ASUS ProArt StudioBook Pro16

Repair Manual

SERVICE AND SUPPORT

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

MyASUS offers a variety of support features including troubleshooting, products performance optimization, ASUS software integration, and helps you to organize personal desktop and increase storage space. For more details, please visit https://www.asus.com/support/FAQ/1038301/.

Service Overview

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

- **Carefully read through this Service Guide for a look at various components of the device before performing any service and repairs.**

- To provide the best service, we have provided the below information for technicians from distributors and resellers to perform the complete device disassembly and assembly. Before performing the procedures, please be sure to read through the overview in this service guide for component overview to avoid any unwarranted damages to the device hardware.

- Due to sales policy difference, the components might have different specifications on the same series product, please refer to E-manual by model.

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 device 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.
- Use the correct screw models on your device to prevent damage.
- Fully remove all adhesive residue after removing and before installing any components.
- Photograph the appearance of cables, cable routing, connectors, and screws for later reference before proceeding with each step.

Pre-repair checklist

- Read the entire manual before starting any service procedures and follow all instructions.
- Back up the data on your device.
- Place your device on a clean and stable surface.
- Turn off your device.
- Disconnect all connected peripherals and cables.
- Disconnect all power cables and remove the battery pack (if applicable).

IMPORTANT!

- If you are uncertain about performing the described service procedures,
  stop and contact an authorized service center for assistance.
- Purchase replacement components from authorized retailers of this device to ensure maximum compatibility and reliability.

NOTE

- The illustration are for reference only.
- The service procedures described in this document depend on the model configuration and may not reflect the entire servicing process.
  To service components that are not covered in this document, please visit an authorized service center for further 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 reassembling.

ASUS ProArt StudioBook Pro16 Overview

Top View
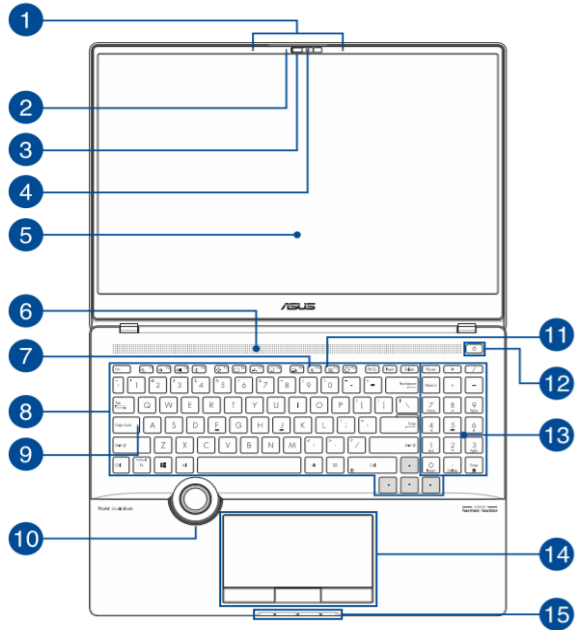
1. Array microphones
2. Camera indicator
3. Webcam shield
4. Camera (IR Camera)
5. Display panel
6. Air vents
7. Microphones indicator
8. Keyboard
9. Capital lock indicator
10. ASUS Dial
11. Camera off indicator
12. Power button
13. Numeric keypad
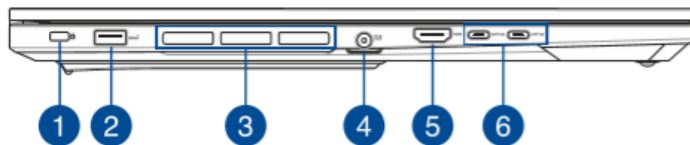14. Touchpad with buttons
15. Status indicators

Bottom View
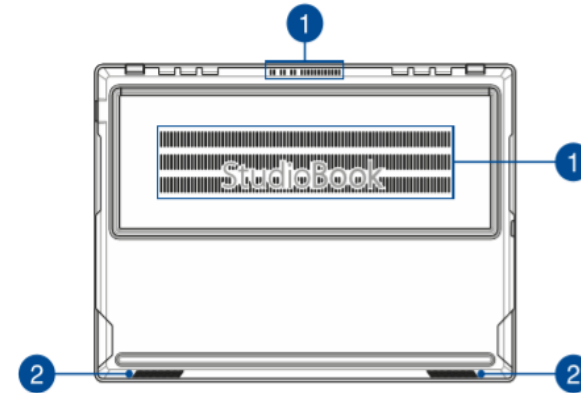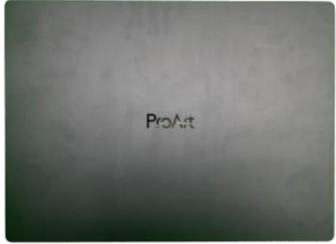

1. Air vents
2. Audio speakers

Right View
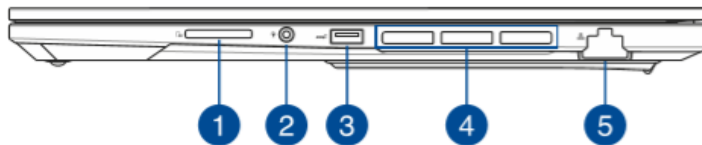
1. Memory card reader
2. Headphone/Headset/Microphone jack
3. USB 3.2Gen 2 port
4. Air vents
5. LAN port

Left View

1. Kensington® security slot B 2.0 port
2. USB 3.2Gen 2 port
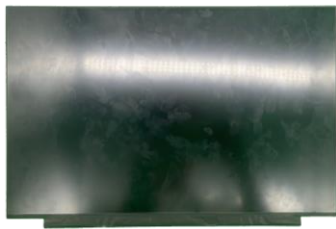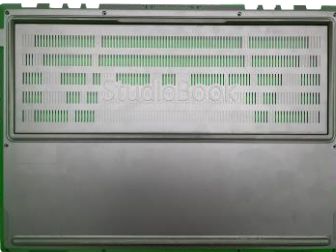3. Air vent
4. Power(DC) input port
5. HDMI output port

Components Top View

ASUS

- LCD COVER

- KEYBOARD MODULE

- CMOS BOARD

- FP POWER BUTTON

- HINGE

  L IMR   R IMR

- FPC_CAM

- COMS CABLE

- LCD BEZEL

- MAIN BOARD

- ENCODER FFC

- EDP CABLE

- LED BOARD

- DIGITAL MICROPHONE *2PCS

- 16.0' LCD PANEL

- FPC_USB

- CAMERA

- FPC_USB

- IO BOARD

  LAN   USB

- BATTERY

- SSD

- SPEAKER

- BOTTOM CASE

- THERMAL

- MEMORY

- WIFI MAIN ANTENNA

- ENCODER SWITCH H9.8 W/O LED

ASUS

◆ LCD COVER

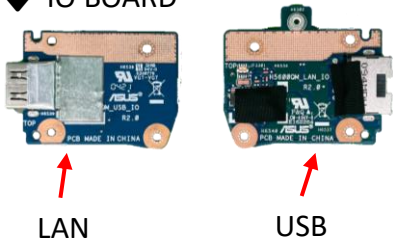LCD COVER TAPE

◆ LCD BEZEL

LCD BEZEL ADHESIVE
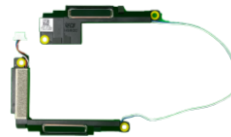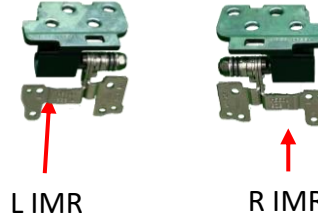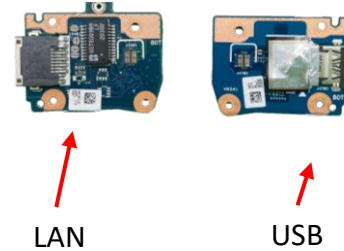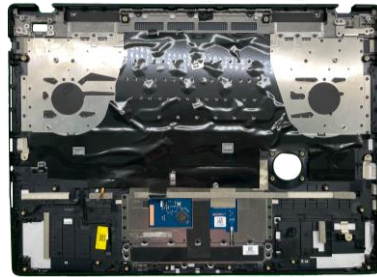
◆ 16.0' LCD PANEL
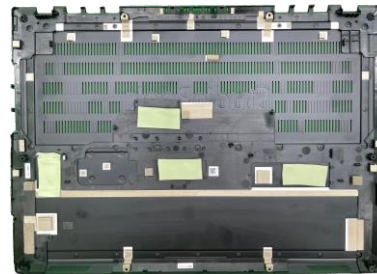
◆ IO BOARD

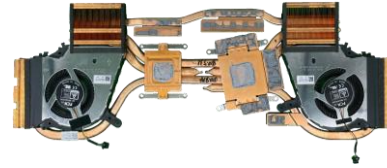LAN   USB

◆ KEYBOARD MODULE

◆ BOTTOM CASE

◆ MAIN BOARD

◆ ENCODER SWITCH H9.8 W/O LED

◆ THERMAL

◆ CMOS BOARD

◆ LED BOARD

Repair Overview

This chapter describes disassembly and assembly (Assemble document please look up from the last page), please follow the information provided in this section to perform the complete disassembly procedure.

◆ **Precautions:**

Before you perform any service or repair on the notebook, please pay special attention to the cautions prevent any damages to the notebook.

1. Be sure that the notebook is powered down.

2. Before disassembling any part, please disconnect all power source. ex: AC plug/Battery connector/Power protect screw etc.

3. Remove all rings, watches and any other metal objects from your hands.

4. Always wear a ground strap on your hand to protect the notebook from static discharge.

5. Please refer to "ANSI ESD S20.20" about ESD protection measure.

6. Put the disassembled parts in the functional PE BAG to avoid any damages of the A/B/C/D part.
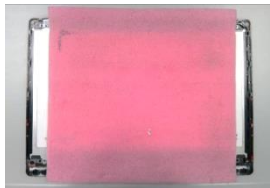
7. The maintenance environment temperature is 20-30 ℃ and humidity is 40% - 70%.

8. To avoid scratching on the surface of machine; please use anti-static and soft materials to put on desk in repair environment as below photo.

9. Screw Appearance Criteria:

   If the screws have the following damaged appearance, please do not use.

   a. Shape deformed.

   b. Damaged head – unable to drive in or the stripped screw.

   c. Damaged unable to securely tighten.

   d. Paint scratched off.

   e. Rusty

10. The following chapter includes all part numbers mentioned in service guide are used for reference only, actual part name depends on different SKU, if you need the exact part number for ordering, please refer to the Orderbook.

11. Due to sales policy difference, the components may have different specifications on the same model. Please note that all pictures and components shown on Service Guide are for disassembly/assembly description purpose only, so please refer to the actual product for disassemble/assemble.

Appropriate Tools

Please prepare and select the appropriate tools to disassemble/assemble for the **H5600QM_QR** notebook.

◆ **Screwdriver**

Please accord to different screw specification to choose different screwdriver and head.
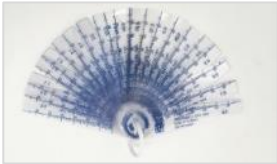
#1 ✛

◆ **Plastic Blade**

◆ **Plastic Tweezers**

Use a pair of tweezers to remove/insert/tidy cables.

◆ **Thickness Gauge**

Thickness compass specification 0.05mm-1.5mm. Use it to measure the gap.

◆ **Magnetism Board**

Suggest local buy magnetism board to place screw, avoid mix different type screw to cause assembly damage.

◆ **Alcohol 95%**   ◆ **Glove**   ◆ **Dust-free Cloth**

◆ **Thermal) Pad**
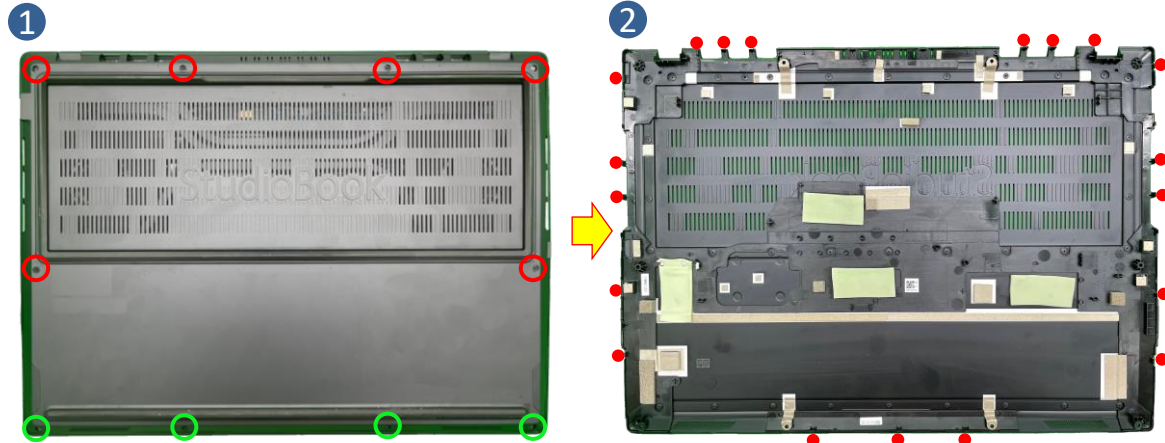
G500 Thermal Grease

◆ **FCR-AS Thermal Grease**
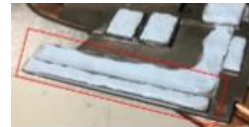
Disassembly Notice

Step 1 : Remove screws *10pcs.
Step 2 : Use plastic blade to pry the Bottom case.

Screws		QTY	Spec	Torque (kgf-cm)
🔩	🟢	4	SCREW M2*4.5L(4,0.8) (K) #1	2±0.2
🔩	🔴	6	SCREW M2*9L(4,0.75) (K)	3±0.2

Assembly Notice

⚠️ For BOTTOM CASE assembly

Sky side

Ground side

① ②

⚠️ To avoid the bottom case hook, don't insert plastic blade in each red circle.

Start
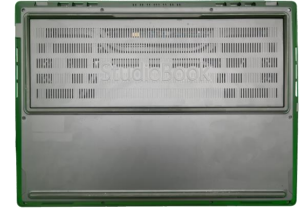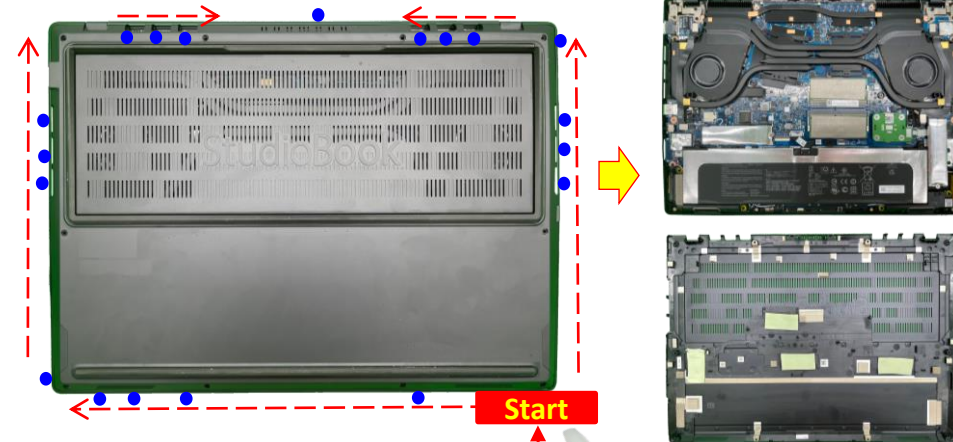
⚠️ Please follow above arrow direction with using plastic blade to pry bottom case in each blue circle location.
(To avoid the bottom case hook, please prying at each blue circle location.)

SPEAKER

Disassembly Notice Please be sure to pull out adapter and disconnect the battery. ⚡🚫

⚠️ Before disassembly battery connector, please be sure to pull out adapter and disconnect the battery more than ten seconds in order to IC damage.
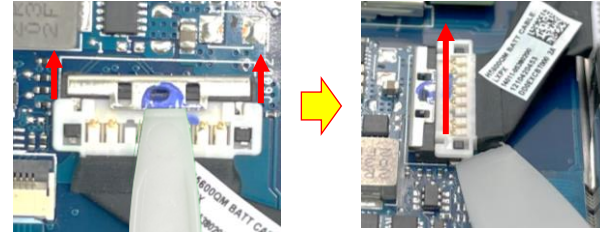
Step 1 : Disconnect the battery connector.
Step 2 : Disconnect the SPEAKER connector.
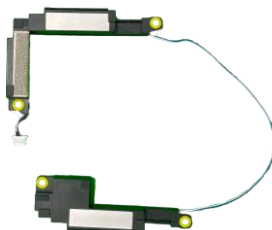Step 3 : Remove SPEAKER.
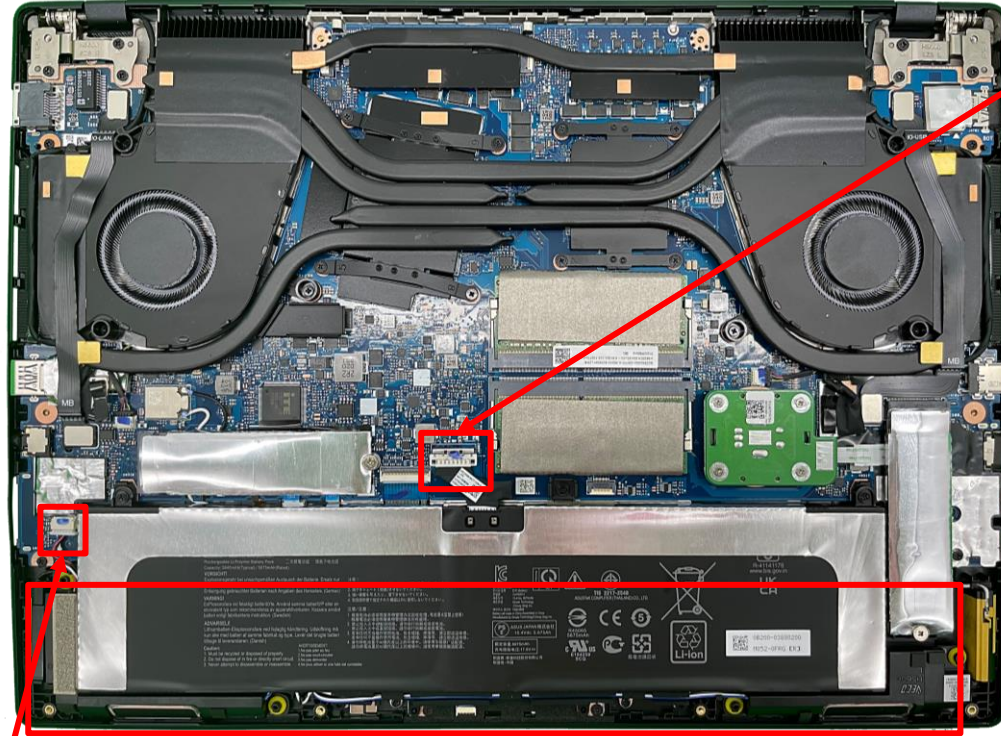
① Disconnect

Assembly Notice

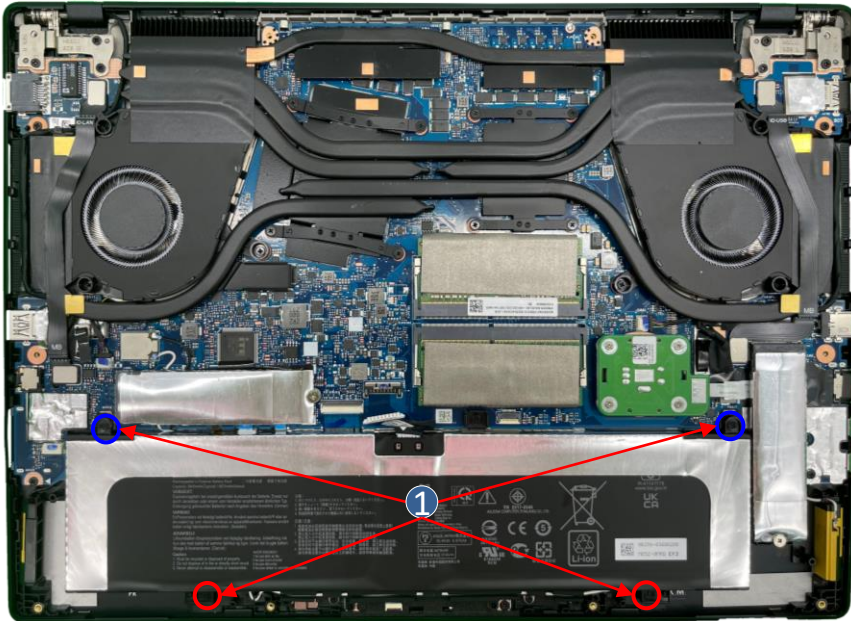⚠️ For Speaker assembly, please follow the mark below to tidy cable.

② Disconnect   **③** Remove

Disassembly Notice Please be sure to pull out adapter and disconnect the battery.

⚠ Before disassembly battery connector, please be sure to pull out adapter and disconnect the battery more than ten seconds in order to IC damage.

Step 1 : Remove screws *4pcs.
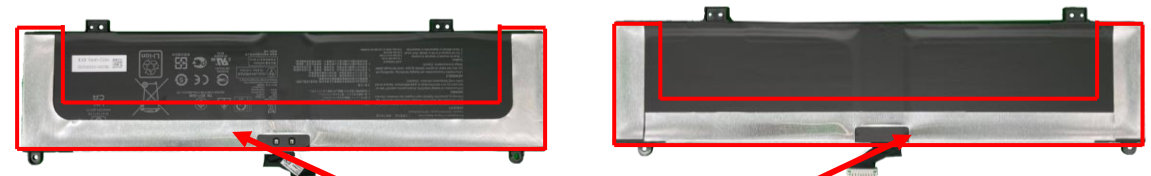Step 2 : Remove BATTERY.

Screws	QTY	Spec	Torque(kgf-cm)
🔩 ⭕	2	SCREW M2*4.5L(4,0.8) (K) #1	2±0.2
🔩 ⭕	2	SCREW M2*6L(K,D4.6)(K) #1	2±0.2

❷ Remove

Assembly Notice

⚠ For Battery assembly, when you replace a new battery, please remember to paste the BATT AL FOIL 1pcs.
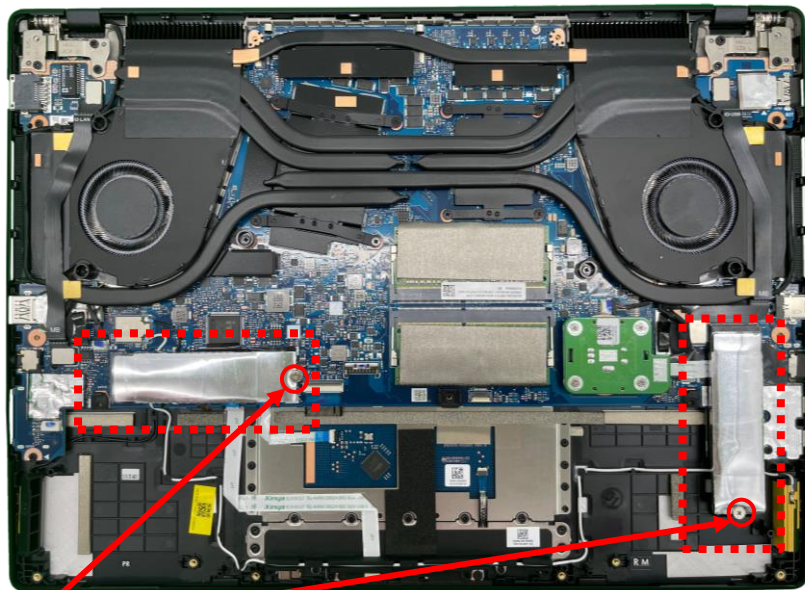
BATT AL FOIL

SSD

Disassembly Notice Please be sure to pull out adapter and disconnect the battery.
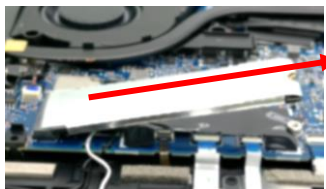
Step 1 : Remove the screws *2pcs and remove the SSD *2pcs (red mark).
Step 2 : Remove THM SSD AL FOIL and SSD GS from the SSD.

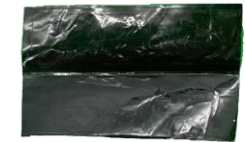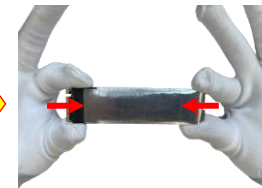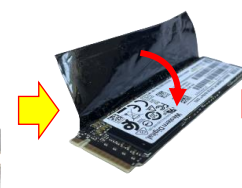| Screws	QTY	Spec	Torque (kgf-cm)
◯	2	SCREW M2*2.75L+0.75(5.6,0.9)(K)	2.0±0.2

❷ Remove

❶ Remove

(SSD *2pcs)
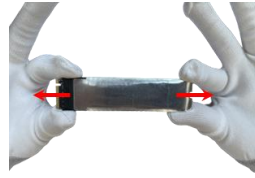
Assembly Notice

⚠ When you replace a new SSD ,please remember to paste the SSD GS and assemble the SSD AL FOIL.

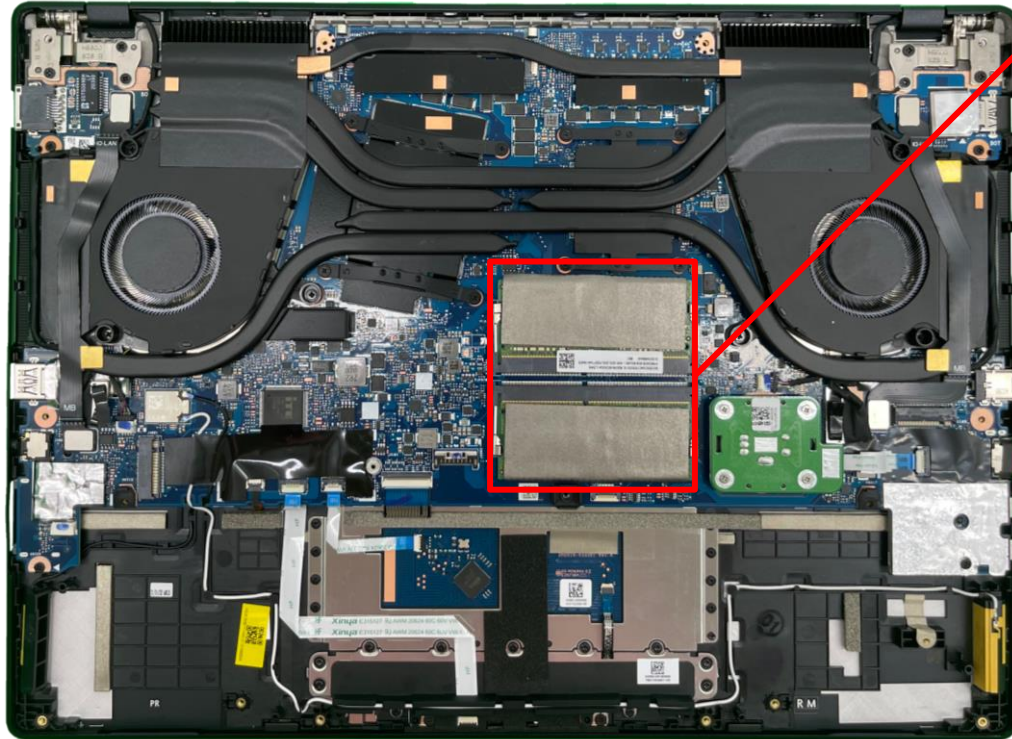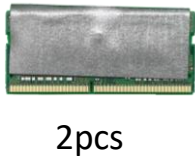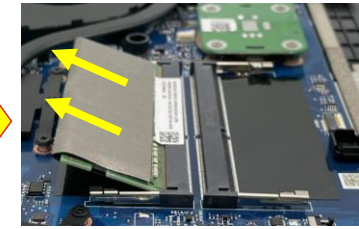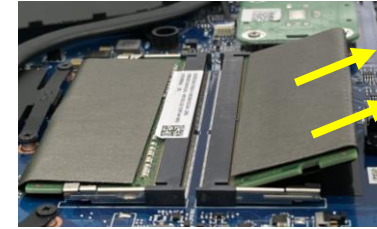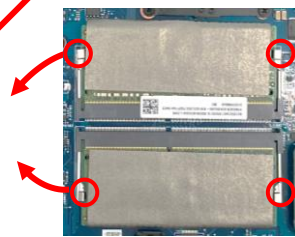**Disassembly Notice** Please be sure to pull out adapter and disconnect the battery.
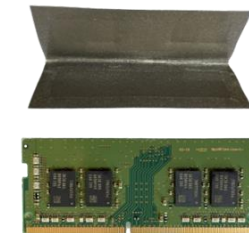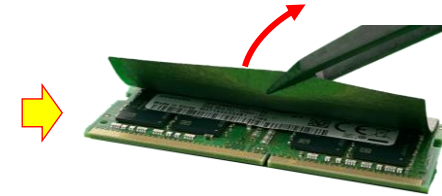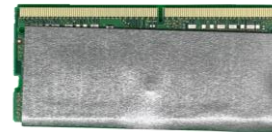
Step 1 : Remove the MEMORY *2pcs (red mark).
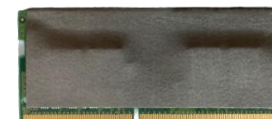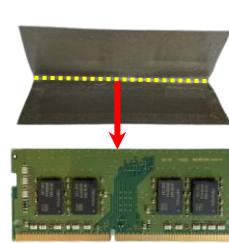Step 2 : Remove the ABSORBER from the MEMORY .

❶ Remove

2pcs

❷ Remove

Assembly Notice

⚠ For MEMORY assembly, When you replace a new MEMORY please remember to paste the ABSORBER.

Disassembly Notice   Please be sure to pull out adapter and disconnect the battery. 🔌🚫
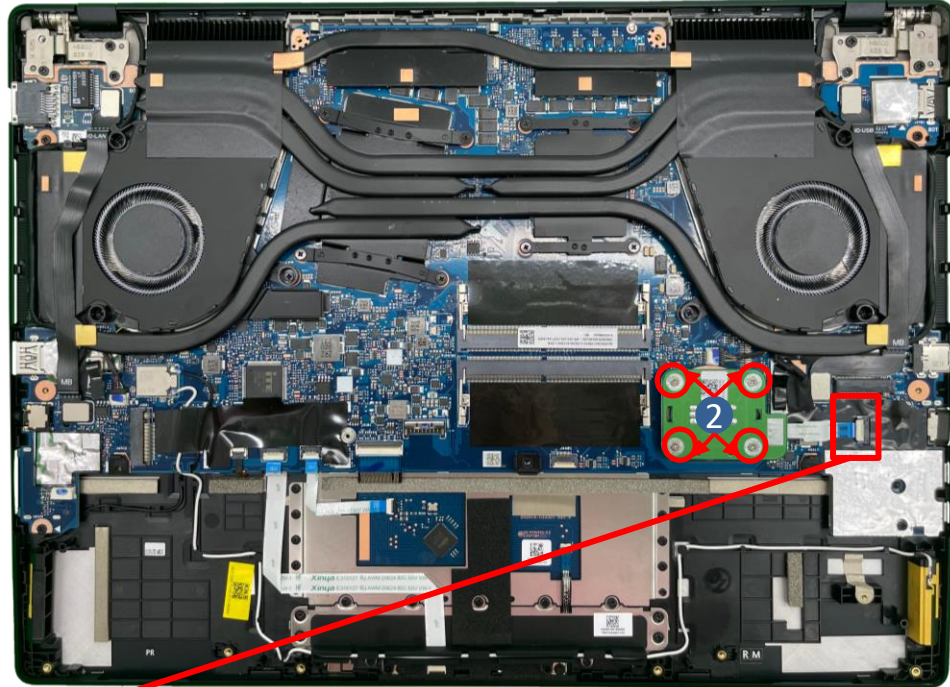
Step 1 : Disconnect the ENCODER SWITCH FFC from the MB (red mark).
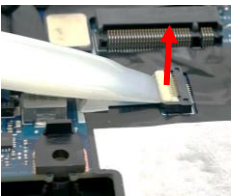Step 2 : Remove the screws *4pcs and remove the ENCODER SWITCH ASSY.
Step 3 : Disconnect the ENCODER SWITCH FFC from the ENCODER SWITCH ASSY.
Step 4 : Disassemble the ENCODER SWITCH ASSY.

Screws	QTY	Spec	Torque (kgf-cm)
⊙ ◯	4	SCREW M2*9.2L(3.6,0.5) (K) #1	2.0±0.2

❸ Disconnect

❹ Disassemble

KNOB CAP ASM   KNOB MOD HOLDER   ENCODER SWITCH

❶ Disconnect

❷ Remove
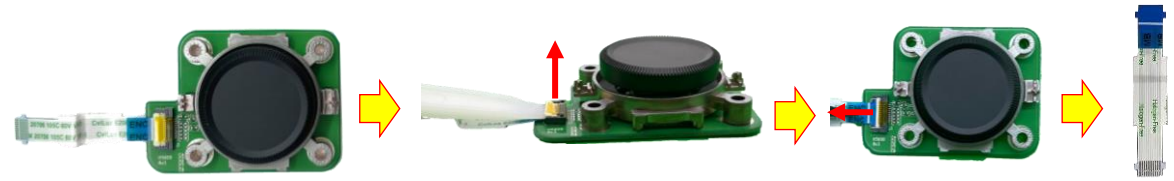
Assembly Notice ⚠️ For ENCODER SWITCH assembly, please the follow the below step.

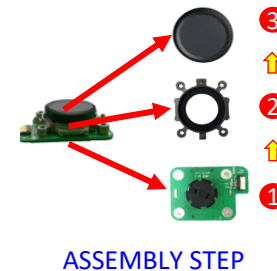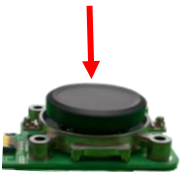1. Use the Dust-free Cloth (with alcohol) to clear the black plastic part of ENCODER SWITCH.

2. Assemble the KNOB MOD HOLDER.

3. Tear off the release paper of KNOB CAP ASM to assemble it.

4. Please press KNOB CAP ASM 5 seconds after assembly , and then do not pull KNOB CAP ASM during 24 hours to make sure the KNOB CAP and the ENCODER SWITCH MODULE are inseparable and firm.

If the black plastic part of ENCODER SWITCH is damaged when disassemble KNOB CAP ASM, please change a new ENCODER SWITCH.

ASSEMBLY STEP   Damage   Normal

Disassembly Notice Please be sure to pull out adapter and disconnect the battery. ⚡🚫
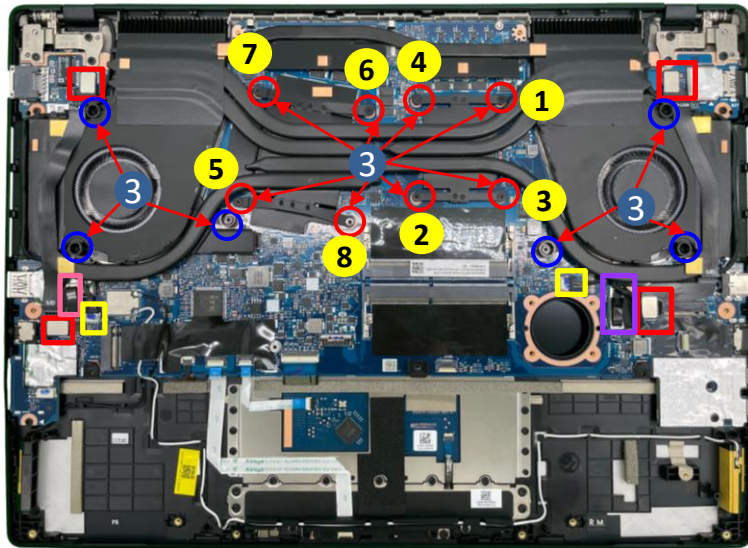
Step 1 : Disconnect the FPC_LAN and FPC_USB (red mark).
Step 2 : Disconnect the EDP CABLE (purple mark) and COMS CABLE (pink mark) and FAN connector (yellow mark) from MB.
Step 3 : Remove screws *6pcs(blue mark) on the fan, remove screws *8pcs on the thermal (red mark).
Step 4 : Remove the THERMAL (with fan).

Screws	QTY	Spec	Torque (kgf-cm)
🔩 ⦿	6	SCREW M2*4.5L(4,0.8) (K) #1	2.0±0.2
🔩 ⦿	8	SCREW M2*2.3L(4.5,0.5) (K) #1	2.0±0.2

⚠️ Recommend that the force point is at green block, and pull up thermal module to take it out. Do not pull up at yellow block and also notice the thermal pipe should not have deformation.
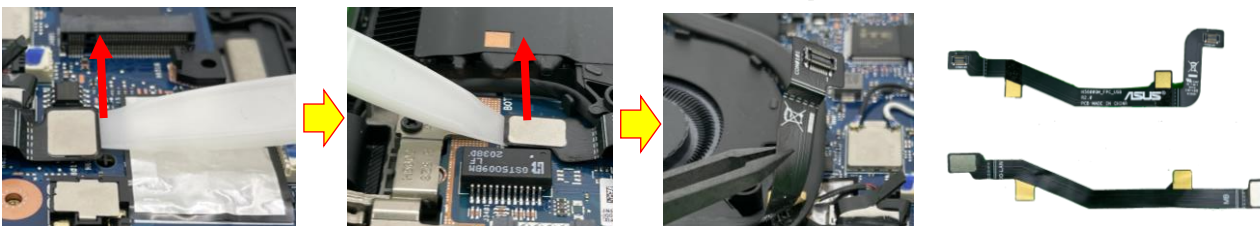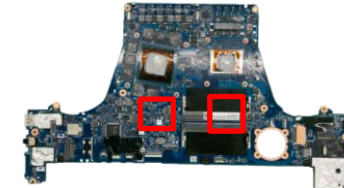
Assembly Notice

⚠️ **Step-1**
■ MB Location:[CPU][GPU]
Material:
  Main (GA500 Grease)
  Substitute (PSX Thermal pad)

■ Location:[VRAM OF THERMAL]
Material:**FCR-AS Thermal Grease**

❷ Disconnect
EDP CABLE&COMS CABLE (purple & pink mark)

FAN connector (yellow mark)

❹ Remove

❶ Disconnect (red mark)
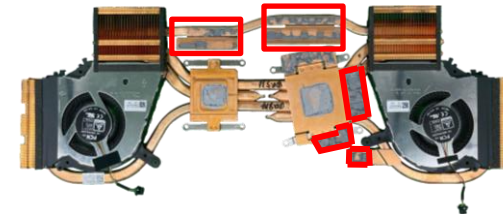
Step-2
Please follow the screws numbers to lock screws *8pcs.

MAIN BOARD

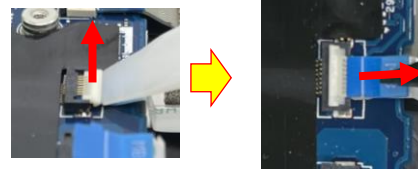**Disassembly Notice**   Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect (yellow mark) connector *5pcs from MB.
Step 2 : Disconnect WIFI ANTENNA connector(red mark).
Step 3 : Remove screws *3pcs.
Step 4 : Remove MB.

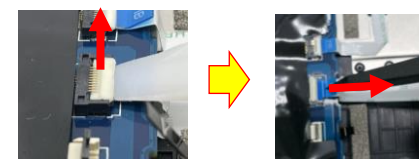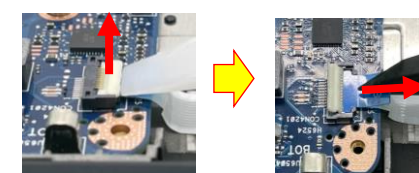| Screws	QTY	Spec	Torque (kgf-cm)
🔩⭕	3	SCREW M2*4.5L(4,0.8) (K) #1	2.0±0.2
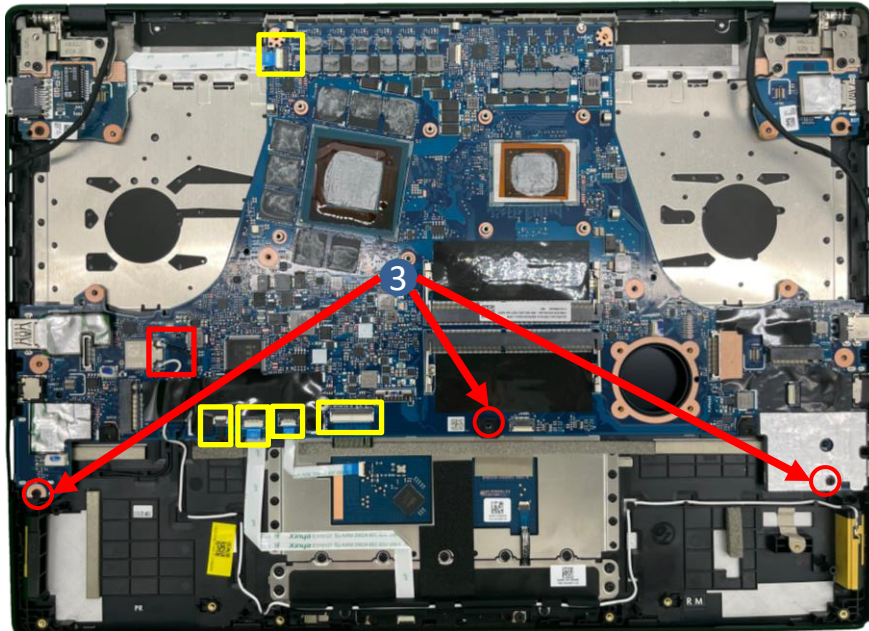
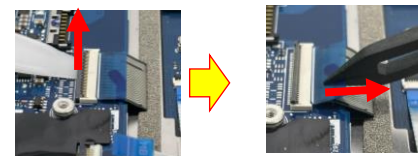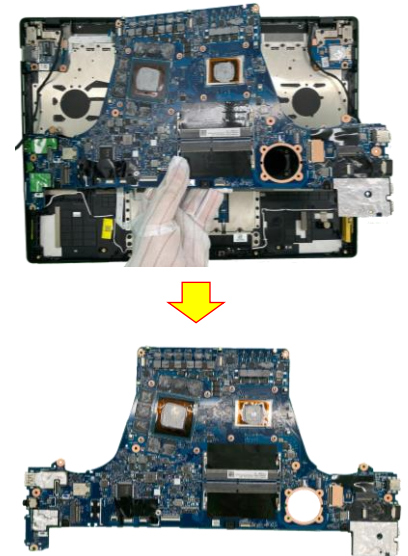❶ Disconnect (yellow mark)

TP connector

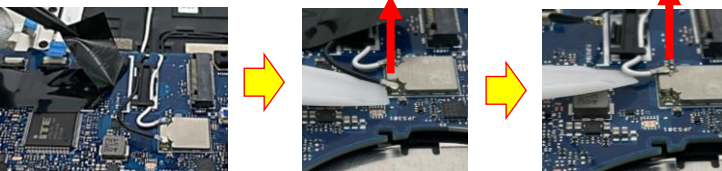LED connector

❹ Remove MB

BL connector

FP connector

Keyboard connector

❷ Disconnect (red mark)

MAIN BOARD

Mainboard connector placement

FAN

FP FFC

FFC_LAN

FFC_USB

FAN

EDP CABLE

FFC_USB

FFC_LAN

EDP CABLE

SPEAKER

BL FPC

TP FFC

K/B FPC

BATTERY
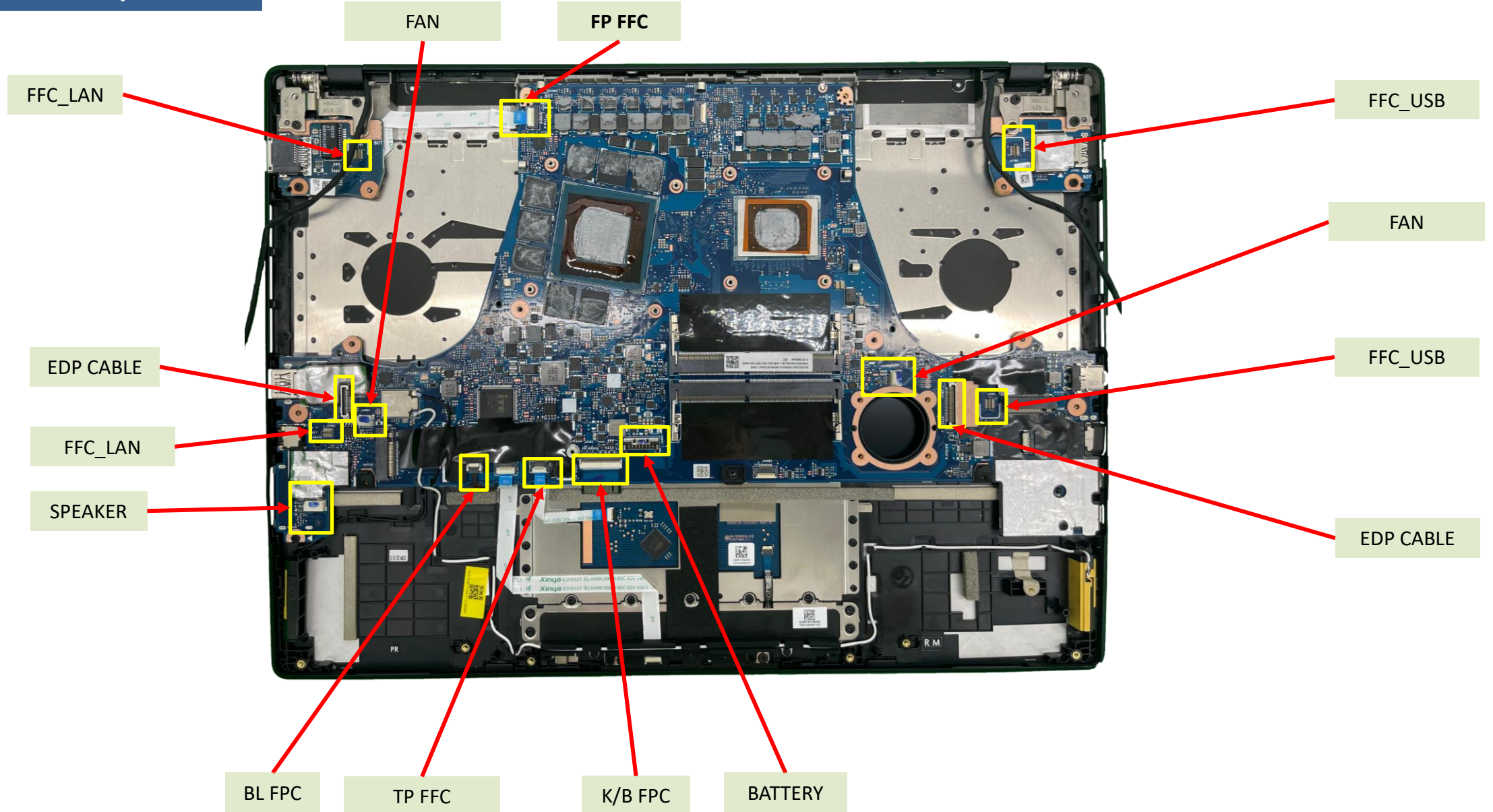
MAIN BOARD

Materials on mainboard

H5600QM GPU CAPTON

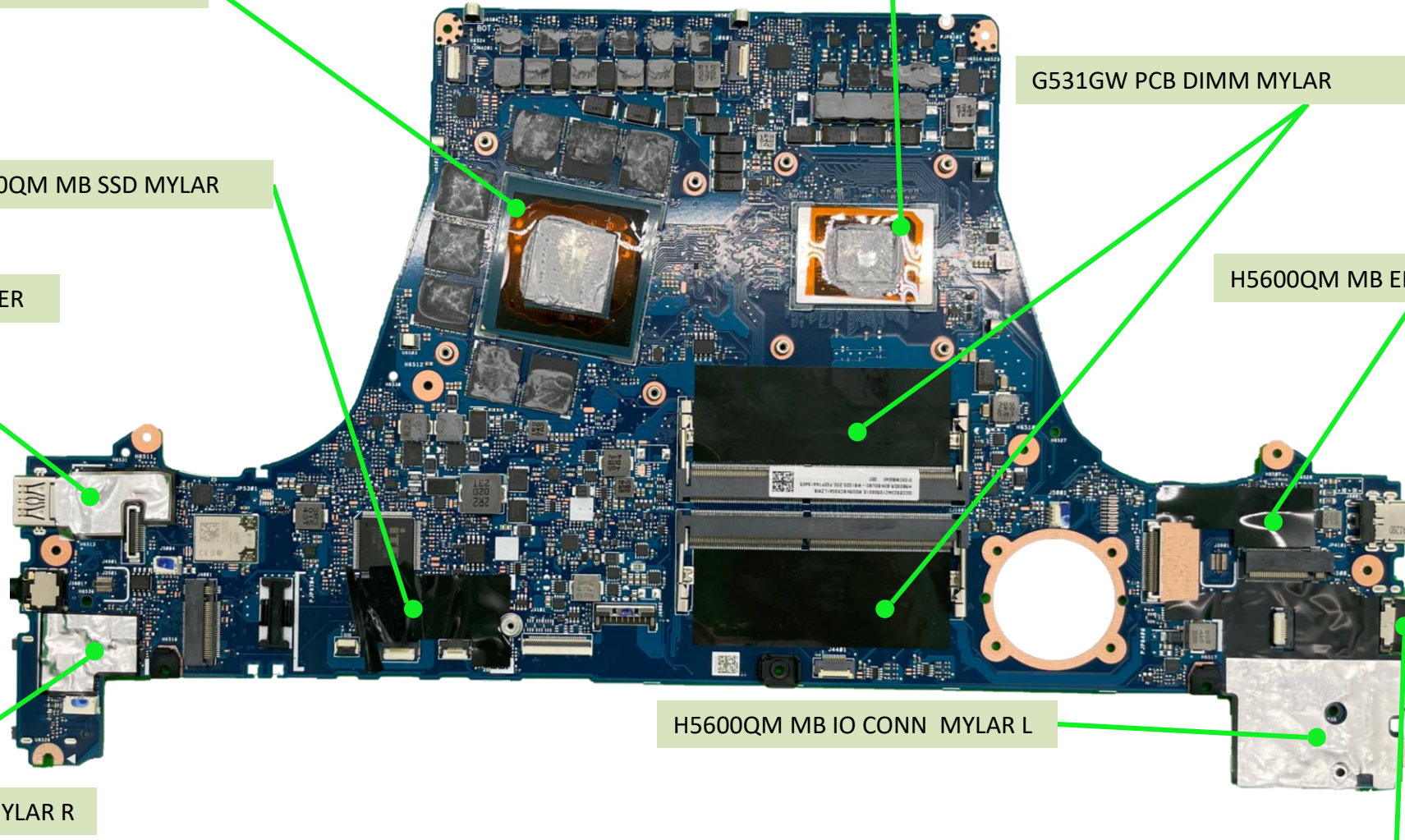H5600QM CPU CAPTON

H5600QM MB SSD MYLAR

G531GW PCB DIMM MYLAR

H5600QM MB USB3 ABSORBER

H5600QM MB EDP CABLE MYLAR

H5600QM MB IO CONN MYLAR L

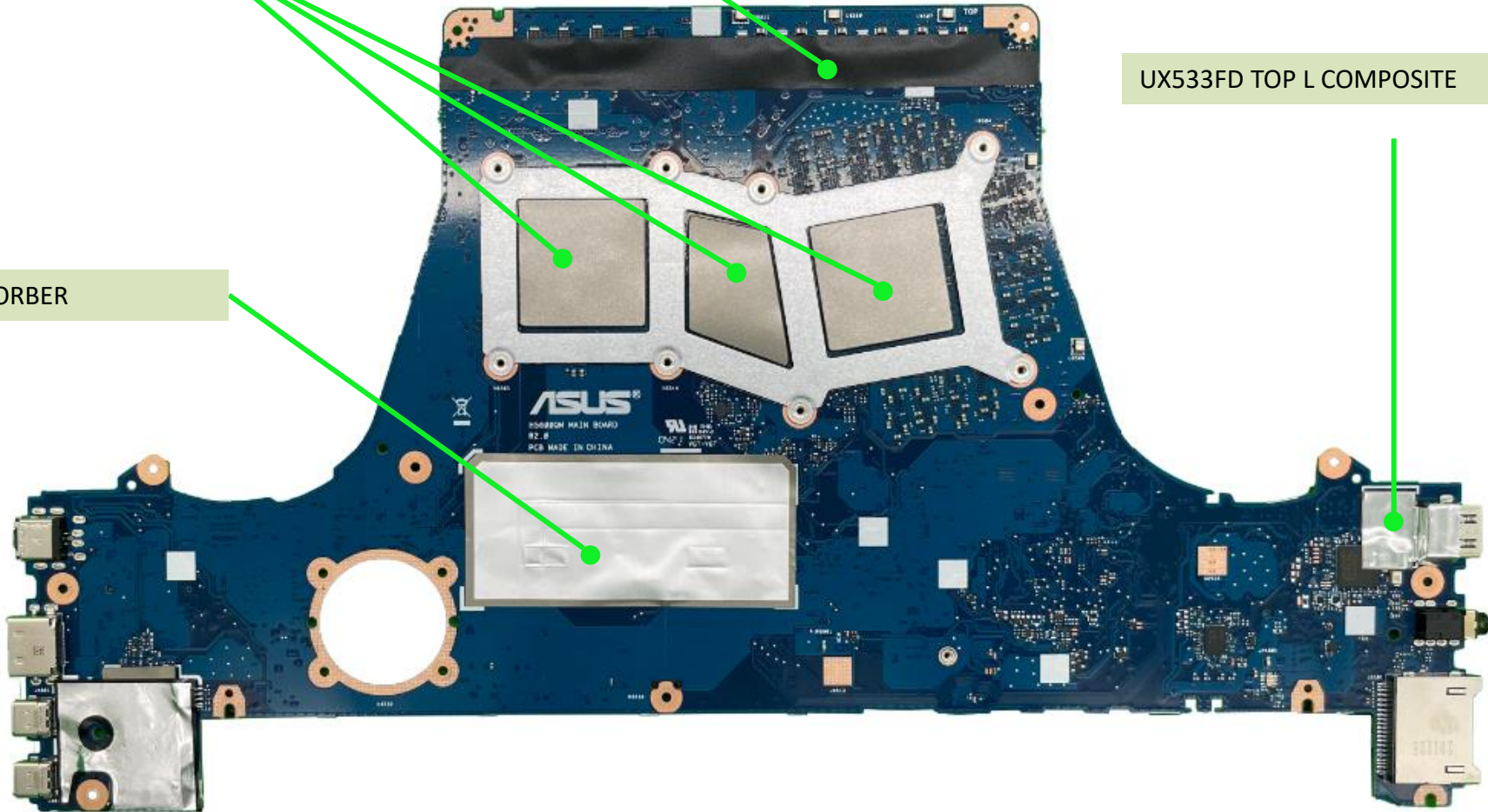H5600QM MB IO CONN MYLAR R

H5600QM USB BLACK CONDUCTIVE TAPE

MAIN BOARD

Materials on mainboard

H5600QM MB TOP FILM MYLAR

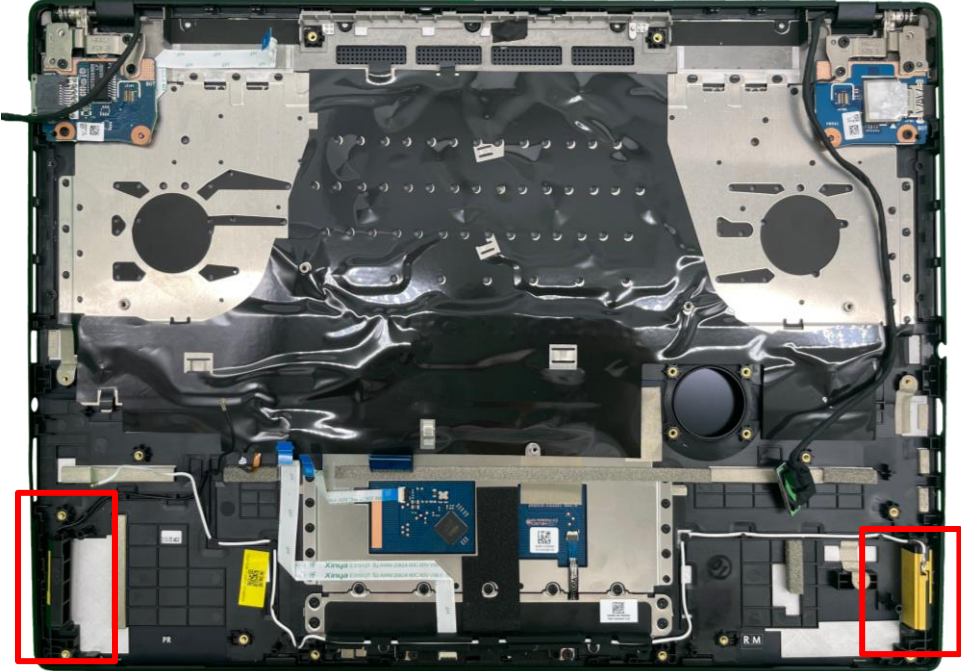H5600QM MB ABSORBER COMBINE

UX533FD TOP L COMPOSITE
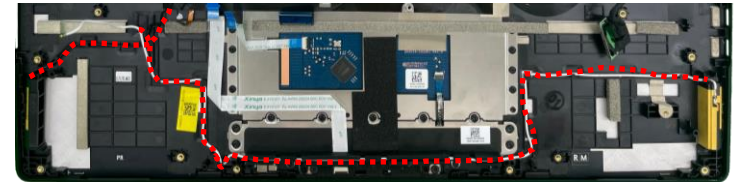
UX305LA DDR TRACE ABSORBER

Disassembly Notice Please be sure to pull out adapter and disconnect the battery. ⚡🚫

Step 1 : Remove WIFI ANTENNA.

Assembly Notice

⚠️ For WIFI MAIN ANTENNA assembly, please follow the mark below to tidy cable

① Remove

IO BOARD and LED BOARD

Disassembly Notice   Please be sure to pull out adapter and disconnect the battery. 🚫🔌

Step 1 : Remove screws *6pcs on the hinge and screws *2pcs on the IO BOARD.
Step 2 : Remove IO BOARD.
Step 3 : Disconnect and remove all FFC *2pcs (yellow mark).
Step 4 : Remove the SPEAKER CABLE RUBBER (red mark).
Step 5 : Remove screws *2pcs and remove the LED BOARD then tear off the SPONGE from the LED BOARD.

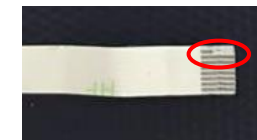| Screws	QTY	Spec	Torque (kgf-cm)
🔩 ⭕	6	SCREW M2.5*6L (4,0.8) (K) #1	3.0±0.2
🔩 ⭕	2	SCREW M2*4.5L(4,0.8) (K) #1	2.0±0.2
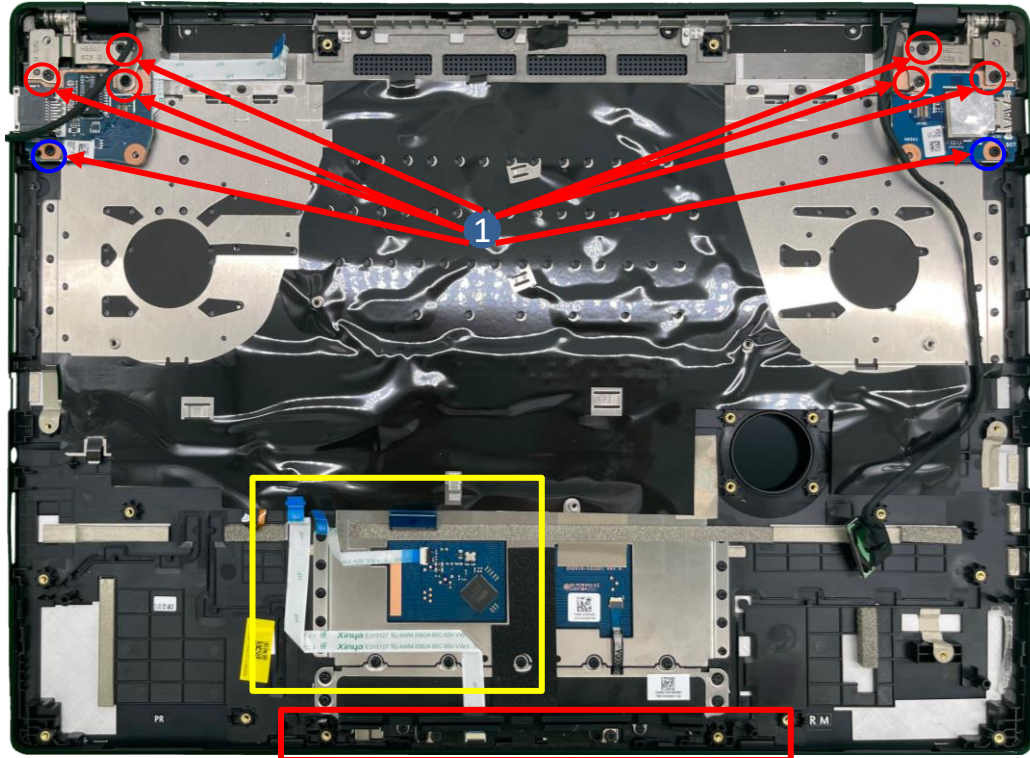
❸ Disconnect and Remove LED FFC

TP FFC

❺ Remove

Assembly Notice

⚠️ If FFC is damage during disassembly, please replace new one. Here are some samples of FFC damage:

❷ Remove

❹ Remove

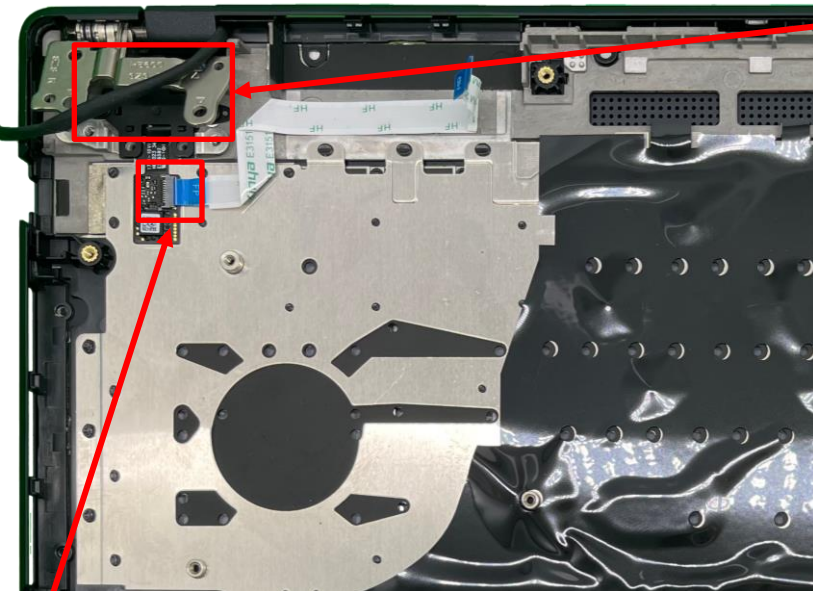LAN   USB

FP POWER BUTTON

Disassembly Notice   Please be sure to pull out adapter and disconnect the battery. 🚫🔌
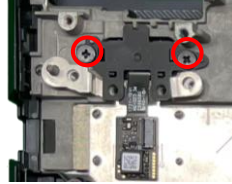
Step 1 : Disconnect and remove the FP FFC.
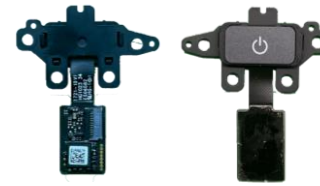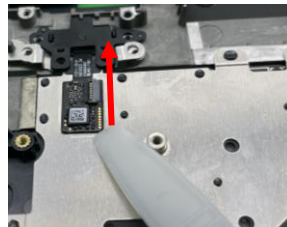Step 2 : Remove screws *2pcs on the FP POWER BUTTON。
Step 3 : Remove the FP POWER BUTTON.

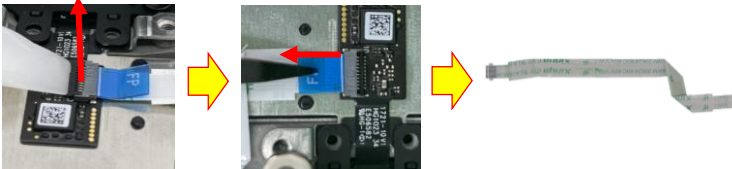| Screws	QTY	Spec	Torque (kgf-cm)
🔩 ⭕	2	SCREW M2*2.3L(4.5,0.5) (K) #1	2.0±0.2

Assembly Notice

⚠️ If FFC is damage during disassembly, please replace new one. Here are some samples of FFC damage:
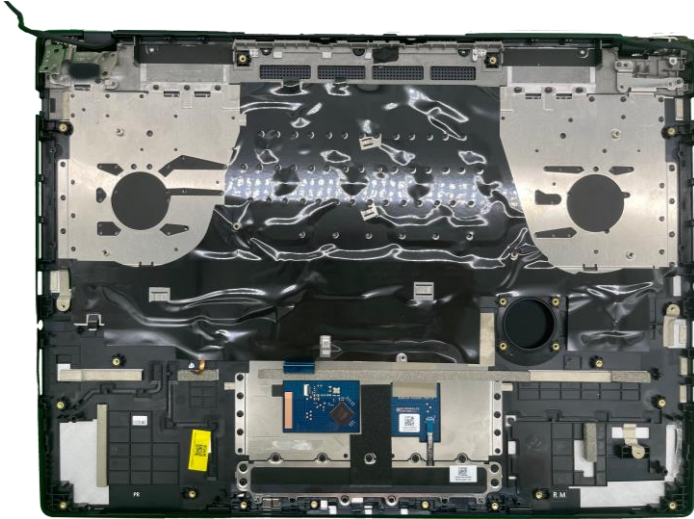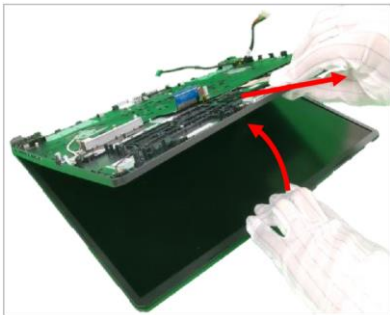
❷ Remove

❸ Remove

❶ Disconnect and Remove

FP FFC

Disassembly Notice   Please be sure to pull out adapter and disconnect the battery. 🚫🔌
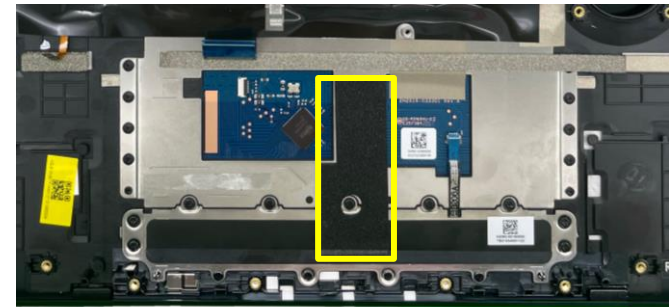
Step 1 : Remove the KEYBOARD MODULE.

Assembly Notice

⚠️ For the new KEYBOARD MODULE, there is no sponge (yellow mark) and do not post it in the future (ECN change).

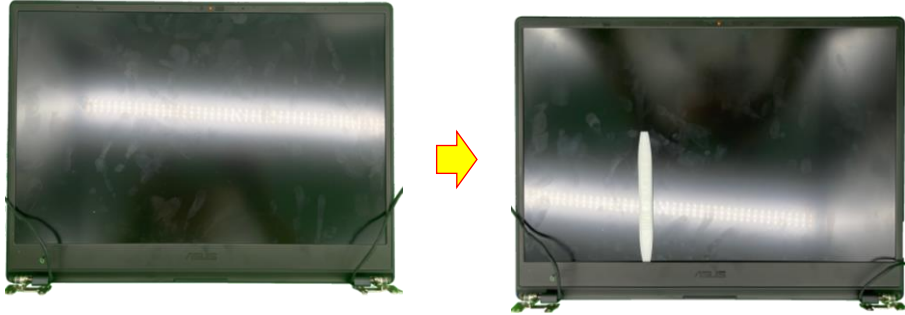① Open and Remove

LCD BEZEL

Disassembly Notice   Please be sure to pull out adapter and disconnect the battery. 🚫🔌
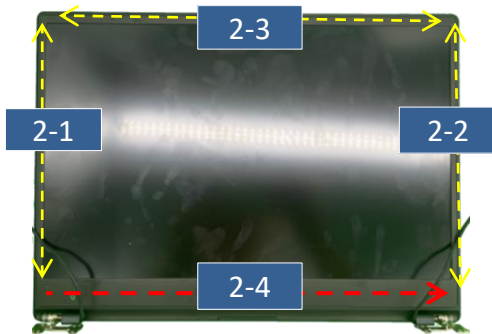
Step 1 : Remove LCD BEZEL.

❶ Remove

❷

Step 2-1~2-3, Start from the middle area of each side of bezel,
Using the forefinger to hold the outer edge firmly and the thumb flipping the
bezel inner edge outward to release the hooks as indicated in the diagram shown.
(It can be helpful, if holding the bezel outer edge firmly with forefinger.)

2-3

2-1   2-2

2-4

Step 2-1~2-3

Thumb flipping the inner edge outward.

Step 2-4   Due to some tapes behind the lower edge of bezel, please using plastic
blade to teardown the bezel.(Just for IPS Panel SKU, the bezel has a BEZEL ADHESIVE TOP D)
Please follow the direction shown in the red arrow, to move plastic blade from left
to right and peel the bezel away slowly. While peeling, please move the blade in the
parallel direction to the panel and **pressing the black Mylar downward** (As circled in
green) to ensure the black Mylar and the tape behind the bezel are well separated.

Please move blade slowly to separate the bezel away and must
press the black Mylar downward with panel parallel direction..

Panel's black Mylar

Assembly Notice ⚠️

1-1 When reuse the LCD BEZEL: Please paste new
LCD BEZEL ADHESIVE before assembly BEZEL.
(New LCD BEZEL already contains LCD BEZEL
ADHESIVE 4pcs)

1-1

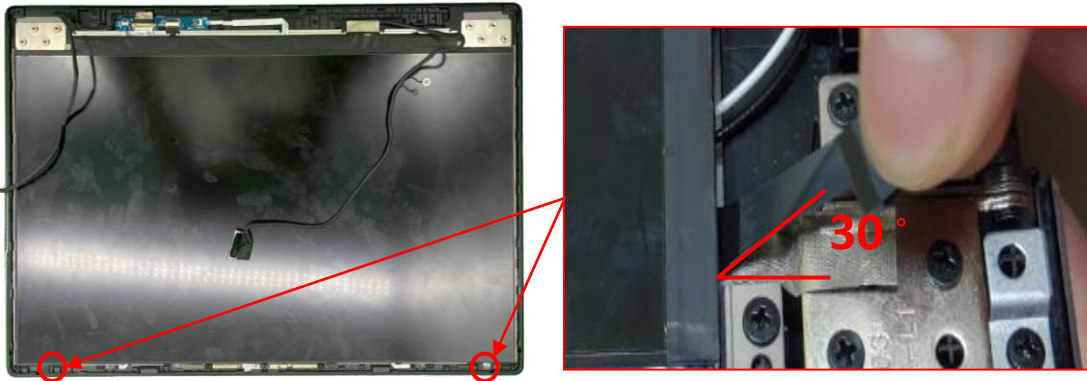**Disassembly Notice** Please be sure to pull out adapter and disconnect the battery.

Step 1 : Remove the screws*8pcs then remove the hinges*2pcs.
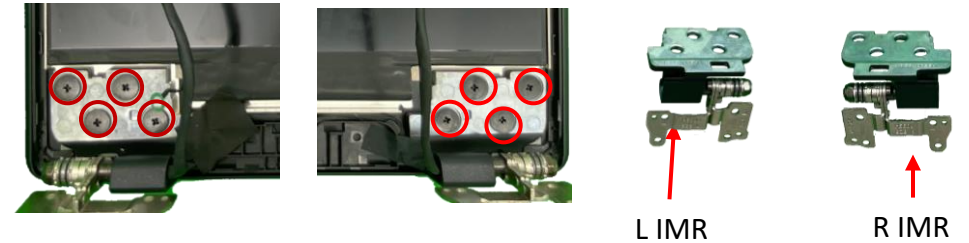Step 2 : Pull out LCD adhesive *2pcs.
Step 3 : Remove LCD PANEL.

Screws	QTY	Spec	Torque (kgf-cm)
	8	SCREW M2.5*2.5L(7.5,0.6)(K) #1	3.0±0.2

② ⚠ **Please pull the adhesive up about 30 degree slowly, and don't pull out the tape in vertical direction!**

30°

❶ Remove

L IMR   R IMR

❸ Flip up the panel, and disconnect the EDP connector.

3-1

3-2
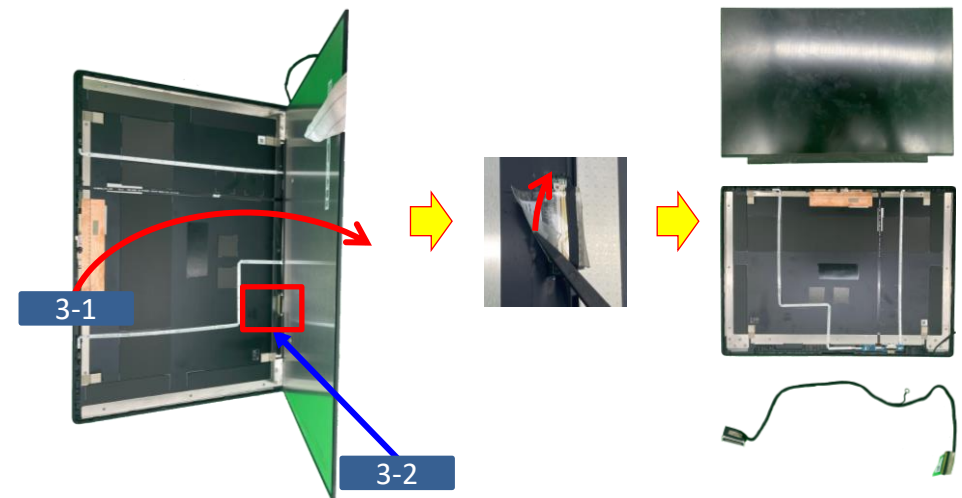
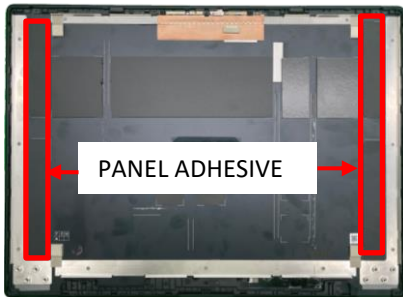**Assembly Notice** Please be sure to pull out adapter and disconnect the battery. 🚫

A **When reuse the LCD PANEL:**
Please use the fingertip to clean the residual glue on PANEL or BEZEL.

B **When reuse the LCD COVER:**
Please paste new PANEL ADHESIVE *2pcs.
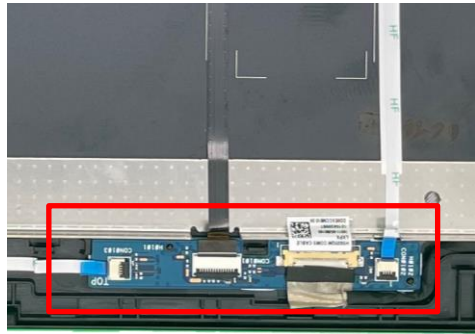(New LCD COVER already contains PANEL ADHESIVE *2pcs)

PANEL ADHESIVE

CMOS BOARD and CAMERA

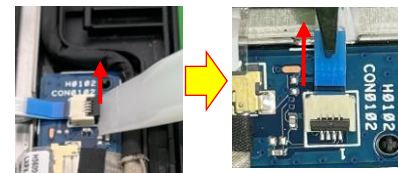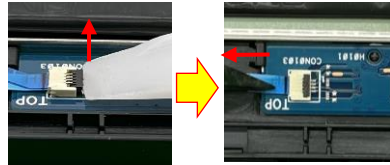**Disassembly Notice** Please be sure to pull out adapter and disconnect the battery. 🚫🔌

Step 1 : Disconnect all connector *4pcs(red mark) from the CMOS BOARD and remove the CMOS BOARD and COMS CABLE.
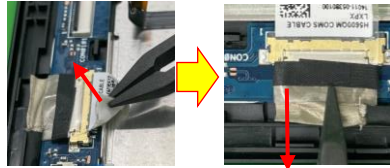Step 2 : Remove FPC_CAM and DIGITAL MICROPHONE *2pcs.
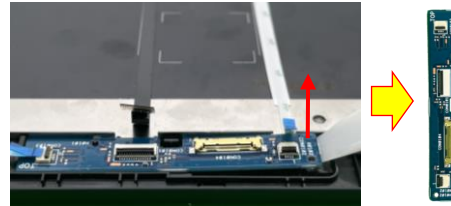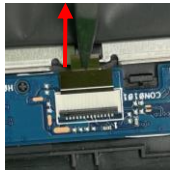Step 3 : Remove the camera.
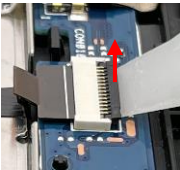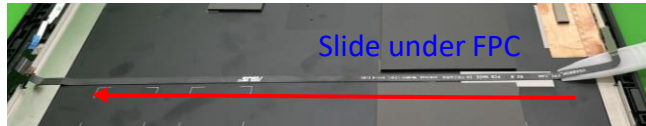
DIGITAL MICROPHONE connector

Remove CMOS_BD

❶Disconnect and Remove.
FPC_CAM

COMS CABLE

❸Remove.
Slide under camera

❷Remove.
Remove FPC_CAM

Slide under FPC
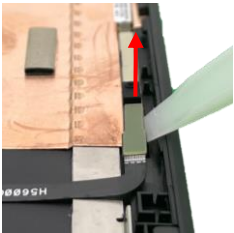
Remove DIGITAL MICROPHONE

Slide under Digital microphone