Helios Neo 18
PHN-18

Lifecycle Extension Guide

Table of Contents

Self-Repair

This chapter highlights the limited self-repair capabilities of the product.

Prior performing self-repair, familiarize yourself with the Safety Guidelines and Recommended Equipment sections first as described in the chapter "**Disassembly Procedures**".

Depending on model, the following key components are eligible for self-repair (if applicable);

- Battery pack
- HDD / SSD module
- DIMM module(s)
- WLAN module
- LTE module

If a particular key component is listed and thus would be eligible for self-repair, but is not described in the "**Disassembly Procedures**" section, then this component is either not present on the respective model, or it is present but embedded on the motherboard and therefore not eligible for self-repair.

NOTE:

Do not attempt to replace other components than those listed above.

NOTE:

For replacement parts, always use only Acer certified components in order to safeguard quality, optimum system performance, stability and reliability of the product.

NOTE:

Any damage to the product that occur during self-repair, or which has occurred as a result of a careless or unsuccessful self-repair attempt, is not covered by the standard product warranty.

Disassembly Procedures

Please refer to the chapter "**Disassembly Procedures**" for step by step disassembly instructions.

System BIOS & Driver Updates

Visit http://www.acer.com/support to discover the available system BIOS and Drivers for this product. After selecting the desired country/language, either enter the model name or product serial number, or select the product from the list of suggested models in order to get access to product-specific software and documentation.

To update the system BIOS:

- Download the desired system BIOS version from the website
- Unzip the downloaded file to your computer
- Double-click the extracted file in order to initiate the update process
- The update process itself is fully automated and its progress is visualized by means of a progress indicator
- A visual notification is shown when the update is complete

NOTE:

Upgrading the system BIOS incorrectly, or intermittence of the system BIOS update process could harm the product.

NOTE:

System BIOS upgrades or downgrades, if not performed by an Acer Service Center or authorized Service Partner, are at own risk.

To update Drivers:

Run Windows Update in order to get the latest drivers from Acer:

- Select the Start button
- Go to **Settings** > **Update & Security** > **Windows Update**
- Available Drivers will automatically be listed on the screen. Press **Download** to start the download of the respective driver
- Installation of the driver will start automatically once the download is completed

Software Recovery

This product has embedded software recovery tools which can be used to either perform a partial or full software recovery, but also to create a Factory Default recovery media.

For more information about the software recovery options, how to perform a software recovery or creating a Factory Default recovery media, please refer to the chapter "Recovery" which is available in the User Manual of the product.

NOTE:

In the event of not being able to create a Factory Default recovery media, it is possible to obtain a copy of the recovery media through Acer Customer Service (http://www.acer.com/support)

This is not a free of charge service.

Disassembly Procedures

Safety Guidelines

This chapter contains step by step procedures on how to remove and de-install components from the computer. Use the following safety guidelines to ensure your personal safety. Each procedure included in this chapter assumes that you are preparing your computer for recycling and disposal. **By performing any of these procedures you acknowledge that any remaining warranty applicable to your computer will be voided. Before you start any of the procedures in this chapter, make sure to read the following safety guidelines and the respective instructions within the chapter.**

CAUTION!

- Turn off your computer and disconnect all power sources before opening the computer cover or panels.
- To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface at the same time as touching a connector on the back of the computer.
- Take off any metal objects on your arms or fingers such as bracelets, rings or watches and make sure your hands are completely dry. Even if your unit is unplugged, there may still be some remaining electric charge.
- If a component does not come out easily, do not forcefully remove it. Instead, check that you are removing it correctly and that no wires or other parts are in the way.
- When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable.

Recommended Equipment

The following tools are required to perform maintenance on the notebook:

- Wrist grounding strap and conductive mat
- Flat screwdriver
- Philips screwdriver
- Pointed plastic pry or similar object
- Tweezers
- Torx screwdriver

WEEE Annex VII Component

These components are classified as requiring selective treatment:

- Battery pack
- SSD modules
- WLAN module
- DIMM modules
- RTC battery
- Transfer board
- USB board
- Mainboard
- Touchpad module
- LCD panel

Getting Started

Perform the following prior to performing any maintenance procedures:

1. Place the system on a flat work surface.
2. Make sure the system is completely powered down.
   a. If the device is in powered up mode, shut down the system normally.
   b. If the device is in sleep mode, wait for the Home Screen to clear. Then, shut down normally.
3. Disconnect the AC Adapter and remove all cables from the system and its peripherals.

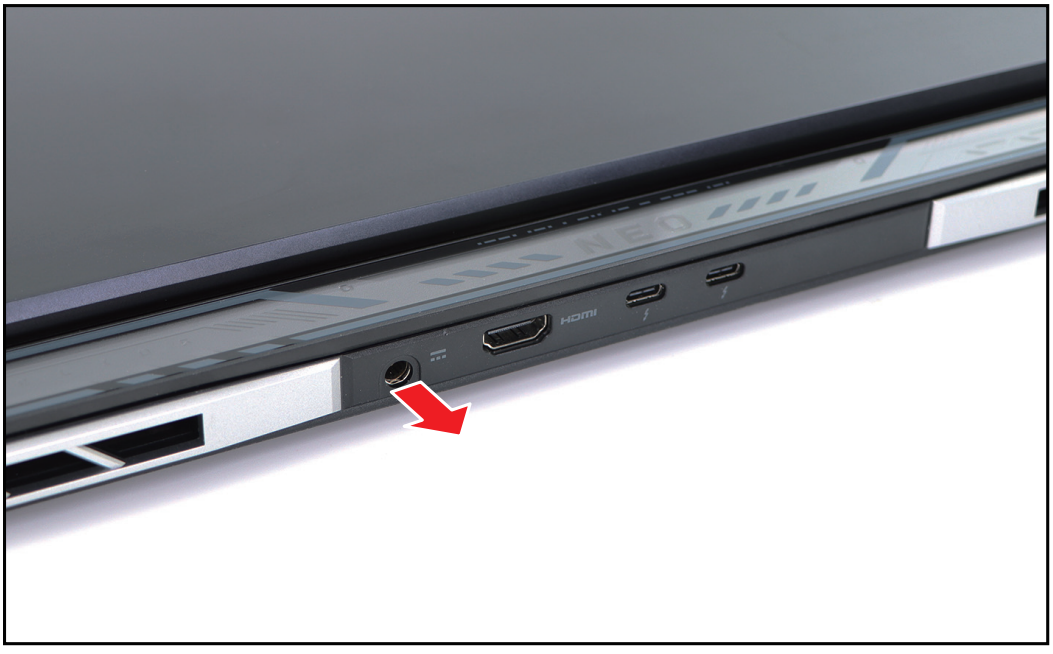

Figure 1-1. Disconnecting the Power Adapter

Lower Case Removal

1. Remove the thirteen (13) Torx screws securing the lower case to the upper case.

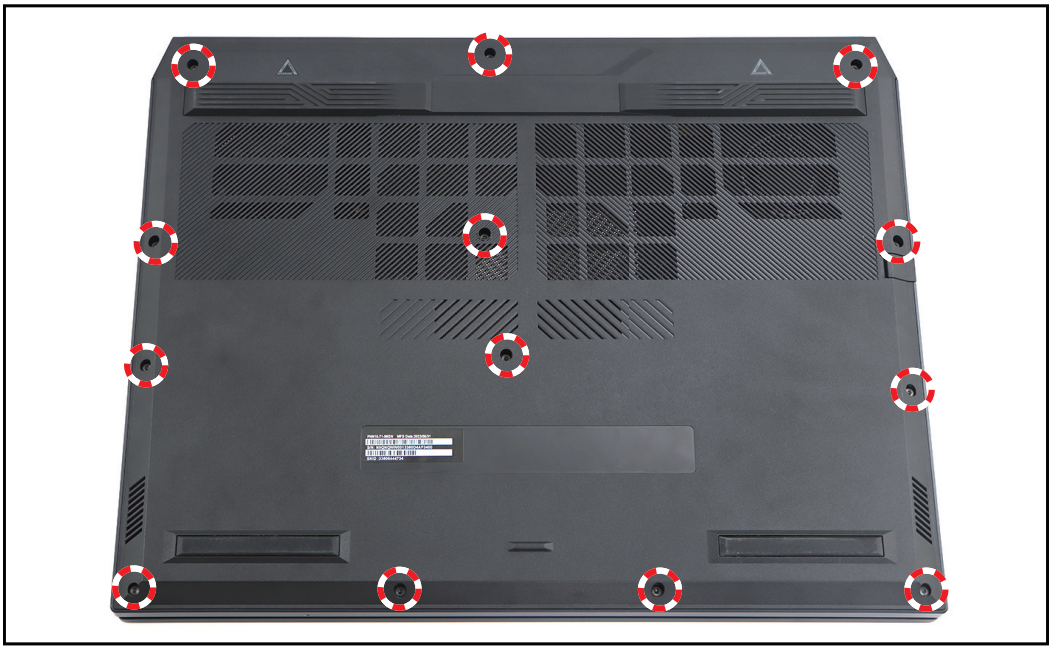

Figure 1-2. Removing the Screws

2. Starting from the upper side, pry to release the upper side latches.

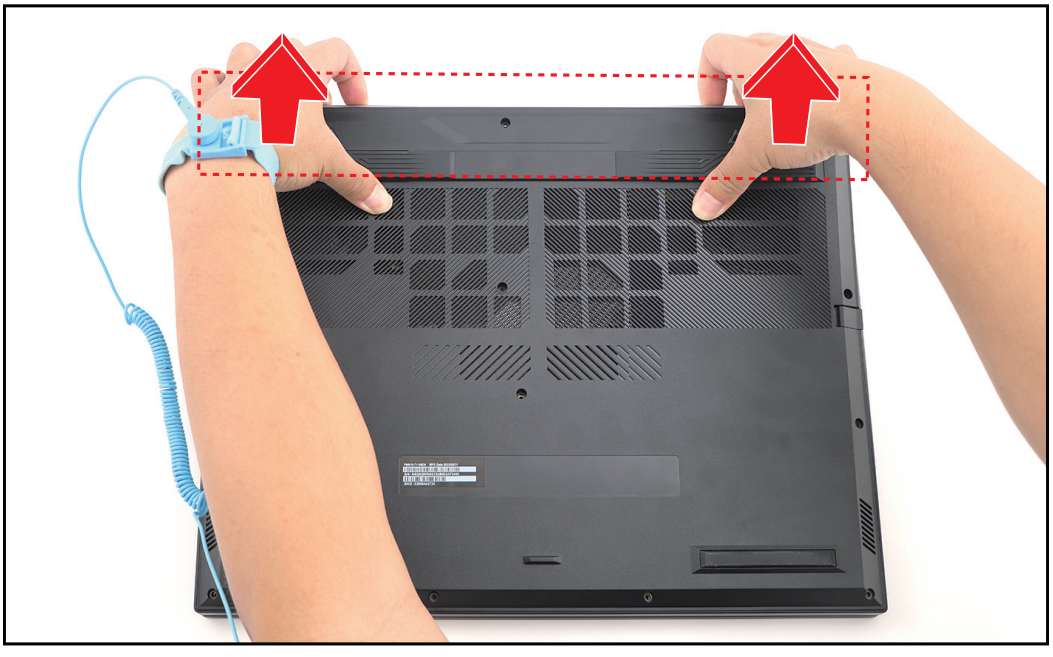

Figure 1-3. Releasing the Lower Case

3. Continue releasing the remaining latches. Then remove the lower case.

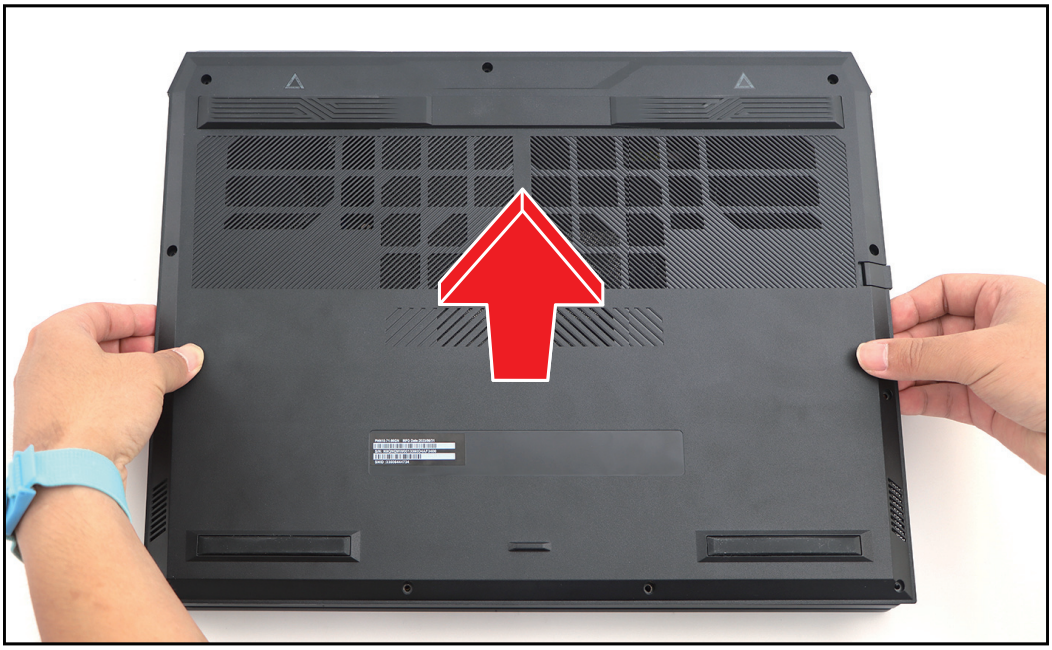

Figure 1-4. Removing the Lower Case

4. Detach the tape securing the battery cable in place.

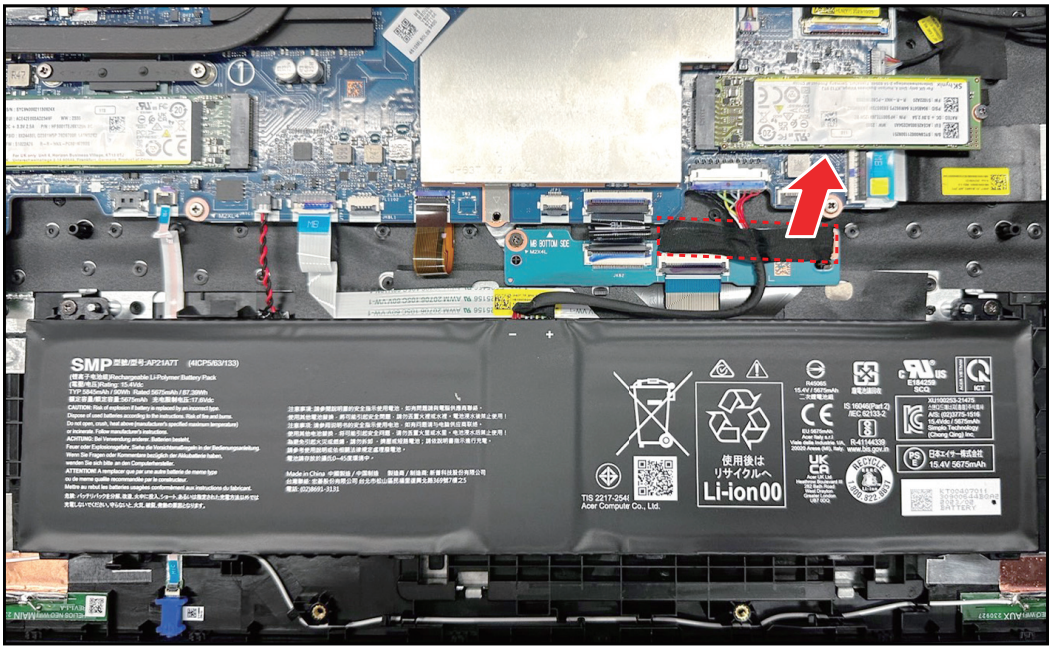

Figure 1-5. Detaching the Tape

5. Disconnect the battery cable from the mainboard connector.

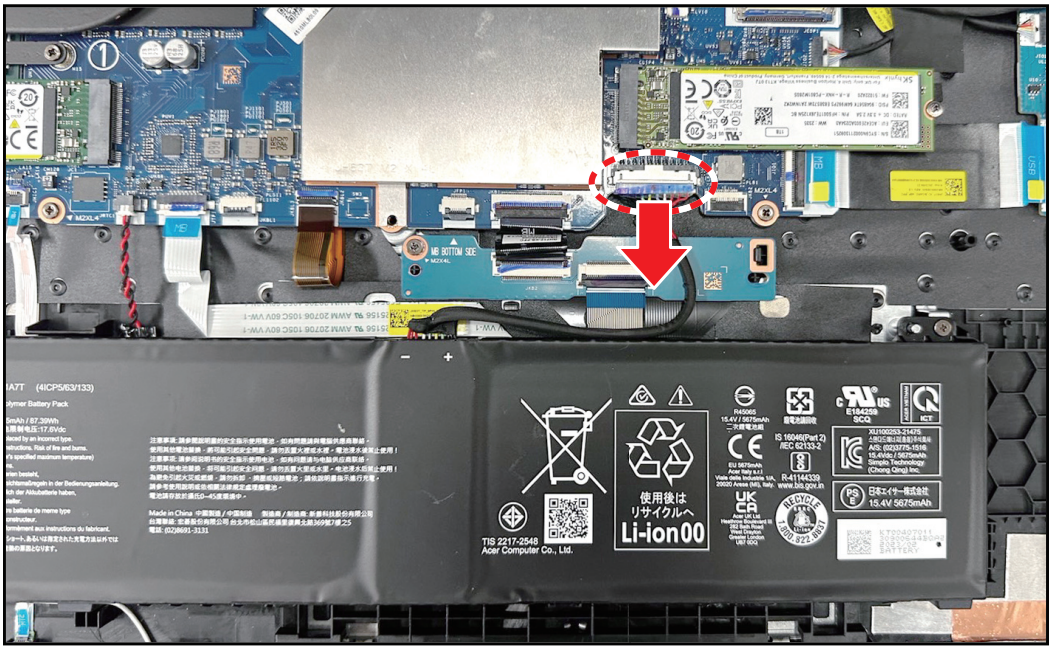

Figure 1-6. Disconnecting the Battery Cable

Table 1-1. Lower Case Screws

Screw Name	Screw Type	Torque	Quantity
M 2.5 x 8.0		2.65~3.45kgf.cm	13

Battery Removal

Prerequisite:

* **Lower Case Removal** on page **1-6**

1. Remove the two (2) screws securing the battery to the upper case.

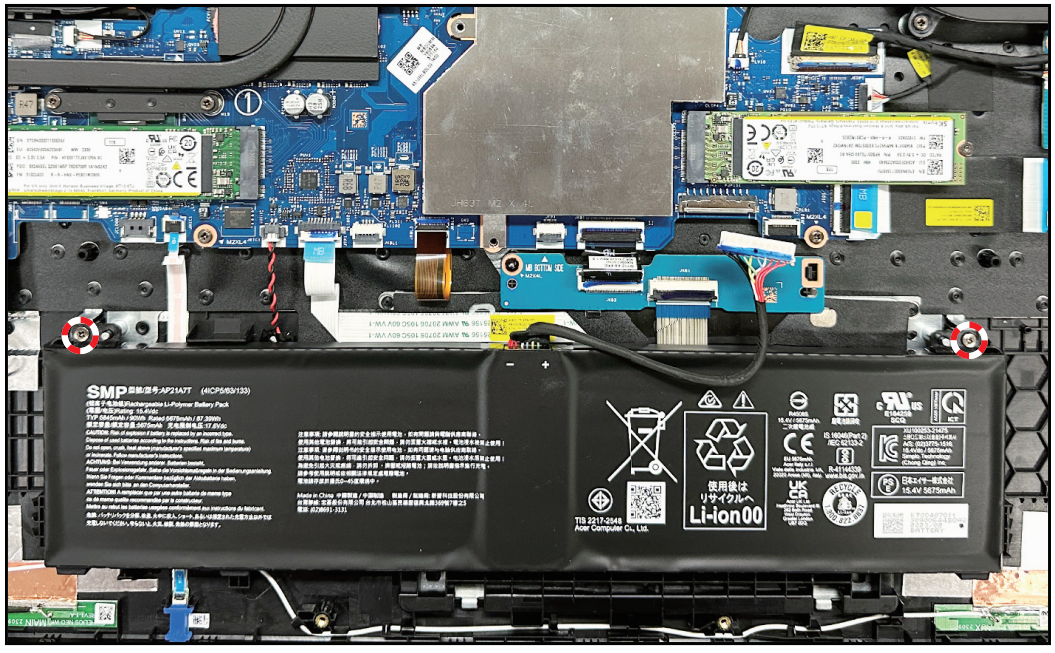

Figure 1-7. Removing the Screws

2. Slight lift the upper part of the battery to release it from the guide pins (marked with green-white circle) and the bottom tabs (marked with red-white circle) on the upper case. Then remove the battery.

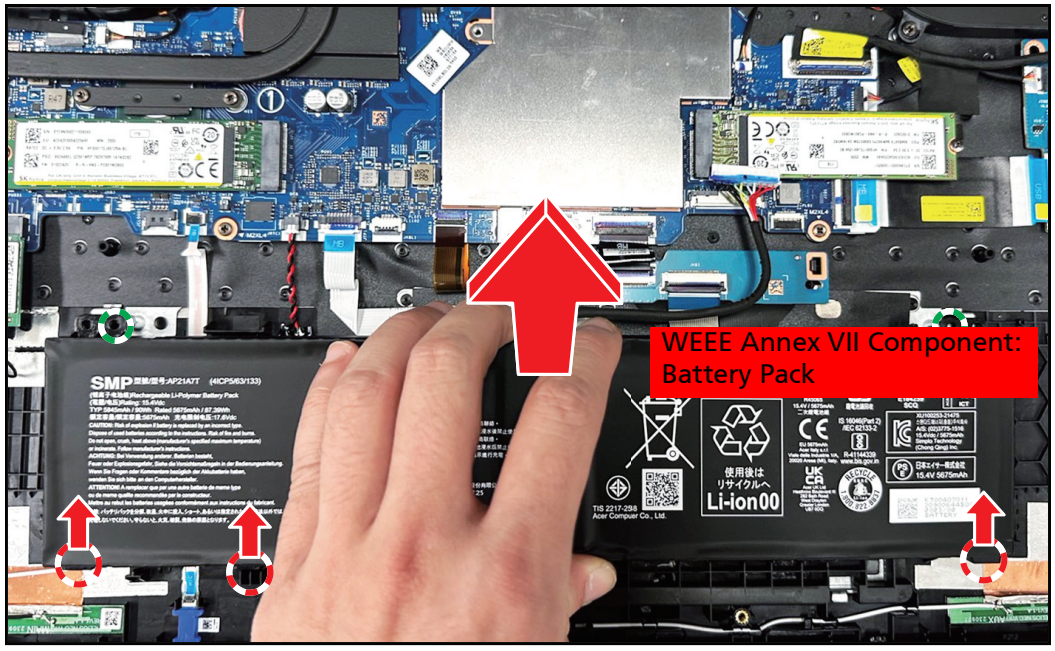

Figure 1-8. Removing the Battery

Table 1-2. Battery Screws

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 4.0		1.8~2.2kgf.cm	2

SSD 1 Module Removal

Prerequisite:

- **Lower Case Removal** on page **1-6**

1. Remove the screw securing the SSD 1 module to the mainboard standoff.

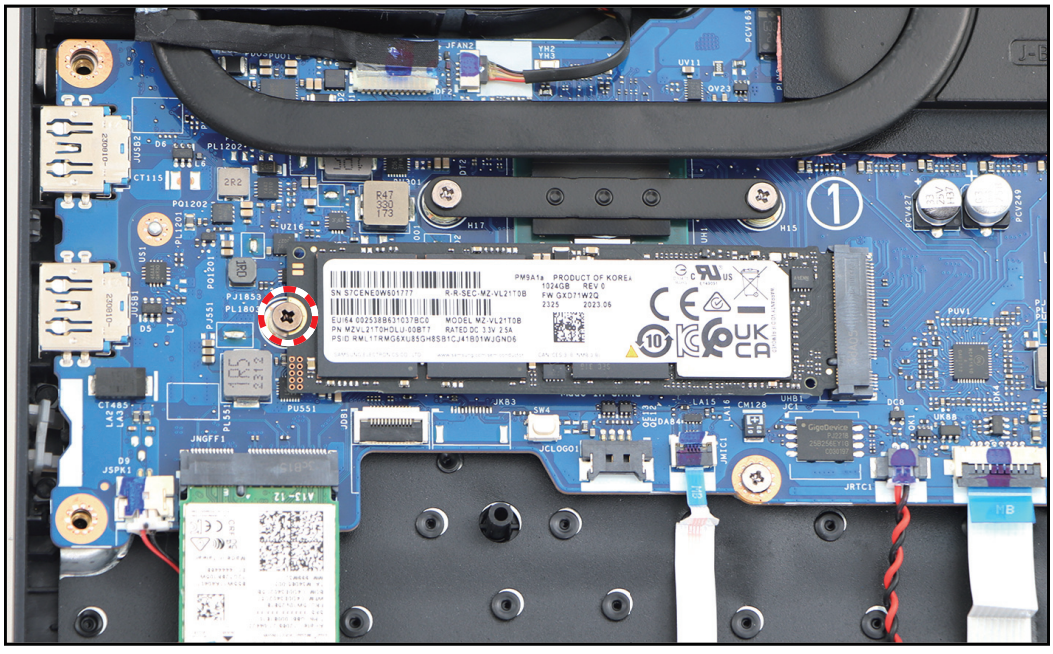

Figure 1-9. Removing the Screw

2. Pull to disconnect the SSD 1 module from the mainboard connector. Then remove the SSD 1 module.

Figure 1-10. Removing the SSD 1 Module

Table 1-3. SSD 1 Module Screw

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 4.0		1.8~2.2kgf.cm	1

SSD 2 Module Removal

Prerequisite:

- **Lower Case Removal** on page **1-6**

1. Remove the screw securing the SSD 2 module to the upper case.

Figure 1-11. Removing the Screw

2. Pull to disconnect the SSD 2 module from the mainboard connector. Then remove the SSD 2 module.

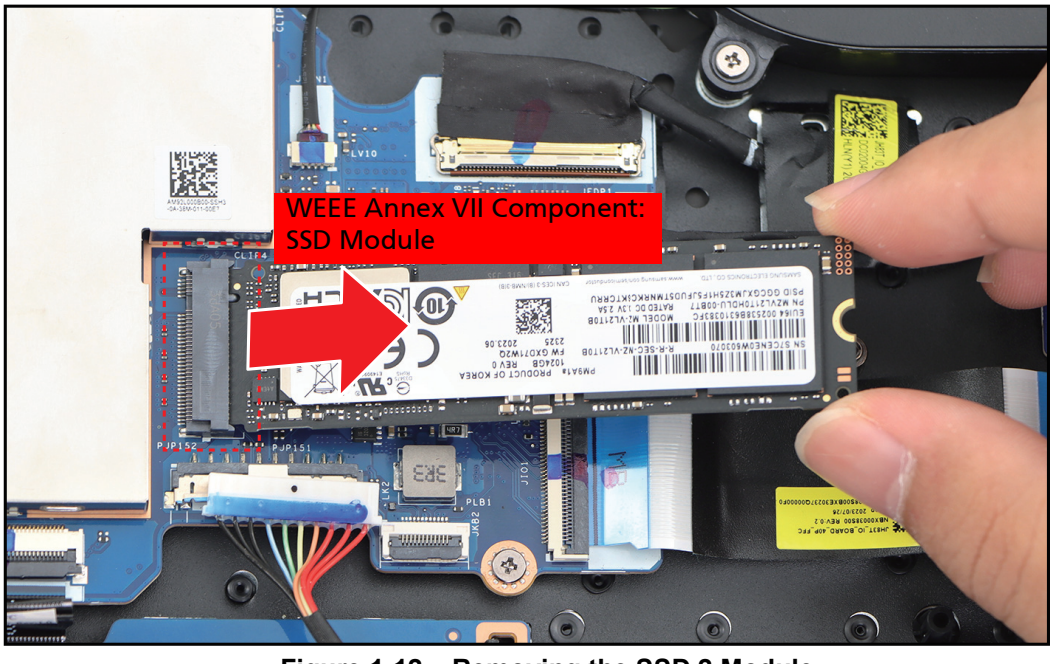

Figure 1-12. Removing the SSD 2 Module

Table 1-4. SSD 2 Module Screw

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 4.0		1.8~2.2kgf.cm	1

WLAN Module Removal

Prerequisite:

- **Lower Case Removal** on page **1-6**

1. Disconnect the WLAN antenna cables.

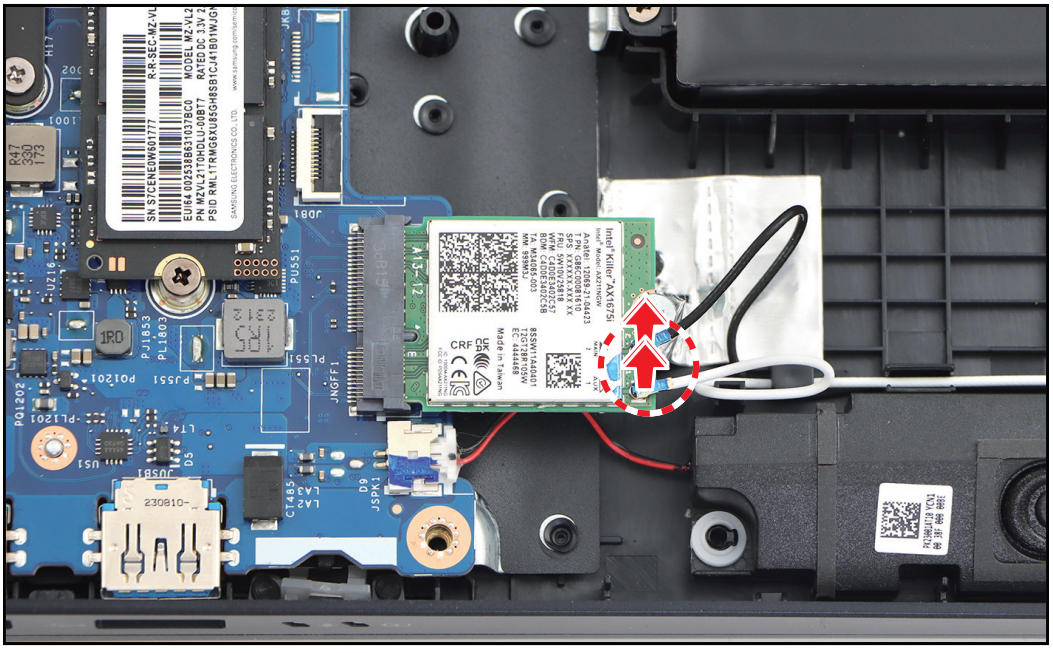

Figure 1-13. Disconnecting the WLAN Antenna Cables

2. Remove the screw securing the WLAN module to the upper case.

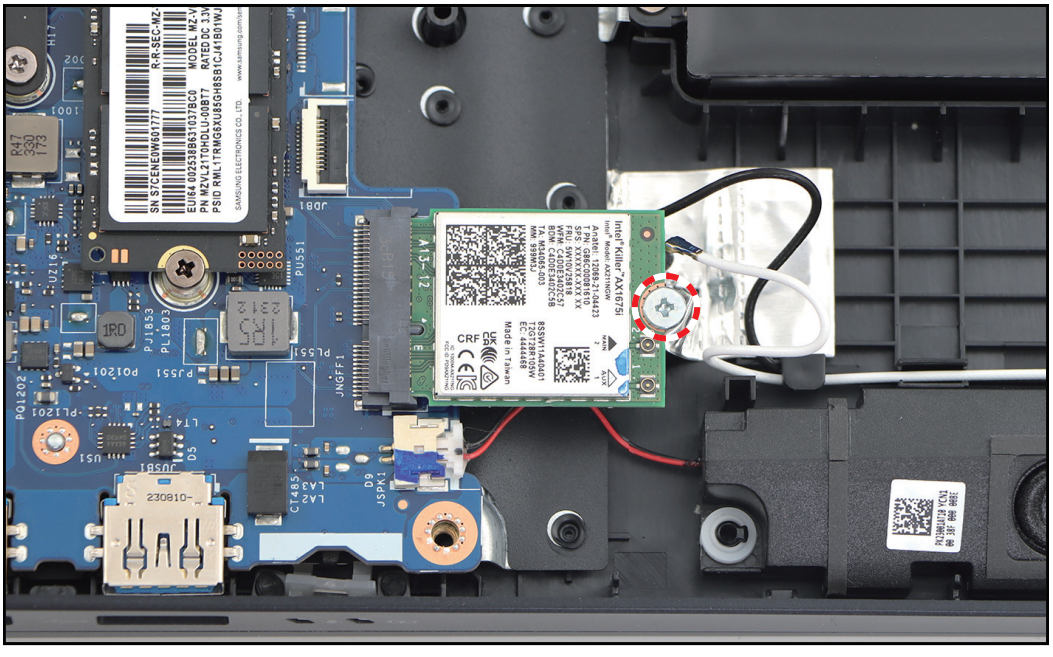

Figure 1-14. Removing the Screw

3. Pull to disconnect the WLAN module from the mainboard connector. Then remove the WLAN module.

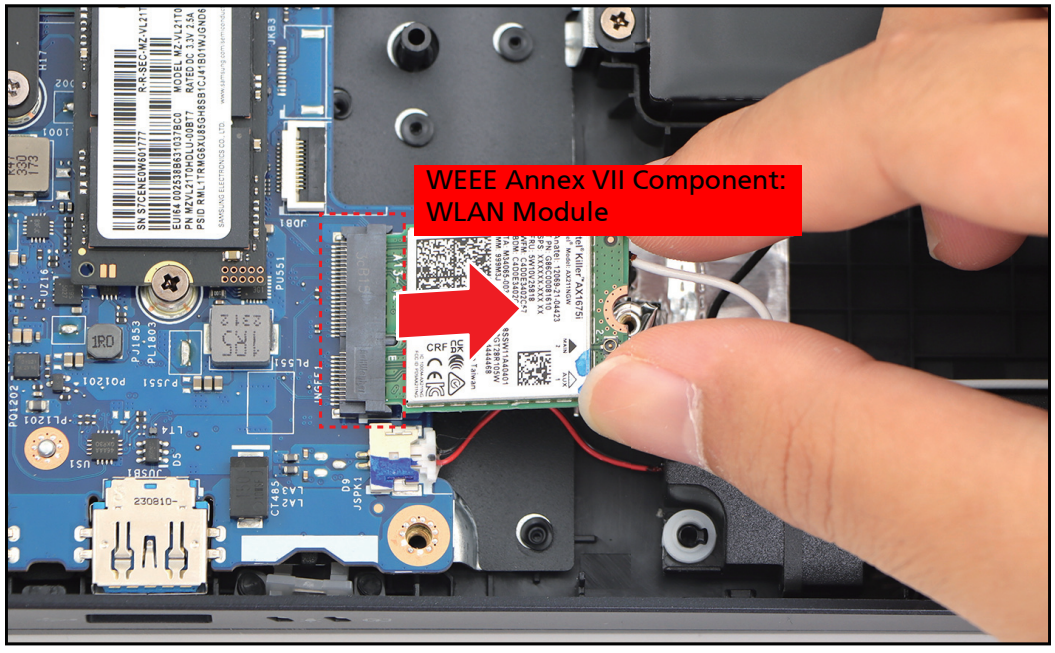

Figure 1-15. Removing the WLAN Module

Table 1-5. WLAN Module Screw

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 3.0(1.15)		1.8~2.2kgf.cm	1

DIMM Modules Removal

Prerequisite:

* **Lower Case Removal** on page **1-6**

1. Release the DDR shielding from the clips (marked with red and white circles) on the mainboard. Then remove the shielding.

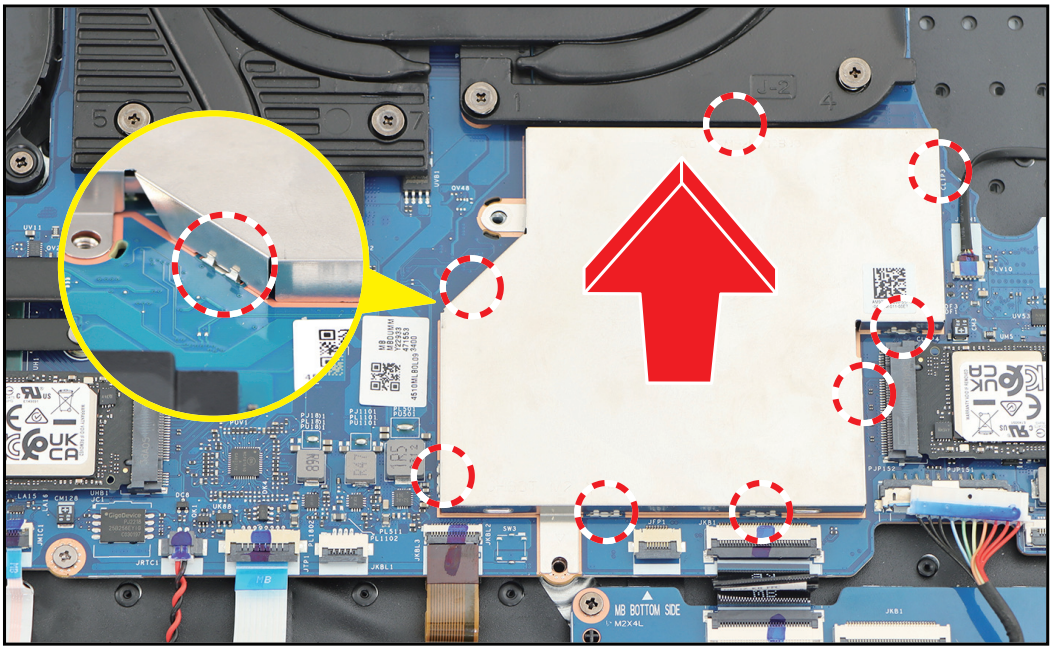

Figure 1-16. Removing the DDR Shielding

2. Push the module clips outwards.

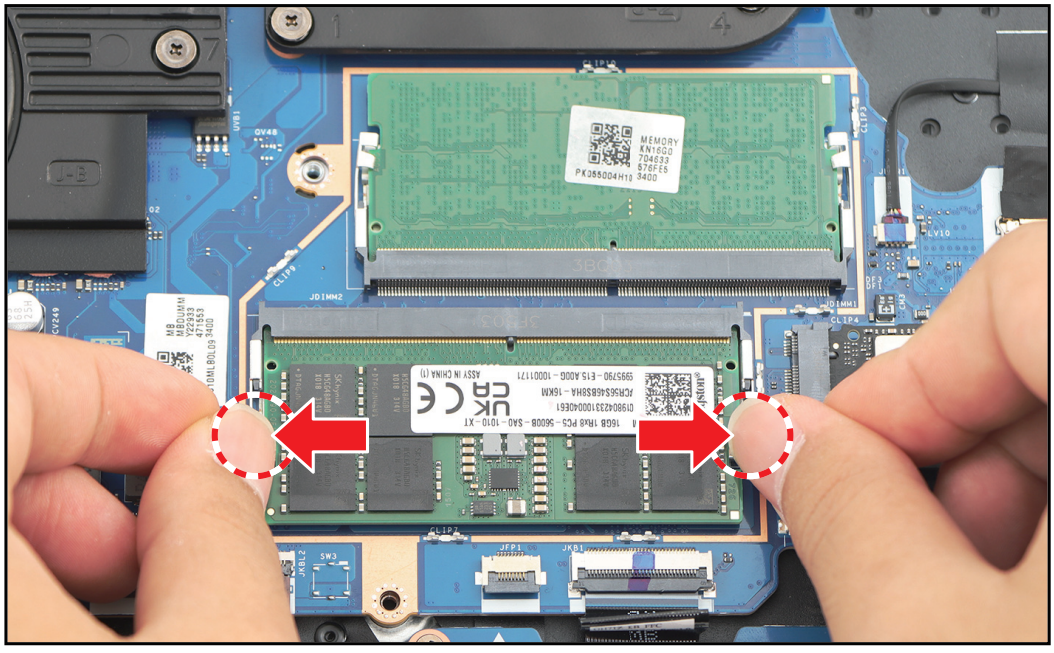

Figure 1-17. Unclipping the Module Clips

3. Pull to remove the memory module from the mainboard connector. Then remove the memory module.

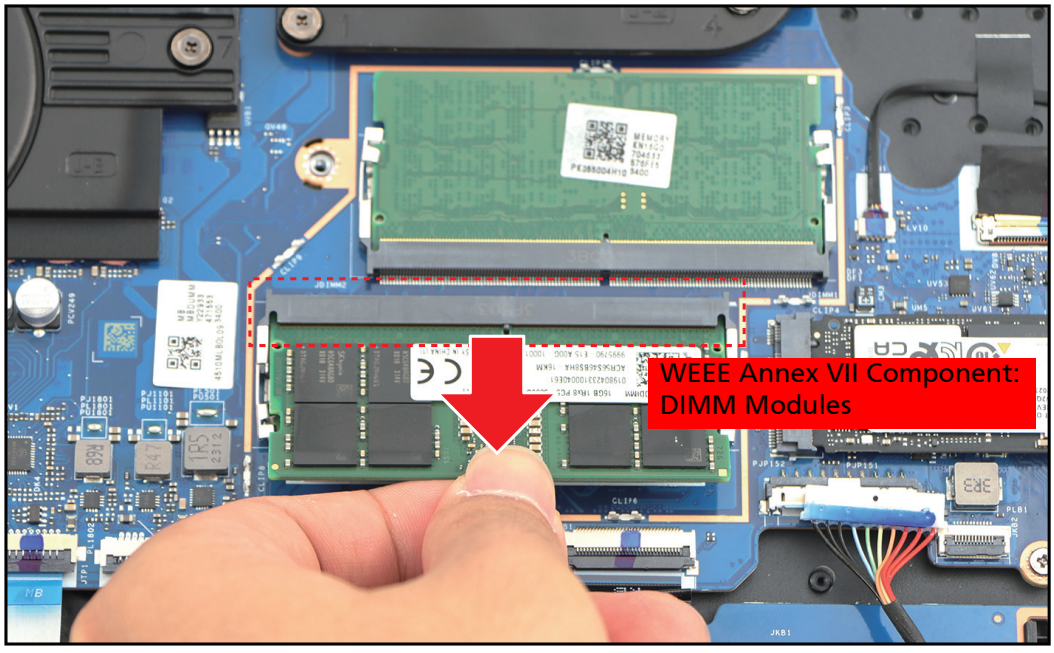

Figure 1-18. Removing the DIMM Module

4. Repeat steps 2~3 to remove another DIMM module.

RTC Battery Removal

Prerequisite:

- **Battery Removal** on page **1-9**

1. Disconnect the RTC battery cable from the mainboard connector.
2. Pry to detach the adhesive tape underneath the RTC battery. Then remove the RTC battery.

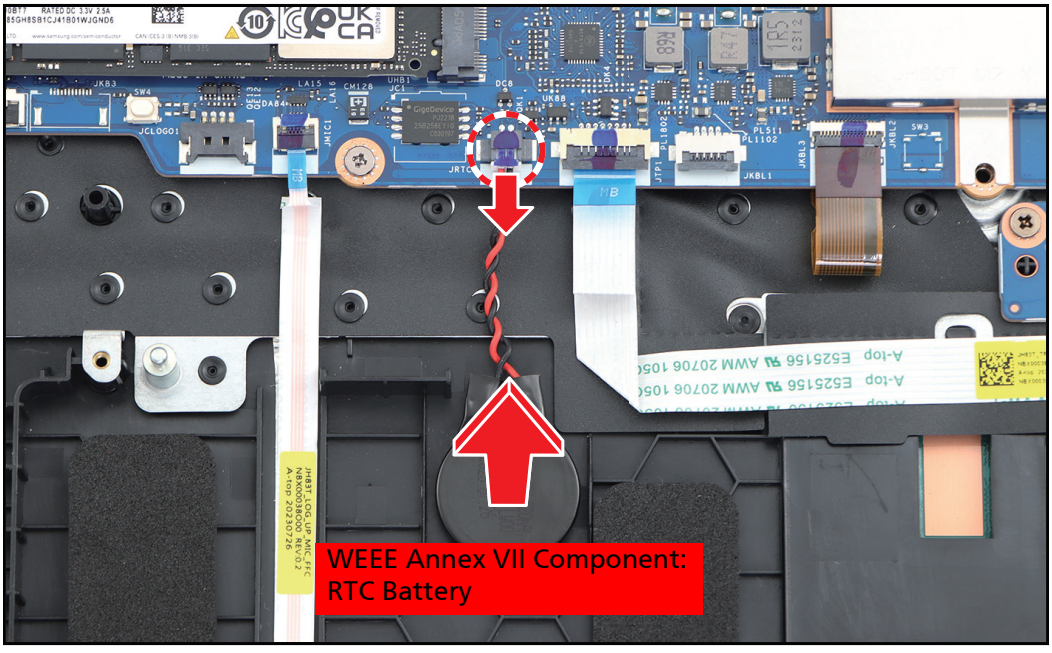

Figure 1-19. Removing the RTC Battery

Transfer Board Removal

Prerequisite:

- **Battery Removal** on page **1-9**

1. Release the latch and disconnect the keyboard FPC (A) from the transfer board connector.
2. Release the latches and disconnect the transfer board FFC (B) from the mainboard and transfer board connectors. Then remove the transfer board FFC.

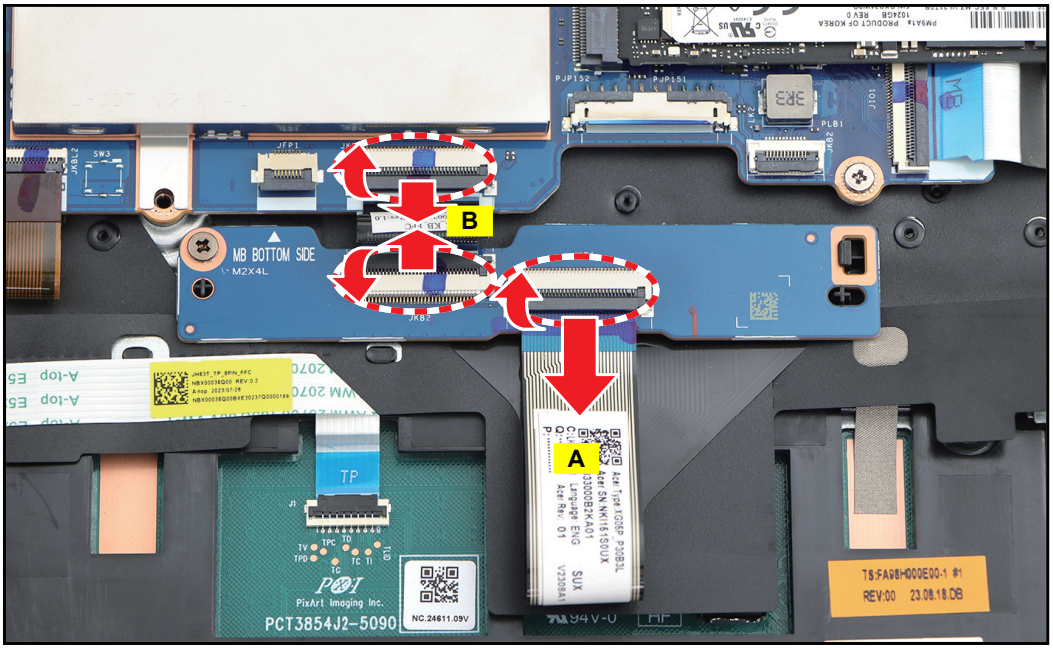

Figure 1-20. Disconnecting the Cables

3. Remove the screw securing the transfer board to the upper case.

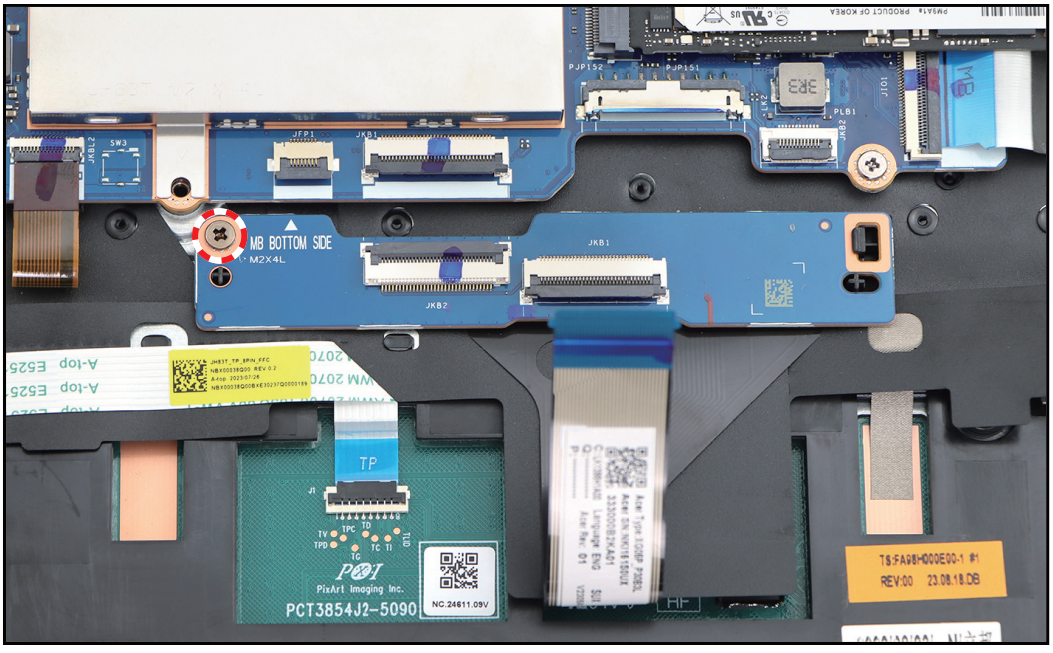

Figure 1-21. Removing the Screw

4. Slightly lift and pull the transfer board backwards to release it from the guide tab and guide pins on the upper case. Then remove the transfer board.

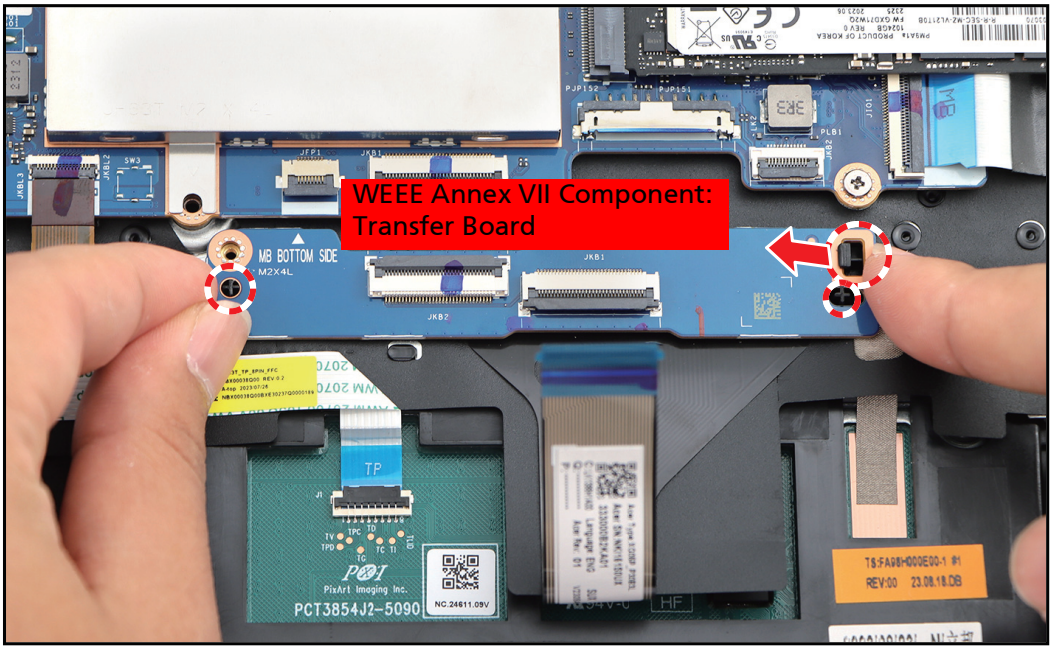

Figure 1-22. Removing the Transfer Board

Table 1-6. Transfer Board Screw

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 4.0		1.8~2.2kgf.cm	1

USB Board Removal

Prerequisite:

- **SSD 2 Module Removal** on page **1-13**

1. Disconnect the left speaker cable (A) from the USB board connector.
2. Release the latches and disconnect the USB board FFC (B) from the mainboard and USB board connectors. Then remove the USB board FFC.

   NOTE: When removing the FFC, carefully lift the portion of the IO board FFC (marked with red dashed lines as shown in the below illustration) to detach it from the adhesive tape underneath.
3. Detach the tape (C). Then disconnect the wire cable (D) from the mainboard and USB board connectors. Then remove the wire cable.
4. Detach the tape (E). Then release the latch and disconnect the eDP cable (F) from the mainboard connector.

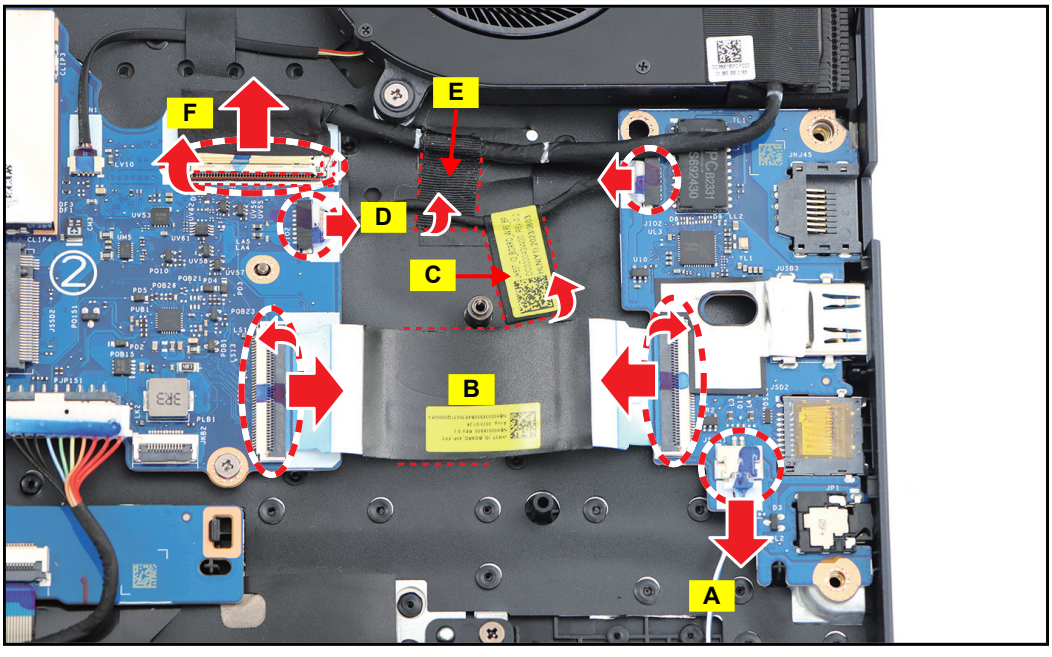

Figure 1-23. Disconnecting the Cables

5. Remove the USB board from the upper case.

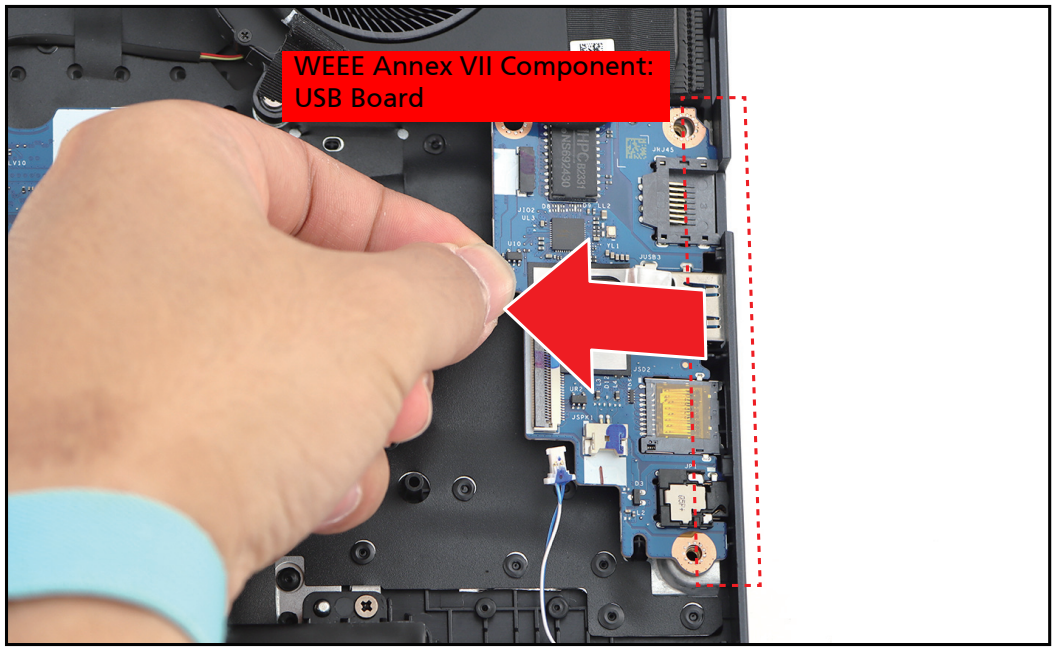

Figure 1-24. Removing the USB Board

LCD Module Removal

Prerequisite:

- Right Fan Module Removal
- Left Fan Module Removal

NOTE: The eDP cable includes the camera cable and the LCD cable.

1. Detach the mylar. Then disconnect the logo LED cable from the mainboard connector (A).
2. Detach the mylar. Then disconnect the eDP (GND) cable from the mainboard connector (B).
3. Unroute the eDP (GND) cable from the routing channel on the thermal module as shown in the below illustration.

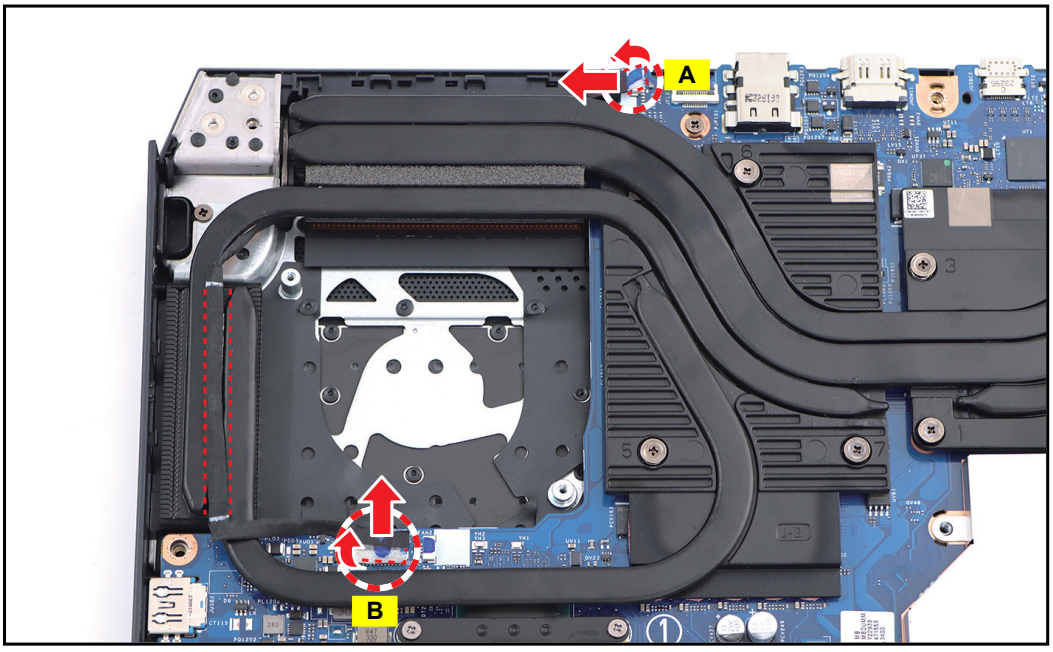

Figure 1-25. Disconnecting the Cables

4. Detach the tape. Then release the latch and disconnect the eDP cable from the mainboard connector.
5. Unroute the eDP cable from the routing channel on the thermal module as shown in the below illustration.

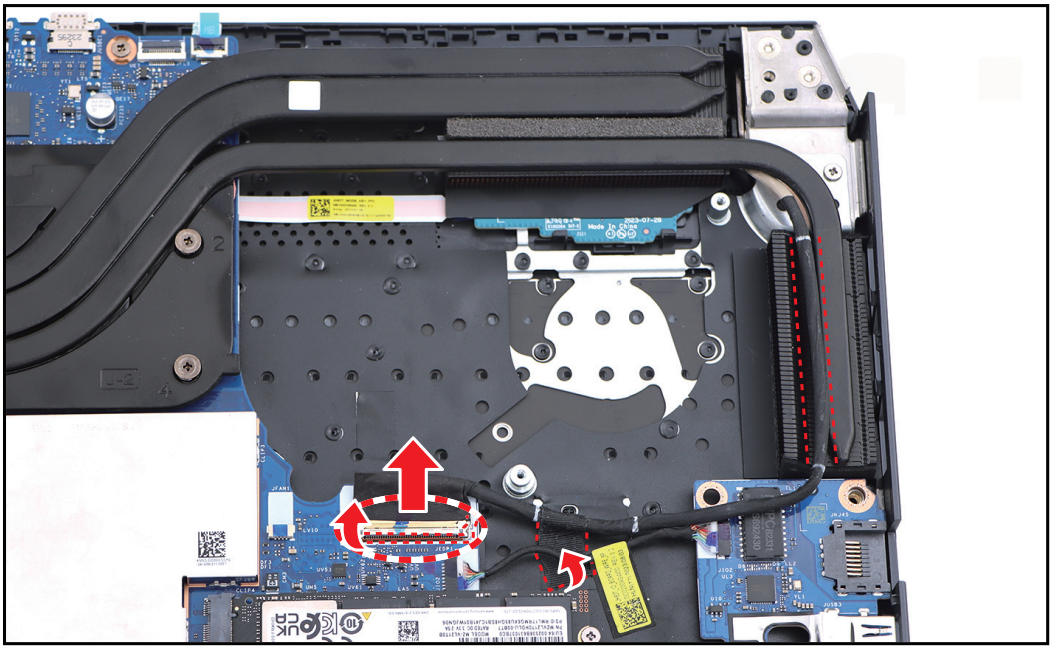

Figure 1-26. Disconnecting and Unrouting the eDP Cable

6. Flip the notebook. Then pry to remove the upper strip cover.

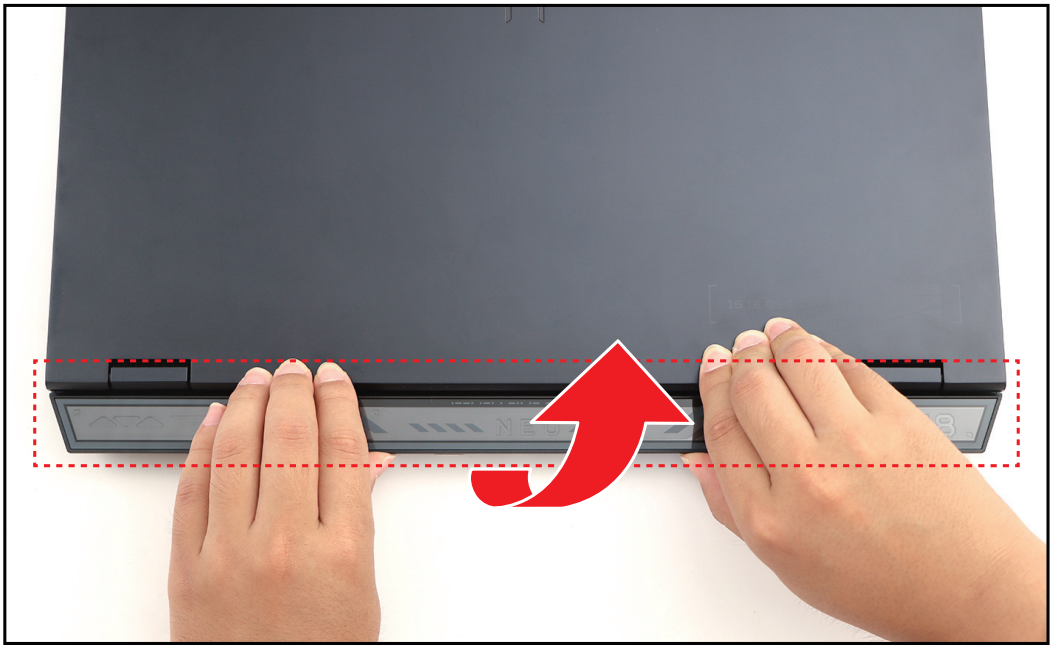

Figure 1-27. Removing the Upper Strip Cover

7. Unroute the logo LED cable from the routing channel as shown in the below illustration.

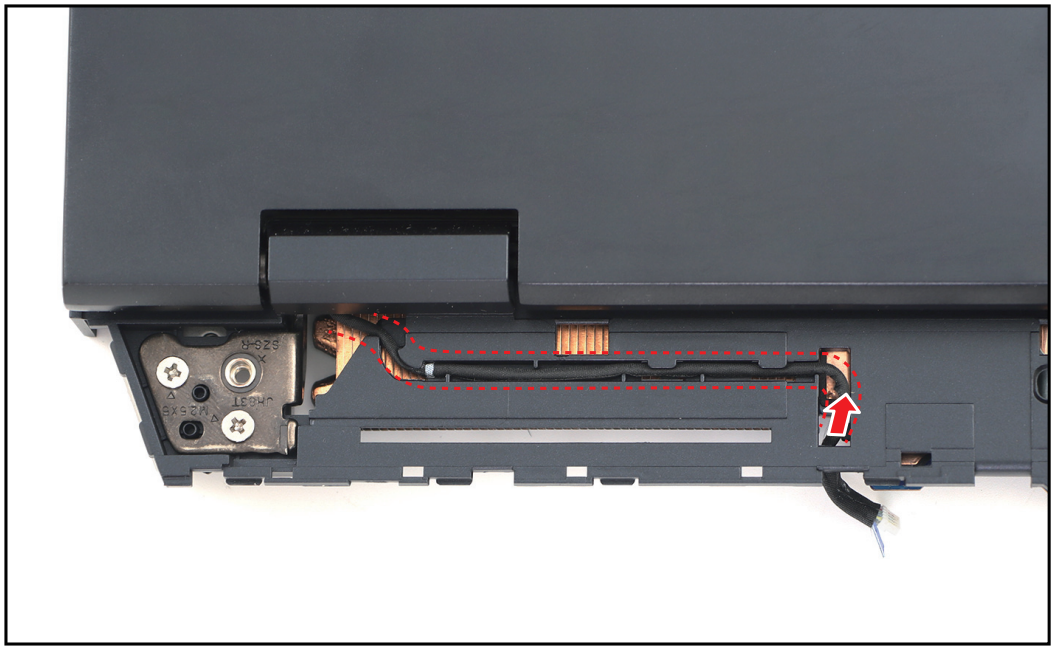

Figure 1-28. Unrouting the Logo LED Cable

8. Remove the four (4) screws securing the LCD hinges and LCD module to the upper case.

Figure 1-29. Removing the Screws

9. Slightly lift the LCD module to disengage it from the upper case. DO NOT remove the LCD module yet!.

Figure 1-30. Releasing the LCD Module

10. Slide the eDP (GND) cable underneath the thermal module and continue to unroute the eDP (GND) cable from the cable guides as shown in the below illustration.

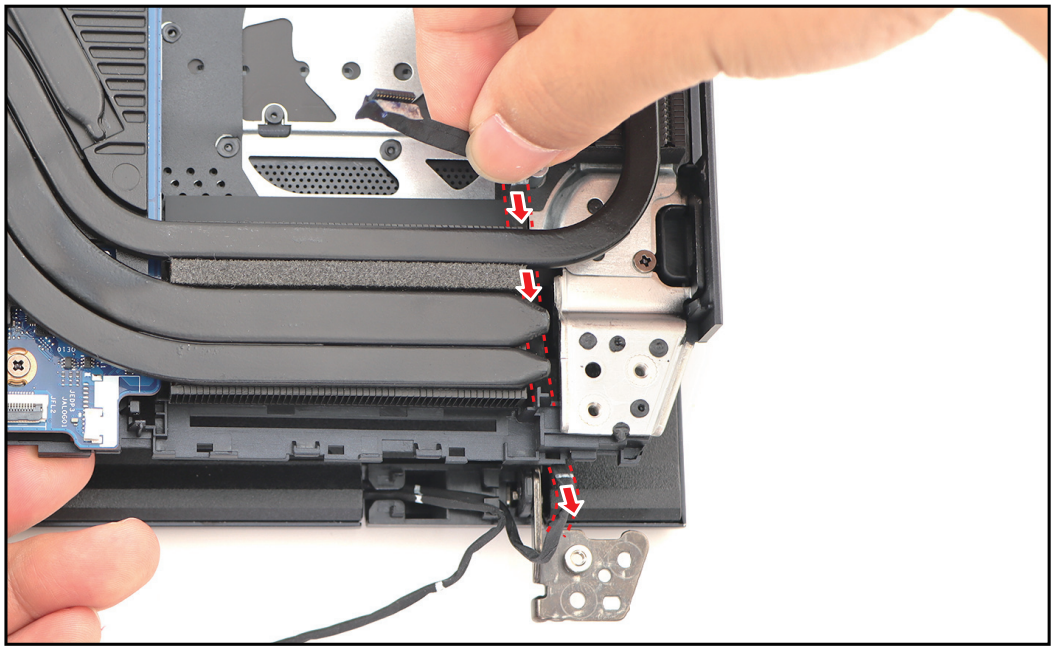

Figure 1-31. Unrouting the eDP Cable (1 of 2)

11. Slide another eDP cable underneath the thermal module and continue to unroute the eDP cable from the cable guides as shown in the below illustration.

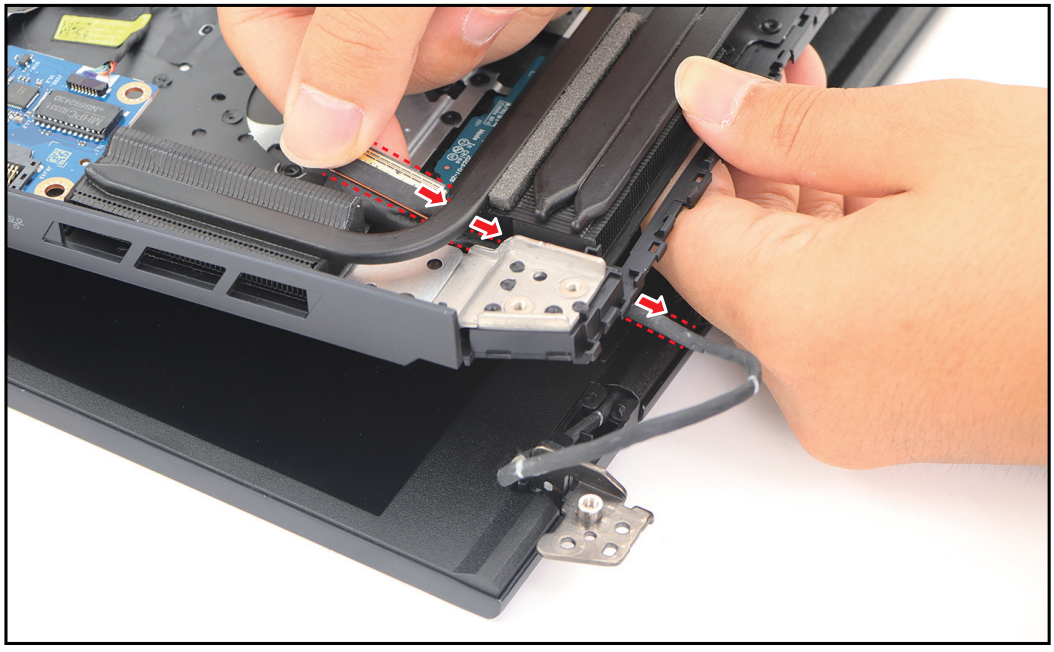

Figure 1-32. Unrouting the eDP Cable (2 of 2)

Table 1-7. Hinges Screws

Screw Name	Screw Type	Torque	Quantity
M 2.5 x 5.0		2.65~3.45kgf.cm	4

Instructions on Disconnecting the eDP (GND) and Logo LED Cables

NOTE: When disconnecting the eDP (GND) or the logo LED cables, DO NOT use the **fixed mylar** as the pull tab.

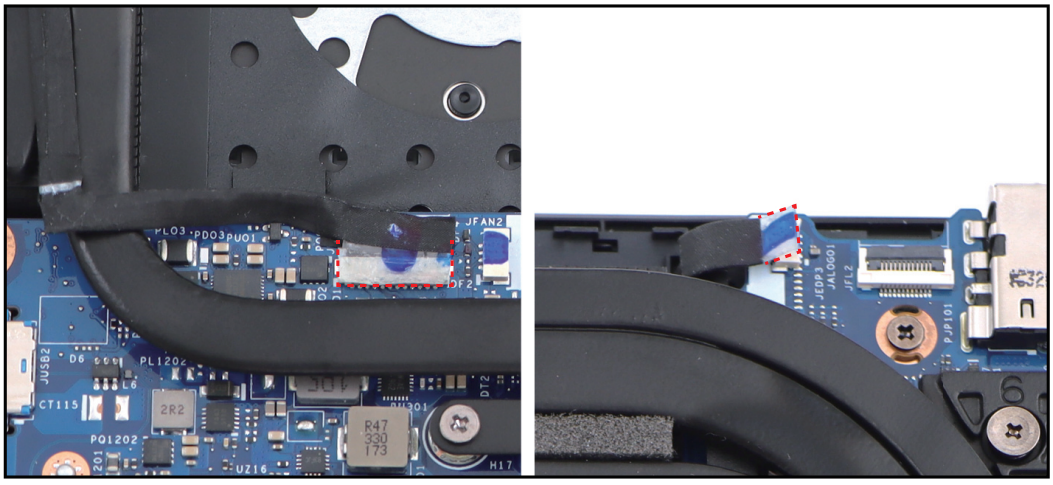

Figure 1-33. Disconnecting the Cables Notice (1 of 2)

NOTE: When disconnecting the cables, use your fingertips to pull out the cables from the mainboard connectors.

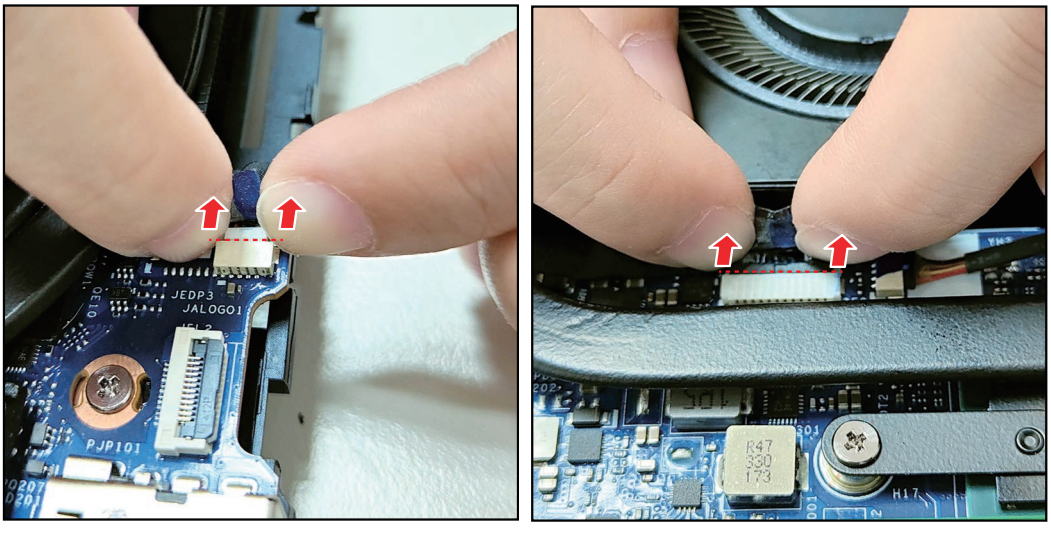

Figure 1-34. Disconnecting the Cables Notice (2 of 2)

Mainboard Removal

Prerequisite:

- **Battery Removal** on page **1-9**
- **SSD 1 Module Removal** on page **1-11**
- **SSD 2 Module Removal** on page **1-13**
- **WLAN Module Removal** on page **1-15**
- **DIMM Modules Removal** on page **1-17**
- Right Fan Module Removal
- Left Fan Module Removal

1. Release the latch (if necessary) and disconnect the following cables from the mainboard connectors:
   - Right speaker cable (A)
   - Microphone FFC (B)
   - Touchpad FFC (C)
   - Keyboard backlight FPC (D)
   - Transfer board FFC (E)
   - USB board FFC (F)
   - Wire cable (G)
   - Mode Key FFC (H)
   - Logo LED cable (I)
2. Detach the tape. Then release the latch and disconnect the eDP cable from the mainboard connector (J).
3. Unroute the eDP cable from the routing channel on the thermal module as shown in the below illustration.
4. Detach the mylar. Then disconnect the eDP (GND) cable from the mainboard connector (K).
5. Unroute the eDP (GND) cable from the routing channel on the thermal module as shown in the below illustration.

6. Pry to detach the adhesive tape underneath the RTC battery (L). Then remove the RTC battery.

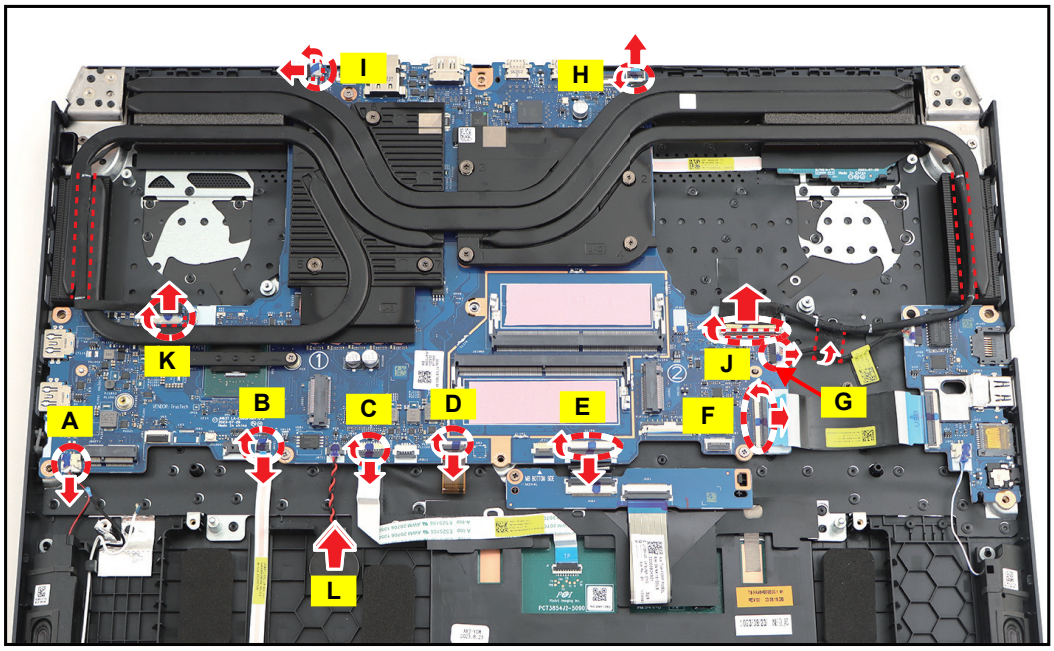

Figure 1-35. Disconnecting the Cables

7. Remove the four (4) screws securing the mainboard to the upper case.

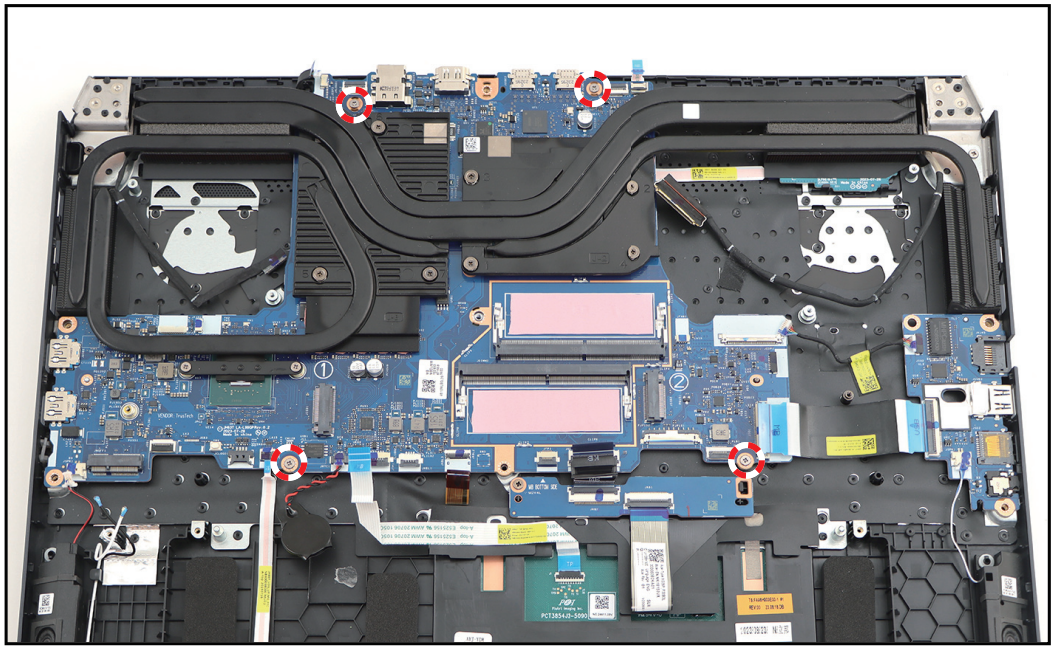

Figure 1-36. Removing the Screws

8. Slide the mainboard to release the I/O connectors from their slots, and then remove the mainboard (with the thermal module and RTC battery) from the upper case.

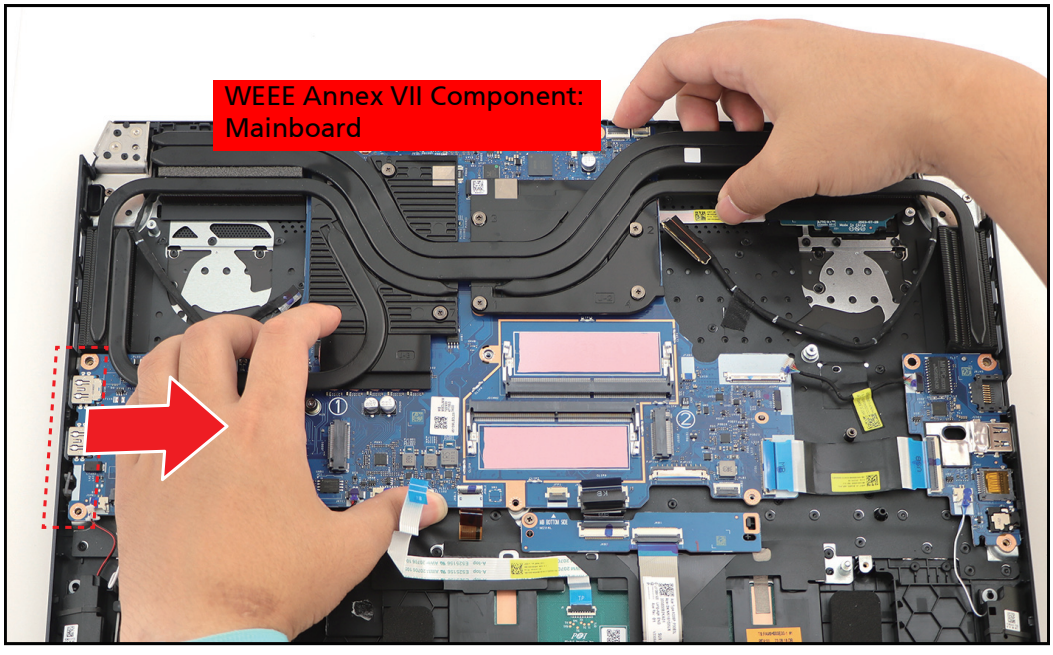

Figure 1-37. Removing the Mainboard (with the Thermal Module and RTC Battery)

Table 1-8. Mainboard Screws

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 4.0		1.8~2.2kgf.cm	4

Instructions on Disconnecting the eDP (GND) and Logo LED Cables

NOTE: When disconnecting the eDP (GND) or the logo LED cables, DO NOT use the **fixed mylar** as the pull tab.

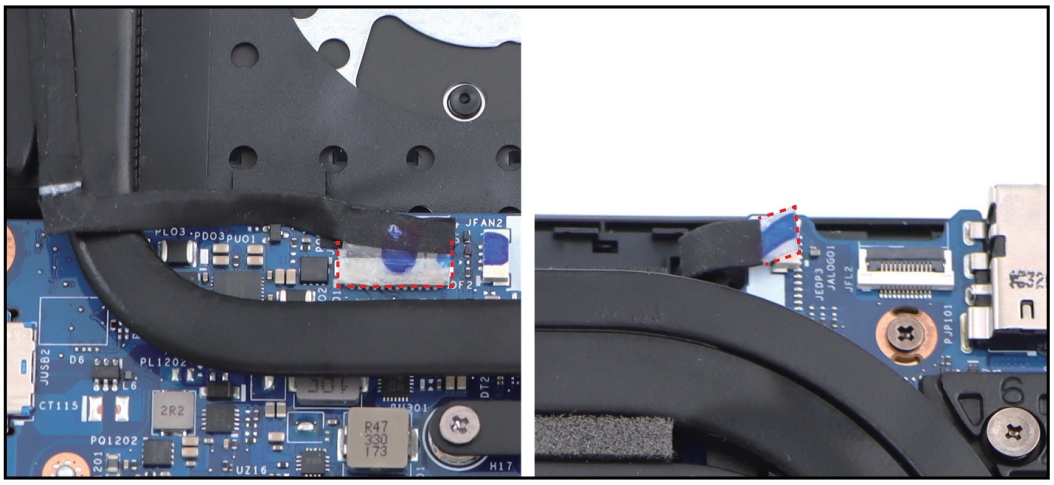

Figure 1-38. Disconnecting the Cables Notice (1 of 2)

NOTE: When disconnecting the cables, use your fingertips to pull out the cables from the mainboard connectors.

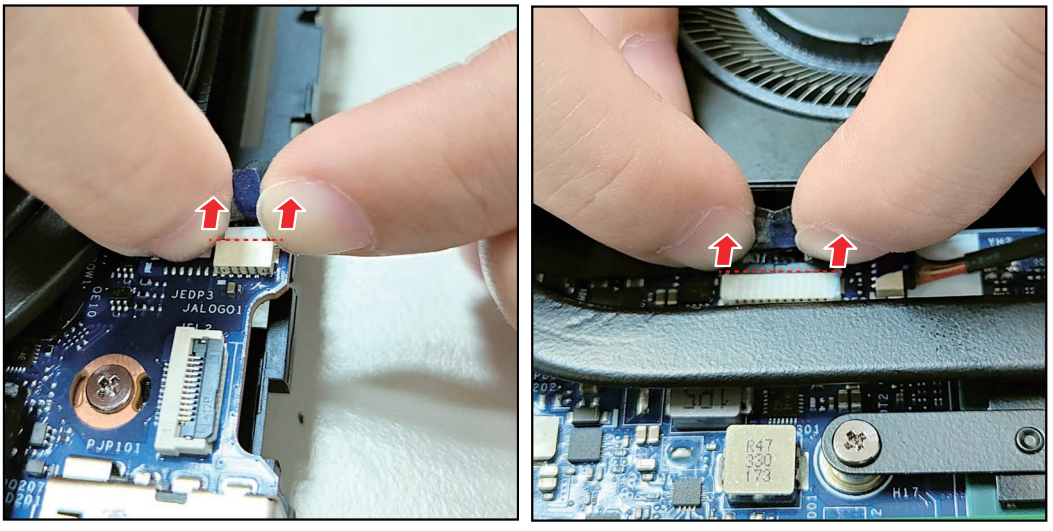

Figure 1-39. Disconnecting the Cables Notice (2 of 2)

Touchpad Removal

Prerequisite:

- **Transfer Board Removal** on page **1-20**

NOTE:

Slightly lift the keyboard mylar for easy access to FFCs, conductive tape, cable routing, screws, or screw holes.

1. Release the latches and disconnect the touchpad FFC from the mainboard and touchpad connectors. Then remove the touchpad FFC.

   NOTE: When removing the FFC, carefully lift the portion of the touchpad FFC (marked with red dashed lines as shown in the below illustration) to detach it from the adhesive tape underneath.

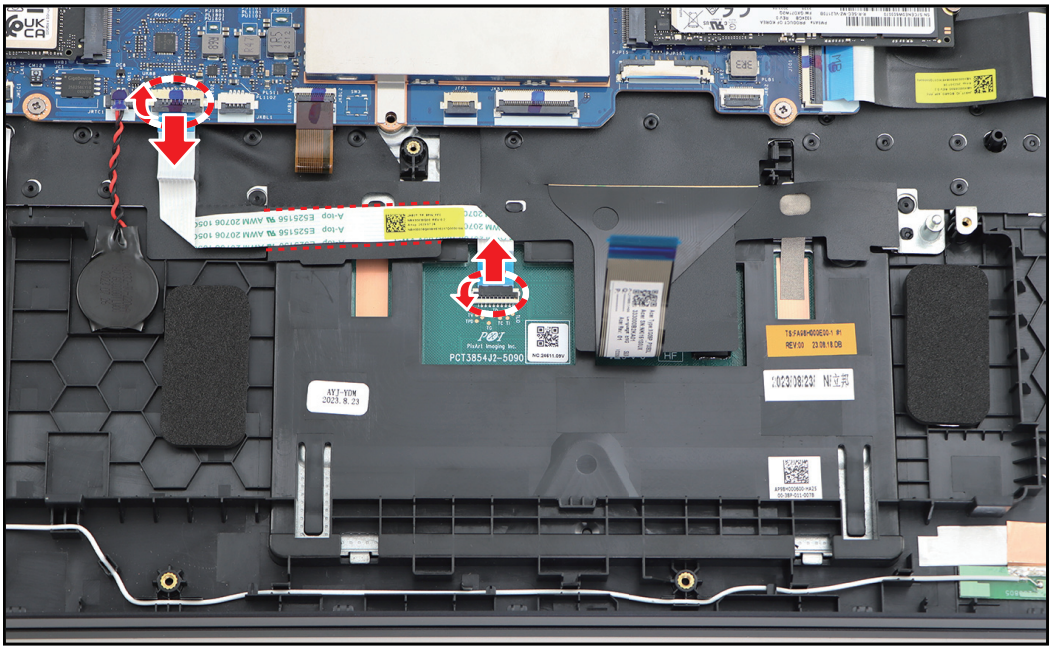

Figure 1-40. Removing the Touchpad FFC

2. Slightly lift the keyboard mylar. Then carefully detach the conductive tape from the touchpad and upper case.

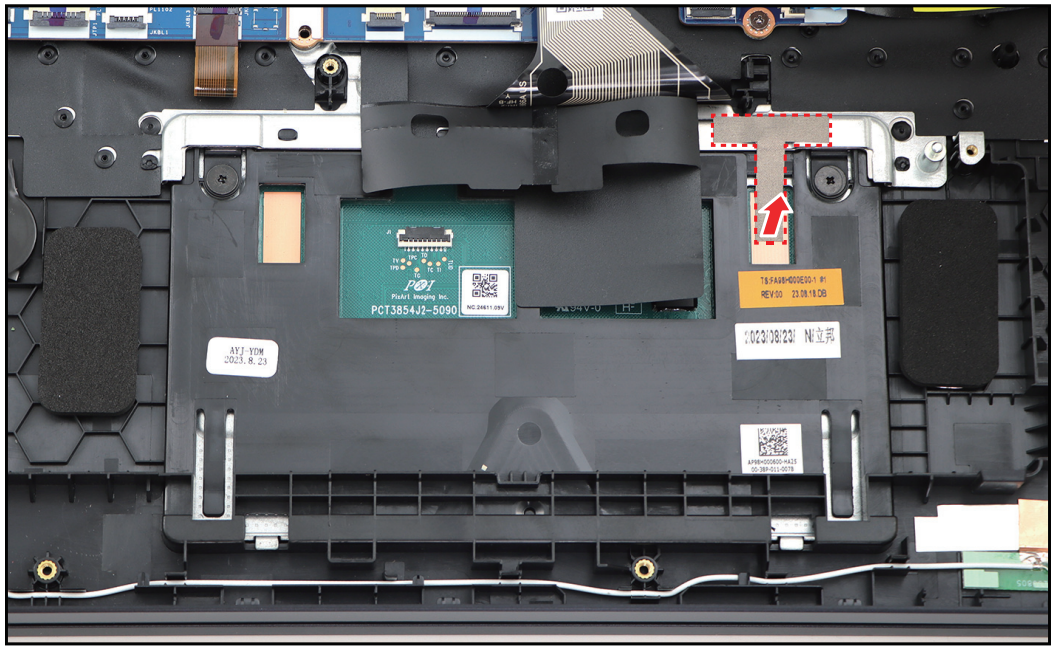

Figure 1-41. Detaching the Conductive Tape

3. Remove the two (2) screws securing the touchpad to the upper case.

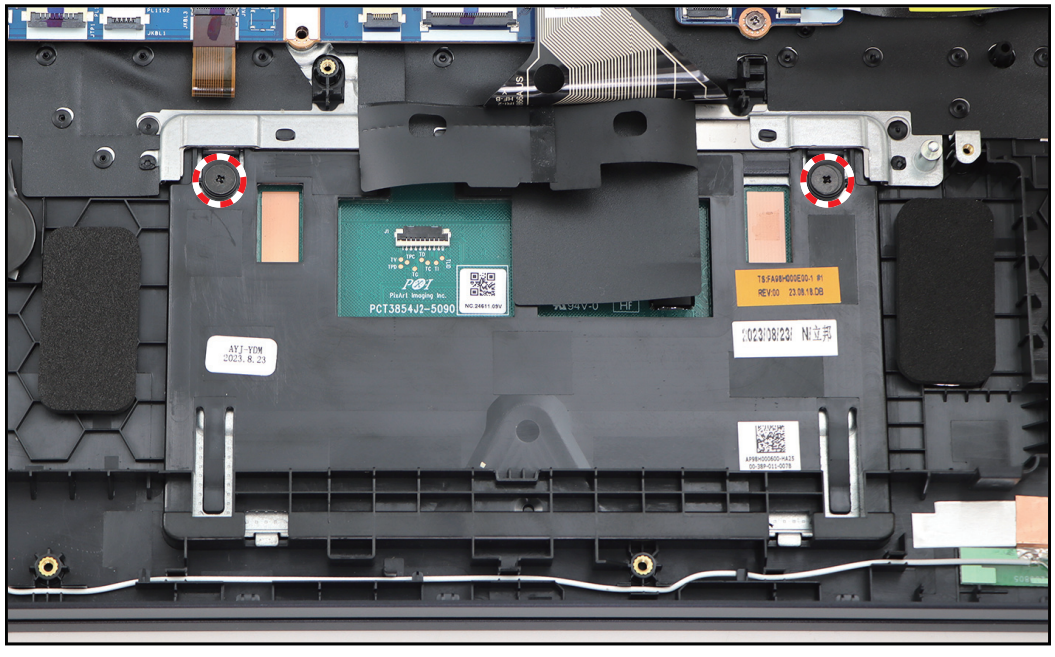

Figure 1-42. Removing the Screws

4. Use the tip of the screwdriver to push the screw holes of the touchpad. Then slide the bottom part of the touchpad forward to disengage it from the bottom tabs. Remove the touchpad from the upper case.

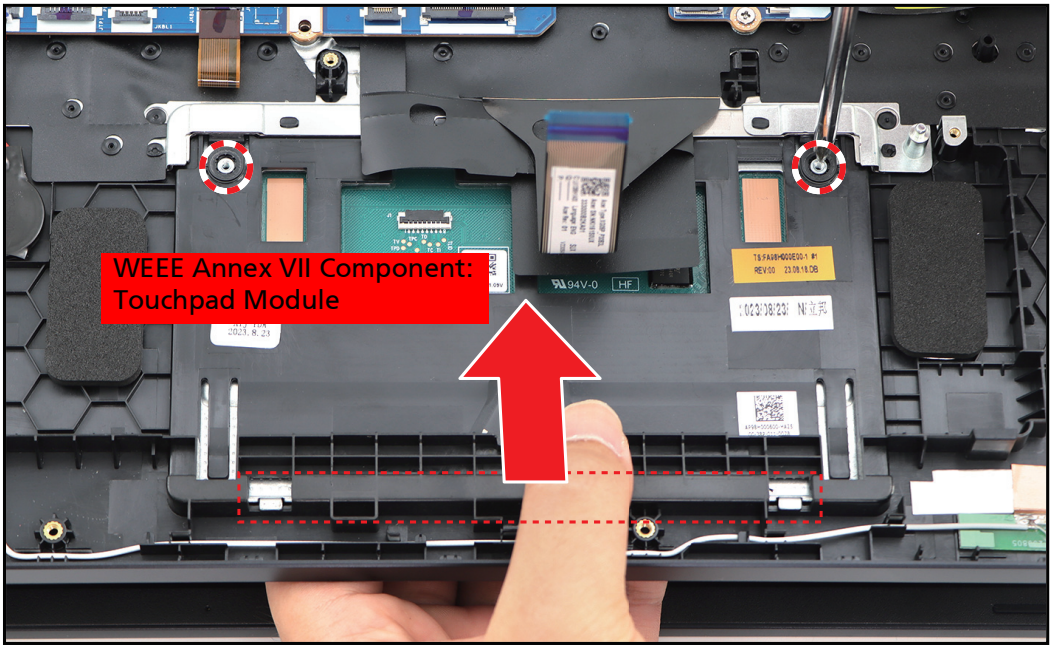

Figure 1-43. Removing the Touchpad

Table 1-9. Touchpad Screws

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 2.3		1.8~2.2kgf.cm	2

LCD Bezel Removal

Prerequisite:

- **LCD Module Removal** on page **1-24**

1. Pry the LCD bezel from the bottom side to release the latches.

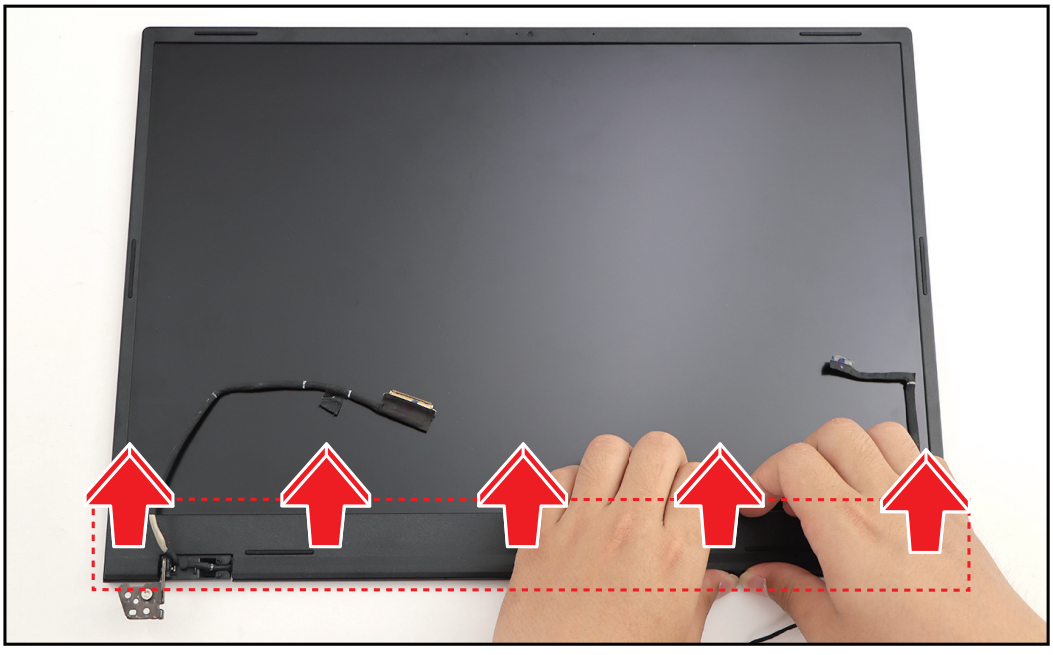

Figure 1-44. Removing the LCD Bezel (1 of 4)

2. Pry the LCD bezel from the right side to release the latches.

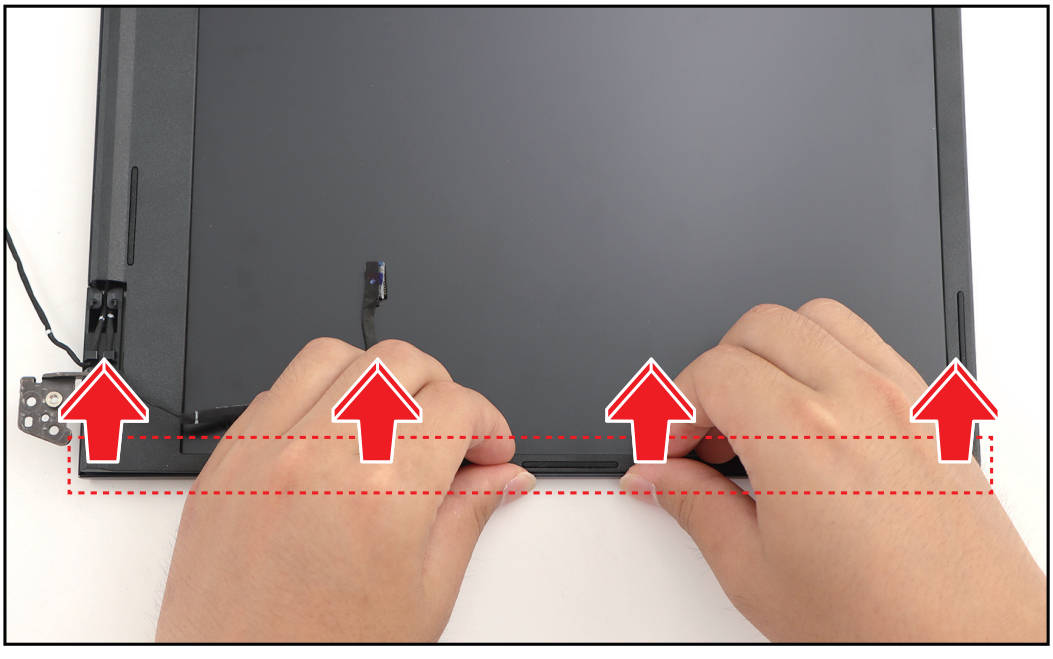

Figure 1-45. Removing the LCD Bezel (2 of 4)

3. Pry the LCD bezel from the left side to release the latches.

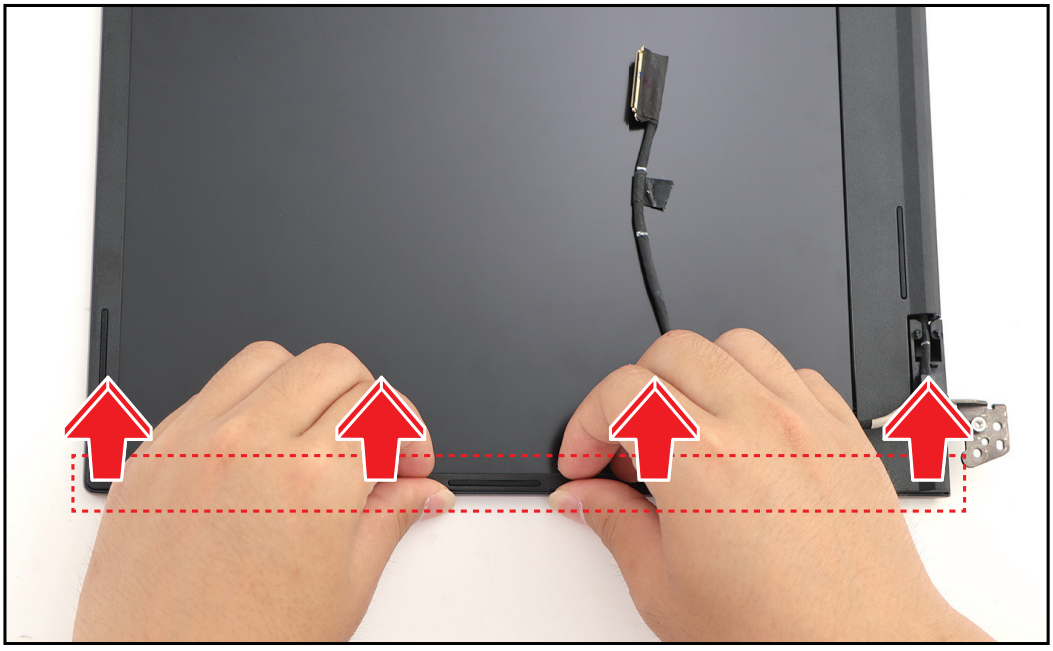

Figure 1-46. Removing the LCD Bezel (3 of 4)

4. Continue to pry the upper side latches. Then remove the LCD bezel.

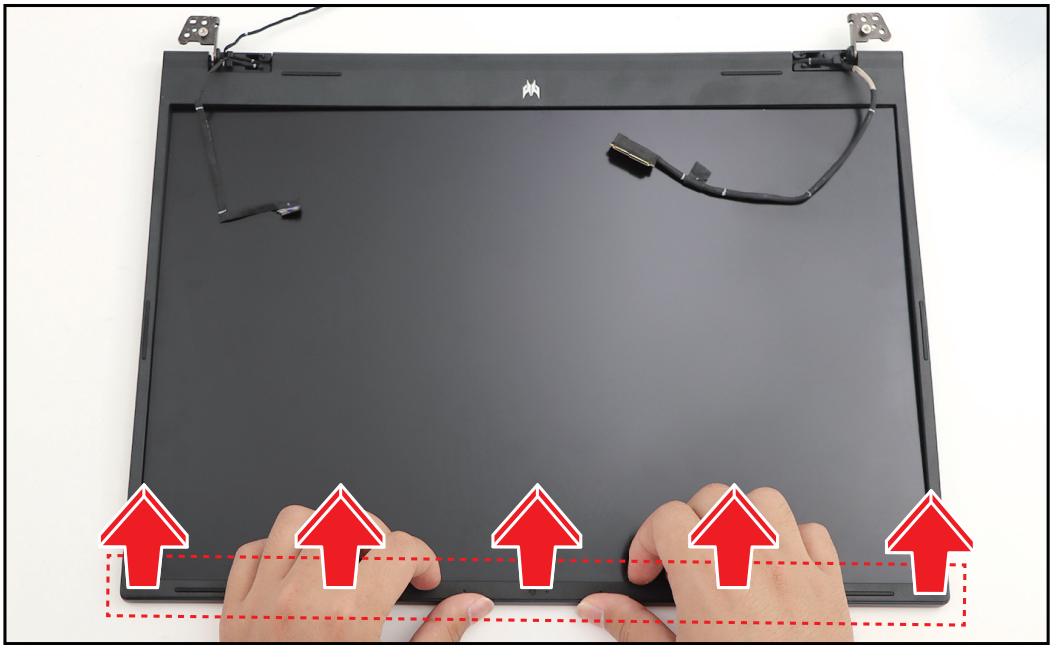

Figure 1-47. Removing the LCD Bezel (4 of 4)

LCD Panel and eDP Cable Removal

Prerequisite:

- **LCD Bezel Removal** on page **1-37**

1. Unroute the eDP cable from the cable guides on the bottom-left side of the LCD cover.

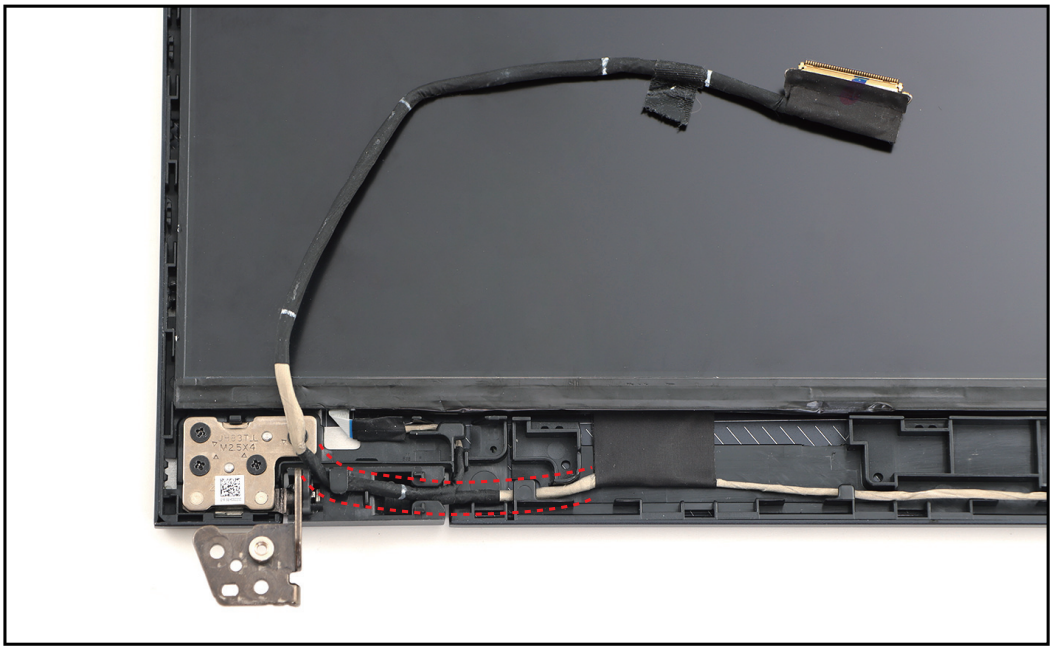

Figure 1-48. Unrouting the eDP Cable

2. Unroute the eDP (GND) cable from the cable guides on the bottom-right side of the LCD cover.

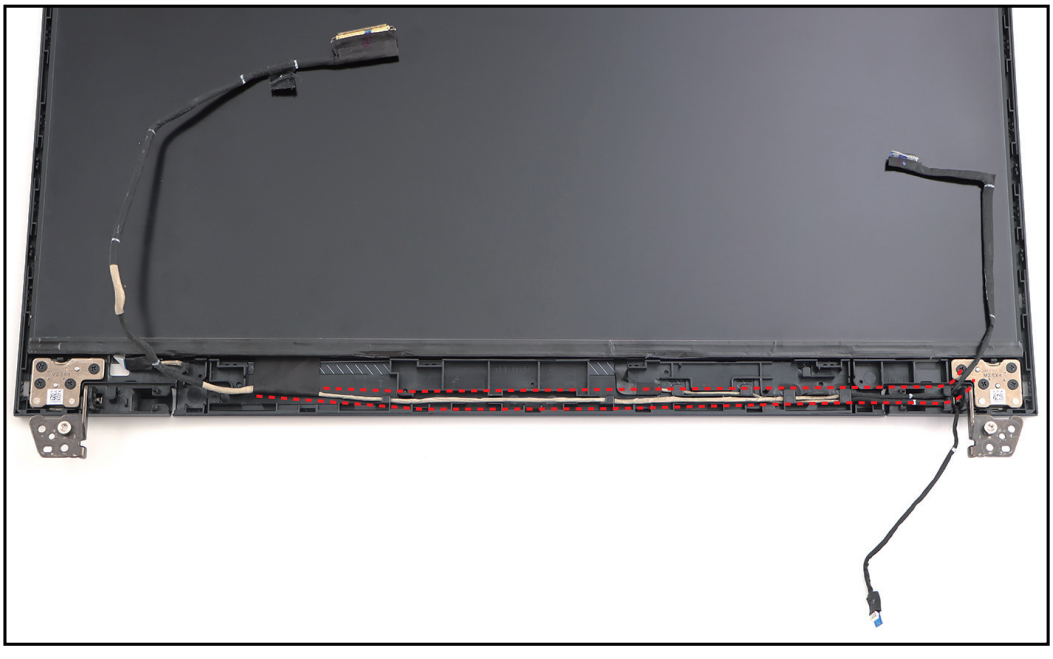

Figure 1-49. Unrouting the eDP (GND) Cable

3. Disconnect the eDP cable from the CMOS and dual microphone module connector. Then unroute the eDP cable from the cable guides on the upper side of the LCD cover.

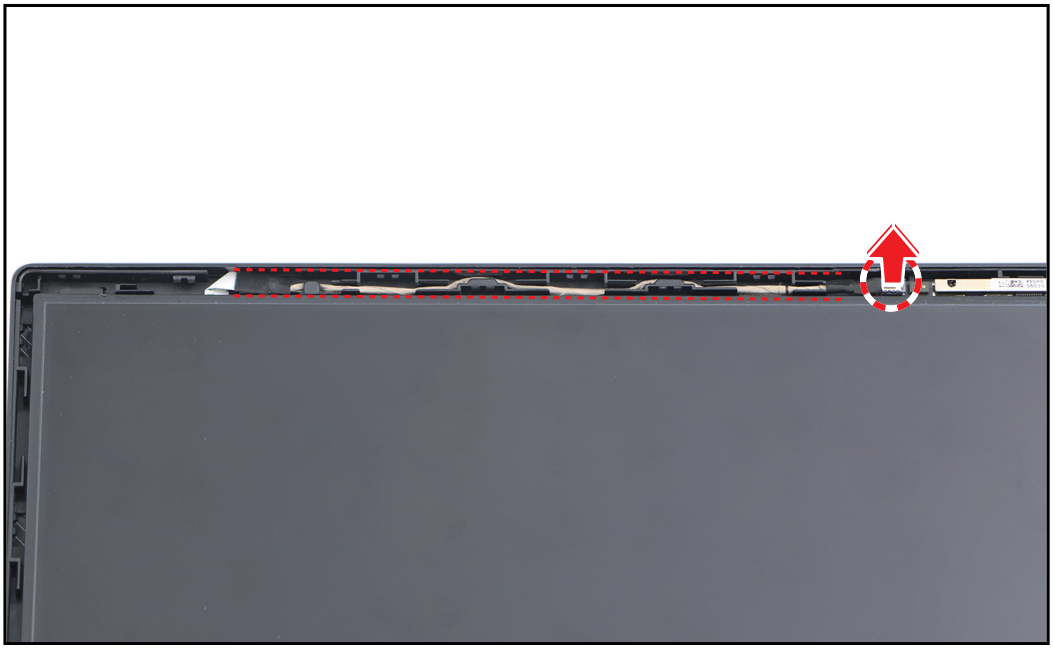

Figure 1-50. Disconnecting and Unrouting the eDP Cable

4. Pry slightly to access the double-sided mounting tape underneath the LCD panel. Then carefully pull to detach the double-sided mounting tape. Repeat the same procedure to remove the double-sided mounting tape on another side of the LCD panel.

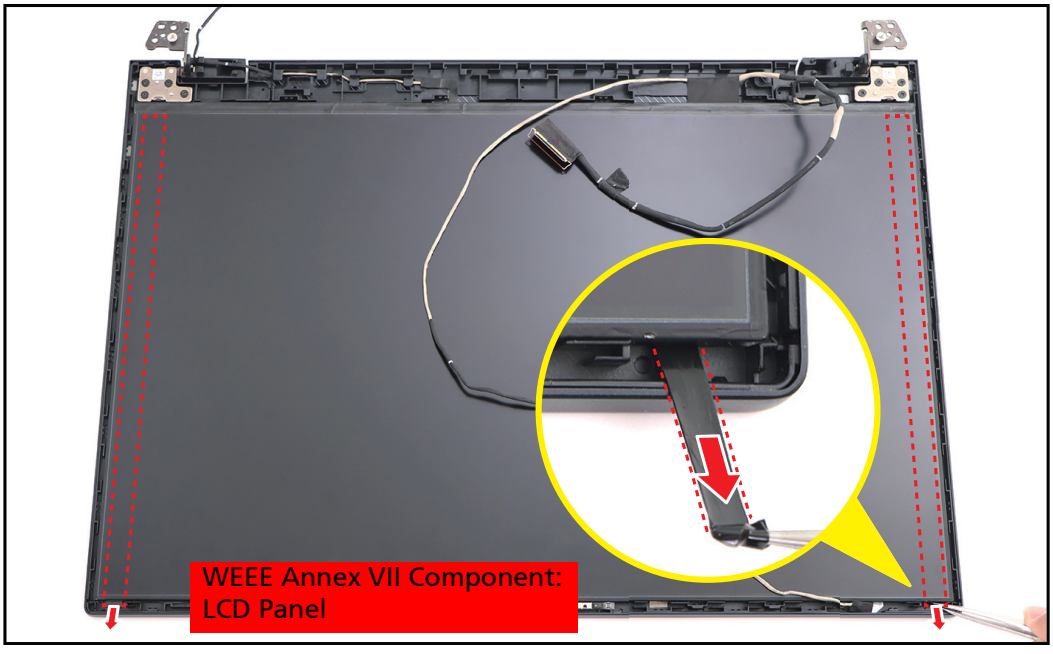

Figure 1-51. Detaching the Double-sided Mounting Tapes

5. Carefully flip the LCD panel and detach the detach the eDP cable from the routing channel on the LCD panel as shown in the below illustration.

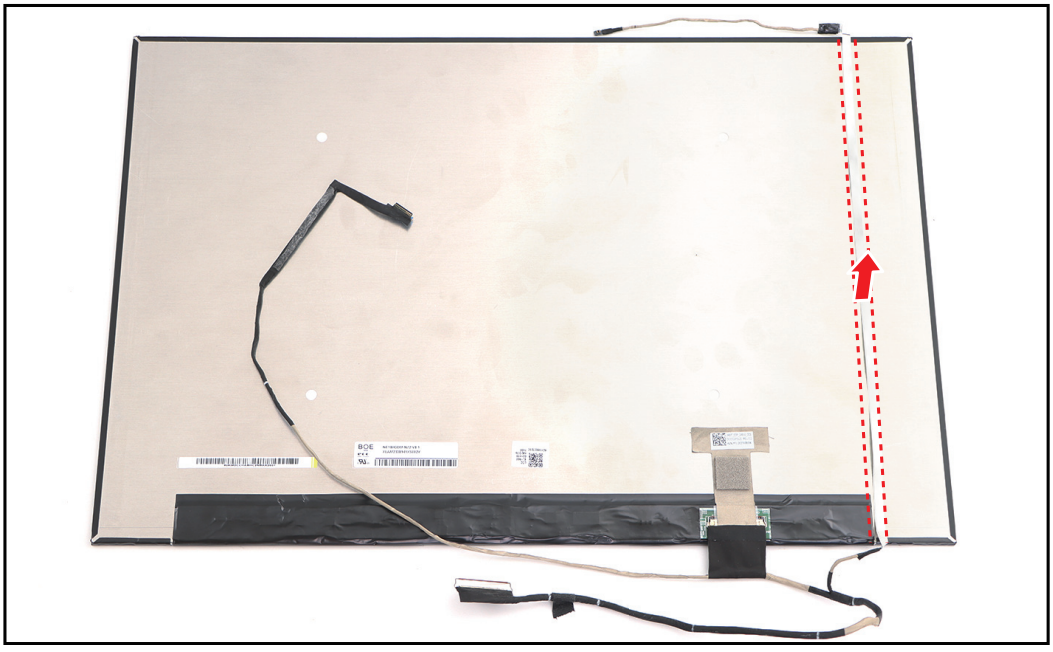

Figure 1-52. Detaching the eDP Cable

6. Detach the mylar securing the eDP cable to the LCD panel connector.

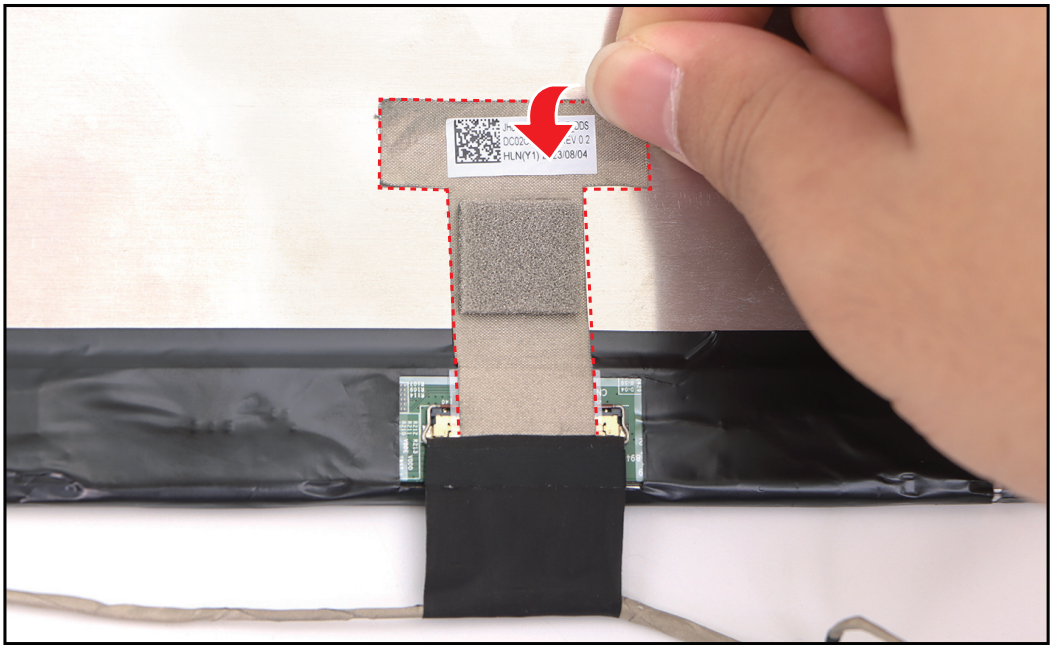

Figure 1-53. Detaching the Mylar

7. Lift the latch securing the eDP cable.

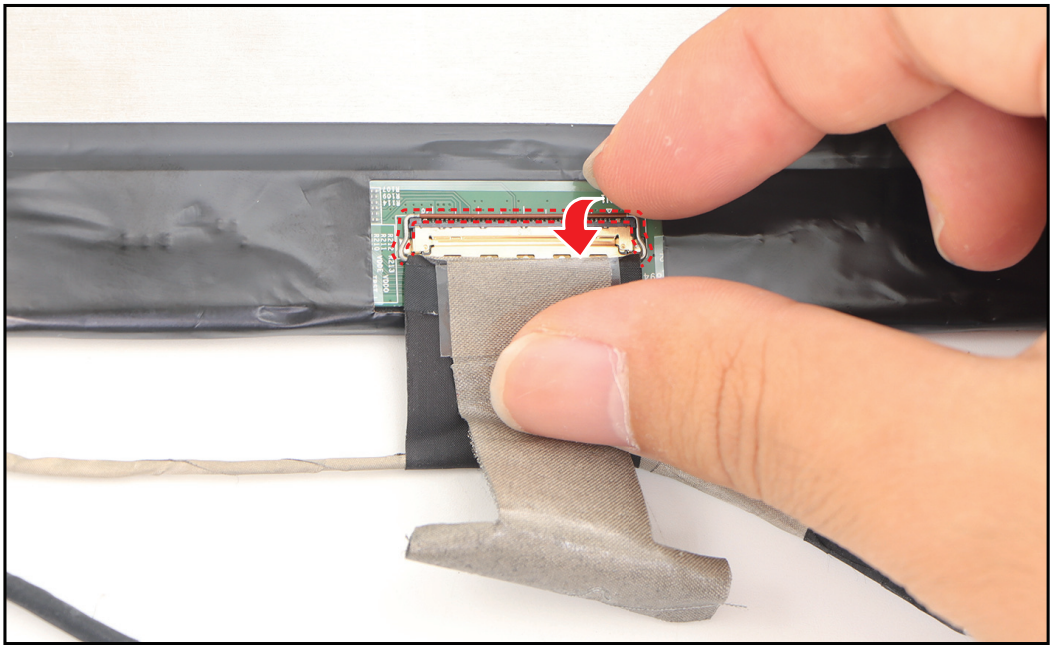

Figure 1-54. Lifting the Latch

8. Disconnect the eDP cable from the LCD panel connector. Then remove the eDP cable.

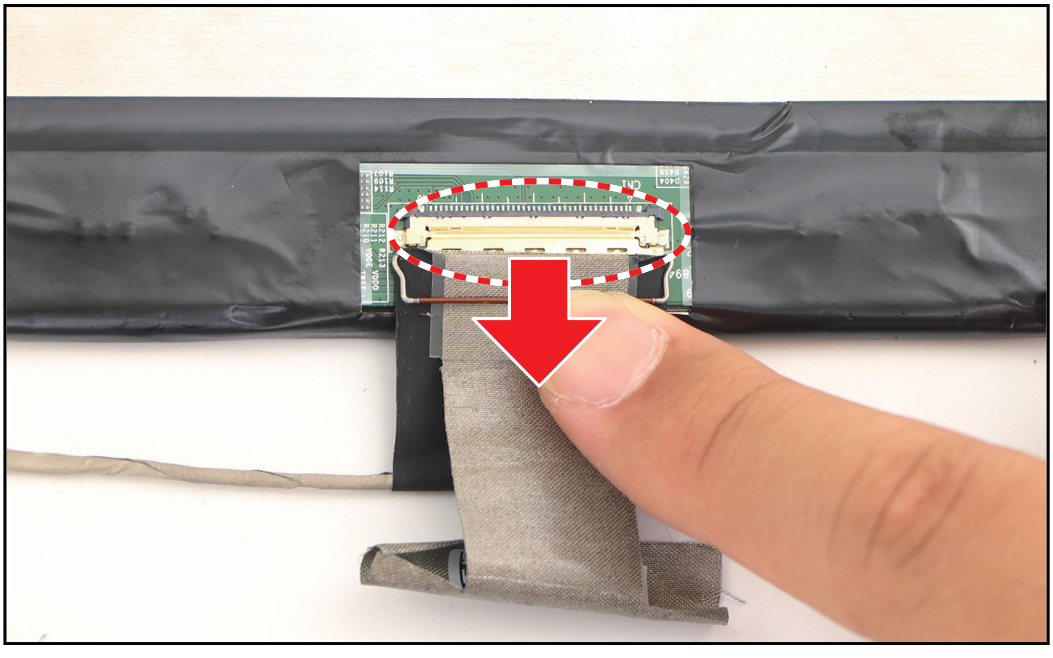

Figure 1-55. Disconnecting the eDP Cable

Troubleshooting

This chapter shows you how to deal with common system problems. Read it before calling a technician if a problem occurs. Solutions to more serious problems require opening up the computer. Do not attempt to open the computer yourself; contact your dealer or authorized service center for assistance.

Troubleshooting tips

This computer incorporates an advanced design that delivers on-screen error message reports to help you solve problems.

If the system reports an error message or an error symptom occurs, see “Error message” below. If the problem cannot be resolved, contact your dealer.

Error messages

If you receive an error message, note the message and take the corrective action. The following table lists the error messages in the alphabetical order together with the recommended course of action.

Table 1-10. Error Messages

Error Messages	Corrective Action
CMOS battery bad	Contact your dealer or an authorized service center.
CMOS checksum error	Contact your dealer or an authorized service center.
Disk boot failure	Insert a system (bootable) disk, then press **Enter** to reboot.
Equipment configuration error	Press **F2** (during POST) to enter BIOS utility, then press **Exit** in the BIOS utility to reboot.
Hard disk 0 error	Contact your dealer or an authorized service center.
Hard disk 0 extended type error	Contact your dealer or an authorized service center.
I/O parity error	Contact your dealer or an authorized service center.
Keyboard error or no keyboard connected	Contact your dealer or an authorized service center.
Keyboard interface error	Contact your dealer or an authorized service center.
Memory size mismatch	Press **F2** (during POST) to enter BIOS utility, then press **Exit** in the BIOS utility to reboot.

If you still encounter problems after going through the corrective measures, please contact your dealer or an authorized service center for assistance.

FRU (Field Replaceable Unit) List

Please contact your local service center to find out how to obtain the part or replace your device.

Exploded Diagrams

Main Assembly

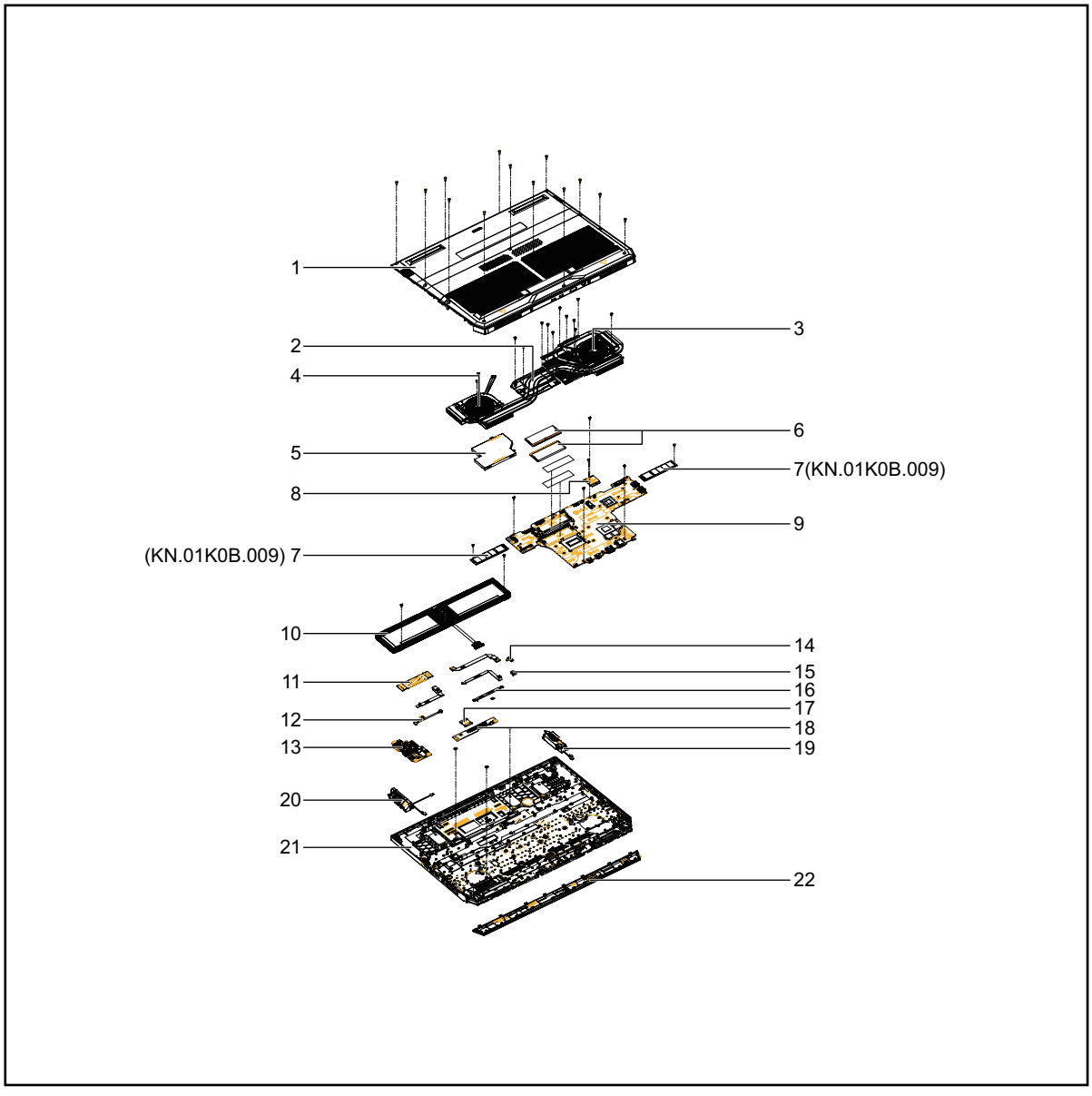

Figure 1-56. Main Assembly Exploded Diagram

Table 1-11. LCD Assembly Exploded Diagram

No.	Acer Description	Acer Part No.
1	LOWER CASE	64.QNSN2.001
2	THERMAL MODULE	24.QNSN2.001
3	RIGHT FAN (VGA Fan)	23.QNPN2.002

Table 1-11. LCD Assembly Exploded Diagram (Continued)

No.	Acer Description	Acer Part No.
4	LEFT FAN (CPU Fan)	23.QNPN2.001
5	DDR SHIELDING	33.QNPN2.003
6	DIMM MODULES	KN.16G07.046
7	SSD MODULES	KN.01K0B.009
8	WLAN MODULE	KE.WF60N.005
9	MAINBOARD	NB.QQW11.001
10	BATTERY	KT.00407.011
11	USB BOARD FFC	50.QNSN2.001
12	WIRE CABLE	50.QNSN2.006
13	USB BOARD	55.QNPN2.001
14	THIRD MICROPHONE BOARD	55.QNPN2.003
15	RUBBER (for 3rd Microphone Board)	N/A
16	MICROPHONE FFC	50.QNSN2.003
17	TRANSFER BOARD FFC	50.QNSN2.005
18	TRANSFER BOARD	55.QNSN2.001
19	RIGHT SPEAKER	23.QNSN2.002
20	LEFT SPEAKER	23.QNSN2.001
21	UPPER CASE	6B.QNSN2.001
22	UPPER STRIP COVER	60.QNSN2.001

Upper Case Assembly

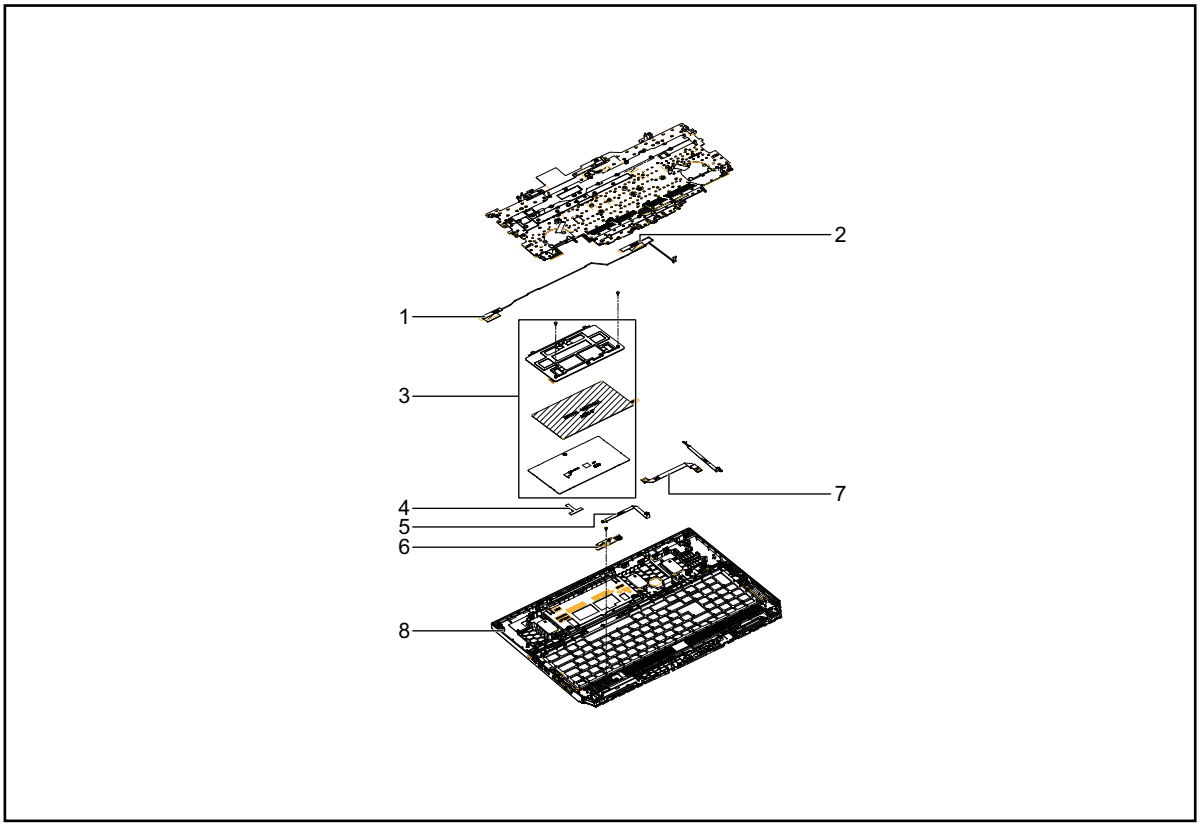

Figure 1-57. Upper Case Assembly Exploded Diagram

Table 1-12. Upper Case Assembly Exploded Diagram

No.	Acer Description	Acer Part No.
1	AUX ANTENNA	50.QNSN2.009
2	MAIN ANTENNA	50.QNSN2.008
3	TOUCHPAD	56.QNSN2.001
4	CONDUCTIVE TAPE	47.QNSN2.001
5	MODE KEY BOARD FFC	50.QNSN2.002
6	MODE KEY BOARD	55.QNPN2.002
7	TOUCHPAD FFC	50.QNSN2.004
8	UPPER CASE	6B.QNSN2.001

LCD Assembly

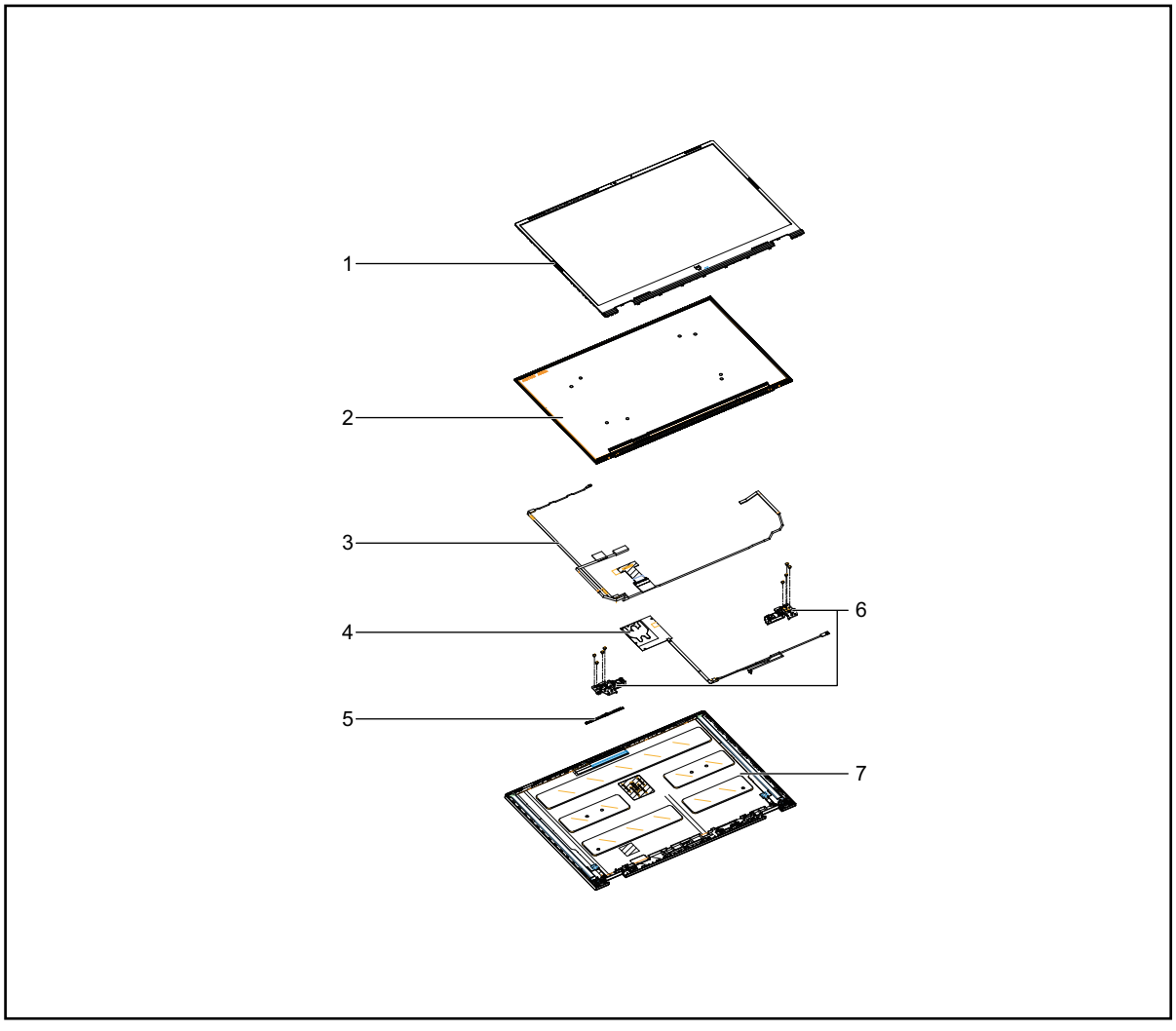

Figure 1-58. LCD Assembly Exploded Diagram

Table 1-13. LCD Assembly Exploded Diagram

No.	Acer Description	Acer Part No.
1	LCD BEZEL	62.QNSN2.001
2	LCD PANEL	KL.18005.017
3	EDP CABLE	50.QNSN2.010
4	LOGO LED CABLE	50.QNSN2.007
5	CMOS AND DUAL MICROPHONE MODULE	KS.FHD06.009
6	LEFT LCD HINGE	33.QNSN2.001
	RIGHT LCD HINGE	33.QNSN2.002
7	LCD COVER	61.QNSN2.001

Software Update

Please visit http://go.acer.com/?id=17883.

Personal Data Removal

There are three options to choose from:

- Option 1: Select **Start** > **Settings** > **Update & Security** > **Recovery**.
  Under **Reset this PC**, select **Get started**. Open **Recovery settings**.
- Option 2: Restart your PC to get to the sign-in screen, then press and hold down the **Shift key** while you select the **Power** icon > **Restart** in the lower-right corner of the screen. After your computer restarts, select **Troubleshoot** > **Reset this PC**.
- Option 3: Select **Start**, then press and hold down the **Shift key** while you select the **Power** icon > **Restart** to restart your computer into Recovery Mode. After your computer restarts, select **Troubleshoot** > **Reset this PC**.