E23398
Revised Edition V2 / February 2024

IN SEARCH OF INCREDIBLE

Service Manual

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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 Chromebox 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 Chromebox 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 Chromebox.
3. Turn off your Chromebox.
4. Place your Chromebox on a stable surface.
5. Disconnect all connected peripherals and cables.

IMPORTANT!

- Purchase replacement components from an authorized retailer of this Chromebox 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.
- 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

Diagnostics tools are available to help you identify components that need to be replaced and ensure the functionality of the newly installed component(s).

For more information, visit
https://www.asus.com/support/FAQ/1051593

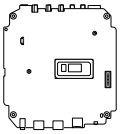
Installation tools

Screwdriver

Plastic blade

Tweezers

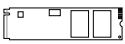
Major components



Motherboard

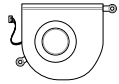
HDD / SSD

Memory Module

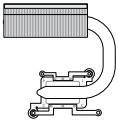


M.2 SSD module

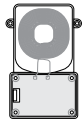
Wireless card



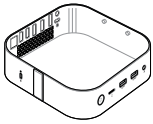
Fan module

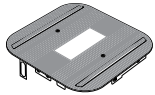


Thermal module



Wireless charging module





Chassis

Accessories

Power adapter

Power cord

Chapter 2: Service Procedures

Bottom cover

Before you begin

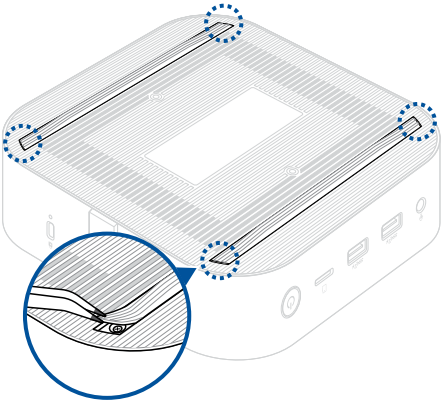
Read the **Safety Precautions** and complete the **Pre-repair Checklist**.

Screw list

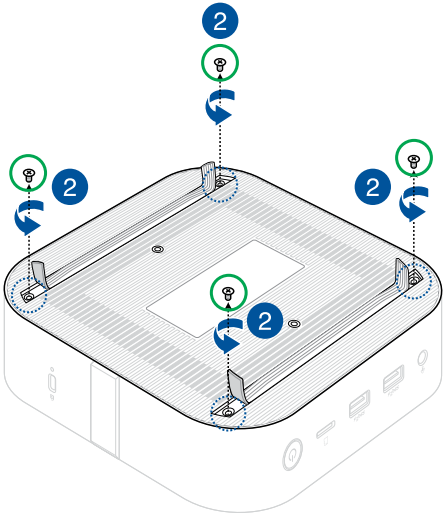
- M2.5 X 4L (4 pcs)

Removal

1. Place the Chromebox face down on a flat surface, and lift the two ends of each rubber strip on the bottom cover using a suitable tool, such as a pair of tweezers, to gain access to the screws.

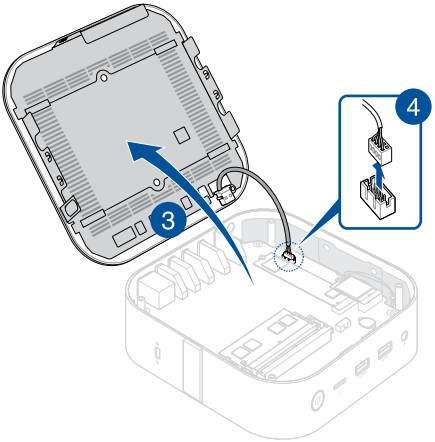


2. Remove the screw(s) from the Chromebox's bottom cover.



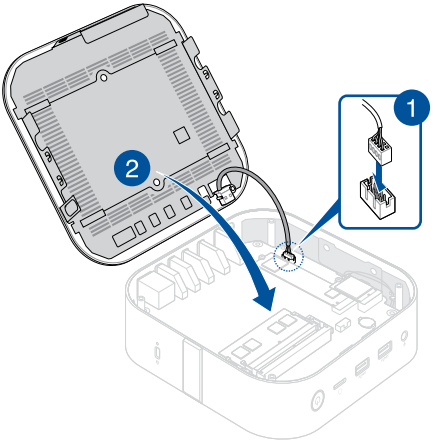
3. Slowly and with extreme care, lift the bottom cover in the direction shown in the illustration.

4. Locate and disconnect the power cable from the motherboard.



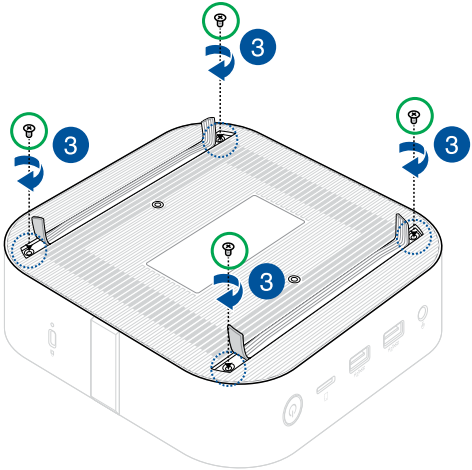
Installation

1. Connect the power cable from the bottom cover to the power connector on the motherboard.
2. Close the bottom cover.



3. Secure the bottom cover with the screws removed earlier.

4. Press the two ends of each rubber strip back into place so that they are flush with the surface of the bottom cover.



Memory module(s)

IMPORTANT! You can only install DDR4 SO-DIMMs to the Chromebox's DIMM slots.

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

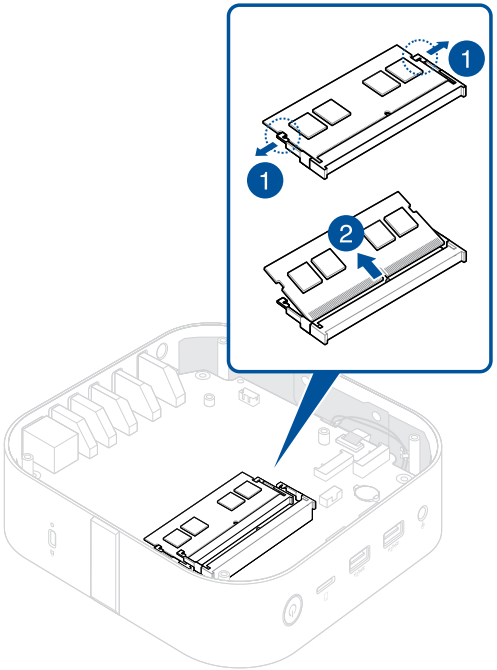
Before you begin

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

   Bottom cover

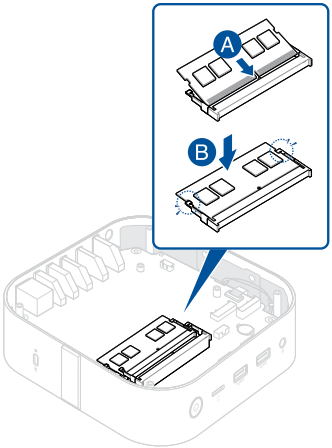
Removal

1. Simultaneously press the two retaining clips outward.
2. Remove the module from the slot.
3. 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 the same steps to install a second memory module.
3. Install the component(s) you removed in **Before you begin**.

Wireless card

Before you begin

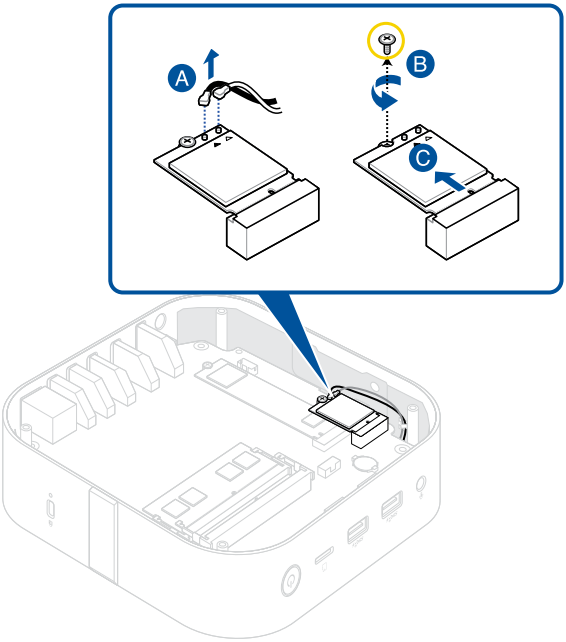
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover

Screw list

- M2 X 3L (1 pc)

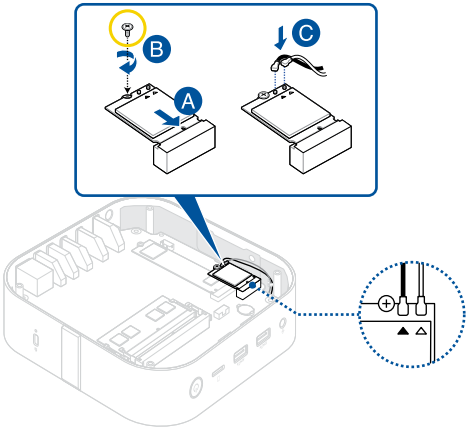
Removal

Remove the wireless card as shown.


A
B
C

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

M.2 SSD

Before you begin

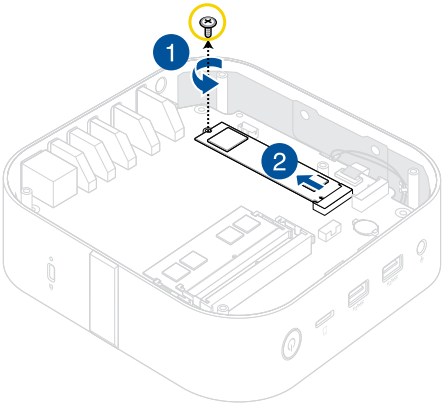
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - Wireless card (if one is installed)

Screw list

- M2 X 3L (1 pcs)

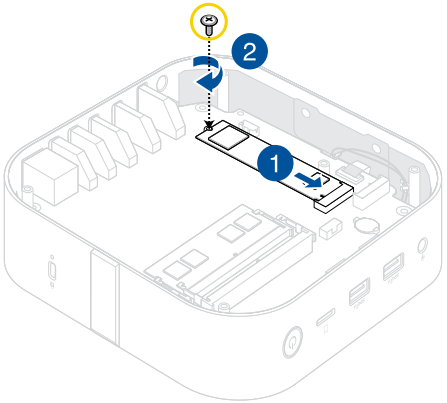
Removal

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

Fan module

Before you begin

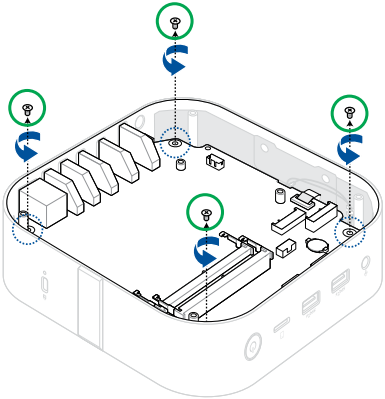
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - Wireless card (if one is installed)

Screw list

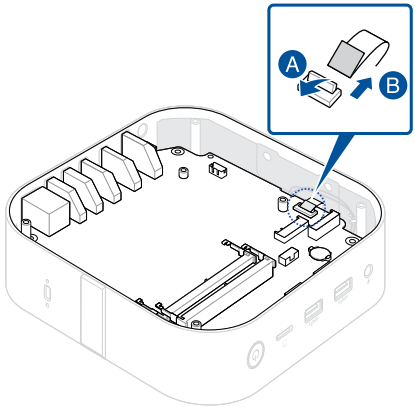
- M2.5 X 4L (4 pcs)
- M2 X 4L (2 pcs)

Removal

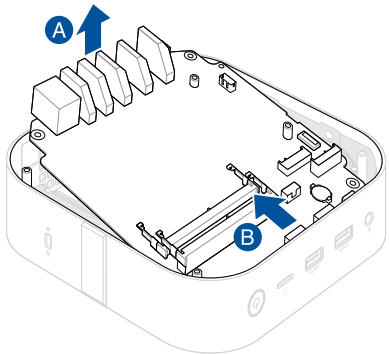
1. Remove the screws securing the motherboard to the chassis.



2. Flip the connector flap open (A) and remove the FPC (B).

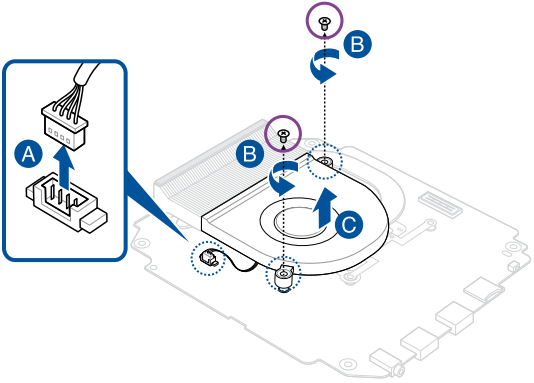


3. Remove the motherboard as shown.



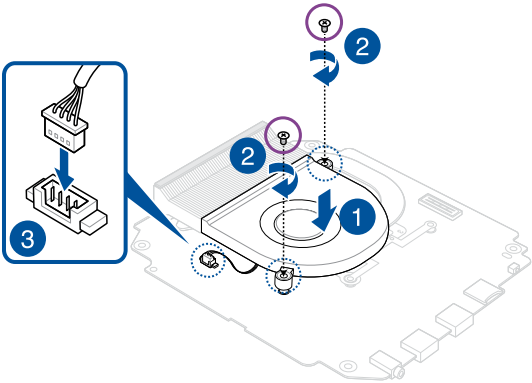
4. Place the motherboard face down.

5. Disconnect the fan connector (A), remove the screw(s) securing the fan module (B), and then remove the fan module (C).



Installation

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



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

Heatsink

Before you begin

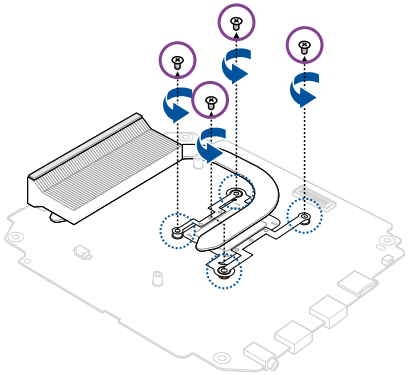
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - Fan module

Screw list

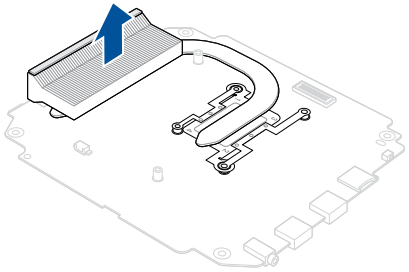
● ⊕ M2 X 4L (4 pcs)

Removal

1. Remove the screw(s) securing the heatsink.

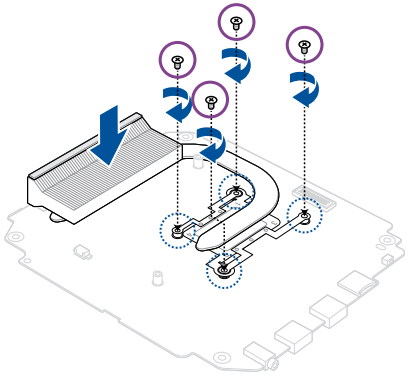


2. Remove the heatsink.



Installation

1. Align and place the heatsink as shown, and secure it using the screw(s) removed earlier.



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

Motherboard

Before you begin

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

> **NOTE:** It is recommended that you replace the motherboard under professional supervision. You may also visit an authorized service center for further assistance.

Screw list

- M2 X 4L (4 pcs)

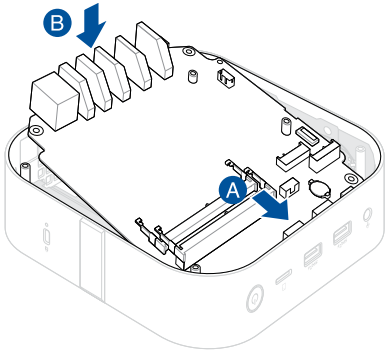
Removal

Remove the following component(s):

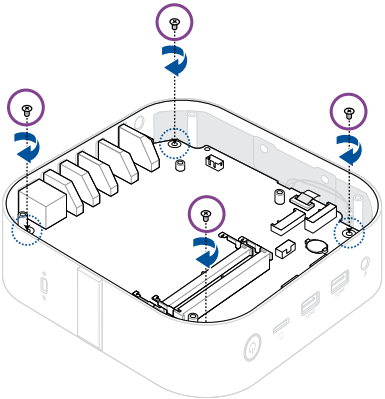
- Bottom cover
- Memory module(s)
- Wireless card (if one is installed)
- M.2 SSD (if one is installed)
- Fan module
- Heatsink

Installation

1. Install the following component(s):
   - Heatsink
   - Fan module
2. Align and place the motherboard in the chassis as shown.

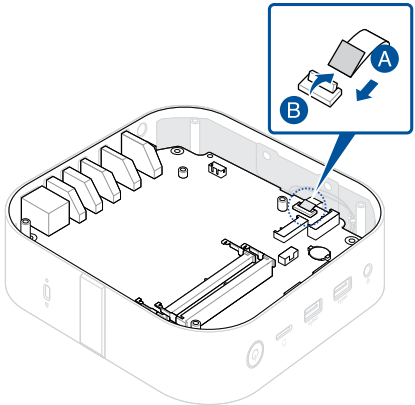


3. Secure the motherboard to chassis with the screw(s) removed earlier.



4. Insert the FPC from the wireless charging module to the FPC connector on the motherboard (A), and close the connector flap (B).

WARNING! Ensure the PCB gold fingers on the cable are facing the connectors.



5. Install the rest of the component(s) you removed in **Removal**.

Wireless charging module

Before you begin

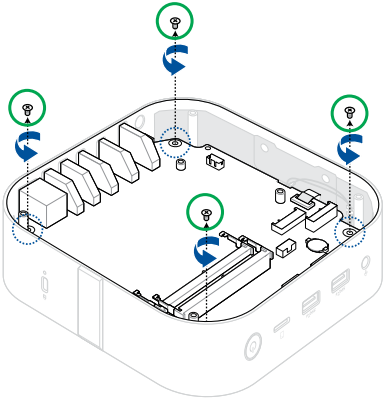
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - Wireless card (if one is installed)

Screw list

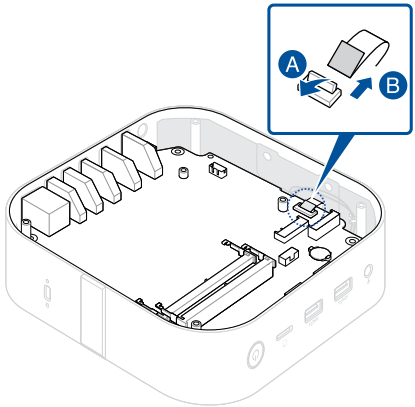
- M2.5 X 4L (4 pcs)
- M2 X 3L (6 pcs)

Removal

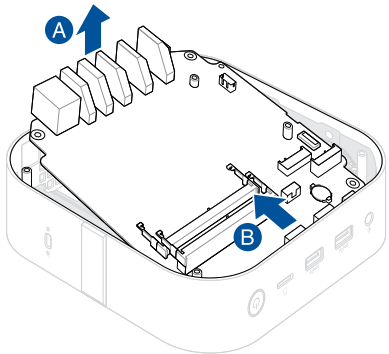
1. Remove the screws securing the motherboard to the chassis.



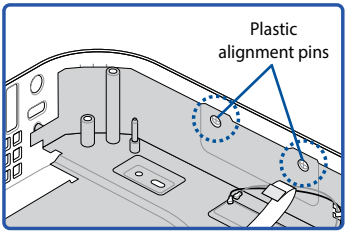
2. Flip the connector flap open (A) and remove the FPC (B).

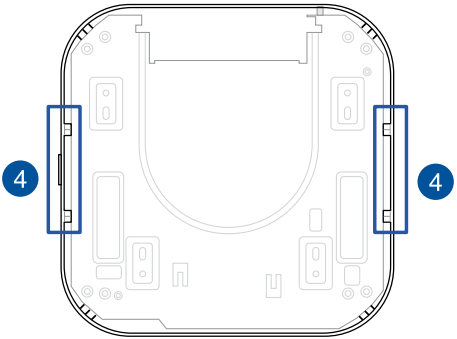


3. Remove the motherboard as shown.

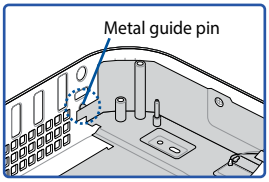


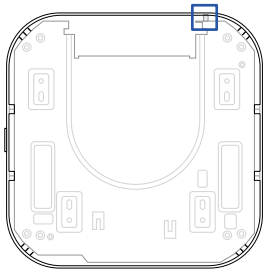
4. Bend the two sides of the chassis outward to release the plastic alignment pins.

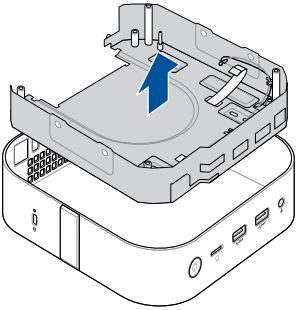




5. Gently pull out the EMI shielding cover, making sure the metal guide pin clears the chassis.

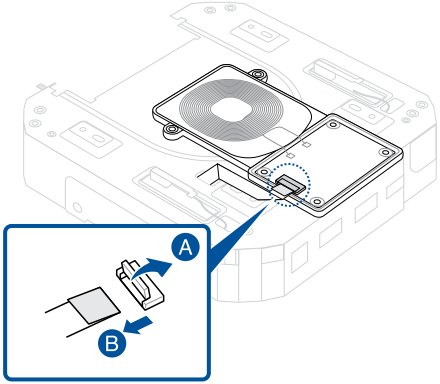




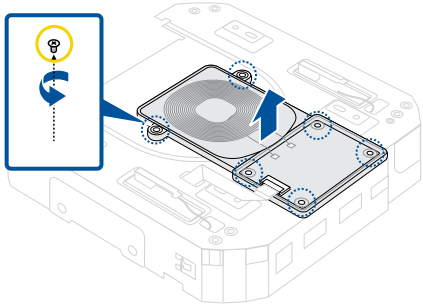


6. Flip the EMI shielding cover over with the wireless charging module facing up.

7. Flip the connector flap open (A), and remove the FPC connected to the wireless charging module (B).



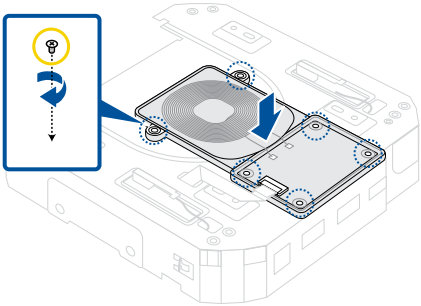
8. Remove the screw(s) securing the wireless charging module to the EMI shielding cover, and remove the module.



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

Installation

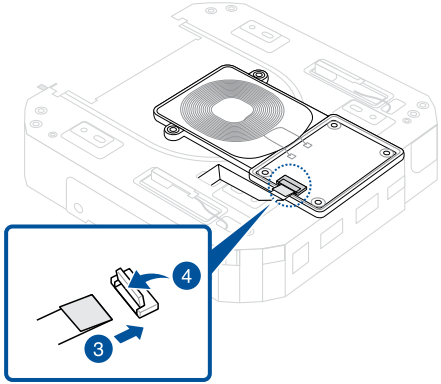
1. Align and place the wireless charging module as shown.
2. Secure the wireless charging module to the EMI shielding cover using the screw(s) removed earlier.



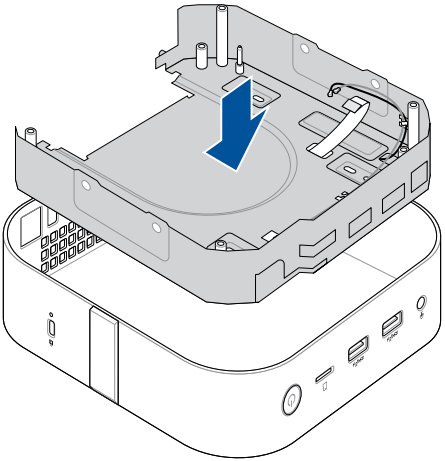
3. Insert the FPC into the wireless charging module's FPC connector.

WARNING! Ensure the PCB gold fingers on the cable are facing the connectors.

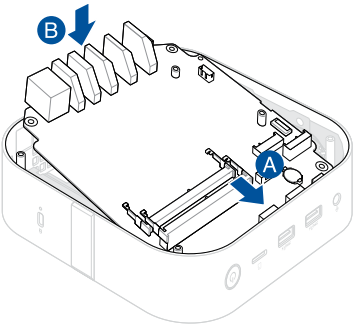
4. Close the flap to secure the FPC.



5. Insert the EMI shielding cover into the chassis as shown.

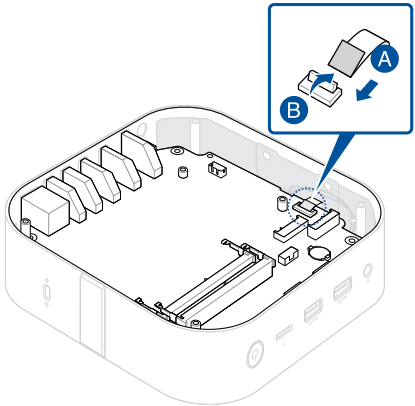


6. Install the motherboard as shown.



7. Insert the FPC from the wireless charging module to the FPC connector on the motherboard (A), and close the connector flap (B).

WARNING! Ensure the PCB gold fingers on the cable are facing the connectors.



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

Chassis

Before you begin

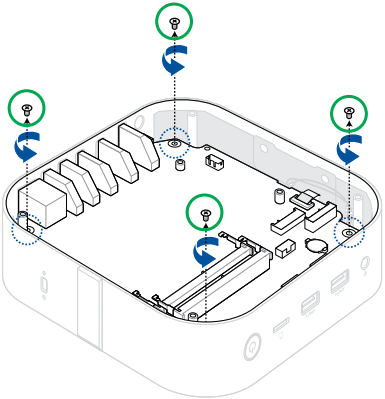
1. Read the **Safety Precautions** and complete the **Pre-repair Checklist**.
2. Remove the following component(s):
   - Bottom cover
   - Wireless card (if one is installed)

Screw list

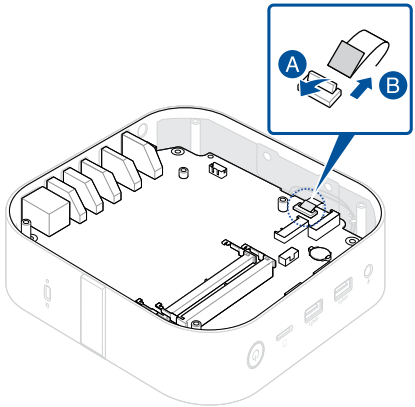
- M2.5 X 4L (4 pcs)
- M2 X 4L (4 pcs)

Removal

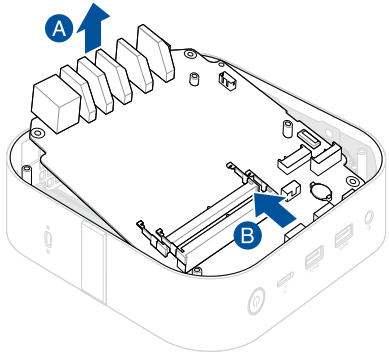
1. Remove the screws securing the motherboard to the chassis.



2. Flip the connector flap open (A) and remove the FPC (B).

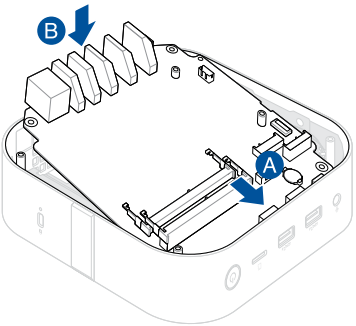


3. Remove the motherboard assembly as shown.



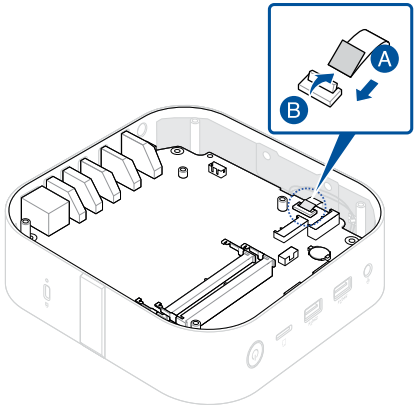
Installation

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

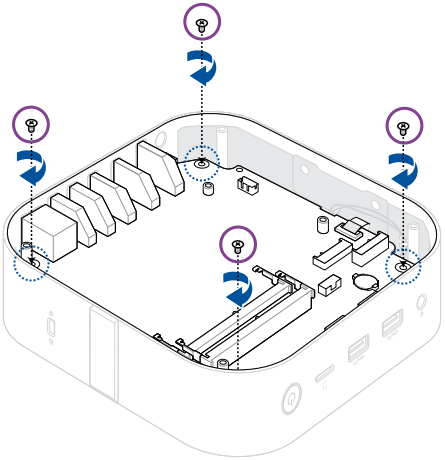


2. Insert the FPC from the wireless charging module to the FPC connector on the motherboard (A), and close the connector flap (B).

WARNING! Ensure the PCB gold fingers on the cable are facing the connectors.



3. Secure the motherboard to chassis with the screw(s) removed earlier.



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