TravelMate P216-41/P216-41-TCO
XyloD5_RBU

SERVICE GUIDE

Revision History

Refer to the table below for the updates made to this service guide.

Date	Version	Chapter	Updates
01-30-2024	V 1.00	All	

Service guide files and updates are available on the ACER/CSD Website. For more information, go to http://csd.acer.com.tw.The information in this guide is subject to change without notice.

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Conventions

The following conventions are used in this manual:

⚠ WARNING:
Indicates a potential for personal injury.

⚠ CAUTION:
Indicates a potential loss of data or damage to equipment.

+ IMPORTANT:
Indicates information that is important to know for the proper completion of a procedure, choice of an option, or completing a task.

The following typographical conventions are used in this document:

- Book titles, directory names, file names, path names, and program/process names are shown in *italics*.

  Example:

  the *DRS5 User's Guide*

  /usr/local/bin/fd

  the */TPH15spool_M* program

- Computer output (text that represents information displayed on a computer screen, such as menus, prompts, responses to input, and error messages) are shown in constant width.

  Example:

  ```
  [01] The server has been stopped
  ```

- User input (text that represents information entered by a computer user, such as command names, option letters, and words) are shown in constant width bold.

  Variables contained within user input are shown in angle brackets (< >).

  Example:

  At the prompt, type run **<file name> -m**

- Keyboard keys are shown in ***bold italics***.

  Example:

  After entering data, press ***Enter***.

General Information

This service guide provides all technical information relating to the basic configuration for Acer's global product offering. To better fit local market requirements and enhance product competitiveness, the regional office may have decided to extend the functionality of a machine (such as add-on cards, modems, or extra memory capabilities). These localized features are not covered in this generic service guide. In such cases, contact the regional offices or the responsible personnel/channel to provide further technical details.

When ordering FRU parts: Check the most up-to-date information available on the Website. If, for whatever reason, a part number change is made, it may not be noted in this printed service guide.

Acer-authorized Service Providers: The Acer office may have a different part number code than those given in the FRU list in this service guide. A list must be provided by the regional Acer office to order FRU parts for repair and service of customer machines.

CHAPTER 1
Hardware Specifications

CHAPTER 2
System Utilities

CHAPTER 3
Machine Maintenance Procedures

CHAPTER 4
Troubleshooting

CHAPTER 5
Jumper and Connector Locations

CHAPTER 6
FRU (Field Replaceable Unit) List

CHAPTER 1
Hardware Specifications

Hardware Specifications and Configurations

Features

Below is a summary of the computer's features:

Operating System

- Windows 11 Pro (Acer recommends Windows 11 Pro for business)
- Windows 11 Home

CPU and Chipset

- AMD Ryzen™ 7 PRO 7735U octa-core processor (up to 4 MB L2 cache, up to 16 MB L3 cache, 2.7 GHz with boost up to 4.75 GHz)
- AMD Ryzen™ 5 PRO 7535U hexa-core processor (up to 3 MB L2 cache, up to 16 MB L3 cache, 2.9 GHz with boost up to 4.55 GHz)
- AMD Ryzen™ 3 PRO 7335U quad-core processor (up to 2 MB L2 cache, up to 8 MB L3 cache, 3.0 GHz with boost up to 4.3 GHz)

System Memory

Dual-channel DDR5 SDRAM support:

- Up to 32 GB of DDR5 system memory

Memory Frequency: Up to 4800 MT/s

Display

- 16.0" display with IPS (In-Plane Switching) technology, WUXGA 1920 x 1200, high-brightness (400 nits) Acer ComfyView™ LED-backlit TFT LCD
  - 16:10 aspect ratio, sRGB 100%
  - Wide viewing angle up to 170 degrees
  - Slim and narrow border design
  - Mercury free, environment friendly
- 16.0" display with IPS (In-Plane Switching) technology, WUXGA 1920 x 1200, Acer ComfyView™ LED-backlit TFT LCD
  - 16:10 aspect ratio, color gamut NTSC 45%
  - Wide viewing angle up to 170 degrees
  - Mercury free, environment friendly

Audio

- DTS® Audio, featuring optimized bass response and micro-speaker distortion prevention
- Acer Purified.Voice technology with AI noise reduction in dual built-in microphones. Features include far-field pickup, dynamic noise reduction through neural network, adaptive beam forming, and pre-defined personal and conference call modes.
- Acer TrueHarmony technology for lower distortion, wider frequency range, headphone-like audio and powerful sound

Graphics

- AMD Radeon™ 680M Graphics
  - VP9, H.264, H.265 8bit/10bit decode
  - H.264, H.265 8bit video encode
- AMD Radeon™ 660M Graphics
  - VP9, H.264, H.265 8bit/10bit decode
  - H.264, H.265 8bit video encode

Storage

Solid state drive:

- SSD slot: 2
- 256 GB / 512 GB / 1 TB, PCIe Gen4, 16 Gb/s, NVMe

Memory card:

- Card reader: MicroSD / MicroSDHC / Micro SDXC card reader
- Specifications:

Type	Model	Test Result
Micro SDHC	Kingston Micro SDHC 16GB class10 (QCMC)	Pass
	SAMSUNG 32GB USH-I Class10 EVO (No Adapter)	Pass
	Transcend Micro SDHC 4GB class6 & Transcend Adapter	Pass
	SanDisk Ultra Micro SDHC 32G Class10 I & Sandisk Adapter speed up to 48MB/s 320X	Pass
	Toshiba Micro SDHC 32GB Class10 UHS-I30MB/s	Pass
	ADATA Micro SDHC 32GB class10 & Transcend Adapter	Pass

Type	Model	Test Result
Micro SDXC	SanDisk 64G USH-I Class10 & Sandisk Adapter	Pass
	Kingston 64G class10 & Kingston Adapter(QCMC)	Pass
	ADATA 64G U1 I Class10 (No Adapter)	Pass
	Toshiba 128GB U3 C10 A1 V30 & Sandisk Adapter	Pass
	SAMSUNG 64GB USH-I Class10 EVO (No Adapter)	Pass

Webcam

UFC with:

- T-Type USB FHD camera + IR camera
- Compatible with Windows only
- 1920 x 1080 resolution
- 1080p HD video at 60 fps with Temporal Noise Reduction
- Dual Mic (33 mm + 33 mm)
- 78 x 3.2 (5.2) x 3 mm

UFC with:

- T-Type HD camera
- Compatible with Windows only
- 1280 x 720 resolution
- 720p HD video at 30 fps with Temporal Noise Reduction
- Blue Glass lens
- Dual Mic (33 mm + 33 mm)
- 78 x 3.2 (5.2) x 3 mm

Wireless and Networking

WLAN:

- Wi-Fi 6E Wireless LAN
- 802.11 a/b/g/n/ac/ax
- Band: 2.4 GHz, 5 GHz, and 6 GHz
- 2x2 MU-MIMO technology

WPAN:

- Supports Bluetooth® 5.3 or above

LAN:

- Gigabit Ethernet

Dimension and Weight

Dimensions:

- 359.3 (W) x 261.07 (D) x 19.95/22.95 (H) mm (14.15 x 10.28 x 0.79/0.9 inches)

Weight:

- 1.74 kg (3.84 lbs) with 3-cell battery pack, WUXGA display

Power Adapter and Battery

Power adapter

- USB Type-C 65 W PD AC adapter:
  - 108 (W) x 46 (D) x 29.5 (H) mm (4.25 x 1.81 x 1.16 inches)
  - 5 V / 3 A or 9 V / 3 A or 12 V / 3 A or 15 V / 3 A or 20 V / 3.25 A as output power
  - 250 g with 150 cm DC cable

Battery

- 65 Wh 3-cell Li-ion battery
  - Supports Fast Charging technology
  - Battery life (for P216-41 model with WUXGA Panel and SSD):
    - Up to 10 hours (based on MobileMark® 2018 test results)
  - Battery life (for P216-41-TCO model with WUXGA Panel and SSD):
    - Up to 12 hours (based on MobileMark® 2025 test results)
    - Up to 16.5 hours (based on video playback test results)
    - Up to 15.5 hours (based on web browsing test results)
- 53 Wh 3-cell Li-ion battery
  - Supports Fast Charging technology
  - Battery life (for P216-41 model with WUXGA Panel and SSD):
    - Up to 10 hours (based on MobileMark® 2018 test results)
  - Battery life (for P216-41-TCO model with WUXGA Panel and SSD):
    - Up to 11 hours (based on MobileMark® 2025 test results)
    - Up to 11.5 hours (based on video playback test results)
    - Up to 15.5 hours (based on web browsing test results)

Input and Control

Keyboard

- 80-/81-/84-key Acer keyboard layout with international language support including indicators of CapsLock and F4/Microphone mute
- 80-/81-/84-key Acer backlight keyboard layout with international language support including indicators of CapsLock and F4/Microphone mute

TouchPad

- Multi-gesture secure touchpad, supporting two-finger scroll; pinch; gestures to open Cortana, Action Center, multitasking; Fingerprint application commands
  - Windows Hello Certification
  - Microsoft Precision Touchpad certification
  - OceanGlass™ Touchpad

Control Keys

- Copilot Key
- TravelMate Sense Key

Input and Output (I/O) Ports

- Two USB Type-C™ ports supporting:
  - USB4® 40Gbps
  - DisplayPort over USB-C
  - USB charging 5 V; 3 A
  - DC-in port 20 V; 65 W
- Two USB Standard-A ports, supporting:
  - One port for USB 3.2 Gen 1
  - One port for USB 3.2 Gen 1 featuring power off USB charging)
- HDMI® 2.0 port with HDCP support
- Ethernet (RJ-45) port
- DC-in jack for AC adapter
- 3.5 mm headphone/speaker jack, supporting headsets with built-in microphone
- SmartCard reader slot
- microSD™ Card reader (optional)

Windows Desktop Apps

In-House

- Acer Control Center
- Acer QuickPanel
- TravelMate Sense

Warranty

- One-year International Travelers Warranty (ITW)

Privacy Control

- Discrete Trusted Platform Module (TPM) solution
- MSFT Pluton Security Processor Firmware TPM solution (optional)
- Acer Bio-Protection fingerprint solution, featuring computer protection and Windows Hello Certification
- Acer ProShield Plus security manager, includes:
  - Credential Manager: Fingerprint Registration
  - Pre-Boot Authentication: Fingerprint Management
  - Data Protection: File Encryption & Decryption, Personal Secure Drive
  - Data Removal: File Shredder
- BIOS user and supervisor passwords
- Kensington lock slot

Humidity not controlled~80%.R.H

Environment

- Temperature:
  - Operating: 0°C to 40°C
  - Non-operating: -20°C to 60°C
- Humidity (non-condensing):
  - Operating: 80% R.H (at 40°C)
  - Non-operating: Humidity not controlled~80%.R.H

Notebook Tour

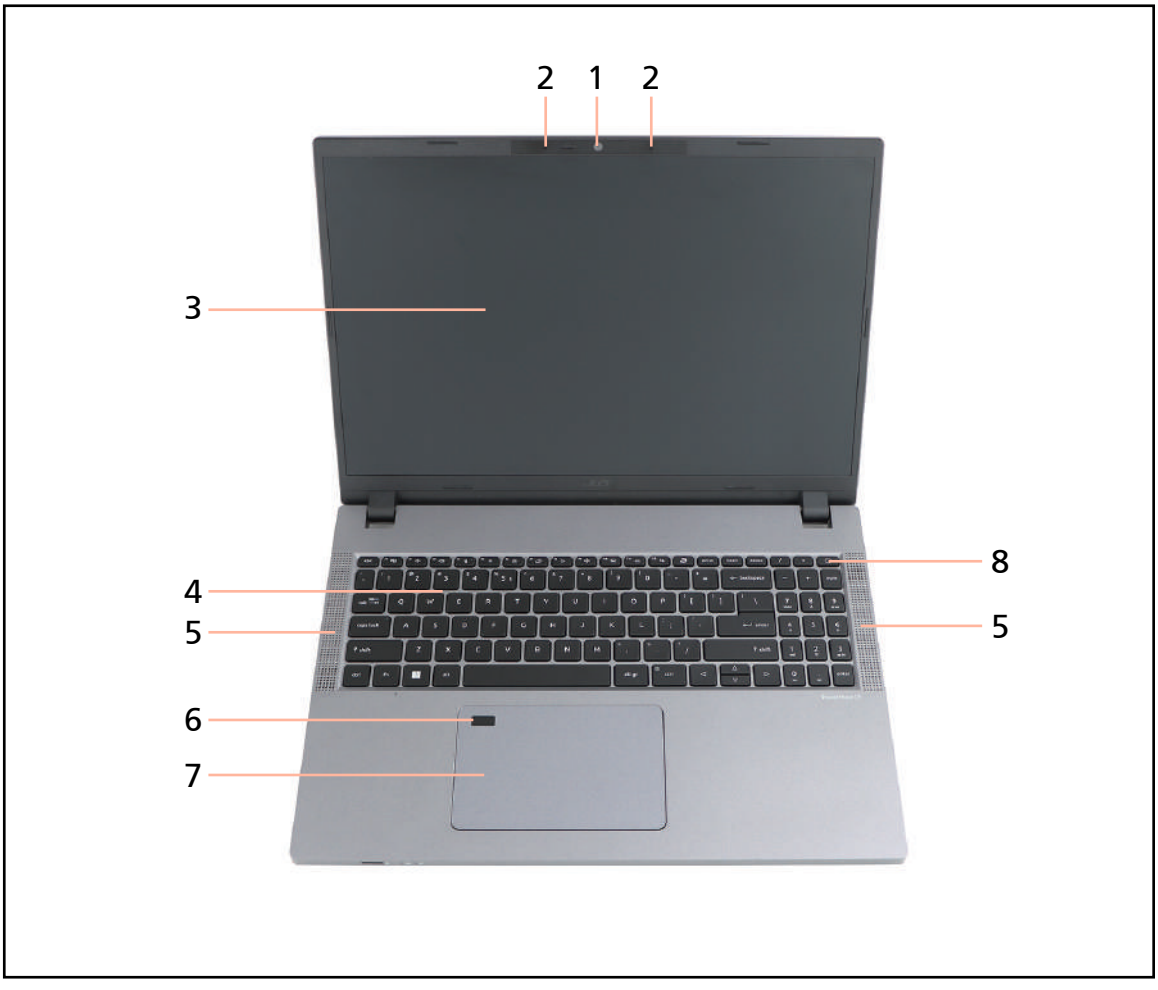


Figure 1-1. Opened Front View

Table 1-1. Opened Front View

#	Icon	Item	Description
1		Integrated webcam	Web camera for video communication.
2		Built-in microphones	Internal microphone for sound recording.
3		Display screen	Also called Liquid-Crystal Display (LCD), displays computer output (configuration may vary by model), and supports multi-touch functionality (for touchscreen model only).
4		Keyboard	For entering data into your computer.
5		Speakers	Emits audio from your computer.
6		Fingerprint sensor	Use your fingerprint to unlock your device or verify your identity.

Table 1-1. Opened Front View

#	Icon	Item	Description
7		TouchPad	Touch-sensitive pointing device which functions like a computer mouse.
8	⏻	Power button	Turns the computer on and off.

- Color option and the type of display screen may depend on the model.

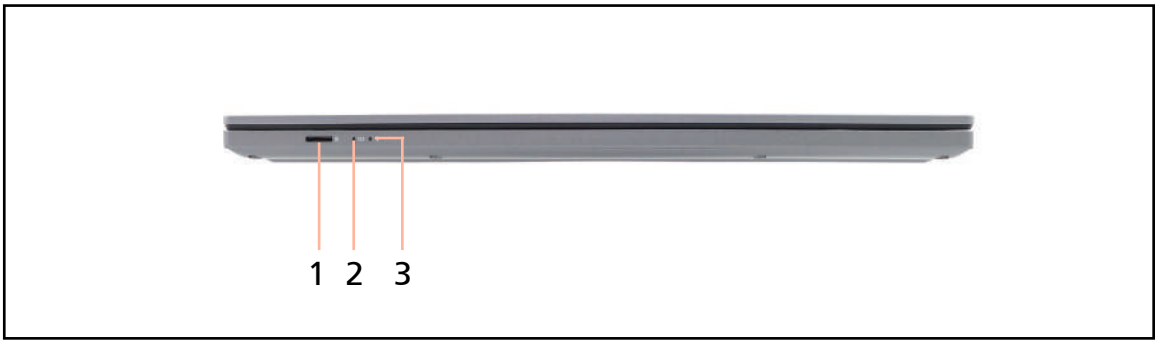


Figure 1-2. Front View

Table 1-2. Front View

#	Icon	Item	Description
1		MicroSD card reader	Accepts microSD cards. **NOTE:** Push to remove/install the card. Only one card can operate at any given time.
2		Battery LED indicator	Indicates the computer's battery status. • Fully charged: Blue • Battery charging: Orange • Battery low (<=5%): Breeze mode Orange (1 sec. on, 3 sec. off) • Battery critical low (<=3%) or Abnormal situation: Blinking mode Orange (1 sec. on, 1 sec. off) • Using battery or not connected to AC power: N/A
3		Power LED indicator	Indicates the computer’s power status. • System on: Blue • Standby: Breeze mode Orange (1 sec. on, 3 sec. off) • Entering Hibernation: Blue • Modern Standby/Hibernation/System off: Off

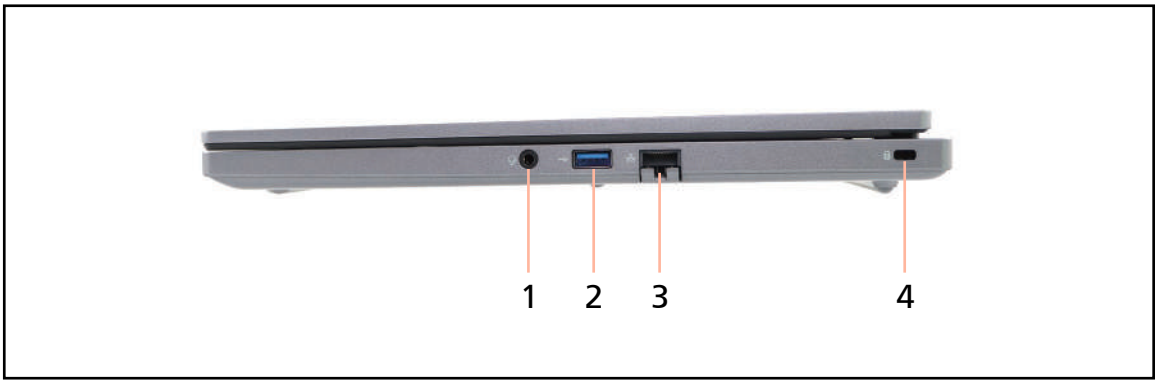
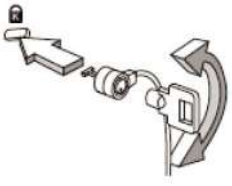


Figure 1-3. Right View

Table 1-3. Right View

#	Icon	Item	Description
1		Headphone/Microphone jack	Connects to audio line-out devices and accepts input from external microphone.
2		USB 3.2 port	Connects to USB devices (e.g., USB mouse, USB camera).
3		Ethernet (RJ-45) port	Connects to an Ethernet 10/100/1000 based network.
4		Kensington lock slot 	Connects to a Kensington-compatible computer security lock. **NOTE:** Wrap the computer security lock cable around an immovable object such as a table or handle of a locked drawer. Insert the lock into the notch and turn the key to secure the lock. Some keyless models are also available.

NOTE:
When plugging a microphone or combined headset into the audio combo jack, make sure the required connector type is correct or the microphone will not work.

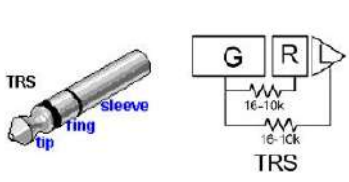
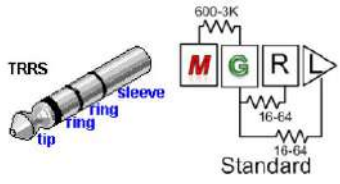
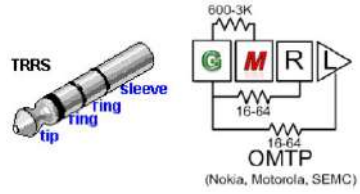
TRS Type (Headphone only)	Standard TRRS Type (Headphone/Mic Combo)	OMTP TRRS Type (Headphone/Mic Combo)
		
Support audio/headphone output only	Support audio/headphone output and microphone input	Support audio/headphone output and microphone input

Figure 1-4. Audio Connector Plug Configurations

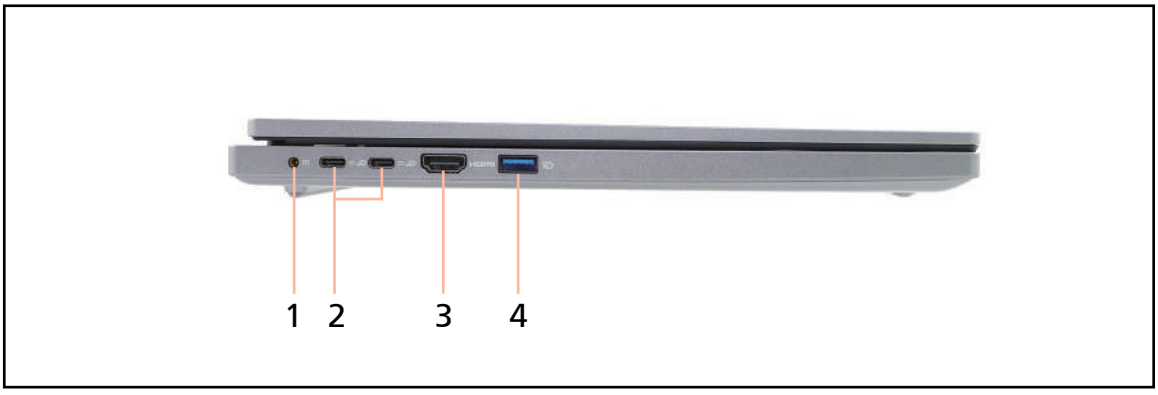


Figure 1-5. Left View

Table 1-4. Left View

#	Icon	Item	Description
1	⎓	DC-in jack	Connects to an AC adapter.
2	USB/⎓	USB Type-C™ ports	• Connects to USB devices with a USB Type-C connector. • Supports: ▪ USB4® 40Gbps ▪ DisplayPort 2.1 over USB-C ▪ USB charging 5 V; 3 A ▪ DC-in port 20 V; 65 W **NOTE:** USB Type-C™ port can only be used with products compliant with the USB Type-C™ cable and connector.
3	HDMI	HDMI port	• Supports high-definition digital video connections. • HDMI® 2.0 port with HDCP support.
4	USB	USB 3.2 port	Connect to USB devices (e.g., USB mouse, USB camera). Also charges devices when the computer is off.

Figure 1-6. Top View

Figure 1-7. Base View

Table 1-5. Base View

#	Icon	Item	Description
1		Reset Hole	Insert a suitable tool into the hole to reset your computer.

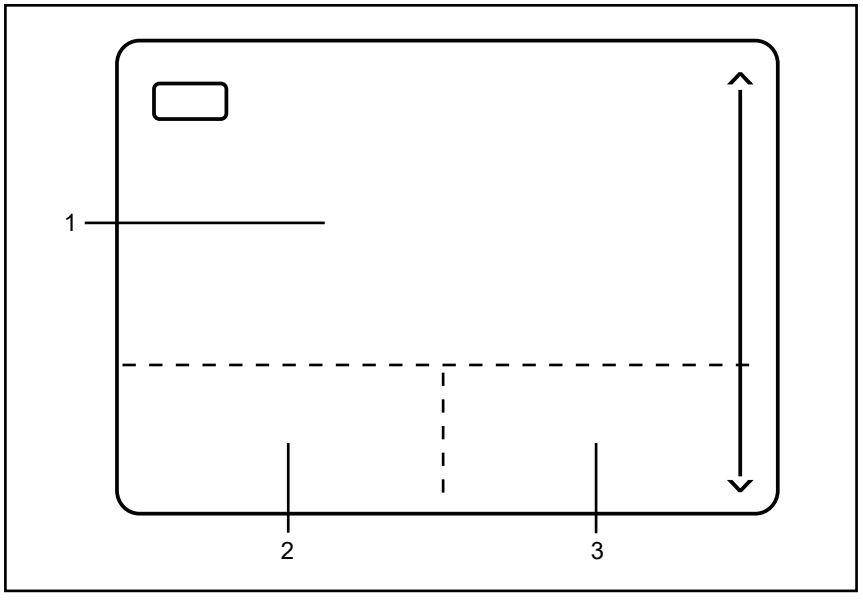


Figure 1-8. TouchPad

- Move your finger across the TouchPad (1) to move the cursor.
- Press the left (2) and right (3) button areas located beneath the TouchPad to perform selection and execution functions. These two button areas are the equivalent of the left and right buttons on a mouse. Tapping on the TouchPad is the same as clicking the left button.

Function	Main TouchPad (1)	Left Button Area (2)	Right Button Area (3)
Execute	Tap twice (at the same speed as double-clicking a mouse button).	Quickly click twice.	
Select	Tap once.	Click once.	
Drag	Tap twice (at the same speed as double-clicking a mouse button); rest your finger on the TouchPad on the second tap and drag the cursor.	Click and hold, then use finger on the TouchPad to drag the cursor.	
Access context menu			Click once.

NOTE:

When using the TouchPad, keep it - and fingers - dry and clean. The TouchPad is sensitive to finger movement; hence, the lighter the touch, the better the response. Tapping too hard will not increase the TouchPad's responsiveness.

Using the Keyboard

The computer has a close-to-full-sized keyboard and an embedded numeric keypad, separate cursor, windows key, lock, function and special keys.

Figure 1-9. Keyboard Lock Key

Lock Key

The keyboard has Caps Lock key which can be toggled on and off. When Caps Lock is on, all alphabetic characters typed are in uppercase.

Windows Keys

The keyboard has two keys that perform Windows-specific functions.

- Windows Logo key
- Application key: This key has the same effect as clicking the right mouse button; it opens the application's context menu

Key	Description
Windows Logo key	Pressed alone, this key has the same effect as clicking on the Windows Start button; it launches the Start menu. It can also be used with other keys to provide a variety of functions. **Functions supported by Windows XP, Windows Vista, Windows 7:** <>: Open or close the Start menu <> + <R>: Open the Run dialog box <> + <M>: Minimize all windows <SHIFT> + <> + M: Undo minimize all windows <> + <F1>: Show the help window <> + <E>: Open Windows Explorer <> + <F>: Search for a file or folder <CTRL> + <> + <F>: Search for computers (if you are on a network) <> + <D>: Show the desktop <> + <L>: Lock your computer (if you are connected to a network domain), or switch users (if you're not connected to a network domain) <> + <TAB>: Cycle through programs on the taskbar <CTRL> + <> + <TAB>: Moves focus from Start menu, to the Quick Launch toolbar, to the system tray (use RIGHT ARROW or LEFT ARROW to move focus to items on the Quick Launch toolbar and the system tray) <> + <BREAK>: Display the System Properties dialog box **Functions supported by Windows 8 only:** <> + <TAB>: Open Switch List <> + <Enter>: Open Windows Narrator <> + <Q>: Open Global Search <> + <I>: Open Settings Menu <> + <Z>: Show or Hide an app bar <> + <C>: Show or Hide an the charms menu

Hotkeys

The computer employs hotkeys or key combinations to access most of the computer's controls like screen brightness and volume output.

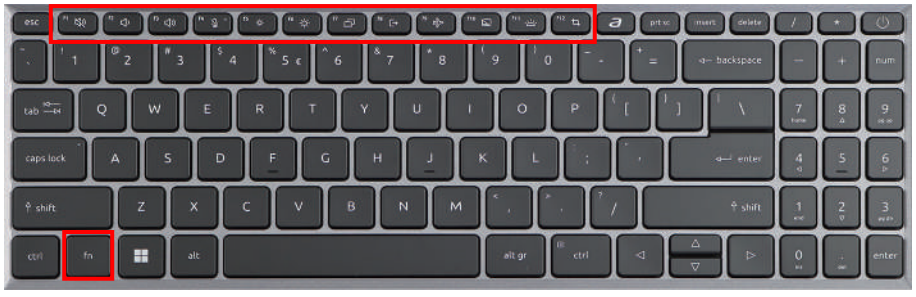


Figure 1-10. Keyboard Hotkeys

To activate hotkeys, press and hold the ***<fn>*** key before pressing the other key in the hotkey combination.

Hot key	Icon	Function	Description
<fn> + <f1>		Volume mute	Turns off the sound temporarily.
<fn>+ <f2>		Volume down	Decreases the sound volume.
<fn> + <f3>		Volume up	Increases the sound volume.
<fn> + <f4>		Microphone off	Disables the microphone function.
<fn> + <f5>		Brightness down	Decreases the screen brightness.
<fn> + <f6>		Brightness up	Increases the screen brightness.
<fn> + <f7>		Display toggle	Switches display output between the display screen, external monitor (if connected) and both.
<fn> + <f8>		Log out	Locks the computer or switches users.
<fn> + <f9>		Airplane mode	Disables all wireless communications.
<fn> + <f10>		TouchPad toggle	Turns the internal TouchPad on and off.

Hot key	Icon	Function	Description
<fn> + <f11>		Keyboard Backlight toggle	Turns the keyboard backlight on and off.
<fn> + <f12>		Screenshot	Activates the screen clipping tool.

System Block Diagram

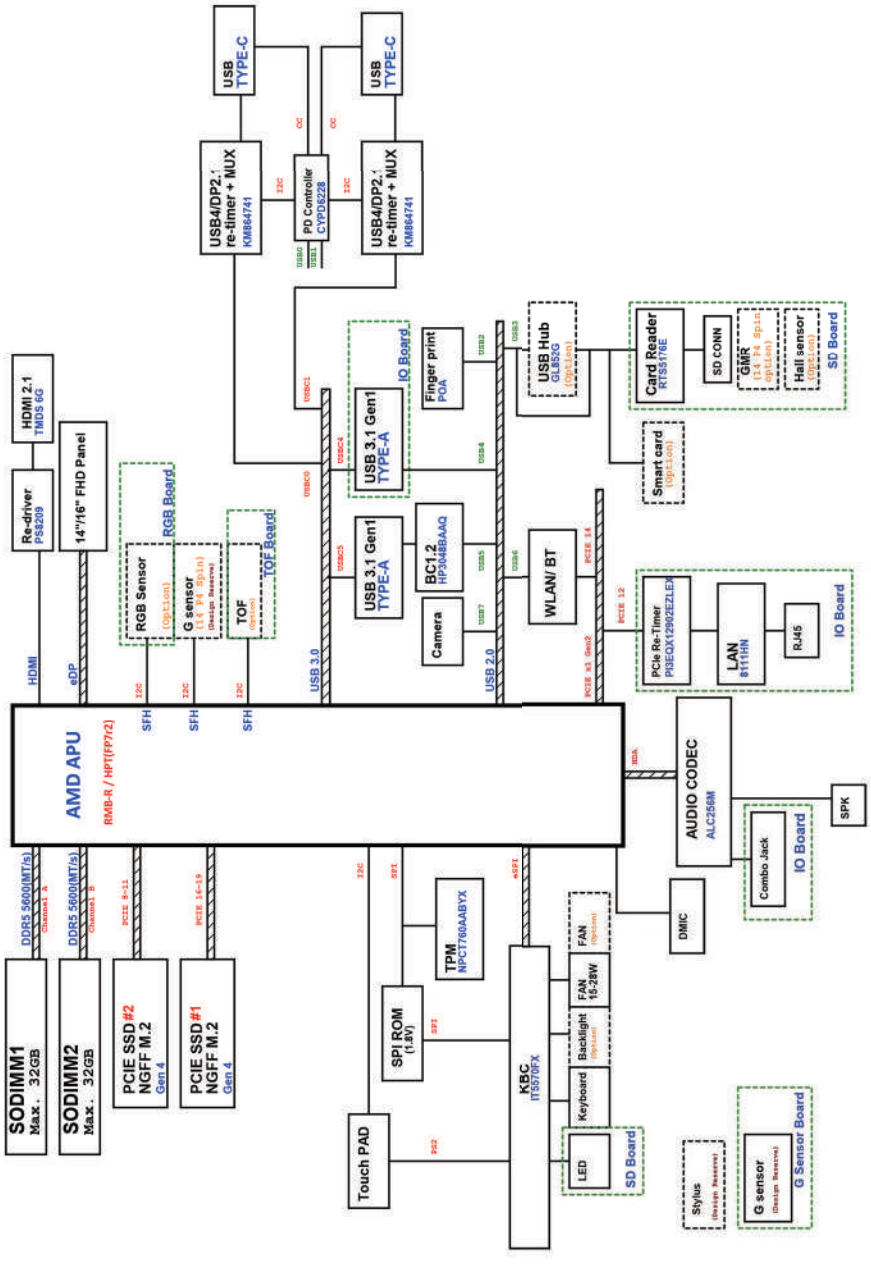


Figure 1-11. System Block Diagram

Specification Tables

Computer specifications

Item	Metric	Imperial
Dimensions		
Length	359.3 mm	14.15 in.
Width	261.07 mm	10.28 in.
Height	19.95/22.95 mm	0.79/0.9 in.
Weight (with 3-cell battery pack, WUXGA display)	1.74 kg	3.84 lbs
Input power		
Operating voltage	20V	
Operating current	3.25A	
Temperature		
Operating	0°C to 40°C	32°F to 104°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity		
Operating	80% (at 40°C)	
Nonoperating	Humidity not controlled~80%.R.H	
Maximum altitude (unpressurized)		
Operating	N/A	
Nonoperating	N/A	
Shock		
Operating	105G, 2 ms	
Nonoperating	220G, 2 ms	
Random vibration		
Operating	0.6 G-rms	
Nonoperating	1.66-rms (package vibration test)	

NOTE:
Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates well within this range of temperatures.

System Board Major Chips

Item	Specification
Processor	AMD Rembrandt-R Processor Family
VGA	• AMD Radeon™ 680M Graphics • AMD Radeon™ 660M Graphics
LAN	RTL8111HN
USB	USB3.2 x2, USB Type-C x2
Bluetooth	Support Bluetooth® 5.3 and above
Wireless	• Wi-Fi 6E • 802.11 a/b/g/n/ac/ax wireless LAN • Band: 2.4 GHz, 5 GHz, and 6 GHz
Audio codec	Realtek ALC256-CG (HDA)
Card reader	Realtek RTS5176E

Processor

Item	Specification
CPU type	AMD Rembrandt-R Processor Family
CPU package	ZEN 3+
Chipset	• AMD Ryzen™ 7 PRO 7735U processor • AMD Ryzen™ 5 PRO 7535U processor • AMD Ryzen™ 3 PRO 7335U processor

Processor Specifications

Item	CPU Speed	Cores/ Threads	Graphics Frequency	Processor Technology for CPU Cores	Cache Size	CPU Socket	Default TDP
R77735U _PRO	2.7 GHz (Up to 4.75 GHz)	8/16	2200 MHz	TSMC 6nm FinFET	16 MB (L3)	FP7	28 W
R57535U _PRO	2.9 GHz (Up to 4.55 GHz)	6/12	1900 MHz	TSMC 6nm FinFET	16 MB (L3)	FP7	28 W
R37335U _PRO	3.0 GHz (Up to 4.3 GHz)	4/8	1800 MHz	TSMC 6nm FinFET	8 MB (L3)	FP7	28 W

Thermal Management

Laptop/Clamshell Mode (Silent mode)		
CPU Fan True Value Table (CPU Tj=100c)		
Temperature (°C)	Fan Speed (RPM)	SPL Spec (dBA)
40~42	2200	19
43~44	2450	22
45~46	2750	25
48~51	3050	28
53~58	3350	31
65~68	3750	34
78~80	4150	37
90~92	4650	40
• CPU TCC offset: Trigger = 92c • CPU ProcHOT: Trigger on = 97c, Trigger off = 95c, Need De-bounce 3 times • EC Shut down: Trigger = 105c, Need De-bounce 6 times • H/W Shut down Sensor: Trigger = 75c		

Laptop/Clamshell Mode (Normal mode)		
CPU Fan True Value Table (CPU Tj=100c)		
Temperature (°C)	Fan Speed (RPM)	SPL Spec (dBA)
36~38	2200	19
40~42	2450	22
43~44	2750	25
45~46	3050	28
48~51	3350	31
53~58	3750	34
65~68	4150	37
78~80	4650	40
90~92	5150	43
• CPU TCC offset: Trigger = 92c • CPU ProcHOT: Trigger on = 97c, Trigger off = 95c, Need De-bounce 3 times • EC Shut down: Trigger = 105c, Need De-bounce 6 times • H/W Shut down Sensor: Trigger = 75c		

Laptop/Clamshell Mode (Performance mode)		
CPU Fan True Value Table (CPU Tj=100c)		
Temperature (°C)	Fan Speed (RPM)	SPL Spec (dBA)
33~35	2200	19
36~38	2450	22
40~42	2780	25
43~44	3050	28
45~46	3350	31
48~51	3750	34
53~58	4150	37
65~68	4650	40
78~80	5150	43
• CPU TCC offset: Trigger = 100c • CPU ProcHOT: Trigger on = 97c, Trigger off = 95c, Need De-bounce 3 times • EC Shut down: Trigger = 105c, Need De-bounce 6 times • H/W Shut down Sensor: Trigger = 75c		

System Memory

Item	Specification
Memory controller	No built-in at CPU
Memory size	Up to 16 GB of DDR5 system memory, upgradable to 32 GB using two soDIMM modules
DIMM socket number	2 sockets
Supports memory size per socket	Up to 16 GB
Supports maximum memory size	32 GB
Supports DIMM type	SO-DIMM memory interface design
Supports DIMM Speed	Up to 4800 MT/s
Support DIMM voltage	1.1V
Supports DIMM package	DDR5 262-pin SO-DIMM

BIOS

Item	Specification
BIOS vendor	Insyde
BIOS Version	1.00
BIOS ROM type	SPI ROM
BIOS ROM size	32MB Flash Memory
Features	• Insyde code base • boot block • non-shadow RAM support • uEFI

Keyboard

Item	Specification
Type	• Phantom KB CHICONY VP05P_B30BWL • Phantom KB SUNREX VP05P_B30BWL • Phantom KB CHICONY VP05P_B40BWL • Phantom KB SUNREX VP05P_B40BWL • Phantom KB CHICONY VP05T_B30B • Phantom KB SUNREX VP05T_B30B • Phantom KB CHICONY VP05T_B40B • Phantom KB SUNREX VP05T_B40B
Total number of keypads	• 80-/81-/84-key Acer keyboard layout • 80-/81-/84-key Acer backlight keyboard layout
Windows logo key	Yes
Internal & external keyboard work simultaneously	Plug USB keyboard to the USB port directly: Yes
Features	Supports: • International language with indicators of CapsLock and F4/Microphone mute

USB Port

Item	Specification	
USB compliance level	USB 3.2 (Gen 1)-compliant, featuring power-off USB charging	USB 3.2 (Gen 1)-compliant
EHCI	xHCI x2	
Number of USB port(s)	1	1
Location	Left side	Right side
Output Current	1.5A	

USB Type-C Port

Item	Specification
USB compliance level	USB4® compliant (speed up to 40 Gb/s)
Output Current of Power Bus	5V / 3.0A
Power-off USB Charging Mode	Not supported
DisplayPort Version	2.1
Thunderbolt Version	Not supported
Power Delivery for Charging	20V/3.25A (65W)
Number of USB port(s)	2
Location	Left side

HDMI Port

Item	Specification
Compliance level	HDMI 2.0 port with HDCP support
Color Depth	Up to 16.7 million colors
Number of HDMI port(s)	1
Location	Left side

Video Interface

Item	Specification
Chipset	• AMD Radeon™ 680M Graphics • AMD Radeon™ 660M Graphics
Package	FP7
Interface	AMD Radeon™ Graphics

Battery

Item	Specification		
Vendor & Model	CosMx AP20CBL	SIMPLO AP23A7L	LGES AP23A8L
Battery Type	Lithium-ion		
Pack capacity	4590mAh	4700mAh	4700mAh
Number of battery cell	3		
Package configuration	3S1P		

Item	Specification	
Vendor & Model	CosMx AP22ABN	LGES AP22A8N
Battery Type	Lithium-ion	
Pack capacity	5570mAh	4180mAh
Number of battery cell	3	4
Package configuration	3S1P	4S1P

AC Adapter

Item	Specification	
Vendor & Model	DELTA • ADP-65KE BB	LITE-ON • PA-1650-58AD • PA-1650-58AP
Normal Input voltage	100-240 Vac, 50-60 Hz (The adapter should operate from 90-264 Vac with an input frequency from 47-63 Hz)	115-230 Vac, 50-60 Hz (The adapter should operate from 90-264 Vac with an input frequency from 47-63 Hz)
Output current	• 5V/9V/12V/15V: 3A • 20V: 3.25A	
Inrush current	No damage; Meet fuse and bridge diode spec.	• Should not damage fuse and rectifier diode. • The inrush current and I^2t shall be less than maximum rated value of components.
Efficiency	• 81.84% of average efficiency load tested at 5V output voltage condition. • 87.30% of average efficiency load tested at 9V output voltage condition. • 88.30% of average efficiency load tested at 12V output voltage condition. • 88.85% of average efficiency load tested at 15V output voltage condition. • 89.00% of average efficiency load tested at 20V output voltage condition.	• More than 81.83% of average efficiency load tested at 5V output voltage condition. • More than 87.30% of average efficiency load tested at 9V output voltage condition. • More than 88.30% of average efficiency load tested at 12V output voltage condition. • More than 88.85% of average efficiency load tested at 15V output voltage condition. • More than 89.00% of average efficiency load tested at 20V output voltage condition.

Item	Specification
Vendor & Model	Chicony Power • A065RP85P • A065RP86P
Normal Input voltage	100-240 Vac, 50-60 Hz (The adapter should operate from 90-264 Vac with an input frequency from 47-63 Hz)
Output current	• 5V/9V/12V/15V: 3A • 20V: 3.25A
Inrush current	The inrush current should not blow fuse and rectifier diode. The peak inrush current and I^2t shall be less than 85% of their maximum rated value of components@ maximum input voltage, Ta=25°C.
Efficiency	• More than 81.84% of average efficiency load tested at 5V output voltage condition (CoC tier 2 Average Efficiency). • More than 87.3% of average efficiency load tested at 9V output voltage condition (CoC tier 2 Average Efficiency). • More than 88.3% of average efficiency load tested at 12V output voltage condition (CoC tier 2 Average Efficiency). • More than 88.85% of average efficiency load tested at 15V output voltage condition (CoC tier 2 Average Efficiency). • More than 89% of average efficiency load tested at 20V output voltage condition (CoC tier 2 Average Efficiency).

Card Reader

Item	Specification
Chipset	Realtek RTS5176E
Package	Built-in to the CPU
Location	Front side
Features	Supports Micro SD / Micro SDHC / Micro SDXC

Solid State Drive (AVL components)

Item	Specification		
Vendor & Model Name	MICRON MTFDKBA1T0TGE-1BK15ABYY	SAMSUNG MZVL81T0HELB-00BTW	KINGSTON OM8PGP4256Q-AA
Capacity	1024GB		256GB
Performance Specifications			
Interface	PCIe Gen4 x4		
Fast data transfer rate (Gbits / sec, max)	4000 MB/s	4000 MB/s	1800 MB/s
DC Power Requirements			
Voltage tolerance	3.3V (±5%)		

Item	Specification		
Vendor & Model Name	HYNIX HFS256GEJ9X110N	KINGSTON OM8PGP4512Q-AA	HYNIX HFS512GEJ9X110N
Capacity	256GB	512GB	
Performance Specifications			
Interface	PCIe Gen4 x4		
Fast data transfer rate (Gbits / sec, max)	2200 MB/s	3400 MB/s	4400 MB/s
DC Power Requirements			
Voltage tolerance	3.3V (±5%)		

LCD 16”

Item	Specification		
Vendor & Model name	AUO B160UAN01.H	AUO B160UAN04.4	LG LP160WU3-SPD2
Screen Diagonal (mm)	406		
Active Area (mm)	344.678 x 215.424	344.68 x 215.42	344.68 x 215.42
Display resolution (pixels)	1920 x 3(RGB) x 1200		1920 x 1200
Pixel Pitch (mm)	0.1795 x 0.1795	0.17952 x 0.17952	0.17952 x 0.17952 mm
Typical White Luminance (cd/m^2) also called Brightness	400 (typ.)	300 (typ.)	300 (typ.)
Contrast Ratio	1200 (typ.)	1000 (typ.)	1000 (typ.)
Response Time (Optical Rise Time/Fall Time) msec	30 (typ.) / 35 (max.)	25 (typ.) / 30 (max.)	25 (typ.) / 35 (max.)
Typical Power Consumption (Watt)	3.45 (max.)	4.5 (max.)	4.32 (typ.)
Weight (Without inverter)	330g (max.)	400g (max.)	390g (max.)
Physical Size (mm)	350.68 (W) x 226.47 (H) x 2.6/4.6 (D) (max.)	350.68 (W) x 226.67 (H) x 3.0/5.0 (D) (max.)	350.38 (W, typ.) x 226.17 (H, typ.) x 3.0/5.0 (D, max.)
Electrical Interface	eDP1.4	eDP1.2	eDP1.2
Viewing Angle (degree) Horizontal (Right) CR >= 10 (Left) Vertical (Upper) CR >= 10 (Lower)	 89 (max.) 89 (max.) 89 (max.) 89 (max.)	 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.)	 80 (min.) 80 (min.) 80 (min.) 80 (min.)

Item	Specification	
Vendor & Model name	INNOLUX N160JCA-EEK	BOE NV160WUM-N41
Screen Diagonal (mm)	406	
Active Area (mm)	344.68 x 215.42	344.6784 x 215.424
Display resolution (pixels)	1920 x R.G.B. x 1200	1920 x 1200
Pixel Pitch (mm)	0.17925 x 0.17925	0.17952 x 0.17952
Typical White Luminance (cd/m^2) also called Brightness	300 (typ.)	
Contrast Ratio	1000 (typ.)	
Response Time (Optical Rise Time/Fall Time) msec	11/9 (typ.)	20 (typ.) / 25 (max.)
Typical Power Consumption (Watt)	4.5 (max.)	4.75 (max.)
Weight (Without inverter)	380g (max.)	390g (max.)
Physical Size (mm)	350.68 (W) x 226.47 (H) x 3.0 (D) (max.)	350.38 (W) x 226.17 (H) x 3.0/5.0 (D) (max.)
Electrical Interface	eDP1.2	
Viewing Angle (degree) Horizontal (Right) CR >= 10 (Left) Vertical (Upper) CR >= 10 (Lower)	 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.)	 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.)

Graphics Controller

Item	Specification
VGA Chip	• AMD Radeon™ 680M Graphics • AMD Radeon™ 660M Graphics
Package	Built-in to the CPU
Feature	Supports: • VP9, H.264, H.265 8bit/10bit decode • H.264, H.265 8bit video encode

LAN Interface

Item	Specification
LAN chipset	RTL8111HN
LAN connector type	RJ45
LAN connector location	Right side
Features	• Fully complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab • Supports Full Duplex flow control (IEEE 802.3x) • Supports IEEE 802.1P Layer 2 Priority Encoding • Supports IEEE 802.1Q VLAN tagging • Supports IEEE 802.3az-2010 (EEE)

Wireless + Bluetooth Module

Item	Specifications
Vendor & Model	Wireless LAN AMD Wi-Fi 6E (RZ616 module)
Chipset	MediaTek MT7922A22M
Form factor	M.2 2230-E
Frequency band	2.4 GHz, 5 GHz, and 6 GHz
Protocols and data rates supported	BT: • Support Bluetooth 5.3 or above Wi-Fi: • 802.11 a/b/g/n/ac/ax wireless LAN
Antenna	Yes. Both AUX and MAIN are routed on the top assembly.
Feature	• Supports BT/Wi-Fi coexistence • Supports 20MHz, 40MHz, 80MHz, and 160MHz bandwidth in 2.4GHz, 5GHz, and 6GHz bands • Bluetooth 2.1 and 3.0+Enhanced Data Rate (EDR) + BT 5.3 + Bluetooth Low Energy (BLE) • Supports RX MU-MIMO • Supports STBC, LDPC

Audio Interface

Item	Specification
Audio Controller	Realtek ALC256-CG (HDA)
Audio onboard or optional	On board
Mono or Stereo	Stereo
Resolution	• 4-channel DAC supports two independent stereo or 2.1-channel sound outputs • 4-channel ADC integrates two stereo and independent analog sound inputs (multiple streaming)
Compatibility	HD audio codec
Sampling rate	• All DACs support 44.1k/48k/96k/192kHz sample rate • All ADCs support 44.1k/48k/96k/192kHz sample rate
Internal microphone	Yes
Internal speaker/quantity	Yes/2 speakers

FHD Camera

Item	Specification
Vendor	Chicony
Model	CKFNE34
Sensor Type	1/6” CMOS
Feature	• Automatic image control: Automatic Exposure Control, Automatic White Balance Control, and Automatic Gain Control. • Image Quality Control: Color Saturation, Hue, Gamma, Sharpness, Brightness, Contrast, and Backlight Compensation. • Resolution Support for Still/Motion Image: - RGB Camera: 1920x1080, 1280x720, 640x480, and 640x360 - IR Camera: 640x360

HD Camera

Item	Specification	
Vendor	Chicony	Tech-Front
Model	C7FMH12	YHVC-1
Sensor Type	1/9" CMOS (GC1009)	1/9" HD CMOS (OV9734)
Feature	• Automatic image control: Automatic Exposure Control, Automatic White Balance, and Automatic Gain Control • Image Quality Control: Color Saturation, Hue, Gamma, Sharpness, Brightness, Contrast, and Backlight Compensation • Resolution Support for Still/Motion Image: 1280x720, 640x480, and 640x360	• Automatic image control: Automatic Exposure Control, Automatic White Balance, and Automatic Gain Control • Image Quality Control: Brightness, Contrast, Hue, Saturation, Sharpness, Gamma, Backlight Compensation, and Low Light Compensation • Resolution Support for Still/Motion Image: 1280x720, 640x480, and 640x360

System Power Management

Item	Specification
Mech. Off (G3)	All devices in the system are turned off completely.
Soft Off (G2/S5)	OS initiated shutdown. All devices in the system are turned off completely.
Working (S0/S1)	Individual devices such as the CPU and hard disc may be power managed in this state.
Suspend to RAM (S3)	• CPU set power down • VGA Suspend • Audio Power Down • Hard Disk Power Down • Super I/O Low Power mode
Save to Disk (S4)	Also called Hibernation Mode. System saves all system states and data onto the disc prior to power off the whole system.

System LED Indicator

Item	Specification
System power state	• System on: Blue • Standby: Breeze mode Orange (1 sec. on, 3 sec. off) • Entering Hibernation: Blue • Modern Standby/Hibernation/System off: Off
Battery state	• Fully charged: Blue • Battery charging: Orange • Battery low (<=5%): Breeze mode Orange (1 sec. on, 3 sec. off) • Battery critical low (<=3%) or Abnormal situation: Blinking mode Orange (1 sec. on, 1 sec. off) • Using battery or not connected to AC power: N/A
Power button backlight	Power button has no LED
Communication state	• Wi-Fi has no LED • Bluetooth has no LED

System I/O Address Map

I/O address (hex)	System Function (shipping configuration)
00000000 - 0000000F	Direct memory access controller
00000000 - 00000CF7	PCI Express Root Complex
00000010 - 0000001F	Motherboard resources
00000020 - 00000021	Programmable interrupt controller
00000040 - 00000043	System timer
00000060 - 00000060	Standard PS/2 Keyboard
00000061 - 00000061	System speaker
00000062 - 00000062	Microsoft ACPI-Compliant Embedded Controller
00000064 - 00000064	Standard PS/2 Keyboard
00000066 - 00000066	Microsoft ACPI-Compliant Embedded Controller
00000070 - 00000071	System CMOS/real time clock
00000072 - 00000073	Motherboard resources
00000080 - 00000080	Motherboard resources
00000081 - 0000008F	Direct memory access controller
00000092 - 00000092	Motherboard resources
000000A0 - 000000A1	Programmable interrupt controller
000000B0 - 000000B1	Motherboard resources
000000C0 - 000000DF	Direct memory access controller
000000F0 - 000000FE	Numeric data processor
00000400 - 000004CF	Motherboard resources
000004D0 - 000004D1	Motherboard resources
000004D6 - 000004D6	Motherboard resources
00000C00 - 00000C01	Motherboard resources
00000C14 - 00000C14	Motherboard resources
00000C50 - 00000C52	Motherboard resources
00000C6C - 00000C6C	Motherboard resources
00000C6F - 00000C6F	Motherboard resources
00000CD0 - 00000CDB	Motherboard resources
00000D00 - 0000FFFF	PCI Express Root Complex
00001000 - 00001FFF	PCI Express Root Port
00001F00 - 00001FFF	AMD Radeon(TM) Graphics
00002000 - 00003FFF	PCI Express Root Port

I/O address (hex)	System Function (shipping configuration)
00002000 - 00005FFF	PCI Express Root Port
00004000 - 00005FFF	PCI Express Root Port
00006000 - 00006FFF	PCI Express Root Port
00006000 - 00009FFF	PCI Express Root Port
0000A000 - 0000A0FF	Realtek PCIe GbE Family Controller #6
0000A000 - 0000A0FF	Realtek PCIe GbE Family Controller #3
0000A000 - 0000A0FF	Realtek PCIe GbE Family Controller #2
0000A000 - 0000AFFF	PCI Express Root Port

System Interrupt Specification

Hardware IRQ	System Function
ISA 00	High precision event timer
ISA 01	Standard PS/2 Keyboard
ISA 04	AMD I2C Controller
ISA 06	AMD I2C Controller
ISA 07	AMD GPIO Controller
ISA 08	High precision event timer
ISA 10	AMD I2C Controller
ISA 11	AMD I2C Controller
ISA 13	Numeric data processor
ISA 55 - ISA 204	Microsoft ACPI-Compliant System
ISA 256 - ISA 511	Microsoft ACPI-Compliant System
ISA1024	ACPI Wake Alarm
ISA1037	I2C HID Device
ISA1038	I2C HID Device
PCI 32	High Definition Audio Controller
PCI 35	AMD Audio CoProcessor
PCI 35	High Definition Audio Controller
PCI 1025	PCI Express Root Port
PCI 1026	PCI Express Root Port
PCI -60	PCI Express Root Port
PCI -59	PCI Express Root Port
PCI -58	Realtek PCIe GbE Family Controller #5
PCI -57	PCI Express Root Port
PCI -56	AMD Radeon(TM) Graphics
PCI -55	AMD Radeon(TM) Graphics
PCI -54	AMD Radeon(TM) Graphics
PCI -53	AMD Radeon(TM) Graphics
PCI -52	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
PCI -51	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
PCI -50	AMD USB 2.0 eXtensible Host Controller - 1.20 (Microsoft)
PCI -49	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
PCI -48	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)

Hardware IRQ	System Function
PCI -47 - PCI -16	USB4(TM) Host Router (Microsoft)
PCI -15	AMD PSP 11.0 Device
PCI -14	AMD PSP 11.0 Device
PCI -13 - PCI -5	Standard NVM Express Controller
PCI -4	PCI Express Root Port
PCI -3	PCI Express Root Port
PCI -2	PCI Express Root Port

Large Memory

Memory address (hex)	System Function (shipping configuration)
06A0200000 - 7F3FFFFFFF	PCI Express Root Complex
5800000000 - 67FFFFFFFF	PCI Express Root Port
6800000000 - 77FFFFFFFF	PCI Express Root Port

Memory Address Map

Memory address (hex)	System Function (shipping configuration)
00000A0000 - 00000BFFFF	PCI Express Root Complex
00000C0000 - 00000C3FFF	PCI Express Root Complex
00000C4000 - 00000C7FFF	PCI Express Root Complex
00000C8000 - 00000CBFFF	PCI Express Root Complex
00000CC000 - 00000CFFFF	PCI Express Root Complex
00000D0000 - 00000D3FFF	PCI Express Root Complex
00000D4000 - 00000D7FFF	PCI Express Root Complex
00000D8000 - 00000DBFFF	PCI Express Root Complex
00000DC000 - 00000DFFFF	PCI Express Root Complex
00000E0000 - 00000E3FFF	PCI Express Root Complex
00000E0000 - 00000FFFFF	System board
00000E4000 - 00000E7FFF	PCI Express Root Complex
00000E8000 - 00000EBFFF	PCI Express Root Complex
00000EC000 - 00000EFFFF	PCI Express Root Complex
0060000000 - 0077FFFFFF	PCI Express Root Port
0071614000 - 007165EFFF	AMD PMF
0072ED2000 - 0072ED5FFF	Trusted Platform Module 2.0
0072ED6000 - 0072ED9FFF	Trusted Platform Module 2.0
0078000000 - 008FFFFFFF	PCI Express Root Port
007AF7C2BD - 007AF7D2BC	UCM-UCSI ACPI Device
0080000000 - 0097FFFFFF	PCI Express Root Port
0080000000 - 00DFFFFFFF	PCI Express Root Complex
0090000000 - 00901FFFFF	AMD Radeon 740M Graphics
0090000000 - 00901FFFFF	AMD Radeon 760M Graphics
0090000000 - 00901FFFFF	AMD Radeon 780M Graphics
0090000000 - 00901FFFFF	Microsoft Basic Display Adapter

Memory address (hex)	System Function (shipping configuration)
0090000000 - 00905FFFFF	PCI Express Root Port
0090000000 - 00906FFFFF	PCI Express Root Port
0090200000 - 00902FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
0090300000 - 00903FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
0090500000 - 009057FFFF	AMD Radeon 740M Graphics
0090600000 - 009067FFFF	AMD Radeon 760M Graphics
0090600000 - 009067FFFF	AMD Radeon 780M Graphics
0090600000 - 009067FFFF	Microsoft Basic Display Adapter
0090600000 - 00908FFFFF	PCI Express Root Port
0090700000 - 00907FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
0090700000 - 00909FFFFF	PCI Express Root Port
0090800000 - 009087FFFF	USB4(TM) Host Router (Microsoft)
0090800000 - 00908FFFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
0090880000 - 00908FFFFFF	USB4(TM) Host Router (Microsoft)
0090900000 - 0090903FFF	Standard NVM Express Controller
0090900000 - 009097FFFF	USB4(TM) Host Router (Microsoft)
0090900000 - 00909FFFFF	PCI Express Root Port
0090980000 - 00909FFFFF	USB4(TM) Host Router (Microsoft)
0090A00000 - 0090A03FFF	Realtek PCIe GbE Family Controller #6
0090A00000 - 0090AFFFFF	PCI Express Root Port
0090A04000 - 0090A04FFF	Realtek PCIe GbE Family Controller #6
0090B00000 - 0090B03FFF	Standard NVM Express Controller
0090B00000 - 0090BFFFFF	PCI Express Root Port
0090B04000 - 0090B040FF	Standard NVM Express Controller
0090C00000 - 0090C03FFF	Realtek PCIe GbE Family Controller #3
0090C00000 - 0090C03FFF	Realtek PCIe GbE Family Controller #2
0090C00000 - 0090CFFFFF	PCI Express Root Port
0090C04000 - 0090C04FFF	Realtek PCIe GbE Family Controller #3
0090C04000 - 0090C04FFF	Realtek PCIe GbE Family Controller #2
0090C10000 - 0090C13FFF	Standard Enhanced PCI to USB Host Controller
0090C18000 - 0090C18FFF	Standard Enhanced PCI to USB Host Controller
0098000000 - 00AFFFFFFF	PCI Express Root Port
00B0000000 - 00B00FFFFF	AMD USB 2.0 eXtensible Host Controller - 1.20 (Microsoft)

Memory address (hex)	System Function (shipping configuration)
00B0000000 - 00B03FFFFF	PCI Express Root Port
00B0100000 - 00B01FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
00B0200000 - 00B02FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
00B0300000 - 00B037FFFF	USB4(TM) Host Router (Microsoft)
00B0380000 - 00B03FFFFF	USB4(TM) Host Router (Microsoft)
00B0400000 - 00B04FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
00B0400000 - 00B07FFFFF	PCI Express Root Port
00B0500000 - 00B05FFFFF	AMD USB 3.10 eXtensible Host Controller - 1.20 (Microsoft)
00B0600000 - 00B06FFFFF	AMD PSP 11.0 Device
00B0700000 - 00B077FFFF	AMD Radeon(TM) Graphics
00B0780000 - 00B07BFFFF	AMD Audio CoProcessor
00B07F0000 - 00B07F7FFF	High Definition Audio Controller
00B07F8000 - 00B07FBFFF	High Definition Audio Controller
00B07FE000 - 00B07FFFFF	AMD PSP 11.0 Device
00B0800000 - 00B0803FFF	Standard NVM Express Controller
00B0800000 - 00B08FFFFF	PCI Express Root Port
00B0900000 - 00B0903FFF	Realtek PCIe GbE Family Controller #5
00B0900000 - 00B09FFFFF	PCI Express Root Port
00B0904000 - 00B0904FFF	Realtek PCIe GbE Family Controller #5
00B0A00000 - 00B0AFFFFF	PCI Express Root Port
00F0000000 - 00FDC00000	PCI Express Root Complex
00FDE00000 - 00FDEFFFFF	Motherboard resources
00FE000000 - 00FFFFFFFF	System board
00FEC00000 - 00FEC01FFF	Motherboard resources
00FED00000 - 00FED003FF	High precision event timer
00FED40000 - 00FED44FFF	Trusted Platform Module 2.0
00FED45000 - 00FED814FF	PCI Express Root Complex
00FED81500 - 00FED818FF	AMD GPIO Controller
00FED81900 - 00FED81FFF	PCI Express Root Complex
00FEDC0000 - 00FEDC0FFF	PCI Express Root Complex
00FEDC20000 - 00FEDC2FFF	AMD I2C Controller
00FEDC3000 - 00FEDC3FFF	AMD I2C Controller
00FEDC4000 - 00FEDC4FFF	AMD I2C Controller

Memory address (hex)	System Function (shipping configuration)
00FEDC5000 - 00FEDC5FFF	AMD I2C Controller
00FEDC6000 - 00FEDC6FFF	PCI Express Root Complex
00FEE00000 - 00FEE00FFF	Motherboard resources
7800000000 - 780FFFFFFF	AMD Radeon 740M Graphics
7800000000 - 780FFFFFFF	AMD Radeon 780M Graphics
7800000000 - 780FFFFFFF	Microsoft Basic Display Adapter
7800000000 - 78107FFFFF	PCI Express Root Port
7810900000 - 78109FFFFF	PCI Express Root Port
7B18000000 - 7B180FFFFF	PCI Express Root Port
7B20000000 - 7B2FFFFFFF	AMD Radeon(TM) Graphics
7B30000000 - 7B301FFFFF	AMD Radeon(TM) Graphics
7C00000000 - 7C0FFFFFFF	AMD Radeon 760M Graphics
7C00000000 - 7C107FFFFF	PCI Express Root Port
7C10800000 - 7C108FFFFF	PCI Express Root Port
7EC0000000 - 7EE7FFFFFF	PCI Express Root Port
7EF0000000 - 7F17FFFFFF	PCI Express Root Port
7F20000000 - 7F2FFFFFFF	AMD Radeon(TM) Graphics
7F20000000 - 7F301FFFFF	PCI Express Root Port
7F30000000 - 7F301FFFFF	AMD Radeon(TM) Graphics
FD01031000 - FD0107BFFF	AMD PMF

CHAPTER 2
System Utilities

System Utilities

BIOS Setup Utility

This utility is a hardware configuration program built into a computer's BIOS (Basic Input/Output System).

The utility is pre-configured and optimized so most users do not need to run it. If configuration problems occur, the setup utility may need to be run. Refer to *Chapter 4, Troubleshooting* when a problem arises.

To activate the utility, press ***F2*** during POST (power-on self-test) when prompted at the bottom of screen.

The default parameter of `F12 Boot Menu` is set to `Disabled`. To change the boot device without entering *BIOS Setup Utility*, set the parameter to `Enabled`.

To change the boot device without entering the BIOS SETUP, press ***F12*** during POST to enter the multi-boot menu.

Navigating the BIOS Utility

Six menu options are:

- Information
- Main
- Advanced
- Security
- Boot
- Exit

To navigate on the non-touchscreen models through the following:

- Menu or item- use the up and down arrow keys
- Expand selected item- press **Enter** or right arrow key.
- To switch item status or change the value of a parameter- press **Enter** or right arrow key.
- Exit - Press ***Esc***
- Load default settings - press ***F9***.
- Save changes and exit BIOS Setup Utility - press ***F10***.

To navigate on the touchscreen panel models through the following:

- Menu - click or tab on the option with the fingertip
- Item - scroll through the screen by moving one finger in a vertical direction or swiping two fingers up-and-down
- Change parameter value - use the on-screen keyboard or tab on the option.

NOTE:

Parameter values can be changed if enclosed in square brackets open the DIMM door open the DIMM door[ ]. Navigation keys appear at the bottom of the screen. Read parameter help carefully when making changes to parameter values. Parameter help is found in the Item Specific Help area of the screen.

IMPORTANT:

Be careful when changing any settings in the BIOS. Incorrect settings can cause your PC to malfunction or crash. Please make sure all important data is backed up before changing anything in the BIOS.

NOTE:

System information is subject to specific models.

BIOS

The following is a description of the tabs found on the InsydeH20 *BIOS Setup Utility* screen:

NOTE:

The screens provided are for reference only. Actual values may differ by model.

Information

The Information tab shows a summary of computer hardware information.

Figure 2-1. BIOS Information

Table 2-1 describes the parameters shown in Figure 2-1.

Table 2-1. BIOS Information

Parameter	Description
CPU Info	CPU (central processing unit) type and speed of the system
Core Frequency	CPU core frequency
System BIOS Version	System BIOS version
GOP Version	GOP (graphics output protocol) firmware version of the system
HDD Model Name	Model name of HDD (hard disk drive) installed on the primary IDE master
HDD Serial Number	Serial number of HDD installed on the primary IDE master

Table 2-1. BIOS Information (Continued)

Parameter	Description
SATA Mode	SATA controller mode
Total Memory	Total memory installed
Memory Vendor	Manufacturer of the installed memory
Memory Size	Size of the installed memory
Memory Speed	Configured speed of the installed memory
Memory Voltage	Voltage of the installed memory
Serial Number	Serial number of the unit
Asset Tag Number	Asset tag number of the system
Ownership Tag	Ownership tag of the system
Product Name	Product name of the system
Manufacturer Name	Manufacturer of the system
UUID	Universally Unique Identifier
LAN MAC Address	LAN MAC address of the system

Main

The Main tab allows the user to set system time and date, enable or disable boot option and enable or disable recovery.

Figure 2-2. BIOS Main

Figure 2-3. BIOS Main (All Options)

Table 2-2 describes the parameters shown in Figure 2-2 and Figure 2-3.

Table 2-2. BIOS Main

Parameter	Description	Format/Option
System Time	BIOS system time in 24-hour format	Format: HH:MM:SS (hour:minute:second)
System Date	BIOS system date	Format MM/DD/YYYY (month/day/year)
Network Boot	Option to boot system from LAN (local area network)	Option: Enabled or Disabled
F12 Boot Menu	Option to use boot menu during POST	Option: Enabled or Disabled
SATA Mode (hidden option)	Option to set SATA mode	Option: AHCI or RAID
Re-Size BAR support (hidden option)	Option to set Re-Size BAR support	Option: Enabled or Disabled
Wake on LAN	Option to use Wake-on-LAN feature	Option: Enabled or Disabled
USB Wake from S4 Support	Option to enable/disable support USB wake from S4	Option: Enabled or Disabled
Function key behavior	Option to specify the ***F1*** to ***F12*** key behavior	Option: Function Key or Media Key
Wake on USB while lid closed	Option to enable/disable the USB devices can wake the system, even if the lid is closed	Option: Enabled or Disabled
D2D Recovery	Option to use D2D Recovery feature	Option: Enabled or Disabled
Keyboard backlight timeout	Option to enable/disable the keyboard backlight timeout function	Option: Enabled or Disabled
Fast Boot	Option to enable/disable Fast boot	Option: Enabled or Disabled
Display Language	Select the display language	

NOTE:

Press ***Ctrl*** **+S** keys to show the hidden options.

Advanced

The Advanced tab allows users to set the system power on configuration and other advanced settings.

Figure 2-4. BIOS Advanced

Table 2-3 describes the parameters shown in Figure 2-4.

Table 2-3. BIOS Advanced

Parameter	Description	Option
Power on system by RTC Alarm	Option to enable/disable the RTC wake from S3/S4/S5 function	Enabled or Disabled
Storage Device Configuration	Option to configure the storage device	
Device Configuration	Option to enable/disable the device or function	
BIOS Update	Option to update BIOS via USB storage	
Lock BIOS Version	Option to enable/disable the Lock BIOS Version function. If the setting is set to Enabled, the system cannot update/rollback the BIOS, and the BIOS version is fixed.	Enabled or Disabled
Rollback BIOS Version	Option to enable/disable the Rollback Old BIOS Version function. If the setting is set to Supported, the system can rollback the BIOS to its older version.	Supported or Unsupported

Table 2-3. BIOS Advanced (Continued)

Parameter	Description	Option
Export BIOS Settings to USB Storage	Option to save the current BIOS settings to the USB storage. To perform this action: The system will display the available USB storage for users to save the settings file. Users will also have options either to go up or enter the directory. If Yes is selected, the system will save the current BIOS settings as a file, and exit the dialog box.	
Import BIOS Setting from USB Storage	Option to restore the BIOS settings from the USB storage. Only profile with same project name can be imported. Otherwise, a warning message will appear on the screen. To perform this action: The system will display the available USB storage for users to select the settings file location. Once selected, it displays all files in the device and allow users to choose the intended file (only supported file can be loaded), and users will have options either to go up or enter the directory. If Yes is selected, the system will load the file into BIOS, then exit the dialog box.	
MAC Address Pass Through	Option to enable/disable the MAC address pass through function. If the setting is set to Enabled, it will clone system MAC address to Dock.	
Wake On LAN from Dock	Option to enable/disable the WOL from Dock function. If the setting is set to Enabled, it will allow the WOL event triggered from Dock to wake the system.	Enabled or Disabled
System Health Indicator	When an abnormality is detected, the system health indicator will flash the indicator to immediately notify the user and remind the user to properly check the system.	

Security

The Security tab shows parameters that safeguard and protect the computer from unauthorized use.

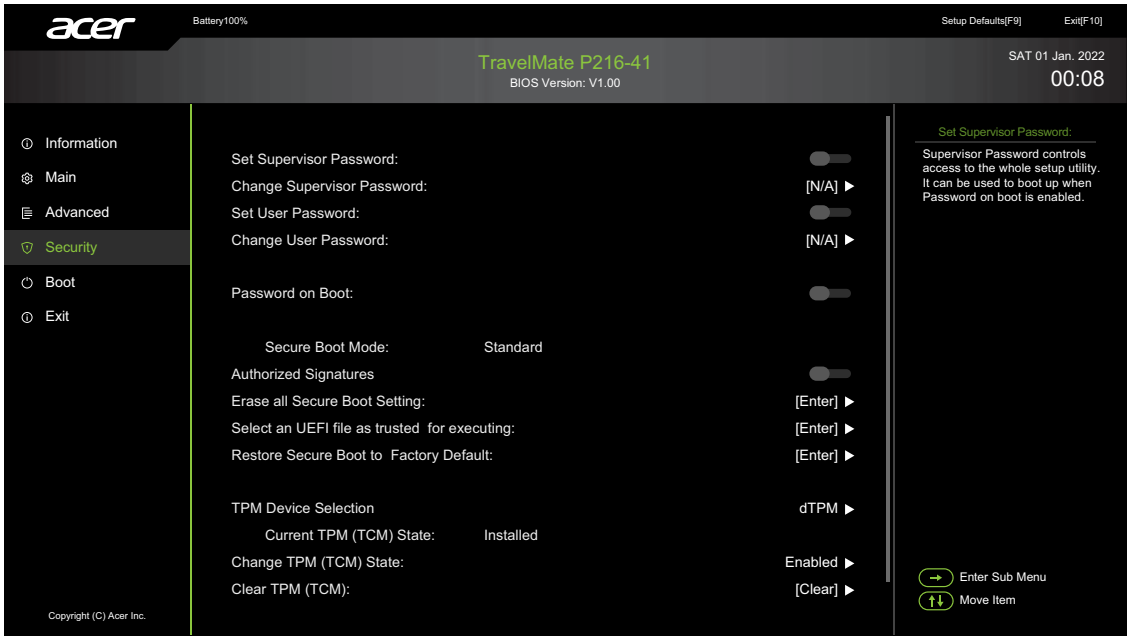


Figure 2-5. BIOS Security

Table 2-4 describes the parameters shown in Figure 2-5.

Table 2-4. BIOS Security

Parameter	Description	Option
Set Supervisor Password	Option to set supervisor password	Disabled or Enabled
Change Supervisor Password	Change supervisor password	N/A
Set User Password	Option to set user password	Disabled or Enabled
Change User Password	Change user password	N/A
Password on Boot	Shows if password is required during system boot **⚠ CAUTION:** If Password-on-Boot authentication is enabled, the BIOS password can only be cleared by initiating the Crisis Disk Recovery procedure. Refer to *Crisis Disk Recovery*.	Disabled or Enabled

Table 2-4. BIOS Security (Continued)

Parameter	Description	Option
Secure Boot Mode	Display the current Secure Boot Mode status. • **Standard**: Default Option. No manual change has been done to secure boot setting or users have previous restored security boot to factory default. • **Custom**: Contents of the Secure Boot signature database has been modified with "Erase All Secure Boot Setting" or "Select an UEFI File as Trusted Executing".	Standard or Custom
Authorized Signatures	Option to enable/disable the Authorized Signatures function	Disabled or Enabled
Erase all Secure Boot Setting	Option to erase all secure boot setting	N/A
Select an UEFI file as trusted for executing	Option to select an UEFI file as trusted for executing	N/A
Restore Secure Boot to Factory Default	Option to restore secure boot to factory default	N/A
TPM Device Selection	Option to select the TPM device	
Current TPM (TCM) State	Display the TPM status	N/A
Change TPM (TCM) State	Option to use the TPM function	Disabled or Enabled
Clear TPM (TCM)	Remove all TPM context associated with a specific owner	N/A
Absolute Persistence Module	Indicate the Absolute Persistence Module state. • **Enabled**: Default Option. The Persistence interface is enabled. Persistence may now be activated or deactivated. • **Disabled**: The Persistence interface is disabled. The Persistence Module does not run and Persistence is deactivated. • **Permanently Disabled**: Persistence is disabled and can only be enabled via a full reset at the factory. If user chooses Permanently Disabled, a "red" warning dialog box will appear on the screen with the message "Absolute Persistence Module will be disabled permanently and cannot be enabled again, are you sure?".	Disabled, Enabled, or Permanently Disabled

NOTE:

When prompted to enter password, three attempts are allowed before system halts. Resetting BIOS password may require computer be returned to dealer.

Setting a Password

Perform the following to set the password:

1. Use the ↑ and ↓ keys to highlight the `Set User Password` or `Set Supervisor Password` parameter and press ***Enter***. The dialog box appears.
2. Enter a new password in the `Enter New Password` field. Passwords are not case sensitive and the length must not exceed 12 alphanumeric characters (A-Z, a-z, 0-9). Enter the password again in the `Confirm New Password` field.

IMPORTANT:

Use care when typing a password. Characters do not appear on the screen.

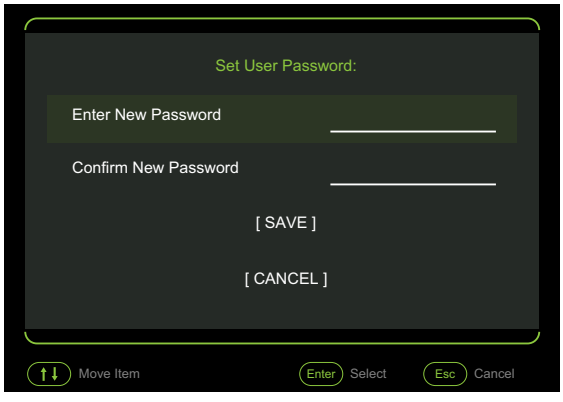


Figure 2-6. Set User Password

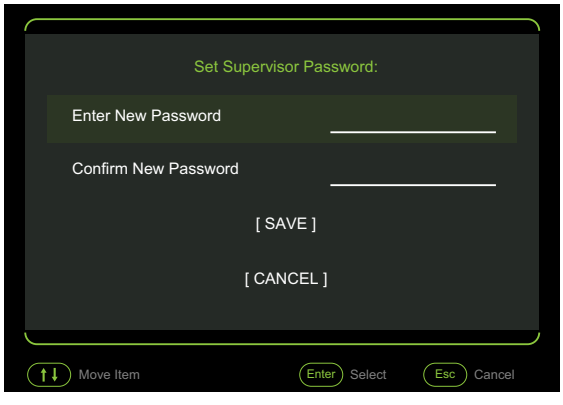


Figure 2-7. Set Supervisor Password

3. Select "SAVE" and press ***Enter***. The Setup Notice dialog box appears.

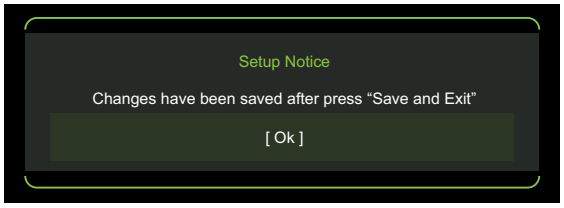


Figure 2-8. Setup Notice

NOTE:

Password on Boot must be set to Enabled to activate password feature.

4. Press ***Enter*** to complete the password setting. After the password has been set, the computer enables to change the password.

NOTE:

To change an existing password, refer to *Changing a Password*.

5. Press ***F10*** and select "SAVE & EXIT". Then press ***Enter*** to save changes and exit *BIOS Setup Utility*.

Figure 2-9. Save Configuration Changes and Exit

Changing a Password

Perform the following:

1. Use the ↑ and ↓ keys to highlight `Change User Password` or `Change Supervisor Password` and press ***Enter***. The dialog box appears.
2. Enter the current password in the `Enter current password` field and press ***Enter***.
3. Enter the new password in the `Enter New Password` and `Confirm New Password` fields.

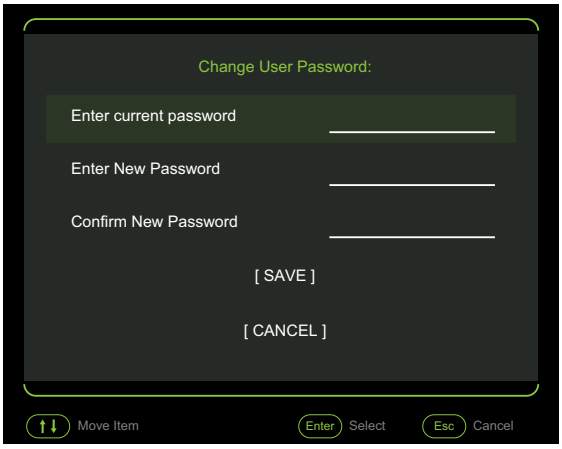


Figure 2-10. Change User Password

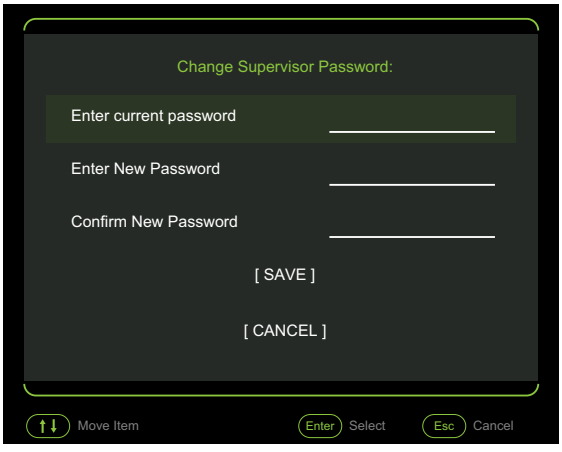


Figure 2-11. Change Supervisor Password

4. Select "SAVE" and press ***Enter***. If passwords match, the Setup Notice dialog box appears.

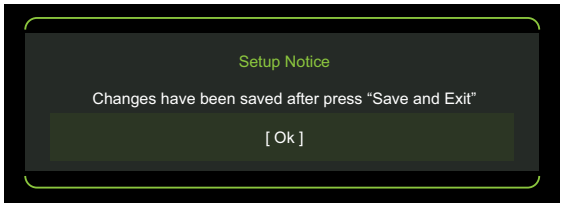


Figure 2-12. Setup Notice

NOTE:
If passwords do not match, the Setup Warning dialog box appears. Retype passwords.

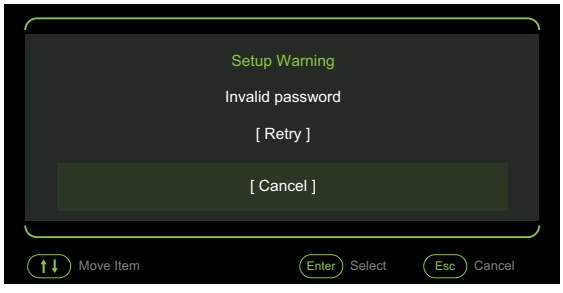


Figure 2-13. Setup Warning

5. Press ***Enter*** to complete the password modification.
6. Press ***F10*** and select "SAVE & EXIT". Then press ***Enter*** to save changes and exit *BIOS Setup Utility*.

Figure 2-14. Save Configuration Changes and Exit

Removing a Password

1. Use the ↑ and ↓ keys to highlight `Set User Password` or `Set Supervisor Password` and press ***Enter***. The dialog box appears.
2. Enter the current password in the `Enter Old password` field and press ***Enter***.

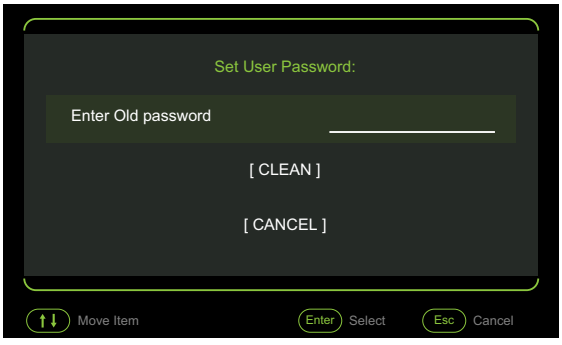


Figure 2-15. Remove User Password

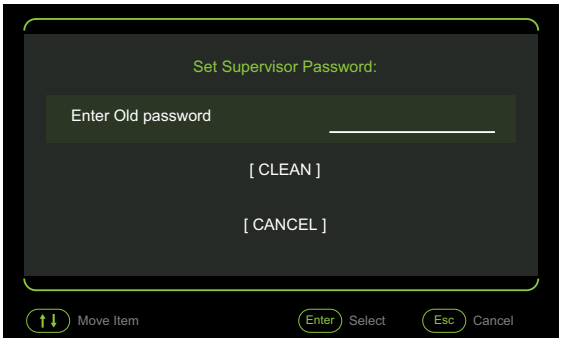


Figure 2-16. Remove Supervisor Password

3. Select "`CLEAN`" and press ***Enter***. The `Setup Notice` dialog box appears.

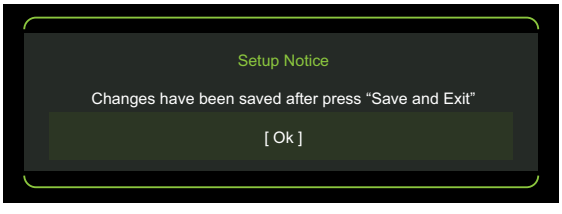


Figure 2-17. Setup Notice

4. Press ***Enter*** to complete the password removal.

5. Press ***F10*** and select "`SAVE & EXIT`". Then press ***Enter*** to save changes and exit *BIOS Setup Utility*.

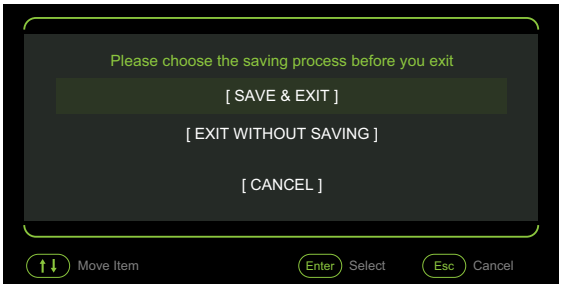


Figure 2-18. Save Configuration Changes and Exit

Boot

The Boot tab allows changes to the order of boot devices used to load the operating system. Bootable devices include the:

- Windows Boot Manager
- Onboard hard disk drive
- USB diskette drive
- IPv4 network drive
- USB hard disk drive
- USB CD-ROM drive
- IPv6 network drive

Use ↑ and ↓ keys to select a device and press ***F5*** or ***F6*** to sort the order.

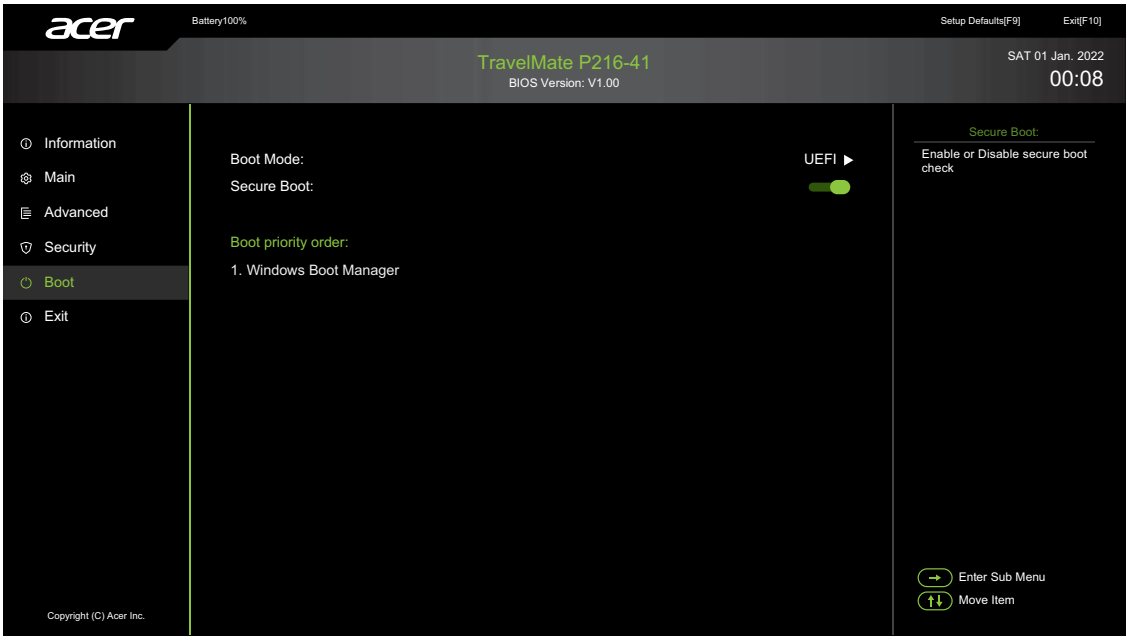


Figure 2-19. BIOS Boot

Table 2-5 describes the parameters in Figure 2-19.

Table 2-5. BIOS Boot

Parameter	Description
Boot Mode	Set the system Boot Mode.
Secure Boot	Enable or Disable Secure Boot check.

Exit

The Exit tab allows users to save or discard changes and quit the *BIOS Setup Utility*.

Figure 2-20. BIOS Exit

Table 2-6 describes the parameters in Figure 2-20.

Table 2-6. BIOS Exit

Parameter	Description
Exit Saving Changes	Exit BIOS utility and save setup item changes to system.
Exit Discarding Changes	Exit BIOS utility without saving setup item changes to system.
Save & shutdown	Save the changes and shutdown the system.
Load Factory Setup Defaults	Load setup default values for all setup items.
Save Settings to User Setup Defaults	Save the current settings as the user-defined default settings.
Load User Setup Defaults	Load the user-defined default settings.

BIOS Flash Utilities

BIOS Flash memory updates are required for the following conditions:

- New versions of system programs
- New features or options
- Restore a BIOS when it becomes corrupted.

Use the Flash utility to update the system BIOS Flash ROM.

NOTE:
If a Crisis Recovery Disc is not available, create one before Flash utility is used.

NOTE:
Do not install memory related drivers (XMS, EMS, DPMI) when Flash is used.

NOTE:
The AC power adapter must be connected to the system and the system battery charge must be above 30% when running Flash utility. If battery pack does not contain power to finish loading BIOS Flash, do not boot system.

Perform the following to run Flash.

1. Prepare a bootable USB HDD.
2. Copy *Flash Utility* to a bootable USB HDD.
3. Boot system from the bootable USB HDD.

NOTE:
Flash utility has auto execution function.

Flash BIOS in Windows Environment

NOTE:

For example: BIOS 1.00

Perform the following to run the *Flash Utility* in Windows mode to flash the BIOS:

1. Copy the WinFlash executable *Z8M_Z8MA_V1_00.exe* to desktop.
2. Plug in the AC power.

CAUTION:

The AC power adapter must be connected to the system and the system battery charge must be above 30% when using WinFlash utility. If battery pack does not contain power to finish loading BIOS Flash, do not boot the system.

3. Right-click the *Z8M_Z8MA_V1_00.exe* and select `Run as administrator`.

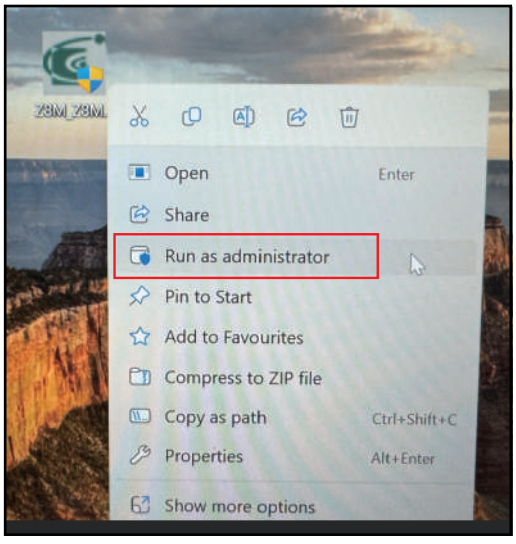


Figure 2-21. Run as Administrator

4. The `User Account Control` dialog box appears. Click ***Yes*** to continue.

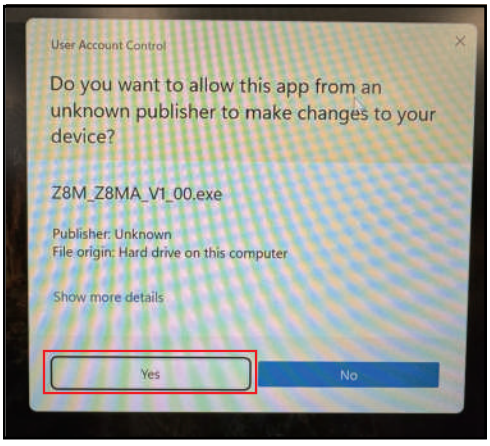


Figure 2-22. User Account Control

5. The system will restart automatically and display the Flash BIOS Process as shown in Figure 2-23.

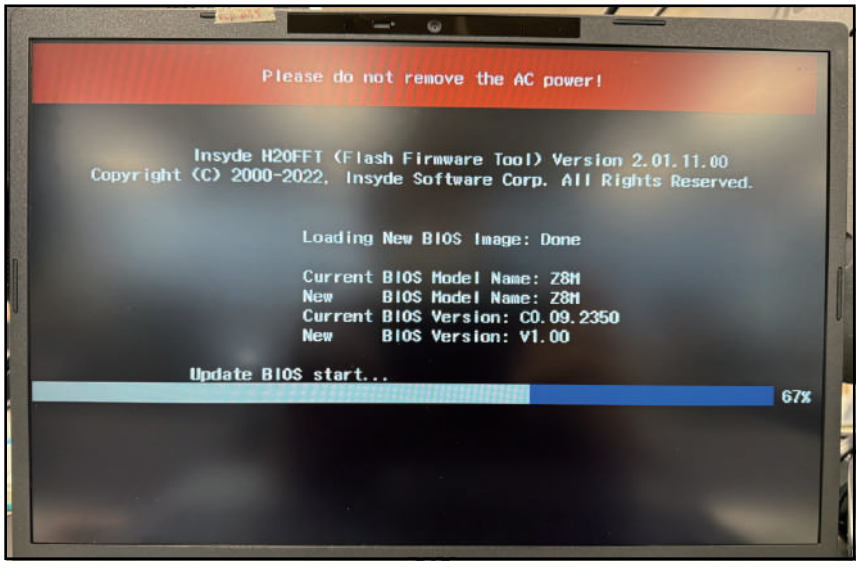


Figure 2-23. Flash Process

6. When the Flash Process is finished, the system will restart automatically.
7. When the POST logo appears on the screen, press ***F2*** to enter the BIOS Setup Menu. Access the Information page and ensure that the `BIOS Version` is same as updated BIOS version.

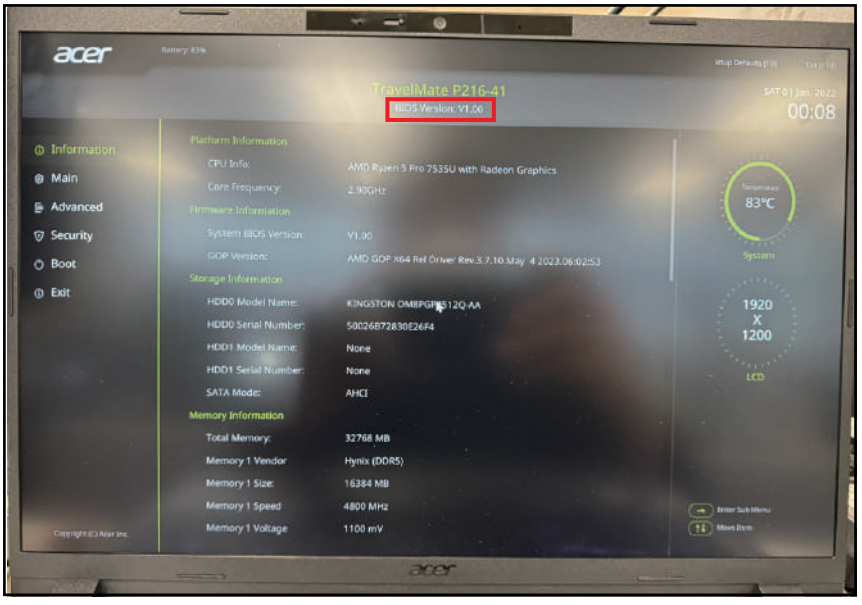


Figure 2-24. System BIOS Version

NOTE:

The system battery charge must be above 30% and the AC adapter is connected in order to flash the BIOS.

Flash BIOS in Shell Environment

NOTE:

For example: BIOS 1.00

Perform the following to run the *Flash Utility* in Windows (Shell environment) mode to flash the BIOS:

1. Copy the WinFlash executable *Z8M_Z8MA_V1_00.efi* to shell bootable USB disk.
2. Plug in the AC power.

CAUTION:

The AC power adapter must be connected to the system and the system battery charge must be above 30% when using WinFlash utility. If battery pack does not contain power to finish loading BIOS Flash, do not boot the system.

3. Boot from the Shell USB disk.
4. Type **Z8M_Z8MA_V1_00.efi** and press ***Enter*** to start flashing the BIOS.

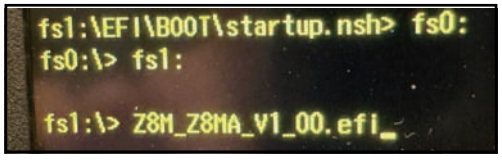


Figure 2-25. Execute Command

5. The system will restart automatically and display the Flash BIOS Process as shown in Figure 2-26.

Figure 2-26. Flash Process

6. When the Flash Process is finished, the system will restart automatically.
7. When the POST logo appears on the screen, press ***F2*** to enter the BIOS Setup Menu. Access the Information page and ensure that the `BIOS Version` is same as updated BIOS version.

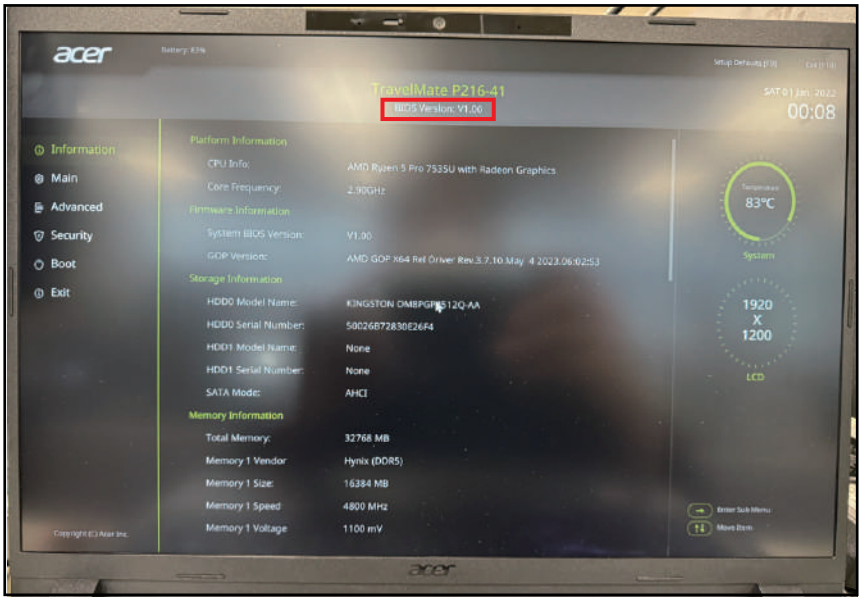


Figure 2-27. BIOS Version

Miscellaneous Tools

Using DMI Tools

The DMI (Desktop Management Interface) Tool copies BIOS information to EEPROM (Electrically Erasable Programmable Read-Only Memory). Used in the DMI pool for hardware management.

When the BIOS shows `Verifying DMI pool data`, it is checking that the table correlates with the hardware before sending information to the operating system (Windows, etc.).

To update the DMI Pool under Windows mode, perform the following:

1. Prepare a bootable WINPE USB Flash Disk.
2. Copy *WQDMIx64_v12.0.exe* to the WinPE X64 USB Flash Disk.

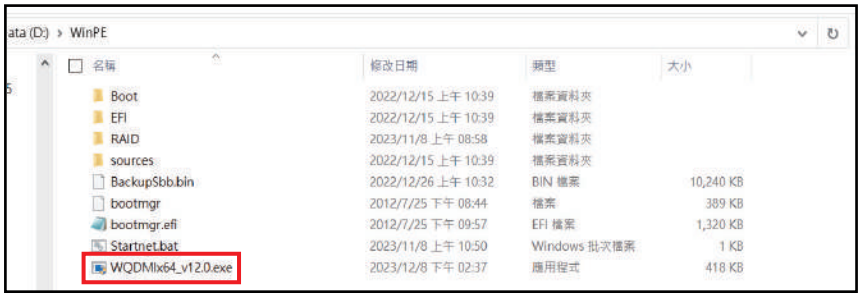


Figure 2-28. Copy the File

3. Insert the WinPE X64 USB Flash Disk and press the ***Power*** button to turn on the system.
4. Press ***F2*** during the POST screen to enter the BIOS Setup Menu.
5. Under `Main` menu option, select "`F12 Boot Menu`" item and then press ***Enter*** to change the setting from `Disabled` to `Enabled`.

Figure 2-29. F12 Boot Menu Option

6. Press ***F10*** and select "`SAVE & EXIT`". Then press ***Enter*** to save changes and exit *BIOS Setup Utility*. The system will restart automatically.

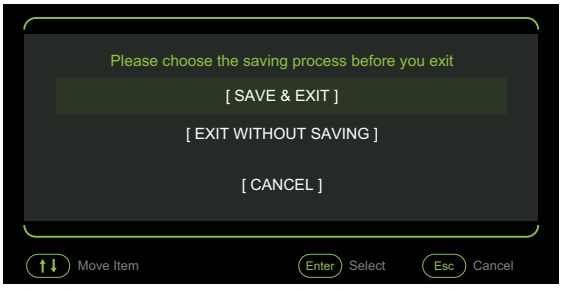


Figure 2-30. Save Configuration Changes and Exit

7. Press ***F12*** during the POST (power-on self-test) screen to enter the `Boot Option Menu`.
8. Select "**`USB bootable device`**" and press ***Enter*** to enter WINPE X64 mode.

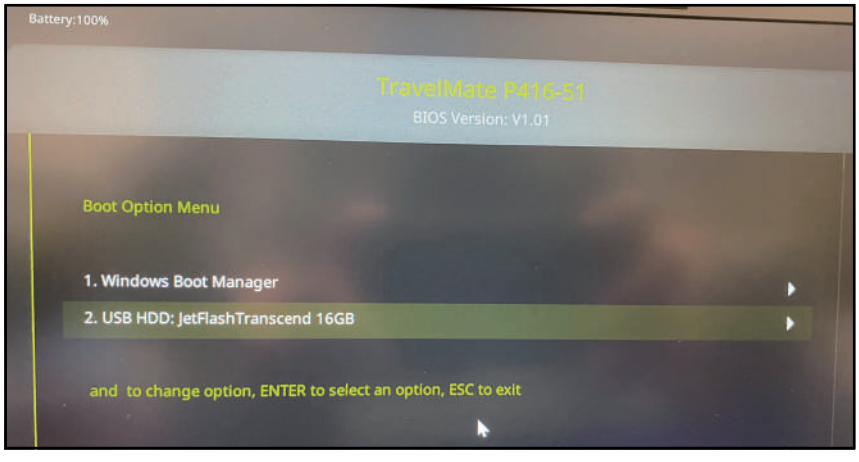


Figure 2-31. Boot Option Menu Option

9. Execute the following commands to switch to disk D.

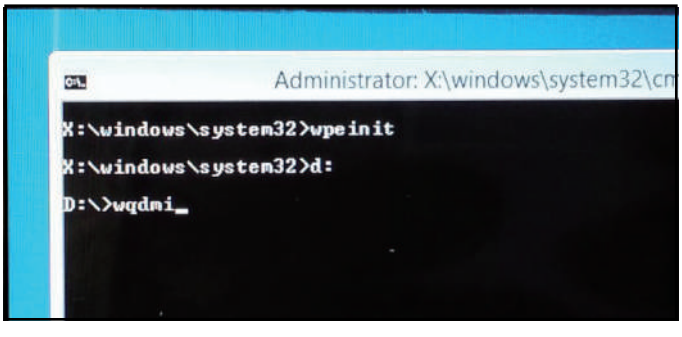


Figure 2-32. WINPE Mode

10. Type **WQDMIx64_v12.0.exe** and press ***Enter*** (Figure 2-32). To execute a specific function, input the command and the associated parameter as shown in Figure 2-33.

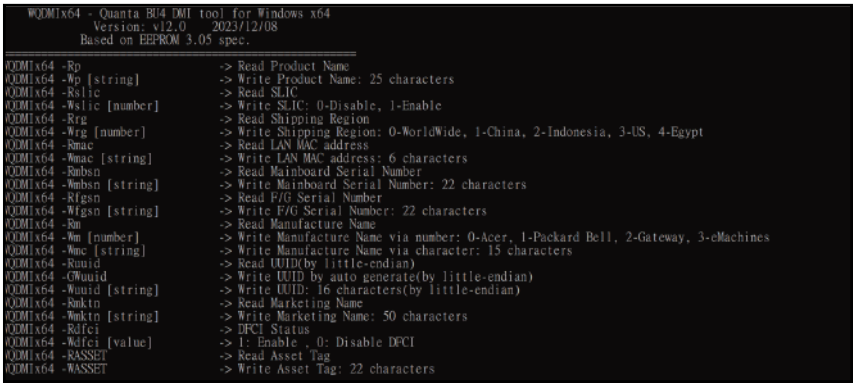


Figure 2-33. DMI Tools Main Menu Screen

Read/Write Product Name

- Execute **WQDMIx64_v12.0.exe -Rp** to read the product name.

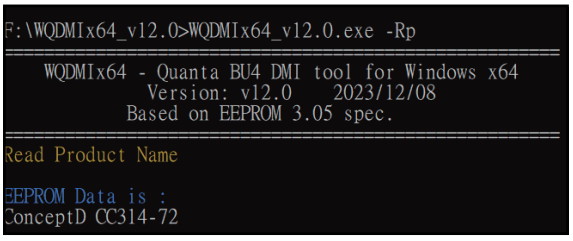


Figure 2-34. Read Product Name

- Execute **WQDMIx64_v12.0.exe -wp [string]** to write the product name.

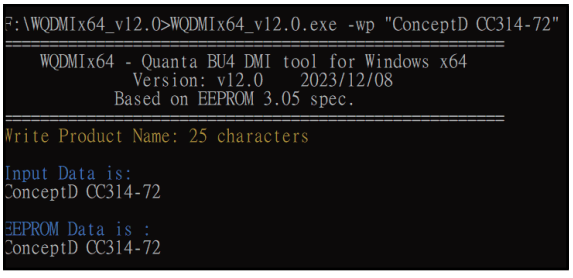


Figure 2-35. Write Product Name

Enable/Disable SLIC (Software Licensing Internal Code)

- Execute **WQDMIx64_v12.0 -rslic** to read the SLIC.

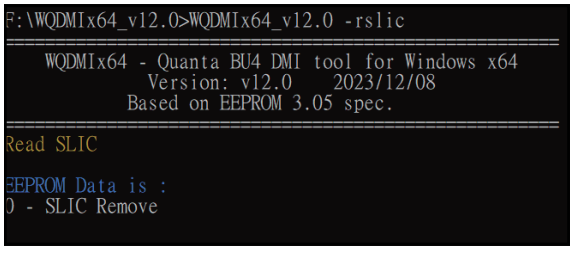


Figure 2-36. Read SLIC

Table 2-7 describes the SLIC mapping parameters.

Table 2-7. SLIC Mapping Parameters

OS SKU	OA2.1 (SLIC)
Windows 7 / Windows XP	Enable
Windows 8 Standard	Disable
Windows 8 Professional	Enable
Non-Windows OS (Linpus)	Disable
Windows 10 Standard	Disable
Windows 10 Pro	Disable
Windows 10 with family	Disable

- Execute **WQDMIx64_v12.0.exe -Wslic 0** to disable or remove the SLIC (for Win 8 Standard and non-Windows OS (Linpus)).

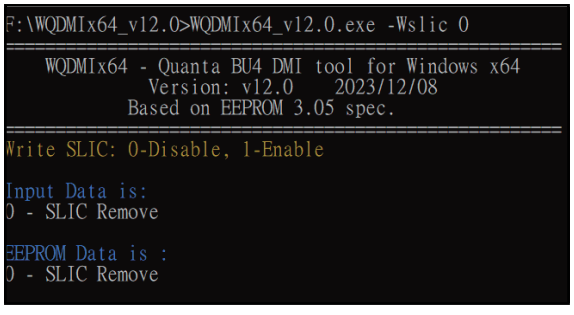


Figure 2-37. Disable SLIC

- Execute **WQDMIx64_v12.0.exe -Wslic 1** to enable or restore the SLIC (for Windows 7/XP and Windows 8/10 Professional OS).

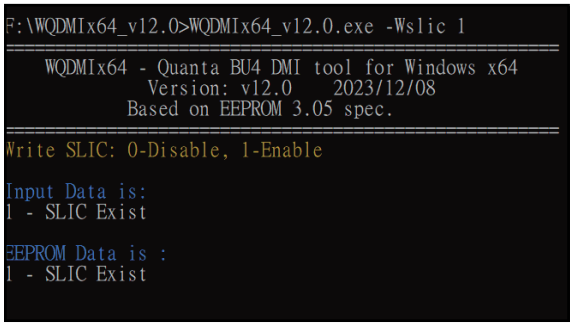


Figure 2-38. Enable SLIC

Read/Write Shipping Region

- Execute **WQDMIx64_v12.0.exe -rrg** to read the shipping region.

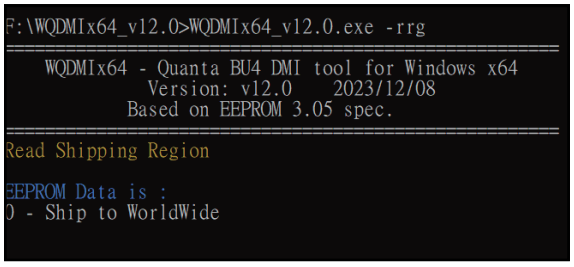


Figure 2-39. Read Shipping Region

- Execute **WQDMIx64_v12.0.exe -wrg [string]** to write the shipping region.
  0-Wordwide, 1-China, 2-Indonesia, 3-US, 4-Egypt

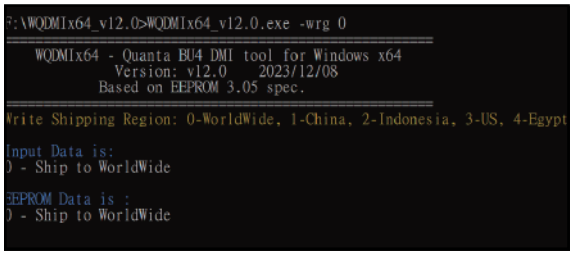


Figure 2-40. Write Shipping Region

Read/Write LAN MAC Address

- Execute **WQDMIx64_v12.0.exe -rmac** to read the LAN MAC address.

Figure 2-41. Read LAN MAC Address

- Execute **WQDMIx64_v12.0.exe - wmac [string]** to write the LAN MAC address.

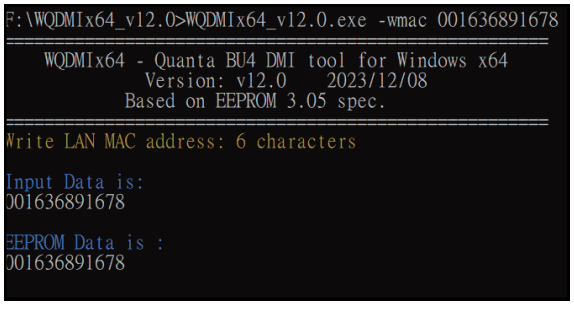


Figure 2-42. Write LAN MAC Address

Read/Write Mainboard Serial Number

- Execute **WQDMIx64_v12.0.exe -Rmbsn** to read the mainboard serial number.

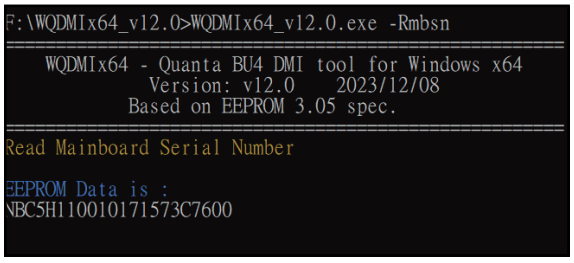


Figure 2-43. Read Mainboard Serial Number

- Execute **WQDMIx64_v12.0.exe -wmbsn [string]** to write the mainboard serial number.

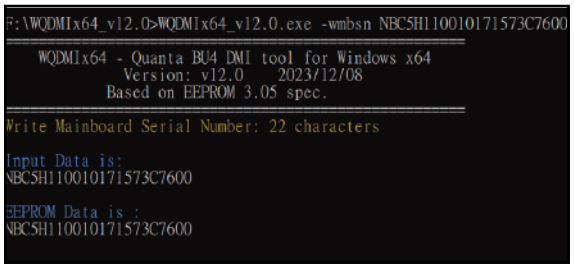


Figure 2-44. Write Mainboard Serial Number

Read/Write F/G Serial Number

- Execute **WQDMIx64_v12.0.exe -Rfgsn** to read the F/G serial number.

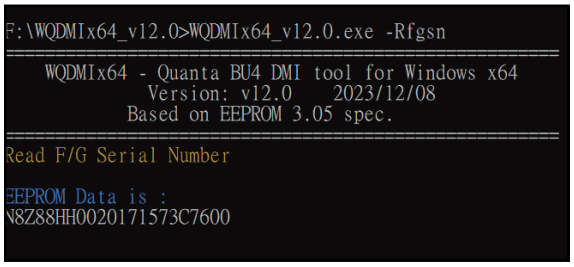


Figure 2-45. Read F/G Serial Number

- Execute **WQDMIx64_v12.0.exe -wfgsn [string]** to write the F/G serial number.

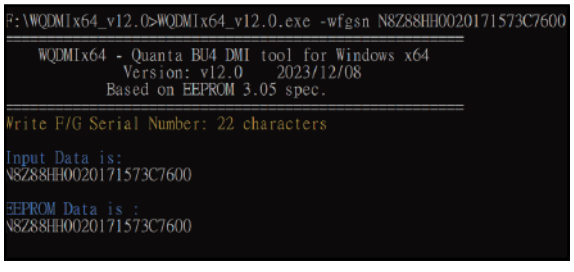


Figure 2-46. Write F/G Serial Number

Read/Write Asset Tag

- Execute **WQDMIx64_v12.0.exe -Rasset** to read the asset tag.

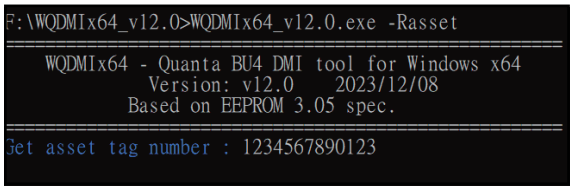


Figure 2-47. Read Asset Tag

- Execute **WQDMIx64_v12.0.exe -wasset [string]** to write the asset tag.

Figure 2-48. Write Asset Tag

Read/Write Manufacture Name

- Execute **WQDMIx64_v12.0.exe -Rm** to read the manufacture name.

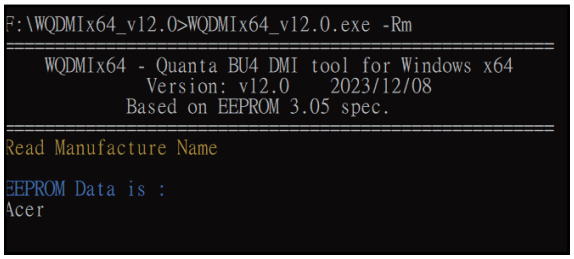


Figure 2-49. Read Manufacture Name

- Execute **WQDMIx64_v12.0.exe -wm [string]** to write the manufacture name. 0-Acer, 1-Packard Bell, 2-Gateway, 3-eMachines

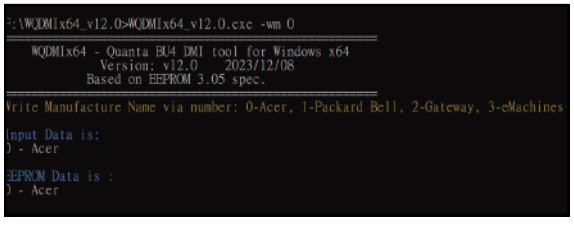


Figure 2-50. Write Manufacture Name

Read/Write UUID

- Execute **WQDMIx64_v12.0.exe -Ruuid** to read the UUID.

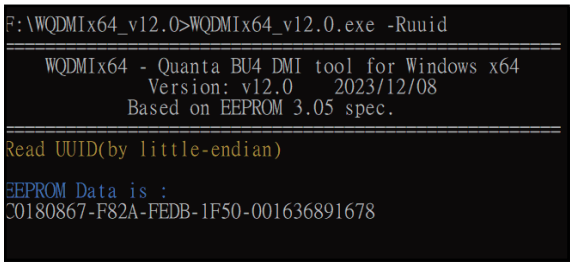


Figure 2-51. Read UUID

- Execute **WQDMIx64_v12.0.exe -Wuuid [string]** to write the UUID.

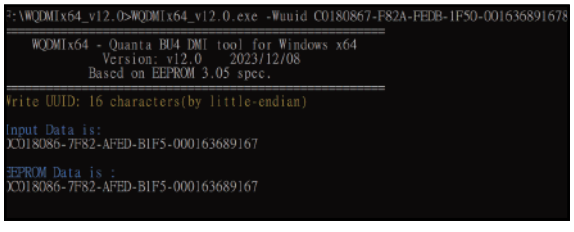


Figure 2-52. Write UUID

- Execute **WQDMIx64_v12.0.exe -GWuuid** to write the UUID by auto generate.

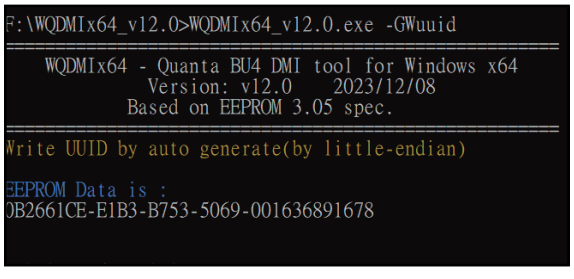


Figure 2-53. Write UUID by Auto-generate

Read/Write Marketing Name

- Execute **WQDMIx64_v12.0.exe -RMKTN** to read the marketing name.

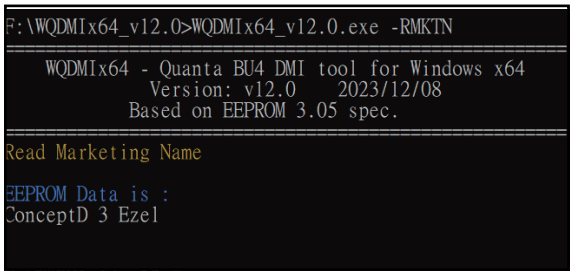


Figure 2-54. Read Marketing Name

- Execute **WQDMIx64_v12.0.exe -WMKTN [string]** to write the marketing name.

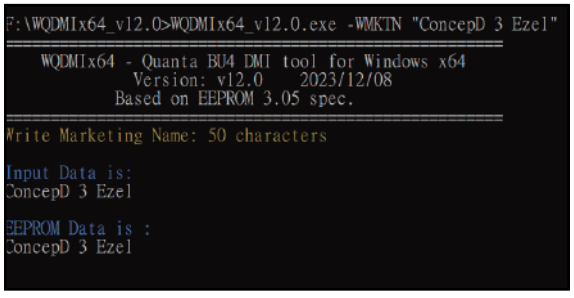


Figure 2-55. Write Marketing Name

Save Data to EEPROM

- For Windows PE: Enter the shutdown command to turn off the system.

```
D:\>wpeutil shutdown
```

Figure 2-56. Shutdown (Windows PE)

- For Windows 10/11 OS: Click ***Shift*** +"Shut down" at the same time to turn off the system.

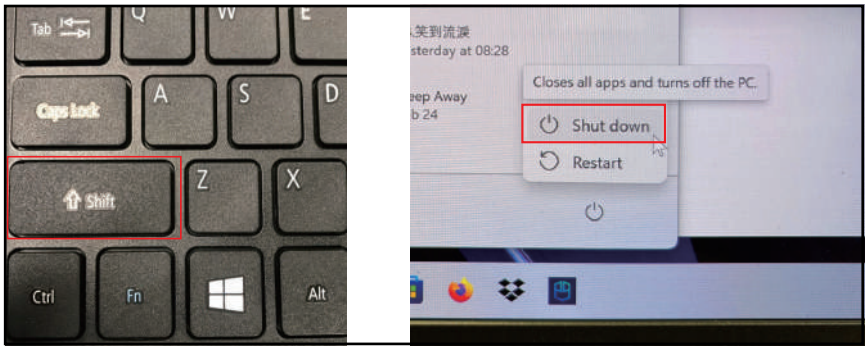


Figure 2-57. Shutdown (Windows 10/11)

NOTE:

When using any of the write options, restart the system to make the new DMI data effective.

CAUTION:

Do not remove the AC/DC power directly while updating the data (during shutdown process), it may cause the EEPROM data corrupted or the loss of new EEPROM data.

Crisis Disk Recovery

1. Prepare a bootable USB Flash Disk.
2. Copy the *Z8M.fd* file to the USB flash disk root directory.
3. Power off the system and ensure the AC adapter is plugged into the system.
4. Insert the USB Flash Disk into the system.
5. Press and hold the ***Fn*** + ***Esc*** keys, and then press the ***Power*** button.

Figure 2-58. Keyboard Keys Location

6. When Power LED starts blinking and the LCD panel is dark, release the ***Fn*** + ***Esc*** keys and the ***Power*** button.

Figure 2-59. Crisis Recovery Proceeding

7. The system will enter crisis mode to flash the BIOS. The process takes about 3-5 minutes.
8. The Power LED will stop blinking and turn off when the Crisis Recovery Process is finished. Press the ***Power*** button to turn on the computer.

Figure 2-60. Crisis Recovery Finished

9. When the POST logo appears on the screen, press ***F2*** to enter the BIOS Setup Menu. Ensure that the `BIOS Version` is the same as the crisis BIOS version.

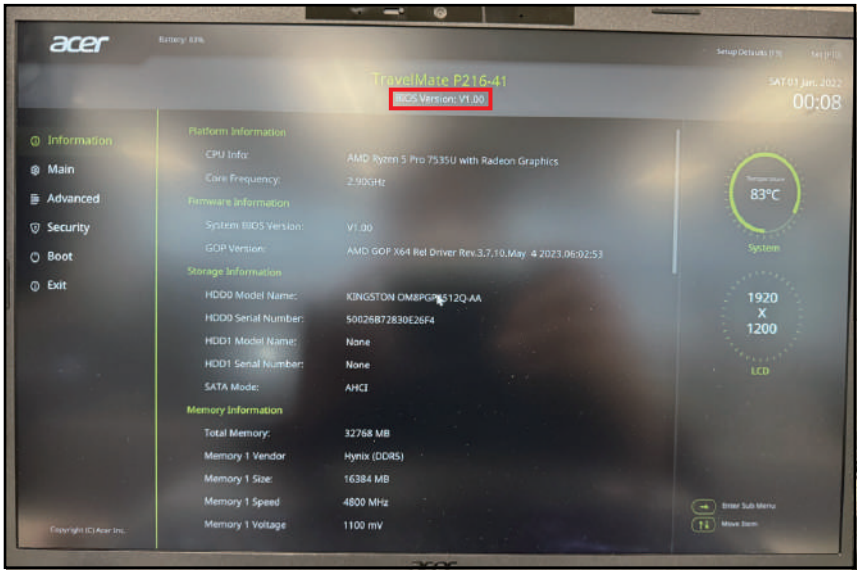


Figure 2-61. BIOS Version

CHAPTER 3
Machine Maintenance Procedures

Machine Maintenance Procedures

Introduction

This chapter contains general information about the computer, a list of tools needed to do the required maintenance and step by step procedures on how to remove and install components from the computer.

General Information

The product previews seen in the following procedures may not represent the final product color or configuration. Cable paths and positioning may also differ from the actual model. During the removal and installation of components, make sure all available cable channels and clips are used and that the cables are installed in the same position.

All prerequisites must be completed prior to starting maintenance.

Recommended Equipment

The following equipment are recommended to do the following maintenance procedures:

- Wrist grounding strap and conductive mat
- Flat screwdriver
- Philips screwdriver
- Polydrive screwdriver
- Plastic tweezers
- Flat plastic pry

Pre-disassembly Instructions

Do the following prior to starting any maintenance procedures:

1. Place the system on a stable work surface.
2. Remove the AC adapter from the DC-in jack (A) or the power adapter from the USB Type-C port (B) as shown in Figure 3-1.
3. Remove all cables from the system.

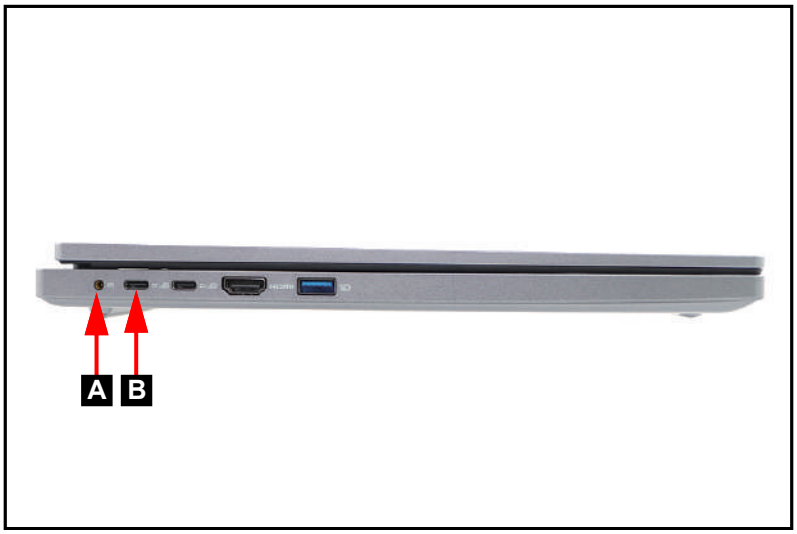


Figure 3-1. Adapter Outlet

4. Remove the microSD card from the microSD card slot (C) (Figure 3-2).

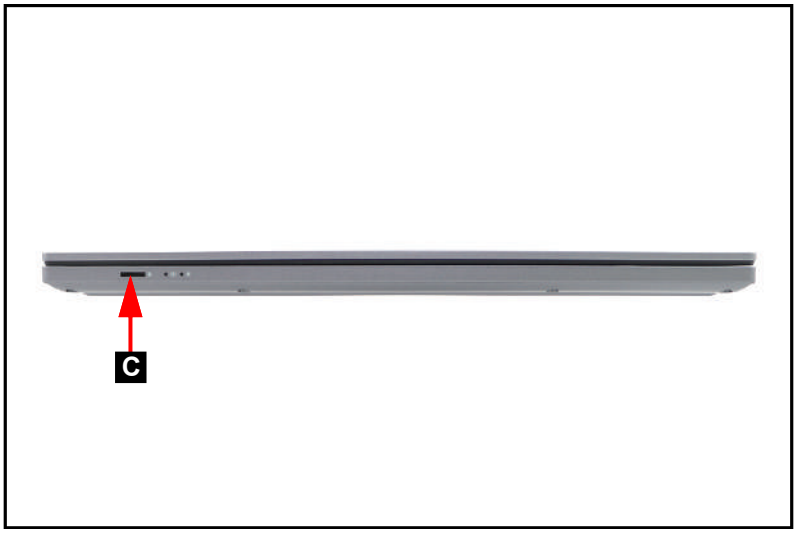


Figure 3-2. microSD Card Removal

NOTE:

Make sure the system is completely powered off.

Disassembly Process

The disassembly process is divided into the following sections:

- Main unit disassembly
- LCD module disassembly

The flowcharts provided in the succeeding disassembly sections illustrate the entire disassembly sequence. Observe the order of the sequence to avoid damage to any of the hardware components. For example, when removing the thermal module, remove first the base cover and battery in that order.

Table 3-1. Main Screw List

Size	Quantity	Acer Part No.
SCREW M2*2.5-IBZNNYLOKD5,T0.5STEEL	2	86.GK6N7.009
SCREW M2.0*2.0-I(NI,NYLOK)STL	3	86.VSYN7.002
SCREW M2.5*5.0-I(BNI)(NYLOK) IRON	7	86.HX4N7.001
SCREW M2.5*2.5-I(BNI)(NYLOK)T=0.6	6	86.SHXN7.003
SCREW W/WASHER KIT	13	86.VLLN7.003
SCREW M2.0*3.0-I(BZN)(NYLOK)IRON	N/A	86.GDEN7.001
SCREW M3*0.5+3.5I	N/A	86.TDY07.003
SCREW M2.0*4.0-I(BZN)(NYLOK)(IRON)	6	86.KA2N7.002
SCREW M2.5*1.8-H(BNI,NY,D5.0,T4.0,IT)STL	N/A	86.R19N7.001
SCREW M2.0*2.0- I(BNI)(NY)IRON	12	86.G55N7.001

Main Unit Disassembly Process

Main Unit Disassembly Flowchart

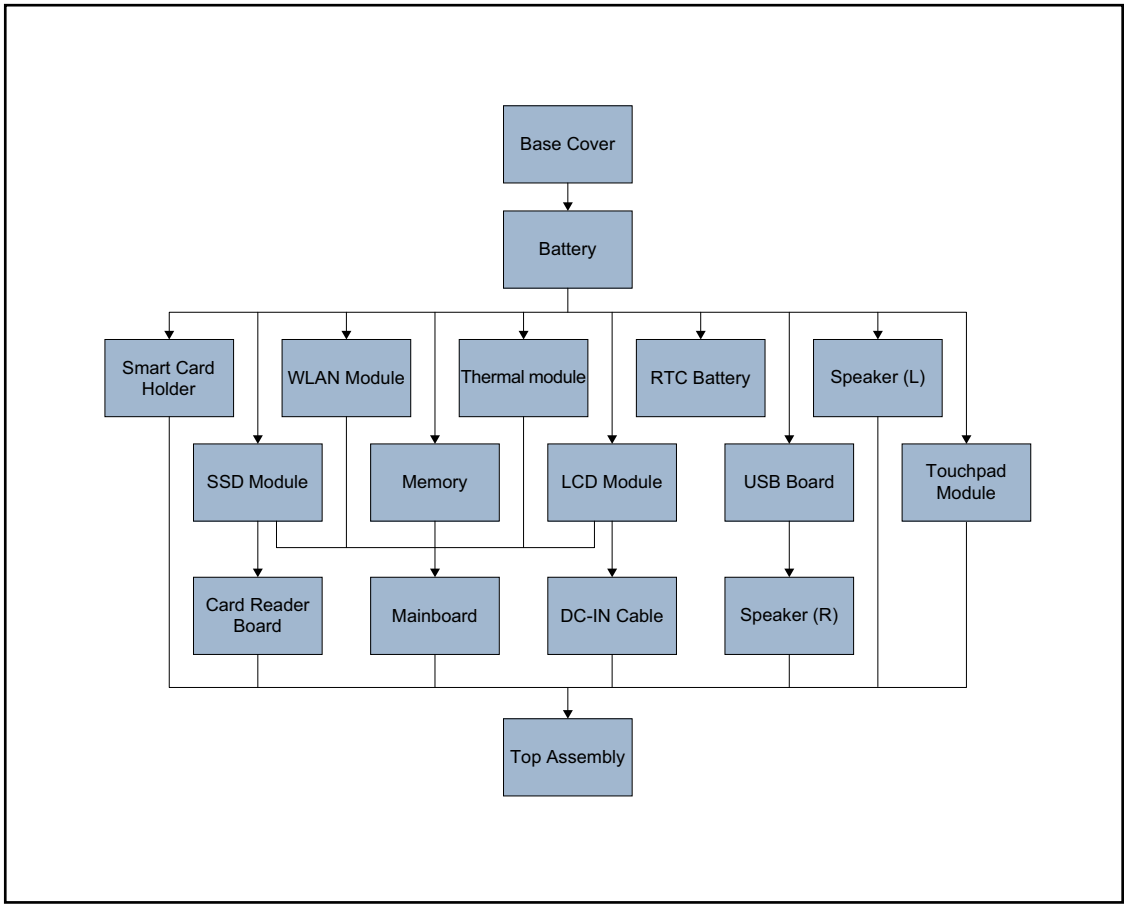


Figure 3-3. Main Unit Disassembly Flowchart

Table 3-2. Main Unit Screw List

Step	Size	Quantity	Acer Part No.
Base Cover Removal	M2.5*7.0	13	86.VLLN7.003
Smart Card Holder Removal	M2.0*4.0	2 (left IO bracket)	86.KA2N7.002
	M2.0*2.0	3	86.G55N7.001
SSD Modules Removal	M2.0*2.0	2	86.VSYN7.002
WLAN Module Removal	M2.0*2.0	1	86.VSYN7.002
Thermal Module Removal	M2.0*4.0	4	86.KA2N7.002
LCD Module Removal	M2.5*5.0	6	86.HX4N7.001
USB Board Removal	M2.0*2.0	1	86.G55N7.001
	M2.0*4.0	2 (left IO bracket)	86.KA2N7.002

Step	Size	Quantity	Acer Part No.
Touchpad Module Removal	M2.0*2.0	3	86.G55N7.001
Card Reader Board Removal	M2.0*2.0	3	86.G55N7.001
Mainboard Removal	M2.0*4.0	2 (left IO bracket)	86.KA2N7.002
	M2.0*2.0	2	86.G55N7.001
	M2.5*5.0	1 (right IO bracket)	86.HX4N7.001

NOTE:

The keyboard is included as part of the top assembly and can not be disassembled. In the event that the keyboard is damaged, replace the entire top assembly.

Base Cover Removal

1. Remove thirteen (13) screws from the base cover (Figure 3-4).

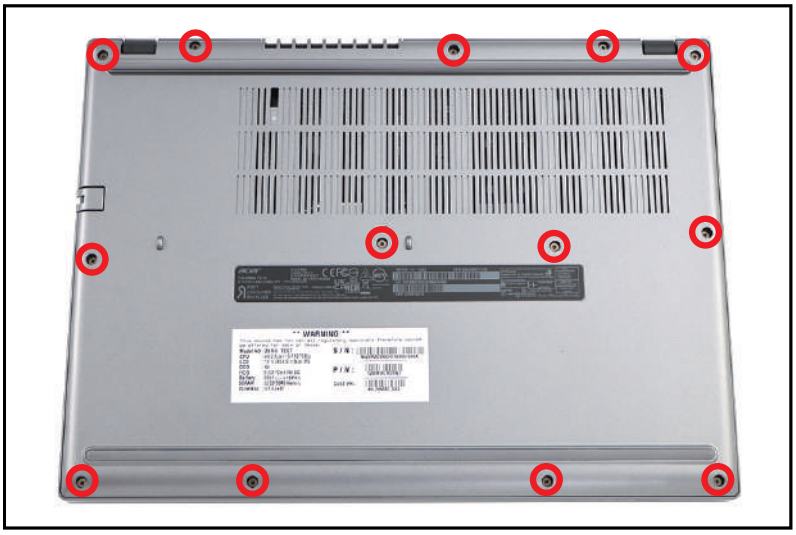


Figure 3-4. Base Cover Removal

2. Carefully pry up the base cover starting from the upper side to release the latches. Then continue to release the remaining latches on the left and right sides (Figure 3-5).

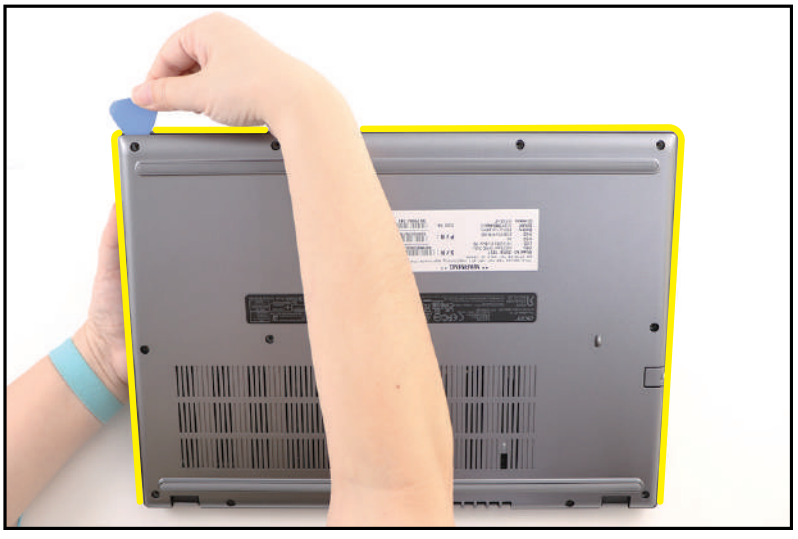


Figure 3-5. Base Cover Removal

3. Release the remaining latches on the bottom side. Then grasp and remove the base cover from the system (Figure 3-6).

Figure 3-6. Base Cover Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.5*7.0	3.0+15%kgf-cm	13	

Battery Pack Removal

Prerequisite:

Base Cover Removal

1. Detach the mylar (A) as shown in Figure 3-7.

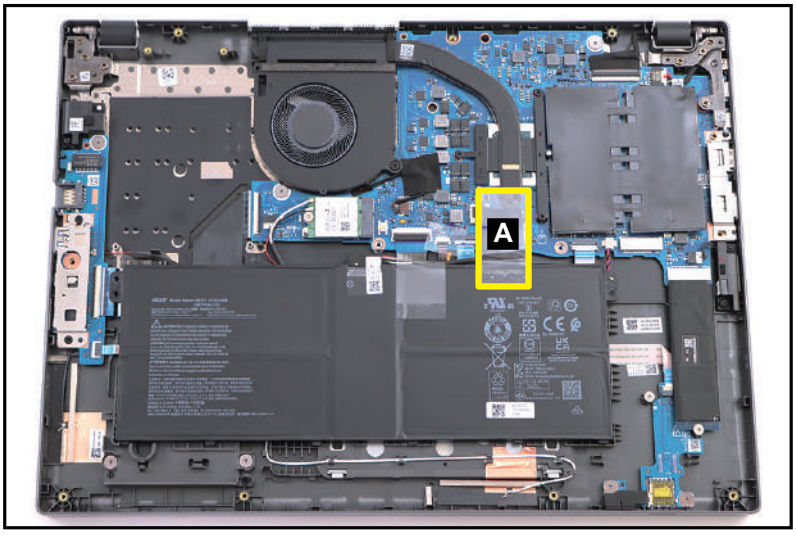


Figure 3-7. Battery Pack Removal

2. Detach the tape (B) securing the battery cable connection (Figure 3-8).

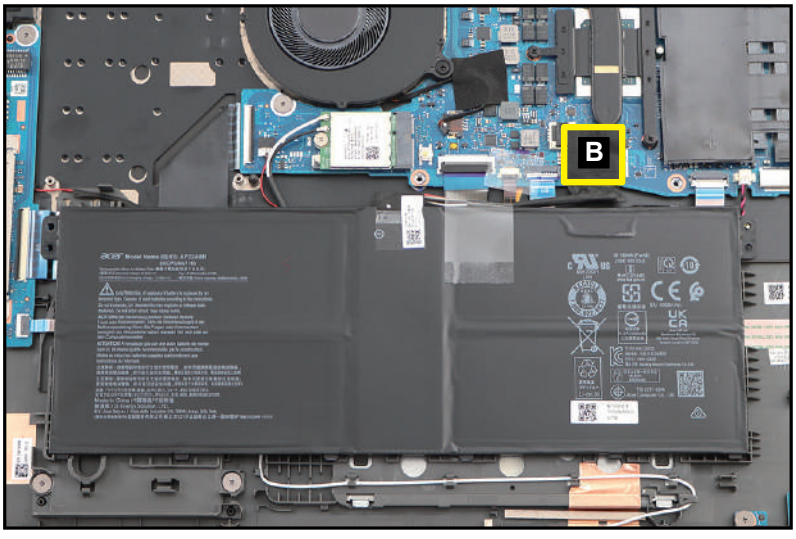


Figure 3-8. Battery Pack Removal

3. Disconnect the battery cable from the mainboard connector (C) (Figure 3-9).

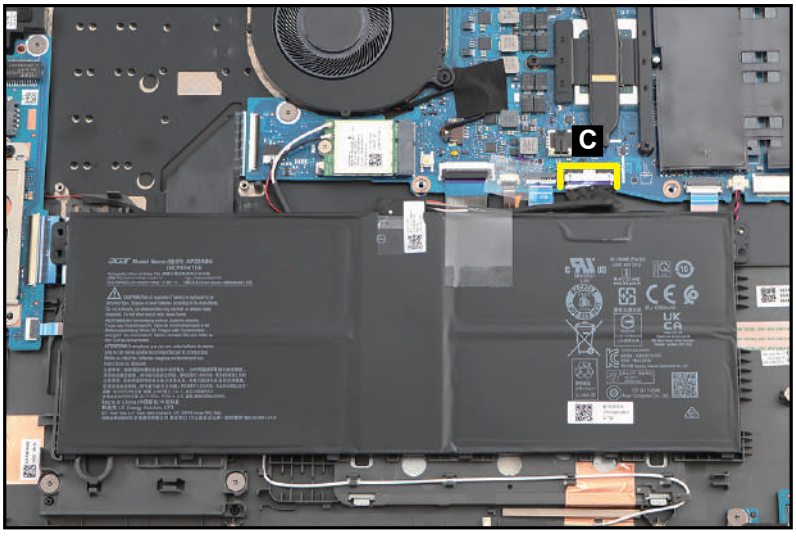


Figure 3-9. Battery Pack Removal

4. Lift to release the battery pack (D) from the guide pin (E) and compartment studs (highlighted with the green lines) (Figure 3-10). Then remove the battery pack.

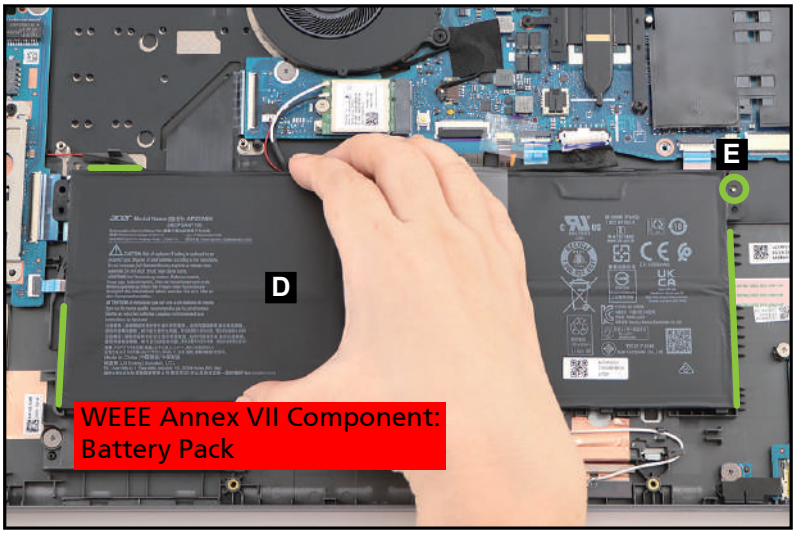


Figure 3-10. Battery Pack Removal

5. Detach another mylar (F) securing the battery cable in place (Figure 3-11).

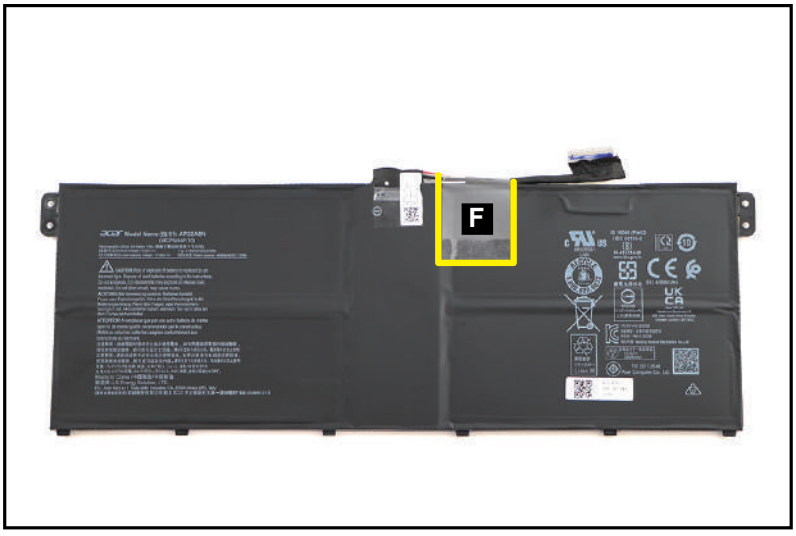


Figure 3-11. Battery Pack Removal

IMPORTANT:

Follow local regulations for battery disposal.

Smart Card Holder Removal

Prerequisite:

Battery Pack Removal

1. Remove two (2) screws (A) securing the left IO bracket (Figure 3-12).

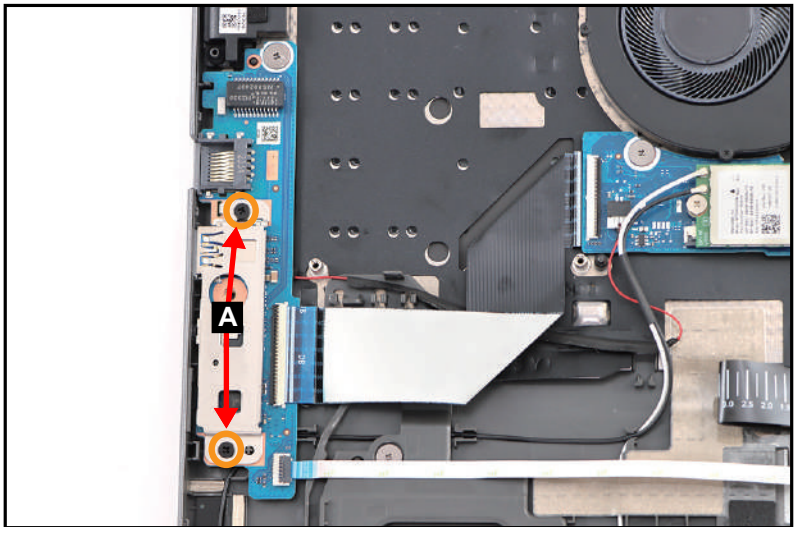


Figure 3-12. Smart Card Holder Removal

2. Lift the left IO bracket (B) to release it from the guide pins (C) (Figure 3-13). Then remove the IO bracket.

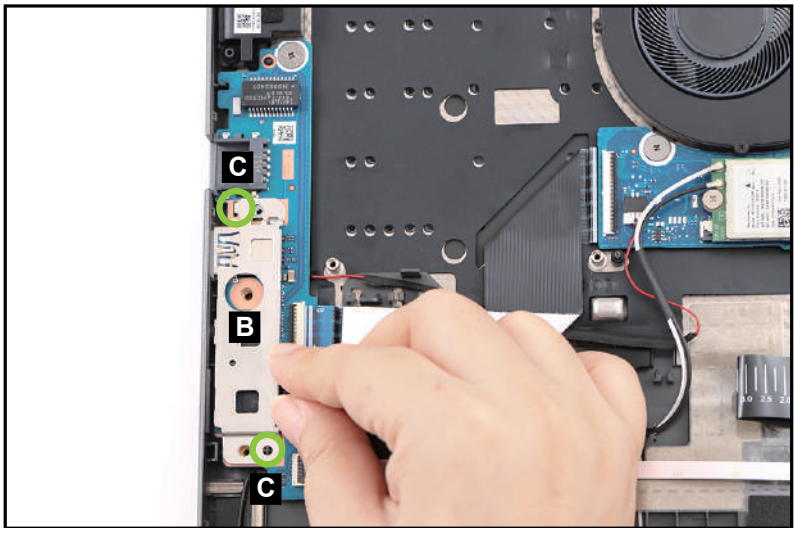


Figure 3-13. Smart Card Holder Removal

3. Disconnect the USB board FFC from the USB board connector (D). Then disconnect the fingerprint FFC from the USB board connector (E) (Figure 3-14).

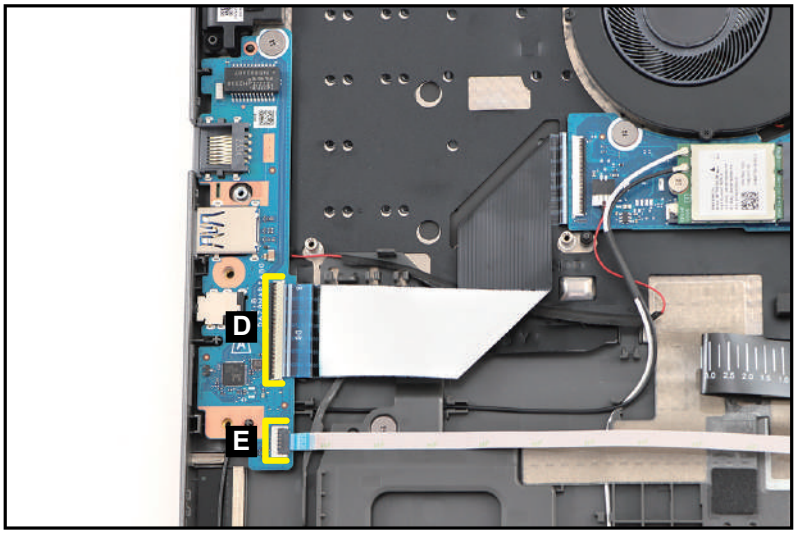


Figure 3-14. Smart Card Holder Removal

⚠ CAUTION:

USB board FFC (Flexible Flat Circuit) and fingerprint FFC can be damaged if removed while the USB board connectors are locked.

4. Disconnect the right speaker cable from the mainboard connector (F). Then unroute and detach the cable from its underneath adhesive as shown in Figure 3-15.

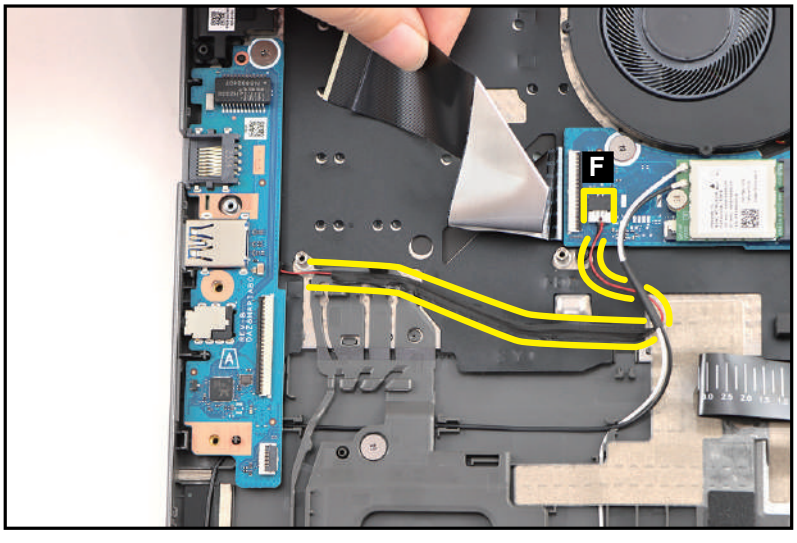


Figure 3-15. Smart Card Holder Removal

5. Remove three (3) screws (G) securing the smart card holder (Figure 3-16).

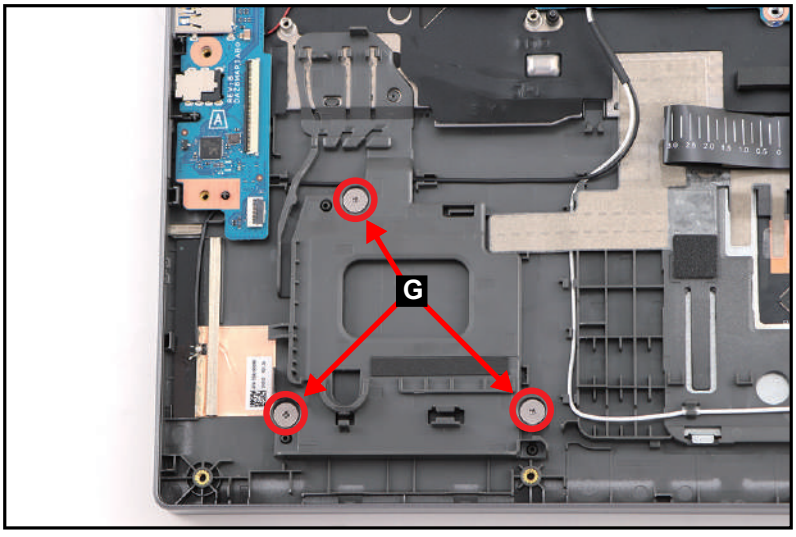


Figure 3-16. Smart Card Holder Removal

6. Push the smart card holder (H) forward to release it from the guide tab (highlighted by the green box) as shown in Figure 3-17. Then remove the card holder.

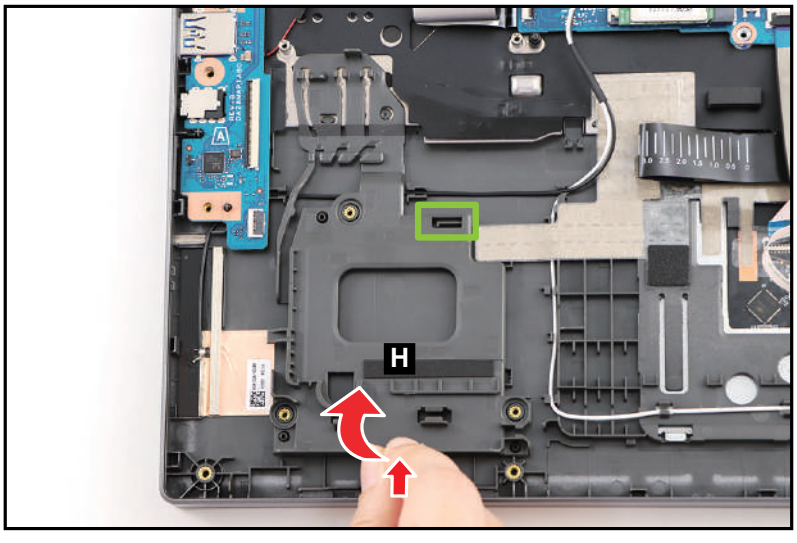


Figure 3-17. Smart Card Holder Removal

ID	Size	Torque	Quantity	Screw Type
A	M2.0*4.0	2.0+10%kgf-cm	2 (left IO bracket)	
G	M2.0*2.0	2.0+10%kgf-cm	3	

SSD Modules Removal

Prerequisite:

Battery Pack Removal

1. Find the SSD modules (A) on the top assembly (Figure 3-18).

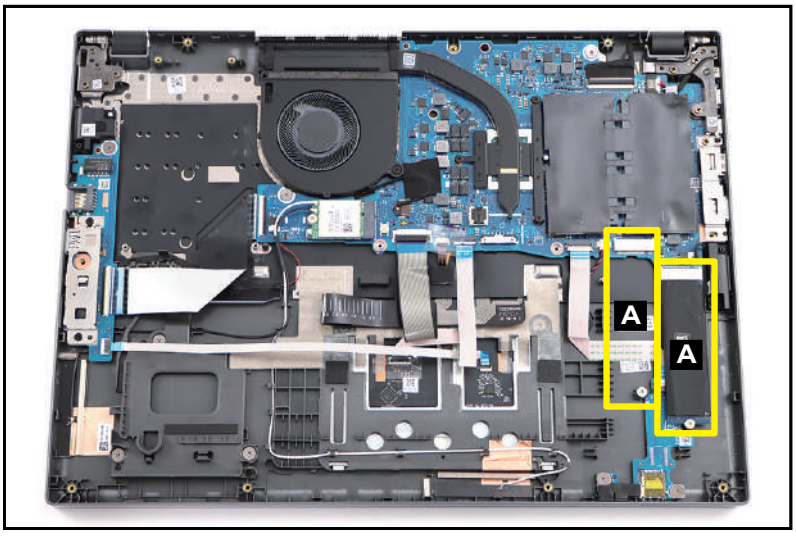


Figure 3-18. SSD Modules Location

2. Remove one (1) screw securing the SSD module (Figure 3-19).

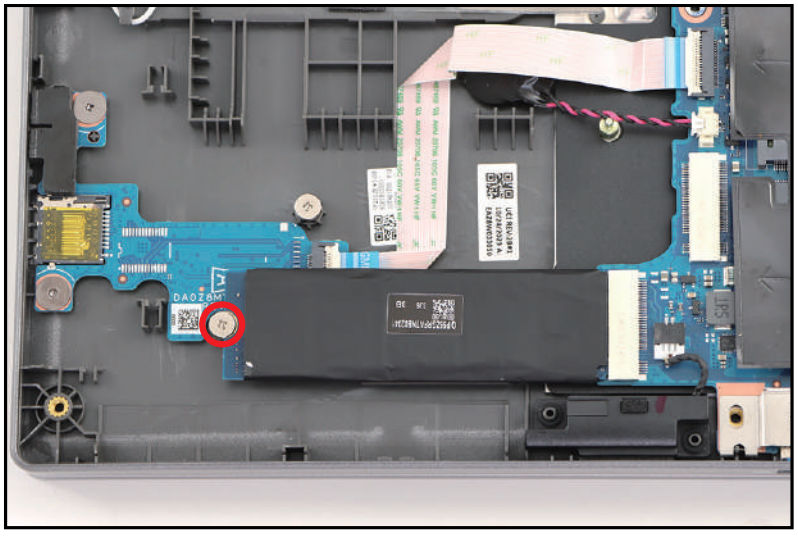


Figure 3-19. SSD Module Removal

3. Disconnect the SSD module from the mainboard connector (B) (Figure 3-20). Then remove the SSD module.

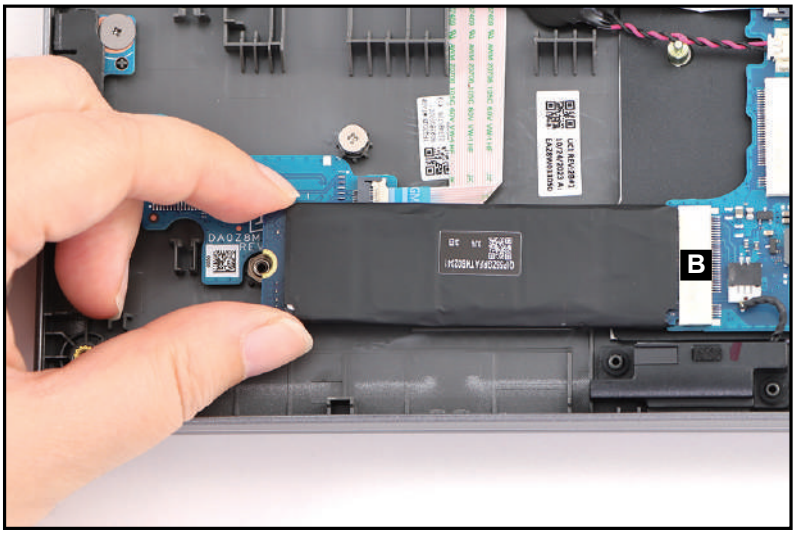


Figure 3-20. SSD Module Removal

4. Repeat steps 2~3 to remove another SSD module.
5. By holding the upper edge of the copper foil with mylar (C), unfold and detach it from the SSD module as shown in Figure 3-21 and Figure 3-22 but DO NOT remove yet!

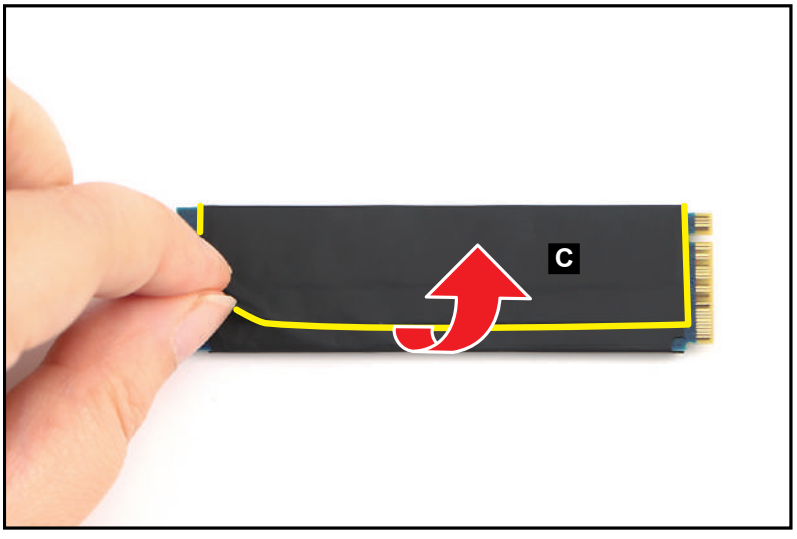


Figure 3-21. SSD Module Removal

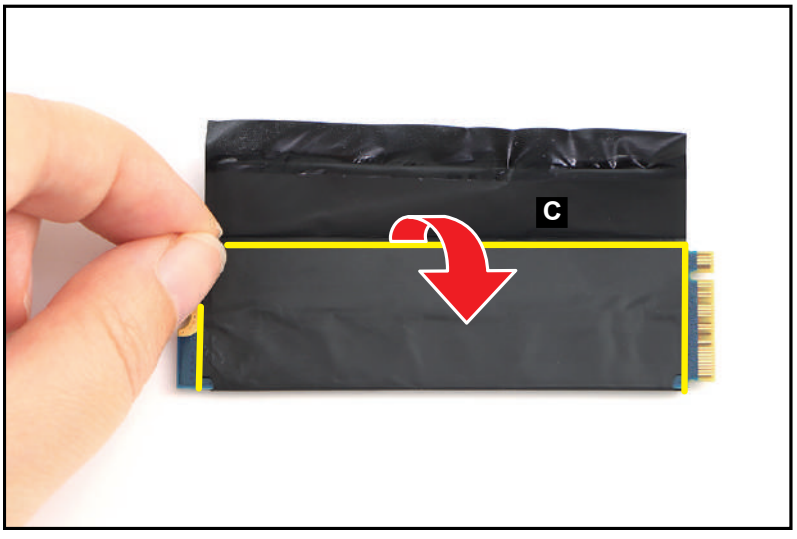


Figure 3-22. SSD Module Removal

6. Detach the SSD module from the adhesive graphite strip (marked with yellow dashed line) as shown in Figure 3-23.

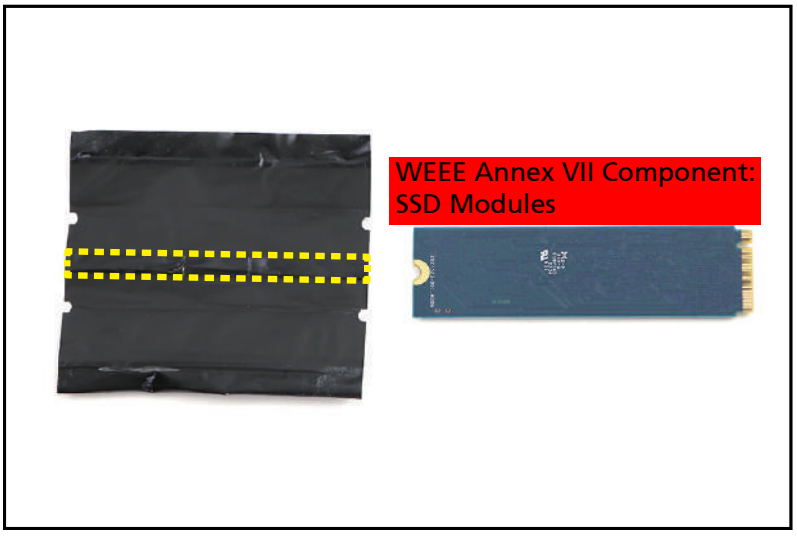


Figure 3-23. SSD Module Removal

7. Repeat steps 5~6 to remove the copper foil with mylar from another SSD module.

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	2	

WLAN Module Removal

Prerequisite:

Battery Pack Removal

1. Find the WLAN module (A) on the top assembly (Figure 3-24).

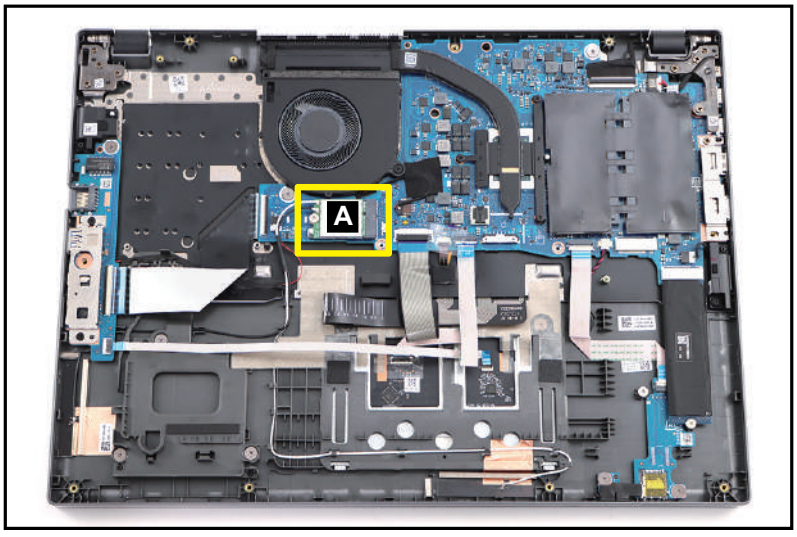


Figure 3-24. WLAN Module Location

2. Disconnect the WLAN antennas cables from the WLAN module connectors (B) (Figure 3-25).
3. Remove one (1) screw securing the WLAN module in place (Figure 3-25).

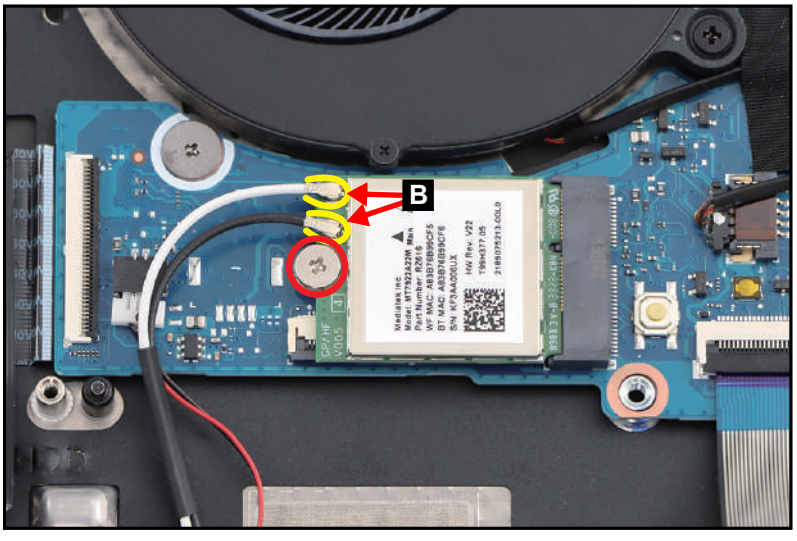


Figure 3-25. WLAN Module Removal

4. Disconnect the WLAN module from the mainboard connector (C) (Figure 3-26). Then remove the WLAN module.

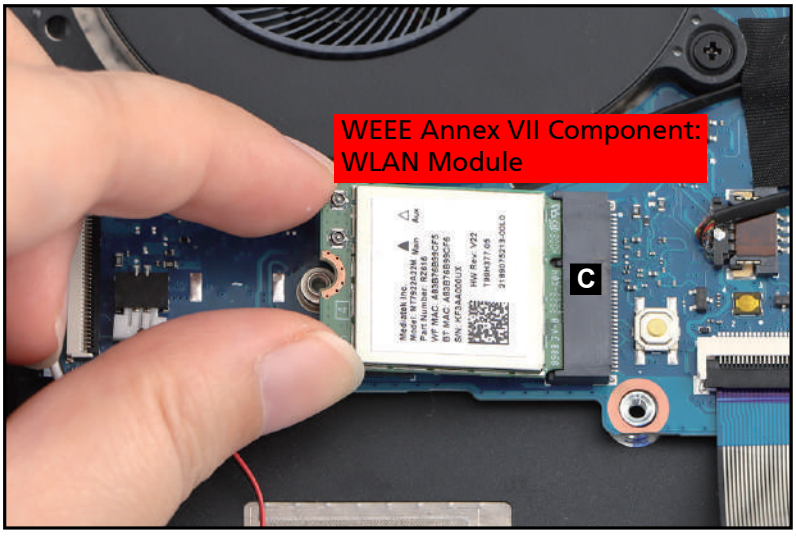


Figure 3-26. WLAN Module Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	1	

DIMM Modules Removal

Prerequisite:

Battery Pack Removal

1. Detach the absorber with mylar (A) covering the DIMM modules (Figure 3-27).

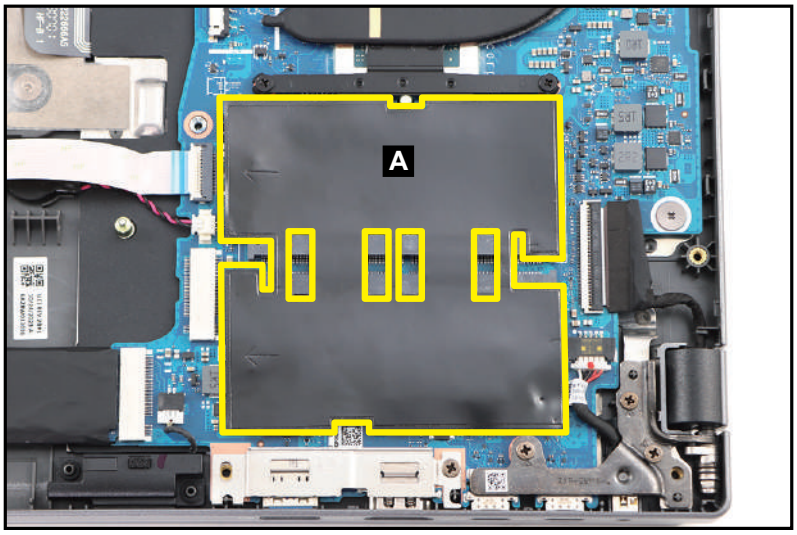


Figure 3-27. DIMM Module Removal

2. Push the DIMM module clips (B) outwards (Figure 3-28).

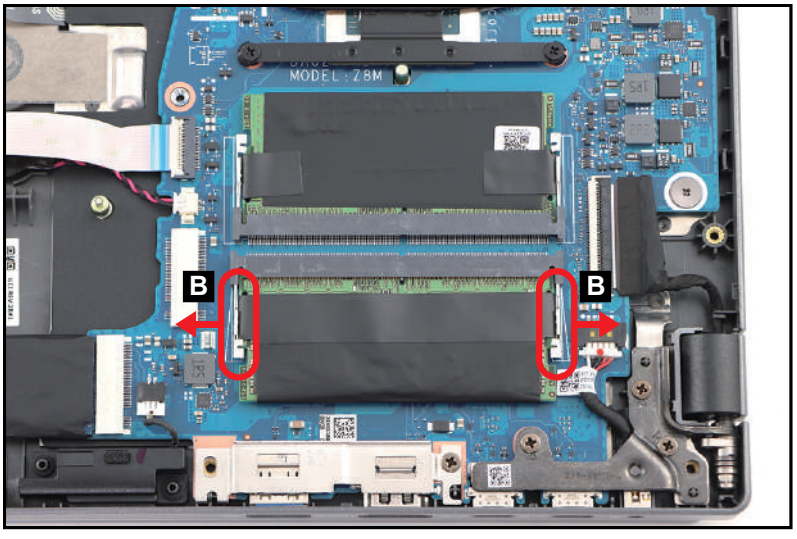


Figure 3-28. DIMM Module Removal

3. Disconnect the DIMM module (C) from the mainboard connector (D) (Figure 3-29). Then remove the DIMM module.

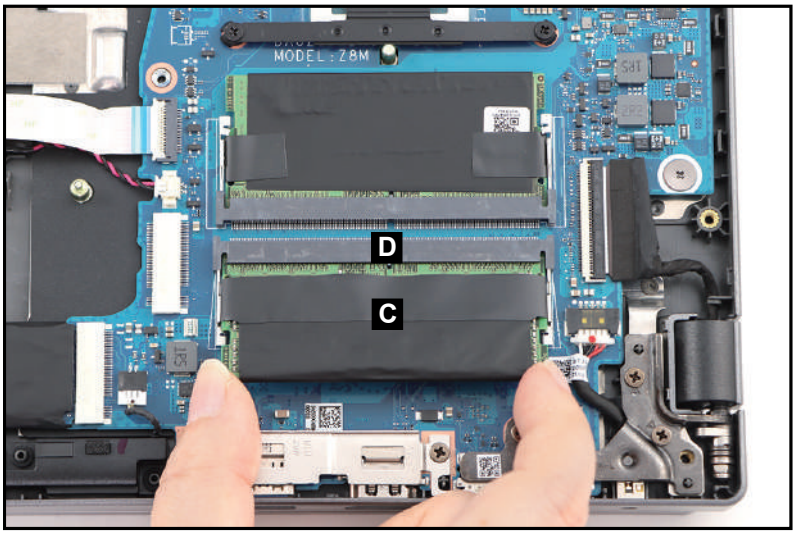


Figure 3-29. DIMM Module Removal

4. Repeat steps 2~3 to remove another DIMM module.
5. Detach the tabs (E) of the composite foil with thermal pad from the DIMM module as shown in Figure 3-30.

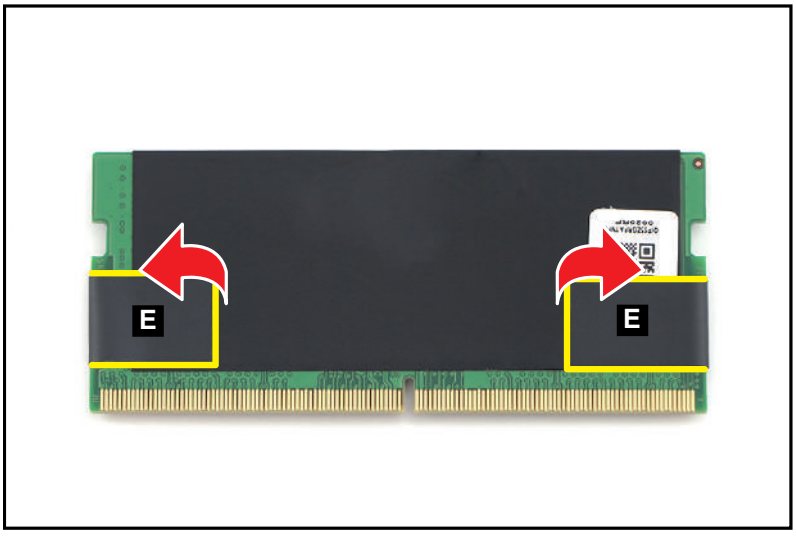


Figure 3-30. DIMM Module Removal

6. Peel off the composite foil with thermal pad (F) from the DIMM module (Figure 3-31).

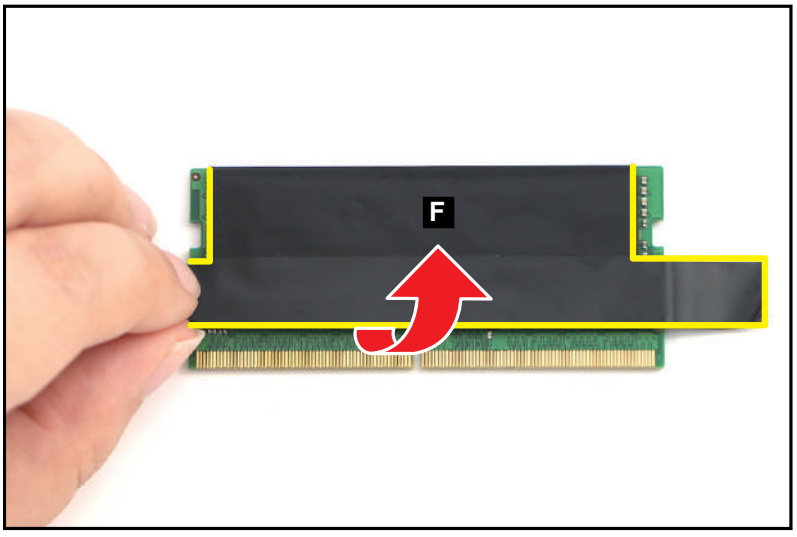


Figure 3-31. DIMM Module Removal

7. Detach the DIMM module from the adhesive graphite strip (marked with yellow dashed line) as shown in Figure 3-32.

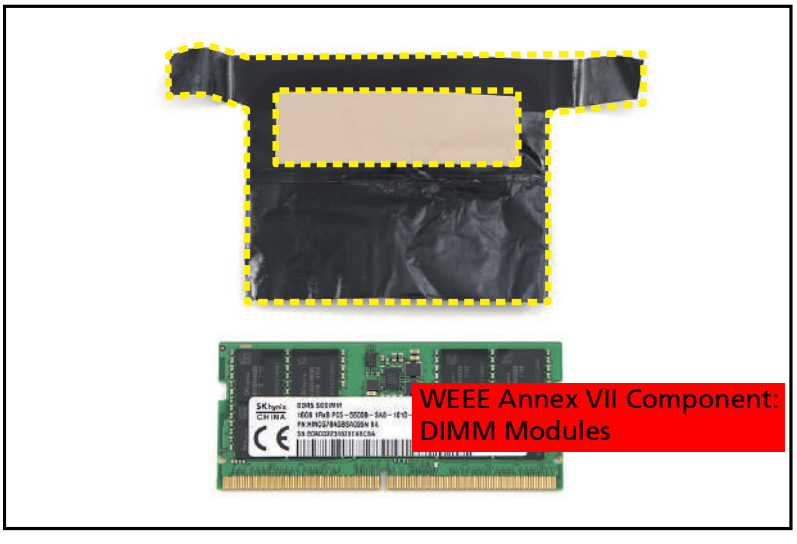


Figure 3-32. DIMM Module Removal

8. Repeat steps 5~7 to remove the composite foil with thermal pad from another DIMM module.

Thermal Module Removal

Prerequisite:

Battery Pack Removal

1. Detach the tape (A) securing the fan cable connection (Figure 3-33).

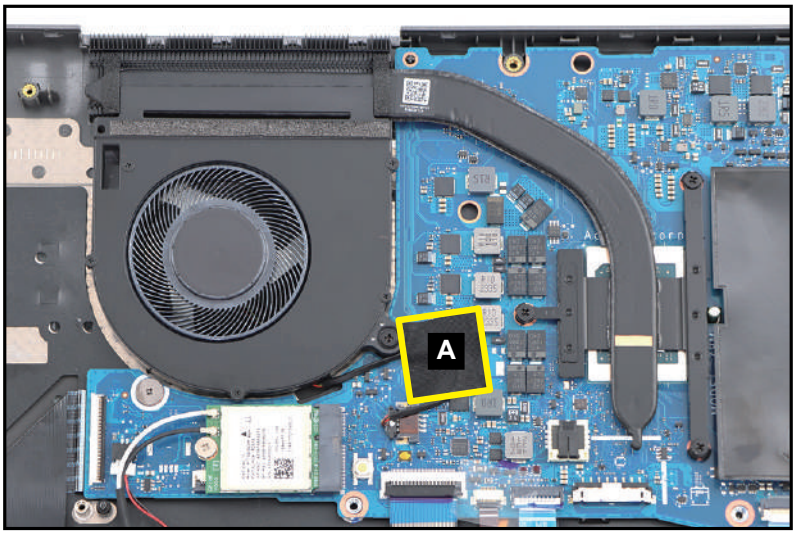


Figure 3-33. Thermal Module Removal

2. Disconnect the fan cable from the mainboard connector (B) (Figure 3-34).
3. Remove one (1) screw securing the fan. Then remove another three (3) screws (in reverse numerical order from three (3) to one (1)) securing the CPU heatsink (Figure 3-34).

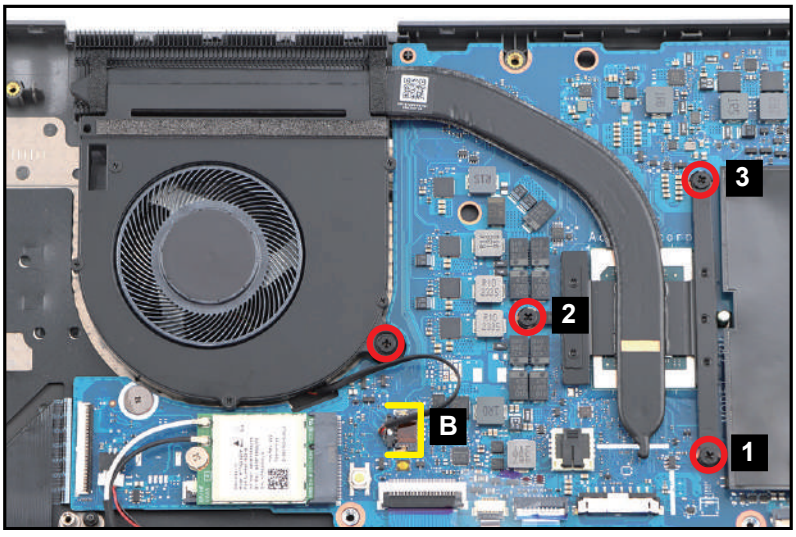


Figure 3-34. Thermal Module Removal

4. Carefully lift to remove the thermal module (C) from the mainboard and top assembly (Figure 3-35).

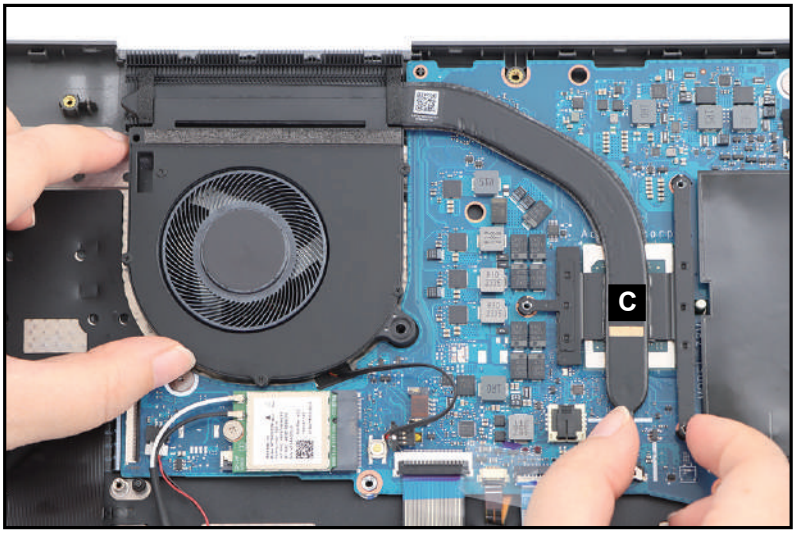


Figure 3-35. Thermal Module Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*4.0	2.0+10%kgf-cm	4	

LCD Module Removal

Prerequisite:

Battery Pack Removal

1. Disconnect the LCD cable from the mainboard connector (A). Then unroute the cable from the cable guides as shown in Figure 3-36.

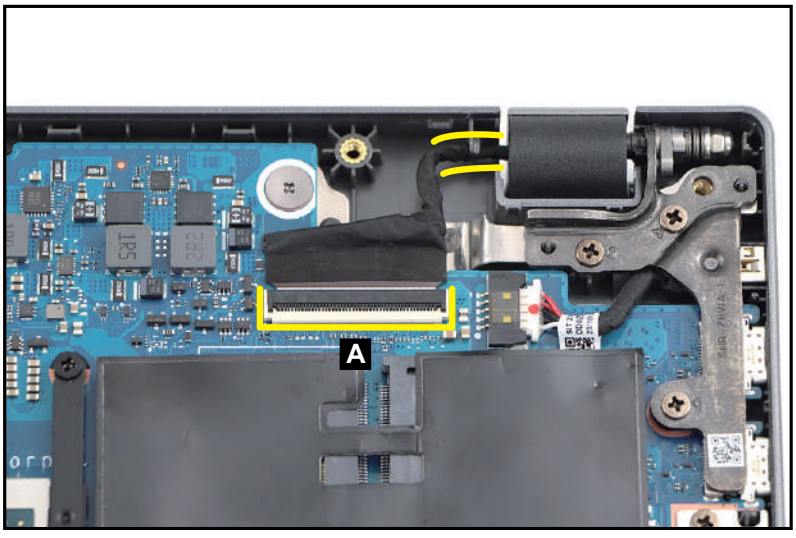


Figure 3-36. LCD Module Removal

2. Open the LCD module to 90°. Then remove six (6) screws securing the LCD hinges (Figure 3-37).

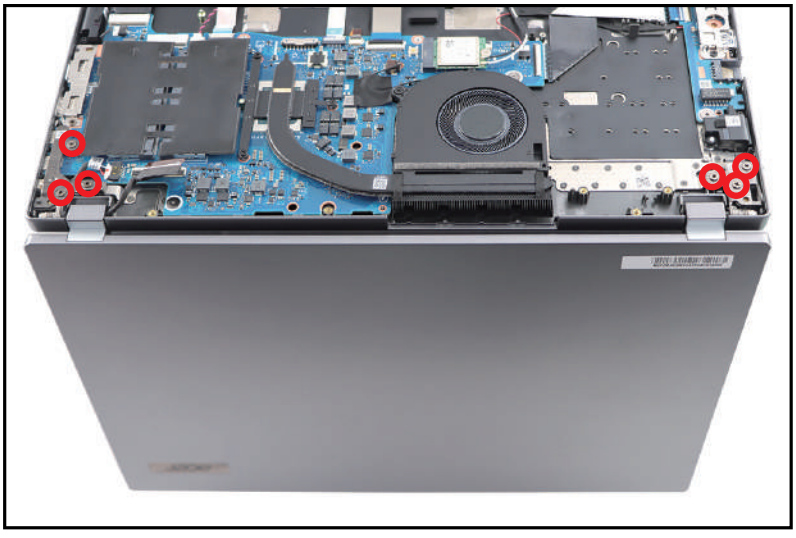


Figure 3-37. LCD Module Removal

3. Remove the LCD module (B) away from the top assembly (Figure 3-38).

⚠ CAUTION:

Make sure all cables are moved away from the device to avoid damage during removal.

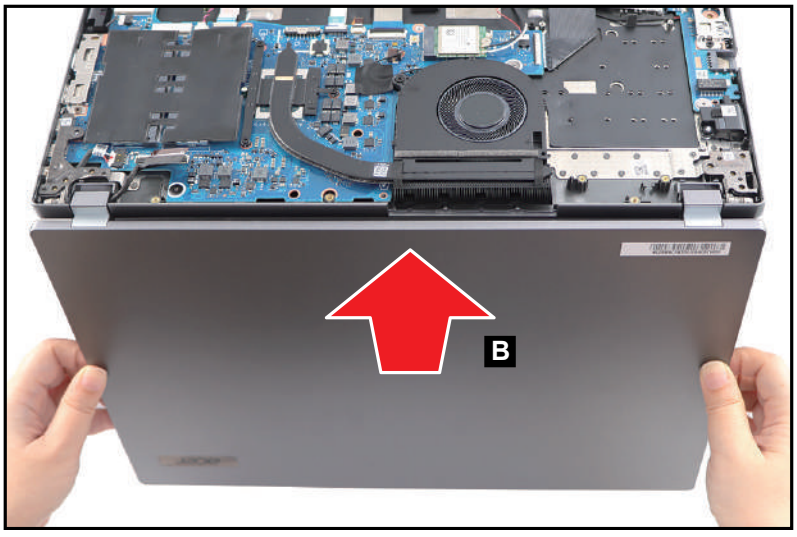


Figure 3-38. LCD Module Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.5*5.0	3.0±15%kgf-cm	6	

RTC Battery Removal

Prerequisite:

Battery Pack Removal

1. Disconnect the card reader board FFC from the mainboard connector (A) (Figure 3-39).

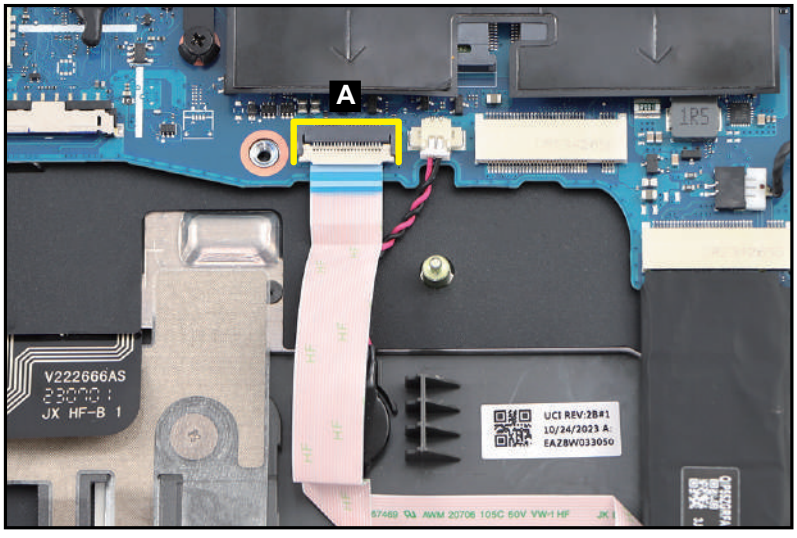


Figure 3-39. RTC Battery Removal

⚠ CAUTION:

Card reader board FFC (Flexible Flat Circuit) can be damaged if removed while the mainboard connector is locked.

2. Disconnect the RTC battery cable from the mainboard connector (B) (Figure 3-40).
3. Using plastic tweezers, carefully pry to detach the adhesive tape underneath the RTC battery (C) (Figure 3-40). Then remove the RTC battery.

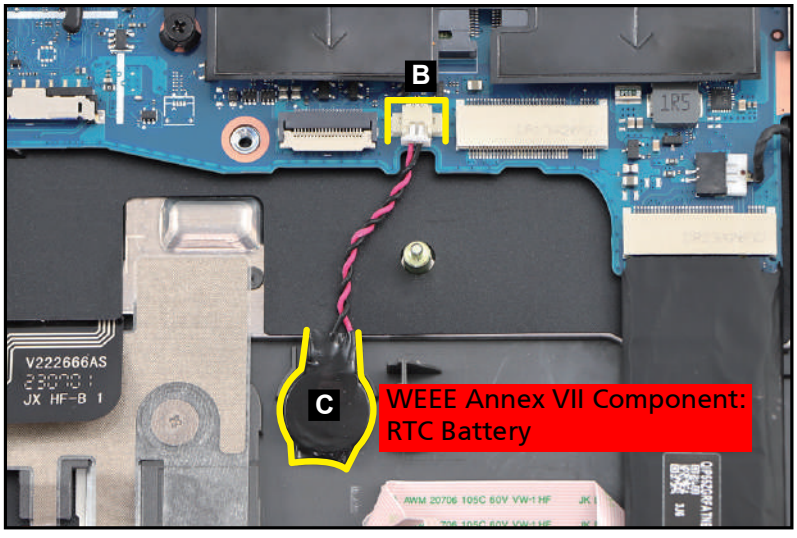


Figure 3-40. RTC Battery Removal

IMPORTANT:

Follow local regulations for battery disposal.

USB Board Removal

Prerequisite:

Battery Pack Removal

1. Remove three (3) screws securing the USB board and left IO bracket (Figure 3-41).

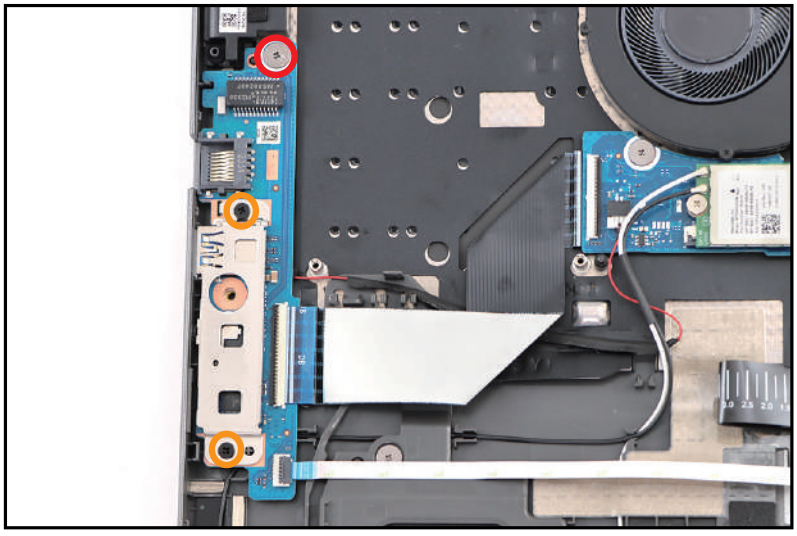


Figure 3-41. USB Board Removal

2. Lift the left IO bracket (A) to release it from the guide pins (B) (Figure 3-42). Then remove the IO bracket.

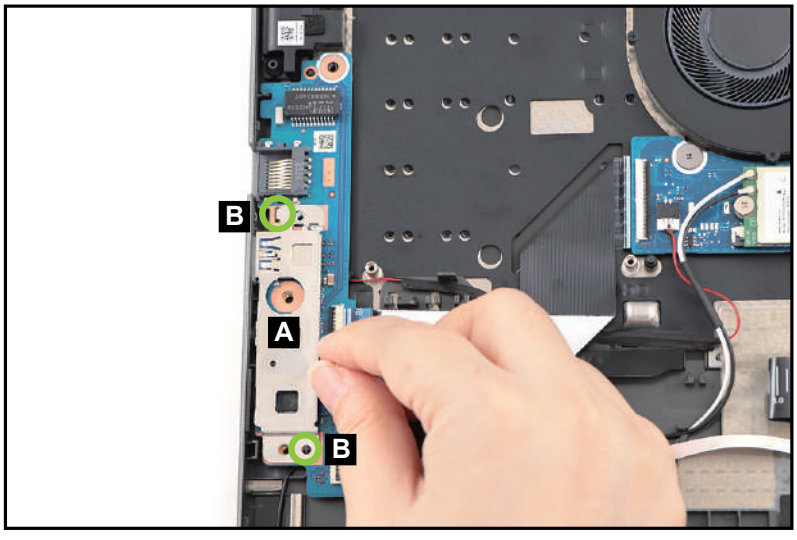


Figure 3-42. USB Board Removal

3. Disconnect the USB board FFC from the USB board connector (C). Then disconnect the fingerprint FFC from the USB board connector (D) (Figure 3-43).

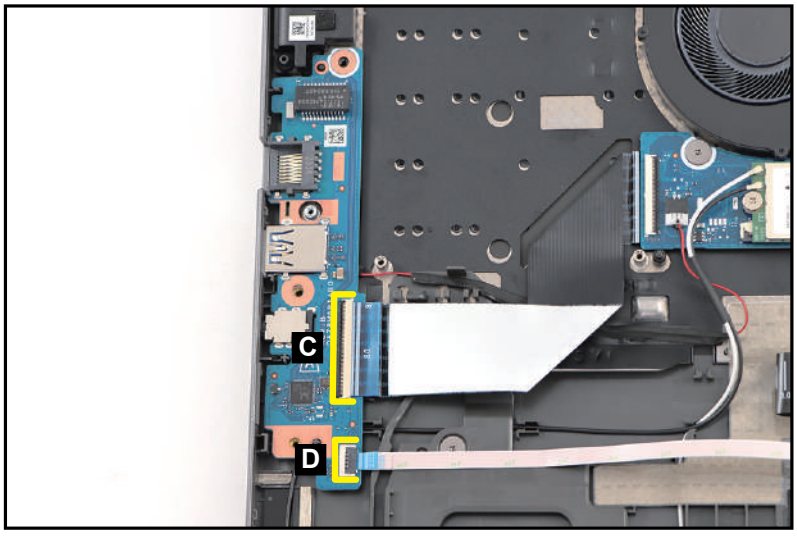


Figure 3-43. USB Board Removal

⚠ CAUTION:

USB board FFC (Flexible Flat Circuit) and fingerprint FFC can be damaged if removed while the USB board connectors are locked.

4. Release the USB board (E) from the I/O port slots and guide pins (F) on the top assembly (Figure 3-44). Then remove the USB board.

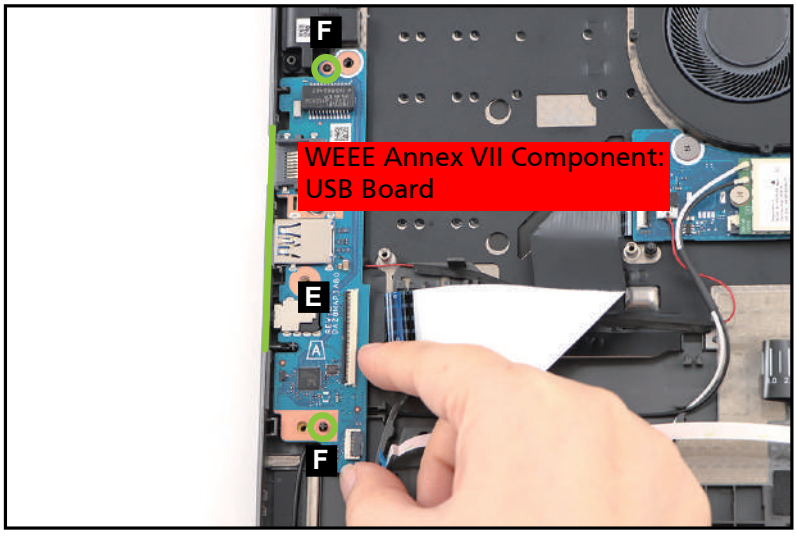


Figure 3-44. USB Board Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	1	
Orange Call out	M2.0*4.0	2.0+10%kgf-cm	2 (left IO bracket)	

Left Speaker Removal

Prerequisite:

Battery Pack Removal

1. Disconnect the left speaker cable from the mainboard connector (A) (Figure 3-45).

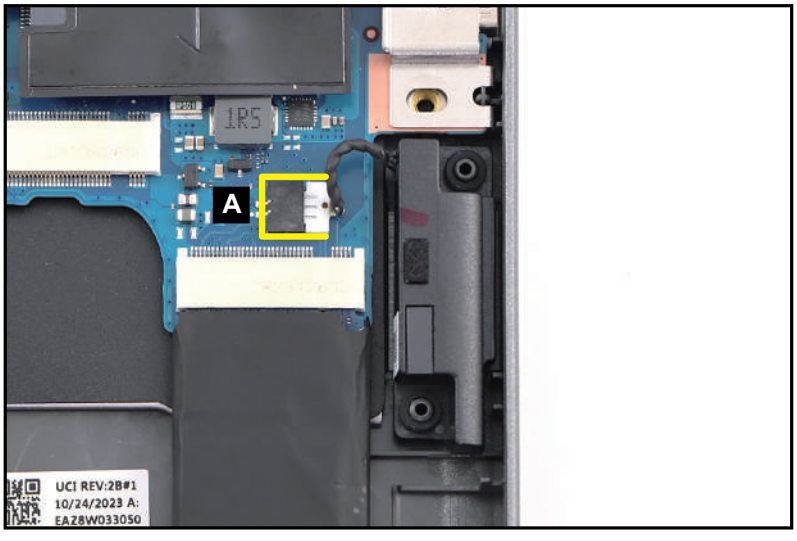


Figure 3-45. Left Speaker Removal

2. Lift the left speaker (B) to release it from the guide pins (C) on the top assembly (Figure 3-46). Then remove the speaker.

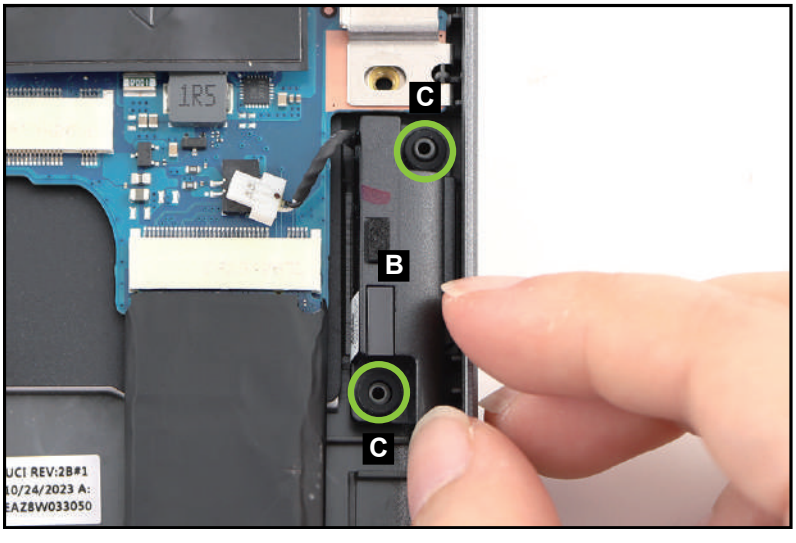


Figure 3-46. Left Speaker Removal

Touchpad Module Removal

Prerequisite:

Battery Pack Removal

1. Lift the keyboard FPC and touchpad FFC. Then disconnect the fingerprint FFC (A) from the USB board and touchpad module connectors (Figure 3-47).
2. Carefully detach the fingerprint FFC from its underneath adhesive (highlighted with the yellow lines) as shown in Figure 3-47. Then remove the FFC.

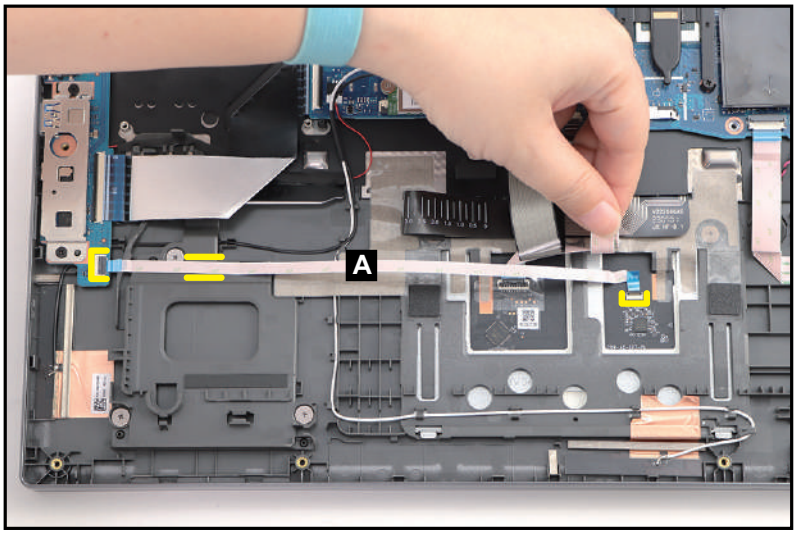


Figure 3-47. Touchpad Module Removal

⚠ CAUTION:

Fingerprint FFC (Flexible Flat Circuit) can be damaged if removed while the USB board and touchpad module connectors are locked.

3. Detach the mylars (B) securing the touchpad FFC and keyboard backlight FPC connections as shown in Figure 3-48.

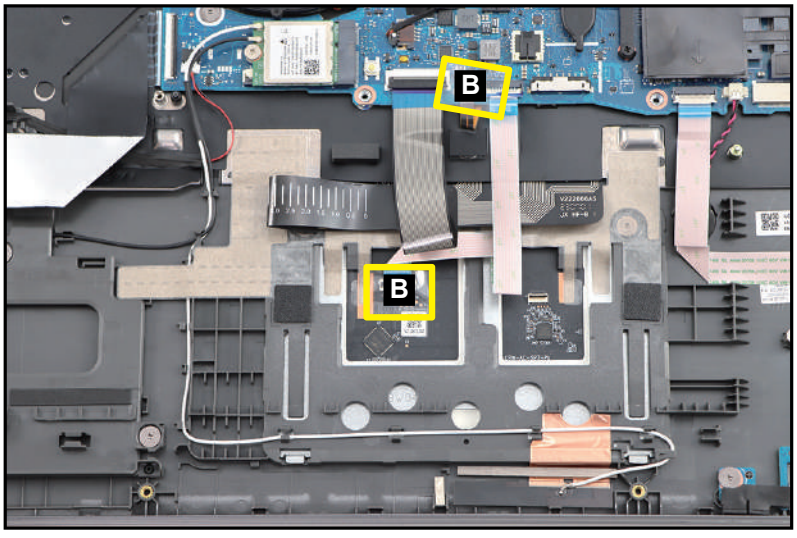


Figure 3-48. Touchpad Module Removal

4. Disconnect the touchpad FFC (C) from the touchpad module and mainboard connectors (Figure 3-49). Then remove the FFC.

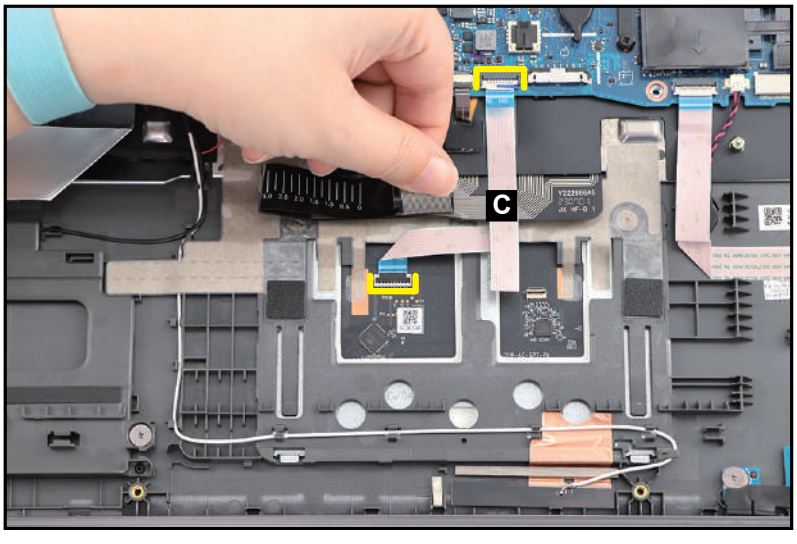


Figure 3-49. Touchpad Module Removal

⚠ CAUTION:

Touchpad FFC (Flexible Flat Circuit) can be damaged if removed while the touchpad module and mainboard connectors are locked.

5. Slightly detach and lift the mylar. Then detach the conductive tape (D) from the touchpad module and top assembly (Figure 3-50).

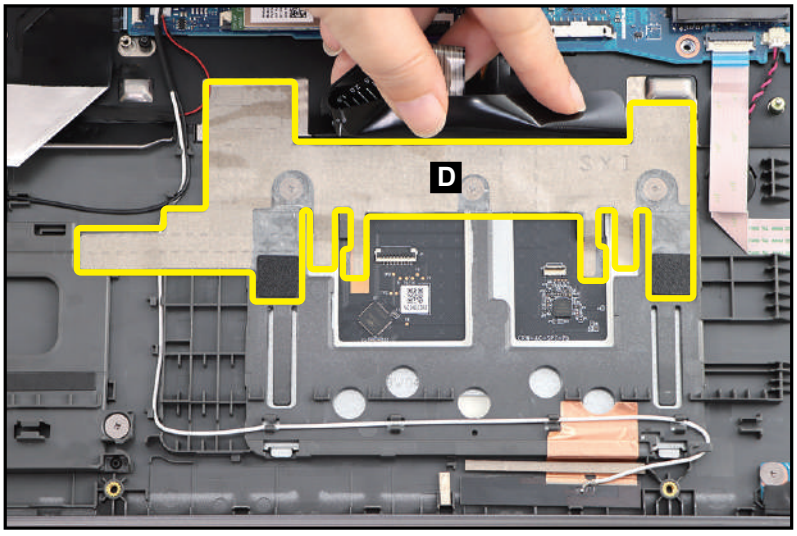


Figure 3-50. Touchpad Module Removal

6. Remove three (3) screws securing the touchpad module (Figure 3-51).

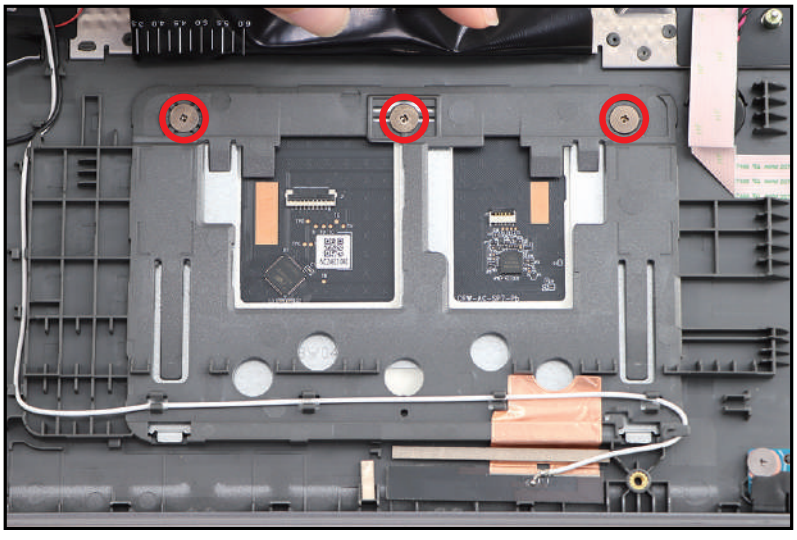


Figure 3-51. Touchpad Module Removal

7. Using the screwdriver, push the guide pins (E) firmly to release it from the top assembly (Figure 3-52).
8. Slide the touchpad module (F) slightly to disengage it from the bottom latches (G), and then remove the touchpad module from the top assembly (Figure 3-52).

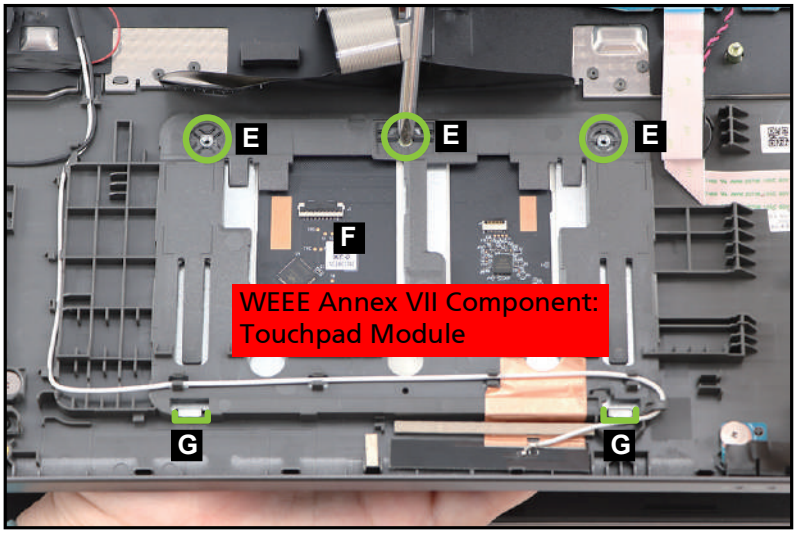


Figure 3-52. Touchpad Module Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	3	

Card Reader Board Removal

Prerequisite:

SSD Modules Removal

1. Detach the sponge (A) from the card reader board (Figure 3-53).
2. Disconnect the card reader board FFC (B) from the card reader board and mainboard connectors (Figure 3-53). Then remove the FFC.

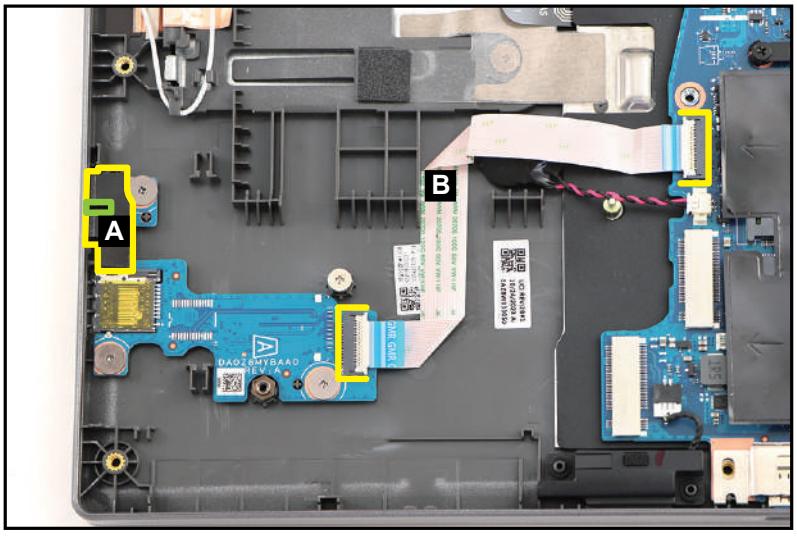


Figure 3-53. Card Reader Board Removal

⚠ CAUTION:

Card reader board FFC (Flexible Flat Circuit) can be damaged if removed while the card reader board and mainboard connectors are locked.

3. Remove three (3) screws securing the card reader board (Figure 3-54).

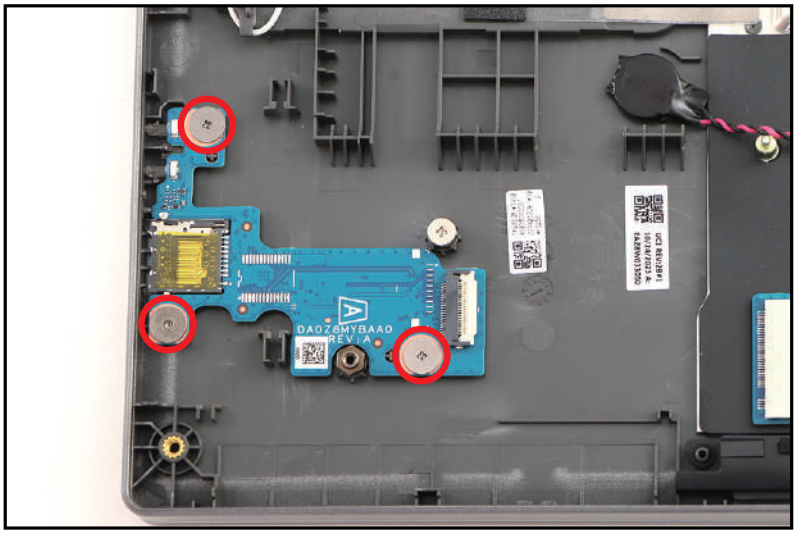


Figure 3-54. Card Reader Board Removal

4. Release the card reader board (C) from the card reader slot and guide pins (D) (Figure 3-55). Then remove the card reader board.

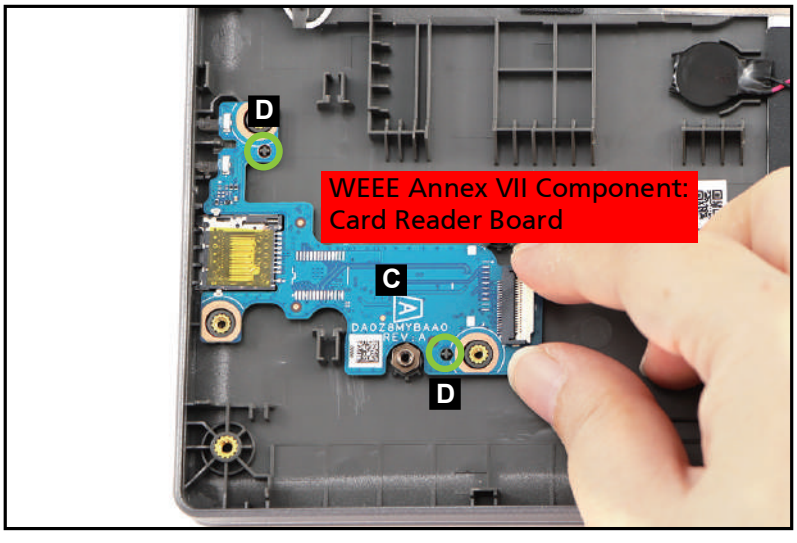


Figure 3-55. Card Reader Board Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	3	

DC-IN Cable Removal

Prerequisite:

LCD Module Removal

1. Disconnect the DC-IN cable from the mainboard connector (A) (Figure 3-56).

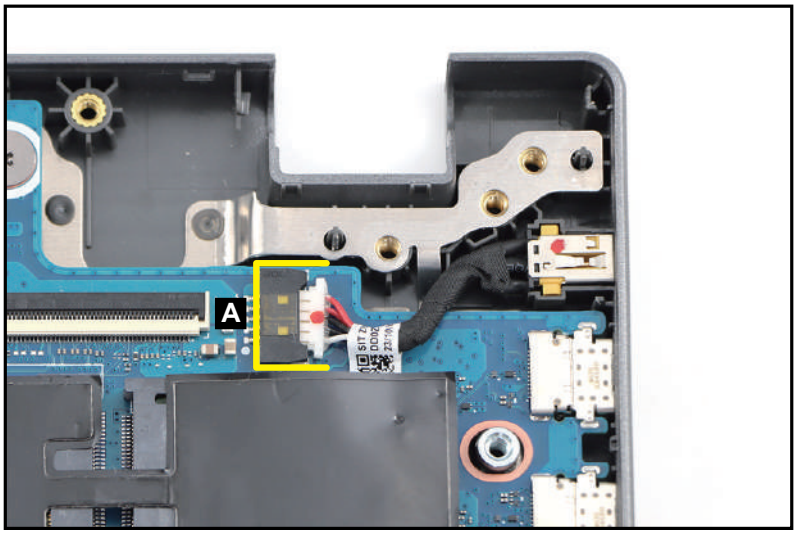


Figure 3-56. DC-IN Cable Removal

2. Remove the DC-IN cable (B) from its slot on the top assembly (Figure 3-57).

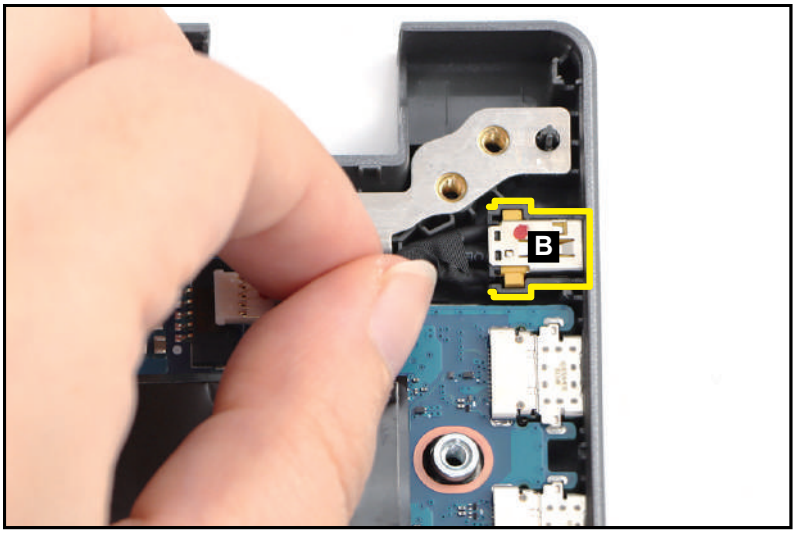


Figure 3-57. DC-IN Cable Removal

Right Speaker Removal

Prerequisite:

USB Board Removal

1. Disconnect the right speaker cable from the mainboard connector (A). Then unroute and detach the cable from its underneath adhesive as shown in Figure 3-58.

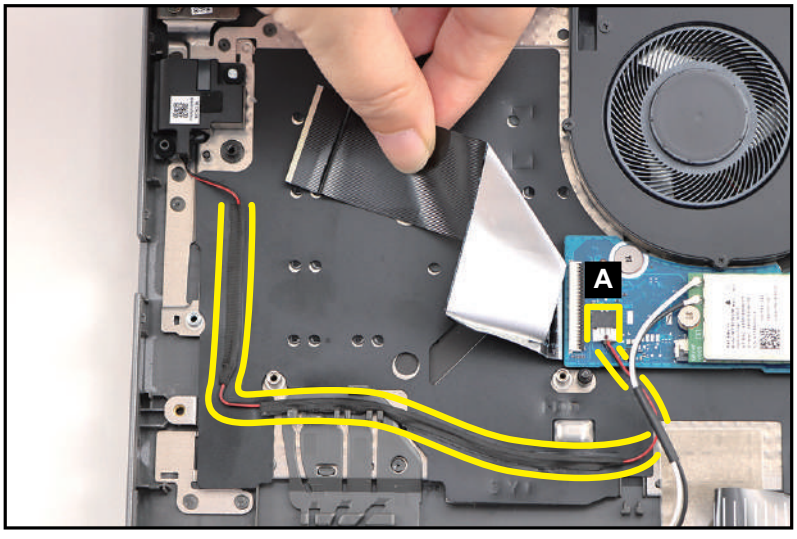


Figure 3-58. Right Speaker Removal

2. Lift the right speaker (B) to release it from the guide pins (C) on the top assembly (Figure 3-59). Then remove the speaker.

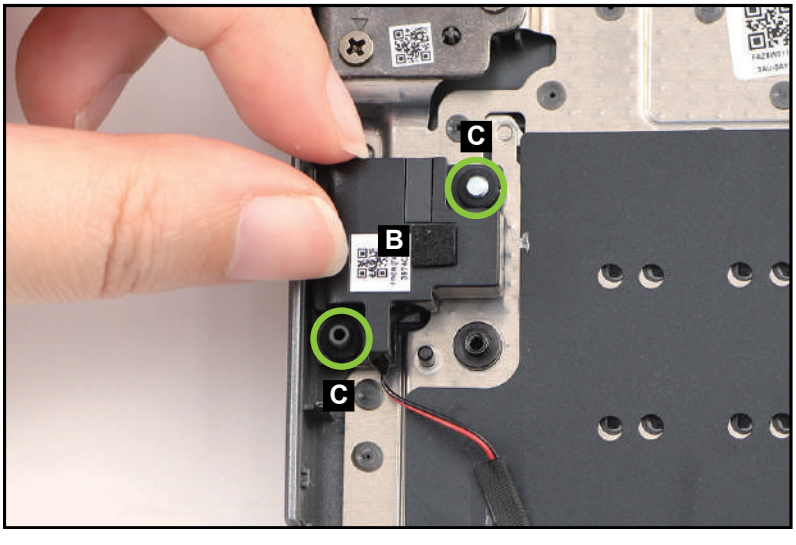


Figure 3-59. Right Speaker Removal

Mainboard Removal

Prerequisite:

SSD Modules Removal, WLAN Module Removal, DIMM Modules Removal, Thermal Module Removal, and LCD Module Removal

1. Remove two (2) screws (A) securing the left IO bracket (Figure 3-60).

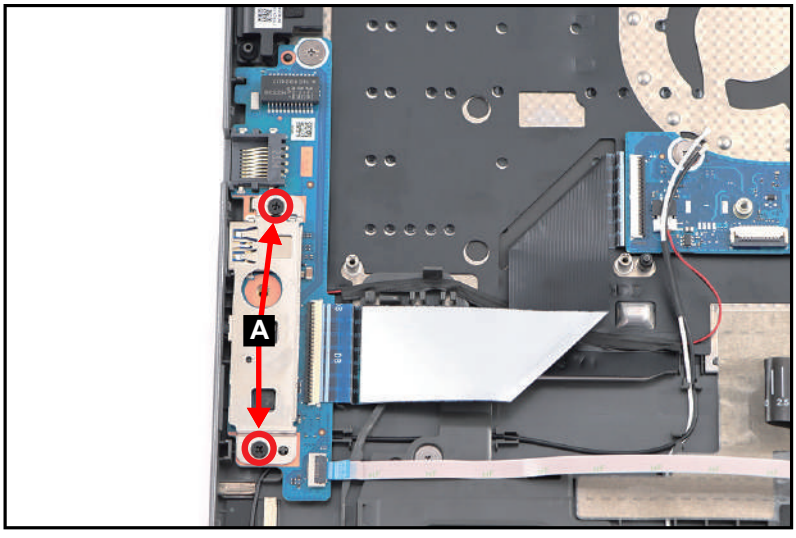


Figure 3-60. Mainboard Removal

2. Lift the left IO bracket (B) to release it from the guide pins (C) (Figure 3-61). Then remove the IO bracket.

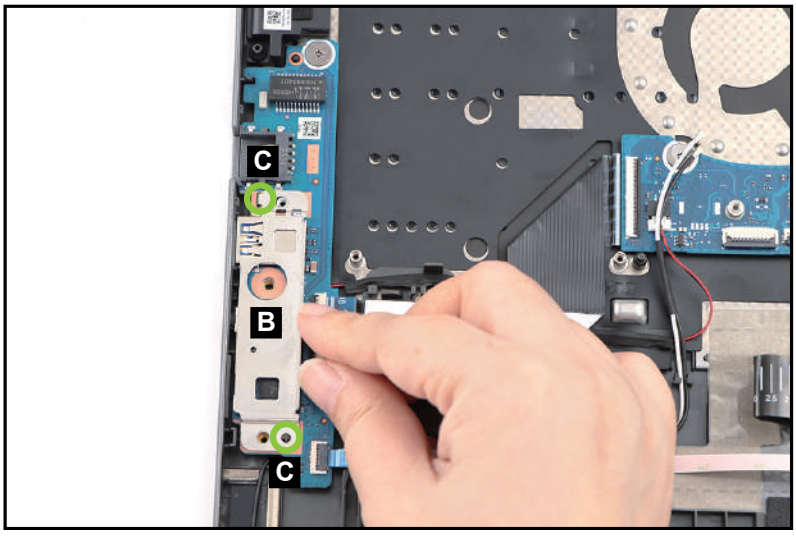


Figure 3-61. Mainboard Removal

3. Detach the mylar (D) securing the keyboard backlight FPC connection (Figure 3-62).

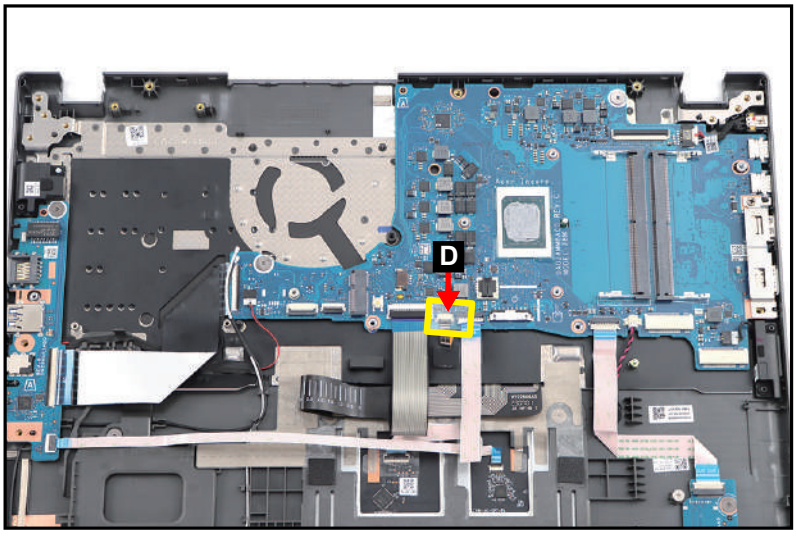


Figure 3-62. Mainboard Removal

4. Disconnect the USB board FFC from the USB board connector (E) (Figure 3-63).
5. Disconnect the right speaker cable from the mainboard connector (F) (Figure 3-63).
6. Disconnect the keyboard FPC from the mainboard connector (G) (Figure 3-63).
7. Disconnect the keyboard backlight FPC from the mainboard connector (H) (Figure 3-63).
8. Disconnect the touchpad FFC from the mainboard connector (I) (Figure 3-63).
9. Disconnect the card reader board FFC from the mainboard connector (J) (Figure 3-63).
10. Disconnect the left speaker cable from the mainboard connector (K) (Figure 3-63).

11. Disconnect the DC-IN cable from the mainboard connector (L) (Figure 3-63).

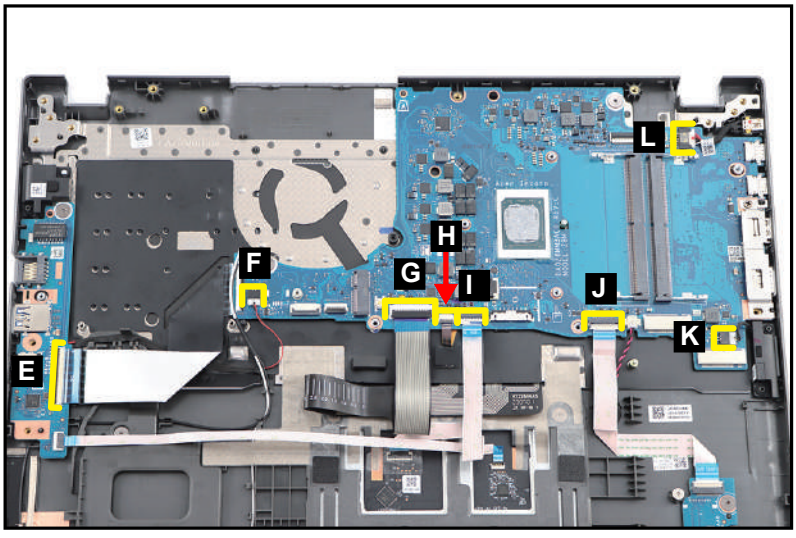


Figure 3-63. Mainboard Removal

⚠ CAUTION:

USB board FFC (Flexible Flat Circuit), touchpad FFC, card reader board FFC, keyboard FPC (Flexible Printed Circuit) and keyboard backlight FPC, can be damaged if removed while the USB board and mainboard connectors are locked.

12. Pry to detach the adhesive tape underneath the RTC battery (M) (Figure 3-64).
13. Remove one (1) screw (N) securing the right IO bracket. Then remove another two (2) screws (O) securing the mainboard (Figure 3-64).

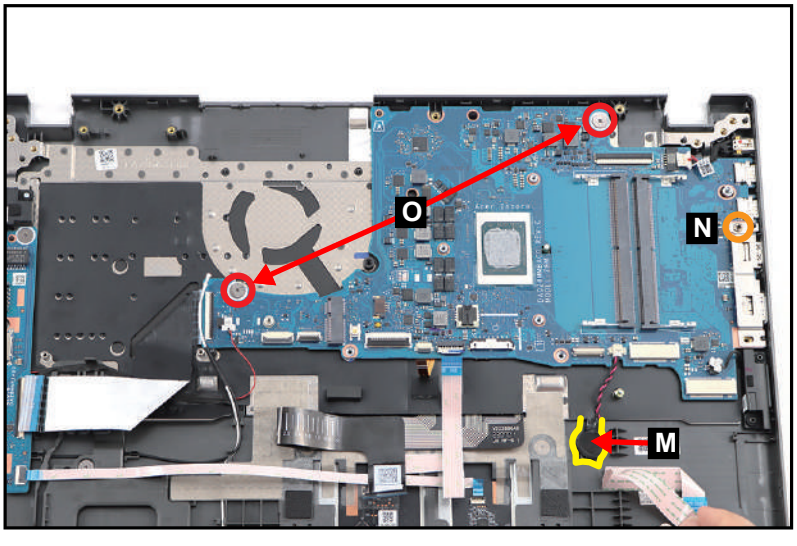


Figure 3-64. Mainboard Removal

14. Lift the right IO bracket (P) to release it from the guide pin (Q) (Figure 3-65). Then remove the IO bracket.

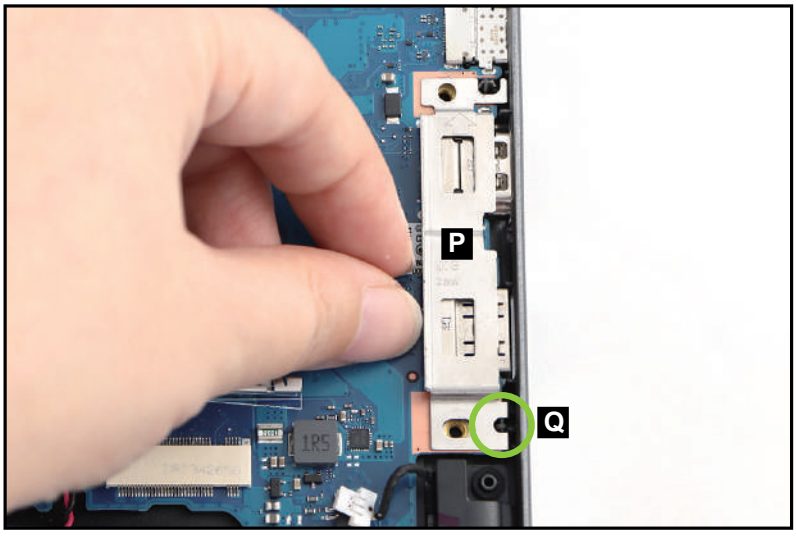


Figure 3-65. Mainboard Removal

15. Release the mainboard (R) from the I/O ports slots and guide pins (S) on the top assembly (Figure 3-66). Then remove the mainboard.

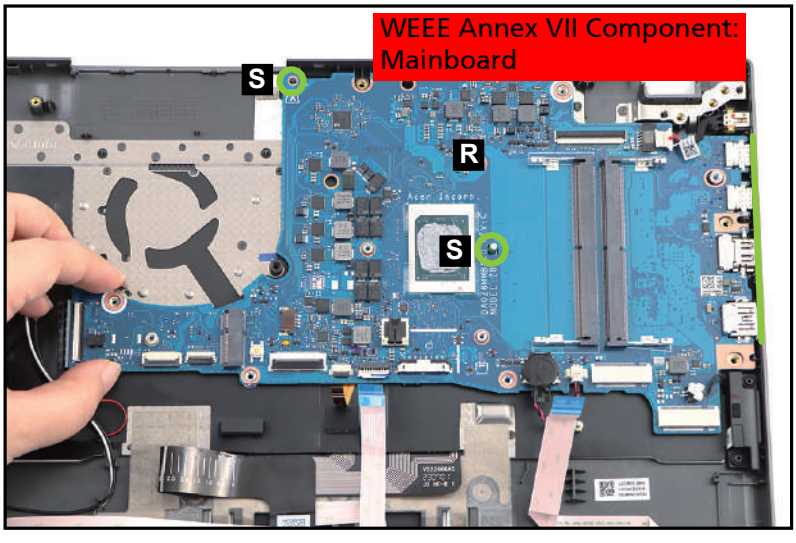


Figure 3-66. Mainboard Removal

16. Flip the mainboard. Then detach the tape (T) securing the USB board FFC connection (Figure 3-67).

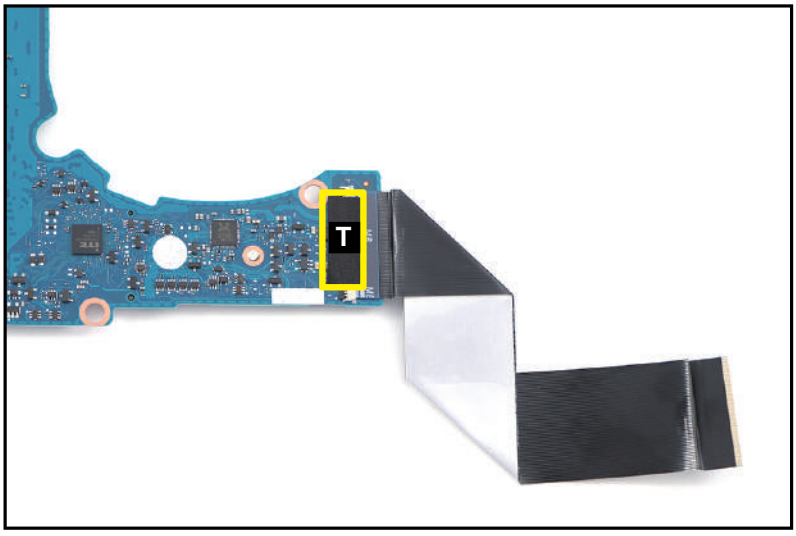


Figure 3-67. Mainboard Removal

17. Disconnect the other end of the USB board FFC from the mainboard connector (U) (Figure 3-68). Remove the FFC.

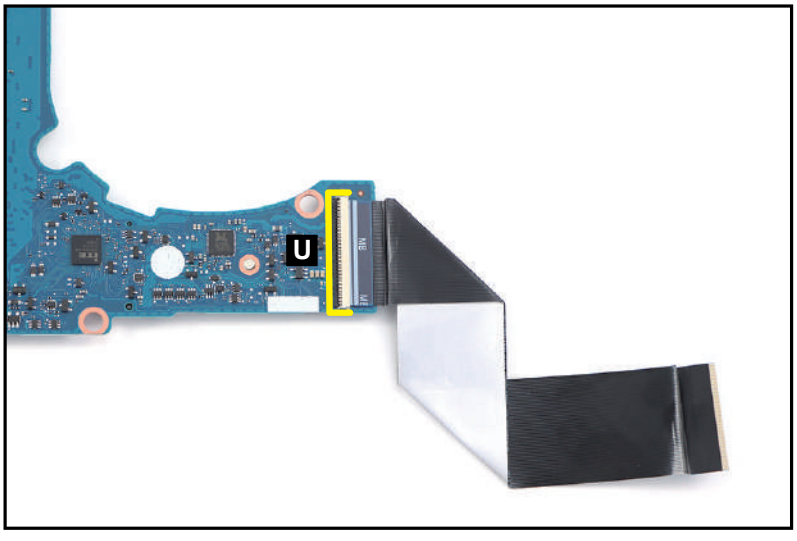


Figure 3-68. Mainboard Removal

⚠ CAUTION:

USB board FFC (Flexible Flat Circuit) can be damaged if removed while the mainboard connector is locked.

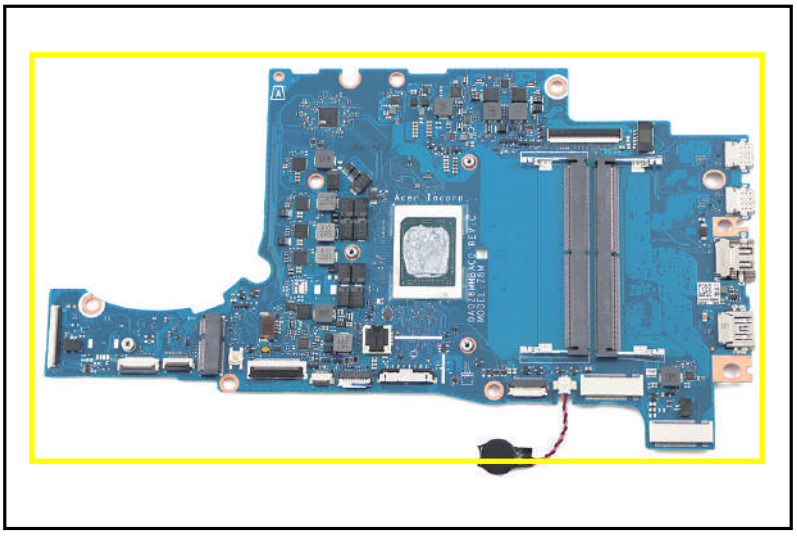


Figure 3-69. Mainboard

IMPORTANT:

Circuit boards >10 cm² have been highlighted with a yellow rectangle as shown in Figure 3-69. Remove the circuit board and follow local regulations for disposal.

ID	Size	Torque	Quantity	Screw Type
A	M2.0*4.0	2.0+10%kgf-cm	2 (left IO bracket)	
N	M2.5*5.0	3.0±15%kgf-cm	1 (right IO bracket)	
O	M2.0*2.0	2.0+10%kgf-cm	2	

Top Assembly Removal

Prerequisite:

Smart Card Holder Removal, Left Speaker Removal, Touchpad Module Removal, Card Reader Board Removal, DC-IN Cable Removal, Right Speaker Removal, and Mainboard Removal

NOTE:

The keyboard is included as part of the top assembly and can not be disassembled. In the event that the keyboard can no longer be used, replace the entire top assembly.

Figure 3-70. Top Assembly

LCD Module Disassembly Process

LCD Module Disassembly Flowchart

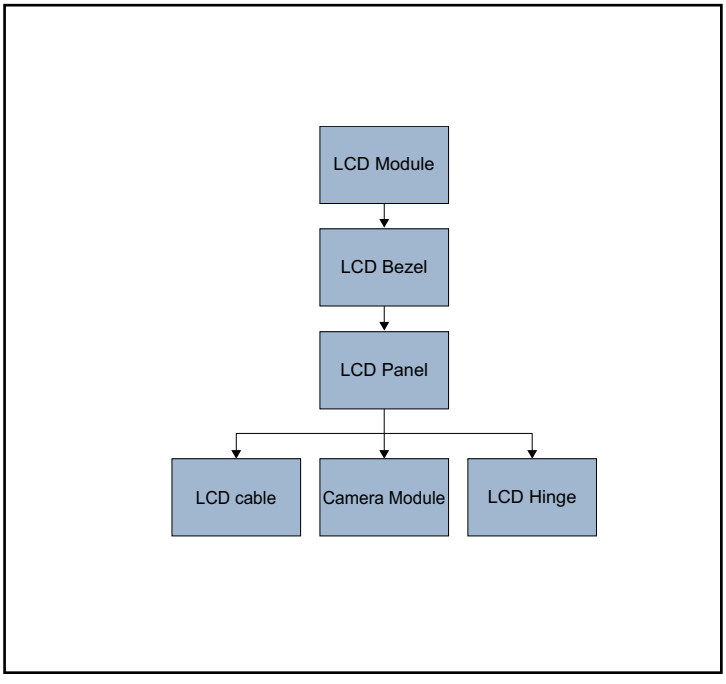


Table 3-3. LCD Module Screw List

Step	Size	Quantity	Acer Part No.
LCD Hinges Removal	M2.0*2.5	2	86.GK6N7.009
	M2.5*2.5	6	86.SHXN7.003

LCD Bezel Removal

Prerequisite:

LCD Module Removal

1. Pry the LCD bezel from the upper side to release the latches (Figure 3-71).

Figure 3-71. LCD Bezel Removal

2. Pry the LCD bezel from the right side to release the latches (Figure 3-72).

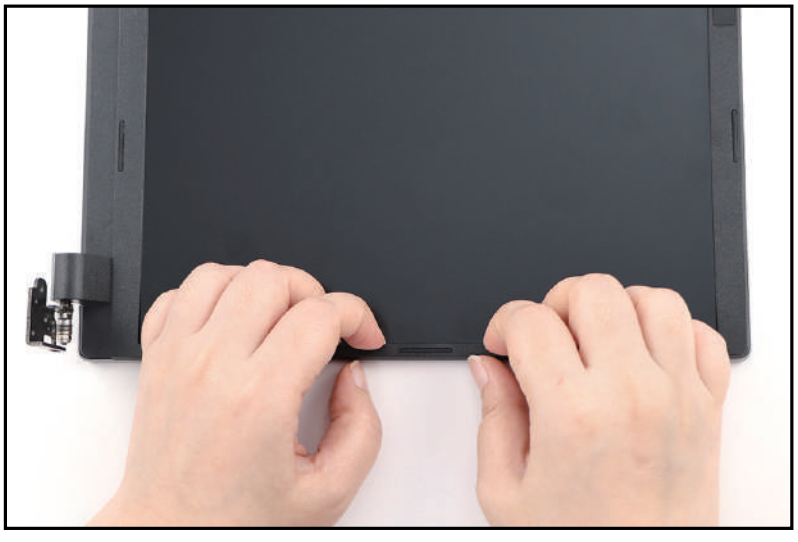


Figure 3-72. LCD Bezel Removal

3. Continue prying along the left side of the bezel (Figure 3-73).

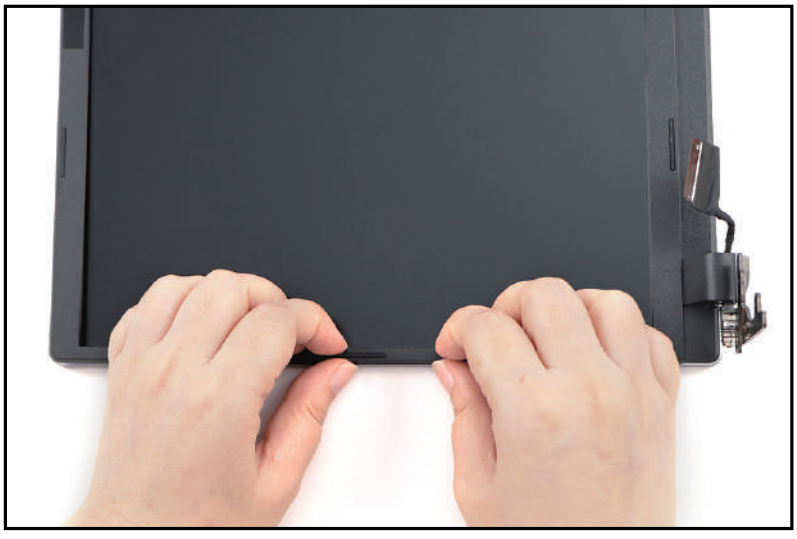


Figure 3-73. LCD Bezel Removal

4. Continue prying along the bottom side of the bezel until all the latches have been released (Figure 3-74). Then lift and remove the bezel from LCD module.

Figure 3-74. LCD Bezel Removal

LCD Panel Removal

Prerequisite:

LCD Bezel Removal

1. Unroute and release the LCD cable from the LCD hinge and the cable guides on the LCD cover as shown in Figure 3-75.

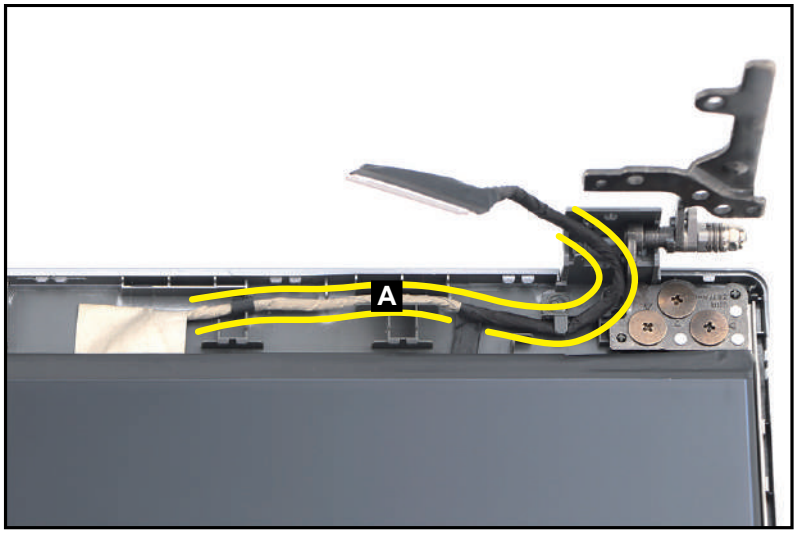


Figure 3-75. LCD Panel Removal

2. Pry slightly to access the double-sided mounting tape (B) underneath the LCD panel (C). Then pull to detach the double-sided mounting tape.
Repeat the same procedure to remove the double-sided mounting tape on another side of the LCD panel (Figure 3-76).

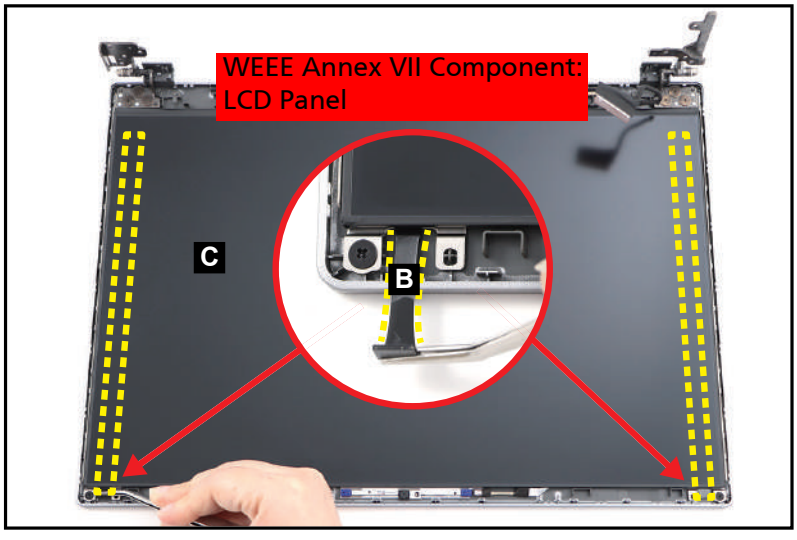


Figure 3-76. LCD Panel Removal

3. Carefully turn the LCD panel over so that the display panel is facing down on a flat surface. Then detach the mylar (D) securing the LCD cable to the LCD panel (Figure 3-77).

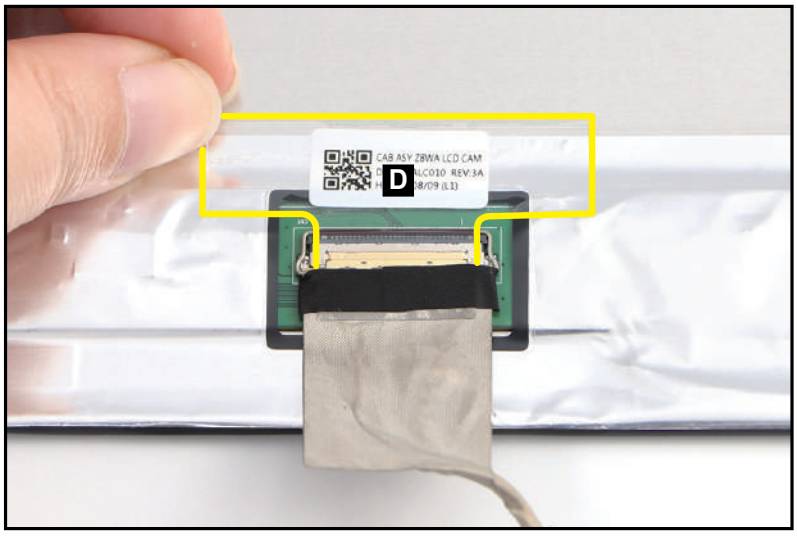


Figure 3-77. LCD Panel Removal

4. Lift the latch (E) securing the LCD cable (Figure 3-78).

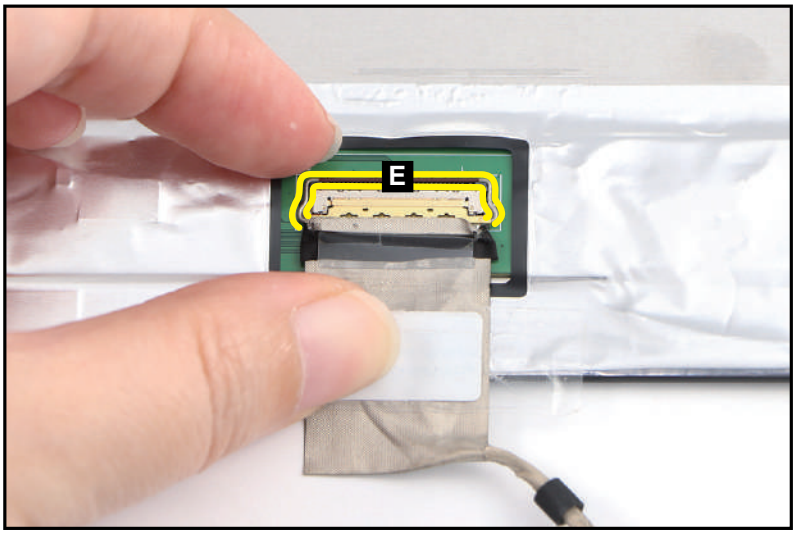


Figure 3-78. LCD Panel Removal

5. Disconnect the LCD cable from the LCD panel connector (F) (Figure 3-79). Then remove the LCD panel.

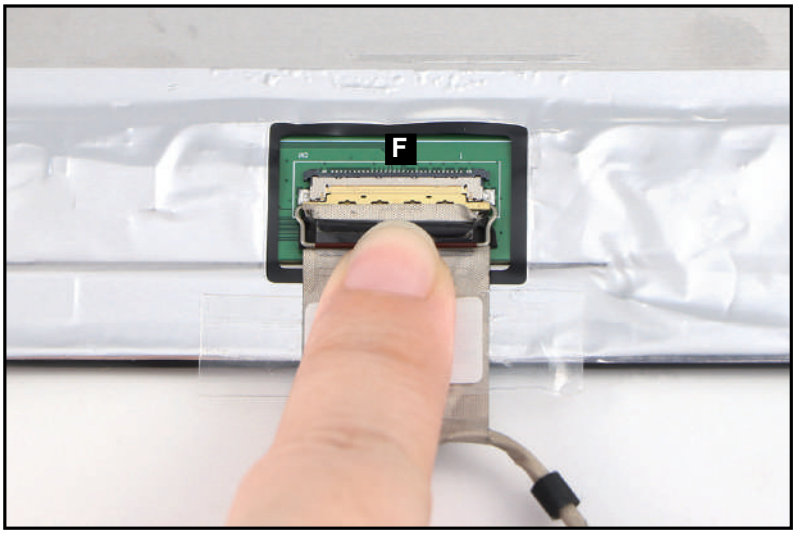


Figure 3-79. LCD Panel Removal

LCD Cable Removal

Prerequisite:

LCD Panel Removal

NOTE:

The LCD cable includes the LCD panel cable and the camera cable.

1. Unroute the LCD cable (A) from the cable guides on the LCD cover as shown in Figure 3-80. Carefully detach the cable from its underneath adhesive.

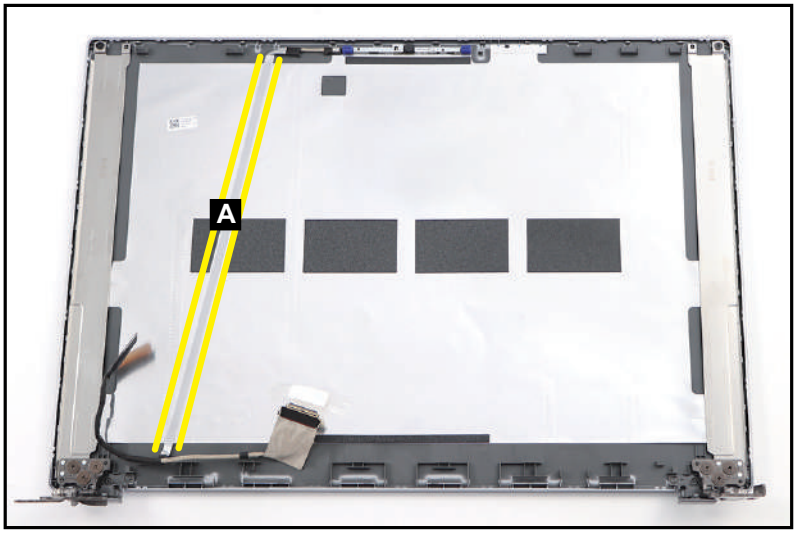


Figure 3-80. LCD Cable Removal

2. Continue to unroute the LCD cable from the cable guides on the upper side of the LCD cover as shown in Figure 3-81.
3. Disconnect the LCD cable from the camera module connector (B) (Figure 3-81). Then remove the LCD cable.

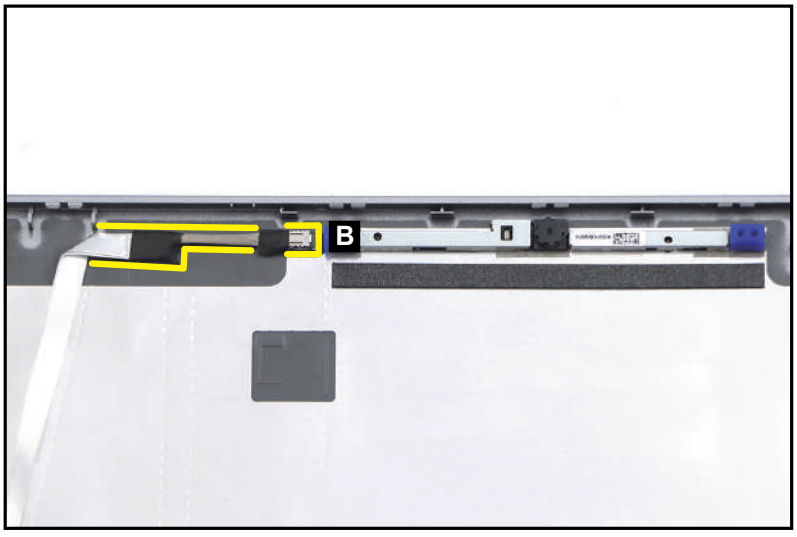


Figure 3-81. LCD Cable Removal

Camera Module Removal

Prerequisite:

LCD Panel Removal

NOTE:

The LCD cable includes the LCD panel cable and the camera cable.

1. Find the camera module (A) on the LCD cover (Figure 3-82).

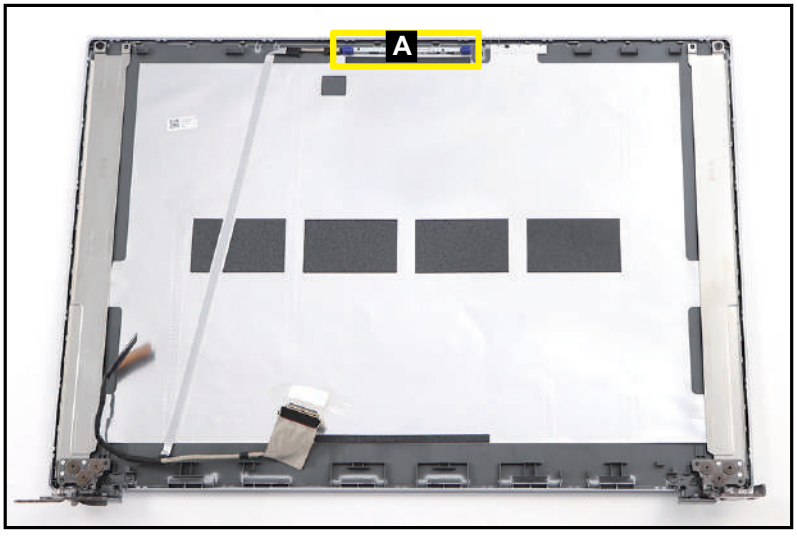


Figure 3-82. Camera Module Location

2. Disconnect the LCD cable from the camera module connector (B). Then unroute the cable from the cable guides on the LCD cover as shown in Figure 3-83.

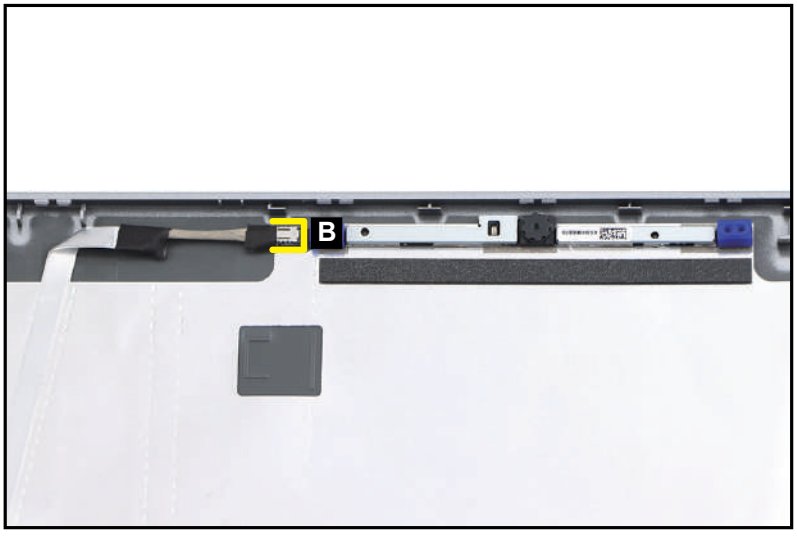


Figure 3-83. Camera Module Removal

3. Carefully lift the camera module to release it from the guide pins (C) (Figure 3-84). Then remove the camera module.

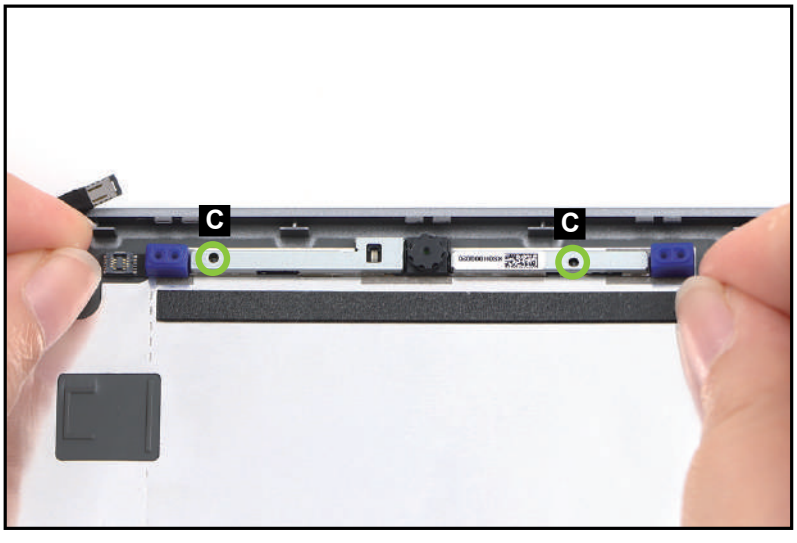


Figure 3-84. Camera Module Removal

4. Carefully detach the microphone rubbers (D) from the camera module (Figure 3-85).

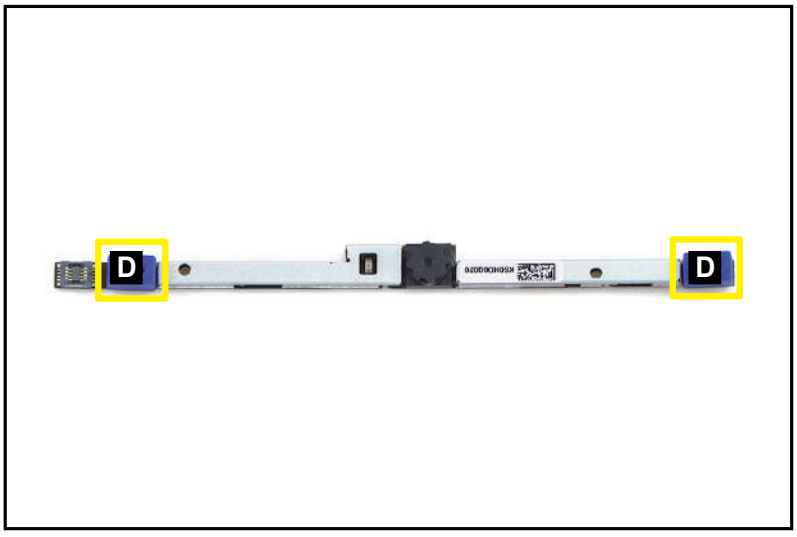


Figure 3-85. Camera Module Removal

LCD Hinges Removal

Prerequisite:

LCD Panel Removal

1. Remove eight (8) screws securing the LCD hinges (Figure 3-86).

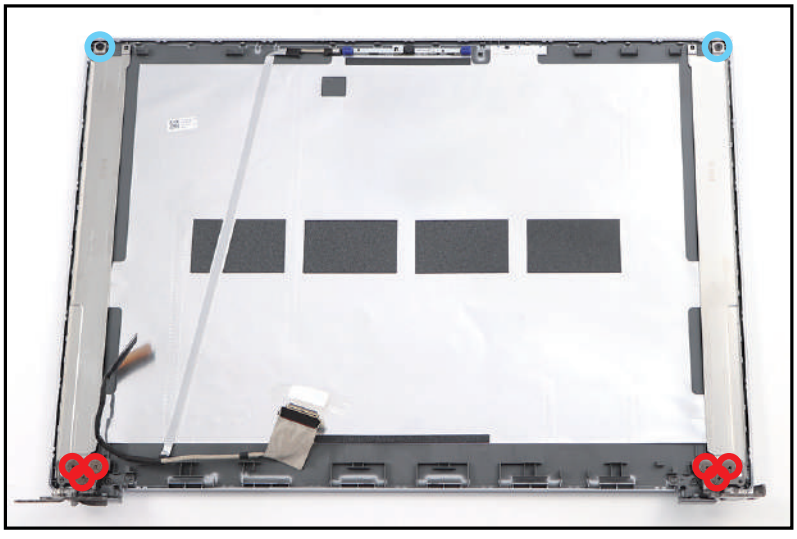


Figure 3-86. LCD Hinges Removal

2. Lift the LCD hinges (A) to release them from the guide pins (B) (Figure 3-87). Then remove the LCD hinges.

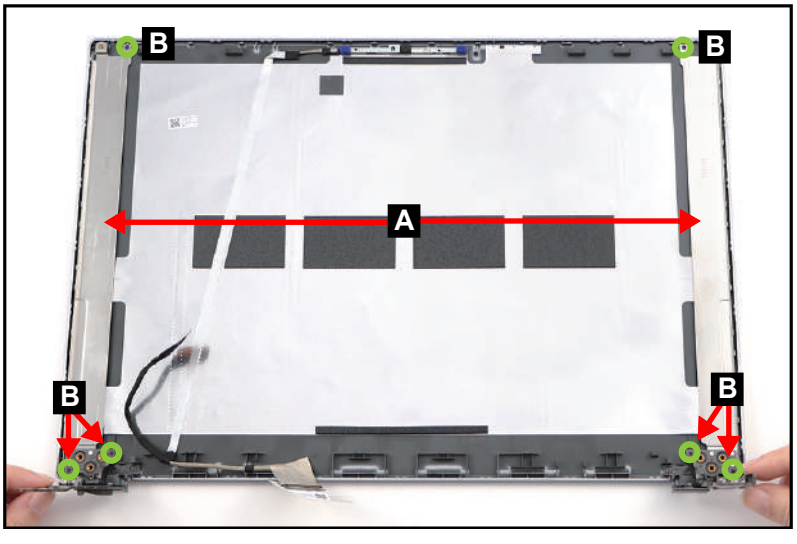


Figure 3-87. LCD Hinges Removal

ID	Size	Torque	Quantity	Screw Type
Blue Call out	M2.0*2.5	2.0+10%kgf-cm	2	
Red Call out	M2.5*2.5	3.0±15%kgf-cm	6	

LCD Module Reassembly Process

Replacing the LCD Hinges

1. Place the left and right LCD hinges (A) on the LCD cover (Figure 3-88).

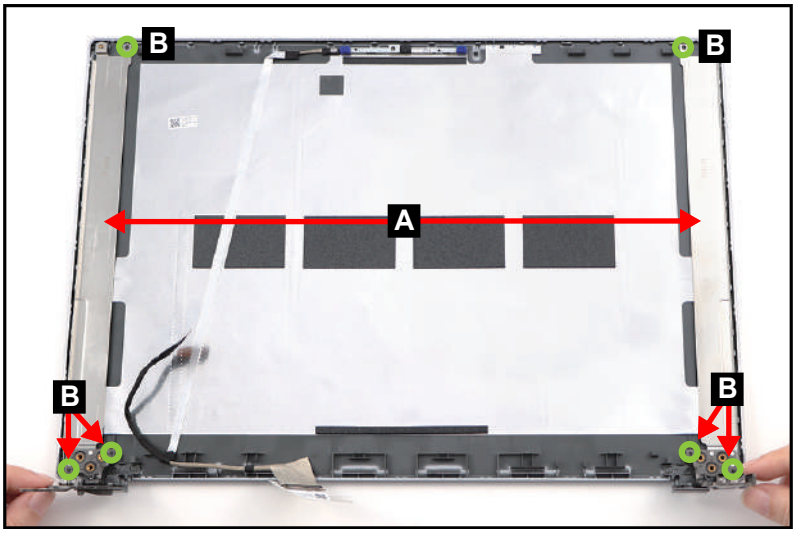


Figure 3-88. Replacing the LCD Hinges

IMPORTANT:

When installing the LCD hinges, make sure they are properly aligned with the guide pins (B) and placed onto their designated locations as shown in Figure 3-88.

2. Install eight (8) screws to secure the LCD hinges (Figure 3-89).

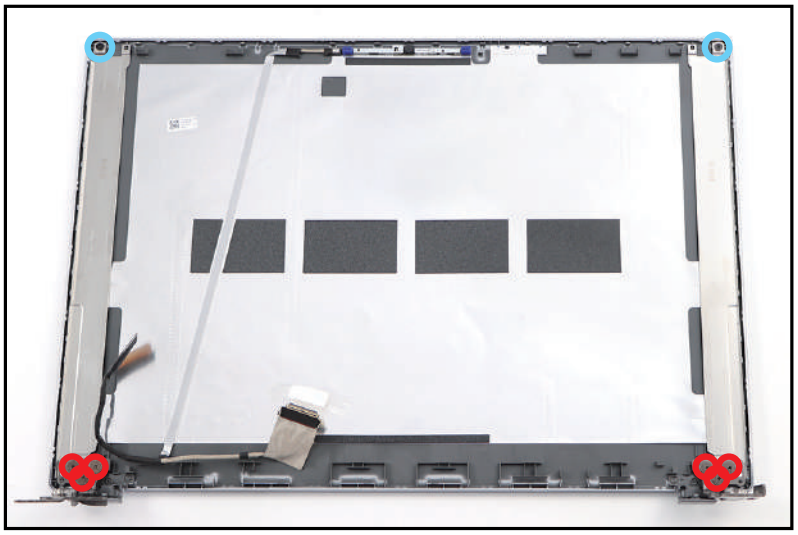


Figure 3-89. Replacing the LCD Hinges

ID	Size	Torque	Quantity	Screw Type
Blue Call out	M2.0*2.5	2.0+10%kgf-cm	2	
Red Call out	M2.5*2.5	3.0±15%kgf-cm	6	

Replacing the Camera Module

NOTE:

The LCD cable includes the LCD panel cable and the camera cable.

1. Carefully attach the microphone rubbers (A) onto their respective slots on the camera module (Figure 3-90).

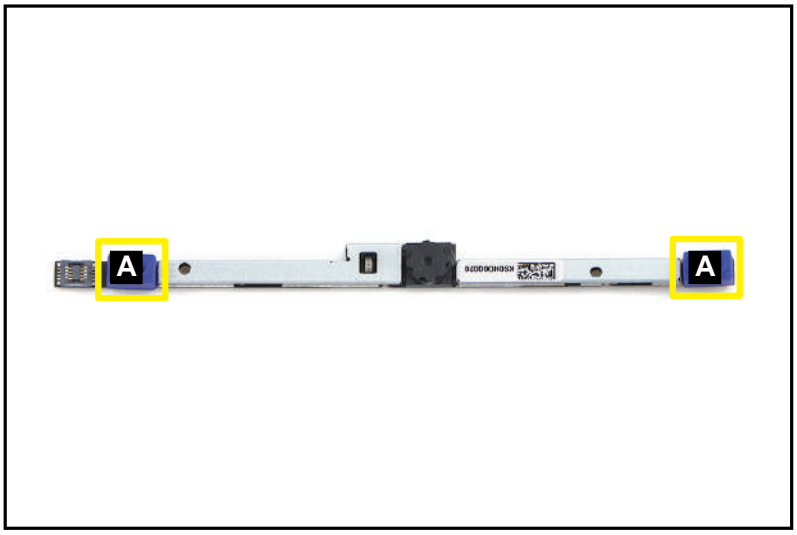


Figure 3-90. Replacing the Camera Module

2. Align and install the camera module (B) to its compartment on the LCD cover (Figure 3-91).

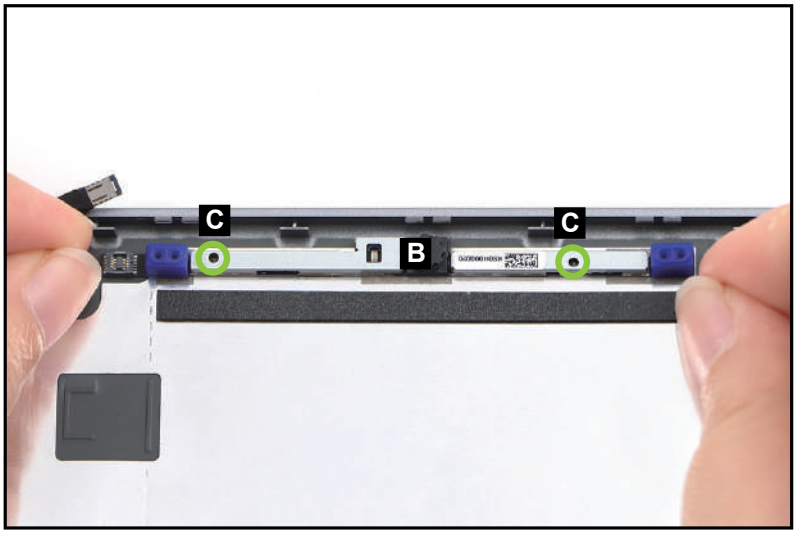


Figure 3-91. Replacing the Camera Module

IMPORTANT:

When installing the camera module, make sure it is properly aligned with the guide pins (C) and placed onto its designated location as shown in Figure 3-91.

3. Connect the LCD cable to the camera module connector (D) (Figure 3-92).

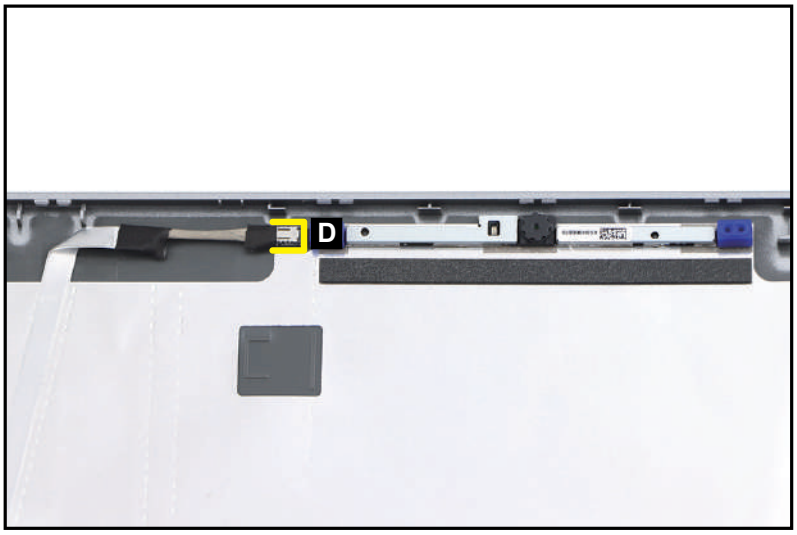


Figure 3-92. Replacing the Camera Module

Replacing the LCD Cable

NOTE:

The LCD cable includes the LCD panel cable and the camera cable.

1. Connect the LCD cable to the camera module connector (A). Then route the LCD cable through the cable guides on the LCD cover as shown in Figure 3-93.

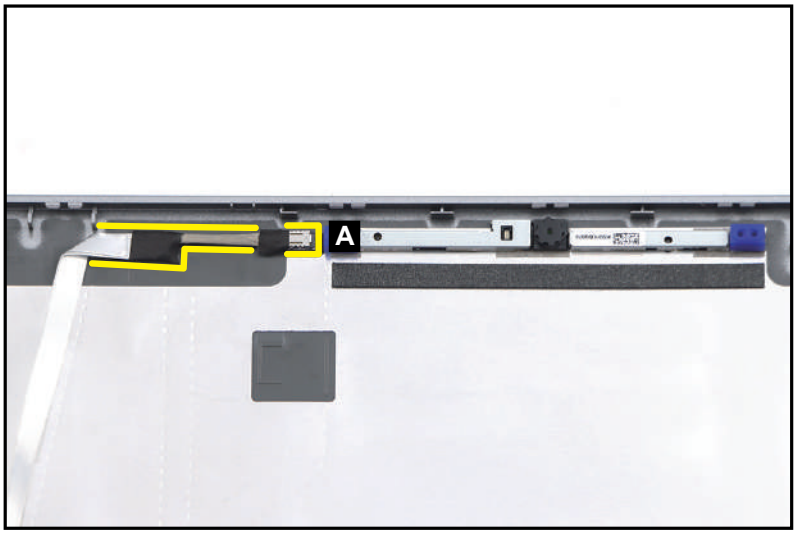


Figure 3-93. Replacing the LCD Cable

2. Continue to route the LCD cable (B) through the cable guides on the LCD cover as shown in Figure 3-94. Press and straighten the cable to ensure its underneath adhesive is properly attached to the LCD cover.

⚠ CAUTION:

Make sure the LCD cable is properly placed onto its designated cable routing path highlighted by the yellow lines as shown in Figure 3-94.

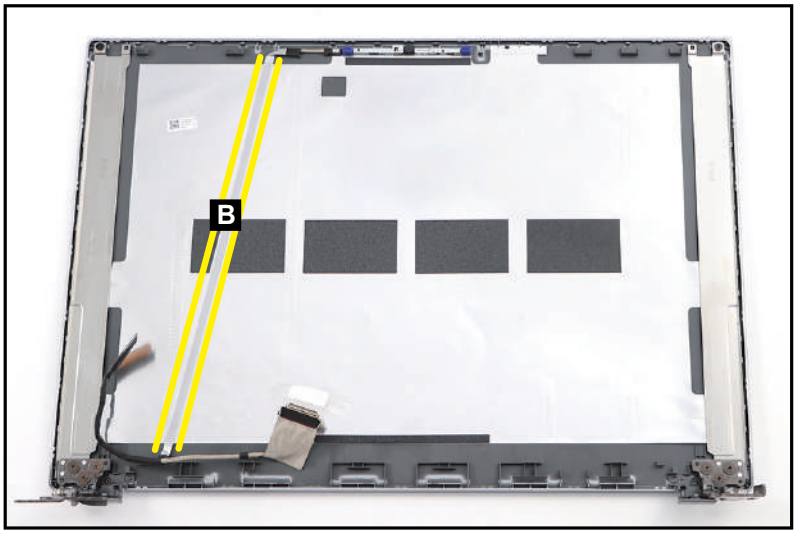


Figure 3-94. Replacing the LCD Cable

1. Adhere the double-sided adhesive mounting tapes (A) on both sides of the LCD hinges and press each tape for about 30 seconds. Then peel off the protective film from the double-sided adhesive mounting tapes (Figure 3-95).

NOTE:

Before applying the new double-sided adhesive mounting tapes, make sure to clean the surface properly with the rubbing alcohol. Then attach the adhesive mounting tapes onto the designated slots as shown in Figure 3-95.

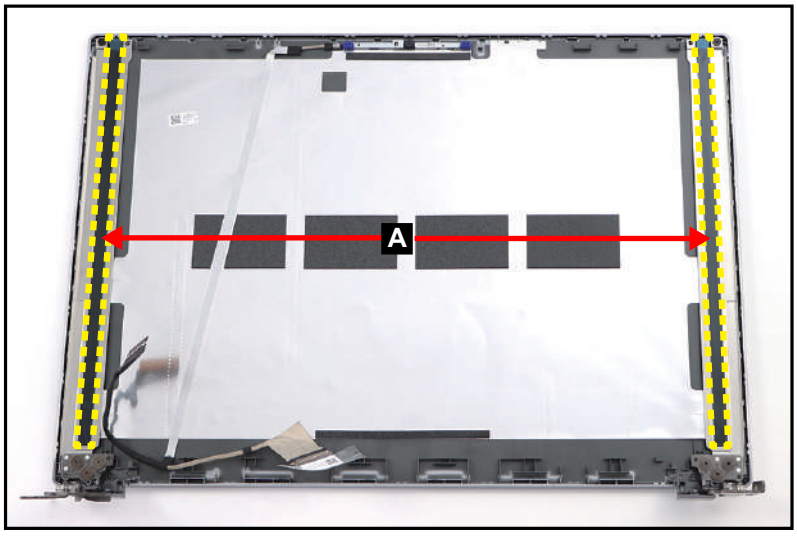


Figure 3-95. Replacing the LCD Panel

2. Place the LCD panel on a flat surface with the back side facing up. Then connect the LCD cable to the LCD panel connector (B) (Figure 3-96).

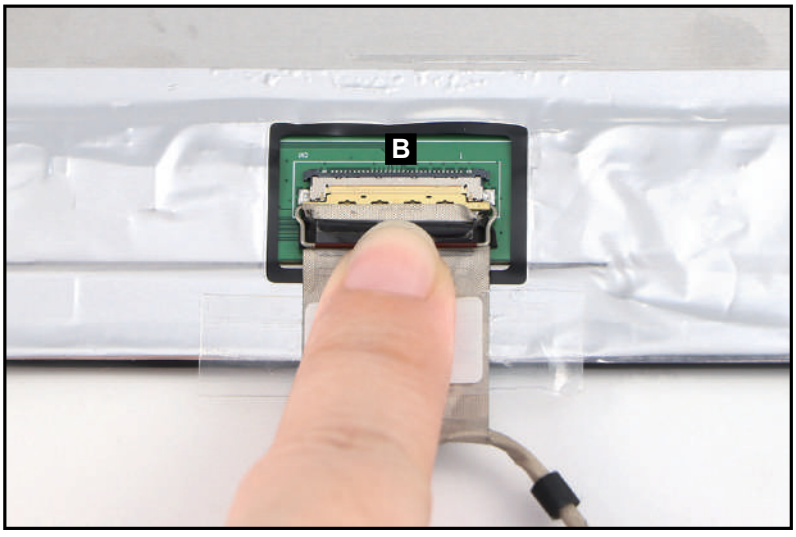


Figure 3-96. Replacing the LCD Panel

3. Push the latch (C) down to secure the LCD cable in place (Figure 3-97).

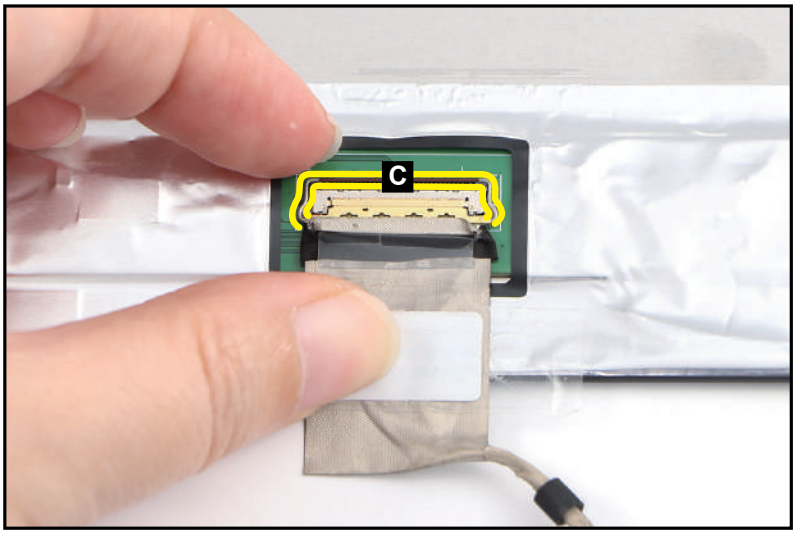


Figure 3-97. Replacing the LCD Panel

4. Adhere the mylar (D) to secure the LCD cable to the LCD panel (Figure 3-98).

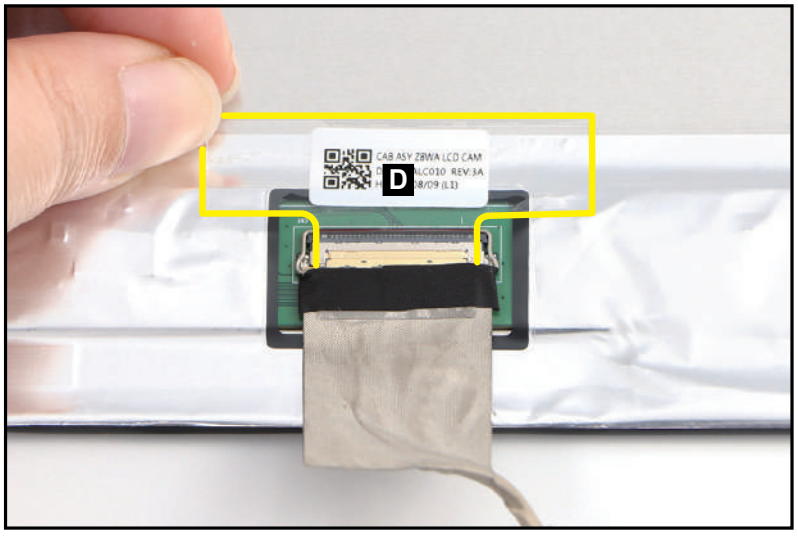


Figure 3-98. Replacing the LCD Panel

5. Place four (4) 0.5mm LCD alignment mylars (E) on the upper sides of the LCD cover as shown in Figure 3-99.
6. Starting from the upper side, carefully place the LCD panel (F) on the LCD cover (Figure 3-99). Then press the LCD panel down until it is firmly seated on the LCD cover.

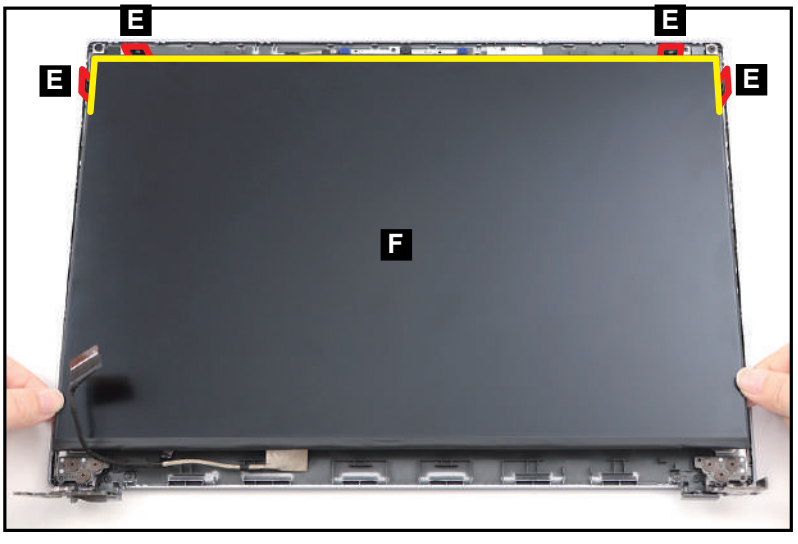


Figure 3-99. Replacing the LCD Panel

7. Remove the LCD alignment mylars (E) from the LCD cover.

8. Route the LCD cable (G) through the cable guides on the bottom side of the LCD cover and the LCD hinge as shown in Figure 3-100.

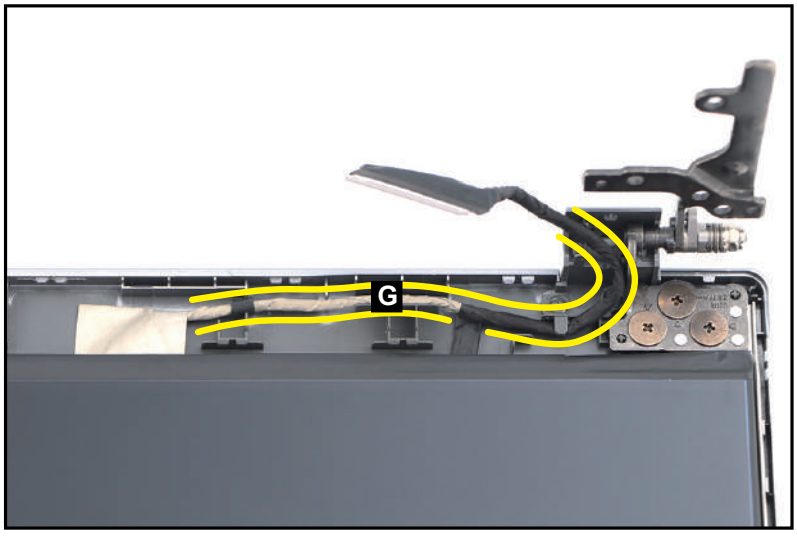


Figure 3-100. Replacing the LCD Panel

Replacing the LCD Bezel

1. Starting from the bottom side, align and install the LCD bezel onto the LCD cover (Figure 3-101). Then press the LCD bezel caps firmly to secure the latches to the LCD cover.

Figure 3-101. Replacing the LCD Bezel

2. Start pressing along the bottom side (A) of the LCD bezel to secure the latches to the LCD cover (Figure 3-102).
3. Continue pressing upward along the left and right sides (B) of the LCD bezel to engage the latches (Figure 3-102).
4. Finally, press along the upper side (C) of the LCD bezel to fully secure the bezel to the LCD cover (Figure 3-102).

NOTE:

When pressing on the latches, make sure to follow the direction of the arrows (Figure 3-102).

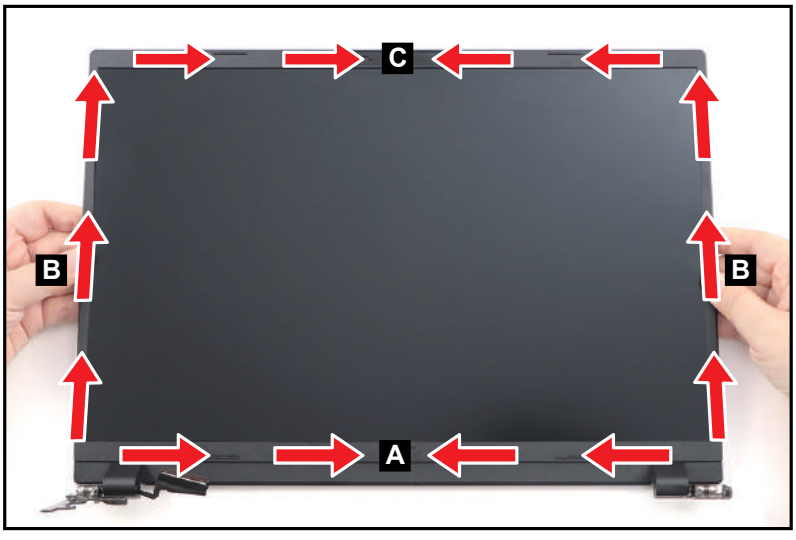


Figure 3-102. Replacing the LCD Bezel

CAUTION:

Use care not to damage all cables during LCD bezel installation.

Main Unit Reassembly Process

Replacing the Top Assembly

NOTE:

The keyboard is included as part of the top assembly and can not be disassembled. In the event that the keyboard can no longer be used, replace the entire top assembly.

Figure 3-103. Top Assembly

+ **IMPORTANT:**
If you use a new top assembly, do the following:

a. Align and attach the mylar onto the designated location on the keyboard FPC as shown in Figure 3-104.

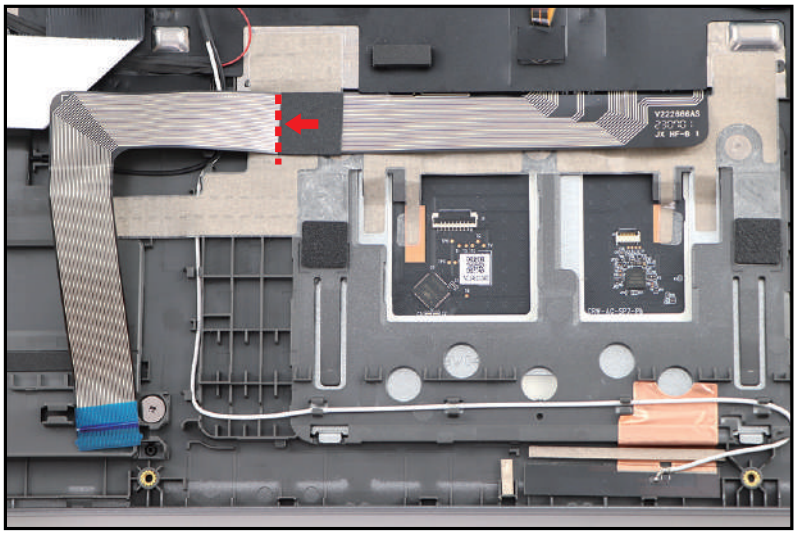


Figure 3-104. Top Assembly

b. Fold the keyboard FPC (Figure 3-105).

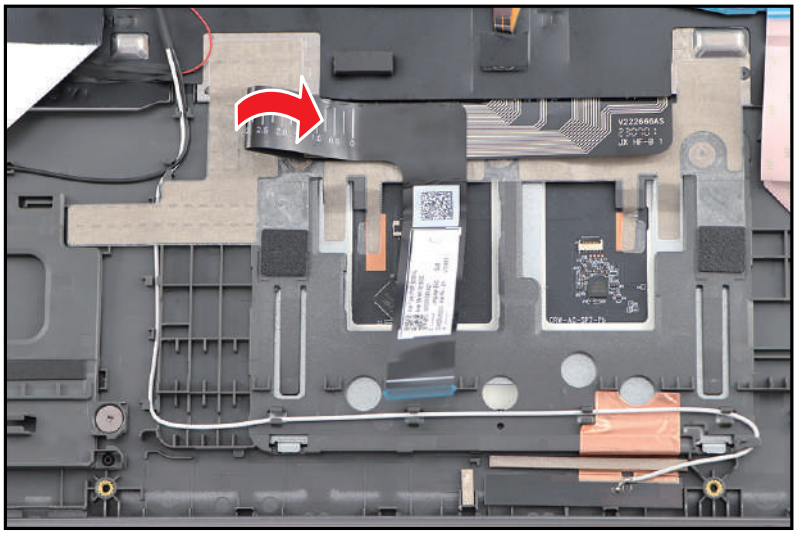


Figure 3-105. Top Assembly

1. Connect the USB board FFC to the mainboard connector (A) (Figure 3-106).

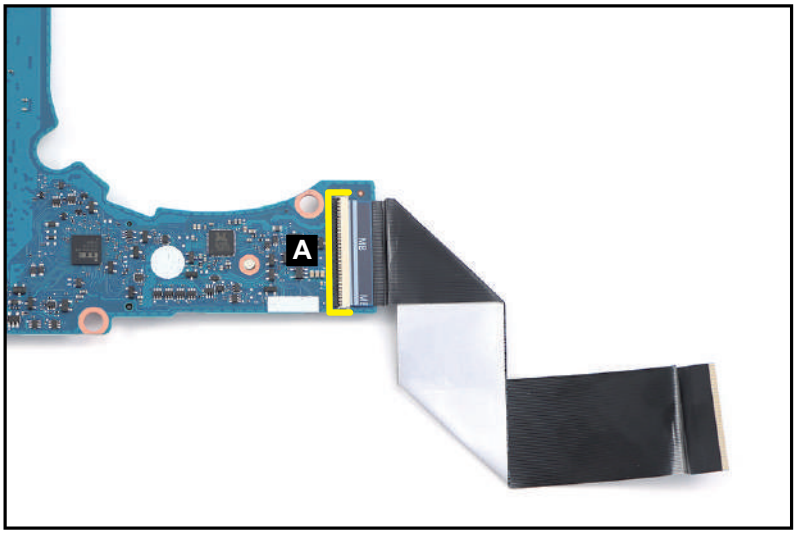


Figure 3-106. Replacing the Mainboard

NOTE:

Make sure that the USB board FFC is firmly secured to the mainboard connector.

2. Attach the tape (B) to secure the FFC connection (Figure 3-107).

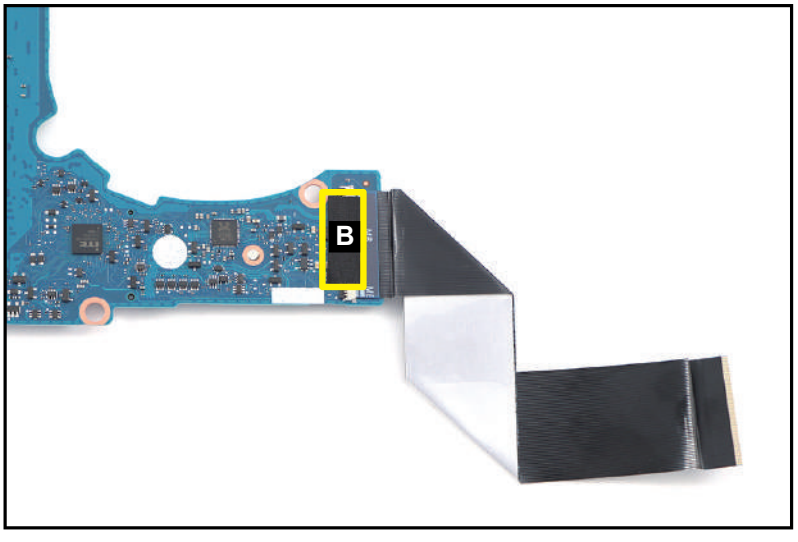


Figure 3-107. Replacing the Mainboard

3. Flip the mainboard. Then align and slide the I/O ports on the mainboard (C) into their slots on the top assembly (Figure 3-108).
4. Place the mainboard onto its compartment until it is fully seated and secured to the guide pins (D) (Figure 3-108).

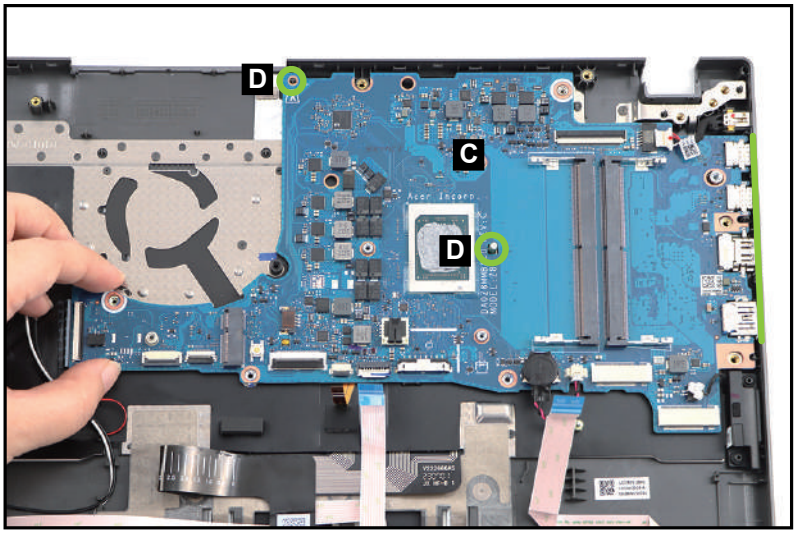


Figure 3-108. Replacing the Mainboard

5. By aligning with the guide pin (E), install the right IO bracket (F) onto its slot on the mainboard as shown in Figure 3-109.

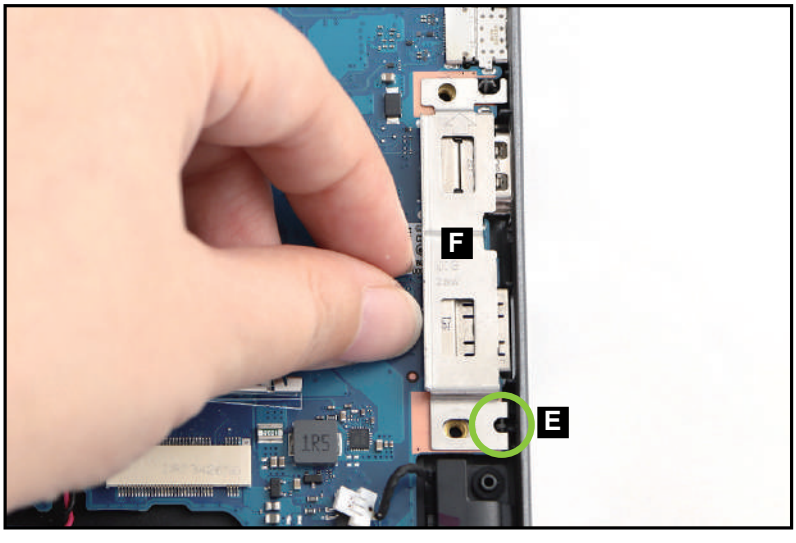


Figure 3-109. Replacing the Mainboard

6. Install the RTC battery (G) onto its slot on the top assembly (Figure 3-110).
7. Install two (2) screws (H) to secure the mainboard. Then install another one (1) screw (I) to secure the right IO bracket (Figure 3-110).

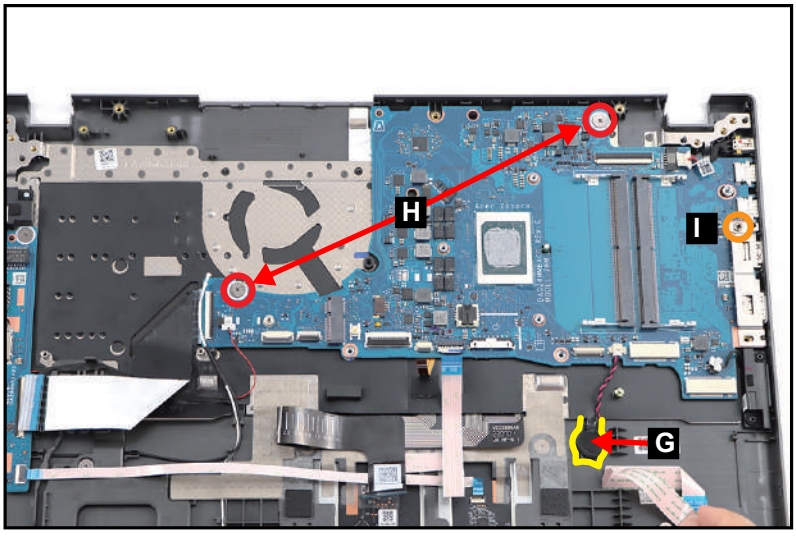


Figure 3-110. Replacing the Mainboard

8. Connect the USB board FFC to the USB board connector (J) (Figure 3-111).
9. Connect the right speaker cable to the mainboard connector (K) (Figure 3-111).
10. Connect the keyboard FPC to the mainboard connector (L) (Figure 3-111).
11. Connect the keyboard backlight FPC to the mainboard connector (M) (Figure 3-111).
12. Connect the touchpad FFC to the mainboard connector (N) (Figure 3-111).
13. Connect the card reader board FFC to the mainboard connector (O) (Figure 3-111).
14. Connect the left speaker cable to the mainboard connector (P) (Figure 3-111).

15. Connect the DC-IN cable to the mainboard connector (Q) (Figure 3-111).

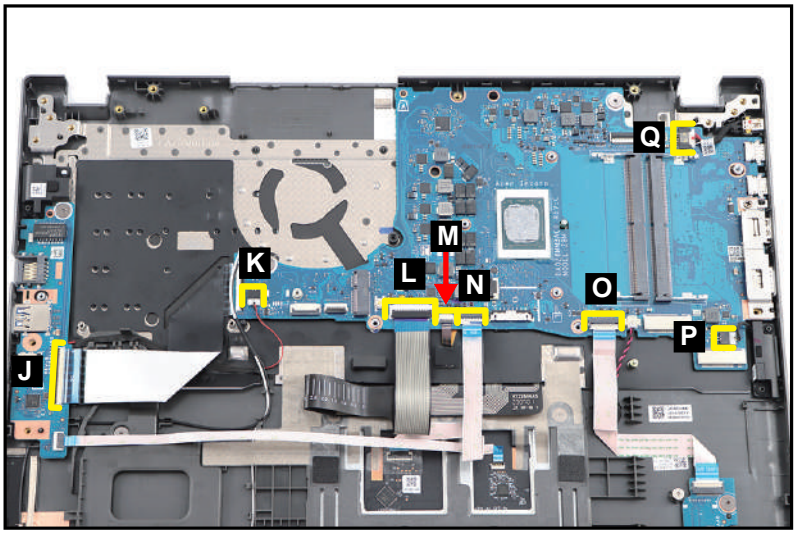


Figure 3-111. Replacing the Mainboard

NOTE:

Make sure that the USB board FFC, touchpad FFC, card reader board FFC, keyboard FPC, and keyboard backlight FPC, are firmly secured to the USB board and mainboard connectors.

16. Attach the mylar (R) to secure the keyboard backlight FPC connection (Figure 3-112).

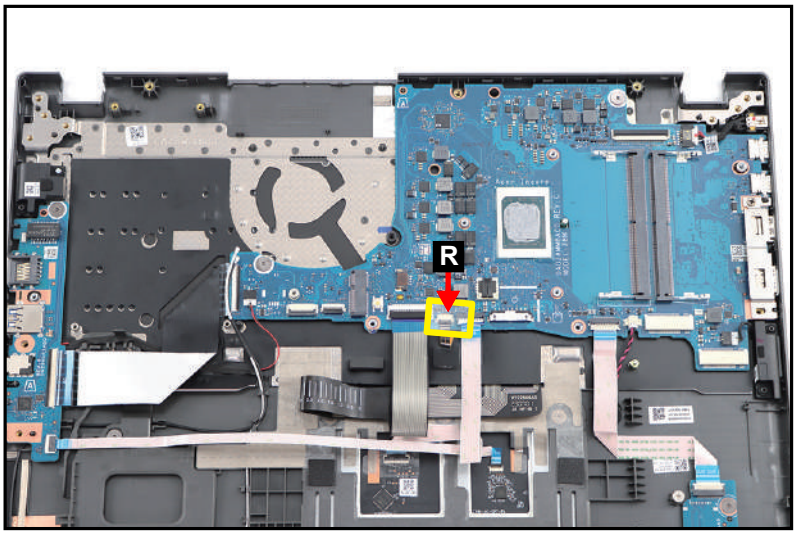


Figure 3-112. Replacing the Mainboard

17. By aligning with the guide pins (S), install the left IO bracket (T) onto its slot on the USB board as shown in Figure 3-113.

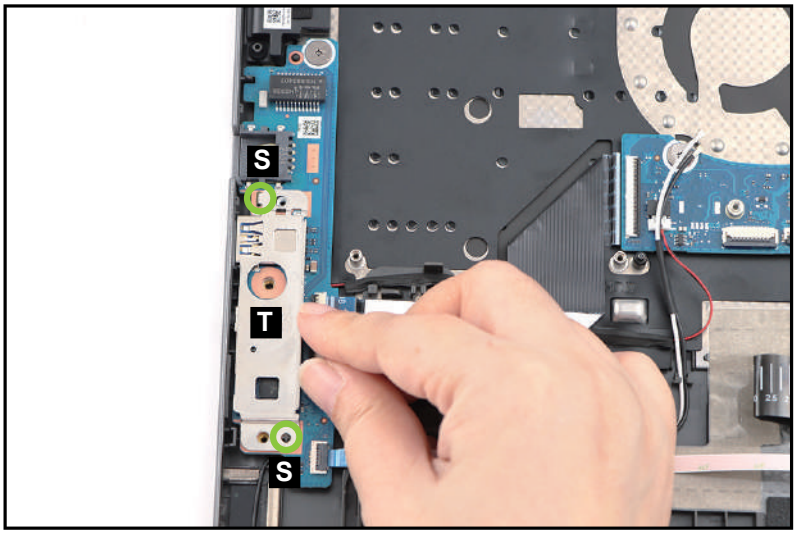


Figure 3-113. Replacing the Mainboard

18. Install two (2) screws (U) to secure the left IO bracket (Figure 3-114).

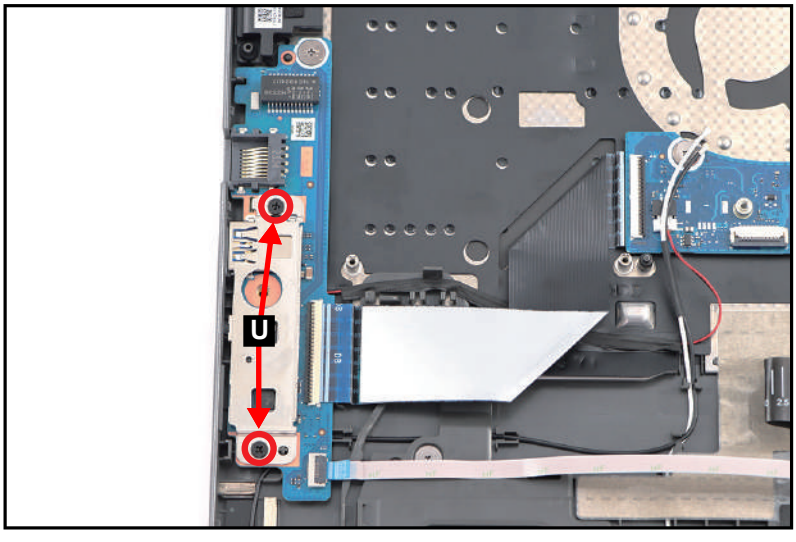


Figure 3-114. Replacing the Mainboard

ID	Size	Torque	Quantity	Screw Type
H	M2.0*2.0	2.0+10%kgf-cm	2	
I	M2.5*5.0	3.0±15%kgf-cm	1 (right IO bracket)	
U	M2.0*4.0	2.0+10%kgf-cm	2 (left IO bracket)	

Replacing the Right Speaker

1. By aligning with the guide pins (A), install the right speaker (B) onto its compartment on the top assembly (Figure 3-115).

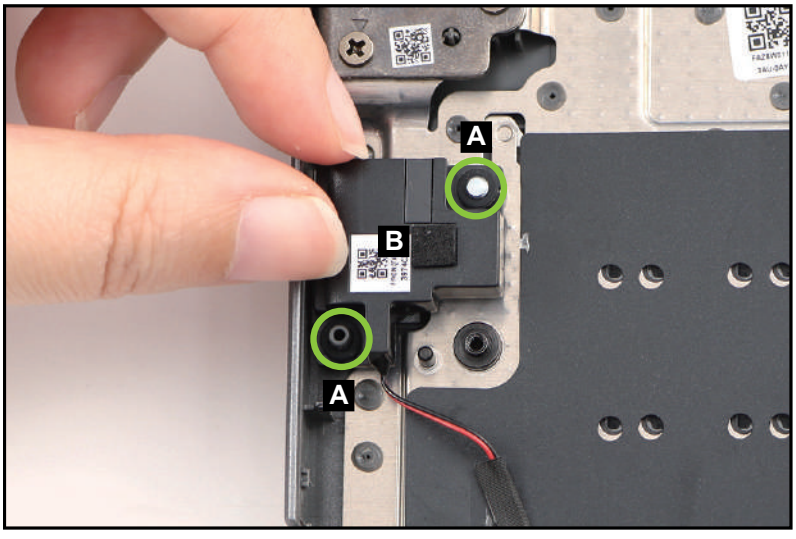


Figure 3-115. Replacing the Right Speaker

2. Route and attach the right speaker cable onto its routing channel. Then connect the speaker cable to the mainboard connector (C) (Figure 3-116).

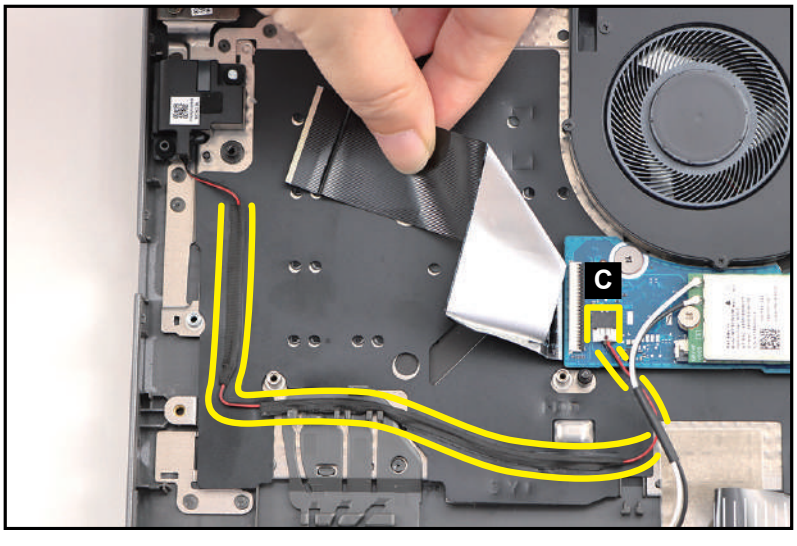


Figure 3-116. Replacing the Right Speaker

Replacing the DC-IN Cable

1. Install the DC-IN cable (A) into its slot on the top assembly (Figure 3-117).

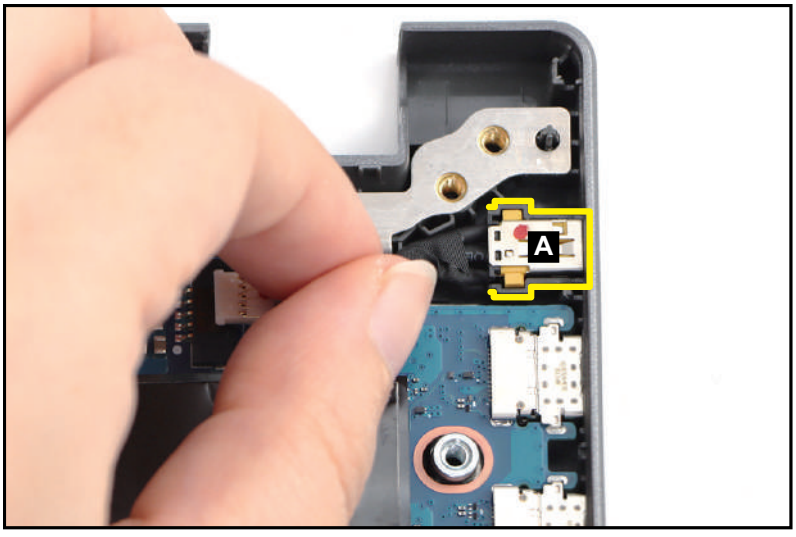


Figure 3-117. Replacing the DC-IN Cable

2. Connect the DC-IN cable to the mainboard connector (B) (Figure 3-118).

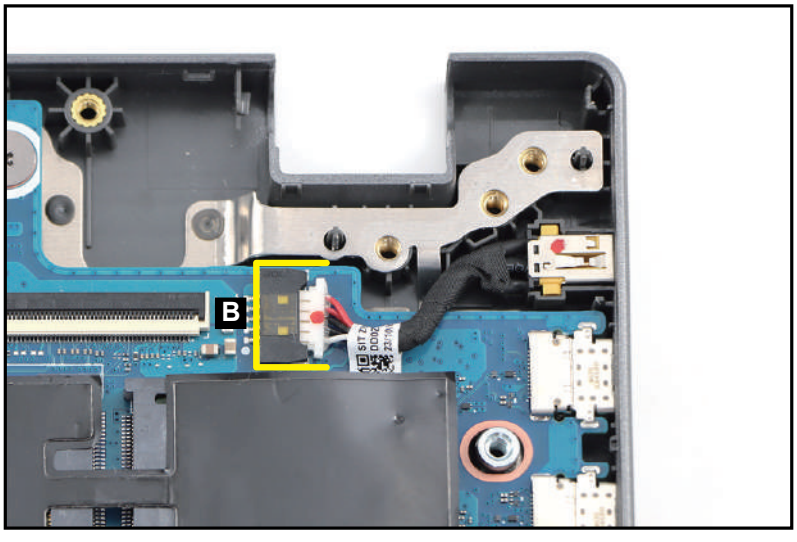


Figure 3-118. Replacing the DC-IN Cable

Replacing the Card Reader Board

1. By aligning with the guide pins (A) and the card reader slot, install the card reader board (B) onto its slot on the top assembly (Figure 3-119).

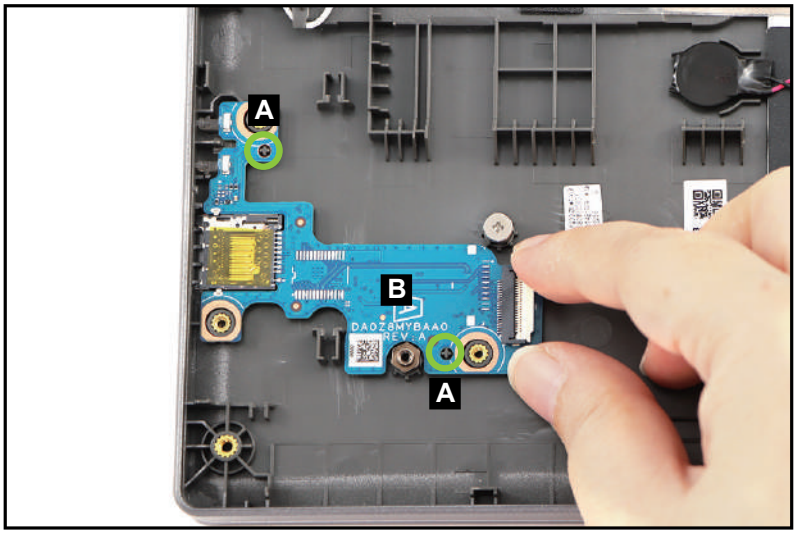


Figure 3-119. Replacing the Card Reader Board

2. Install three (3) screws to secure the card reader board (Figure 3-120).

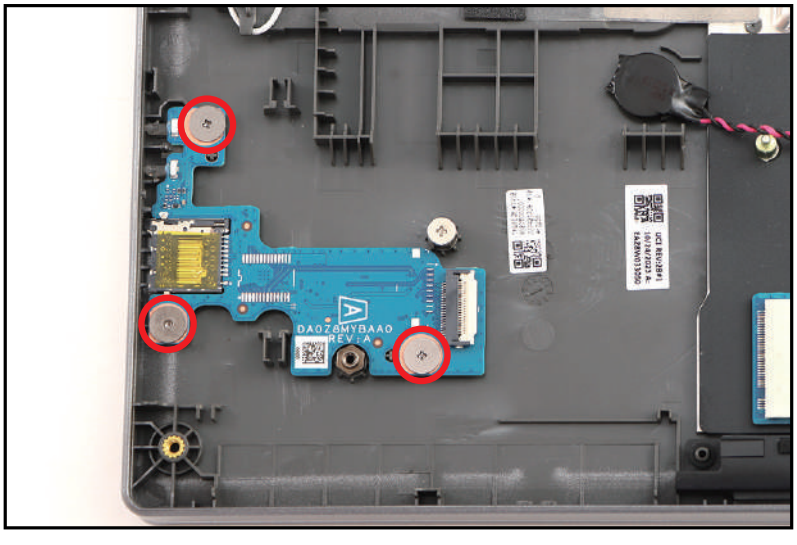


Figure 3-120. Replacing the Card Reader Board

3. Connect the card reader board FFC (C) to the card reader board and mainboard connectors (Figure 3-121).
4. Attach the sponge (D) onto the card reader board as shown in Figure 3-121.

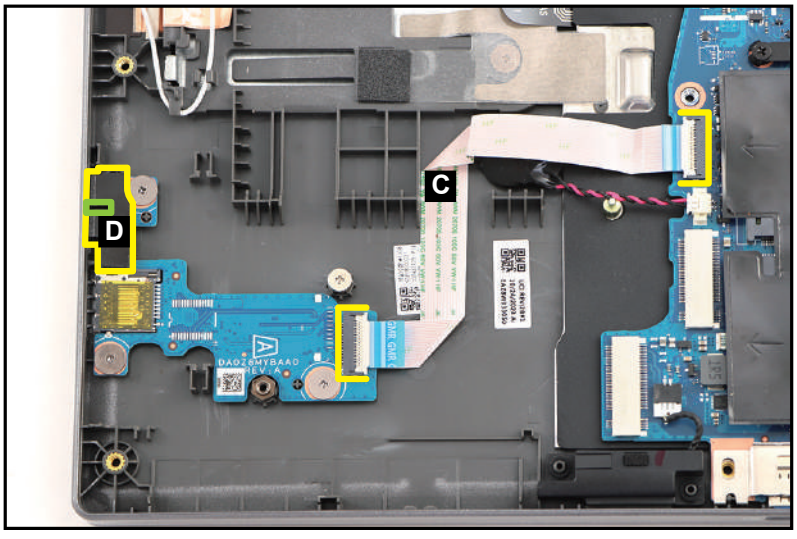


Figure 3-121. Replacing the Card Reader Board

NOTE:

Make sure that the card reader board FFC is firmly secured to the card reader board and mainboard connectors.

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	3	

Replacing the Touchpad Module

1. Slight lift the mylar. Then slide the touchpad module (A) into the bottom latches (B) until those are fully engaged (Figure 3-122).
2. Ensure that the touchpad module is properly aligned with the guide pins (C), push the touchpad module firmly onto its slot until it is fully seated in place (Figure 3-122).

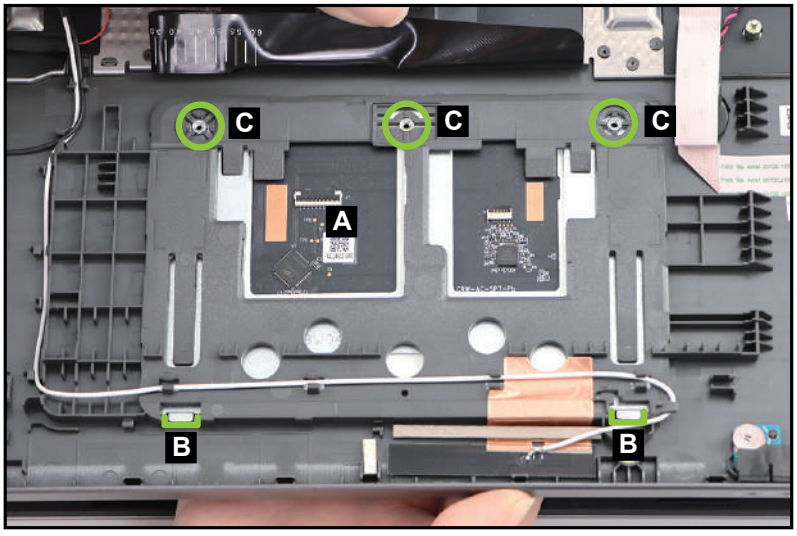


Figure 3-122. Replacing the Touchpad Module

3. Install three (3) screws to secure the touchpad module (Figure 3-123).

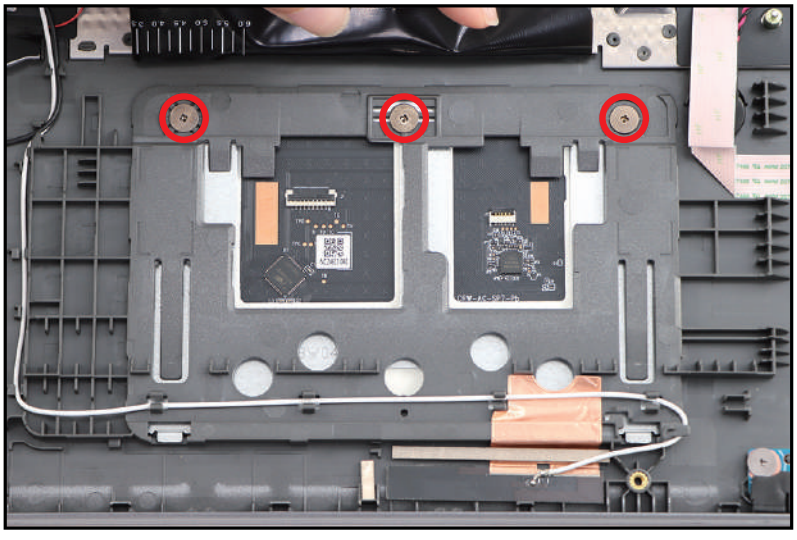


Figure 3-123. Replacing the Touchpad Module

4. Attach the conductive tape (D) onto the touchpad module and top assembly. Make sure the conductive tape is properly aligned and placed onto its slot highlighted by the yellow and green lines as shown in Figure 3-124.

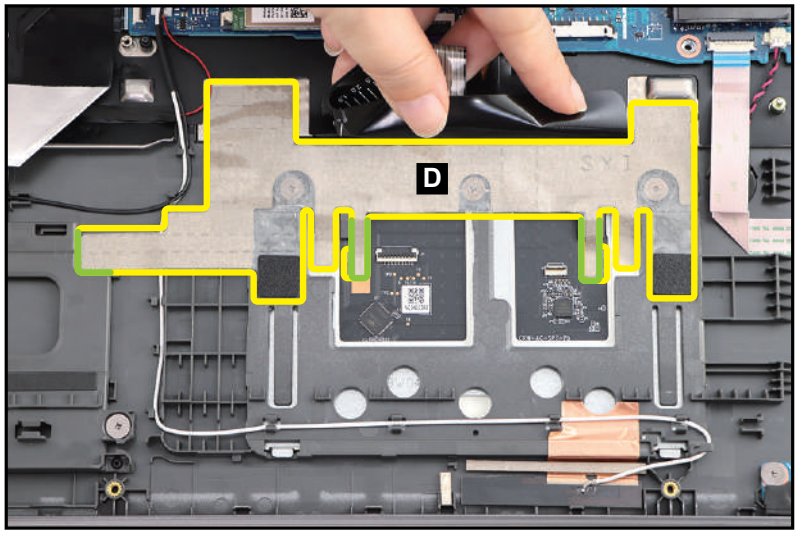


Figure 3-124. Replacing the Touchpad Module

5. Connect the touchpad FFC (E) to the touchpad module and mainboard connectors (Figure 3-125).

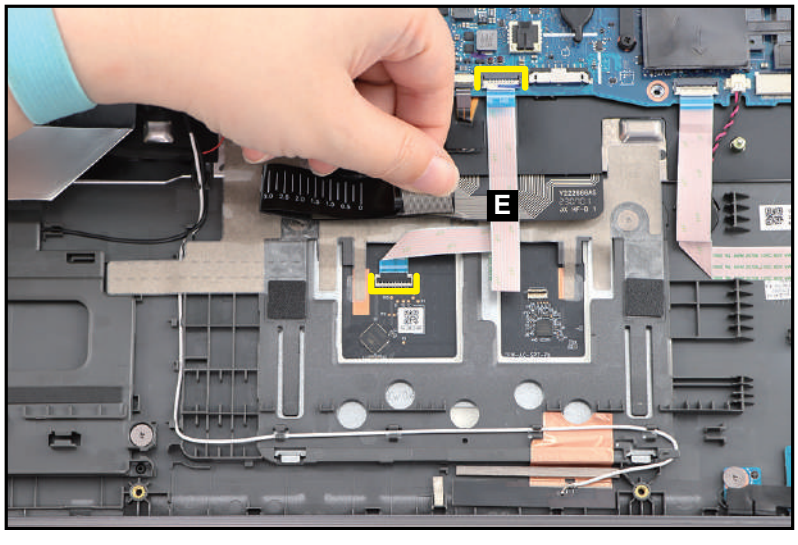


Figure 3-125. Replacing the Touchpad Module

NOTE:

Make sure that the touchpad FFC is firmly secured to the touchpad module and mainboard connectors.

6. Attach the mylars (F) to secure the touchpad FFC and keyboard backlight FPC connections as shown in Figure 3-126.

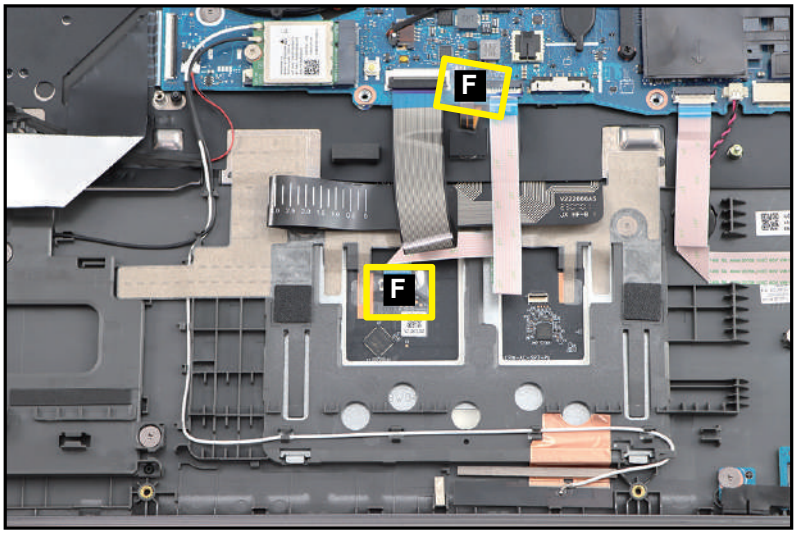


Figure 3-126. Replacing the Touchpad Module

7. Lift the keyboard FPC and touchpad FFC. Then connect the fingerprint FFC (G) to the USB board and touchpad module connectors (Figure 3-127).
8. Press the portion of the touchpad FFC to ensure its underneath adhesive (highlighted with the yellow lines) is properly attached as shown in Figure 3-127.

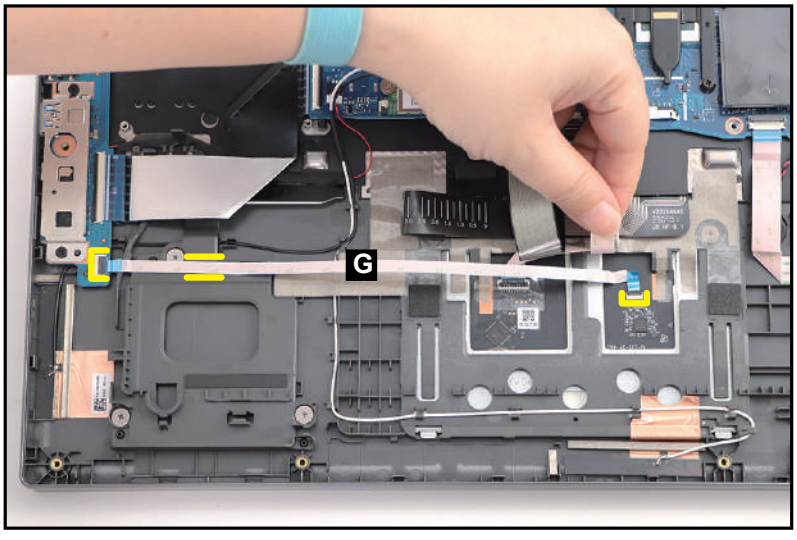


Figure 3-127. Replacing the Touchpad Module

NOTE:

Make sure that the fingerprint FFC is firmly secured to the USB board and touchpad module connectors connectors.

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	3	

Replacing the Left Speaker

1. By aligning with the guide pins (A), install the left speaker (B) onto its compartment on the top assembly (Figure 3-128).

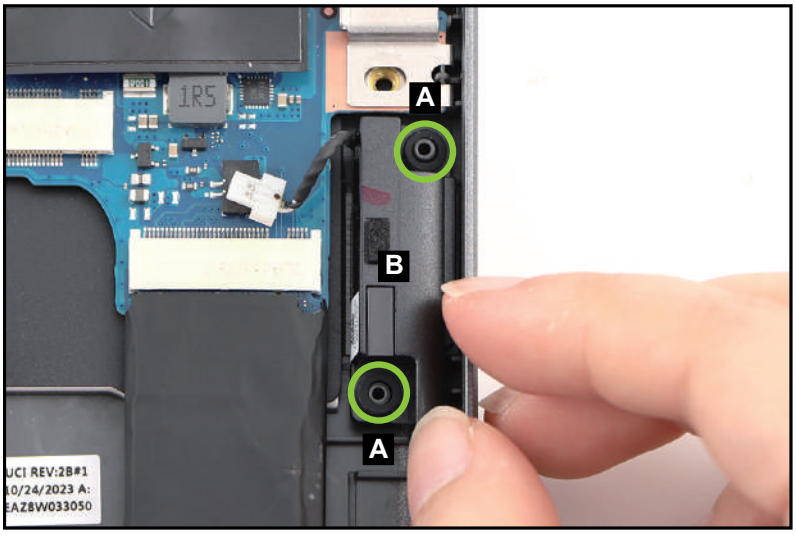


Figure 3-128. Replacing the Left Speaker

2. Connect the left speaker cable to the mainboard connector (C) (Figure 3-129).

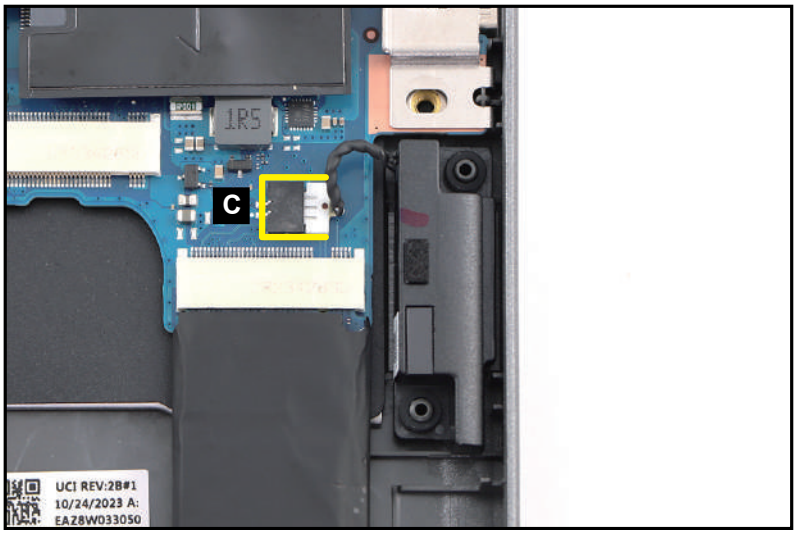


Figure 3-129. Replacing the Left Speaker

Replacing the USB Board

1. Align and slide the I/O ports on the USB board (A) into their slots on the top assembly (Figure 3-130).
2. Place the USB board onto its compartment until it is fully seated and secured to the guide pins (B) (Figure 3-130).

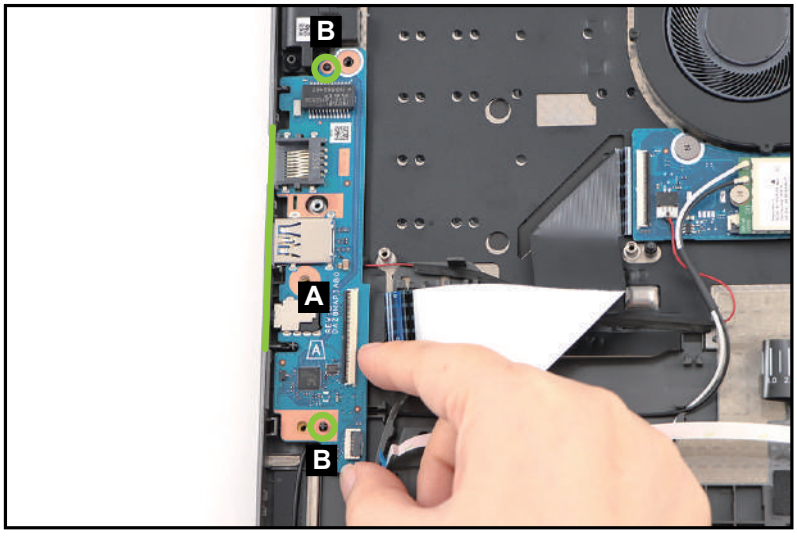


Figure 3-130. Replacing the USB Board

3. Connect the USB board FFC to the USB board connector (C). Then connect the fingerprint FFC to the USB board connector (D) (Figure 3-131).

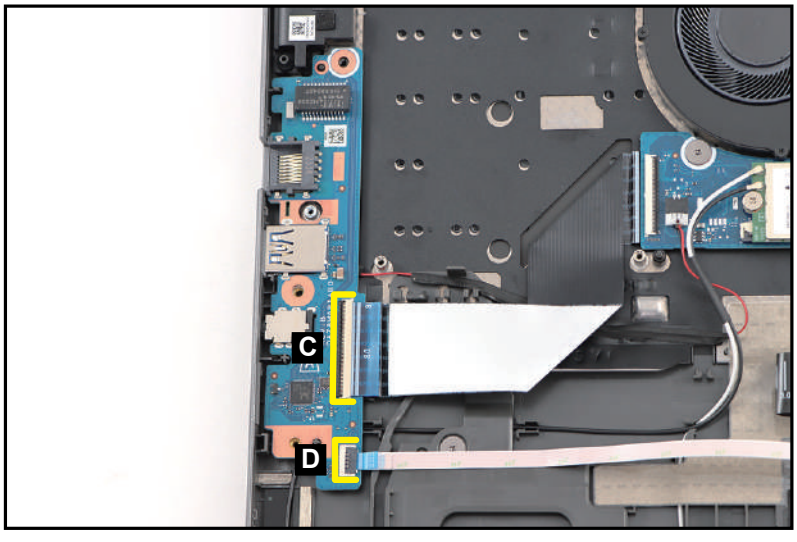


Figure 3-131. Replacing the USB Board

NOTE:

Make sure that the USB board and fingerprint FFCs are firmly secured to the USB board connectors.

4. By aligning with the guide pins (E), install the left IO bracket (F) onto its slot on the USB board as shown in Figure 3-132.

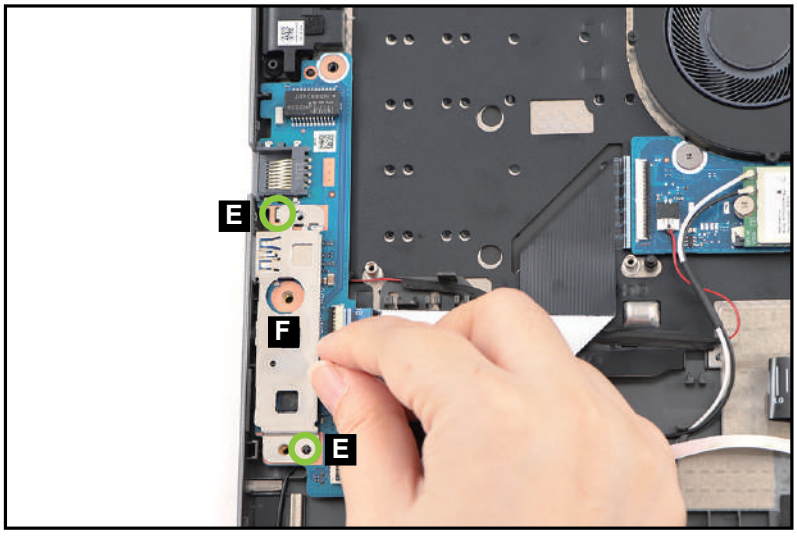


Figure 3-132. Replacing the USB Board

5. Install three (3) screws to secure the USB board and left IO bracket (Figure 3-133).

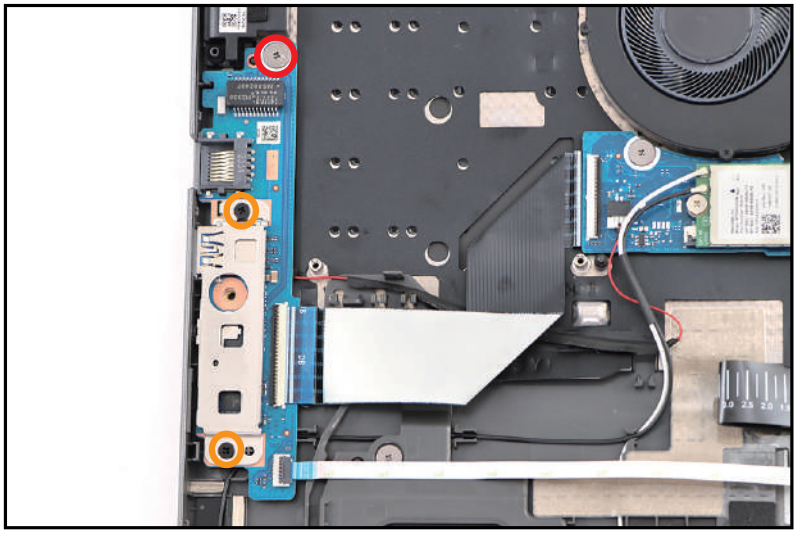


Figure 3-133. Replacing the USB Board

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	1	
Orange Call out	M2.0*4.0	2.0+10%kgf-cm	2 (left IO bracket)	

1. Align and install the RTC battery (A) onto its slot on the top assembly (Figure 3-134).
2. Connect the RTC battery cable to the mainboard connector (B) (Figure 3-134).

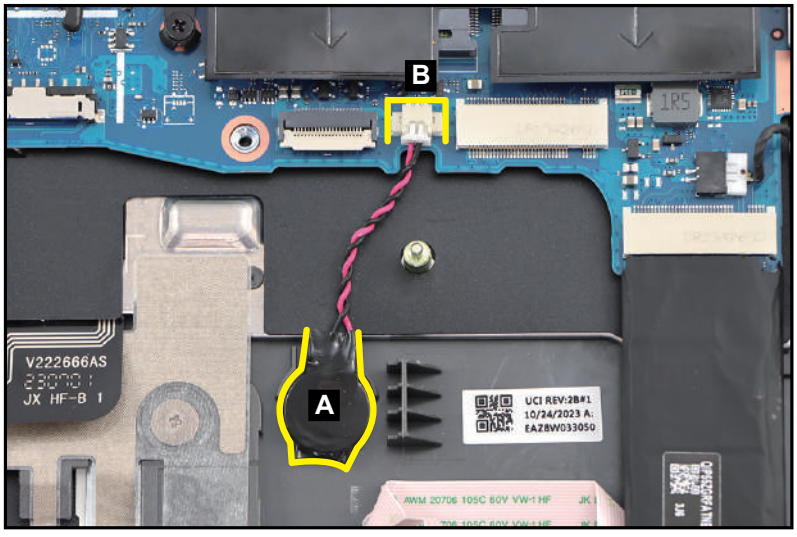


Figure 3-134. Replacing the RTC Battery

3. Connect the card reader board FFC to the mainboard connector (C) (Figure 3-135).

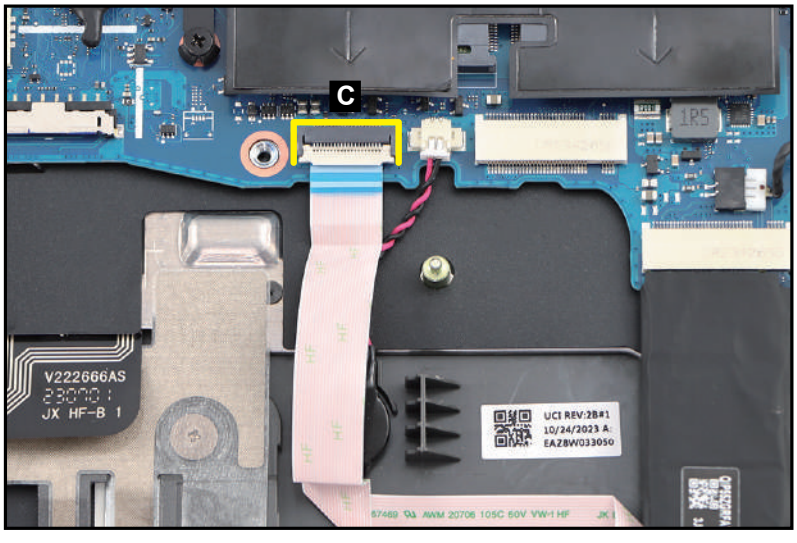


Figure 3-135. Replacing the RTC Battery

NOTE:

Make sure that the card reader board FFC is firmly secured to the mainboard connector.

1. By aligning with the guide pins (A), place the LCD hinges of the LCD module (B) onto the top assembly as shown in Figure 3-136.

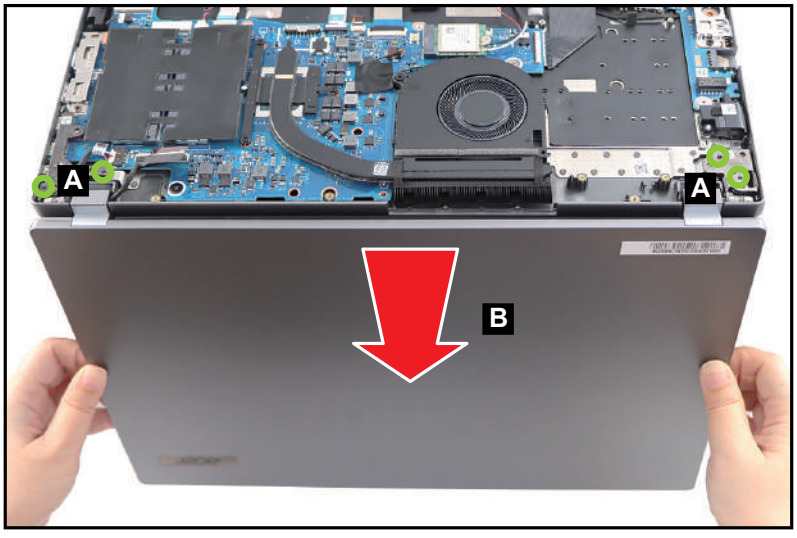


Figure 3-136. Replacing the LCD Module

2. Install six (6) screws to secure the LCD hinges (Figure 3-137).

⚠ CAUTION:

Make sure all cables are moved away from the device to avoid damage during installation.

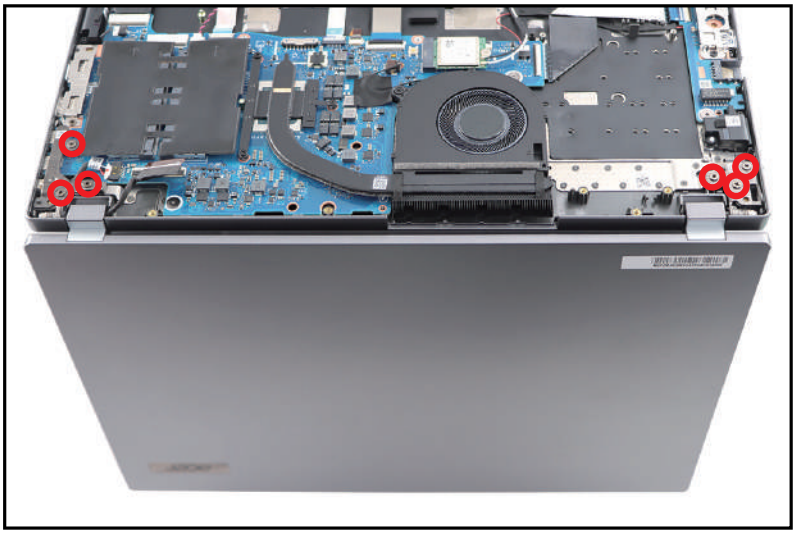


Figure 3-137. Replacing the LCD Module

3. Route the LCD cable through the cable guides on the top assembly. Then connect the cable to the mainboard connector (C) (Figure 3-138).

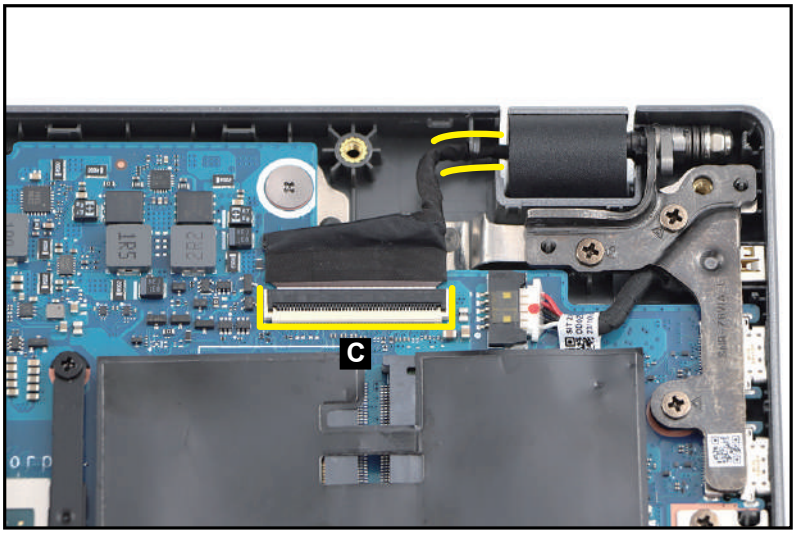


Figure 3-138. Replacing the LCD Module

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.5*5.0	3.0±15%kgf-cm	6	

Replacing the Thermal Module

IMPORTANT:

Apply approved thermal grease and ensure all heat pads are in position before replacing the module.

CAUTION:

Use caution when applying thermal grease. Thermal grease may cause damage to the mainboard.

The following thermal grease types are approved for use:

- Silmore GP50
- Honeywell
- Jet Motor 7762

The following thermal pads are approved for use:

- Eapus XR-PE

1. Remove all traces of thermal grease from CPU (or GPU) using a lint-free cloth or cotton swab and Isopropyl Alcohol, Acetone, or other approved cleaning agent.
2. Apply small amount of thermal grease to center of CPU.

NOTE:

Force used during installation of heatsink is sufficient to spread grease evenly over CPU top.

3. Place the thermal module (A) on the mainboard and top assembly as shown in Figure 3-139.

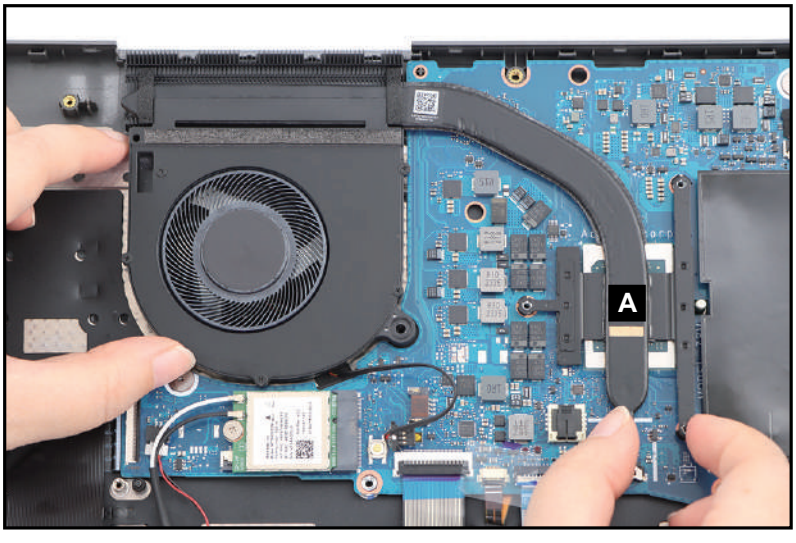


Figure 3-139. Replacing the Thermal Module

4. Install one (1) screw to secure the fan. Then install and secure another three (3) screws in numerical order from one (1) to three (3) to the heatsink (Figure 3-140). Ensure the heatsink is properly aligned and seated.
5. Connect the fan cable to the mainboard connector (B) (Figure 3-140).

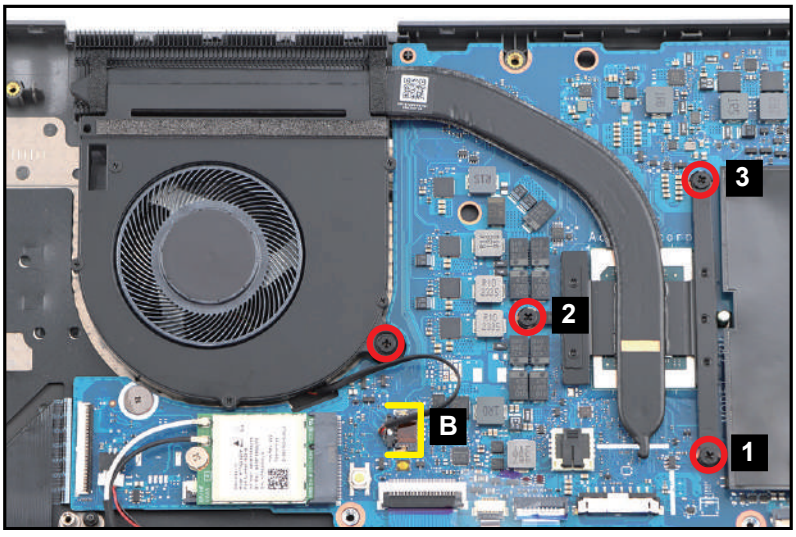


Figure 3-140. Replacing the Thermal Module

6. Attach the tape (C) to secure the fan cable connection (Figure 3-141).

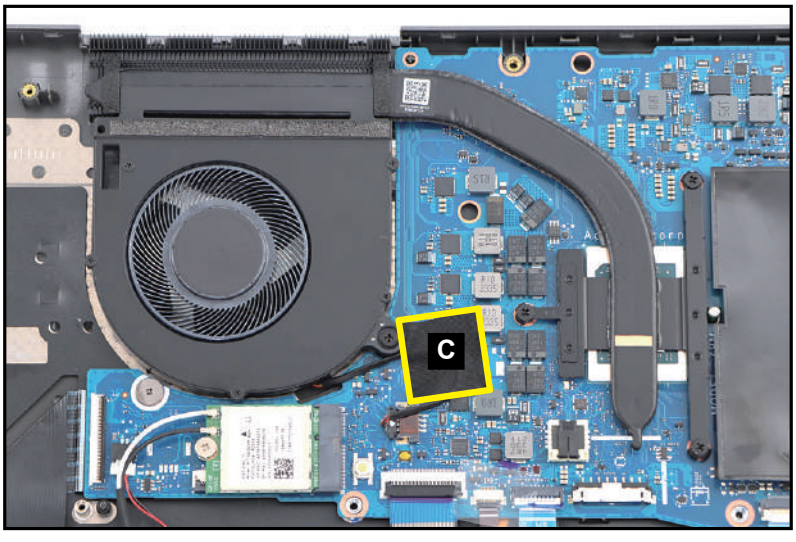


Figure 3-141. Replacing the Thermal Module

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*4.0	2.0+10%kgf-cm	4	

NOTE:

The composite foil with thermal pad (A) includes the adhesive graphite strips as shown in Figure 3-142.

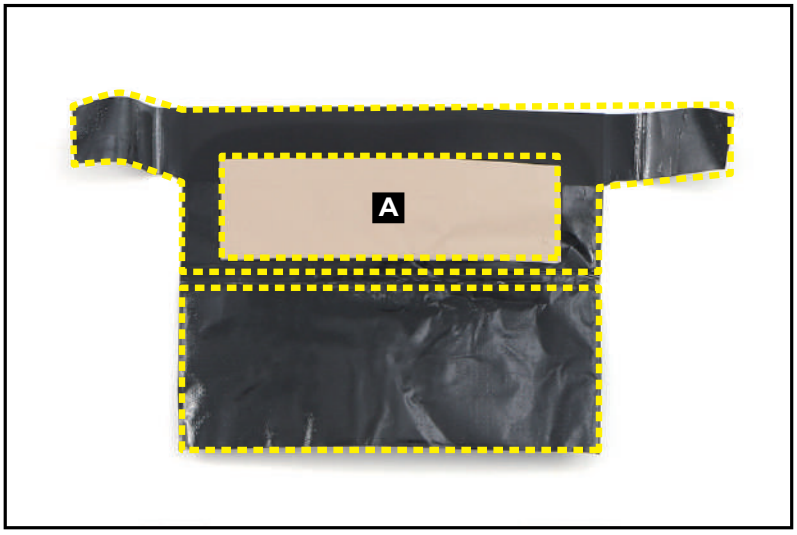


Figure 3-142. Adhesive Graphite Strips Location

1. Attach the composite foil with thermal pad (A) to the DIMM module. Make sure the foil is properly aligned and placed onto its designated location highlighted by the yellow lines Figure 3-143.

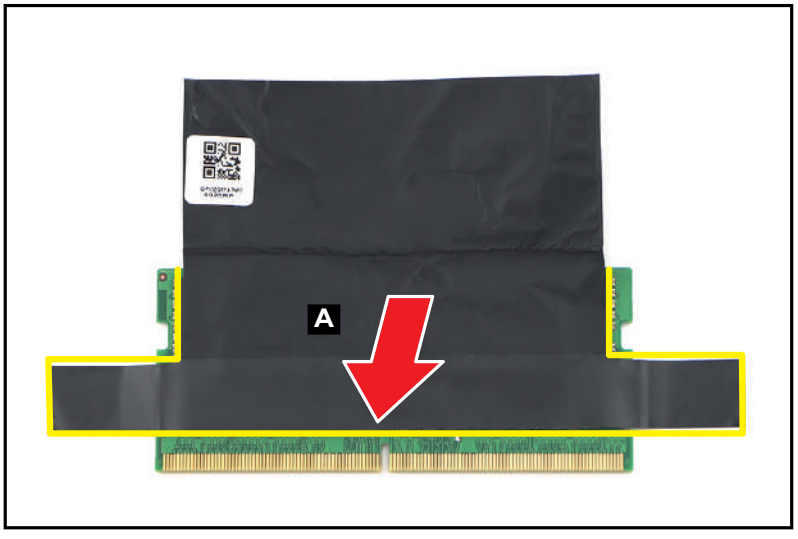


Figure 3-143. Replacing the DIMM Module

2. Continue to wrap the composite foil with thermal pad around another side of the DIMM module as shown in Figure 3-144.

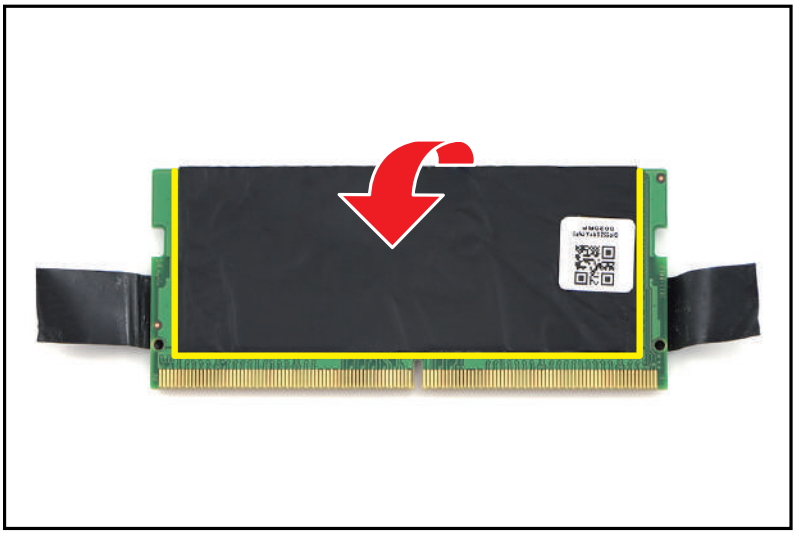


Figure 3-144. Replacing the DIMM Module

3. Fold the tabs (B) to secure the composite foil with thermal pad in place (Figure 3-145).

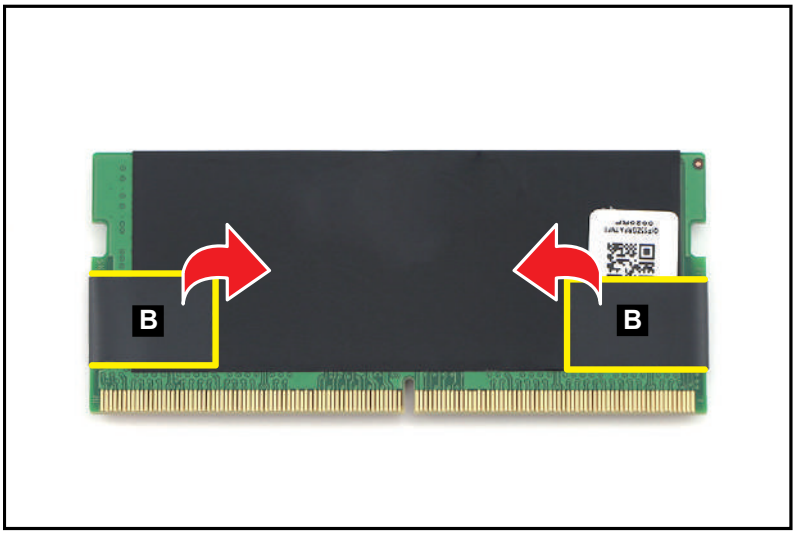


Figure 3-145. Replacing the DIMM Module

4. Repeat steps 1~3 to wrap the composite foil with thermal pad to another DIMM module.

5. Connect the DIMM module (C) to the mainboard connector (D) (Figure 3-146).

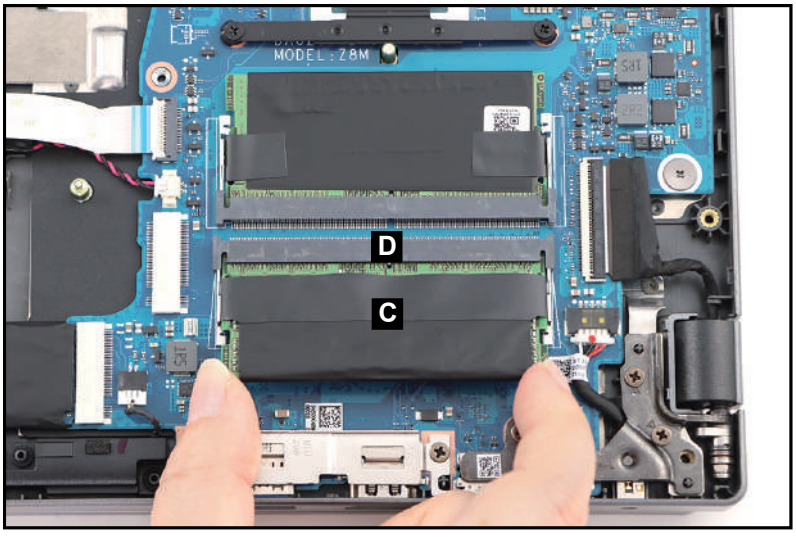


Figure 3-146. Replacing the DIMM Module

6. Press down on the DIMM module until the module clips (E) lock into position as shown in Figure 3-147.

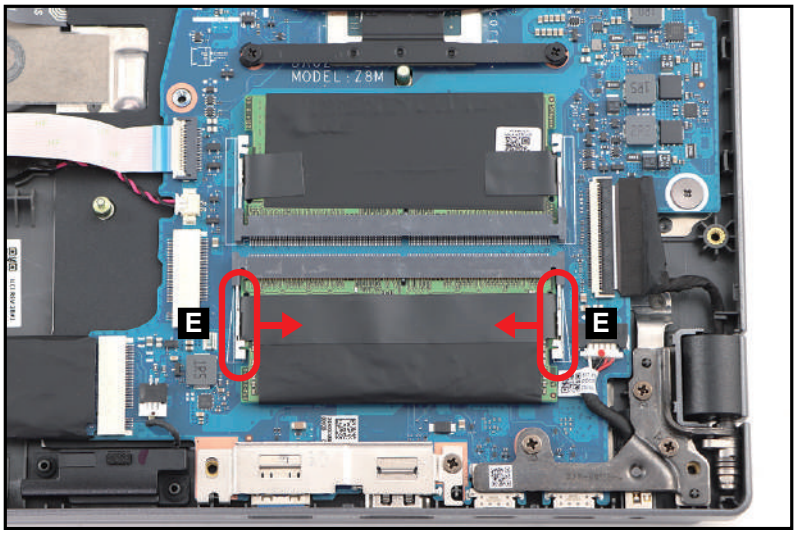


Figure 3-147. Replacing the DIMM Module

7. Repeat steps 5~6 to install another DIMM module.

8. Attach the absorber with mylar (F) onto the DIMM modules. Make sure the absorber with mylar is properly aligned and placed onto its slot highlighted by the yellow and green lines as shown in Figure 3-148.

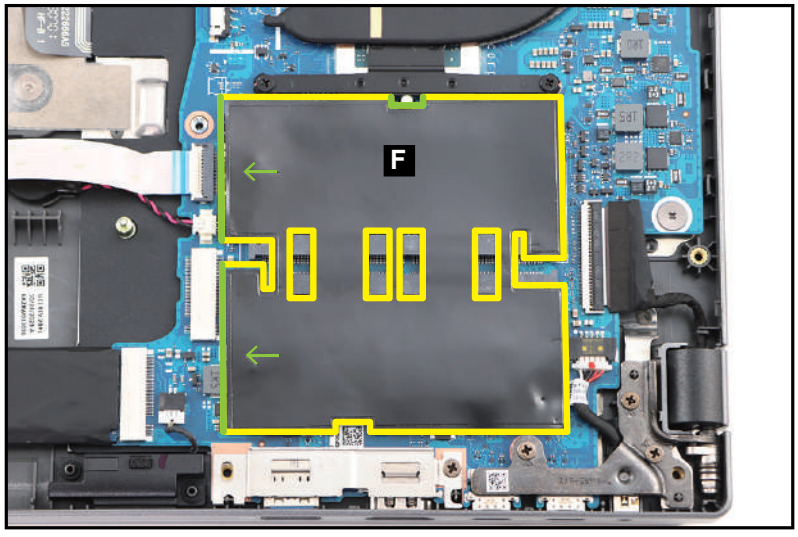


Figure 3-148. Replacing the DIMM Module

1. Connect the WLAN module (A) into the mainboard connector (B) (Figure 3-149).

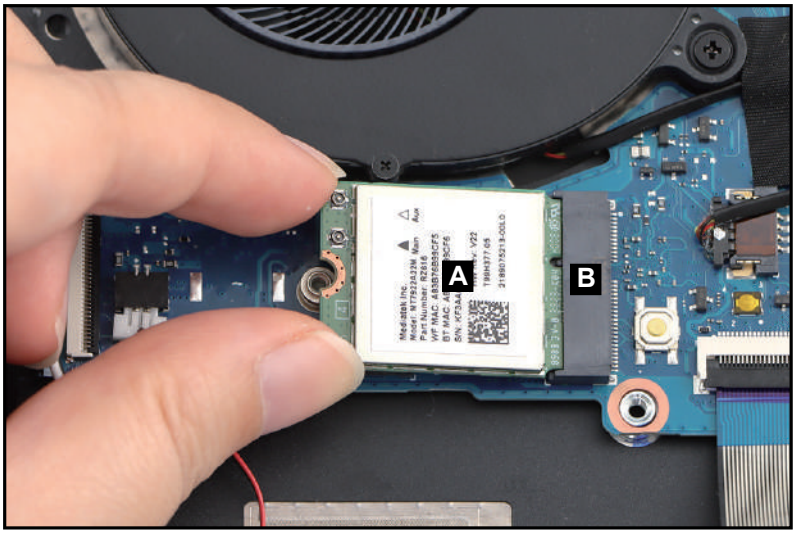


Figure 3-149. Replacing the WLAN Module

2. Install one (1) screw to secure the WLAN module (Figure 3-150).
3. Connect the WLAN antennas cables to the WLAN module connectors (C) (Figure 3-150).

Figure 3-150. Replacing the WLAN Module

+ **IMPORTANT:**

Make sure that the AUX antenna cable (white-color) is connected to the WLAN AUX pin and the MAIN antenna cable (black-color) is connected to the WLAN MAIN pin.

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	1	

NOTE:

The copper foil with mylar (A) includes three (3) adhesive graphite strips as shown in Figure 3-151.

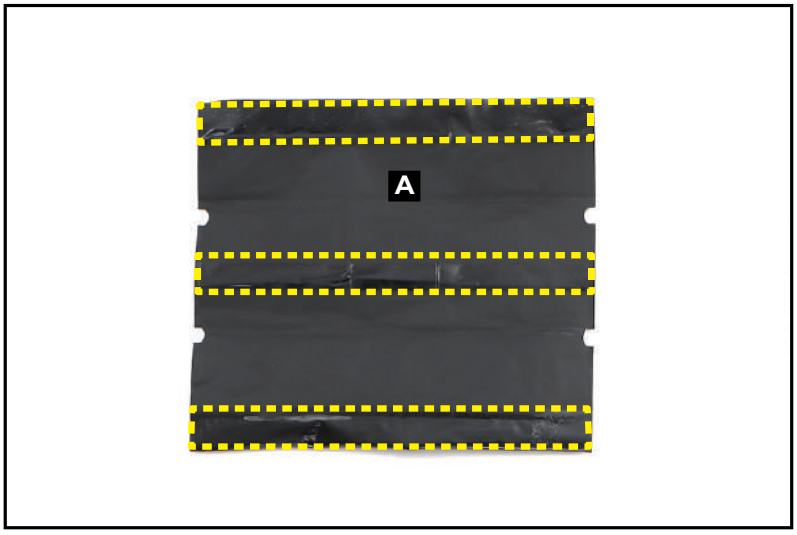


Figure 3-151. Adhesive Graphite Strips Location

1. Place the SSD module (B) on the center-top of the mylar (A). Make sure the SSD module is aligned with the notches (marked with green circles) as shown in Figure 3-152.

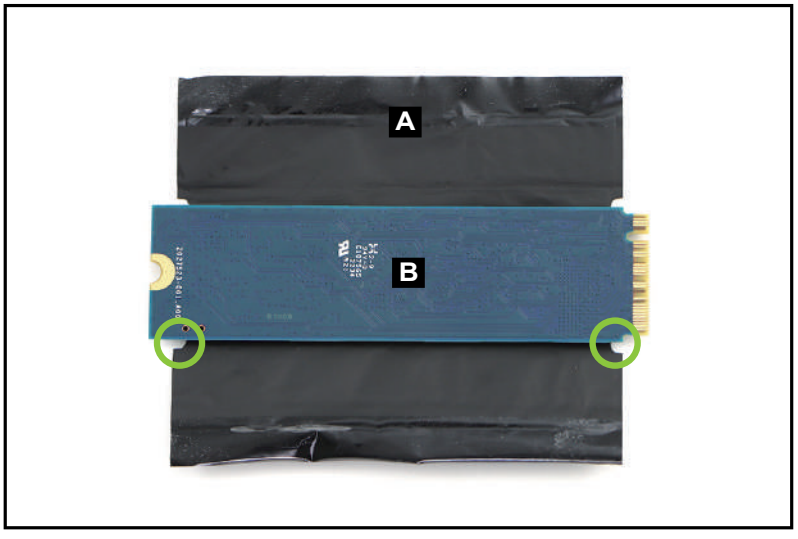


Figure 3-152. Replacing the SSD Module

2. Fold the bottom portion of the mylar onto the SSD module as shown in Figure 3-153.

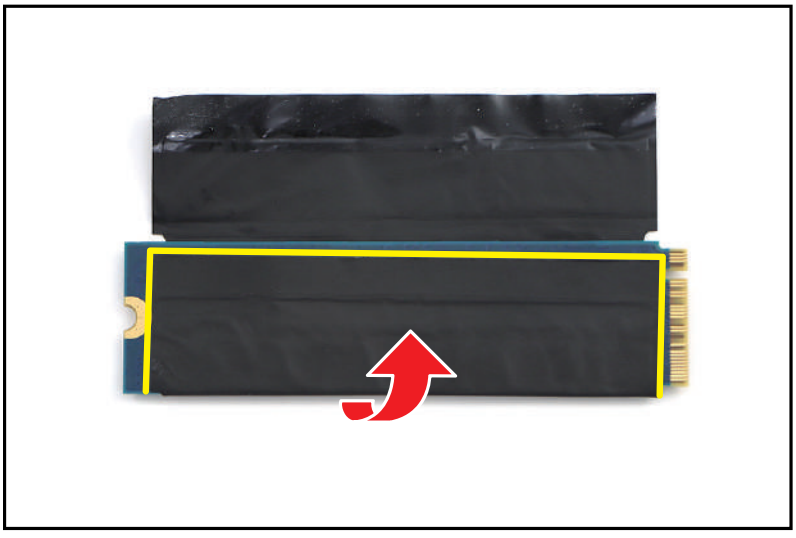


Figure 3-153. Replacing the SSD Module

3. Continue to fold the top portion of the mylar onto the SSD module as shown in Figure 3-154.

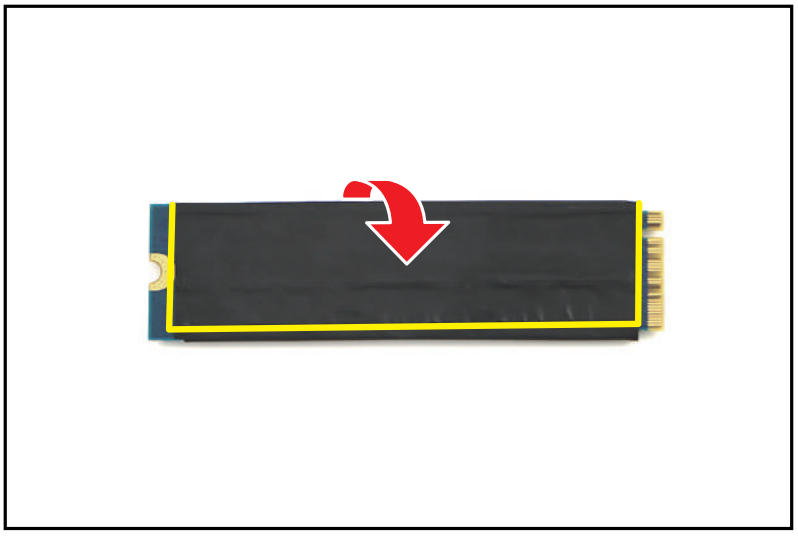


Figure 3-154. Replacing the SSD Module

4. Repeat steps 1~3 to wrap the copper foil with mylar to another SSD module.

5. Connect the SSD module to the mainboard connector (C) (Figure 3-155).

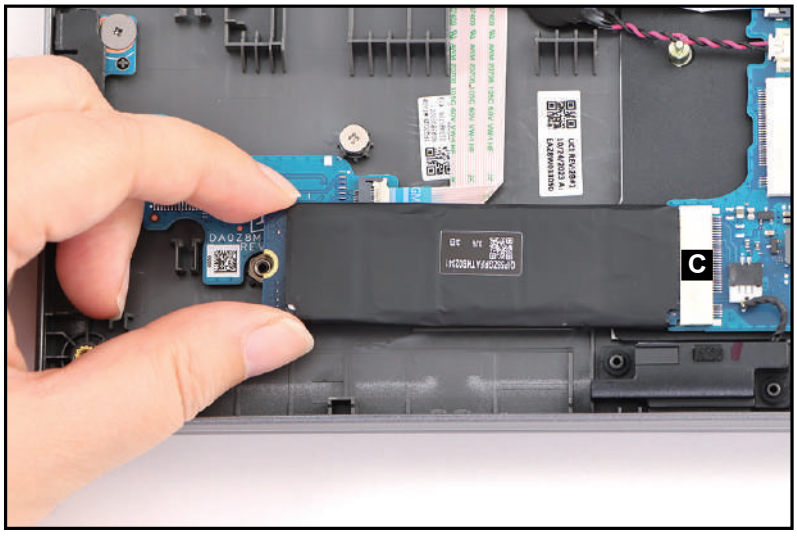


Figure 3-155. Replacing the SSD Module

6. Install one (1) screw to secure the SSD module (Figure 3-156).

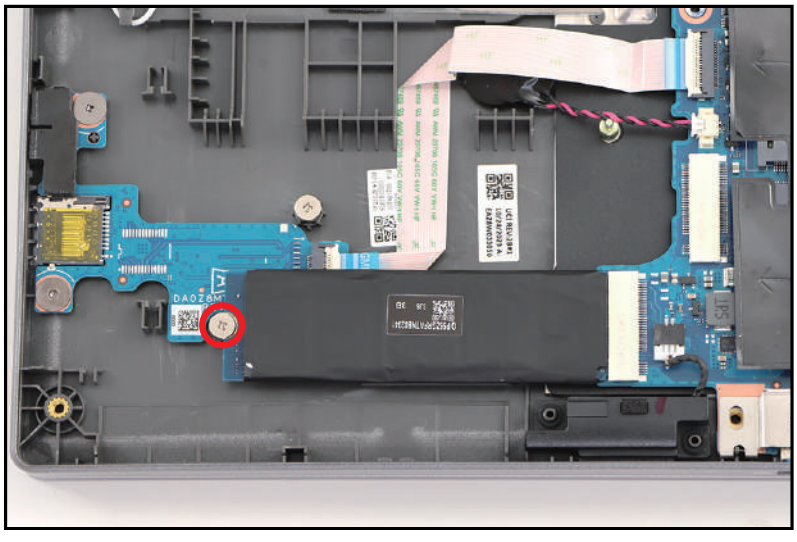


Figure 3-156. Replacing the SSD Module

7. Repeat steps 5~6 to install another SSD module.

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.0	2.0+10%kgf-cm	2	

Replacing the Smart Card Holder

1. By aligning with the guide tab (highlighted by the green box), install the smart card holder (A) onto its compartment on the top assembly. Then push the smart card holder forward until it is fully seated and secured to the guide pins (B) (Figure 3-157).

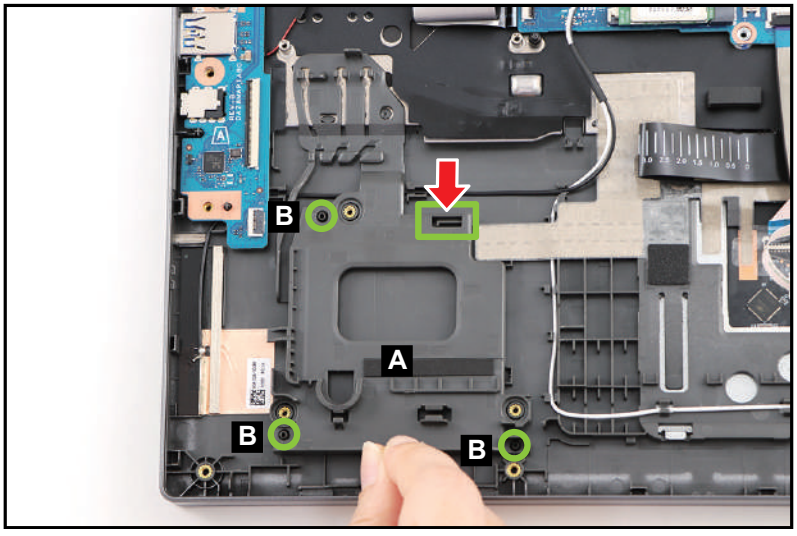


Figure 3-157. Replacing the Smart Card Holder

2. Install three (3) screws (C) to secure the smart card holder (Figure 3-158).

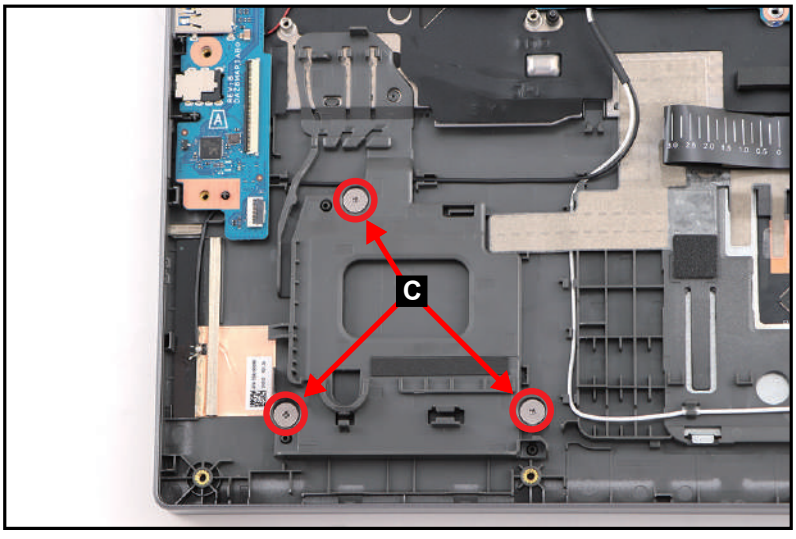


Figure 3-158. Replacing the Smart Card Holder

3. Route and attach the right speaker cable onto its routing channel. Then connect the right speaker cable to the mainboard connector (D) (Figure 3-159).

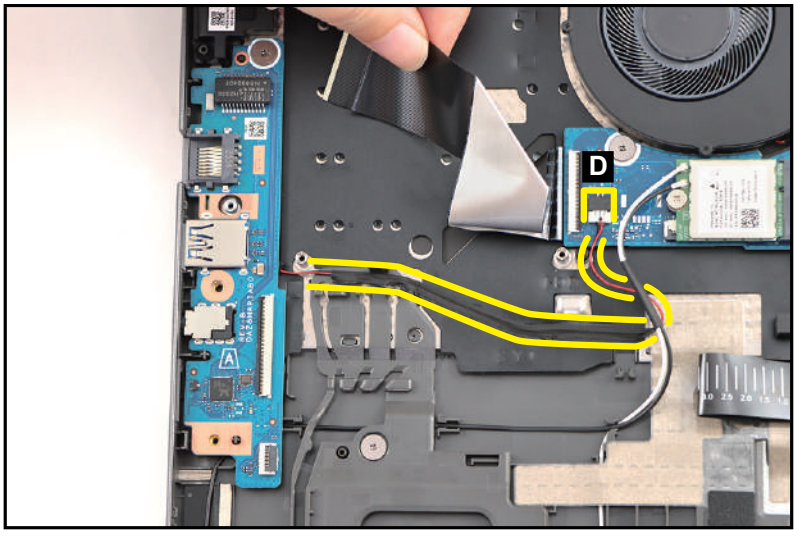


Figure 3-159. Replacing the Smart Card Holder

4. Connect the USB board FFC to the USB board connector (E). Then connect the fingerprint FFC to the USB board connector (F) (Figure 3-160).

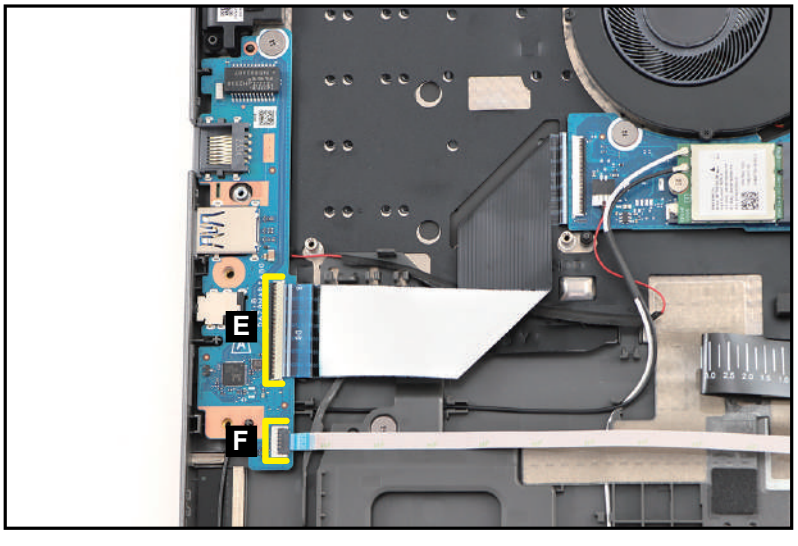


Figure 3-160. Replacing the Smart Card Holder

NOTE:

Make sure that the USB board and fingerprint FFCs are firmly secured to the USB board connectors.

5. By aligning with the guide pins (G), install the left IO bracket (H) onto its slot on the USB board as shown in Figure 3-161.

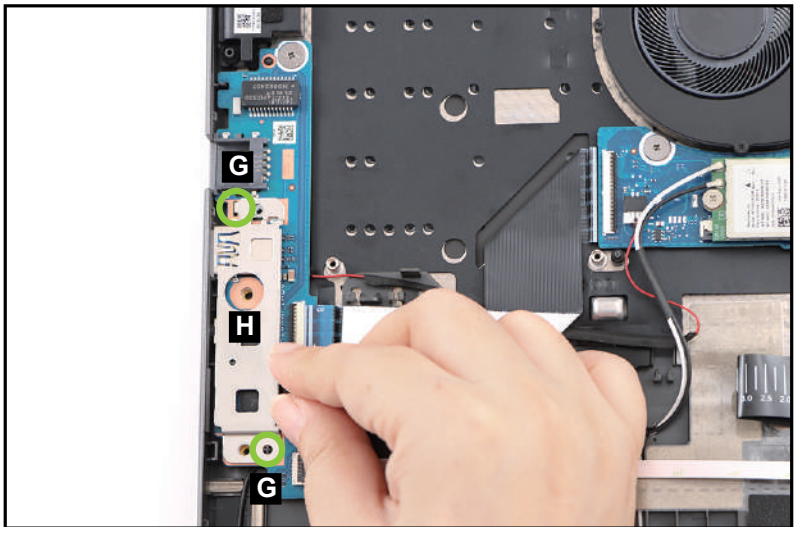


Figure 3-161. Replacing the Smart Card Holder

6. Install two (2) screws (I) to secure the left IO bracket (Figure 3-162).

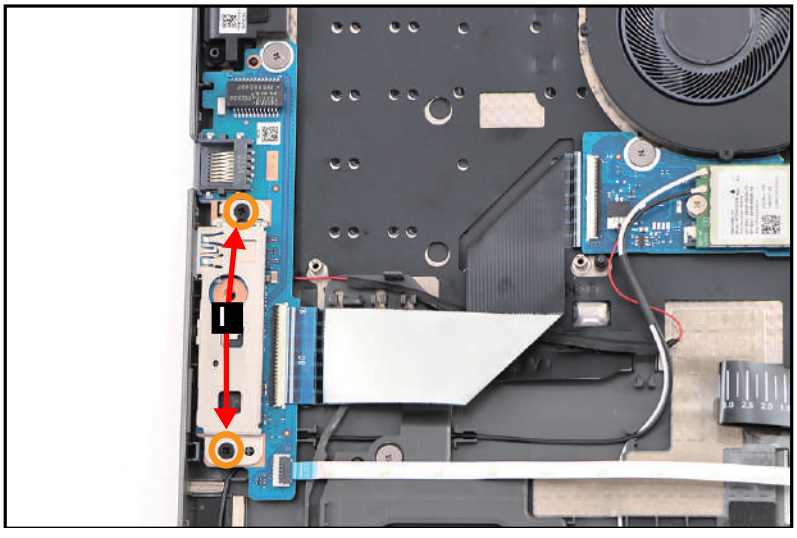


Figure 3-162. Replacing the Smart Card Holder

ID	Size	Torque	Quantity	Screw Type
C	M2.0*2.0	2.0+10%kgf-cm	3	
I	M2.0*4.0	2.0+10%kgf-cm	2 (left IO bracket)	

Replacing the Battery Pack

1. Attach the mylar (A) to secure the battery cable in place (Figure 3-163).

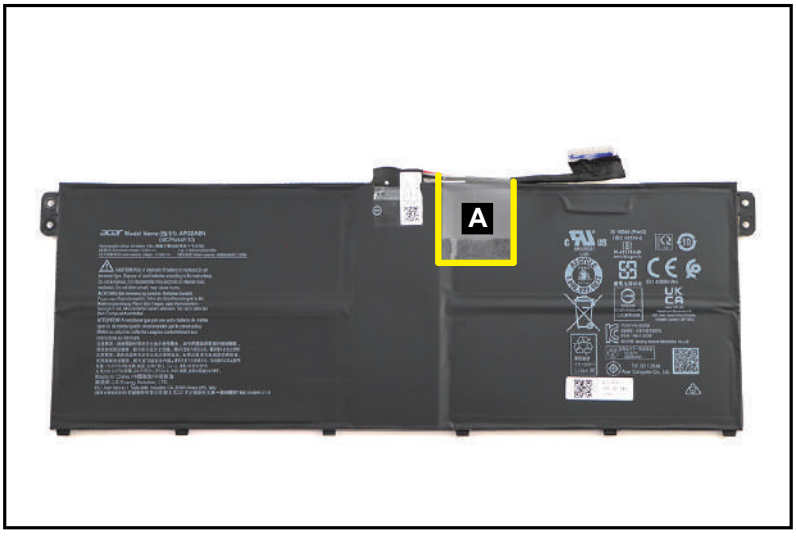


Figure 3-163. Replacing the Battery Pack

2. By aligning with the guide pin (B) and the compartment studs (highlighted by green lines), place the battery pack (C) to its compartment on the top assembly (Figure 3-164).

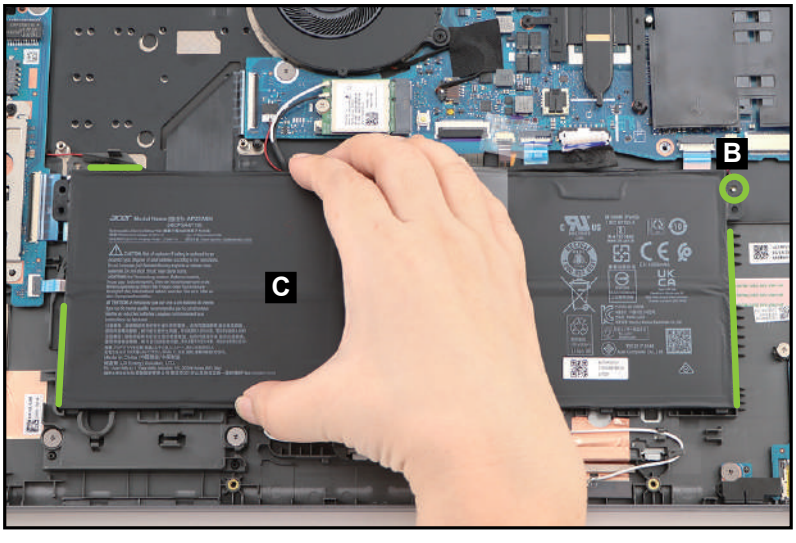


Figure 3-164. Replacing the Battery Pack

3. Connect the battery cable to the battery connector (D) (Figure 3-165).

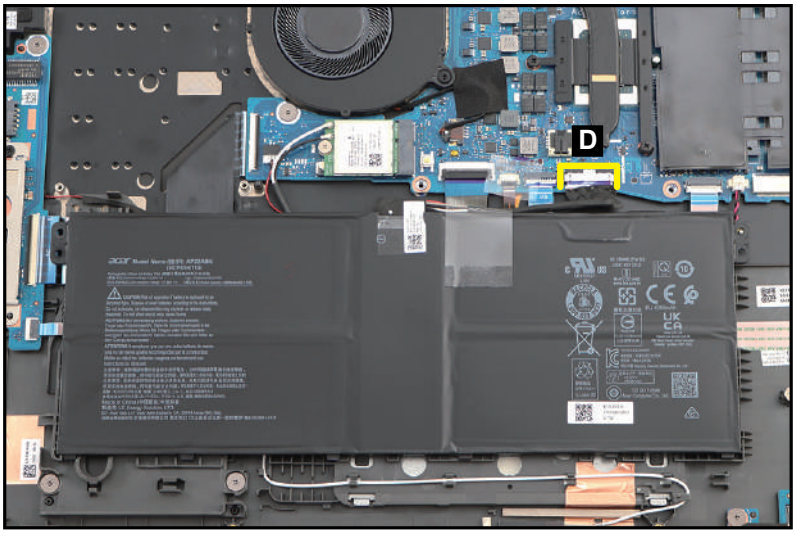


Figure 3-165. Replacing the Battery Pack

4. Attach the tape (E) to secure the battery cable connection (Figure 3-166).

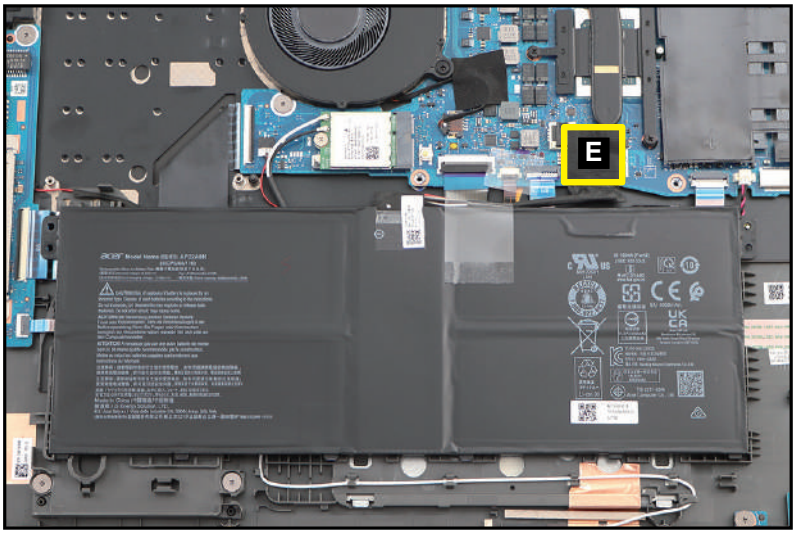


Figure 3-166. Replacing the Battery Pack

5. Attach the mylar (F) onto the designated slot as shown in Figure 3-167.

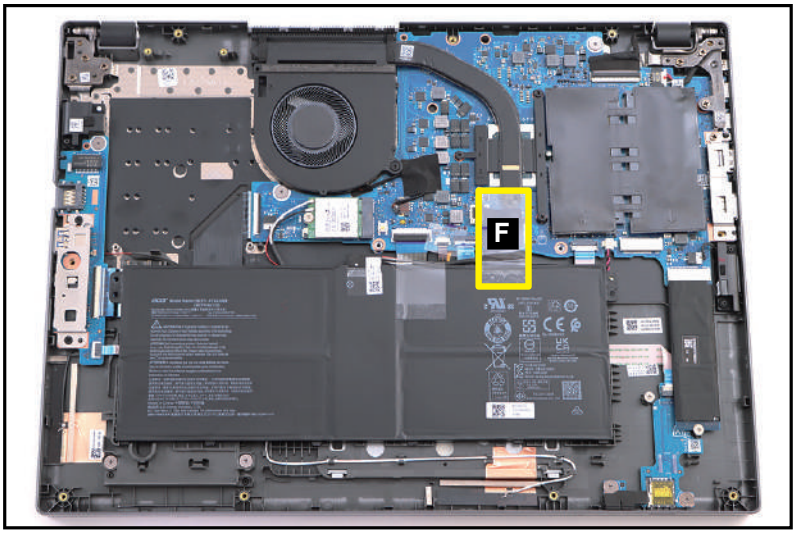


Figure 3-167. Replacing the Battery Pack

Replacing the Base Cover

1. Carefully place the base cover onto the top assembly. Make sure that the edges of the base cover are aligned properly to those of the top assembly (Figure 3-168).

Figure 3-168. Replacing the Base Cover

2. Press downward on the system to engage the tabs. Make sure all the tabs are fully engaged (Figure 3-169).

Figure 3-169. Replacing the Base Cover

3. Install thirteen (13) screws to secure the base cover (Figure 3-170).

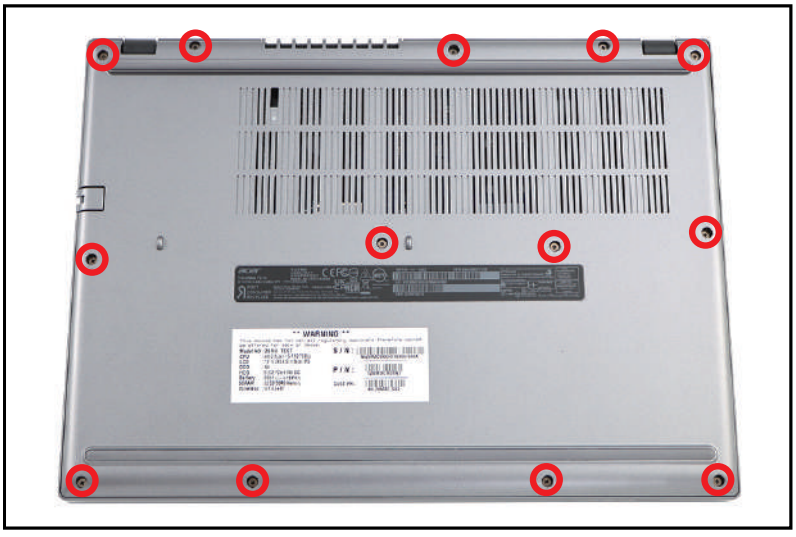


Figure 3-170. Replacing the Base Cover

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.5*7.0	3.0+15%kgf-cm	13	

CHAPTER 4
Troubleshooting

Troubleshooting

Introduction

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

General Information

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

NOTE:

The diagnostic tests are intended for Acer products only. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Obtain as much detailed information as possible about the problem.
2. If possible, verify the symptoms by re-creating the failure through diagnostic tests or repeating the operation that led to the problem.
3. Use Table 4-1 with the verified symptom to determine the solution.

Table 4-1. Common Problems

Symptoms (Verified)
Power On Issues
No Display Issues
LCD Picture Failure
Internal Keyboard Failure
Touch Pad Failure
Internal Speaker Failure
Other Functions Failure
Intermittent Problems
Undetermined Problems

4. If the Issue is still not resolved, refer to *Online Support Information*.

NOTE:

Do not replace non-defective FRU parts.

Power On Issues

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

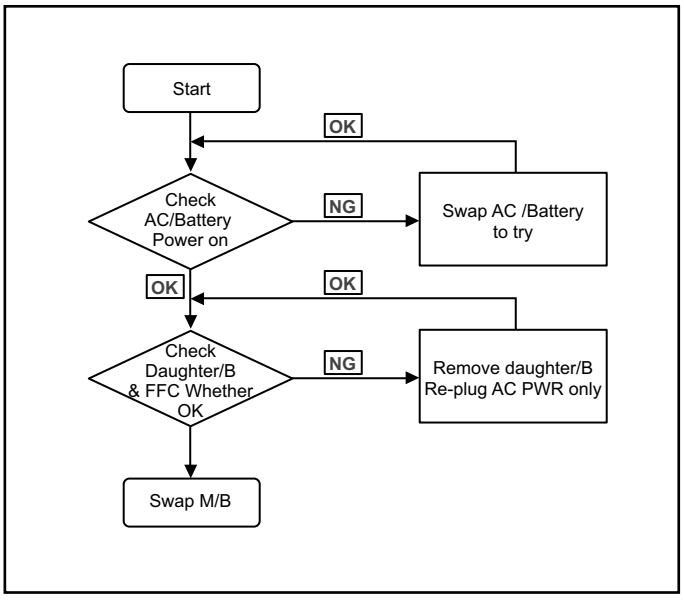


Figure 4-1. Power On Issue

Computer Shuts Down Intermittently

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

1. Makes sure the power cable is properly connected to the computer and the electrical outlet.
2. Remove all extension cables between the computer and the outlet.
3. Remove all surge protectors between the computer and the electrical outlet. Plug the computer directly into a known serviceable electrical outlet.
4. Disconnect the power and open the casing to check the thermal unit and fan airways are free of obstructions.
5. Remove all external and non-essential hardware connected to the computer that are not necessary to boot the computer to the failure point.
6. Remove any recently installed software.
7. If the Issue is still not resolved, refer to *Online Support Information*.

No Display Issues

If the Display does not work, perform the following:

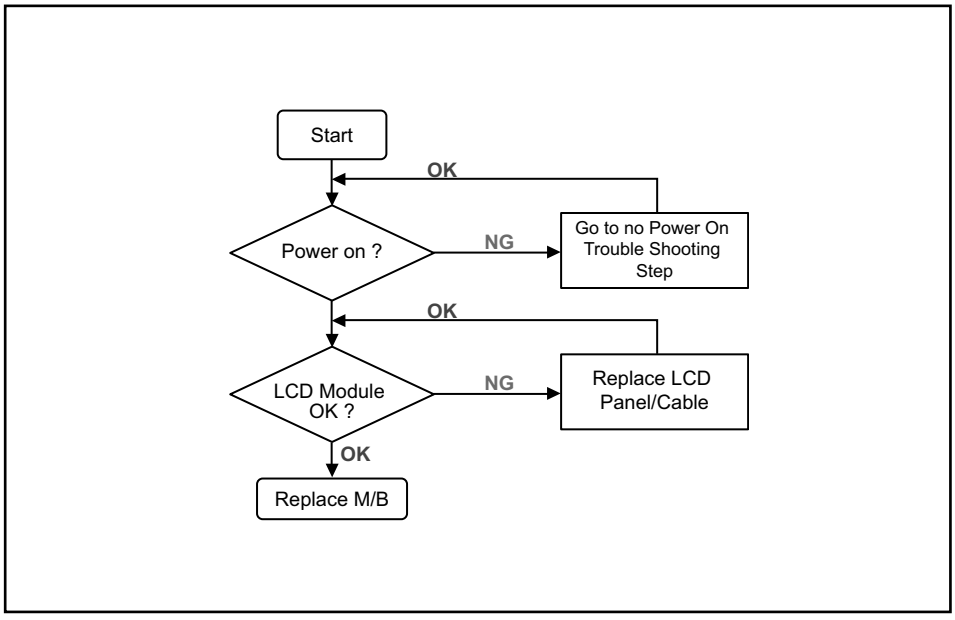


Figure 4-2. No Display Issue

No POST or Video

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

1. Make sure that internal display is selected. Then switch between the internal display and the external display. Reference product pages for specific model procedures.
2. Make sure the computer has power by checking for one of the following:
   - Fans start up
   - Status LEDs illuminate

If no power, refer to *Power On Issues*.

3. Drain stored power by removing the power cable and battery. Hold the power button for 10 seconds.
4. Connect the power and reboot the computer.
5. Connect an external monitor to the computer and switch between the internal display and the external display.
6. If the POST or video appears on the external display only, refer to *LCD Picture Failure*.
7. Disconnect power and all external devices including port replicators or docking stations. Remove any memory cards and CD/DVD discs.
8. Start the computer. If the computer boots correctly, add the devices one by one until the failure point is discovered.
9. Reseat the memory modules.
10. Remove the drives (refer to *Disassembly Process*).

11. If the Issue is still not resolved, refer to *Online Support Information*.

Abnormal Video

If the video appears abnormal, perform the following:

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

NOTE:

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

2. Adjust the brightness to its highest level. Refer to the User Manual for instructions on adjusting the settings. If the display is too dim at the highest brightness setting, the LCD is faulty and should be replaced. Refer to *Disassembly Process*.
3. Check the display resolution is correctly configured:
   - Minimize or close all Windows.
   - If display size is only abnormal in an application, check the view settings and control/mouse wheel zoom feature in the application.
   - If desktop display resolution is not normal, right-click on the desktop and select `Personalize Display Settings`.
   - Click and drag the Resolution slider to the desired resolution.
   - Click ***Apply*** and check the display. Readjust if necessary.
4. Roll back the video driver to the previous version if updated.
5. Remove and reinstall the video driver.
6. Check the Device Manager to determine that:
   - The device is properly installed. There are no red Xs or yellow exclamation marks
   - There are no device conflicts
   - No hardware is listed under `Other Devices`
7. If the Issue is still not resolved, refer to *Online Support Information*.
8. Run the *Windows Memory Diagnostic* from the operating system DVD and follow the on-screen prompts.
9. If the issue is still not resolved, refer to *Online Support Information*.

LCD Picture Failure

If the LCD fails, perform the following:

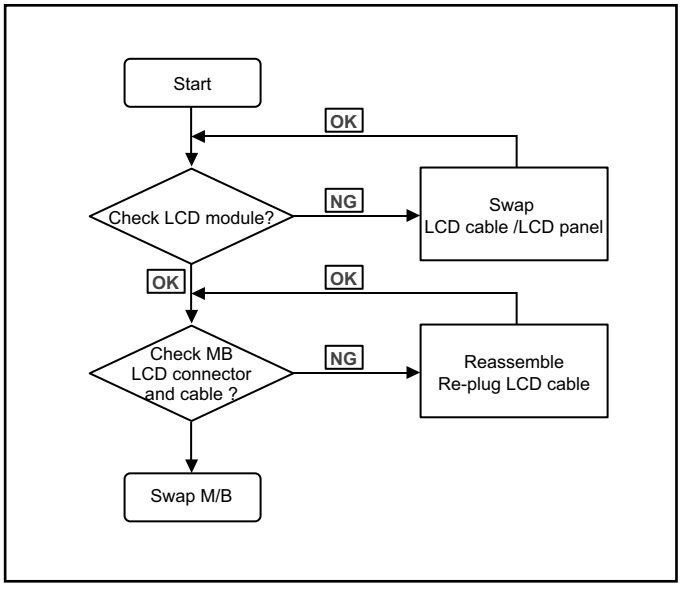


Figure 4-3. LCD Failure

Internal Keyboard Failure

If the internal keyboard fails, perform the following:

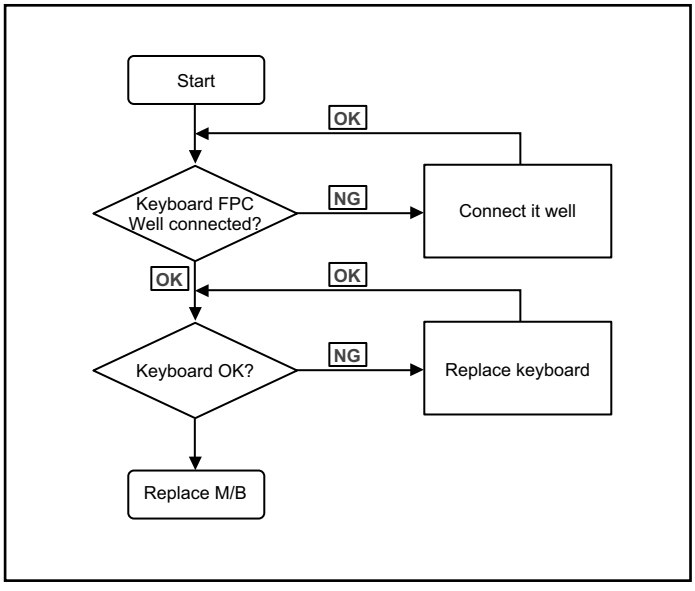


Figure 4-4. Internal Keyboard Failure

Touch Pad Failure

If the touch pad fails, perform the following:

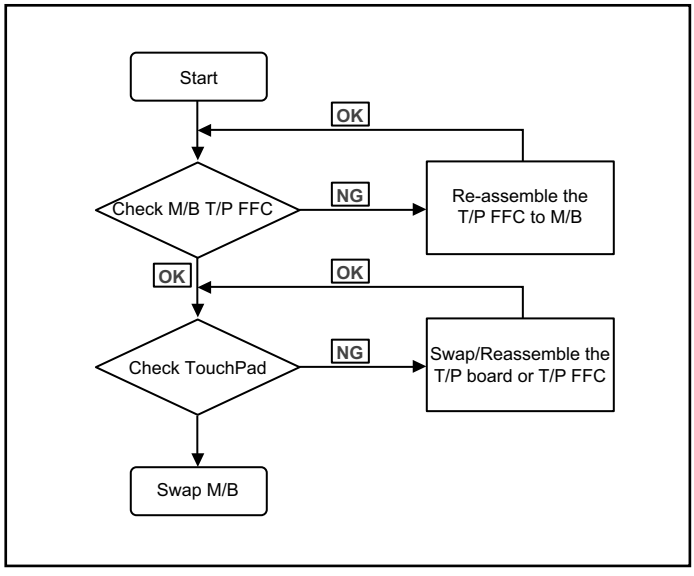


Figure 4-5. Touch Pad Failure

Internal Speaker Failure

If the internal speakers fail, perform the following:

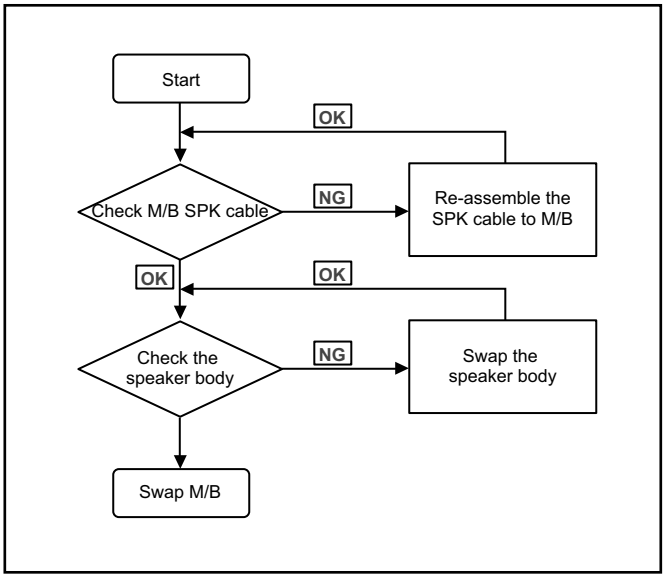


Figure 4-6. Internal Speaker Failure

Sound Problems

Perform the following, one at a time.

1. Boot the computer.
2. If updated recently, roll back the audio driver to the previous version. Remove and reinstall the audio driver.
3. Make sure that all volume controls are set mid range:
   - Click the volume icon on the taskbar
   - Drag the slider to 50. Confirm that the volume is not muted.
   - Click Mixer to verify that other audio applications are set to 50 and not muted.
4. Remove any recently installed hardware or software.
5. Restore system and file settings from a known good date using `System Restore`.
6. Reinstall the operating system.
7. If the issue is still not resolved, refer to *Online Support Information*.

Other Functions Failure

1. Check if the drives are functioning correctly.
2. Check if the external modules are functioning correctly.
3. Change the mainboard to check if current one is defective.

Intermittent Problems

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

When analyzing an intermittent problem, perform the following:

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

Undetermined Problems

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

Perform the following procedures to isolate the failing FRU (do not isolate non-defective FRU).

NOTE:
Verify that all attached devices are supported by the computer.

NOTE:
Verify that the power supply being used at the time of the failure is operating correctly. (Refer to *Power On Issues*).

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

Post Codes

The following are the InsydeH2O™ Functionality POST code tables. The components of the POST code table includes: SEC phase, PEI phase, DXE phase, BDS phase, CSM functions, S3 functions and ACPI functions.

Table 4-2. POST Code Range

Phase	POST Code Range
SEC	0x01 - 0x0F
PEI	0x70 - 0x9F
DXE	0x40 - 0x6F
BDS	0x10 - 0x3F
SMM	0xA0 - 0xBF
S3	0xC0 - 0xCF
ASL	0x51 – 0x55 0xE1 – 0xE4
PostBDS	0xF9 – 0xFE
InsydeH2ODDT™ Reserve	0xD0 – 0xD7
OEM Reserve	0xE8 – 0xEB
Reserved	0xD8 – 0xE0 0xE5 – 0xE7 0xEC – 0xF8

Table 4-3. SEC Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_SYSTEM_POWER_ON	SEC	01	CPU power on and switch to Protected mode
SEC_BEFORE_MICROCODE_PATCH	SEC	02	Patching CPU microcode
SEC_AFTER_MICROCODE_PATCH	SEC	03	Setup Cache as RAM
SEC_ACCESS_CSR*	SEC	04	PCIE MMIO Base Address initial
SEC_GENERIC_MSRINIT*	SEC	05	CPU Generic MSR initialization
SEC_CPU_SPEEDCFG*	SEC	06	Setup CPU speed
SEC_SETUP_CAR_OK	SEC	07	Cache as RAM test
SEC_FORCE_MAX_RATIO*	SEC	08	Tune CPU frequency ratio to maximum level
SEC_GO_TO_SECSTARTUP	SEC	09	Setup BIOS ROM cache

Table 4-3. (Continued)SEC Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_GO_TO_PEICORE	SEC	0A	Enter Boot Firmware Volume
* 3rd party relate functions – Platform dependence.			

Table 4-4. PEI Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_SIO_INIT	PEI	70	Super I/O Initialization
PEI_CPU_REG_INIT	PEI	71	CPU Early Initialization
PEI_CPU_AP_INIT*	PEI	72	Multi-processor Early Initial
PEI_CPU_HT_RESET*	PEI	73	HyperTransport Initialization
PEI_PCIE_MMIO_INIT	PEI	74	PCIE MMIO BAR Initialization
PEI_NB_REG_INIT	PEI	75	North Bridge Early Initialization
PEI_SB_REG_INIT	PEI	76	South Bridge Early Initialization
PEI_PCIE_TRAINING*	PEI	77	PCIE Training
PEI_TPM_INIT	PEI	78	TPM Initialization
PEI_SMBUS_INIT	PEI	79	SMBUS Early Initialization
PEI_PROGRAM_CLOCK_GEN	PEI	7A	Clock Generator Initialization
PEI_IGD_EARLY_INITIAL*	PEI	7B	Internal Graphic device early Initialization
PEI_HECI_INIT*	PEI	7C	HECI Initialization
PEI_WATCHDOG_INIT*	PEI	7D	Watchdog timer Initialization
PEI_MEMORY_INIT	PEI	7E	Memory Initial for Normal boot.
PEI_MEMORY_INIT_FOR_CRISIS	PEI	7F	Memory Initial for Crisis Recovery
PEI_MEMORY_INSTALL	PEI	80	Simple Memory test
PEI_TXTPEI*	PEI	81	TXT function early Initialization
PEI_SWITCH_STACK	PEI	82	Start to use Memory
PEI_MEMORY_CALLBACK	PEI	83	Set cache for physical memory
PEI_ENTER_RECOVERY_MODE	PEI	84	Recovery device Initialization
PEI_RECOVERY_MEDIA_FOUND	PEI	85	Found Recovery image
PEI_RECOVERY_MEDIA_NOT_FOUND	PEI	86	Recovery image not found
PEI_RECOVERY_LOAD_FILE_DONE	PEI	87	Load Recovery Image completed

Table 4-4. (Continued)PEI Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_RECOVERY_START_FLASH	PEI	88	Start Flash BIOS with Recovery image
PEI_ENTER_DXEIPL	PEI	89	Loading BIOS image to RAM
PEI_FINDING_DXE_CORE	PEI	8A	Loading DXE core
PEI_GO_TO_DXE_CORE	PEI	8B	Enter DXE core
* 3rd party relate functions – Platform dependence.			

Table 4-5. DXE Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
DXE_TCGDXE*	DXE	40	TPM initial in DXE
DXE_SB_SPI_INIT*	DXE	41	South bridge SPI initialization
DXE_CF9_RESET*	DXE	42	Setup Reset service
DXE_SB_SERIAL_GPIO_INIT*	DXE	43	South bridge Serial GPIO initialization
DXE_SMMACCESS*	DXE	44	Setup SMM ACCE SS service
DXE_NB_INIT*	DXE	45	North bridge Middle initialization
DXE_SIO_INIT*	DXE	46	Super I/O DXE initialization
DXE_LEGACY_REGION*	DXE	47	Setup Legacy Region service
DXE_SB_INIT*	DXE	48	South Bridge Middle initialization
DXE_IDENTIFY_FLASH_DEVICE	DXE	49	Identify Flash device
DXE_FTW_INIT	DXE	4A	Fault Tolerant Write verification
DXE_VARIABLE_INIT	DXE	4B	Variable Service initialization
DXE_VARIABLE_INIT_FAIL	DXE	4C	Fail to initial Variable Service
DXE_MTC_INIT	DXE	4D	MTC Initial
DXE_CPU_INIT	DXE	4E	CPU Middle Initialization
DXE_MP_CPU_INIT	DXE	4F	Multi-processor Middle Initialization
DXE_SMBUS_INIT	DXE	50	SMBUS Driver Initialization
DXE_SMART_TIMER_INIT	DXE	51	8259 Initialization
DXE_PCRTC_INIT	DXE	52	RTC Initialization
DXE_SATA_INIT*	DXE	53	SATA Controller early Initialization

Table 4-5. (Continued)DXE Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
DXE_SMM_CONTROLER_INIT*	DXE	54	Setup SMM Control service
DXE_LEGACY_INTERRUPT*	DXE	55	Setup Legacy Interrupt service
DXE_RELOCATE_SMBASE	DXE	56	Relocate SMM BASE
DXE_FIRST_SMI	DXE	57	SMI test
DXE_VTD_INIT*	DXE	58	VTD Initial
DXE_BEFORE_CSM16_INIT	DXE	59	Legacy BIOS Initialization
DXE_AFTER_CSM16_INIT	DXE	5A	Legacy interrupt function Initialization
DXE_LOAD_ACPI_TABLE	DXE	5B	ACPI Table Initialization
DXE_SB_DISPATCH*	DXE	5C	Setup SB SMM Dispatcher service
DXE_SB_IOTRAP_INIT*	DXE	5D	Setup SB IOTRAP Service
DXE_SUBCLASS_DRIVER*	DXE	5E	Build AMT Table
DXE_PPM_INIT*	DXE	5F	PPM Initialization
DXE_HECIDRV_INIT*	DXE	60	HECIDRV Initialization
DXE_FLASH_PART_NONSUPPORT	DXE	62	Do not support flash part (which is defined in SpiDevice.c)
* 3rd party relate functions – Platform dependence.			

Table 4-6. BDS Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_ENTER_BDS	BDS	10	Enter BDS entry
BDS_INSTALL_HOTKEY	BDS	11	Install Hotkey service
BDS_ASF_INIT*	BDS	12	ASF Initialization
BDS_PCI_ENUMERATION_START	BDS	13	PCI enumeration
BDS_BEFORE_PCIIO_INSTALL	BDS	14	PCI resource assign complete
BDS_PCI_ENUMERATION_END	BDS	15	PCI enumeration complete
BDS_CONNECT_CONSOLE_IN	BDS	16	Keyboard Controller, Keyboard and Mouse initialization
BDS_CONNECT_CONSOLE_OUT	BDS	17	Video device initialization
BDS_CONNECT_STD_ERR	BDS	18	Error report device initialization

Table 4-6. (Continued)BDS Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_CONNECT_USB_HC	BDS	19	USB host controller initialization
BDS_CONNECT_USB_BUS	BDS	1A	USB BUS driver initialization
BDS_CONNECT_USB_DEVICE	BDS	1B	USB device driver initialization
BDS_NO_CONSOLE_ACTION	BDS	1C	Console device initial fail
BDS_DISPLAY_LOGO_SYSTEM_INFO	BDS	1D	Display logo or system information
BDS_START_IDE_CONTROLLER	BDS	1E	IDE controller initialization
BDS_START_SATA_CONTROLLER	BDS	1F	SATA controller initialization
BDS_START_ISA_ACPI_CONTROLLER	BDS	20	SIO controller initialization
BDS_START_ISA_BUS	BDS	21	ISA BUS driver initialization
BDS_START_ISA_FDD	BDS	22	Floppy device initialization
BDS_START_ISA_SEIRAL	BDS	23	Serial device initialization
BDS_START_IDE_BUS	BDS	24	IDE device initialization
BDS_START_AHCI_BUS	BDS	25	AHCI device initialization
BDS_CONNECT_LEGACY_ROM	BDS	26	Dispatch option ROMs
BDS_ENUMERATE_ALL_BOOT_OPTION	BDS	27	Get boot device information
BDS_END_OF_BOOT_SELECTION	BDS	28	End of boot selection
BDS_ENTER_SETUP	BDS	29	Enter Setup Menu
BDS_ENTER_BOOT_MANAGER	BDS	2A	Enter Boot manager
BDS_BOOT_DEVICE_SELECT	BDS	2B	Try to boot system to OS
BDS_EFI64_SHADOW_ALL_LEGACY_ROM	BDS	2C	Shadow Misc Option ROM
BDS_ACPI_S3SAVE	BDS	2D	Save S3 resume required data in RAM
BDS_READY_TO_BOOT_EVENT	BDS	2E	Last Chipset initial before boot to OS
BDS_GO_LEGACY_BOOT	BDS	2F	Start to boot Legacy OS
BDS_GO_UEFI_BOOT	BDS	30	Start to boot UEFI OS
BDS_LEGACY16_PREPARE_TO_BOOT	BDS	31	Prepare to Boot to Legacy OS
BDS_EXIT_BOOT_SERVICES*	BDS	32	Send END of POST Message to ME via HECI
BDS_LEGACY_BOOT_EVENT	BDS	33	Last Chipset initial before boot to Legacy OS.

Table 4-6. (Continued)BDS Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_ENTER_LEGACY_16_BOOT	BDS	34	Ready to Boot Legacy OS.
BDS_RECOVERY_START_FLASH	BDS	35	Fast Recovery Start Flash.
BDS_START_SDHC_BUS	BDS	36	SDHC device initial.
BDS_CONNECT_ATA_LEGACY	BDS	37	Ata Legacy device initial.
BDS_CONNECT_SD_LEGACY	BDS	38	SD Legacy device initial.
* 3rd party relate functions – Platform dependence.			

Table 4-7. PostBDS Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
POST_BDS_NO_BOOT_DEVICE	POST_BDS	F9	No Boot Device
POST_BDS_START_IMAGE	POST_BDS	FB	UEFI Boot Start Image
POST_BDS_ENTER_INT19	POST_BDS	FD	Legancy 16 boot entry
POST_BDS_JUMP_BOOT-SECTOR	POST_BDS	FE	Try to Boot with INT 19

Table 4-8. S3 Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
S3_RESTORE_MEMORY_CONTROLLER	PEI	C0	Memory initial for S3 resume
S3_INSTALL_S3_MEMORY	PEI	C1	Get S3 resume required data from memory
S3_SWITCH_STACK	PEI	C2	Start to use memory during S3 resume
S3_MEMORY_CALLBACK	PEI	C3	Set cache for physical memory during S3 resume
S3_ENTER_S3_RESUME_PEIM	PEI	C4	Start to restore system configuration
S3_BEFORE_ACPI_BOOT_SCRIPT	PEI	C5	Restore system configuration stage1
S3_BEFORE_RUNTIME_BOOT_SCRIPT	PEI	C6	Restore system configuration stage2
S3_BEFORE_RELOCATE_SMM_BASE	PEI	C7	Relocate SMM BASE during S3 resume

Table 4-8. (Continued)S3 Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
S3_BEFORE_MP_INIT	PEI	C8	Multi-processor initial during S3 resume
S3_BEFORE_RESTORE_ACPI_CALLBACK	PEI	C9	Start to restore system configuration in SMM
S3_AFTER_RESTORE_ACPI_CALLBACK	PEI	CA	Restore system configuration in SMM complete
S3_GO_TO_FACS_WAKING_VECTOR	PEI	CB	Back to OS

Table 4-9. ACPI Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
ASL_ENTER_S1	ASL	51	Prepare to enter S1
ASL_ENTER_S3	ASL	53	Prepare to enter S3
ASL_ENTER_S4	ASL	54	Prepare to enter S4
ASL_ENTER_S5	ASL	55	Prepare to enter S5
ASL_WAKEUP_S1	ASL	E1	System wake up from S1
ASL_WAKEUP_S3	ASL	E3	System wake up from S3
ASL_WAKEUP_S4	ASL	E4	System wake up from S4

Table 4-10. SMM Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SMM_IDENTIFY_FLASH_DEVICE	SMM	0xA0	Identify Flash device in SMM
SMM_SMM_PLATFORM_INIT	SMM	0xA2	SMM service initial
SMM_ACPI_ENABLE_START	SMM	0xA6	OS call ACPI enable function
SMM_ACPI_ENABLE_END	SMM	0xA7	ACPI enable function complete
SMM_S1_SLEEP_CALLBACK	SMM	0xA1	Enter S1
SMM_S3_SLEEP_CALLBACK	SMM	0xA3	Enter S3
SMM_S4_SLEEP_CALLBACK	SMM	0xA4	Enter S4
SMM_S5_SLEEP_CALLBACK	SMM	0xA5	Enter S5
SMM_ACPI_DISABLE_START	SMM	0xA8	OS call ACPI disable function
SMM_ACPI_DISABLE_END	SMM	0xA9	ACPI disable function complete

Table 4-11. InsydeH2ODDT Debugger POST Code Table

Functionality Name (Include\ PostCode.h)	PostCode	Description
Used by Insyde debugger	0x0D	Waiting for device connect
Used by Insyde debugger	0xD0	Waiting for device connect
Used by Insyde debugger	0xD1	InsydeH2ODDT Ready
Used by Insyde debugger	0xD2	EHCI not found
Used by Insyde debugger	0xD3	Debug port connect low speed device
Used by Insyde debugger	0xD4	DDT Cable become low speed device
Used by Insyde debugger	0xD5	DDT Cable Transmission Error (Get descriptor fail)
Used by Insyde debugger	0xD6	DDT Cable Transmission Error (Set Debug mode fail)
Used by Insyde debugger	0xD7	DDT Cable Transmission Error (Set address fail)

CHAPTER 5
Jumper and Connector Locations

Jumper and Connector Locations

Mainboard Jumper and Connector Locations

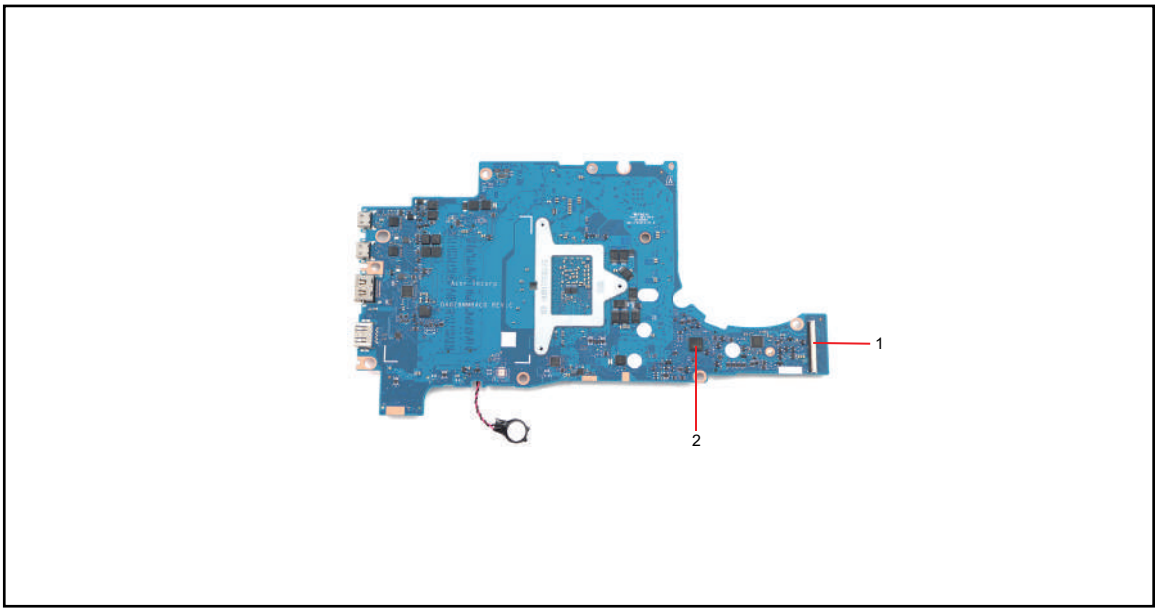


Figure 5-1. Mainboard Top

Table 5-1. Mainboard Top

Item	Description	Item	Description
1	I/O D/B Connector	2	EC

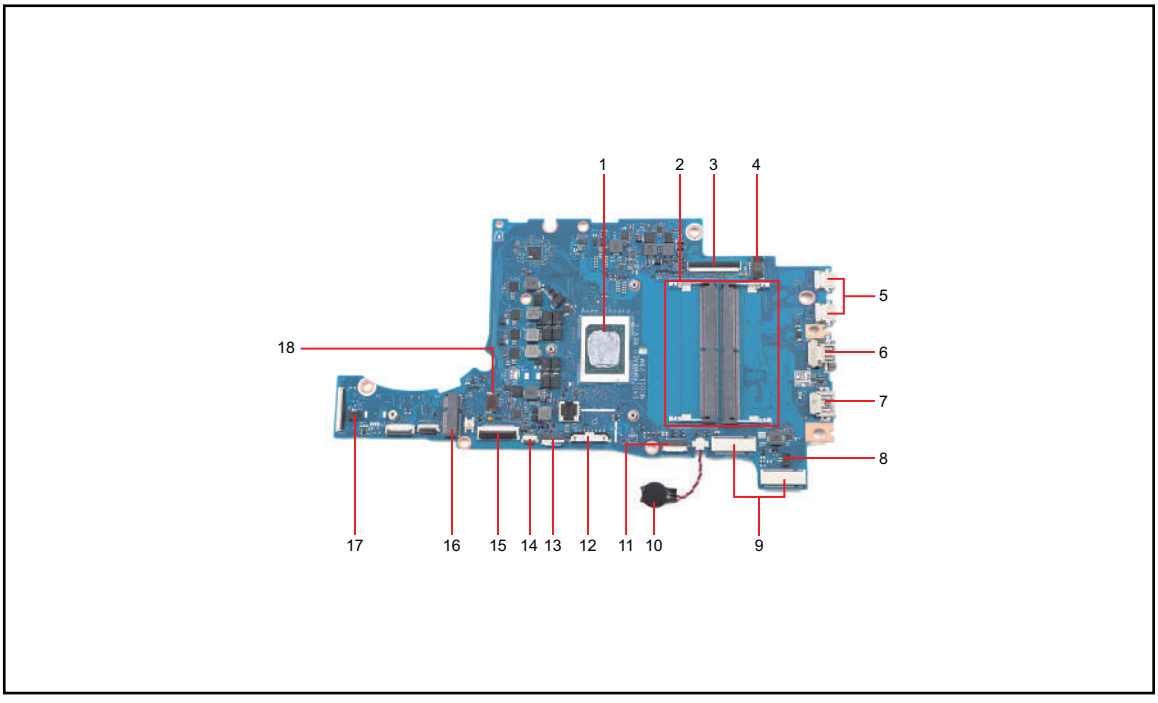


Figure 5-2. Mainboard Bottom

Table 5-2. Mainboard Bottom

Item	Description	Item	Description
1	CPU	10	RTC Battery
2	DDR (DIMM1 & DIMM2)	11	LED & Card Reader D/B Connector
3	eDP Panel Connector	12	Battery Connector
4	DC-IN Connector	13	Touchpad Connector
5	USB Type-C Connectors	14	Keyboard Backlight Connector
6	HDMI Connector	15	Keyboard Connector
7	USB Type-A Connector	16	WLAN Module Connector
8	Speaker Connector	17	Speaker Connector
9	SSD#1 & SSD#2 Connectors	18	Fan Connector

CHAPTER 6
FRU (Field Replaceable Unit) List

FRU (Field Replaceable Unit) List

This chapter provides users with a FRU (Field Replaceable Unit) listing in global configurations for the TravelMate P216-41/P216-41-TCO. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE:

WHEN ORDERING FRU PARTS, check the most up-to-date information available on the regional web or channel. Part number changes will not be noted on the printed Service Guide. For Acer AUTHORIZED SERVICE PROVIDERS, the Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. Users MUST use the local FRU list provided by the regional Acer office to order FRU parts for repair and service of customer machines.

NOTE:

To scrap or to return the defective parts, users should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by the regional Acer office on how to return it.

Exploded Diagrams

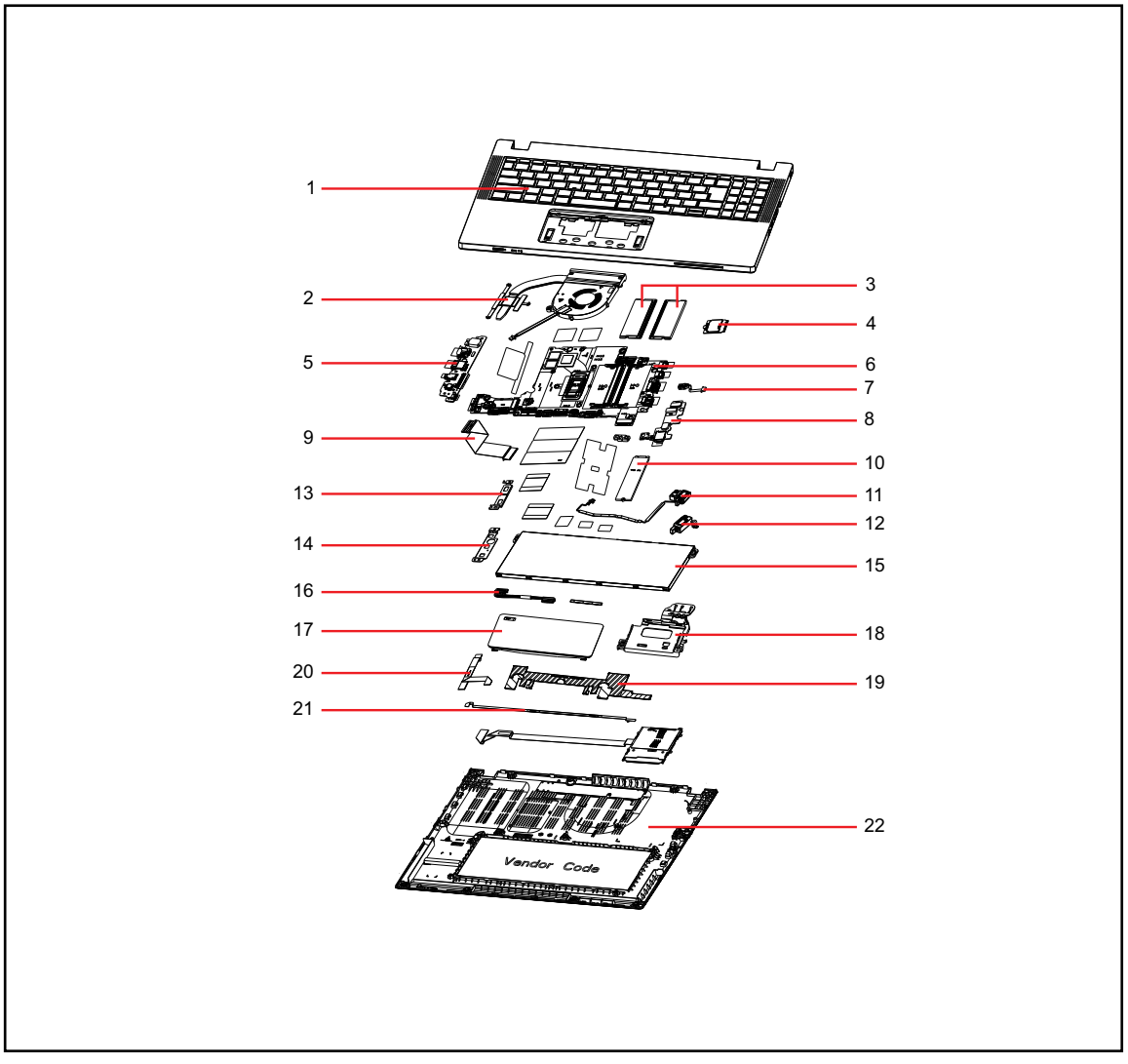


Figure 6-1. System Exploded Diagram

Table 6-1. System Exploded Diagram

No.	Description	Acer Part No.
1	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Arabic NK.I1513.3CY/NK.I151S.1A6	6B.B79N7.001
2	THERMAL MODULE ASSY UMA	24.B7JN7.001
3	Memory HYNIX SO-DIMM DDRV 5600 8GB HMCG66AGBSA LF+HF 1anm, A-die 1Rx16	KN.8GB0G.082
4	Wireless LAN AMD Wi-Fi 6E BT5.3 MT7922_RZ616: E AMD 2x2 M.2 2230 PCIe BLE	KE.WF60A.002
5	BOARD IO	55.B79N7.001

Table 6-1. System Exploded Diagram (Continued)

No.	Description	Acer Part No.
6	Mainboard TMP216-41-TCO RYZEN-5 7535U PRO AMD 16GB SSD512GB UMA	NB.B8111.002
7	CABLE DC-IN 65W	50.KJ9N7.001
8	BOARD LED	55.B83N7.002
9	CABLE IO BOARD	50.B17N7.001
10	Flash Disk MICRON SSD NAND 1024GB Micron 2550 1024GB MTFDKBA1T0TGE-1BK15ABYY LF+HF	KN.01K04.007
11	SPEAKER RIGHT	23.B0VN7.002
12	SPEAKER LEFT	23.B0VN7.001
13	BRACKET IO R	33.VZNN7.002
14	BRACKET IO BOARD	33.B15N7.001
15	Battery SIMPLO Typ.53Wh 4700mAh 3S1P AP23A7L 248x84.4x5.5(mm) AP23A 11.25V 70W Li-Ion TI BQ40Z555 FW5.09	KT.00307.012
16	CABLE BATTERY	50.KCWN7.003
17	TOUCHPAD MODULE NC.24611.09F	56.B6BN7.001
18	HOLDER	42.B15N7.001
19	CONDUCTIVE FABRIC FOR SMARTCARD SKU	47.B1DN7.001
20	CABLE TOUCHPAD	50.B15N7.002
21	CABLE IO BOARD TO FINGERPRINT MODULE	50.B17N7.002
22	LOWER CASE UMA	64.B1BN7.001

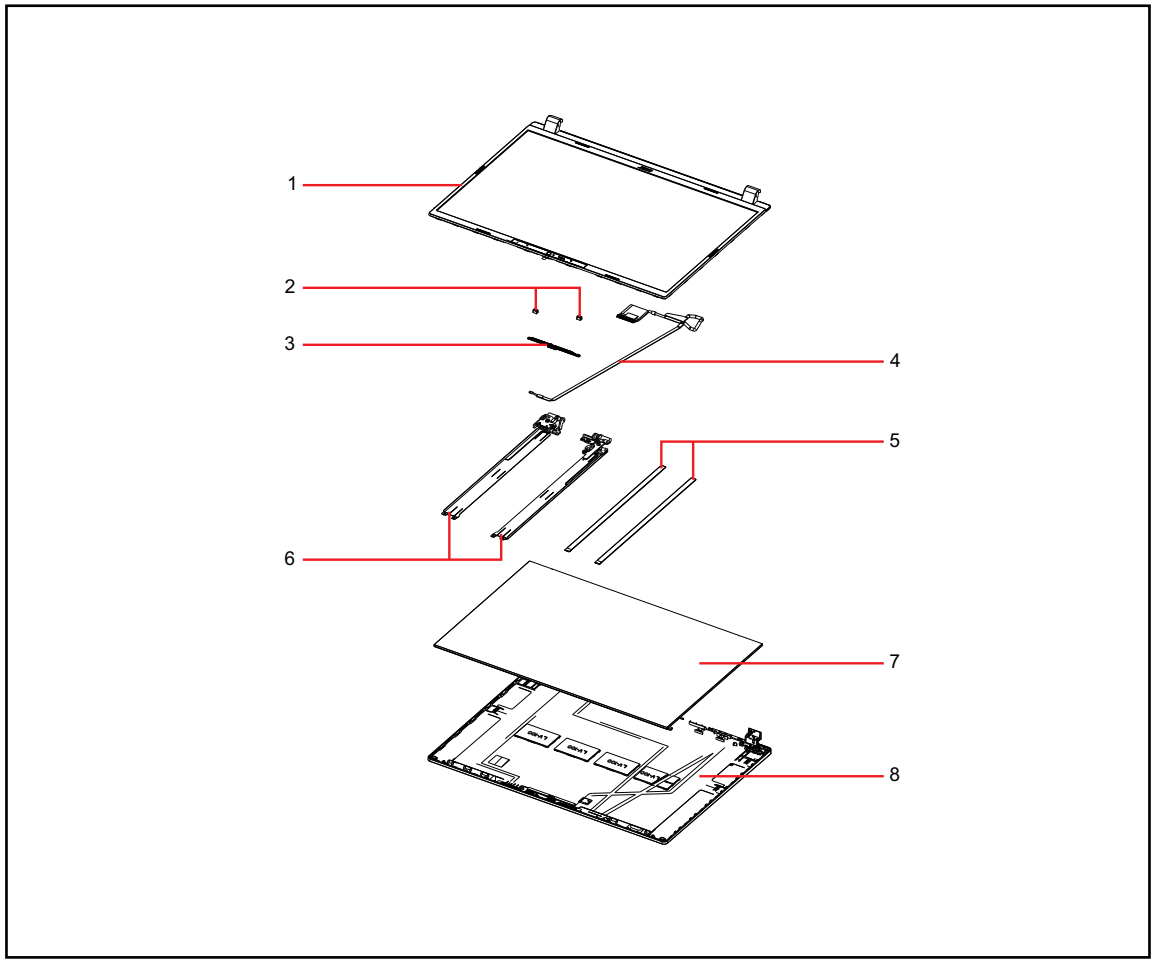


Figure 6-2. LCD Assembly Exploded Diagram

Table 6-2. LCD Assembly Exploded Diagram

No.	Description	Acer Part No.
1	LCD BEZEL	62.B9HN7.001
2	RUBBER FOR HD	47.B0VN7.002
3	Camera CHICONY HD Camera C7FMH12 GC1009 RTS5855 1L3B059G1(BG) SPG18P4HM4H-1 TNR	KS.0HD06.035
4	CABLE LCD	50.B0VN7.004
5	LCD ADHESIVE TAPE 229.5*7*0.6MM	47.B0VN7.001
6	HINGE L	33.B0VN7.001
	HINGE R	33.B0VN7.002
7	LED LCD Panel AUO 16' WUXGA None Glare B160UAN01.H LF 400nit 30ms 1200:1 (eDP, IPS, narrow, 2.6/4.6t, low power)	KL.16005.002
8	LCD COVER	61.B0VN7.001

FRU List

Table 6-3. FRU List

Category	Description	Acer Part No.
ADAPTER		
	Adapter LITE-ON PA-1650-58AD 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black Meet CoC-Tier2 & IEC 62368	KP.06503.020
	Adapter Chicony Power 65W PD Type C 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black	KP.0650H.031
	Adapter LITE-ON PA-1650-58AP 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black PCR 50%, TCO9.0	KP.06503.026
	Adapter Chicony Power A065RP86P 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black PCR 50%, TCO9.0	KP.0650H.032
BATTERY		
	Battery SIMPLO Typ.53Wh 4700mAh 3S1P AP23A7L 248x84.4x5.5(mm) AP23A 11.25V 70W Li-Ion TI BQ40Z555 FW5.09	KT.00307.012
	Battery CosMx Typ.65Wh 5570mAh 3S1P AP22ABN 248x90x5.5(mm) AP22A 11.67V 75W Li-Ion	KT.0030B.003
	Battery LGES Typ.53Wh 4700mAh 3S1P AP23A8L 248x84.4x5.5(mm) AP23A 11.28V 70W Li-Ion	KT.0030G.025
	Battery LGES Typ.65Wh 4180mAh 4S1P AP22A8N 248x90x5.5(mm) AP22A 11.52V 75W Li-Ion	KT.0040G.016
BOARD		
	BOARD IO	55.B79N7.001

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	BOARD LED	55.B83N7.002
	BOARD LED FOR SMARTCARD	55.B8LN7.001
	BOARD SMARTCARD	55.B1CN7.001
CABLE		
	CABLE DC-IN 65W	50.KJ9N7.001
	CABLE CARDREADER	50.B15N7.001
	CABLE IO BOARD	50.B17N7.001
	CABLE IO BOARD TO FINGERPRINT MODULE	50.B17N7.002
	CABLE TOUCHPAD	50.B15N7.002
	CABLE BATTERY	50.KCWN7.003

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	CABLE LCD	50.B0VN7.004
	CABLE LCD IR	50.B6QN7.001
CAMERA		
	Camera CHICONY HD Camera C7FMH12 GC1009 RTS5855 1L3B059G1(BG) SPG18P4HM4H-1 TNR	KS.0HD06.035
	Camera Tech-Front HD Camera YHVC-1 OV9734 SPCA2112N 1L3B059F1(BG) SPG18P4HM4H-1 TNR	KS.0HD0Q.020
	Camera CHICONY FHD FF CKFNE34 OV2740 RTS5861 1L4C066F2(BG) ZTS6234A USB IR-HM1092(940nm)	KS.FHD06.011
HDD		
	Flash Disk MICRON SSD NAND 1024GB Micron 2550 1024GB MTFDKBA1T0TGE-1BK15ABYY LF+HF	KN.01K04.007
	Flash Disk KINGSTON SSD NAND 512GB OM8PGP4512Q-AA LF+HF	KN.51207.014
	Flash Disk HYNIX SSD NAND 256GB M.2 2280 BC901 256G HFS256GEJ9X110N LF+HF	KN.2560G.031
	Flash Disk HYNIX SSD NAND 512GB M.2 2280 BC901 512G HFS512GEJ9X110N LF+HF	KN.5120G.036
KB ASSEMBLY		
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Arabic NK.I1513.3CY/NK.I151S.1A6	6B.B79N7.001
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS FR/Arabic NK.I1513.3DF/NK.I151S.1AP	6B.B79N7.002
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Belgium NK.I1513.3DB/NK.I151S.1AK	6B.B79N7.003
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Brazilian Portuguese NK.I1513.3DC/NK.I151S.1AL	6B.B79N7.004

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS US International w/ Bulgaria NK.I1513.3D9/NK.I151S.1AH	6B.B79N7.005
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS US International w/ Canadian French NK.I1513.3D8/NK.I151S.1AG	6B.B79N7.006
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS SLO/CRO NK.I1513.3DP/NK.I151S.1AX	6B.B79N7.007
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS CZ/SK NK.I1513.3DD/NK.I151S.1AM	6B.B79N7.008
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Danish NK.I1513.3DE/NK.I151S.1AN	6B.B79N7.009
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS French NK.I1513.3DG/NK.I151S.1AQ	6B.B79N7.010
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS German NK.I1513.3DH/NK.I151S.1AR	6B.B79N7.011
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Greek NK.I1513.3D0/NK.I151S.1A8	6B.B79N7.012
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS US International w/ Hebrew NK.I1513.3D7/NK.I151S.1AF	6B.B79N7.013
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Hungarian NK.I1513.3DJ/NK.I151S.1AS	6B.B79N7.014
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Persian NK.I1513.3D4/NK.I151S.1AC	6B.B79N7.015
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Italian NK.I1513.3DK/NK.I151S.1AT	6B.B79N7.016
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 103KS Japanese NK.I1513.3DV	6B.B79N7.017

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Korean NK.I1513.3D1/NK.I151S.1A9	6B.B79N7.018
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS ALA-Spanish NK.I1513.3DA/NK.I151S.1AJ	6B.B79N7.019
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Norwegian NK.I1513.3DM/NK.I151S.1AV	6B.B79N7.020
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Portuguese NK.I1513.3DN/NK.I151S.1AW	6B.B79N7.021
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Russian NK.I1513.3D2/NK.I151S.1AA	6B.B79N7.022
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Nordic NK.I1513.3DL/NK.I151S.1AU	6B.B79N7.023
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Spanish NK.I1513.3DQ/NK.I151S.1AY	6B.B79N7.024
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Sweden NK.I1513.3DR/NK.I151S.1AZ	6B.B79N7.025
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Swiss/G NK.I1513.3DS/NK.I151S.1B0	6B.B79N7.026
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Thailand NK.I1513.3D5/NK.I151S.1AD	6B.B79N7.027
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS Turkish NK.I1513.3DT/NK.I151S.1B1	6B.B79N7.028
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Traditional Chinese NK.I1513.3CZ/NK.I151S.1A7	6B.B79N7.029
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS US International NK.I1513.3D6/NK.I151S.1AE	6B.B79N7.030

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 100KS UK NK.I1513.3DU/NK.I151S.1B2	6B.B79N7.031
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT NBL Keyboard VP05T_B40B 99KS Ukrainian NK.I1513.3D3/NK.I151S.1AB	6B.B79N7.032
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Arabic NK.I1513.3C0/NK.I151S.198	6B.B7AN7.001
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS FR/Arabic NK.I1513.3CH/NK.I151S.19R	6B.B7AN7.002
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Belgium NK.I1513.3CD/NK.I151S.19M	6B.B7AN7.003
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Brazilian Portuguese NK.I1513.3CE/NK.I151S.19N	6B.B7AN7.004
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International w/ Bulgaria NK.I1513.3CB/NK.I151S.19K	6B.B7AN7.005
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International w/ Canadian French NK.I1513.3CA/NK.I151S.19J	6B.B7AN7.006
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS SLO/CRO NK.I1513.3CR/NK.I151S.19Z	6B.B7AN7.007
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS CZ/SK NK.I1513.3CF/NK.I151S.19P	6B.B7AN7.008
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Danish NK.I1513.3CG/NK.I151S.19Q	6B.B7AN7.009
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS French NK.I1513.3CJ/NK.I151S.19S	6B.B7AN7.010
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS German NK.I1513.3CK/NK.I151S.19T	6B.B7AN7.011

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Greek NK.I1513.3C2/NK.I151S.19A	6B.B7AN7.012
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International w/ Hebrew NK.I1513.3C9/NK.I151S.19H	6B.B7AN7.013
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Hungarian NK.I1513.3CL/NK.I151S.19U	6B.B7AN7.014
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Persian NK.I1513.3C6/NK.I151S.19E	6B.B7AN7.015
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Italian NK.I1513.3CM/NK.I151S.19V	6B.B7AN7.016
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 103KS Japanese NK.I1513.3CX	6B.B7AN7.017
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Korean NK.I1513.3C3/NK.I151S.19B	6B.B7AN7.018
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS ALA-Spanish NK.I1513.3CC/NK.I151S.19L	6B.B7AN7.019
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Norwegian NK.I1513.3CP/NK.I151S.19X	6B.B7AN7.020
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Portuguese NK.I1513.3CQ/NK.I151S.19Y	6B.B7AN7.021
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Russian NK.I1513.3C4/NK.I151S.19C	6B.B7AN7.022
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Nordic NK.I1513.3CN/NK.I151S.19W	6B.B7AN7.023
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Spanish NK.I1513.3CS/NK.I151S.1A0	6B.B7AN7.024

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Sweden NK.I1513.3CT/NK.I151S.1A1	6B.B7AN7.025
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Swiss/G NK.I1513.3CU/NK.I151S.1A2	6B.B7AN7.026
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Thailand NK.I1513.3C7/NK.I151S.19F	6B.B7AN7.027
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Turkish NK.I1513.3CV/NK.I151S.1A3	6B.B7AN7.028
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Traditional Chinese NK.I1513.3C1/NK.I151S.199	6B.B7AN7.029
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International NK.I1513.3C8/NK.I151S.19G	6B.B7AN7.030
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS UK NK.I1513.3CW/NK.I151S.1A4	6B.B7AN7.031
	KEYBOARD ASSY WIFI W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Ukrainian NK.I1513.3C5/NK.I151S.19D	6B.B7AN7.032
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Arabic NK.I1513.3C0/NK.I151S.198	6B.B8KN7.001
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS FR/Arabic NK.I1513.3CH/NK.I151S.19R	6B.B8KN7.002
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Belgium NK.I1513.3CD/NK.I151S.19M	6B.B8KN7.003
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Brazilian Portuguese NK.I1513.3CE/NK.I151S.19N	6B.B8KN7.004

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International w/ Bulgaria NK.I1513.3CB/NK.I151S.19K	6B.B8KN7.005
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International w/ Canadian French NK.I1513.3CA/NK.I151S.19J	6B.B8KN7.006
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS SLO/CRO NK.I1513.3CR/NK.I151S.19Z	6B.B8KN7.007
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS CZ/SK NK.I1513.3CF/NK.I151S.19P	6B.B8KN7.008
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Danish NK.I1513.3CG/NK.I151S.19Q	6B.B8KN7.009
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS French NK.I1513.3CJ/NK.I151S.19S	6B.B8KN7.010
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS German NK.I1513.3CK/NK.I151S.19T	6B.B8KN7.011
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Greek NK.I1513.3C2/NK.I151S.19A	6B.B8KN7.012
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International w/ Hebrew NK.I1513.3C9/NK.I151S.19H	6B.B8KN7.013
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Hungarian NK.I1513.3CL/NK.I151S.19U	6B.B8KN7.014
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Persian NK.I1513.3C6/NK.I151S.19E	6B.B8KN7.015

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Italian NK.I1513.3CM/NK.I151S.19V	6B.B8KN7.016
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 103KS Japanese NK.I1513.3CX	6B.B8KN7.017
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Korean NK.I1513.3C3/NK.I151S.19B	6B.B8KN7.018
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS ALA-Spanish NK.I1513.3CC/NK.I151S.19L	6B.B8KN7.019
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Norwegian NK.I1513.3CP/NK.I151S.19X	6B.B8KN7.020
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Portuguese NK.I1513.3CQ/NK.I151S.19Y	6B.B8KN7.021
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Russian NK.I1513.3C4/NK.I151S.19C	6B.B8KN7.022
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Nordic NK.I1513.3CN/NK.I151S.19W	6B.B8KN7.023
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Spanish NK.I1513.3CS/NK.I151S.1A0	6B.B8KN7.024
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Sweden NK.I1513.3CT/NK.I151S.1A1	6B.B8KN7.025
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Swiss/G NK.I1513.3CU/NK.I151S.1A2	6B.B8KN7.026

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Thailand NK.I1513.3C7/NK.I151S.19F	6B.B8KN7.027
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS Turkish NK.I1513.3CV/NK.I151S.1A3	6B.B8KN7.028
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Traditional Chinese NK.I1513.3C1/NK.I151S.199	6B.B8KN7.029
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS US International NK.I1513.3C8/NK.I151S.19G	6B.B8KN7.030
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 100KS UK NK.I1513.3CW/NK.I151S.1A4	6B.B8KN7.031
	KEYBOARD ASSY WIFI/SMARTCARD SKU W/UPPER CASE COPILOT BL Keyboard VP05P_B40BWL 99KS Ukrainian NK.I1513.3C5/NK.I151S.19D	6B.B8KN7.032
LCD		
	LED LCD Panel AUO 16' WUXGA None Glare B160UAN01.H LF 400nit 30ms 1200:1 (eDP, IPS, narrow, 2.6/4.6t, low power)	KL.16005.002
	LED LCD Panel INNOLUX 16" WUXGA IPS None Glare N160JCA-EEK C1 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3.0t/5.0t)	KL.1600D.008
	LED LCD Panel AUO 16" WUXGA IPS None Glare B160UAN04.4 H/W 2A 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3t/5t)	KL.16005.017
	LED LCD Panel LPL 16" WUXGA IPS None Glare LP160WU3-SPD2 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3.0t/5.0t)	KL.16008.002

Table 6-3. FRU List (Continued)

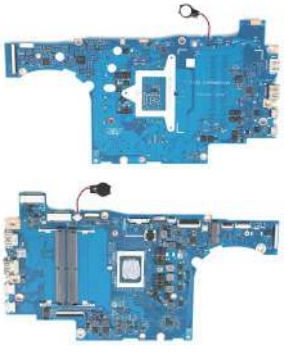
Category	Description	Acer Part No.
LCD BEZEL		
	LCD BEZEL	62.B9HN7.001
	LCD BEZEL IR	62.B6QN7.001
LCD COVER		
	LCD COVER	61.B0VN7.001
	LCD COVER	61.B6QN7.001
LOWER CASE		
	LOWER CASE UMA	64.B1BN7.001
MAINBOARD		
	Mainboard TMP216-41-TCO RYZEN-5 7535U PRO AMD 16GB SSD512GB UMA	NB.B8111.002
	Mainboard TMP216-41 RYZEN-7 7735U PRO AMD 64GB SSD2048GB UMA	NB.B7711.001
MEMORY		
	Memory HYNIX SO-DIMM DDRV 5600 8GB HMCG66AGBSA LF+HF 1anm, A-die 1Rx16	KN.8GB0G.082
	Memory HYNIX SO-DIMM DDRV 5600 16GB HMCG78AGBSA LF+HF 1anm, A-die 1Rx8	KN.16G0G.039

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
METAL		
	HINGE L	33.B0VN7.001
	HINGE R	33.B0VN7.002
	BRACKET IO R	33.VZNN7.002
	BRACKET IO BOARD	33.B15N7.001
PLASTICS		
	HOLDER	42.B15N7.001
	HOLDER BATTERY SUPPORT	42.VZNN7.002
POWER CORD		
	POWER CORD 1M 125V JAP BLACK	27.NE307.001
	POWER CORD 1M 125V ARG BLACK	27.NE307.004
	POWER CORD 1M 125V AUS BLACK	27.NE307.005
	POWER CORD 1M 125V BRAZIL BLACK	27.NE307.006
	POWER CORD 1M 125V CHINA BLACK	27.NE307.007
	POWER CORD 1M 125V DENMARK BLACK	27.NE307.008
	POWER CORD 1M 125V INDIA BLACK	27.NE307.009
	POWER CORD 1M 125V ISRAEL BLACK	27.NE307.010
	POWER CORD 1M 125V ITL BLACK	27.NE307.011
	POWER CORD 1M 125V S.AFRICA BLACK	27.NE307.012
	POWER CORD 1M 125V SWISS BLACK	27.NE307.013

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	POWER CORD 1M 125V EUR+KOR BLACK	27.NE307.015
	POWER CORD 1M 125V US BLACK	27.NE307.003
	POWER CORD 1M 125V UK BLACK	27.NE307.014
	POWER CORD 1M 125V TAIWAN BLACK	27.NE307.002
SPEAKER/MICROPHONE		
	SPEAKER LEFT	23.B0VN7.001
	SPEAKER RIGHT	23.B0VN7.002
THERMAL		
	THERMAL MODULE ASSY UMA	24.B7JN7.001
TOUCHPAD		
	TOUCHPAD MODULE NC.24611.09F	56.B6BN7.001
	TOUCHPAD MODULE NC.24611.09K	56.B6BN7.002
	TOUCHPAD MODULE W/ FINGER PRINT NC.24611.0A0	56.B6LN7.001
WIRELESS LAN		
	Wireless LAN AMD Wi-Fi 6E BT5.3 MT7922_RZ616: E AMD 2x2 M.2 2230 PCIe BLE	KE.WF60A.002

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
MISCELLANEOUS		
	LCD ADHESIVE TAPE 229.5*7*0.6MM	47.B0VN7.001
	LCD ADHESIVE TAPE 228.5*7*0.75MM	47.B9HN7.001
	RUBBER FOR HD	47.B0VN7.002
	CONDUCTIVE FABRIC FOR SMARTCARD SKU	47.B1DN7.001
	ACETATE TAPE FOR BATTERY(21*21mm)	47.HKKN7.001
	INSULATOR MYLAR ON BATTERY CABLE	47.HUVN7.002
	ABSORW/ALFOIL/INS ASSY FOR DDR	47.B1VN7.001
	FOIL COMPOSITE W/ PAD	47.QMBN7.001
	SPONGE W/MYLAR ASSY FOR LED BOARF	47.B0VN7.003
	SPONGE W/MYLAR ASSY FOR LENS	47.B1DN7.002
	ACETATE TAPE FFC	47.VV9N7.004

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	MYLAR FFC COONECTOR	47.KE4N7.004
	FOIL CU W/ MYLAR,GRAPHITE SHEET	47.QJQN7.005
	LCD ALIGNMENT MYLAR 10*8*0.5MM	47.QJLN7.008

Screw List

Table 6-4. Screw List

Category	Description	Acer Part No.
	SCREW M2*2.5-IBZNNYLOKD5,T0.5STEEL	86.GK6N7.009
	SCREW M2.0*2.0-I(NI,NYLOK)STL	86.VSYN7.002
	SCREW M2.5*5.0-I(BNI)(NYLOK) IRON	86.HX4N7.001
	SCREW M2.5*2.5-I(BNI)(NYLOK)T=0.6	86.SHXN7.003
	SCREW W/WASHER KIT	86.VLLN7.003
	SCREW M2.0*3.0-I(BZN)(NYLOK)IRON	86.GDEN7.001
	SCREW M3*0.5+3.5I	86.TDY07.003
	SCREW M2.0*4.0-I(BZN)(NYLOK)(IRON)	86.KA2N7.002
	SCREW M2.5*1.8-H(BNI,NY,D5.0,T4.0,IT)STL	86.R19N7.001
	SCREW M2.0*2.0- I(BNI)(NY)IRON	86.G55N7.001

CHAPTER 7

Model Definition and Configuration

Model Definition and Configuration

TravelMate P216-41/P216-41-TCO

Table 7-1. RO, Description

Model	RO	Country	Acer Part No	Description
TMP216-41-TCO-R7RJ	EMEA	Spain	NX.B7BEB.001	TMP216-41-TCO-R7RJ WNPRC64TES1 UMACSFiiLtSC_5U R57535U_PRO/1*16G/F512G/ 53Wh/6WUXGAILB3_WIFI6E +BT_FP_HD_Ste Gray_ESP8 6T
TMP216-41-TCO-R6DN	EMEA	Spain	NX.B7BEB.002	TMP216-41-TCO-R6DN WNPRC64TES1 UMACSFiiLtSC_5U R77735U_PRO/1*16G/F512G/ 53Wh/6WUXGAILB3_WIFI6E +BT_FP_HD_Ste Gray_ESP8 6T
TMP216-41-TCO-R24T	EMEA	Nordic	NX.B81ED.001	TMP216-41-TCO-R24T WNPRC64TND1 UMACiit_5U R37335U_PRO/1*8G/F512G/5 3Wh/6WUXGAILB3_WIFI6E+ BT_HD_Ste Gray_DA41 6T
TMP216-41-TCO-R38H	EMEA	Nordic	NX.B81ED.002	TMP216-41-TCO-R38H WNPRC64TND1 UMACiit_5U R57535U_PRO/1*16G/F512G/ 53Wh/6WUXGAILB3_WIFI6E +BT_HD_Ste Gray_DA41 6T
TMP216-41-TCO-R71W	EMEA	Nordic	NX.B81ED.003	TMP216-41-TCO-R71W WNPRC64TND1 UMACiit_5U R77735U_PRO/1*16G/F1000G SS/53Wh/6WUXGAILB3_WIFI 6E+BT_HD_Ste Gray_DA41 6T
TMP216-41-TCO-R9U9	EMEA	Russia	NX.B81ER.001	TMP216-41-TCO-R9U9 WNPRC64TRU1 UMACiit_5U R77735U_PRO/1*16G/F512G/ 53Wh/6WUXGAILB3_WIFI6E +BT_HD_Ste Gray_RU13 6T

Table 7-2. CPU, LCD

Model	Country	Acer Part No	CPU	LCD
TMP216-41-TCO-R7RJ	Spain	NX.B7BEB.001	R57535U_PRO	N16WUXGASUPILB3
TMP216-41-TCO-R6DN	Spain	NX.B7BEB.002	R77735U_PRO	N16WUXGASUPILB3
TMP216-41-TCO-R24T	Nordic	NX.B81ED.001	R37335U_PRO	N16WUXGASUPILB3
TMP216-41-TCO-R38H	Nordic	NX.B81ED.002	R57535U_PRO	N16WUXGASUPILB3
TMP216-41-TCO-R71W	Nordic	NX.B81ED.003	R77735U_PRO	N16WUXGASUPILB3
TMP216-41-TCO-R9U9	Russia	NX.B81ER.001	R77735U_PRO	N16WUXGASUPILB3

Table 7-3. VGA Chip, Memory, HDD

Model	Country	Acer Part No	VGA Chip	Memory	HDD
TMP216-41-TCO-R7RJ	Spain	NX.B7BEB.001	UMA	SO16GBV	F80512PM4
TMP216-41-TCO-R6DN	Spain	NX.B7BEB.002	UMA	SO16GBV	F80512PM4
TMP216-41-TCO-R24T	Nordic	NX.B81ED.001	UMA	SO8GBV	F80512PM4
TMP216-41-TCO-R38H	Nordic	NX.B81ED.002	UMA	SO16GBV	F80512PM4
TMP216-41-TCO-R71W	Nordic	NX.B81ED.003	UMA	SO16GBV	F801024PM4
TMP216-41-TCO-R9U9	Russia	NX.B81ER.001	UMA	SO16GBV	F80512PM4

Table 7-4. Wireless LAN, Camera

Model	Country	Acer Part No	Wireless LAN	Camera
TMP216-41-TCO-R7RJ	Spain	NX.B7BEB.001	2x2 AX+BT 6E_v01	HDFF_U_W_M2 R0_3.2T03TN
TMP216-41-TCO-R6DN	Spain	NX.B7BEB.002	2x2 AX+BT 6E_v01	HDFF_U_W_M2 R0_3.2T03TN
TMP216-41-TCO-R24T	Nordic	NX.B81ED.001	2x2 AX+BT 6E_v01	HDFF_U_W_M2 R0_3.2T03TN
TMP216-41-TCO-R38H	Nordic	NX.B81ED.002	2x2 AX+BT 6E_v01	HDFF_U_W_M2 R0_3.2T03TN
TMP216-41-TCO-R71W	Nordic	NX.B81ED.003	2x2 AX+BT 6E_v01	HDFF_U_W_M2 R0_3.2T03TN
TMP216-41-TCO-R9U9	Russia	NX.B81ER.001	2x2 AX+BT 6E_v01	HDFF_U_W_M2 R0_3.2T03TN

Table 7-5. Finger Print, NB Chipset

Model	Country	Acer Part No	Finger Print	NB Chipset
TMP216-41-TCO-R7RJ	Spain	NX.B7BEB.001	FP on Touchpad	none NB Chipset
TMP216-41-TCO-R6DN	Spain	NX.B7BEB.002	FP on Touchpad	none NB Chipset
TMP216-41-TCO-R24T	Nordic	NX.B81ED.001	N	none NB Chipset
TMP216-41-TCO-R38H	Nordic	NX.B81ED.002	N	none NB Chipset
TMP216-41-TCO-R71W	Nordic	NX.B81ED.003	N	none NB Chipset
TMP216-41-TCO-R9U9	Russia	NX.B81ER.001	N	none NB Chipset

Table 7-6. Battery, Adapter

Model	Country	Acer Part No	Battery	Adapter
TMP216-41-TCO-R7RJ	Spain	NX.B7BEB.001	53Wh_150300	65W_PD_BK_PCR 50%_TCO9.0
TMP216-41-TCO-R6DN	Spain	NX.B7BEB.002	53Wh_150300	65W_PD_BK_PCR 50%_TCO9.0
TMP216-41-TCO-R24T	Nordic	NX.B81ED.001	53Wh_150300	65W_PD_BK_PCR 50%_TCO9.0
TMP216-41-TCO-R38H	Nordic	NX.B81ED.002	53Wh_150300	65W_PD_BK_PCR 50%_TCO9.0
TMP216-41-TCO-R71W	Nordic	NX.B81ED.003	53Wh_150300	65W_PD_BK_PCR 50%_TCO9.0
TMP216-41-TCO-R9U9	Russia	NX.B81ER.001	53Wh_150300	65W_PD_BK_PCR 50%_TCO9.0

CHAPTER 8
Test Compatible Components

Test Compatible Components

This computer's compatibility is tested and verified by Acer's internal testing department. All of its system functions are tested under Windows® 11 Home environment.

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests. Regarding configuration, combination and test procedures, please refer to the TravelMate P216-41/P216-41-TCO. Compatibility Test Report released by the Acer Mobile System Testing Department.

Table 8-1. Test Compatible Components

Vendor	Type	Description	Part No.
A Cover			
10001028 QUANTA	Steel Gray 16 PC+ABS Painting	Quanta A cover Steel Gray 16 PC+ABS Painting	NC.21011.1GE
Adapter			
60035715 DELTA-SINGAPORE	65W PD Type C	Adapter DELTA ADP-65KE BB 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black	KP.06501.017
60036752 LITE-ON SINGAPORE	65W PD Type C	Adapter LITE-ON PA-1650-58AD 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black Meet CoC-Tier2 & IEC 62368	KP.06503.020
60016453 CHICONY POWER	65W PD Type C	Adapter Chicony Power 65W PD Type C 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black	KP.0650H.031
60036752 LITE-ON SINGAPORE	65W_PD_BK_PCR50%_TCO9.0	Adapter LITE-ON PA-1650-58AP 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black PCR 50%, TCO9.0	KP.06503.026
60016453 CHICONY POWER	65W_PD_BK_PCR50%_TCO9.0	Adapter Chicony Power A065RP86P 65W Type C Brick 5V/3A_9V/3A_12V/3A_15V/3A_20V_3.25A Black PCR 50%, TCO9.0	KP.0650H.032
Audio Codec			
10004786 REALTEK	Realtek ALC256-CG (HDA)_iGO - Q	AVAP - Realtek ALC256-CG (HDA)_3rd - Q	NC.21011.15J
B Cover			
10001028 QUANTA	Shale Black 16 PC+ABS Texture w/ Camera	Quanta B cover Shale Black 16 PC+ABS Texture w/ Camera	NC.21011.1D8
Battery			
60069689 COSMX BATTERY	3CELL4.59	Battery CosMx Typ.53Wh 4590mAh 3S1P AP20CBL 248x84.4x5.5(mm) AP20C 11.55V 65W Li-Ion TI BQ40Z555 FW5.09	KT.0030B.004

Table 8-1. Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
60002162 SIMPLO	3CELL4.70	Battery SIMPLO Typ.53Wh 4700mAh 3S1P AP23A7L 248x84.4x5.5(mm) AP23A 11.25V 70W Li-Ion TI BQ40Z555 FW5.09	KT.00307.012
60070657 LG ENERGY	3CELL4.70	Battery LGES Typ.53Wh 4700mAh 3S1P AP23A8L 248x84.4x5.5(mm) AP23A 11.28V 70W Li-Ion	KT.0030G.025
60069689 COSMX BATTERY	3CELL5.57	Battery CosMx Typ.65Wh 5570mAh 3S1P AP22ABN 248x90x5.5(mm) AP22A 11.67V 75W Li-Ion	KT.0030B.003
60070657 LG ENERGY	4CELL4.18	Battery LGES Typ.65Wh 4180mAh 4S1P AP22A8N 248x90x5.5(mm) AP22A 11.52V 75W Li-Ion	KT.0040G.016
10000981 MISC (END USER)	53Wh_150300	Battery 53Wh_150300 Dummy	KT.DUM00.042
10000981 MISC (END USER)	65Wh_220100	Battery 65Wh_220100 Dummy	KT.DUM00.044
C Cover			
10001028 QUANTA	Steel Gray 16 PC+ABS Painting	Quanta C cover Steel Gray 16 PC+ABS Painting	NC.21011.1GF
Camera			
10256402 CHICONY	FHDFF_U_W_M2R2_3.2T01TN	Camera CHICONY FHD FF CKFNE34 OV2740 RTS5861 1L4C066F2(BG) ZTS6234A USB IR-HM1092(940nm)	KS.FHD06.011
10256402 CHICONY	HDFF_U_W_M2R0_3.2T03TN	Camera CHICONY HD Camera C7FMH12 GC1009 RTS5855 1L3B059G1(BG) SPG18P4HM4H-1 TNR	KS.0HD06.035
10174742 TECH-FRONT(CQ)	HDFF_U_W_M2R0_3.2T03TN	Camera Tech-Front HD Camera YHVC-1 OV9734 SPCA2112N 1L3B059F1(BG) SPG18P4HM4H-1 TNR	KS.0HD0Q.020
CPU			
60002168 AMD	R37335U_PRO	CPU(BGA) AMD RYZEN 3 R37335U_PRO 3.0 GHz 15W REMBRANDT+ 100-000001294 ZEN 3+	KC.R3P02.735

Table 8-1. Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
60002168 AMD	R57535U_PRO	CPU(BGA) AMD RYZEN 5 R57535U_PRO 2.9 GHz 15W REMBRANDT+ 100-000001293 ZEN 3+	KC.R5P02.735
60002168 AMD	R77735U_PRO	CPU(BGA) AMD RYZEN 7 R77735U_PRO 2.7 GHz 15W REMBRANDT+ 100-000001292 ZEN 3+	KC.R7P02.735
D Cover			
10001028 QUANTA	Steel Gray 16 PC+ABS Painting BB	Quanta D cover Steel Gray 16 PC+ABS Painting BB	NC.21011.1GG
Digital Mic			
10000981 MISC (END USER)	Digital Mic	Dual Digital Mic (Built on Camera Module)	NC.26711.001
Finger Print			
10000981 MISC	FP on Touchpad	MISC FP on Touchpad	NC.22011.001
HDD			
60002050 MICRON SG	F801024PM4	Flash Disk MICRON SSD NAND 1024GB Micron 2550 1024GB MTFDKBA1T0TGE-1BK15ABYY LF+HF	KN.01K04.007
60002215 SAMSUNG	F801024PM4	Flash Disk SAMSUNG SSD NAND 1024GB M.2 2280 PM9C1 MZVL81T0HELB-00BTW LF+HF	KN.01K0B.010
60040600 KINGSTON	F80256PM4	Flash Disk KINGSTON SSD NAND 256GB OM8PGP4256Q-AA LF+HF	KN.25607.031
60002045 SK HYNIX	F80256PM4	Flash Disk HYNIX SSD NAND 256GB M.2 2280 BC901 256G HFS256GEJ9X110N LF+HF	KN.2560G.031
60040600 KINGSTON	F80512PM4	Flash Disk KINGSTON SSD NAND 512GB OM8PGP4512Q-AA LF+HF	KN.51207.014
60002045 SK HYNIX	F80512PM4	Flash Disk HYNIX SSD NAND 512GB M.2 2280 BC901 512G HFS512GEJ9X110N LF+HF	KN.5120G.036
HDD 2			
60002050 MICRON SG	F801024PM4	Flash Disk MICRON SSD NAND 1024GB Micron 2550 1024GB MTFDKBA1T0TGE-1BK15ABYY LF+HF	KN.01K04.007

Table 8-1. Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
60002215 SAMSUNG	F801024PM4	Flash Disk SAMSUNG SSD NAND 1024GB M.2 2280 PM9C1 MZVL81T0HELB-00BTW LF+HF	KN.01K0B.010
60040600 KINGSTON	F80256PM4	Flash Disk KINGSTON SSD NAND 256GB OM8PGP4256Q-AA LF+HF	KN.25607.031
60002045 SK HYNIX	F80256PM4	Flash Disk HYNIX SSD NAND 256GB M.2 2280 BC901 256G HFS256GEJ9X110N LF+HF	KN.2560G.031
60040600 KINGSTON	F80512PM4	Flash Disk KINGSTON SSD NAND 512GB OM8PGP4512Q-AA LF+HF	KN.51207.014
60002045 SK HYNIX	F80512PM4	Flash Disk HYNIX SSD NAND 512GB M.2 2280 BC901 512G HFS512GEJ9X110N LF+HF	KN.5120G.036
Keyboard			
10001044 CHICONY	VP05P_B30BWL	Phantom KB CHICONY VP05P_B30BWL VP05P Internal 15 Standard Black W-BL,10k,CapsLock/Mic LED,travel1.55,TM-Sense,VP	NK.I1513.2QL
60052236 SUNREX	VP05P_B30BWL	Phantom KB SUNREX VP05P_B30BWL VP05P Internal 15 Standard Black W-BL,10k,CapsLock/Mic LED,travel1.55,TM-Sense,VP	NK.I151S.0NX
10001044 CHICONY	VP05P_B40BWL	Phantom KB CHICONY VP05P_B40BWL VP05P Internal 15 Standard Black Copilot,WhiteBL,CapsLock/Mic LED,Sense-key,10keyVP	NK.I1513.33B
60052236 SUNREX	VP05P_B40BWL	Phantom KB SUNREX VP05P_B40BWL VP05P Internal 15 Standard Black Copilot,WhiteBL,CapsLock/Mic LED,Sense-key,10keyVP	NK.I151S.13E
10001044 CHICONY	VP05T_B30B	Phantom KB CHICONY VP05T_B30B VP05T Internal 15 Standard Black NBL,10k,CapsLock/Mic LED,travel 1.55,TM-Sense,VP	NK.I1513.2QM

Table 8-1. Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
60052236 SUNREX	VP05T_B30B	Phantom KB SUNREX VP05T_B30B VP05T Internal 15 Standard Black NBL,10k,CapsLock/Mic LED,travel 1.55,TM-Sense,VP	NK.I151S.0NY
10001044 CHICONY	VP05T_B40B	Phantom KB CHICONY VP05T_B40B VP05T Internal 15 Standard Black Copilot,non_BLU,CapsLock/Mic Mute,SenseKey,10key,VP	NK.I1513.33C
60052236 SUNREX	VP05T_B40B	Phantom KB SUNREX VP05T_B40B VP05T Internal 15 Standard Black Copilot,non_BLU,CapsLock/Mic Mute,SenseKey,10key,VP	NK.I151S.13J
LAN			
PLM00014 ODM	Non AVAP Lan	None AVAP Lan	NA.22411.00B
LCD			
60003316 AUO	N16WUXGASSRIB3	LED LCD Panel AUO 16" WUXGA IPS None Glare B160UAN01.H H/W 1A 400nit sRGB 100% 60Hz 30ms 1200:1 (narrow border, 2.6/4.6t, low power)	KL.16005.002
60003316 AUO	N16WUXGASUPILB 3	LED LCD Panel AUO 16" WUXGA IPS None Glare B160UAN04.4 H/W 2A 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3t/5t)	KL.16005.017
60003089 LG	N16WUXGASUPILB 3	LED LCD Panel LPL 16" WUXGA IPS None Glare LP160WU3-SPD2 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3.0t/5.0t)	KL.16008.002
10001022 INNOLUX	N16WUXGASUPILB 3	LED LCD Panel INNOLUX 16" WUXGA IPS None Glare N160JCA-EEK C1 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3.0t/5.0t)	KL.1600D.008
60038572 BOE(HK)	N16WUXGASUPILB 3	LED LCD Panel BOE 16" WUXGA IPS None Glare NV160WUM-N41 V8.1 300nit NTSC 45% 60Hz 25ms 1000:1 (Narrow border, 3.0t/5.0t)	KL.1600E.015

Table 8-1. Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
Memory			
10000981 MISC (END USER)	SO16GBV	Memory SO-DIMM DDRV 16GB Dummy LF+HF Dummy Dummy	KN.16G00.023
60002045 SK HYNIX	SO16GBV	Memory HYNIX SO-DIMM DDRV 5600 16GB HMCG78AGBSA LF+HF 1anm, A-die 1Rx8	KN.16G0G.039
10000981 MISC (END USER)	SO8GBV	Memory SO-DIMM DDRV 8GB Dummy LF+HF DUMMY Dummy	KN.8GB00.038
60002045 SK HYNIX	SO8GBV	Memory HYNIX SO-DIMM DDRV 5600 8GB HMCG66AGBSA LF+HF 1anm, A-die 1Rx16	KN.8GB0G.082
NB Chipset			
10000981 MISC (END USER)	none NB Chipset	NB Chipset none NB Chipset without NB Chipset	KI.22600.054
Packaging			
10001061 TSS	2023-Brown Box-Green	2023 Brown PZ+Pulp Molded+AD Sleeve TSS Rev 1.0	NC.25811.19G
Speaker			
10000981 MISC (END USER)	Speaker	Stereo Speaker	NC.24211.002
Thermal			
10358242 AURAS TECH.	Y23-VibraD5_RBU-UMA_PT+Y22-7570 T65_P1_PT_ADB	AURAS Y23-VibraD5_RBU-UMA_PT+Y22-7570T65_P1_PT_ADB	NC.26111.0CP
Touchpad			
10045206 原相科技	CP7WIP1M	Pixart Touchpad CP7WIP1M Pixart PTP PCT3848J1-2581 125x81.6mm PCB (Moisture+MSB),Panasonic/Mitsumi Silent solution	NC.24611.09F
60040786 ELANTECH	CP7WIP1M	Elantec Touchpad SC582C-1201 PTP SC582C-1201 125x81.6mm PCB (Moisture+MSB),Panasonic/Mitsumi Silent solution	NC.24611.09K
60069701 CAREWE TECHN.	SP7WIP2OMSG	Carewe Touchpad SP7WIP2OMSG CRW-AC-SP7-P4 PTP, Black FP IC ,Steel gray ocean glass mylar.Silent solution.ESD solution.	NC.24611.0A0

Table 8-1. Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
60040786 ELANTECH	SP7WIP2OMSG	Elantec Touchpad SP7WIP2OMSG SecurePad 125 X 81.6 FC6830-22C2 PTP Steel Gray ocean glass,black FP.Silent solution	NC.24611.0AG
Touchpad Surface			
10923599 KUNSHAN SANKAI	Green Mylar	Sankai Touchpad surface Green Mylar, Glass-Like and Ocean bound PET	NC.26911.001
TPM			
PLM00014 ODM	TPM 2.0 None AVAP	None AVAP TPM 2.0 None AVAP	NC.22911.00E
VGA Chip			
22554573 AMD	UMA	UMA (AMD)	KI.23200.154
WiFi Antenna			
10000105 WNC	WNC Wifi6E PCB W0642	WNC Wifi6E PCB W0642	NC.23511.01D
Wireless LAN			
10000981 MISC (END USER)	2x2 AX+BT 6E_v01	Wireless LAN Wi-Fi 6E 2x2 AX 6E LE Audio 2x2 Dummy	KE.WF60N.014
60064885 CNTS	WIFI 6E 2X2 BT AMD PCIe M2 2230:E RZ616	Wireless LAN AMD Wi-Fi 6E BT5.3 MT7922_RZ616: E AMD 2x2 M.2 2230 PCIe BLE	KE.WF60A.002

CHAPTER 9
Online Support Information

Online Support Information

Introduction

This section describes online technical support services available to help users repair their Acer Systems.

For distributors, dealers, ASP or TPM, please refer the technical queries to a local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers convenient and valuable support resources.

In the Technical Information section users can download information on all of Acer's Notebook, Desktop and Server models including:

- Service guides for all models
- Bios updates
- Software utilities
- Spare parts lists
- TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

- Detailed information on Acer's International Traveller's Warranty (ITW)
- Returned material authorization procedures
- An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all technical queries.

We are always looking for ways to optimize and improve our services, so do not hesitate to direct any suggestions or comments to us.