Chapter 1
Hardware Overview

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1.1 Features

The Dynabook Satellite C30-K/C40-K/C50-K is a full-size PC notebook equipped with an Intel processor, providing high-speed processing capabilities and advanced features. The computer employs a lithium ion battery that allows it to be battery-operated for long periods of time. Thedisplay uses a 13.3-inch HD/FHD ; 14.0-inch HD/FHD ; 15.6-inch HD/FHD LCD panel. Many features can be Built To Order (BTO) to customize the system for each user.

The computer has the following features:

- Processor (BTO)

  The computer is equipped with one of the following Intel ® processors:

  For Alder Lake platform

  - Intel® Core i7-1265U 2C/8c, 1.8G
  - Intel® Core i7-1255U 2C/8c, 1.7G
  - Intel® Core i5-1245U 2C/8c, 1.6G
  - Intel® Core i5-1235U 2C/8c, 1.3G
  - Intel® Core i3-1215U 2C/4c, 1.2G
  - Intel® Celeron 7305 1C/4c, 1.1G
  - Intel® Core i7-1260P 4C/8c, 2.1G
  - Intel® Core i5-1240P 4C/8c, 1.7G

- Memory (BTO)

  - Two SODIMM slots which come standard with DDR-4 3200MHz 4GB/8GB/16GB, accepting BTO customization for your memory requirements.
  - It can incorporate up to 32GB of main memory.

- Battery Pack

  The computer is powered by one 3 or 4-cell lithium ion battery pack with a capacity of 45Wh or 53Wh, which is rechargeable and removable.

- Solid-State Drive (SSD) (BTO)

  The computer accommodates a 2280 SSD with the followingstorage capacities:

  - PCIe SSD M.2 128GB/256GB/512GB
  - PCIe gen3/gen4 M.2 512GB/1TB

- Display (BTO)

  The LCD display comes with either one of the following non-touch panels.

  - 13.3"W 16:9 HD (1366×768) eDP 1.4b Non CSV LED display
  - 13.3"W 16:9 FHD (1920×1080) eDP 1.4b Non CSV LED display
  - 14.0"W 16:9 HD (1366×768) eDP 1.4b Non CSV LED display
  - 14.0"W 16:9 FHD (1920×1080) eDP 1.4b Non CSV LED display
  - 15.6"W 16:9 HD (1366×768) eDP 1.4b Non CSV LED display
  - 15.6"W 16:9 FHD (1920×1080) eDP 1.4b Non CSV LED display

- Graphics (BTO)
  - Intel® Iris® Xe Graphics(i5/i7), Intel HD Graphics(others)

- Keyboard (BTO)
  - 13.3 inch - The keyboard which has 83(US)/ 84(UK/ 86(JPN), 1.4±0.2mm full stroke keys.
  - 14 inch - The keyboard which has 83(US)/ 84(UK/ 86(JPN), 1.4±0.2mm full stroke keys.
  - 15.6 inch - The keyboard which has 102(US)/ 103(UK/ 107(JPN), with number key. 1.4±0.2mm full stroke keys.

- Pointing Device

  The integrated ClickPad performs finger touch and all the functions of a traditional mouse. Allow control of the on-screen pointer and also supports multi-touch function such as the scrolling of Windows.

- Finger Print Device

  A fingerprint sensor is an electronic device used to capture a digital image of the fingerprint pattern. The captured image is called a live scan. This live scan is digitally processed to create a biometric template (a collection of extracted features) which is stored and used for matching. Many technologies have been used including Optical, Capacitive or CMOS, Ultrasound and Thermal scanners.

- Universal Serial Bus (USB) Ports

  The computer has two(13-inch) or three(14/15-inch) USB 3.0 and one USB-C ports. It is supported to daisy-chain a maximum of 127 USB devices. The USB3.0 serial data transfer rate is up to 5 Gbps. The USB-C data transfer rate is up to 10Gbps. These ports support PnP installation and hot plugging.

- Bridge Media Slot

  This slot allows you to insert an Micro SD memorycard. It supports high-speed SD. UHS-I is also supported on SDXC up to SDR104. This model does not support CF or Smart Media cards.

- Sound system
  - Stereo Speaker (2 x speaker)
  - DTS Audio Processing for Japan model
  - Integrated Microphone
    - 2 x Mic
    - Support Beam Forming, Noise Suppression
  - Support Cortana Near Field

- Internal Camera

  The computer has an internal camera it supports HD(0.9M) with camera shutter.

  This camera module may come with the following types:
  - Webcam - HD: support capture still images/record video function
  - Webcam - HD & Face Authentication Sensor: support capture still images/record video/Facial recognition(Windows Hello) function

- Combo Audio Jack

  This jack connects digital speakers, stereo headphones (16 ohm minimum), microphones, or combo stereo headphone & earphone. When connected to digital speakers or headphones, the internal speakers are automatically disabled.

  It enables connection of a three-conductor microphone for monaural input and also enables the connection of a stereo device for audio input.

- HDMI Out Port

  The HDMI 1.4b out port can connect with a Type A connector HDMI cable. The HDMI out port can send up to 4K HDR video/audio signals.

- Built-in LAN

  The computer has built-in support for 10/100/1000M Gigabit. It employs a Realtek RTL8111H controller.

  It supports wake-up on LAN form S4/S5 boot support.

- Wireless LAN (BTO)

  The computer is equipped with a Wireless LAN (WLAN) card. This WLAN module may come with the following types:

  - 802.11AX＋BT-M.2(1 × 1)
  - 802.11AX＋BT-M.2(2 × 2)
  - Intel 802.11 (a/b/g/n/ac/ax) AX201

- Bluetooth (BTO)

  Some computers in this series offer Bluetooth wireless communication function which eliminates the need for cables between electronic devices such as computers and printers. When implemented, Bluetooth provides wireless communication in a small space. This module is Version 5.0 or later support (combo module with WLAN), and supports Microsoft stack.

- Figures 1-1 to 1-4 show the computer and its system unit configuration.

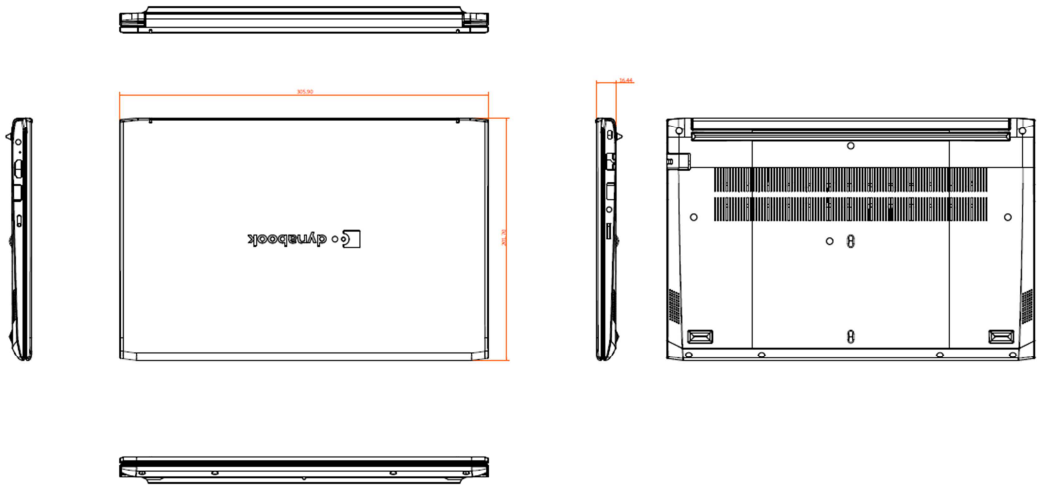


Figure 1-1 ID Parts Description Placement - Satellite C30-K

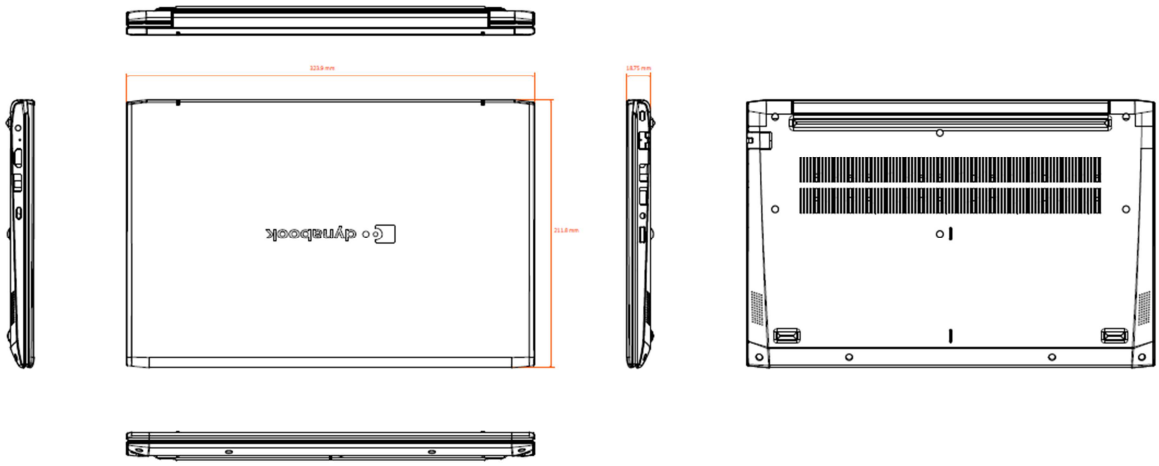


Figure 1-2 ID Parts Description Placement - Satellite C40-K

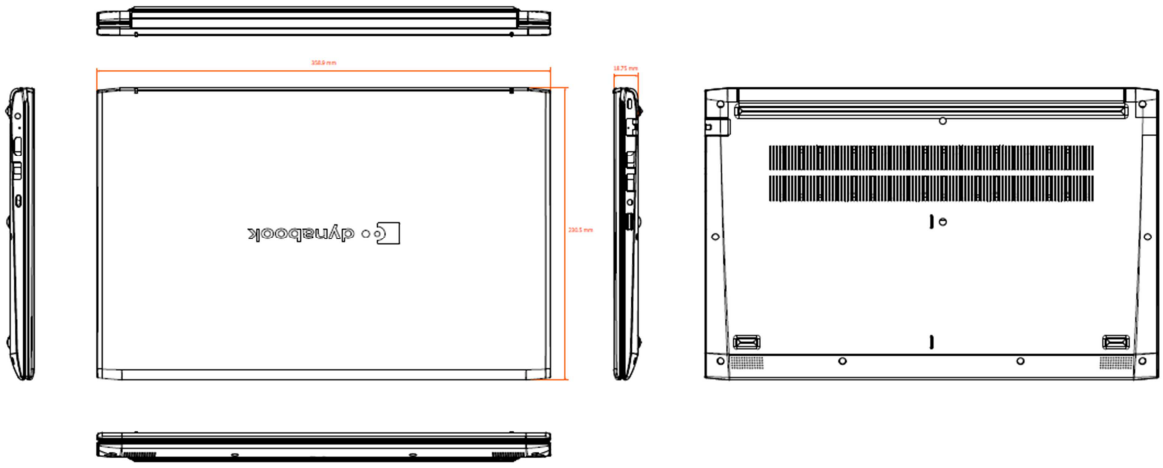


Figure 1-3 ID Parts Description Placement - Satellite C50-K

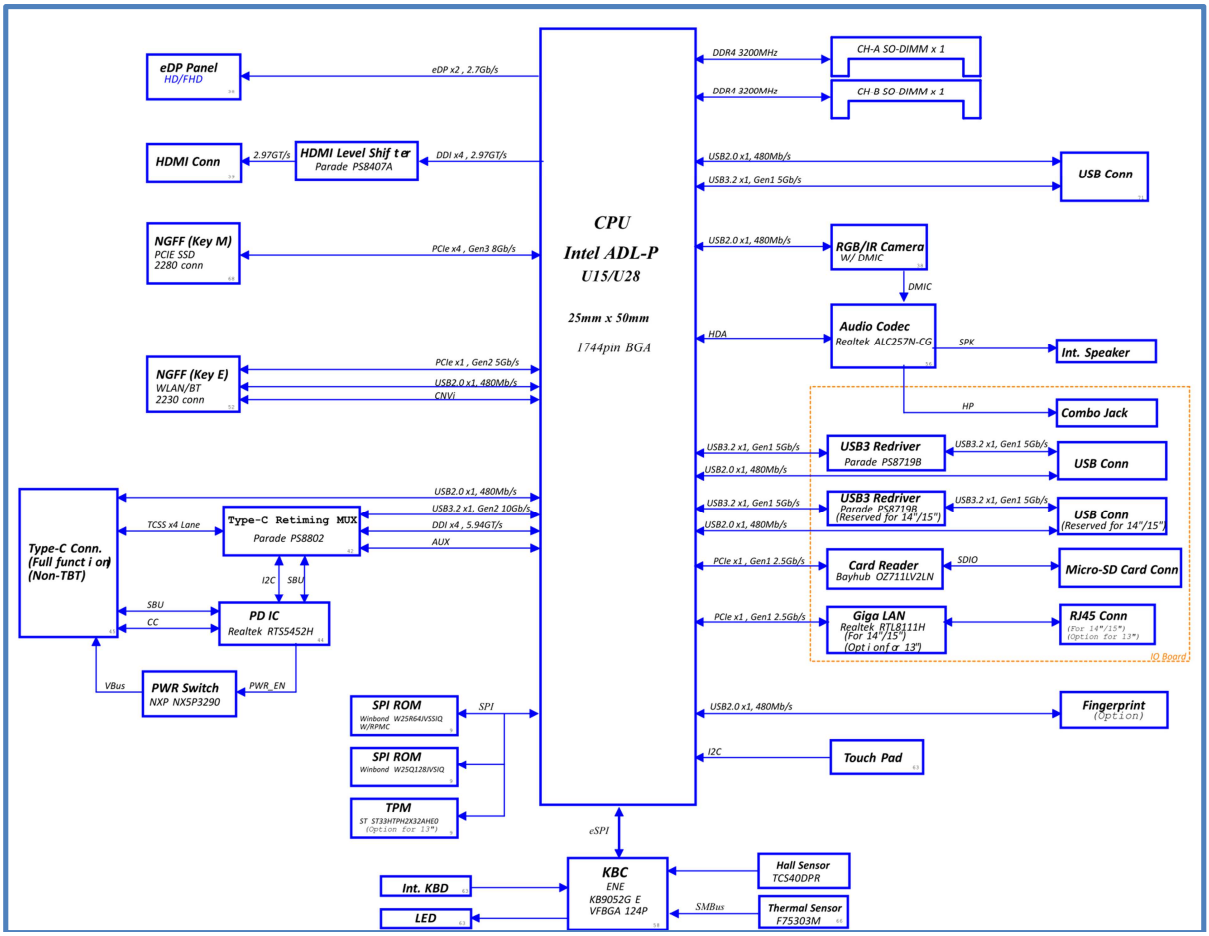


Figure 1-4 Block Diagram Description

The system unit of the computer consists of the following components:

- Processor (BTO)

  The computer is equipped with one of the following Intel® processors:

  For Alder Lake platform

  - Intel® Core i7-1265U 2C/8c, 1.8G
  - Intel® Core i7-1255U 2C/8c, 1.7G
  - Intel® Core i5-1245U 2C/8c, 1.6G
  - Intel® Core i5-1235U 2C/8c, 1.3G
  - Intel® Core i3-1215U 2C/4c, 1.2G
  - Intel® Celeron 7305 1C/4c, 1.1G
  - Intel® Core i7-1260P 4C/8c, 2.1G
  - Intel® Core i5-1240P 4C/8c, 1.7G

- Memory (BTO)

  - Two SODIMM slots which come standard with DDR-4 3200MHz 4GB/8GB/16GB, accepting BTO customization for your memory requirements.
  - It can incorporate up to 32GB of main memory.

- BIOS ROM (EEPROM)

  The system BIOS uses one 16MB flash ROM(for BIOS) and one 8MB flash ROM(for INTEL ME). The flash utility can be used to program system and keyboard BIOS at the same time.

- System Controllers

  - Support SMBus specification V2.0
  - Hot keys for system control
  - Audio volume control
  - Battery status report and control
  - Power switch control
  - Support three independent devices
  - Internal Keyboard country selection
  - Wireless LAN on/off button

- Graphics Controller (BTO)
  - Supported Display Device:
    - Internal LCD
    - RGB
    - HDMI
  - DirectX11, AMD PowerXpress 5.5 (Muxless Switchable Graphics) supported

- Audio Controller
  - Realtek Azalia ALC233
  - One Audio combo port
  - Synchronize to change sound output to HDMI
  - Software EQ support

- Wireless LAN Controller (BTO)
  - Azurewave 802.11 (a/b/g/n/ac) RTL8821CE
  - Azurewave 802.11 (a/b/g/n/ac/ax) RTL8852BE
  - Intel 802.11 (a/b/g/n/ac/ax) AX201

- KBC/EC (Keyboard Controller/Embedded Controller)
  - KBC
    - Scan controller function
    - Interface controller function
  - EC
    - Power supply sequence control
    - Overheat shutdown support
    - LED control
    - Device ON/OFF
    - Cooling fan speed control
    - Universal I/O port
    - Battery capacity check
    - Flash memory reprogramming function
    - EC access interface
    - I2C communication control

1.2 Solid State Drive (SSD)

1. Form factor: M.2 2280
2. Interface: NVMe-PCIe Gen3 or Gen4
3. Capacity: 128GB, 256GB, 512GB, 1TB

Table 1-1 SSD Device Comparison Table

Item	Read	Write	Data transfer rate	LBA	Bytes per sector
M.2 PCIe Gen3 128G SSD	3,100MB/s	1,200MB/s	128KB	250,069,680	512Bytes
M.2 PCIe Gen3/4 256G SSD (DRAM less)	3,100MB/s	1,300MB/s	128KB	500,118,192	512Bytes
M.2 PCIe Gen3/4 512G SSD (DRAM less)	3,100MB/s	1,800MB/s	128KB	1,000,215,216	512Byte
M.2 PCIe Gen4 512G SSD	6,400MB/s	2,700MB/s	128KB	1,000,215,216	512Byte
M.2 PCIe Gen4 1TB SSD	6,600MB/s	5,000MB/s	128KB	2,000,409,264	512Byte

1.3 Power Supply

The power supply unit provides constant voltage (19V) for the system board and performs the following functions:

1. Power input monitor
   - Checks whether the AC adapter (DC power supply) is connected to the computer.
   - Checks whether the battery pack is connected to the computer.
   - Monitors the DC power supply input voltage (AC Adapter output voltage).
2. Power supply's internal control
   - Turns on and off the battery pack charging power supply.
   - Issues a charging current instruction to the PWM control IC of the battery pack charging power supply.
   - Controls the supply of DC power supply input (AC Adapter output) to the power supply unit.
   - Controls the supply of power to the system block (load/logic circuit side).
3. Logic circuit control
   - Instructs the gate array to enable/disable tuning the power on.
   - Controls power-on/off operation.

4. Status display

   - Turns on the Power LED (in White).
   - DC-IN/Battery indicator (in White/Amber-Blink)
   - Camera indicator (in White)

5. External interface

   - Performs communication through the I2C bus (via the internal EC/KBC).
   - Transfers the power supply operation mode.

6. Output monitor

   - Monitors the voltage output to the system block (load/logic circuit side).
   - Monitors the voltage, over-voltage, input/output current of the battery pack.
   - Monitors the internal temperature of the battery pack.
   - Monitors the supply voltage from the AC adapter.

1.4 Batteries

The computer is powered by one 4-cell / 3-cell lithium ion main battery pack:

- 3cell (3S1P) of LI-ION 4050mAH polymer 467866 size with 45Wh
- 4cell (4S1P) of LI-ION 3550mAH polymer 476371 size with 53Wh

1.4.1 Main Battery

The main battery pack serves as the computer's main power source when the AC adapter is not attached. The main battery maintains the state of the computer when the AC adapter is detached.

1.4.2 Battery Charging Control

Battery charging is controlled by ISL9538. When the AC adapter and battery pack are attached tothe computer, the ISL9538 controls the charge on/off state and detects a full charge.

- Battery Charge

  When the AC adapter is attached, the battery is charged by off-state charge when the system is powered off or by on-state charge when it is powered on.

Table 1-2 Quick/Normal Charging Time

State	Charge Time	
Off-State Charge	Battery pack (4050mAh, 3cell)	3 hours
	Battery pack (3550mAh, 4cell)	4 hours
On-State Charge	Battery pack (4050mAh, 3cell)	12 hours
	Battery pack (3550mAh, 4cell)	12 hours

NOTE: *The time required for normal charge depends on the power consumption by the system. Using a fluorescent lamp and frequently accessing the disk consumes more power and lengthens the charge time.*

Any of the following can stop the battery from charging:

1. The battery becomes fully charged.
2. The AC adapter or battery pack is removed.
3. The battery or AC adapter voltage is abnormal.

- Detection of full charge

A full charge is detected only when the battery is being charged by quick or normal charge. A full charge is detected when either of the following conditions are met:

1. The current in the battery charging circuit drops below the predetermined value.
2. The charging time exceeds the fixed limit.

Chapter 2
Troubleshooting Procedures

Chapter 2 Contents

Figures

Tables

2.1 Troubleshooting Introduction

Chapter 2 describes how to determine if a Field Replaceable Unit (FRU) in the computer is causing the computer to malfunction. The FRUs covered are:

1. Display	7. Wire LAN	13. USB3.0	19. Headphone
2. Keyboard	8. Camera	14. LAN	20. Memory
3. USB ports	9. Bluetooth	15.HDD/SSD	21. Finger Print
4. MIC	10. HDMI	16. Battery	
5. Touch Pad	11. TYPE C	17. LED	
6. Speaker	12. SD	18.FAN	

The Diagnostics Disk operations are described in Chapter 3. Detailed replacement procedures are given in Chapter 4.

The following tools are necessary for implementing the troubleshooting procedures:

1. Multi-meter
2. External monitor –HDMI
3. USB compatible keyboard
4. Multimedia sound system with line-in and line-out ports
5. Headphones
6. USB test module and USB cable
7. MIC module and MIC line
8. Audio loop back
9. USB3.0 HDD
10. HDMI
11. T&D for diagnostics program

2.2 Troubleshooting Flowchart

If you know the location of the malfunction, turn directly to the appropriate section of this chapter. If the problem is unspecified, use the flowchart in Figure 2-1 as a guide for determining which troubleshooting procedures to execute. Before performing any troubleshooting procedures, verify the following:

- Ask the user if a password is registered, if it is, ask him or her to enter the password.
- Verify with the customer that Windows 11 is installed on the hard disk (SSD). Operating systems that were not pre-installed by Dynabook can cause the computer to malfunction.
- Make sure all optional equipment is removed from the computer

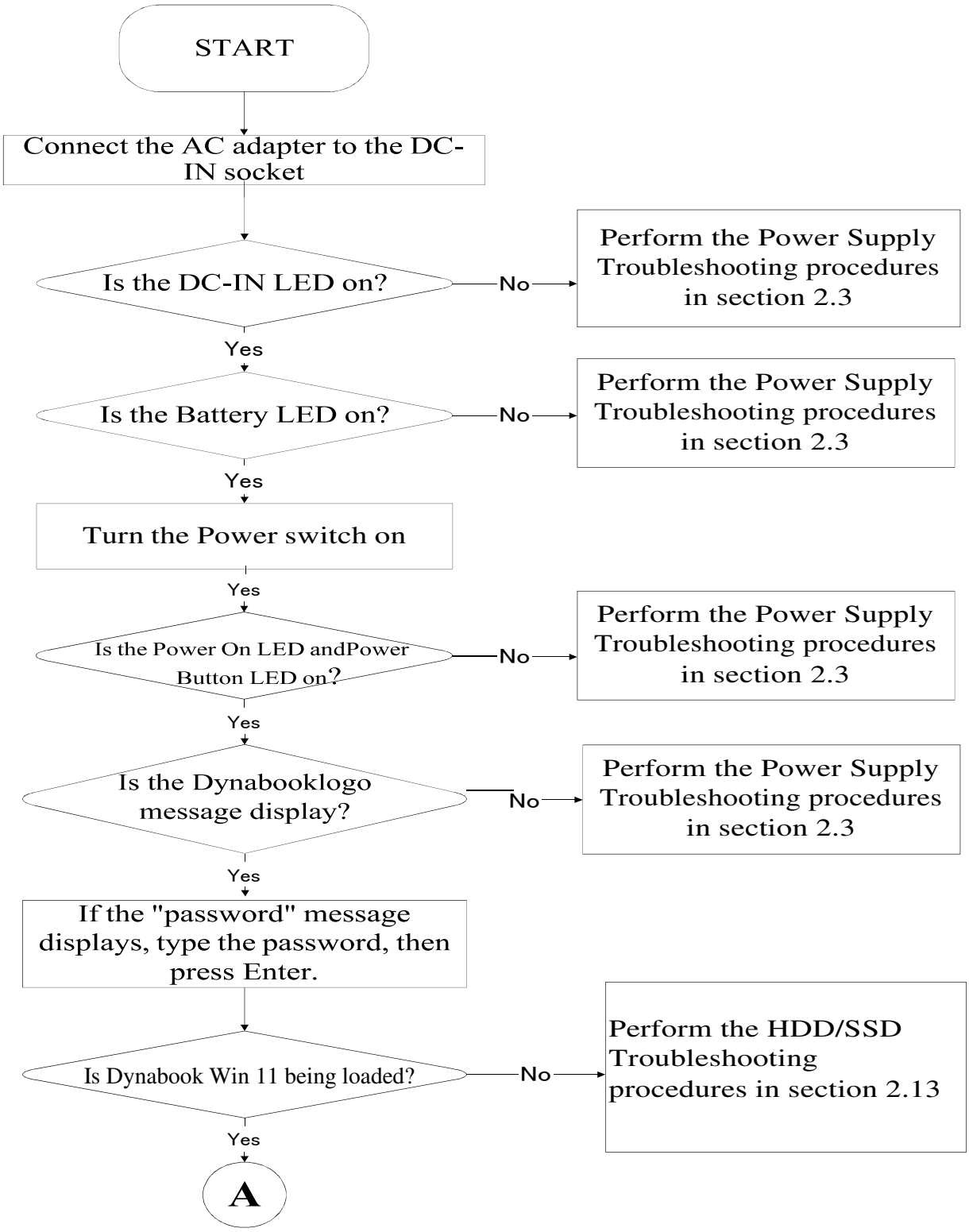


Figure 2-1 Troubleshooting flowchart (1/2)

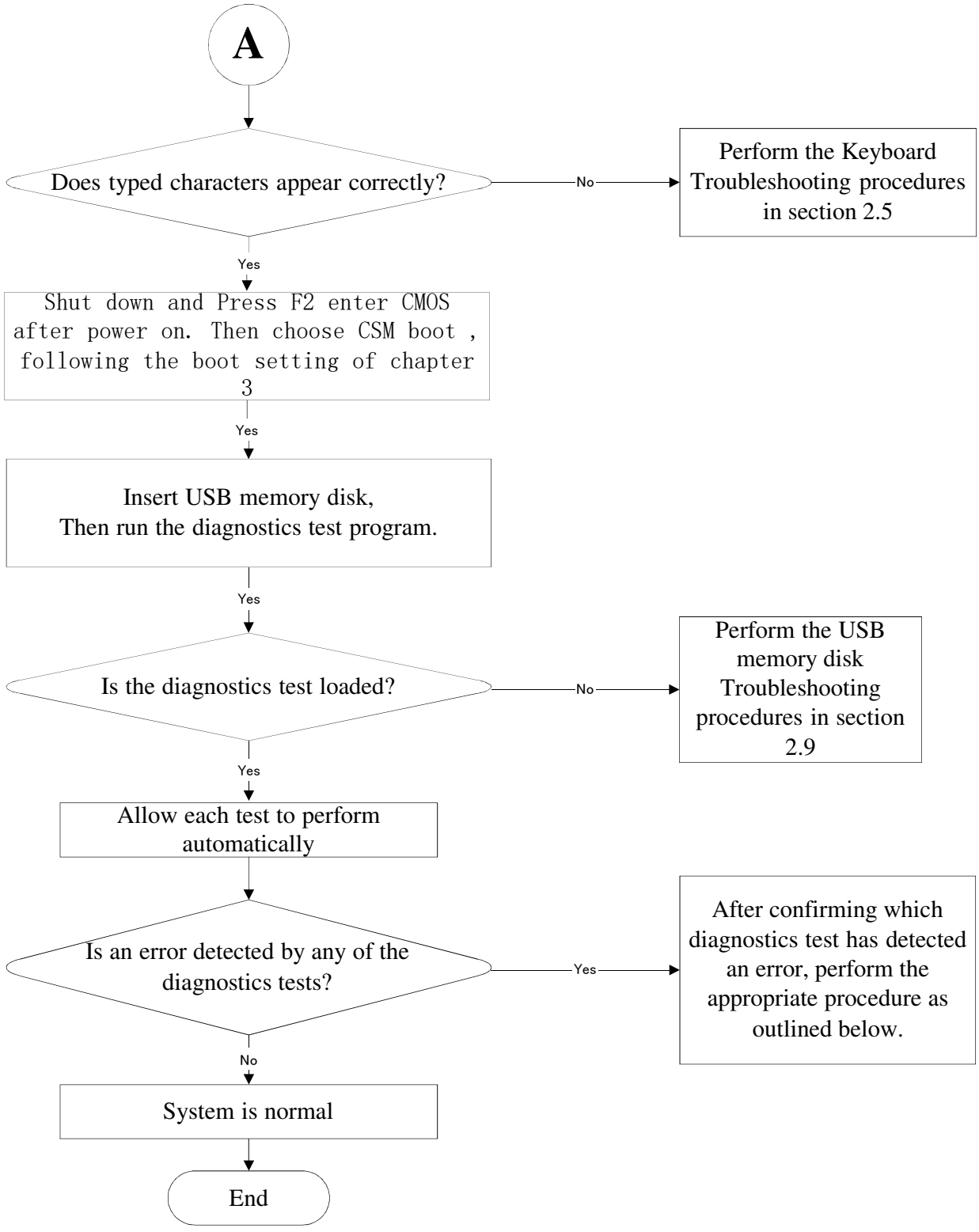


Figure 2-1 Troubleshooting flowchart (2/2)

If the diagnostics program cannot detect an error, the problem may be intermittent. The test program should be executed several times to isolate the problem. When a problem has been located, perform the appropriate troubleshooting procedures as follows:

1. If an error is detected by the battery test, perform the Power Supply Troubleshooting procedures in Section 2.3
2. If an error is detected by the display test, perform the Display Troubleshooting procedures in Section 2.4
3. If an error is detected by the keyboard test, perform the Keyboard Troubleshooting procedures in Section 2.5
4. If an error is detected by the Touchpad test, perform the Touchpad Troubleshooting procedures in Section 2.7
5. If an error is detected by the audio test, perform the Speaker Troubleshooting procedures in Section 2.8
6. If an error is detected when using the SSD, perform the SSD Troubleshooting procedures in Section 2.13
7. If an error is detected when using the LAN, perform the LAN troubleshooting procedures in Section 2.18
8. If an error is defected when using the battery, perform the Battery troubleshooting procedures in Section 2.19
9. If an error is defected when using LED function, perform the LED troubleshooting procedures in Section 2.20
10. If an error is defected when using FAN ,perform the FAN troubleshooting procedures in Section 2.21
11. If an error is defected when using Memory ,perform the Memory troubleshooting proceduresin Section 2.22
12. If an error is defected when using Finger Print ,perform the Memory troubleshooting proceduresin Section 2.23

Other problems that are not covered by the diagnostics program may be discovered by a user.

1. If an error is detected when using an external USB device, perform the External USB Devices Troubleshooting procedures in Section 2.6
2. If an error is detected when using the Wireless LAN, perform the Wireless LAN Troubleshooting procedures in Section 2.9
3. If an error is detected when using the camera, perform the camera Troubleshooting procedures in Section 2.10
4. If an error is detected when using the Bluetooth, perform the Bluetooth Troubleshooting procedures in Section 2.11
5. If an error is detected when using the SD, perform the SD Troubleshooting procedures in Section 2.12
6. If an error is detected when using the HDMI TV, perform the HDMI troubleshooting procedures in Section 2.14
7. If an error is detected when using the MIC, perform the MIC troubleshooting procedures in Section 2.15
8. If an error is detected when using the USB3.0&USB2.0, perform the USB3.0&USB2.0 troubleshooting procedures in Section 2.16
9. If an error is detected when using The TYPE C, perform TYPE C troubleshooting procedures in Section 2.17

2.3 Power Supply Troubleshooting

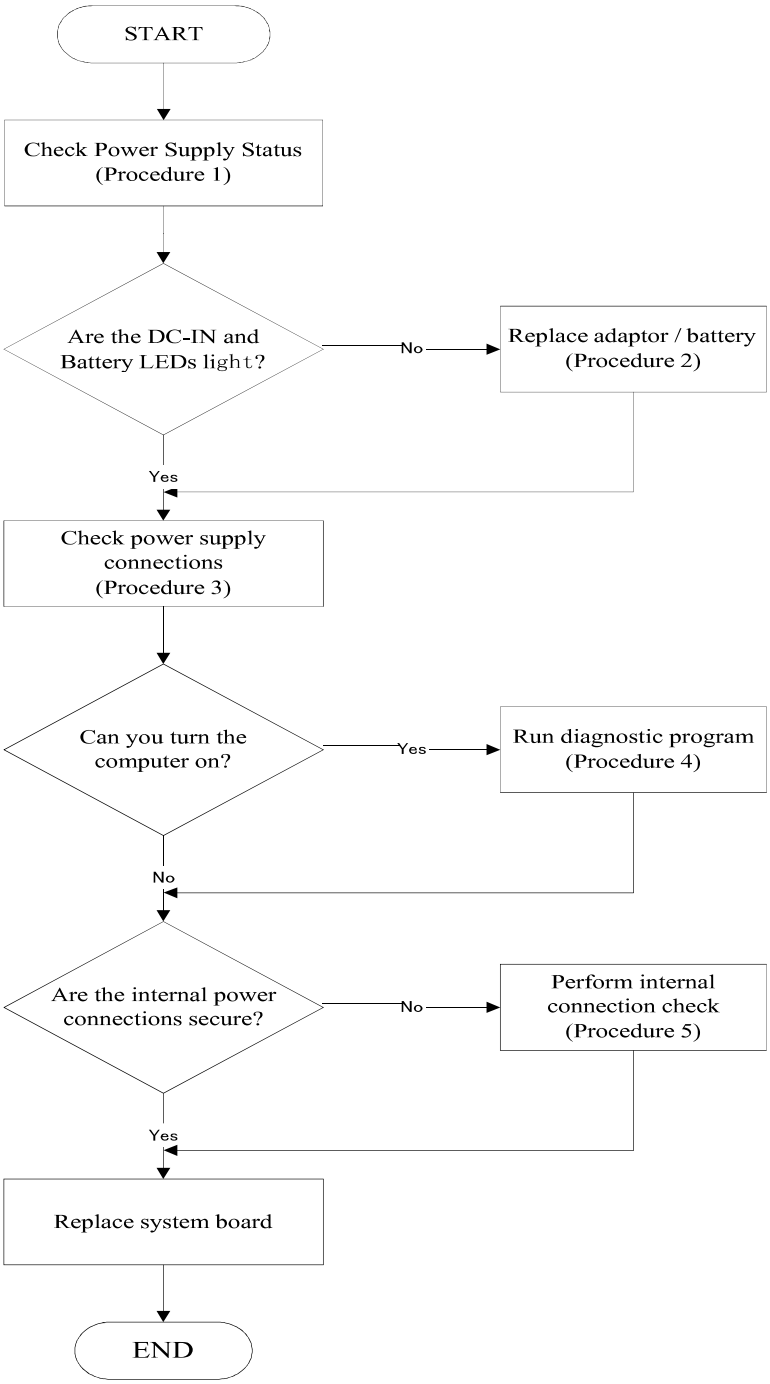


Figure 2-2 Power Supply Troubleshooting Process

The power supply controls many functions and components. To determine if the power supply is functioning properly, start with Procedure 1 and continue with the other Procedures as instructed. The flowchart in Figure 2-2 gives a summary of the process. The procedures described in this section are:

Procedure 1: Power status check

Procedure 2: Adaptor / battery replacement

Procedure 3: Power supply connection check

Procedure 4: Diagnostic check

Procedure 5: Internal connection check

Procedure 1 Power Status Check

The following LEDS indicate the power supply status:

 Battery LED

 DC-IN LED

The power supply controller displays the power supply status through the Battery and the DC-IN LEDS as listed in the tables below.

Table 2-1 Battery LED

Battery State	LED colors	Definition
Charging	Amber, solid on	Battery charging with AC.
	White, solid on	Battery fully charged by AC
	Amber color off	Battery abnormal stop charging with AC (Bad cell/ Overheated)
Discharging	Amber, blinking (LED on for 1 second every 4 seconds)	Battery within low state: 12 minutes remaining
	Amber, blinking (LED on for 1 second every 2 seconds)	Battery within critical low state: 3 minutes remaining. The system is protected and cannot be re-powered on without the AC power connected.
	Amber color off	Battery not in low or critical low state; It's in discharging state

Table 2-2 DC-IN LED

AC-IN LED	Power supply status
Solid on	AC power exists (LED is solid White).
Off	No AC power exists.

To check the power supply status, install a battery pack and connect an AC adaptor to the DC-IN port on the computer and to a power supply.

If the DC-IN LED or Battery LED is not lit, go to Procedure 2.

Procedure 2 Adaptor / battery replacement

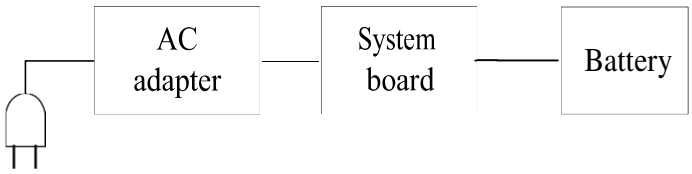
A faulty adaptor may not supply power or may not charge the battery. Perform Check 1.

Check 1 Connect a new AC adaptor. If the problem is not resolved, go to Check 2.

Check 2 Insert a new battery. If the problem is still not resolved, go to Procedure 3.

Procedure 3 Power supply connection check

The power supply wiring diagram is shown below:



Any of the connectors may be disconnected. Perform Check 1.

Check 1 Disconnect the AC power cord from wall outlet. Check the power cable for breaks. If the power cord is damaged, connect a new AC power cord. If there is no damage, go to Check 2.

Check 2 Make sure the AC adaptor cord and AC power cord are firmly plugged into the DC-IN socket, AC adaptor inlet and wall outlet. If these cables are connected correctly, go to Check 3.

Check 3 Make sure that the DC-IN input port socket is firmly secured to the system board of the computer.
- If the DC-IN input socket is loose, go to Procedure 5.
- If it is not loose, go to Check 4.

Check 4 Use a multi-meter to make sure that the AC adaptor output voltage is close to 19 V. If the output is several percent lower than 19 V, go to Check 5. If the output is close to 19 V, go to Check 6.

Check 5 Connect a new AC adaptor or AC power cord.
- If the DC-IN LED does not light, go to Procedure 4.
- If the battery LED does not light, go to Check 6.

Check 6 Make sure the battery pack is installed in the computer correctly. If the battery is properly installed and the battery LED still does not light, go to Procedure 4.

Procedure 4 Diagnostic check

The power supply may not charge the battery pack. Perform the following procedures:

1. Reinstall the battery pack.

2. Attach the AC adaptor and turn on the power. If you cannot turn on the power, go to Procedure 5.

3. Run the Diagnostic test following the procedures described in Chapter 3, Tests and Diagnostics. If no problem is detected, the battery is functioning normally.

Procedure 5 Replacement check

The system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*. Check the connection between the AC adaptor and the system board. After checking the connection, perform Check 1:

Check 1 Use a multi-meter to make sure that the fuses on the system board are not blown. If a fuse is not blown, go to Check 2. If a fuse is blown, go to Check 3.

Check 2 Make sure that the battery cable is firmly connected to the system board. If it is connected firmly, go to Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.4 Display Troubleshooting

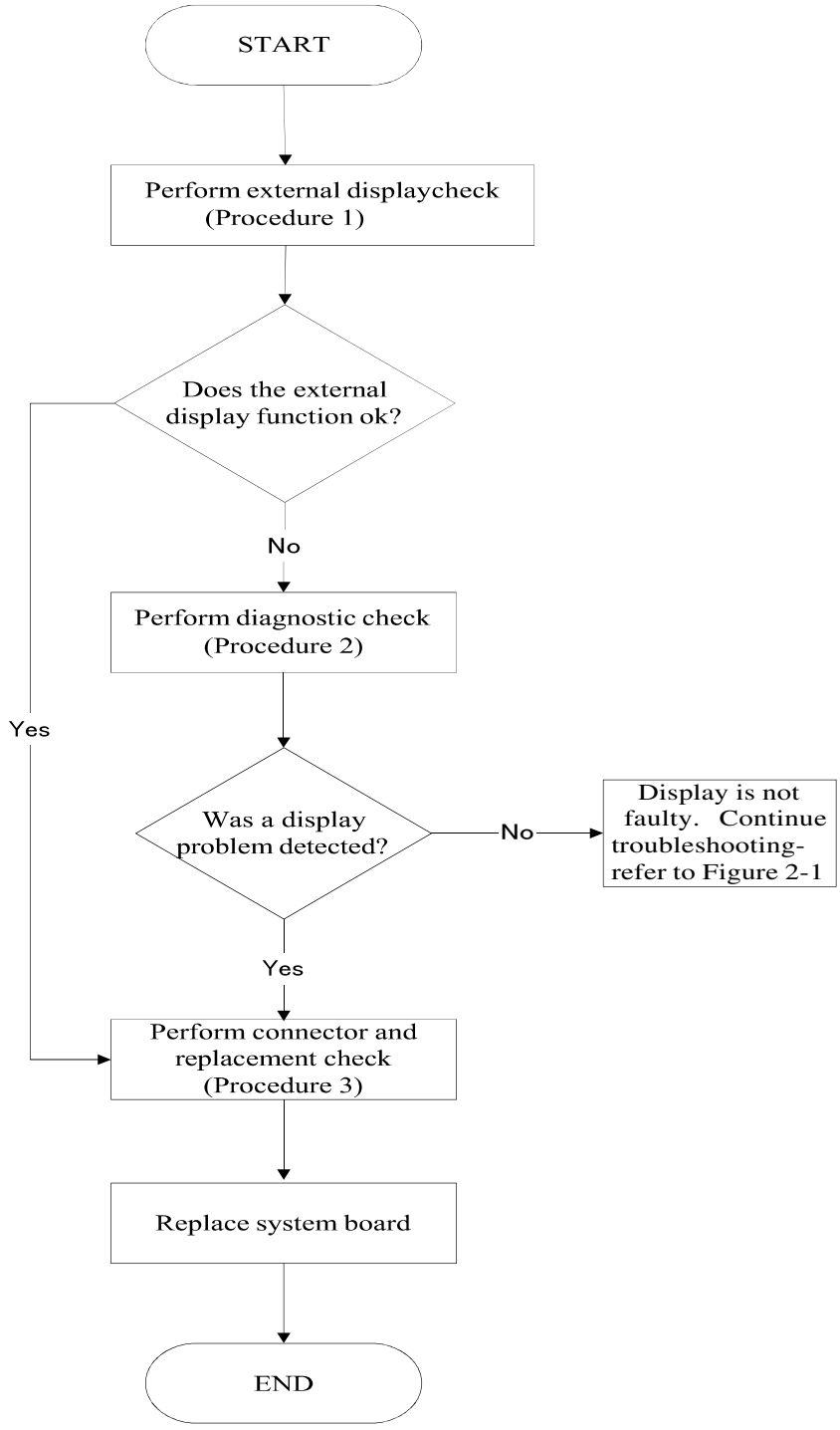


Figure 2-3 Display troubleshooting process

This section describes how to determine if the computer's display is functioning properly. The process is outlined in Figure 2-4. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: External display check

Procedure 2: Diagnostic check

Procedure 3: Connector and replacement check

Procedure 1 External display check

Connect an external display to the computer's external monitor port, and then boot the computer. The computer automatically detects the external display.

If the external display works correctly, the internal LCD may be damaged. Go to Procedure 3.

If the external monitor appears to have the same problem as the internal monitor, the system board may be damaged. Go to Procedure 2.

Procedure 2 Diagnostic check

The Display Test program is stored on the computer's Diagnostics disk. This program checks the display controller on the system board. Insert the Diagnostics disk in the computer's floppy disk drive, turn on the computer and run the test. Refer to Chapter 3, *Tests and Diagnostics* for details.

If an error is detected, go to Procedure 3. If an error is not detected, the display is functioning properly.

Procedure 3 Connector and replacement check

The LCD module and system board are connected to the display circuits. Any of these components may be damaged. Refer to Chapter 4, *Replacement Procedures,* for instructions on how to disassemble the computer and then perform the following checks:

Check 1 Make sure the DDR RAM module is seated properly. Test display again. If the problem still exits, replace the DDR RAM module. If the problem still exists, perform Check 2.

Check 2 Replace the LCD module with a new one and test display again. If the problem still exists, perform Check 3.

Check 3 Replace the LCD cable with a new one and test display again. If the problemstill exists, perform Check 4.

Check 4 The system board may be damaged. Replace it with a new one.

2.5 Keyboard Troubleshooting

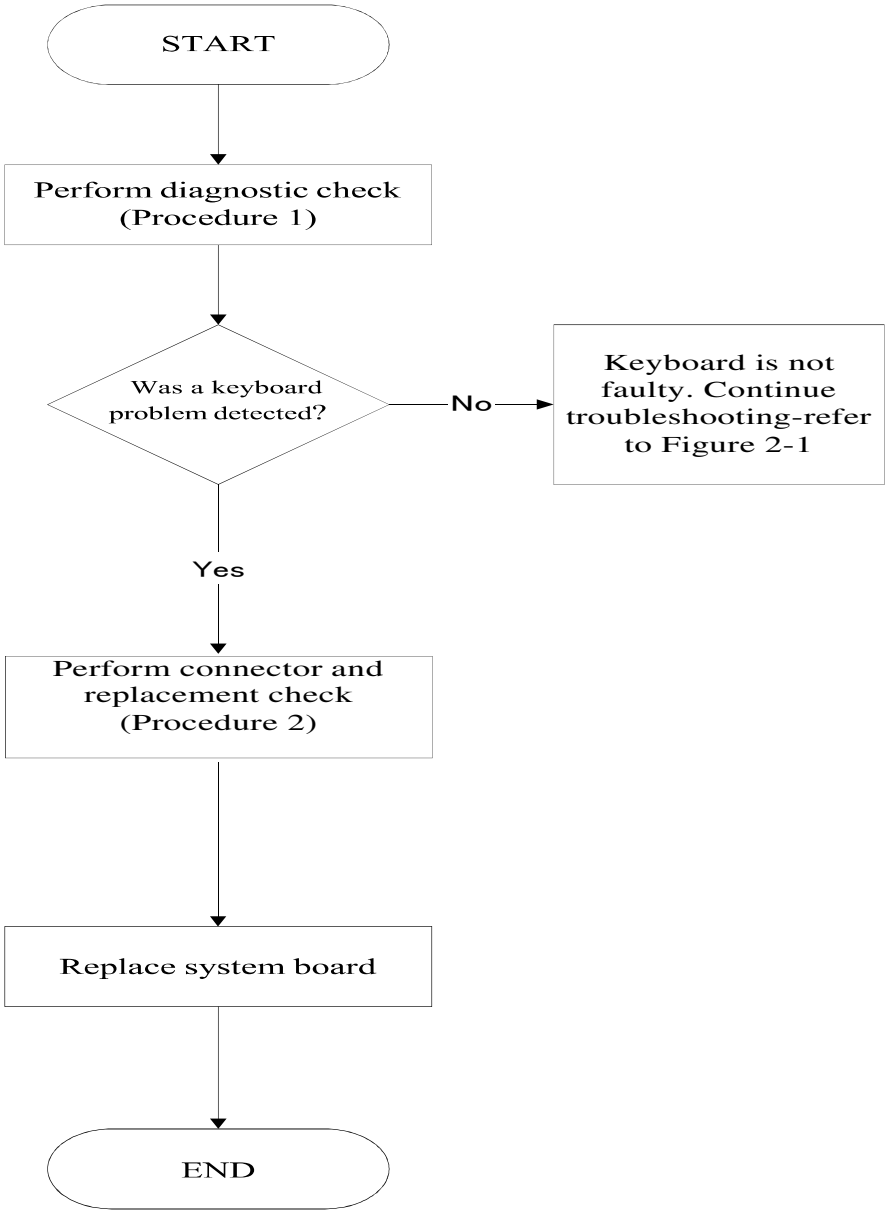


Figure 2-4 Keyboard troubleshooting process

To determine if the computer's keyboard is functioning properly, perform the following procedures. Figure 2-5 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1 Diagnostic check

Run the test and Diagnostics Program, which will automatically execute the Keyboard Test. Refer to Chapter 3, *Tests and Diagnostics* for more information on how to run the program.

If an error is located, go to Procedure 2. If an error does not occur, the keyboard is functioning ok.

Procedure 2 Connector and replacement check

The keyboard and/or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures* and perform the following checks.

Check 1 Make sure the keyboard cable is firmly connected to the system board.

If the connection is loose, reconnect firmly and repeat Procedure 1. If there is still an error, go to Check 2.

Check 2 The keyboard may be damaged. Replace it with a new one following the instructions in Chapter 4.

If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.6 External USB Devices Troubleshooting

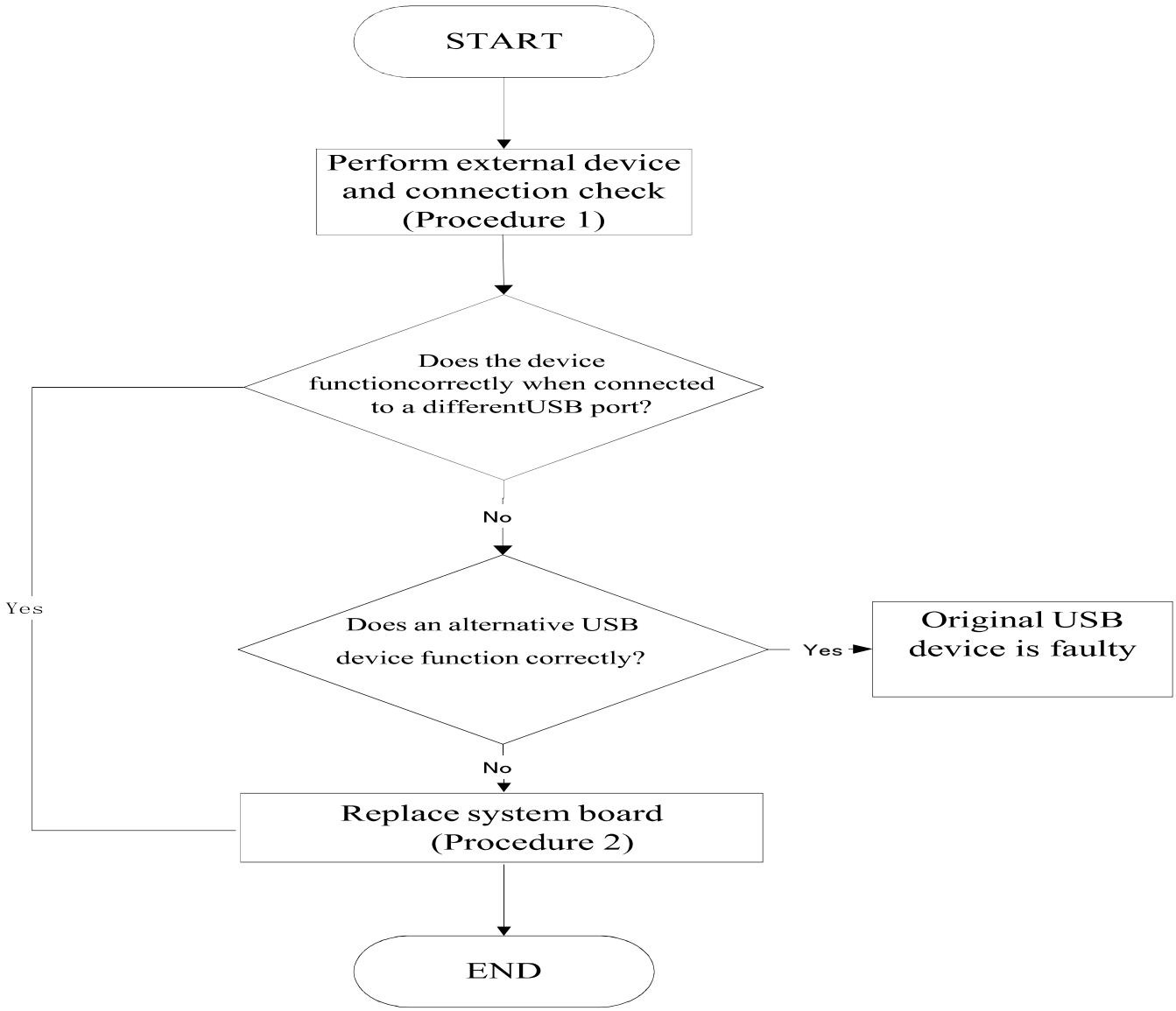


Figure 2-5 External USB device troubleshooting process

To determine if the computer's external USB devices are functioning properly, perform the following procedures. Figure 2-6 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: External device and connection check

Procedure 2: Replace system board or small board

Procedure 1 External device and connection check

The USB device may be damaged or the connection may be faulty. Use windows application to check device can work fine or not. If an error is located, go to Perform Check 1. If an error does not occur, the USB is functioning ok.

Check 1 Make sure USB device cable is firmly plugged into one of the USB sockets. If the cable is connected correctly, go to Check 2.

Check 2 Plug the USB device into another USB socket (there are three in all). If the USB device still does not work, go to Check 4.

If the device functions correctly when connected to another USB port, go to Check 3.

Check 3 Make sure that the USB socket is firmly secured to the system board of the computer. If the malfunction remains, the system board or USB small board may be damaged. Go to Procedure 2.

Check 4 Connect an alternative USB device to one of the computer's USB ports, and then boot the computer. The computer automatically detects the external device.

If the alternative USB device works correctly, the original device may be damaged and should be replaced.

If the alternative USB device appears to have the same problem as the original device, the system board or USB small board may be damaged. Go to Procedure 2.

Procedure 2 Replace system board

If the error persists, the system board or USB small board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.7 Touch Pad Troubleshooting

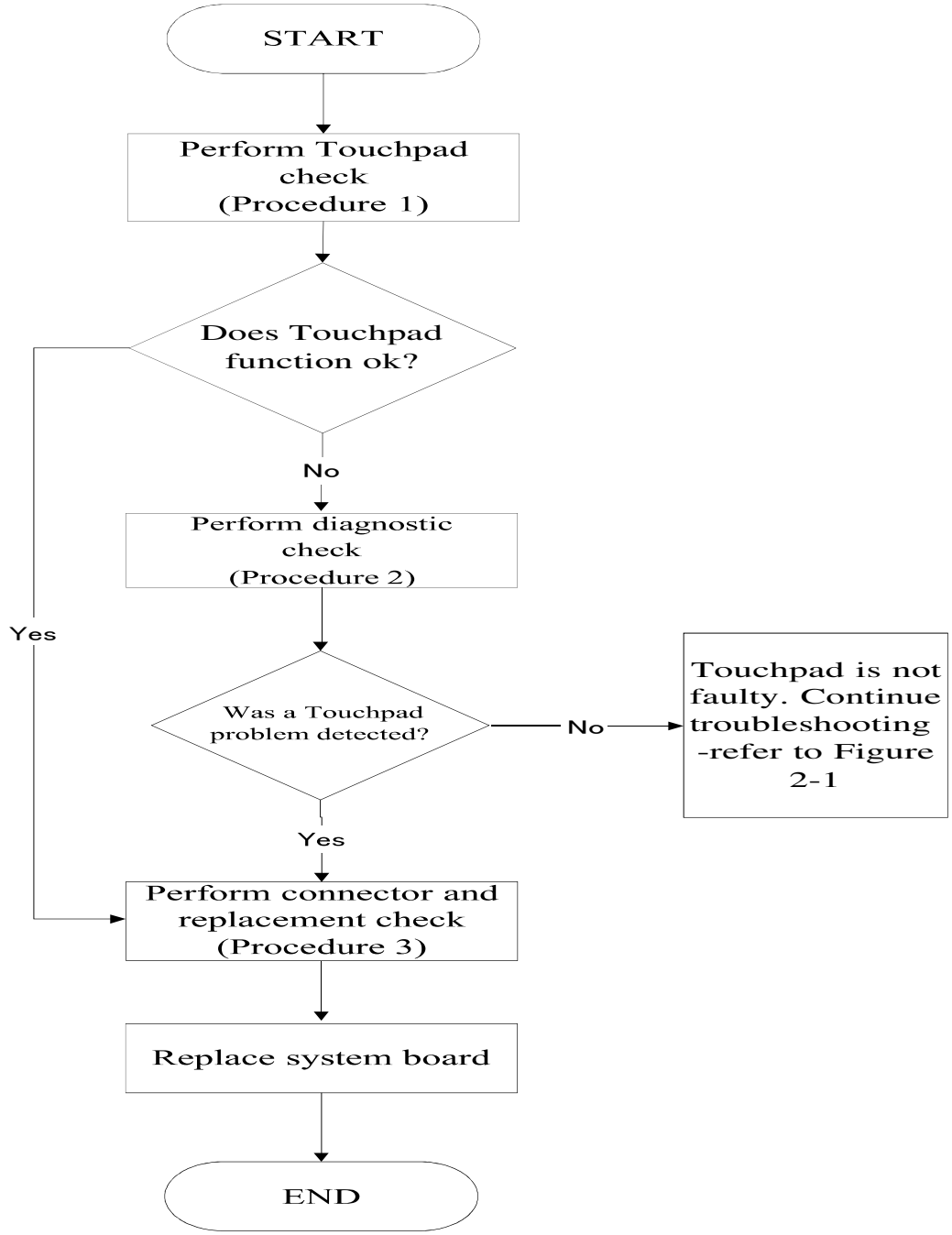


Figure 2-6 Touchpad troubleshooting process

To determine if the computer's built-in Touchpad is functioning properly, perform the following procedures. Figure 2-7 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: Diagnostic test in windows system

Procedure 2: Touchpad connection check

Procedure 3: Touchpad replacement check

Procedure 1 Diagnostic test in windows system

a. Please check touch function in windows system or run the Diagnostic Program, which will automatically execute the Touchpadtest. (Refer to Chapter 3 system configuration check), Tests and Diagnostics for more information on the program.

b. If Diagnostic Program test PASS, please enter windows 8 to test 2 fingers zoom in/ zoom out test and check whether the function is OK or not.

If an error is located in **a** and **b** items, go to Procedure 2. If an error is not located, the Touchpad function is functioning properly.

Procedure 2 Touchpad connection check

The Touchpad is connected via the Touchpad FPC to the system board. Make sure the Touchpad FPC cable is firmly connected to the Touchpad and system board. Refer to Chapter 4, *Replacement Procedures,* for instructions on how to disassemble the computer and then perform the following checks.

If any of the connections are loose, reconnect firmly. If any of the connections is damaged, or there is still an error, go to Procedure 3.

Procedure 3 Touchpad replacement check

The Touchpad unit or FPC may be defective or damaged. Replace each with a new one following the steps in Chapter 4. If under windows system test is still not functioning properly, replacethe system board with a new one following the steps in Chapter 4.

2.8 Speaker Troubleshooting

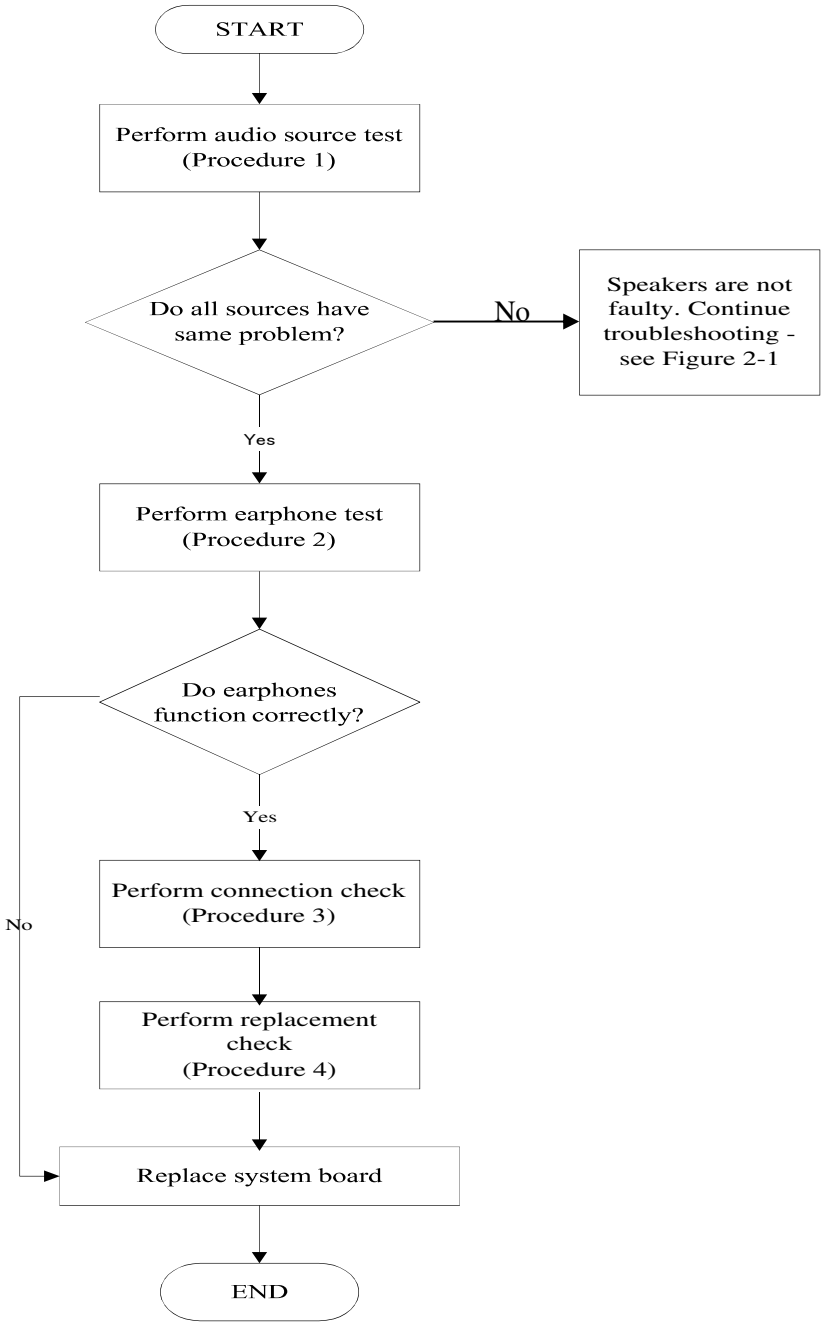


Figure 2-7Speaker troubleshooting process

To determine if the computer's built-in speakers are functioning properly, perform the following procedures. Figure 2-8 outlines the process. First adjust the speaker volume to an appropriate level. Start with Procedure 1 and continue as instructed.

Procedure 1: Audio source test

Procedure 2: Earphone test

Procedure 3: Connection check

Procedure 4: Replacement check

Procedure 1 Audio source test

Try different audio sources (e.g. an audio CD and digital music file) to determine whether the fault is in the speaker system or not. If not all sources have sound problem, the problem is in the source devices. If all have the same problem, continue with Procedure 2.

Procedure 2 Earphone test

Connect a set if earphones or external speakers. If these function correctly, go to Procedure 3. If they do not function correctly, the system board may be defective or damaged. Replace it with a new one.

Procedure 3 Connection check

Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures* and make sure the speaker cable is firmly connected to the audio board. If the stereo speakers are still not functioning properly, go to Procedure 4.

Procedure 4 Replacement check

If the stereo speakers don't sound properly, the stereo speakers may be defective or damaged. Replace them with new ones. If the stereo speakers still do not work properly, try replacing in turn the audio board and system board.

2.9 Wireless LAN Troubleshooting

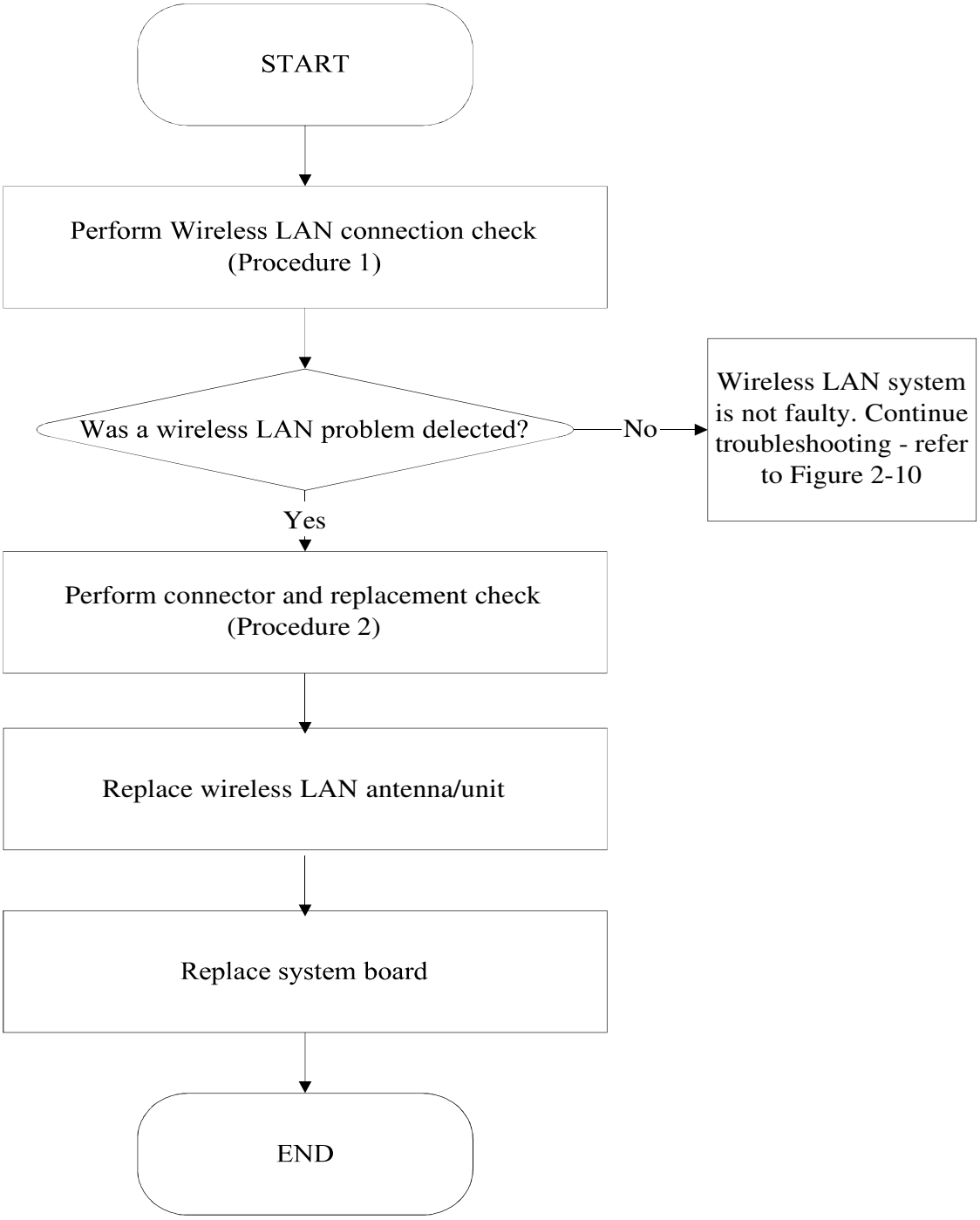


Figure 2-8 Wireless LAN troubleshooting process

Notes: W/L Antenna assemble rule as below:

Color of antenna	Assemble location
White antenna	Main/1
Black antenna	Aux/2

The wireless LAN antenna wire, wireless LAN unit or system board may each be the source of a wireless LAN fault. Any of these components may be damaged. To determine if the computer's wireless LAN system is functioning properly, perform the following procedures. Figure 2-10 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Wireless LAN connection test

Procedure 2: Connector and replacement check

Procedure 1 Wireless LAN connection check

PLS use windows application. If an error is located, go to Procedure 2. If an error is not located, the wireless LAN system is functioning properly.

Procedure 2 Connector and replacement check

The wireless LAN antenna, wireless LAN unit or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Make sure that the wireless LAN antenna is firmly connected to the Wireless LAN module (refer to Chapter 4 for instructions) and that the wireless LAN module is securely slotted into the system board. If the problem persists, go to Check 2.

Check 2 Check that the wireless communication switch is turned to "On", and then make sure that the wireless communication LED on the front panel is light. If the LED is light but the wireless LAN function is still faulty, the antenna may be damaged. Replace with a new antenna following the steps in Chapter 4, *Replacement Procedures*. If the problem persists, or if the wireless LAN LED is not light when the wireless communication switch is turned to "On", go to Check 3.

Check 3 The wireless LAN unit may be damaged. Replace it with a new one following the instructions in Chapter 4. If the problem still exists, perform Check 4.

Check 4 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.10 Camera Troubleshooting

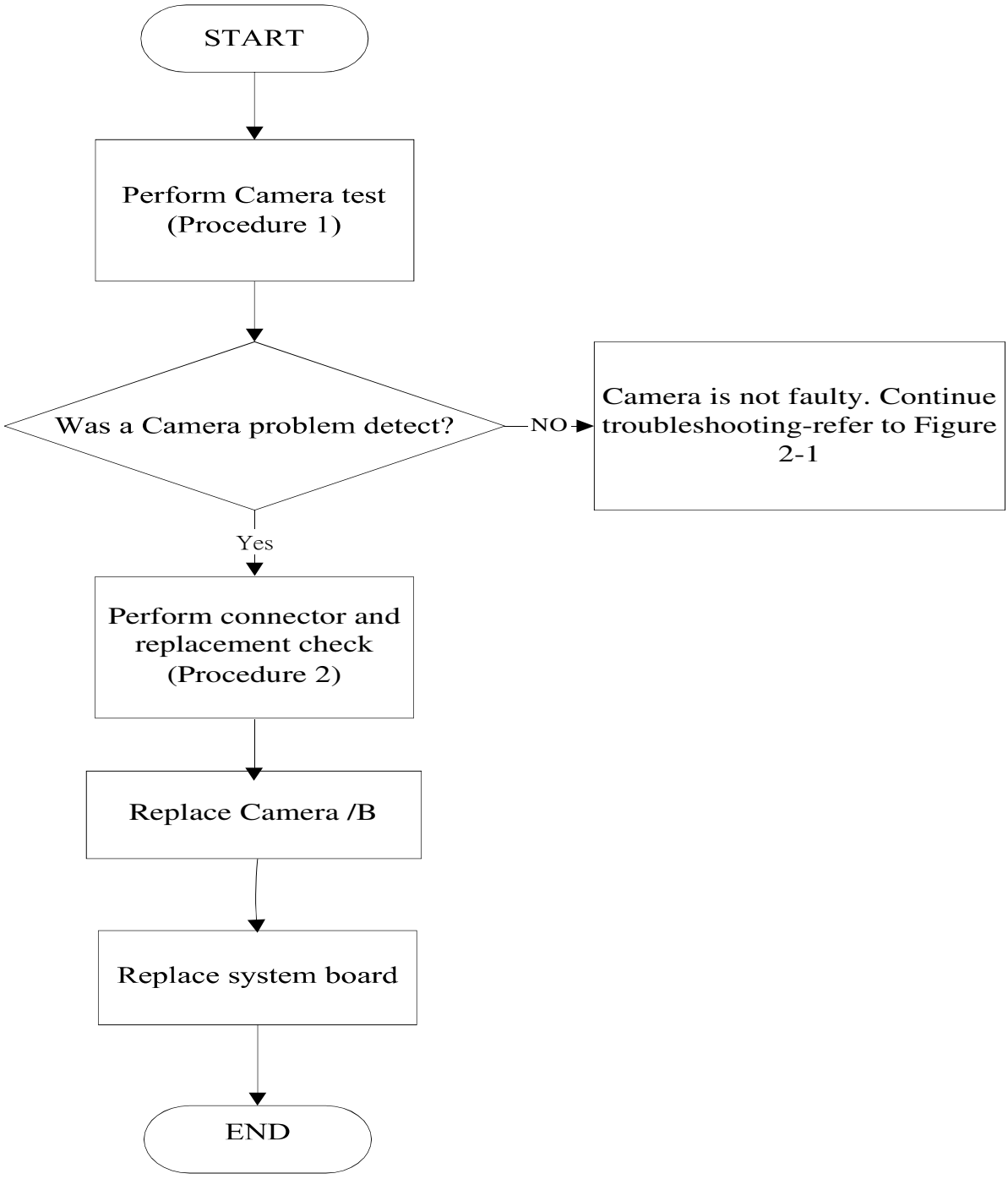


Figure 2-9 Camera troubleshooting process

The Camera board or system board may be the reason of a Camera fault. Either of these two components may be damaged. To determine if the computer's Camera is functioning properly, perform the following procedures. Figure 2-10 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Windows Application test

Procedure 2: Connector and replacement check

Procedure 1 Windows Application test and check camera LED

Run the functioning Program in windows, which will display the Camera test result.

If tests and diagnostics result abnormal go to Procedure 2. If an error is not located, the Camera system is functioning properly.

Procedure 2 Camera LED, Connector and replacement check

The Camera board or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Check camera LED, If the LED doesn't light, then Make sure that the Camera board FFC is securely slotted into the system board. If the problem persists, go to Check 2.

Check 2 Make sure that the Camera board FFC is securely slotted into the system board. If the problem persists, go to Check 2.

Check 3 The Camera board may be damaged. Replace it with a new one following the instructions in Chapter 4. If the problem still exists, perform Check 3.

Check 4 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.11 Bluetooth Troubleshooting

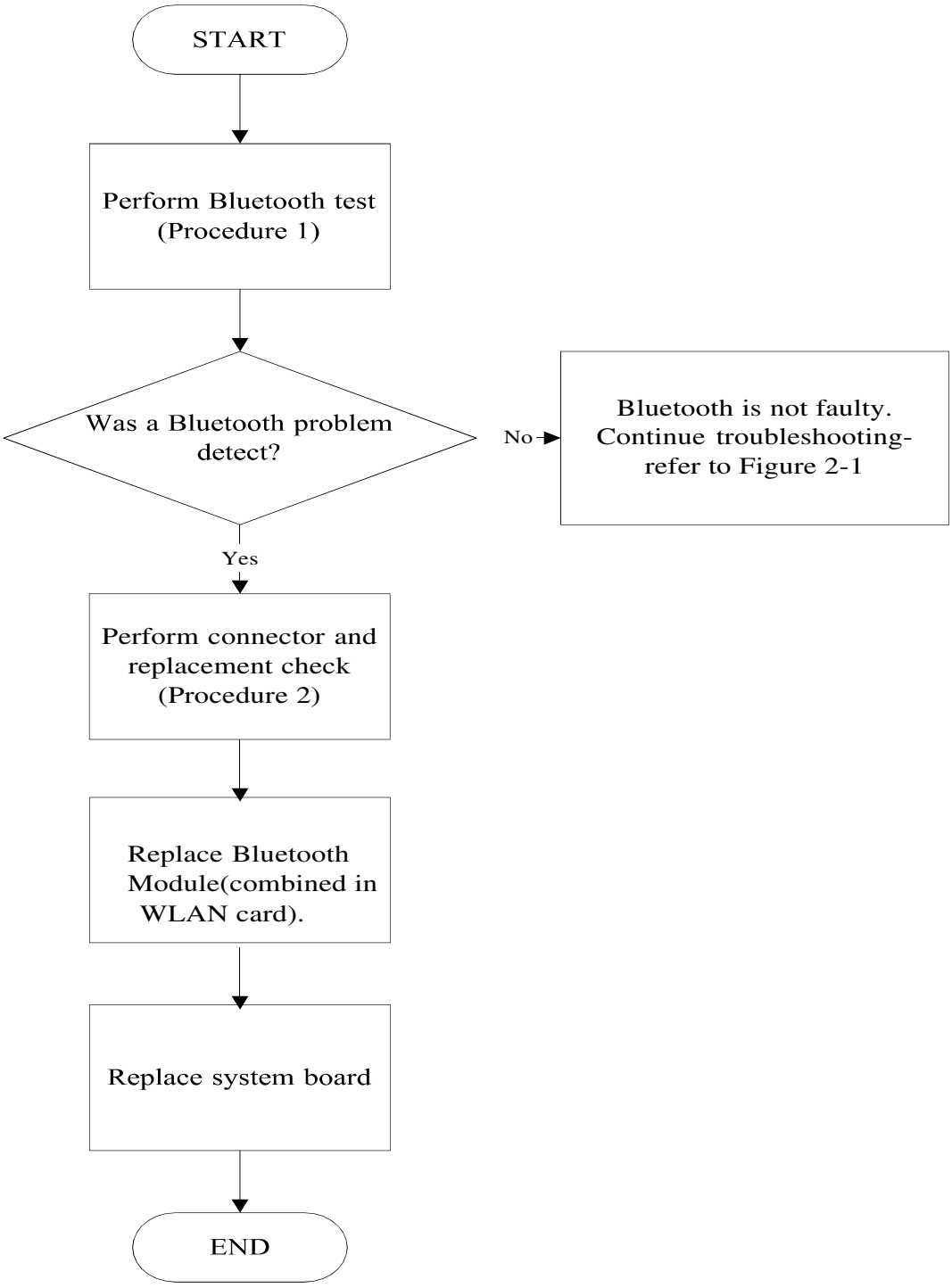


Figure 2-10 Bluetooth troubleshooting process

This is combine module that WLAN +Bluetooth function, The WLAN antenna wire, combine module or system board may be the reason of a Bluetooth fault. Any of these components may be damaged. To determine if the computer's Bluetooth is functioning properly, perform the following procedures. Figure 2-11utlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Windows Application test

Procedure 2: Connector and replacement check

Procedure 1 Windows Application test

PLS use windows application to check device can work fine or not. If an error is located, go to Procedure 2. If an error is not located, the Bluetooth system is functioning properly.

Procedure 2 Connector and replacement check

The combine, antenna module or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Make sure that the Bluetooth antenna is firmly connected to the Bluetooth module (refer to Chapter 4 for instructions) and that the Bluetooth FFC is securely slotted into the system board. If the problem persists, go to Check 2.

Check 2 Check that the Bluetooth communication switch is turned to "On", and then make sure that the communication LED on the left panel is lit. If the LED is lit but the Bluetooth function is still faulty, the antenna module may be damaged. Replace with a new antenna following the steps in Chapter 4, *Replacement Procedures*. If the problem persists, or if the Bluetooth communication LED is not lit when the Bluetooth communication switch is turned to "On", go to Check 3.

Check 3 The Bluetooth module may be damaged. Replace it with a new one following the instructions in Chapter 4. If the problem still exists, perform Check 4.

Check 4 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.12 SD slot Troubleshooting

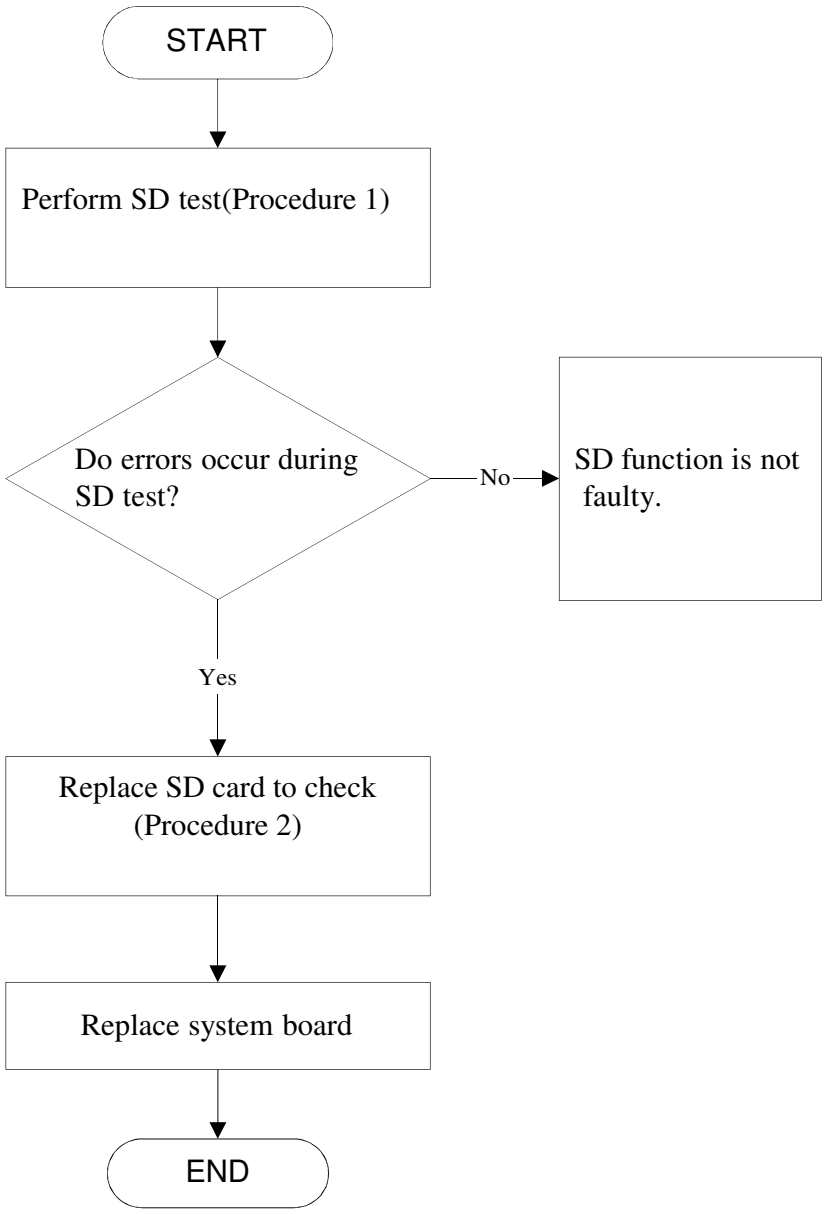


Figure 2-11 SD card troubleshooting process

This section describes how to determine if the Bridge Media Slot player is functioning properly. The process is summarized in Figure 2-12. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required.

Procedure 1: SD slot test

Procedure 2: Replace SD card to check

Procedure 1 SD Slot test

The SD test PLS Use windows application to check device can work fine or not. Ensure the card in fully inserted into the socket before running the program.

If an error occurs during the SD test, perform Procedure 2.

Procedure 2 Replace SD card to check

The test SD card may be damaged or defective, please check the other SD card to test again.

If the system board is defective, it need to be replaced. Replace it with a new one following the instructions in Chapter 4.

2.13 SSD Troubleshooting

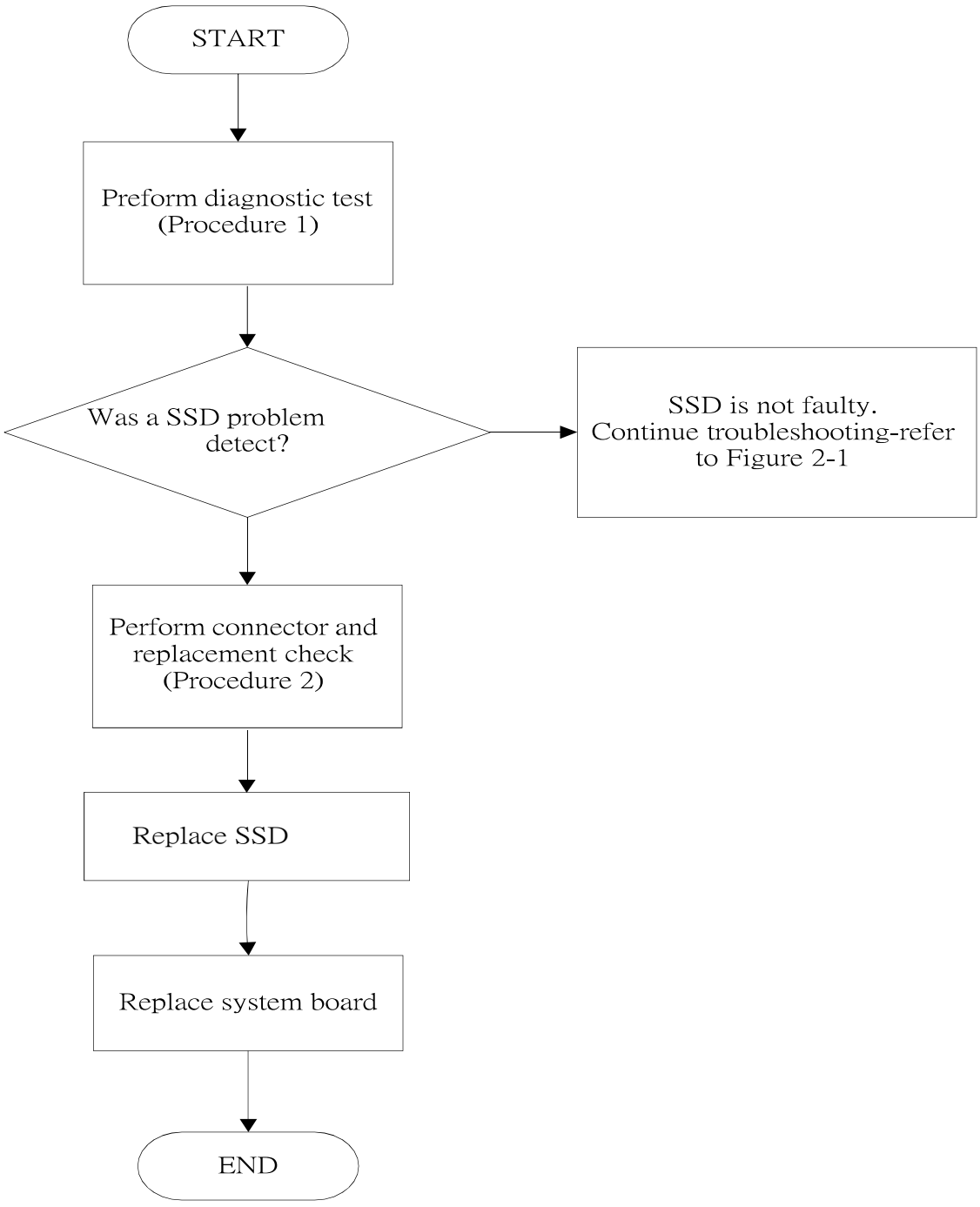


Figure 2-12 SDD troubleshooting process

The HDD/SSD or system board may be the reason of a SSD fault. Either of these two components may be damaged. To determine if the computer's SDD is functioning properly, perform the following procedures. Figure 2-13 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Diagnostic test

Procedure 2: Connector and replacement check

*CAUTION: The Contents of the SSD will be erased when the SSD diagnostic test or formatting is executed. Save the required contents of the SSD to other storage driver in advance.

Procedure 1 Diagnostic test

Run the Diagnostic Program, which will automatically execute the SSD R/W test. (Refer to Chapter 3 system configuration check), Tests and Diagnostics for more informationon the program.

If an error is located, go to Procedure 2. If an error is not located, the SSD function isfunctioning properly.

Procedure 2 Connector and replacement check

The HDD module or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Make sure that the SSD module is securely slotted into the system board. If the problem persists, go to Check 2.

Check 2 The SSD module may be damaged. Replace it with a new one following the instructions in Chapter 4. If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.14 HDMI Troubleshooting

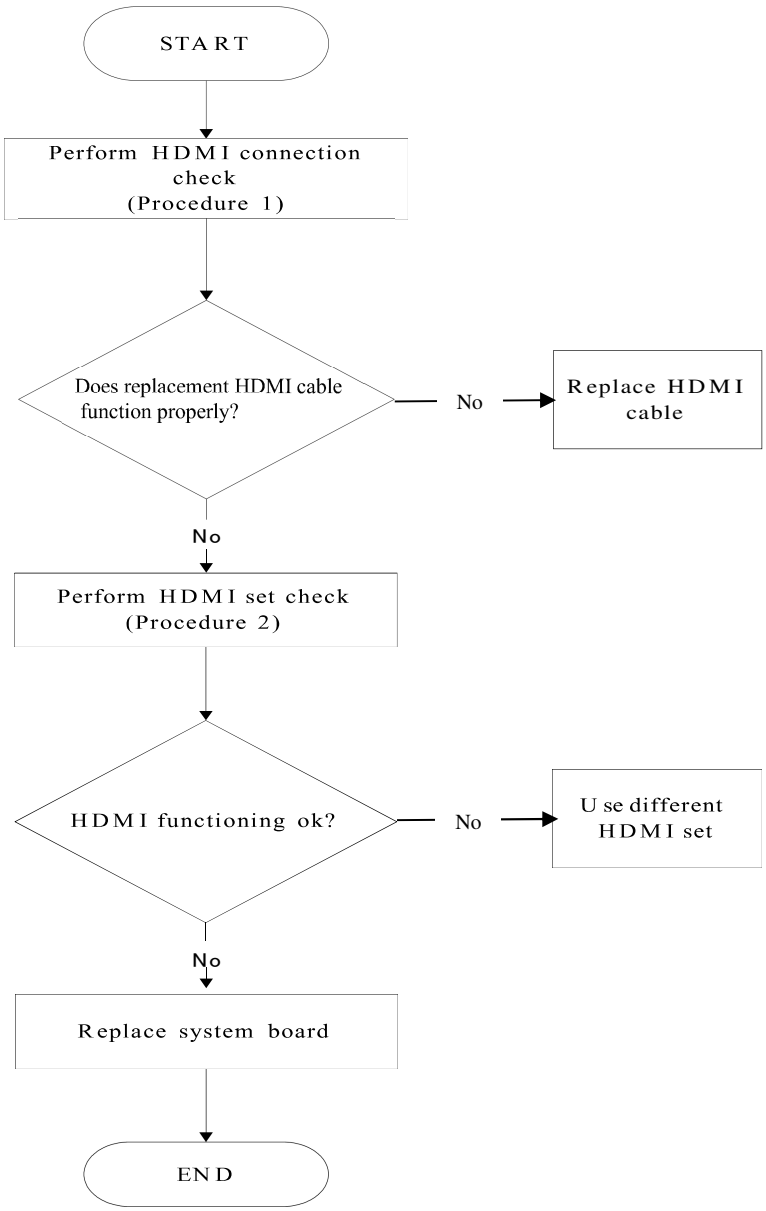


Figure 2-13 HDMI troubleshooting process

To determine if the computer's HDMI port is functioning properly, perform the following procedures. Figure 2-14 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: HDMI connection check

Procedure 2: HDMI set check

Procedure 1 HDMI connection check

The HDMI cable may be damaged or the connections may be loose. Use windows application to check device can work fine or not. Perform Check 1:

Check 1 Make sure HDMI cable is firmly plugged into both the HDMI set and the HDMI port of the computer. If the cable is connected correctly, go to Check 2.

Check 2 Make sure the HDMI port is firmly secured to the system board of the computer. If the malfunction remains, go to Check 3.

Check 3 The HDMI cable may be damaged. Replace with a good cable. If the malfunction remains, go to Procedure 2.

Procedure 2 HDMI set check

The HDMI TV set may be faulty. Perform Check 1:

Check 1 Try using the set for television reception. If it does not work, the set may be damaged. If the set does work, perform Check 2.

Check 2 Try connecting a different television to the computer. If the replacement television works, the original set may be damaged. If the replacement set does not work the system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.15 MIC Troubleshooting

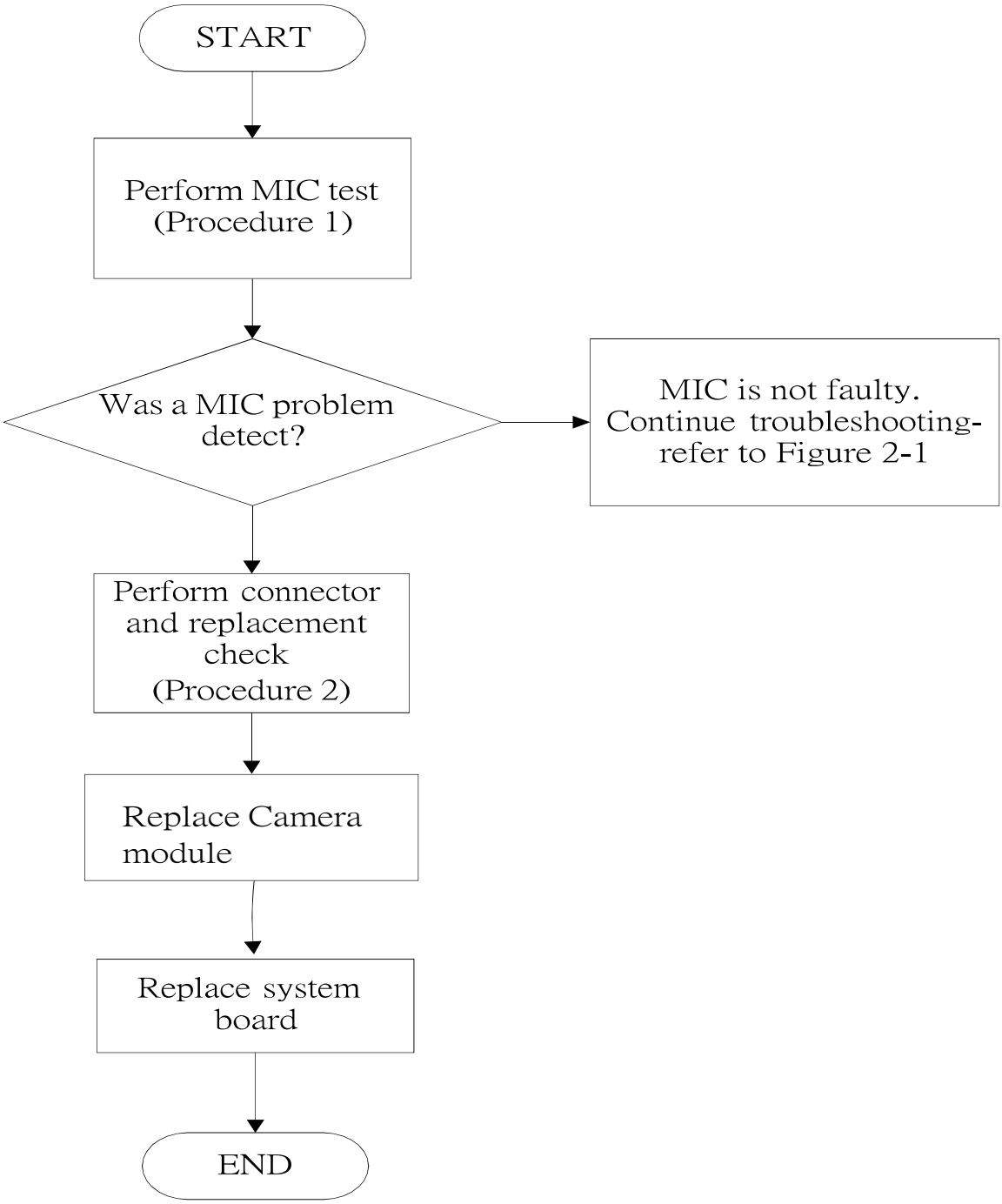


Figure 2-14 MIC troubleshooting process

The MIC (camera module) or system board may be the reason of a MIC fault. Either of these two components may be damaged. To determine if the computer's MIC is functioning properly,perform the following procedures. Figure 2-15 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Windows Application test

Procedure 2: Connector and replacement check

Procedure 1 Windows Application test

Run the functioning Program (record.exe) on Windows model, which will display the MIC test result.

If tests and diagnostics result abnormal go to Procedure 2. If an error is not located, the MIC module functioning is properly.

Procedure 2 Connector and replacement check

The MIC(camera cable) or system board may be disconnected or damaged. Disassemble the computerfollowing the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Make sure that the MIC cable is securely slotted into the system board. If theproblem remains, go to Check 2.

Check 2 The MIC cable may be damaged. Replace it with a new one following theinstructions in Chapter 4. If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.16 TYPE C Troubleshooting

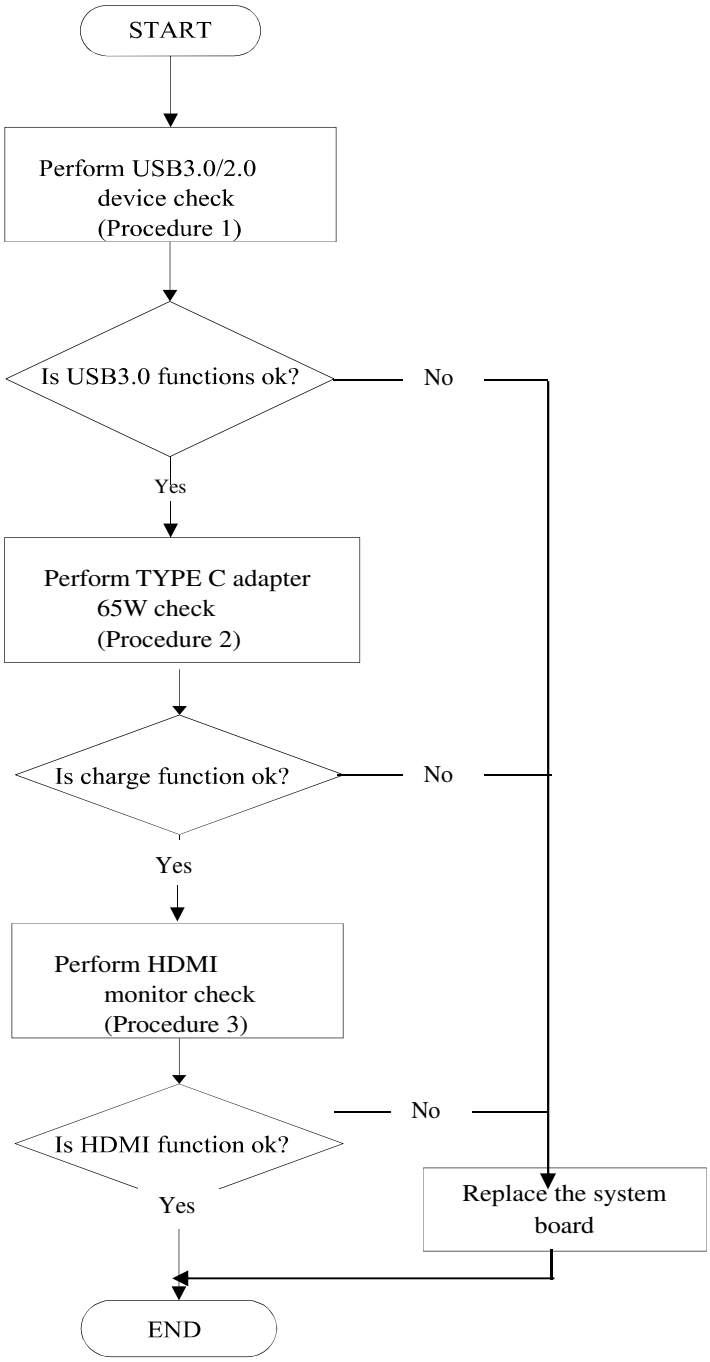


Figure 2-15 Type C troubleshooting process

Figure 2-17 outlines the process. Perform the steps below starting with Procedure 1 and continue with the other procedures as required.

Procedure 1: USB2.0/3.0 test

Procedure 2: Battery Charge check

Procedure 3: HDMI monitor check

Procedure 1 USB 2.0/3.0 check

First, insert the TYPE C type USB device. Use windows application to check device can work fine or not. If it works, the type C for USB function is OK. If the USB function not work, please replace the USB device to test again, if still no work, please replace the system board.

Procedure 2 Battery charge check by TYPE C adapter (65W)

Plug in the Type C adapter to system, then check windows system the charge icon is work or not, if it work, the charge function is OK. If the charge function isn't not work, please replace the adapter to test again, if still no work, please replace the system board.

Procedure 3 HDMI check

Plug in the Type C HDMI to system, then check HMDI monitor is well or not, if HDMI is OK, the function is OK, if no work. Please replace HDMI cable to check again, if still no work please replace the system board.

2.17 LAN Troubleshooting

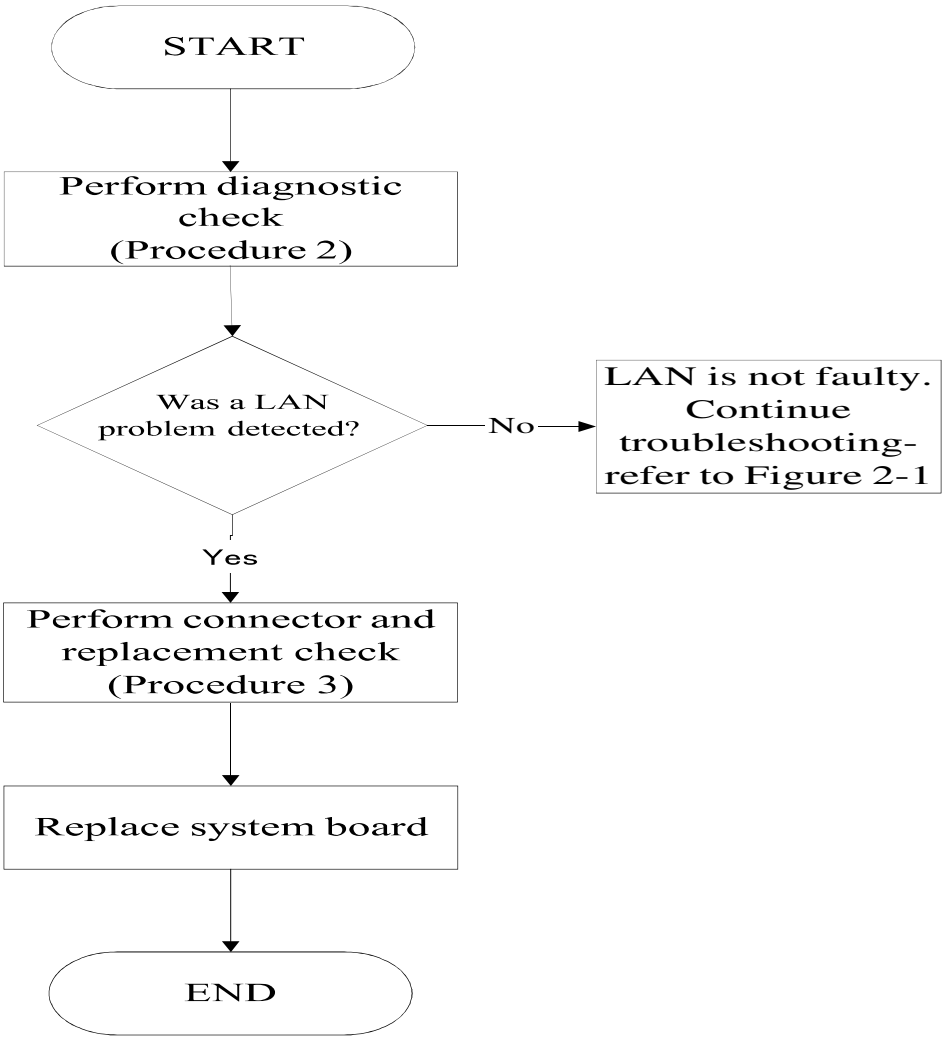


Figure 2-16 LAN troubleshooting process

To determine if the computer's LAN port is functioning properly, perform the following procedures. Figure 2-18 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: Diagnostic check

Procedure 2: Connector and replacement check

Procedure 1 Diagnostic check

Run the test and Diagnostics Program, which will automatically execute the LAN Test. Refer to Chapter 3, *Tests and Diagnostics* for more information on how to run the program.

If an error is located, go to Procedure 2. If an error does not occur, the LAN is functioning ok.

Procedure 2 Connector and replacement check

The LAN cable and/or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures* and perform the following checks.

Check 1 Make sure the LAN cable is firmly connected to the LAN port of the system board.

If the connection is loose, reconnect firmly and repeat Procedure 2. If there is still an error, go to Check 2.

Check 2 The LAN cable may be damaged. Replace it with a new one and repeat Procedure 2. If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.18 Battery Troubleshooting

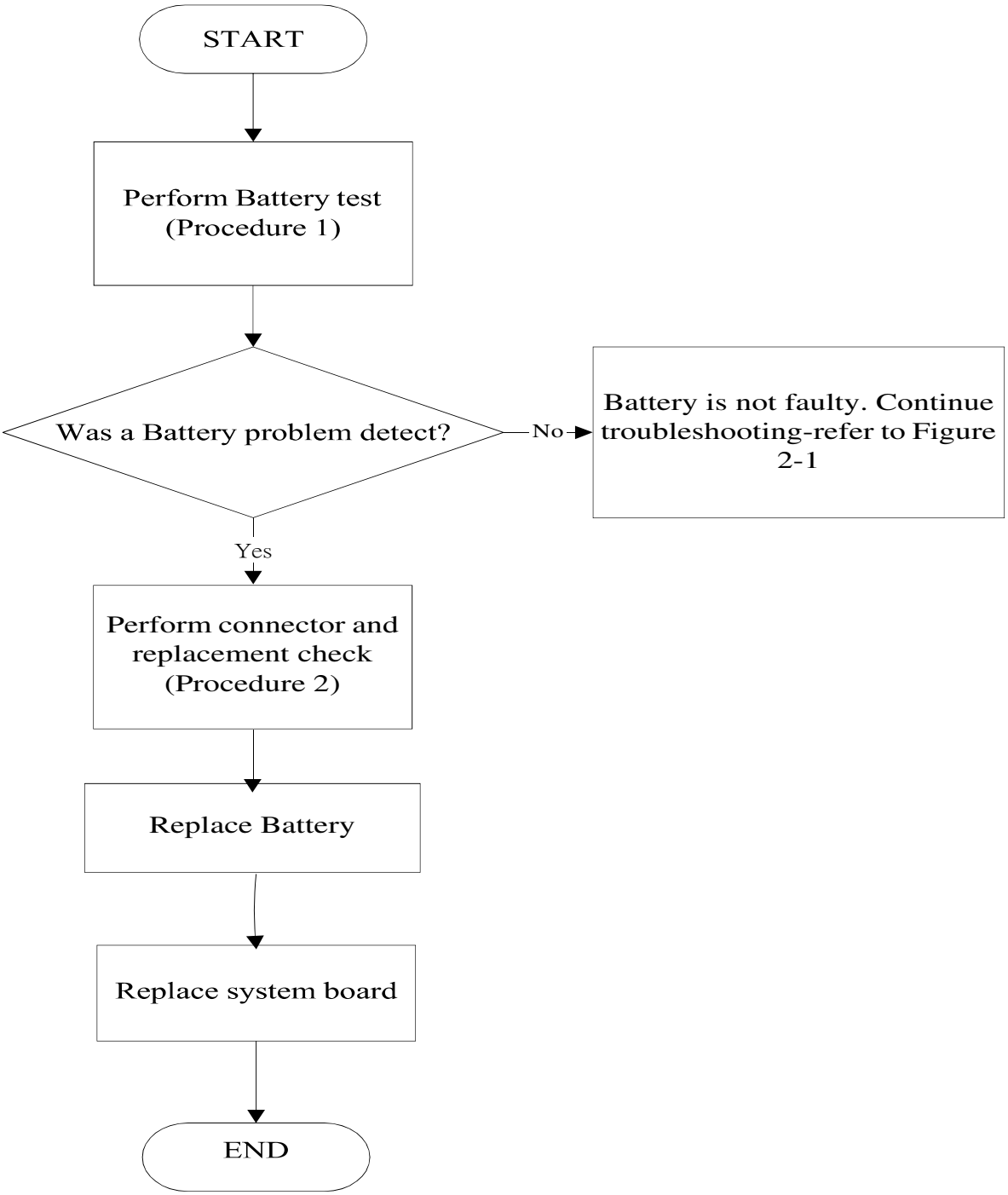


Figure 2-17Battery troubleshooting process

The Battery or system board may be the reason of a Battery fault. Either of these two components may be damaged. To determine if the computer's Battery is functioning properly, perform the following procedures. Figure 2-19 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Diagnostic test

Procedure 2: Connector and replacement check

Procedure 1 Diagnostic test

Run the Diagnostic Program, which will automatically execute the Battery test. (Refer to Chapter 3 system configuration check), Tests and Diagnostics for more information on the program.

If an error is located, go to Procedure 2. If an error is not located, the Battery function is functioning properly.

Procedure 2 Connector and replacement check

The Battery module or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Make sure that the Battery module is securely slotted into the system board. If the problem persists, go to Check 2.

Check 2 The Battery module may be damaged. Replace it with a new one following the instructions in Chapter 4. If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.19 LED Troubleshooting

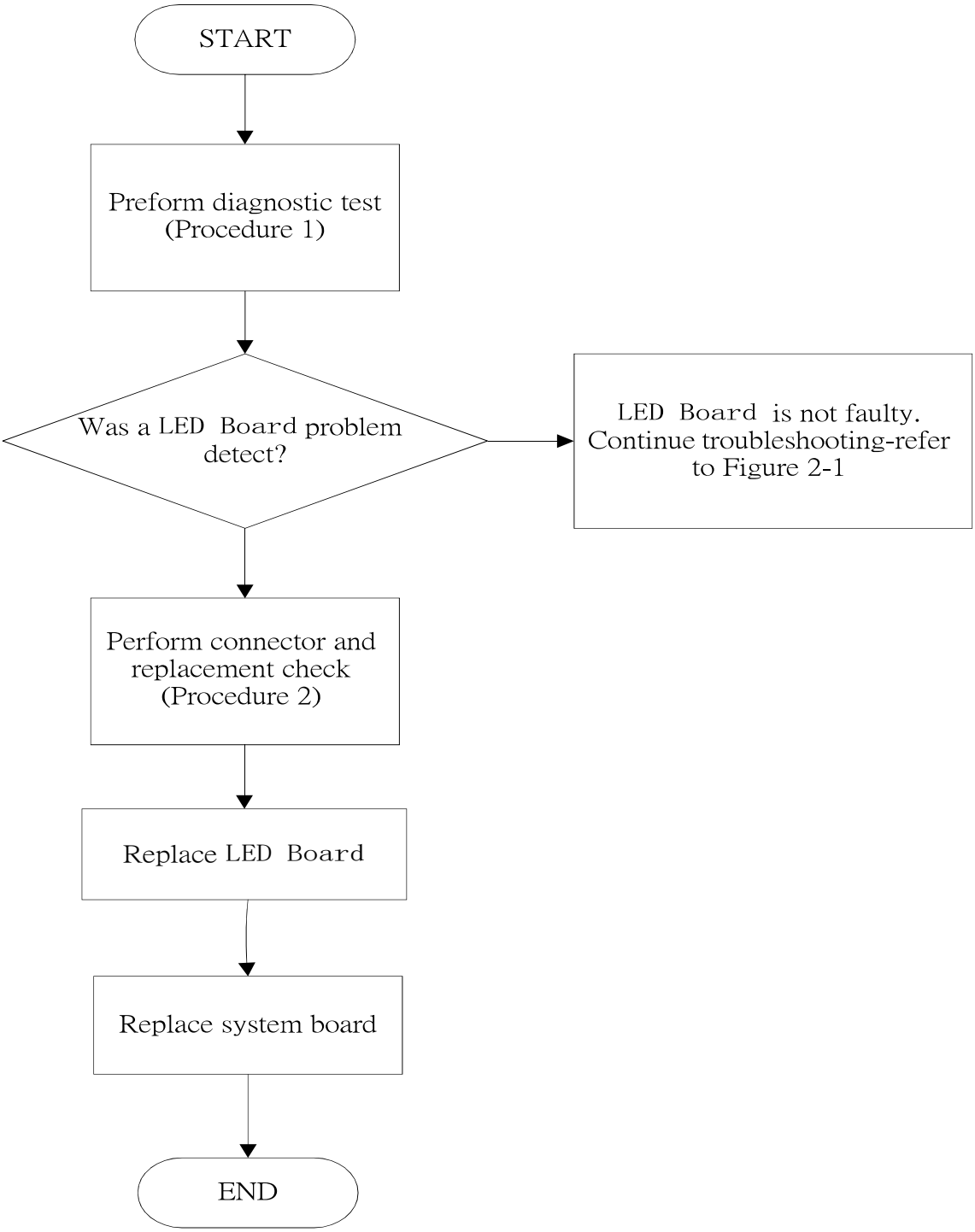


Figure 2-18 LED troubleshooting process

The LED board or system board may be the reason of a LED fault. Either of these two components may be damaged. To determine if the computer's LED is functioning properly, perform the following procedures. Figure 2-20 outlines the process. Start with Procedure 1 and continue with the other procedures as instructed.

Procedure 1: Diagnostic test

Procedure 2: Connector and replacement check

Procedure 1 Diagnostic test

Run the Diagnostic Program, which will automatically execute the LED test. (Refer to Chapter 3 system configuration check), Tests and Diagnostics for more information on the program.

If an error is located, go to Procedure 2. If an error is not located, the LED function is functioning properly.

Procedure 2 Connector and replacement check

The LED board or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures*, and perform the following checks.

Check 1 Make sure that the LED board FFC is securely slotted into the system board. If the problem persists, go to Check 2.

Check 2 The LED board may be damaged. Replace it with a new one following the instructions in Chapter 4. If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.20 FAN Troubleshooting

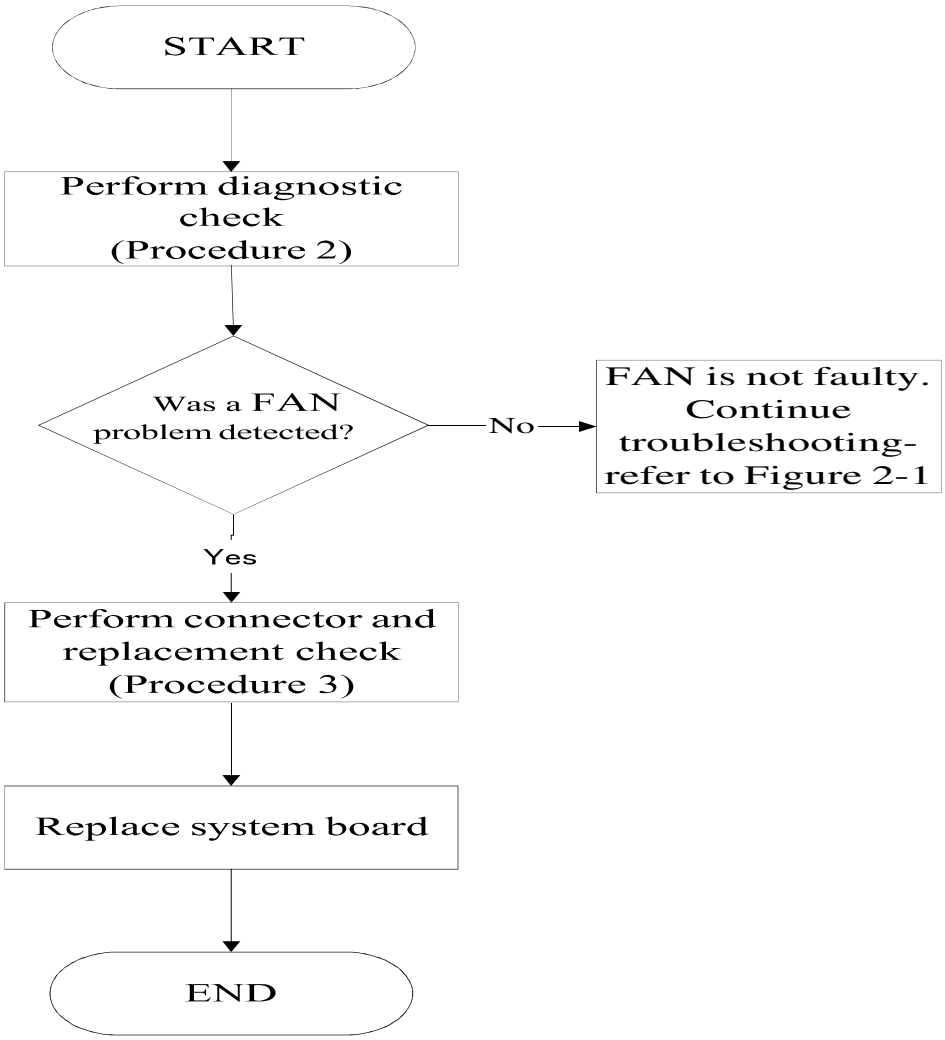


Figure 2-19 FAN troubleshooting process

To determine if the computer's FAN port is functioning properly, perform the following procedures. Figure 2-21 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: Diagnostic check

Procedure 2: Connector and replacement check

Procedure 1 Diagnostic check

Run the test and Diagnostics Program, which will automatically execute the FAN Test. Refer to Chapter 3, *Tests and Diagnostics* for more information on how to run the program.

If an error is located, go to Procedure 2. If an error does not occur, the FAN is functioning ok.

Procedure 2 Connector and replacement check

The FAN and or system board may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, *Replacement Procedures* and perform the following checks.

Check 1 Make sure the FAN cable is firmly connected to the FAN port of the system board.

If the connection is loose, reconnect firmly and repeat Procedure 2. If there is still an error, go to Check 2.

Check 2 The FAN may be damaged. Replace it with a new one and repeat Procedure 2. If the problem still exists, perform Check 3.

Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.21 Memory Troubleshooting

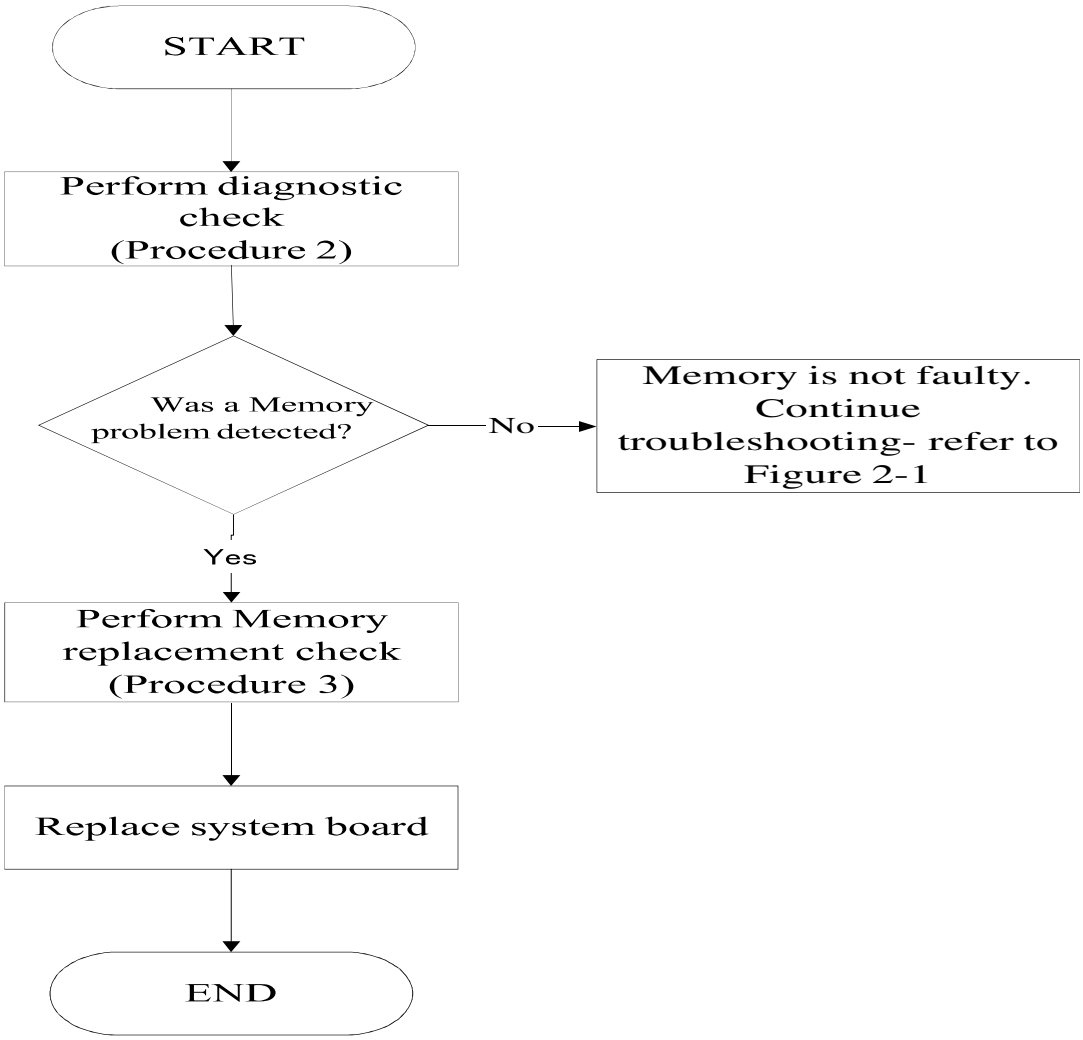


Figure 2-20 Memory troubleshooting process

To determine if the computer's Memory is functioning properly, perform the following procedures. Figure 2-21 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: Diagnostic check

Procedure 2: Memory replacement check

Procedure 1 Diagnostic check

Run the test and Diagnostics Program, which will automatically execute the Memory Test. Refer to Chapter 3, *Tests and Diagnostics* for more information on how to run the program.

If an error is located, go to Procedure 2. If an error does not occur, the Memory is functioningok.

Procedure 2 Memory replacement check

The Memory and or system board may be damaged. Disassemble the computerfollowing the steps described in Chapter 4, *Replacement Procedures* and perform the following checks.

Check 1 The Memory may be damaged. Replace it with a new one and repeat Procedure 2. Ifthe problem still exists, perform Check 2.

Check 2 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4.

2.22 Finger Print Troubleshooting

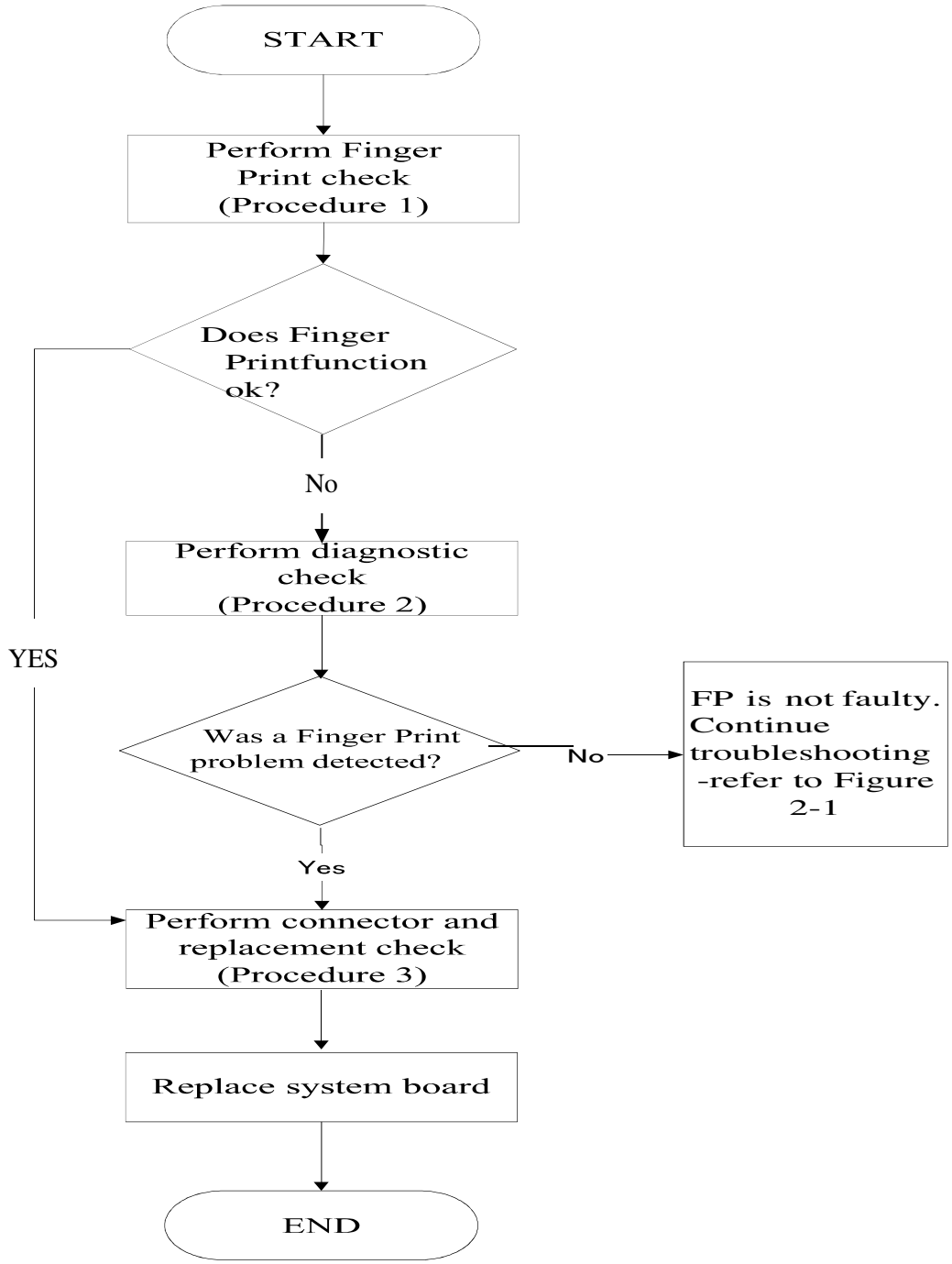


Figure 2-21 Finger Print troubleshooting process

To determine if the computer's built-in Finger Print is functioning properly, perform the following procedures. Figure 2-7 outlines the process. Start with Procedure 1 and continue as instructed.

Procedure 1: Diagnostic test in windows system

Procedure 2: Finger Print connection check

Procedure 3: Finger Print replacement check

Procedure 1 Diagnostic test in TD

Please check Finger Print function in windows system or run the Diagnostic Program, which will automatically execute the FP test. (Refer to Chapter 3 FP check), Tests and Diagnostics for more information on the program.

Procedure 2 Finger Print connection check

The Finger Print is connected via the FP FFC to the system board. Make sure the FP FFC cable is firmly connected to the FP and system board. Refer to Chapter4, *Replacement Procedures,* for instructions on how to disassemble the computer and then perform the following checks.

If any of the connections are loose, reconnect firmly. If any of the connections is damaged, orthere is still an error, go to Procedure 3.

Procedure 3 Finger Print replacement check

The Finger Print unit or FPC may be defective or damaged. Replace each with a new one following the steps in Chapter 4. If under windows system test is still not functioning properly, replacethe system board with a new one following the steps in Chapter 4.

Chapter 3
Tests and Diagnostics

3.1 Restore WIM (TD image) to USB driver

1. Outline

This document describes How to make TD system to USB driver.

1.1 Target model: C30-K / C40-K / C50-K

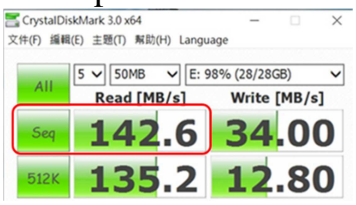
1.2 Target OS: Windows 11 Pro (Version: 21H2)

2. Preparation

2.1 USB 3.0 Memory 32G or 64G, please format to NFTS first.

*Notice: The USB speed need over 100MB/s as production package display.

Reference: Actual Read speed need over 120MB/s.

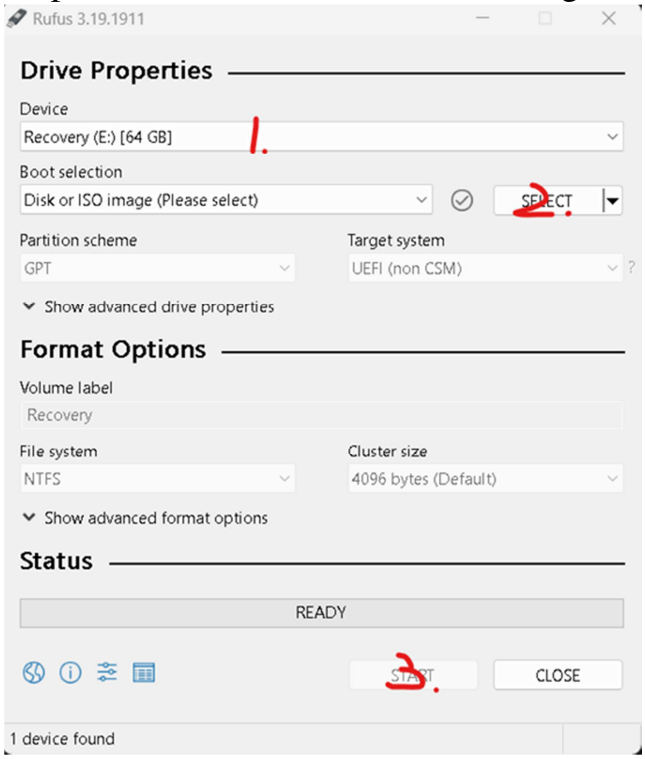


2.2 Prepare 1 Notebook (Recommended Configuration: CPU i5 / RAM 16M), then download “rufus-3.19.exe” and “Syrah-v1.WIM” files from FTP to notebook. (You can save to desktop or path C:\ for easy finding)

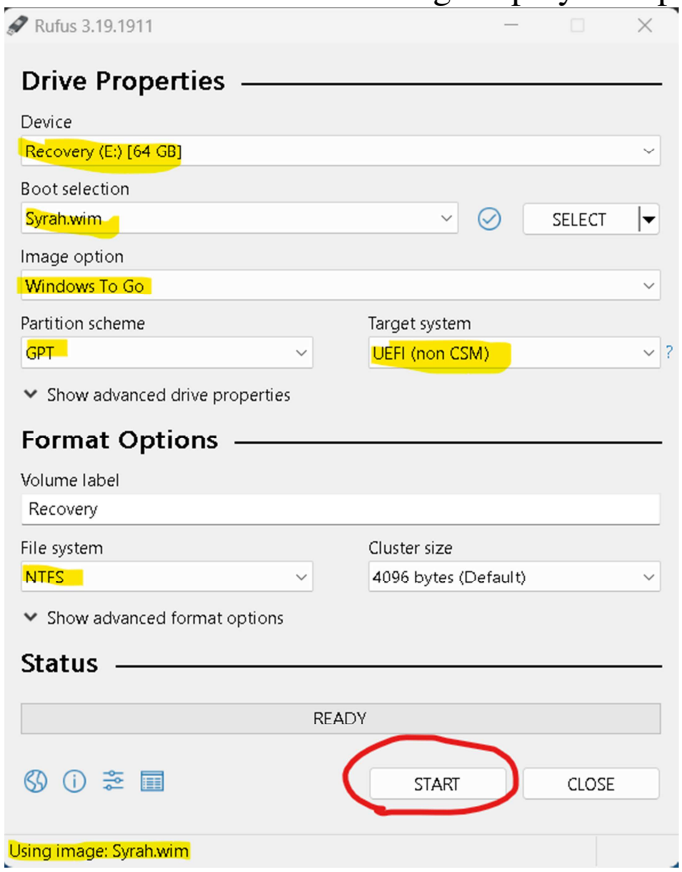
3. Make TD image to USB driver procedure

Step 1: Insert USB drive and launch the Rufus tool (Please “Run as administrator”).

Step 2: Click “SELECT” to select image file, like as “Syrah-V1.WIM”



Step 3: After loaded the image file, check the all settings as yellow mark. And then click the "Start" button to start the image deployment process.



Step 4: Press OK till TIPS (Keeping default setting) close.
Step 5: After finished, please remove USB driver by safety mode.
Step 6: Insert USB driver to debug unit. Then press F12 to select USB driver booting.

3.2 The Diagnostic Test

This chapter explains how to use the Test & Diagnostic program to test the functions of the hardware modules. The program consists of a series of tests that run automatically when the Diagnostics Program items are selected and executed.

The TEST & DIAGNOSTIC PROGRAM contains the following functional tests:

- CONFIG CHECK TEST
- SPEAKER TEST
- TOUCH PAD TEST
- SD TEST (SD card need use tool to write mark for testing)
- WEB CAMERA TEST
- KEYBOARD TEST
- LID TEST
- LED CHECK
- FINGER PRINT TEST
- BATTERY TEST
- USB PORT TEST
- TYPE C TEST
- SSD TEST
- MEMORRY TEST
- CMOS TIME TEST
- WL CARD DETECT CHECK
- TPM CHECK
- FAN TEST

You will need the following equipment to perform some of the Diagnostic test programs.

- USB memory
- TYPE C memory
- Type C adapter (65W)
- AC adapter
- Micro SD card
- HDMI monitor

3.3 Executing the Diagnostic Test

The Diagnostic program is under Windows 11, please install test image to your system for testing.

The test list is as the following:

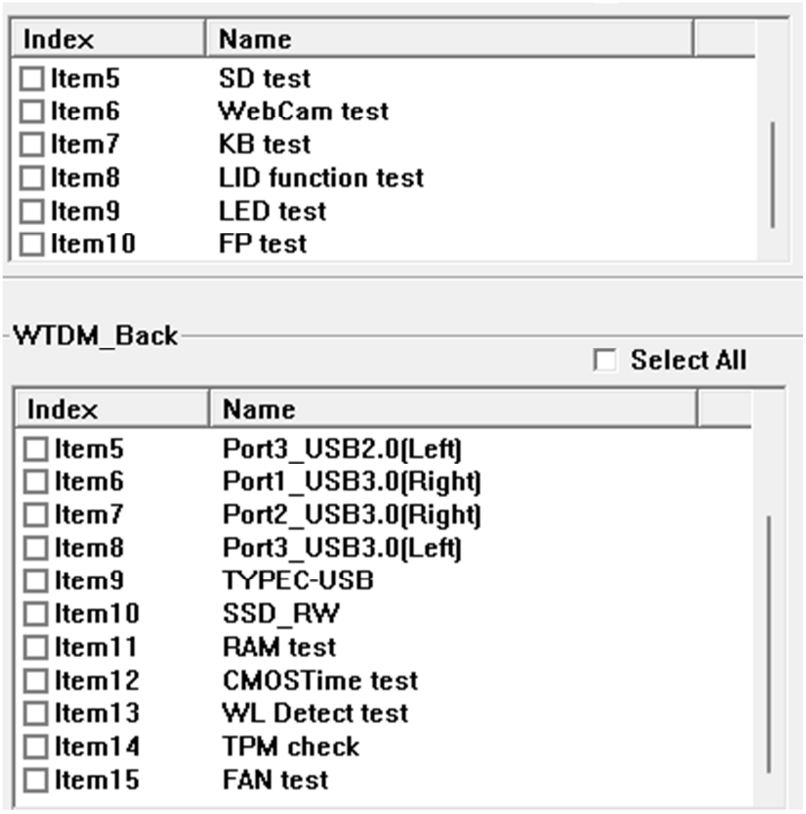
Fore

- CONFIG CHECK TEST
- SPEAKER TEST
- TOUCH PAD TEST
- SD TEST
- WEB CAMERA TEST
- KEYBOARD TEST
- LID TEST
- LED CHECK
- FP TEST

Back

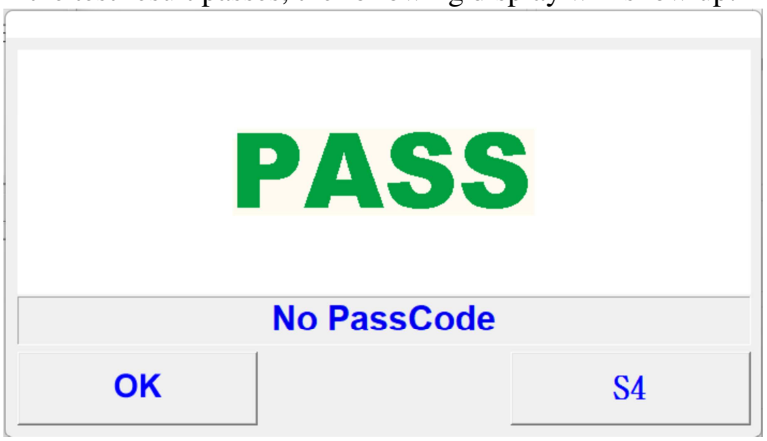
- BATTERY TEST
- USB PORT TEST
- TYPE C – USB TEST
- SSD TEST
- MEMORRY TEST
- CMOS TIME TEST
- WL CARD DETECT CHECK
- TPM CHECK
- FAN TEST

The below display will show up at the beginning of T&D program



- Fore: test program under foreground testing. (Sense check by human)
- Back: test program under background testing. (Automatic test)

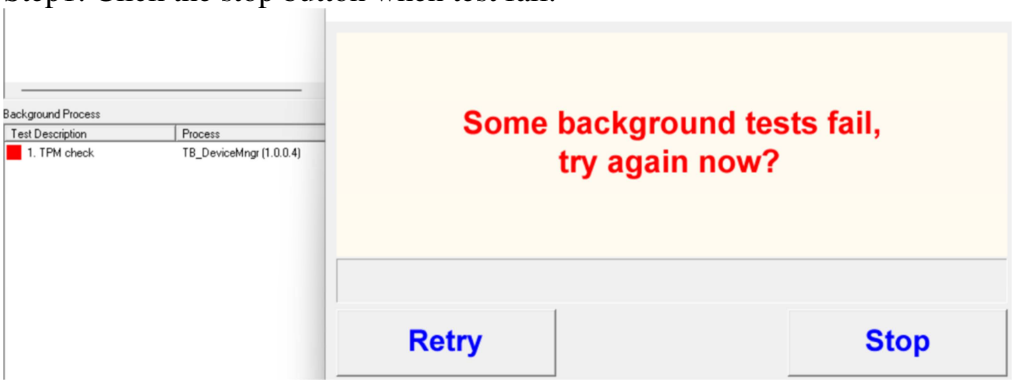
If the test result passes, the following display will show up:



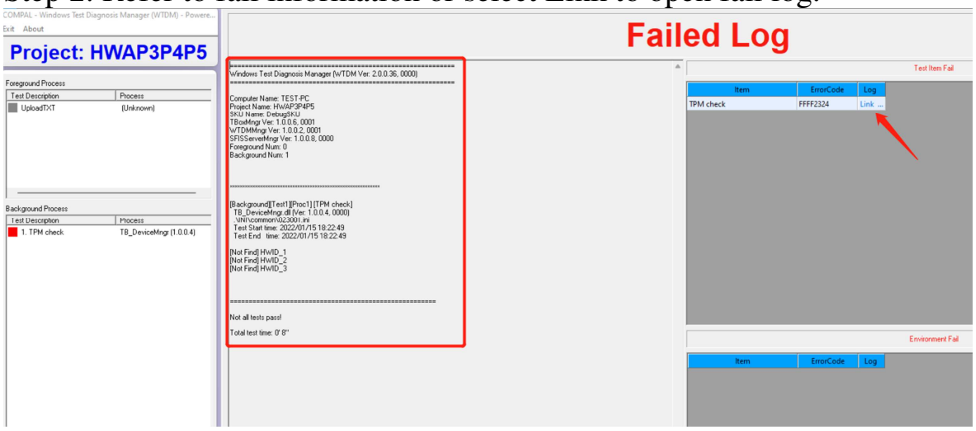
If an error is detected and a test fails, the following message displays:

How to check fail log for detail, please refer to below step.

Step1: Click the stop button when test fail.



Step 2: Refer to fail information or select Link to open fail log.



3.4 Display Configuration

This Item will show the unit configuration. It includes:

- CPU (CPU type /Speed)
- DDRAM SIZE
- Panel ID
- HDD1
- VGA CHIP TYPE / VRAM size
- Battery cell
- LAN Type
- MAC
- Wireless type
- Bluetooth
- MBID
- UUID

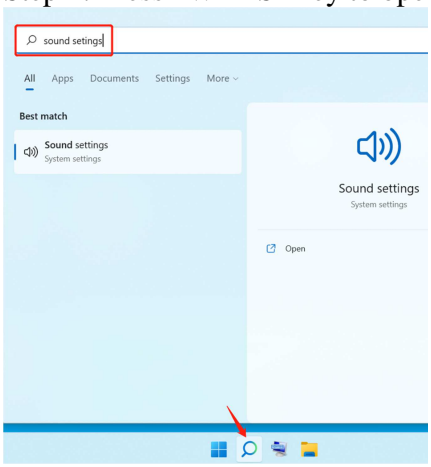
The screen should display items as below:

CPUTYPE=	CPU Type
DDRAMSIZE=	RAM Vendor name
	RAM Size
	RAM Frequency
PanelID=	Manufacturer Name
	Manufacturer ID
	Product ID
HDD1=	HDD
VGATPE&VRAMSIZE=	VGA Type
	VRAM Size
WirelessTYPE=	Wireless Type
BATT=	BATT
LANTYPE=	LanType
Bluetooth=	Bluetooth
MAC=	MAC
MBID=	MBID
UUID=	UUID

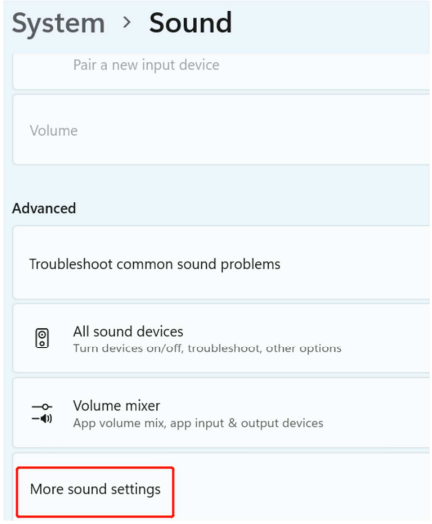
3.5 External Audio Jack Test

Test way by system self without the tool. (No need Audio loopback)

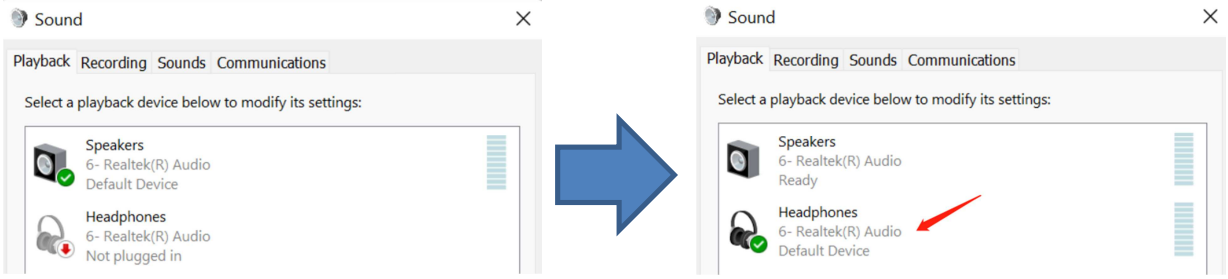
Step 1: Press “Win+S” key to open the search tool then key in “sound settings” to open the “sound settings”.



Step 2 Select “More sound settings” from Advanced.

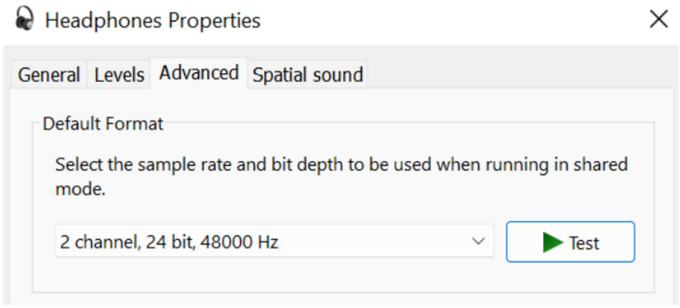


Step 3 Insert earphone (Need support Microphone), the Headphones will be activity as below picture, then click “Headphones”

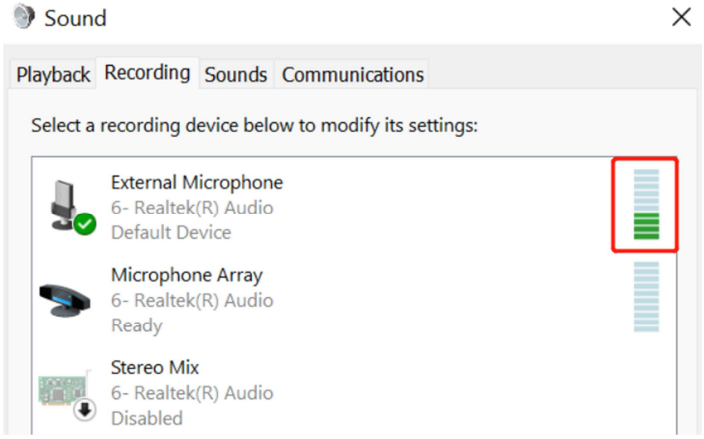


Step 4 Please select “Advanced” item, then click “Test” button to check the Left/Right channel. (If PASS please

click OK button)



Step 5 Select “Recording” item, then speech to check the microphone whether increase (please refer to below picture).



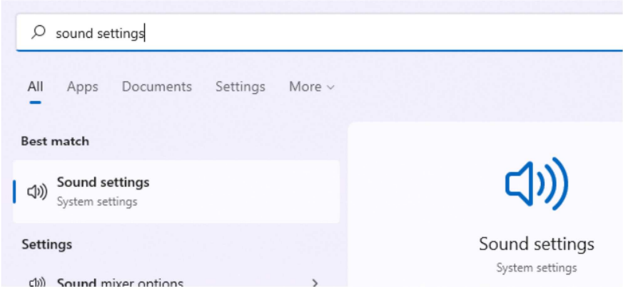
3.6 Speaker Test

The Speaker test need the user sense the voice to select correct number. And follow below procedures for this test:

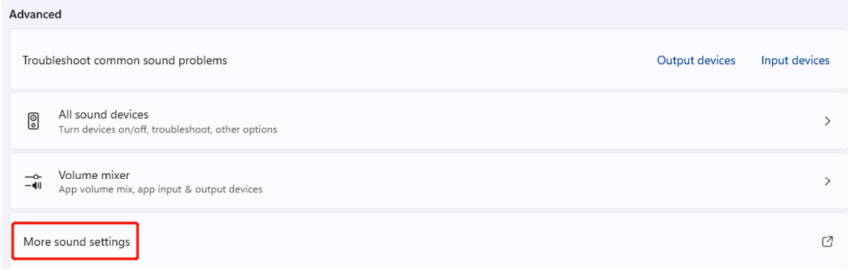
- Press Play button to start
- Listen the Left channel to select correct number.
- Listen the Right channel to select correct number.

Test way by system self without the tool.

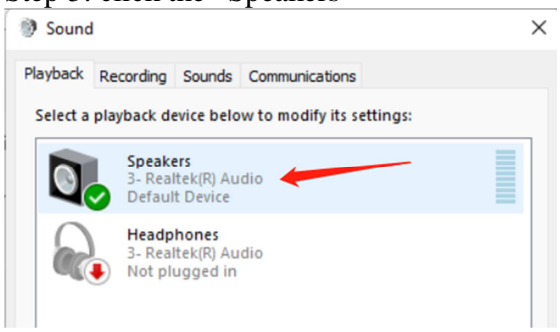
Step 1: Press “Win+S” key to open the search tool then key in “sound settings” to open it.



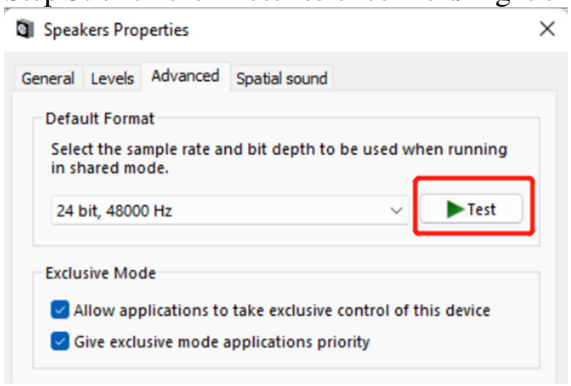
Step 2: click the “More sound settings”



Step 3: click the “Speakers”



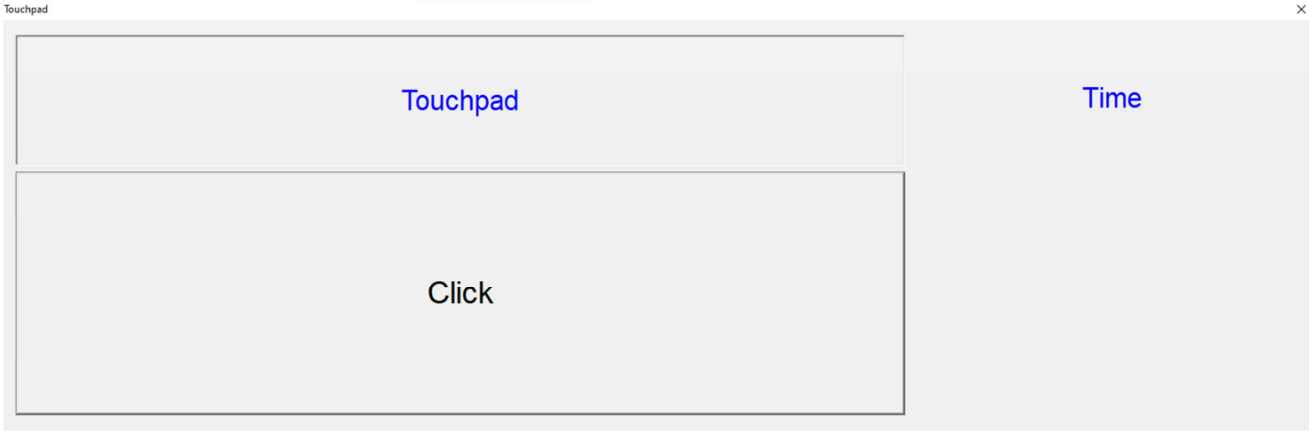
Step 3: click the “Test” to check left/Right channel.



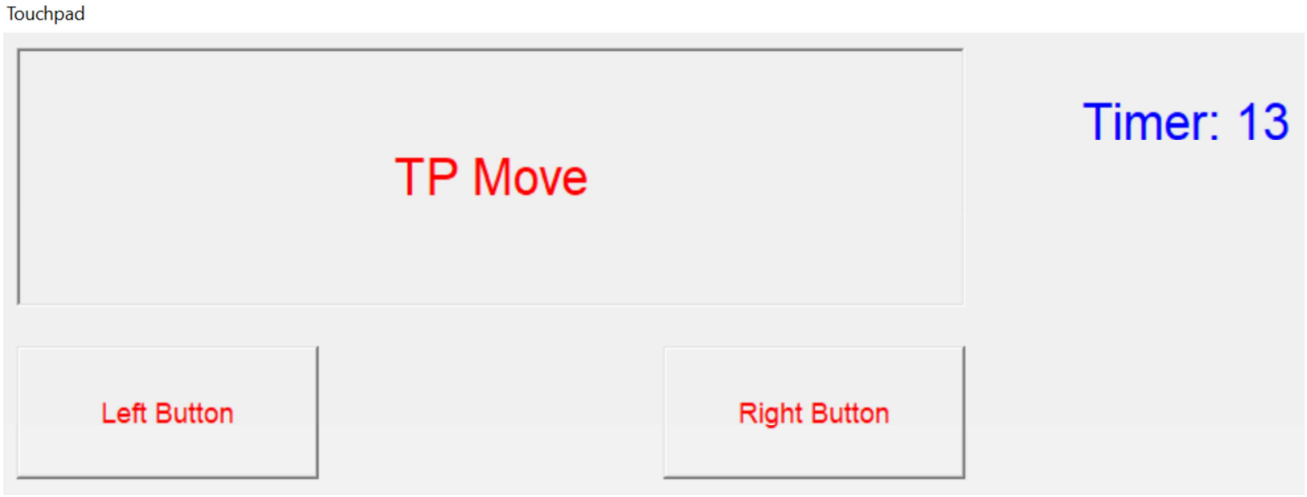
3.7 Touch Pad (Mouse) Test

The Touch pad test need user to click & move pad to test, please refer to below step:

Step 1: Move to click area then click left button (PAD)



Step 2: Slide the Touch PAD & click touch pad Left/Right button.

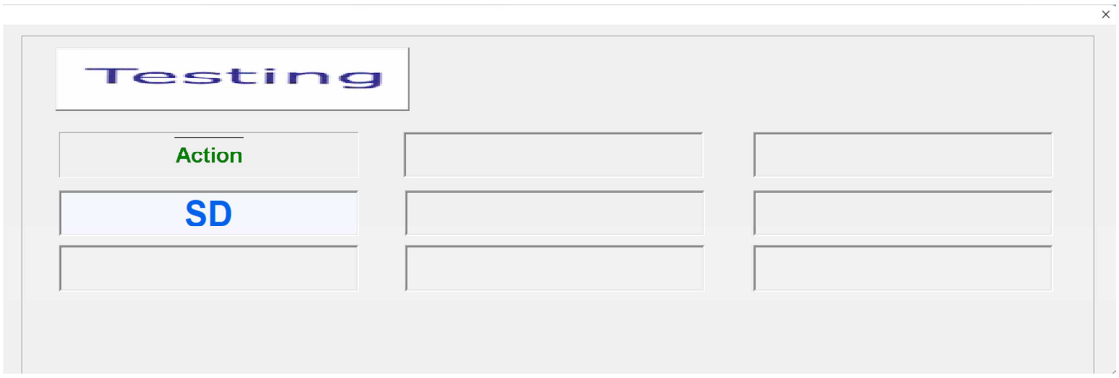


3.8 SD TEST

The test will check R/W function, please insert micro SD card to slot for testing. (SD card need write the mark for Compal test tool, please refer to Card Mark SOP)

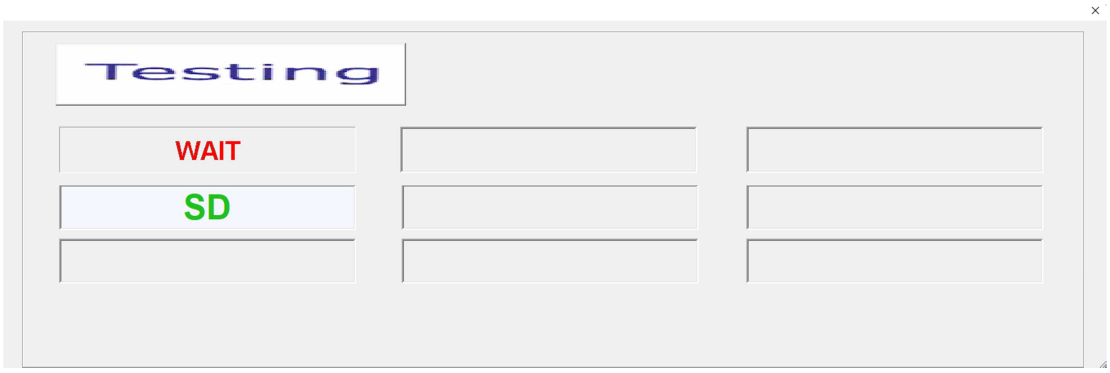
Please follow below step to check

Step 1: Please run the tool first.



*Notice: SD card need write the mark by Compal release Card Mark tool.

Step 2: insert SD card, tool will auto test, if PASS SD text will become green



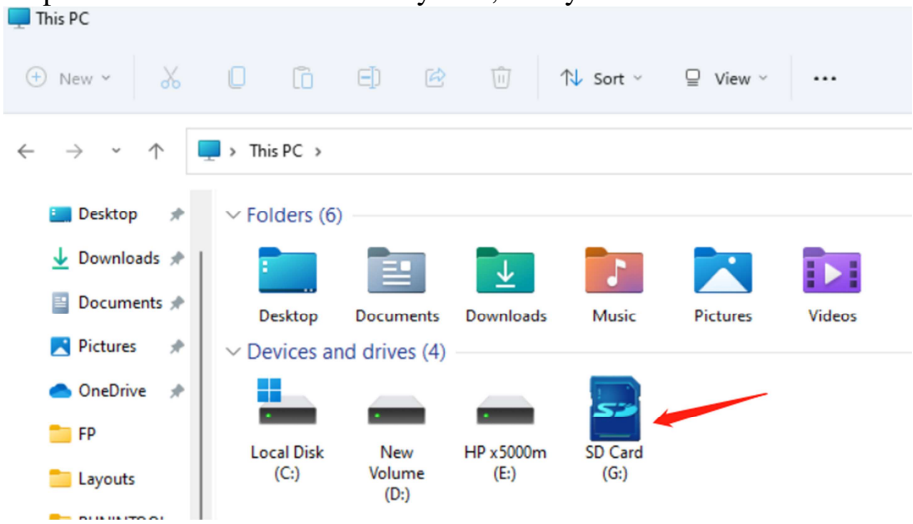
*SD card Mark Guideline & Card Mark tool (PW:123)

SD Card Mark Guideline.pdf

CardMarker for Brazil.7z

Test way without tool

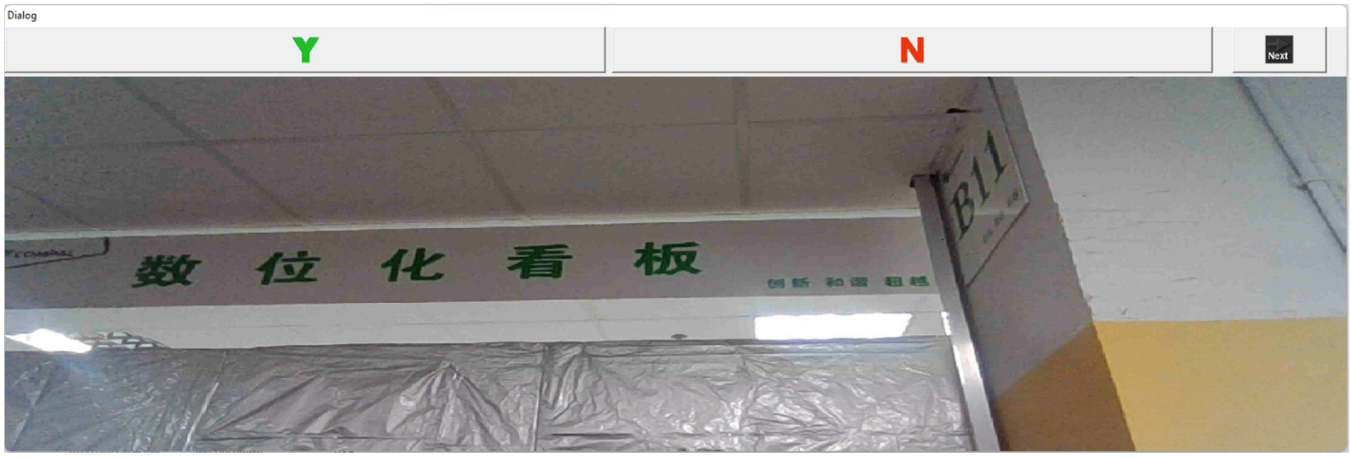
Step 1: Please insert SD card to system, the system will add SD device as below picture.



Step 2: Please copy file to SD device to check the R/W function whether OK.

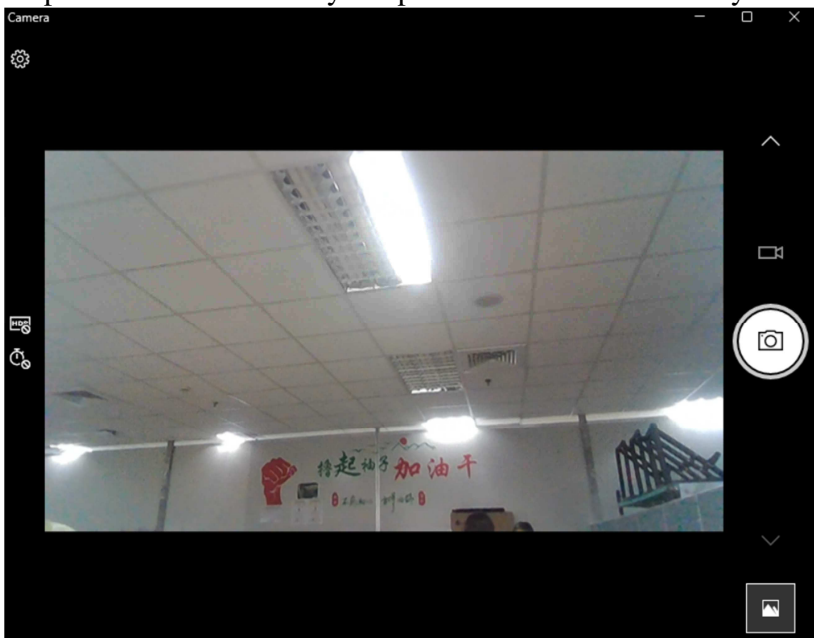
3.9 Web Camera TEST

Web Camber test need user to check the Camera display whether OK, please refer to below picture, if check PASS please select “Y” for function PASS. (Select N it meaning check fail)



Test way without tool

Step 1: Press “Win+S” key to open the search tool then key in “Camera” to open it.



3. 10 Keyboard Test

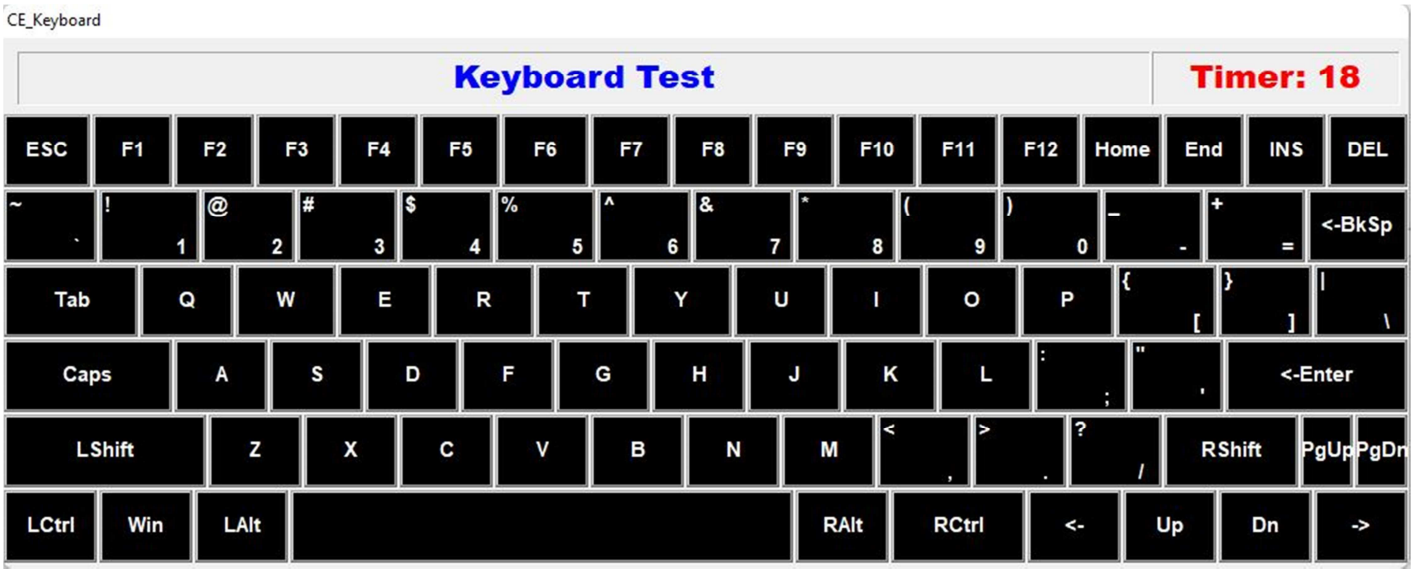
The keyboard test checks the all keys function.

> ***NOTE:*** *The* ***Num Lock*** *and the* ***Overlay*** *mode must be off to execute the keyboard test.*

Before keyboard test starts, the keyboard matrix code should be chosen as below display: (Please select the correct KB region for testing)

1. **KB JP S/M**
2. **KB US S/M**
3. **KB UK S/M**
4. **KB JP L**
5. **KB US L**
6. **KB UK L**

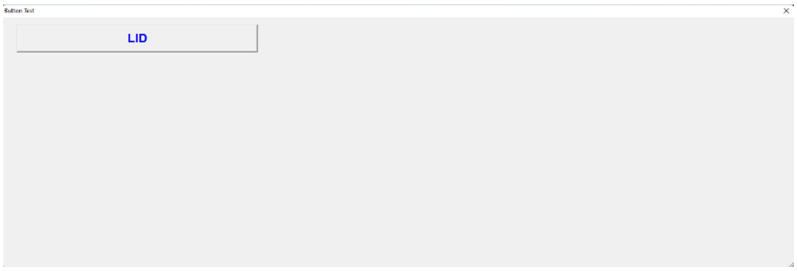
When you execute this test, the keyboard layout is drawn on the display. When any key is pressed, the corresponding key on the screen changes to black as shown below.



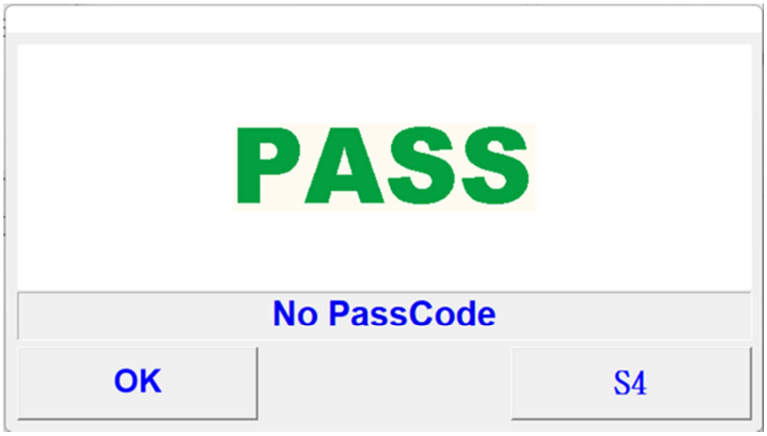
3. 11 LID Test

This function will check LID (Magnet) function whether OK.

Step 1: Execute test program will show below picture.



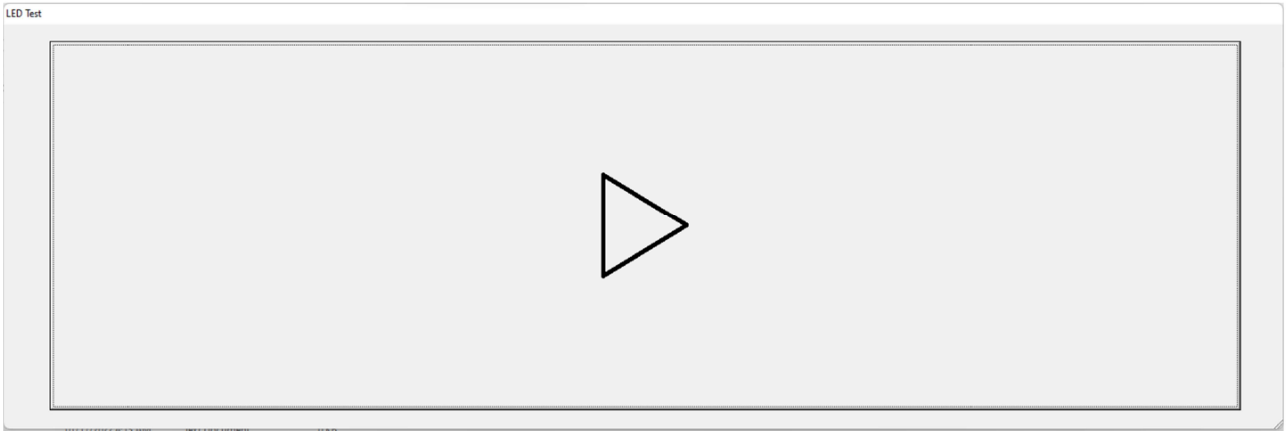
Step 2: Close the LCD then open LCD will show PASS as below picture.



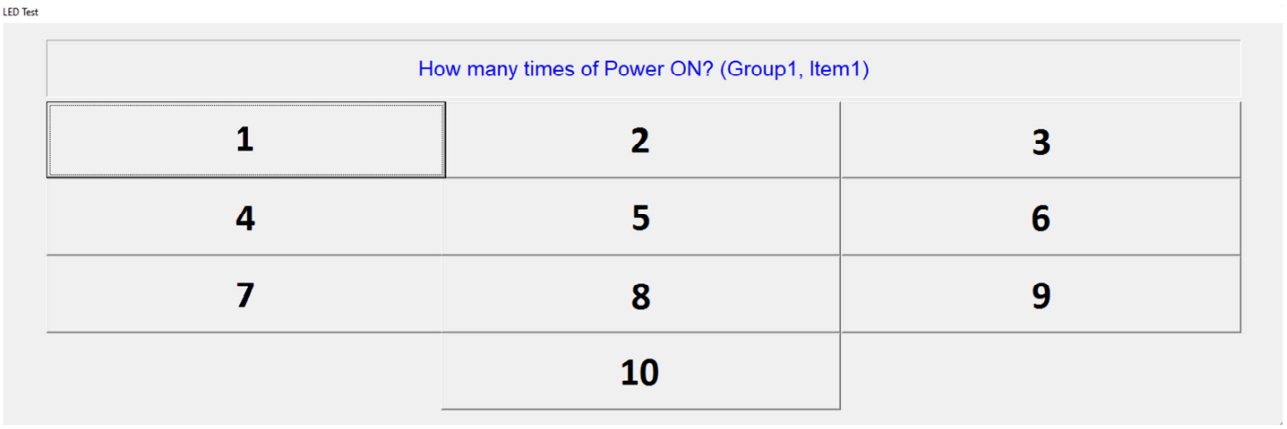
3. 12 LED Test

This test will check the computer LED status, please follow below step to check:

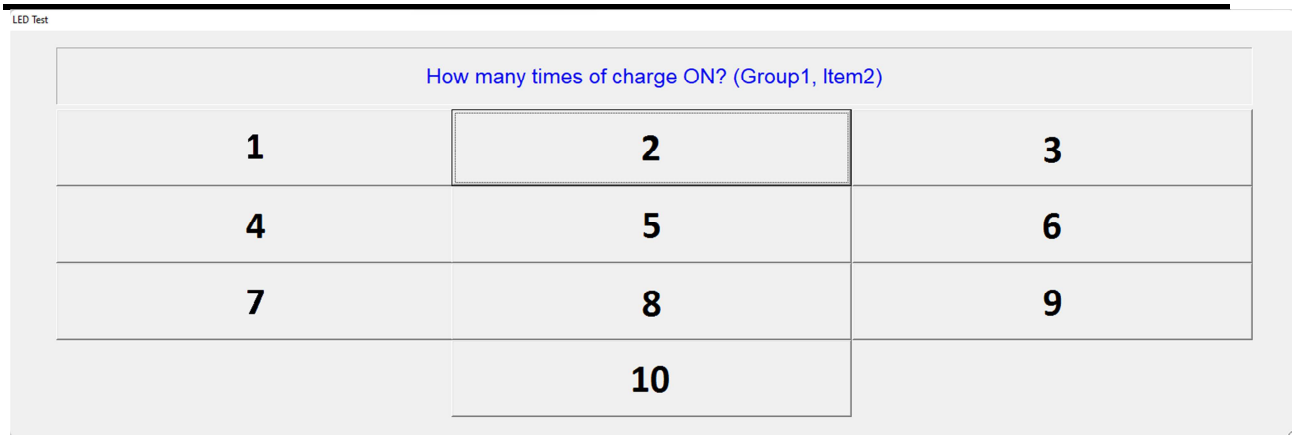
Step 1: Click the play button.



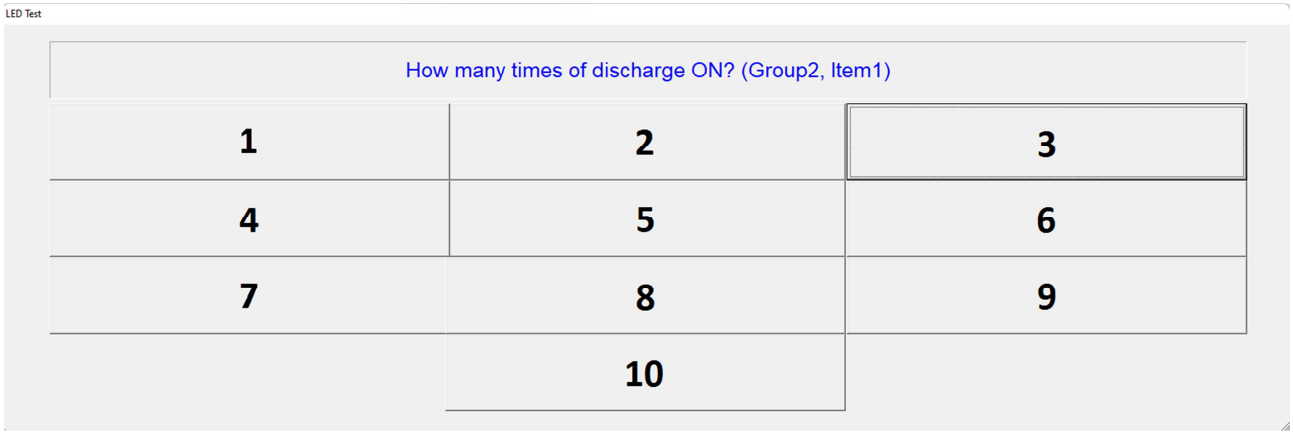
Step 2: count the Power LED (White) flicker times then select the number. (If fail its meaning the count wrong number, please re-test again)



Step 3: count the Charge LED (White) flicker times then select the number. (If fail its meaning the count wrong number, please re-test again)



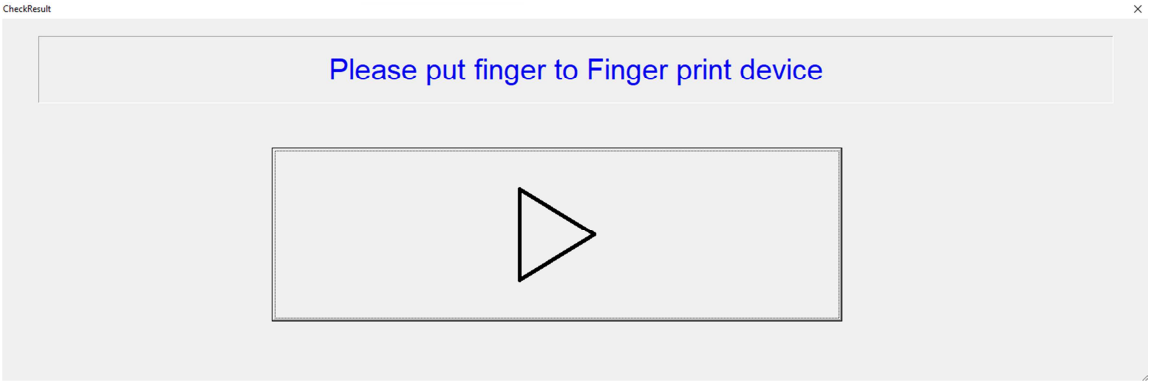
Step 4: count the Discharge LED (Amber) flicker times then select the number. (If fail its meaning the count wrong number, please re-test again)



3. 13 Finger print Test

This function will check Finger print function by system automatic, please follow below step to test.

Step 1: please execute the FP test tool as below picture, then click the start button.

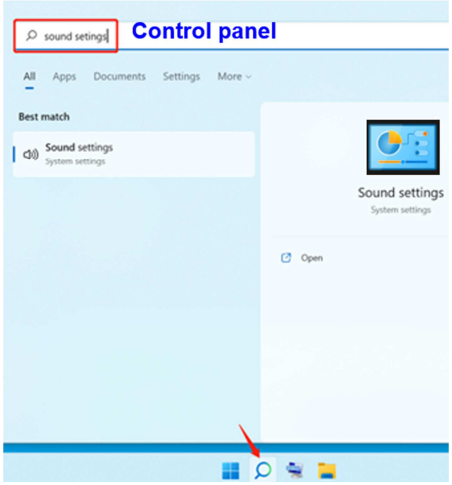


Step 2: Put finger on FP device, if test OK will show PASS.

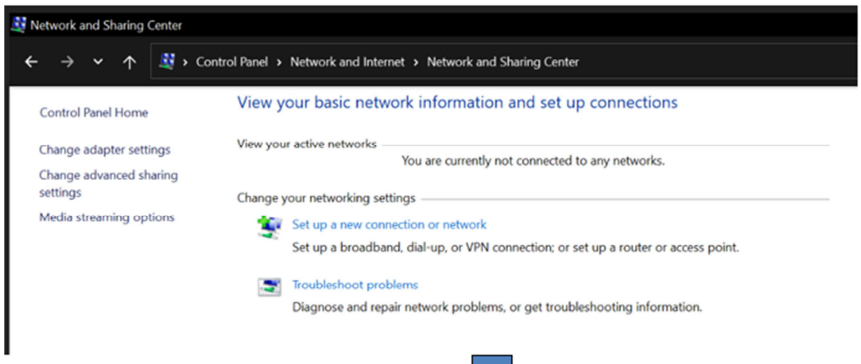
3. 14 LAN Test

Test way without tool (No need LAN loopback)

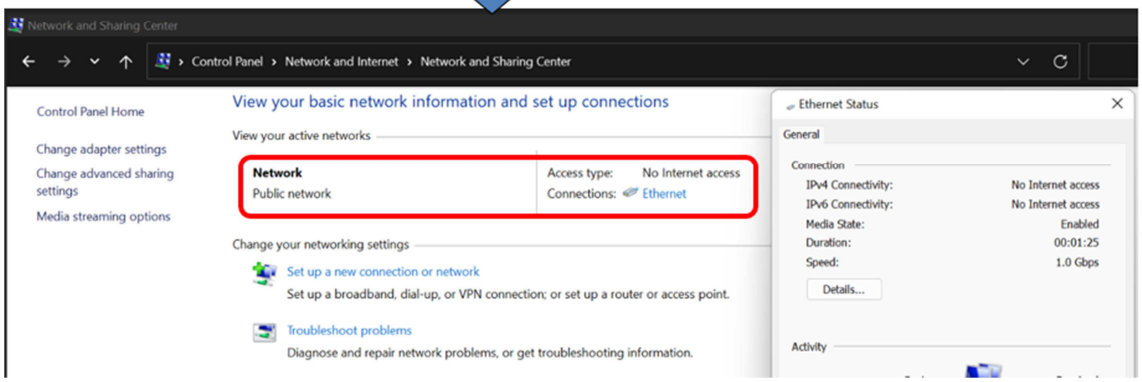
Step 1: Press “Win+S” key to open the search tool then key in “Control panel” to open the “control panel” then select “Network and Internet → Network and Sharing Center”



Step 2: Insert LAN cable to system, the Network will show the “Ethernet” as below picture.



No connection



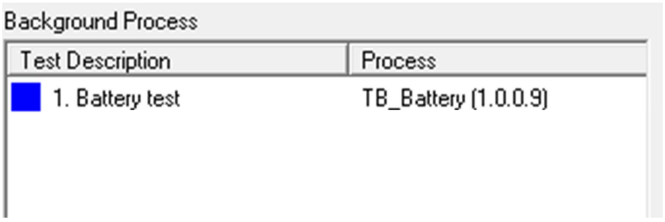
Connection

3. 15 Battery Test

The Battery test checks the battery function by AC adapter or 65W Type C adapter.

Notice: Please make sure BATT capacity under 90% before testing (If BATT capacity is full, this function will test fail)

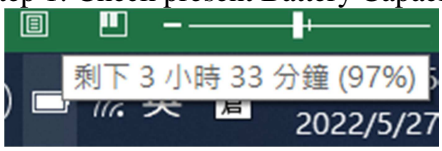
Step 1: Please insert AC adapter (or 65W TYPE C adapter)
Step 2: Please execute Battery tool, system will run automatically.



*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

Test way without tool

Step 1: Check present Battery Capacity as below picture.



Step 2: Plug in AC adapter or 65w type C adapter, the Battery icon become charge icon as below picture.

Step 3: Waiting 5 minutes to check Battery capacity whether increase. (When charge the LED is amber, if full the LED is white)

3. 16 USB Test

This function will check USB2.0/3.0 function whether OK. Please refer to below picture. (Please prepare USB 2.0 & USB 3.0 USB disk in advance)

☐ Item6	Port1_USB2.0(Right)
☐ Item7	Port2_USB2.0(Right)
☐ Item8	Port3_USB2.0(Left)
☐ Item9	Port1_USB3.0(Right)
☐ Item10	Port2_USB3.0(Right)
☐ Item11	Port3_USB3.0(Left)

*Syrah 10S

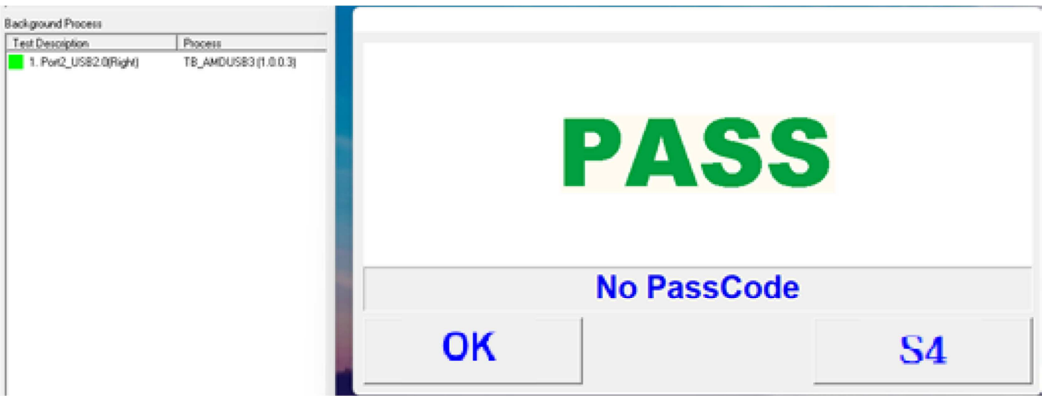
*Syrah 10M/10L

Test procedure:

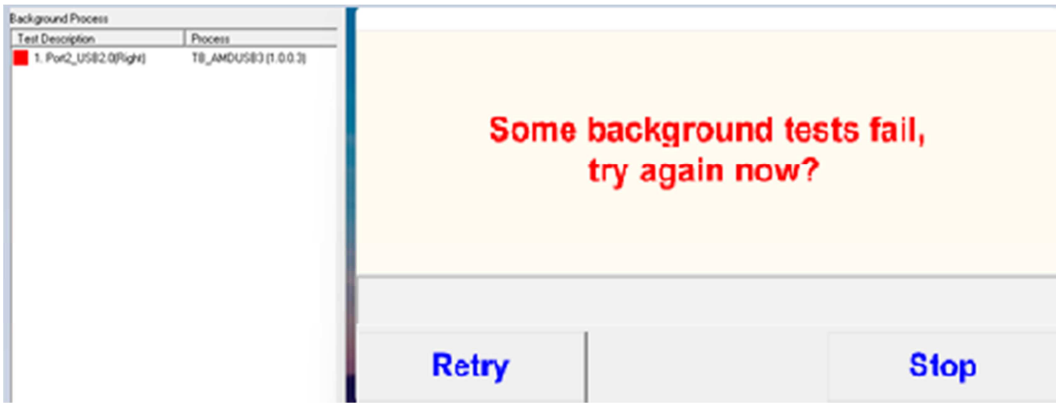
Step 1: Please insert USD disk to test port. (USB port 1 & port 2 in right side, USB port 3 in left side)

Step 2: The system will automatic test by background, if PASS will show below picture.

- Test PASS condition

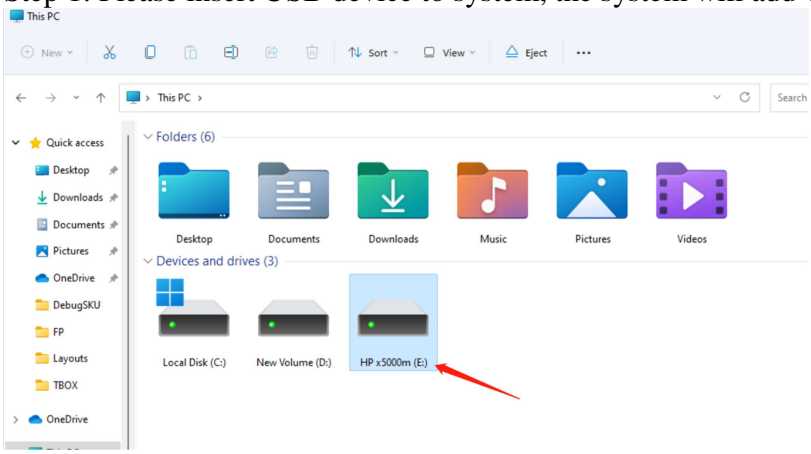


- Test Fail condition



Test way without tool

Step 1: Please insert USB device to system, the system will add USB device as below picture.



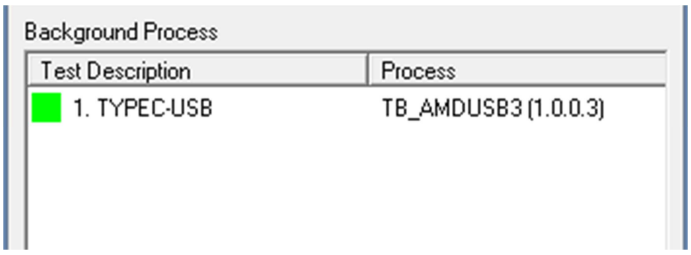
Step 2: Please copy file to USB device to check the R/W function whether OK.

3. 17 TYPE C Test

The Type C test will check USB (by tool)/DP (HDMI) /PD (Charge) function.

■ TYPE C USB test

Step 1: Please insert TYPE C disk to system.
Step 2: Please execute Battery tool, system will run automatically.

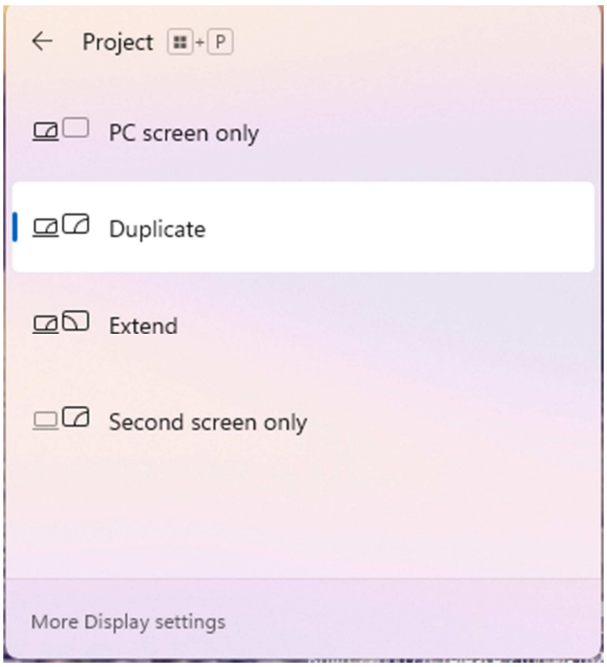


*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

■ TYPE C DP test

Step 1: Please insert TYPE C w/HDMI dongle to system.

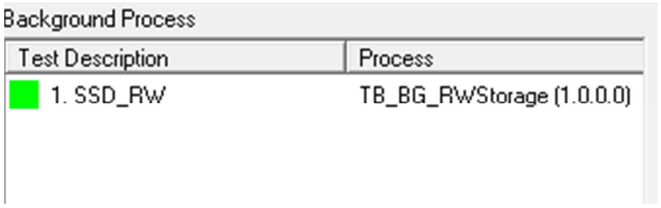
Step 2: Press Key “Win” + “P” (refer to below picture) to select “Duplicate” or “Extend” mode then check HDMI display.



3. 18 SSD Test`

The SSD test will check storage device by system automatically.

Step 1: Please execute SSD test tool, system will run automatically.

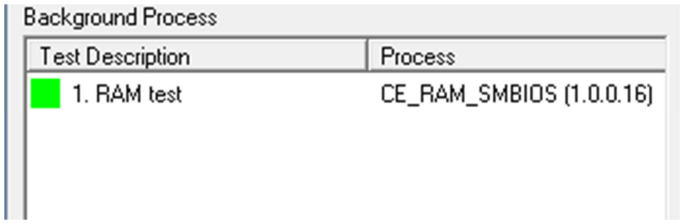


*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

3. 19 RAM Test

The RAM test will check RAM device by system automatically.

Step 1: Please execute RAM test tool, system will run automatically.

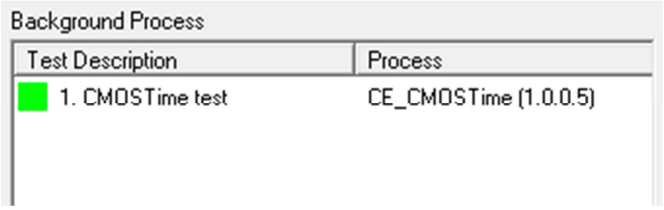


*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

3. 20 CMOS (RTC) Test

The CMOS test will check CMOS function by system automatically.

Step 1: Please execute CMOS test tool, system will run automatically.

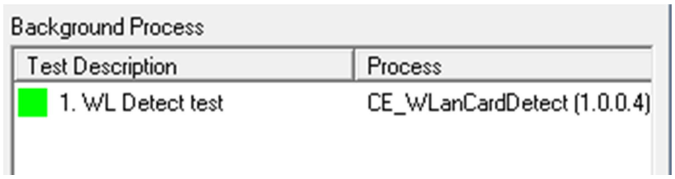


*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

3. 21 Wireless Card detect

The WL detect will check WL device by system automatically.

Step 1: Please execute WL test tool, system will run automatically.

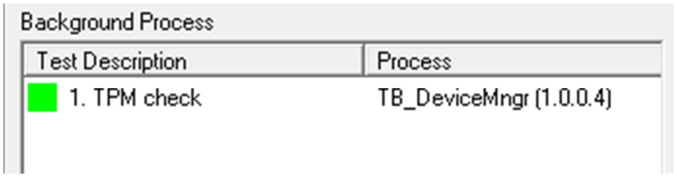


*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

3. 22 TPM Test

The TPM test will check TPM device by system automatically.

Step 1: Please execute TPM test tool, system will run automatically.

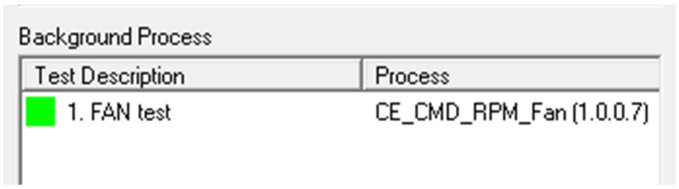


*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

3. 23 FAN Test

The FAN test will check FAN function by system automatically.

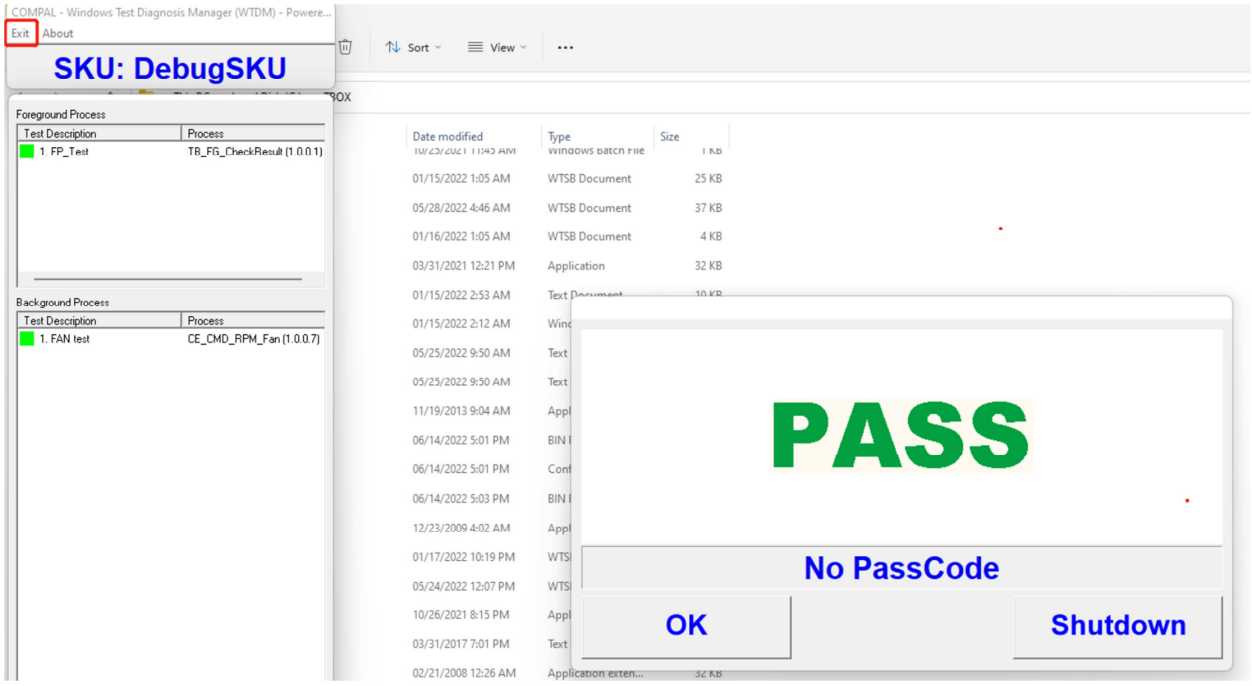
Step 1: Please execute FAN test tool, system will run automatically.



*When block is twinkle by blue color, it meaning testing on going. (PASS will show Green block, fail show Red block)

3.24 Exit from TD

When you finish test, please move to “Exit” to exit the TD. (Please refer to below picture)



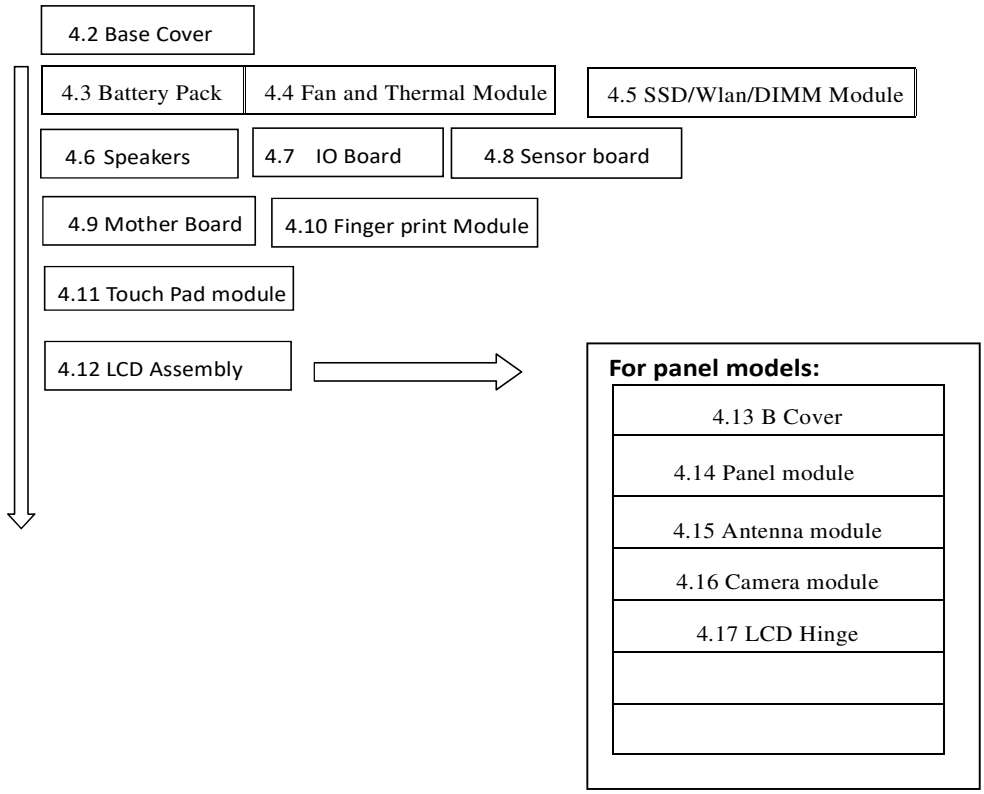
Chapter-4 Dynabook Replacement Procedures

Chapter 4 Contents

Figures

4.1 General

This chapter explains how to disassemble the laptop and replace Field Replaceable Units (FRUs). Some replacement procedures may not require you to remove all the surrounding FRUs to replace only one FRU. The chart below shows the FRUs in the order in which they should be removed in a top-down manner, irrespective of their physical locations. The FRUs shown in the top area of the chart should normally be removed before removing the FRUs shown in the bottom area. To replace the FRUs, first identify the FRU suspected of the system failure. Next, according to this chart, determine the FRUs that need to be removed before removing the suspect FRU. After you determine those FRUs, go to the appropriate sections according to the section numbers shown in the boxes. Then start removal and replacement.



Safety Precautions

Before you begin disassembly read the following safety precautions carefully. Be sure to follow them while you are working.

DANGER:

1. *Always use the original batteries or replacement batteries authorized by dynabook. Batteries other than those differ in specifications and are incompatible with the laptop. They may burst or explode. To avoid leakage of alkaline solutions, never heat or disassemble the battery packs. Never throw the battery packs into a fire. If this is violated, they will explode.*
2. *The components such as the power supply and inverter carry high voltages. When you partially disassemble the laptop and turn on the components, use extreme care not to touch the connectors and components to avoid the risk of electrical shock. Do not disassemble individual components during first-level maintenance.*

WARNING:

1. *To avoid the risk of electrical shock, turn the laptop off and remove the AC adapter from the electrical outlet.*
2. *Because the battery in the laptop is left charged, the risk of electrical shock remains even after the AC adapter is removed from the electrical outlet. To avoid the risk of electrical shock, be sure to remove any metal jewelry or accessories such as necklaces, bracelets and rings before starting work. Never work with damp or wet hands.*
3. *To avoid personal injury, use care to avoid the sharp edges or corners of the components.*

CAUTION:

1. *Before replacing a component, make sure that the replacement component meets the required specifications. To avoid laptop failures, never use components that do not meet the specifications.*
2. *To avoid internal damage such as short circuits and fire, never drop metal objects such as screws, pins, paper clips, etc. into the components. When a screw is removed, be sure to replace a screw that is the same size as the original screw. Make sure that all the screws are fastened securely. Loose screws can cause short circuits, overheating, smoke or fire.*
3. *Before removing a FRU or other component, make sure that all the component cables have been disconnected to avoid the risk of electrical shock caused by accidental contact with the energized components.*
4. *For AC input, be sure to use the AC adapter and AC power cable that come with your laptop or dynabook-recommended equivalents.*
5. *To avoid the risk of electrical shock, make sure that all the replacement components meet the specifications of the laptop and that all the cables and connectors are fastened securely.*
6. *The components inside the PC become hot during operation (such as the CPU and cooling module). To avoid burns, let the hot components cool down before starting inspection or repair task.*

Before You Begin

Before you begin to disassemble the laptop, keep in mind the precautions and advice in this section. Always begin disassembly by removing the AC adapter and battery pack (need to remove the battery screws first). Remove the optional parts and accessories as well. The procedures for removing the batteries will be explained later.

Disassemble the laptop only when an abnormality has occurred. Use only the recommended

tools.

To run and store the laptop, be sure to prepare a working environment that is free from:

- Dust and contaminants
- Static electricity
- Extremely high or low temperatures and extremely high humidity

Run the diagnostic tests explained in Chapter 2 of this manual to identify the FRU that has probably caused the system failure.

Perform only the required machine operations. Use only the disassembly and reinstallation procedures described in this manual.

Place the removed components in a safe place away from the laptop so that they are not damaged or get in the way of you doing your work.

Normally, a number of screws need to be removed or replaced during disassembling. Place the removed screws in a safe place so that you can easily find the right screws for the right components.

When assembling the laptop, use the specified screws to fasten the parts to the specified locations. See the appropriate explanations and figures for screw sizes.

To avoid personal injury, use care when handling components that have sharp edges or corners.

After you have replaced a FRU, check that the FRU works correctly to ensure normal laptop operation.

Disassembly Procedures

The cable connectors come in these three basic types:

- Pressure plate connectors
- Zero Insertion Force (ZIF) connectors
- Normal pin connectors

To remove a pressure plate connector, pull up the tabs on either side of the connector's plastic pressure plate and gently pull the cable out of the connector. To reconnect the cable to the pressure plate's connector, raise the pressure plate up to a satisfactory height and slide the cable into the connector. Secure the cable in the correct position by pressing down the sides of the pressure plate so that the plate is flush with the sides of the connector. Grasp and pull the cable gently to check that the cable is connected firmly. If the cable has come off the connector, reinsert the cable by raising the pressure plate up to a satisfactory height.

To remove a cable from a ZIF connector, pull out the sliders on both sides of the connector and pull the cable out of the connector. To reconnect the cable to the ZIF connector, pull out the sliders on both sides and slide the cable into the connector. Secure the cable in the correct position by pushing in the sliders on both sides of the connector so that the sliders are pushed in securely. Grasp and pull the cable gently to check that the cable is connected firmly. If the cable has come out of the connector, pull out the sliders again and reinsert the cable into the connector to a sufficient depth and push in the sliders until they are pushed in securely.

Normal pin connectors are used for all the other types of cables. These connectors can be installed or removed by simply inserting them or pulling them out.

Assembly Procedures

You have to reassemble the laptop after you have disassembled the laptop and fixed the component that caused the problem.

When reassembling the laptop, keep the following general guidelines in mind:

- Take your time to carry out the suggested instructions completely. Hurried reassembly can often cause problems.
- Check that all the cable and connectors are fastened securely.
- Before securing the FRUs or other parts, check that the cables are not caught by the screws or FRUs.
- Check that all the latches are closed securely.
- Check that all the required screws are used to secure the FRUs. Using wrong screws can damage the threads or heads of the screws or not ensure the FRUs securely.

After installing a FRU, make sure that the FRU and laptop work normally.

Tools and Equipment

For your safety and that of other people in the working environment, it is strongly recommended that you use electrostatic discharge (ESD) equipment. The proper use of this equipment will ensure successful repair work and reduce the costs for repairing damaged components. The equipment and tools required for disassembly and reassembly are:

- One 2 mm Phillips screwdriver
- One 4 mm flat-blade screwdriver
- Torx screwdriver
- Tweezers (for pulling out screws)
- ESD mats (for the floor and work desks)
- An ESD wrist strap or heel grounder
- Anti-static carpets or flooring
- Air ionizers (for highly electrostatic sensitive areas)
- A plastic card (in credit card size)
- A smooth stick (0.43mm, for example: a Pick or PC Mylar)
- SIM card tray eject pin tool

Screw Tightening Torque

To secure screws, follow the torque values listed below. Over-tightening can damage components and screws. Under-tightening can loosen the screw or cause screws to come off, which may result in short circuits or other damage.

M2.0×5	0.157-0.205 N·m (1.7-2.0 kgf·cm)
M2.5×5	0.270-0.318 N·m (2.75-3.25 kgf·cm)
M2×3	0.157-0.205 N·m (1.7-2.0 kgf·cm)
M2x2.5	0.157-0.205 N·m (1.7-2.0 kgf·cm)
M2x2	0.157-0.205 N·m (1.7-2.0 kgf·cm)

4.2 Base cover

Removing the base cover

Remove the base cover according to the following procedures and Figure 4-1.

1. Turn the laptop upside down so that the bottom is facing up.
2. Remove the six M2x5 screws ☐,1 and four M2x3 screws ☐,2 (This four screws have angle to fix D cover).
3. Press the cover-edge and pry up the base cover from the inner edges, starting from the top ☐,3, then along the sides ☐,4 and then the bottom ☐,5.
4. Slightly shake the base cover to release the center snap on base cover ☐,6.
5. Remove the base cover ☐,7 .

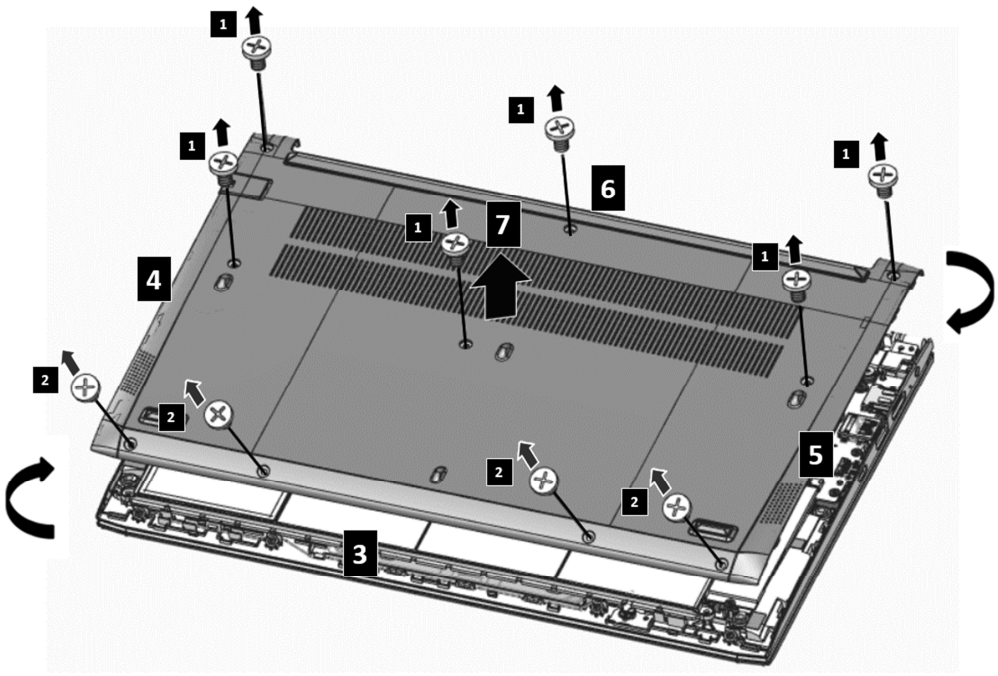


Figure 4-1 Removing the Base Cover

Installing the Base Cover

Install the base cover according to the following procedures:

1. Align the base cover with the snaps on the logic upper assembly, and gently press downward the edges of the base cover until clicks are heard. Make sure all the snaps are latched and secured.

2. Tighten the six M2×5 screws ☐,1 and four M2x3 screws ☐,2(the four screws have angles) to secure the base cover to the logic upper assembly. (as shown in Figure 4-1)

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 5 mm, flat-head, nylon-costed (6)	Black / Sliver	0.181 Nm (1.85 kgf-cm)
#1	M2 x 3 mm, flat-head, nylon-costed (4)	Black / Sliver	0.181 Nm (1.85 kgf-cm)

4.3 Battery Pack

Removing the battery pack

Remove the battery pack according to the following procedures and Figure 4-2.

> ***CAUTION:***
>
> *When handling the battery pack, use cares not to short circuit the terminals. Do not drop, hit, twist or bend the battery pack. Do not scratch or break up their casing.*

1. Detach the Battery connector ☐,1.
2. Remove the four M2x3 screws ☐,2 .
3. Remove the battery pack ☐,3.

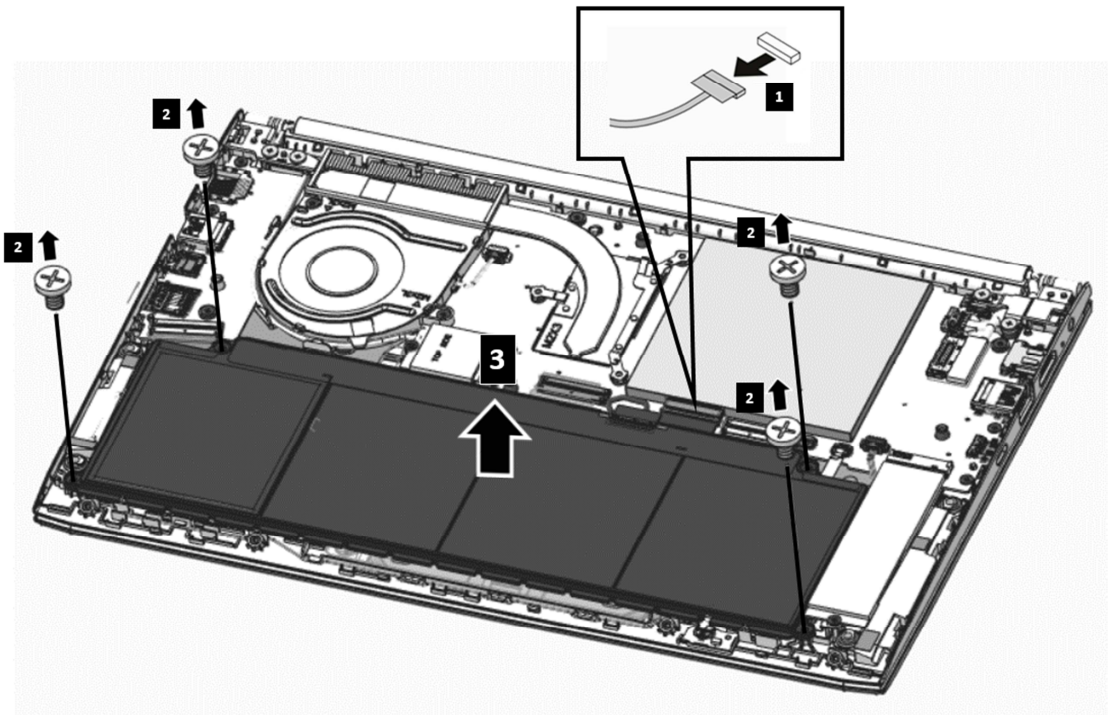


Figure 4-2 Removing the Battery Pack

Installing the Battery Pack

Install the battery pack according to the following procedures:

1. Seat the battery pack in the correct position on the logic upper assembly and insert the battery connector ☐,1 ☐,3.

2. Tighten the four M2 x 3 screws to secure the battery pack to the logic upper assembly ☐,2.

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 3 mm, flat-head, nylon-costed (4)	Black	0.181 Nm (1.85 kgf-cm)

4.4 Fan And Thermal Module

Removing the fan and thermal module

Remove the fan and thermal module according to the following procedures and Figure 4-3 & Figure 4-4

CAUTION: *When removing the thermal module, keep the following in mind:*   *1. The thermal module can become very hot during operation. Be sure to let it cool down before starting the repair work.*

1. Peel off the W-LAN Mylar securing the cable connector in place ☐,6 and disconnect the two W-LAN antennas (White/Black color) from motherboard ☐,7 as shown in Figure 4-4.
2. Gently pull up the W-LAN antennas out of the routing channels on fan ☐,8.
3. Disconnect the Fan cable from the motherboard ☐,1.
4. Remove the two M2x3 screws and fan ☐,2.
5. Remove the three M2x3 screws according to the number sequence (5->4->3) indicated in Figure 4-3 .
6. Remove the thermal module.

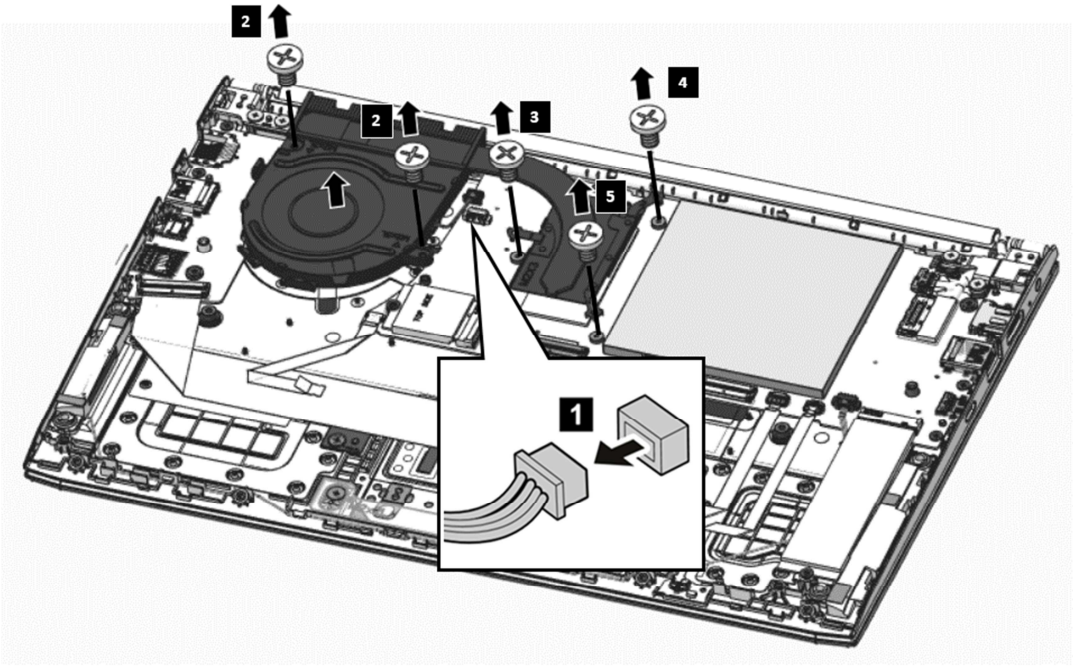


Figure 4-3 Removing the Fan and thermal module

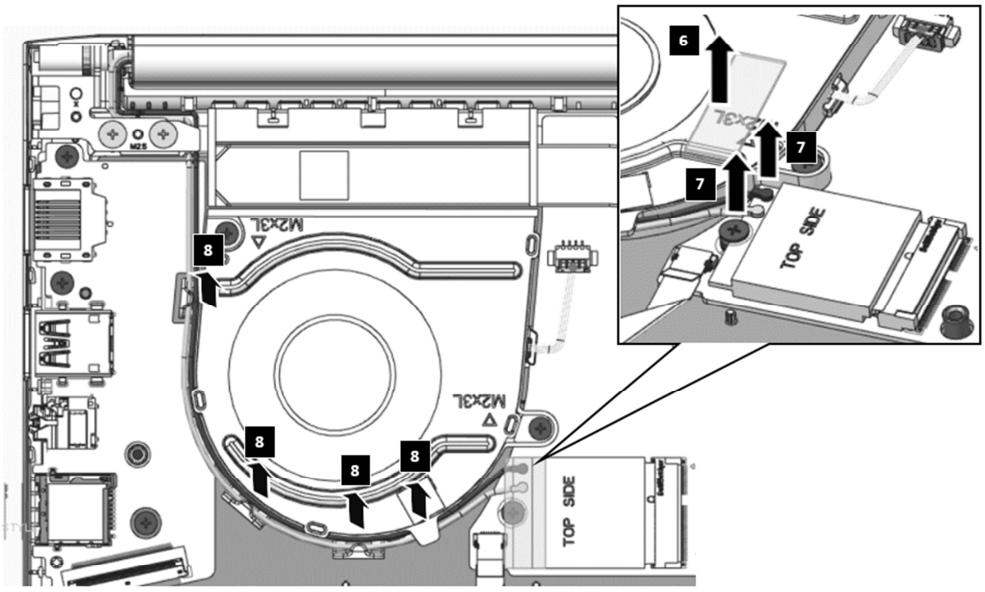


Figure 4-4 Removing the w-lan cable

Installing the thermal module

Install the fan and thermal module according to the following procedures:

1. Seat the fan in the correct position on the logic upper assembly and insert the fan connector ☐,9 and tuck the fan cable into the fan hook ☐,10. as shown in Figure 4-5.

2. Tighten the two M2 x 3 ☐,2screws to secure the fan to the logic upper assembly, as show in Figure 4-3.

3. Check the greasy is attached on the thermal module as shown in Figure 4-6 .

4. Place the thermal module in the correct position on the motherboard.

5. Tighten the three M2 x 3 screws according to the number sequence (3->4->5) indicated in Figure 4-3 to secure the thermal module to the motherboard.

6. For the w-lan cable routing, tuck the w-lan cable into the fan hook ☐,11, and wlan cable connector insert the wlan card ☐,12. Finally, paste wlan mylar on the w-lan module ☐,13 as shown in Figure 4-5.

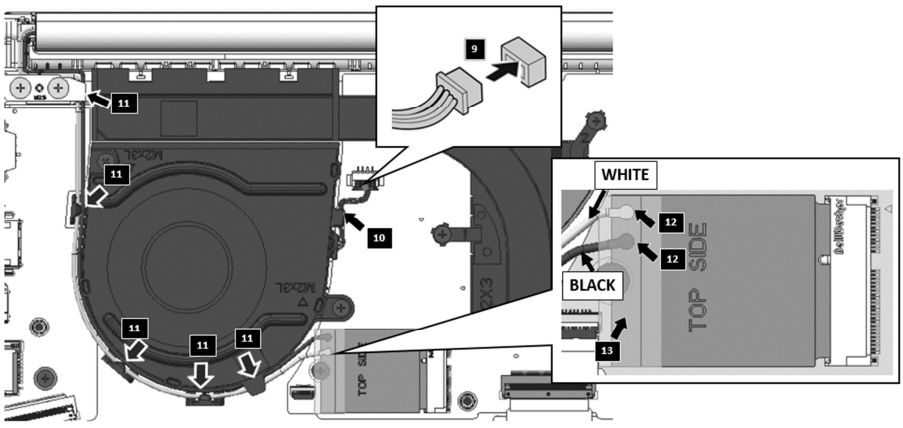


Figure 4-5 Fan Cable and W-lan Cable Routing

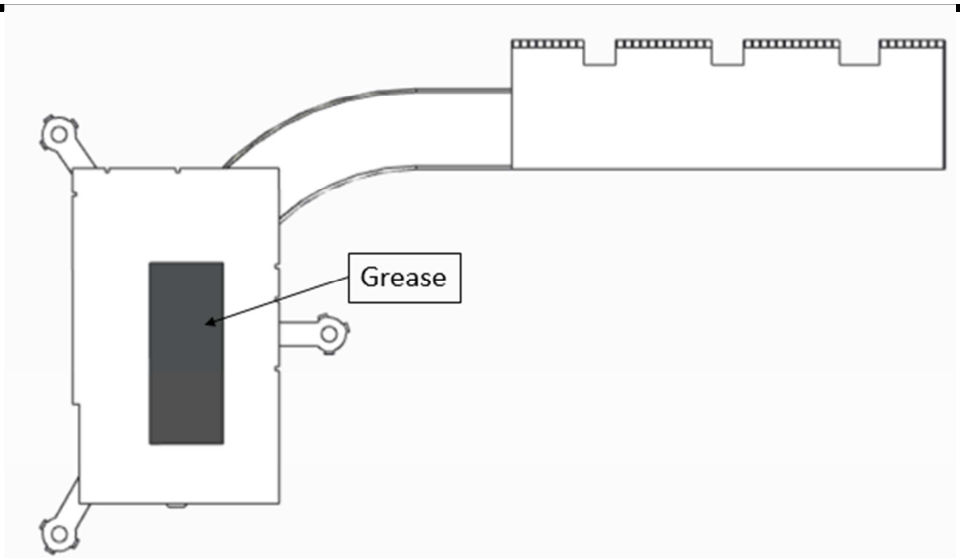


Figure 4-6 Checking the Thermal Pad on Thermal module

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 3 mm, flat-head, nylon-costed (5)	Black	0.181 Nm (1.85 kgf-cm)

4.5 SSD Card/WLAN Card/DIMM

Removing the SSD Card/WLAN Card/DIMM

Remove the SSD Card/WLAN Card/DIMM assembly according to the following procedures and Figure 4-7.

1. Remove the one M2x3 screw and Wlan card from the motherboard ☐,1 ☐,2.
2. Remove the one M2x3 screw and SSD card from the motherboard ☐,3 ☐,4.
3. Remove the DDR shielding and DIMM from the motherboard ☐,5 ☐,6.

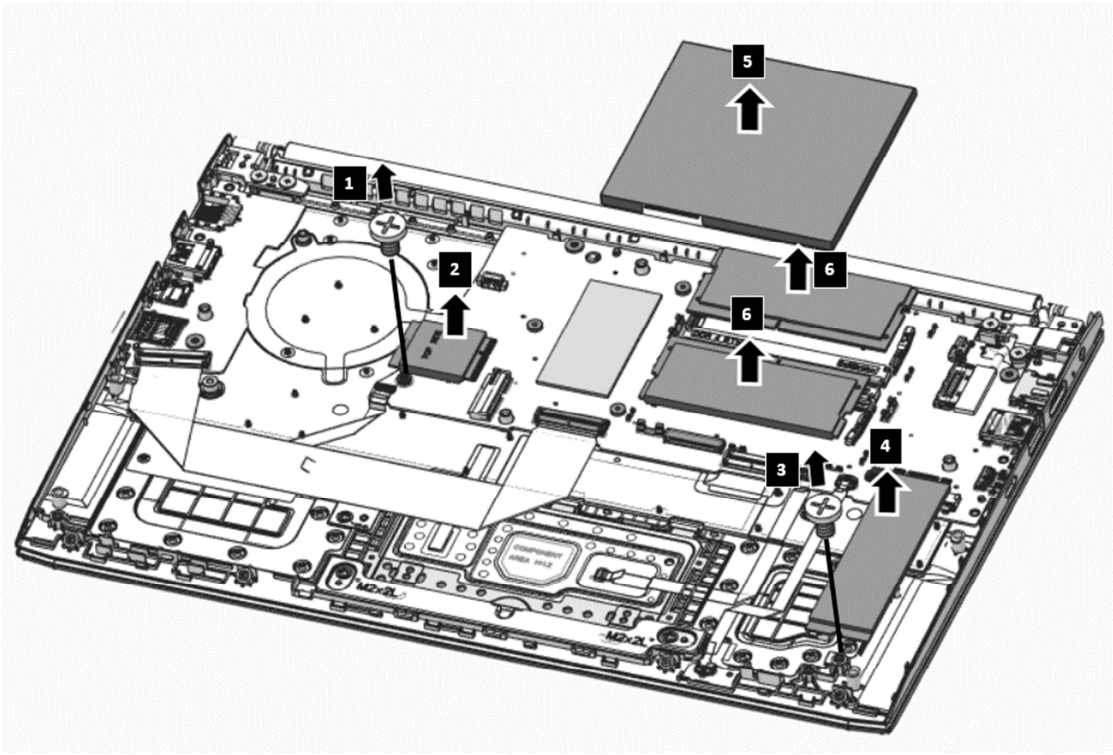


Figure 4-7 Removing the SSD Card/WLAN Card/DIMM

Installing the SSD Card/WLAN Card/DIMM

Install the SSD Card/WLAN Card/DIMM according to the following procedures:

1. Seat the wlan in the correct position and tighten the one M2 x 3 screw to secure the wlan to the motherboard assembly ☐,1 ☐,2.

2. Seat the SSD in the correct position and tighten the one M2 x 3 screw to secure the wlan to the motherboard assembly ☐,3 ☐,4.

3. Seat the DIMM in the correct position and seat the shielding cover to the motherboard ☐,5 ☐,6.

4.6 Speakers

Removing the Speakers

Remove the speaker assembly according to the following procedures and Figure 4-8.

1. Disconnect the speaker cable from the motherboard ☐,1.
2. Gently pull up the speaker assembly and the speaker cable out of the routing channels ☐,2 ☐,3.

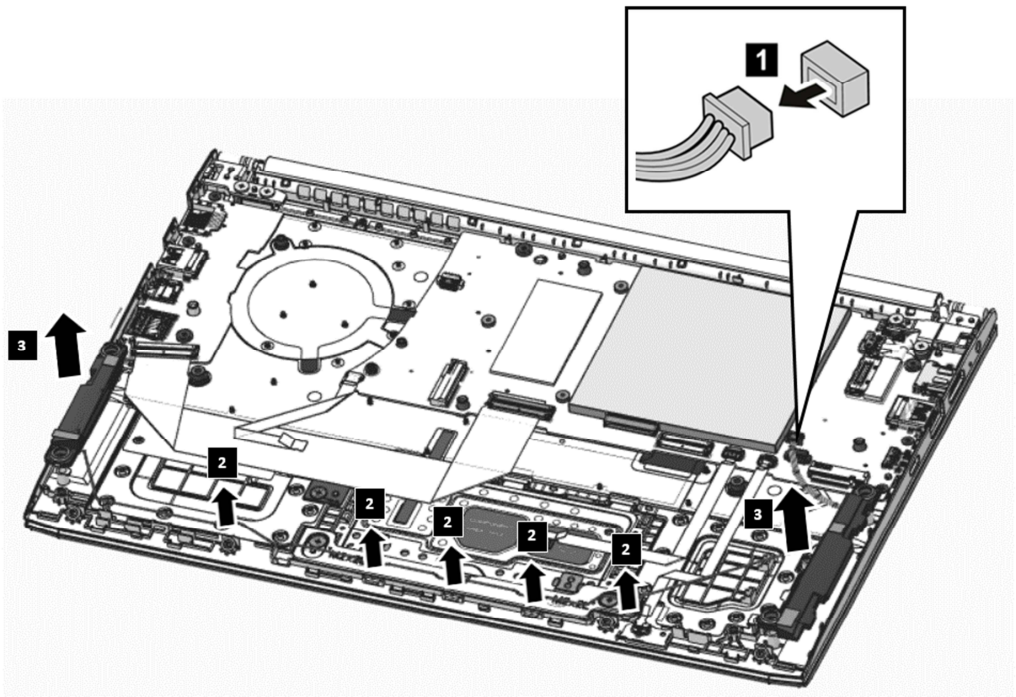


Figure 4-8 Removing the Speakers

Installing the Speakers

Install the speakers according to the following procedures:

> ***NOTE:*** *Take care not to pinch the cables. Make sure the routing positions of the cables are correct and do not block any components, such as screw holes.*

1. Seat the speakers in the correct position and secure it in place on the logic upper assembly ☐,3 as shown in Figure 4-8.

2. Route and secure the speaker cable in the routing channels as shown in Figure 4-9.

3. Connect the speaker cable to the motherboard ☐,1 as shown in Figure 4-8.

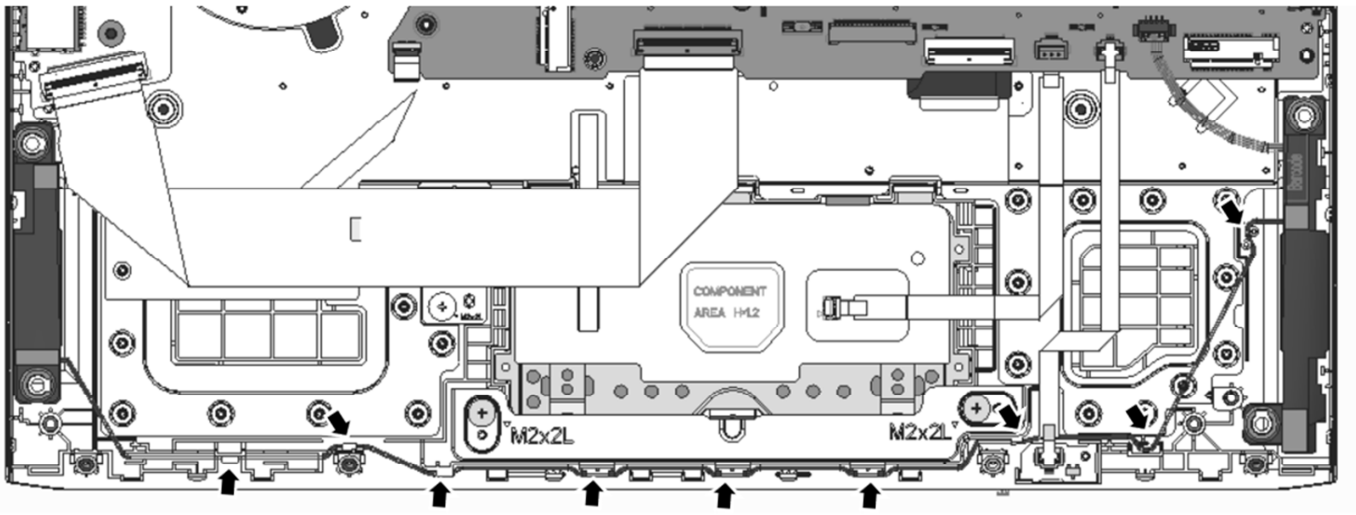


Figure 4-9 Speaker Cable routing channels on upper

4.7 IO Board

Removing the IO Board

Remove the IO board according to the following procedures and Figure 4-10.

1. Disconnect the IO board FFC ☐,1 ☐,2.
2. Remove three M2x3 screws ☐,3.
3. Gently lift up the right edge of the IO board and remove it from the logic upper assembly ☐,4

.

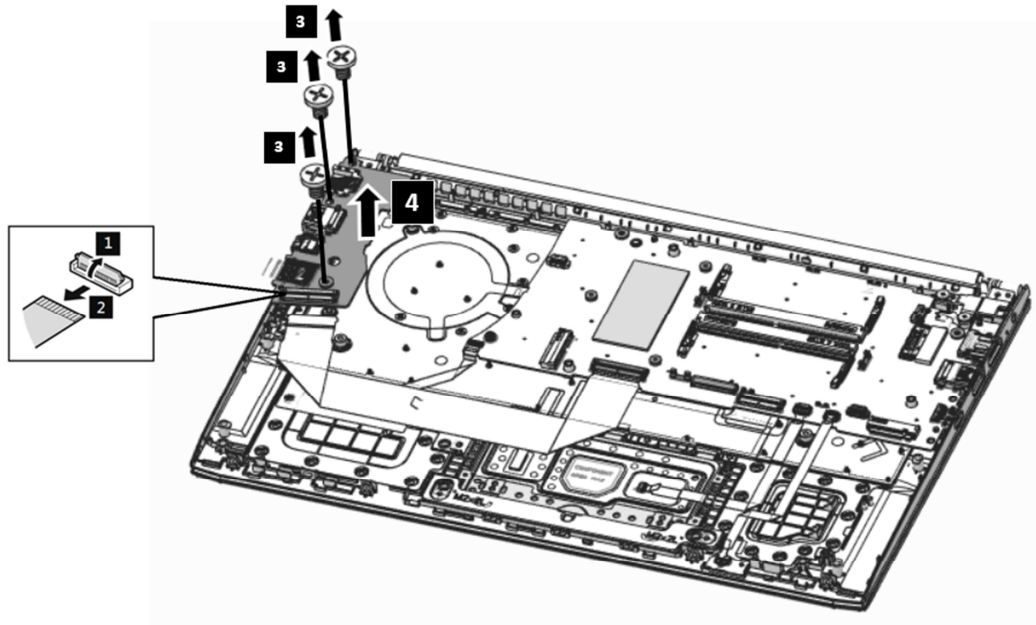


Figure 4-10 Removing the IO Board

Installing the IO Board

Install the IO board according to the following procedures:

1. Seat the IO board in the correct position on the logic upper assembly ☐,4.

2. Tighten three M2×3 screw to secure the IO board to the logic upper assembly ☐,3.

3. Connect the IO board FFC to the IO board. Make sure the FFC are properly engaged and firmly secured ☐,1 ☐,2.

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 3 mm, flat-head, nylon-costed (3)	Black	0.181 Nm (1.85 kgf-cm)

4.8 Sensor Board

Removing the Sensor Board

Remove the Sensor board according to the following procedures and Figure 4-11.

1. Disconnect the sensor board FFC ☐,1 ☐,2.
2. Gently pry up the sensor board from the adhesive and remove it from the Upper cover ☐,3.

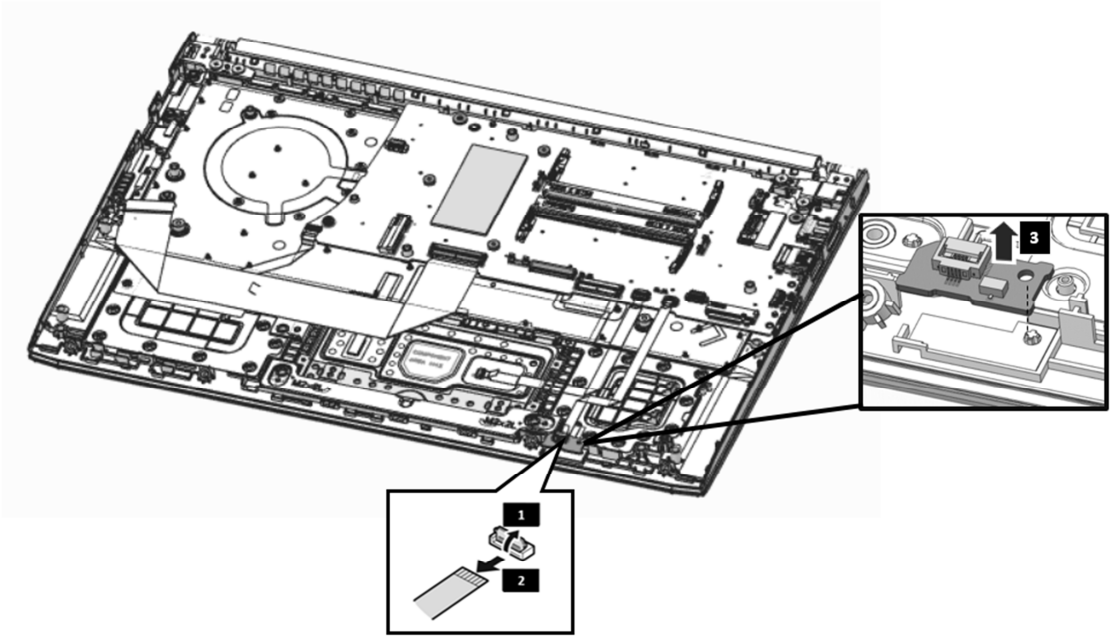


Figure 4-11 Removing the sensor board

Installing the Sensor Board

Install the Sensor board according to the following procedures:

1. Seat the sensor board in the correct position and secure it in place with adhesives on the upper cover as shown in Figure 4-12 .

2. Connect the sensor board FFC to the sensor board. Make sure the FFC are properly engaged and firmly secured ☐,1 ☐,2.

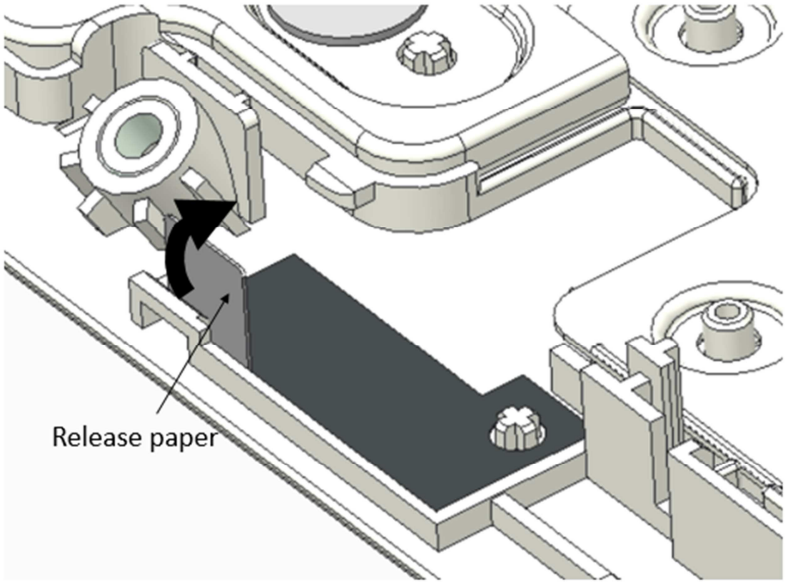


Figure 4-12 Removing the release paper of sensor board adhesive

4.9 Motherboard

Removing the Motherboard

Remove the motherboard according to the following procedures and Figure 4-13.

1. Remove four M2x3 screws ☐,1 securing the motherboard to the logic upper assembly.
2. Disconnect the eDP cable ☐,2/ DCIN cable ☐,3/sensor board FFC ☐,4 ☐,5/TP FFC ☐,6 ☐,7/keyboard FPC ☐,8 ☐,9/IO FFC ☐,10 ☐,11/ FP FFC ☐,12 ☐,13 from the motherboard as shown in Figure 4-13.
3. Gently lift the left edge of the motherboard and remove the motherboard from the logic upper assembly ☐,14.

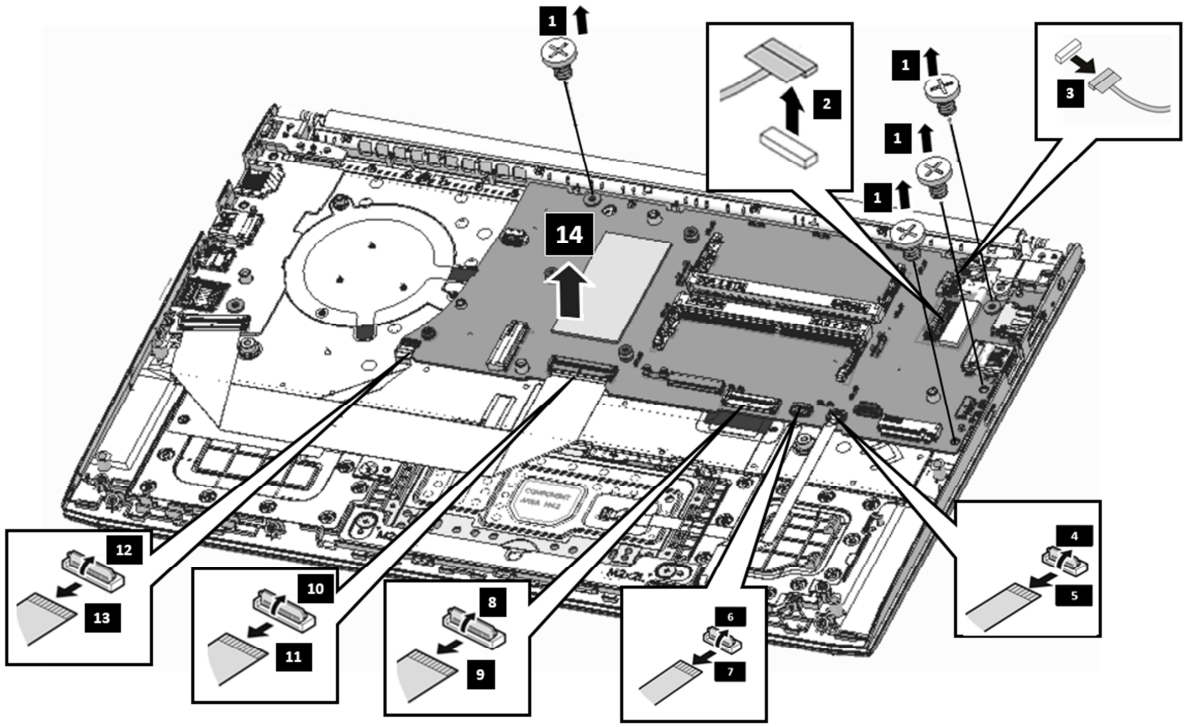


Figure 4-13 Removing the Motherboard

Installing the Motherboard

Install the motherboard according to the following procedures:

1. Seat the motherboard in the correct position on the logic upper assembly.

2. Tighten four M2×3 screw ☐,1 to secure the motherboard to logic upper assembly as shown in Figure 4-13.

3. Connect the eDP cable ☐,2/ DCIN cable ☐,3/ sensor board FFC ☐,4 ☐,5/ TP FFC ☐,6 ☐,7/ keyboard FPC ☐,8 ☐,9/ IO FFC ☐,10 ☐,11/ FP FFC ☐,12 ☐,13 to the motherboard as shown in Figure 4-13. Make sure the FPC and the connectors are properly engaged and firmly secured.

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 3 mm, flat-head, nylon-costed (4)	Black	0.181 Nm (1.85 kgf-cm)

4.10 Finger Print Module

Removing the Finger Print Module

Remove the finger print assembly according to the following procedures and Figure 4-14.

1. Disconnect the finger print FFC from finger print module ☐,1 ☐,2.

2. Remove the one M2×2 screws securing the finger print bracket to the logic upper assembly ☐,3.

3. Remove finger print bracket ☐,4 from the logic upper.

4. Gently push the finger print away from the logic upper assembly ☐,5.

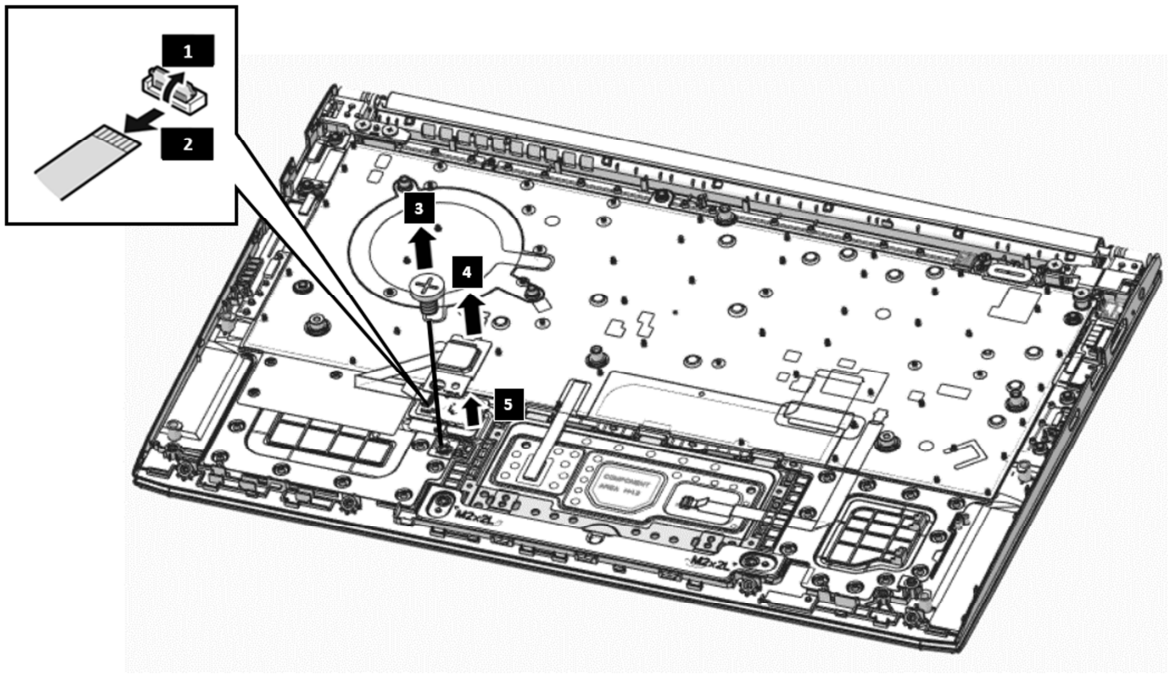


Figure 4-14 Removing the Finger Print Module

Installing the Finger Print Module

Install the finger print module according to the following procedures:

1. Seat the finger print in the correct position on the logic upper assembly ☐,5.

2. Place the finger print bracket on the logic upper assembly ☐,4.

3. Tighten one M2×2 screws to secure the finger print bracket to the logic upper assembly ☐,3.

4. Connect the finger print FFC to the finger print ☐,1 ☐,2.

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 2 mm, flat-head, nylon-costed (1)	Black	0.181 Nm (1.85 kgf-cm)

4.11 Touch Pad Module

Removing the Touch Pad Module

Remove the touch pad assembly according to the following procedures and Figure 4-15 and Figure 4-16.

1. Disconnect the touch pad FFC from touch pad module ☐,1 ☐,2.
2. Peel away the conductive tape ☐,6 on logic upper assembly from touch pad.
3. Remove the two M2×2 screws securing the tp support bracket to the logic upper assembly ☐,3.
4. Remove tp support bracket ☐,4 from the logic upper.
5. Gently push the touch pad away from the logic upper assembly ☐,5.

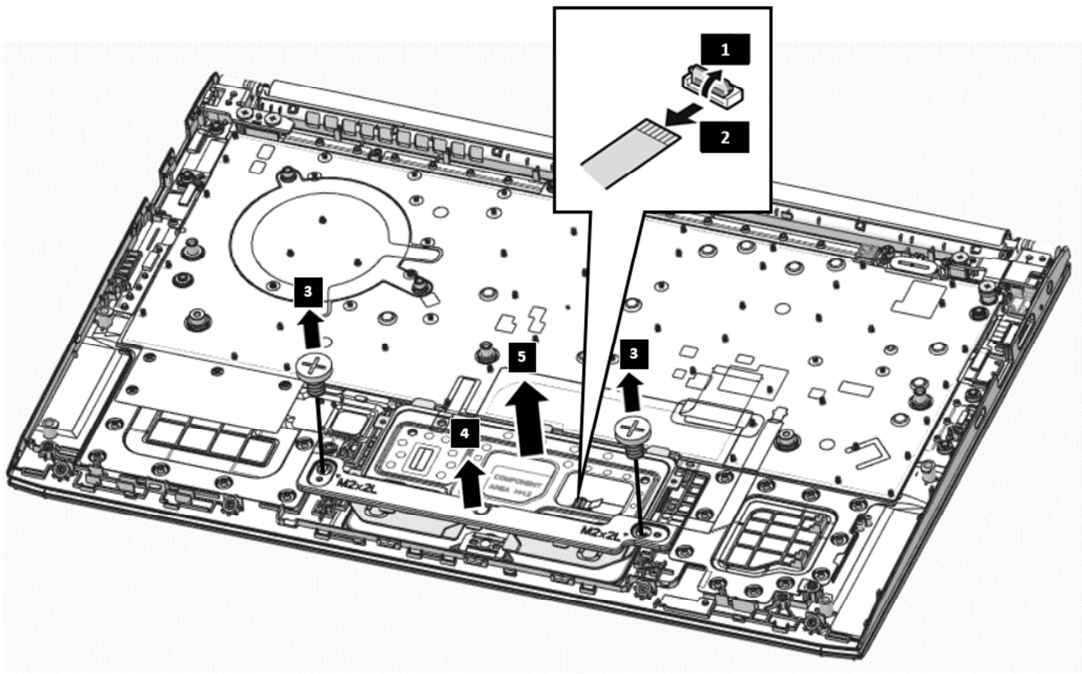


Figure 4-15 Removing the Touch Pad Module

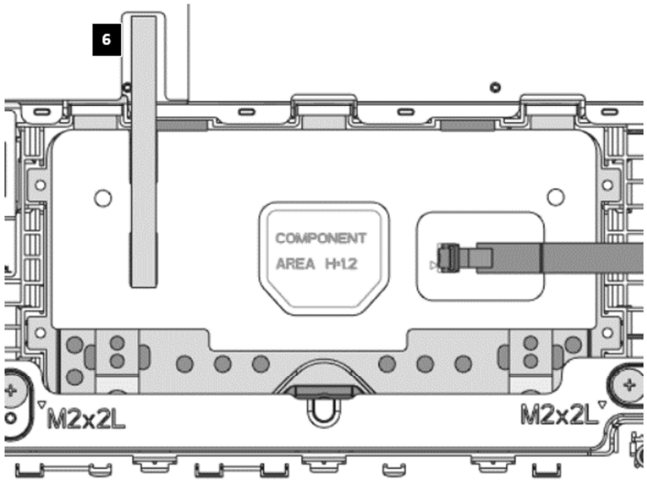


Figure 4-16 Location of Electronic tape & Conductive tape

Installing the Touch Pad Module

Install the touch pad module according to the following procedures:

1. Seat the touch pad in the correct position on the logic upper assembly ☐,5.

2. Seat the TP support bracket in the correct position on the logic upper assembly ☐,4 and tighten two M2×2 screws to secure the tp support bracket to the logic upper assembly ☐,3.

3. Connect the touch pad FPC to the touch pad ☐,1 ☐,2.

4. Adhere the conductive tape over the touch pad and logic upper assembly as shown in Figure 4-16 ☐,6.

BIT# of screw driver	Screw(quantity)	Color	Torque
#1	M2 x 2 mm, flat-head, nylon-costed (2)	Black	0.181 Nm (1.85 kgf-cm)

4.12 LCD Assembly

Removing the LCD Assembly

Remove the LCD assembly according to the following procedures and Figure 4-17 and Figure 4-18.

1. Pull the W-LAN cables and edp cable out of the routing channels as shown in Figure 4-17.

   ☐,1 ☐,2

2. Remove the four M2.5x5 screws ☐,3 securing the LCD assembly as shown in Figure 4-18.
3. Make sure all cables are moved away from the logic upper assembly to avoid damaging the system when removing the LCD assembly. Lift away the LCD assembly from the logic upper assembly as the arrow ☐,4 indicates in Figure 4-18.

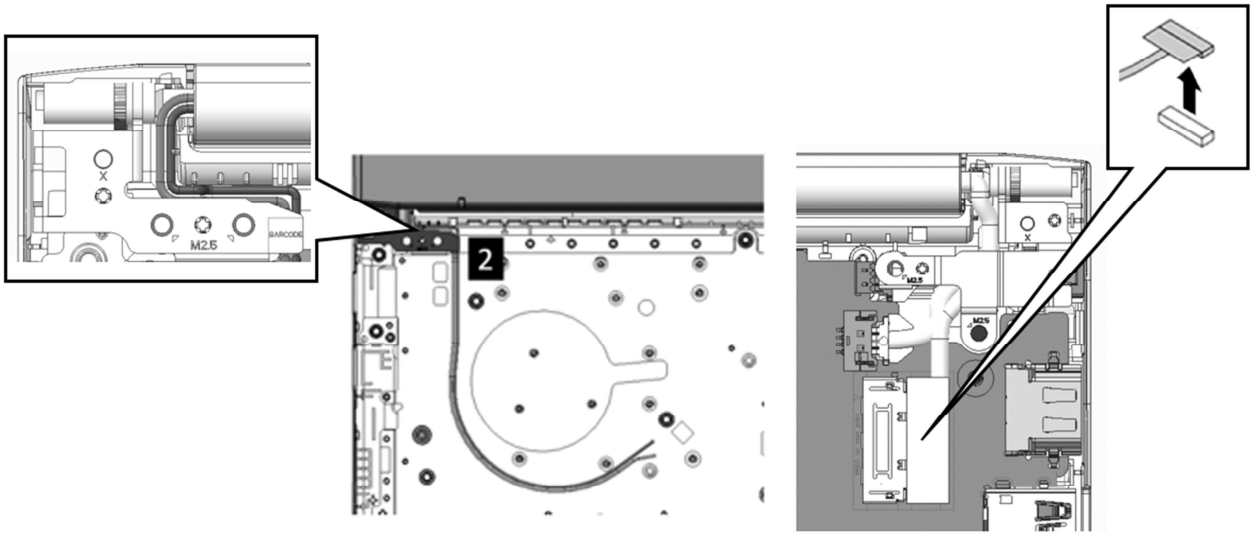


Figure 4-17 W-LAN /edp Cables Routing Channel

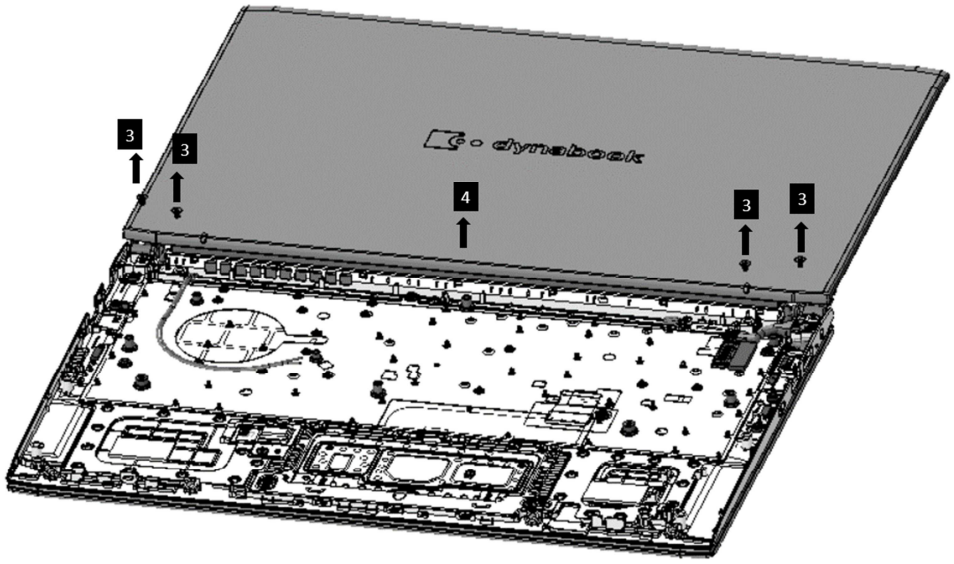


Figure 4-18 Removing the LCD Assembly

Installing the LCD Assembly

> ***NOTE:*** *Take care not to pinch the antenna cables. Make sure the routing positions of the antennas are correct and do not block any components, such as screw holes.*

Install the LCD assembly according to the following procedures:

1. Place the logic upper assembly upside down so that the bottom is facing up.
2. Rotate the LCD hinges to a 180-degree angle and seat the LCD assembly in the correct position on the logic upper assembly, and the cables must be placed inside the hook of hinge bracket ☐,4
3. Tighten the four M2.5×5 screws to secure the LCD assembly to the logic upper assembly as shown in Figure 4-18. ☐,3
4. Route and secure the W-LAN cables and edp cable in the routing channels on the logic upper assembly as shown in Figure 4-17. ☐,2 ☐,1

BIT# of screw driver	Screw (quantity)	Color	Torque
#1	M2.5 x 5mm,flat-head,nylon-coated(4)	Silver	0.294Nm (3.0 kgf-cm)

4.13 Bezel

Removing the Bezel

Remove the Bezel according to the following procedures and Figure 4-19.

1. Place the LCD assembly right-side up so that the top is facing up.

2. Insert a smooth, flat instrument into the gap between the Bezel and the LCD cover as shown in Figure 4-19, and then gently twist the instrument to pry up the Bezel from the LCD cover.

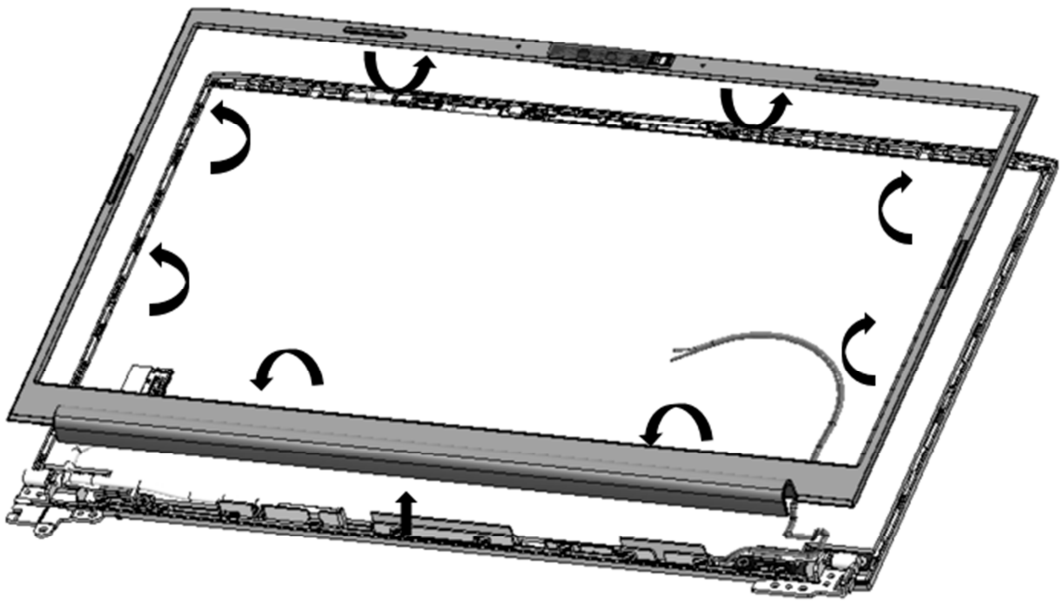


Figure 4-19 Removing the Bezel

Installing the Bezel

Install the Bezel according to the following procedures:

1. Place the Bezel on the LCD cover assembly. Make sure the tabs on the back of the Bezel align with the slots in the LCD cover assembly.

2. Gently press down edges around the Bezel until clicks are heard. Make sure all the snaps are latched and secured.

4.14 Panel Assembly

Removing the Panel Assembly

Remove the panel Assembly according to the following procedures and Figure 4-20 and Figure 4-21 and Figure 4-22 and Figure 4-23.

1. Pull up the adhesive from LCD cover ☐,1 as shown in Figure 4-20.

2. Carefully lift up and rotate the panel from the LCD assembly as the arrow ☐,2 indicates in Figure 4-21.

3. Place the panel on a protective surface, such as a foam pad as shown in Figure 4-22.

4. Disconnect the eDP cable FFC from Camera FPC ☐,3 ☐,4 ☐,5 and Gently pry up the Camera FPC ☐,6 as shown in Figure 4-22.

5. Pull the lock bar outward and disconnect the eDP cable from the touch glass panel ☐,7 ☐,8 as shown in Figure 4-23.

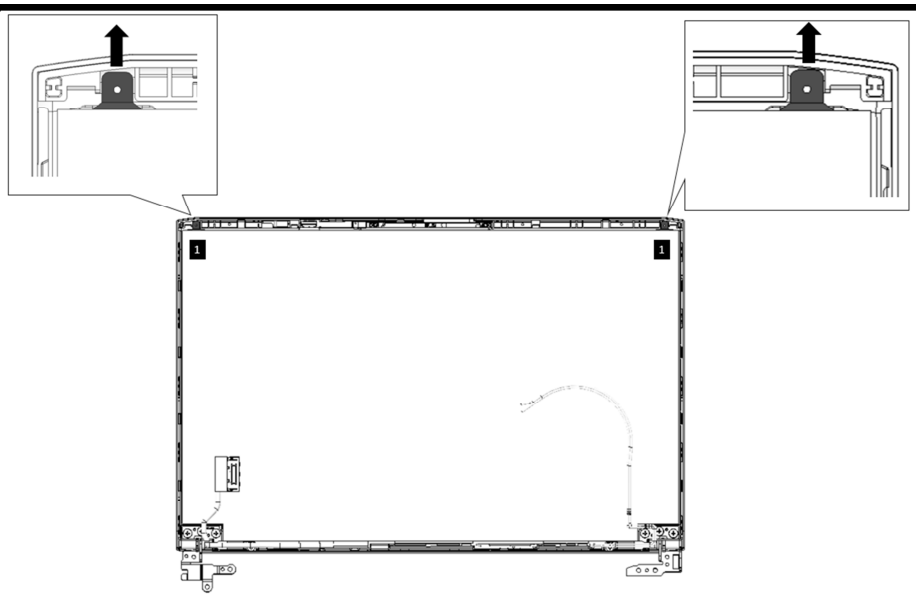


Figure 4-20 Removing the Panel Adhesive

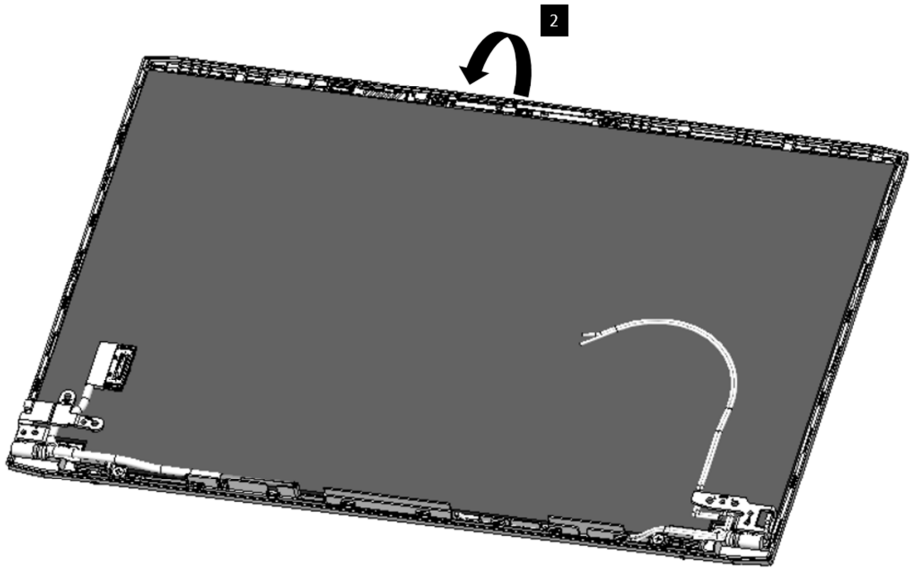


Figure 4-21 Removing the Panel Assembly

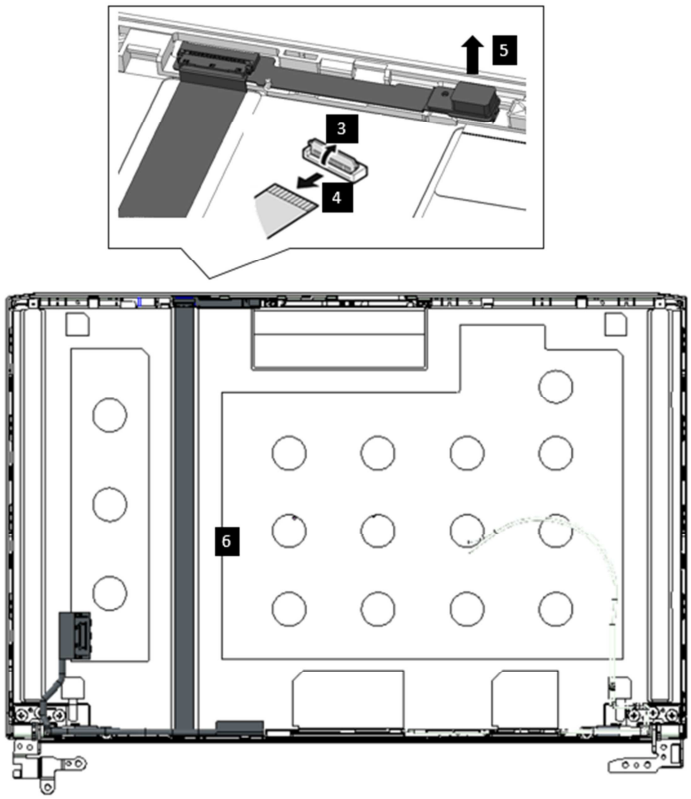


Figure 4-22 Disconnecting the eDP Cables FFC from Camera FPC Assembly

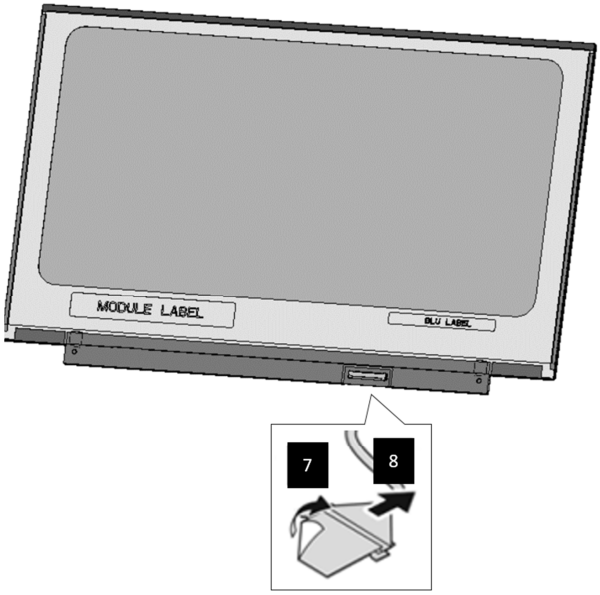


Figure 4-23 Disconnecting the Cables from Panel Assembly

Installing the Panel Assembly

Install the panel assembly according to the following procedures:

1. Place the panel assembly upside down so that the bottom is facing up.

2. Connect the eDP cable to the panel connector and lock it with lock bar, then adhere the mylar over the connector to secure it in place as shown in Figure 4-23. ☐,7 ☐,8

3. Connect the eDP cable FFC to the camera FPC board connector as shown in Figure 4-22. ☐,6 ☐,5 ☐,4 ☐,3

4. Pull up the blue release paper of Panel Adhesive from LCD cover as shown in Figure 4-24. ☐,2

5. For Panel P30 type : Rotate the panel right-side up and use 0.5mm Mylar between LCD cover and Panel to seat it in the correct position as shown in *Figure 4-25.* ☐,1

6. For Panel P20 type : Rotate the panel right-side up and use 1.25mm Mylar between LCD cover and Panel to seat it in the correct position as shown in *Figure 4-26.* ☐,1

Resolution	Vendor	LCM model name	Type
13.3" HD,TN,220 nits,3.0t(1366x768)	BOE	NT133WHM-N45	P30
13.3" FHD,IPS,250nits,3.0t	BOE	NV133FHM-N43	
	INX	N133HCE-EAA	
13.3" FHD,IPS,470nits,2.0t	Sharp	LQ133M1JW41	P20
	Sharp	LQ133M1JW64	

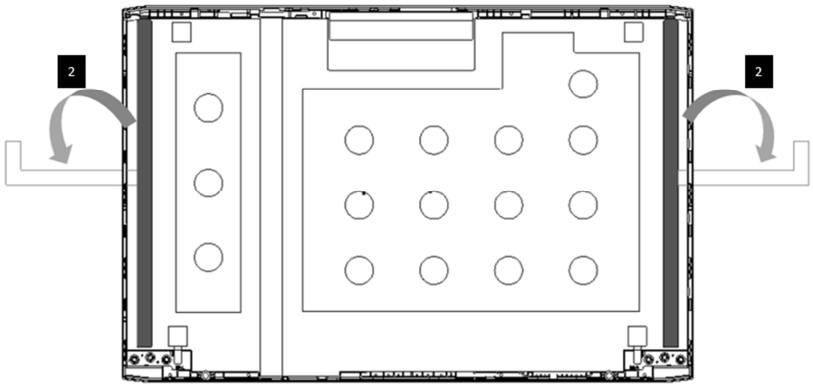


Figure 4-24 Removing the Release Paper of Panel Adhesive

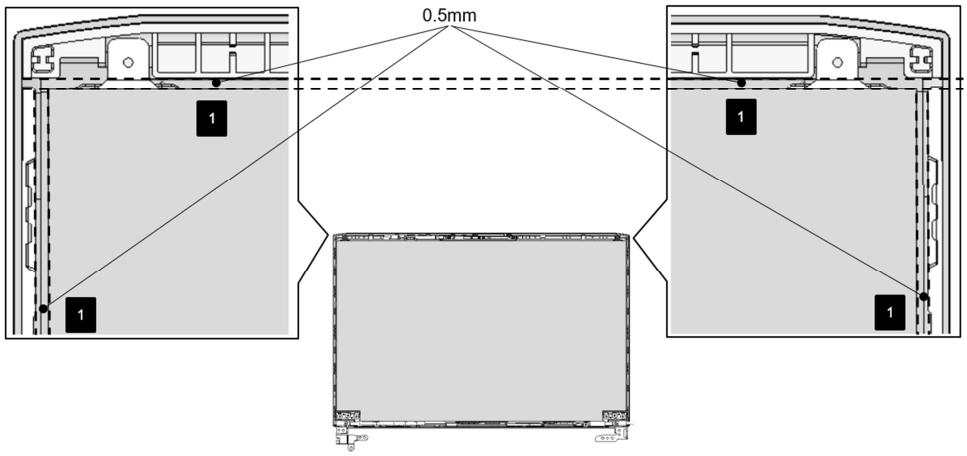


Figure 4-25 Panel assembly explanation (For P30)

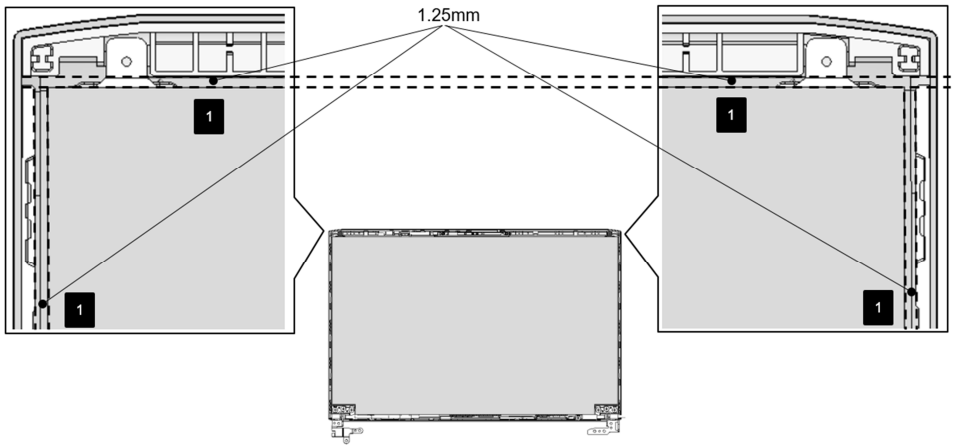


Figure 4-26 Panel assembly explanation (For P20)

4.15 Antenna Module

Removing the Antenna module

> ***NOTE:*** Antenna module *is fastened by adhesives. Remove it slowly and carefully.*

Remove the Antenna module according to the following procedures and Figure 4-27.

1. Removing the Antenna cable from the adhesive and remove it from the Hinge ☐,1
2. Gently pry up the Cu-Foil from the adhesive and remove it from the LCD cover ☐,2.
3. Removing the Antenna module from the adhesive and remove it from the LCD cover ☐,3
4. Removing the Antenna module cable from the LCD cover ☐,4☐,5
5. Gently pry up the Cu-Foil from the adhesive and remove it from the LCD cover ☐,6.
6. Removing the Antenna module from the adhesive and remove it from the LCD cover ☐,7

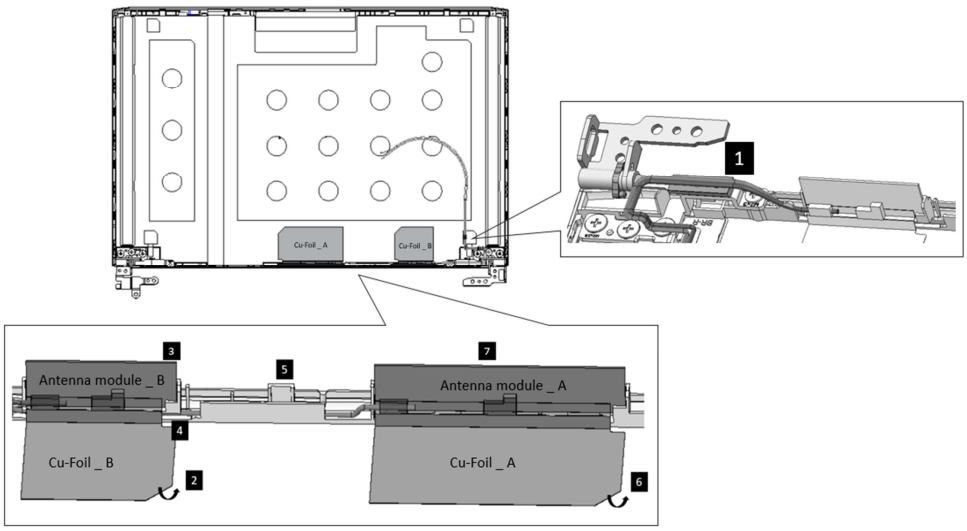


Figure 4-27 Removing the Antenna module

Installing the Antenna Module

Install the Antenna module according to the following procedure:

1. Seat the Antenna module_A in the correct position and secure it in place with adhesives behind it. ☐,7
2. Pasting the Cu-Foil_A in the correct position. ☐,6
3. Seat the Antenna cable in the correct position and secure it in place. ☐,4 ☐,5
4. Seat the Antenna module_B in the correct position and secure it in place with adhesives behind it. ☐,3
5. Pasting the Cu-Foil_B in the correct position. ☐,2
6. Seat the Antenna cable in the correct position and secure it in place with adhesives behind it. ☐,1

4.16 Camera Module

Removing the Camera Module

> ***NOTE:*** *Camera module is fastened by adhesives. Remove it slowly and carefully.*

Remove the camera module according to the following procedures and Figure 4-28.

1. Gently pry up the camera module and remove it from the LCD cover ☐,1.

   *Camera module is fixed by adhesive on the LCD cover.

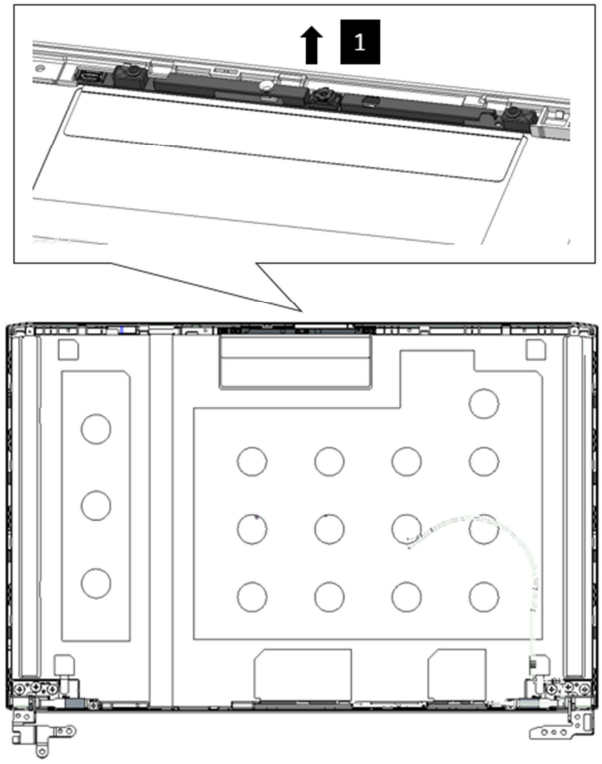


Figure 4-28 Removing the Camera Module

Installing the Camera Module

Install the camera module according to the following procedure:

1. Seat the camera module in the correct position and secure it in place with adhesives behind it. ☐,1

4.17 LCD Hinges

Removing the LCD Hinges

Remove the LCD hinges according to the following procedures and Figure 4-29.

1. Remove the six M2×2.5 screws securing the LCD hinges ☐,1.

2. Remove the two M2×3 screws securing the LCD hinges ☐,2.

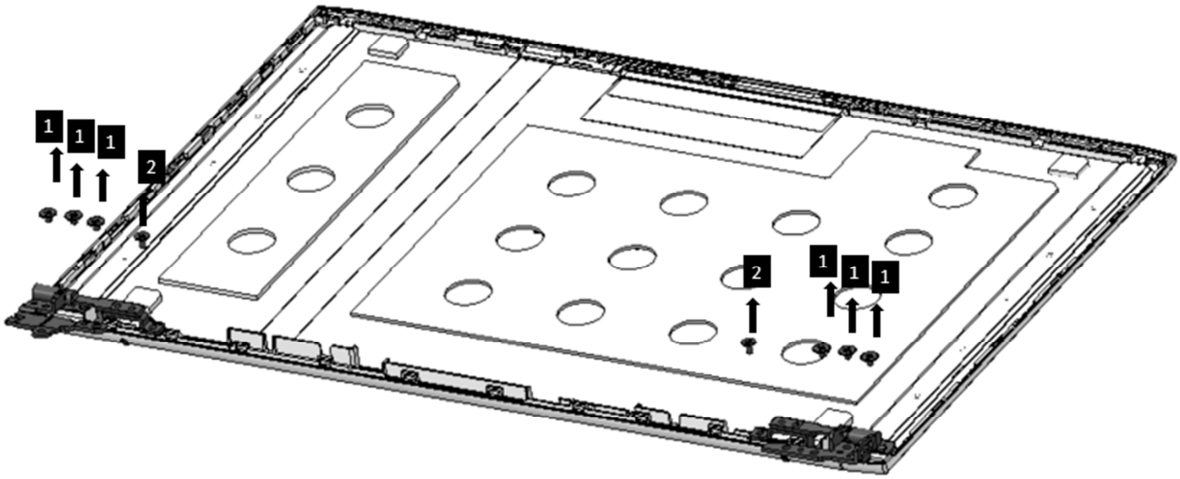


Figure 4-29 Removing LCD Hinges

Installing the LCD Hinges

Install the LCD hinges according to the following procedures:

1. Tighten the six M2×2.5 screws to secure the LCD hinges to the hinge cover assembly. ☐,1

2. Tighten the two M2×3 screws to secure the LCD hinges to the hinge cover assembly. ☐,2

BIT# of screw driver	Screw (quantity)	Color	Torque
#1	M2 x 2.5mm,flat-head,nylon-coated(4)	Silver	0.181Nm (1.85kgf-cm)
#1	M2 x 3mm,flat-head,nylon-coated(4)	Black	0.181Nm (1.85kgf-cm)

Installing the Panel Assembly

Install the panel assembly according to the following procedures:

1. Seat and adhere the Hinges in the correct position on the LCD cover assembly as shown in Figure 4-29 (Tighten the six M2×2.5 screws).

2. Seat and adhere the antennas in the correct position on the LCD cover assembly as shown in Figure 4-29 (. (Tighten the two M2×3.0 screws)

3. Seat and adhere the Camera in the correct position on the LCD cover assembly as shown in Figure 4-28.

4. Seat and adhere the Antenna module in the correct position on the LCD cover assembly as shown in Figure 4-27.

5. Place the panel assembly upside down so that the bottom is facing up.

6. Connect the eDP cable to the panel connector and lock it with lock bar, then adhere the mylar over the connector to secure it in place as shown in Figure 4-23.

7. Connect the eDP cable FFC to the camera FPC board connector as shown in Figure 4-22.

8. Pull up the blue release paper of Panel Adhesive from LCD cover as shown in Figure 4-24.

9. For Panel P30 type : Rotate the panel right-side up and use 0.5mm Mylar between LCD cover and Panel to seat it in the correct position as shown in Figure 4-25.

10. For Panel P20 type : Rotate the panel right-side up and use 1.25mm Mylar between LCD cover and Panel to seat it in the correct position as shown in Figure 4-26.