

**Chromebook Plus 515
CBE595-2/CBE595-2T**

Lifecycle Extension Guide

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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:

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.

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

WEEE Annex VII Component

These components are classified as requiring selective treatment:

- WLAN module
- Battery pack
- SSD module
- MCU board
- Touchpad module
- Mainboard
- USB board
- 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 power adapter and remove all cables from the system and its peripherals.



Figure 1-1. Disconnecting the Power Adapter

AC Adapter Removal

1. Disconnect the AC adapter from the system.

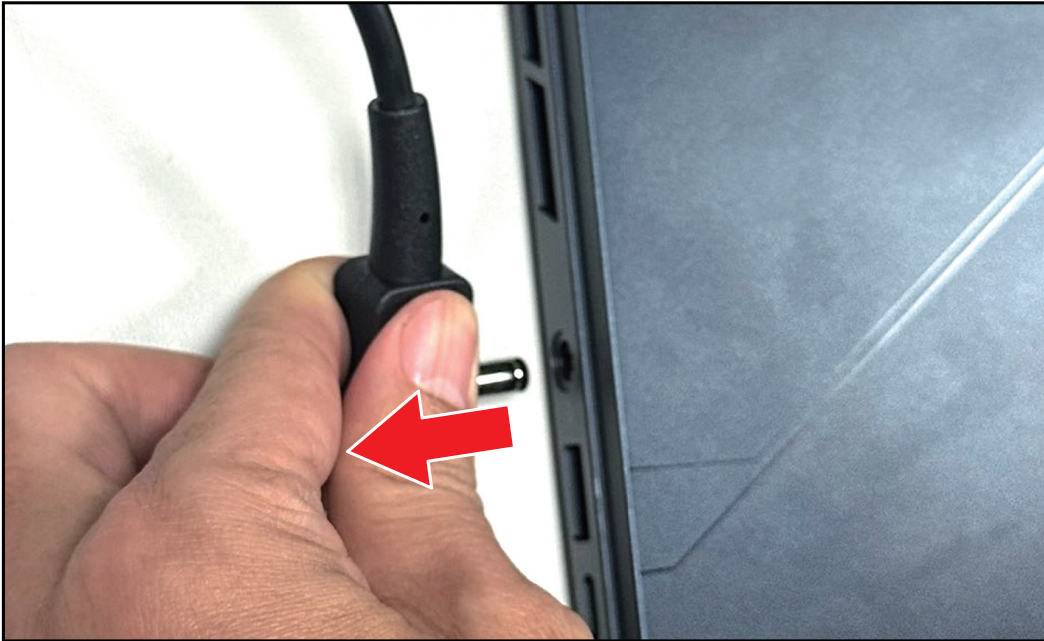


Figure 1-2. Disconnecting the AC Adapter

2. Disconnect the power cord from the AC adapter.



Figure 1-3. Disconnecting the Power Cord

Lower Case Removal

1. Remove the eleven (11) screws securing the lower case to the upper case.



Figure 1-4. Removing the Screws

2. By holding the lower case assembly upright, pry the lower case from the bottom side to release the latches.

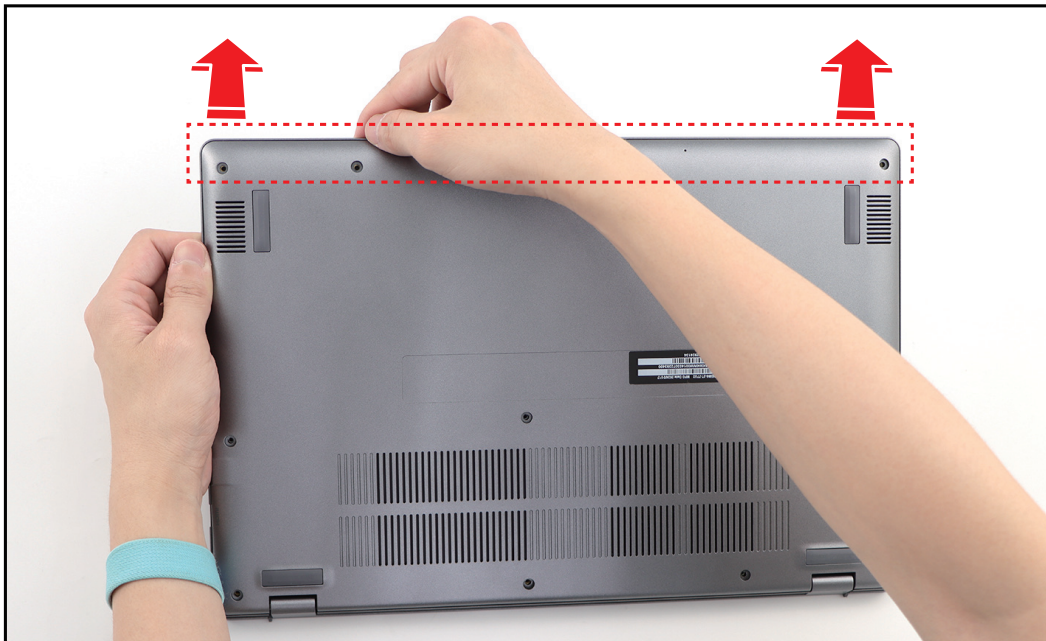


Figure 1-5. Releasing the Lower Case

3. Remove the lower case.

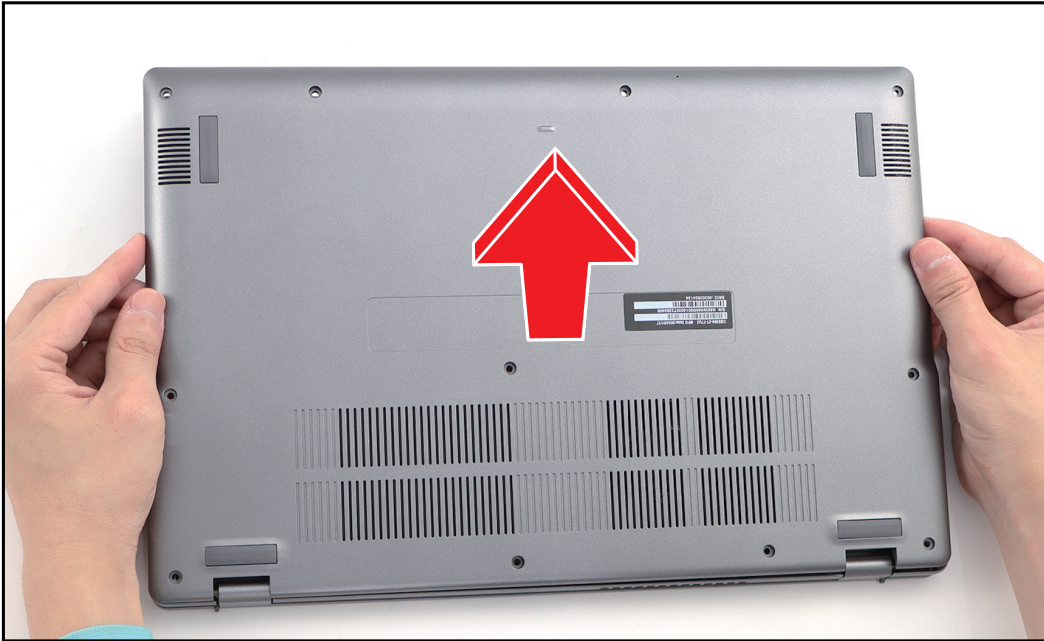


Figure 1-6. Removing the Lower Case

4. Detach the acetate tape securing the battery cable connection.

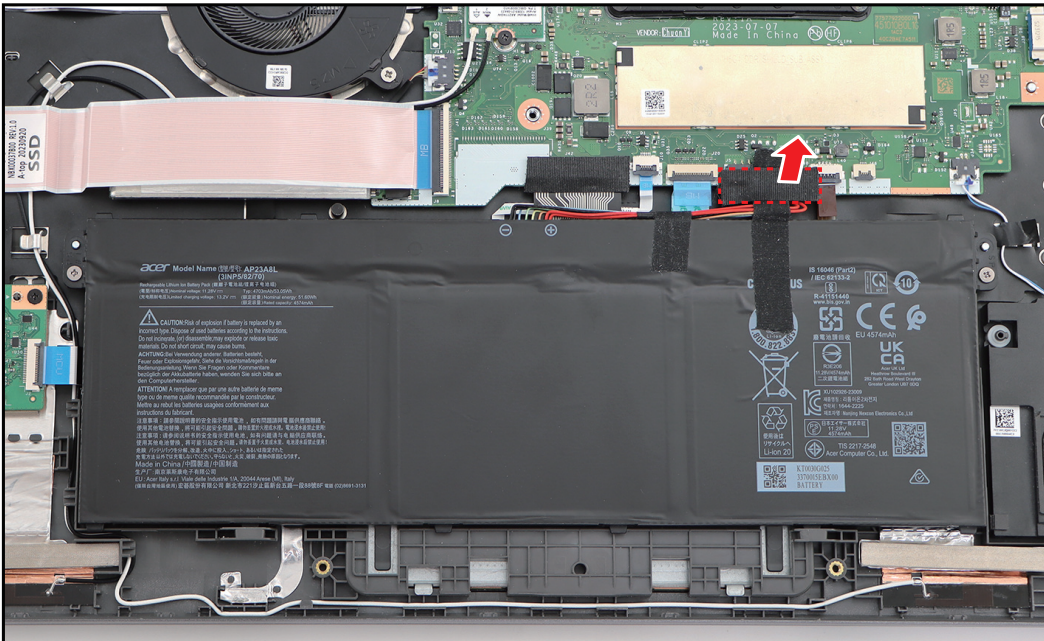


Figure 1-7. Detaching the Acetate Tape (1 of 2)

- Detach another acetate tape securing the battery cable connection.

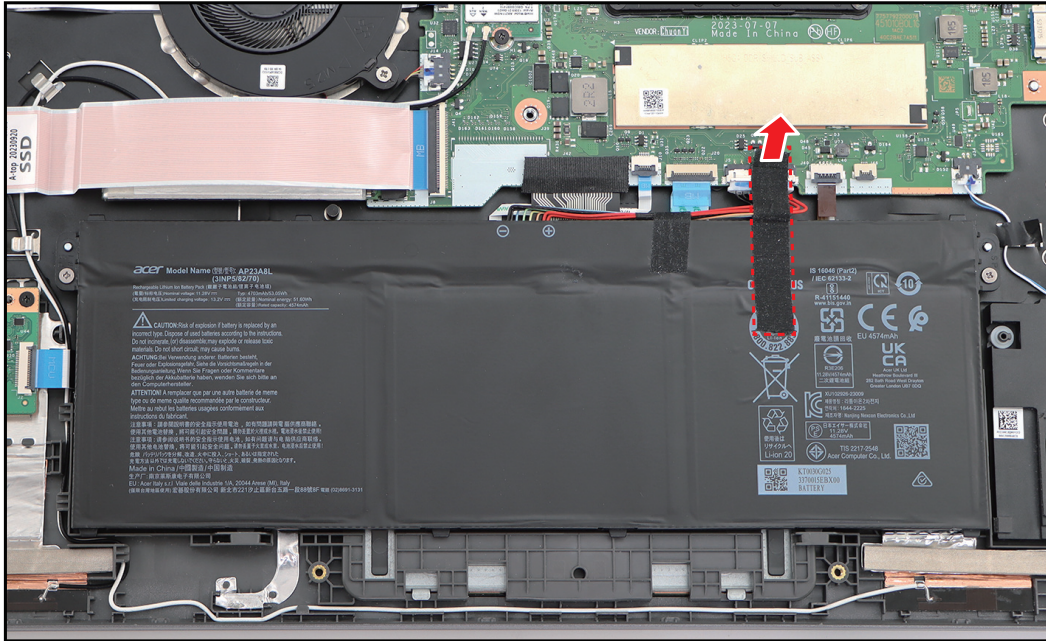


Figure 1-8. Detaching the Acetate Tape (2 of 2)

- Disconnect the battery cable from the mainboard connector.

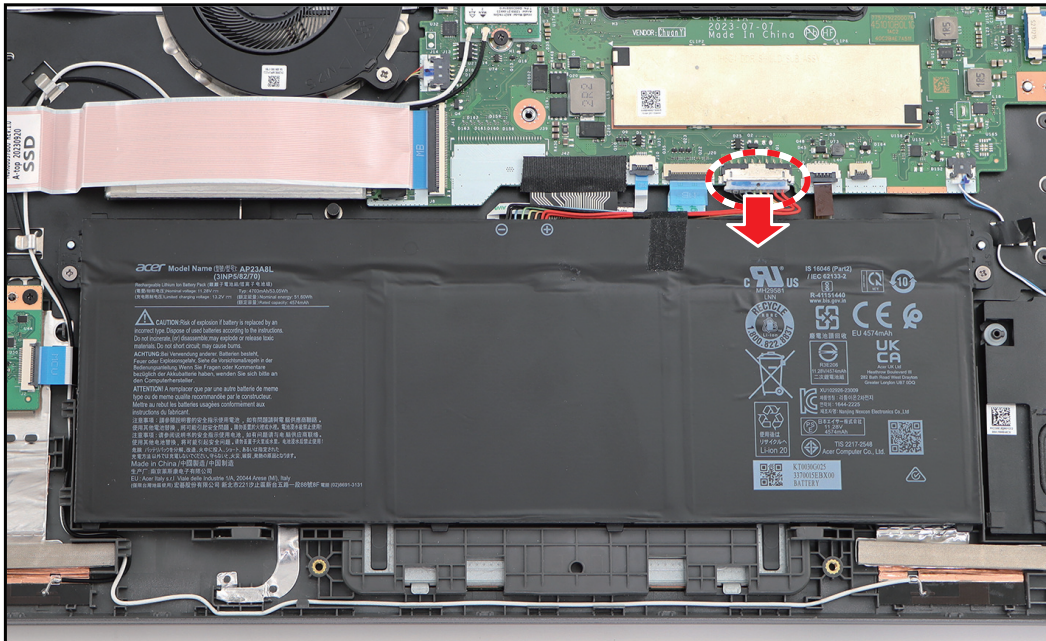



Figure 1-9. Disconnecting the Battery Cable

Table 1-1. Lower Case Screws

Screw Name	Screw Type	Torque	Quantity
M 2.5 x 6.0		2.65~3.45kgf.cm	11

WLAN Module Removal

Prerequisite:

※ [Lower Case Removal](#) on page 1-6

1. Disconnect the WLAN antenna cables.

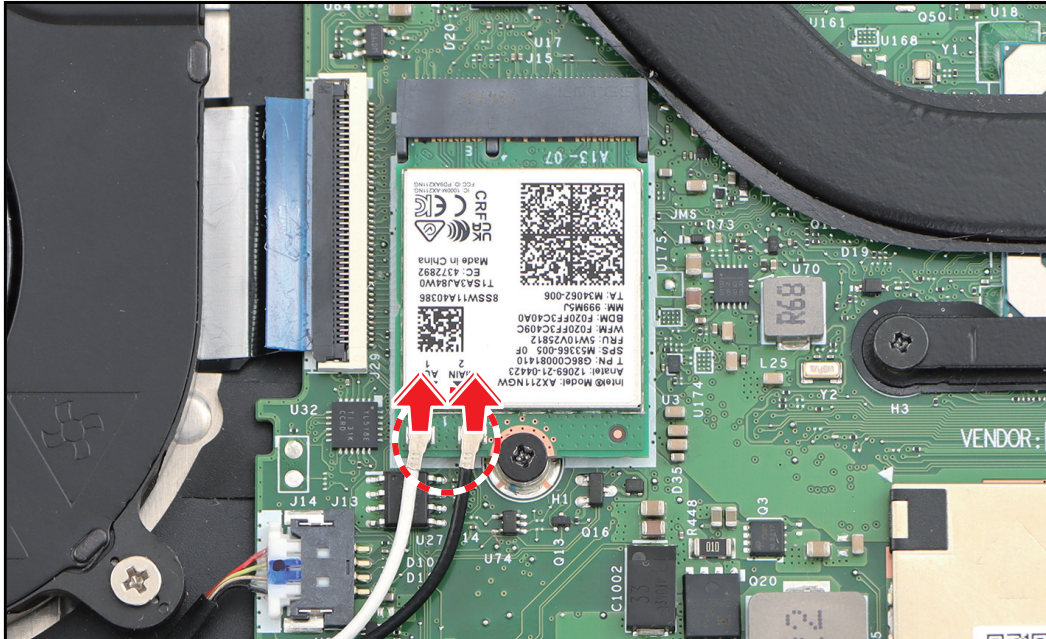


Figure 1-10. Disconnecting the WLAN Antenna Cables

2. Remove the screw securing the WLAN module to the mainboard.

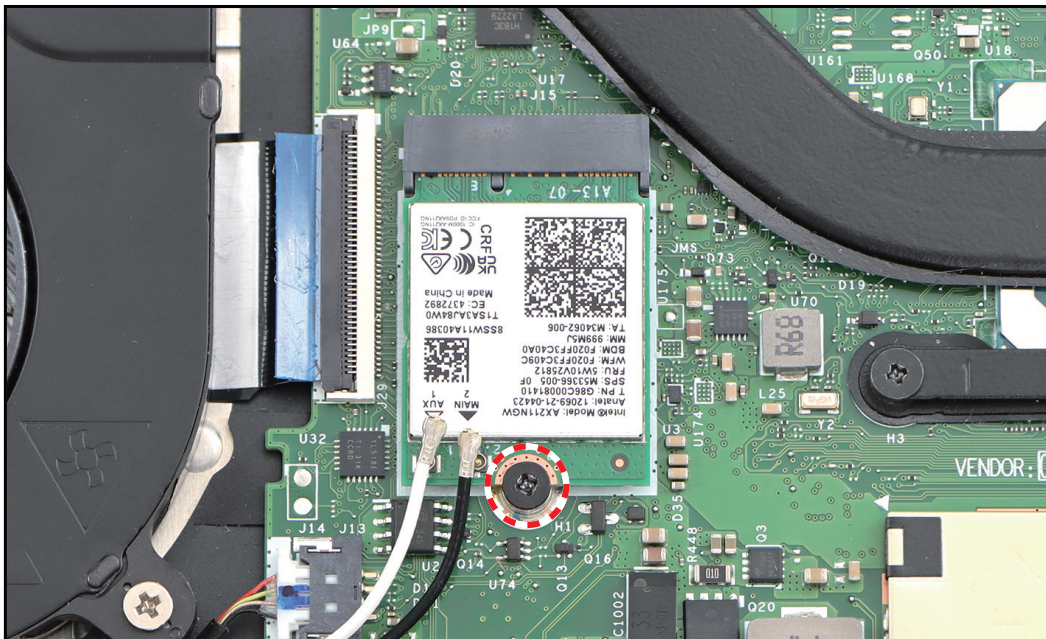


Figure 1-11. Removing the Screw

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

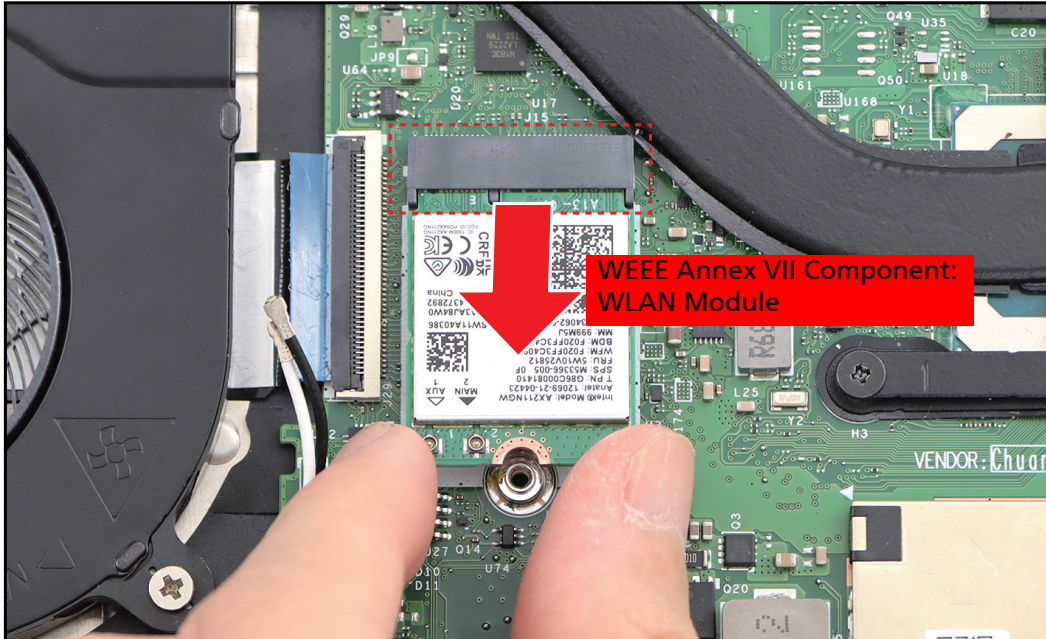



Figure 1-12. Removing the WLAN Module

Table 1-2. WLAN Module Screw

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 2.5		1.8~2.2kgf.cm	1

Battery Removal

Prerequisite:

※ **Lower Case Removal** on page 1-6

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

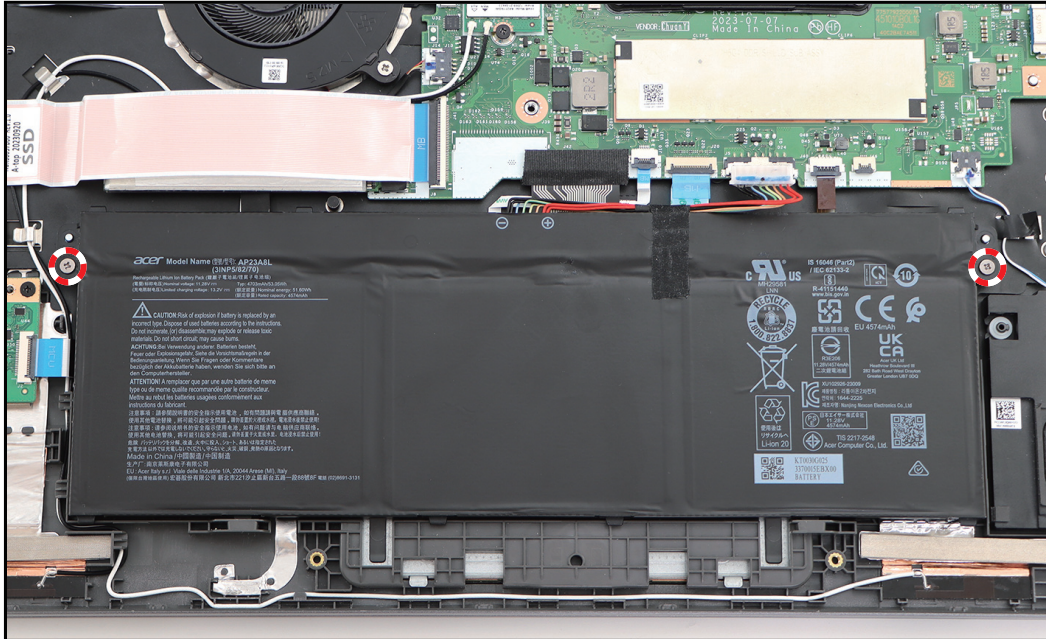


Figure 1-13. Removing the Screws

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.

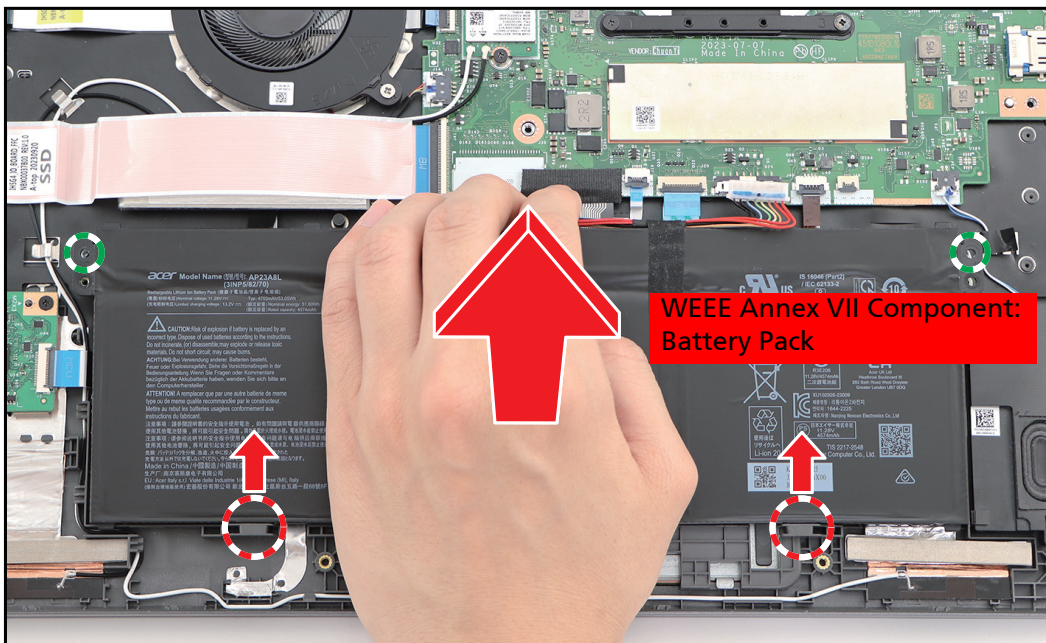



Figure 1-14. Removing the Battery

Table 1-3. Battery Screws

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

SSD Module Removal

Prerequisite:

※ **Lower Case Removal** on page 1-6

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

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



Figure 1-15. Disconnecting and Removing the USB Board FFC

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



Figure 1-16. Removing the Screw

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



Figure 1-17. Removing the SSD Module

4. Remove the shielding foil from the SSD module.

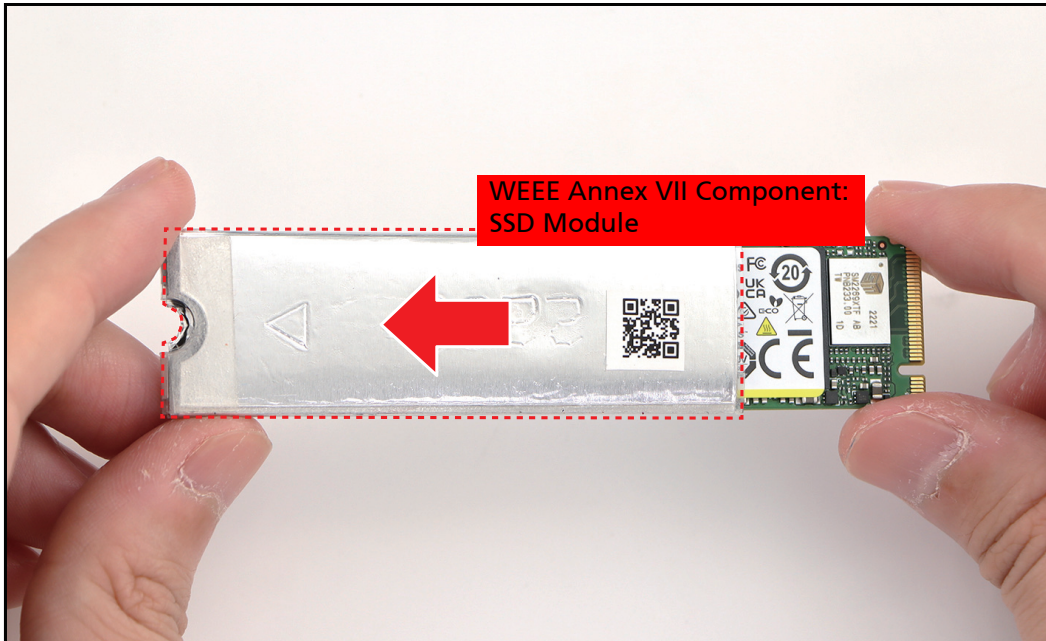



Figure 1-18. Removing the Shielding Foil

Table 1-4. SSD Module Screw

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 2.5		1.8~2.2kgf.cm	1

LCD Module Removal

Prerequisite:

※ [Lower Case Removal](#) on page 1-6

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

1. Lift to open the latch securing the eDP cable.

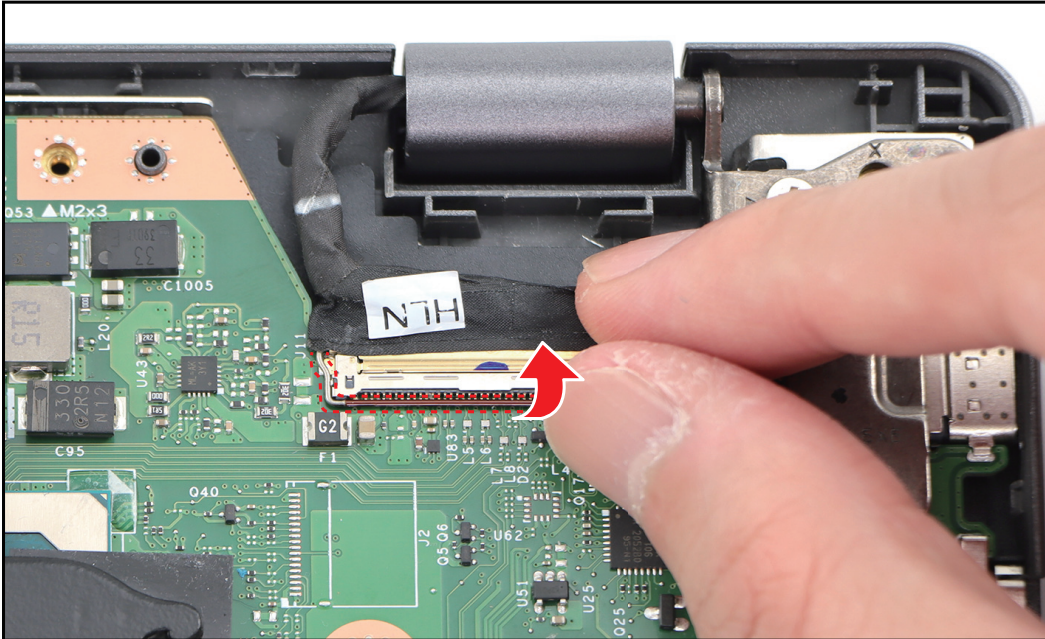


Figure 1-19. Disconnecting the eDP Cable (1 of 2)

2. Disconnect the eDP cable from the mainboard connector. Then unrout the cable from the cable guides as shown in the below illustration.

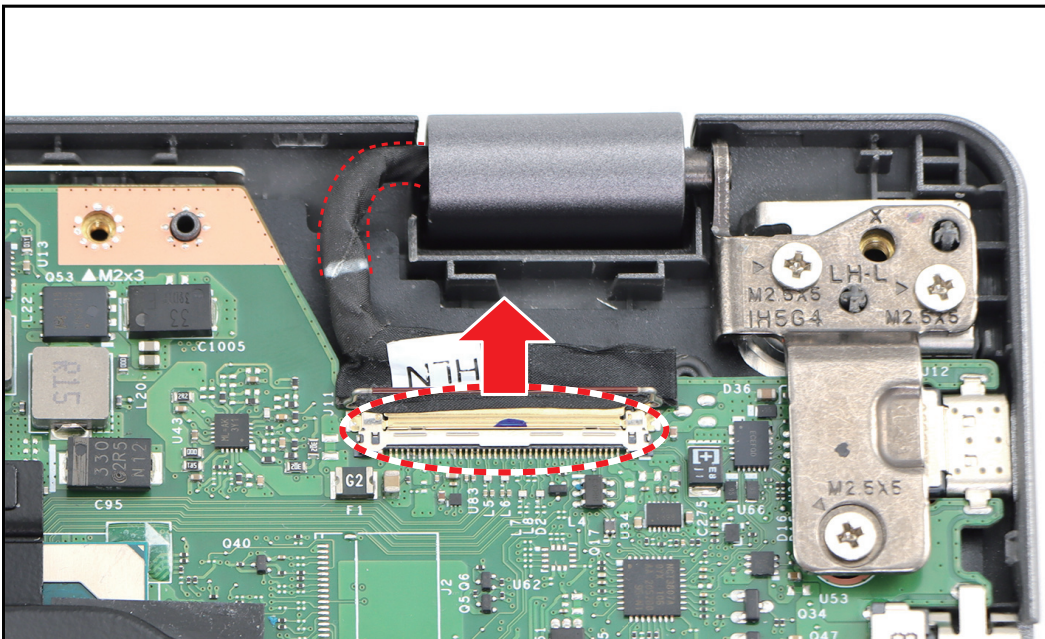


Figure 1-20. Disconnecting the eDP Cable (2 of 2)

- Open the lid in 90° and place the device on a raised surface. Then remove the six (6) screws securing the LCD hinges to the upper case.

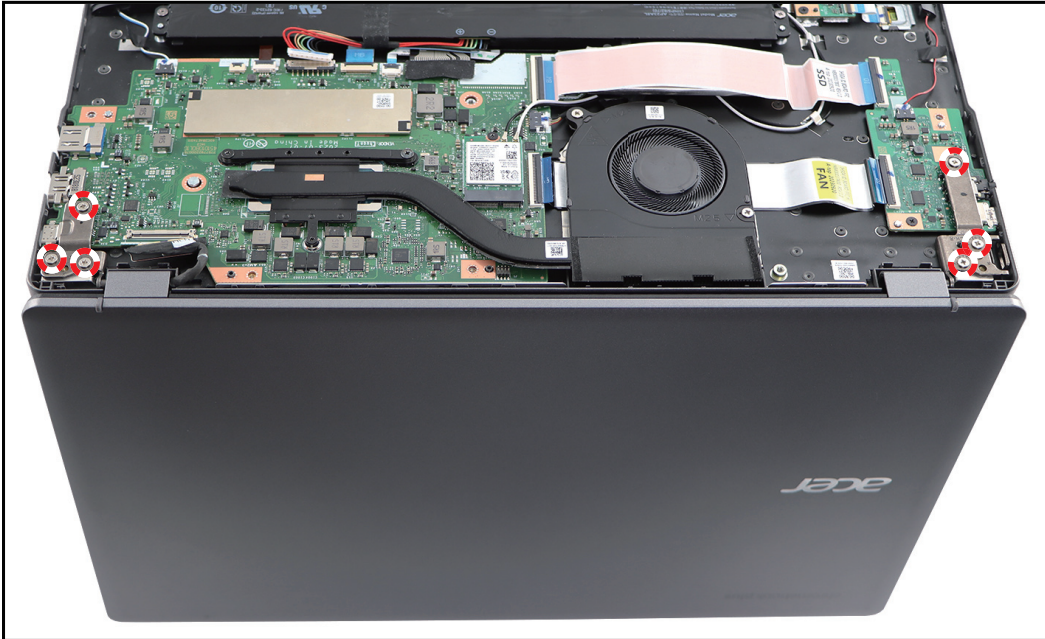


Figure 1-21. Removing the Screws

- Remove the LCD module.

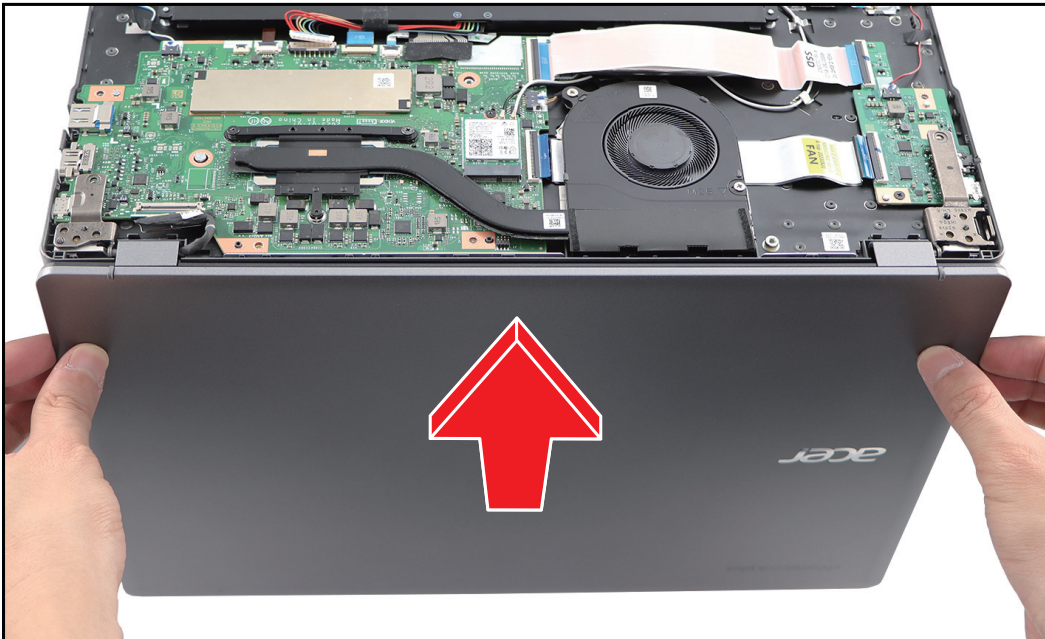



Figure 1-22. Removing the LCD Module

Table 1-5. Hinges Screws

Screw Name	Screw Type	Torque	Quantity
M 2.5 x 5.0		2.65~3.45kgf.cm	6

MCU Board Removal

Prerequisite:

※ [Battery Removal](#) on page 1-11

1. Detach the tape securing the keyboard FPC connection.

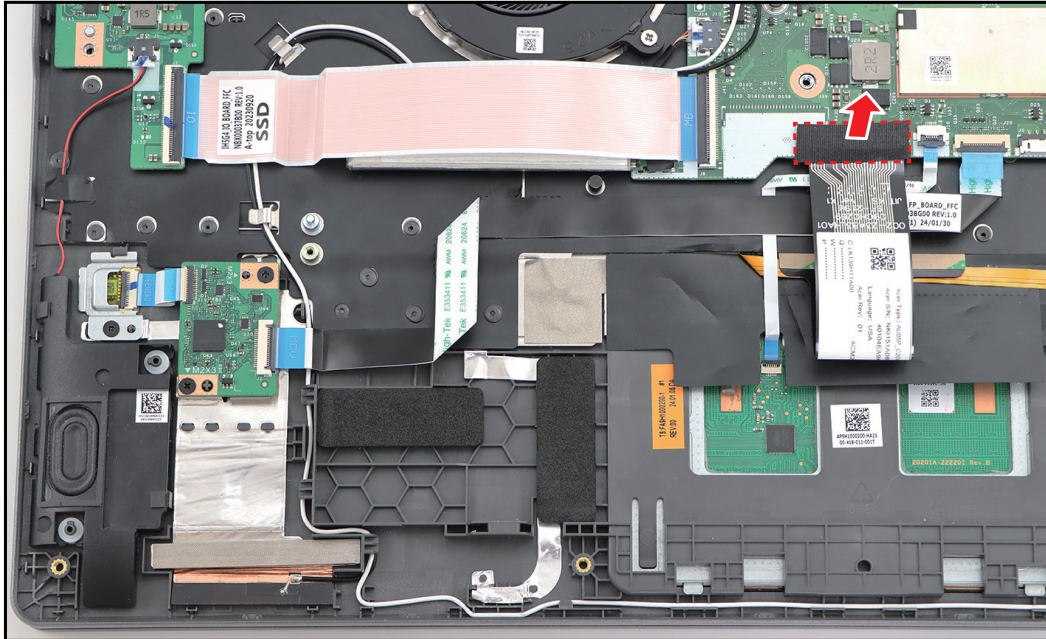


Figure 1-23. Detaching the Tape

2. Release the latch and disconnect the keyboard FPC from the mainboard connector.

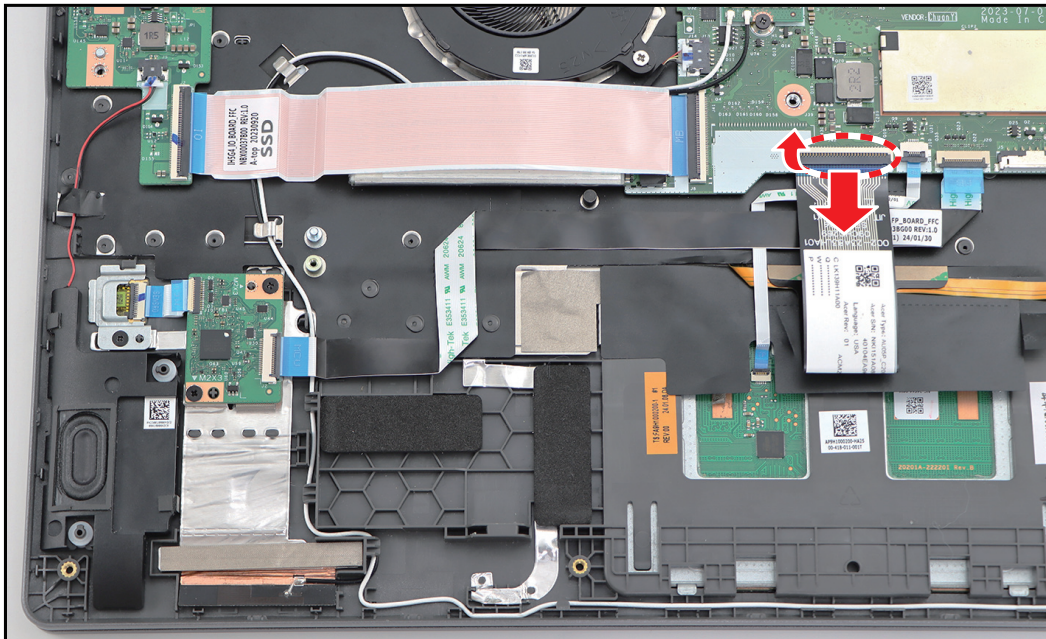


Figure 1-24. Disconnecting the Keyboard FPC

3. Release the latch and disconnect the fingerprint FFC from the MCU board connector.
4. Release the latches and disconnect the MCU board FFC from the mainboard and MCU board connectors. Then remove the MCU board FFC.

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

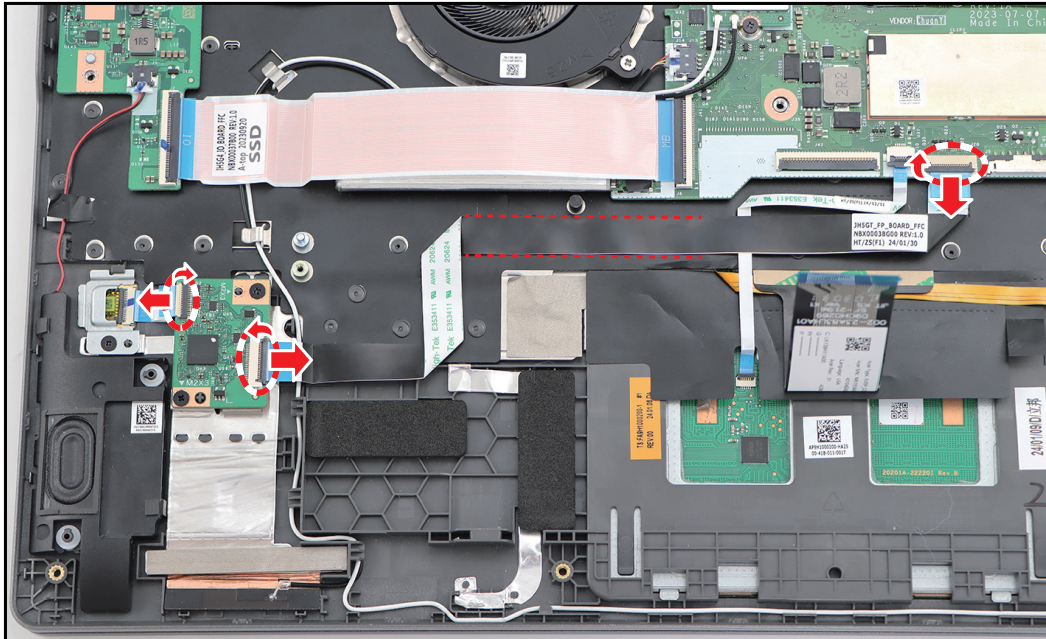


Figure 1-25. Disconnecting the FFCs

5. Remove the two (2) screws securing the MCU board to the upper case.

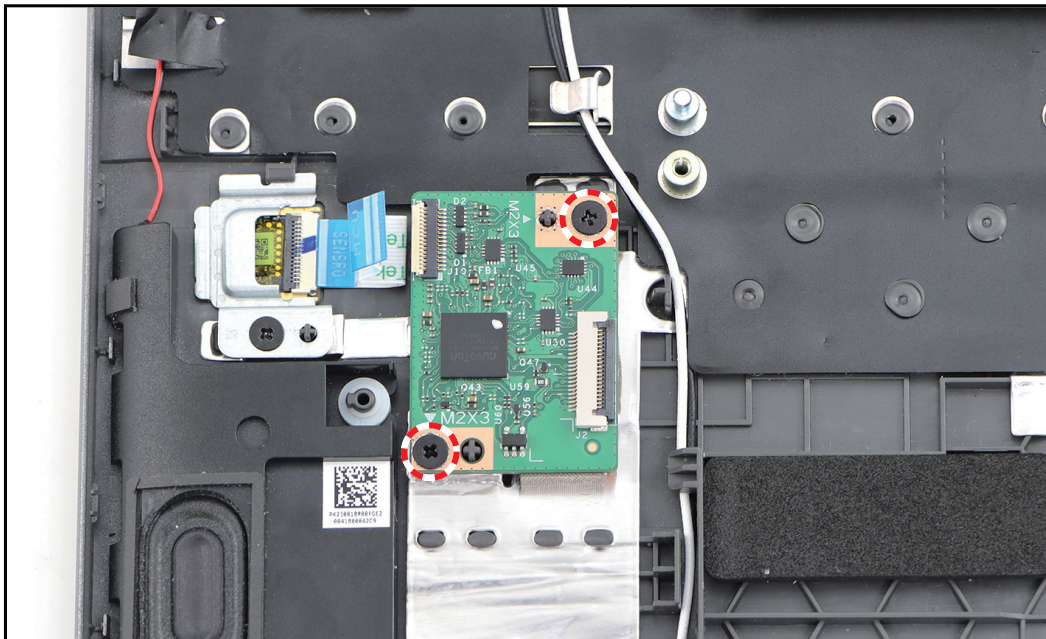


Figure 1-26. Removing the Screws

- Lift to release the MCU board from the guide pins. Then remove the MCU board from the upper case.

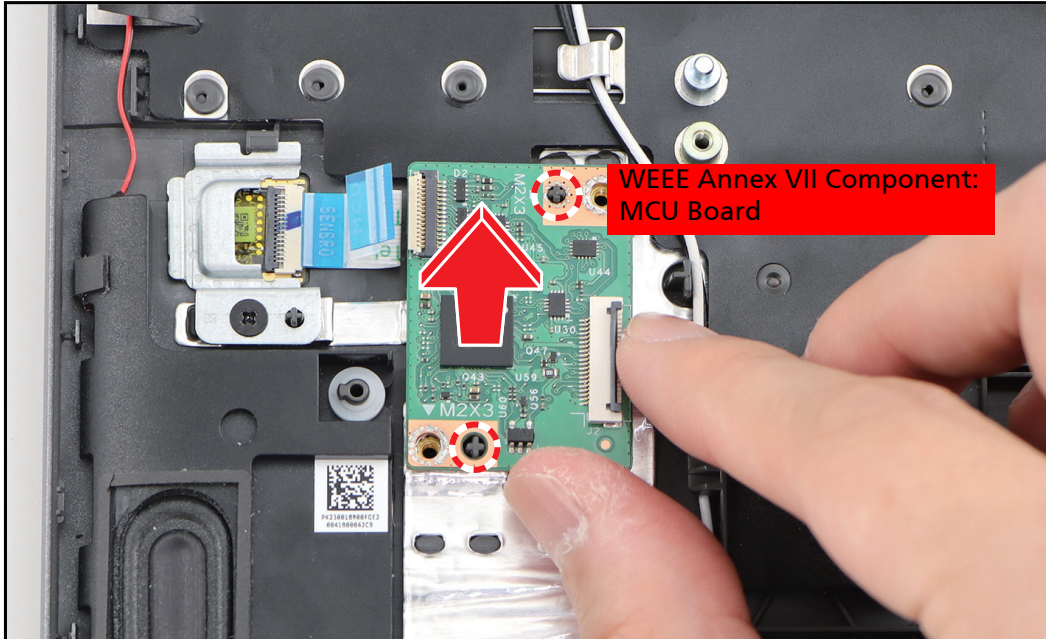



Figure 1-27. Removing the MCU Board

Table 1-6. MCU Board Screws

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 3.0		1.8~2.2kgf.cm	2

Touchpad Removal

Prerequisite:

※ [Battery Removal](#) on page 1-11

1. Detach the tape securing the keyboard FPC connection.

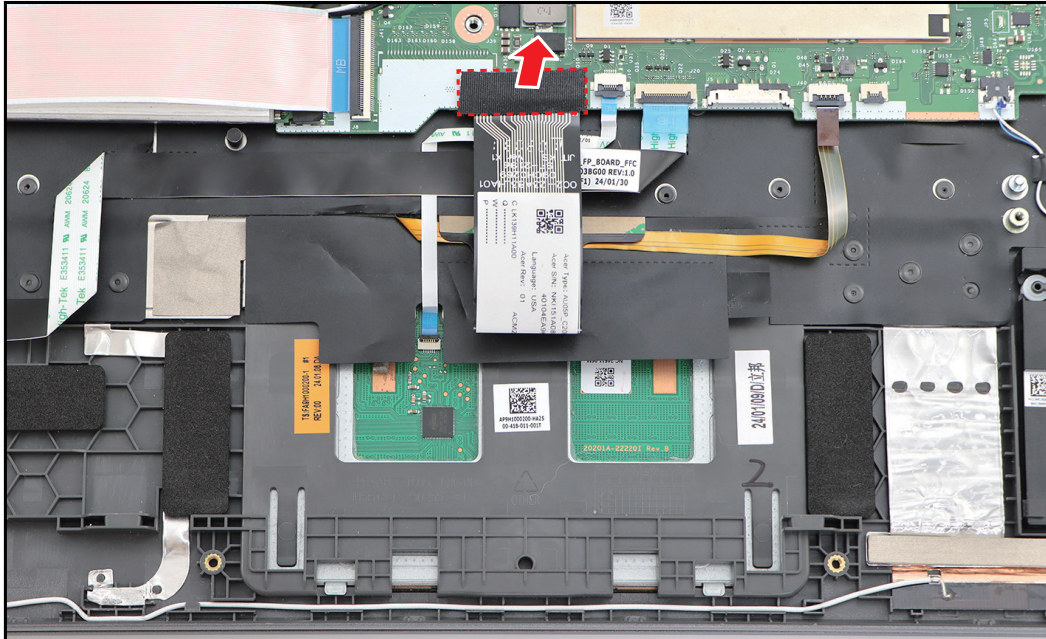


Figure 1-28. Detaching the Tape

2. Release the latch and disconnect the keyboard FPC from the mainboard connector.

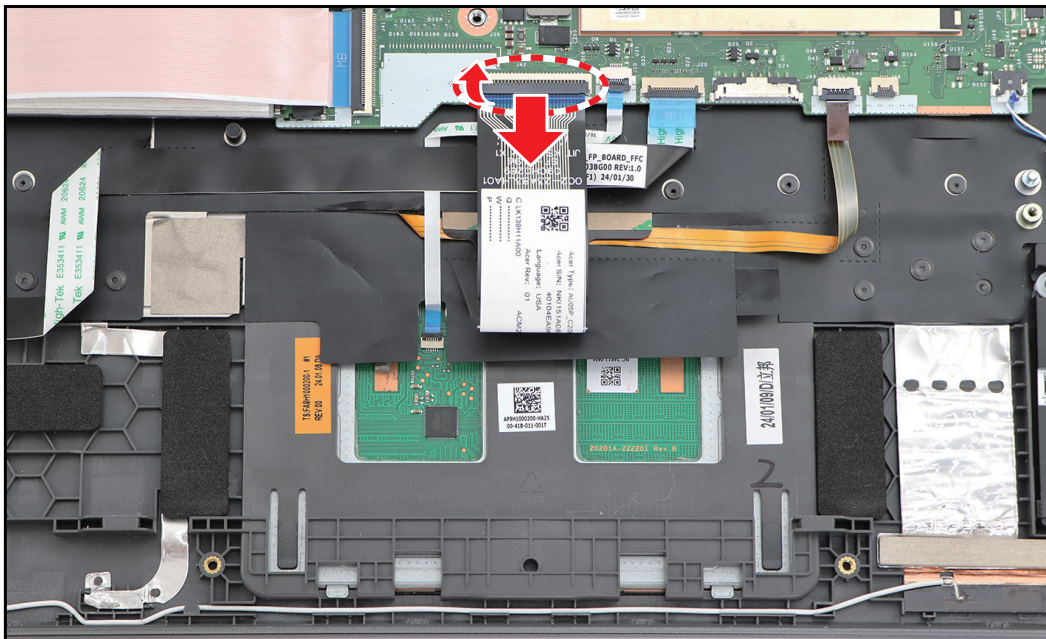


Figure 1-29. Disconnecting the Keyboard FPC

3. Release the latch and disconnect the MCU board FFC from the mainboard connector.

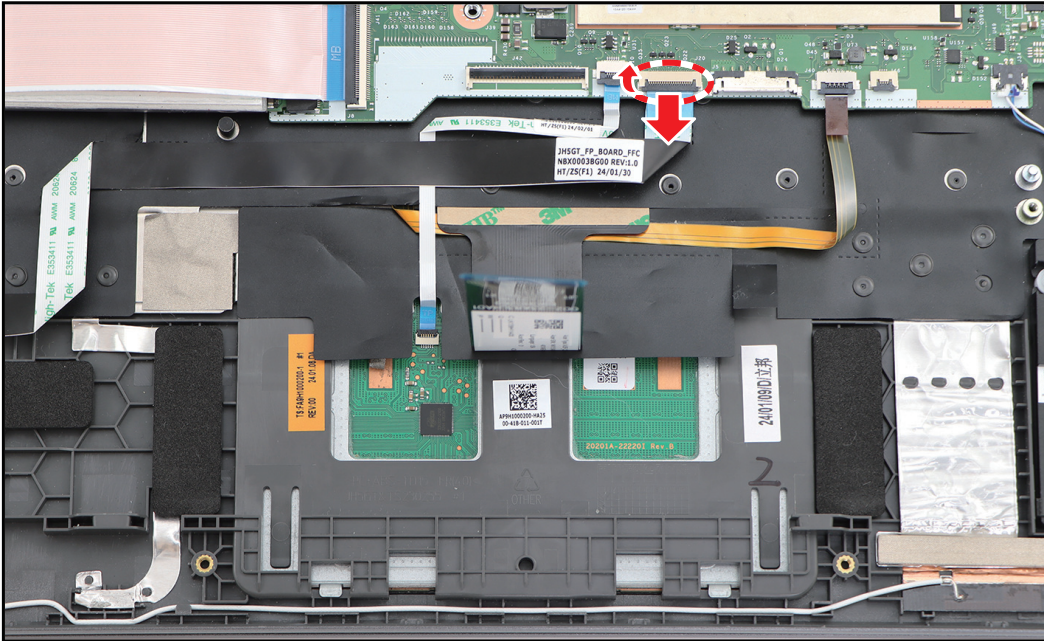


Figure 1-30. Disconnecting the MCU Board FFC

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

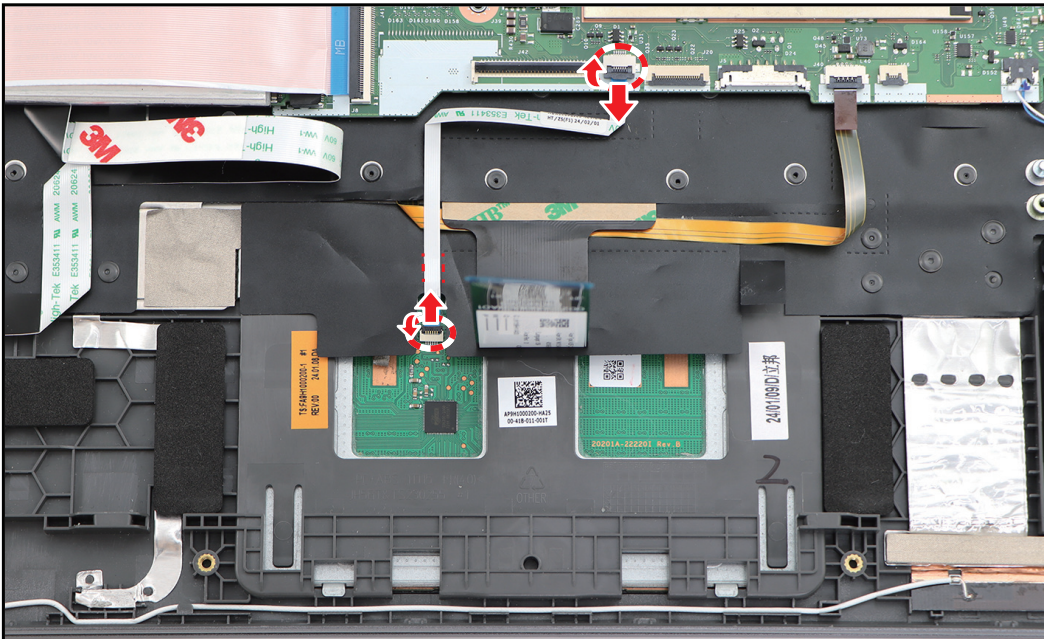


Figure 1-31. Disconnecting and Removing the Touchpad FFC

5. Lift the mylar. Then detach the conductive tape from the touchpad and upper case.

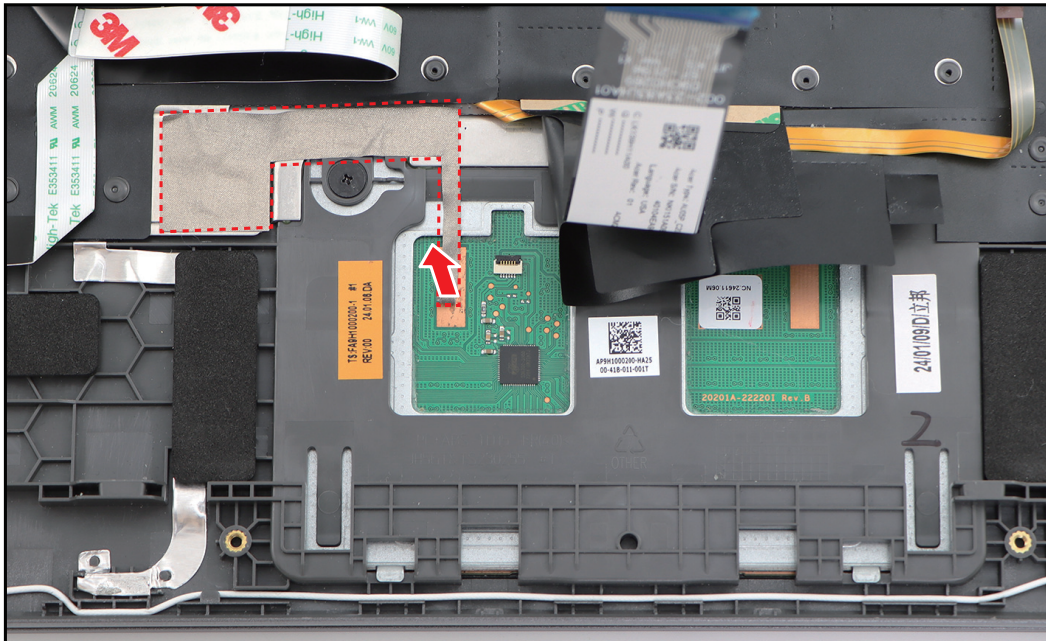


Figure 1-32. Detaching the Conductive Tape

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

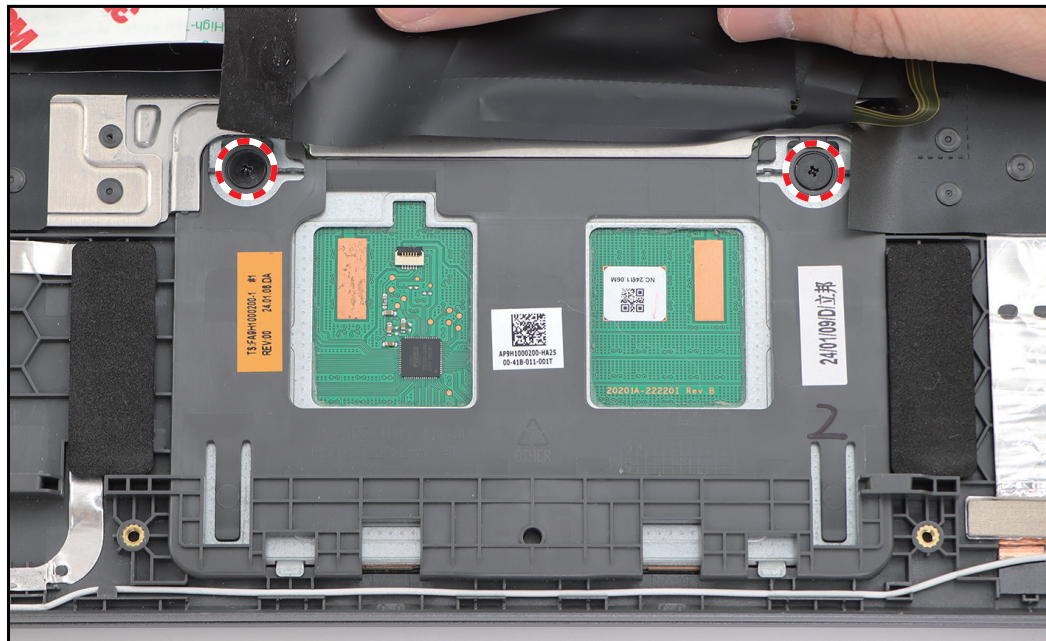


Figure 1-33. Removing the Screws

7. Push the touchpad slightly to release it from its compartment. Then slide the touchpad module upward to disengage it from the bottom tabs. Remove the touchpad.

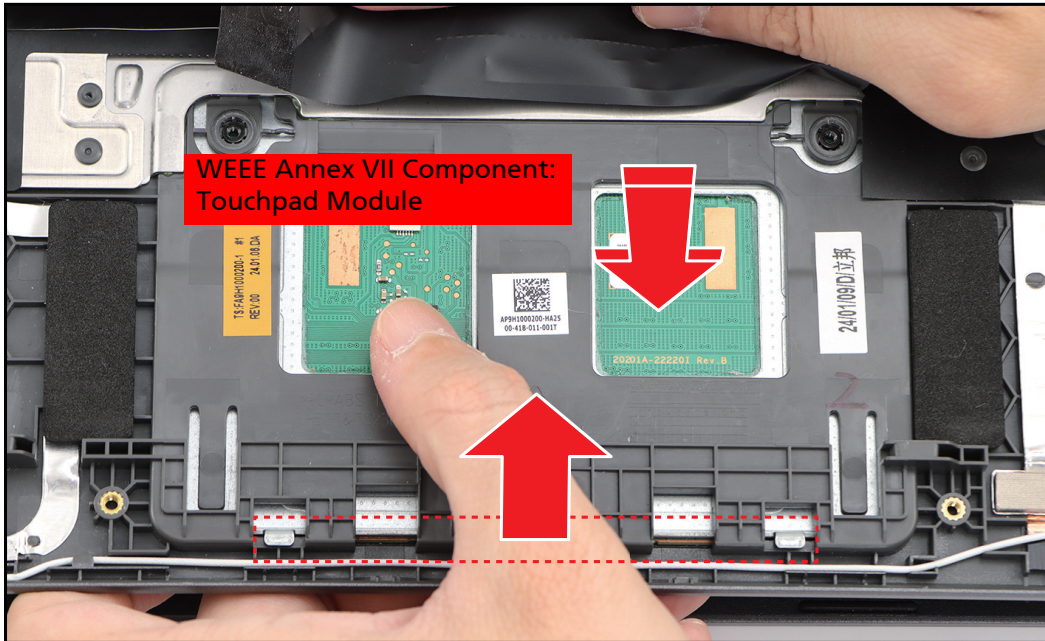



Figure 1-34. Removing the Touchpad

Table 1-7. Touchpad Screws

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

Mainboard Removal

Prerequisite:

- * [WLAN Module Removal](#) on page 1-9
- * Thermal Module Removal
- * [Battery Removal](#) on page 1-11
- * [LCD Module Removal](#) on page 1-16
- * Fan Module Removal

1. Detach the tape securing the keyboard FPC connection.

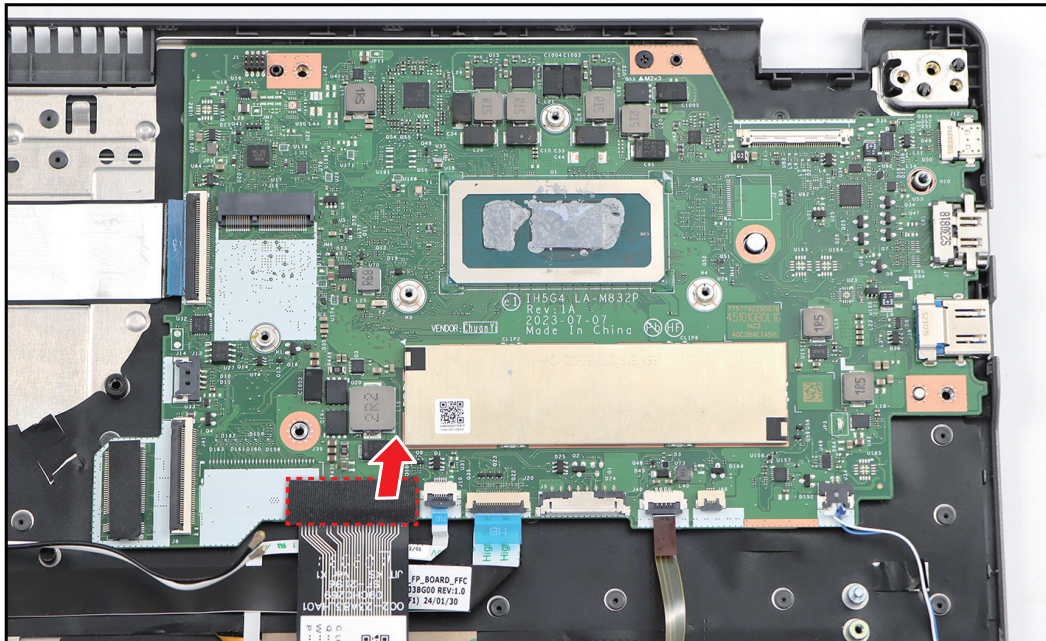


Figure 1-35. Detaching the Tape

2. Release the latch (if necessary) and disconnect the following cables from the mainboard connectors:
 - Keyboard FPC (A)
 - Touchpad FFC (B)
 - MCU Board FFC (C)
 - Keyboard backlight FPC (D)
 - Left speaker cable (E)
 - USB board H FFC (F)

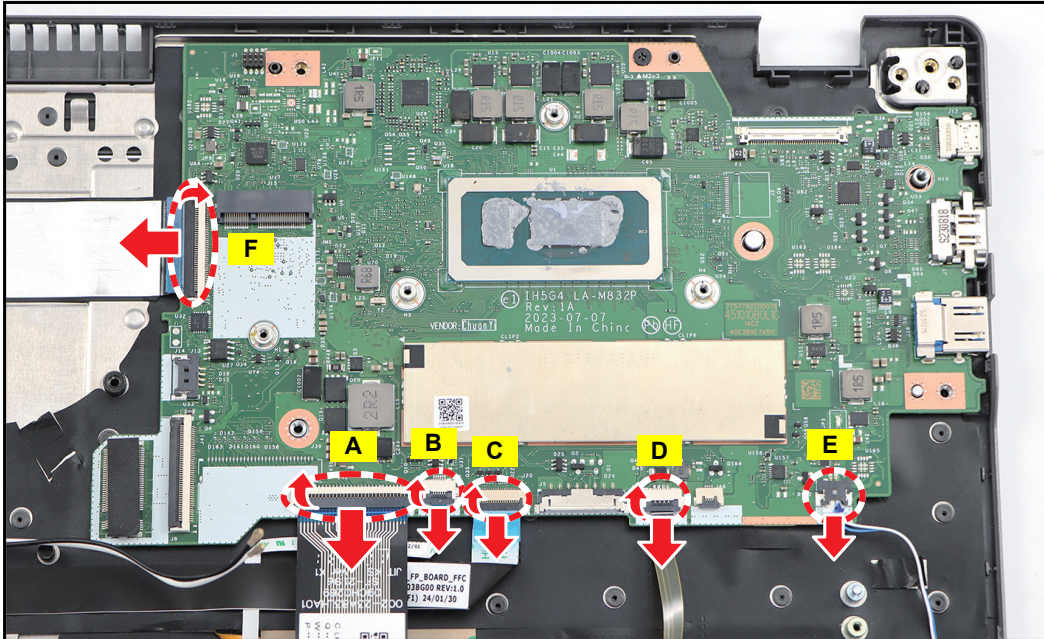


Figure 1-36. Disconnecting the Cables

3. Remove the screw securing the mainboard to the upper case.

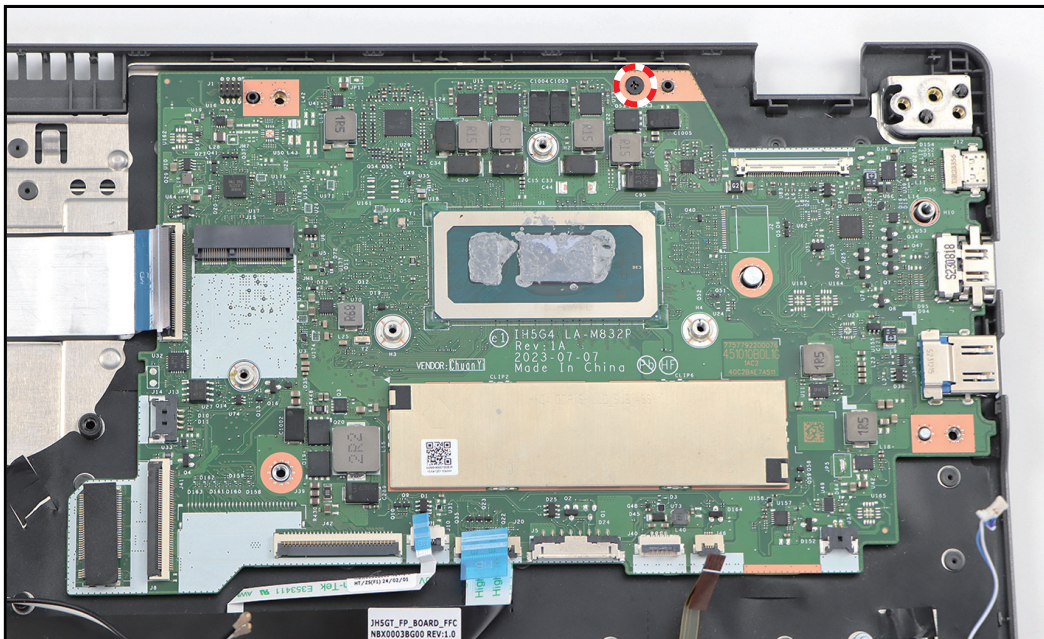



Figure 1-37. Removing the Screw

4. Slightly lift the mainboard to release it from the guide pins. Then slide the mainboard to release the I/O connectors from their slots on the upper case. Remove the mainboard.



Figure 1-38. Removing the Mainboard

Table 1-8. Mainboard Screw

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

USB Board Removal

Prerequisite:

- ※ [LCD Module Removal](#) on page 1-16
- ※ Fan Module Removal

1. Disconnect the right speaker cable from the USB board connector.
2. Release the latches and disconnect the USB board H FFC from the mainboard and USB board connectors. Then remove the USB board H FFC.

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

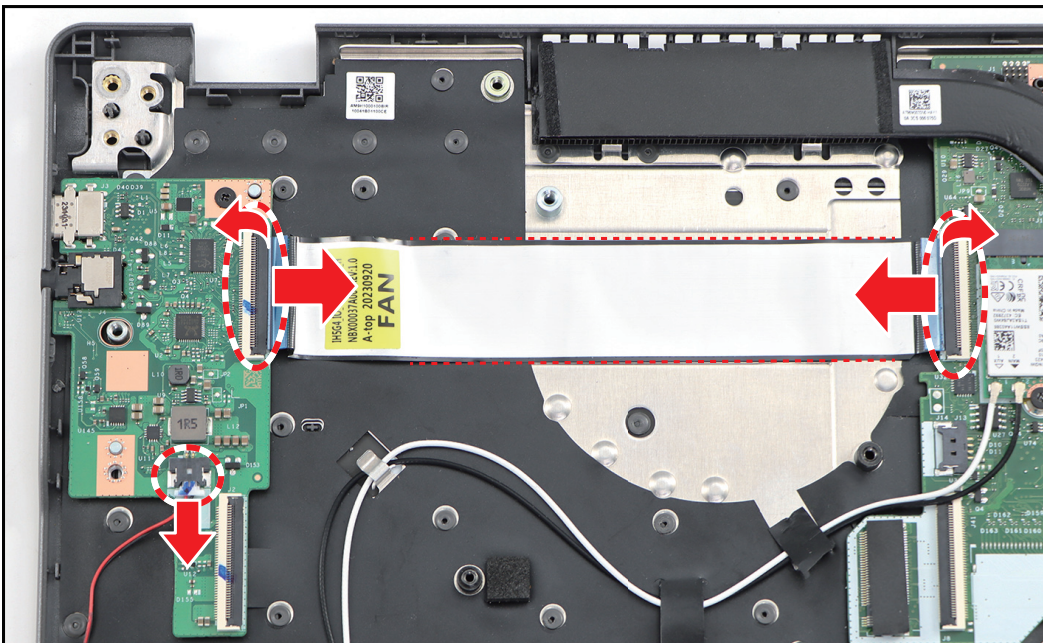


Figure 1-39. Disconnecting the Speaker Cable and USB Board H FFC

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

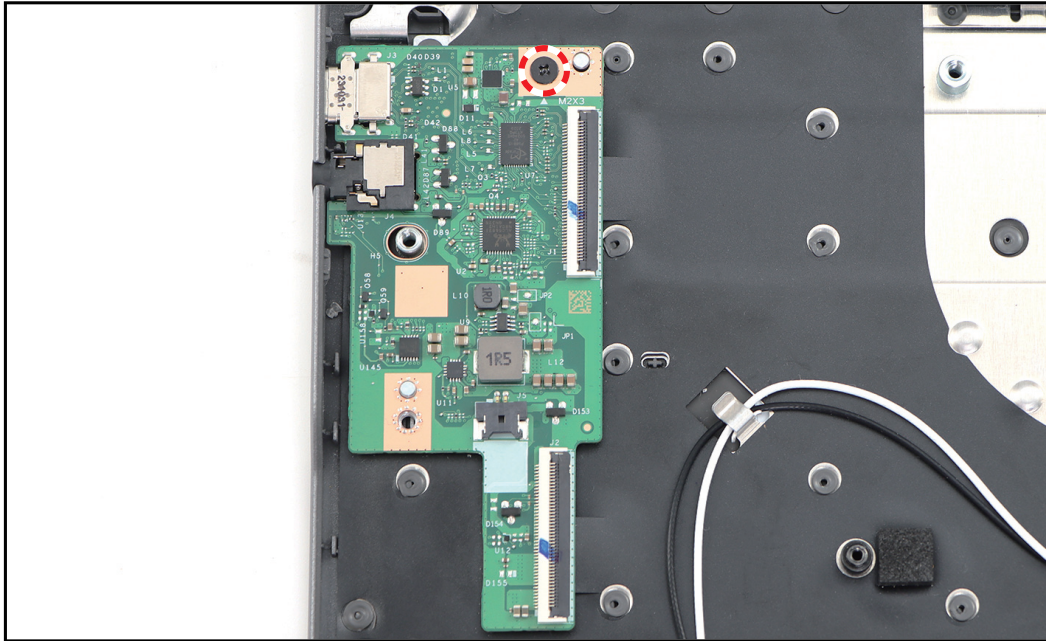


Figure 1-40. Removing the Screw

4. Slightly lift the USB board to release it from the guide pins. Then slide the USB board to release the I/O connectors from their slots on the upper case. Remove the USB board.

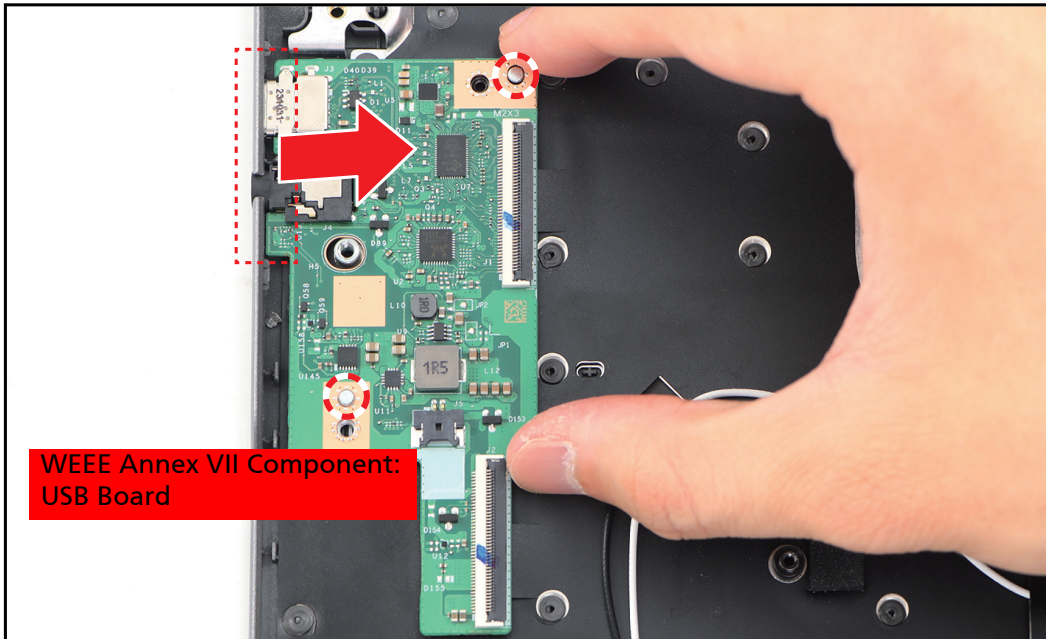



Figure 1-41. Removing the USB Board

Table 1-9. USB Board Screw

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

LCD Bezel Removal

Prerequisite:

※ [LCD Module Removal](#) on page 1-16

1. Flatten the LCD hinges as shown in the below illustration.



Figure 1-42. Flattening the LCD Hinges

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

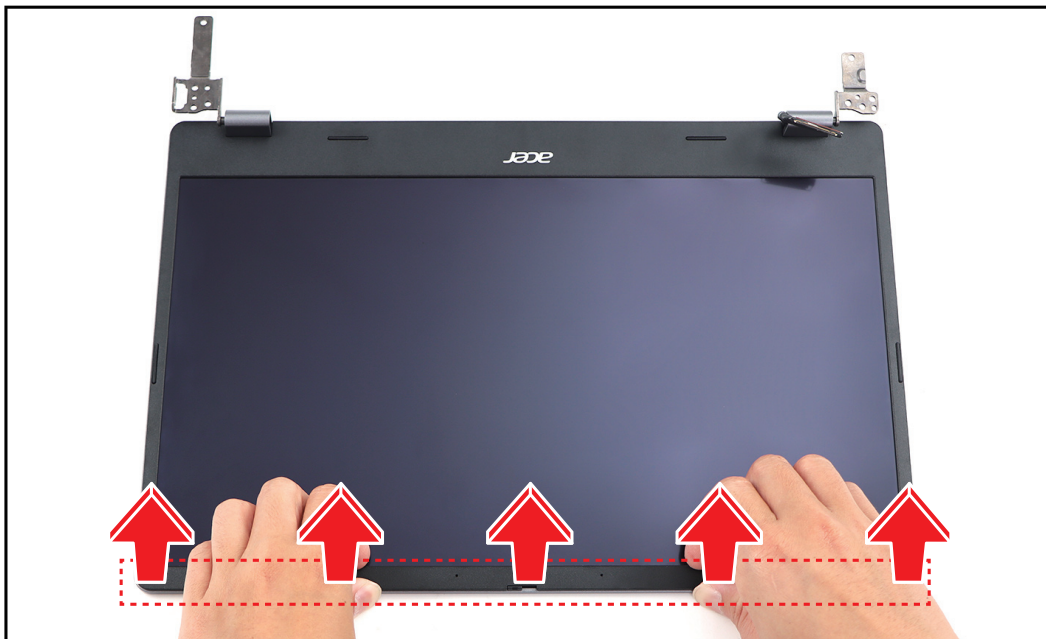


Figure 1-43. Removing the LCD Bezel (1 of 4)

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

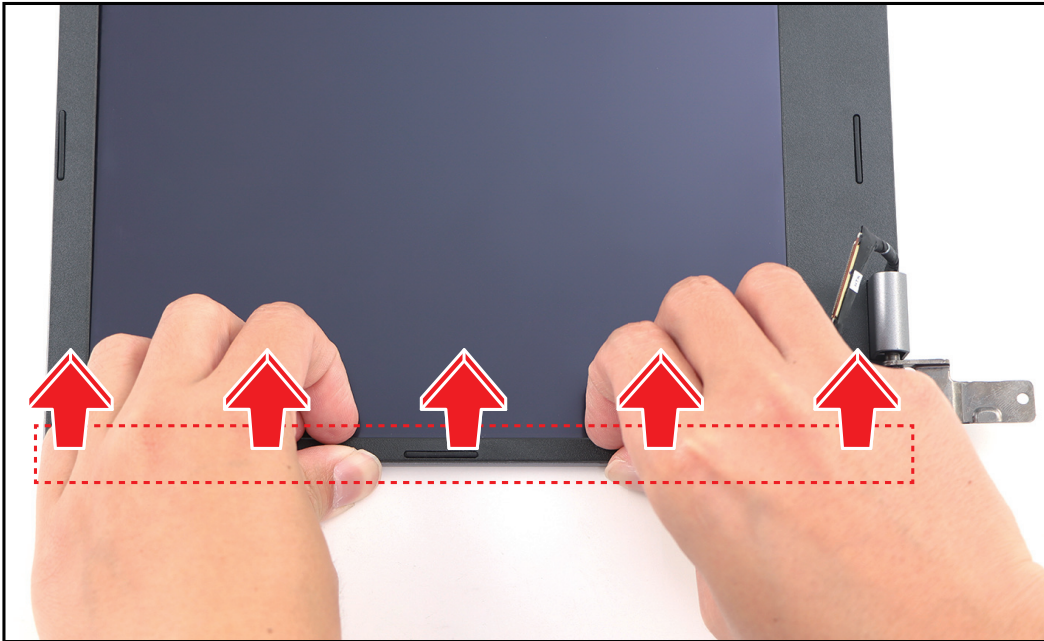


Figure 1-44. Removing the LCD Bezel (2 of 4)

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

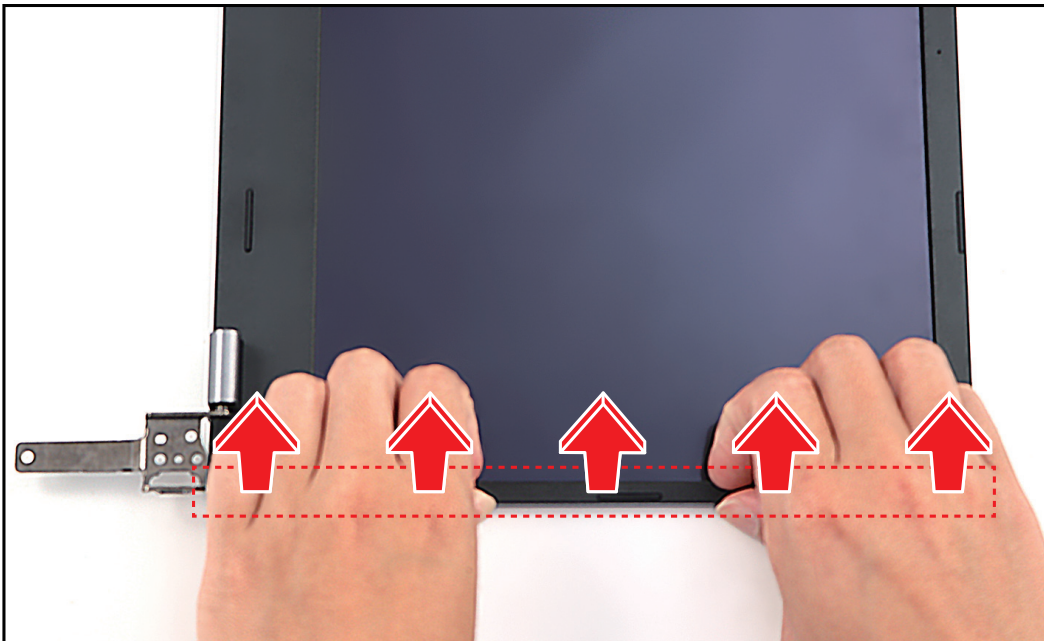


Figure 1-45. Removing the LCD Bezel (3 of 4)

5. Continue to pry the bottom side latches. Then remove the LCD bezel.

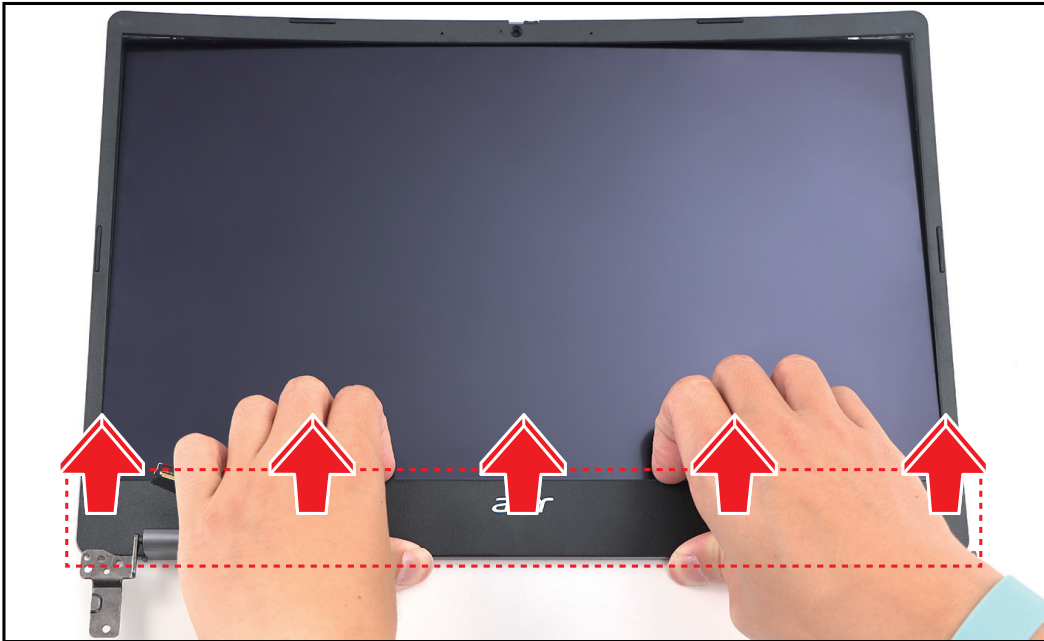


Figure 1-46. Removing the LCD Bezel (4 of 4)

LCD Hinges Removal

Prerequisite:

※ [LCD Bezel Removal](#) on page 1-30

1. Remove the six (6) screws securing the LCD hinges to the LCD cover.



Figure 1-47. Removing the Screws

2. Firmly push the left LCD hinge inward to release it from the hook on the LCD cover. Then remove the left LCD hinge.

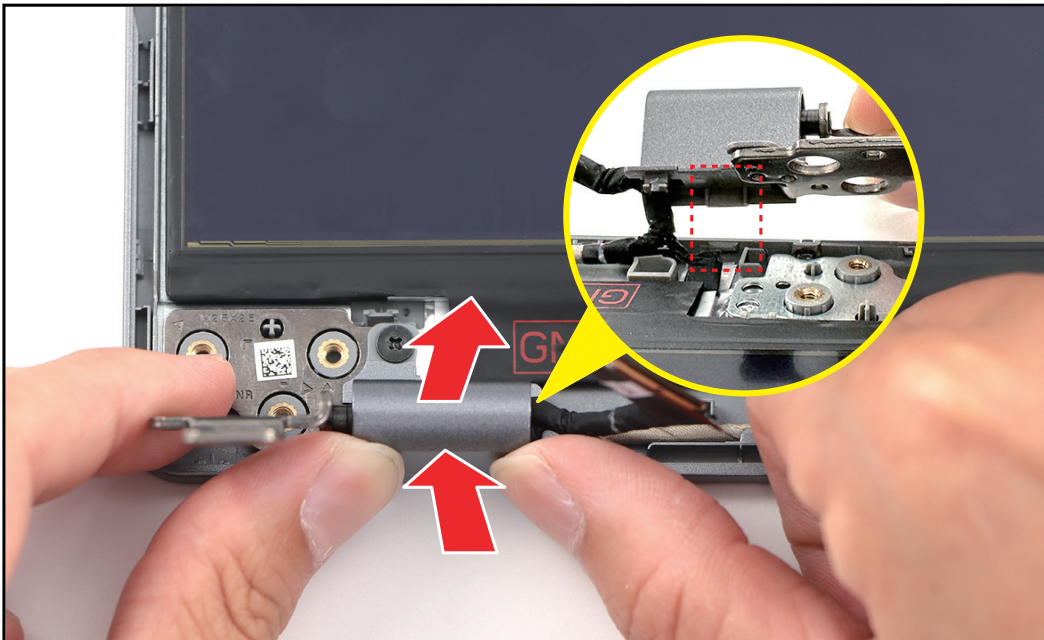


Figure 1-48. Removing the Left LCD Hinge

3. Firmly push the right LCD hinge inward to release it from the hook on the LCD cover. Then remove the right LCD hinge.

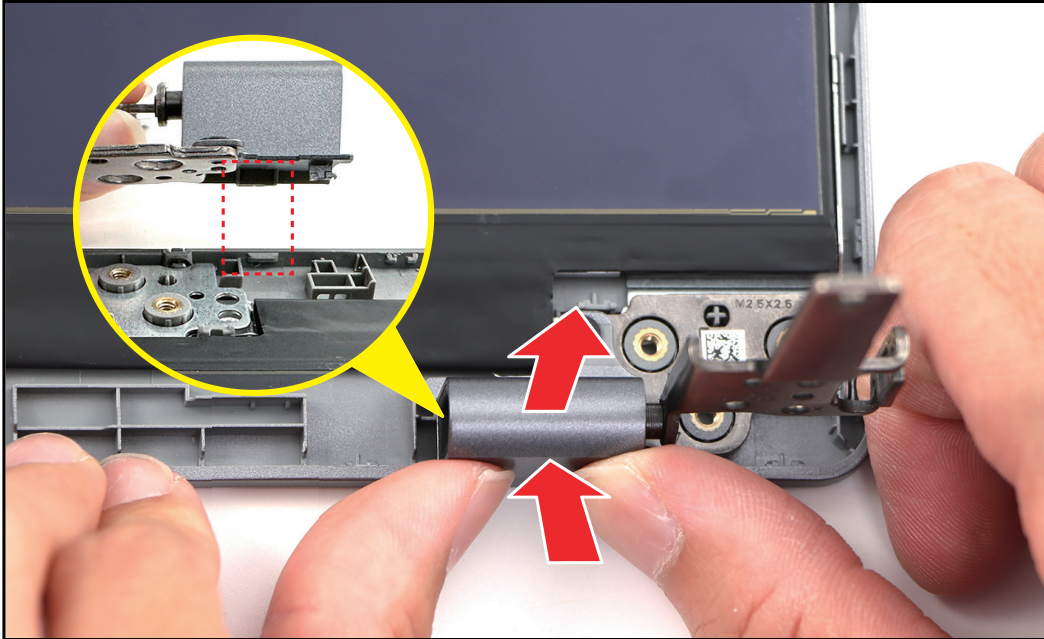


Figure 1-49. Removing the Right LCD Hinge

4. Remove the screw securing the left hinge cap to the left LCD hinge.



Figure 1-50. Removing the Screw

5. Slightly lift the left hinge cap to release the LCD hinge from the guide pins on the hinge cap. Then pull to remove the left LCD hinge cap.

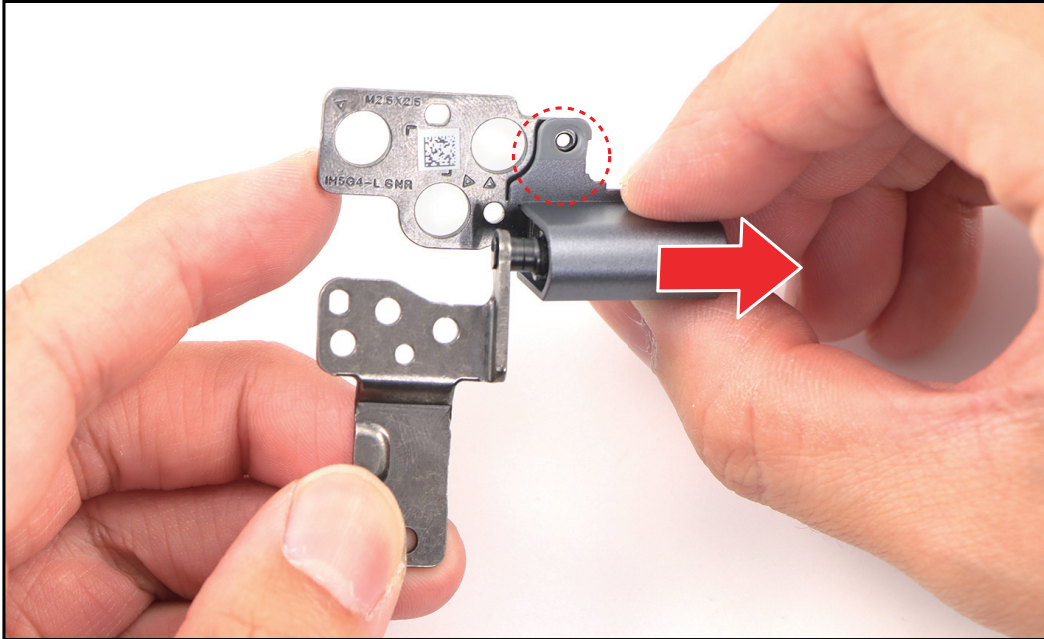


Figure 1-51. Removing the Left LCD Hinge Cap

6. Remove the screw securing the right hinge cap to the right LCD hinge.



Figure 1-52. Removing the Screw

7. Slightly lift the right hinge cap to release the LCD hinge from the guide pins on the hinge cap. Then pull to remove the right LCD hinge cap.

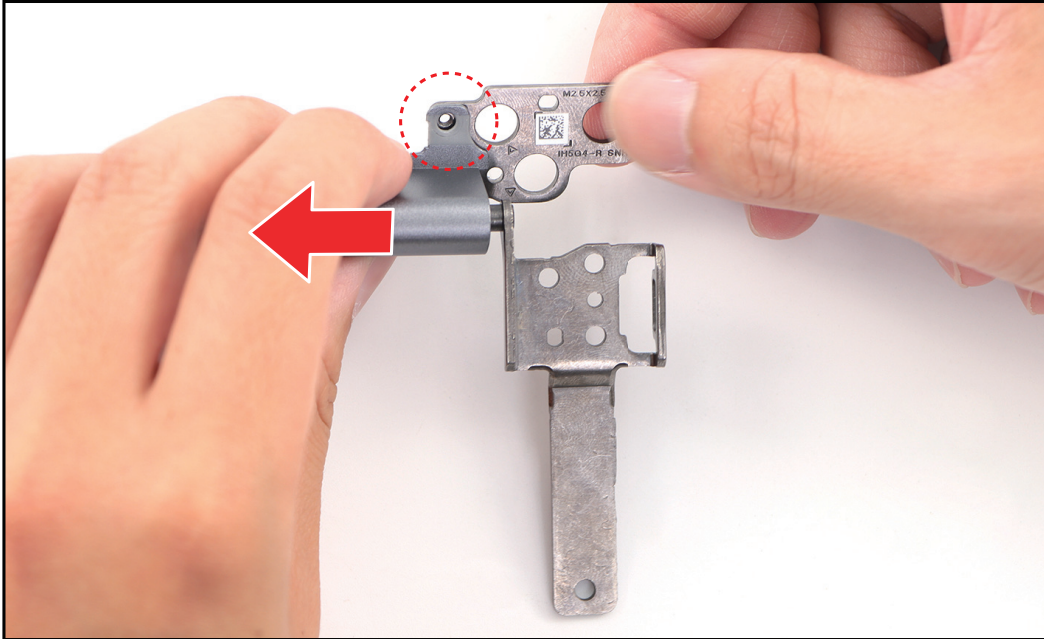




Figure 1-53. Removing the Right LCD Hinge Cap

Table 1-10. LCD Hinges and Caps Screws

Screw Name	Screw Type	Torque	Quantity
M 2.5 x 2.5		2.65~3.45kgf.cm	6 (LCD hinges)
M 2.0 x 2.5		1.8~2.2kgf.cm	2 (hinge caps)

LCD Panel Removal

Prerequisite:

※ [LCD Hinges Removal](#) on page [1-33](#)

⇒ **NOTE:** The eDP cable includes the camera cable and the LCD cable

1. 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 1-54. Disconnecting and Unrouting the eDP Cable

2. Unroute the eDP cable from the cable guides on the bottom side of the LCD cover as shown in the below illustration.



Figure 1-55. Unrouting the eDP Cable

3. Remove the two (2) screws securing the LCD hinge brackets to the LCD cover.



Figure 1-56. Removing the Screws

4. Lift to remove the LCD hinge brackets (with the LCD panel) from the LCD cover.

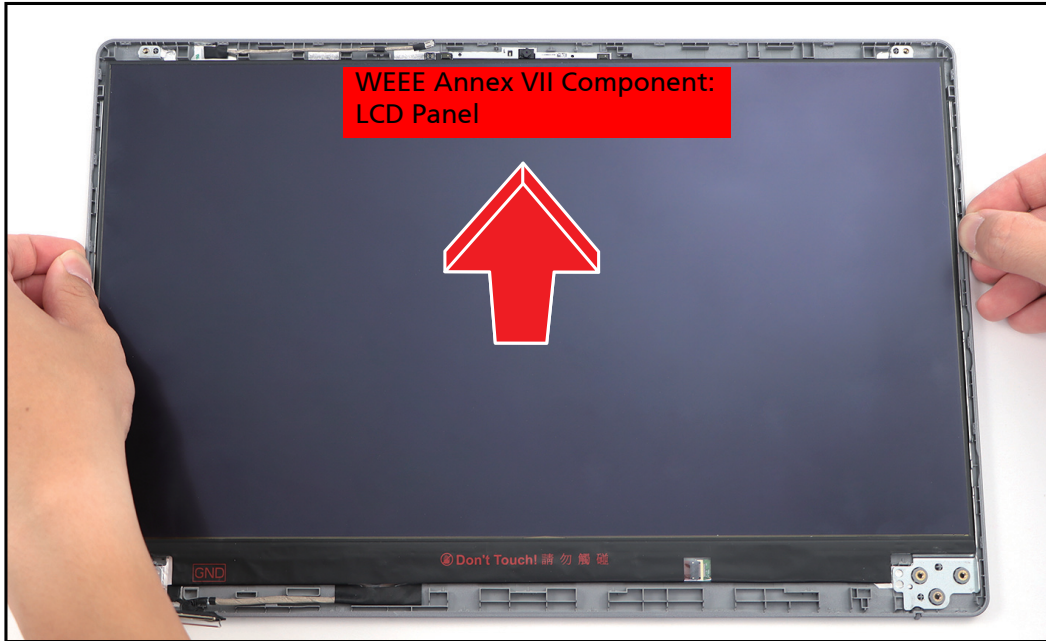


Figure 1-57. Removing the LCD Hinge Brackets (with the LCD Panel)

5. Carefully flip the LCD panel and pry slightly to access the double-sided mounting tape underneath the LCD hinge bracket. Then 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 hinge bracket.

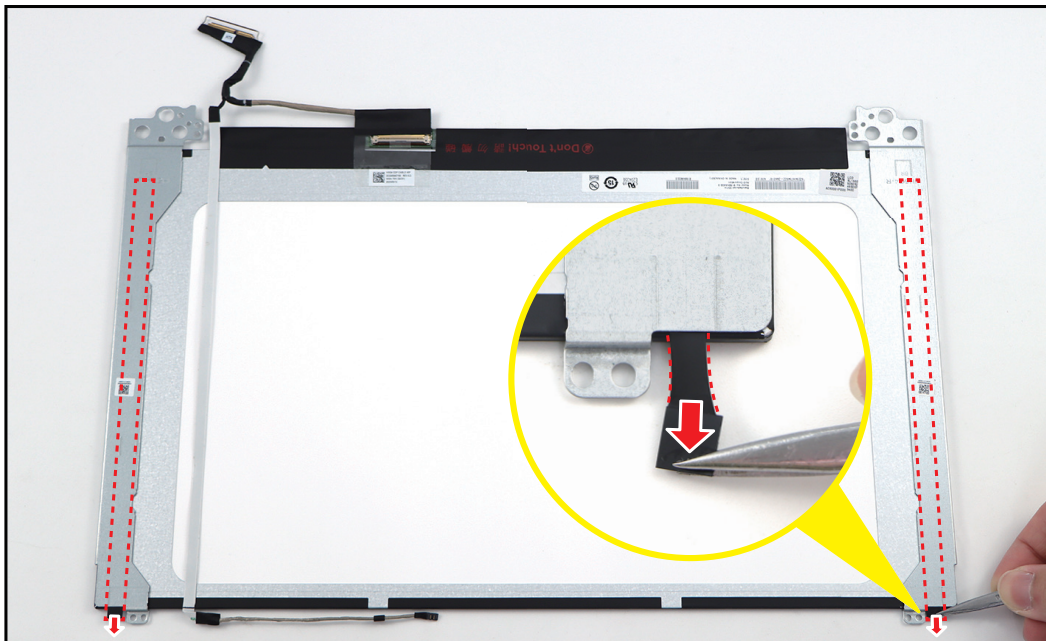


Figure 1-58. Detaching the Double-sided Mounting Tapes

6. Detach the eDP cable from the LCD panel as shown in the illustration below.



Figure 1-59. Detaching the eDP Cable

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

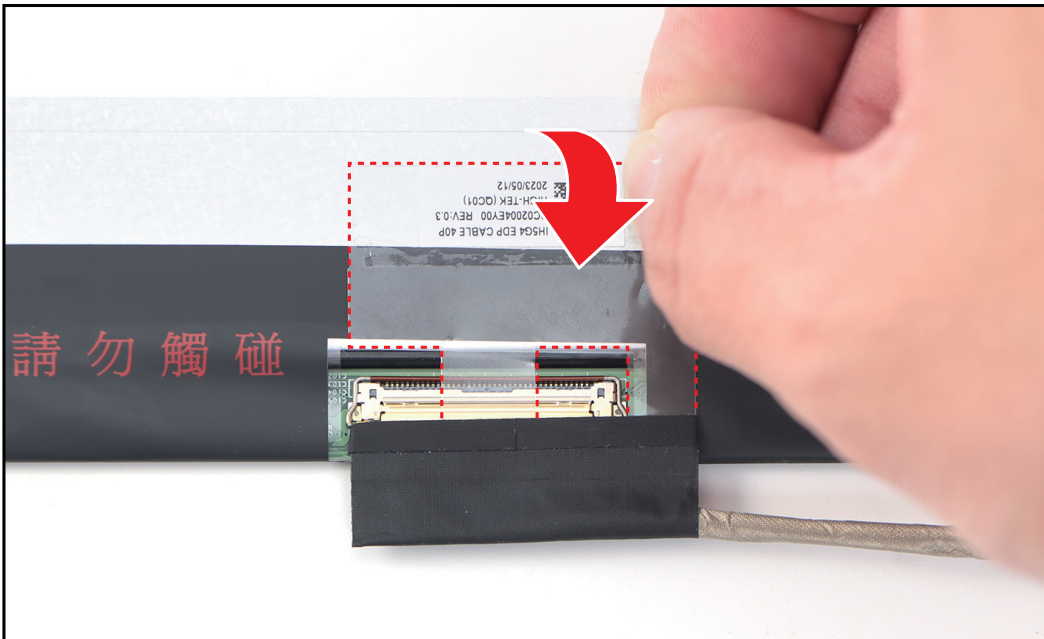


Figure 1-60. Detaching the Mylar

- Lift the latch securing the eDP cable.

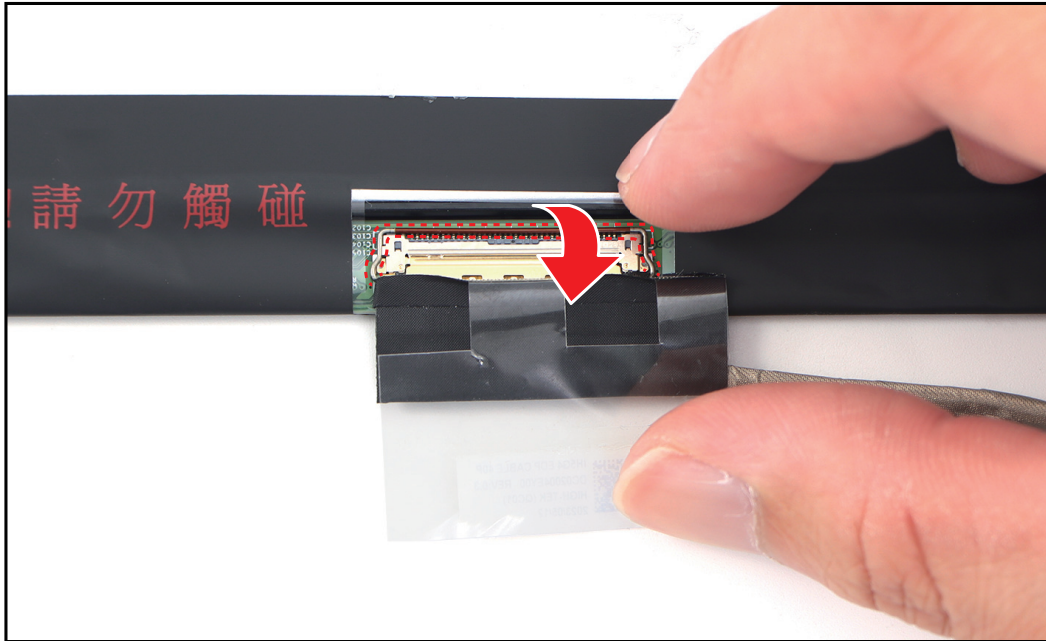


Figure 1-61. Lifting the Latch

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

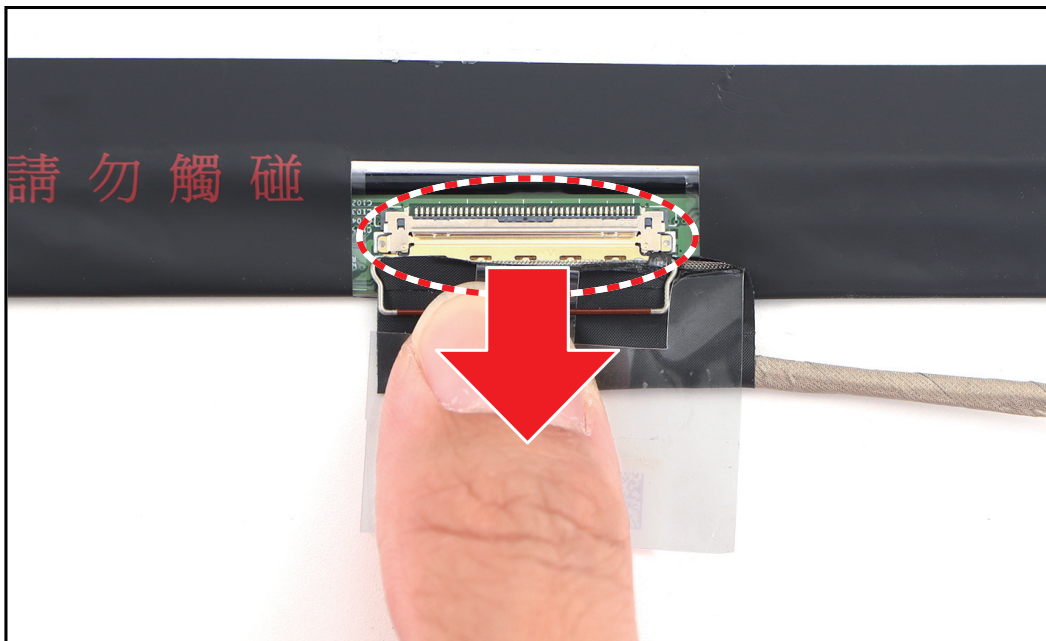

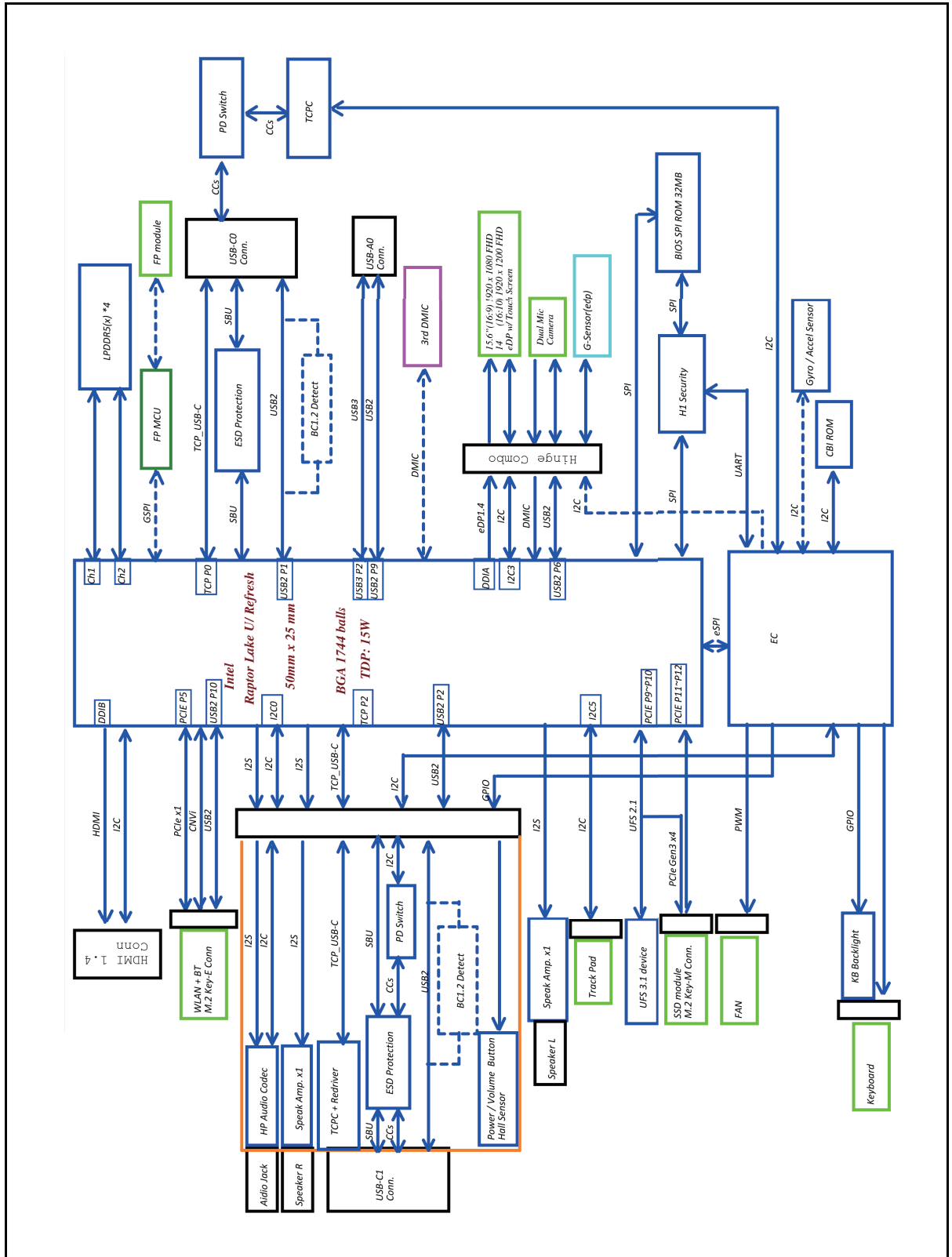


Figure 1-62. Disconnecting the eDP Cable

Table 1-11. LCD Hinge Brackets Screws

Screw Name	Screw Type	Torque	Quantity
M 2.0 x 2.5		1.8~2.2kgf.cm	2

System Block Diagram



Troubleshooting

This chapter contains information about troubleshooting common problems associated with the device.

General Information

The following procedures are a guide for troubleshooting computer problems. The step by step procedures are designed to be performed as described.

⇒ NOTE:

- The diagnostic tests are intended to test only Acer products. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.
 - Do not replace a non-defective FRU.
1. Obtain as much detail as possible about the problem.
 2. If possible, verify the symptoms by re-creating the failure through diagnostic tests or by repeating the operation that led to the problem.
 3. Use [Table 1-12](#) with the verified symptom(s) to determine the solution.

Table 1-12. Verified Symptoms

Symptoms	See
Power on Issues	Figure 1-63. Power On Issues
No Display Issues	Figure 1-64. No Display Issues
LCD Picture Failure	Figure 1-65. LCD Picture Failure
Internal Keyboard Failure	Figure 1-66. Internal Keyboard Failure
Touchpad Failure	Figure 1-67. Touchpad Failure
Internal Speaker Failure	Figure 1-68. Internal Speaker Failure
Internal Microphone Failure	Figure 1-69. Internal Microphone Record Failure
USB3.0 Failure	Figure 1-70. USB3.0 Failure
Wireless Function Failure	Figure 1-71. Wireless Function Test Failure
Bluetooth Function Failure	Figure 1-72. Bluetooth Function Test Failure
Units Thermal Failure	Figure 1-73. Units Thermal Failure
Cosmetic Failure	Figure 1-74. Cosmetic Failure
Other Functions Failure	Page 1-56

Power On Issues

If the system does not power on, perform the following:

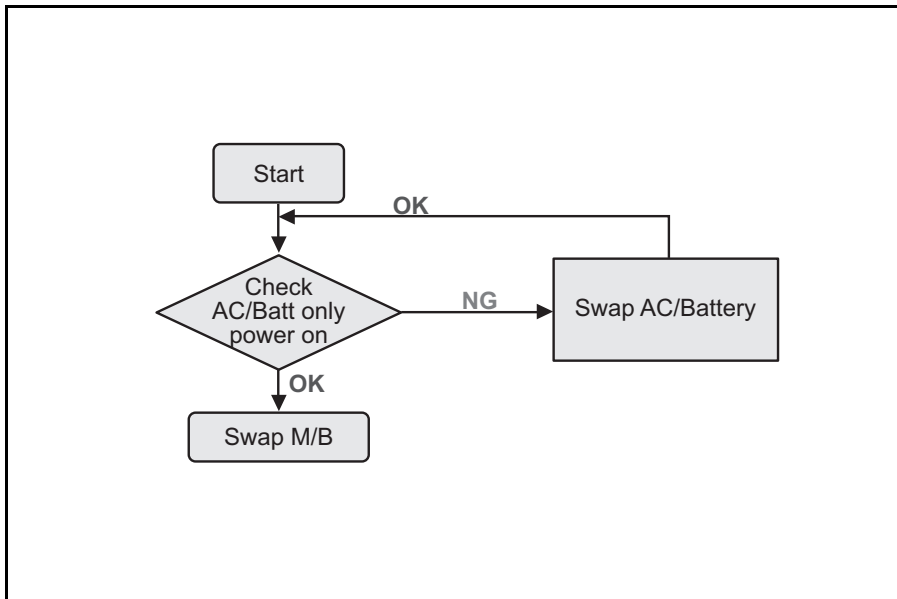


Figure 1-63. Power On Issues

Computer Shuts Down Intermittently

If the system powers off at intervals, perform the following.

1. Make sure the power cable is properly connected to the computer and the electrical outlet.
2. Remove all extension cables between the computer and the outlet.
3. Remove all surge protectors between the computer and the electrical outlet. Plug the computer directly into a known serviceable electrical outlet.
4. Remove all external and non-essential hardware connected to the computer that are not necessary to boot the computer to the failure point.
5. Remove any recently installed software.

No Display Issues

If the system does not display, perform the following:

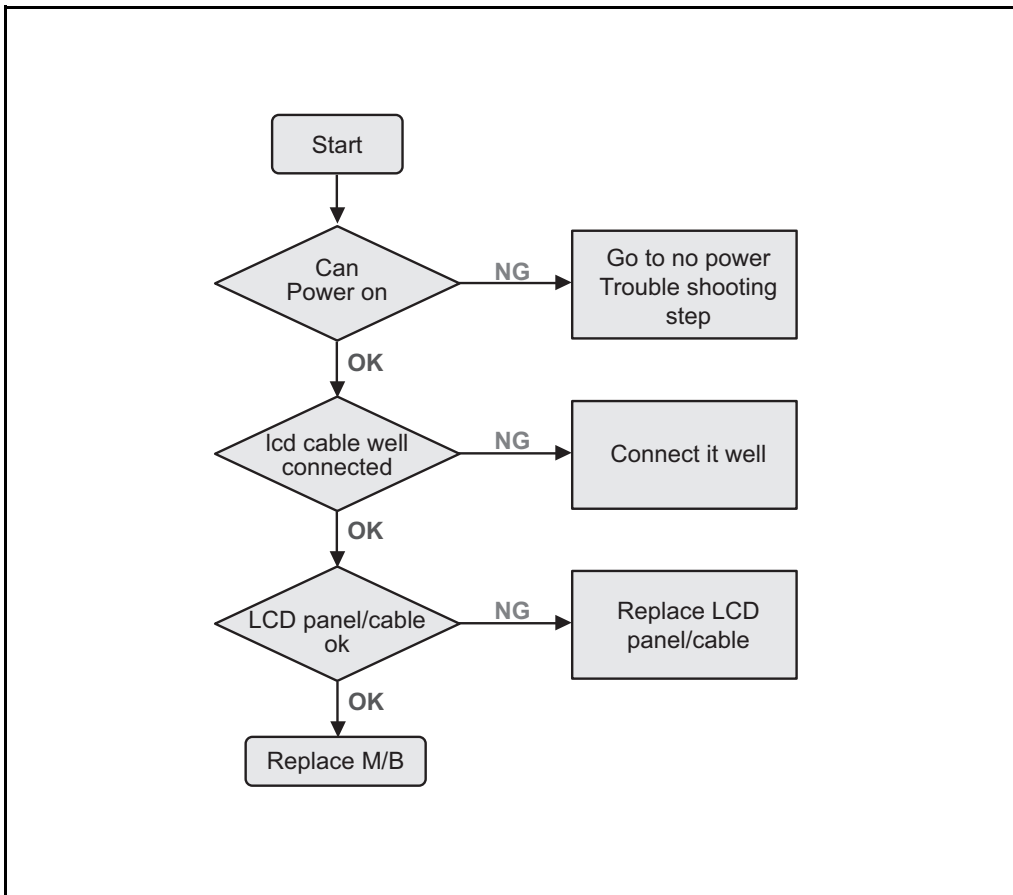


Figure 1-64. No Display Issues

No POST or Video

If the POST or video does not appear, perform the following:

1. Make sure that internal display is selected. Reference product pages for specific model procedures on how to switch between the internal display and the external display.
2. Make sure the computer has been turned on. If there is no power, refer to [Power On Issues](#) on page 1-44. Otherwise, continue to the next step.
3. Turn off the Chromebook. Remove the power cable, and then plug it back in. Then perform the hard reset.
4. Connect an external monitor to the computer and switch between the internal display and the external display.
5. If the POST or video appears on the external display only, refer to [LCD Picture Failure](#) on page 1-47. Otherwise, continue to the next step.
6. Disconnect the power and all external devices including port replicators or docking stations.
7. Remove any memory cards.

8. Start the computer. If the computer boots correctly, add the devices one by one until the failure point is discovered.

Abnormal Video

If the video appears abnormal, perform the following:

1. Boot the computer.
 - If permanent vertical/horizontal lines or dark spots appear in the same location, the LCD is faulty and should be replaced.
 - If extensive pixel damage is present (different colored spots in the same locations on the screen), the LCD is faulty and should be replaced.

⇒ **NOTE:**

Make sure that the computer is not running on battery alone as this may reduce display brightness.

2. Adjust the brightness to its highest level. Refer to the User Manual for instructions on adjusting the settings. If the display is too dim at the highest brightness setting, the LCD is faulty and should be replaced.
3. Change the display resolution setting.
4. Roll back the video driver to the previous version if updated.
5. Remove and reinstall the video driver.
6. Run the Diagnostic test and follow the on-screen prompts.

LCD Picture Failure

If the LCD picture fails, perform the following:

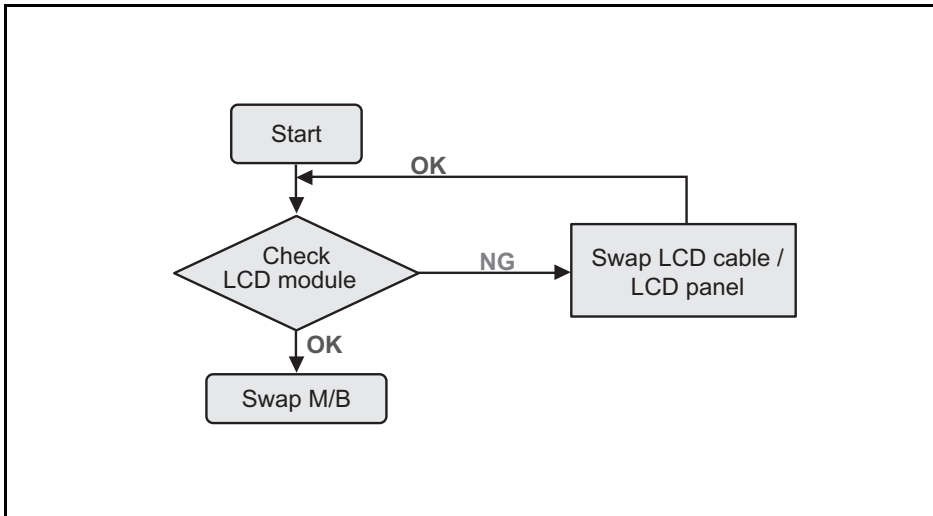


Figure 1-65. LCD Picture Failure

Internal Keyboard Failure

If the internal keyboard function fails, perform the following:

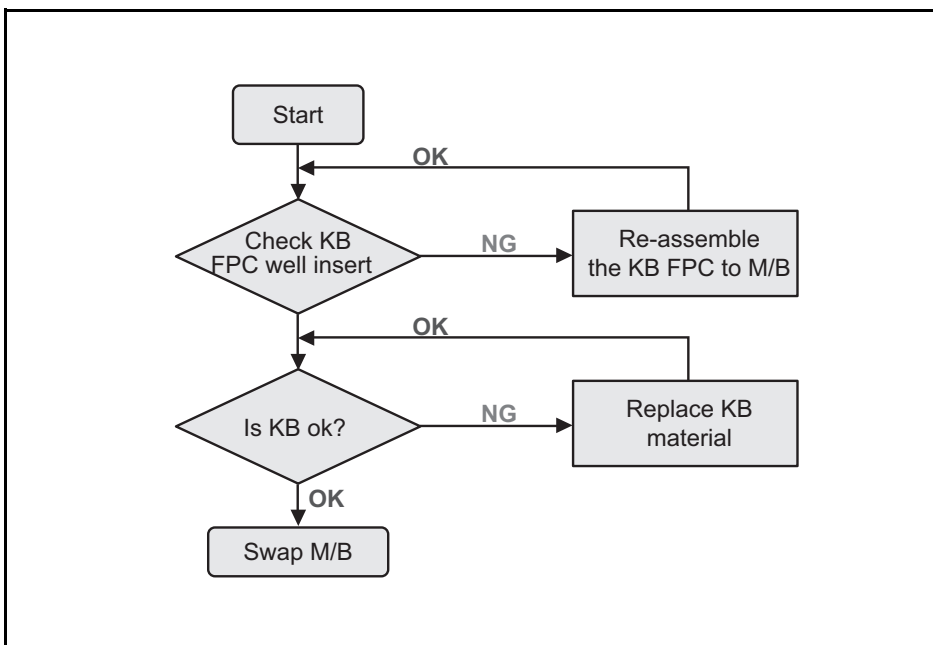


Figure 1-66. Internal Keyboard Failure

Touchpad Failure

If the touchpad fails, perform the following:

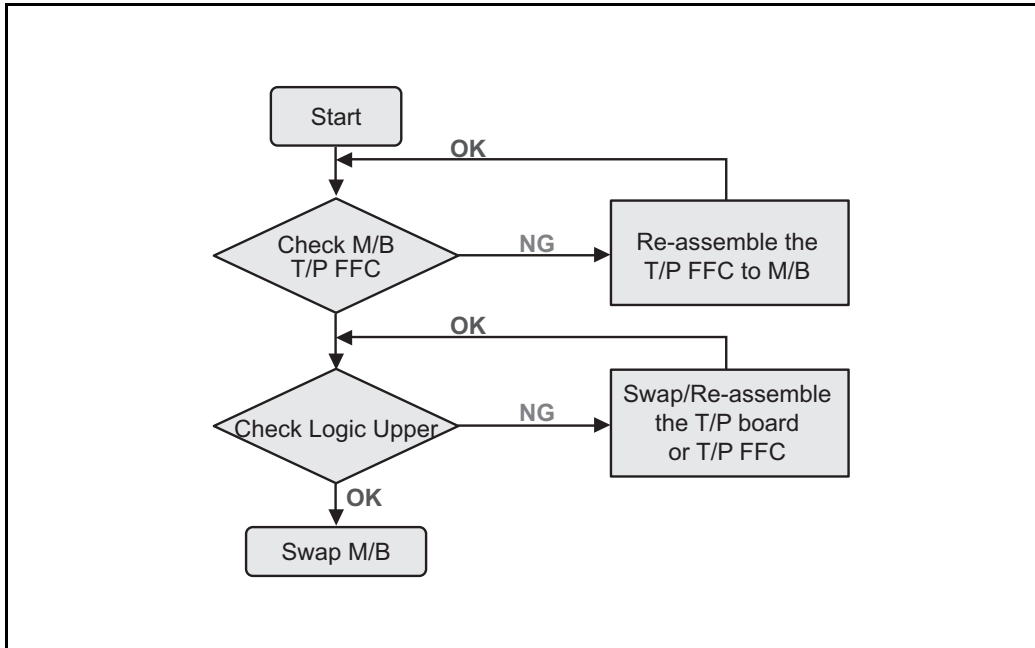


Figure 1-67. Touchpad Failure

Internal Speaker Failure

If the internal speaker fails, perform the following:

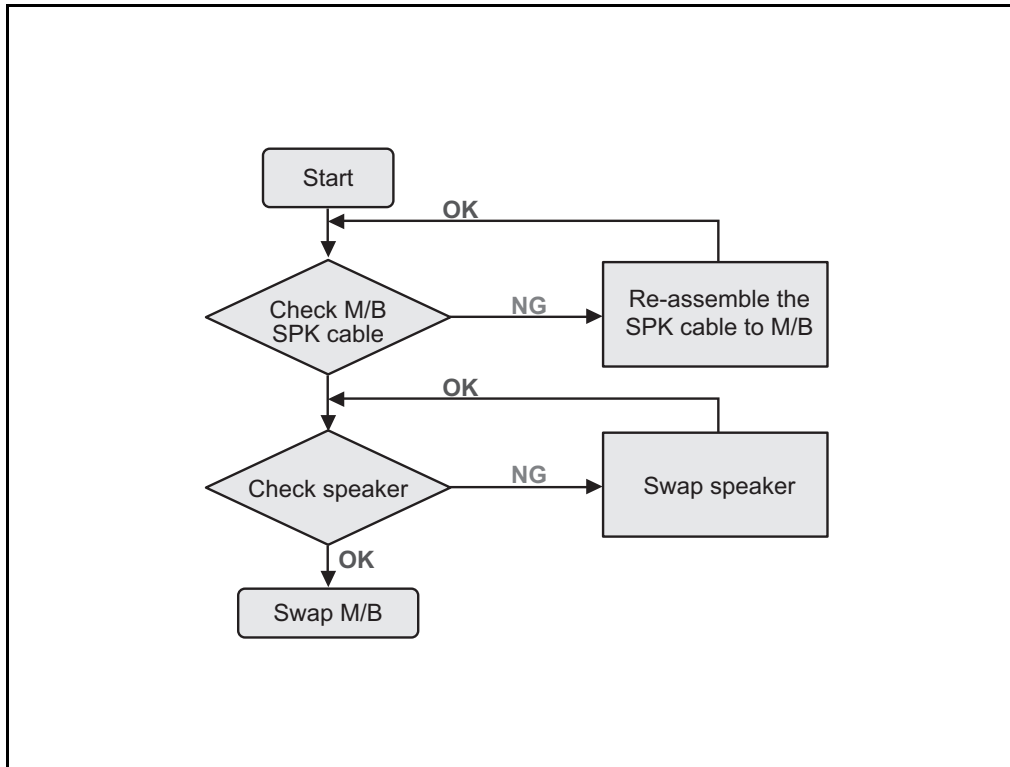


Figure 1-68. Internal Speaker Failure

Sound Problems

Perform the following:

1. Boot the computer.
2. If updated recently, roll back the audio driver to the previous version.
3. Remove and reinstall the audio driver.
4. Make sure that all volume controls are set mid range:
 - Click the volume icon on the taskbar. Then drag the slider to 50.
 - Confirm that the volume is not muted.
 - Verify that other audio applications are set to 50 and not muted.
5. Remove any recently installed hardware or software.
6. Factory reset your Chromebook.
7. Restore system and file settings from a known good date using *Chromebook Recovery Utility*.
8. Reinstall the Operating System.

Internal Microphone Record Failure

If the internal microphone fails to record, perform the following:

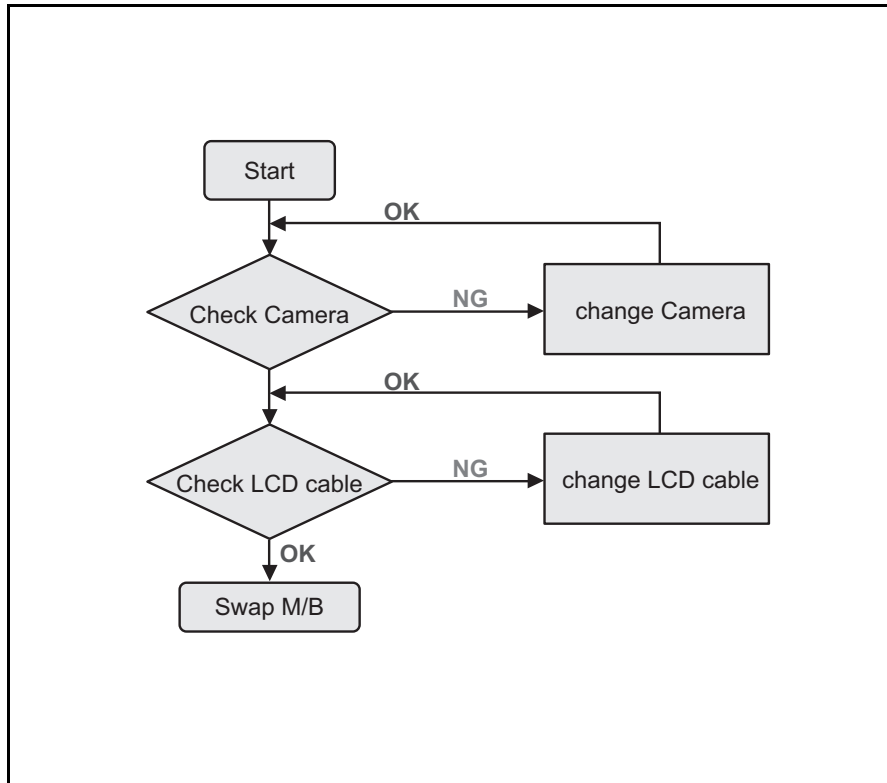


Figure 1-69. Internal Microphone Record Failure

USB3.0 Failure

If the USB function fails, perform the following:

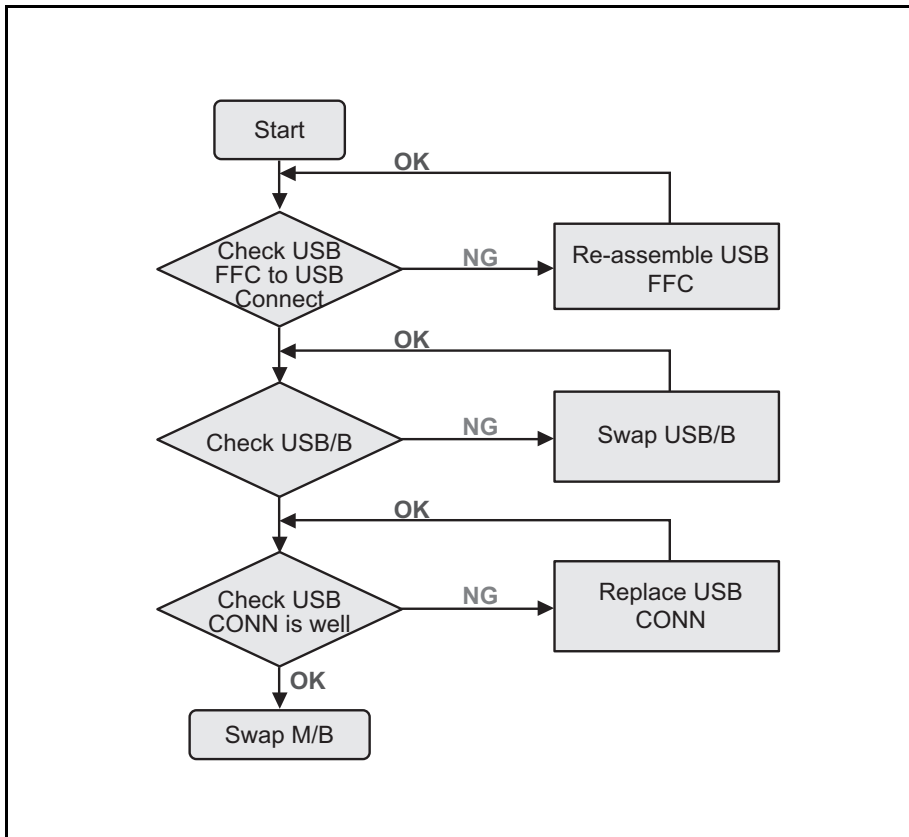


Figure 1-70. USB3.0 Failure

Wireless Function Test Failure

If the wireless function test fails, perform the following:

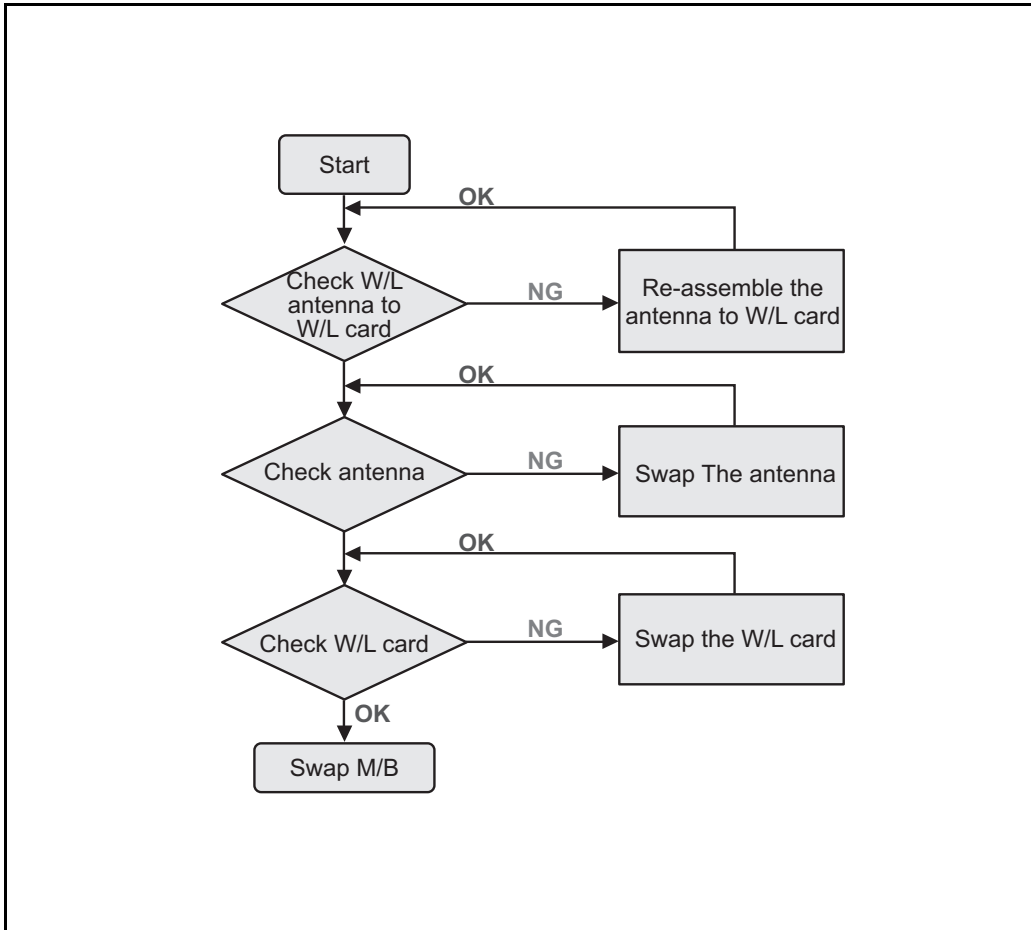


Figure 1-71. Wireless Function Test Failure

Bluetooth Function Test Failure

If the Bluetooth function test fails, perform the following:

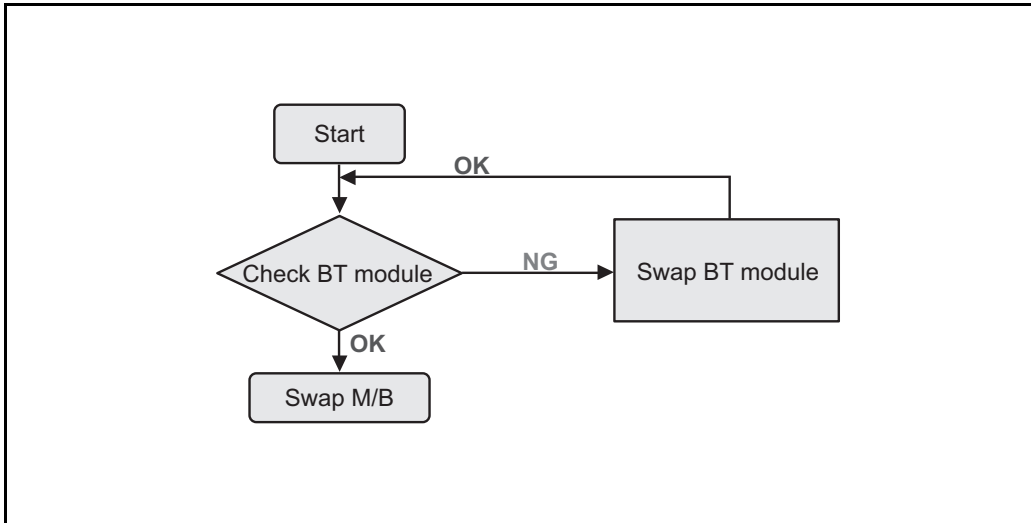


Figure 1-72. Bluetooth Function Test Failure

Units Thermal Failure

If the units thermal fails, perform the following:

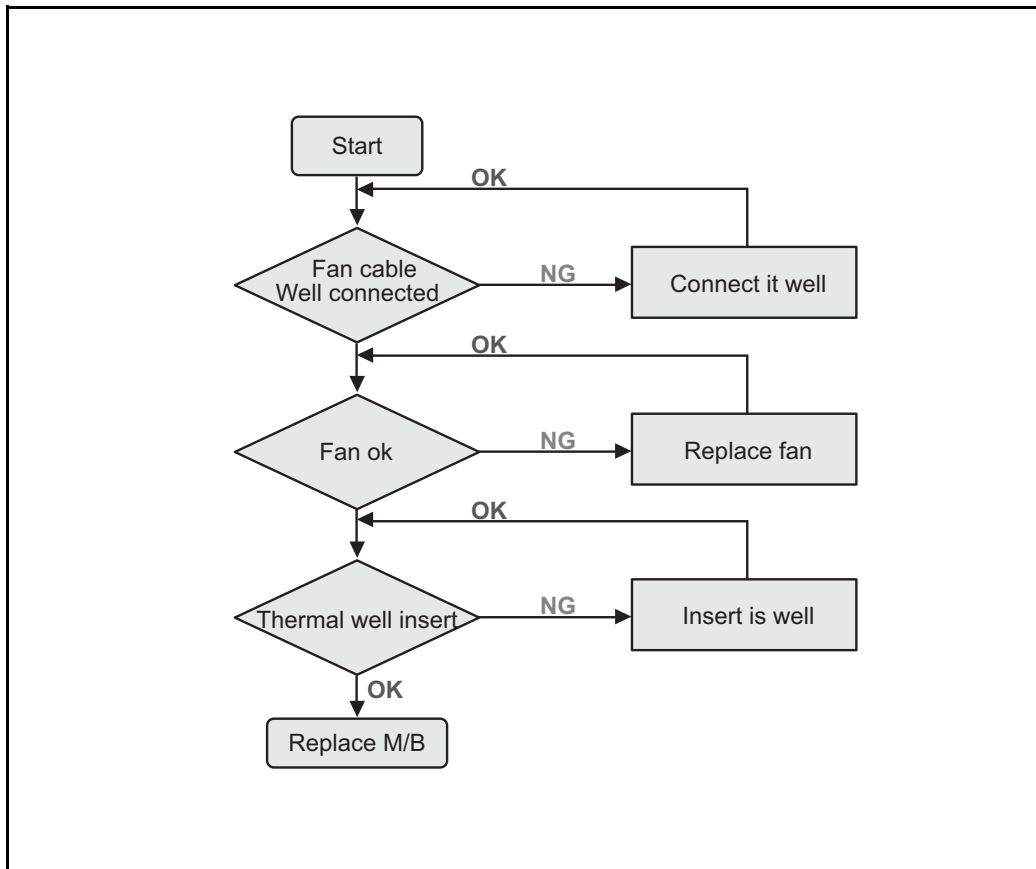


Figure 1-73. Units Thermal Failure

Cosmetic Failure

If the cosmetic fails, perform the following:

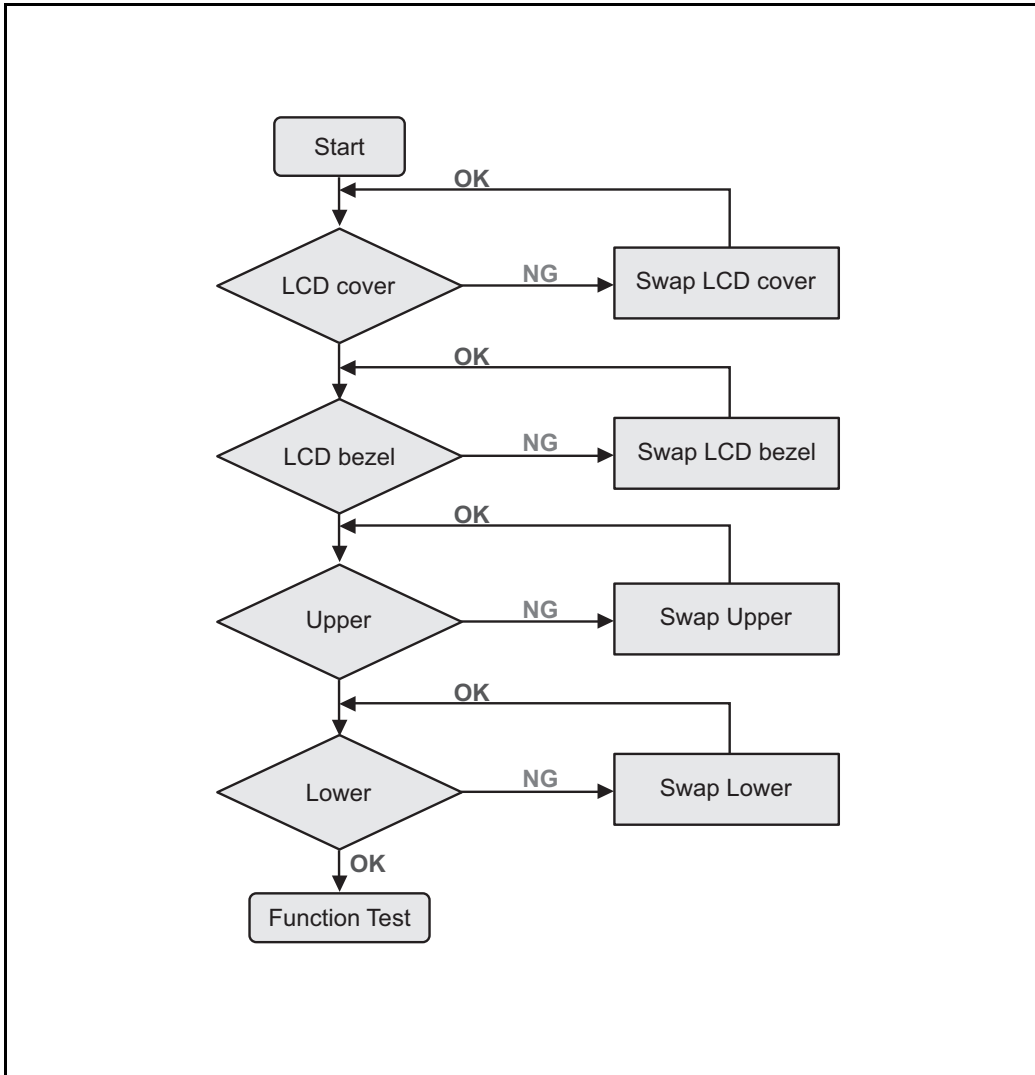


Figure 1-74. Cosmetic Failure

Other Functions Failure

If other functions such as the HDMI switch, LAN connection, extend microphone, extend speaker fail, perform the following:

1. Check if the Drive is working properly.
2. Check if the test fixture is ok.
3. Swap the mainboard.

Intermittent Problems

Intermittent system hang problems can be caused by a variety of reasons that have nothing to do with a hardware defect, such as: cosmic radiation, electrostatic discharge, or software errors. FRU replacement should be considered only when a recurring problem exists.

When analyzing an intermittent problem, perform the following:

1. Run the advanced diagnostic test for the system board in loop mode at least 10 times.
2. If no error is detected, do not replace any FRU.
3. If an error is detected, replace the FRU. Rerun the test to verify that there are no more errors.

Undetermined Problems

The diagnostic problems do not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative.

⇒ NOTE:

- Verify that all attached devices are supported by the computer.
- Verify that the power supply being used at the time of the failure is operating correctly. (refer to [Power On Issues](#) on page 1-44).

Perform the following procedures to isolate the failing FRU:

1. Remove power from the computer.
2. Visually check FRUs for damage. If any problems are found, replace the FRU.
3. Remove or disconnect all of the following devices:
 - Non-Acer devices
 - Printer, mouse, and other external devices
 - Hard disk drive
 - DIMM
 - CD-ROM/Diskette drive Module
 - PC Cards
4. Apply power to the computer.
5. Determine if the problem has changed.
6. If the problem does not recur, connect the removed devices until failing FRU is found.
7. If the problem remains, replace the following:
 - System board
 - LCD assembly

Exploded Diagrams

Main Assembly

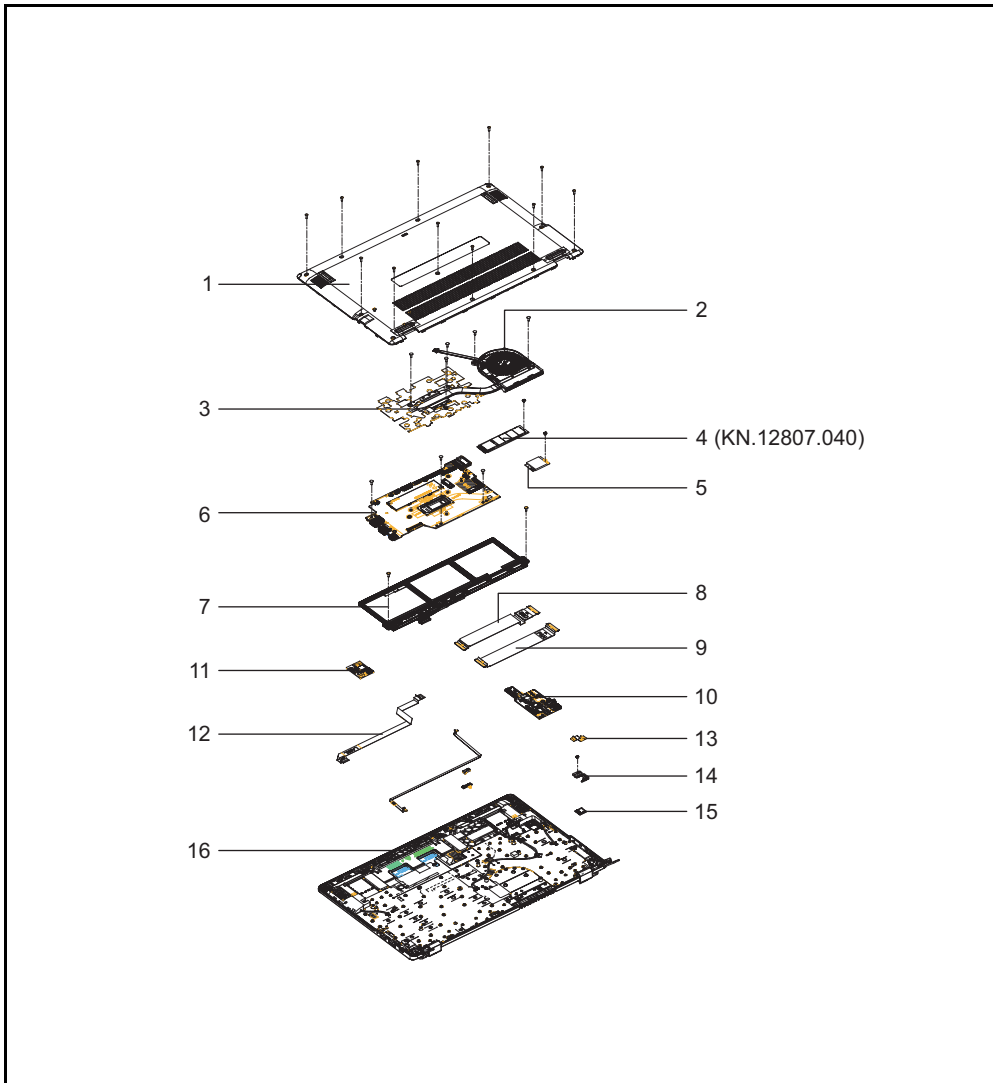


Figure 1-75. Main Assembly Exploded Diagram
Table 1-13. Main Assembly Exploded Diagram

No.	Acer Description
1	LOWER CASE GRAY
2	FAN
3	THERMAL MODULE UMA

Table 1-13. Main Assembly Exploded Diagram (Continued)

No.	Acer Description
4	Flash Disk KINGSTON SSD NAND 128GB OM8PGP4128Q-AA LF+HF
5	Wireless LAN Intel Wi-Fi 6E BT5.3 AX211.NG.WG.NV Intel 2x2 M.2 2230 CNVi GFP2 No vPro
6	Mainboard CBE595-2 Intel Ci31315U 8GB UFS128G UMA
7	Battery SIMPLO Typ.53Wh 4700mAh 3S1P AP23A7L 248x84.4x5.5(mm) AP23A 11.25V 70W Li-Ion TI BQ40Z555 FW5.09
8	FFC BOARD IO
9	FFC BOARD IO HIGH SPEED
10	BOARD IO
11	BOARD MCU FOR FINGERPRINT
12	FFC MCU BOARD TO MAINBOARD
13	FFC FINGERPRINT TO MCU BOARD
14	BRACKET FINGERPRINT
15	FINGERPRINT MODULE CRW-QT-KRS-F1, MOH, Black, Chrom
16	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL US (NK.I151A.08R)

Upper Case Assembly

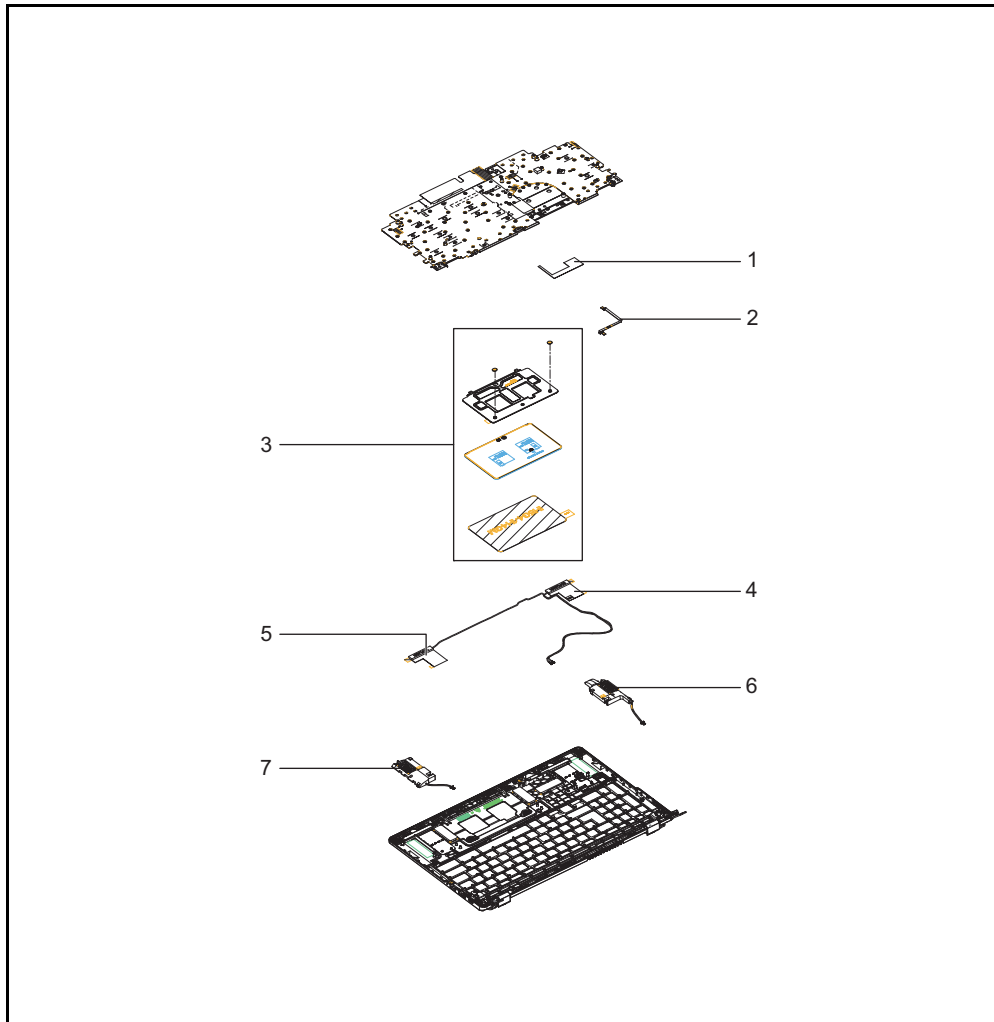


Figure 1-76. Upper Case Assembly Exploded Diagram
Table 1-14. Upper Case Assembly Exploded Diagram

No.	Acer Description
1	TOUCHPAD CONDUCTIVE TAPE
2	FFC TOUCHPAD
3	TOUCHPAD MODULE GRAY ELANTECH NC.24611.06M
4	ANTENNA WLAN MAIN
5	ANTENNA WLAN AUX
6	SPEAKER L + R
7	

LCD Assembly

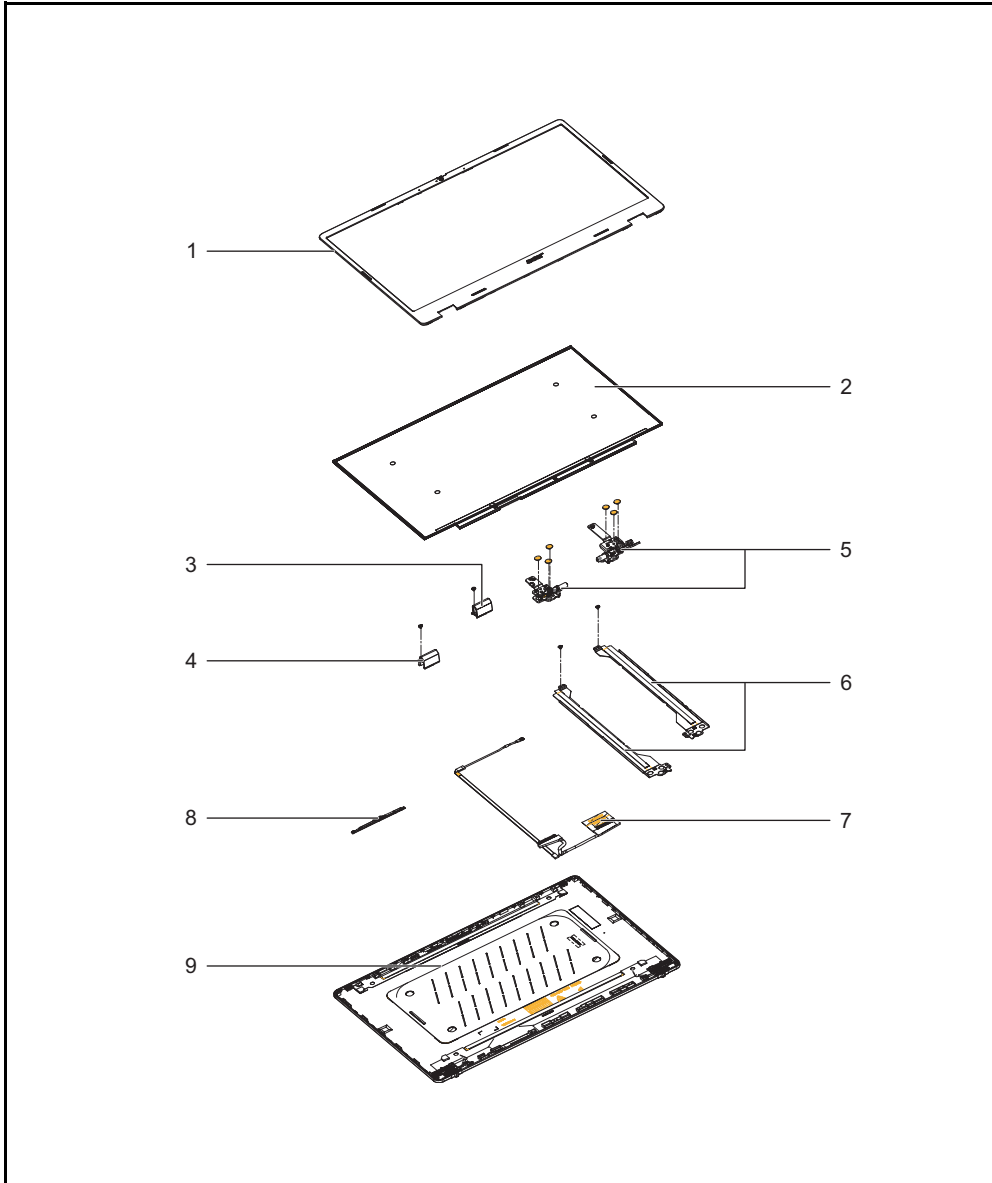


Figure 1-77. LCD Assembly Exploded Diagram
Table 1-15. LCD Assembly Exploded Diagram

No.	Acer Description
1	LCD BEZEL BLACK
2	LED LCD Panel LPL 15.6"W FHD IPS None Glare LP156WFH-SPD6 300nit NTSC 45% 60Hz 25ms 800:1 (Narrow border, 3.2t Max)
3	LCD HINGE CAP R
4	LCD HINGE CAP L
5	LCD HINGE L
	LCD HINGE R

Table 1-15. LCD Assembly Exploded Diagram (Continued)

No.	Acer Description
6	LCD HINGE BRACKET L W/ ADHESIVE
	LCD HINGE BRACKET R W/ ADHESIVE
7	CABLE EDP FHD LCD
8	Camera Tech-Front FHD Camera YHVA-5 OV2740(COB) RTS5856W 1L4C066F2(BG) ZTS6735 USB for Chrome V1.1 w/ TNR (ROI) R
9	LCD COVER GRAY

FRU (Field Replaceable Unit) List

This list is for reference only, please contact Acer local service to order the correct replacement part and availability.

FRU List

Table 1-16. FRU List









Category	Acer Description
BOARD	
	BOARD IO
	BOARD MCU FOR FINGERPRINT
	FINGERPRINT MODULE CRW-QT-KRS-F1, MOH, Black,Chrom
CABLE	
	FFC BOARD IO
	FFC BOARD IO HIGH SPEED
	FFC TOUCHPAD
	FFC FINGERPRINT TO MCU BOARD
	FFC MCU BOARD TO MAINBOARRD

Table 1-16. FRU List (Continued)

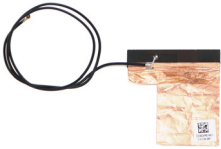


Category	Acer Description
	ANTENNA WLAN MAIN
	ANTENNA WLAN AUX
	CABLE EDP FHD LCD
	CABLE EDP TOUCH LCD
	POWER CORD 1M BLACK SOUTH AFRICA -NEW
	POWER CORD 1M BLACK BLACK AUSTRALIA
	POWER CORD 1M BLACK EUROPE
	POWER CORD 1M BLACK DENMARK
	POWER CORD 1M BLACK ISRAEL
	POWER CORD 1M BLACK ITALIAN
	POWER CORD 1M BLACK JAPAN
	POWER CORD 1M BLACK CHINA
	POWER CORD 1M BLACK INDIA
	POWER CORD 1M BLACK SWISS
	POWER CORD 1M BLACK UK
	POWER CORD 1M BLACK TWN
	POWER CORD 1M BLACK ARGENTINA - NEW
	POWER CORD 1M BLACK KOREA
	POWER CORD 1M BLACK US
	POWER CORD 1M BLACK BRAZIL

Table 1-16. FRU List (Continued)

Category	Acer Description
CASE/COVER/BRAKET ASSEMBLY	
	LOWER CASE GRAY
	LCD COVER GRAY
	LCD BEZEL BLACK
	LCD HINGE L
	LCD HINGE R
	LCD HINGE BRACKET L W/ ADHESIVE
	LCD HINGE BRACKET R W/ ADHESIVE
	LCD HINGE CAP L
	LCD HINGE CAP R
	BRACKET FINGERPRINT

Table 1-16. FRU List (Continued)




Category	Acer Description
FAN	
	FAN
HEATSINK	
	THERMAL MODULE UMA
KB ASSEMBLY	
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL US (NK.I151A.08R)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL US International (NK.I151A.08S)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Arabic (NK.I151A.08H)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Traditional Chinese (NK.I151A.08P)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Russian (NK.I151A.08M)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL US International w/ Hebrew (NK.I151A.08U)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Thailand (NK.I151A.08N)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL US International w/ Bulgaria (NK.I151A.08T)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL US International w/ Canadian French (NK.I151A.09G)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL UK (NK.I151A.09D)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL German (NK.I151A.092)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Swiss/ G (NK.I151A.09B)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Belgium (NK.I151A.08W)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Italian (NK.I151A.094)

Table 1-16. FRU List (Continued)


Category	Acer Description
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL French (NK.I151A.091)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Portuguese (NK.I151A.097)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Spanish (NK.I151A.099)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Turkish (NK.I151A.09C)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Nordic (NK.I151A.095)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL SLO/ CRO (NK.I151A.098)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL CZ/SK (NK.I151A.08Y)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Brazilian Portuguese (NK.I151A.08X)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL ALA-Spanish (NK.I151A.08V)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Japanese (NK.I151A.09E)
	KEYBOARD ASSY GRAY W/ BL Keyboard AU05P_C20EWL Ukrainian (NK.I151A.08Q)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E US (NK.I151A.07T)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E US International (NK.I151A.07U)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Arabic (NK.I151A.07K)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Traditional Chinese (NK.I151A.07R)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Russian (NK.I151A.07P)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E US International w/ Hebrew (NK.I151A.07W)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Thailand (NK.I151A.07Q)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E US International w/ Bulgaria (NK.I151A.07V)

Table 1-16. FRU List (Continued)


Category	Acer Description
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E US International w/ Canadian French (NK.I151A.09F)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E UK (NK.I151A.08F)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E German (NK.I151A.084)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Swiss/G (NK.I151A.08D)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Belgium (NK.I151A.07Y)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Italian (NK.I151A.086)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E French (NK.I151A.083)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Portuguese (NK.I151A.089)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Spanish (NK.I151A.08B)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Turkish (NK.I151A.08E)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Nordic (NK.I151A.087)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E SLO/ CRO (NK.I151A.08A)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E CZ/SK (NK.I151A.080)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Brazilian Portuguese (NK.I151A.07Z)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E ALA-Spanish (NK.I151A.07X)
	KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Japanese (NK.I151A.08G)
KEYBOARD ASSY GRAY W/ NBL Keyboard AU05P_C20E Ukrainian (NK.I151A.07S)	

Table 1-16. FRU List (Continued)

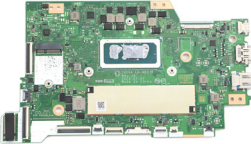




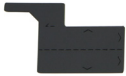









Category	Acer Description
MAINBOARD	
	Mainboard CBE595-2 Intel Ci31315U 8GB UFS128G UMA
	Mainboard CBE595-2 Intel Ci31315U 16GB UFS128G UMA
	Mainboard CBE595-2 Intel Ci31315U 8GB UMA
	Mainboard CBE595-2 Intel Ci31315U 16GB UMA
	Mainboard CBE595-2 Intel Ci51335U 8GB UFS128G UMA
	Mainboard CBE595-2 Intel Ci51335U 16GB UFS128G UMA
	Mainboard CBE595-2 Intel Ci51335U 8GB UMA
	Mainboard CBE595-2 Intel Ci51335U 16GB UMA
	Mainboard CBE595-2 Intel C3100U 8GB UFS128G UMA
	Mainboard CBE595-2 Intel C3100U 16GB UFS128G UMA
	Mainboard CBE595-2 Intel C3100U 8GB UMA
	Mainboard CBE595-2 Intel C3100U 16GB UMA
	Mainboard CBE595-2 Intel C5120U 8GB UFS128G UMA
	Mainboard CBE595-2 Intel C5120U 16GB UFS128G UMA
	Mainboard CBE595-2 Intel C5120U 8GB UMA
	Mainboard CBE595-2 Intel C5120U 16GB UMA
	Mainboard CBE595-2 Intel C7150U 8GB UFS128G UMA
	Mainboard CBE595-2 Intel C7150U 16GB UFS128G UMA
Mainboard CBE595-2 Intel C7150U 8GB UMA	
Mainboard CBE595-2 Intel C7150U 16GB UMA	
POINT DEVICE	
	TOUCHPAD MODULE GRAY ELANTECH NC.24611.06M
	TOUCHPAD MODULE GRAY SYNAPTICS NC.24611.093
SPEAKER	
	SPEAKER L + R

Table 1-16. FRU List (Continued)

Category	Acer Description
MISCELLANEOUS	
	TOUCHPAD CONDUCTIVE TAPE
	FOIL SHIELDING SSD
	EDP CABLE ALIGNMENT MYLAR
	LCD PANEL ADHESIVE
SCREW	
	SCREW 2.5D 5.0L K 4.6D NI NL
	SCREW M M 2.0D 4.0L K 4.6D BNI NL
	SCREW 2D 3L K 4.5D ZK NL CR3 0.4T
	SCREW 2.0D 2.5L K 5D ZK NL
	SCREW M M 2 2.0D 2L K 7D ZK NL CR3
	SCREW 2.5D 2.5L K 8D 0.6T ZK NL
	SCREW 2.5D 6.0L K 4.6D BNI NL

Check for Updates Yourself

1. Turn on your Chromebook.
2. Connect your Chromebook to Wi-Fi.
3. At the bottom right, select the time.
4. Select **Settings** .
5. At the bottom of the left panel, select **About Chrome OS**.
6. Under "Google Chrome OS", you'll find which version of the Chrome operating system your Chromebook uses.
7. Select **Check for updates**.
8. If your Chromebook finds a software update, it will start to download automatically.

Factory Reset Your Chromebook

1. Sign out of your Chromebook.
2. Press and hold **Ctrl + Alt + Shift + r**.
3. Select **Restart**.
4. In the box that appears, select **Powerwash > Continue**.
5. Follow the steps that appear and sign in with your Google Account.

⇒ NOTE:

The account you sign in with after you reset your Chromebook will be the owner account.