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March 11th, 2022

Dynabook Laptop Components Classified as Requiring Selective Treatment

Dynabook would like to communicate the method of identifying and removing components contained in Dynabook notebook products, including but not limited to the **Portege X40L-K** model, that requires selective treatment based on the European WEEE Directive, Directive 2012/19/EU of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE).

All of the instructions provided within this letter can be reviewed in greater detail within the **Portege X40L-K** Series **Maintenance Manual.**

<u>**Tools Required**</u>

In order to remove internal components of the **Portege X40L-K** some tools from the list below may be required located in **Chapter 4 Replacement Procedures** of the **Dynabook Maintenance Manual**

For your safety and the safety of the people around you, it is important that you use Electrostatic Discharge (ESD) equipment. Correctly utilizing of the equipment increases the percentage of successful repairs and saves on the cost of damaged or destroyed parts. The following equipment is required for disassembly and assembly.

- ■ One Philips screwdriver with type 0 bit (for S-THIN HEAD screws)
- ■ One Philips screwdriver with type 1 bit (for screws other than above)
- ■ One flat-blade screwdriver (for removing the CPU)
- ■ Tweezers (for lifting screws)
- ■ ESD mats (lay on work table or floor)
- ■ An ESD wrist strap and heel grounder
- ■ Anti-static carpet or flooring
- ■ Air-ionizers in highly static sensitive areas
- ■ Antenna coaxial cable disconnector
- ■ Special syringe (for applying grease)

Table of Contents

Please refer to the information below for instructions regarding the identification and removal of thelithium ion battery. Further maintenance instructions can be found in section 4.10 of the **Portege X40L-K** **Maintenance Manual**. Some tools are required in order to remove this component.Once removed, these components should be recycled as per local requirements.
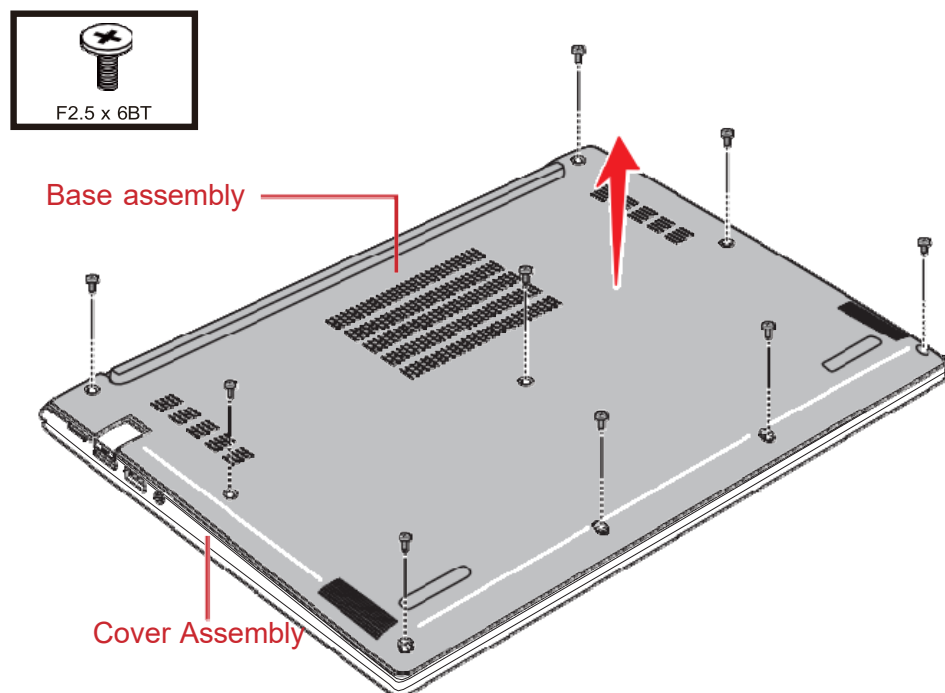
To remove the battery, the base assembly must be removed first:

4.10.1 Removing the Cover Assembly and Base Assembly

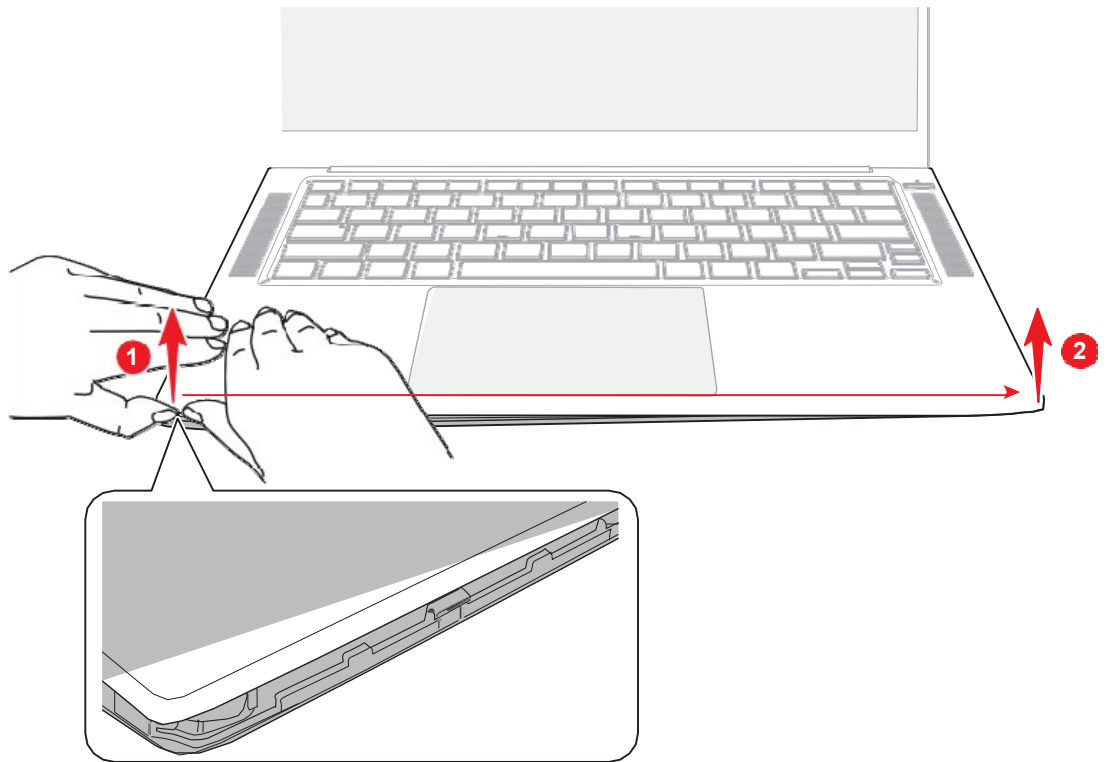To remove the Base Assembly, follow the steps below.

1. Close the display panel and turn the computer face down.

2. Remove the following screws securing the Cover Assembly and the Base Assembly.

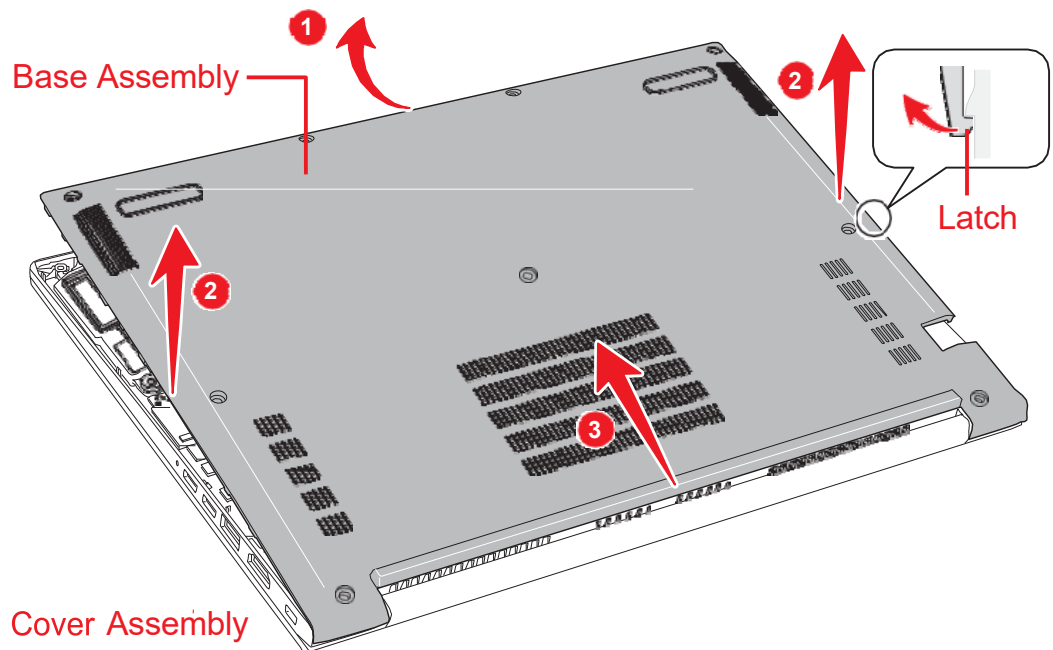*Figure 4-3 Removing the Base Assembly (1)*

3. Turn the computer over and open the display panel, release the latchs from the lower left of the computer as shown in the figure below.

Figure 4-4 Removing the Base Assembly (2)

1. Turn the computer again and separate the Base Assembly and Cover Assembly as shown in the figure below.

Figure 4-5 Removing the Base Assembly (3)
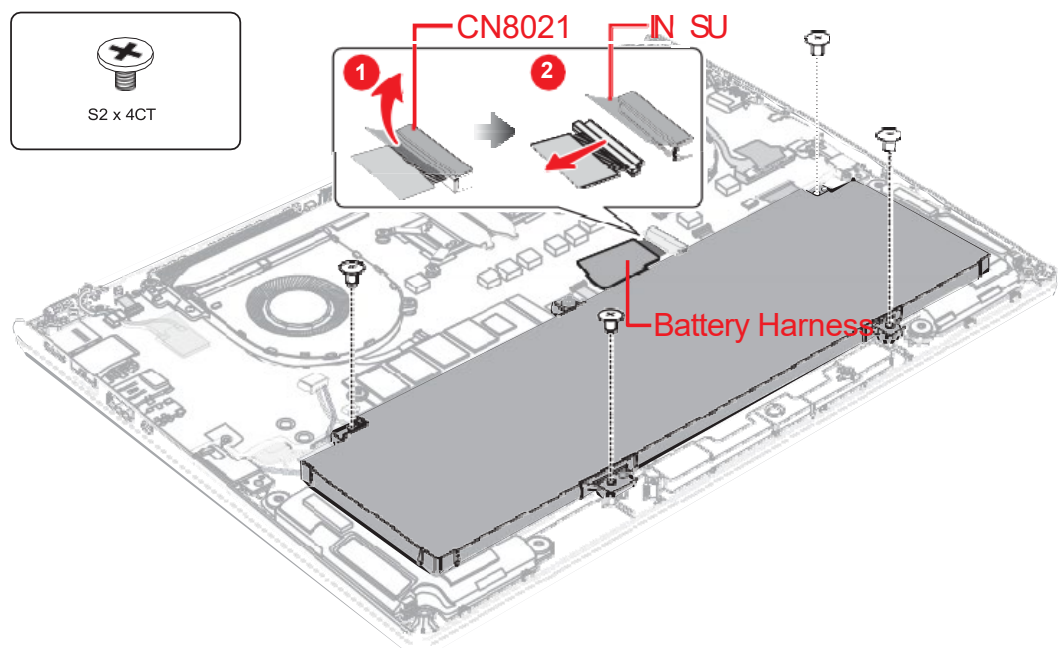
4.11.1 Removing the Battery pack

To remove the battery pack, follow the steps below.

> ⚠️ Take care not to short circuit the terminals when removing the battery pack. Similarly, do not drop, knock, scratch, disassemble, twist, or bend the battery pack.

1. Disconnect the **BATTERY HARNESS** from the connector **CN8021** on the System board.

2. Remove the following screws and the battery pack.

Figure 4-6 Releasing the battery pack

> ℹ️ Dispose of the used/removed battery pack in accordance with the laws and ordinances of your local authority.

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2. Removing the SSD

To remove the SSD the **mainboard** must be removed **first**.
Please refer to the information listed in section **4.15** of the **Portege X40L-K** Series Maintenance Manual to check how the mainboard is removed.

Please refer to the information below for the removal of the SSD.
One Philips screwdriver with type 1 bit will be required to remove the screws indicated in the locationsbelow. Once removed, these components should be recycled as per local requirements.

4.12.1 Removing the SSD

To remove the SSD, follow the steps below .

> ⚠ Take care not to press on the top or bottom of a SSD. Pressure may cause the data loss or damage to the device.

1. Remove the the following screw and disconnect the **SSD** from the connector **CN19**00 on the System board.

Figure 4-7 Removing the SSD

3. Removing the LCD and Printed Circuit / Wiring Boards

Beside the LCD and the main PCB, there are further **small PCBs and components** which are in thescope of the WEEE Directive. The removal of these components is described in detail in the **chapter 4** of the associated maintenance manual.
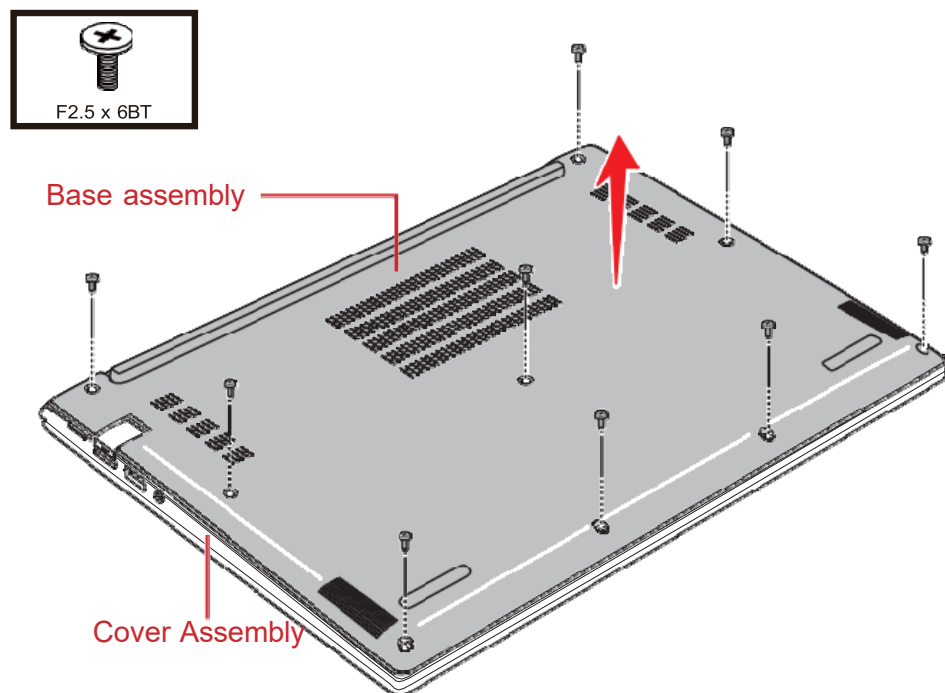
Replacement Procedures

4.10 Cover Assembly and Base Assembly

4.10.1   Removing the Cover Assembly and Base Assembly

To remove the Base Assembly, follow the steps below.
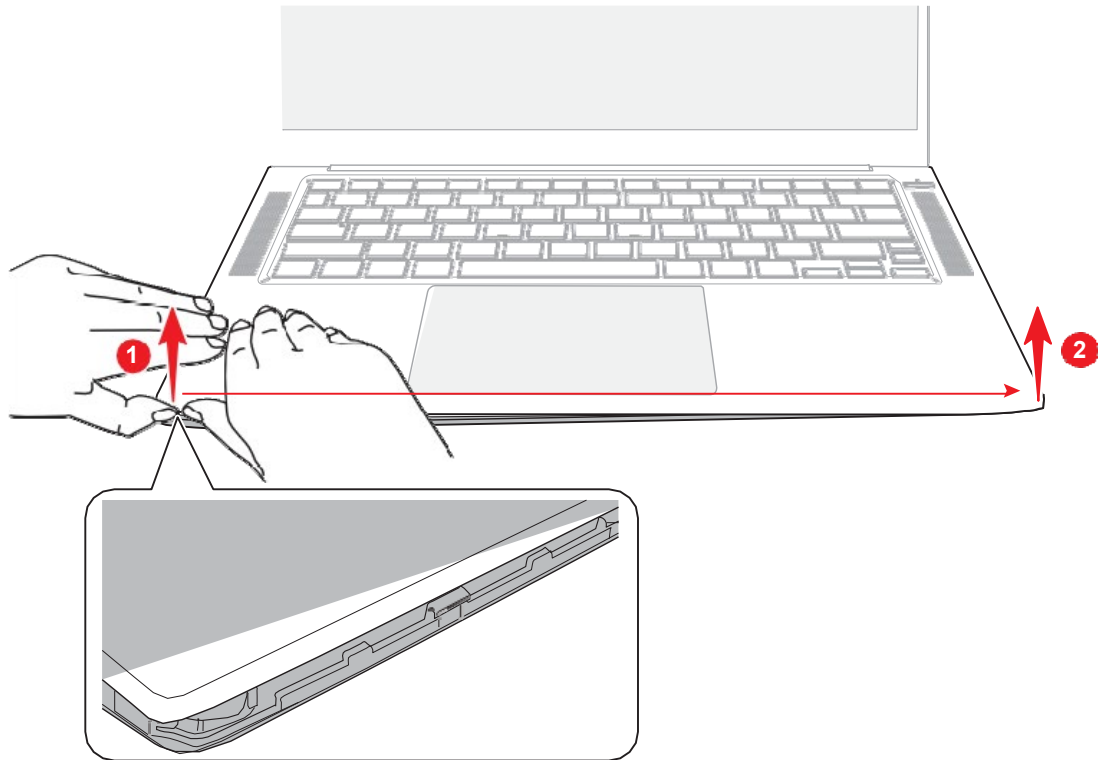
1.   Close the display panel and turn the computer face down.

2.   Remove the following screws securing the Cover Assembly and the Base Assembly.

Figure 4-3 Removing the Base Assembly (1)

F2.5 x 6BT

Base assembly
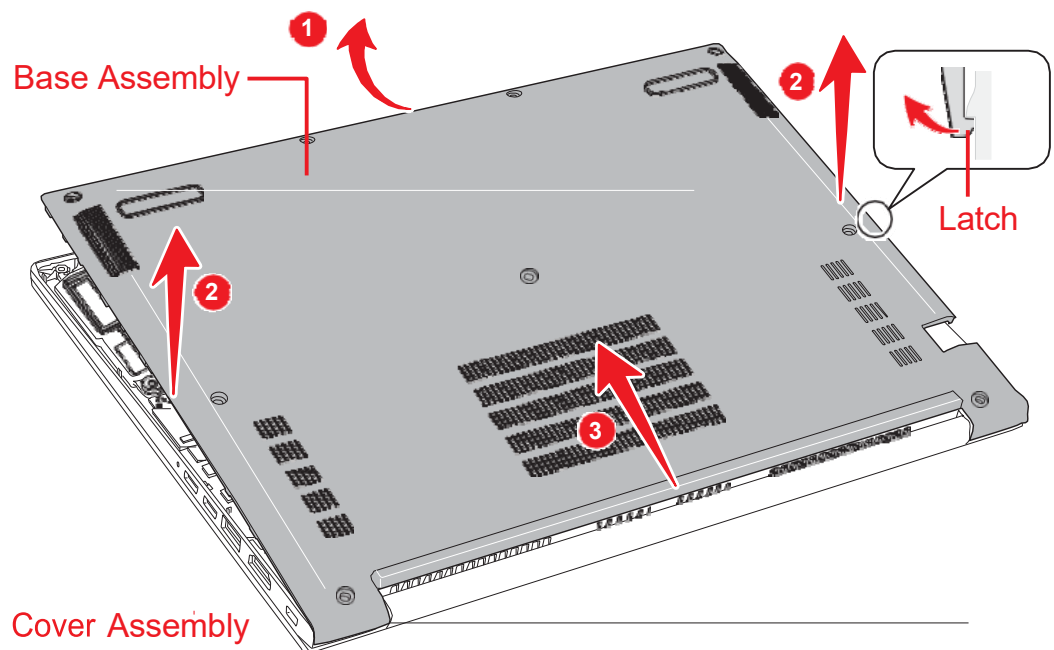
Cover Assembly

3.   Turn the computer over and open the display panel, release the latchs from the lower left of the computer as shown in the figure below.

Figure 4-4 Removing the Base Assembly (2)

4. Turn the computer again and separate the Base Assembly and Cover Assembly as shown in the figure below.

Figure 4-5 Removing the Base Assembly (3)

Base Assembly

Latch

Cover Assembly

4.10.2   Installing the Base Assembly

To install the Base Assembly, follow the steps below.

1. Set the Cover Assembly on the Base Assembly while securing the latch.

2. Secure the Cover Assembly and Base Assembly with the screws.

> **ℹ** Do not reuse the removed screws. Be sure to use new screws.

3. Turn the computer, and open the display.

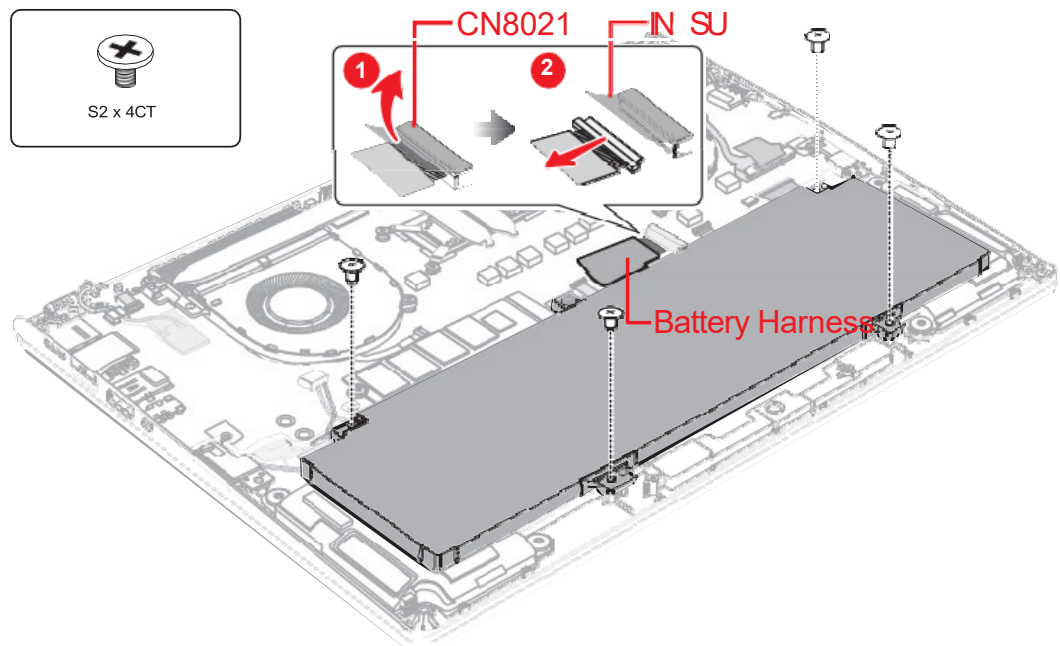# 4.11   Battery pack

4.11.1   Removing the Battery pack

To remove the battery pack, follow the steps below.

> **⚠** Take care not to short circuit the terminals when removing the battery pack. Similarly, do not drop, knock, scratch, disassemble, twist, or bend the battery pack.

1. Disconnect the **BATTERY HARNESS** from the connector **CN8021** on the System board.

2. Remove the following screws and the battery pack.

Figure 4-6 Releasing the battery pack

> **ℹ** Dispose of the used/removed battery pack in accordance with the laws and ordinances of your local authority.

![dynabook logo]

4.11.2 Installing the Battery pack

To install the battery pack, follow the steps below.

> ⚠️ The lithium ion battery pack may explode if not fitted, operated, handled, or disposed correctly. Dispose always the used battery pack in accordance with the laws and ordinances of your local authority.
>
> Use only the batteries approved by Dynabook.

> ℹ️ Check the battery's terminals visually. If they are dirty, wipe them clean with a dry cloth.

1. Set the battery pack to the COVER ASSY and secure it with the screws.
2. Connect the **BATTERY HARNESS** to the connector **CN8021** on the System board.
3. Stick a new **INSU** on the connector.
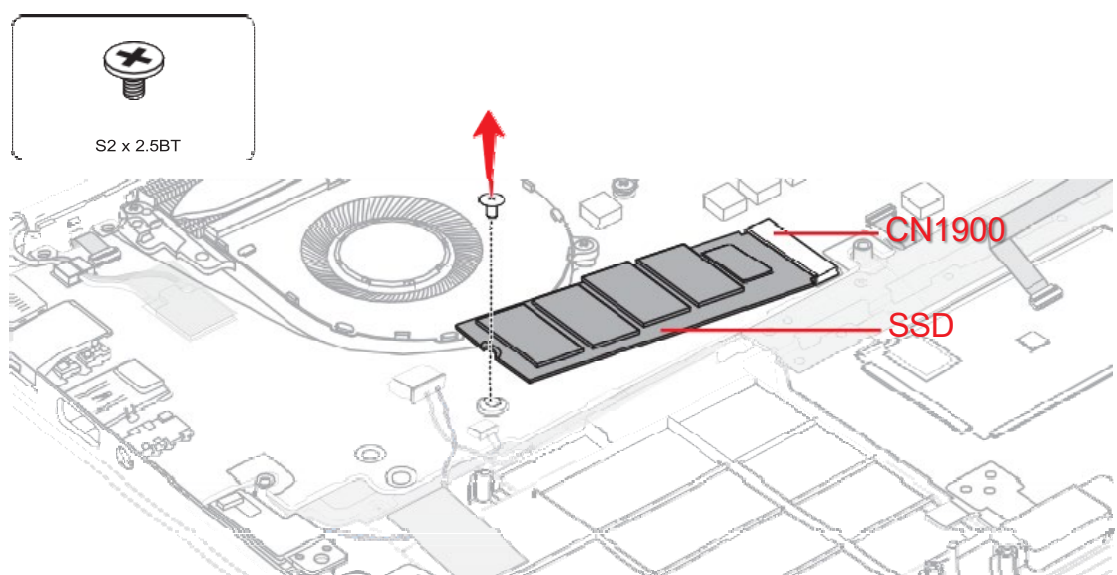
4.12 SSD

4.12.2 Removing the SSD

To remove the SSD, follow the steps below .

> ⚠️ Take care not to press on the top or bottom of a SSD. Pressure may cause the data loss or damage to the device.

1. Remove the the following screw and disconnect the **SSD** from the connector **CN19**0**0** on the System board.

Figure 4-7 Removing the SSD

4.12.3 Installing the SSD

To install the SSD, follow the steps below.

![dynabook logo]

> ⚠ To avoid damage, always hold the SSD only by its sides.
>
> To prevent the SSD from being distorted when installing the SSD pack into the computer, do not press the center of the SSD pack. Always hold the SSD pack by its sides.

1. Insert the **SSD** to the connector **CN1900** on the **System Board**.
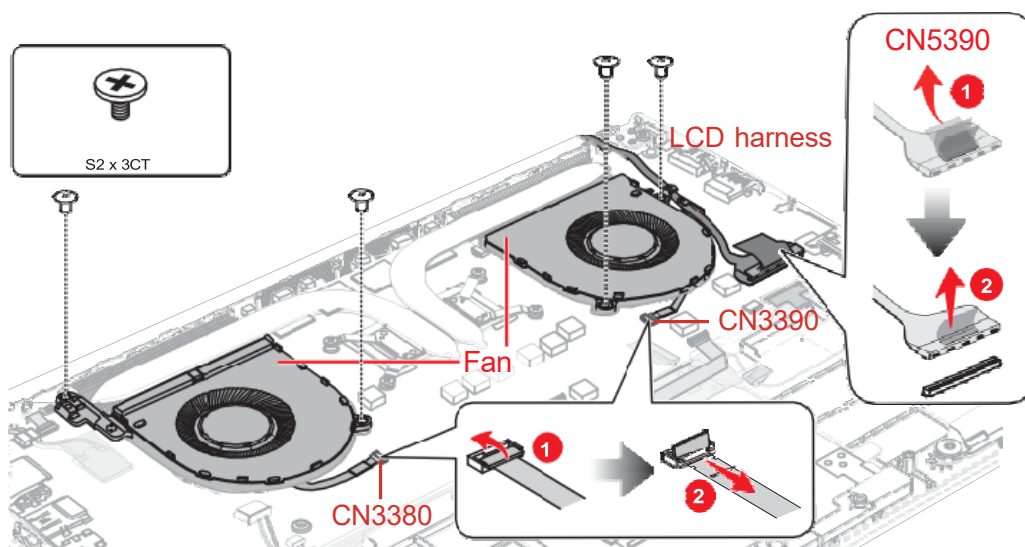2. Push down the **SSD** and secure it with the screw.

4.13 Fan

4.13.1 Removing the Fan

To remove the Fan, follow the steps below.

1. Disconnect the **LCD harness** from the connector **CN5390** on the **System Board.**
2. Disconnect the **Fan harness** from the connector **CN3380** and **CN3390** on the **System Board.**
3. Remove the following screws and the **Fan** from the Cover Assembly.
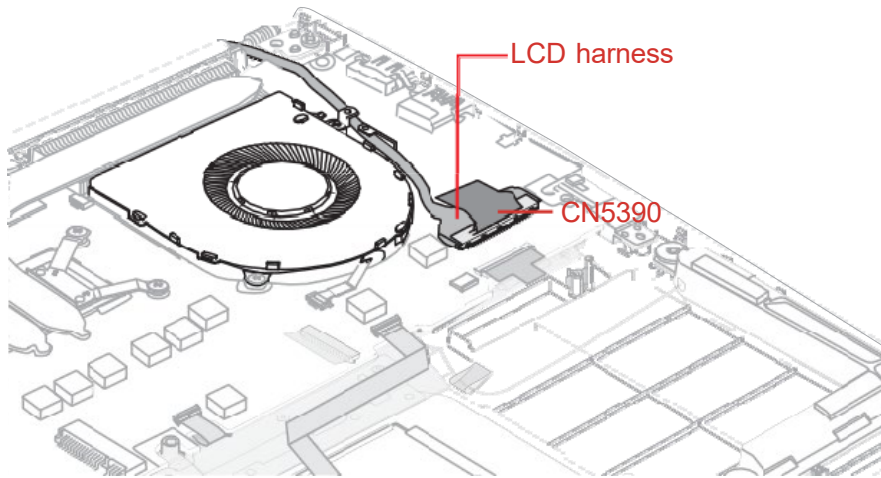
Figure 4-8 Removing the Fan

4.13.2 Installing the Fan

To install the Fan, follow the steps below.

1. Set the **Fan** in place on the Cover Assembly and secure it with the screws.
2. Connect the **Fan harness** to the connector **CN3380** and **CN3390** on the **System Board**.
3. Arrange the **LCD harness** in place, and connect the harness to the connector.
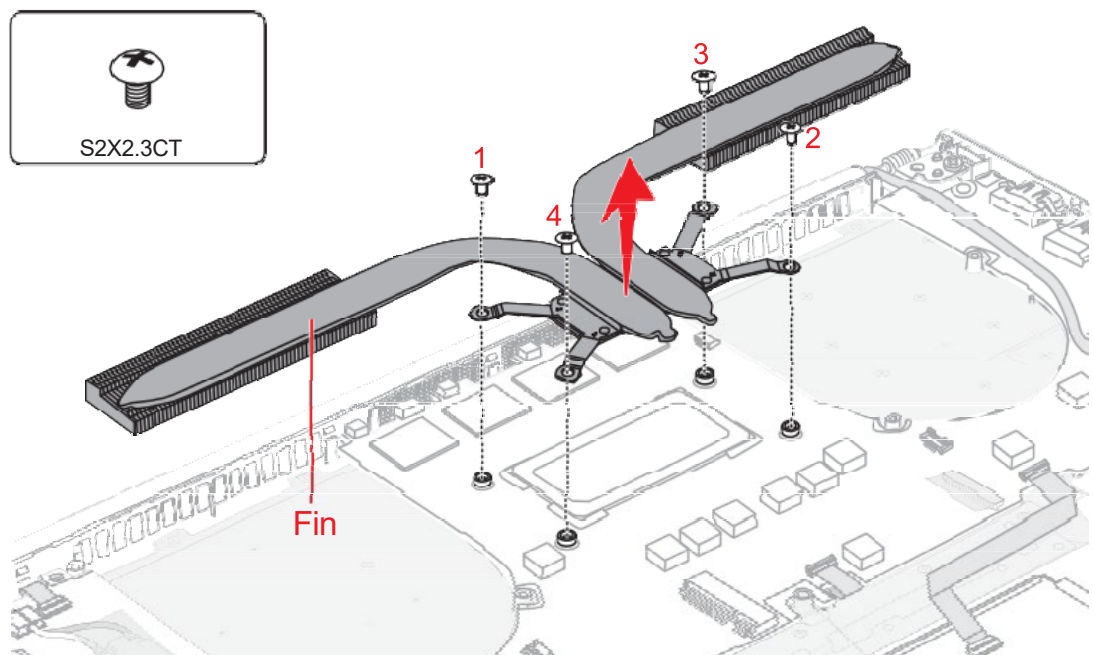
Figure 4-9 Installing the Fan

LCD harness

CN5390

4.14   Fin

4.14.1   Removing the Fin

To remove the Fin, follow the steps below.

1.   Remove the following screws and then the **Fin**.

Figure 4-10 Removing the Fin

Figure 4-10 Removing the Fin

4.14.2 Installing the Fin

To install the Fin, follow the steps below.

1. Set the **Fin** in place and secure it with the screws.
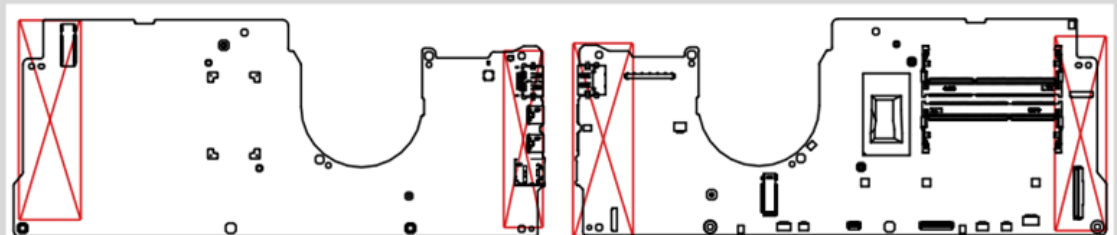
> When installing the Fin, be sure to install the screws in the order of the number marked on the Fin.

4.15 System board

> 1. If replacing with a new system board, update the DMI information as described in Chapter 3, *Tests and Diagnostics*. Also update with the latest BIOS and EC/KBC as described in Appendix G, *BIOS Rewrite Procedures*, and Appendix H, *EC/KBC Rewrite Procedures*.
>
> 2. When replacing the system board with a new one, the ProductKey (MBR-DPK) must be written on the system board.
>
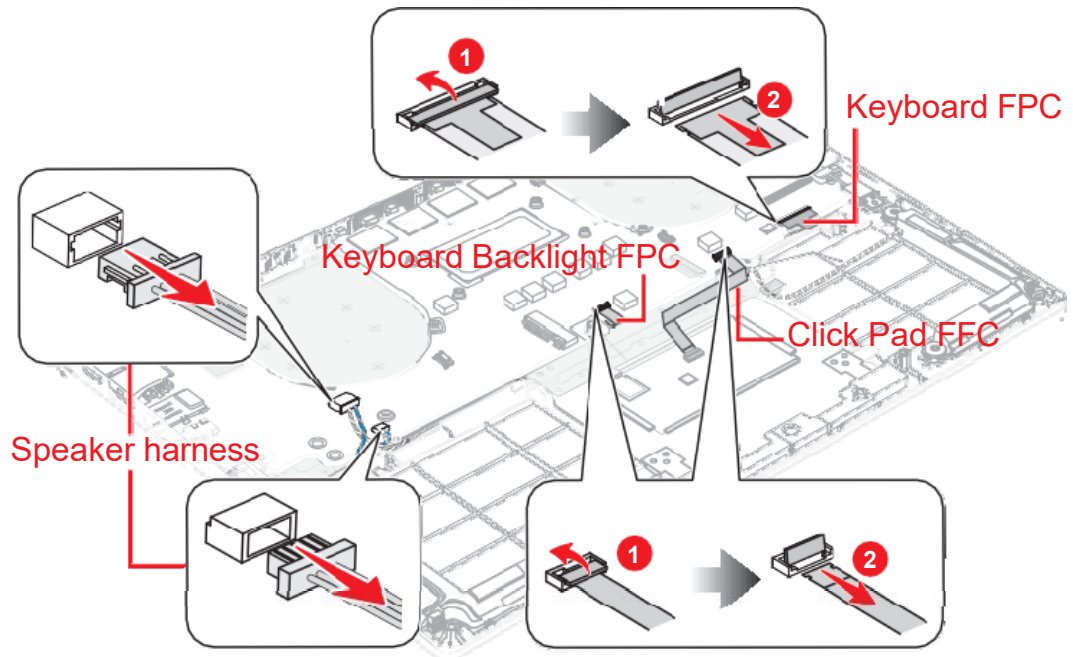> 3. When removing/installing the system board, do not handle with the handling prohibition area.

4.15.1 Removing the System board

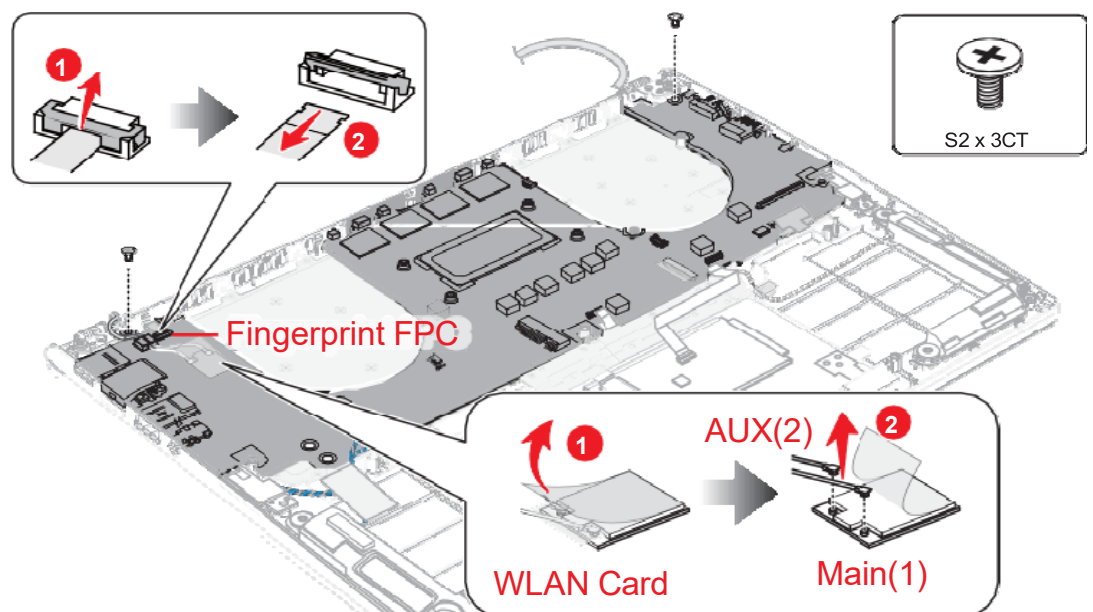To remove the system board, follow the steps below.

1. Disconnect the **Keyboard FPC, Click Pad FFC, Keyboard Backlight FPC, Speaker harness** from the **System Board**.

Figure 4-11 Removing the system board (1)

2. Disconnect the **Fingerprint FPC** from the connector **CN9551** on the **System Board**.

3. Disconnect the **Wireless LAN antenna** cable from the connector on the Wireless LAN card (black cable from "**AUX**" or "**2**" and white cable from "**Main**" or "**1**").

4. Remove the following the screws. Carefully lift up the system board.

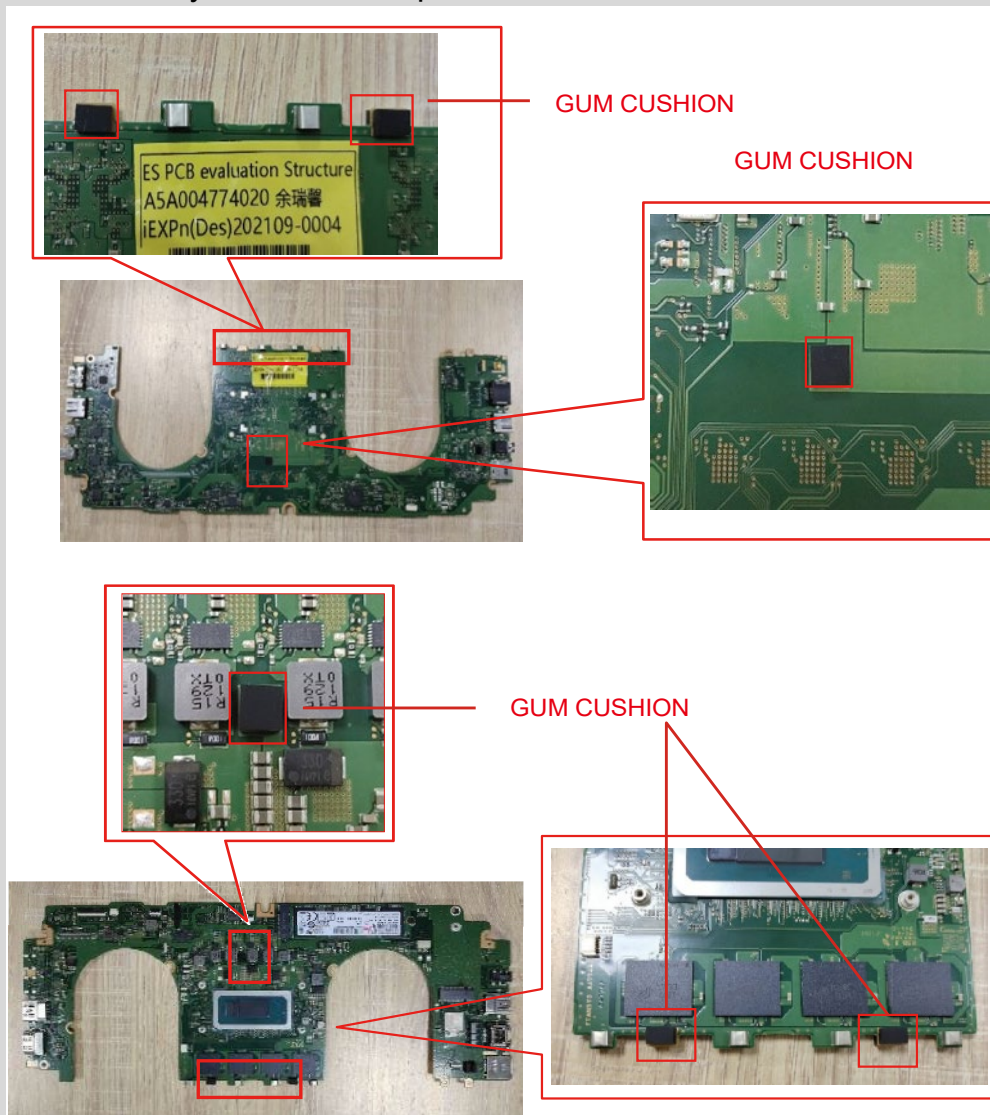*Figure 4-12 Removing the system board (2)*
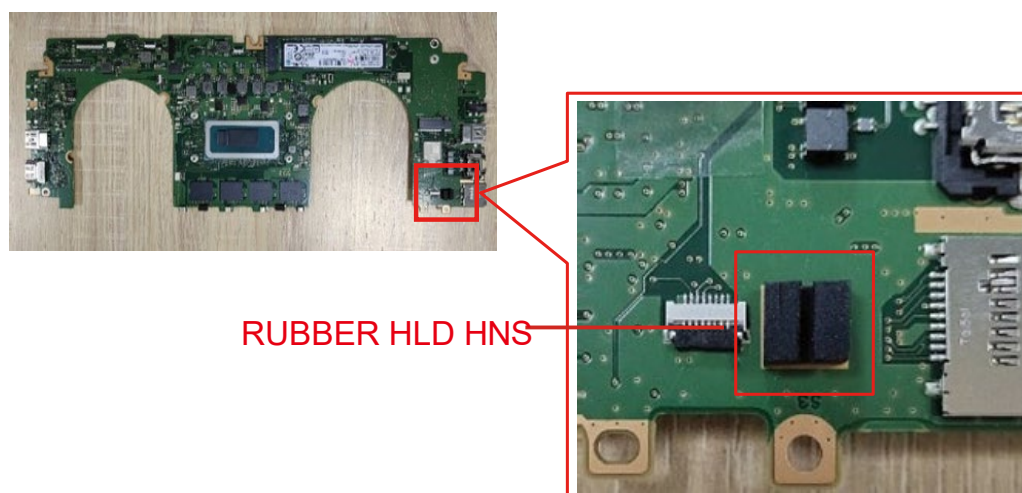
4.15.2 Installing the System board

To install the system board, follow the steps below.

1. Set the system board in place.
2. Secure the system board with the screws.
3. Connect the **Keyboard FPC, Click Pad FFC, Keyboard Backlight FPC, Speaker harness, Fingerprint FPC** to the **System Board**.
4. Connect the **Wireless LAN antenna cable** to the connectors on the Wireless LAN card (black cable from "**AUX** or "**2**" and white cable from "**Main**" or "**1**").

![dynabook logo]

When replacing the system board with a new one, stick six pieces of **GUM CHUSION** on the system board in place.

GUM CUSHION

GUM CUSHION

ES PCB evaluation Structure
A5A004774020 余瑞馨
iEXPn(Des)202109-0004

GUM CUSHION

When replacing the system board with a new one, stick a **RUBBER HLD HNS** on the system board in place.
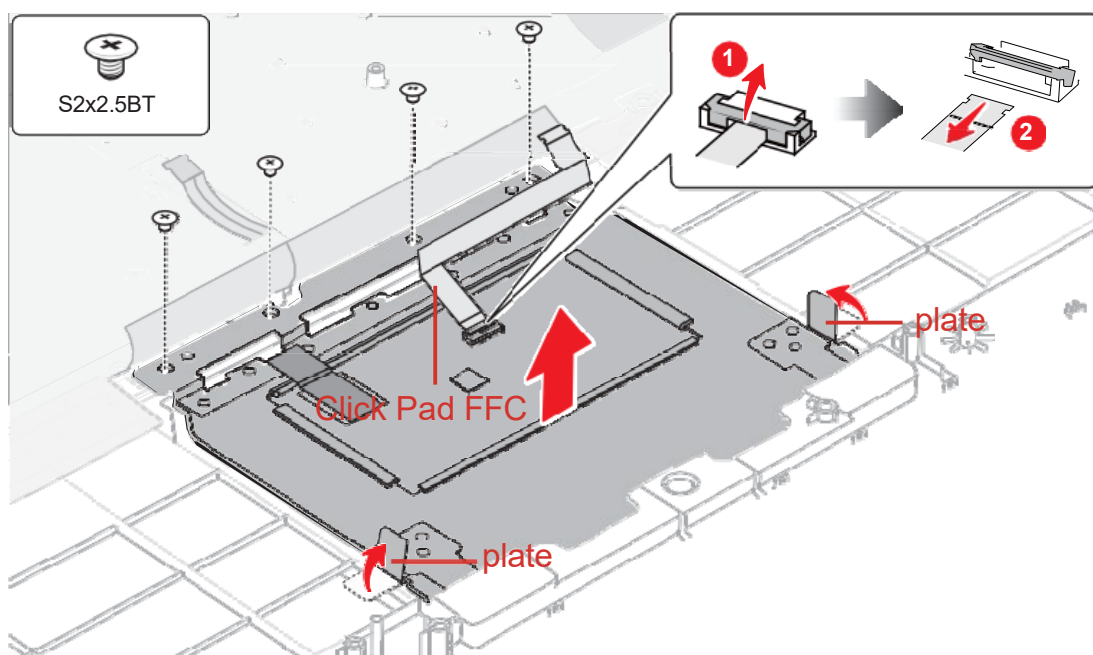

RUBBER HLD HNS

4.16   Click pad

4.16.1   Removing the Click pad

To remove the click pad, follow the steps below.

1. Disconnect the **Click Pad FFC** from the connector on the Click Pad.

2. Remove the following screws, and then lift the **plate** shown in the following figure to remove the Click pad.

Figure 4-13 Removing the Click pad (1)

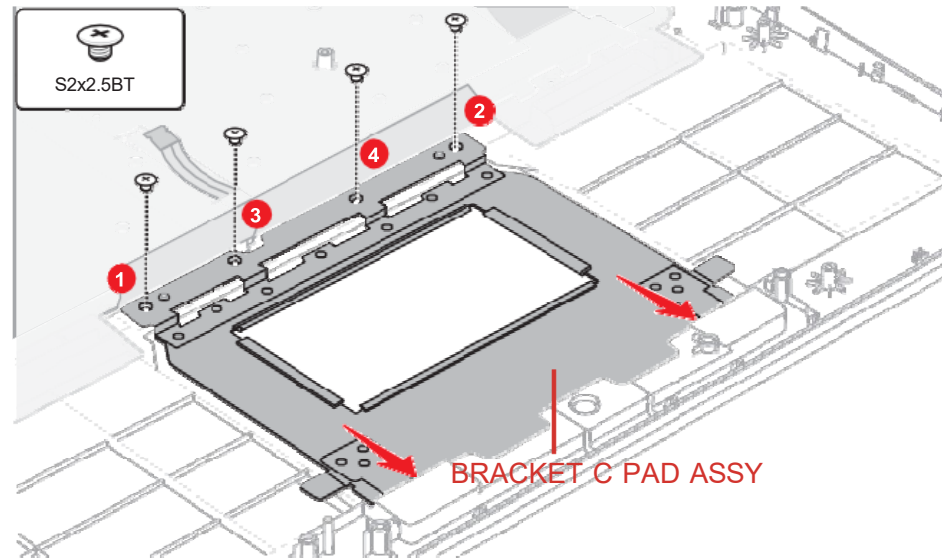## 4.16.2   Installing the Click pad

> Do not reuse the removed Click pad. Be sure to use new one.
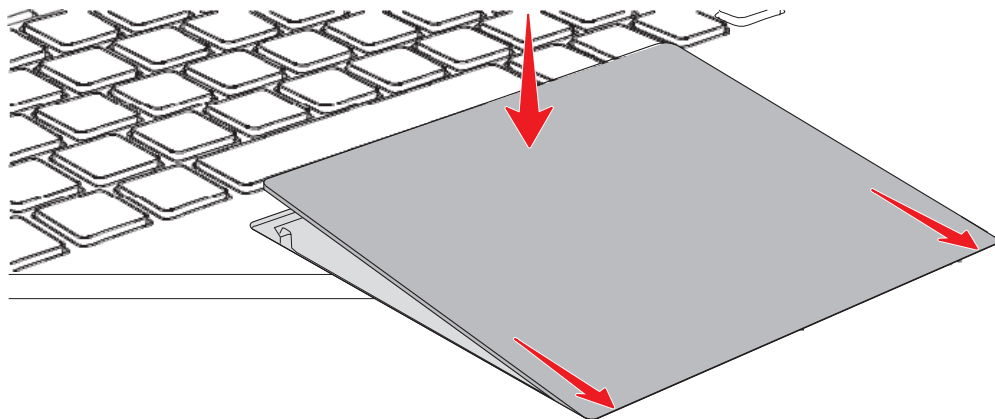
To install the Click pad, follow the steps below.

1. Stick the **CAPD MYLAR** to the new Click pad.

2. Set the **BRACKET C PAD ASSY** to the Cover Assembly and secure it with the screws.
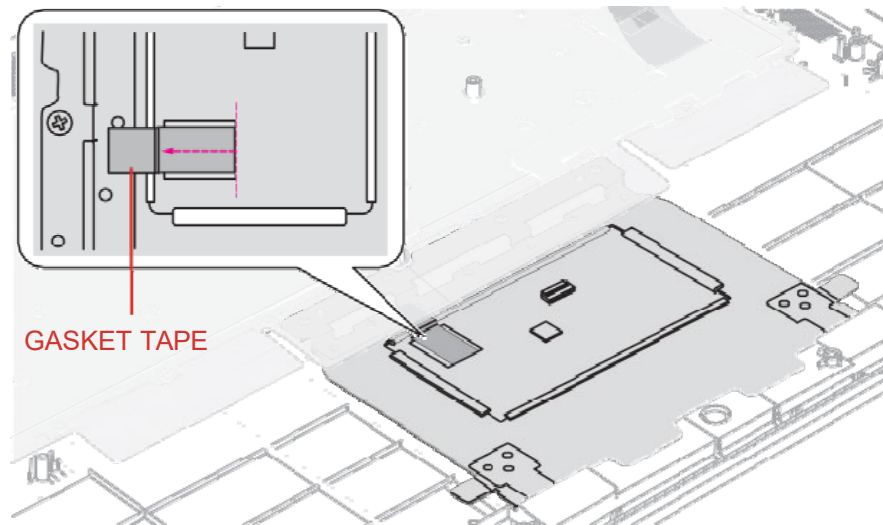
Figure 4-14 Installing the Click pad (1)

S2x2.5BT

BRACKET C PAD ASSY

3. Stick a new Click pad to the Cover Assembly.

Figure 4-15 Installing the Click pad (2)

4. Stick a new **GASKET TAPE** to the Click pad.

GASKET TAPE

5. Connect the **Click Pad FFC** to the connector on the Click Pad and the connector **CN9510** on the **System Board.**
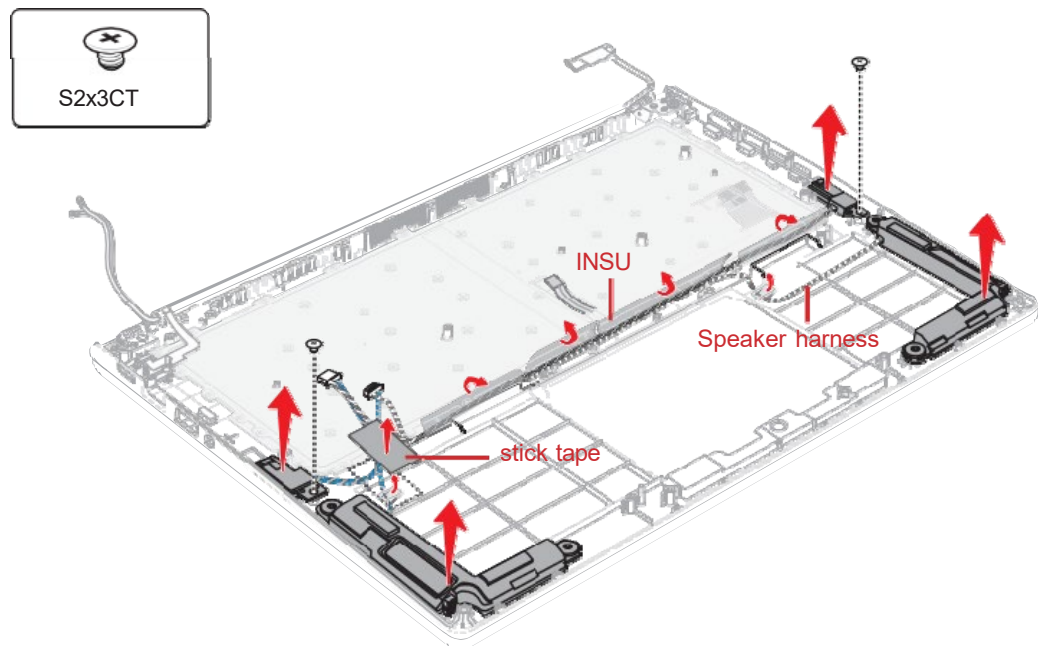
4.17 Speaker

4.17.1 Removing the Speaker

To remove the Speaker, follow the steps below.

1. Disconnect the **Speaker harness** from the connector **CN6290** and **CN6291** on the system board.

2. Open the **INSU** and **stick tape**. Release the **Speaker harness** from the guides.

3. Remove the the following screws and the Speaker from the slot on the Cover Assembly.

Figure 4-17 Removing the Speaker

4.17.2 Installing the Speaker

To install the Speaker, follow the steps below.

1. Set the speakers to the slots of the Cover Assembly and secure it with the screws.

2. Arrange the **Speaker harness** under the guides and fix it with the new **INSU** and **stick tape**.

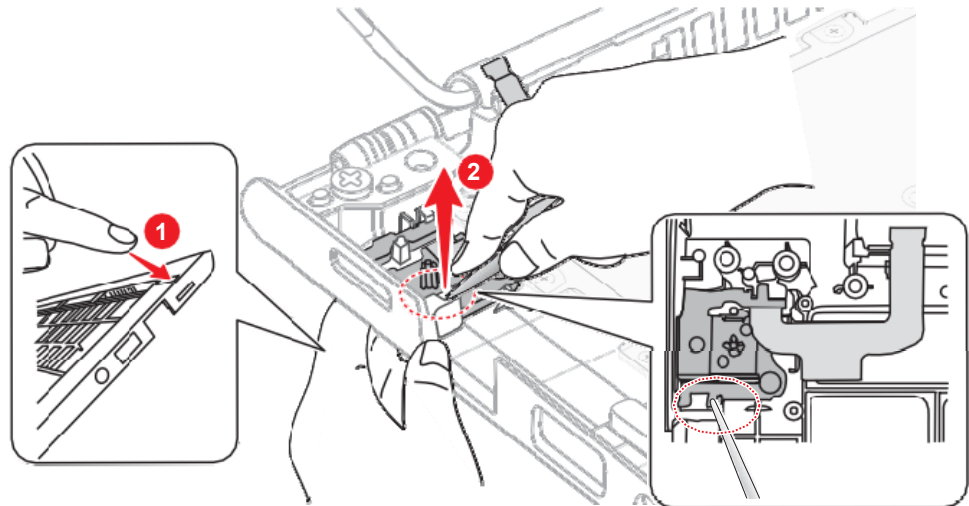3. Connect the Speaker harness to the connector **CN6290** and **CN6291** on the system board.

4.18   Power button & Fingerprint sensor

4.18.1   Removing the Power button & Fingerprint sensor

To remove the Power button & Fingerprint sensor, follow the steps below.

1. Remove the Power button & Fingerprint sensor from the Cover Assembly as shown in below figure.

Figure 4-18 Removing the Power button & Fingerprint sensor

4.18.2   Installing the Power button & Fingerprint sensor

To install the Power button & Fingerprint sensor, follow the steps below.

1. Align the module with guide pins on the Cover Assembly and set the Power button in place.
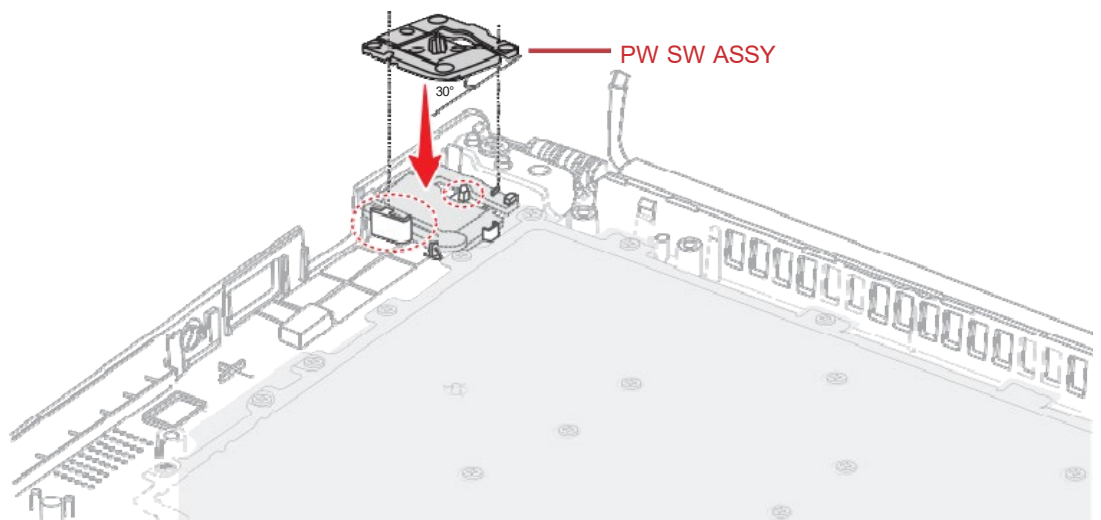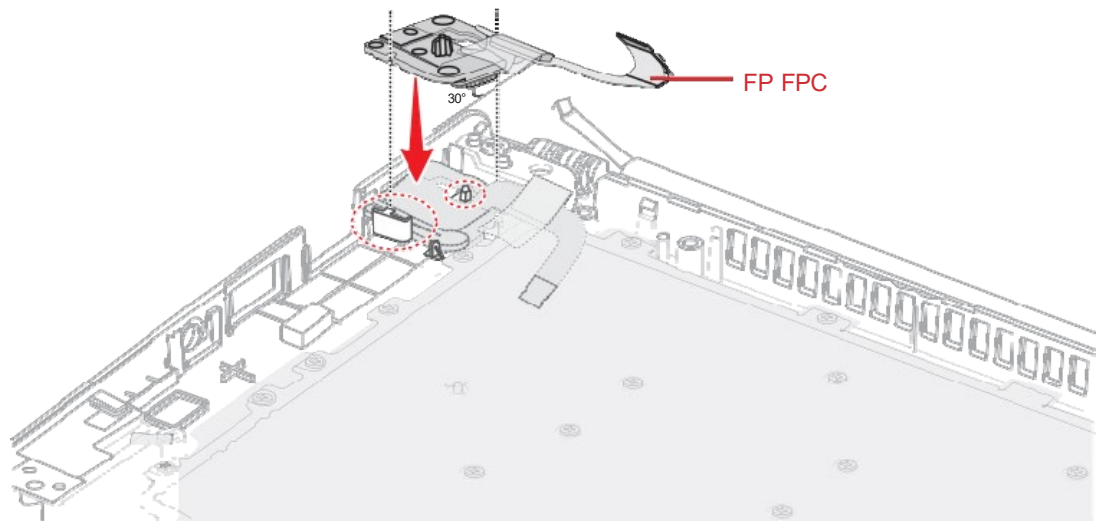
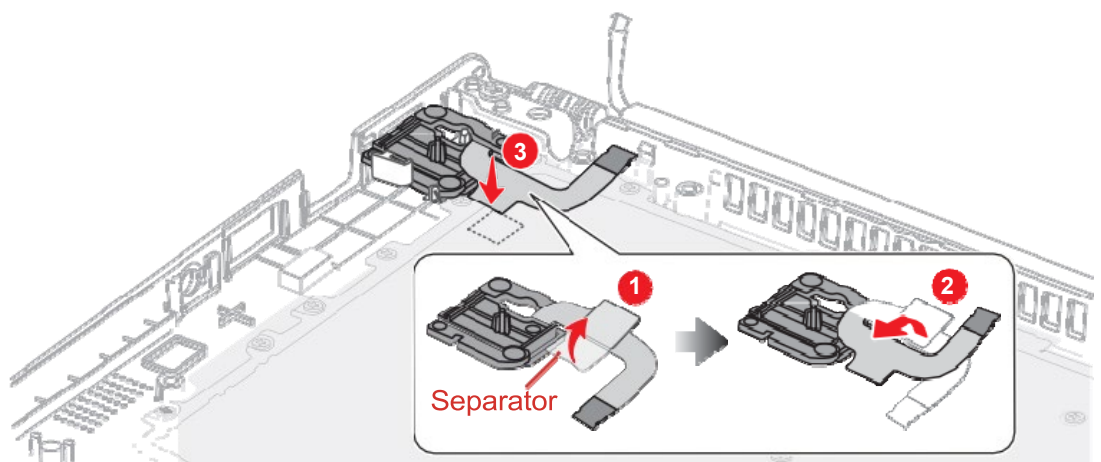*Figure 4-19 Installing the Power button (1)*

Figure 4-20 Installing the Power button & Fingerprint sensor (2)

FP FPC

2. **(For Fingerprint model)** Peel off the separator on the **FP FPC** and then stick to the **INSU KB**.

Figure 4-21 Installing the Power button & Fingerprint sensor (3)

Separator

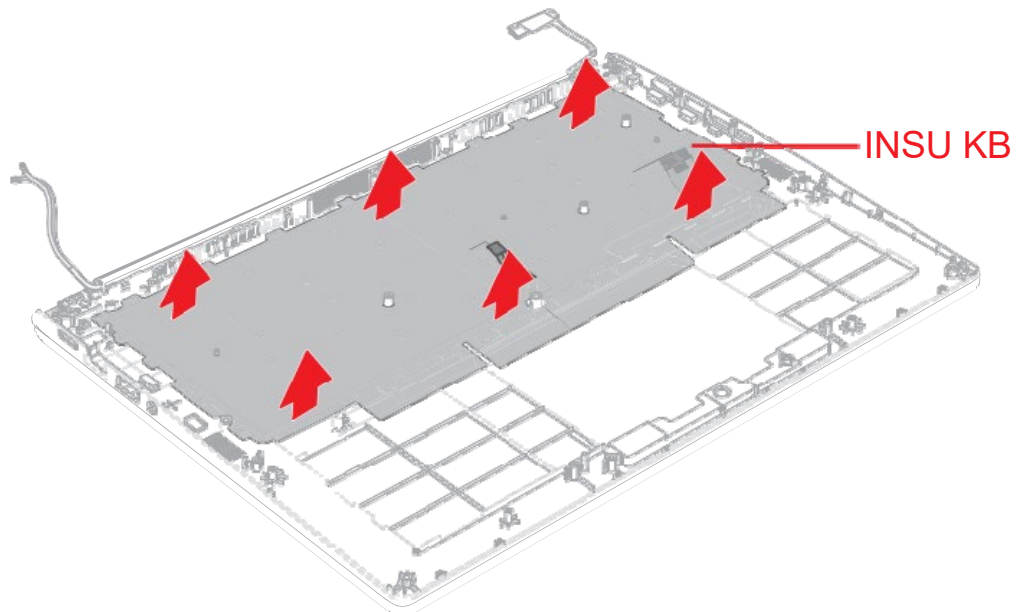# 4.19   Keyboard

4.19.1   Removing the Keyboard

To remove the keyboard, follow the steps below.

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⚠️ As the keytop may fall out, when handling the keyboard, always hold it by the frame and do not touch the key top.
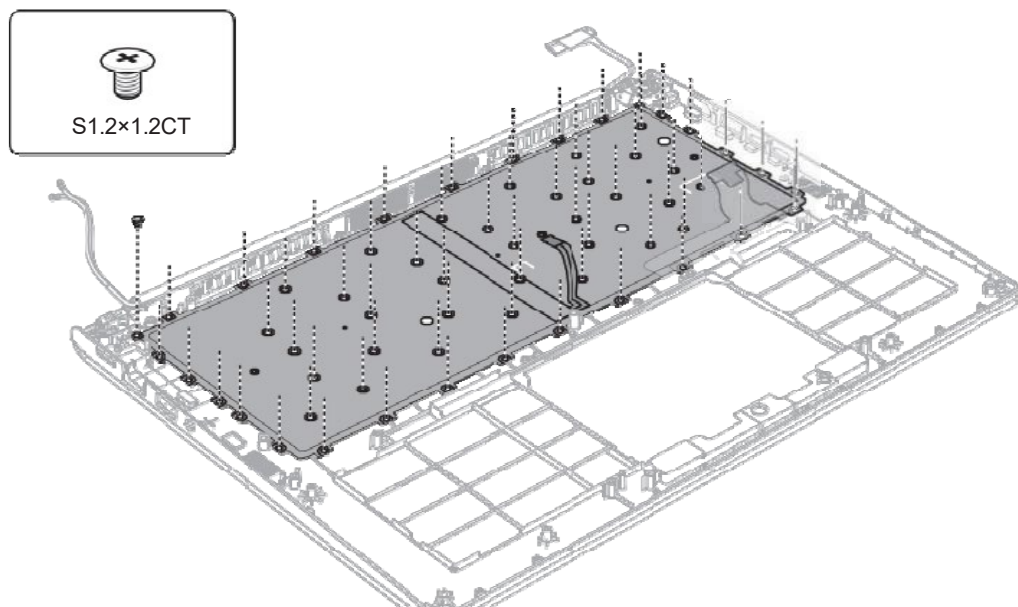
1. Peel off the INSU KB.

Figure 4-22 Removing the keyboard (1)

INSU KB

2. Remove the following screws and then keyboard.

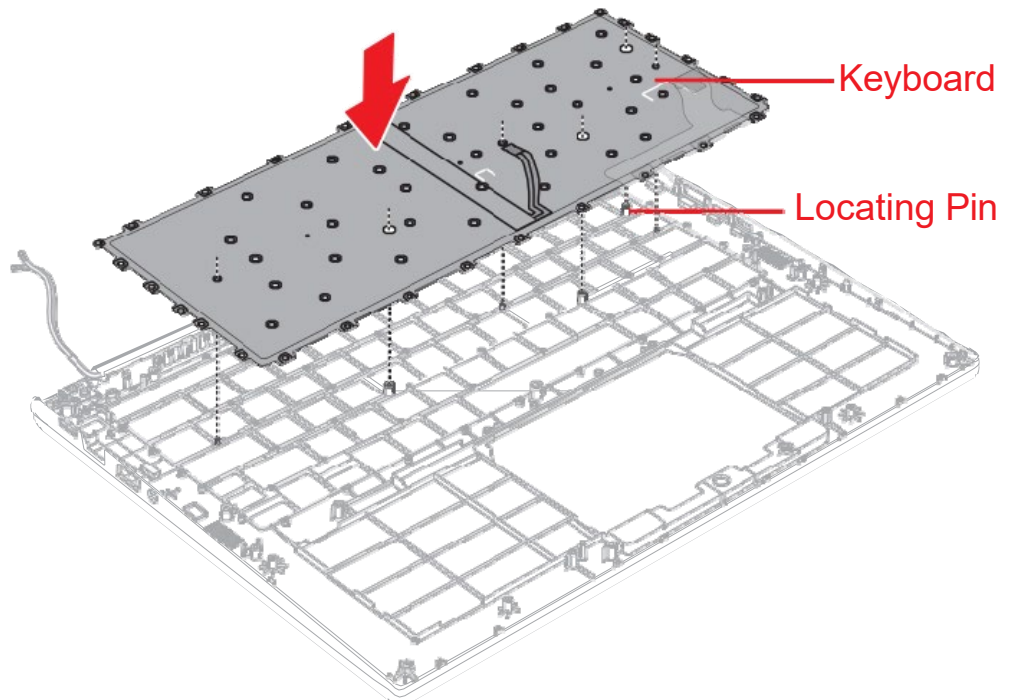*Figure 4-23 Removing the keyboard (2)*

S1.2×1.2CT

4.19.2   Installing the Keyboard
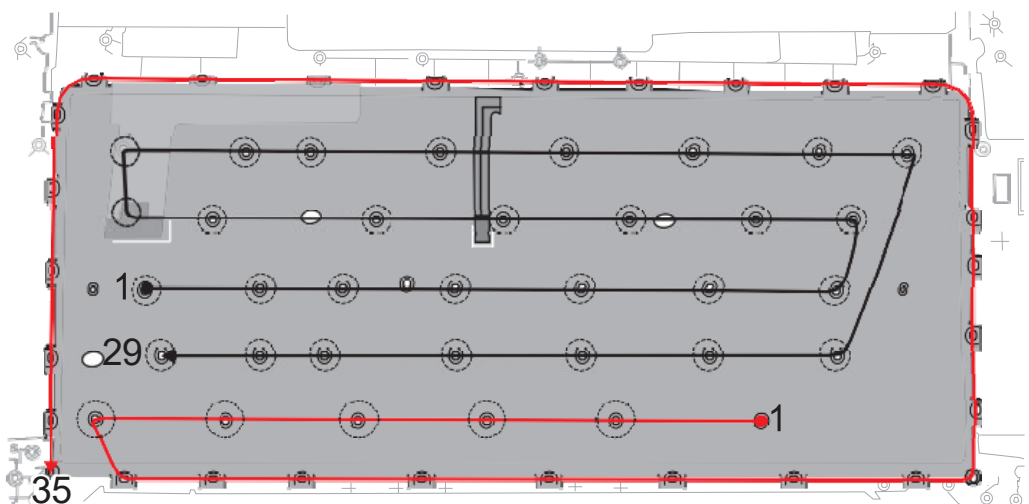
To install the keyboard, follow the steps below.

1. Align the **locating pins** and set the keyboard to the Cover Assembly in place.

Figure 4-24 Installing the keyboard (1)

Keyboard

Locating Pin

2. Secure keyboard with the following screws. Be sure to secure the screws follow the arrow order on below figure.

Figure 4-25 Installing the keyboard (2)

3. Stick a new **INSU KB** to the Cover Assembly in place. Make sure the whole INSU KB is flatly sticked including the four corners.

4.20   Wireless LAN card

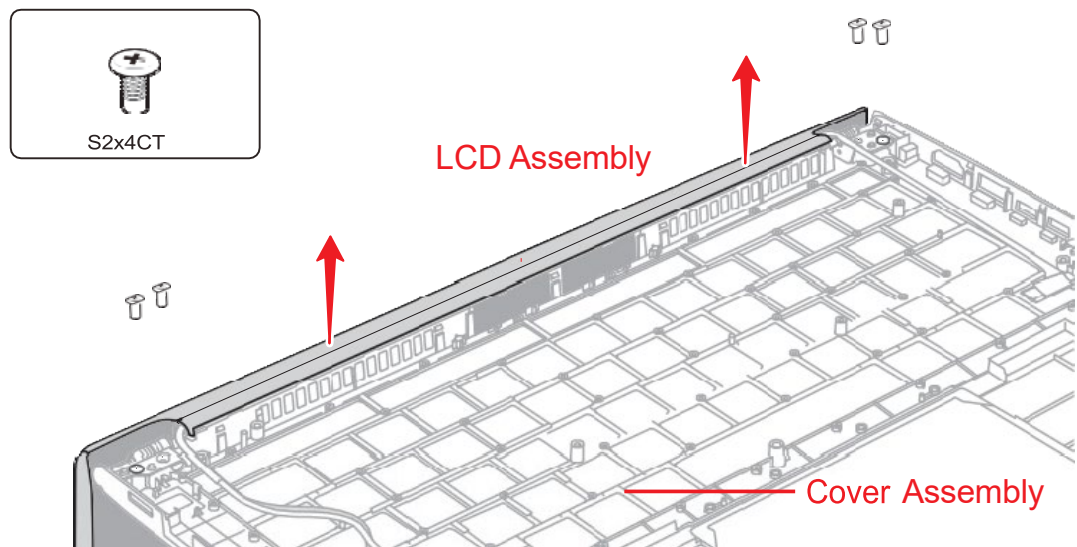### 4.20.1   Removing/Insatalling the Wireless LAN card

The Wireless LAN card cannot be removed, please replace it with a new System Board.

4.20.2 Removing the W-LAN antenna

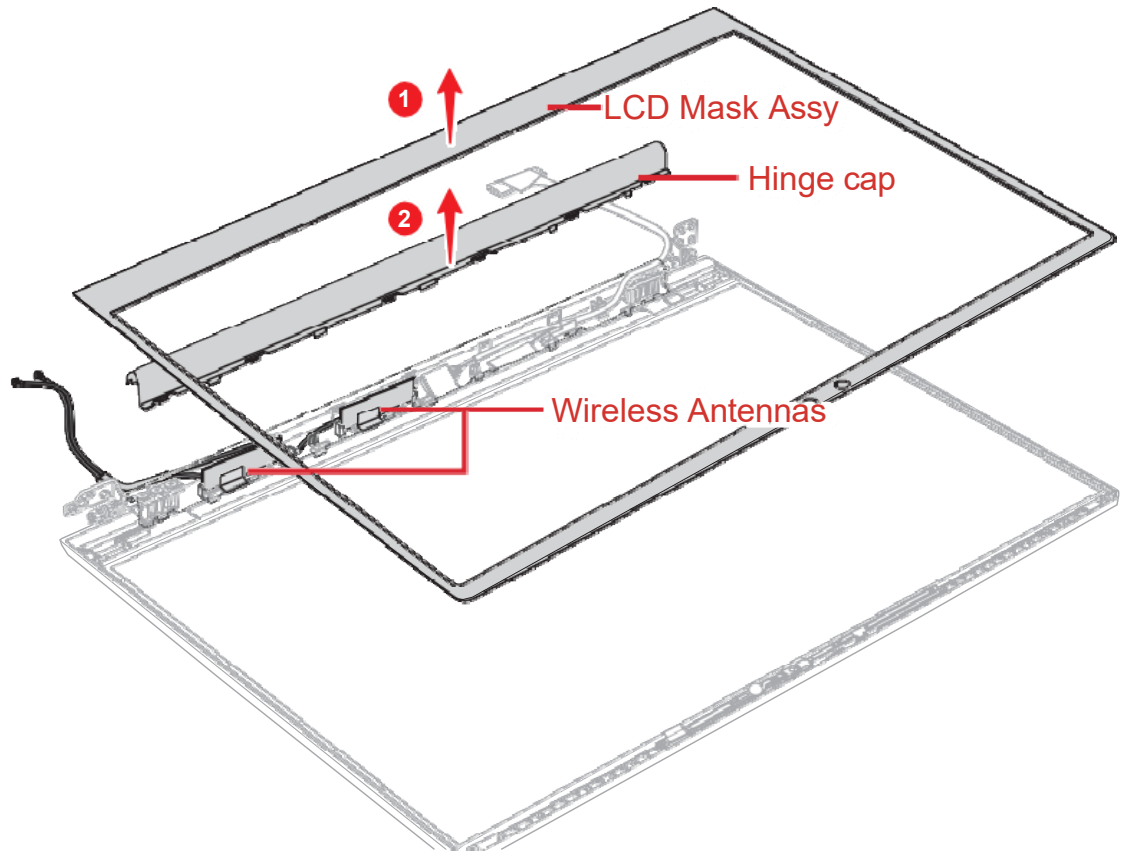To remove the wireless antenna, follow the steps below.

1. Release the following **screws** and separate the LCD Assembly and Cover Assembly.

Figure 4-26 Removing the W-LAN ANTENNA (1)

2. Remove the **LCD mask** from the LCD Cover Assembly and then Remove **hinge cap**.
3. Peel off the wireless LAN antennas from the LCD cover.

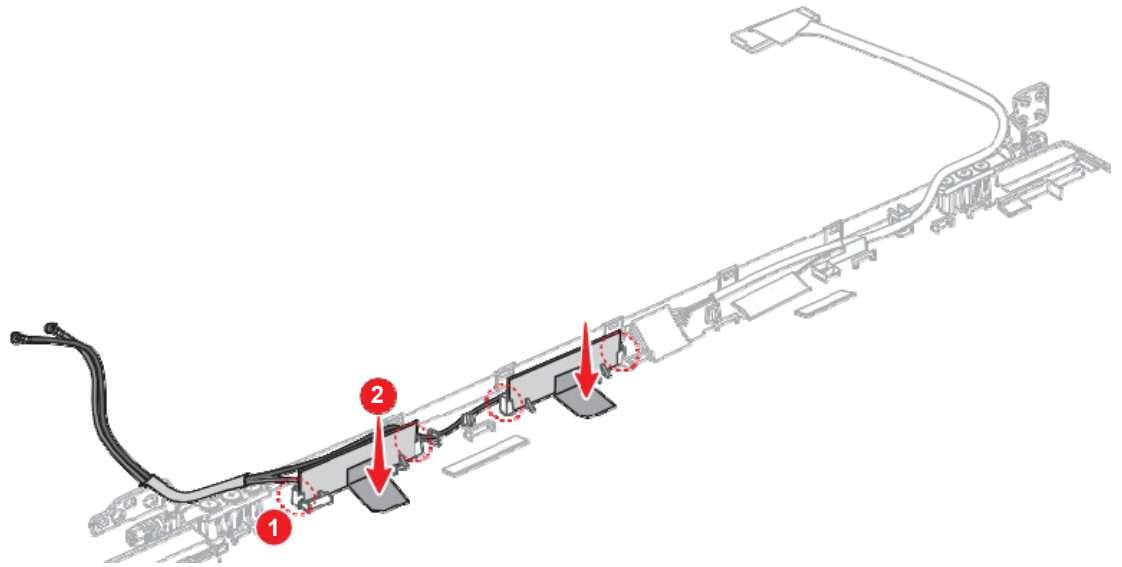*Figure 4-27 Removing the W-LAN antenna (2)*

4.20.3 Installing the W-LAN antenna

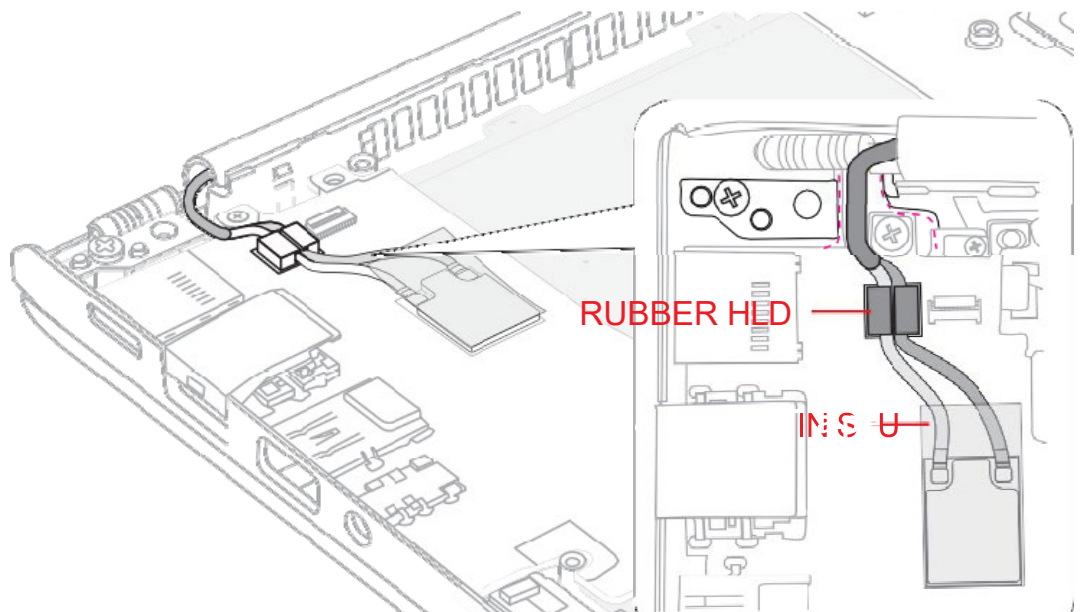To install the W-LAN antenna, follow the steps below.

1. Stick new **Wireless antennas** in place.
2. Arrange the **Wireless antenna cables** in place as shown in below figure.

Figure 4-28 Installing the W-LAN antenna (1)

3. Set the **hinge cap** while engaging the latches.

4. Peel off the **separator** on the LCD mask and then set the LCD mask on the LCD cover.

5. Arrange the Wireless antenna cables in place and secure it with **RUBBER HLD.**

6. Stick a new **INSU** on the wireless LAN card.
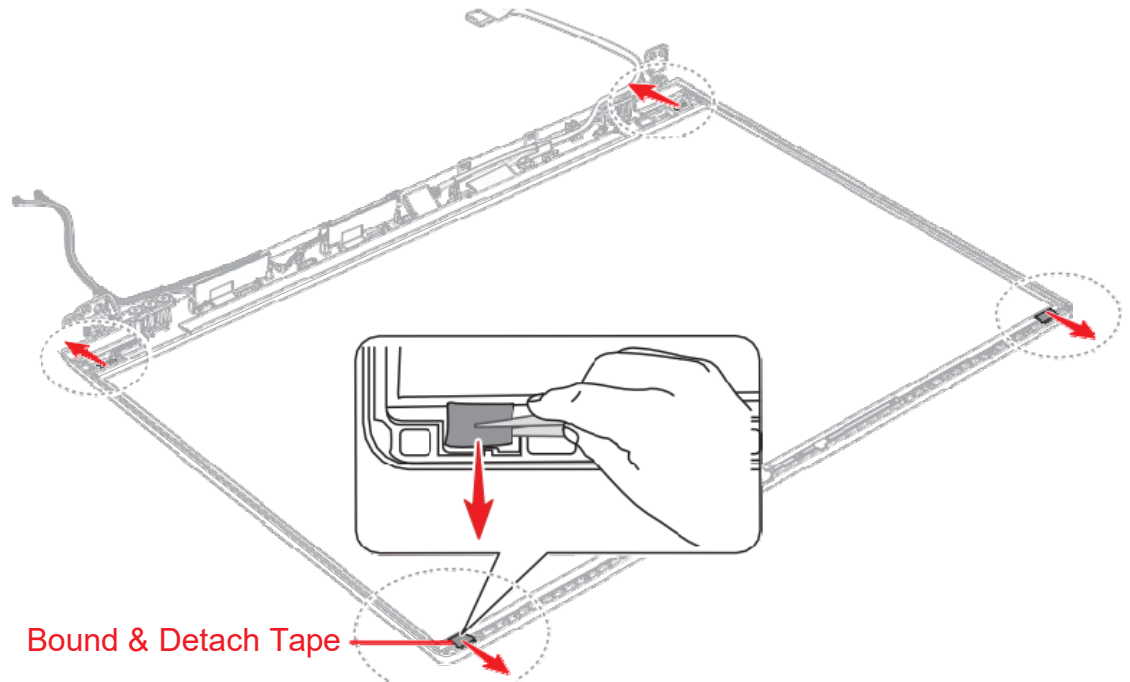
Figure 4-29 Installing the W-LAN antenna(2)

RUBBER HLD

INSU

4.21 LCD Assembly

4.21.1 Removing the LCD unit

To remove the LCD unit, follow the steps below.

1. Grasp the bound & detach tapes and pull out the tapes slowly and parallelly from the LCD cover.

Figure 4-30 Removing the LCD unit (1)

Bound & Detach Tape

2. Take out the LCD unit.
   Be careful that the LCD harness is connected to the connector on the back of the LCD unit.

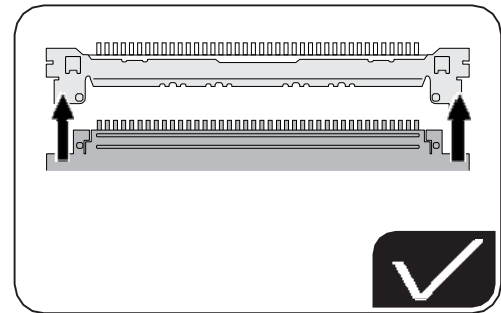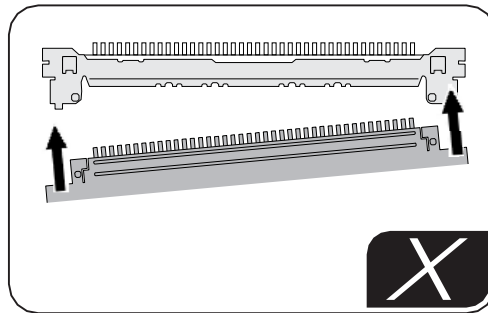3. Peel the pull tape and disconnect the LCD harness from the connector on the LCD unit.

4.21.2 Installing the LCD unit

To install the LCD unit, follow the steps below.

1. Connect the LCD harness to the connector on the LCD unit and secure it with the pull tape and glass tape.
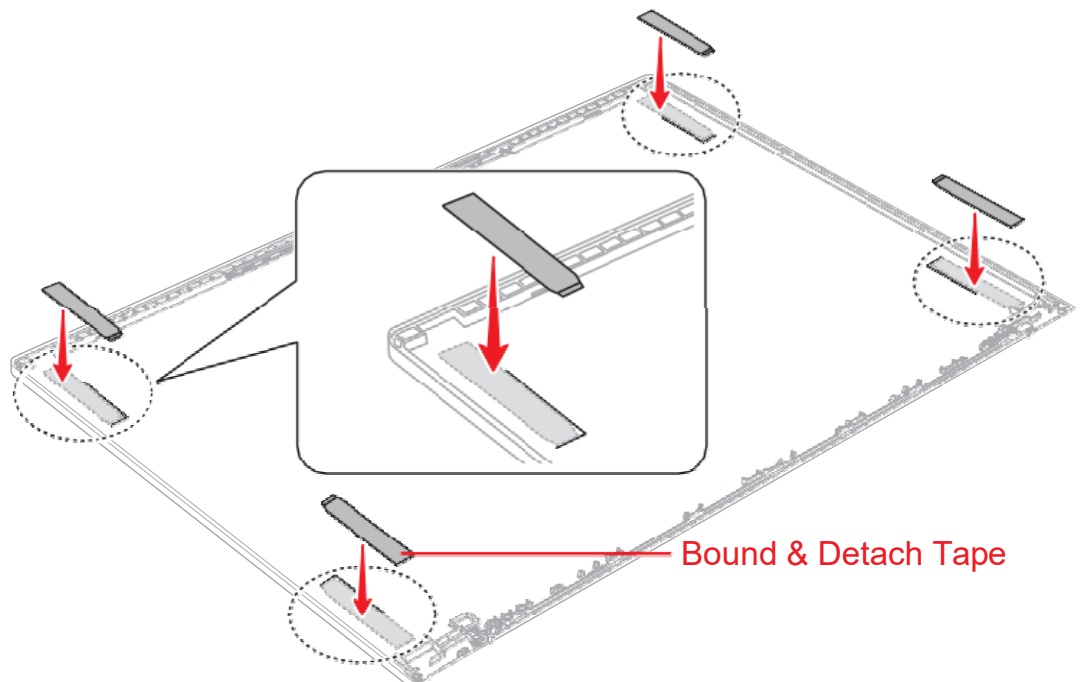
⚠️ When connect the LCD harness, make sure to connect the right and left side at the same time as shown in the figure below.
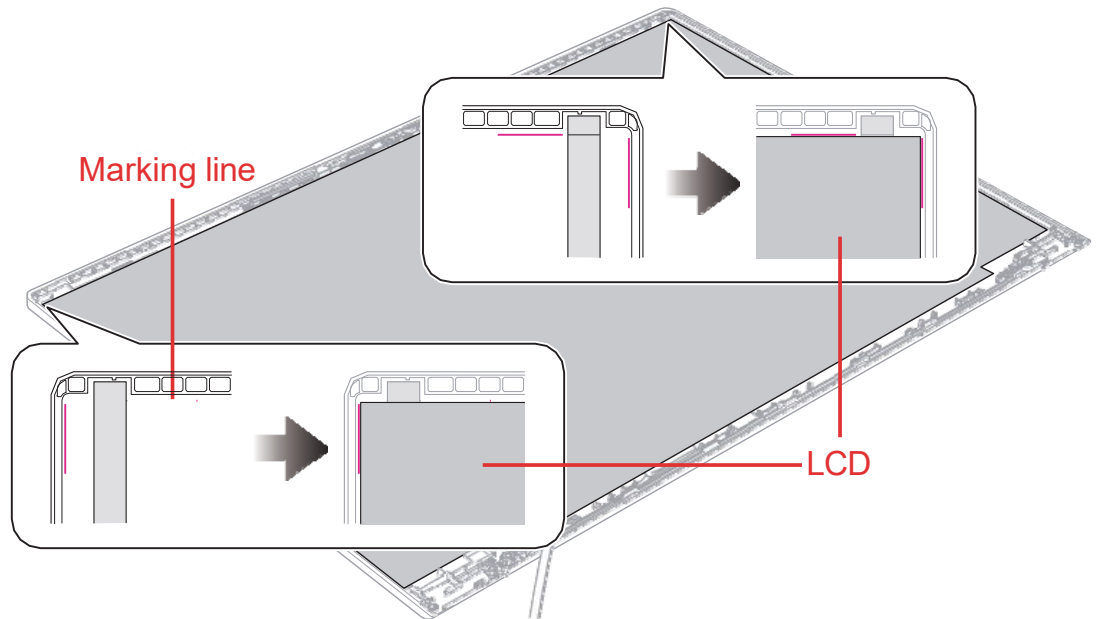

2. Remove the **Mylar** from the LCD cover first and then stick 4 pieces of bound & detach tapes referring to the **marking line** on the LCD cover.

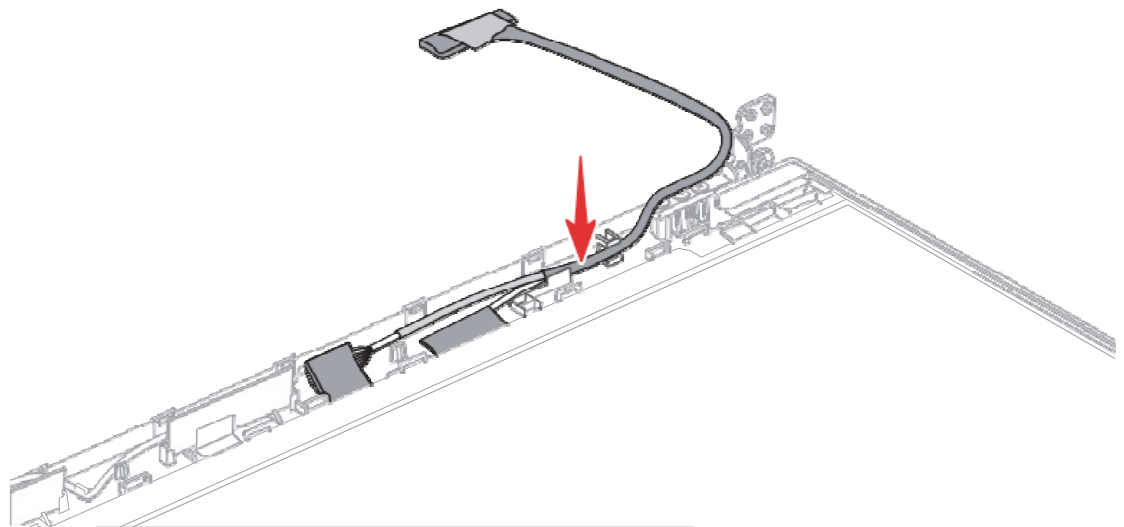*Figure 4-31 Installing the LCD unit (1)*

Bound & Detach Tape

3. Peel off the separators on the bound & detach tapes and then align the **marking line** on the LCD cover to set the LCD in place.

Figure 4-32 Installing the LCD unit (2)

4. Arrange the LCD harness under the guides of the LCD cover.

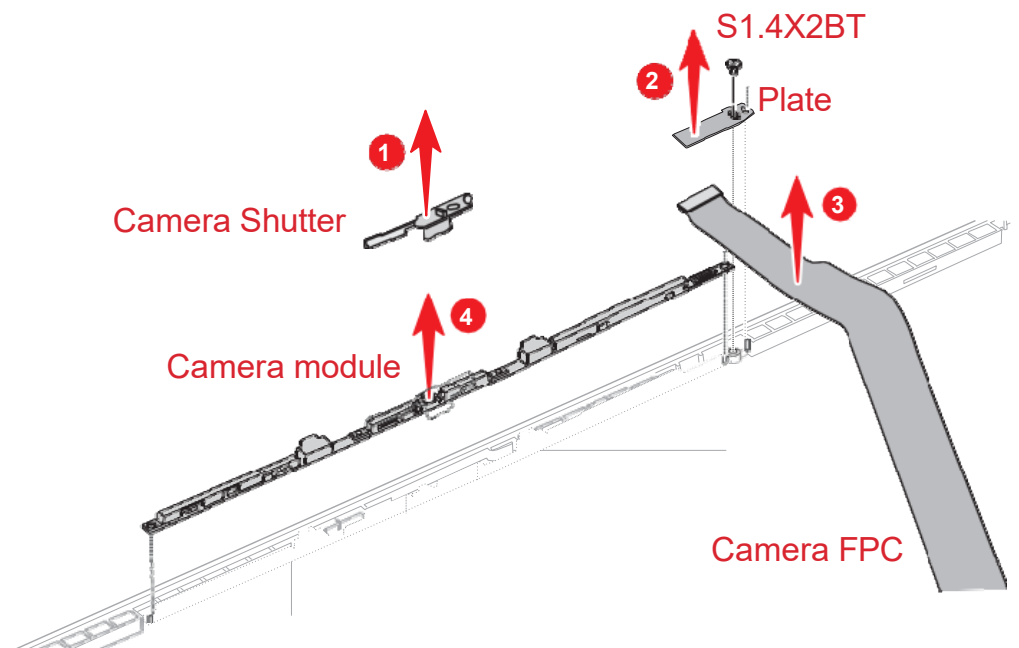*Figure 4-33 Installing the LCD unit (3)*

4.22 Camera module

4.22.1 Removing the Camera module

To remove the camera module, follow the steps below.

1. Remove the **Camera Shutter**, **screw** and **plate**.
2. Disconnect the **FPC** from the connector on the camera module.
3. Peel off the **camera module** from the slot of the LCD cover.

Figure 4-34 Removing the camera module (1)

Do not reuse the removed camera module. Be sure to use new camera module.

4.22.2 Installing the Camera module

To install the camera module, follow the steps below.

1. Connect the **Camera FPC** to the connector on the camera module.
2. Peel off a protection sheet from a new camera module and stick the new **camera module** to the LCD cover.
3. Set the **Plate** in place and secure it with the screw.
4. Set the **Camera Shutter** in place.

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<u>AC Adapter, External cables provided with the AC adapter and USB cables</u>

The AC adapter as well as all external cables provided with the notebook including the AC adapter cables and USB cables should be segregated and sent for shredding.

The following components contained within the AC adapter potentially contain hazardous substances and require special handling:

- Printed Circuit Board >10 cm^2
- Capacitor >25 mm in height

Photos of the AC adapter and the components noted above are included below.
The notebook has one of two types of AC adapter.

USB connection type

AC adapter

AC Adapter with casing removed

AC Adapter printed circuit board

AC adapter capacitor

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Conventional type

AC adapter

AC Adapter with casing removed

AC adapter printed circuit board

AC adapter capacitor