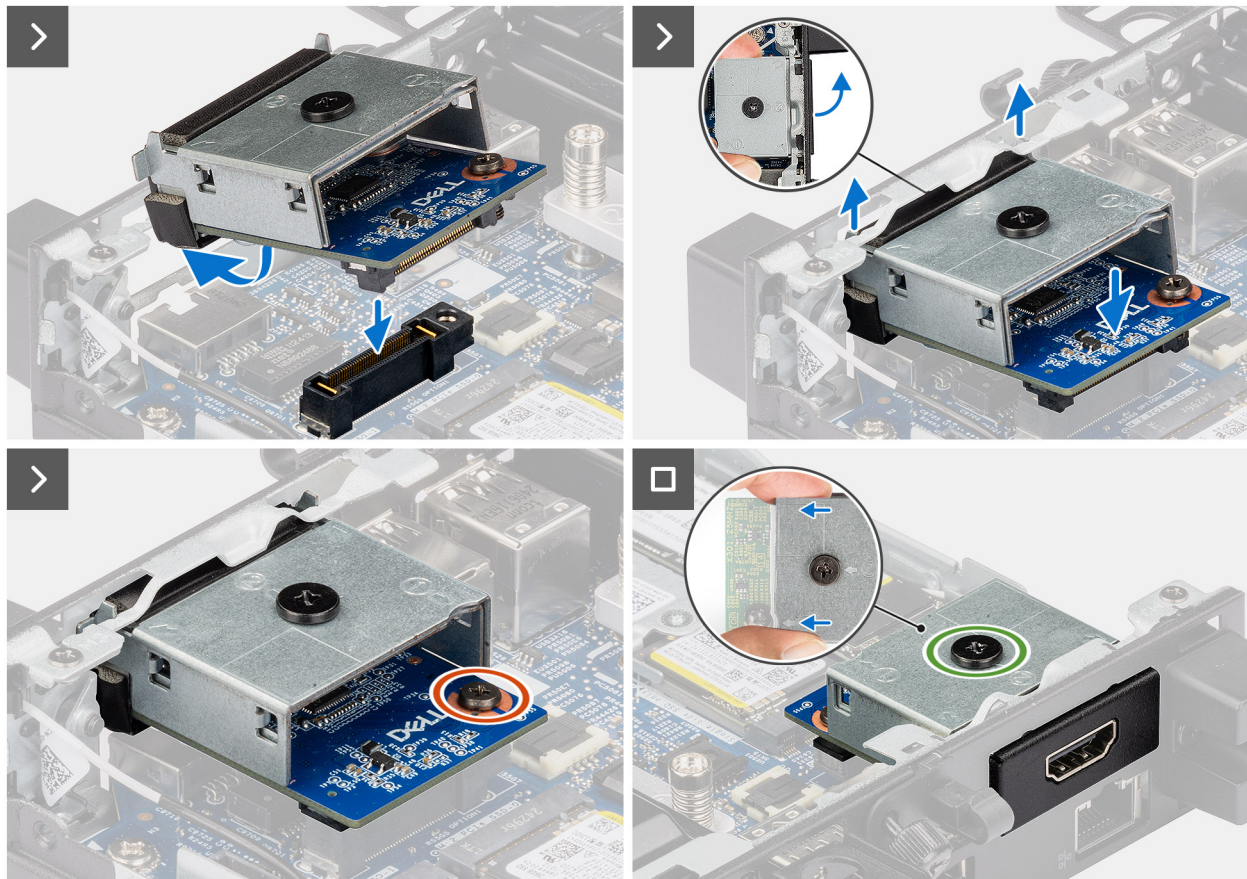


Figure 39. Installing HDMI port module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the HDMI port module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the HDMI port module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the HDMI port module to the connector (OPTION) on the system board.
4. Tighten the two captive screws to secure the HDMI port module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

VGA port module

Removing the VGA port module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the VGA port module and provide a visual representation of the removal procedure.

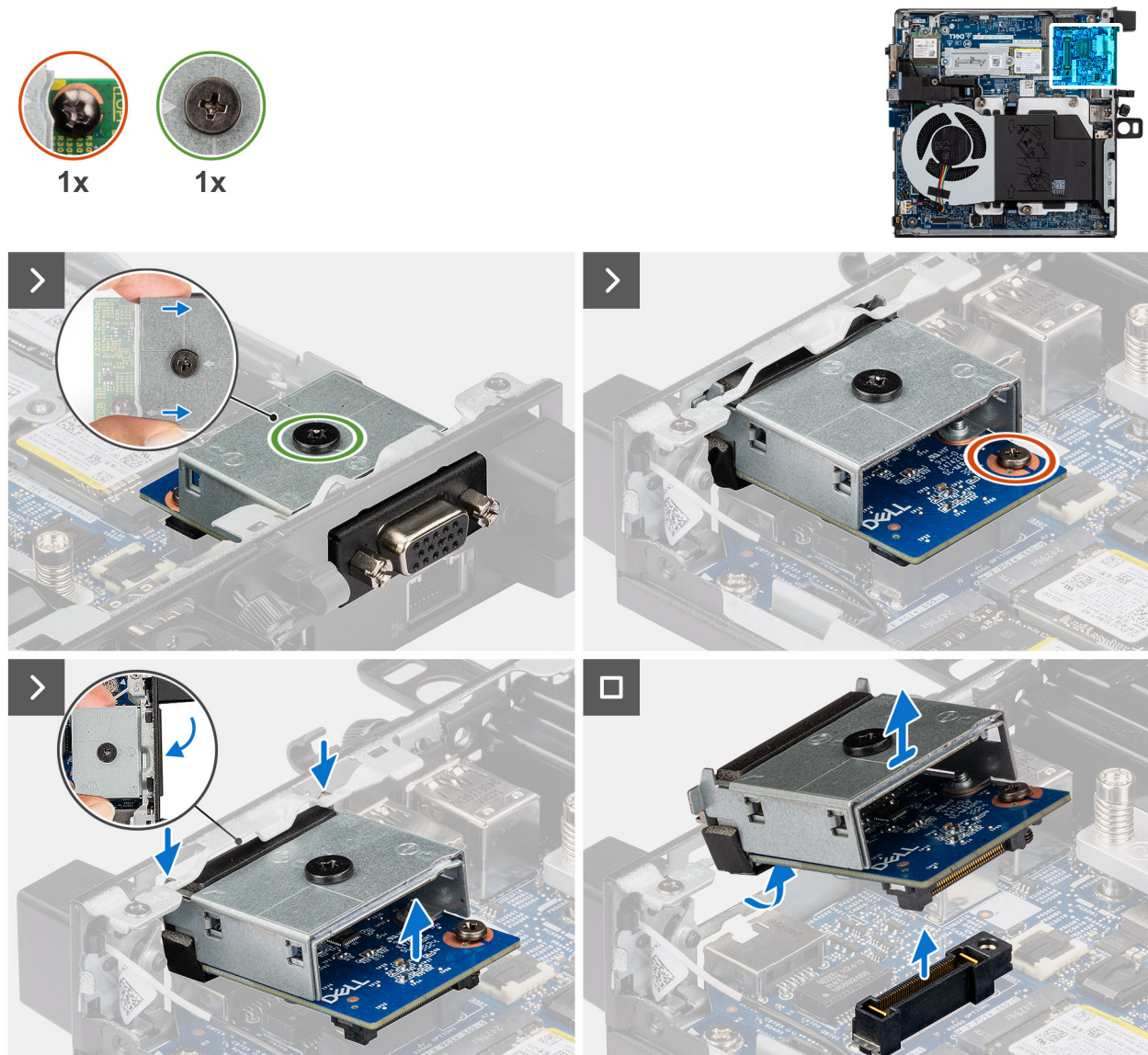


Figure 40. Removing the VGA port module

Steps

1. Loosen the two captive screws that secure the VGA port module to the chassis.
2. Disconnect the VGA port module from the connector (OPTION) on the system board.
3. Lift the VGA port module from its connector end to a certain angle and move the VGA port module downwards to detach it from the mounting points on the chassis.
4. Slide the VGA port module and lift it away from the chassis.

Installing the VGA port module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the optional I/O module and provide a visual representation of the installation procedure.

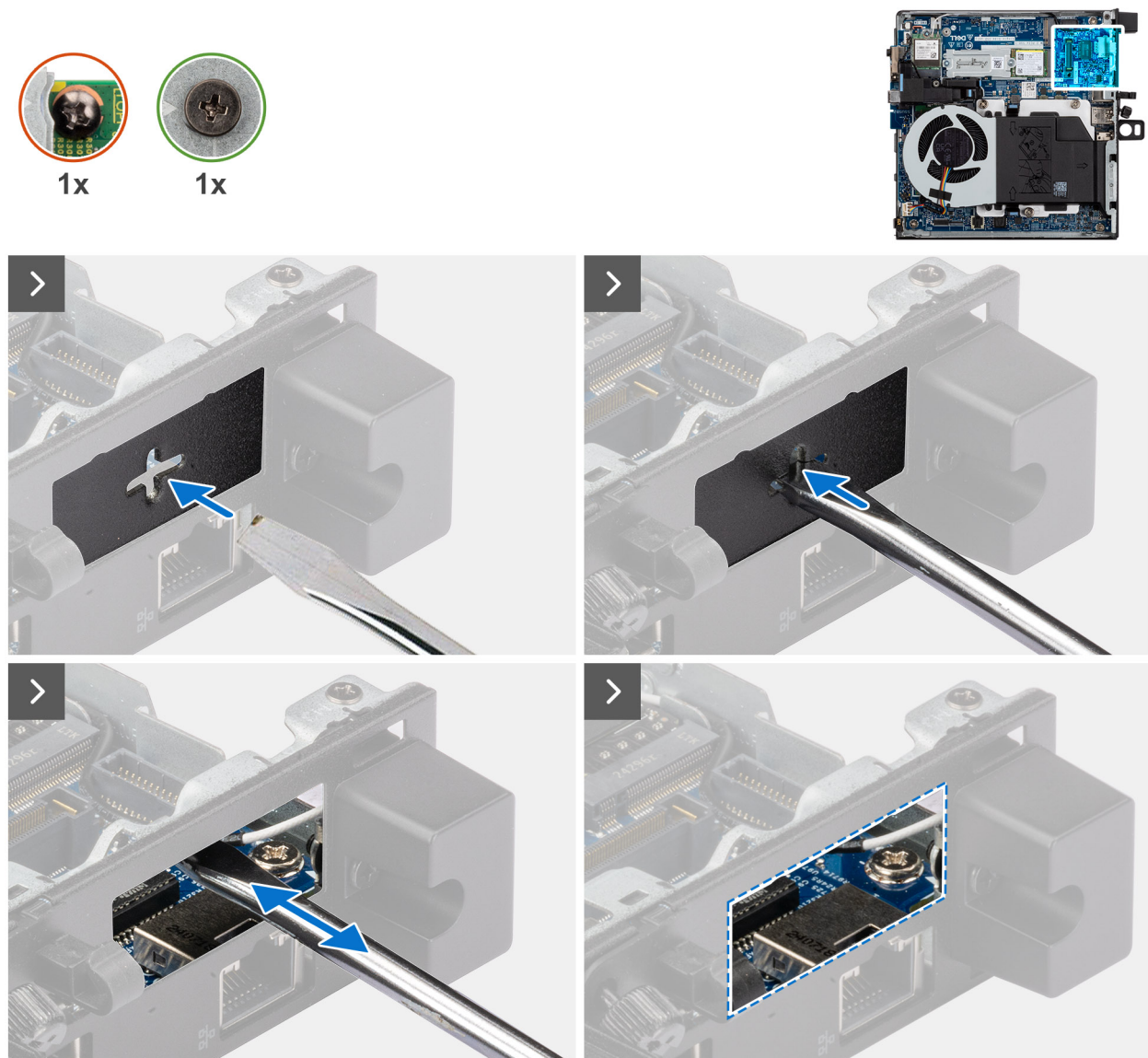


Figure 41. Installing VGA port module

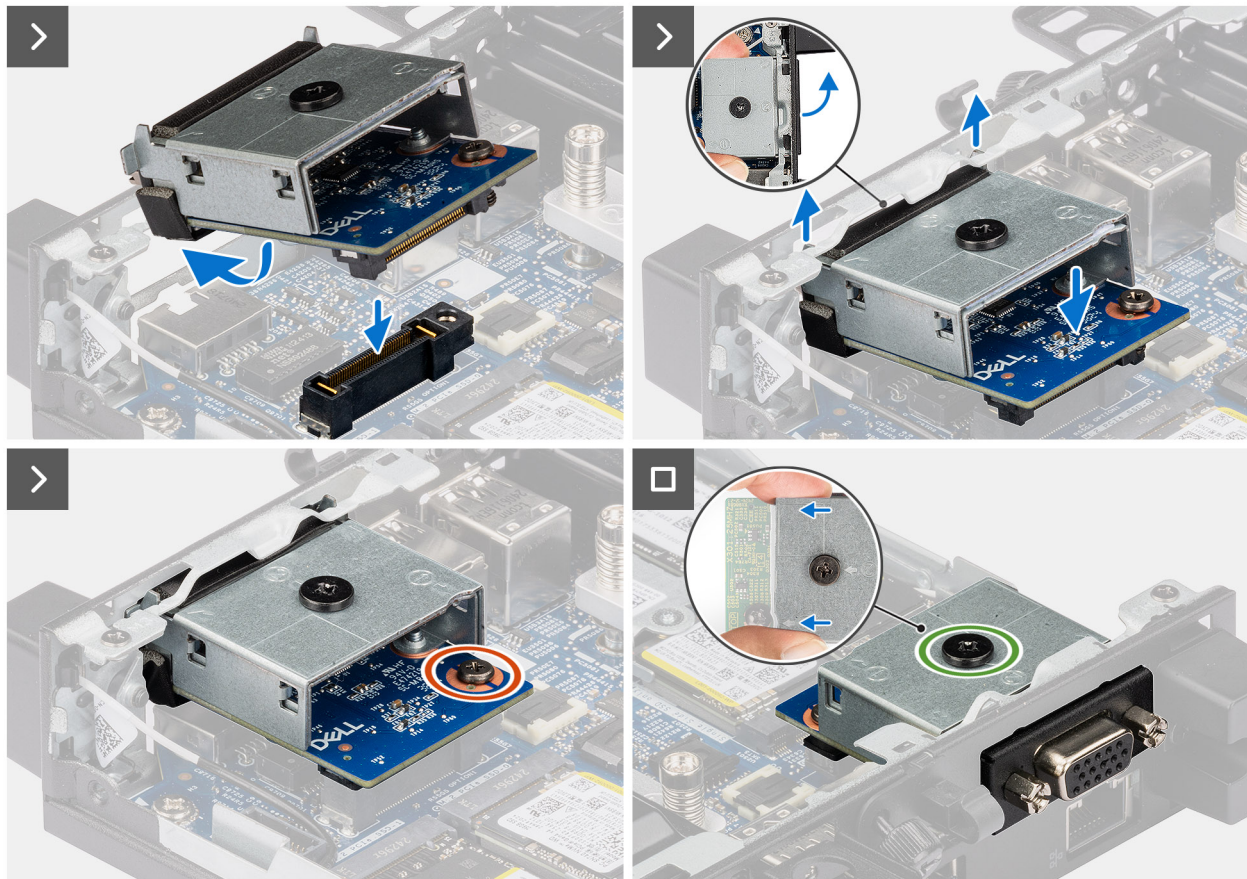


Figure 42. Installing VGA port module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the VGA port module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the VGA port module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the VGA port module to the connector (OPTION) on the system board.
4. Tighten the two captive screws to secure the VGA port module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

PS/2 and Serial port module

Removing the PS/2 and Serial port module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the PS/2 and Serial port module and provide a visual representation of the removal procedure.

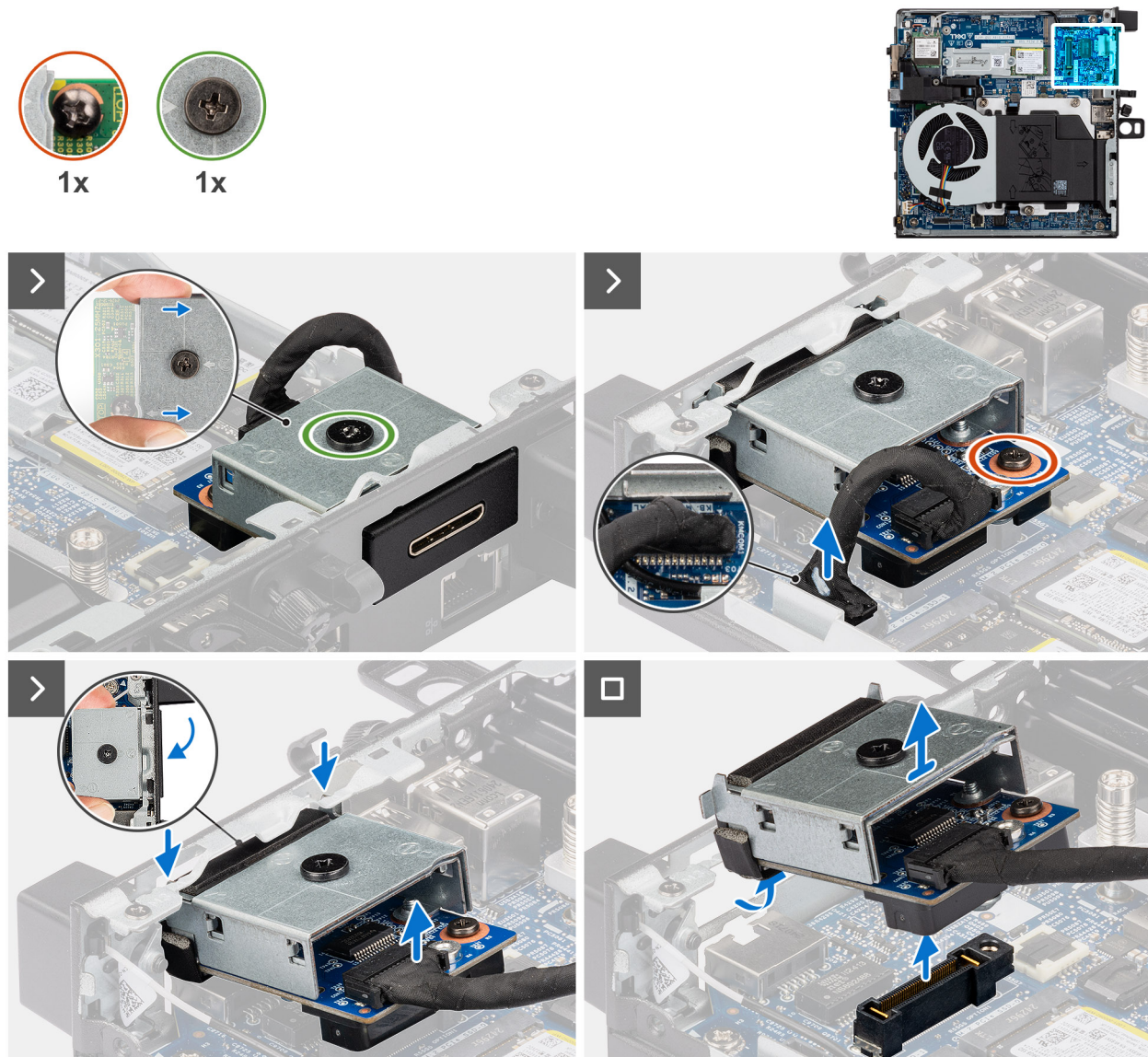


Figure 43. Removing the PS/2 and Serial port module

Steps

1. Loosen the two captive screws that secure the PS/2 and Serial port module to the chassis.
2. Disconnect the PS/2 and Serial port module cable from the connector (KB MS SERIAL) on the system board.
3. Lift the PS/2 and Serial port module from its connector end to a certain angle and move the PS/2 and Serial port port module downwards to detach it from the mounting points on the chassis.
4. Slide the PS/2 and Serial port module and lift it away from the chassis.

Installing the PS/2 and Serial port module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the PS/2 and Serial port module and provide a visual representation of the installation procedure.

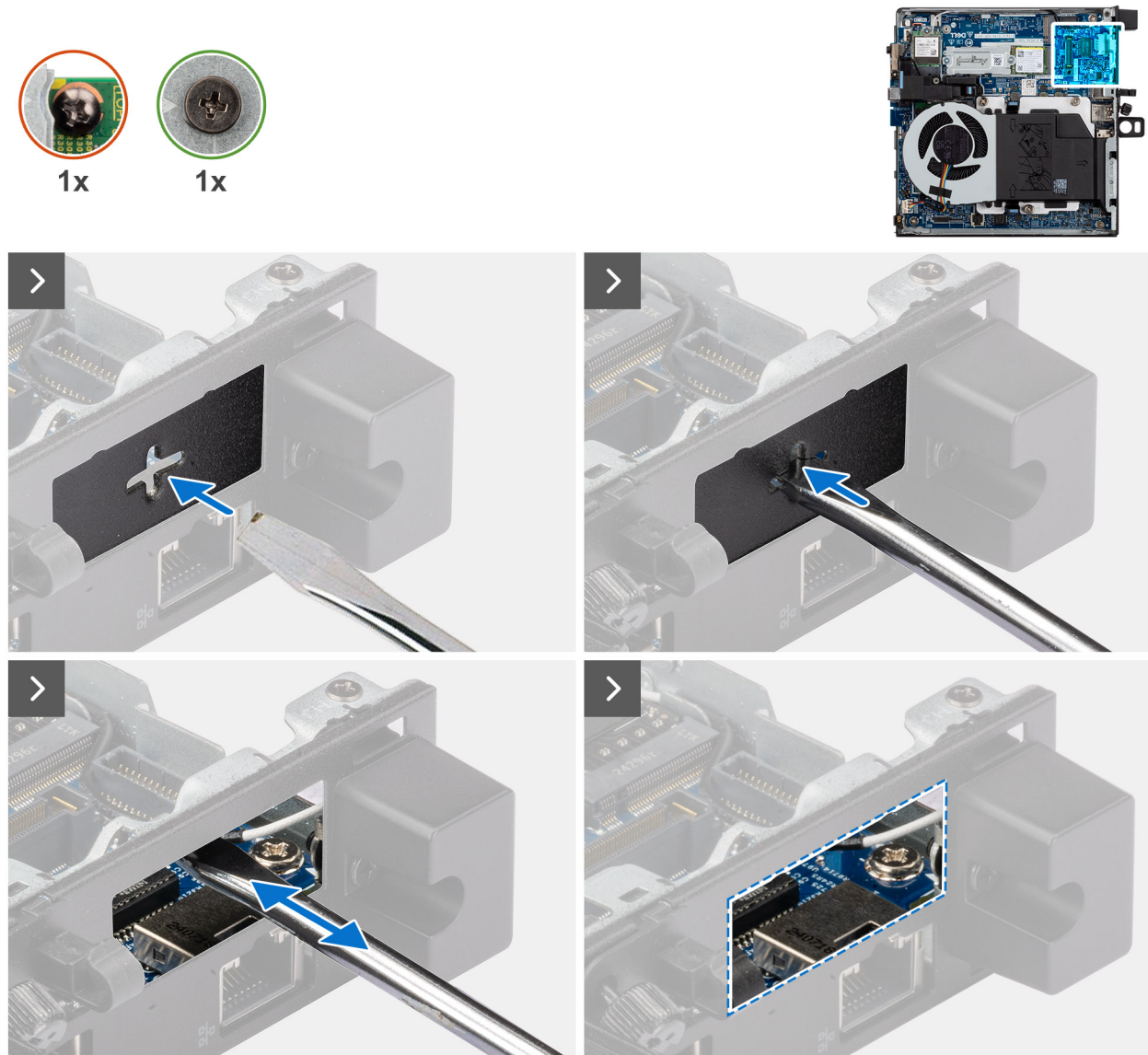


Figure 44. Installing the PS/2 and Serial port module

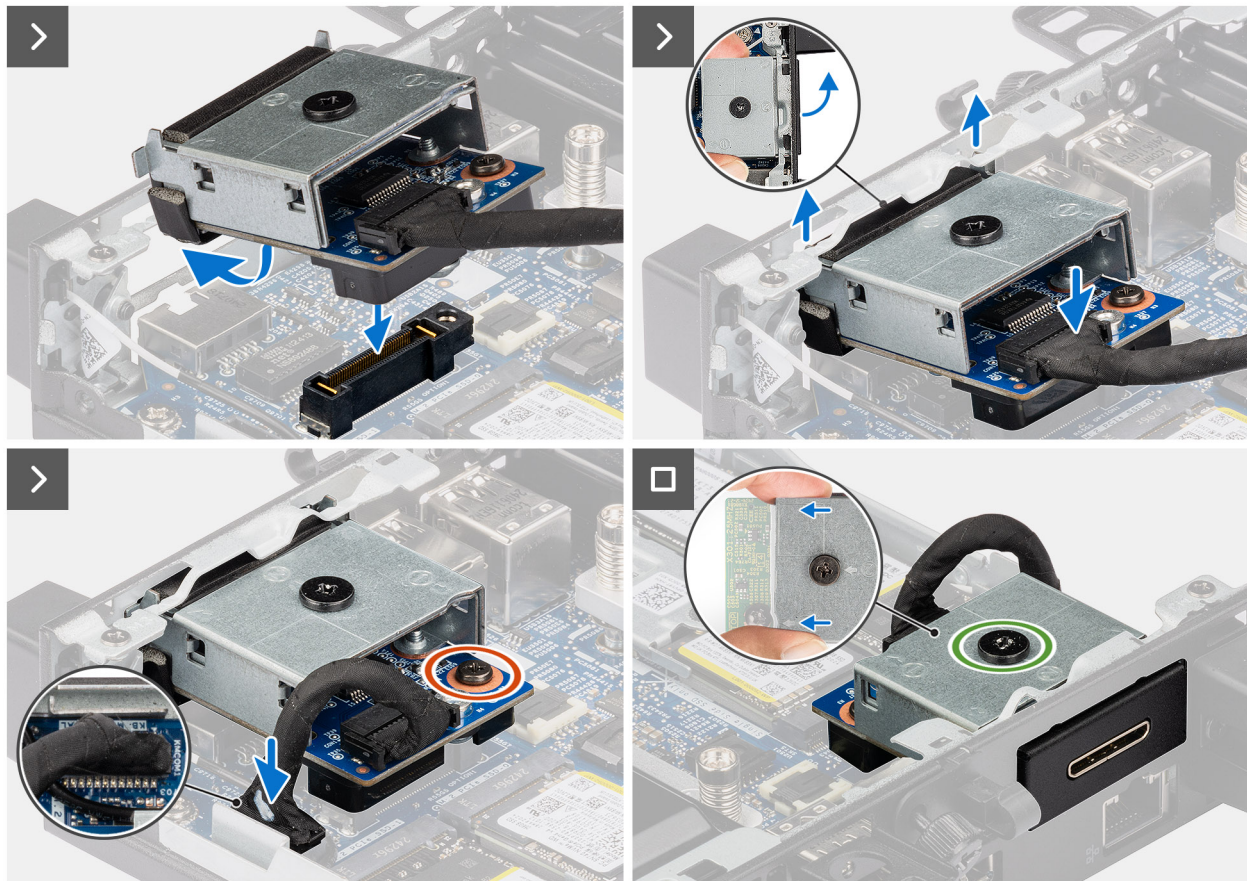


Figure 45. Installing the PS/2 and Serial port module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the PS/2 and Serial port module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the PS/2 and Serial port module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the PS/2 and Serial port module cable to the connector (KB MS SERIAL) on the system board.
4. Tighten the two captive screws to secure the PS/2 and Serial port module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Serial port module

Removing the serial port module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the serial port module and provide a visual representation of the removal procedure.

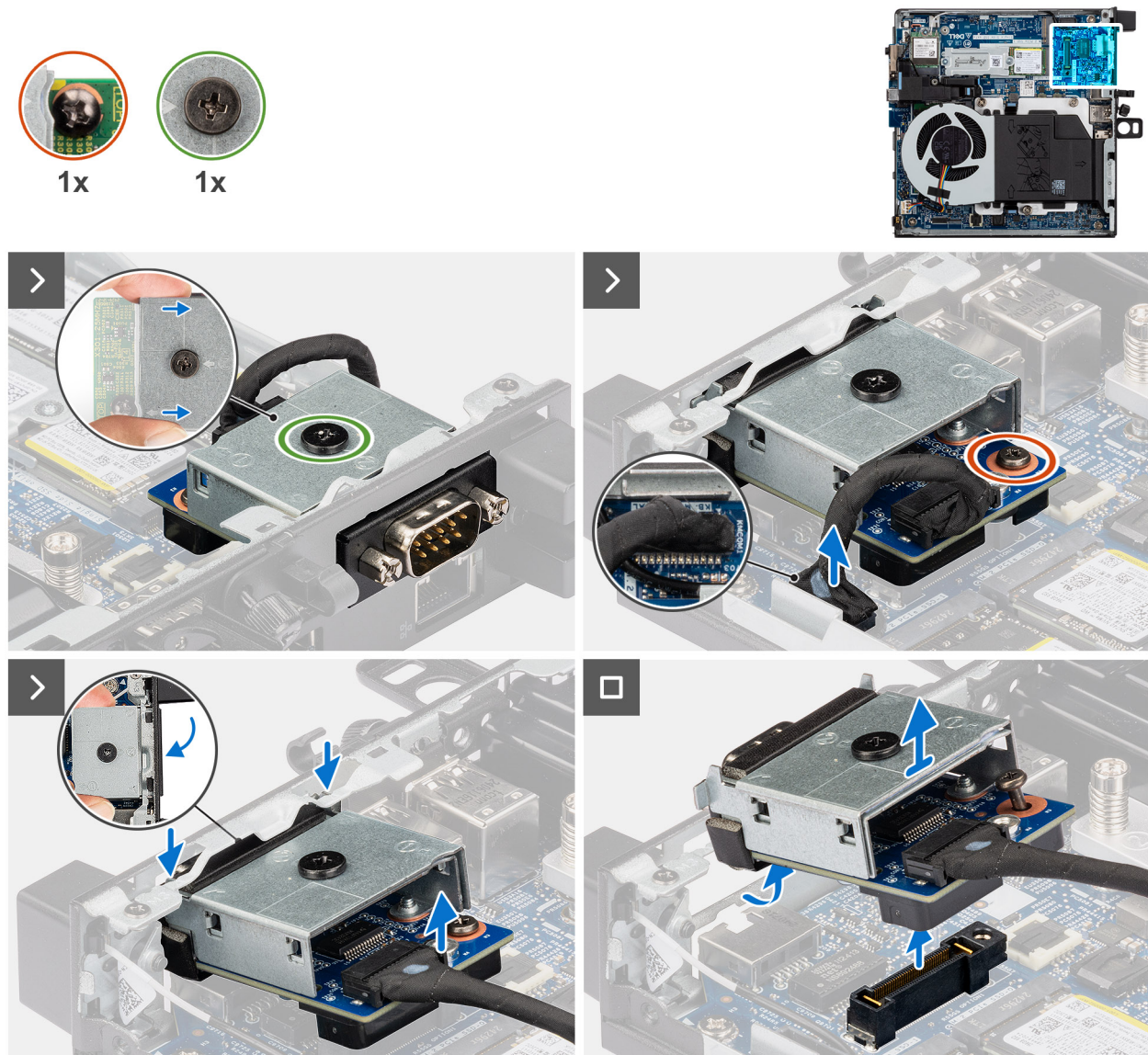


Figure 46. Removing the serial port module

Steps

1. Loosen the two captive screws that secure the serial port module to the chassis.
2. Disconnect the serial port module cable from the connector (KB MS SERIAL port) on the system board.
3. Lift the serial port module from its connector end to a certain angle and move the serial port module downwards to detach it from the mounting points on the chassis.
4. Slide the serial port module and lift it away from the chassis.

Installing the serial port module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the serial port module and provide a visual representation of the installation procedure.

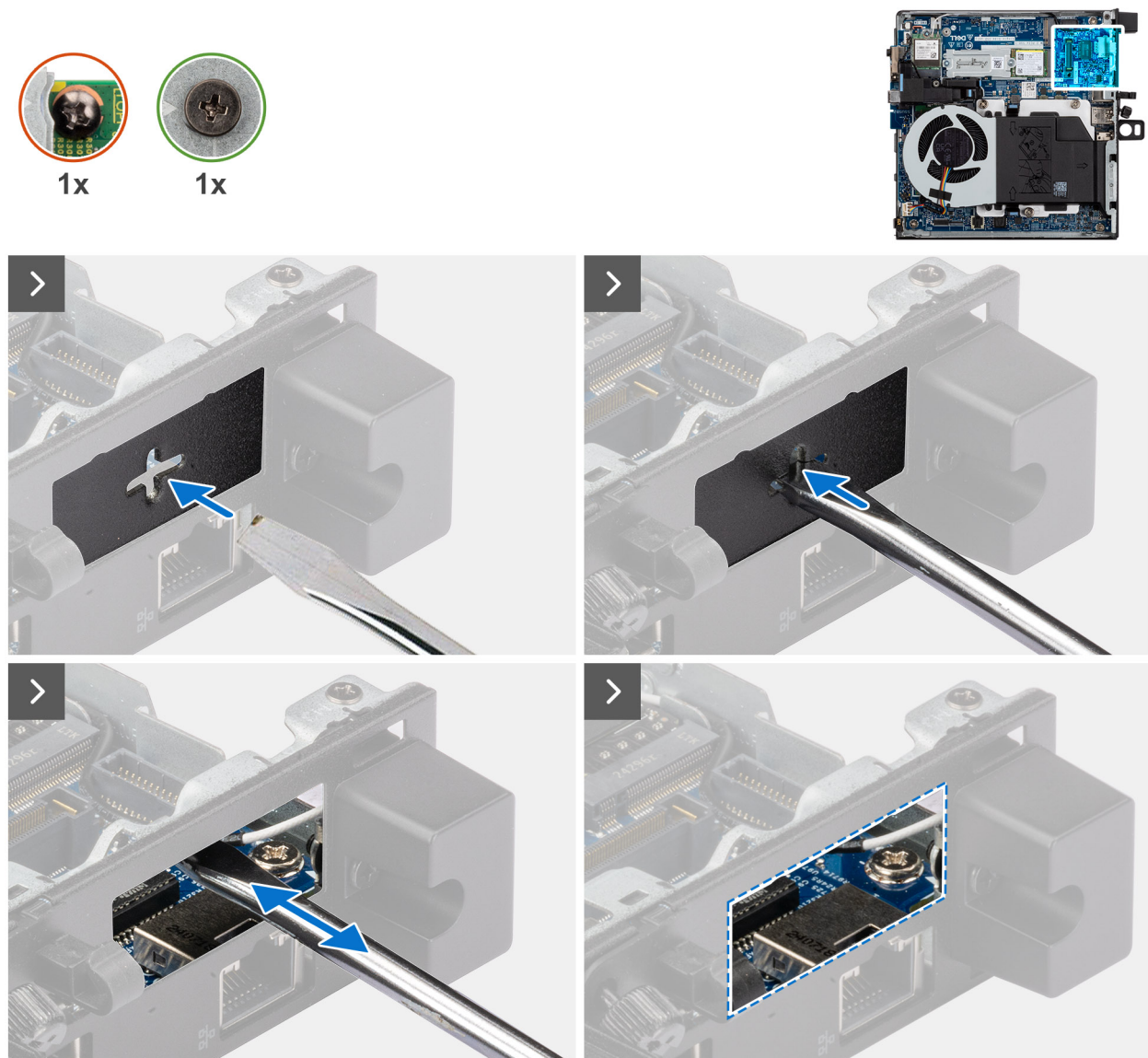


Figure 47. Installing serial port module

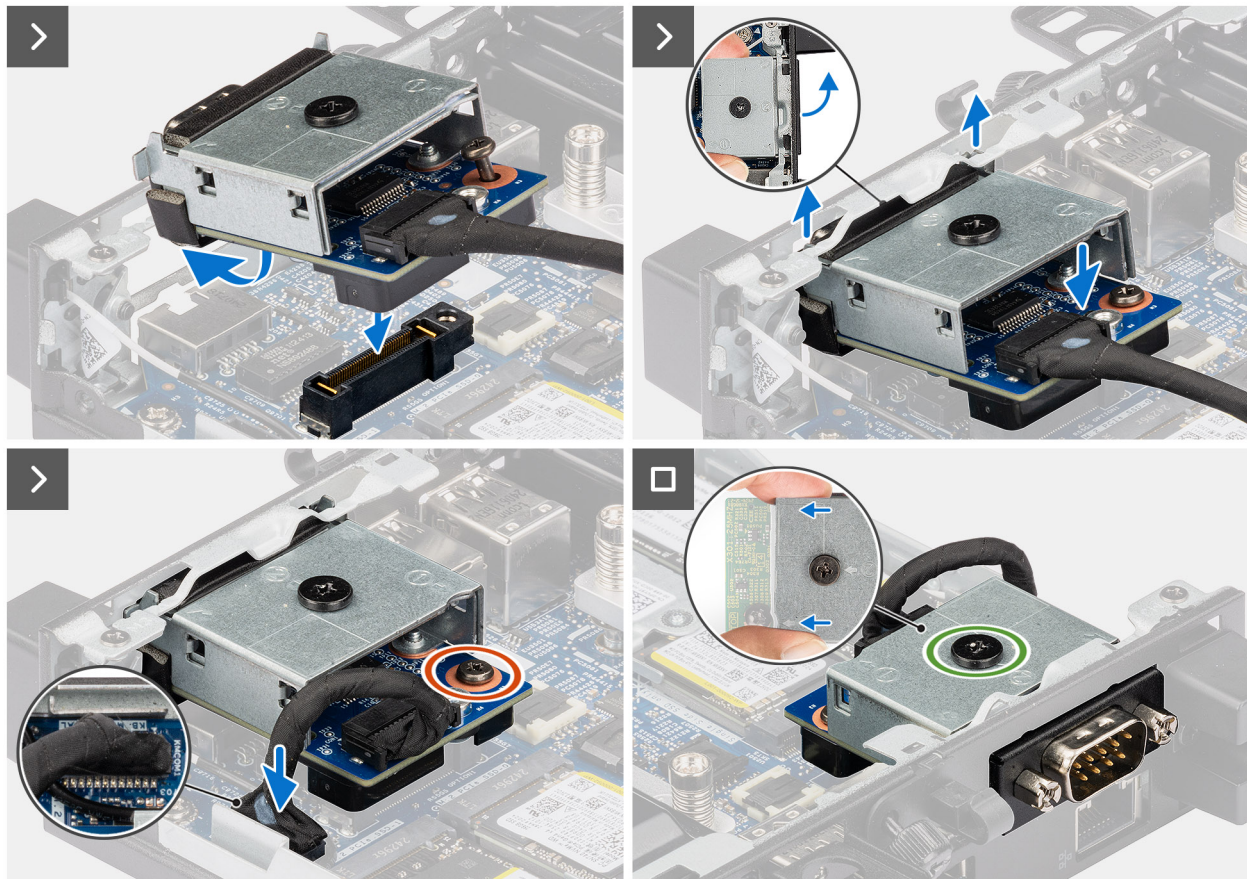


Figure 48. Installing serial port module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the serial port module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the serial port module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the serial port module cable to the connector (KB MS SERIAL port) on the system board.
4. Tighten the two captive screws to secure the serial port module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Fiber optic port module

Removing the fiber optic port module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the fiber optic port module and provide a visual representation of the removal procedure.

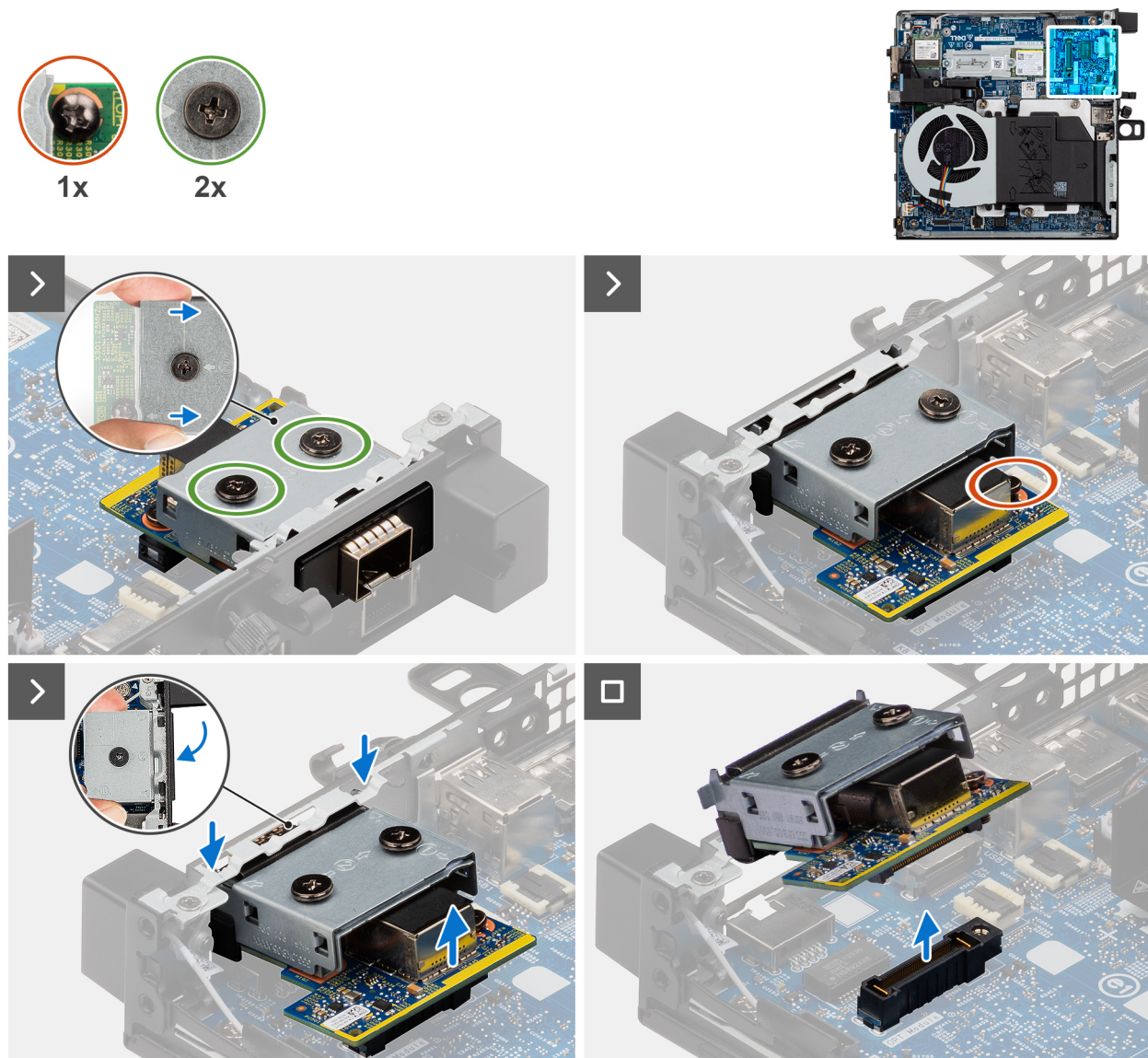


Figure 49. Removing the fiber optic port module

Steps

1. Loosen the three captive screws that secure the fiber optic port module to the chassis.
2. Disconnect the fiber optic port module from the connector (OPTION) on the system board.
3. Lift the fiber optic port module from its connector end to a certain angle and move the fiber optic port module downwards to detach it from the mounting points on the chassis.
4. Slide the fiber optic port module and lift it away from the chassis.

Installing the fiber optic port module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the fiber optic port module and provide a visual representation of the installation procedure.

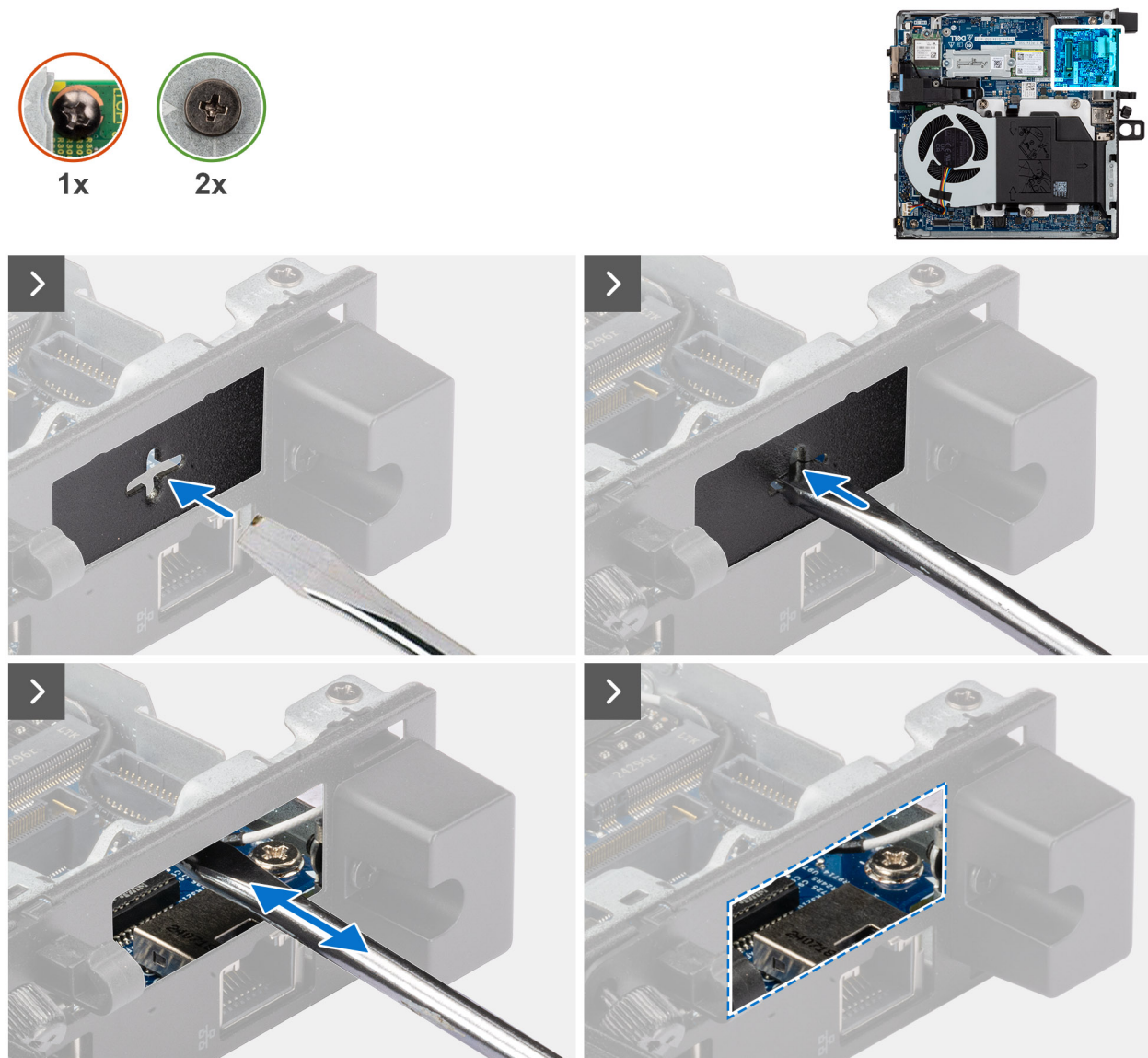


Figure 50. Installing fiber optic port module

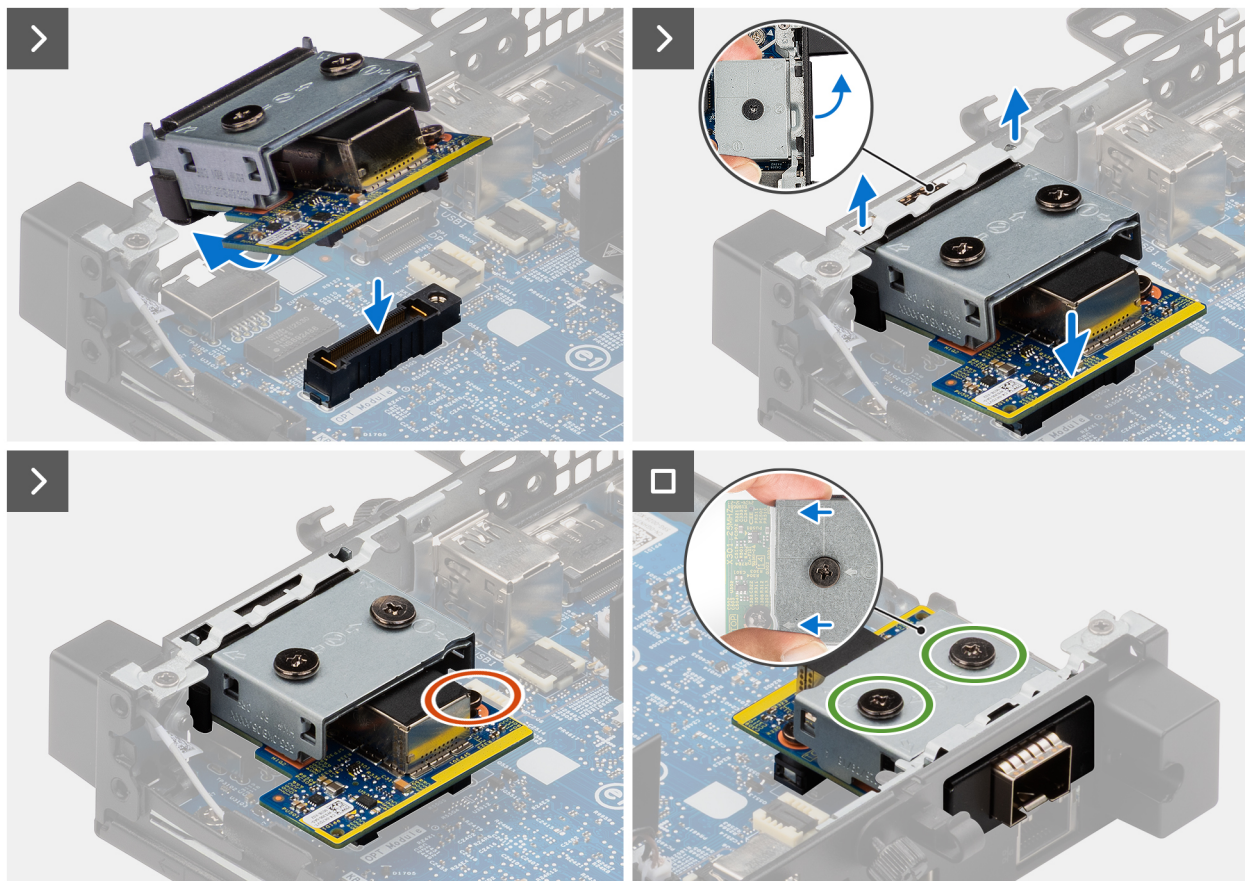


Figure 51. Installing fiber optic port module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the fiber optic port module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the fiber optic port module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the fiber optic port module to the connector (OPTION) on the system board.
4. Tighten the three captive screws to secure the fiber optic port module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Video Expansion module

Removing the video expansion module

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).

About this task

The following images indicate the location of the video expansion module and provide a visual representation of the removal procedure.

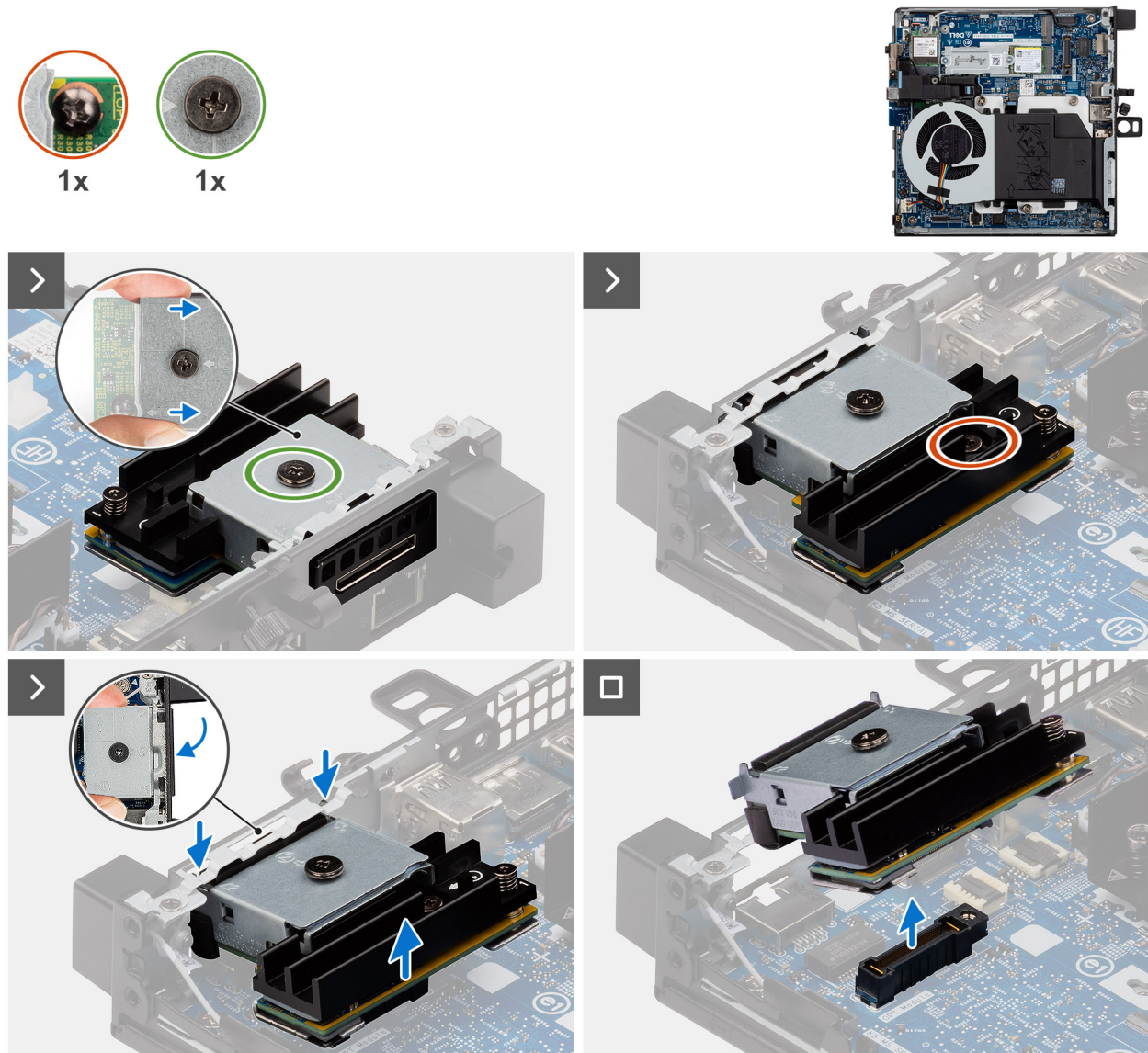


Figure 52. Removing the video expansion module

Steps

1. Loosen the two captive screws that secure the video expansion module to the chassis.
2. Disconnect the video expansion module from the connector (OPTION) on the system board.
3. Lift the video expansion module from its connector end to a certain angle and move the video expansion module downwards to detach it from the mounting points on the chassis.
4. Slide the video expansion module and lift it away from the chassis.

Installing the video expansion module

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following images indicate the location of the video expansion module and provide a visual representation of the installation procedure.

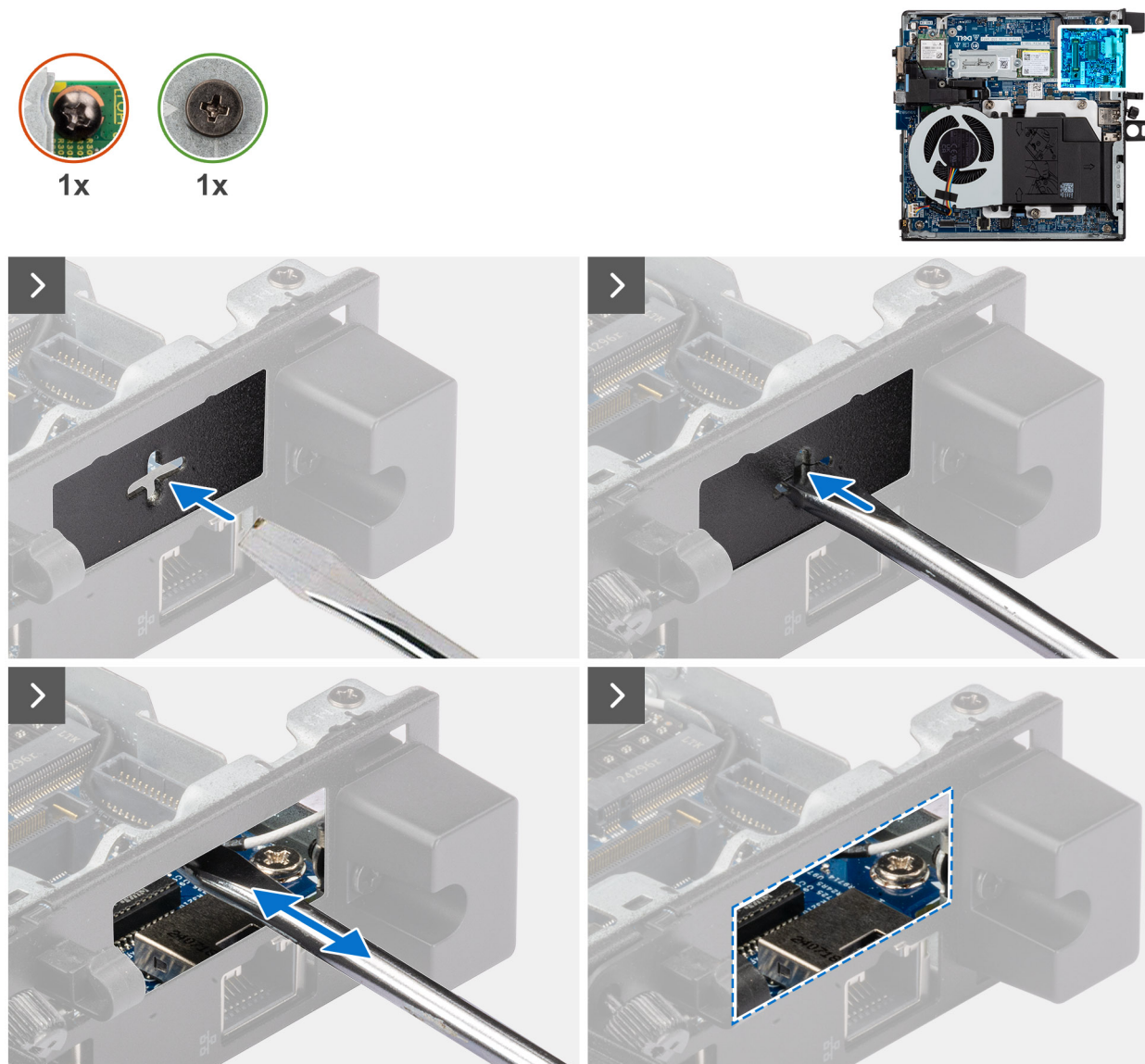


Figure 53. Installing video expansion module

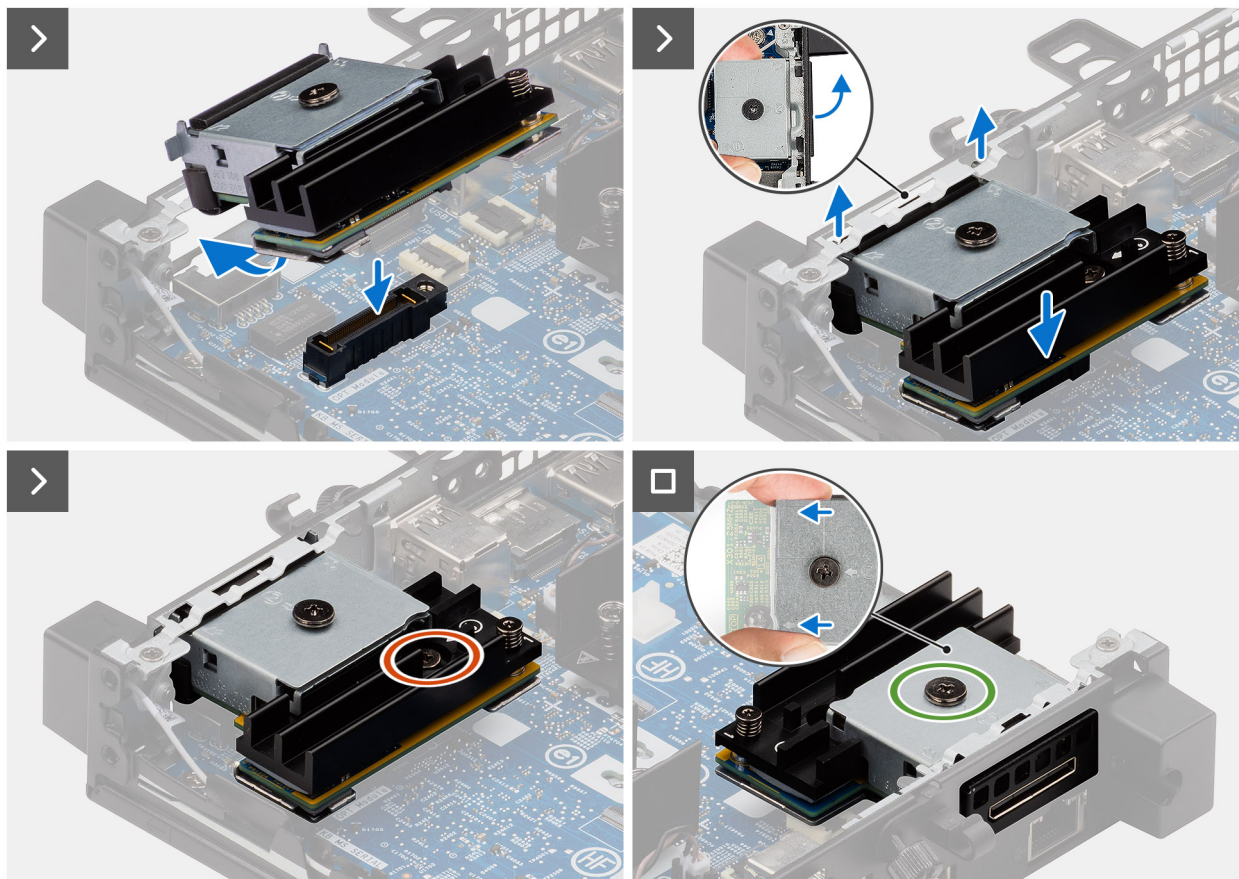


Figure 54. Installing video expansion module

Steps

1. **NOTE:** This step applies if you are upgrading a computer with no existing I/O module.

To remove the knock-out port cover, insert a flat-head screwdriver in the hole of the port cover from the outside of the computer. Push the knock-out port cover to release it, and then remove it out from the computer.

2. Insert the video expansion module into its slot at the back panel of the computer.

NOTE: Ensure that the tabs on the video expansion module align with the triangles that are engraved on the mounting point on the chassis.

3. Connect the video expansion module to the connector (OPTION) on the system board.
4. Tighten the two captive screws to secure the video expansion module to the chassis.

Next steps

1. Install the [top cover](#).
2. Follow the procedure in [After working inside your computer](#).

Removing and installing Field Replaceable Units (FRUs)

The replaceable components in this chapter are Field Replaceable Units (FRUs).

 **CAUTION:** FRUs should be replaced by an authorized service technician, who is a trained technical repair specialist.

 **NOTE:** Damages resulting from improper replacement or from failure to follow instructions are not covered by your warranty. Consider having a trained technical repair specialist perform replacements of FRU components.

 **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

Heat sink

Removing the heat sink

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).
3. Remove the [fan](#).

About this task

 **NOTE:** The heat sink may become hot during normal operation. Allow sufficient time for the heat sink to cool before you touch it.

 **NOTE:** For maximum cooling of the processor, do not touch the heat-transfer areas on the heat sink. The oils in your skin can reduce the heat transfer capability of the thermal paste.

The following images indicate the location of the heat sink and provide a visual representation of the removal procedure.

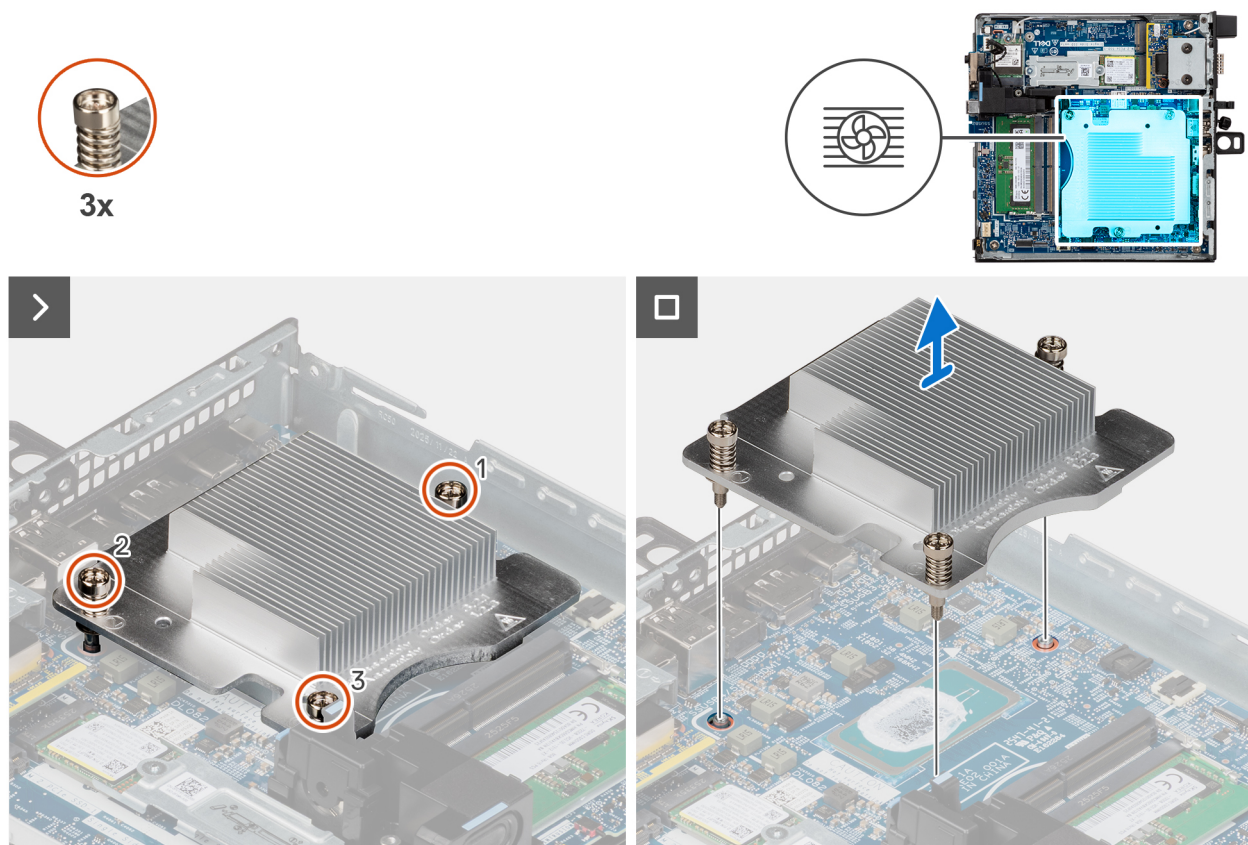


Figure 55. Removing the heat sink

Steps

1. In reverse sequential order (3 - > 2 - > 1), loosen the three captive screws that secure the heat sink to the system board.
2. Lift the heat sink off the system board.

Installing the heat sink

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

NOTE: If either the processor or the heat sink is replaced, use the thermal paste that is provided in the kit to ensure that thermal conductivity is achieved.

The following images indicate the location of the heat sink and provide a visual representation of the installation procedure.

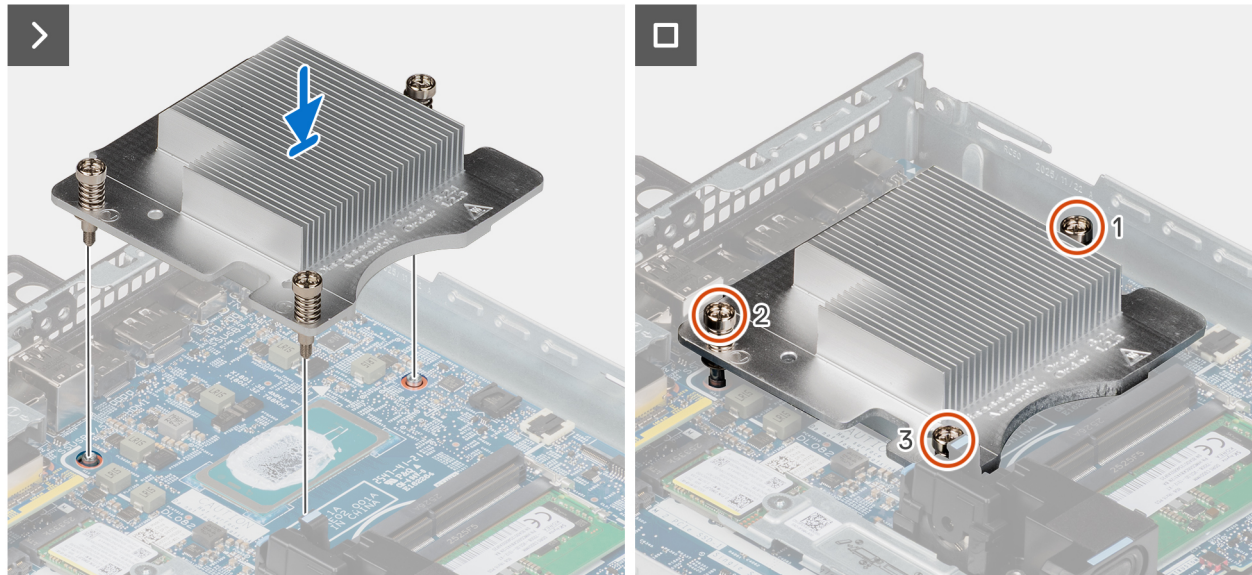
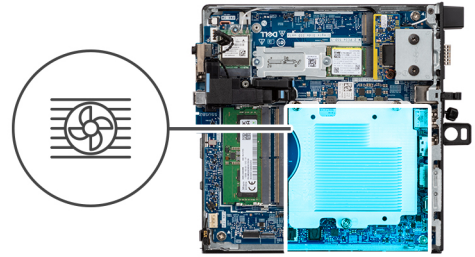


Figure 56. Installing the heat sink

Steps

1. Place the heat sink on the system board.
2. Align the screw holes on the heat sink with the screw holes on the system board.
3. In sequential order (1 - > 2 - > 3), tighten the three captive screws to secure the heat sink to the system board.

Next steps

1. Install the [fan](#).
2. Install the [top cover](#).
3. Follow the procedure in [After working inside your computer](#).

Internal antenna module

Removing the antenna module (black cable)

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).
3. Remove the [wireless card](#).

About this task

The following images indicate the location of the wireless antenna module (black cable) and provide a visual representation of the removal procedure.



1x
M3x3

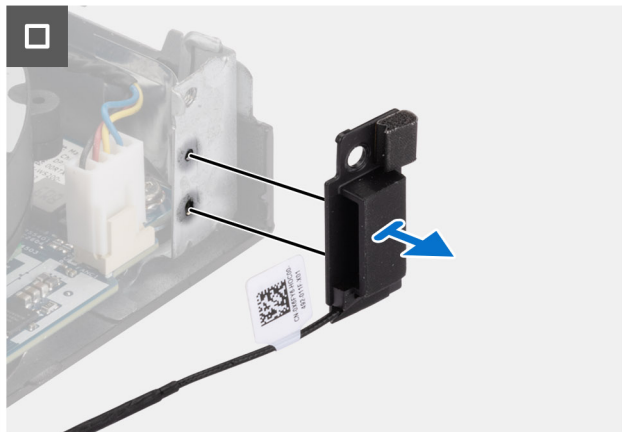
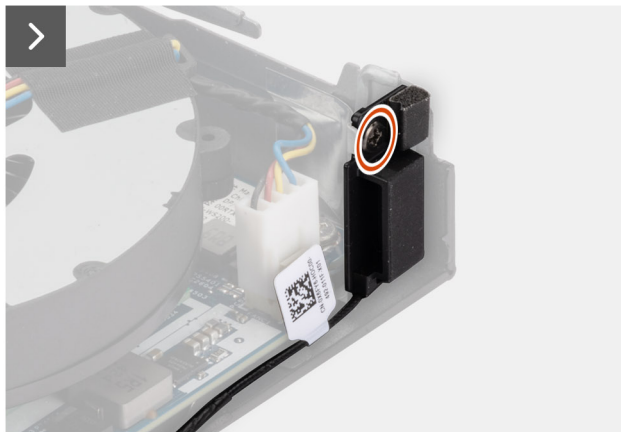
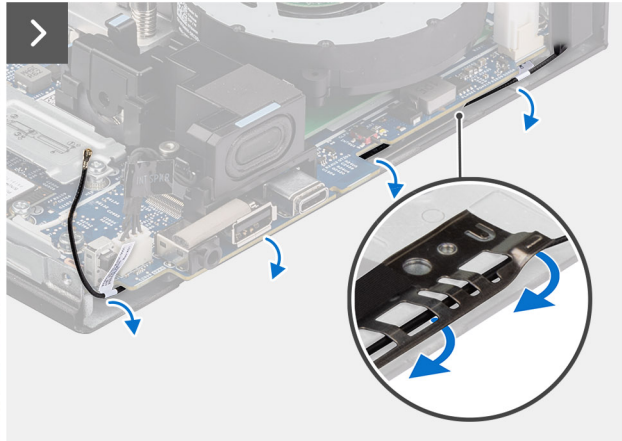
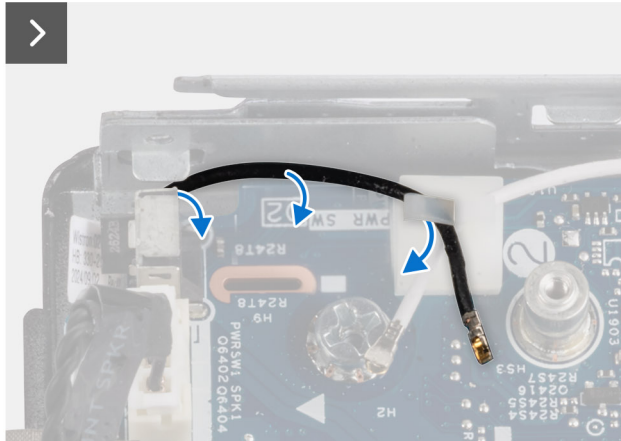
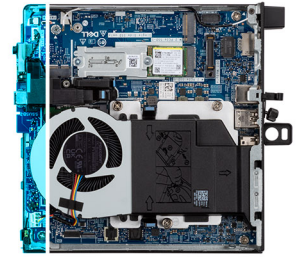


Figure 57. Removing the antenna module (black cable)

Steps

1. Unroute the antenna cable from the routing guides on the chassis.
2. Remove the screw (M3x3) that secures the antenna module to the chassis.
3. Lift the antenna module away from the chassis.

Installing the antenna module (black cable)

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the antenna module (black cable) and provide a visual representation of the installation procedure.



1x
M3x3

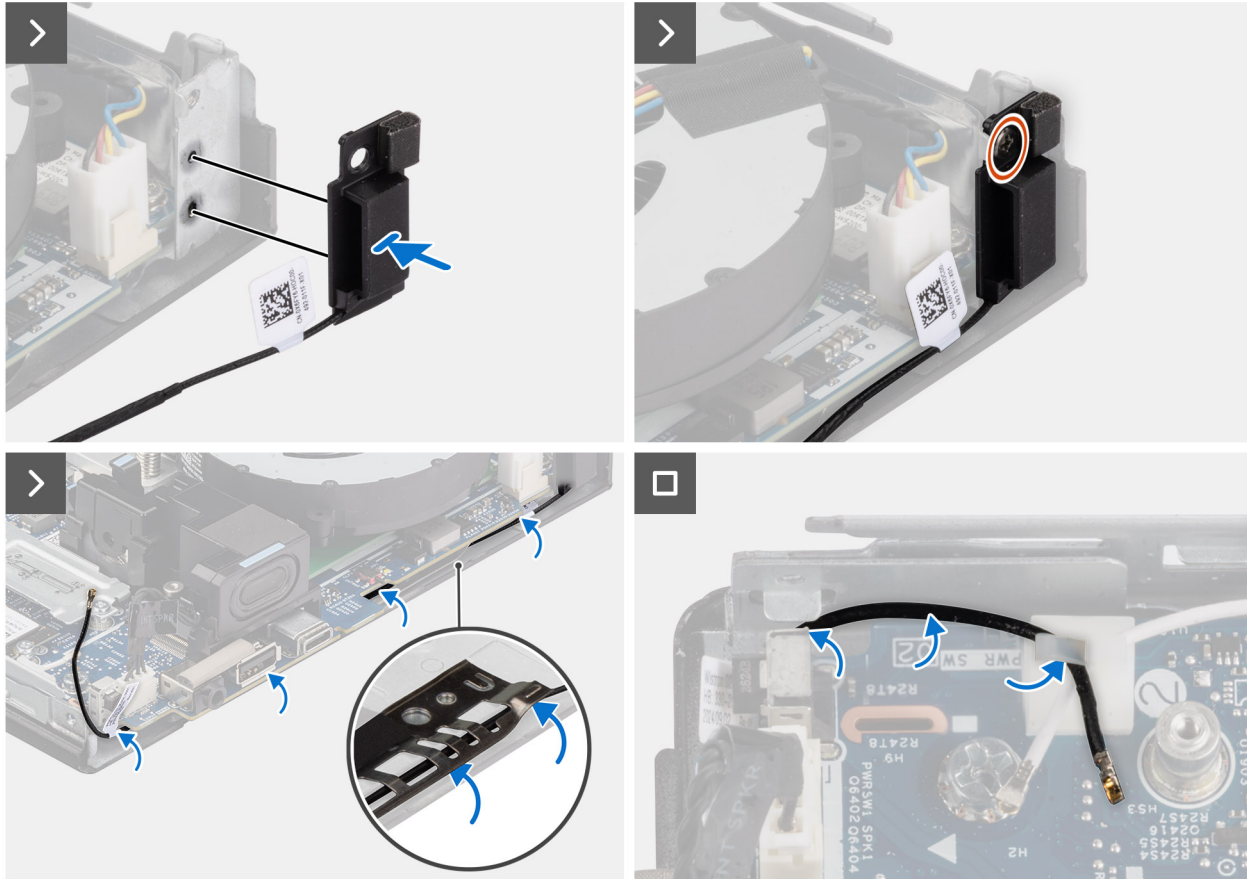
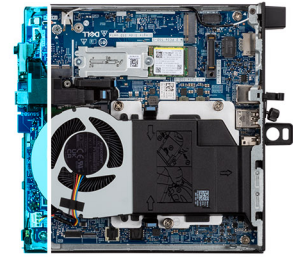


Figure 58. Installing the antenna module (black cable)

Steps

1. Align the tabs on the antenna module with the holes on the chassis and place it on the chassis.
2. Replace the screw (M3x3) to secure the antenna module to the chassis.
3. Using a plastic scribe, route the black antenna cable under the EMI shield below the system board on the chassis.

CAUTION: Do not press the Intrusion switch while routing the black antenna cable under the EMI shield.

4. Route the black antenna cable through the routing guides on the system board.

Next steps

1. Install the [wireless card](#).
2. Install the [top cover](#).
3. Follow the procedure in [After working inside your computer](#).

Removing the antenna module (white cable)

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).
3. Remove the [wireless card](#).

About this task

The following images indicate the location of the antenna module (white cable) and provide a visual representation of the removal procedure.

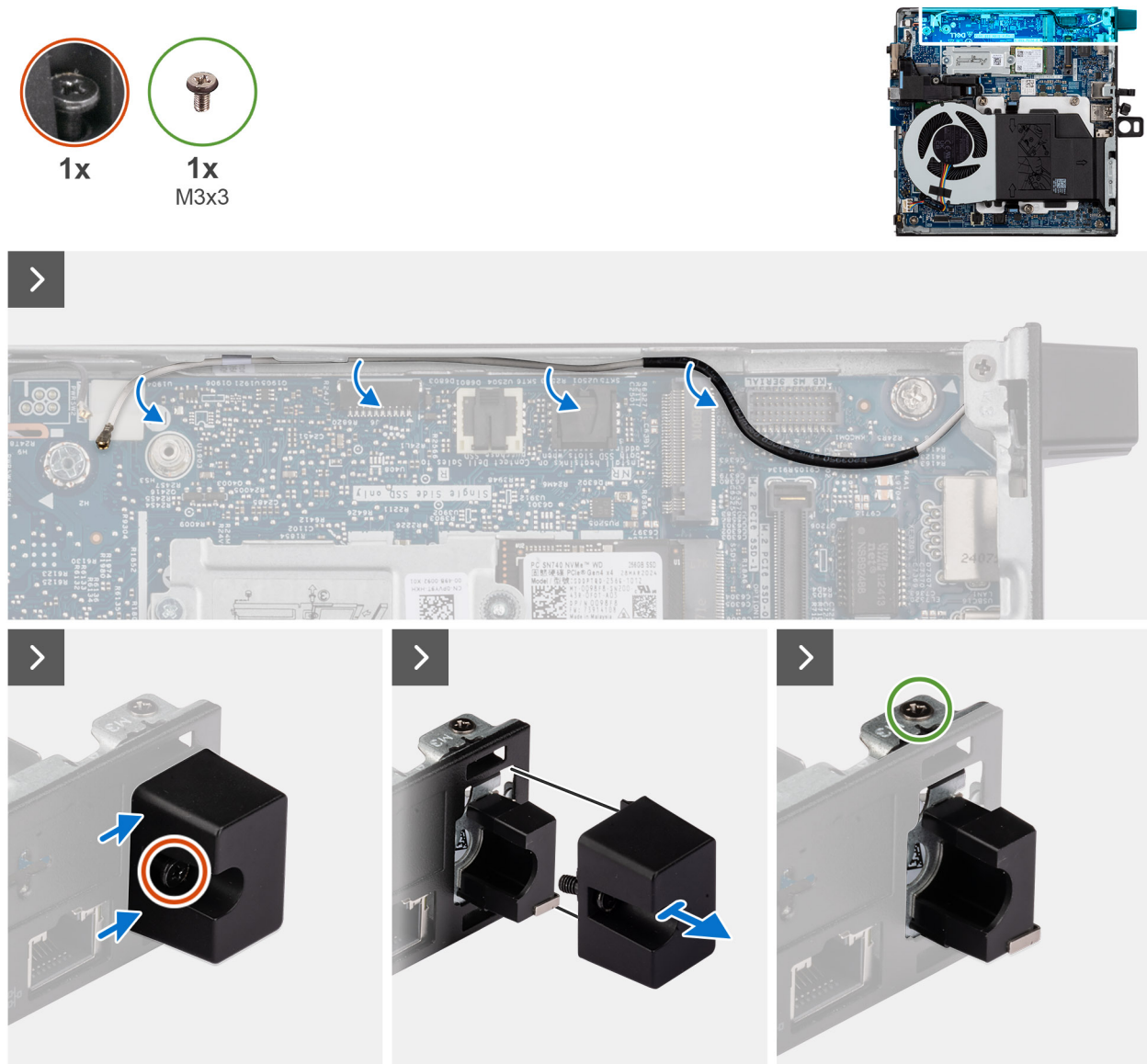


Figure 59. Removing the antenna module (white cable)

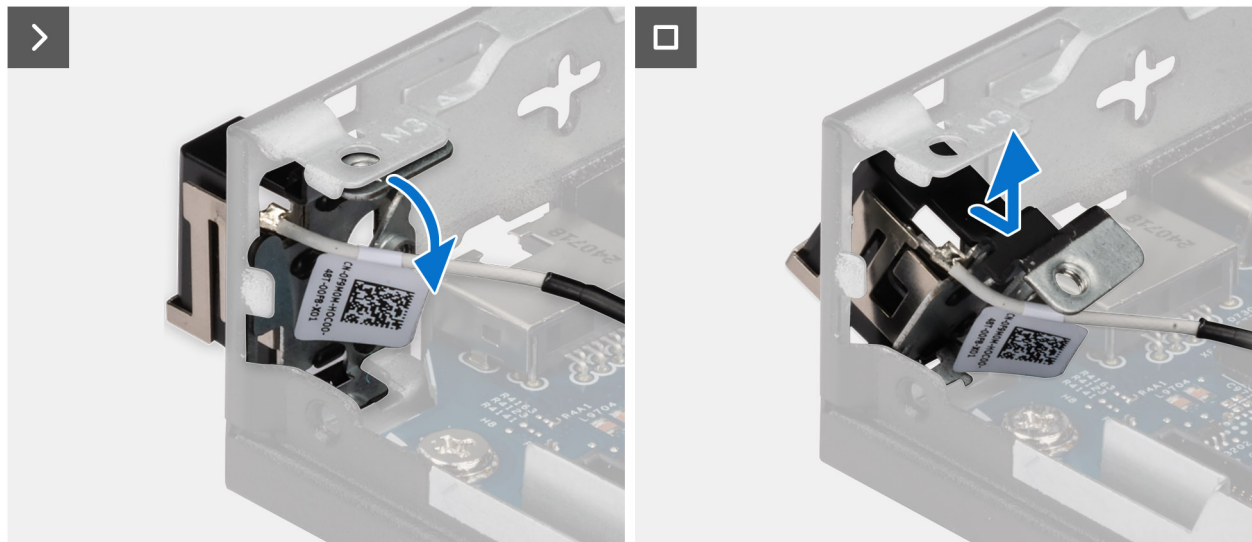


Figure 60. Removing the antenna module (white cable)

Steps

1. Unroute the white antenna cable from the routing guides on the chassis and system board.
2. Loosen the captive screw that secures the antenna module cover to the antenna module (white cable).
3. Remove the antenna module cover from the chassis.
4. Remove the screw (M3x3) that secures the antenna module to the chassis.
5. Gently push the antenna module downwards, allowing it to slide through its slot on the chassis.
6. Pull the antenna module and lift it away from the chassis.

Installing the antenna module (white cable)

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the location of the antenna module (white cable) and provide a visual representation of the installation procedure.

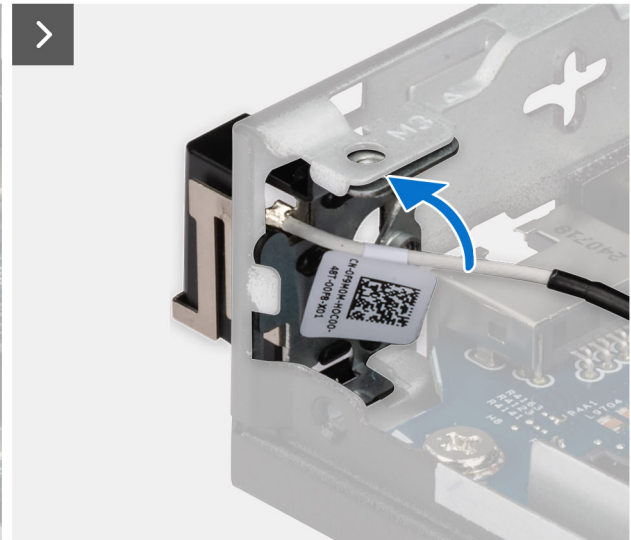
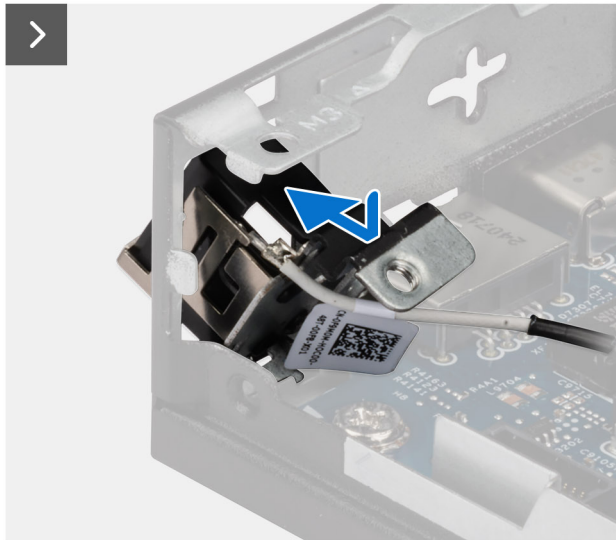
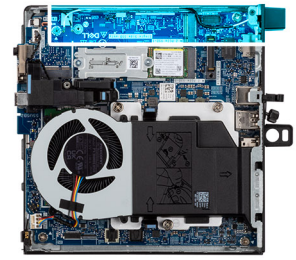


Figure 61. Installing the antenna module (white cable)

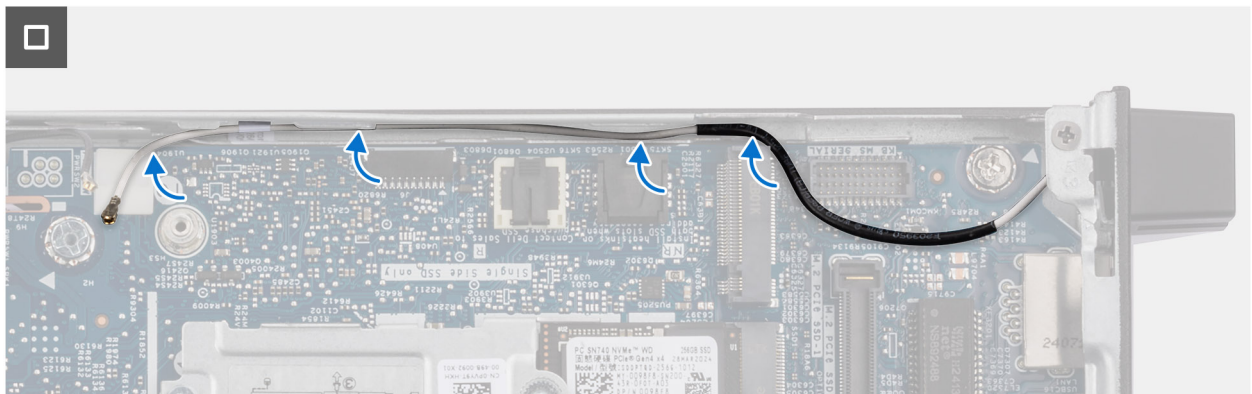
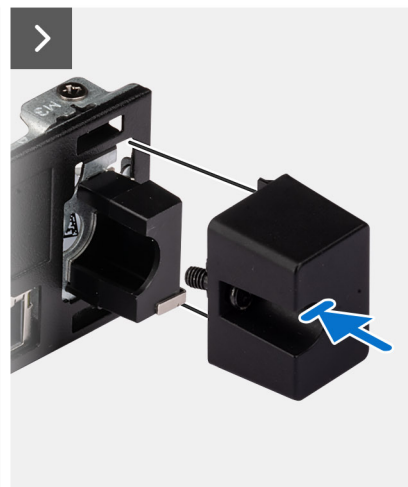


Figure 62. Installing the antenna module (white cable)

Steps

1. Place the antenna module at a certain angle and push it into the slot on the chassis.
2. Align the screw hole and captive screw on the antenna module to the screw holes on the chassis.
3. Replace the screw (M3x3) to secure the antenna module to the chassis.
4. Replace the antenna module cover into its slot on the chassis.
5. Tighten the captive screw to secure the antenna module cover to the chassis.
6. Route the white antenna cable through the routing guides on the chassis and system board.

Next steps

1. Install the [wireless card](#).
2. Install the [top cover](#).
3. Follow the procedure in [After working inside your computer](#).

Speaker holder

Removing the speaker holder

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).
3. Remove the [speaker](#).

About this task

The following image indicates the location of the speaker holder and provides a visual representation of the removal procedure.

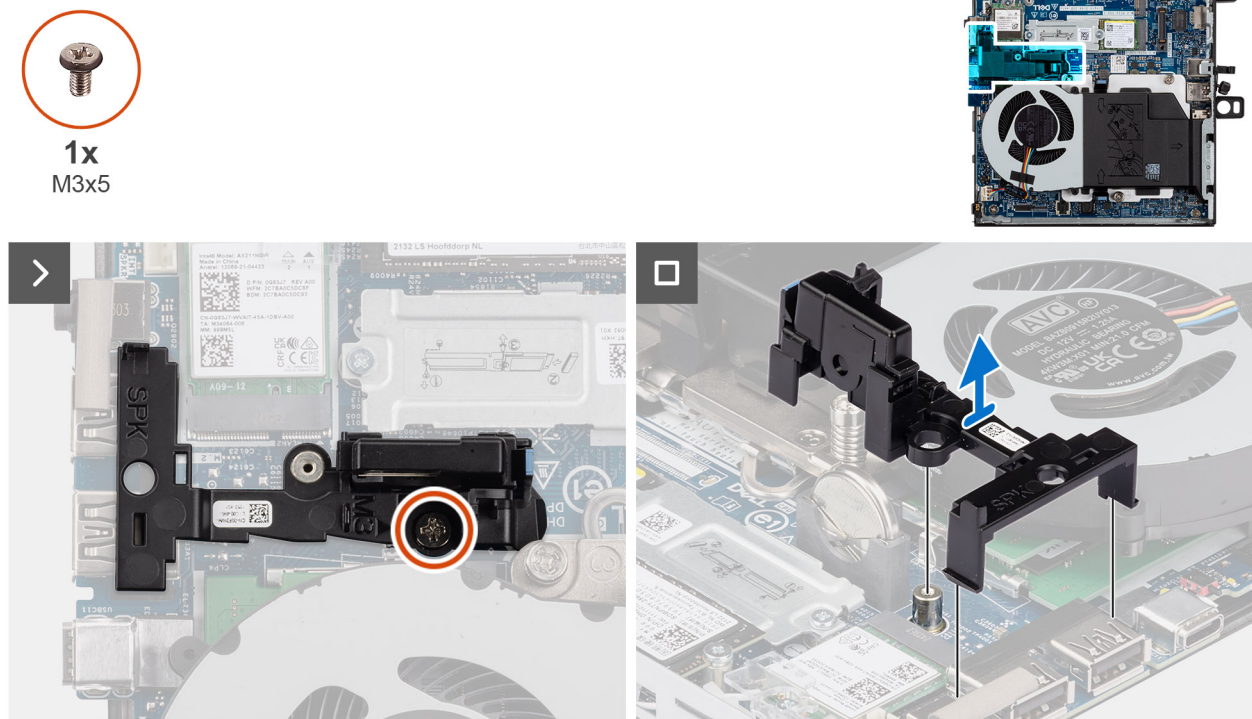


Figure 63. Removing the speaker holder

Steps

1. Remove the screw (M3x5) that secures the speaker holder to the system board.
2. Lift the speaker holder away from the system board.

Installing the speaker holder

Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

About this task

The following image indicates the location of the speaker holder and provides a visual representation of the installation procedure.

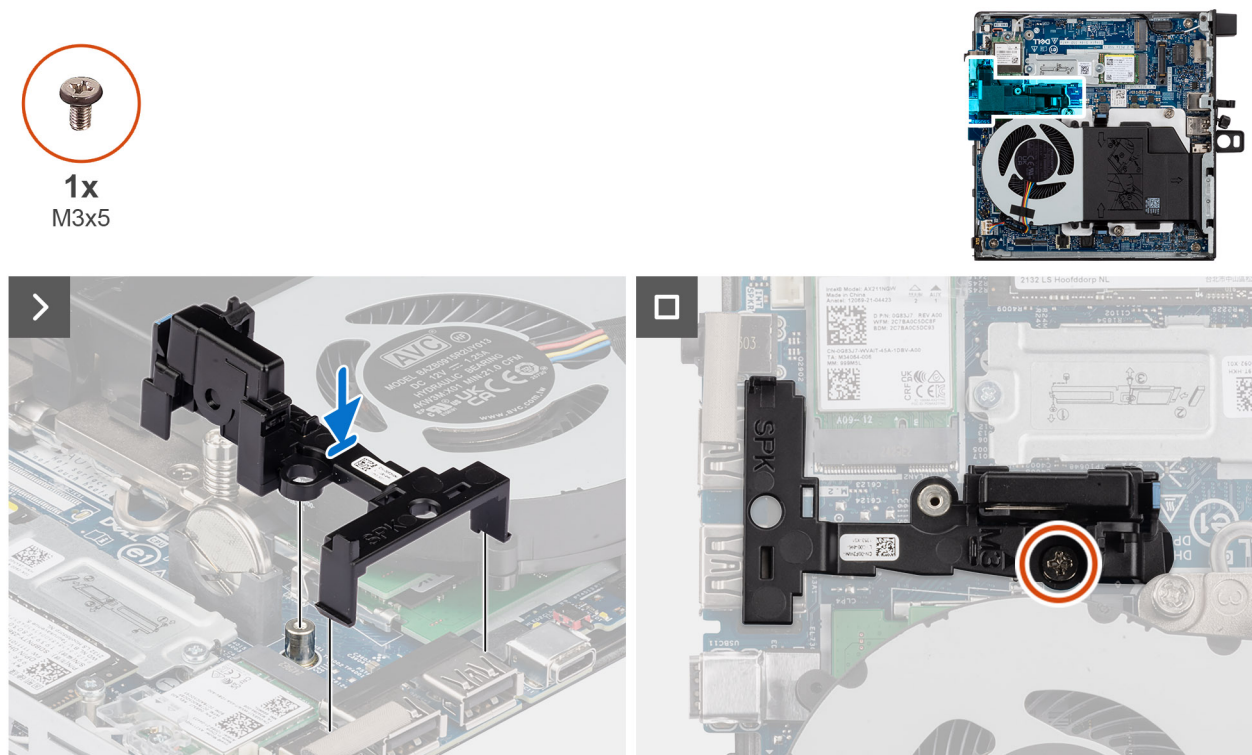


Figure 64. Installing the speaker holder

Steps

1. Align and insert the speaker holder into the slots on the system board and press it until the release tab clicks.
2. Replace the screw (M3x5) to secure the speaker holder to the system board.

Next steps

1. Install the [speaker](#).
2. Install the [top cover](#).
3. Follow the procedure in [After working inside your computer](#).

System board

Removing the system board

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [top cover](#).
3. Remove the [speaker](#).
4. Remove the [coin-cell battery](#).
5. Remove the [M.2 2230 solid state drive](#) or [M.2 2280 solid state drive](#) in single solid state drive configuration, if applicable.
6. Remove the [M.2 2230 solid state drive](#) or [M.2 2280 solid state drive](#) in dual solid state drive configuration, if applicable.
7. Remove the [wireless card](#).
8. Remove the [fan](#).
9. Remove the [memory](#).
10. Remove the [heat sink](#).
11. Remove the optional module, whichever is applicable.
 - [Dual USB 3.2 Gen 2 ports module](#)
 - [USB Type-C port module](#)
 - [DisplayPort module](#)
 - [HDMI port module](#)
 - [VGA port module](#)
 - [PS/2 and Serial port module](#)
 - [Serial port module](#)
 - [Fiber optic port module](#)
12. Remove the [speaker holder](#).

About this task

The following images indicate the system board connectors.

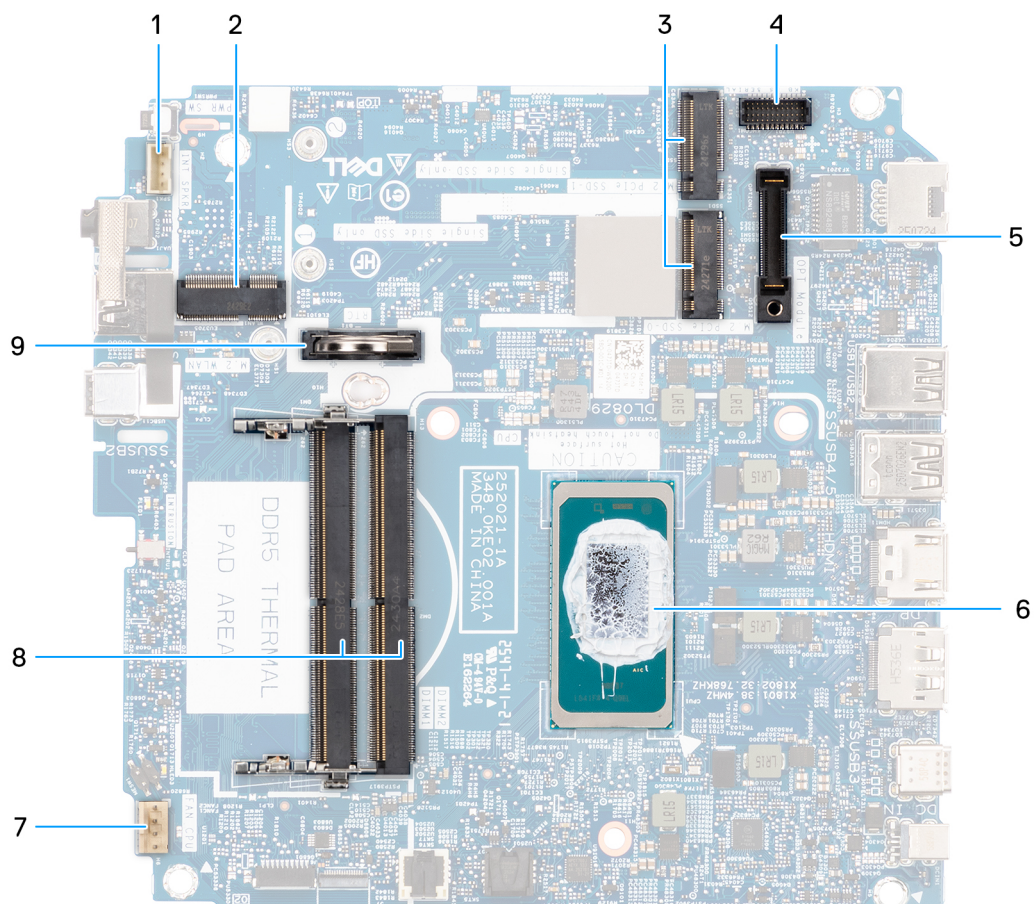


Figure 65. System board connectors

1. Speaker connector (INT SPK)
2. Wireless card slot (M.2 WLAN)
3. M.2 Solid state drive slots (M.2 PCIe SSD-0 and M.2 PCIe SSD-1)
4. Optional PS/2 and serial, serial port connector (KB MS SERIAL)
5. Optional port connector (OPTION)
6. Processor
7. Fan connector (FAN CPU)
8. Memory-module slots (DIMM1 and DIMM2)
9. Coin-cell battery

The following images indicate the location of the system board and provide a visual representation of the removal procedure.

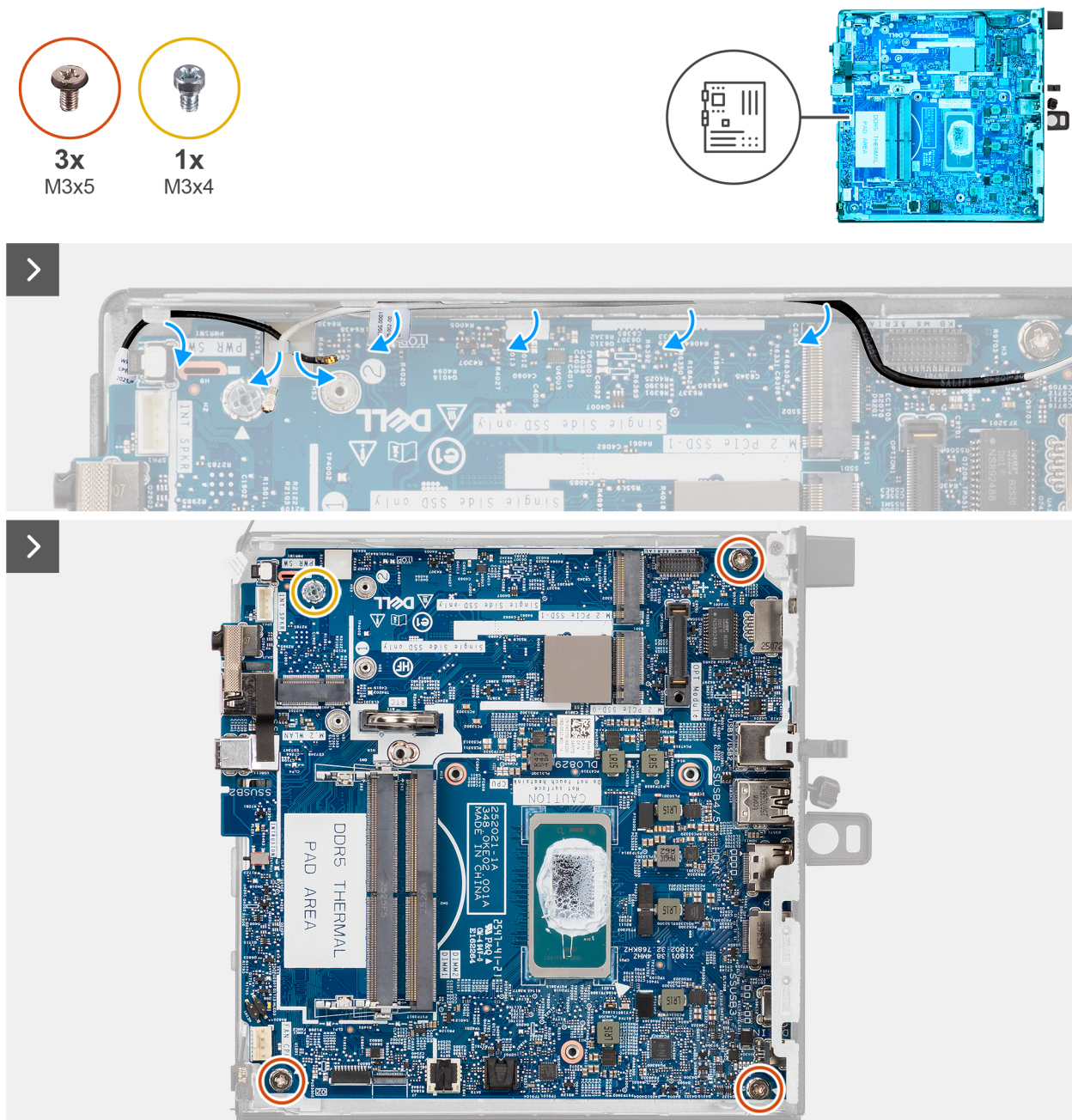


Figure 66. Removing the system board

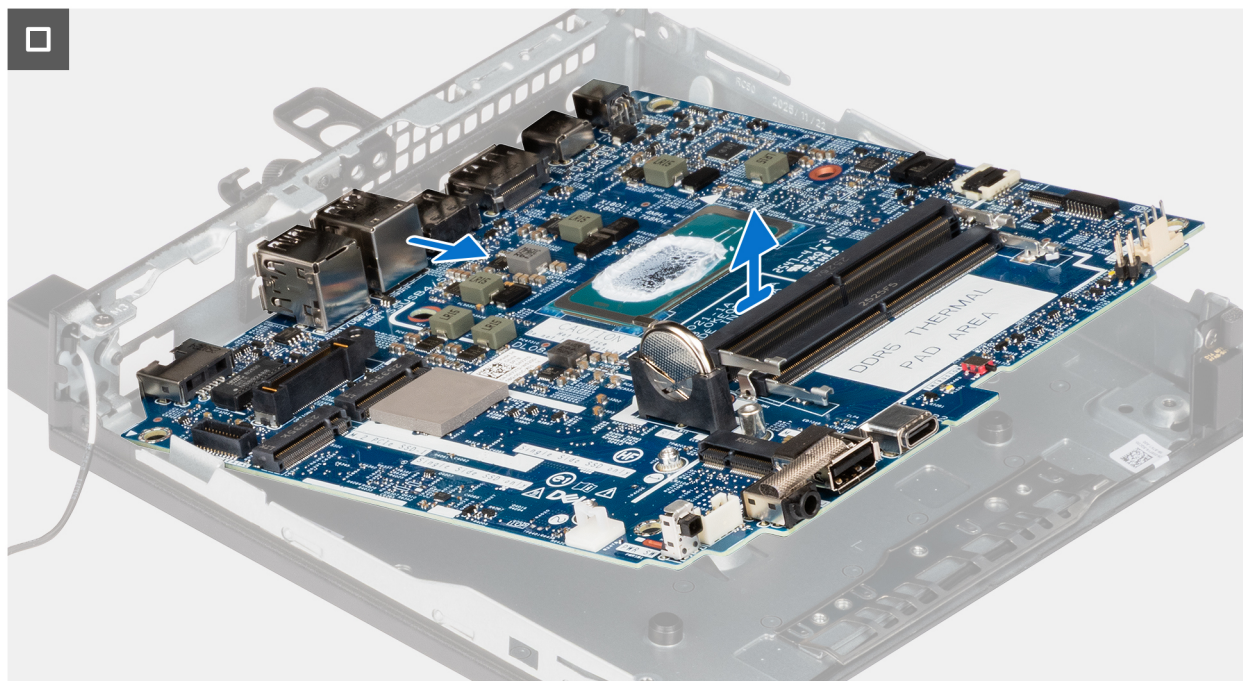


Figure 67. Removing the system board

Steps

1. Remove the wireless-card cables from their routing guides on the system board.
2. Remove the three screws (M3x5) that secure the system board to the chassis.
3. Remove the screw mount (M3x4) that secure the system board to the chassis.
4. Lift the system board at an angle and remove it from the chassis.

Installing the system board

Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

About this task

The following images indicate the system board connectors.

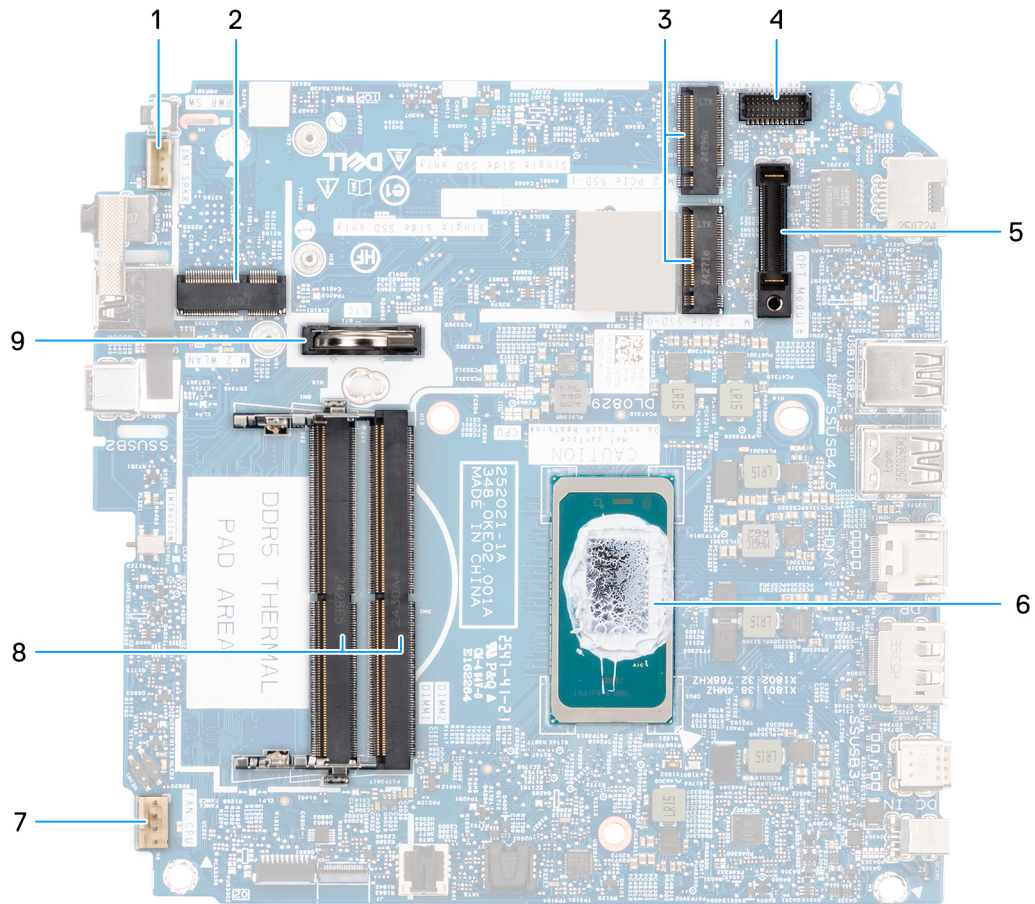


Figure 68. System board connectors

1. Speaker connector (INT SPK)
2. Wireless card slot (M.2 WLAN)
3. M.2 Solid state drive slots (M.2 PCIe SSD-0 and M.2 PCIe SSD-1)
4. Optional PS/2 and serial, serial port connector (KB MS SERIAL)
5. Optional port connector (OPTION)
6. Processor
7. Fan connector (FAN CPU)
8. Memory-module slots (DIMM1 and DIMM2)
9. Coin-cell battery

The following images indicate the location of the system board and provide a visual representation of the installation procedure.



3x
M3x5



1x
M3x4

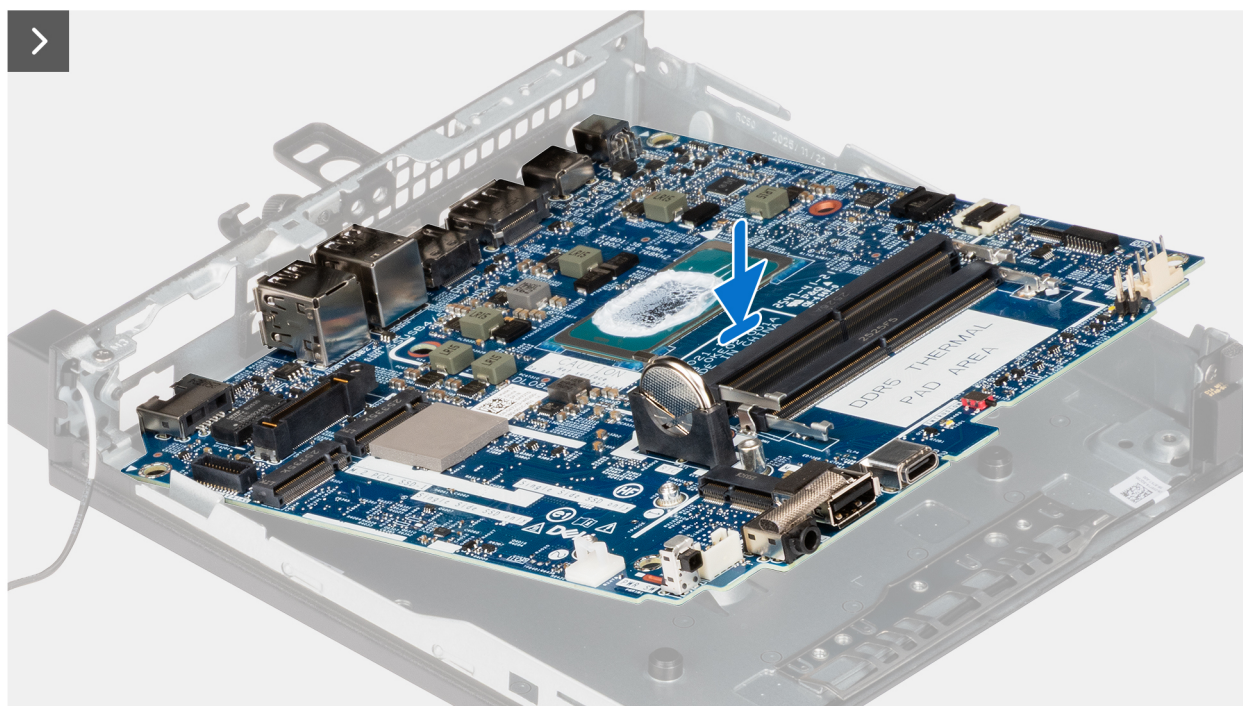
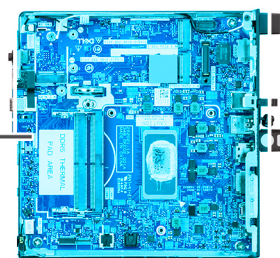


Figure 69. Installing the system board

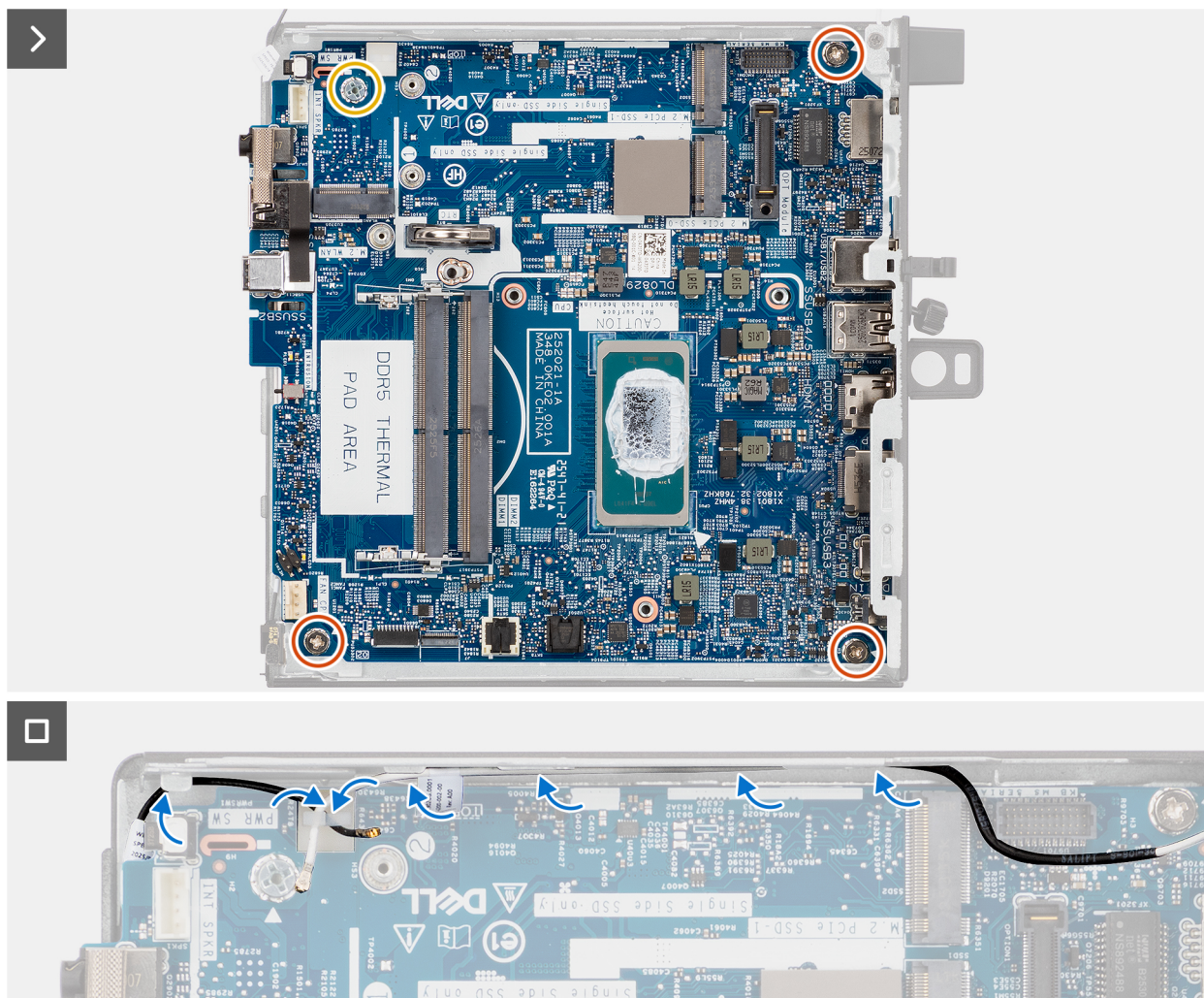


Figure 70. Installing the system board

Steps

1. Align and lower the system board into the chassis until the standoff points at the back of the system board align with those on the chassis.
2. Replace the screw mount (M3x4) to secure the system board to the chassis.
3. Replace the three screws (M3x5) to secure the system board to the chassis.
4. Rout the wireless-card cables into their routing guides on the system board.

Next steps

1. Install the [speaker holder](#).
2. Install the optional module, whichever is applicable.
 - [Dual USB 3.2 Gen 2 ports module](#)
 - [USB Type-C port module](#)
 - [DisplayPort module](#)
 - [HDMI port module](#)
 - [VGA port module](#)
 - [PS/2 and Serial port module](#)
 - [Serial port module](#)
 - [Fiber optic port module](#)
3. Install the [heat sink](#).
4. Install the [memory](#).
5. Install the [fan](#).
6. Install the [wireless card](#).

7. Install the [M.2 2230 solid state drive](#) or [M.2 2280 solid state drive](#) in single solid state drive configuration, if applicable.
8. Install the [M.2 2230 solid state drive](#) or [M.2 2280 solid state drive](#) in dual solid state drive configuration, if applicable.
9. Install the [coin-cell battery](#).
10. Install the [speaker](#).
11. Install the [top cover](#).
12. Follow the procedure in [After working inside your computer](#).

Software

This chapter details the supported operating systems along with instructions on how to install the drivers.

Operating system

Your Dell Pro 5 Micro P5M1260 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro
- Ubuntu Linux 24.04 LTS, 64-bit
- No OS

Drivers and downloads

When troubleshooting, downloading, or installing drivers, it is recommended that you read the Dell Knowledge Base article [Drivers and Downloads FAQs](#).

BIOS Setup

CAUTION: Certain changes can make your computer work incorrectly. Before you change the settings in BIOS Setup, it is recommended that you note down the original settings for future reference.

NOTE: Depending on the computer and the installed devices, the options that are listed in below may differ.

Use BIOS Setup for the following purposes:

- Get information about the hardware installed in your computer, such as the amount of RAM and the capacity of the storage device.
- Change the system configuration information.
- Set or change user-selectable options such as the user password, enabling or disabling base devices, and configuring hard drive settings.

Entering BIOS Setup program

Turn on or restart your computer and press F2 immediately.

Navigation keys

NOTE: For most of the BIOS Setup options, changes that you make are recorded but do not take effect until you restart the computer.

Table 4. Navigation keys

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
Enter	Selects a value in the selected field (if applicable) or follows the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
Tab	Moves to the next focus area.
Esc	Moves to the previous page until you view the main screen. Pressing Esc in the main screen displays a message that prompts you to save any unsaved changes and restart the computer.

F12 One Time Boot menu

To enter the One Time Boot menu, turn on or restart your computer, and then press F12 immediately.

NOTE: If you are unable to enter the One Time Boot menu, repeat the above action.

The One Time Boot menu displays the devices that you can boot from and also display the options to start diagnostics. The boot menu options are:

- Removable Drive (if available)
- STXXXX Drive (if available)

 **NOTE:** XXX denotes the SATA drive number.

- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

The One Time Boot menu screen also displays the option to access BIOS Setup.

BIOS Setup options

 **NOTE:** Depending on your computer and its installed devices, the items that are listed in this section may or may not be displayed.

Table 5. BIOS Setup options—Overview menu

Overview	Description
Dell Pro 5 Micro P5M1260	
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the Service Tag of the computer.
Asset Tag	Displays the Asset Tag of the computer.
Manufacture Date	Displays the manufacture date of the computer.
Ownership Date	Displays the ownership date of the computer.
Express Service Code	Displays the Express Service Code of the computer.
Ownership Tag	Displays the Ownership Tag of the computer.
Signed Firmware Update	Displays whether the Signed Firmware Update is enabled on your computer. By default, the Signed Firmware Update option is enabled.
Battery Information	
Primary	Displays the primary battery of the computer.
Battery Level	Displays the battery level of the computer.
Battery State	Displays the battery state of the computer.
Health	Displays the battery health of the computer.
AC Adapter	Displays whether an AC adapter is connected. If connected, displays the type of AC adapter that is connected.
Processor Information	
Processor Type	Displays the processor type.
Maximum Clock Speed	Displays the maximum processor clock speed.
Minimum Clock Speed	Displays the minimum processor clock speed.
Current Clock Speed	Displays the current processor clock speed.
Core Count	Displays the number of cores on the processor.
Processor ID	Displays the processor identification code.
Processor L2 Cache	Displays the processor L2 cache size.
Processor L3 Cache	Displays the processor L3 cache size.
Microcode Version	Displays the microcode version.
Intel Hyper-Threading Capable	Displays whether the processor is Hyper-Threading (HT) capable.

Table 5. BIOS Setup options—Overview menu (continued)

Overview	Description
Intel vPro Technology	Displays the status of Intel vPro technology in your computer.
Memory Information	
Memory Installed	Displays the total memory that is installed on the computer.
Memory Available	Displays the total memory available on the computer.
Memory Speed	Displays the memory speed.
Memory Technology	Displays the technology that is used for the memory.
DIMM 1 Size	Displays the DIMM 1 memory size.
DIMM 2 Size	Displays the DIMM 2 memory size.
Devices Information	
Video Controller	Displays the type of video controller available on the computer.
Video Memory	Displays the video memory information of the computer.
Wi-Fi Device	Displays the wireless device information of the computer.
Native Resolution	Displays the native resolution of the computer.
Video BIOS Version	Displays the video BIOS version of the computer.
Audio Controller	Displays the audio controller information of the computer.
Bluetooth Device	Displays the Bluetooth device information of the computer.
LOM MAC Address	Displays the MAC address of the video pass-through.

Table 6. BIOS Setup options—Boot Configuration menu

Boot Configuration	Description
Boot Sequence	
Boot Mode: UEFI only	Displays the boot mode of the computer.
Boot Sequence	Displays the boot sequence.
Enable PXE Boot Priority	Enables or disables the option to add a new PXE boot to the top of the Boot Sequence. By default, the OFF option is disabled.
Force PXE On Next Boot	Enables or disables the Force PXE feature on the next boot. By default, the Force PXE On Next Boot option is disabled.
Secure Boot	
Enable Secure Boot	Enable or disable the secure boot feature. By default, the OFF option is disabled.
Enable Microsoft UEFI CA	Enable or disable Microsoft UEFI Certificate Authority. By default, the ON option is enabled.  CAUTION: Disabling Microsoft UEFI CA could render your system being unable to boot. System graphics may not function, some devices may not function properly. The system could become unrecoverable.
Secure Boot Mode	Change the secure boot mode options. By default, the Deployed Mode option is enabled.
Expert Key Management	

Table 6. BIOS Setup options—Boot Configuration menu (continued)

Boot Configuration	Description
Enable Custom Mode	Enable or disable custom mode. By default, the OFF option is disabled.
Custom Mode Key Management	Select the custom values for expert key management.

Table 7. BIOS Setup options—Integrated Devices menu

Integrated Devices	Description
Date/Time	
Date	Sets the computer date in MM/DD/YYYY format. Changes to the date format take effect immediately.
Time	Sets the computer time in HH/MM/SS 24-hour format. You can select between a 12-hour and 24-hour clock. Changes to the time format take effect immediately.
Audio	
Enable Audio	Enable or disable the integrated audio controller. By default, all the options are enabled.
USB Configuration	Enable or disable booting from USB mass storage devices through the boot sequence or boot menu. By default, all the options are enabled.
Front USB Configuration	Enable or disable the individual front USB ports. By default, all the options are enabled.
Rear USB Configuration	Enable or disable the individual rear USB ports. By default, all the options are enabled.
Dust Filter Maintenance	Enable or disable the dust filter maintenance. By default, the Disabled option is enabled.

Table 8. System setup options—Storage menu

Storage	
SATA/NVMe Operation	Enable or disable the operating mode of the integrated SATA hard drive controller. By default, the RAID On option is enabled.
Storage Interface	
Port Enablement	Enable or disable the onboard drives. By default, all the onboard drives are enabled.
M.2 PCIe SSD-0	Enable or disable the M.2 PCIe SSD-0 solid-state drive. By default, the ON option is enabled.
M.2 PCIe SSD-1	Enable or disable the M.2 PCIe SSD-1 solid-state drive. By default, the ON option is enabled.
SMART Reporting	
Enable SMART Reporting	Enable or disable Self-Monitoring, Analysis, and Reporting Technology (SMART) during computer startup. By default, the OFF option is disabled.

Table 8. System setup options—Storage menu (continued)

Storage	
Drive Information	
M.2 PCIe SSD-0	
Type	Displays the M.2 PCIe SSD-0 type information of the computer.
Device	Displays the M.2 PCIe SSD-0 device information of the computer.
Drive Information	
M.2 PCIe SSD-1	
Type	Displays the M.2 PCIe SSD-1 type information of the computer.
Device	Displays the M.2 PCIe SSD-1 device information of the computer.

Table 9. System setup options—Security menu

Security	
Absolute	
Absolute	Absolute Software provides various cyber security solutions, some requiring software preloaded on Dell computers and integrated into the BIOS. To use these features, you must enable the Absolute BIOS setting and contact Absolute for configuration and activation. By default, the Enable Absolute option is enabled. For additional security, Dell Technologies recommends keeping the Absolute option enabled.  NOTE: When the Absolute features are activated, the Absolute integration cannot be disabled from the BIOS setup screen.
Firmware Device Tamper Detection	
Firmware Device Tamper Detection	Controls the Firmware Device Tamper Detection. By default, the Silent option is selected.
Clear Firmware Device Tamper Detection	By default, the OFF option is enabled.

Table 10. System setup options—Passwords menu

Passwords	
Admin Password	Set, change, or delete the administrator password.
System Password	Set, change, or delete the computer password.
M.2 PCIe SSD-0	Set, change, or delete the M.2 PCIe SSD-0 password.

Table 11. System setup options—Update, Recovery menu

Update, Recovery	
SupportAssist OS Recovery	Enables or disables the boot flow for SupportAssist OS Recovery tool in the event of certain computer errors. By default, the ON option is enabled.
BIOSConnect	Enables or disables cloud Service operating system recovery if the main operating system fails to boot with the number of failures equal to or greater than the value specified by the Auto operating system Recovery Threshold setup option and local Service operating system does not boot or is not installed. By default, the ON option is enabled.
Dell Auto OS Recovery Threshold	Allows you to control the automatic boot flow for SupportAssist System Resolution Console and for Dell operating system Recovery Tool.

Table 11. System setup options—Update, Recovery menu (continued)

Update, Recovery	
By default, the value of 2 option is selected.	

Table 12. System setup options—System Management menu

System Management	
Service Tag	Display the Service Tag of the computer.
Asset Tag	Creates a computer Asset Tag that can be used by an IT administrator to uniquely identify a particular computer.  NOTE: Once set in BIOS, the Asset Tag cannot be changed.

Table 13. System setup options—Keyboard menu

Keyboard	
Numlock LED	
Enable Numlock LED	Enable or disable Numlock LED. By default, the ON option is enabled.

Table 14. System setup options—Pre-boot Behavior menu

Pre-boot Behavior	
Adapter Warnings	
Enable Adapter Warnings	Enables the warning messages during boot when the adapters with less power capacity are detected. By default, the ON option is enabled.
Warning and Errors	Enables or disables the action to be taken when a warning or error is encountered. By default, the Prompt on Warnings and Errors option is selected. Stop, prompt, and wait for user input when warnings or errors are detected.  NOTE: Errors deemed critical to the operation of the computer hardware stop the functioning of the computer.

Table 15. System setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear Bios Event Log	Allows you to select option to keep or clear BIOS events logs. By default, the Keep Log option is selected.
Power Event Log	
Clear Power Event Log	Allows you to select option to keep or clear Power events logs. By default, the Keep Log option is selected.

Updating the BIOS

Updating the BIOS in Windows

About this task

 **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, refer [Updating the BIOS on Dell systems with BitLocker enabled](#).

 **CAUTION:** Do not turn off the computer during the BIOS flash update process. The computer may not boot if you turn off your computer.

Steps

1. Go to [Dell Support Site](#).
2. Go to **Identify your product or ask support**. In the box, enter the product identifier, model, service request or describe what you are looking for, and then click **Search**.
 **NOTE:** If you do not have the Service Tag, click **Detect This PC**. The site automatically detects your device, and you can then click **Explore Product Support** to go to the support page for your device. You can also use the product ID or manually browse for your computer model.
3. Click **Drivers & Downloads**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. After the download is complete, navigate to the folder where the BIOS update file has been saved.
8. Double-click the BIOS update file and follow the on-screen instructions.
For more information, search [Dell Support Site](#).

Updating the BIOS using the USB drive in Windows

About this task

 **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, refer [Updating the BIOS on Dell systems with BitLocker enabled](#).

 **CAUTION:** Do not turn off the computer during the BIOS flash update process. The computer may not boot if you turn off your computer.

Steps

1. Go to [Dell Support Site](#).
2. Go to **Identify your product or ask support**. In the box, enter the product identifier, model, service request or describe what you are looking for, and then click **Search**.
 **NOTE:** If you do not have the Service Tag, click **Detect This PC**. The site automatically detects your device, and you can then click **Explore Product Support** to go to the support page for your device. You can also use the product ID or manually browse for your computer model.
3. Click **Drivers & Downloads**.

4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. Create a bootable USB drive. For more information, search [Dell Support Site](#).
8. Copy the BIOS setup program file to the bootable USB drive.
9. Connect the bootable USB drive to the computer that needs the BIOS update.
10. Restart the computer and press **F12**.
11. Select the USB drive from the **One Time Boot Menu**.
12. Type the BIOS setup program filename and press **Enter**.
The **BIOS Update Utility** appears.
13. Follow the on-screen instructions to complete the BIOS update.

Updating the BIOS from the One-Time boot menu

To update the BIOS from the One-Time boot menu, see [Updating the BIOS from the One Time Boot Menu](#) at [Dell Support Site](#)..

Updating the BIOS in Linux and Ubuntu

To update the system BIOS on a computer that is installed with Linux or Ubuntu, see [How to Update the Dell BIOS in the Ubuntu or Linux Environment](#) at [Dell Support Site](#).

System and setup password

 **CAUTION:** The password features provide a basic level of security for the data on your computer.

 **CAUTION:** Ensure that your computer is locked when it is not in use. Anyone can access the data that is stored on your computer, when left unattended.

Table 16. System and setup password

Password type	Description
System password	Password that you must enter to boot to your operating system.
Setup password	Password that you must enter to access and change the BIOS settings of your computer.

You can create a system password and a setup password to secure your computer.

 **NOTE:** The System and setup password feature is disabled by default.

Assigning a System Setup password

Prerequisites

You can assign a new System or Admin Password only when the status is set to **Not Set**. To enter BIOS System Setup, press F2 immediately after a power-on or reboot.

Steps

1. To enter the **System Setup**, press **F2** immediately after a power-on or reboot.
2. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
The **Security** screen is displayed.
3. Select **System/Admin Password** and create a password in the **Enter the new password** field.
Use the following guidelines to create the system password:

- Password can be up to 32 characters.
 - Password must contain at least one special character: "(! " # \$ % & ' * + , - . / : ; < = > ? @ [\] ^ _ ` { | })"
 - The password can contain numbers from 0 to 9.
 - The password can contain alphabets A to Z and a to z.
4. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
 5. Press Y to save the changes.
The computer restarts.

Deleting or changing an existing system password or setup password

Prerequisites

Ensure that the **Password Status** is Unlocked in the System Setup before attempting to delete or change the existing system password and/or setup password. You cannot delete or change an existing system password or setup password if the **Password Status** is Locked. To enter the System Setup, press F2 immediately after a power-on or reboot.

Steps

1. To enter the **System Setup**, press **F2** immediately after a power-on or reboot.
2. In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.
The **System Security** screen is displayed.
3. In the **System Security** screen, verify that the **Password Status** is Unlocked.
4. Select **System Password**. Update or delete the existing system password, and press Enter or Tab.
5. Select **Setup Password**. Update or delete the existing setup password, and press Enter or Tab.
 **NOTE:** If you change the system password and/or setup password, reenter the new password when prompted. If you delete the system password and/or setup password, confirm the deletion when prompted.
6. Press Esc. A message prompts you to save the changes.
7. Press Y to save the changes and exit from **System Setup**.
The computer restarts.

Clearing system and setup passwords

About this task

To clear the system or setup passwords, contact Dell technical support as described at [Contact Support](#).

 **NOTE:** For information about how to reset Windows or application passwords, see the documentation accompanying Windows or your application.

Clearing CMOS settings

About this task

 **CAUTION:** Clearing CMOS settings resets the BIOS settings on your computer.

Steps

1. Remove the [side cover](#).
2. Remove the [coin-cell battery](#).
3. Wait for one minute.
4. Replace the [coin-cell battery](#).
5. Replace the [side cover](#).

Troubleshooting

Dell SupportAssist Pre-boot System Performance Check diagnostics

About this task

SupportAssist diagnostics (also known as system diagnostics) performs a complete check of your hardware. The Dell SupportAssist Pre-boot System Performance Check diagnostics is embedded within the BIOS and launched by the BIOS internally. The embedded system diagnostics provides options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode.
- Repeat the tests.
- Display or save test results.
- Run thorough tests to add more options and obtain details about any failed devices.
- View status messages that inform you when the tests are completed successfully.
- View error messages that inform you of problems encountered during testing.

 **NOTE:** Some tests for specific devices require user interaction. Always ensure that you are present at the computer when the diagnostic tests are performed.

For more information, see [How to Run Dell Preboot Diagnostics and Hardware Tests on Your Dell Computer](#).

Running the SupportAssist Pre-Boot System Performance Check

Steps

1. Turn on your computer.
2. As the computer boots, press the F12 key.
3. On the boot menu screen, select **Diagnostics**.
The quick diagnostic test begins.

 **NOTE:** For more information about running the SupportAssist Pre-Boot System Performance Check on a specific device, see [Dell Support Site](#).

4. If there are any issues, error codes are displayed.
Note the error code and validation number and contact Dell.

Power-Supply Unit Built-in Self-Test

Built-in Self-Test (BIST) helps determine if the power-supply unit is working. To run self-test diagnostics on the power-supply unit of a desktop or all-in-one computer, search in the Knowledge Base Resource at [Dell Support Site](#).

System-diagnostic lights

This section lists the system-diagnostic lights of your Dell Pro 5 Micro P5M1260.

The following table shows different Service LED blinking patterns and associated problems. The diagnostic light codes consist of a two-digit number, and the digits are separated by a comma. The number stands for a blinking pattern; the first digit shows the number of blinks in amber color, and the second digit shows the number of blinks in white color. The Service LED blinks in the following manner:

- The Service LED blinks the number of times equal to the value of the first digit and turns off with a short pause.
- After that, the Service LED blinks the number of times equal to the value of the second digit.

- The Service LED turns off again with a longer pause.
- After the second pause, the blinking pattern will be repeated.

Table 17. Diagnostic light codes

Diagnostic light codes (Amber, White)	Problem description
1,1	TPM Detection Failure
1,2	Unrecoverable SPI Flash Failure
1,5	EC unable to program i-Fuse
1,6	Generic catch-all for ungraceful EC code flow errors
2,1	CPU configuration or CPU failure
2,2	System board: BIOS or Read-Only Memory (ROM) failure
2,3	No memory or Random-Access Memory (RAM) detected
2,4	Memory or Random-Access Memory (RAM) failure
2,5	Invalid memory installed
2,6	System board/Chipset Error
3,1	CMOS battery failure
3,2	PCI of Video card/chip failure
3,3	Recovery image not found
3,4	Recovery image found but invalid
3,5	EC power-rail error
3,6	Flash corruption detected by SBIOS
4,1	Memory DIMM power rail failure
4,2	CPU Power cable connection issue
5,2	EC detect invalid platform ID (0xFF) from board

Recovering the operating system

When your computer is unable to boot to the operating system even after repeated attempts, it automatically starts Dell SupportAssist OS Recovery.

Dell SupportAssist OS Recovery is a standalone tool that is preinstalled on Dell computers running the Windows operating system. It consists of tools to diagnose and troubleshoot issues that may occur before your computer boots to the operating system. It enables you to diagnose hardware issues, repair your computer, back up your files, and restore your computer to its factory state.

You can also download it from the Dell Support website to troubleshoot and fix your computer when it fails to boot into the primary operating system due to software or hardware failures.

For more information about the Dell SupportAssist OS Recovery, see *Dell SupportAssist OS Recovery User's Guide* at [Serviceability Tools at the Dell Support Site](#). Click **SupportAssist** and then click **SupportAssist OS Recovery**.

 **NOTE:** Windows 11 IoT Enterprise LTSC 2024 and Dell ThinOS 10 do not support Dell SupportAssist. For more information about recovering ThinOS 10, see [Recovery mode using R-Key](#).

Real-Time Clock (RTC Reset)

The Real-Time Clock (RTC) reset function enables you or the service technician to recover Dell computers from No POST/No Power/No Boot situations.

Start the RTC reset with the computer powered off and connected to AC power. Press and hold the power button for twenty-five seconds. The computer RTC Reset occurs after you release the power button.

Backup media and recovery options

It is recommended to create a recovery drive to troubleshoot and fix problems that may occur with Windows. Dell provides multiple options for recovering the Windows operating system on your Dell computer. For more information, see [Dell Windows Backup Media and Recovery Options](#).

Network power cycle

About this task

If your computer is unable to access the Internet due to network connectivity issues, reset your network devices by performing the following steps:

Steps

1. Turn off the computer.
2. Turn off the modem.
 **NOTE:** Some Internet service providers (ISPs) provide a modem and router combo device.
3. Turn off the wireless router.
4. Wait for 30 seconds.
5. Turn on the wireless router.
6. Turn on the modem.
7. Turn on the computer.

Getting help and contacting Dell

Self-help resources

You can get information and help on Dell products and services using these self-help resources:

Table 18. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	Dell Site
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	Windows Support Site Linux Support Site
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell computer is uniquely identified using a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at Dell Support Site . For more information about how to find the Service Tag for your computer, see Locate the Service Tag on your computer .
Dell knowledge base articles	1. Go to Dell Support Site. 2. On the menu bar at the top of the Support page, select Support > Support Library. 3. In the Search field on the Support Library page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [Contact Support at Dell Support Site](#).

 **NOTE:** Availability of the services may vary depending on the country or region, and product.

 **NOTE:** If you do not have an active Internet connection, you can find contact information in your purchase invoice, packing slip, bill, or Dell product catalog.

Revision history

Tracks all updates that are made to the document. It typically includes the date of change, version number, and a brief description of the modification. This log helps maintain transparency, accountability, and a clear timeline of progress.

Table 19. Revision history

Revision	Date	Description
A00	03-2026	Original publish date.