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IN SEARCH OF INCREDIBLE

PN65 Series

Service Manual

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SERVICE AND SUPPORT

Visit our multi-language website at https://www.asus.com/support/.

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Chapter 1: Introduction

Disclaimer

ASUS is not responsible for direct, indirect, intentional or unintentional damages resulting from improper installation and operation.

Safety precautions

- Before handling components, use a grounded wrist strap or touch a safely grounded object to avoid damaging them due to static electricity.
- Keep liquids or moisture away from your Mini PC to avoid short circuits.
- Remove rings, watches, and any other metal objects from your hands.
- Hold components by the edges to avoid touching the ICs.
- Properly install all components before connecting the AC power.
- Do not use power adapters or batteries from other devices to reduce the risk of injury to persons due to fire or explosion. Use only certified power adapters or batteries supplied by the manufacturer or authorized retailers.
- Detach all clips or flaps before removing cables to prevent damage.

- Disconnect cables, connectors, and power plugs by pulling the plug evenly to avoid damage.
- Use screws with the correct specifications on your Mini PC to prevent damage.
- Confirm that the cable orientation is correct before connecting any cables.
- Photograph the appearance of cables, cable routing, connectors, and screws for later reference before proceeding with each step.

Pre-repair checklist

1. Read the entire manual before starting any service procedures and follow all instructions.
2. Back up your Mini PC.
3. Turn off your Mini PC.
4. Place your Mini PC on a stable surface.
5. Disconnect all connected peripherals and cables.

IMPORTANT!

- Purchase replacement components from an authorized retailer of this Mini PC to ensure maximum compatibility and reliability.
- Refer to https://www.asus.com for a list of compatible components.

NOTE:

- The illustrations are for reference only.
- Product and component images are for illustrative purposes only. The actual appearance and specifications may vary depending on the model.
- The procedures described in this manual may vary depending on the model configuration and may not reflect the entire servicing process. To service components that are not covered in this manual, please visit an authorized service center for assistance.
- Keep all adhesive tape, insulating materials, screws, and other removable items in a safe place until the service procedure is completed, as they may be needed during installation.

Diagnostics tool

Run system diagnosis in MyASUS after replacing any components to ensure that all components are working properly.

For more information, visit https://www.asus.com/support/myasus-deeplink/.

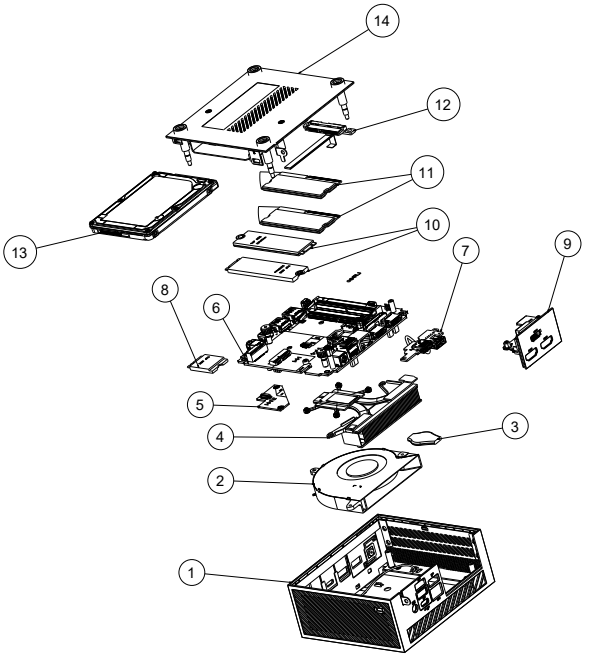
Installation tools

Screwdriver

Plastic blade

Tweezers

Major components



1. Chassis
2. Fan
3. Battery
4. Heatsink
5. Audio module
6. Motherboard
7. USB module
8. Wireless card
9. Configurable port module
10. M.2 SSD module
11. Memory module
12. SATA cable
13. HDD or SSD
14. Bottom cover

Accessories

Power adapter and cord

Chapter 2: Service Procedures

Bottom cover

Before you begin

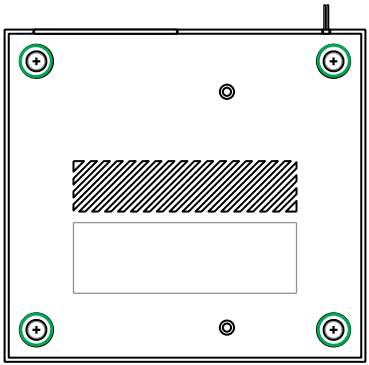
Read the **Safety Precautions** and complete the **Pre-repair Checklist**.

Screw list

- M3 X 5.2L captive (4 pcs)

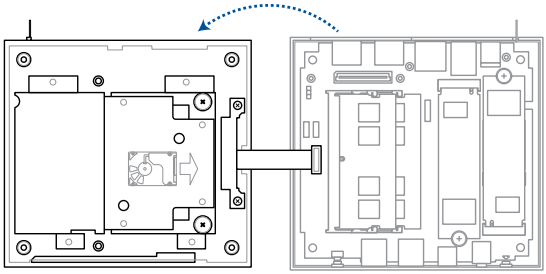
Removal

1. Place the Mini PC on a flat stable surface with its top side facing down.
2. Loosen the screw(s) from the Mini PC's bottom cover.



3. Remove the bottom cover by holding any two captive screws that are positioned diagonally across from each other and gently lifting the bottom cover up until it disengages from the chassis.

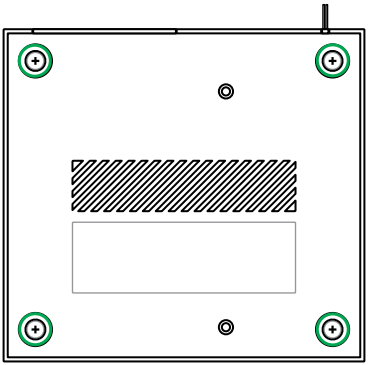
4. Flip the bottom cover over and set it next to the chassis as shown.



NOTE: You will only see a SATA cable if you purchased a model with a pre-installed 2.5-inch HDD or SSD.

Installation

1. Place the bottom cover into position as shown.
2. Tighten the screw(s) on the bottom cover to secure it in place.



HDD or SSD

Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):

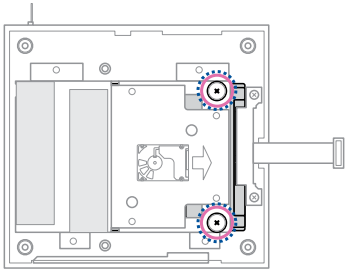
   Bottom cover

Screw list

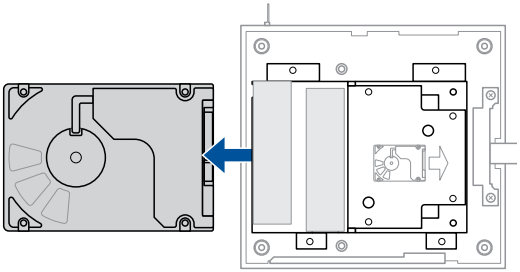
- M3 X L4 hand screw (2 pcs)
- M2 X L4 (2 pcs)

Removal

1. Remove the screw(s) securing the HDD or SSD in place.

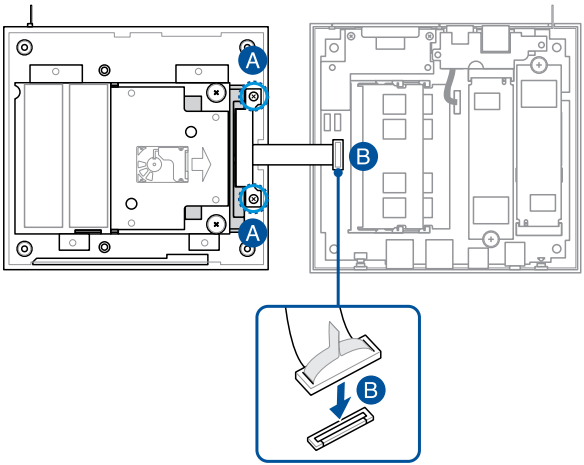


2. Remove the HDD or SSD.



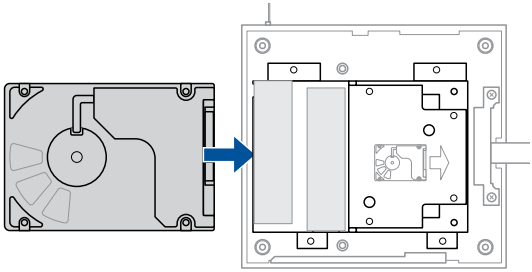
Installation

1. (Optional) If the SATA cable did not come pre-installed, install it by securing the molded end to the bottom cover with two (2) bundled screws (A) and inserting the other end to the SATA connector on the motherboard (B).

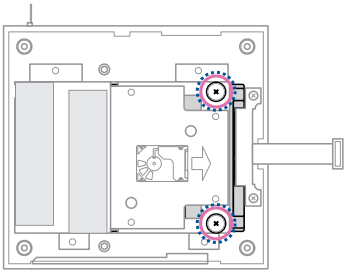


2. Align the HDD or SSD with the storage bay on the bottom cover of your Mini PC.

3. Insert the HDD or SSD into the storage bay.



4. Secure your HDD or SSD to the bottom cover with the screws removed earlier or bundled with your Mini PC.



5. Install the component(s) you removed in **Before you begin**.

Memory module(s)

IMPORTANT! You can only install DDR5 SO-DIMMs to the Mini PC's DIMM slot(s).

NOTE: We recommend that you install the memory module(s) under professional supervision. You may also visit an authorized service center for further assistance.

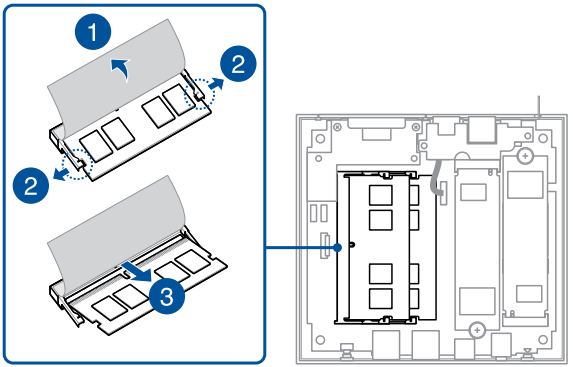
Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):

   Bottom cover

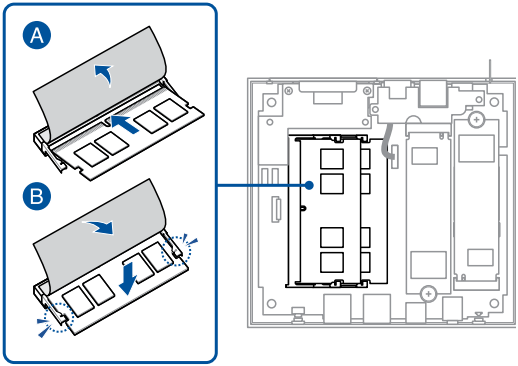
Removal

1. Flip the shielding foil to expose the memory slot(s)
2. Simultaneously press the two retaining clips outward.
3. Remove the module from the slot.
4. Repeat the same steps to remove the other module.



Installation

1. Align and insert the new memory module into the slot (A), and press down (B) until it is securely seated in place.



2. Repeat step 1 to install a second module.
3. Install the component(s) you removed in **Before you begin**.

M.2 SSD in the chassis

IMPORTANT! Thermal paste, thermal pads, liquid metal, or other thermal interface materials must be thoroughly removed and replaced if this component is removed. Ensure that replacement materials are available before proceeding, or contact an authorized service center for assistance.

Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):

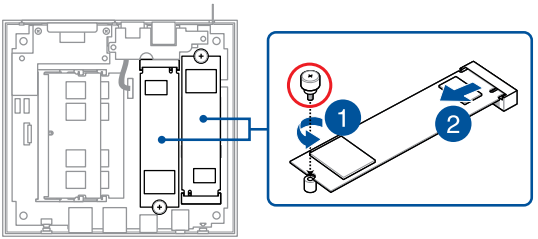
   Bottom cover

Screw list

- M2 X 3L hand screw (1 pc)

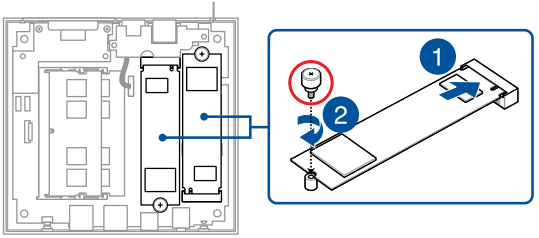
Removal

1. Remove the screw from the standoff.
2. Remove the M.2 SSD from the chassis.

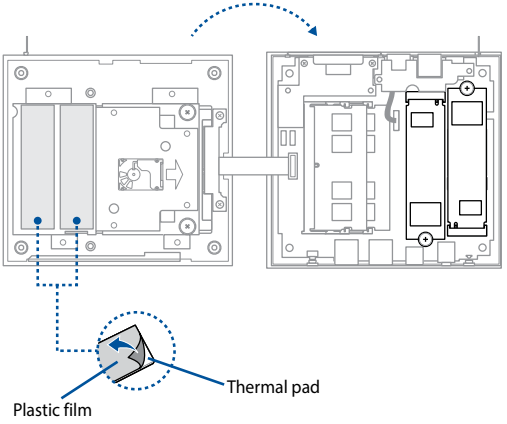


Installation

1. Align and insert the M.2 SSD.
2. Gently push down the M.2 SSD on top of the standoff, and secure it using the screw removed earlier.



3. Before replacing the bottom cover, ensure to remove the plastic film on the thermal pad(s), if they exists.



NOTE:

- The specifications for the thermal pad(s) used here are as follows:

Thickness:	2.0mm
Size:	66mm x 20mm
Thermal conductivity:	> 1.2 W/mK
Hardness (Shore 00):	< 30

- To replace the thermal pad yourself, check with an ASUS Service Partner near you (www.asus.com/support) for the availability of replacement thermal pads.
- The availability of replacement parts may vary depending on the country.

WARNING! Heat dissipation performance may still vary even when you have replaced the thermal pad with one that meets the specifications provided. To prevent potential damage to the M.2 SSD, you should have the thermal pad replaced by a service center near you.

4. Install the component(s) you removed in **Before you begin**.

Wireless card

Before you begin

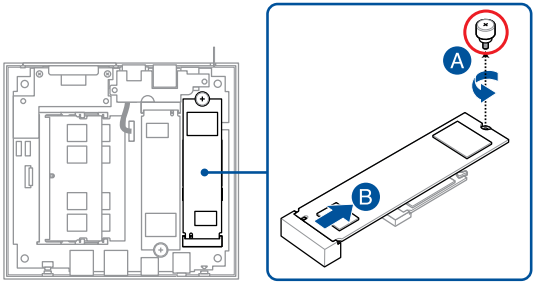
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover

Screw list

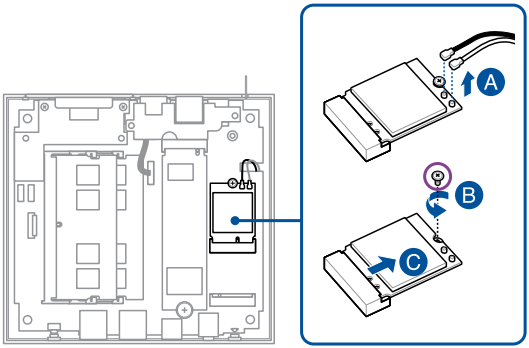
- M2 X 3L hand screw (1 pc)
- M2 X 2.5L (1 pc)

Removal

1. (Optional) If an M.2 SSD is installed over your wireless card, remove the screw securing it (A), and then remove the M.2 SSD (B).

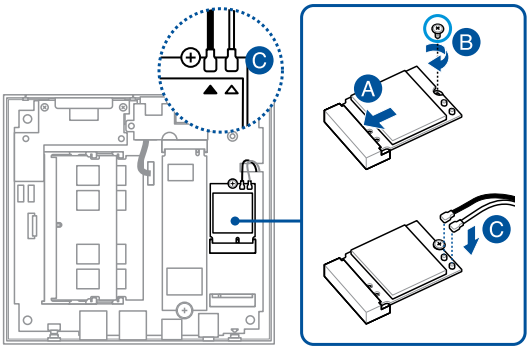


2. Remove the wireless card as shown.



Installation

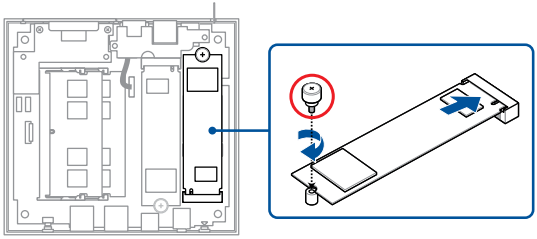
1. Install the wireless card as shown.



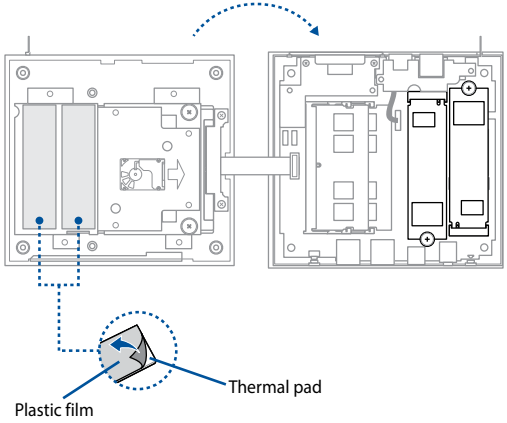
NOTE:

- Connect the black antenna cable to the wireless card connector marked with a black triangle ▲, and connect the white antenna cable to the one marked with a white triangle △.
- Connecting antennas to your wireless card may strengthen the wireless signal.
- A soft clicking sound indicates that the antenna has been securely attached to the wireless card.

2. (Optional) If an M.2 SSD was removed earlier, reinstall it as shown.



3. Before replacing the bottom cover, ensure to remove the plastic film on the thermal pad(s), if they exists.



NOTE:

- The specifications for the thermal pad(s) used here are as follows:

Thickness:	2.0mm
Size:	66mm x 20mm
Thermal conductivity:	> 1.2 W/mK
Hardness (Shore 00):	< 30

- To replace the thermal pad yourself, check with an ASUS Service Partner near you (www.asus.com/support) for the availability of replacement thermal pads.
- The availability of replacement parts may vary depending on the country.

WARNING! Heat dissipation performance may still vary even when you have replaced the thermal pad with one that meets the specifications provided. To prevent potential damage to the M.2 SSD, you should have the thermal pad replaced by a service center near you.

4. Install the component(s) you removed in **Before you begin**.

USB module

Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):

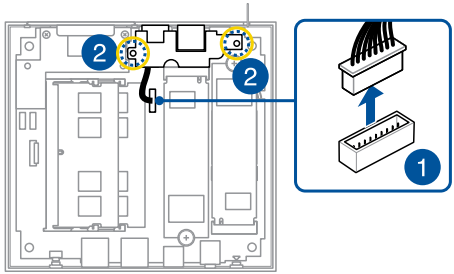
   Bottom cover

Screw list

- M2 X 3L (2 pcs)

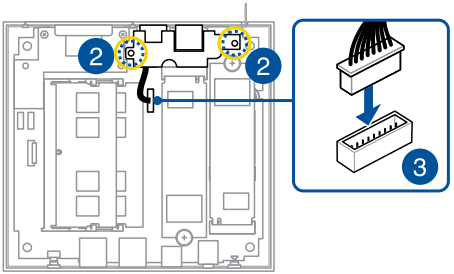
Removal

1. Disconnect the USB module cable from the motherboard.
2. Remove the screw(s) securing the USB module in place.
3. Remove the USB module.



Installation

1. Align and place the USB module on the bottom cover as shown.
2. Secure the USB module with the screw(s) you removed earlier.
3. Connect the USB module cable to the motherboard as shown.



4. Install the component(s) you removed in **Before you begin**.

Configurable port module

Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):

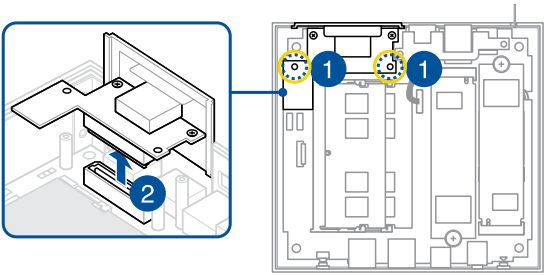
   Bottom cover

Screw list

- M2 X 3L (2 pcs)

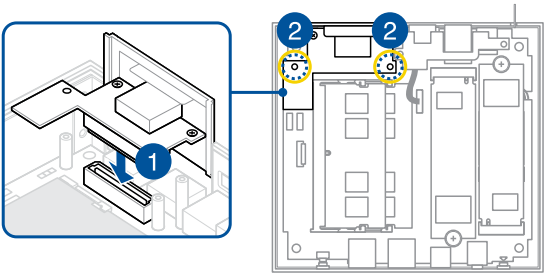
Removal

1. Remove the screw(s) securing the configurable port module in place.
2. Remove the configurable port module as shown.



Installation

1. Align and insert the configurable port module as shown.
2. Secure the configurable port module with the screw(s) you removed earlier.



3. Install the component(s) you removed in **Before you begin**.

Fan

Before you begin

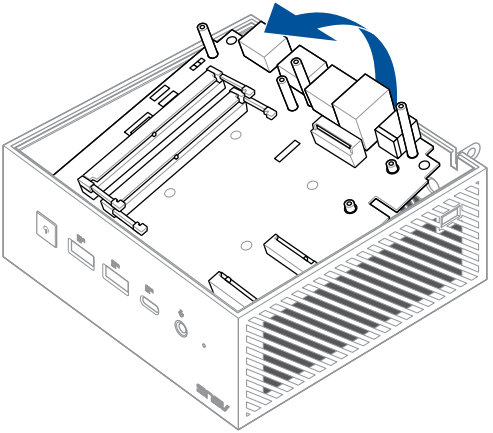
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - USB module
   - Configurable port module
   - M.2 SSD(s) (if installed)
   - Wireless card (if installed)

Screw list

- M2 X 6L (3 pcs)
- Heatsink captive screws (4 pcs)

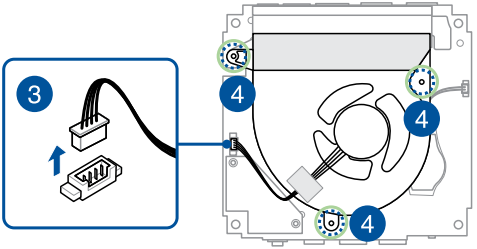
Removal

1. Remove the motherboard as shown.



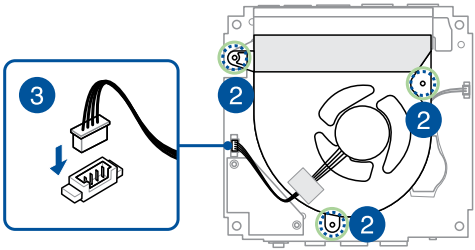
2. Place the motherboard face down.

3. Disconnect the fan cable from the motherboard.
4. Remove the screw(s) securing the fan to the heatsink.
5. Remove the fan.



Installation

1. Align and place the fan as shown.
2. Secure the fan with the screw(s) removed earlier.
3. Connect the cable from the fan to the fan connector on the motherboard.



4. Install the component(s) you removed in **Before you begin**.

Heatsink

WARNING! To prevent potential damage to the CPU, you should have the heatsink replaced by a service center near you.

IMPORTANT! Thermal paste, thermal pads, liquid metal, or other thermal interface materials must be thoroughly removed and replaced if this component is removed. Ensure that replacement materials are available before proceeding, or contact an authorized service center for assistance.

Before you begin

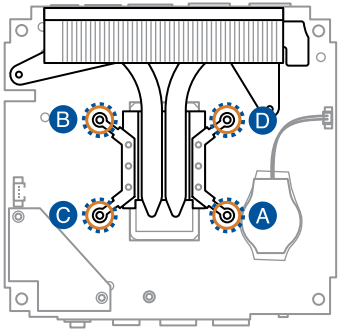
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - USB module
   - Configurable port module
   - M.2 SSD(s) (if installed)
   - Wireless card (if installed)
   - Fan

Screw list

● ⊕ Heatsink captive screws (4 pcs)

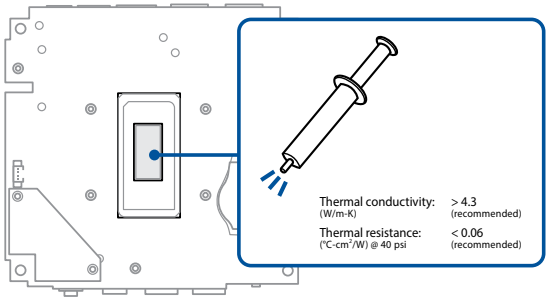
Removal

1. Loosen the heatsink screw(s) one by one in the sequence shown in the illustration.
2. Remove the heatsink.



Installation

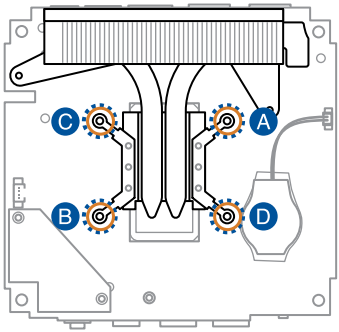
1. Wipe the CPU surface clean with an anti-static cloth. Apply several drops of Thermal Interface Material (TIM) to the exposed area of the CPU that will be in contact with the heatsink. Ensure that it is spread in an even thin layer.



WARNING! The TIM is toxic and inedible. DO NOT eat it. If it gets into your eyes or touches your skin, wash it off immediately, and seek professional medical help.

IMPORTANT! To prevent contaminating the TIM, DO NOT spread it with your finger.

2. Align and place the heatsink as shown, and secure it to the motherboard by tightening the screw(s) one by one in the sequence shown in the illustration.



3. Install the component(s) you removed in **Before you begin**.

Motherboard

Before you begin

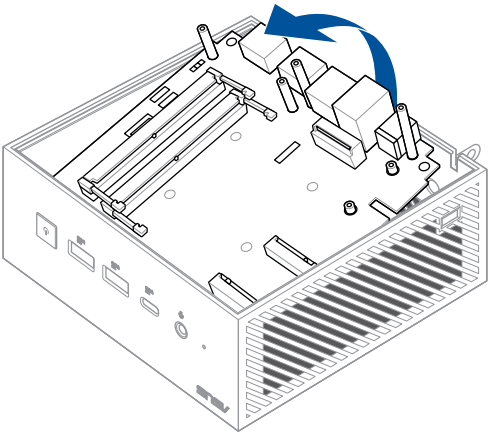
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - USB module
   - Configurable port module
   - M.2 SSD(s) (if installed)
   - Wireless card (if installed)

Screw list

- M2 X 6L (3 pcs)
- Heatsink captive screws (4 pcs)

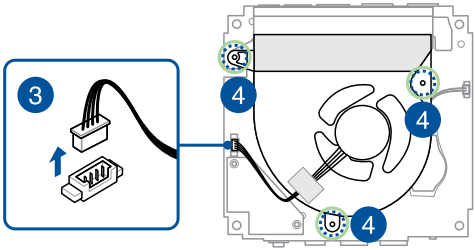
Removal

1. Remove the motherboard as shown.

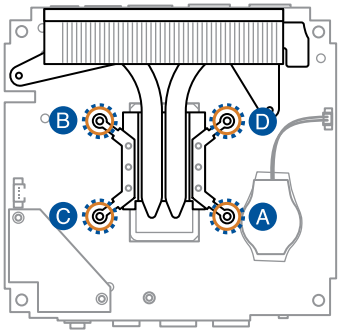


2. Place the motherboard face down.

3. Disconnect the fan cable from the motherboard.
4. Remove the screw(s) securing the fan to the heatsink.
5. Remove the fan.



6. Loosen the heatsink screw(s) one by one in the sequence shown in the illustration.



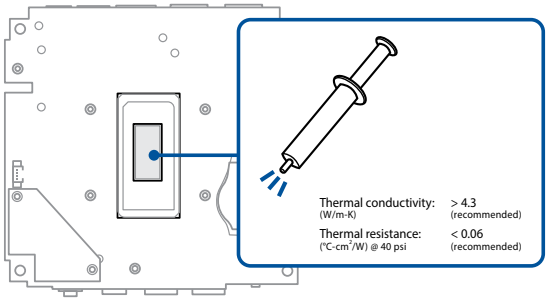
7. Remove the heatsink.

Installation

WARNING! To prevent potential damage to the CPU, you should have the heatsink replaced by a service center near you.

IMPORTANT! Thermal paste, thermal pads, liquid metal, or other thermal interface materials must be thoroughly removed and replaced if this component is removed. Ensure that replacement materials are available before proceeding, or contact an authorized service center for assistance.

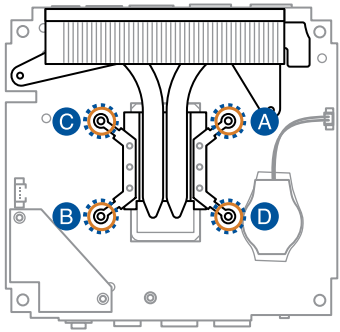
1. Prepare the motherboard by wiping the CPU surface clean with an anti-static cloth. Apply several drops of TIM to the exposed area of the CPU that will be in contact with the heatsink. Ensure that it is spread in an even thin layer.



WARNING! The TIM is toxic and inedible. DO NOT eat it. If it gets into your eyes or touches your skin, wash it off immediately, and seek professional medical help.

IMPORTANT! To prevent contaminating the TIM, DO NOT spread it with your finger.

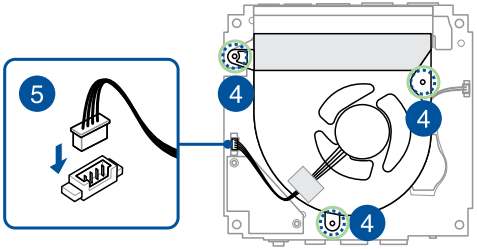
2. Align and place the heatsink as shown, and secure it to the motherboard by tightening the screw(s) one by one in the sequence shown in the illustration.



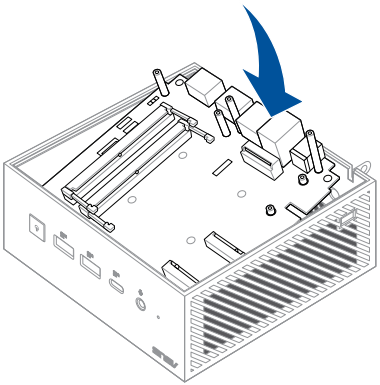
3. Align and place the fan as shown.

4. Secure the fan with the screw(s) removed earlier.

5. Connect the cable from the fan to the fan connector on the motherboard.



6. Align and place the motherboard in the chassis as shown.



7. Install the component(s) you removed in **Before you begin**.

Audio module

Before you begin

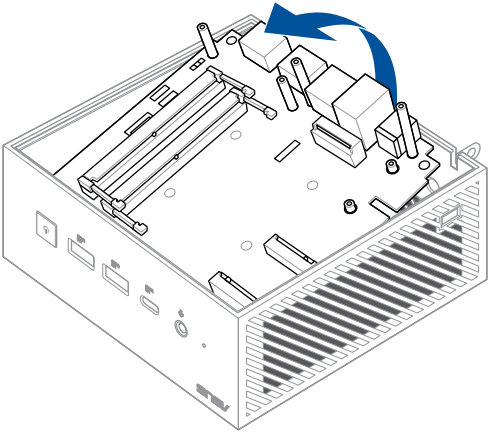
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - USB module
   - Configurable port module
   - M.2 SSD(s) (if installed)
   - Wireless card (if installed)

Screw list

- M2 X 3L (2 pcs)

Removal

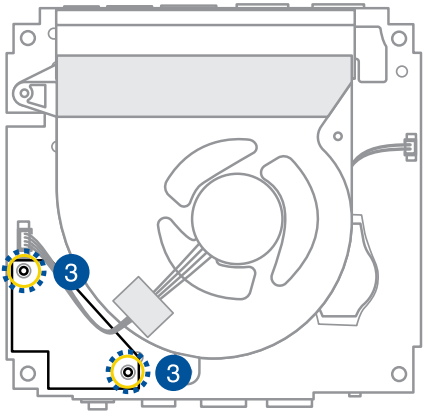
1. Remove the motherboard as shown.



2. Place the motherboard face down.

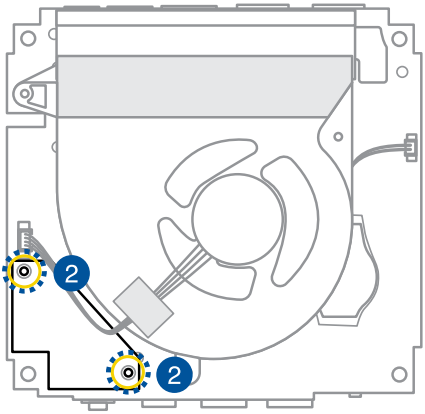
3. Remove the screw(s) securing the audio module to the motherboard.

4. Remove the audio module.



Installation

1. Align and place the audio module as shown.
2. Secure the audio module with the screw(s) removed earlier.



3. Install the component(s) you removed in **Before you begin**.

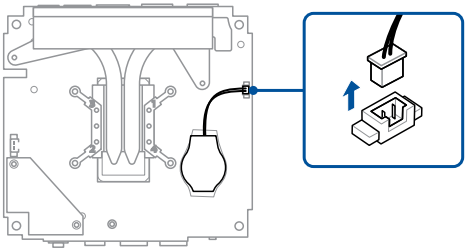
CMOS battery

Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - USB module
   - Configurable port module
   - M.2 SSD(s) (if installed)
   - Wireless card (if installed)
   - Motherboard
   - Fan

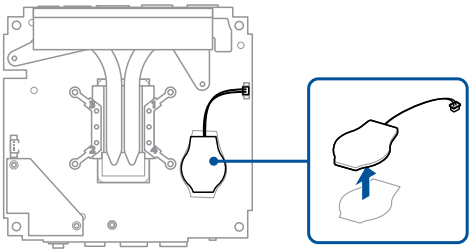
Removal

1. Disconnect the battery cable from the connector.



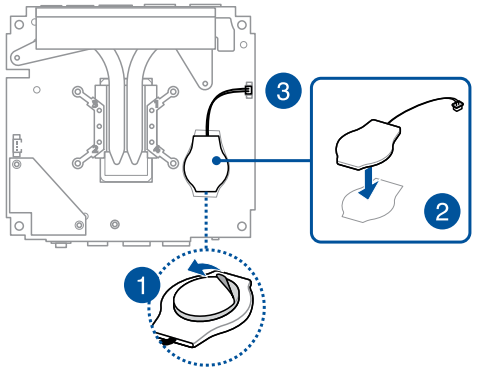
2. Carefully remove the CMOS battery.

IMPORTANT! When removing the battery, be careful not to damage the motherboard or the CMOS battery, which is taped to the motherboard.

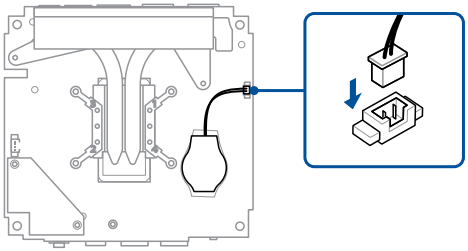


Installation

1. Remove the release liner on the battery, if one exists.
2. Align the battery as shown, and then affix it within the designated area outlined on the motherboard.



3. Connect the cable from the battery to the battery connector on the motherboard.



4. Install the component(s) you removed in **Before you begin**.

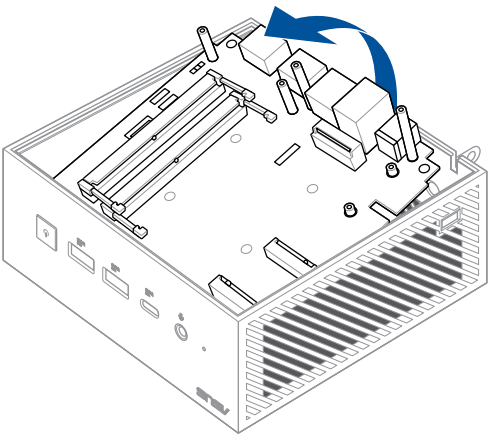
Chassis

Before you begin

1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - USB module
   - Configurable port module
   - M.2 SSD(s) (if installed)
   - Wireless card (if installed)

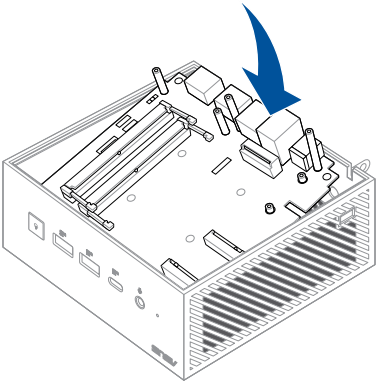
Removal

Remove the motherboard as shown.



Installation

1. Install the motherboard that was removed earlier into the new chassis as shown.



2. Install the component(s) you removed in **Before you begin**.