

E21717

First Edition / May 2023

# IN SEARCH OF INCREDIBLE



Service Manual

**ASUS**

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# Disclaimer

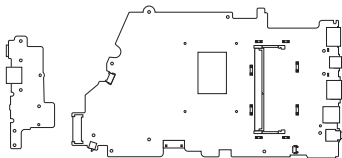
ASUS is not responsible for direct, indirect, intentional or unintentional damages resulting from improper installation and operation.

## Safety precautions

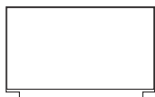
- Keep liquids or moisture away from your Notebook PC before installing or removing any components.
- Ensure to place your Notebook PC on a stable surface before installing or removing any components.
- Detach the clip or flap before removing the signal cables to prevent damage.
- Disconnect the power 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



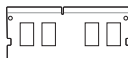
**Motherboard with ports and connectors**



**Display panel module**



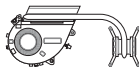
**Keyboard**



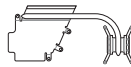
**RAM module**



**M.2 SSD module**



**Thermal module  
(with fan)**



**Thermal module  
(without fan)**



**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**

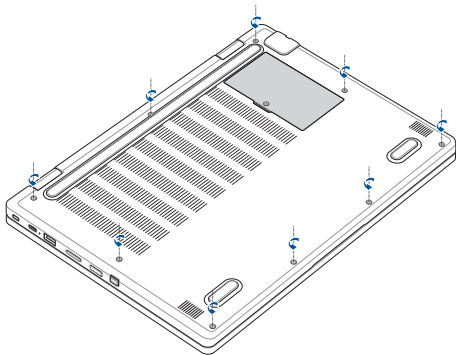
# Removing the compartment cover

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

---

- A. Loosen the pop-open screw(s) without removing the screw(s) from the Notebook PC's bottom cover.



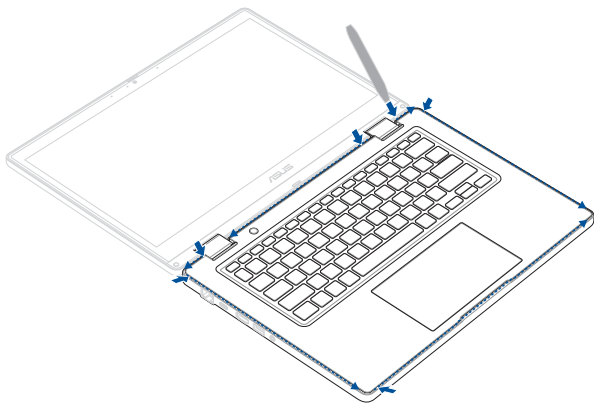


- B. Place your Notebook PC in the orientation shown in the illustration below.
- C. Use the plastic blade to pry open the indicated area of the compartment cover as shown in the illustration below.

---

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

---



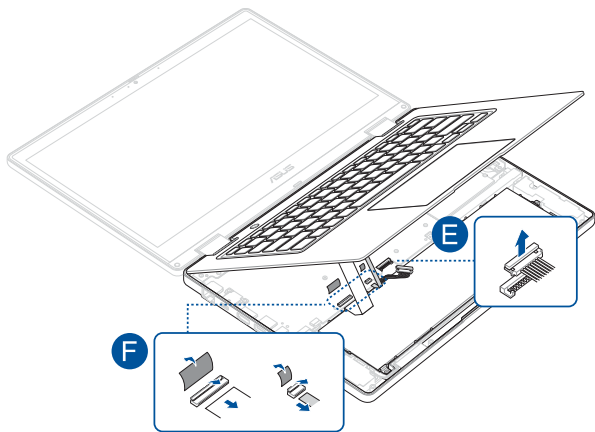
- D. Lift the compartment cover without removing it completely, then hold it in place above the chassis.

---

**IMPORTANT!** Lift the compartment cover carefully to avoid damaging the connected cable(s) or connector(s).

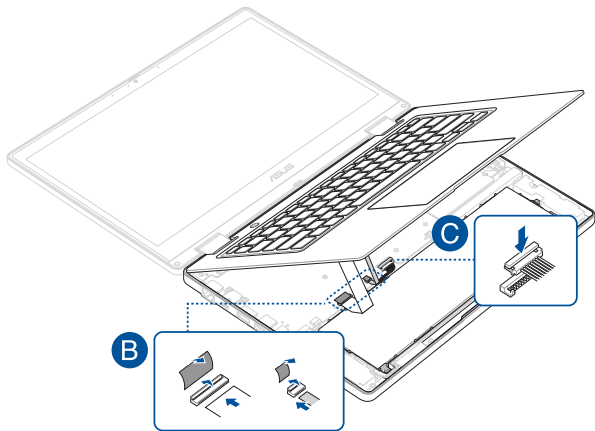
---

- E. Locate and disconnect the battery power cable.
- F. Disconnect the cable(s) as shown in the illustration below.
- G. Remove the compartment cover.

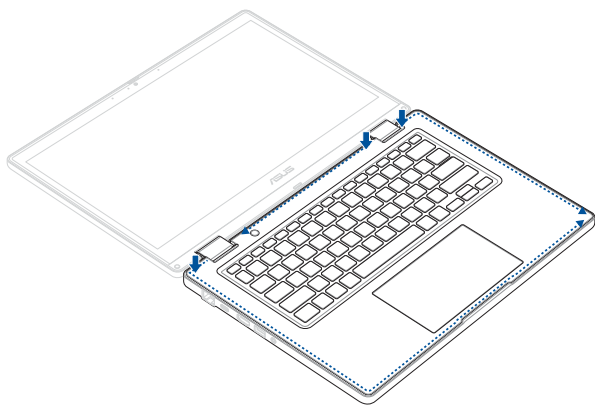


To reattach the compartment cover:

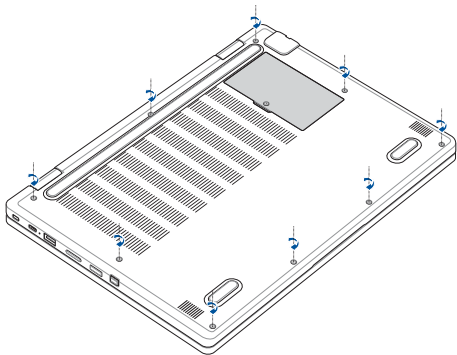
- A. Align the compartment cover with the chassis, then hold it in place above the chassis.
- B. Reconnect the cable(s) as shown in the illustration below.
- C. Reconnect the battery power cable.
- D. Lower the compartment cover into place.



- E. Reattach the compartment cover to the chassis.



- F. Place your Notebook PC in the orientation shown in the illustration below.
- G. Secure the bottom cover by tightening the pop-open screw(s).



## 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.

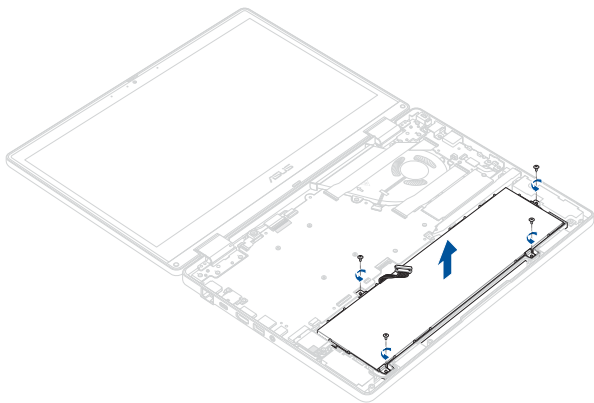
---

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

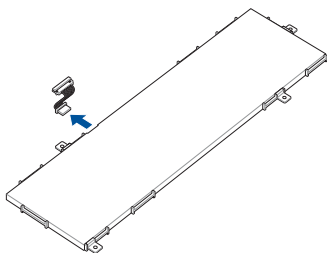
---

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

- C. Remove the battery.



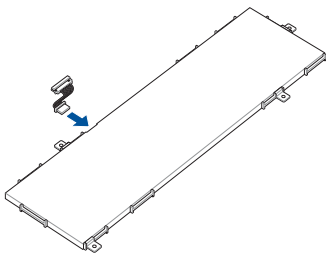
- D. Remove the battery power cable.





To install the battery:

- A. Prepare the battery.
- B. Connect the battery power cable to the battery.

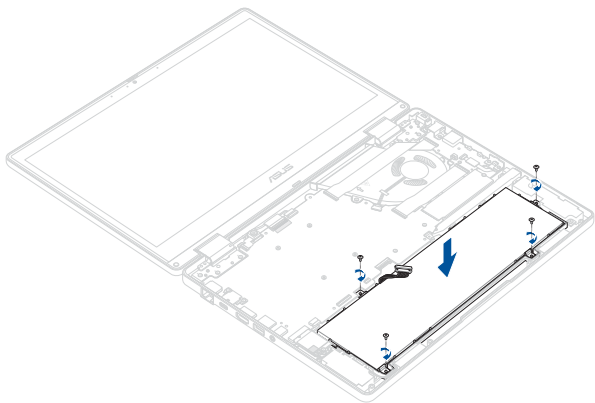


- C. Align and reinstall the battery.
- D. Secure the battery using the screw(s) you removed earlier.
- E. Reattach the compartment cover.

---

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

---



# 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.
-

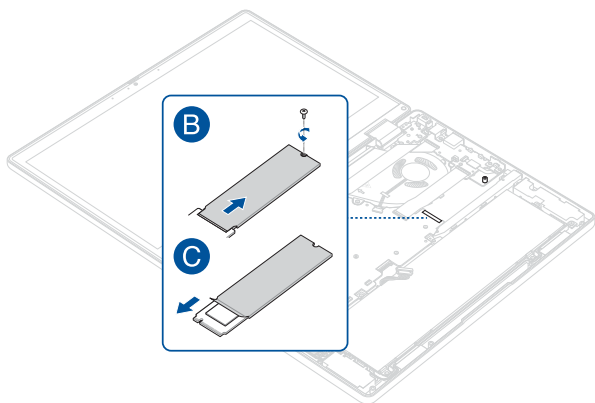
- A. Remove the compartment cover and disconnect the battery.

---

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

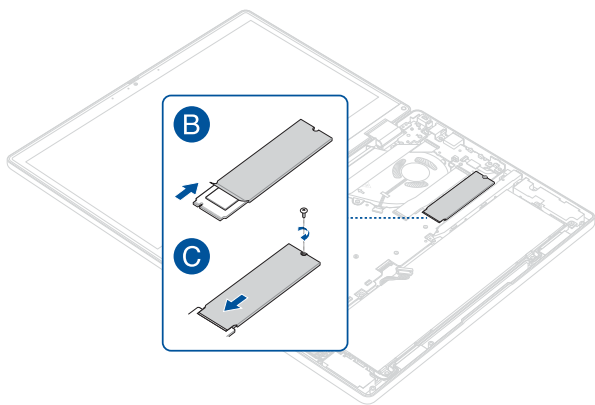
---

- B. Remove the screw, then remove the M.2 SSD module from the motherboard.
- C. Remove M.2 SSD module from the cover.



To install the M.2 SSD module:

- A. Prepare the M.2 SSD module.
- B. Place the M.2 SSD module inside the cover.
- C. Align and insert the M.2 SSD module into the M.2 connector on the motherboard, then secure the M.2 SSD module in place using the screw 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.

---

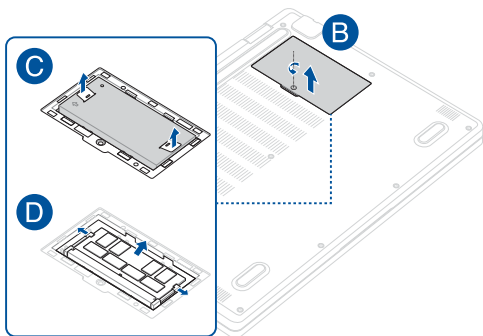
**WARNING!** Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the compartment cover.

---

**NOTE:**

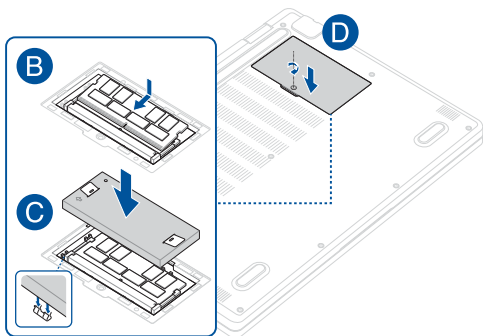
- The appearance of your Notebook PC's bottom view and RAM module may vary per model but the RAM module installation remains the same.
  - It is recommended that you install the RAM module under professional supervision. You may also visit an authorized service center for further assistance.
-

- A. Shut down your Notebook PC.
- B. Remove the screw from the RAM compartment cover and remove the cover.
- C. Use the pull tab to remove the shielding cover from the motherboard.
- D. Push the clips outwards to remove the RAM module.



To install the RAM module:

- A. Prepare the RAM module.
- B. Align and insert the RAM module into the RAM module slot.
- C. Align and reinstall the shielding cover.
- D. Reattach the RAM compartment cover, then secure the cover in place using the screw you removed earlier.





# Replacing the display panel module

---

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

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

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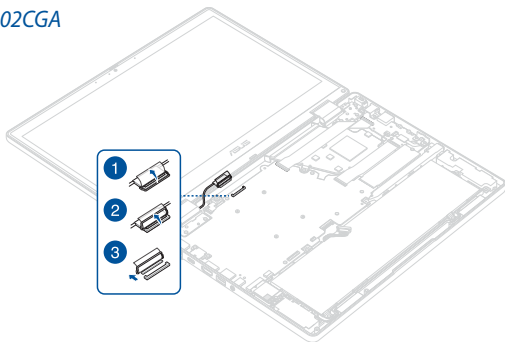
- A. Remove the compartment cover and disconnect the battery.
- 

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

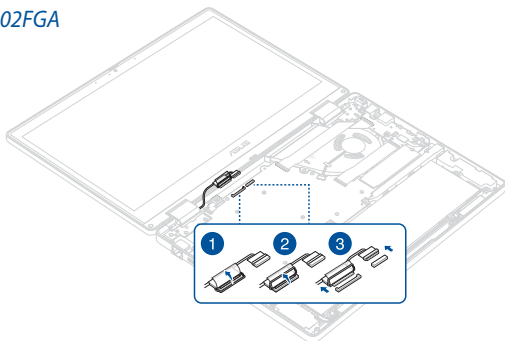
---

B. Disconnect the cable(s) as shown in the illustration below.

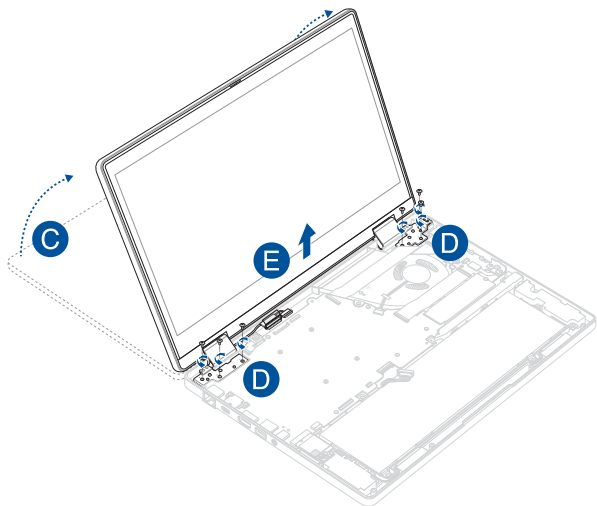
*BR1402CGA*



*BR1402FGA*

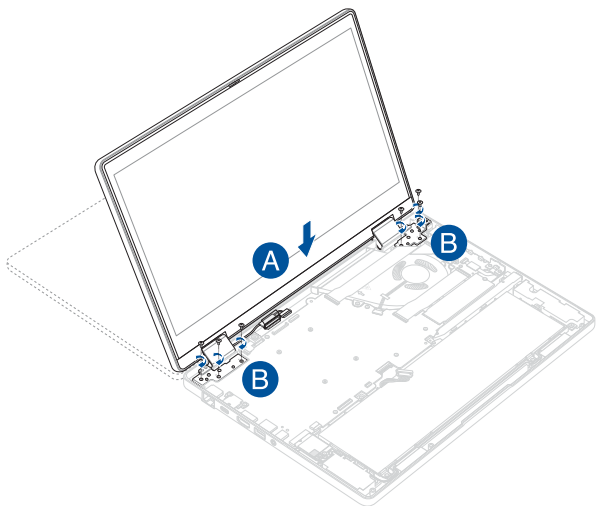


- C. Place your Notebook PC in the orientation shown in the illustration below.
- D. Remove the screw(s) from the hinges.
- E. Remove the display panel module.



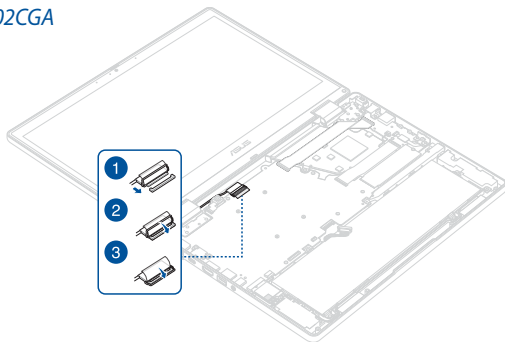
To install the display panel module:

- A. In the orientation shown, align and place the hinges of the display panel module on the screw holes of the chassis.
- B. Secure the hinges using the screw(s) you removed earlier.

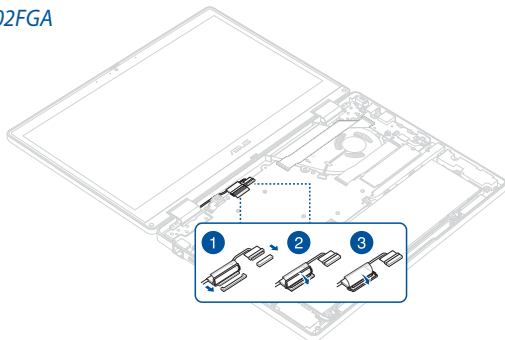


C. Reconnect the cable(s) as shown in the illustration below.

*BR1402CGA*



*BR1402FGA*



# 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* section in this manual.

---

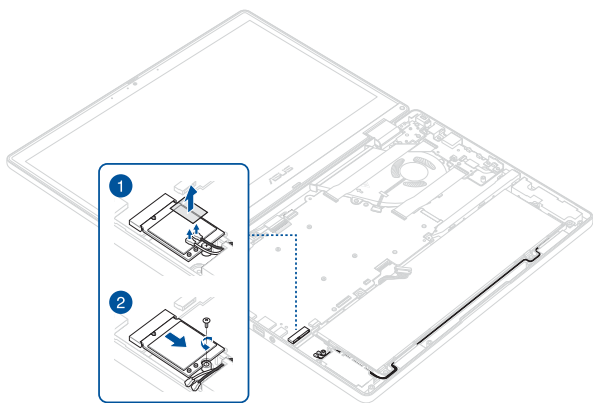
- B. Remove the M.2 SSD module.

---

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

---

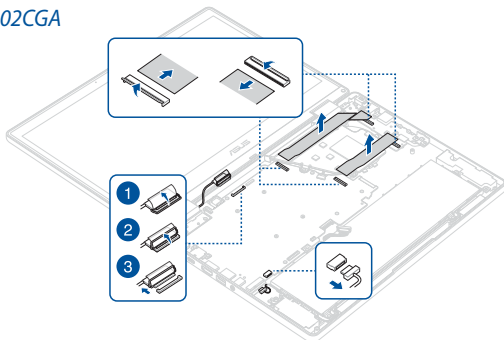
- C. Disconnect the antenna cable(s), then remove the screw and remove the Wi-Fi module.



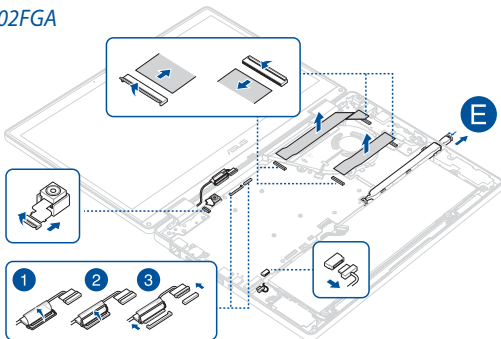


- D. Disconnect the cable(s) as shown in the illustration below.
- E. Remove the stylus pen (if available) from the stylus storage slot.

### BR1402CGA

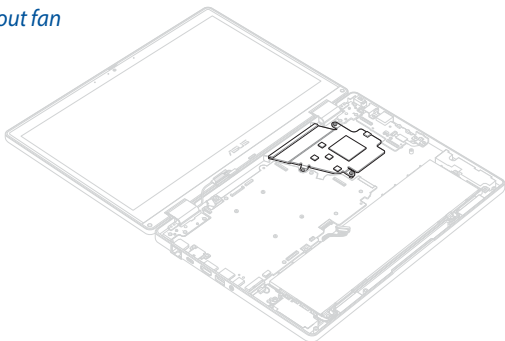


### BR1402FGA

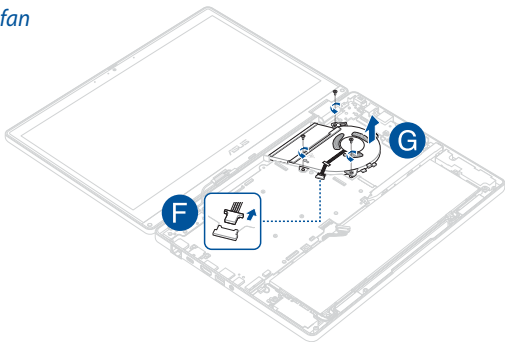


- F. Locate the fan module (if available) and disconnect the fan connector(s).
- G. Remove the screw(s), then remove the the fan module from the motherboard.

### *Without fan*

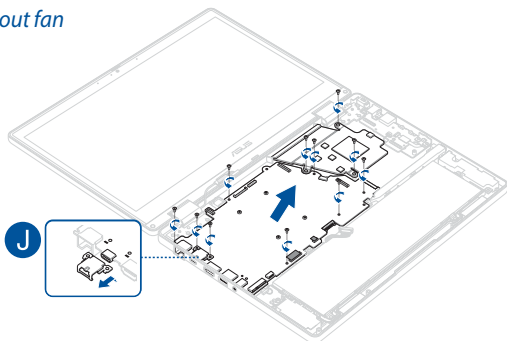


### *With fan*

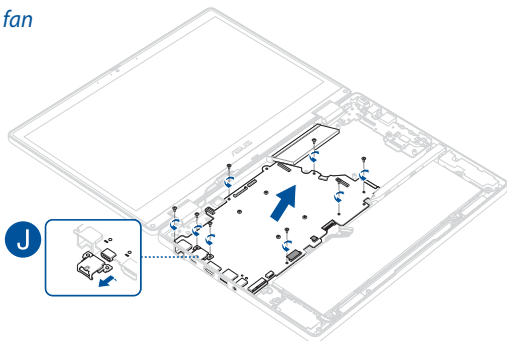


- H. Remove the screw(s).
- I. Remove the motherboard from the chassis.
- J. Remove the bracket.

*Without fan*

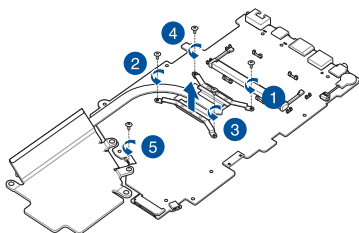


*With fan*

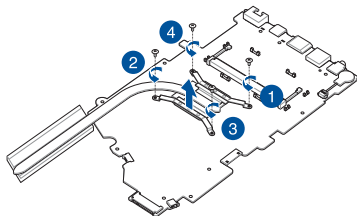


- K. Turn the motherboard over and place it on a flat surface with the bottom side facing up.
- L. Remove the thermal module screw(s) one by one in the sequence shown in the illustration below.
- M. Remove the thermal module from the motherboard.

### *Without fan*



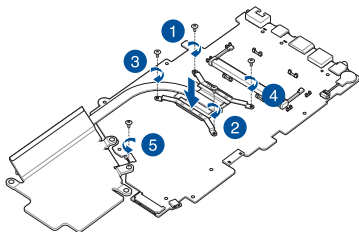
### *With fan*



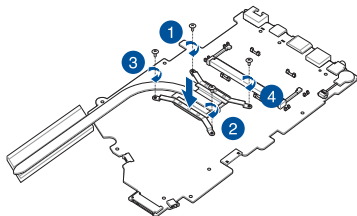
To install the motherboard:

- A. Prepare the motherboard.
- B. Align and place the thermal module on the screw holes of the motherboard.
- C. Secure the thermal module screw(s) one by one in the sequence shown in the illustration below.

### *Without fan*

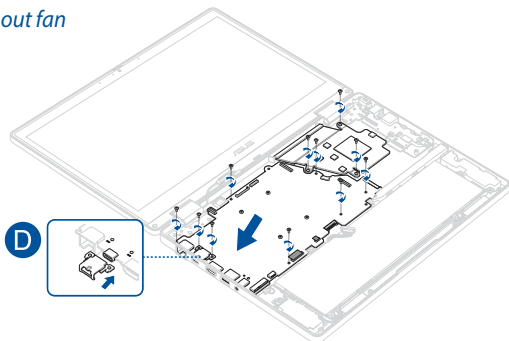


### *With fan*

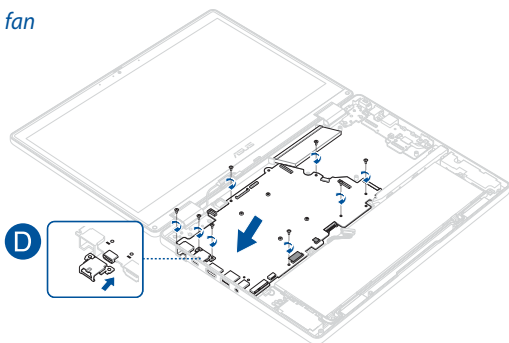


- D. Align and place the bracket on the motherboard.
- E. Turn the motherboard over, then align and place the motherboard in the chassis.
- F. Secure the bracket using the screw(s) you removed earlier.
- G. Secure the motherboard using the screw(s) you removed earlier.

### *Without fan*

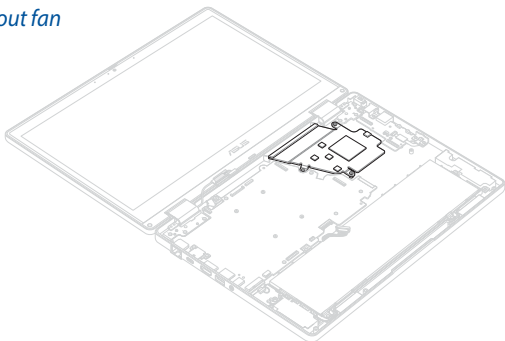


### *With fan*

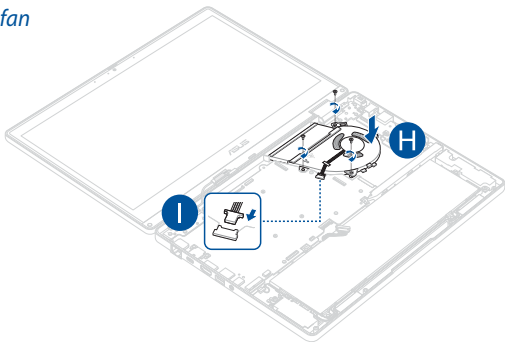


- H. Align and reinstall the fan module (if available), then secure the fan module using the screw(s) you removed earlier.
- I. Reconnect the fan connector(s) to the motherboard.

### *Without fan*

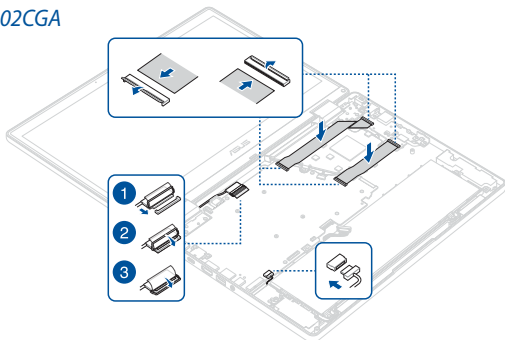


### *With fan*

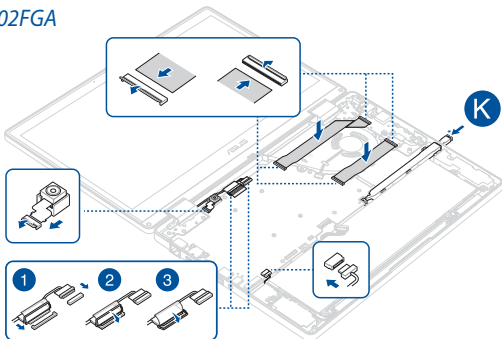


- J. Reconnect the cable(s) as shown in the illustration below.
- K. Insert the stylus pen (if available) into the stylus storage slot.

### BR1402CGA

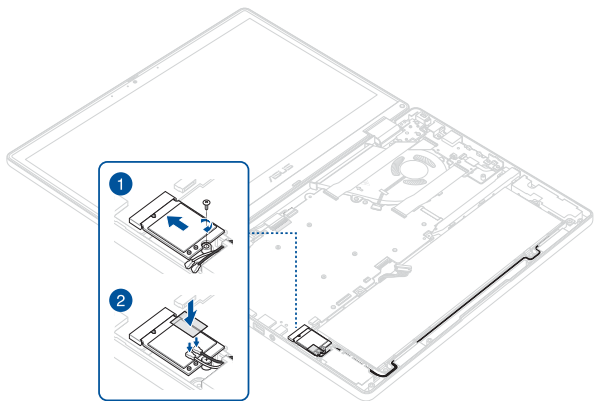


### BR1402FGA

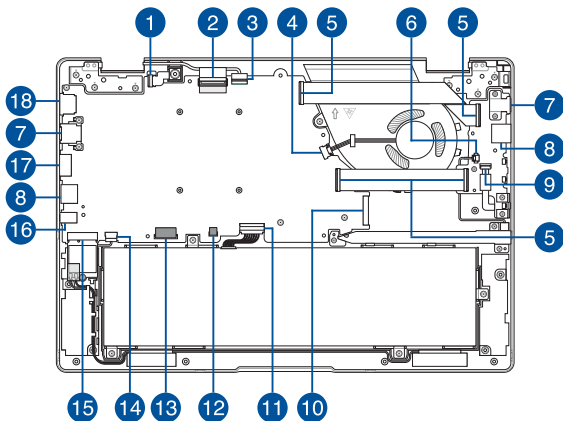




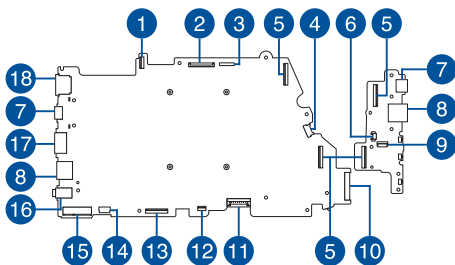
- L. Align and reinstall the Wi-Fi module, then secure the Wi-Fi module using the screw you removed earlier and reconnect the antenna cable(s).



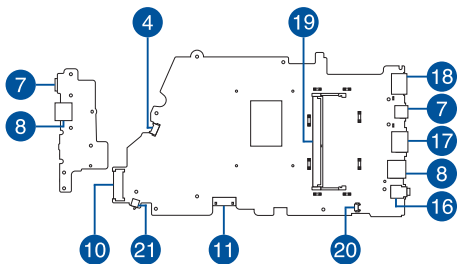
## Wiring and connection diagrams



## Top View



## Bottom View



- |                                  |                              |
|----------------------------------|------------------------------|
| 1. Camera connector*             | 12. Touchpad connector       |
| 2. eDP/Camera/LED connector      | 13. Keyboard connector       |
| 3. Touch panel connector*        | 14. Speaker connector        |
| 4. Fan connector*                | 15. Wi-Fi module connector   |
| 5. I/O board FFC connector       | 16. Audio connector          |
| 6. Stylus charger connector*     | 17. HDMI connector           |
| 7. USB Type-C® connector         | 18. LAN connector            |
| 8. USB Type-A connector          | 19. DIMM socket              |
| 9. Fingerprint sensor connector* | 20. RTC connector            |
| 10. M.2 SSD connector            | 21. Stylus sensor connector* |
| 11. Battery connector            |                              |

\*On selected models

