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# IN SEARCH OF INCREDIBLE



Service Manual

**ASUS**

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## SERVICE AND SUPPORT

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# Disclaimer

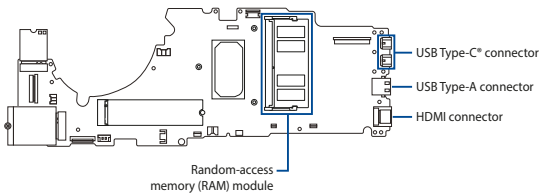
ASUS is not responsible for direct, indirect, intentional or unintentional damages resulting from improper installation and operation.

## Safety precautions

- Keep liquids or moisture away from your Notebook PC before installing or removing any components.
- Ensure to place your Notebook PC on a stable surface before installing or removing any components.
- Detach the clip or flap before removing the signal cables to prevent damage.
- Disconnect the power plug by pulling the plug evenly to avoid damage. Ensure to connect the signal cables in the correct orientation.
- Disconnect all power cables and remove the battery pack (if applicable) before cleaning your Notebook PC with liquid detergent to avoid risk of electric shock.
- Disconnect all power cables and remove the battery pack (if applicable) before installing or removing any components. Ensure to read and follow the instructions in the manual.

- 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 Notebook PC to avoid short circuits.
- Hold components by the edges to avoid touching the ICs.
- Ensure to properly install all the 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.
- Ensure to install the correct screw models on your Notebook PC to prevent damage.

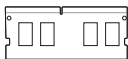
# Major components



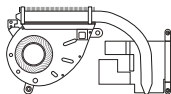
## Motherboard with ports and connectors



**M.2 SSD module**



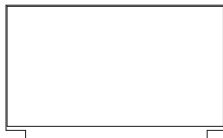
**RAM module**



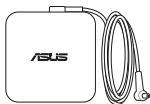
**Thermal module**



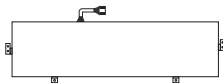
**Keyboard (Top case module)**



**LCD panel module**



**Power adapter**



**Battery and power connector**

---

**NOTE:**

- The illustrations are for reference only.
  - The maintenance procedures described in this manual depend on the model configuration and may not reflect the entire servicing process. For servicing those components that are not covered in this manual, please visit an authorized service center for further assistance.
- 

## Installation tools



**Screwdriver**



**Plastic blade**



**Tweezers**

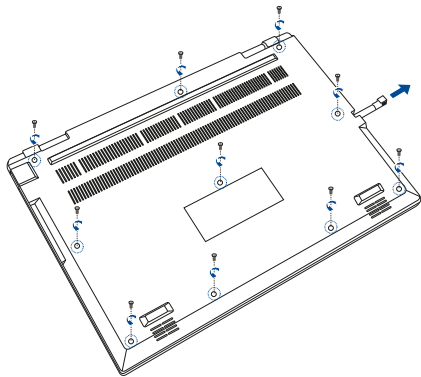
# Removing the compartment cover

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**NOTE:** The appearance of your Notebook PC's bottom view may vary per model.

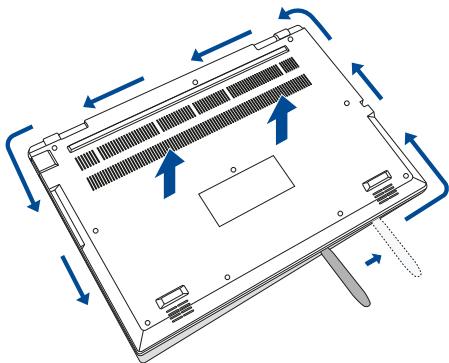
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- A. Remove the screw(s) and stylus pen from the Notebook PC's compartment cover.





- B. Place your Notebook PC in the orientation as shown in the illustration below.
- C. Use the plastic blade to pry open the indicated area of the compartment cover as shown in the illustration below.
- D. Remove the compartment cover.



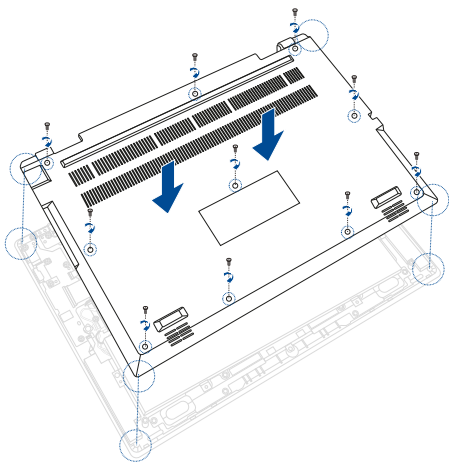
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**IMPORTANT!** Avoid sliding the plastic blade along the side of your Notebook PC to prevent damage.

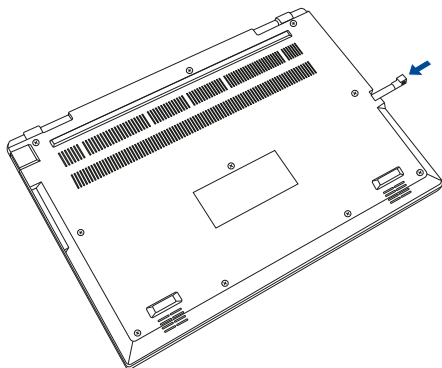
---

To reattach the compartment cover:

- A. Align and reattach the compartment cover.
- B. Secure the compartment cover using the screw(s) you removed earlier.



- C. Reinstall the stylus pen.



## Disconnecting the battery

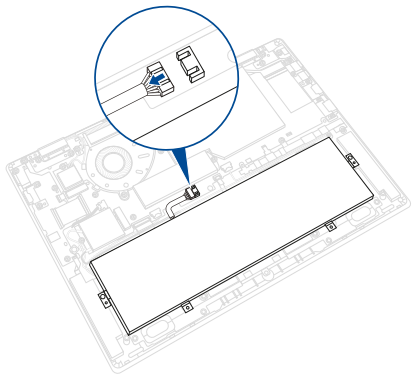
- A. Remove the compartment cover.

---

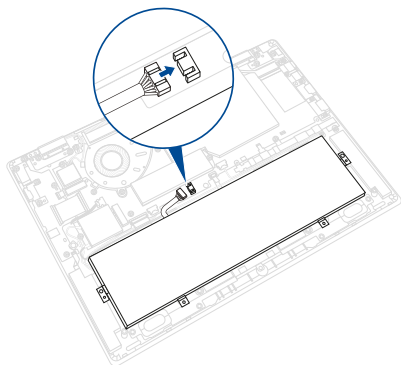
**NOTE:** For more details, refer to the *Removing the compartment cover* section in this manual.

---

- B. Locate and disconnect the battery power cable(s) as shown in the illustration below.



To connect the battery, align and connect the cable to the battery connector before you reattach the compartment cover.



# Replacing the battery

Refer to the following steps when installing a compatible battery in your Notebook PC:

---

**IMPORTANT!** Purchase your battery from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

---

**WARNING!** Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the compartment cover.

---

**NOTE:**

- The appearance of your Notebook PC's bottom view and battery may vary per model but the module installation remains the same.
  - It is recommended that you install the battery under professional supervision. You may also visit an authorized service center for further assistance.
-

- A. Remove the compartment cover and disconnect the battery.

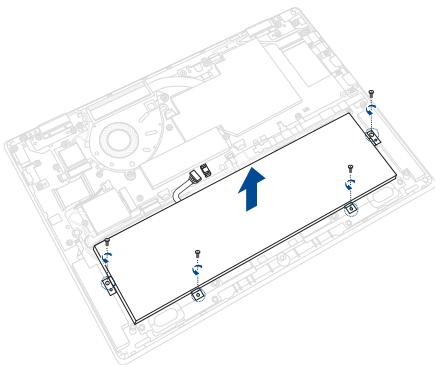
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**NOTE:** For more details, refer to the *Removing the compartment cover* and *Disconnecting the battery* sections in this manual.

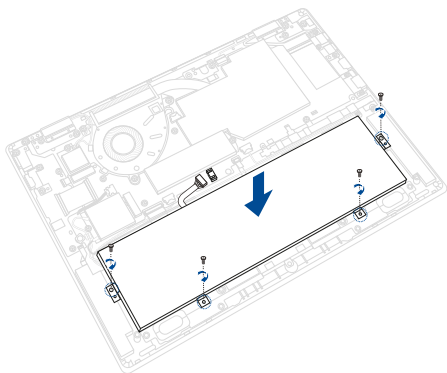
---

- B. Remove the screw(s) from the battery.

- C. Remove the battery.



- D. Prepare the new battery.
- E. Reinstall the battery.
- F. Secure the battery using the screw(s) you removed earlier.





# Replacing the M.2 SSD module

Refer to the following steps when installing a compatible M.2 SSD module in your Notebook PC:

---

**IMPORTANT!** Purchase your M.2 SSD module from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

---

---

**WARNING!** Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the compartment cover.

---

**NOTE:**

- The appearance of your Notebook PC's bottom view and M.2 SSD module may vary per model but the module installation remains the same.
  - It is recommended that you install the M.2 SSD module under professional supervision. You may also visit an authorized service center for further assistance.
-

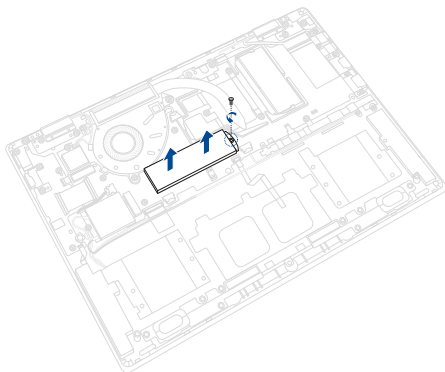
- A. Remove the compartment cover and disconnect the battery.

---

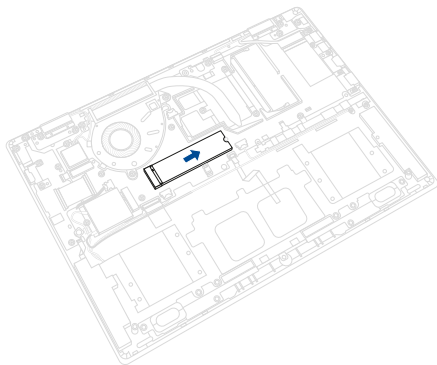
**NOTE:** For more details, refer to the *Removing the compartment cover* and *Disconnecting the battery* sections in this manual.

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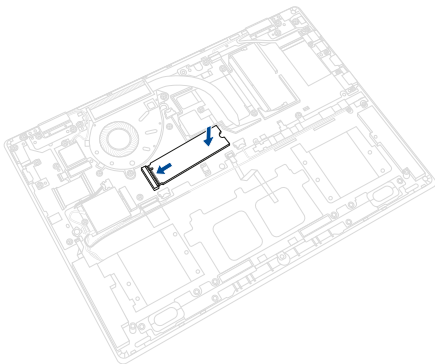
- B. Remove the screw(s) then remove the M.2 SSD module cover.



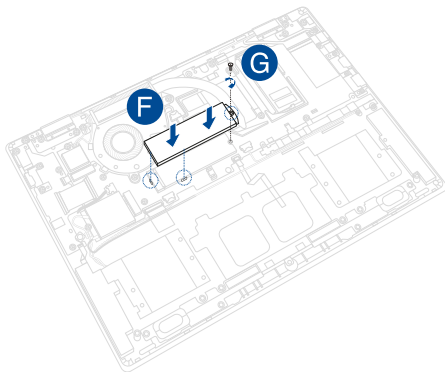
- C. Remove the M.2 SSD module from the motherboard.



- D. Prepare the new M.2 SSD module.
- E. Align and insert the M.2 SSD module into the M.2 connector(s) on the motherboard.



- F. Align and reinstall the M.2 SSD module cover.
- G. Secure the M.2 SSD module in place using the screw(s) you removed earlier.



## Replacing the RAM module

Upgrade the memory capacity of your Notebook PC by installing a RAM (Random Access Memory) module in the memory module compartment. Refer to the following steps when installing a RAM module in your Notebook PC:

---

**IMPORTANT!** Visit an authorized service center or retailer for information on RAM module upgrades for your Notebook PC. Purchase your RAM modules from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

---

**WARNING!** Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the compartment cover.

---

**NOTE:**

- The appearance of your Notebook PC's bottom view and RAM module may vary per model but the RAM module installation remains the same.
  - It is recommended that you install the RAM module under professional supervision. You may also visit an authorized service center for further assistance.
-

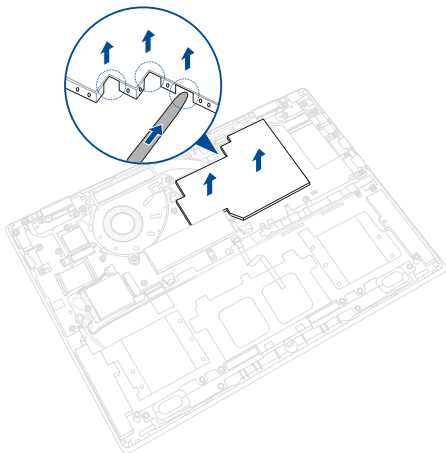
- A. Remove the compartment cover and disconnect the battery.

---

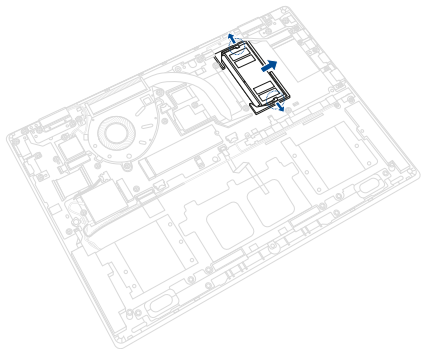
**NOTE:** For more details, refer to the *Removing the compartment cover* and *Disconnecting the battery* sections in this manual.

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- B. Use the plastic blade to pry open the shielding cover and then remove it from the motherboard.

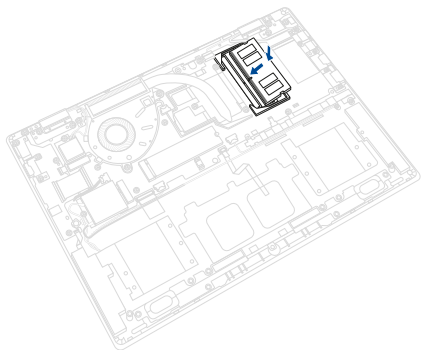


- C. Push the clips outwards to remove the RAM module.



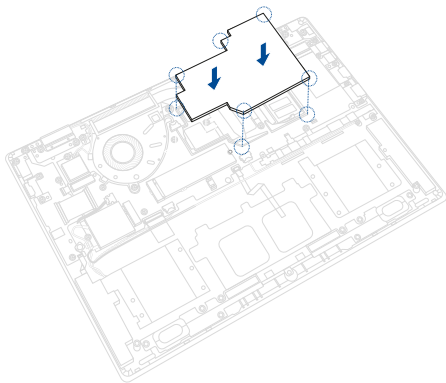
- D. Prepare the new RAM module.

- E. Align and insert the RAM module into the RAM module slot.





F. Align and reinstall the shielding cover.



# Replacing the motherboard

Refer to the following steps when installing the motherboard to your Notebook PC:

---

**IMPORTANT!** Purchase your motherboard from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

---

**WARNING!** Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the compartment cover.

---

**NOTE:**

- The appearance of your Notebook PC's bottom view and motherboard may vary per model but the module installation remains the same.
  - It is recommended that you install the motherboard under professional supervision. You may also visit an authorized service center for further assistance.
-

- A. Remove the compartment cover and disconnect the battery.

---

**NOTE:** For more details, refer to the *Removing the compartment cover* and *Disconnecting the battery* sections in this manual.

---

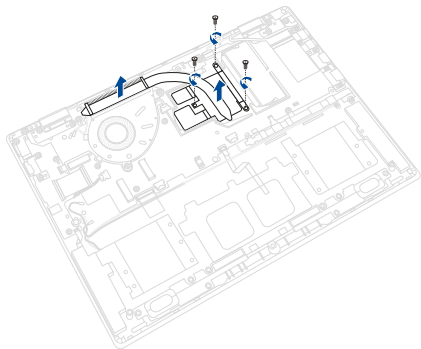
- B. Remove the RAM module and the M.2 SSD module.

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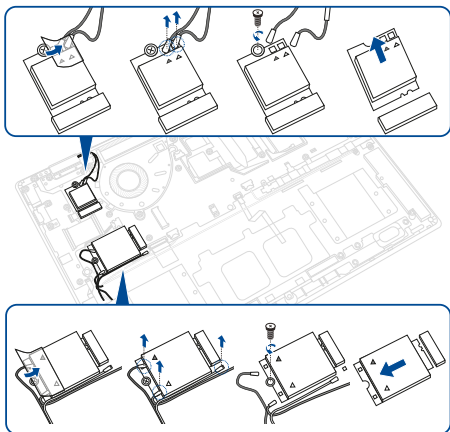
**NOTE:** For more details, refer to the *Replacing the RAM module* and *Replacing the M.2 SSD module* sections in this manual.

---

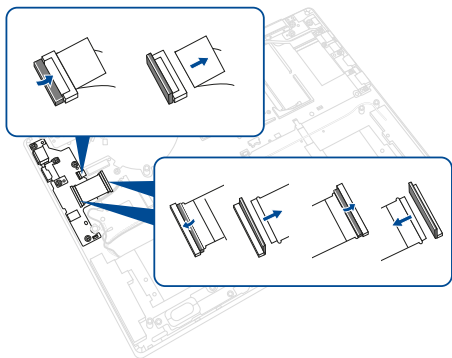
- C. Remove the screw(s) then remove the cooling radiator from the motherboard.



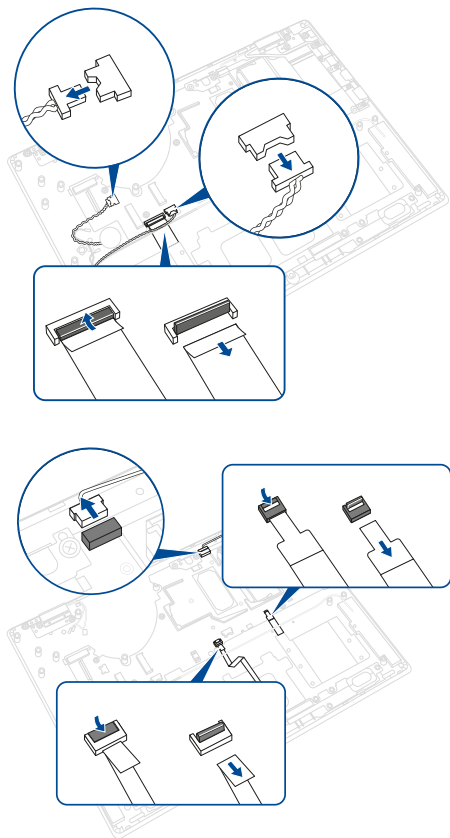
- D. In the orientation shown, locate and remove all the antenna(s).
- E. Remove the screw(s) then remove the LTE module(s).



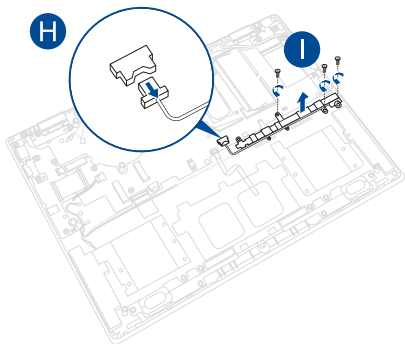
- F. Locate and remove all the cable(s) from the I/O board as shown in the illustration below.



- G. Locate and remove all the cable(s) and connector(s) as shown in the illustration below.

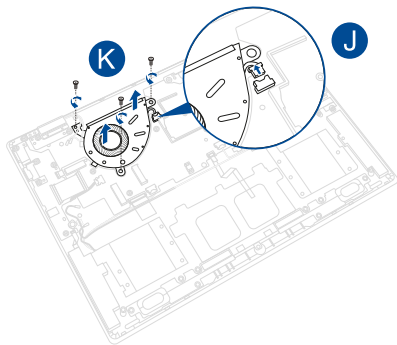


- H. Locate and remove the connector(s).
- I. Remove the screw(s) then remove the stylus bracket from the motherboard.

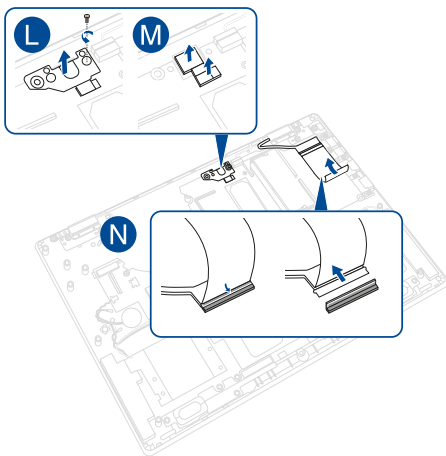




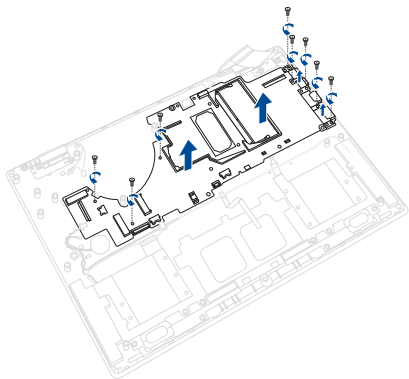
- J. Locate and disconnect the fan connector(s).
- K. Remove the screw(s) then remove the fan module from the motherboard.



- L. In the orientation shown, locate and remove the screw(s) then remove the camera bracket.
- M. Remove the camera module.
- N. Locate and remove the connector(s).

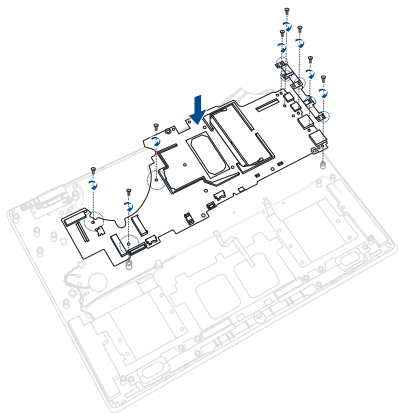


- O. Remove the screw(s) from the motherboard.
- P. Remove the motherboard from the chassis.

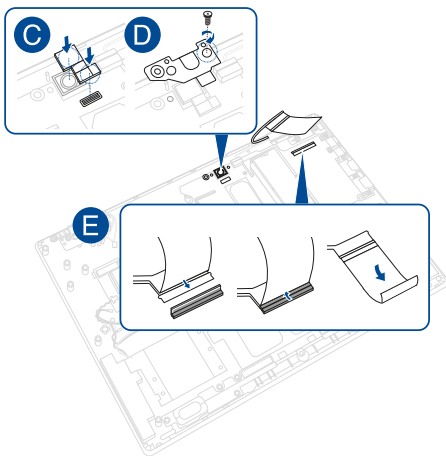


To install the new motherboard:

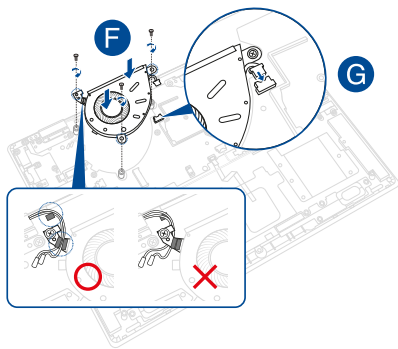
- A. Prepare the new motherboard.
- B. Align and place the motherboard back in the chassis and secure with the screw(s) you removed earlier.



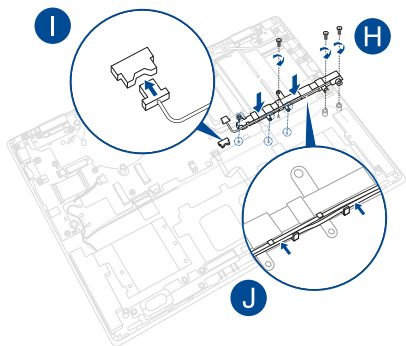
- C. In the orientation shown, align and reinstall the camera module.
- D. Align and secure the camera bracket using the screw(s) you removed earlier.
- E. Locate and reconnect the connector(s).



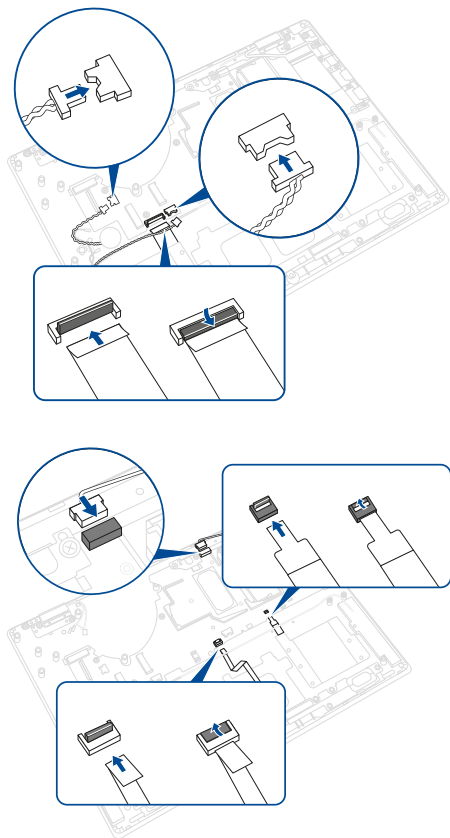
- F. Align and place the fan module back in the chassis then secure the fan module to the motherboard using the screw(s) you removed earlier.
- G. Reconnect the fan module connector(s) to the motherboard.



- H. Align and place the stylus bracket back in the chassis then secure the stylus bracket in place using the screw(s) you removed earlier.
- I. Locate and reconnect the connector(s).
- J. Route the cable(s) through the cable guide(s).

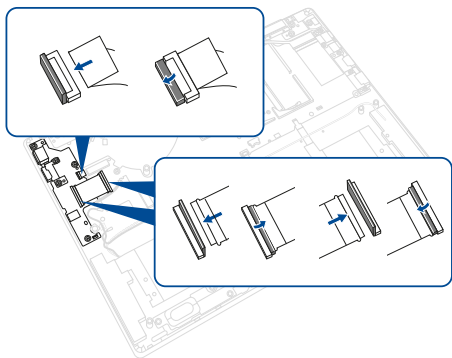


- K. Locate and reconnect all the cable(s) and connector(s) as shown in the illustration below.

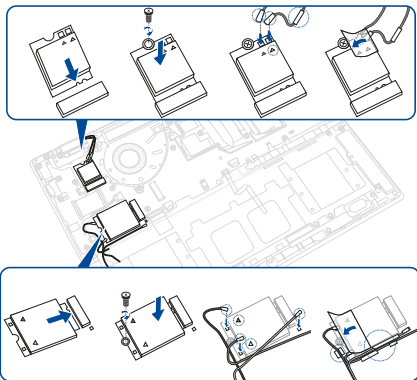




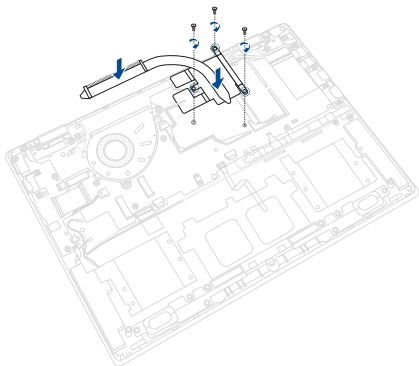
- L. Locate and reconnect all the cable(s) to the I/O board as shown in the illustration below.



- M. Align and insert the LTE module(s) into the LTE connector on the motherboard then secure the LTE module(s) in place using the screw(s) you removed earlier.
- N. Reconnect all the antenna(s) as shown in the illustration below.



- O. Align and replace the cooling radiator on the screw holes of the motherboard.
- P. Secure the cooling radiator to the motherboard using the screw(s) you removed earlier.



## Replacing the LCD module

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**IMPORTANT!** Do not bend the LCD panel in any ways to avoid risk of LCD panel leakage.

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**NOTE:** The illustrations are for reference only.

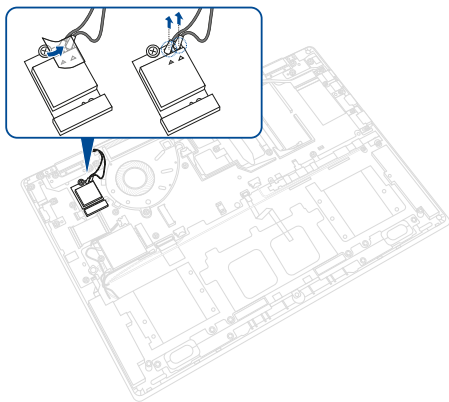
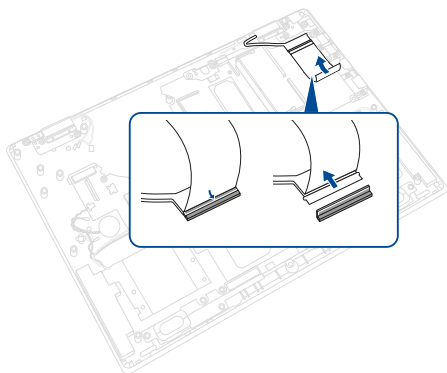
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- A. Remove the compartment cover and disconnect the battery.
- 

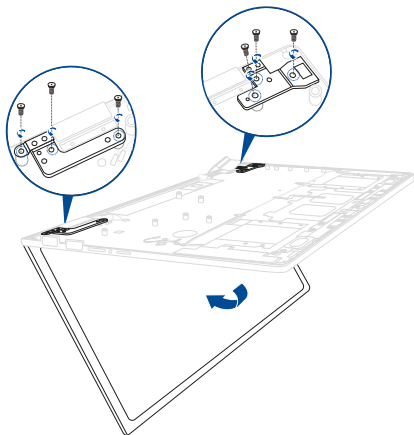
**NOTE:** For more details, refer to the *Removing the compartment cover* and *Disconnecting the battery* sections in this manual.

---

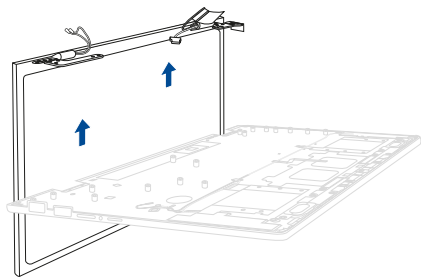
- B. In the orientation shown, locate and remove all the connector(s) and antenna(s).



- C. Place your Notebook PC in the orientation as shown in the illustration below.
- D. Remove the screw(s) from the hinges.

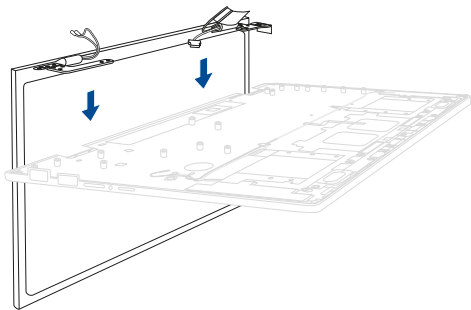


E. Remove the display panel.



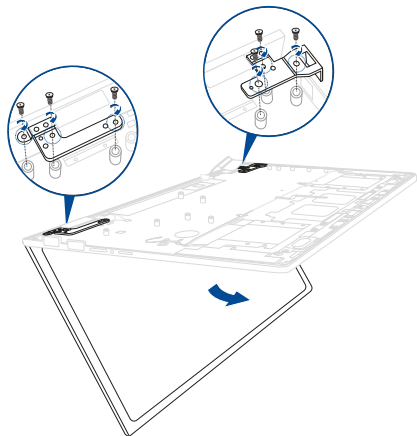
To install the new LCD panel module:

- A. Prepare the new LCD panel module.
- B. In the orientation shown, align and place the hinge of the display panel on the screw holes of the motherboard.

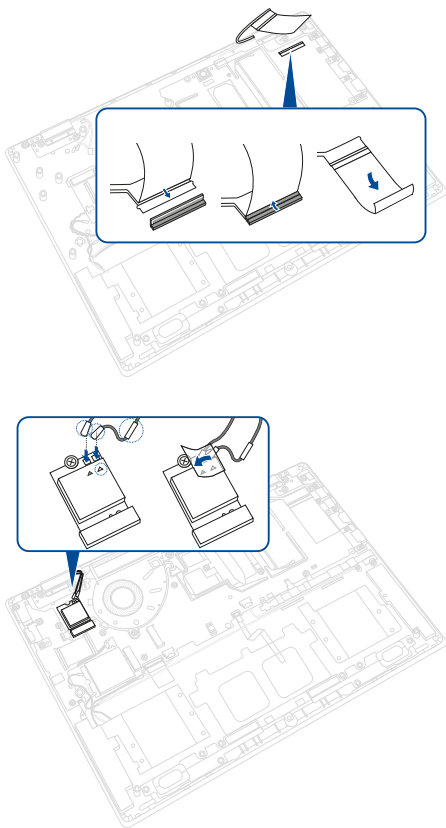




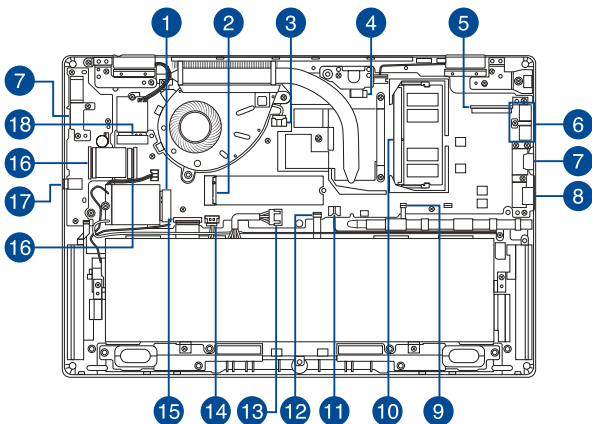
- C. Secure the hinge using the screw(s) you removed earlier.



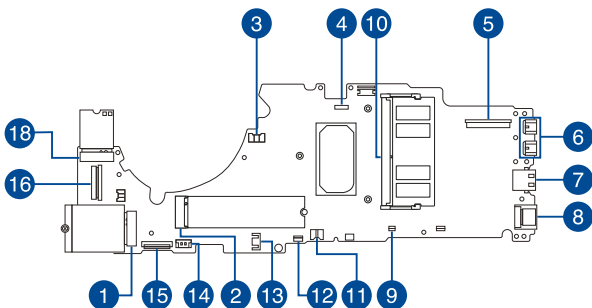
- D. In the orientation shown, locate and reconnect all the connector(s) and antenna(s).



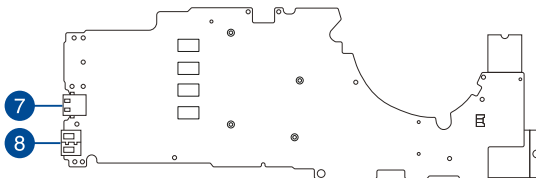
## Wiring and connection diagrams



### Top View



## Bottom View



- |                          |                                       |
|--------------------------|---------------------------------------|
| 1. LTE connector         | 10. DIMM connector                    |
| 2. SSD connector         | 11. Stylus connector                  |
| 3. Fan connector         | 12. Touchpad connector                |
| 4. Camera connector      | 13. Battery connector                 |
| 5. Display connector     | 14. Speaker connector                 |
| 6. USB Type-C® connector | 15. Keyboard connector                |
| 7. USB Type-A connector  | 16. FPC connector                     |
| 8. HDMI connector        | 17. Headphone/Headset/Microphone jack |
| 9. Backlight connector   | 18. WLAN connector                    |