

ASUS VIVOBOK M1502IA

Repair Manual

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- **ASUS is not responsible for direct, indirect, intentional or 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.

- 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).

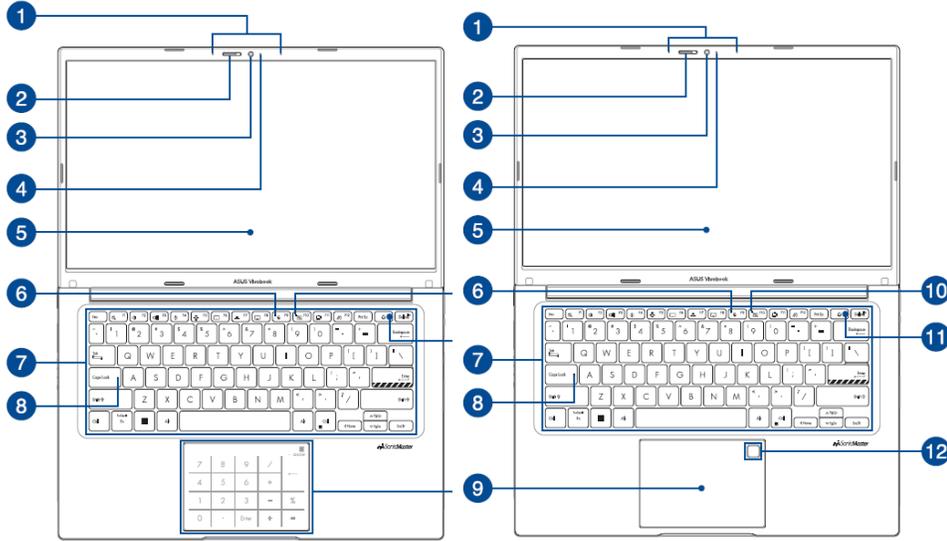
IMPORTANT!

- 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

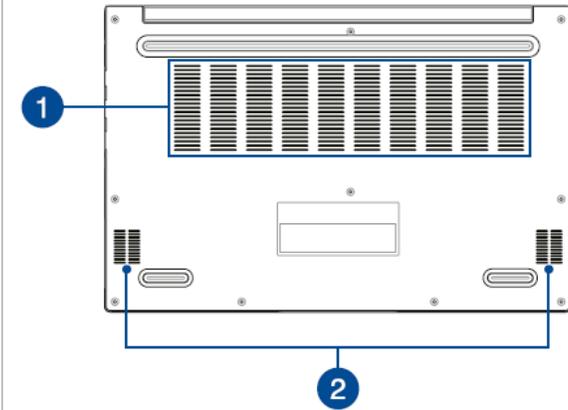
- The illustration are for reference only.
- The service procedures described in this document depend on the model configuration and may not reflect the entire servicing process. To service components that are not covered in this document, please visit an authorized service center for further assistance.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

Top View



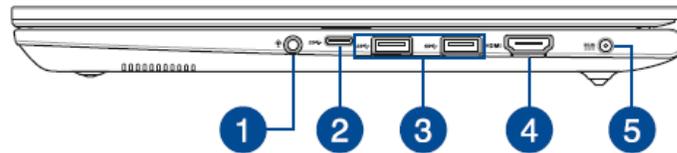
- ❶ Array microphones
- ❷ Webcam shield
- ❸ Camera
- ❹ Camera indicator
- ❺ Display panel
- ❻ Microphone Indicator
- ❼ Keyboard
- ❽ Capital lock Indicator
- ❾ Touchpad
- ❿ Camera off indicator
- ⓫ Power button
- ⓬ Fingerprint sensor
- ⓭ Touchpad/Numberpad

Bottom View



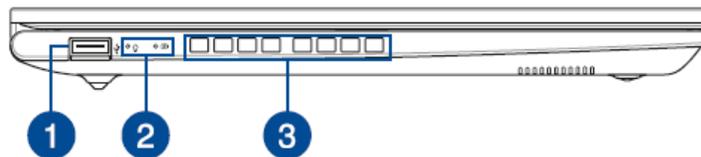
- ❶ Air vents
- ❷ Audio speakers

Right View



- ❶ Headphone/Headset/Microphone Jack
- ❷ USB 3.2 Gen 1 Type-C® port
- ❸ USB 3.2 Gen 1 port
- ❹ HDMI output port
- ❺ Power (DC) input port

Left View



- ❶ USB 2.0 port
- ❷ Status Indicators
- ❸ Air vents

◆ LCD COVER



◆ LCD BEZEL



◆ BATTERY



◆ TOUCHPAD



◆ FAN



◆ FP FFC



◆ BOTTOM CASE



◆ LCD PANEL



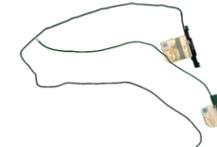
◆ SSD



◆ IO BOARD



◆ ANTENNA



◆ TP FFC



◆ MEMORY



◆ THERMAL



◆ SSD ABSORBER



◆ MIC RUBBER



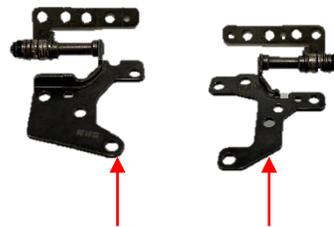
◆ KEYBOARD MODULE



◆ MAIN BOARD



◆ HING



◆ WIFI CARD



◆ EDP CABLE



◆ CAMERA



◆ HING CAP



L MIR

R MIR

◆ IO FFC



◆ BRACKET



BKT L
BKT R

◆ SPEAKER



◆ LCD COVER



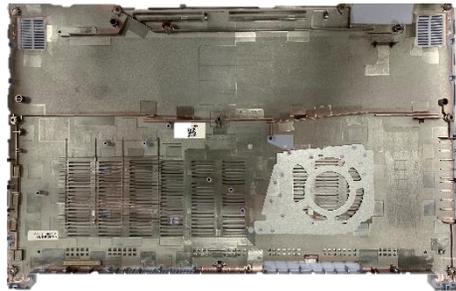
◆ KEYBOARD MODULE



◆ IO BOARD



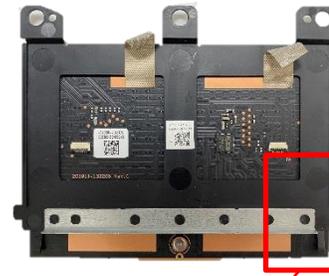
◆ BOTTOM CASE



◆ LCD PANNEL

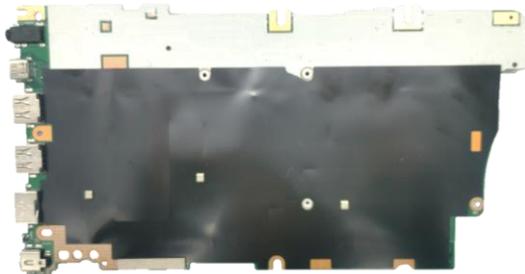


◆ TOUCHPAD MODULE



TP CONDUCT TAPE

◆ MAIN BOARD



◆ CAMERA



◆ THERMAL



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 °C 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.

Please prepare and select the appropriate tools to disassemble/assemble for the ZENBOOK (X1502ZA) series notebook.

◆ Screwdriver

Please accord to different screw specification to choose different screwdriver and head.



◆ Plastic Blade



◆ Tweezers ([Tweezer material: Metal and Plastic](#))

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



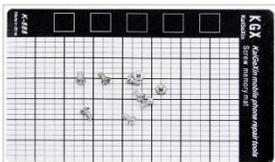
◆ Thickness Gauge

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 Substitute: GA500 Thermal Grease

Thermal Pad



GA500 Thermal Grease



◆ FCR-AS Thermal Grease

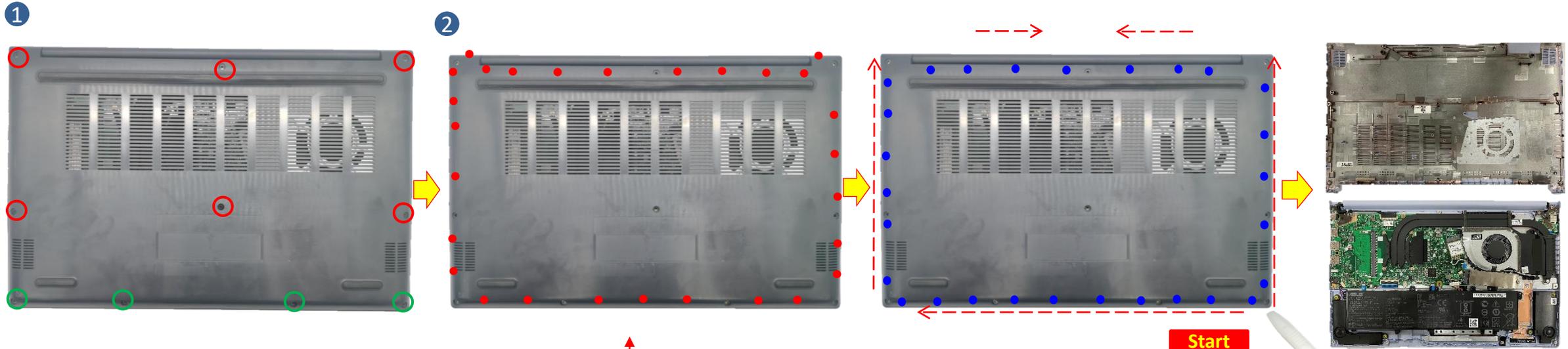


Disassembly Notice

Step 1 : Remove screw *10pcs.

Step 2 : Use plastic blade to pry the bottom case.

Screws	QTY	Spec	Torque(kgf-cm)
	6	SCREW M2*6.5L (4.6,0.8) (K) B-ZN #1	2.0±0.2
	4	SCREW M2*3.5L (4.5,0.8) (K) B-ZN	2.0±0.2



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

 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.)

Start

Disassembly Notice

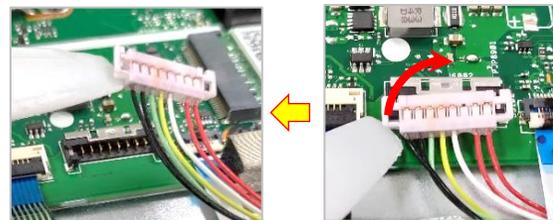
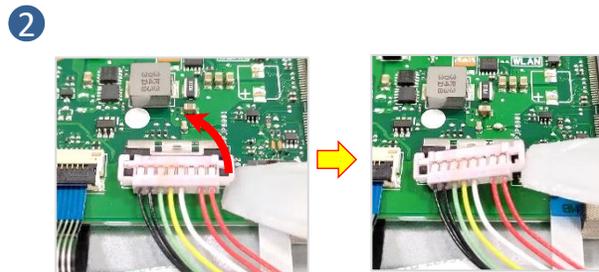
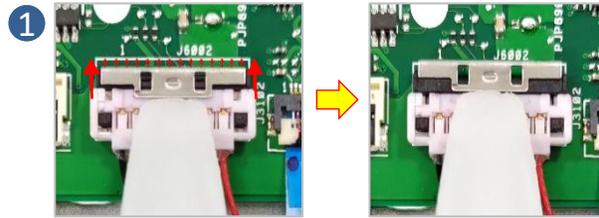
Please be sure to pull out adapter and disconnect the battery.

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

Step 1 : Use the non-conductive pry tool to push iron sheet.

Step 2 : Use the non-conductive pry tool to disconnect battery connector.

Note : Please disconnect the red cable side first.

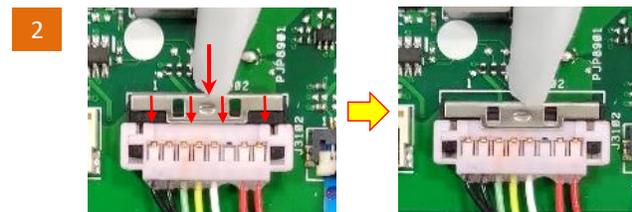
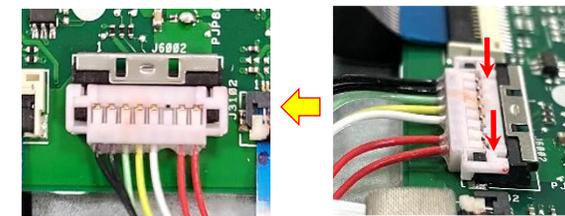
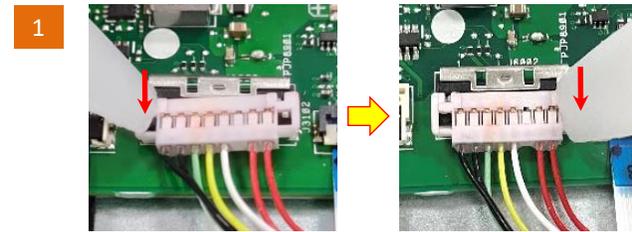


Assembly Notice

To prevent getting a short circuit or an electric shock accident, please follow the below steps to connect the battery connector.

Step 1 : Use the non-conductive pry tool to connect the black cable side first, then connect the red cable side.

Step 2 : Use the non-conductive pry tool to push the iron sheet.



Disassembly Notice

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

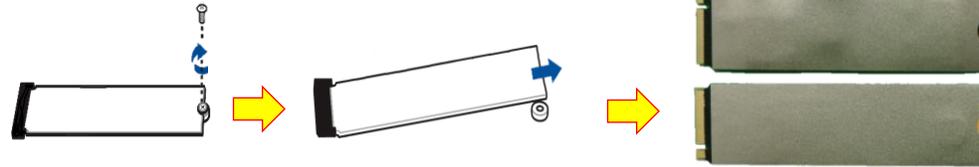
Step 1 : Remove the screw *1pc and then remove SSD *1pc(red mark).

Step 2 : Tear off the ABSORBER from SSD.

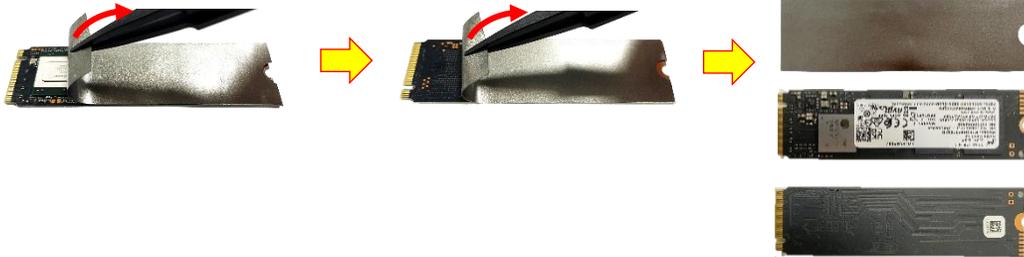
Screws	QTY	Spec	Torque(kgf-cm)
	1	SCREW M2*2L (5.0,0.8) (K) W-NI #1	2.0±0.2



1 Unscrew

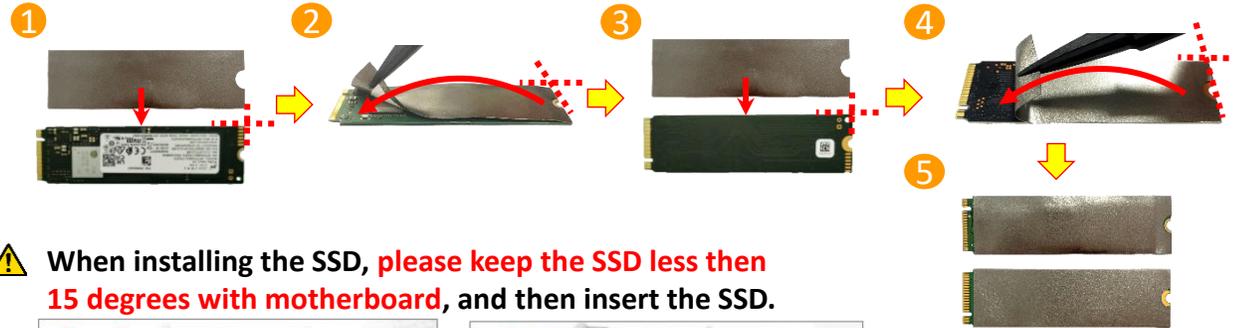


2 Remove

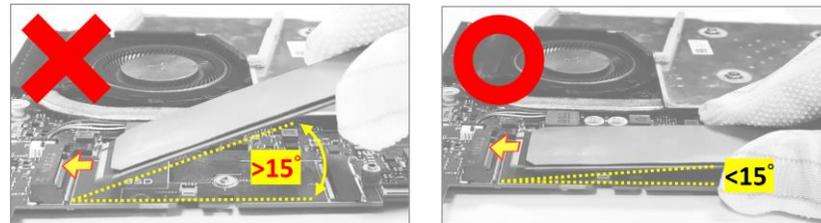


Assembly Notice

Please make sure to paste ABSORBER *2pcs on the SSD front and back side before assembling on the SSD.



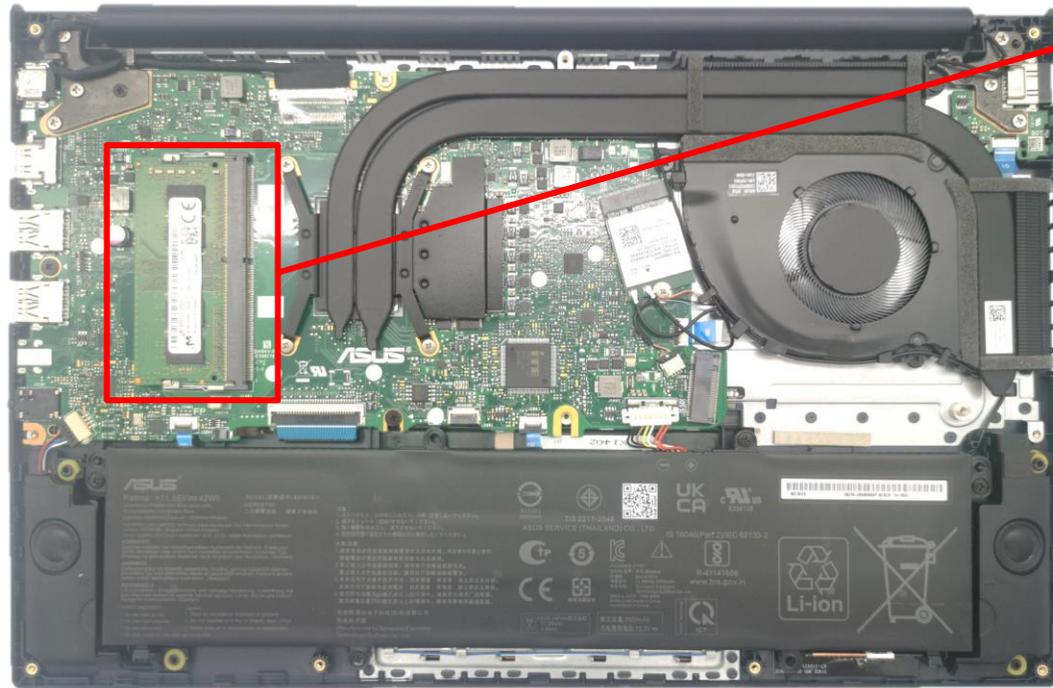
When installing the SSD, please keep the SSD less than 15 degrees with motherboard, and then insert the SSD.



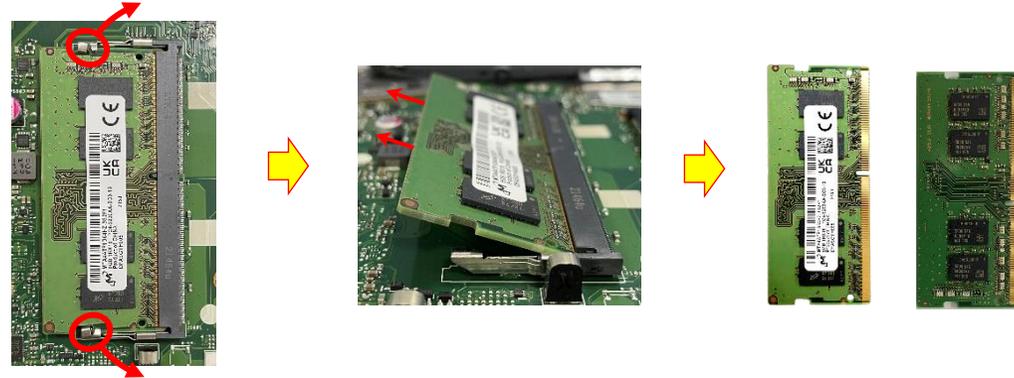
Disassembly Notice

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

Step 1 : Remove the MEMORY *1pc (red mark).

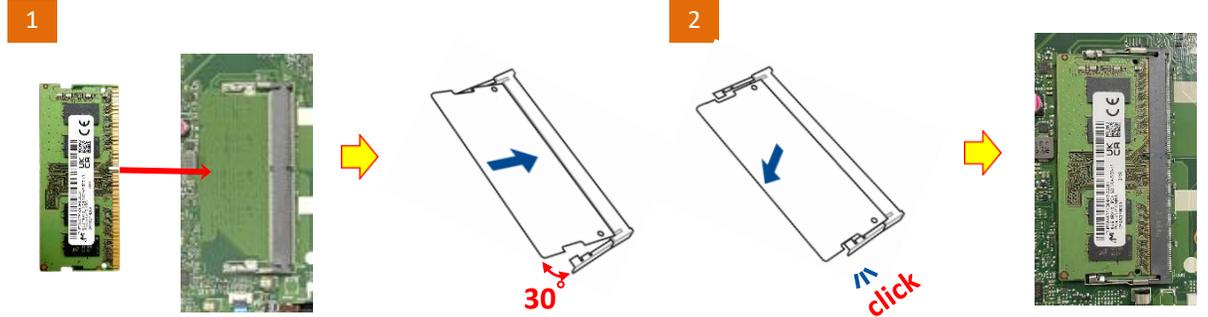


1 Remove



Assembly Notice

-  Step 1 : Align and insert the new RAM module at 30° into the memoryslot.
- Step 2 : Once properly inserted, push down the RAM module until it clicks in place



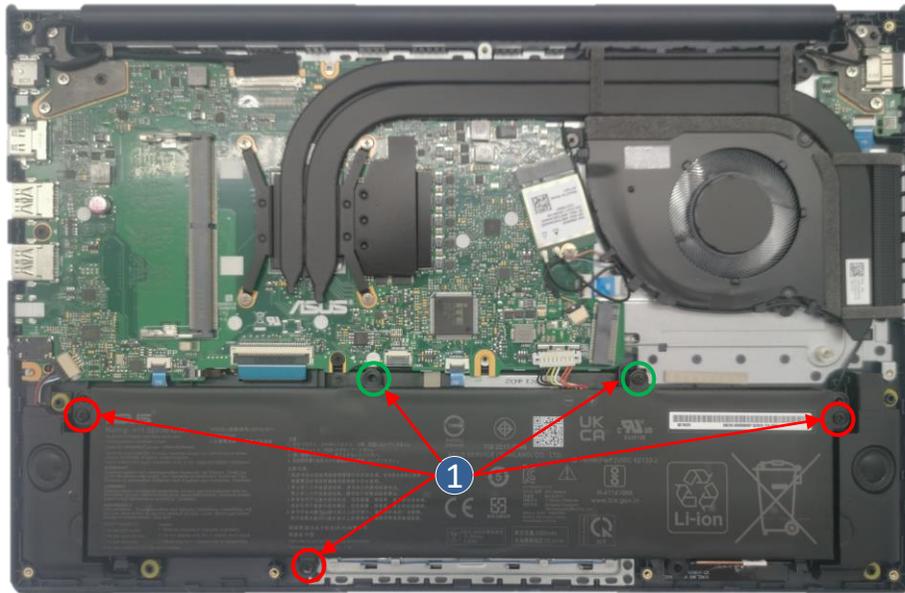
Disassembly Notice

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 avoid IC damage.

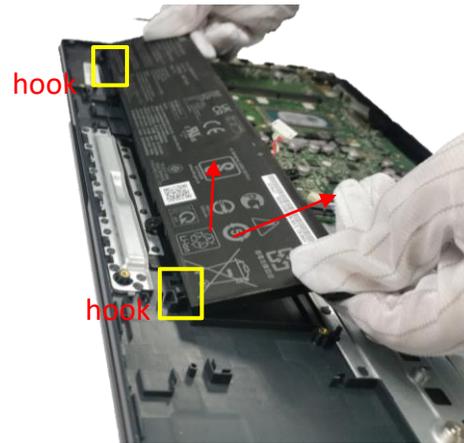
Step 1 : Remove screw(red and green mark) *5pcs.

Step 2 : Remove BATTERY.



Screws	QTY	Spec	Torque(kgf-cm)
	5	SCREW M2*4L (4.6,0.8) (K) B-ZN #1	2.0±0.2

2 Remove



Notice

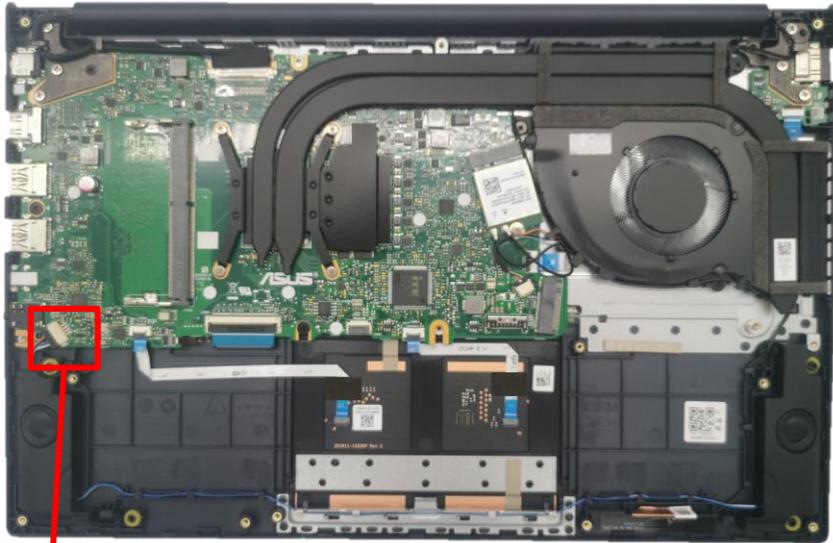
Notice: Screws in green circles can be locked or unlocked.

Disassembly Notice

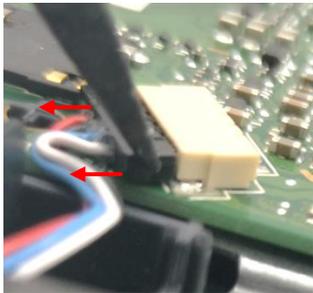
Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect the speaker connect(red mark).

Step 2 : Remove SPEAKER.



① Disconnect



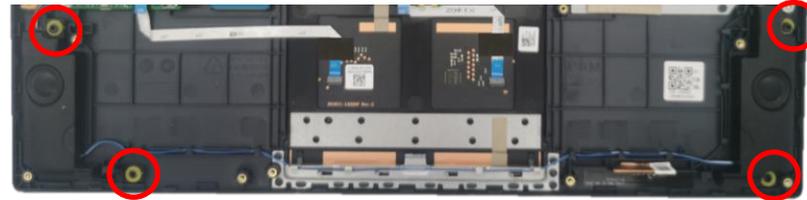
② Remove



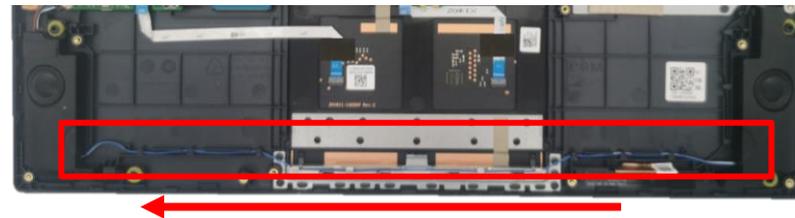
Assembly Notice

For Speaker assembly, please follow the below steps.

1. Put the speaker into the positioning column and Fix it.



2. please follow the mark below to tidy cable.



Disassembly Notice

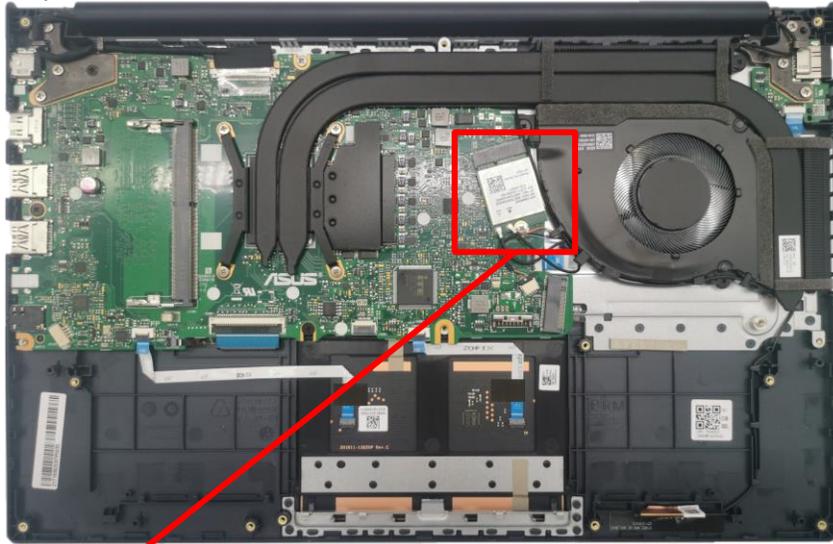
Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect the RF CABLE connector *2pcs.

Step 2 : Remove the screw *1pc.

Step 3 : Remove the WIFI CARD.

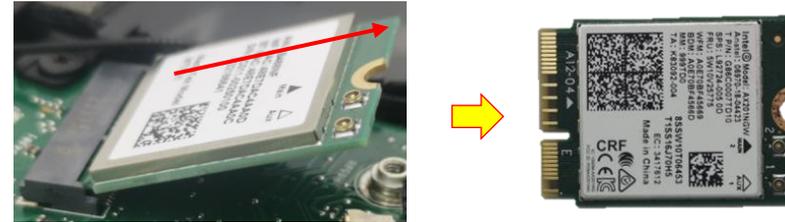
Screws	QTY	Spec	Torque(kgf-cm)
○	1	SCREW M2*2L (5.0,0.8) (K) W-NI #1	2.0±0.2



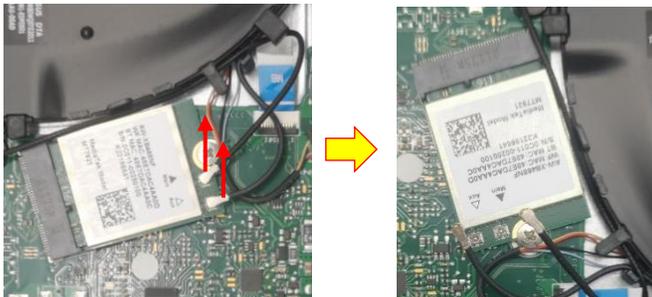
2 Unscrew



3 Remove

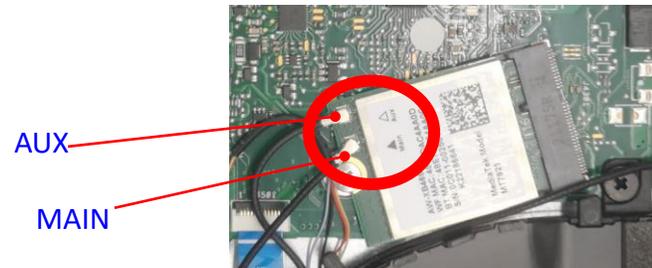


1 Disconnect



Assembly Notice

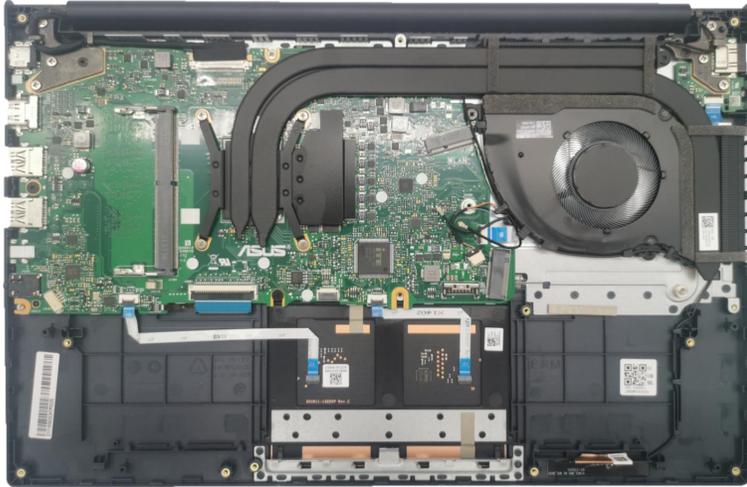
Please according to below image to assemble RF cable.



Disassembly Notice

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

Step 1 : Remove the ANTENNA_AUX.

**1** Remove

Assembly Notice

 For ANTENNA_AUX assembly, please follow the picture below to paste a new one and tidy the cable.



Disassembly Notice

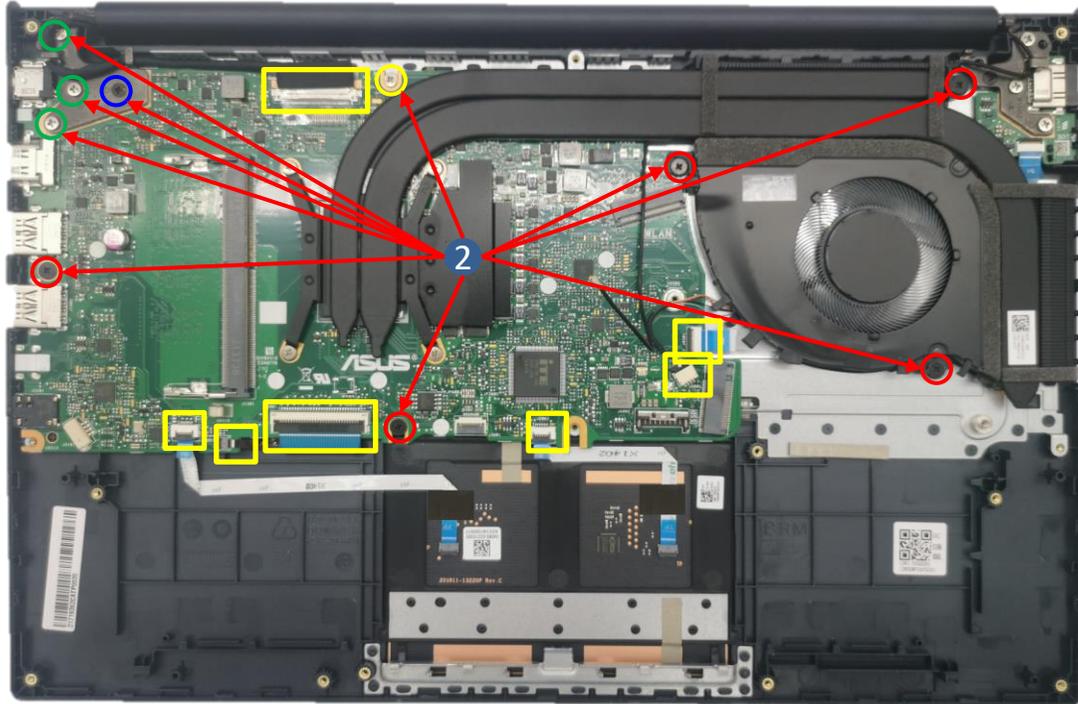
Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect the connector *7pcs (yellow mark).

Step 2 : Remove screw(red green blue and yellow mark) *10pc.

Step 3 : Remove MB with Thermal MODULE and FAN.

1 Disconnect (yellow mark)



Screws	QTY	Spec	Torque(kgf-cm)
	5	SCREW M2*3.5L (5.0,0.8) (K) B-NI #1	2.0±0.2
	3	SCREW M2.5*5L (4.6,0.8) (K) W-NI #1	2.5±0.2
	1	SCREW M2.5*5L (4.6,0.8) (K) W-NI #1	2.5±0.2
	1	SCREW M2*2L (5.0,0.8) (K) W-NI #1	2.0±0.2

3 Remove



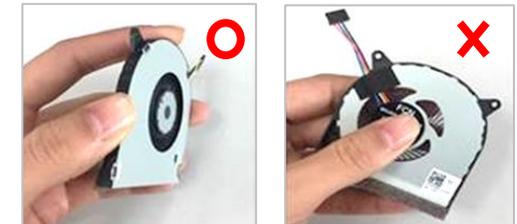
Assembly Notice

If FFC is damage during disassembly, please replace new one.

Here are some samples of FFC damage:



Please use the correct technique to take fans off to avoid getting out of shape.



Disassembly Notice

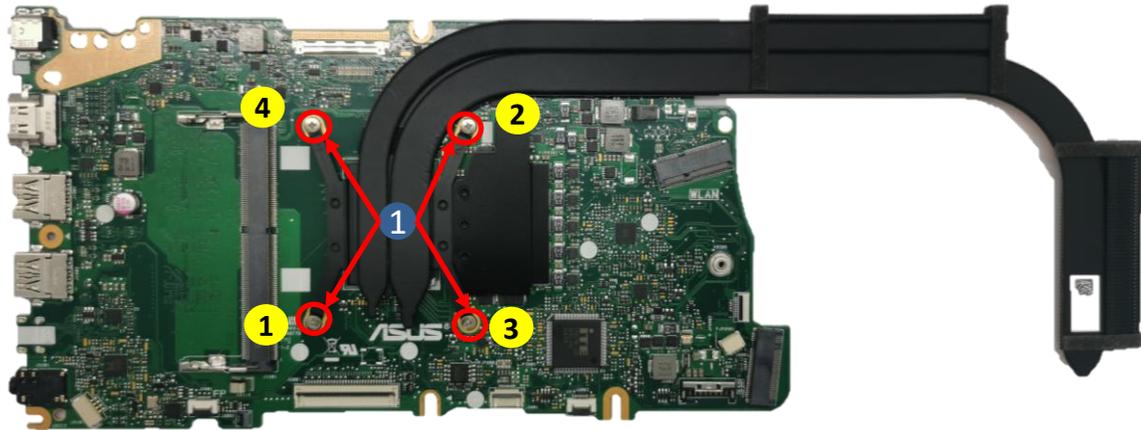
Please be sure to pull out adapter and disconnect the battery.

Step 1 : Remove screw(red mark) *4pcs.

Step 2 : Remove the THERMAL MODULE from MB.

Screws	QTY	Spec	Torque(kgf-cm)
○	4	SCREW M2*2L (5.0,0.8) (K) W-NI #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 red block and also notice the thermal pipe should not have deformation.



2 Remove



Assembly Notice



Step-1

Please refer **Repair Notice:RN201907120* SOP** for thermal material rework when reassemble thermal module before.

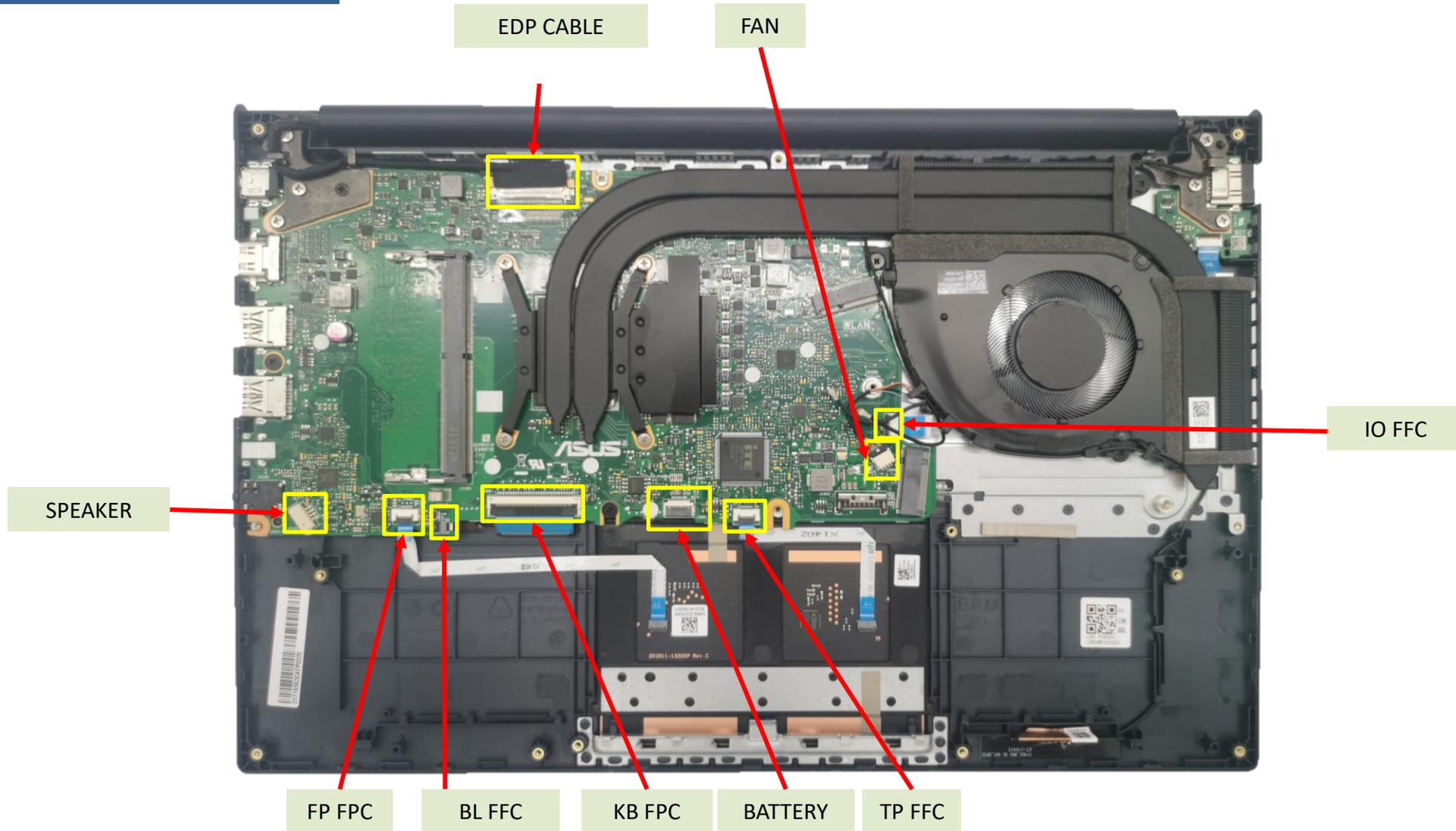
- THERMAL MODULE Location:[VRAM/CHOKE/MOS]
Material: FCR-AS Grease

- MB Location:[CPU]
Material:
Main GA500 Grease
Substitute PSX Thermal pad

Step-2

Please follow the screws numbers to lock screws *4pcs.

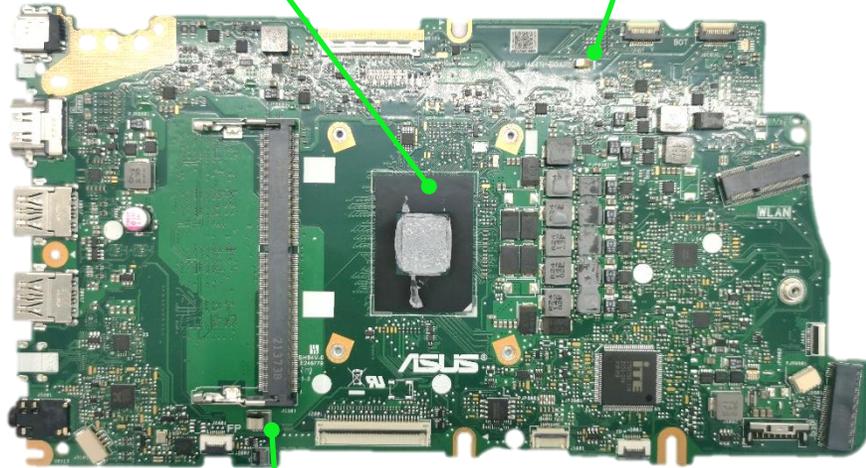
Mainboard connector placement



Materials on mainboard

M1502IA CPU MYLAR

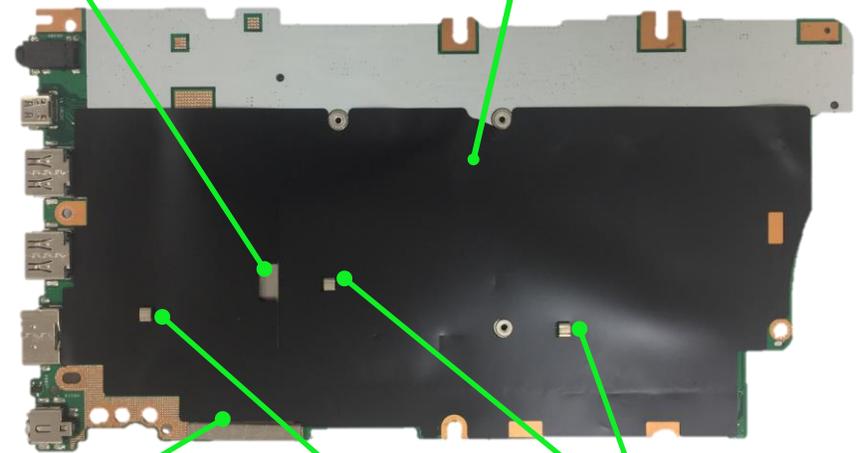
Z550MA SMD GASKET



SMT GASKET 5*6.5*3

M1502IA MB ABSORB

X1502ZA MB MYLAR



X1502ZA GASKET 30X4X2T

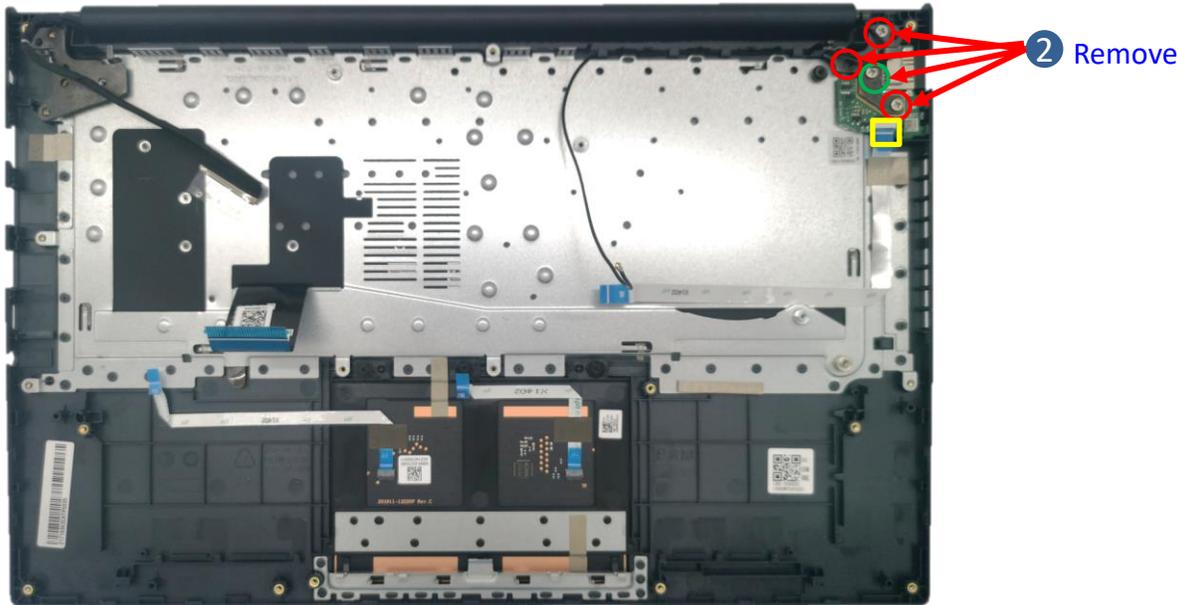
EMI GASKE_3*2*3

Disassembly Notice

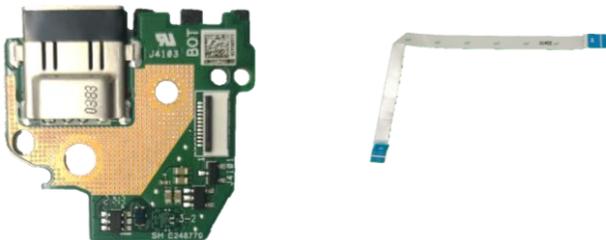
Please be sure to pull out adapter and disconnect the battery.

- Step 1 : Disconnect IO connector(yellow mark).
- Step 2 : Remove screw(red and green mark) *4pcs.
- Step 3 : Remove the IO BD and IO FFC.

1 Disconnect



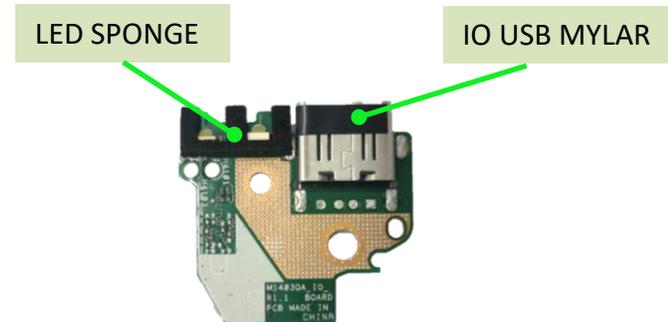
3 Remove



Screws	QTY	Spec	Torque(kgf-cm)
	3	SCREW M2.5*5L (4.6,0.8) (K) W-NI #1	2.5±0.2
	1	SCREW M2.5*3.5L (4.5,0.4) (K) B-ZN #1	2.5±0.2

Assembly Notice

Please make sure to paste materials before assembling on the IO BD.



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

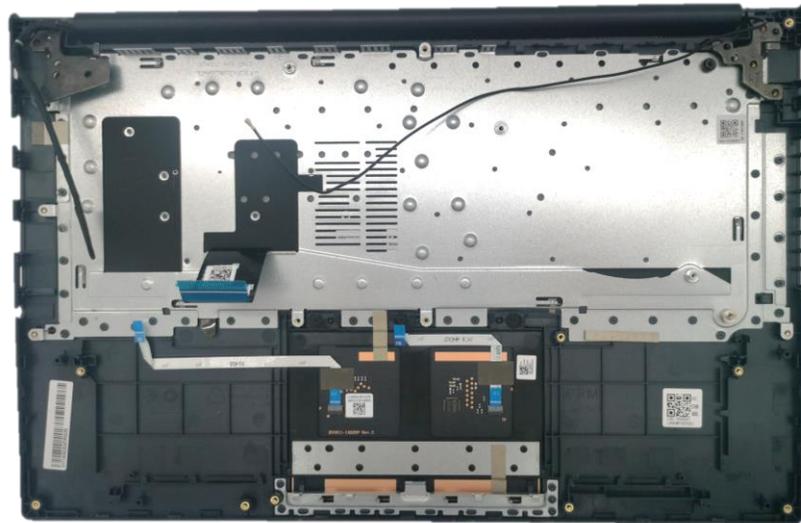


Disassembly Notice

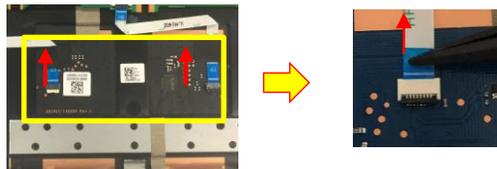
Please be sure to pull out adapter and disconnect the battery.

- Step 1 : Disconnect connector *2pcs (yellow mark).
- Step 2 : Tear off the tape *2pcs and then remove the FP FFC and TP FFC.
- Step 3 : Tear off the CONDUCT TAPE *1pc.
- Step 4 : Remove the screw *3pcs (red mark) and then remove the touchpad.

Screws	QTY	Spec	Torque(kgf-cm)
	3	SCREW M2*2L (7,0.55) (K) B-ZN #1	2.0±0.2



1 Disconnect



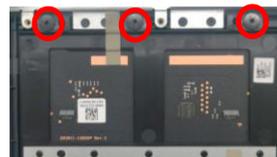
2 Tear off



3 Tear off



3 Remove

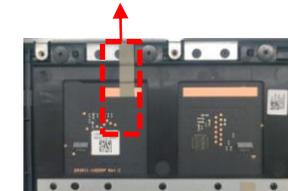


Assembly Notice

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



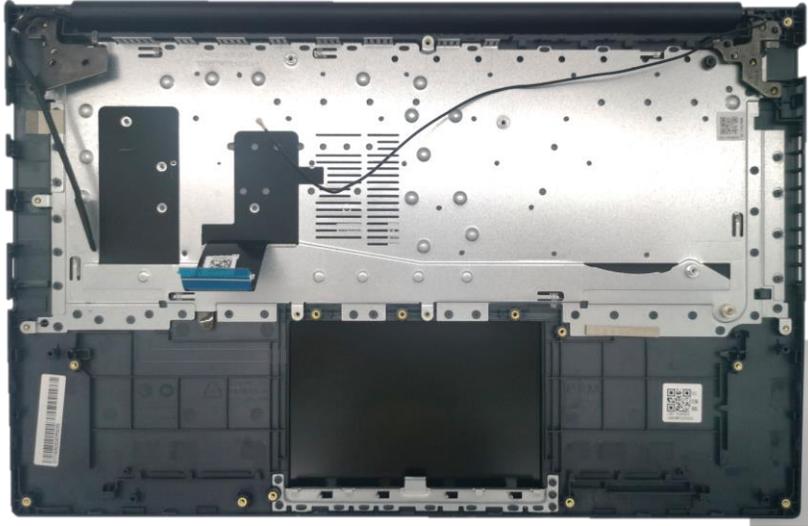
For TOUCHPAD module assembly, please follow below location to paste the new TP CONDUCT TAPE.



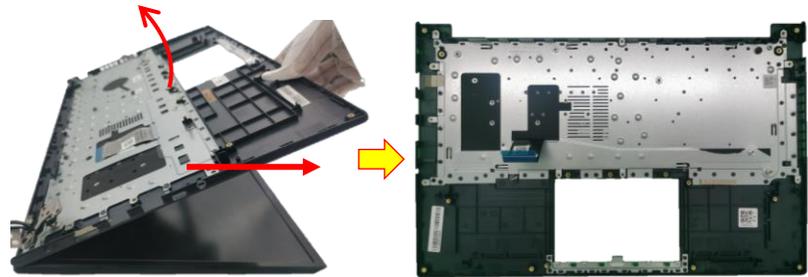
Disassembly Notice

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

Step 1 : Remove KB module .



① Remove



Disassembly Notice

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

Step 1 : Remove the hinge cap.

Step 2 : Remove screw mylar *2pcs and then remove screw *2pcs(red mark).

Step 3 : Remove LCD BEZEL.

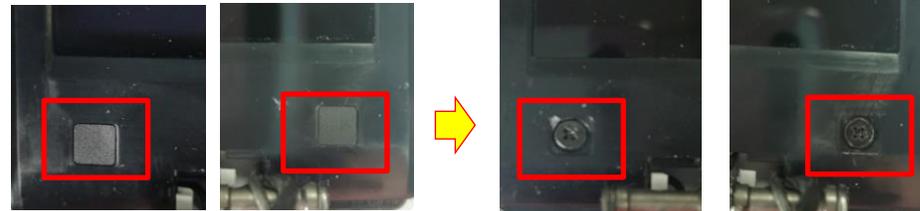
Screws	QTY	Spec	Torque(kgf-cm)
	2	SCREW M2*3.5L (4.5,0.5) (K) B-ZN #1	2.0±0.2



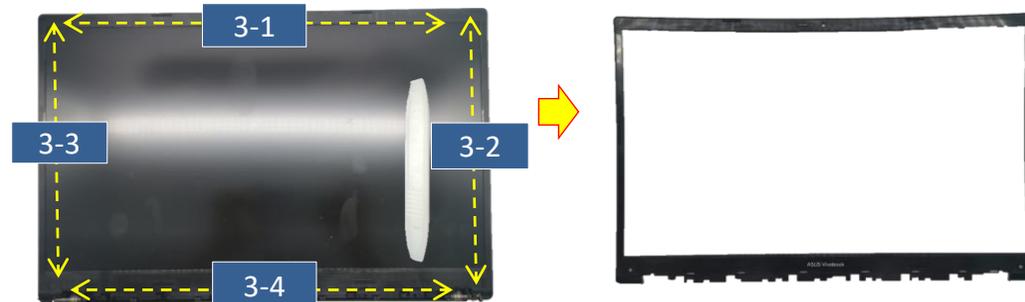
1 Remove



2 Remove



3 Remove



Assembly Notice

For LCD BEZEL assembly, please remember to paste new screw mylar *2pcs after assembling on the LCD BEZEL.

Disassembly Notice

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

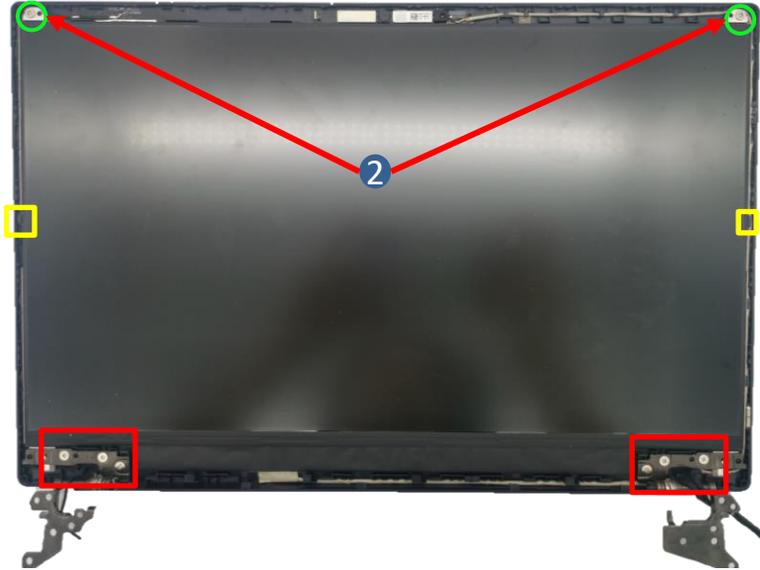
Step 1 : Remove screw(red mark) *6pcs and then remove hinge *2pcs.

Step 2 : Remove screw(green mark) *2pcs from panel BKT.

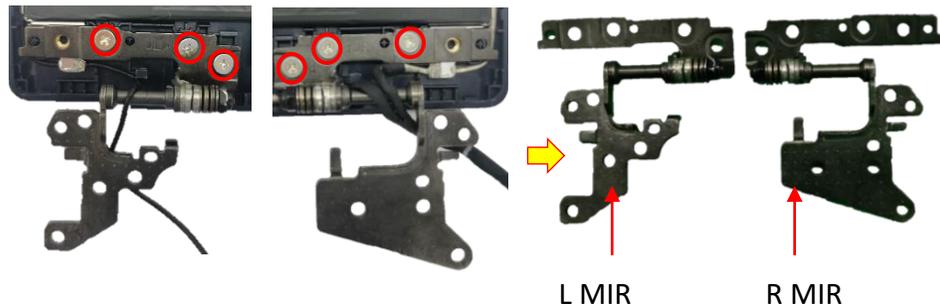
Step 3 : Disconnect EDP cable from Panel and then remove LCD PANEL with BKT.

Step 4 : Tear off the TAPE *2pcs and then remove LCD PANEL and BKT.

Screws	QTY	Spec	Torque(kgf-cm)
	6	SCREW M2*3L (4.5,0.5) (K) W-NI #1	2.0±0.2
	2	SCREW M2*2.5L (4,0.5) (K) B-ZN #1	2.0±0.2



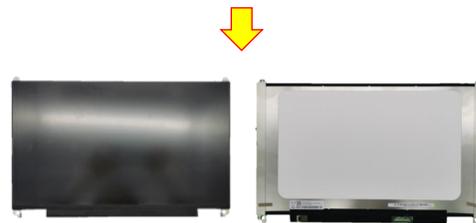
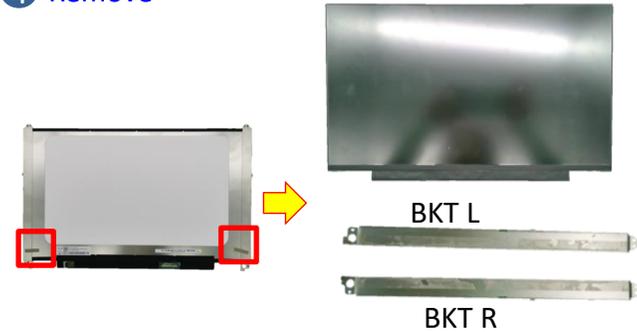
① Remove



③ Remove



④ Remove



Assembly Notice

For LCD panel assembly, please follow below location to paste the LCD PANEL CONDUCT TAPE and new BKT.



Disassembly Notice

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

Step 1 : Disconnect the connector *1pc(red mark) from the CAMERA.

Step 2 : Remove the CAMERA.

Step 3 : Remove the EDP CABLE.



① Disconnect

③ Remove



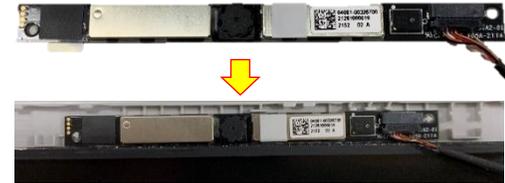
② Remove



Assembly Notice

For CAMERA assembly, please follow the below step.

1. Connect the CAMERA and then put it in LCD COVER.



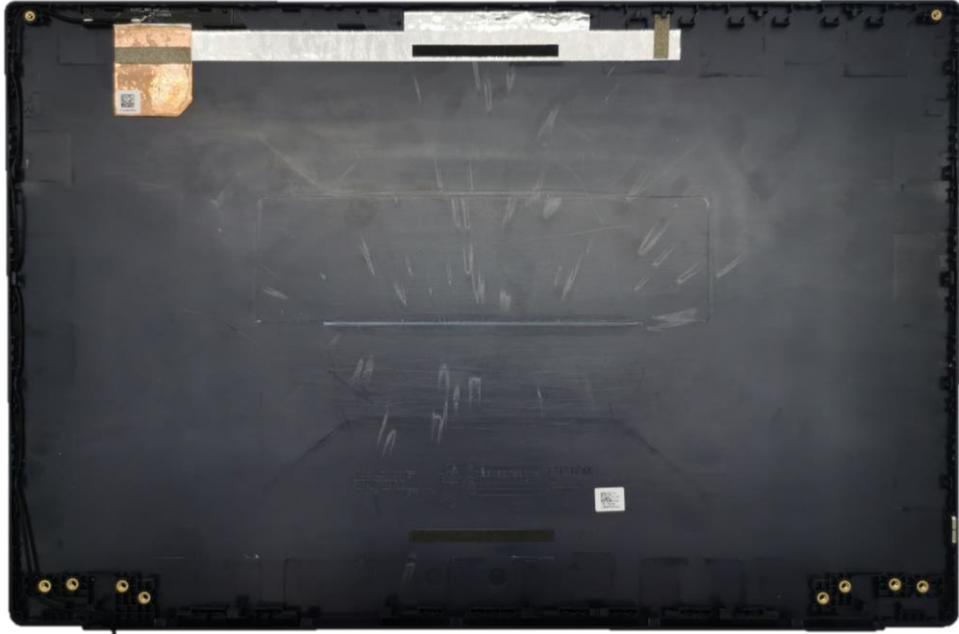
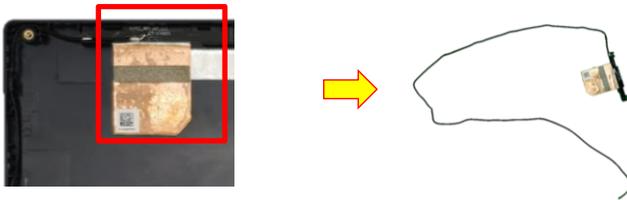
2. follow the below location to tidy cable.



Disassembly Notice

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

Step 1 : Tear off the FOIL (red mark) and then remove the ANTENNA_MAIN.

**1 Remove****Assembly Notice**

 For ANTENNA_MAIN assembly, please follow the below step.

1. Paste a new one follow the picture below.



2. Please follow the below location to tidy cable.

