4.14 Speakers

Removing the Speakers

To remove the speakers, follow the steps below and refer to figure 4-33, 4-34.

1. Seat the **top cover and display assembly**.

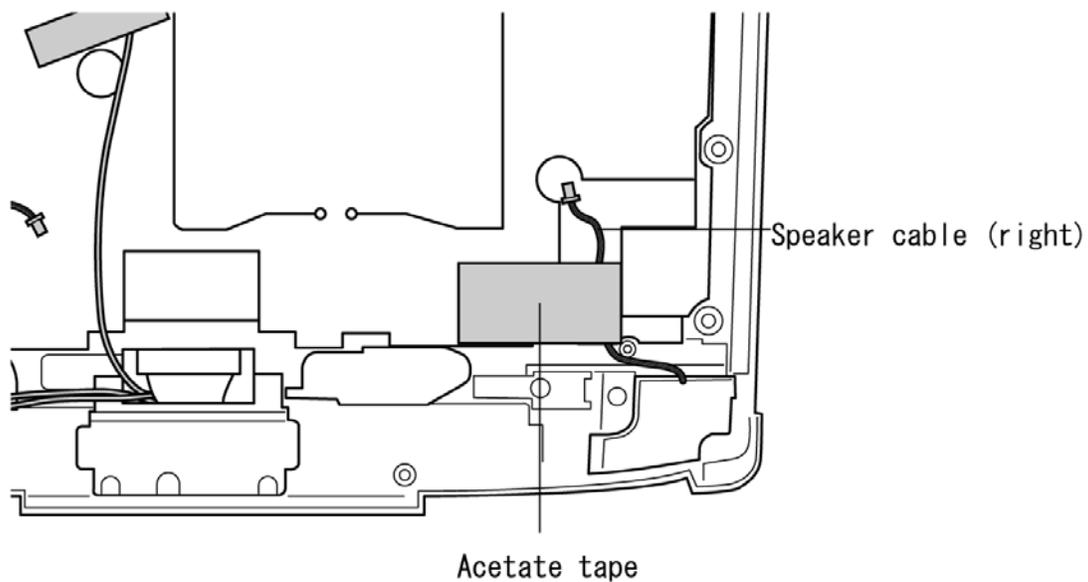2. Remove the **acetate tape** fixing the speaker cable (right) on the back.

Figure 4-33   Removing the glass tape

3. Remove **two M2x3 silver flat head screws**.

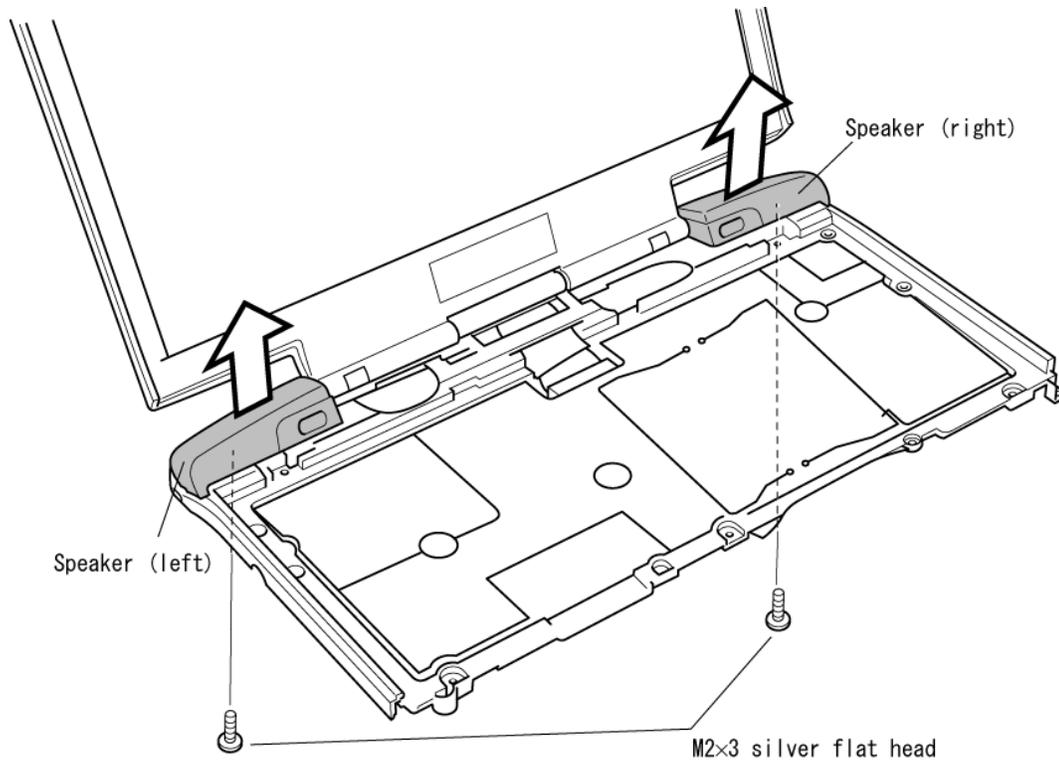4. Grasp the **speakers** and lift up to remove it.

Figure 4-34   Removing Speakers

Installing the Speakers

To install the speakers, follow the steps below and refer to figure 4-33, 4-34.

1. Pass each **speaker cable** through the hole and seat each **speaker**.

2. Secure each speaker with a **M2x3 silver flat head** screw.

3. Fix the speaker cable (right) with an acetate tape on the back.

4.15 System Board

Removing the System Board

To remove the system board, follow the steps below and refer to figures 4-35 and 4-36.

1. Remove **two M2×4 screws** securing the **system board**.

2. Remove the **glass tapes** securing the **MDC cable** and **Modem/LAN cable**.

3. Disconnect the **MDC cable** from the connector **PJ3022** on the system board.

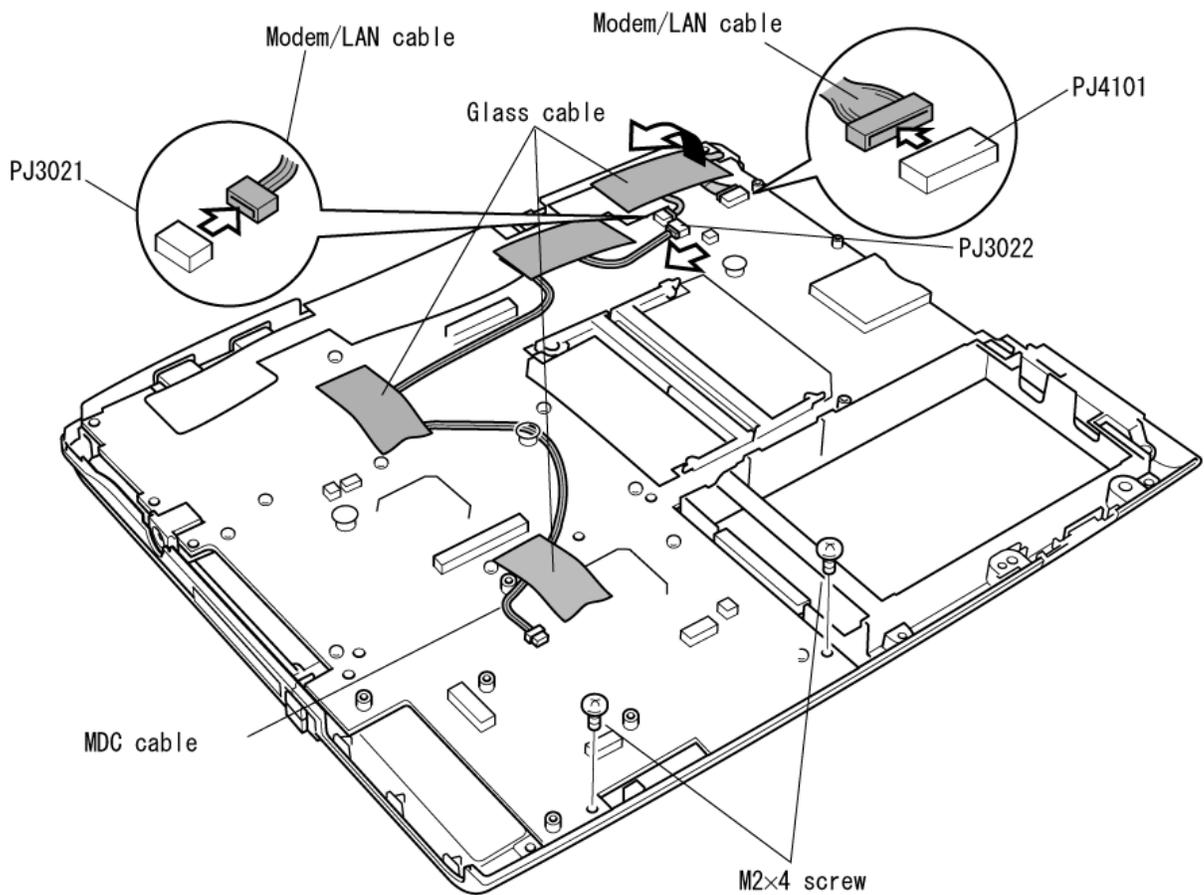4. Disconnect the **Modem/LAN cable** from **PJ3021** and **PJ4101** on the system board.

Figure 4-35   Removing the screws securing the system board

5. Carefully lift up the **system board** to disconnect it from **PJ9500** on the **I/O board**.

CAUTION: *The system board is connected to the IO board by stacking connectors. When*
removing the system board, be sure to lift up the system board
perpendicularly and gently. Do not to give excessive stress to the
connectors. Otherwise the soldered portions of connectors may be damaged
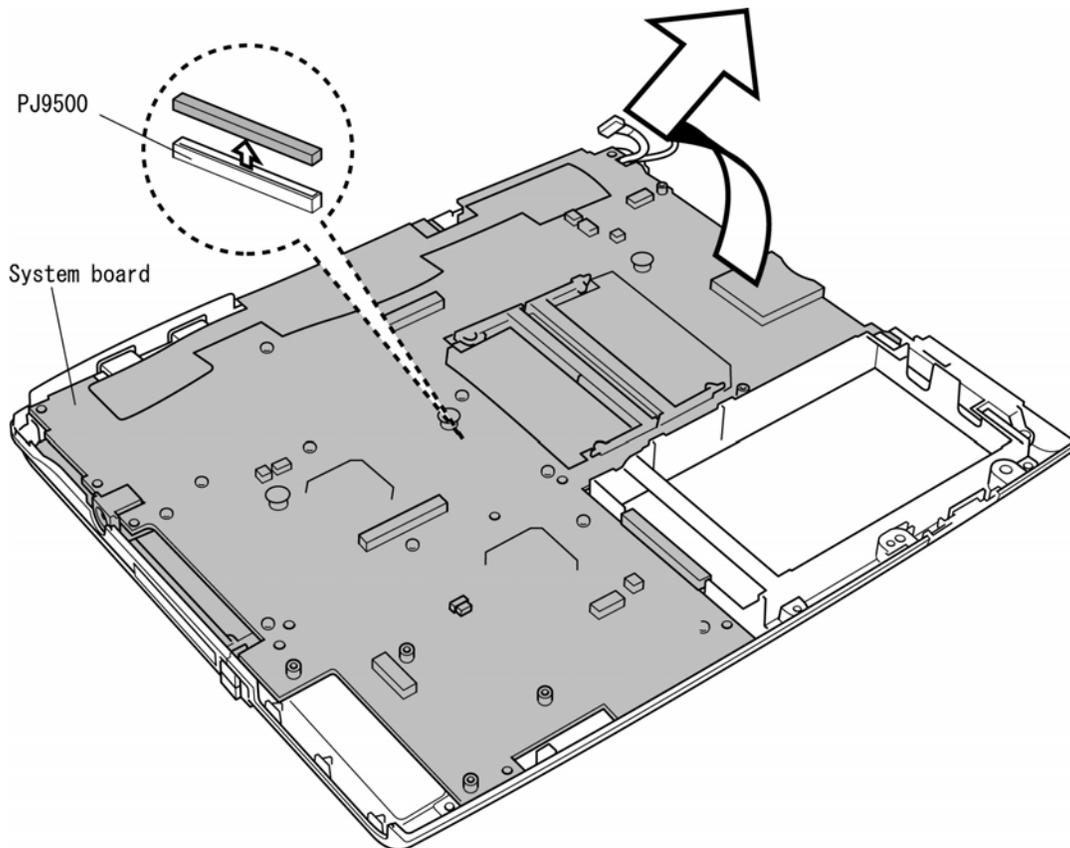

Figure 4-36   Removing the system board

Installing the System Board

To install the system board, follow the steps below and refer to figures 4-35 to 4-37.

1. Seat the **system board**.

2. Connect the **system board** to **PJ9500** on the **I/O board**.

3. Route the **Modem/LAN cable** through the **notch of the system board**.

4. Connect the **MDC cable** to the connector **PJ 3022** and **Modem/LAN cable** to the connector **PJ3021/PJ4101** on the **system board**.

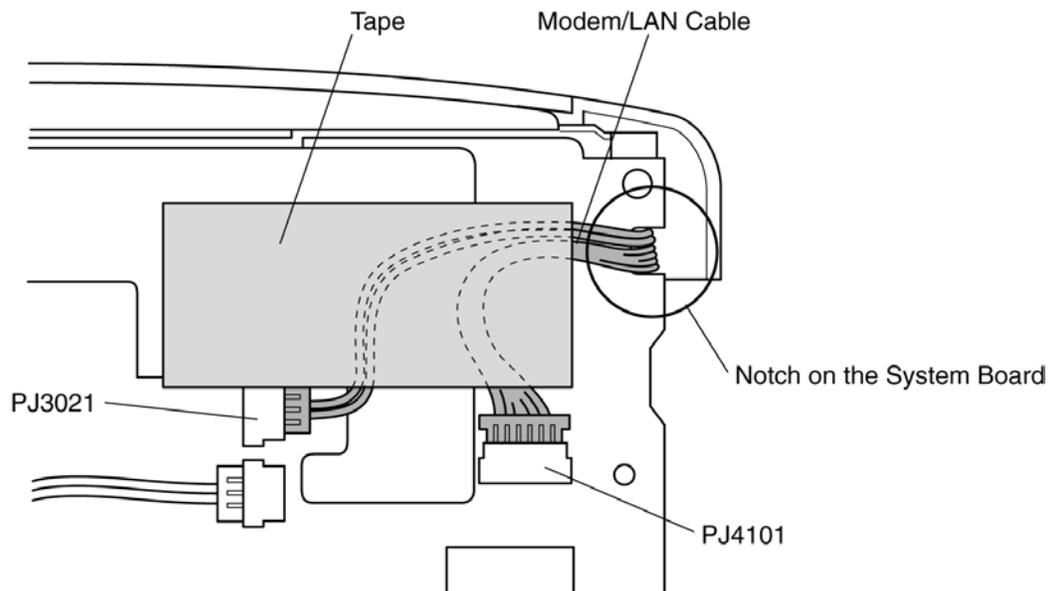5. Secure the **cables** with **glass tapes**.

Figure 4-37   Seating the cables

CAUTION: *Make sure the cable lies inside the notch. Be careful not to damage or pinch the cables when you seat the system board in the bottom case.*
Secure the cable with a glass tape referring to Figure 4-37.
Be careful not to lay the cable on the lead of DIP of the RJ11/RJ45 connector.

6. Secure the **system board** with **two M2×4 screws**.

CAUTION: *Make sure you connect the boards securely. A loose connection could cause damage to the boards. Also, if the connectors are not fully seated the boards could be bent and damaged when you secure them with screws.*

CAUTION: *There are two MAC address barcode labels in the package containing the new system board. Apply one label to the bottom of the computer and one to the box the computer was shipped in. Before you apply the new labels, remove the old ones from the computer and the box. The computer may have MAC address barcode labels for both wired and wireless LANs. Be sure to replace the correct label.*

4.16 PC Card Slot

Removing the PC card slot

To remove the PC card slot, follow the steps below and refer to figures 4-38 and 4-39.

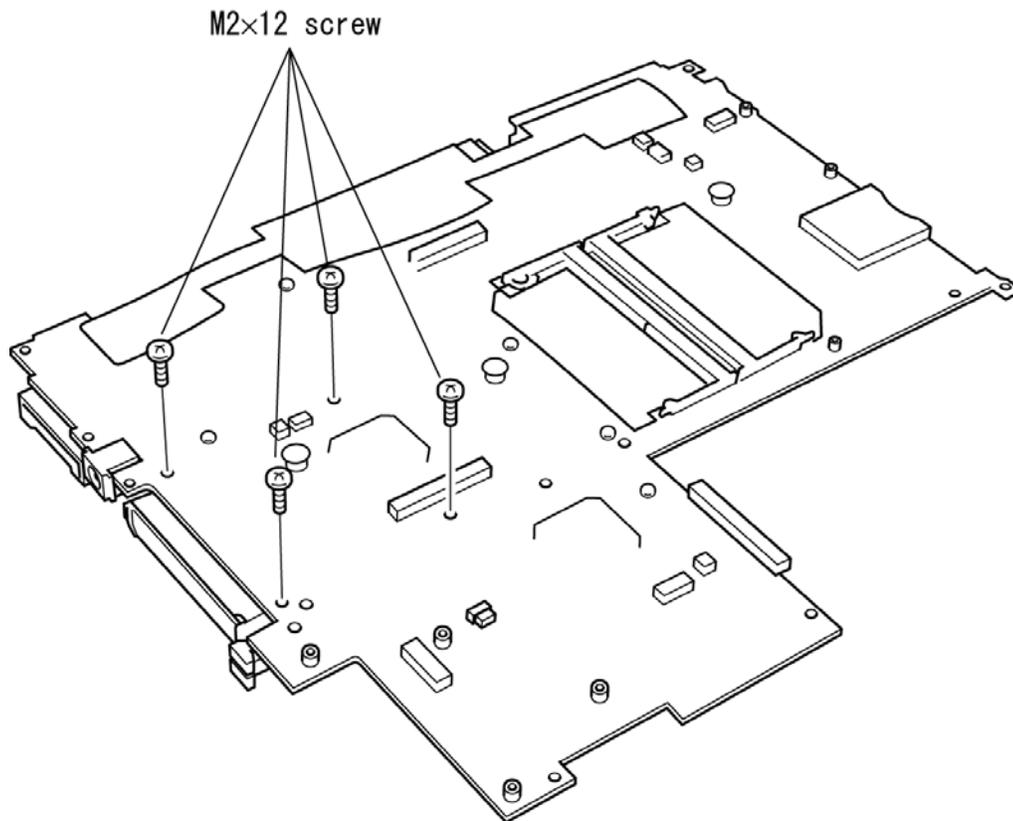1. Lay the **system board** right side up.

2. Remove **four M2×12 screws**.

Figure 4-38   Removing four screws securing PC card slot

3. Lift up the **PC card slot** to disconnect from the connector **PJ2110**.
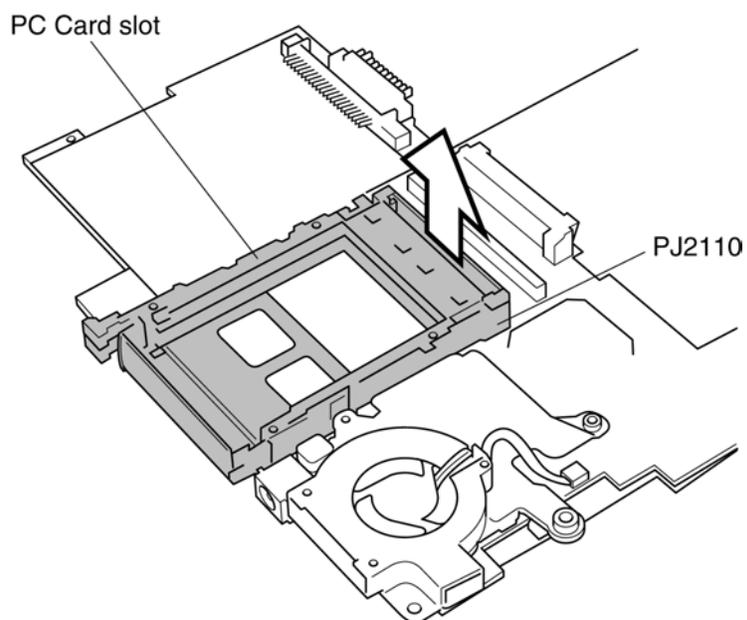

Figure 4-39   Removing the PC card slot

Installing the PC card slot

To install the PC card slot, follow the steps below and refer to figures 4-38 and 4-39.

1. Fit the **PC card slot** into the connector **PJ2110** on the system board.

> *CAUTION:* *If you do not seat the PC card slot completely, you might not be able to connect the system board properly. Make sure the plastic part of the PC card spot is flush with the connector.*

2. Secure **four M2×12 screws**.

4.17 I/O Board

Removing the I/O Board

To remove the I/O Board, follow the steps below and refer to figures 4-40 and 4-41.

1. Remove **five M2×4 screws** securing the **I/O Board**.

2. Lift out the **I/O Board**.

> *CAUTION:* *When removing the IO board, be sure to lift up it perpendicularly and gently. Do not to give excessive stress to the stacking connectors. Otherwise the soldered portions of connectors may be damaged.*
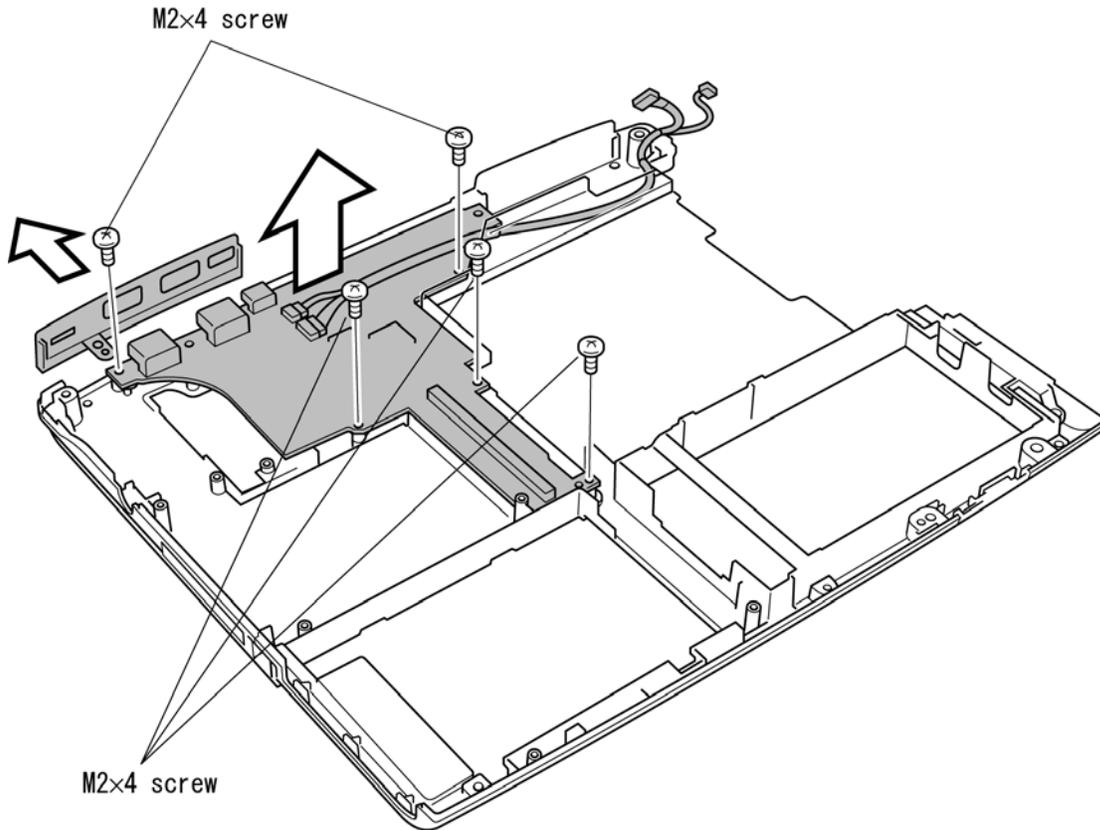

Figure 4-40   Removing six screws securing the I/O Board

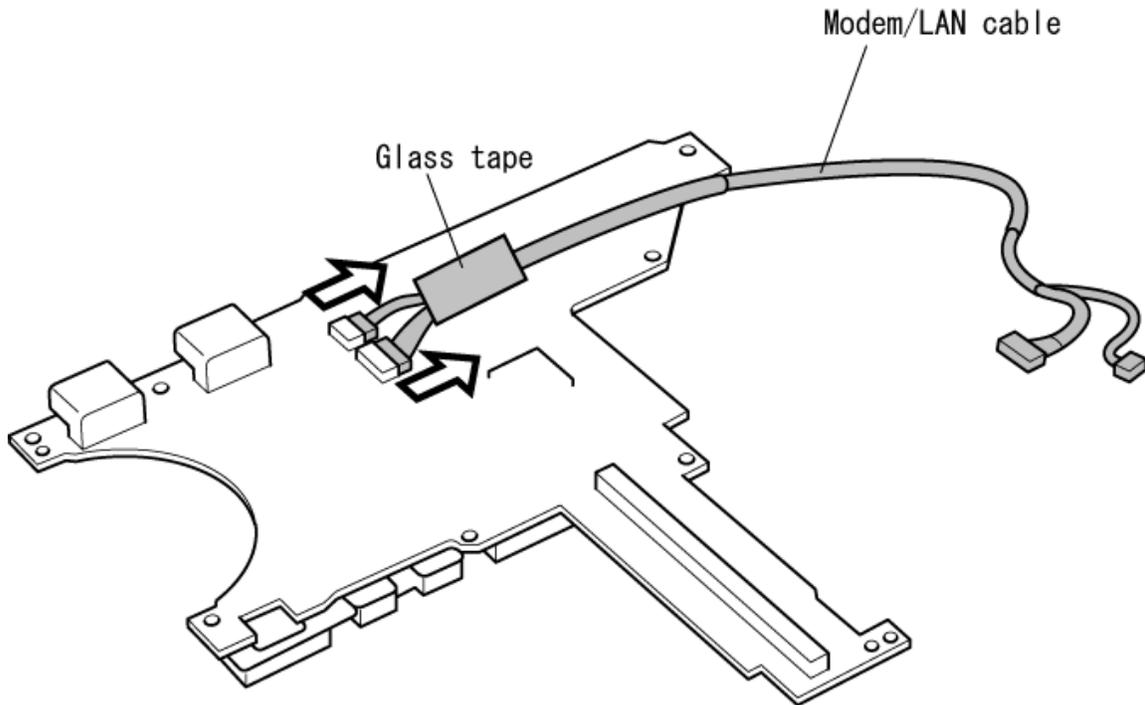3. If necessary, remove the **Modem/LAN cable** with peeling off the glass tape.

Figure 4-41   Removing the Modem/LAN cable

Installing the I/O board

To install the I/O board, follow the steps below and refer to figures 4-40 and 4-41.

    1.   Connect the **Modem/LAN cable** to the I/O board and fix it with the glass tape.

    2.   Seat the **I/O board**.

    3.   Secure **the I/O board** with **five M2×4 screws**.

CAUTION: *Make sure you connect the boards securely. A loose connection could cause damage to the boards. Also, if the connectors are not fully seated the boards could be bent and damaged when you secure them with screws.*

4.18 Display Mask

Removing the display mask

To remove the display mask, follow the steps below and refer to figures 4-42 and 4-43.

1. Remove the **rubber seals** with tweezers.

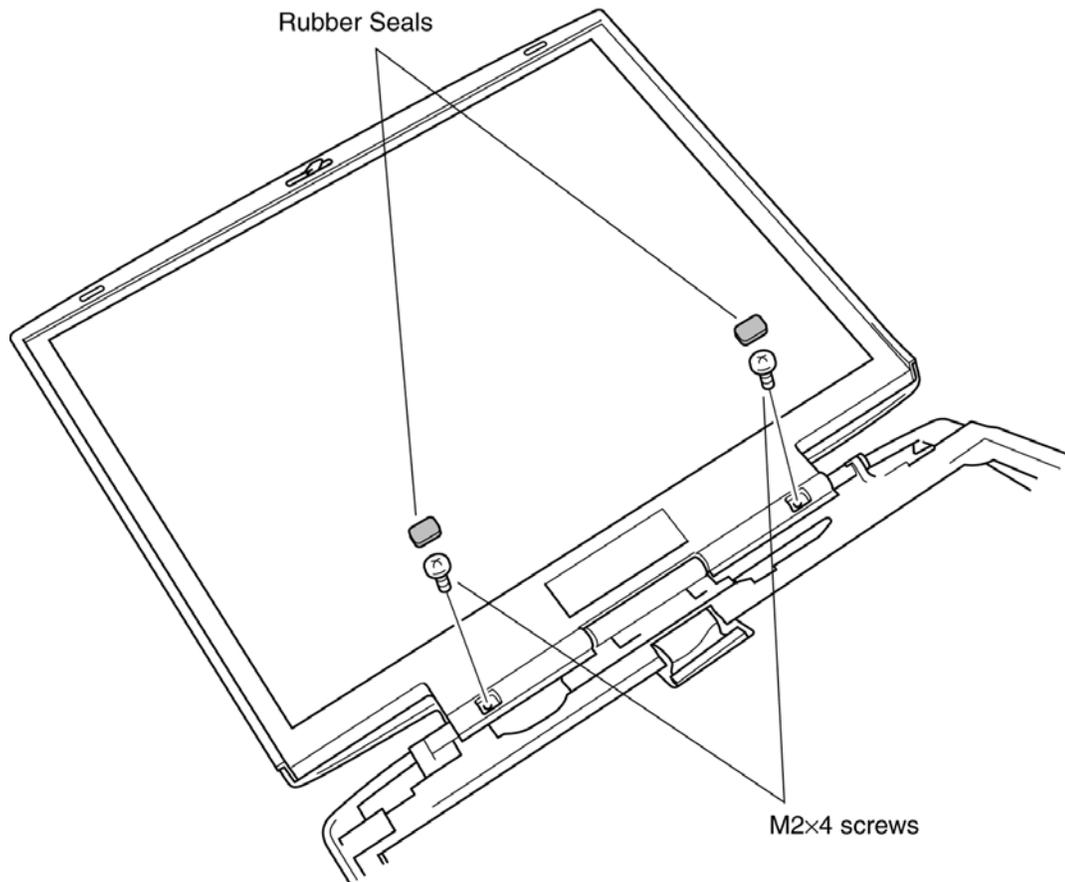2. Remove **two M2×4 screws** securing display mask.

Figure 4-42   Removing the rubber seals and screws

3. Release **latches** securing the **display mask** and remove the mask.

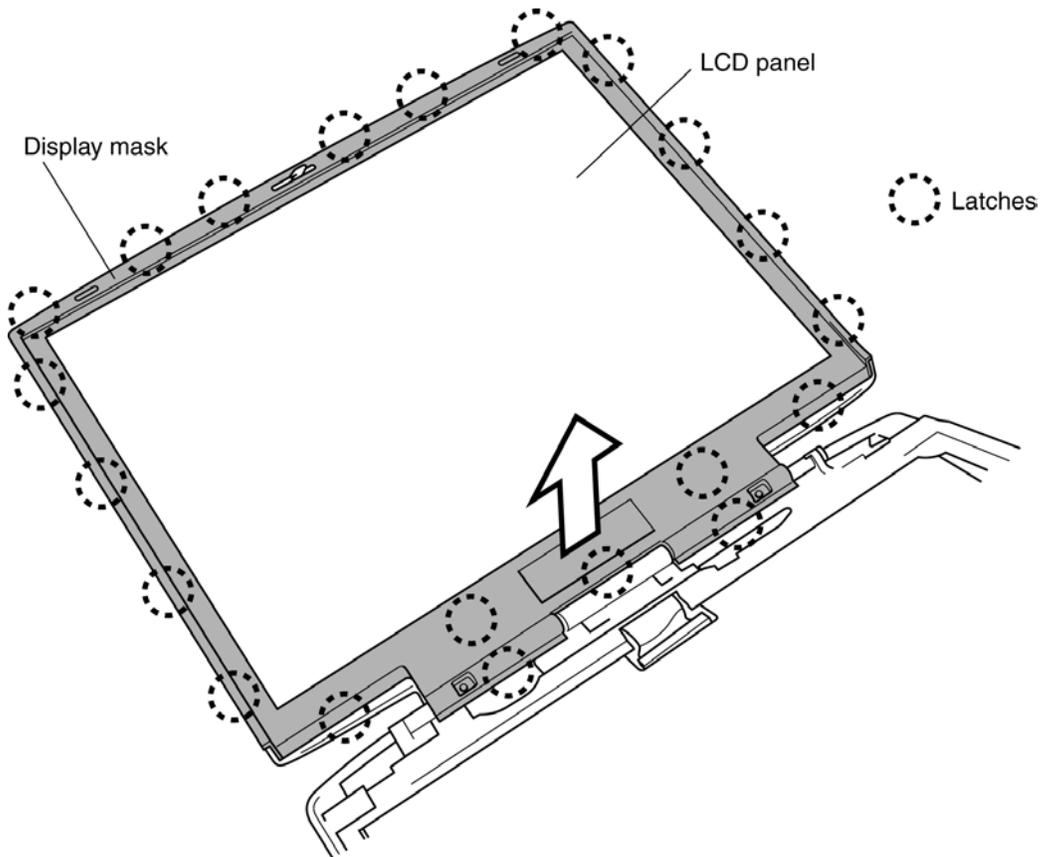*CAUTION: When releasing latches, do not give excessive force to the thin parts of display mask.*

Figure 4-43 Removing the display mask

Installing the display mask

To install the system board, follow the steps below and refer to figures 4-42 and 4-43.

1. Seat the **display mask** and press to secure latches in the order of upper, right, left and lower side.

2. Secure the **display mask** with **two M2×4 screws**.

3. Secure the **rubber seals** with tweezers.

4.19 FL Inverter Board

Removing the FL inverter board

To remove the FL inverter board, follow the steps below and refer to figure 4-44.

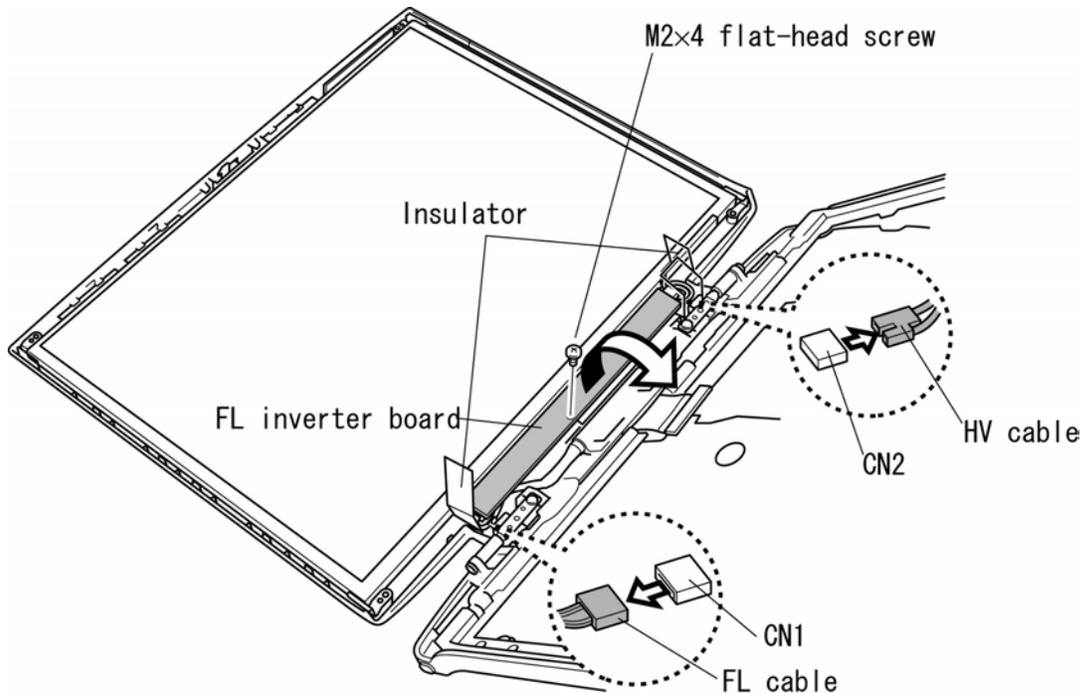1. Remove **one M2x4 flat-head screw** securing the **FL inverter board**.

Figure 4-44   Removing two screws

2. Peel off **insulators** on both the sides of FL inverter board.

3. Disconnect the **FL cable** from **CN1** on the **FL inverter board**.

4. Disconnect the **HV cable** from **CN2** on the **FL inverter board**.

5. Remove the **FL inverter board**.

Installing the FL inverter board

To install the FL inverter board, follow the steps below and refer to figure 4-44.

1. Connect the **HV cable** to **CN2** on the **FL inverter board**.

2. Connect the **FL cable** to **CN1** on the **FL inverter board**.

3. Seat the **FL inverter board** and secure it with **one M2x4 flat-head screw**.

4. Stick **insulators** to both sides of FL inverter board.

4.20 LCD Module

Removing the LCD module

To remove the LCD module, follow the steps below and refer to figures 4-45 and 4-46.

CAUTION: You do not need to remove the LCD module's metal fittings unless you are going to change the LCD module or FL.

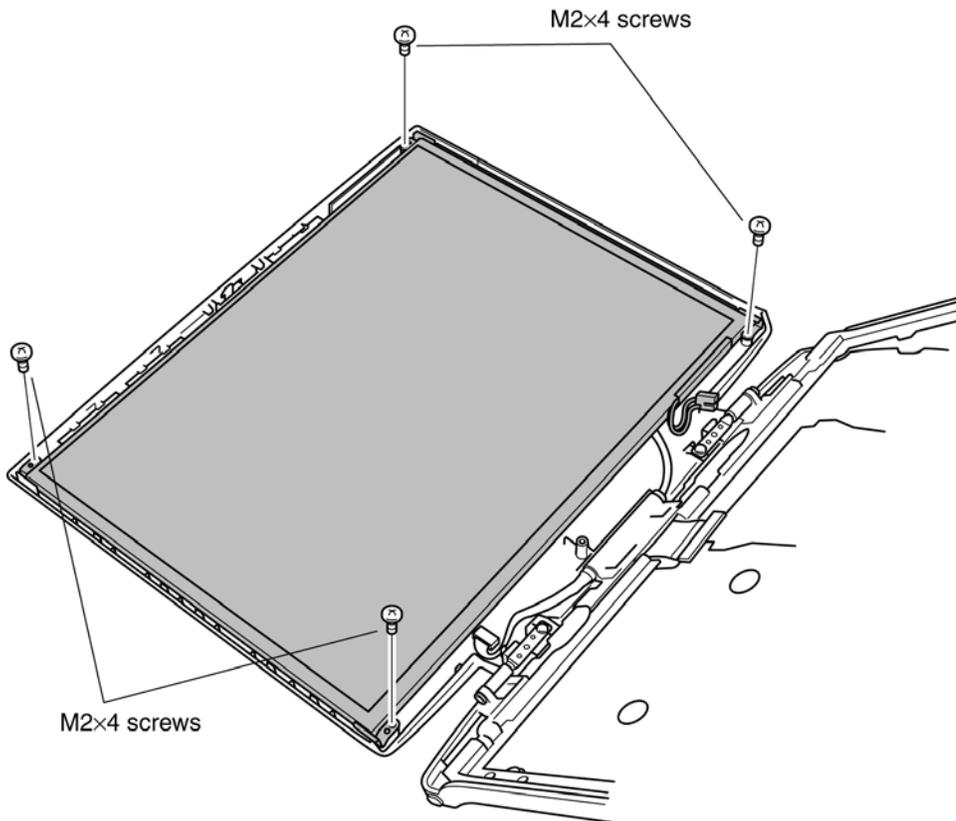1. Remove **four M2×4 screws** securing the **LCD module**.

Figure 4-45 Removing four screws

2. Lift up the left side of the **LCD module** as indicated by the arrow in the figure below.

3. Peel off the **glass tape** fixing the LCD connector.

4. Disconnect the **LCD cable** from the LCD connector and remove the **LCD module**.
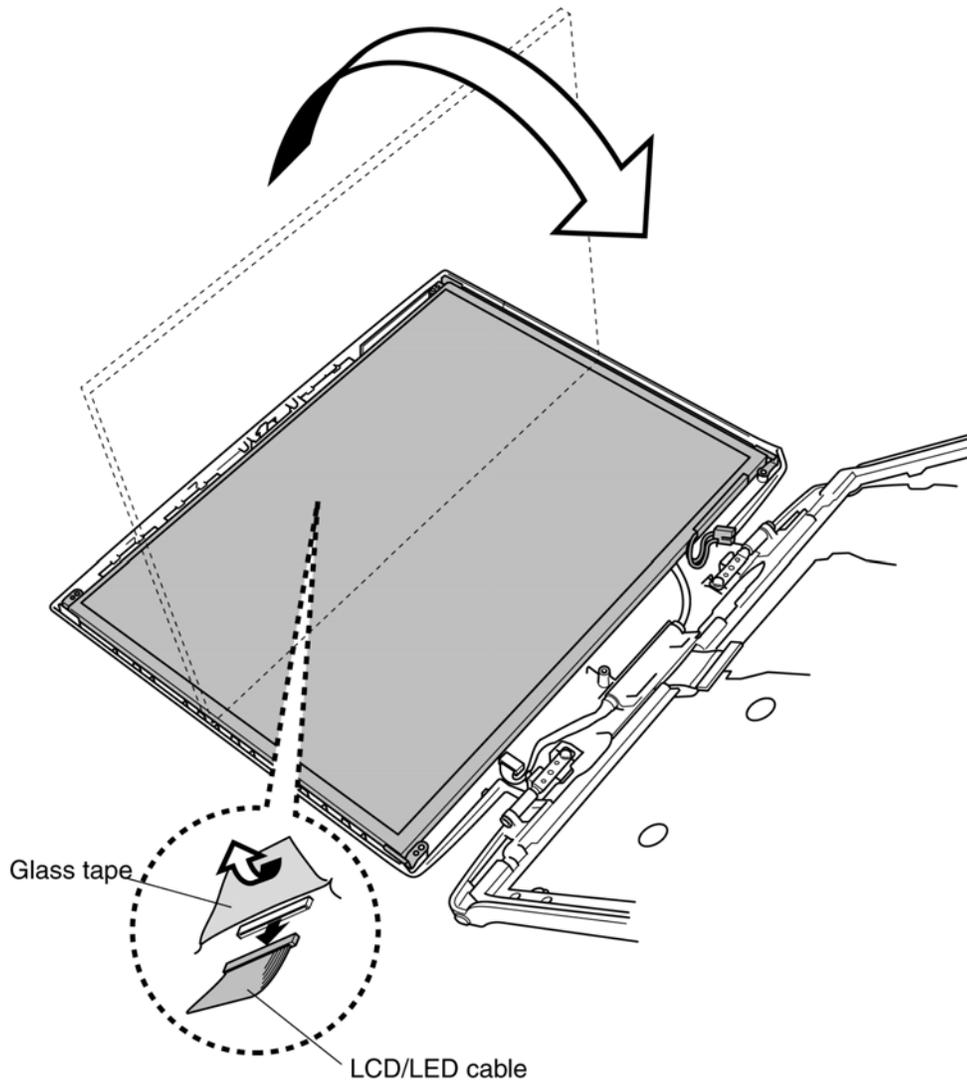
Figure 4-46 Removing the LCD module

Installing the LCD module

To install the LCD module, follow the steps below and refer to figures 4-45 and 4-46.

1. Connect the **LCD cable** to the **LCD connector** on the back of the **LCD module**.

2. Fix the **connected part of the LCD cable** with a glass tape.

3. Seat the **LCD module** in the **display panel**.

4. Secure the **LCD module** with **four M2×4 screws**.

4.21 LCD/LED Cable

Removing the LCD/LED cable

To remove the LCD cable, follow the steps below and refer to figures 4-47 to 4-50.

1. Remove two **M2.5×4 black screws** securing the **display hinge**.

2. Remove the **top cover**.
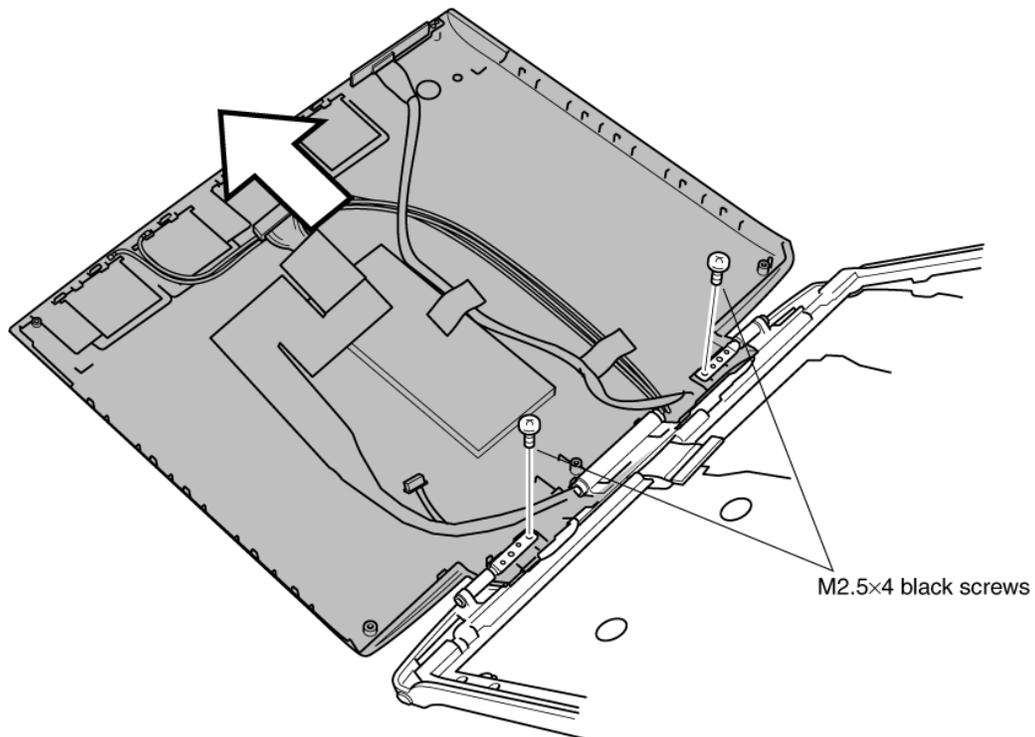
Figure 4-47   Removing two screws and the top cover

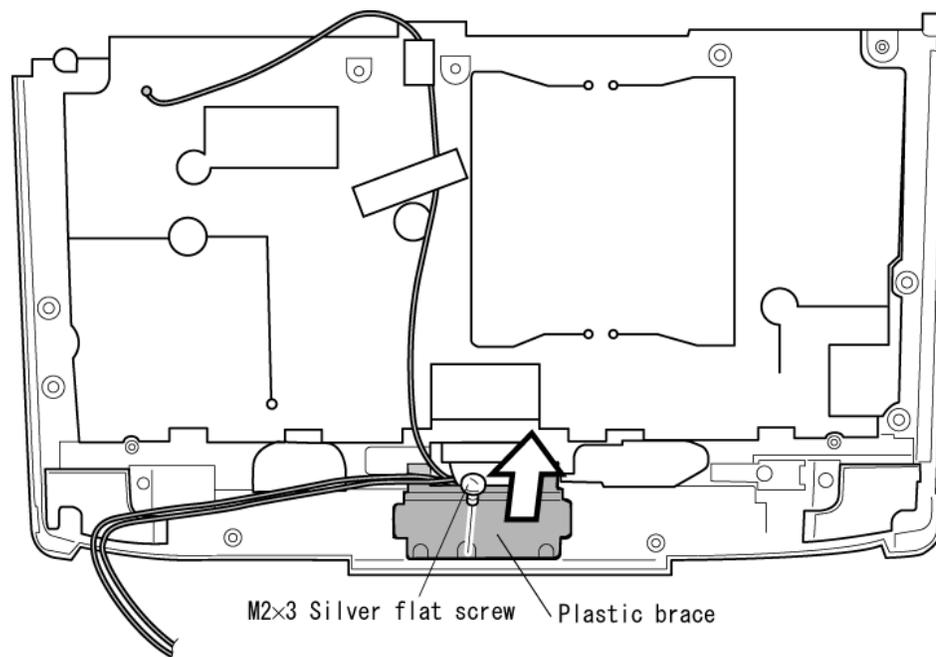3. Remove **one M2×3 silver flat-head screw** securing a **plastic brace**.

M2×3 Silver flat screw   Plastic brace

Figure 4-48   Removing one screw and plastic brace

4. Lift out the **LED board** from the hook.

5. Peel off the **tape** and remove the **LED cable** and the **LCD cable** together.
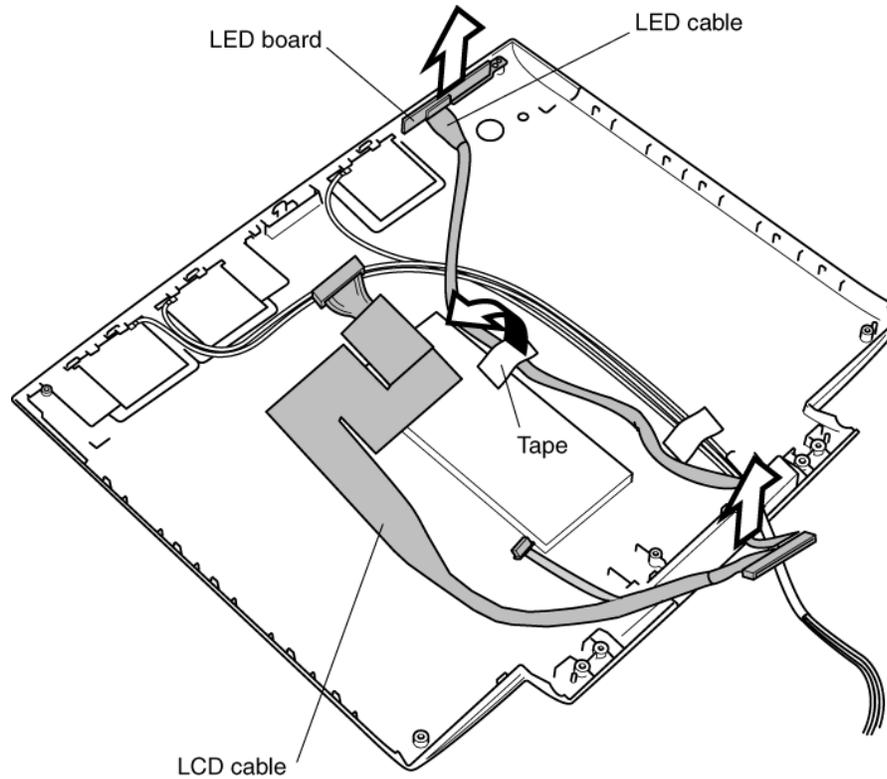
Figure 4-49   Removing the LED board and the tape securing LED cable

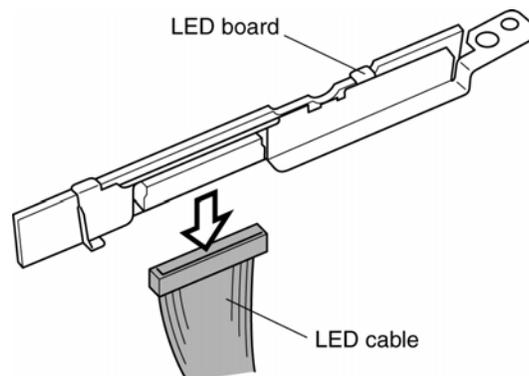6. If necessary, remove the **LED cable** from the **LED board**.

Figure 4-50   Removing the LED cable from LED board

Installing the LCD/LED cable

To install the LCD/LED cable, follow the steps below and refer to figures 4-47 to 4-50.

CAUTION: *Do not bend or scrub the LCD/LED cable. A slight damage may cause break down of it. Be careful not to damage it.*

---

1. Route the **LCD/LED cable** through the display hinge and seat the plastic brace.

2. Seat the **LED board** in the **display panel**.

3. Seat the **display hinge** in the **display panel**.

4. Seat the **plastic brace** and secure it with **one M2×3 silver flat-head screw**.

CAUTION: *When seating the plastic brace, make sure the LCD/LED cable, wireless LAN antenna and bluetooth antenna are not pinched. Be careful not to damage them.*

---

5. Secure the **display hinge** with **two M2.5×4 black screws**.

4.22 Antenna Coaxial Cables

Removing the Antenna Coaxial Cables

To remove the antenna coaxial cables, follow the steps below and refer to figures 4-51 to 4-54.

1. Remove two **M2.5×4 black screws** securing the **display hinge**.
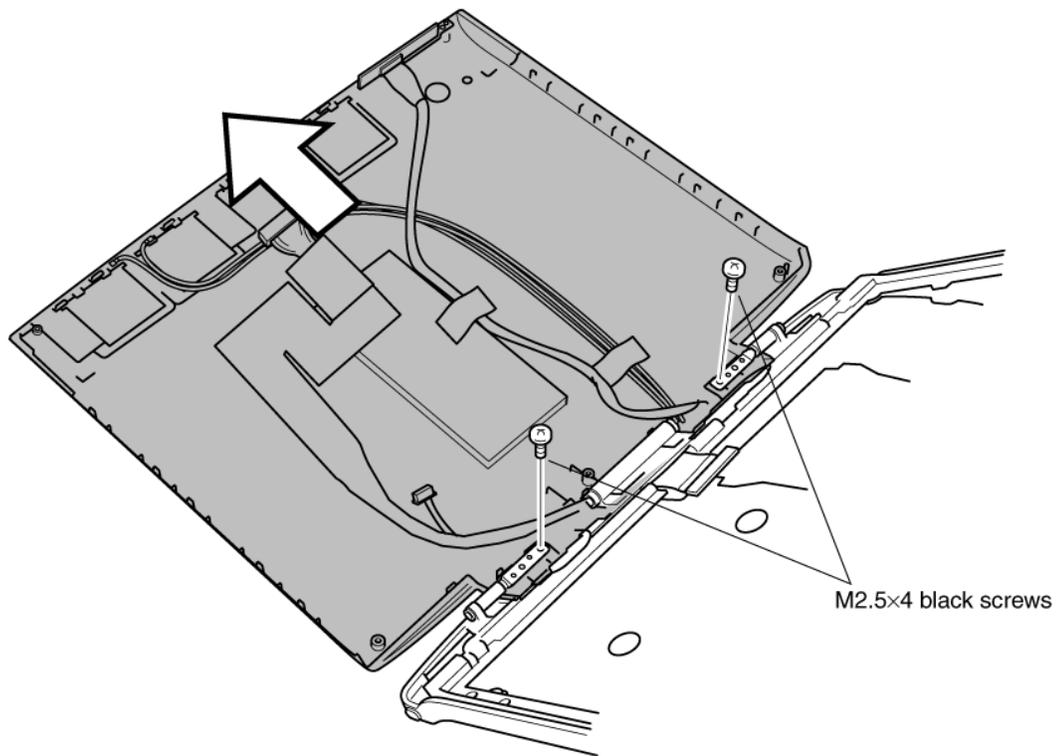
2. Remove the **top cover**.

M2.5×4 black screws

Figure 4-51   Removing two screws and the top cover

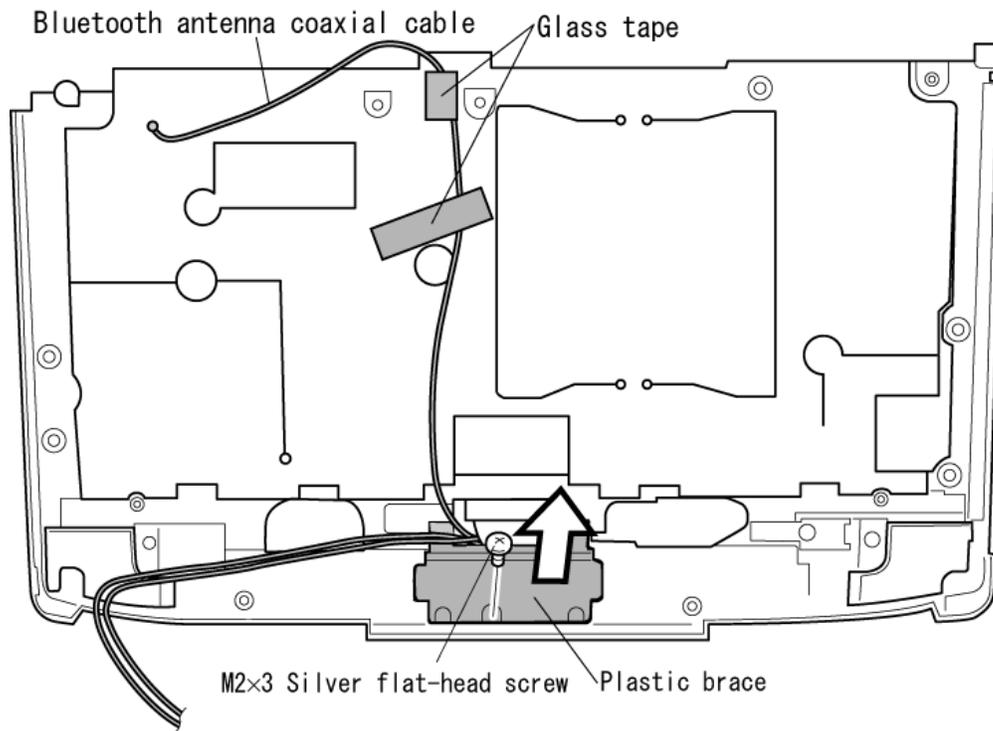3. Remove **one M2×3 silver flat-head screw** securing **one plastic brace**.

Figure 4-52   Removing one screw and plastic brace

4. Remove two **glass tapes** securing the **Bluetooth antenna coaxial cable**.

5. Lift out the **LED board** from the hook.

6. If necessary, peel off the **tape** fixing the **LED cable**.
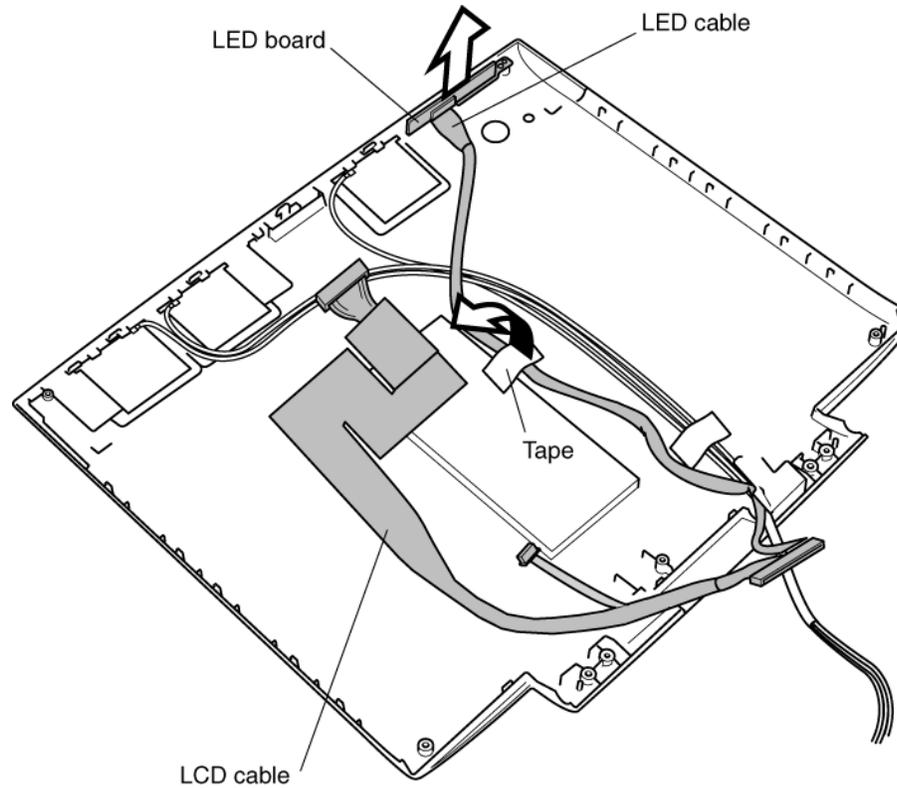

Figure 4-53   Removing the LED board and the tape securing LED cable

> *CAUTION:*   *You do not need to remove the LCD/LED cable from the hinge unless you are going to change the LCD/LED cable.*

7. Peel off the **tape** and remove **the antenna coaxial cables**.
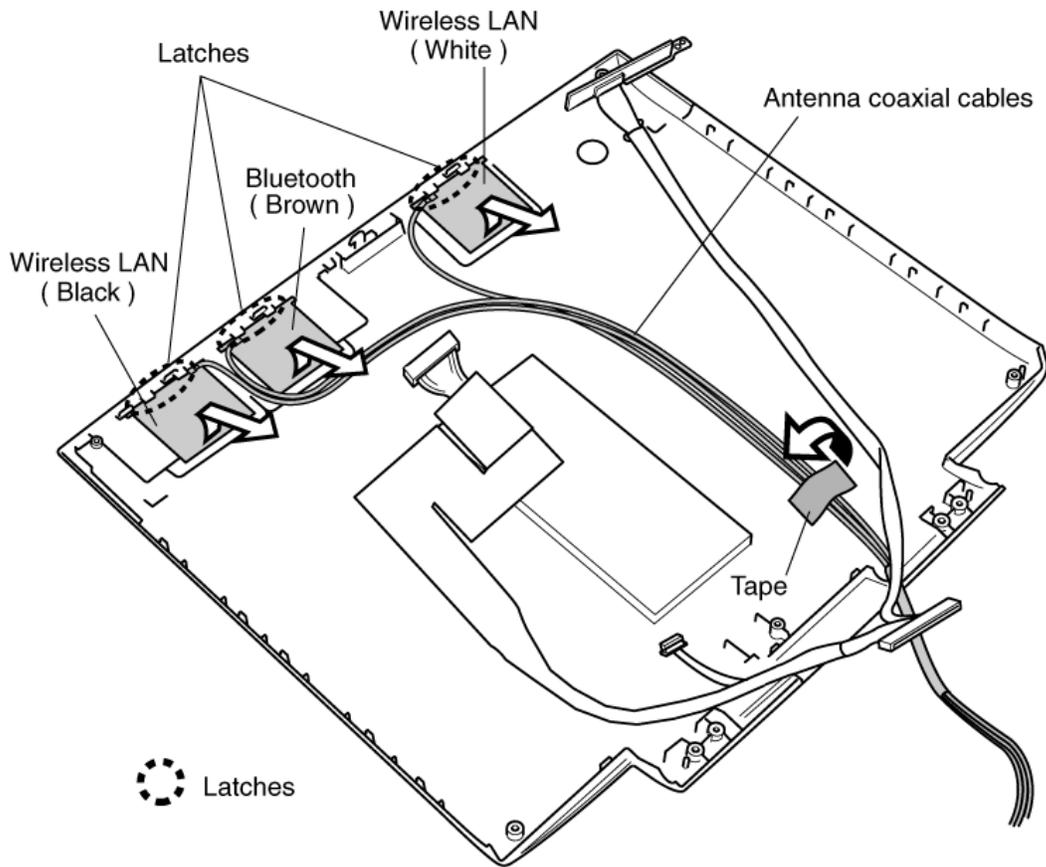
Figure 4-54   Removing the tape and the antenna

CAUTION: *The tip of antenna is like film and is fit in the latch portion. Do not bent or scrub it. A slight damage may cause break down of tip. Be careful not to damage it.*

Installing the Antenna Coaxial Cables

To install the antenna coaxial cables, follow the steps below and refer to figure 4-51 to 4-54.

> *CAUTION:* *The tip of antenna is like film and is fit in the latch portion. Do not bent or scrub it. A slight damage may cause break down of tip. Be careful not to damage it.*

1. Route the **antenna coaxial cables** through the display hinge and seat the plastic brace.

2. Route the **LCD/LED cable and seat** the **LED board**.

3. Seat the **display hinge** in the **display panel**.

4. Seat the **plastic brace** and secure it with **one M2×3 silver flat-head screw**.

> *CAUTION:* *When seating the plastic brace, make sure the LCD/LED cable, wireless LAN antenna and bluetooth antenna are not pinched. Be careful not to damage them.*

5. Secure the display hinge with **two M2.5×4 black screws**.

4.23 TFT FL (Model 12.1 Toshiba)

Removing the TFT FL (Model 12.1 Toshiba)

To remove the TFT FL (Model 12.1 Toshiba), follow the steps below and refer to Figures 4-55 to 4-58.

1. Carefully, turn the LCD module upside down on the flat surface of the table. To avoid damaging the surface of the LCD module, lay it on a protective, dust-free sheet such as a soft, clean cloth.

2. Remove the light-green tape securing the wire.

3. Remove the FPC protective sheet, the blue tape and the PCB sheet. Keep the PCB sheet for reuse.

4. Remove four screws.

CAUTION: *Do not damage the FPC.*
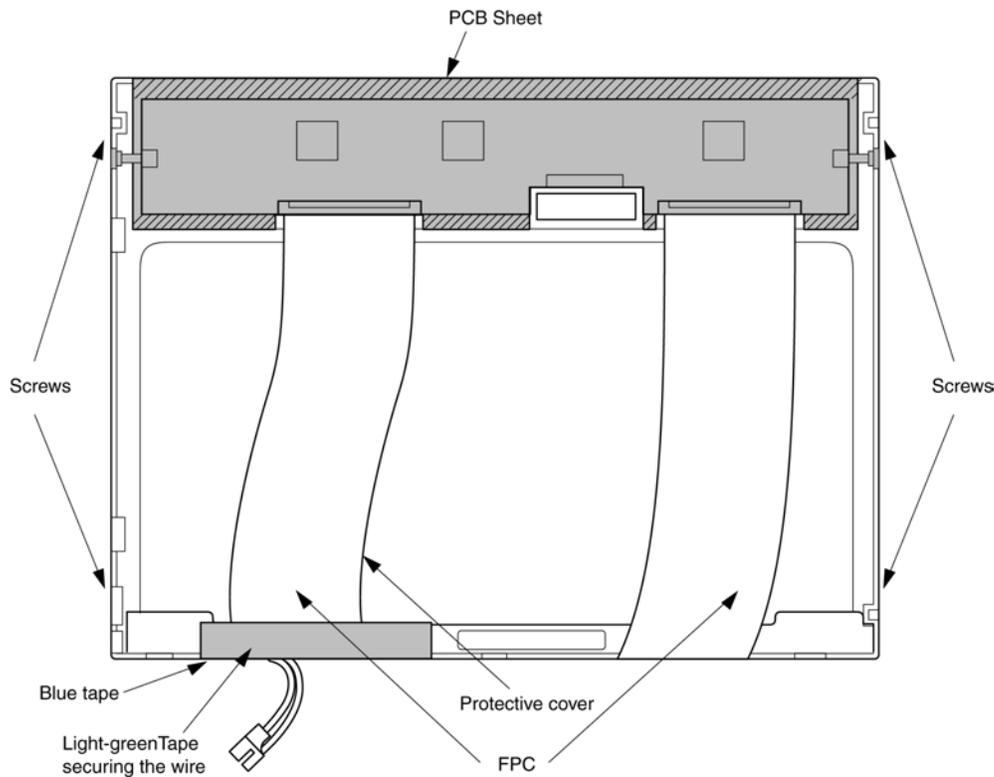
Figure 4-55   Removing the tapes and sheet

> *CAUTION:* *Use a point size 0 Phillips screwdriver to remove the screws. Do not damage the PCB when you pull the FPC out of the hook on the frame.*

5.   Remove copper ground.

6.   Remove the PCB from the backlight frame.
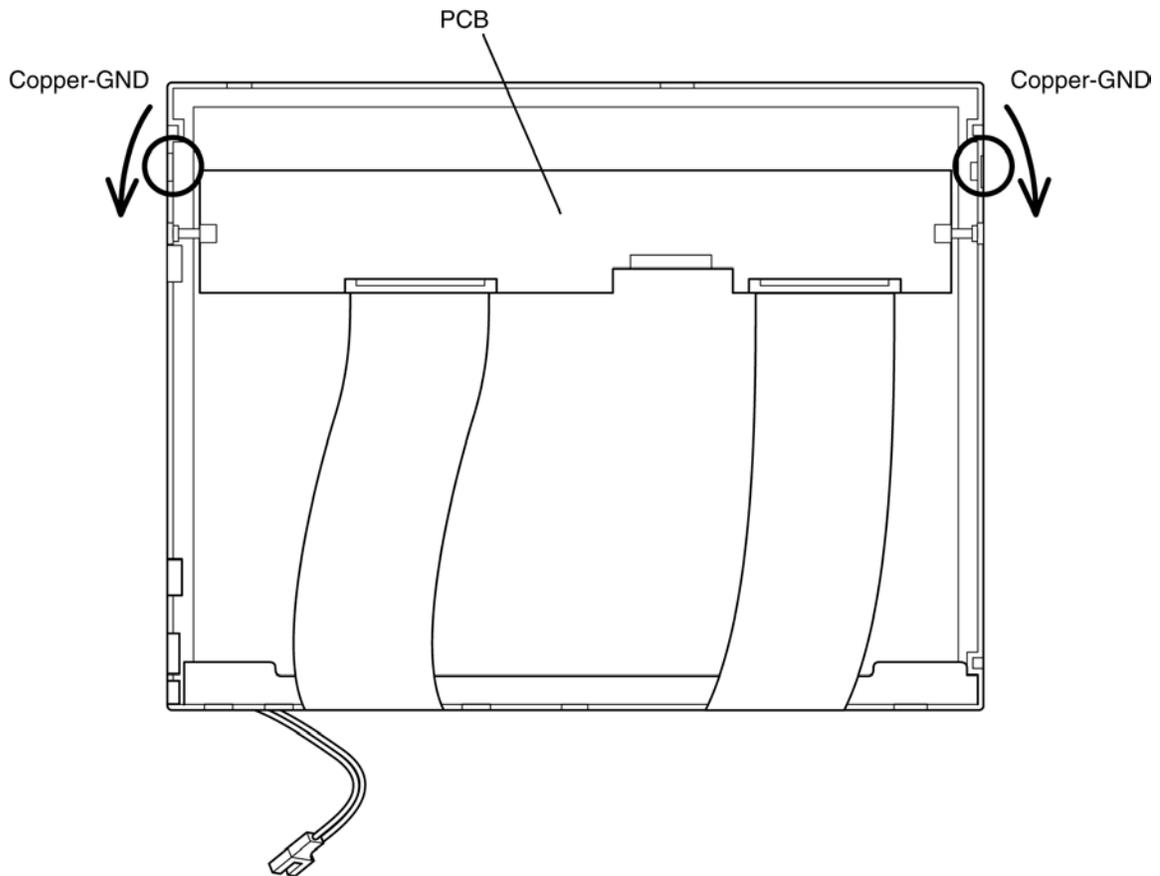
Figure 4-56   Removing the Copper-ground

7. Turn the LCD module right side up.

8. Release **three latches** on the lamp side of the frame.

9. Release **three latches** on the opposite side of the frame.

CAUTION: *Do not damage the FPC with the bend parts on the top side of the frame*
           when you remove the frame.
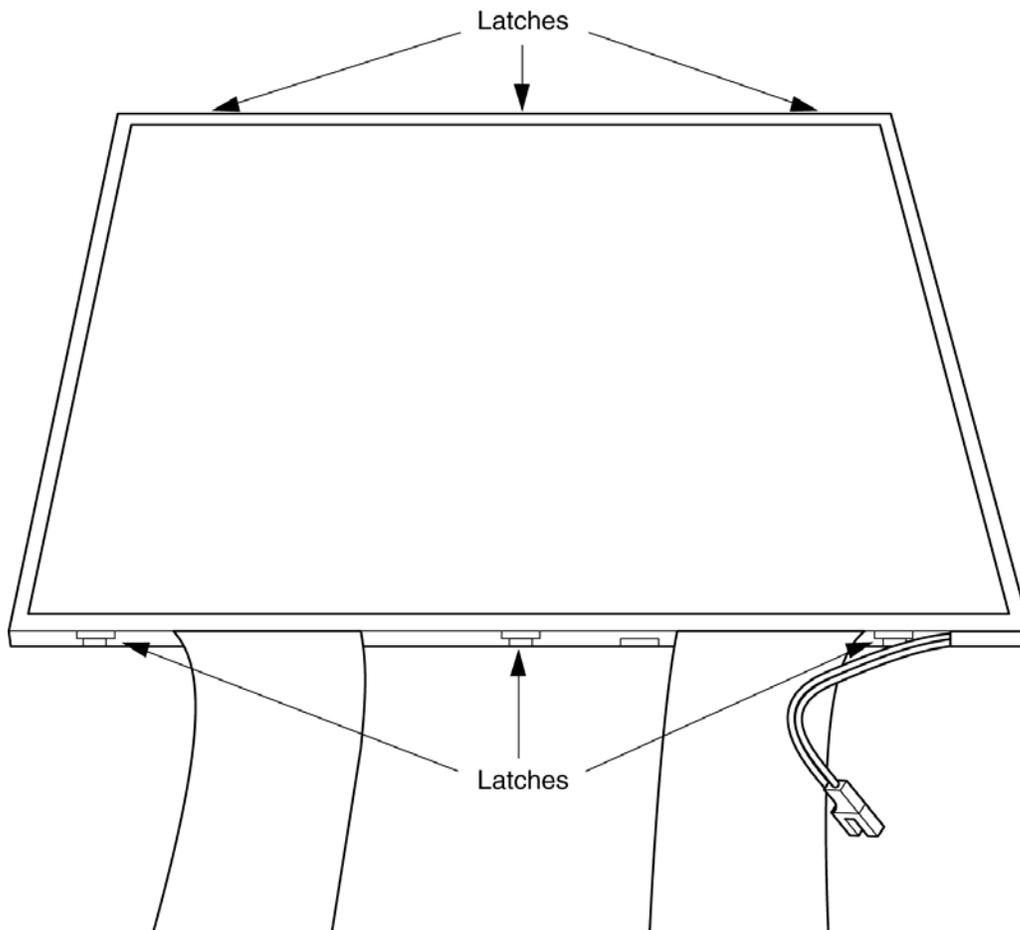
Figure 4-57 Removing the frame

10. Separate the PCB-ASSY cell from the backlight unit in the illustrated below.

CAUTION: *Do not damage the FPC. The TAB and the panel are connected with the PCB.*
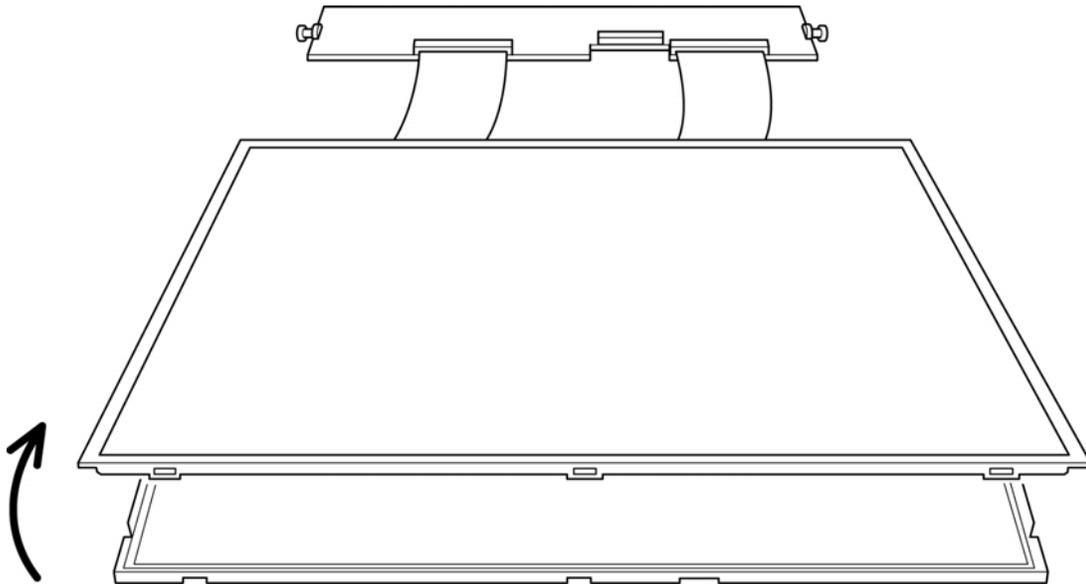
Figure 4-58   Separating the panel

Installing the TFT FL (Model 12.1 Toshiba)

To install the TFT FL (Model 12.1 Toshiba), follow the steps below and refer to Figures 4-59 to 4-70.

1. Lay a new backlight unit face up.

2. Remove the liner from the double-faced tape.

3. Make sure there is no dust, foreign matter or damage on the backlight or back side of the cell, then install the PCB-ASSY cell to the backlight unit.
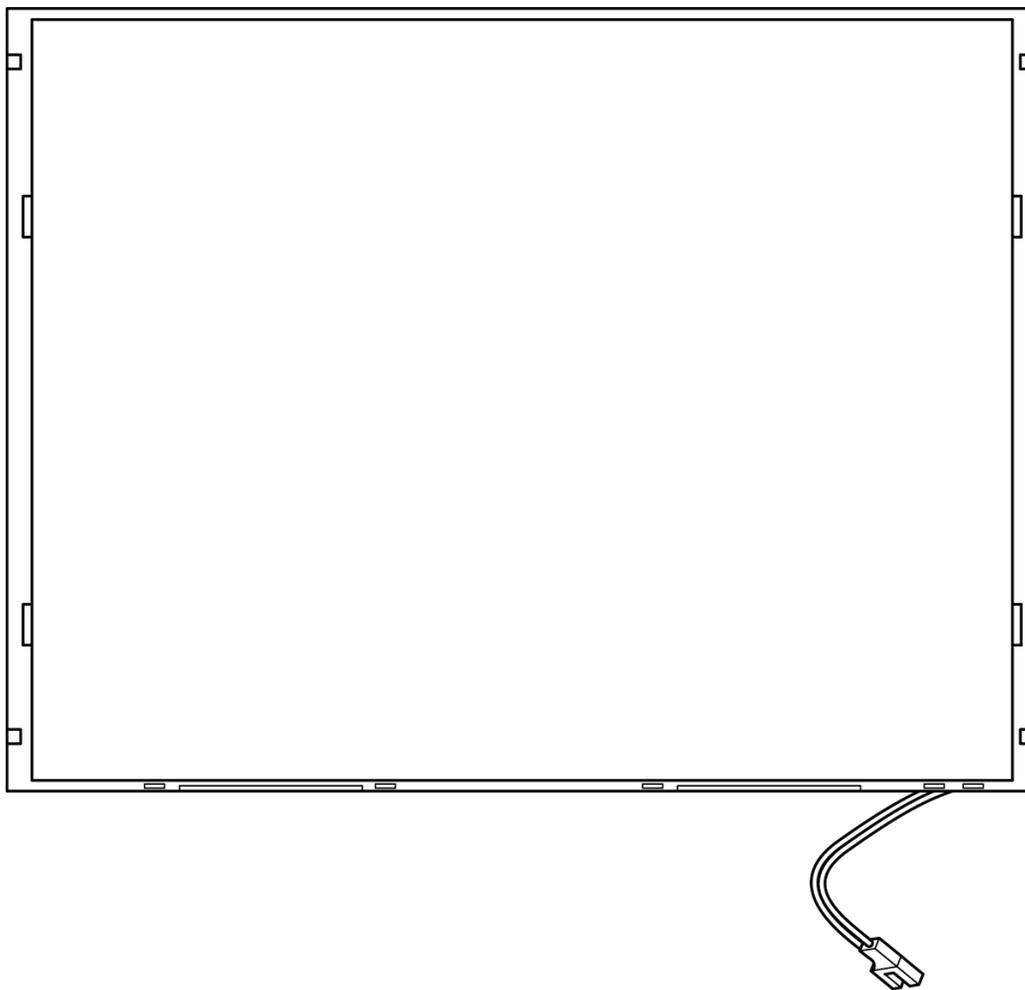
Figure 4-59 Laying a new backlight unit

4. Lay the LCD panel with PCB-ASSY on top of the backlight unit.

     a. Fit the top edge first.
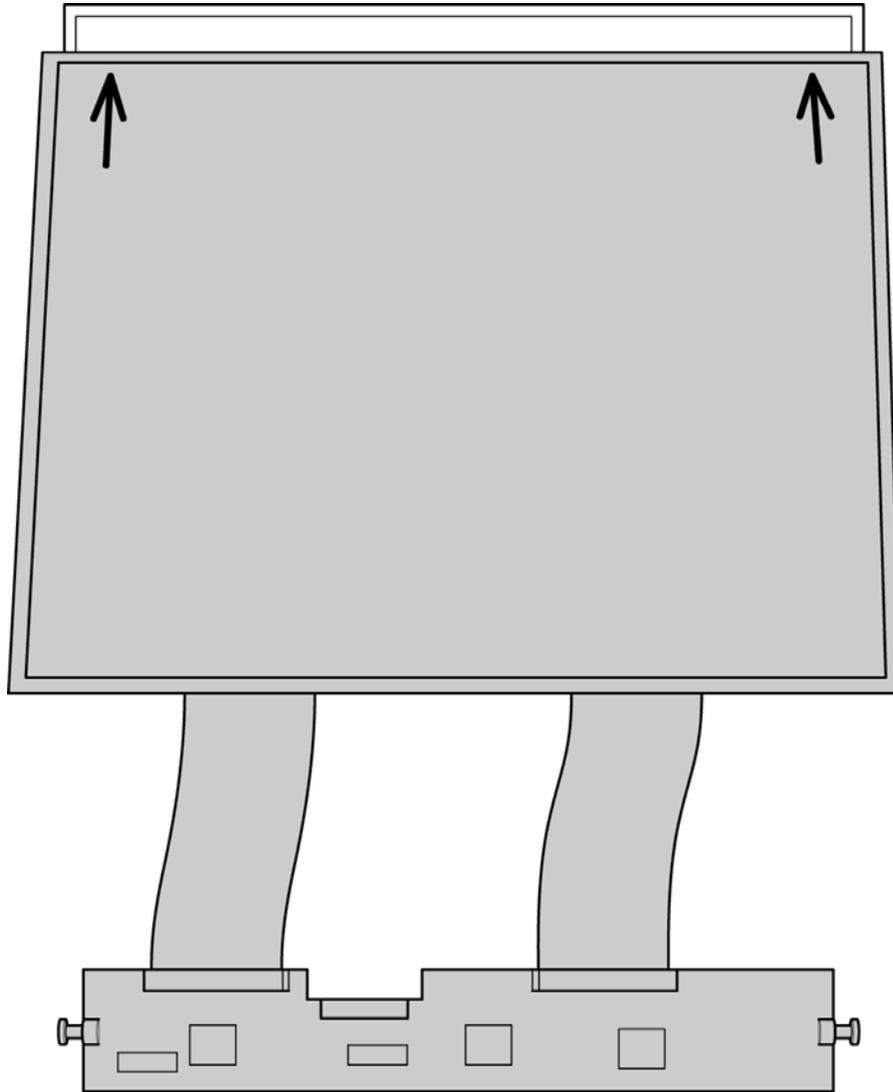
Figure 4-60   Laying the LCD panel with PCB-ASSY (1/2)

b.   Lay the LCD panel in place.
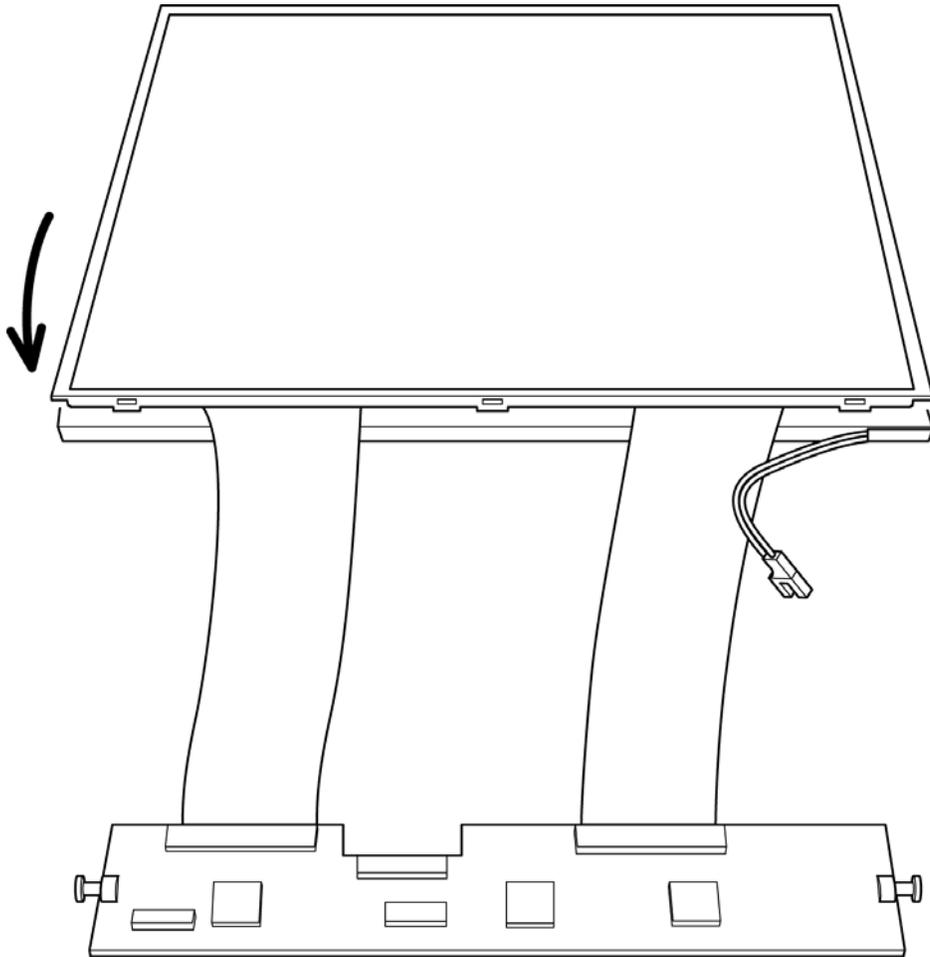
Figure 4-61   Laying the LCD panel with PCB-ASSY (2/2)
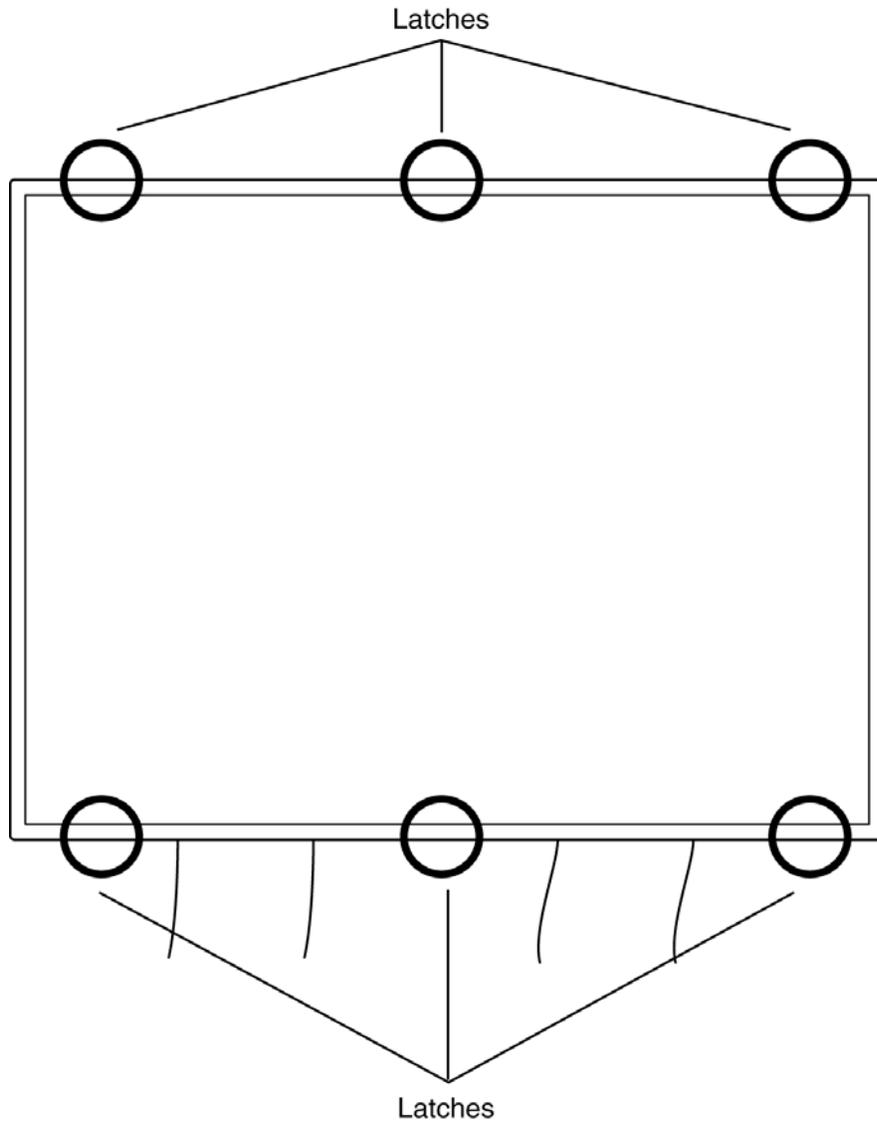
5. Secure the latches.

Latches

Latches

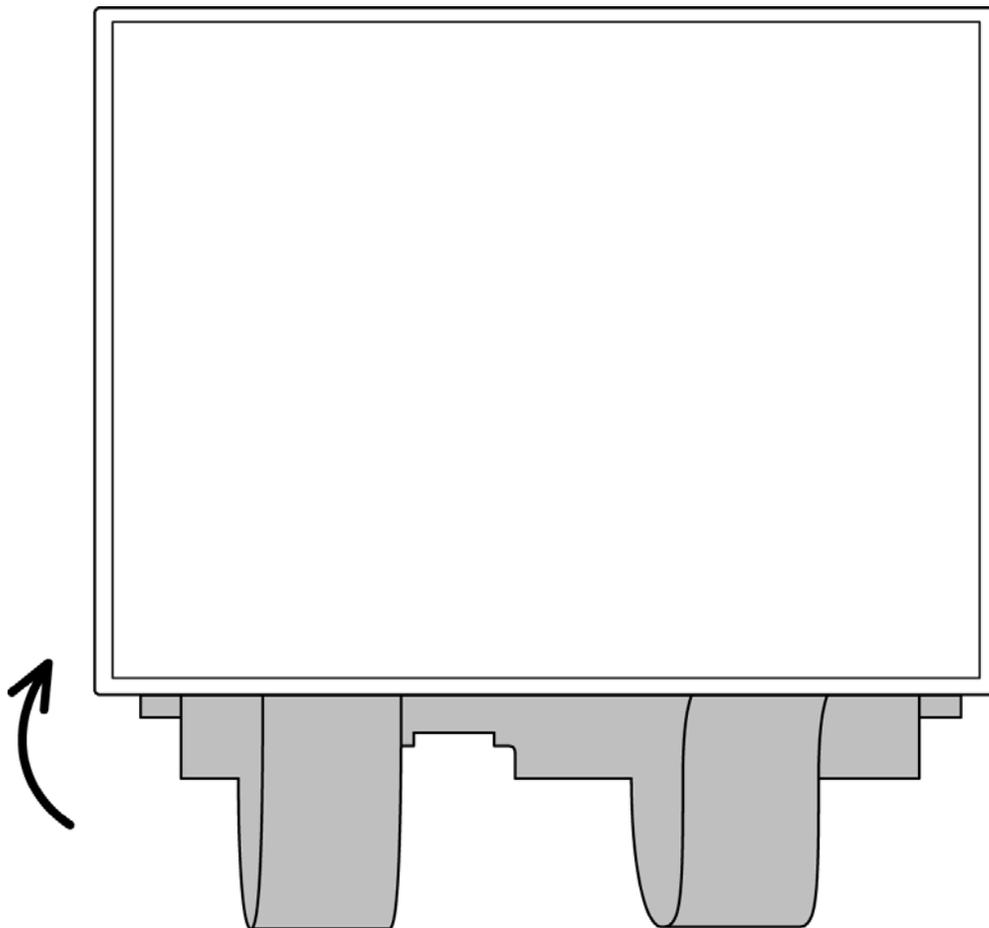*Figure 4-62   Securing the latches*

6.   Move the PCB behind the LCD module.

Figure 4-63   Moving the PCB

7. Turn the LCD module face down.

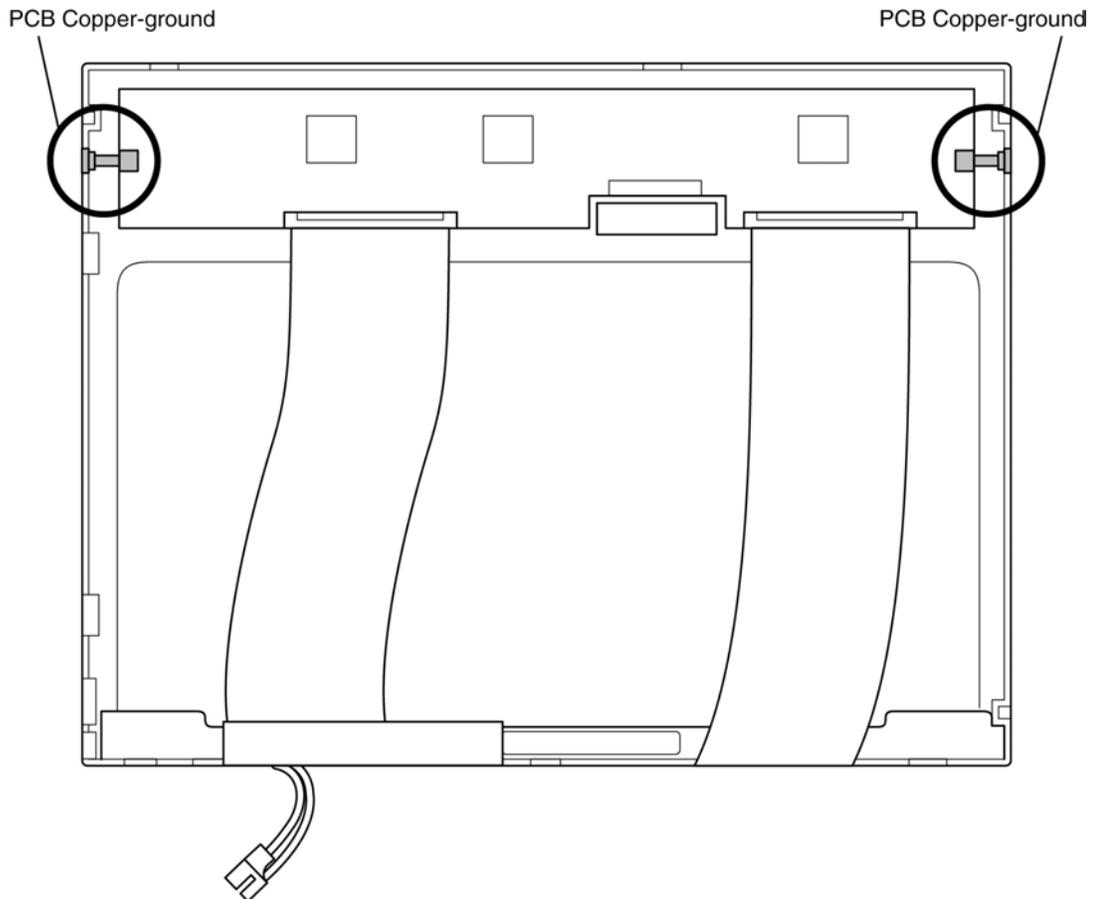8. Insert copper ground between the backlight unit and frame.

Figure 4-64   Inserting Copper-ground
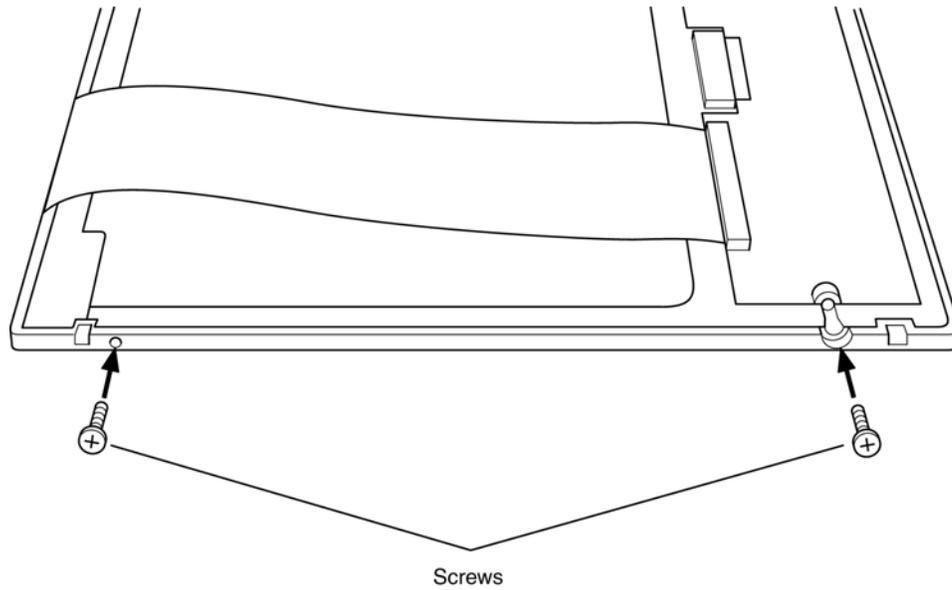
9.   Secure the screws (right side).

Figure 4-65   Securing the screws (right side)

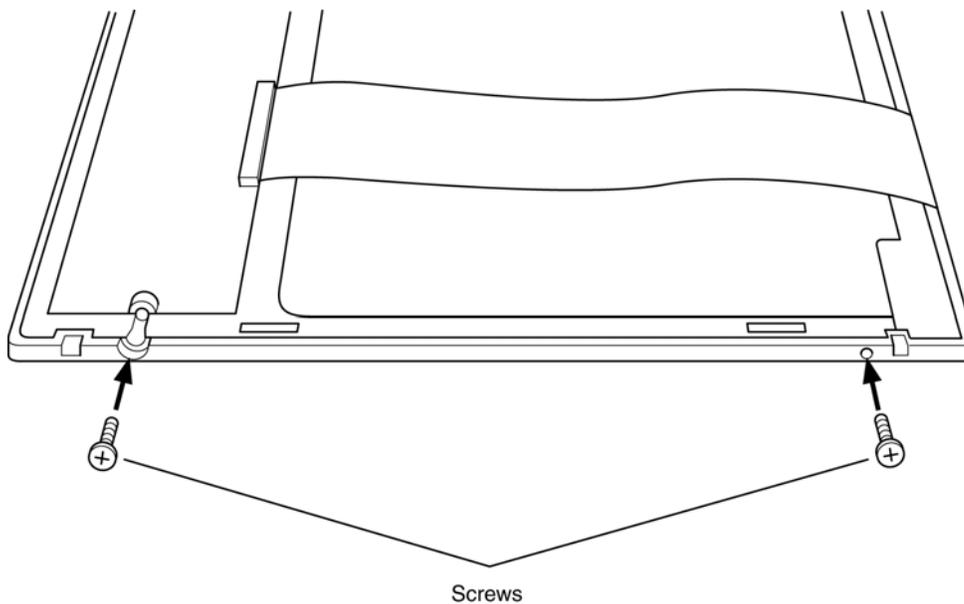10. Secure the screws (left side).

Figure 4-66   Securing the screws (left side)

11. Apply new blue tape, aligning it with the hole for the FL cable. It must not protrude beyond the module surface. Be sure to cover the edge of the frame.
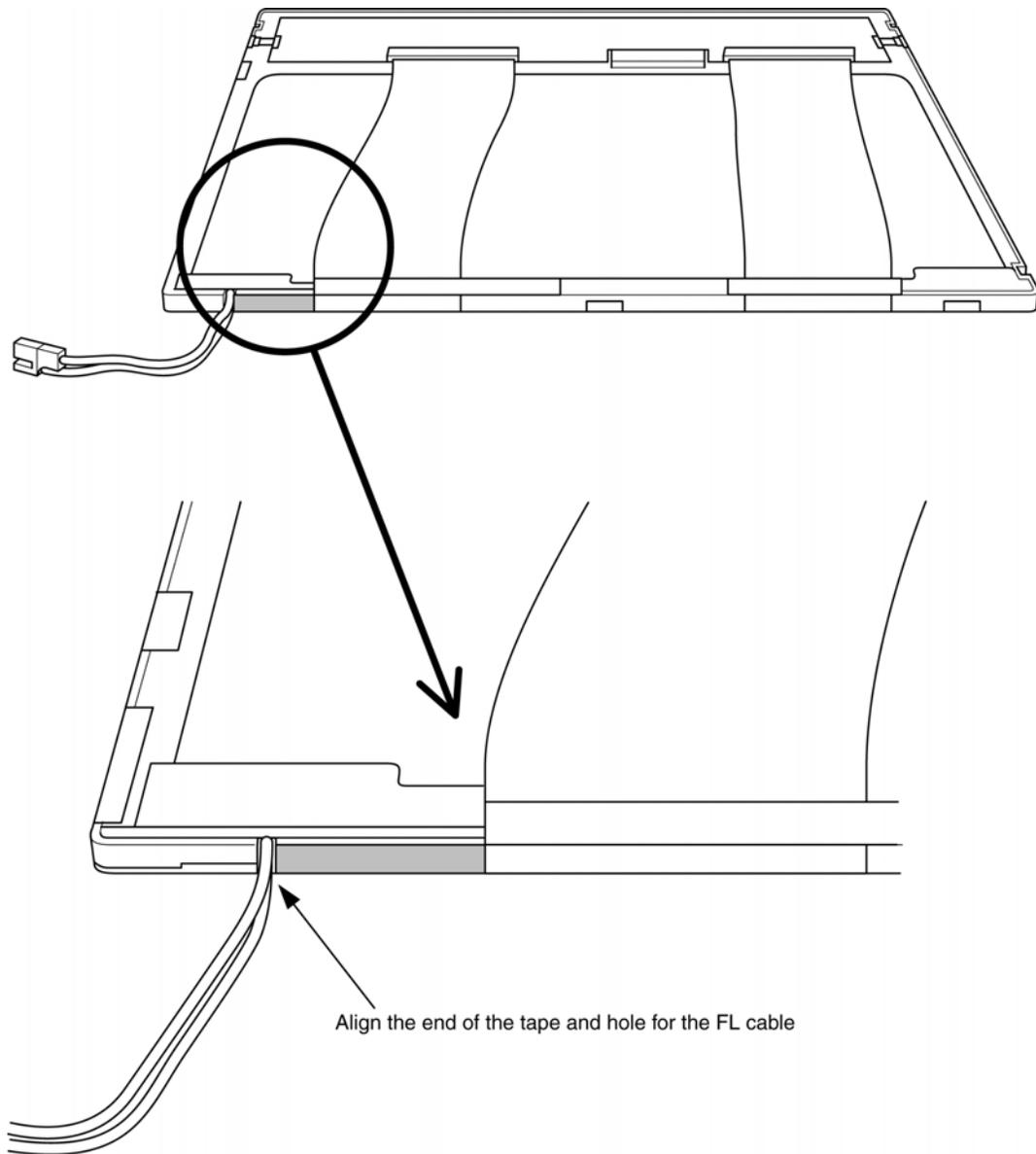
Align the end of the tape and hole for the FL cable

Figure 4-67   Applying new blue tape

12. Apply the transparent PCB tape. Align the tape with the edge of the sheet. It must not protrude beyond the module surface. Cover the edge of the frame.
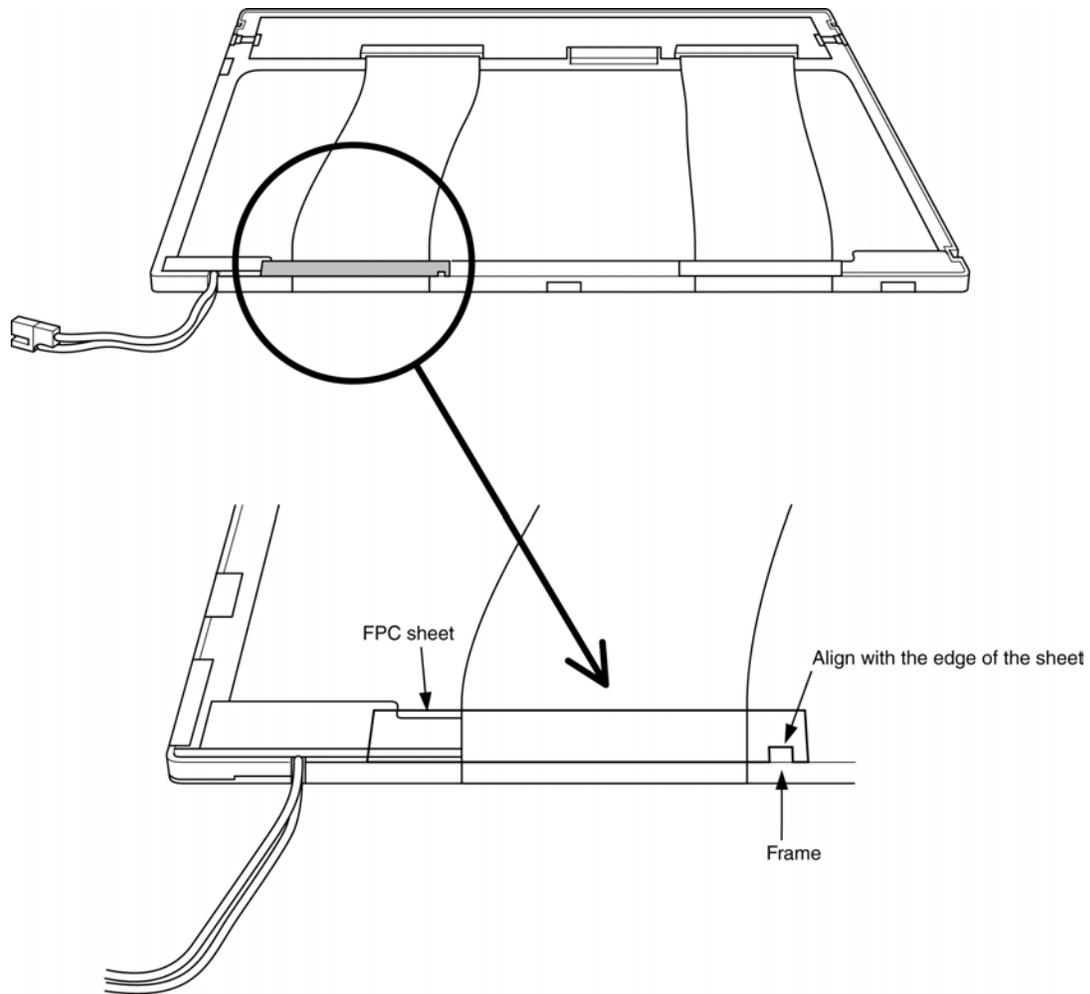

FPC sheet

Align with the edge of the sheet

Frame

Figure 4-68   Applying the PCB tape

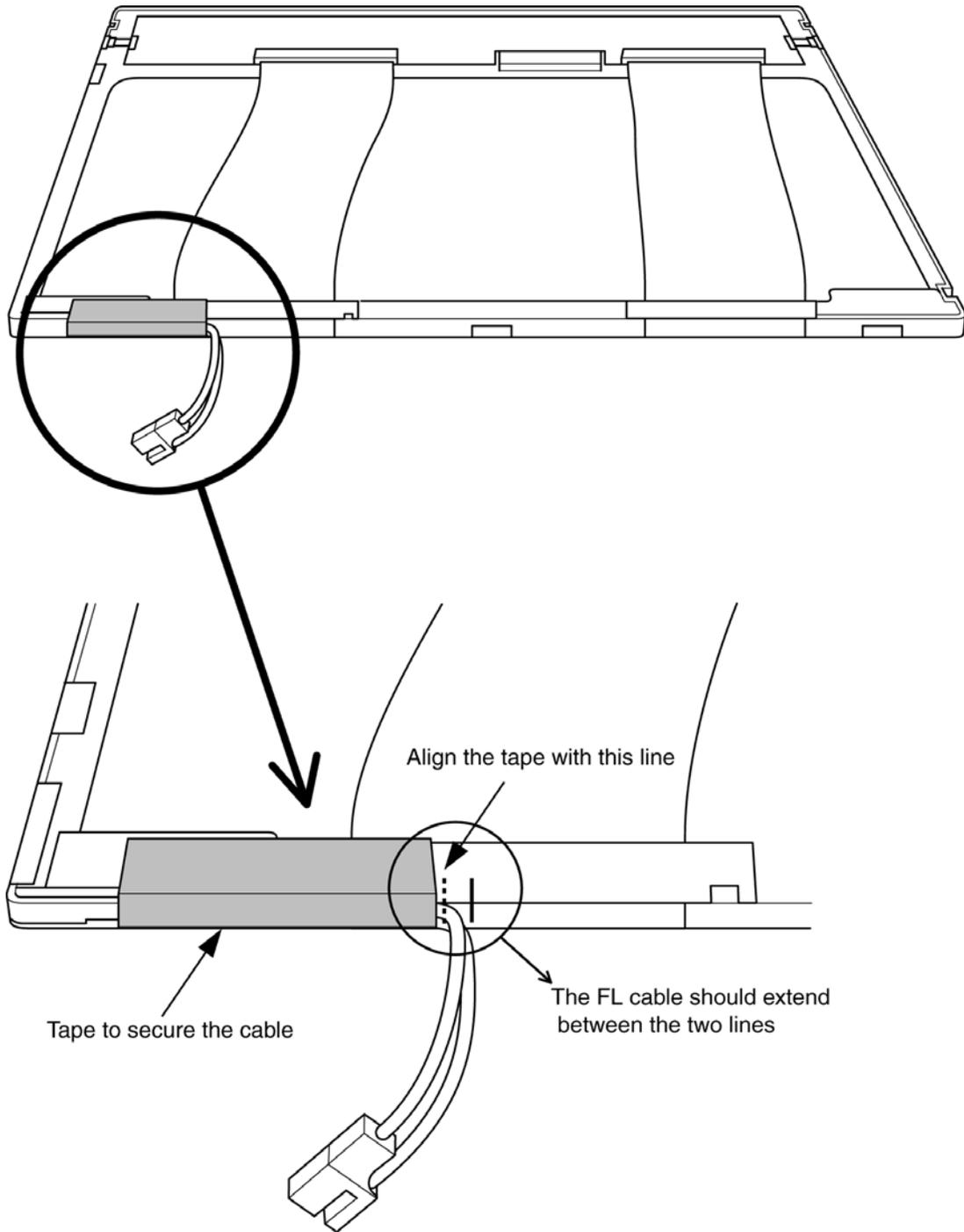13. Secure the wire with light-green tape as shown below.

Figure 4-69   Securing the wire with light-green tape

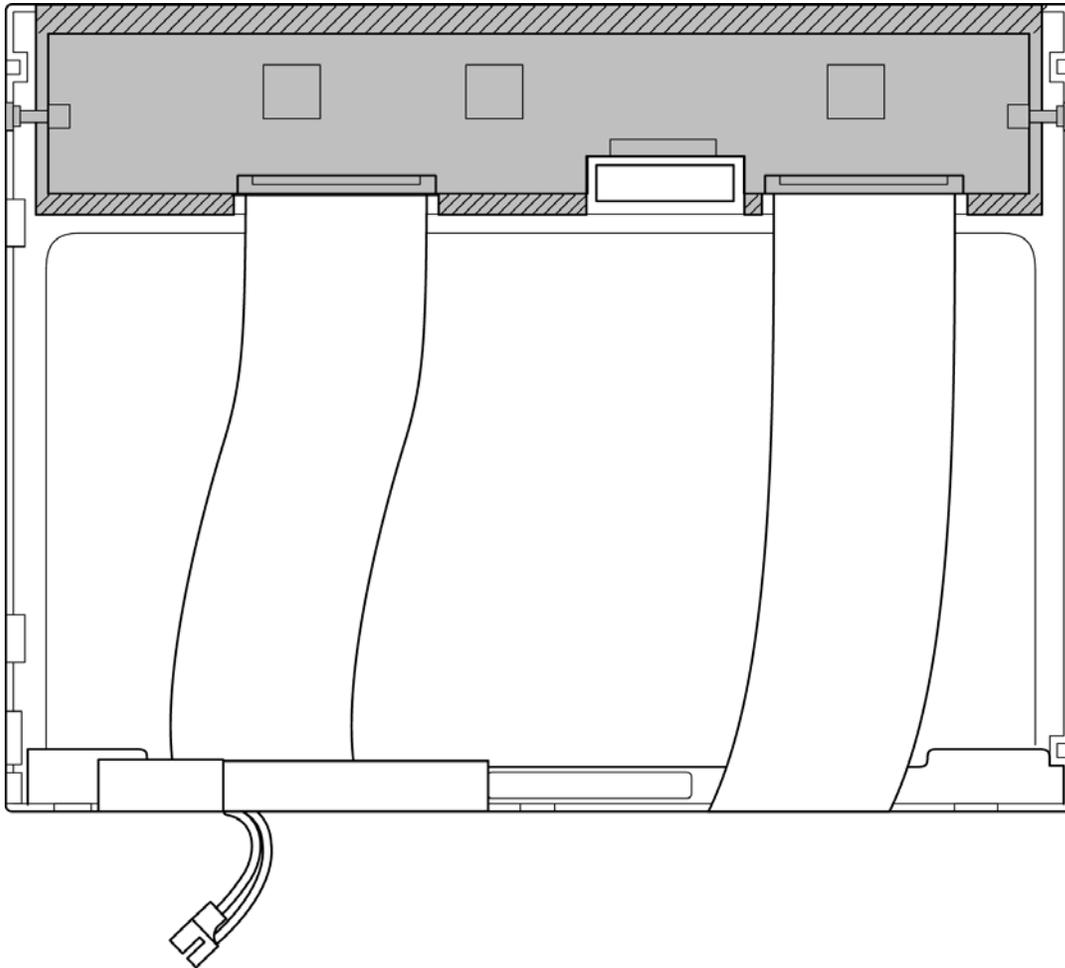14. Apply the transparent PCB cover sheet removed in step 3. Be sure it covers the PCB properly.

Figure 4-70   Applying the transparent PCB cover