Acer Chromebook C871/C871T

SERVICE GUIDE

Revision History

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

Date	Version	Chapter	Updates
02-10-2020	V 1.00	All (except CH2 & 6)	
02-26-2020	V 1.01	All (except CH2)	Update CH6
03-06-2020	V 1.02	1	Update eMMC section
		6	Update FRU list
		7	Update BOM list (UMACkkR_4(HQE))
		8	Update AVL list

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.

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Hardware Specifications

CHAPTER 2
System Utilities

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Machine Maintenance Procedures

CHAPTER 4
Troubleshooting

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Jumper and Connector Locations

CHAPTER 6
FRU (Field Replaceable Unit) List

CHAPTER 7
Model Definition and Configuration

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Test Compatible Components

CHAPTER 9
Online Support Information

CHAPTER 1
Hardware Specifications

Hardware Specifications and Configurations

Features

Below is a summary of the computer's features:

Operating System

- Chrome OS

CPU and Chipset

- Intel® Core™ i3-10110U processor (4 MB Smart Cache, 2.1 GHz with Turbo Boost up to 4.1 GHz, DDR4 or LPDDR3, 15 W)

- Intel® Pentium® Gold 6405U processor (2 MB Smart Cache, 2.4 GHz, DDR4 or LPDDR3)

- Intel® Celeron® processor 5205U (2 MB Smart Cache, 1.9 GHz, DDR4 or LPDDR3)

System Memory

Single-channel DDR4 SDRAM supports:

- 4 GB of onboard DDR4 system memory

Display

- 12.0" display with IPS (In-Plane Switching) technology, HD+ 1366 x 912, high-brightness Acer ComfyView™ LED-backlit TFT LCD

- 3:2 aspect ratio

- Wide viewing angle up to 170 degrees

- Mercury-free, environment-friendly

Audio

- High-definition audio support
- Two built-in stereo speakers
- Built-in digital microphones

Graphics

- Intel® UHD Graphics, supporting OpenGL® 4.5, Microsoft® DirectX® 12

Storage

- 32 / 64GB eMMC
- Card reader: MicroSD / MicroSDHC / Micro SDXC card reader
- Specifications:

Type	Model	Test Result
Micro SD	Transcend Micro SD 2G + Transcend Adapter	Pass
	Silicon Power Micro SD 2G	Pass
	Ridata Micro SD 2G + RiDATA Adapter	Pass
Micro SDHC	Kingston 16G UHS-I Class10 U1 & Kingston Adapter	Pass
	ADATA Micro SDHC 32G C10	Pass
	Transcend Micro SDHC 4G C6 + Transcend Adapter	Pass
	SanDisk Ultra Micro SDHC 32G C10 I + Sandisk Adapter	Pass
	Toshiba EXCERIA 32GB USH-I U3 & Toshiba Adapter	Pass
	SAMSUNG 32GB USH-I Class10 EVO	Pass
Micro SDXC	Kingston Micro SDXC 64G C10 + Kingston Adapter	Pass
	SanDisk Micro SDXC Ultra 64GB Class4 15MB/s 100x	Pass
	ADATA Micro SDXC 64GB C10 30MB/s + ADATA Adapter	Pass
	Toshiba Micro SDXC 64G UHS-I C10 30MB/s	Pass
	Transcend Micro SDXC 64G C 10 UHS-I 300X + Transcend Adapter	Pass
	SAMSUNG 64GB USH-I Class10 EVO	Pass

Hardware Specifications and Configurations

Webcam

HD camera with:

- 1280 x 720 resolution
- 720p HD audio/video recording
- Super high dynamic range imaging (SHDR)

Wireless and Networking

WLAN:

- Intel® Wireless Wi-Fi 6 AX201
- 802.11a/b/g/n/acR2+ax wireless LAN
- Dual Band (2.4 GHz and 5 GHz)
- 2x2 MU-MIMO technology
- Supports Bluetooth® 5.0
- Wi-Fi CNVi Interface

WPAN:

- Bluetooth® 5.0

Dimension and Weight

Dimensions:

- 296 (W) x 229 (D) x 21.5 (H) mm (11.65 x 9.02 x 0.85 inches)

Weight:

- 1.4 kg (3.09 lbs.) with 3-cell battery pack

Power Adapter and Battery

Power adapter

- USB Type-C 45 W Google PD AC adapter
  - 95 (W) x 40 (D) x 26.5 (H) mm (3.74x 1.57 x 1.04 inches)
  - 5 V / 3 A or 9 V / 3 A or 12 V / 3 A or or 15V / 3 A or 20 V / 2.25 A as output power
  - 200 g with 150 cm DC cable

Battery

- 48 Wh 3-cell Li-ion battery
- Battery life up to 12 hours

Input and Control

Keyboard

- 81-/82-/86-key Acer FineTip EDU anchored keyboard with international language support

TouchPad

- Fully clickable touchpad featuring click-anywhere functionality: One-finger touch to left-click, two-finger touch to right-click, and two-finger scrolling
- Moisture resistant

Input and Output (I/O) Ports

- Two USB Type-C™ ports. This port supports:
  - USB 3.2 Gen 1 (up to 5 Gbps)
  - DisplayPort over USB-C
  - USB charging 5 V; 3 A
  - DC-in port 5 or 9 or 15 or 20 V; 45 W
- USB 3.0 port
- microSD™ card reader
- 3.5 mm headphone/speaker jack, supporting headsets with built-in microphone

Warranty

- One-year International Travelers Warranty (ITW)

Privacy Control

- Discrete Trusted Platform Module (TPM) solution
- Kensington lock slot

Environment

- Temperature:
  - Operating: 0°C to 40°C
  - Non-operating: -20°C to 60°C
- Humidity (non-condensing):
  - Operating: 80% (at 40°C)
  - Non-operating: 20% to 90%

Notebook Tour

Figure 1-1.   Opened Front View

Table 1-1.   Opened Front View
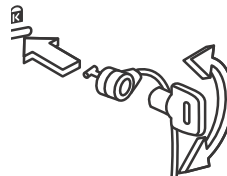
#	Icon	Item	Description
1		Camera Status LED	Indicates the camera activity (Green).
2		Microphone	Internal microphone for sound recording.
3		Display screen	Also called Liquid-Crystal Display (LCD), displays computer output (configuration may vary by model), and supports multi-touch functionality (for touchscreen model only).
4		Keyboard	For entering data into your computer.
5		TouchPad	Touch-sensitive pointing device which functions like a computer mouse.
6		Integrated webcam	Web camera for video communication.
7	⏻	Power button	Turns the computer on and off.

Figure 1-2.   Right View

Table 1-2.   Right View

#	Icon	Item	Description
1	🔋	Battery indicator	Indicates the computer's battery status. • **Blue On**: Fully charged • **Orange On**: Battery charging • **Blinking Amber** (1 sec on/ 1 sec off): Abnormal situation.
2	 USB	USB Type-C™ port	• Connects a USB Type-C™ AC adapter to supply power to the system (5/9/12/15/20 V; 45 W). • Connects to USB devices with a USB Type-C connector. • Supports: ■ USB 3.2 Gen 1 (up to 5 Gbps) ■ DisplayPort over USB-C ■ USB charging 5 V; 3 A ⇛ **NOTE:** USB Type-C™ port can only be used with products compliant with the USB Type-C™ cable and connector.
3	🔒	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.
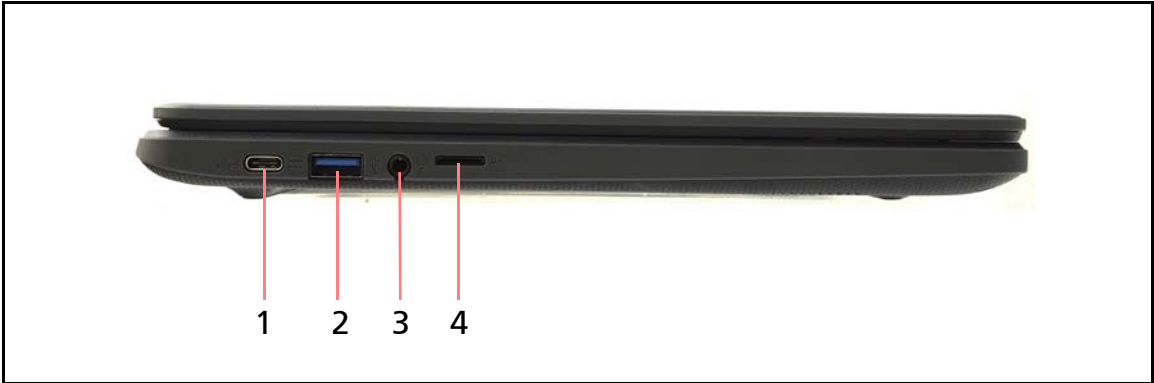
Figure 1-3.   Left View

Table 1-3.   Left View

#	Icon	Item	Description
1	USB	USB Type-C™ port	• Connects a USB Type-C™ AC adapter to supply power to the system (5/9/12/15/20 V; 45 W). • Connects to USB devices with a USB Type-C connector. • Supports: ■ USB 3.2 Gen 1 (up to 5 Gbps) ■ DisplayPort over USB-C ■ USB charging 5 V; 3 A **⟹ NOTE:** USB Type-C™ port can only be used with products compliant with the USB Type-C™ cable and connector.
2	⚡	USB 3.0 port	Connects to USB 2.0 or 3.0 devices (e.g., USB mouse, USB camera).
3	🎧	Headphone/ Microphone jack	Connects to audio line-out devices and accepts input from external microphone (3.5 mm Standard TRRS / OMTP TRRS Type).
4	MicroSD	MicroSD card reader	Accepts microSD cards. **⟹ NOTE:** Push to remove/install the card. Only one card can operate at any given time.

⟹ 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.

Audio Connector Plug Configurations
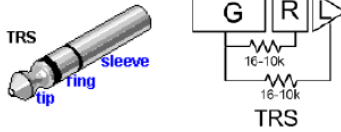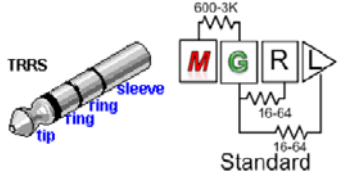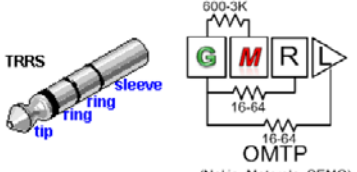
TRS Type (Headphone only)	Standard TRRS Type (Headphone/Mic Combo)	OMTP TRRS Type (Headphone/Mic Combo)
Support audio/headphone output only	Support audio/headphone output and micphone input	Support audio/headphone output only

---

Figure 1-4. Audio Connector Plug Configurations

Figure 1-5. Top View

Figure 1-6.   Base View

Table 1-4.   Base View

#	Icon	Item	Description
1	⌨💧	Drain holes	Use to drain out the liquid from your computer.
2		Speakers	Emits audio from your computer.

TouchPad Basics
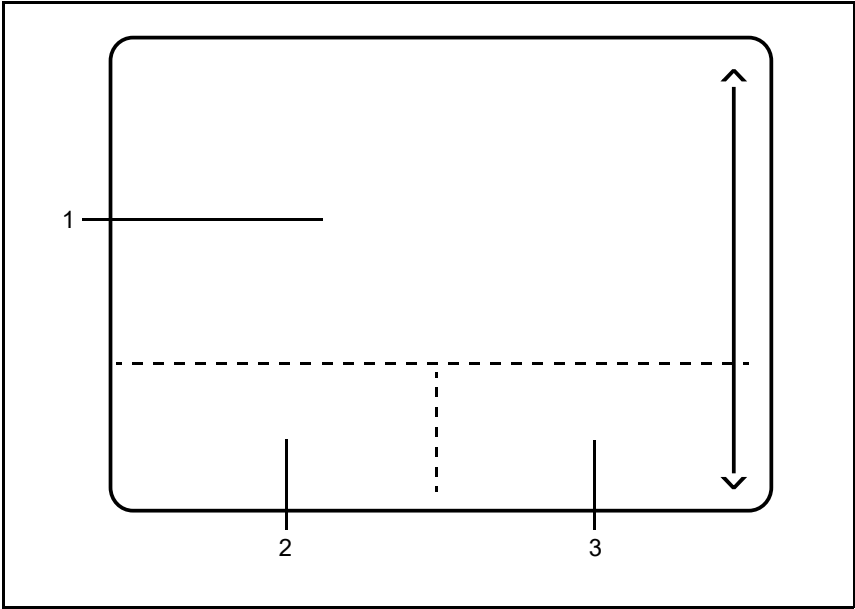
Figure 1-7. TouchPad

- 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, and special keys.

Hot Keys

The computer has a close-to-full-sized keyboard and separate cursor, function and special keys.

Figure 1-8.   Keyboard Hotkeys

Hot key (icon)	Function	Description
←	Previous	Jumps to the previous page.
→	Next	Jumps to the next page.
↻	Reload	Reloads the current page.
▢	Full-screen	Opens the page in full-screen mode.
▢‖	Next window	Shows all windows in Overview mode.
☼	Brightness down	Decreases the screen brightness.
☼	Brightness up	Increases the screen brightness.
🔇	Mute	Turns off audio output.
🔉	Volume down	Decreases the sound volume.

Hot key (icon)	Function	Description
🔊	Volume up	Increases the sound volume.
🔍	Search	Launches search from the apps panel.

Hardware Specifications and Configurations

System Block Diagram

Figure 1-9.   System Block Diagram
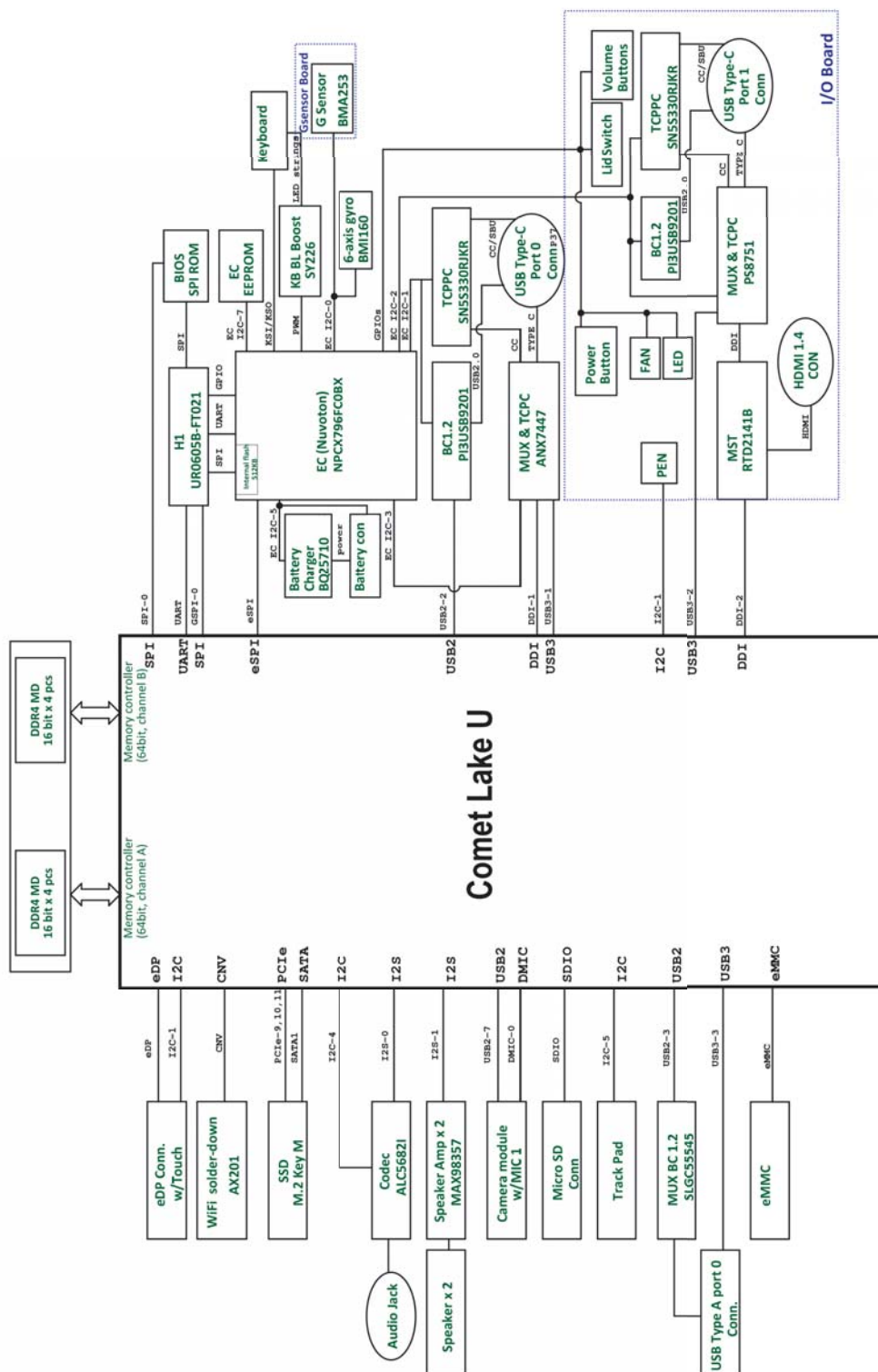
Specification Tables

Computer specifications

Item	Metric	Imperial
Dimensions		
Length	229 mm	9.02 in.
Width	296 mm	11.65 in.
Height	21.5 mm	0.85 in.
Weight (equipped with battery pack)	1.4 kg	3.09 lbs
Input power		
Operating voltage	5 / 9 / 12 / 15 / 20 V	
Operating current	3 A (5 V) / 3 A (9 V) / 3 A (12 V) / 3 A (15 V) / 2.25 A (20 V)	
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	20% to 90%	
Maximum altitude (unpressurized)		
Operating	N/A	N/A
Nonoperating	N/A	N/A
Shock		
Operating	140 G, 2 ms	
Nonoperating	220 G, 2 ms	
Random vibration		
Operating	0.6 G-rms	
Nonoperating	1.5 G-rms	
⟹ **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
Core logic	• Intel® Core™ i3-10110U • Intel® Celeron® 5205U • Intel® Pentium® Gold 6405U
VGA	Intel® UHD Graphics
LAN	N/A
USB	Integrated in PCH • USB Type-C™ 3.2 port x2 • USB 3.0 port x1
Super I/O controller	Embedded controller Microchip Technology NPCX796FC0BX
Bluetooth	Bluetooth® 5
Wireless	Intel® Wi-Fi 6 AX201 (Harrison Peak 2)
PCMCIA	N/A
Audio codec	Realtek
Audio amplifier	Maxim Integrated™ MAX98357AEWL+T
Card reader	Embedded in CPU (Integrated)
Touch controller	USI interface
GPS	N/A
eMMC	Embedded in CPU (Integrated), eMMC 5.1 controller
eSata	N/A
Sensor	G sensor

Processor

Item	Specification
CPU type	Intel® Comet Lake
CPU package	FCBGA1528
Core Logic	N/A
Chipset	• Intel® Core™ i3-10110U • Intel® Celeron® 5205U • Intel® Pentium® Gold 6405U

Processor Specifications

Item	CPU Speed (GHz)	Cores/ Threads	Graphics Frequency(MHz)	Mfg Tech (nm)	Cache Size	Package	TDP (Watt)
i3-10110U	2.1 up to 4.1	2 / 4	300 up to 1 GHz	14	4MB	FCBGA1528	15
Celeron 5205U	1.9	2 / 2	300 up to 900	14	2MB	FCBGA1528	15
Pentium Gold 6405U	2.4	2 / 4	300 up to 950	14	2MB	FCBGA1528	15

Thermal Table

Specific Info

Participant	Description	ACPI Device	CRT	HOT	Passive Policy		
					WRM	PSV	NTT
B0D4	CPU Device	INT3401	100	X	X	90	5
TSR0	close Charger	INT3401	75	X	X	65	5
TSR1	Close CPU	INT3401	75	X	X	68	5
TSR2	close WIFI	INT3401	75	X	X	68	5

_ART

Partici pant	Source Objective ID	Hyste risis	AC0	AC1	AC2	AC3	AC4	AC5	AC6	AC7	AC8	AC9
B0D4	TFN1	2	95									
TSR1	TFN1	2	66	63	54	50	45	41	38			
TSR2	TFN1	2	55	50	x	x	x	x	x			
TFN1(Duty)			95	90	80	70	60	50	40			
Corresponding RPM			6300	5800	5200	4800	4200	3500	2800			

PPCC Object Settings

Processor SKU	Max. PL1 (mW)	Min. PL1 (mW)	PL1 Step (mW)	Max. PL2 (mW)	Min. PL2 (mW)	PL2 Step (mW)
i3/i5/i7	15000	3000	100	29000	15000	1000

Thermal Relationship Table

Source	Target	Influence	Sample Rate (s)
B0D4	B0D4	100	5
Charger	TSR0	100	6
B0D4	TSR1	100	6
B0D4	TSR2	100	6

PPSS Object Settings

Control Index	Control Charger Current (mA)
0	3000
1	2000
2	1000
3	500
4	0
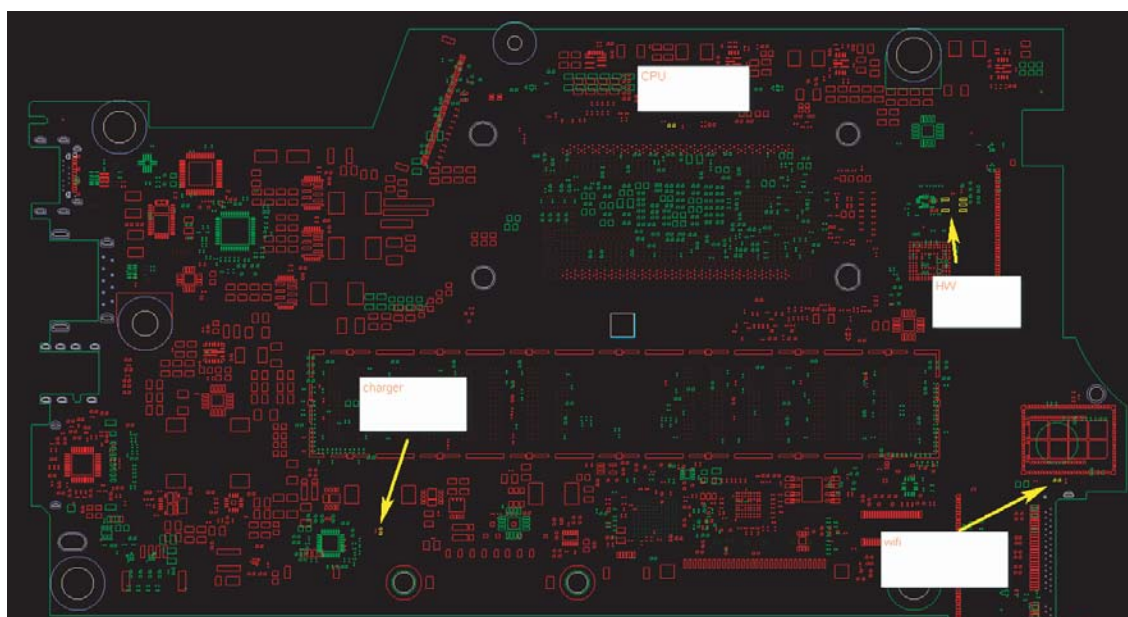
Figure 1-10.   DPTF-Setting
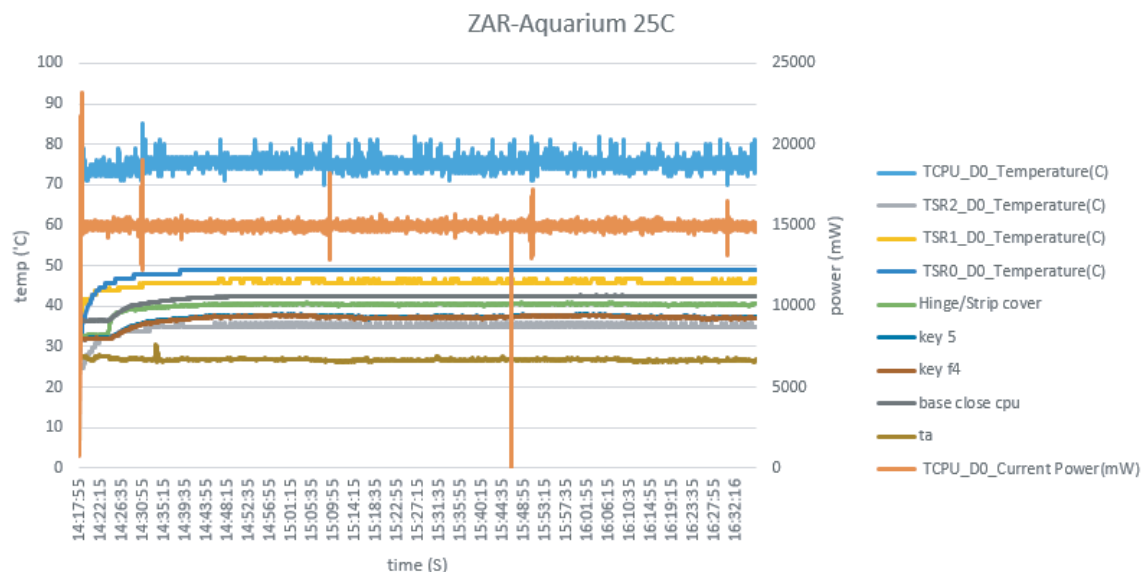
Figure 1-11.   DPTF-Setting (Aquarium 25C)

EC backup fan control (linear equation)

Location	Value
.temp_host	
EC_TEMP_THRESH_WARN	0
EC_TEMP_THRESH_HIGH	C_TO_K(65)
EC_TEMP_THRESH_HALT	C_TO_K(75)
.temp_host_release	
EC_TEMP_THRESH_WARN	0
EC_TEMP_THRESH_HIGH	C_TO_K(55)
EC_TEMP_THRESH_HALT	0
temp_fan_off	c_TO_K(25)
temp_fan_max	c_TO_K(55)
const struct fan_rpm fan_rpm_0 = {	"rpm"
.rpm_min	3300
.rpm_start	3300
.rpm_max	6500

System Memory

Item	Specification
Memory controller	Built-in at CPU
Memory size	4 GB of onboard DDR4 system memory
Model	N/A
Supports maximum memory size	4 GB
Supports DIMM type	N/A
Supports DIMM speed	N/A
Support DIMM voltage	N/A

Keyboard

Item	Specification
Type	SUNREX AD01G_C90B
Total number of keypads	81-/82-/86-key Acer FineTip EDU anchored keyboard with international language support
Simultaneous Operation of Internal & External Keyboard	Yes
Features	• Flat-type style keys • Direction keys arranged in an inverted-T configuration • Supports function-row keys in Chrome browser • Supports **Power** button key

USB Port

Item	Specification
USB compliance level	USB 3.0 compliant
EHCI	2
Number of USB port(s)	1
Location	Left side
Output Current	3.0A

USB Type-C Port

Item	Specification
USB compliance level	USB 3.2 Gen 1 compliant (speed up to 5 Gbps)
Output Current of Power Bus	5V / 3.0 A max.
Power-off USB Charging Mode	Not supported
DisplayPort Version	DisplayPort 1.2
Thunderbolt Version	Not supported
Power Delivery for Charging	45 W (5/9/15/20V) Type-C USB power adapter
Number of USB port(s)	2
Location	Left side x1, Right side x1

HDMI Port (N/A)

Item	Specification
Compliance level	
Data throughput	
Number of HDMI port(s)	
Location	

Video Interface (N/A)

Item	Specification
Chipset	
Package	
Interface	
Compatibility	
Sampling rate	

Battery

Item	Specification	
Vendor & Model	MURATA AP18C4K	LGC AP18C8K
Battery Type	Rechargeable lithium-ion battery pack	
Pack capacity	• 4200 mAh (nominal) • 3880 mAh (minimum)	• 4471 mAh (nominal) • 4343 mAh (minimum)
Number of battery cell	3	
Package configuration	3S1P	

AC Adapter

Item	Specification	
Vendor & Model	DELTA ADP-45HG BA	LITE-ON PA-1450-50AD
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.)
Input current	1.5 Amps max. at 100 Vac	1.3 Amps max. at 90 Vac
Inrush current	No damage; Meet fuse and bridge diode specifications.	• Should not damage fuse and rectifier diode. • The inrush current and I^2t shall be less than maximum rated value of components.
Efficiency	• More than 81.84% 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&20V output voltage condition.	• No Load Power Loss at nominal input, Ta=25°C and 5minutes warm up. • More than 81.83% of average efficiency load tested at 5V output voltage condition. • More than 87.3% of average efficiency load tested at 9V output voltage condition. • More than 88.3% of average efficiency load tested at 12V output voltage condition. • More than 88.85% of average efficiency load tested at 15V&20V output voltage condition.

Item	Specification
Vendor & Model	Chicony A045RP05P
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.)
Input current	Shall be less than 1.2 Amps at normal operation range
Inrush current	• Should not damage 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.

Item	Specification
Efficiency	- No Load Power Loss at nominal input, Ta=25°C and 30 minutes warm up. - More than 81.39% of average efficiency load tested at 5V output voltage condition. - More than 86.62% of average efficiency load tested at 9V output voltage condition. - More than 87.4% of average efficiency load tested at 12V output voltage condition. - More than 87.73% of average efficiency load tested at 15V&20V output voltage condition.

Card Reader

Item	Specification
Chipset	MicroSD Card
Package	Built-in to the CPU
Location	Left side
Features	Supported card formats: - Micro SD - Micro SDHC - Micro SDXC

Hard Disk Drive (N/A)

Item	Specification
Vendor & Model Name	
Capacity (GB)	
Bytes per sector	
Data heads	
Drive Format	
Disks	
Spindle speed (RPM)	
Performance Specifications	
Buffer size	
Interface	
Fast data transfer rate (Gbits / sec, max)	
Media data transfer rate (Mbytes/sec max)	
DC Power Requirements	
Voltage tolerance	

Solid State Drive (N/A)

Item	Specification
Vendor & Model Name	
Capacity (GB)	
Bytes per sector	
Data heads	
Drive Format	
Disks	
Spindle speed (RPM)	
Performance Specifications	
Buffer size	
Interface	
Fast data transfer rate (Gbits / sec, max)	
Media data transfer rate (Mbytes/sec max)	
DC Power Requirements	
Voltage tolerance	

Embedded MultiMedia Card (eMMC)

Item	Specification	
Vendor & Model Name	SanDisk SDINBDA4-32-1220W	SanDisk SDINBDA4-64-1220W
Capacity (GB)	32	64
Features	• e-NAND flash memory with eMMC™ 5.1 interface • eMMC™ 5.1 compatible (backward compatible to eMMC™ 5.0 & 4.5) • Data transfer rate: up to 400MB/s rate (HS400 mode) • RoHS compliant	• iNAND 7550, with MMC interface • Offered in three TFBGA packages of eMMC™ 5.1 • Up to 256GB of data storage • Data transfer rate: up to 400MB/s rate (HS400 mode)

LCD 12"

Item	Specification		
Vendor & Model name	AUO B120XAN01.0	AUO B120XAK01.0	Innolux N120ACA-EA1
Screen Diagonal (mm)	304.8mm		
Active Area (mm)	253.46 (H) x 169.22 (V)		
Display resolution (pixels)	1366x3(RGB) (H) x 912 (V)		
Pixel Pitch (mm)	0.1855 (H) x 0.1855 (V)		
Typical White Luminance (cd/m^2) also called Brightness	235 (typ.) 200 (min.)		
Contrast Ratio	800 (typ.) 600 (min.)		1000 (typ.) 800 (min.)
Response Time (Optical Rise Time/Fall Time) msec	25 (typ.) 35 (max.)	27 (typ.) 35 (max.)	11 (typ.) 14 (max.)
Typical Power Consumption (Watt)	2.18 (max.)	2.30 (max.)	2.19 (max.)
Weight (Without inverter)	235g (max.)		
Physical Size (mm)	194.62 (H) x 262.56 (W) x 2.6 (D) (max.)	194.62 (H) x 262.56 (W) x 3.2 (D, PCBA) (max.)	184.12 (H) x 262.76 (W) x 2.6 (D) (max.)
Electrical Interface	eDP 1.2		
Viewing Angle (degree) Horizontal (Right) CR > 10 (Left) Vertical (Upper) CR > 10 (Lower)	80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.)	80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.) 80 (min.) / 85 (typ.)	80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.) 80 (min.) / 89 (typ.)

LCD Inverter (N/A)

Item	Specification
Vendor & Model name	
Brightness conditions	
Input voltage (v)	
Input current (mA)	
Output voltage (V, RMS)	
Output current (mA, RMS)	
Output voltage frequency (KHz)	

Graphics Controller

Item	Specification
VGA Chip	Intel® UHD Graphics
Package	Built-in to the CPU
Feature	Supports: ● OpenGL® 4.4 ● Microsoft® DirectX® 12

Display Supported Resolution (LCD Supported Resolution)

Resolution	Specification
eDP	Version 1.2

LAN Interface (N/A)

Item	Specification
LAN chipset	
LAN connector type	
LAN connector location	
Features	

Wireless + Bluetooth Module (a/b/g/n/ac)

Item	Specifications
Vendor & Model	Intel® Wi-Fi 6 AX201 (Harrison Peak 2)
Chipset	Intel® Core™ vPro™ processor
Form factor	• M.2 2230 • M.2 1216
Frequency band	2.4 GHz & 5 GHz (160MHz)
Protocols and data rates supported	• Wi-Fi CERTIFIED™ for 802.11a/b/g/n/ac/ax, WPA/2 Personal and Enterprise, WPS2, PMF, WMM, WMM-PS, WFD, Miracast, Passpoint R2, Voice Personal • Bluetooth 5.0
Antenna	Yes. Both AUX and MAIN are routed in the LCD assembly.
Feature	• BT & WLAN co-existence scheme • MIMO TX/TX and Rx/Rx Concurrency • Full support for Microsoft Windows 10, Linux, and Chrome OS

Audio Interface

Item	Specification
Audio Controller	Dialog Semiconductor ALC5682I-VD-CGT
Audio onboard or optional	On board
Mono or Stereo	Mono microphone to ADC path, and stereo DAC to HP path
Compatibility	2-wire I^{2}C compatible interface with support for High Speed mode up to 3.4 MHz
Sampling rate	8K~192KHz
Internal microphone	Yes. 1 digital microphone
Internal speaker	Yes. 2 channel stereo speakers with 2W per channel output.

Audio Codec and Amplifier

Item	Specification
Audio Controller	Maxim Integrated™ MAX98357AEWL+T
Features	The MAX98357AEWL+T are digital pulse-code modulation (PCM) input Class D power amplifiers that provide Class AB audio performance with Class D efficiency. These ICs offer five selectable gain settings (3dB, 6dB, 9dB, 12dB, and 15dB) in I^{2}S/left-justified mode set by a single gain select input and a fixed 12dB gain in TDM mode. • Single-Supply Operation (2.5V to 5.5V) • 3.2W output power into 4 ohms at 5V • 2.4mA Quiescent current • 92% efficiency (RL = 8 ohms, P$_{OUT}$ = 1W) • Low 0.015% THD+N at 1 kHz • No MCLK required • Sample rates of 8 kHz to 96 kHz • Supports left, right or (left/2 + right/2) output • Sophisticated edge rate control enables filterless class D outputs • 77dB PSRR at 1 kHz • Low RF susceptibility rejects TDMA noise from GSM radios • Extensive Click-and-Pop reduction circuitry • Robust Short-Circuit and Thermal Protection • Available in space-saving packages: 1.345 mm x 1.345 mm WLP (0.4 mm Pitch) and 3 mm x 3 mm TQFN

HD Camera

Item	Specification	
Vendor	Chicony CH_OV9734_RTS5846N	Tech-Front TF_HM1091B_SPCA2087L2
Model Name	CNFHH62-1	YHTK
Sensor Type	OV9734 CMOS sensor	HM1091B CMOS sensor
Pixel Resolution	1280 x 720 (1M)	1280 x 720 (1M)
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.	• Automatic image control: Automatic Exposure Control, Automatic White Balance Control, and Automatic Gain Control. • Image Quality Control: Brightness, Contrast, Hue, Saturation, Sharpness, Gamma, and Backlight Compensation (HDR)

0.3M VGA Camera (N/A)

Item	Specification
Vendor	
Model	
Sensor Type	
Feature	

3G Card (N/A)

Item	Specification
Vendor	
Features	

VRAM (N/A)

Item	Specification
Vendor & Model name	
Memory size	
Interface	

System Power Management

Item	Specification
Full On (G0/S0)	This is the normal operating state of the processor. Individual devices may be shut down to save power. The different CPU operating levels are defined by Cx states.
Suspend to RAM (Standby) (G1/S3)	S3 is a suspend state in which the core power planes of the processor are turned off and the suspend wells remain powered. ● VGA Suspend ● PCMCIA Suspend ● Audio Power Down ● Hard Disk Power Down ● Super I/O Low Power mode
Suspend to Disk (Hibernate) (G1/S4)	S4 is a suspend state in which most power planes of the processor are turned off, except for the suspend and RTC well. System saves all system states and data onto the disc prior to power off the whole system.
Soft Off (G2/S5)	OS initiated shutdown. All devices in the system are turned off completely. A full boot is required when waking.
Mechanical Off (G3)	All devices in the system are turned off completely.

System LED Indicator

Item	Specification
System power state	● System has no Power State LED
Battery state	● Fully charged: Blue ● Battery charging: Orange ● Battery low: N/A ● Battery critical low: N/A ● Abnormal situation: Blinking mode Amber (1 sec. on, 1 sec. off) ● Using battery or not connected to AC power: Blue
Power button backlight	● Power button has no LED
ODD activity state	● ODD has no LED
Communication state	● Wi-Fi has no LED ● Bluetooth has no LED

System DMA Specification (N/A)

Legacy Mode	Power Management

System Interrupt Specification (N/A)

Hardware IRQ	System Function

System I/O Address Map (N/A)

I/O address (hex)	System Function (shipping configuration)

Memory Address Map (N/A)

Memory address (hex)	System Function (shipping configuration)

CHAPTER 2
System Utilities

System Utilities

Introduction

This chapter contains information on how to re-configure the Acer Chromebook C871/C871T HWID as well as test procedures for your notebook's various components.

## Key Component Replacement and HWID Re-configuration

When certain key components are replaced, the correct hardware ID (HWID) must be re-configured.

- Battery
- Motherboard
- Touchpad
- Keyboard
- Camera
- WLAN
- LCD panel

To re-configure the HWID you must prepare the following items:

- A 8 GB or larger USB 2.0 flash drive (USB 3.0 flash drive is not recommended).
- The *RMA.bin* file that is needed to re-configure the HWID after replacing a key component.
- The *Win32DiskImager.exe* file that is the tool used to write the image to the USB flash drive.

The HWID re-configuration procedure is outlined in the following flow chart:
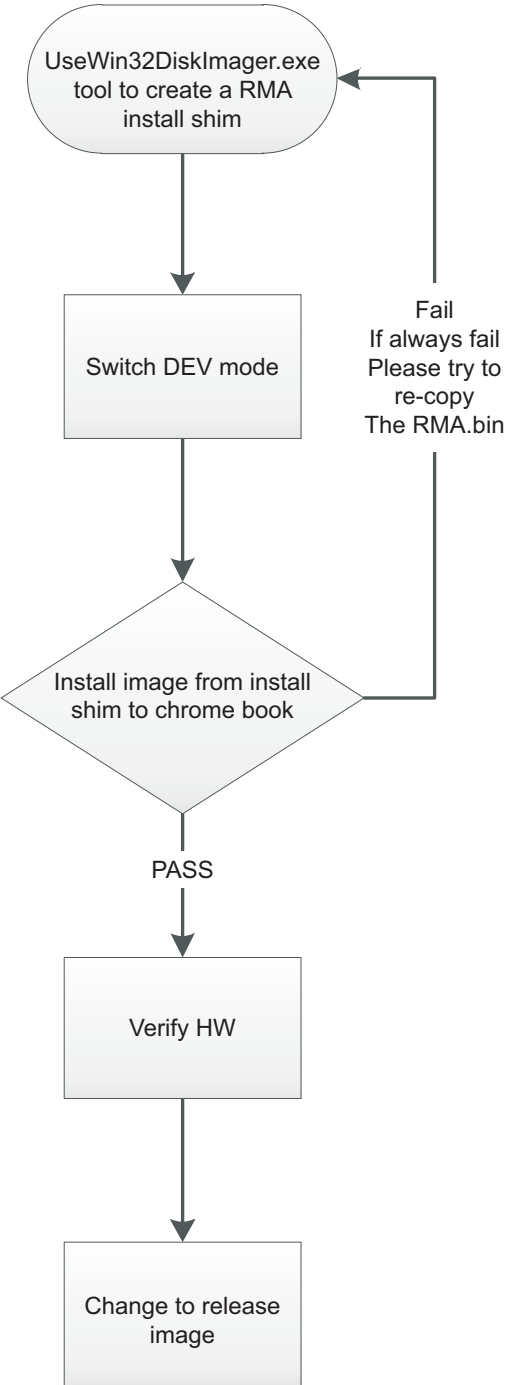
Figure 2-1.   HWID Re-Configuration Flow Chart

Creating RMA Shim Using "Win32DiskImager" in Windows

1. In another notebook or PC running Windows, create a new folder named **RMA Shim** and copy *Pasadena_ZAK_Sparky_Chester_ZAP_Bobba_Cambridge_ZAQ_Sparky_Prague_ZAN_Bobba360_Octopus_R72_RMA_shim_20190322V2.bin* and the *Win32DiskImager tool* folder in the RMA shim folder.
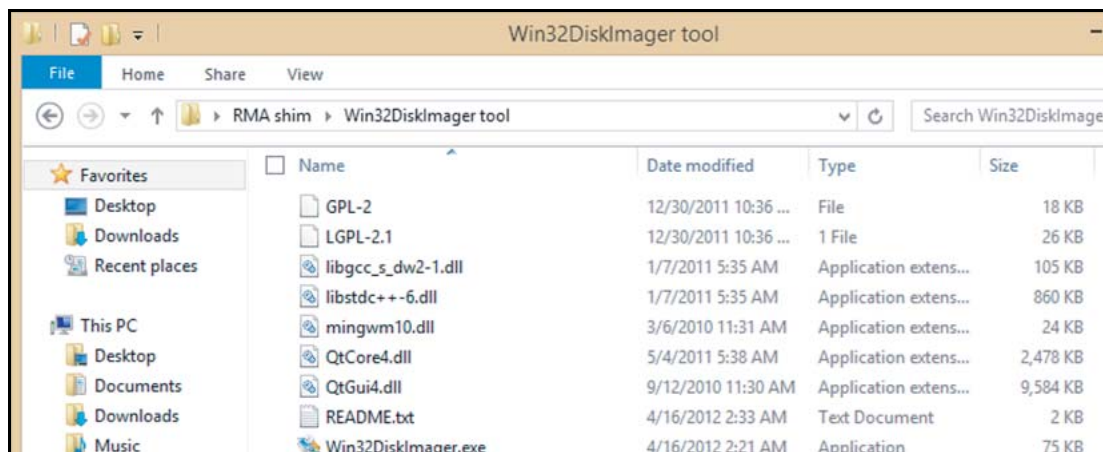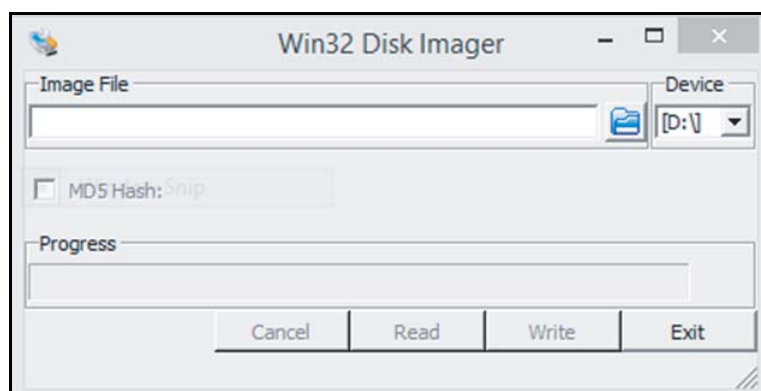

Figure 2-2.   Win32DiskImager Tool

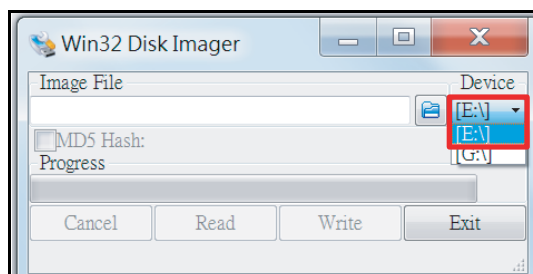2. Insert a USB flash drive or SD card (must be at least 8 GB of storage) into the notebook or PC running Windows.

Figure 2-3.   USB Disk

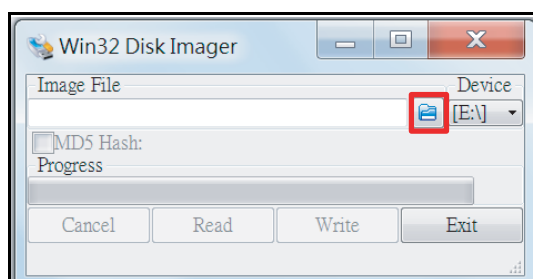3. Run Win32DiskImager.exe. The `Win32 Disk Imager` dialog box appears.

Figure 2-4.   Win32 Disk Imager

4. Select the drive name assigned to the USB2.0 drive label (example here is `E:\`).

Figure 2-5.   Win32 Disk Imager Drive

5. Click on the folder icon to popup `Select a disk image` window.

Figure 2-6.   Win32 Disk Imager Folder Selection

6. The `Select a disk image` window appears. Select *.* in the Save as type field to show all file types.

7. Select the *Pasadena_ZAK_Sparky_Chester_ZAP_Bobba_Cambridge_ZAQ_Sparky_Prague_ZAN_Bobba360_Octopus_R72_RMA_shim_20190322V2.bin* image file in the RMA shim folder.

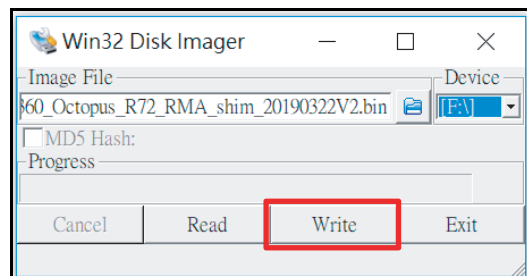8. Click `Open` and return to Win32 Disk Imager window.

Figure 2-7.   Win32 Disk Imager File Window

9. After saving the image file, the system will go back to the `Win32 Disk Imager` window, click `Write`.
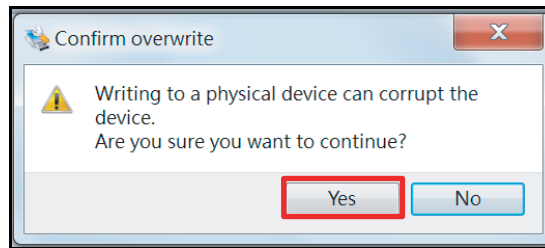
⇒ **NOTE:**

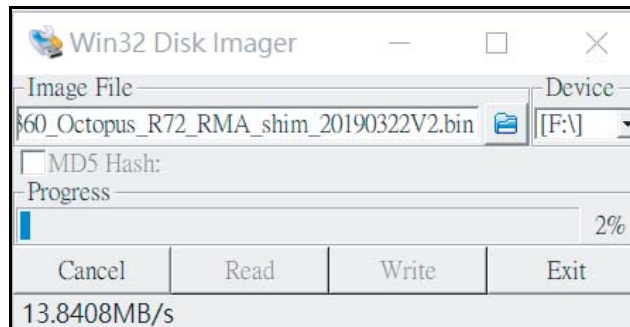   DO NOT click the "`Read`" button.

Figure 2-8.   Writing Disk

10. Click `Yes` to confirm your decision.
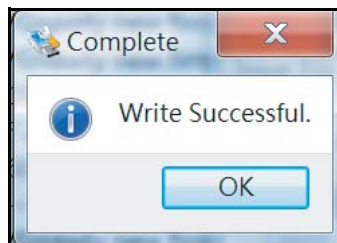

Figure 2-9.   Writing Confirmation

11. Win32 Disk Imager will begin writing the image and display the process as shown in Figure 2-10.

Figure 2-10.   Writing in Progress

12. Once the program has successfully written the image, the system shows `Write Successful` message. Click `OK`, and then remove the USB drive from the notebook or PC running Windows.

Figure 2-11.   Write Successful
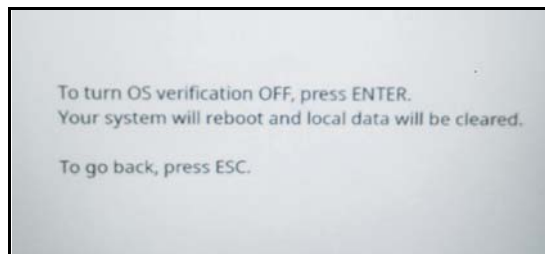
Switching into Developer Mode (DEV Mode)

1. Plug in the AC adapter.
2. Open the lid to turn on the system.
3. Press the *Esc + F3 + Power* keys simultaneously to enter Recovery Mode.

Figure 2-12. Insert a Recovery USB Stick or SD Card

4. When a message appears notifying you to insert a recovery USB stick or SD card, press *Ctrl + D* to change to Developer Mode.
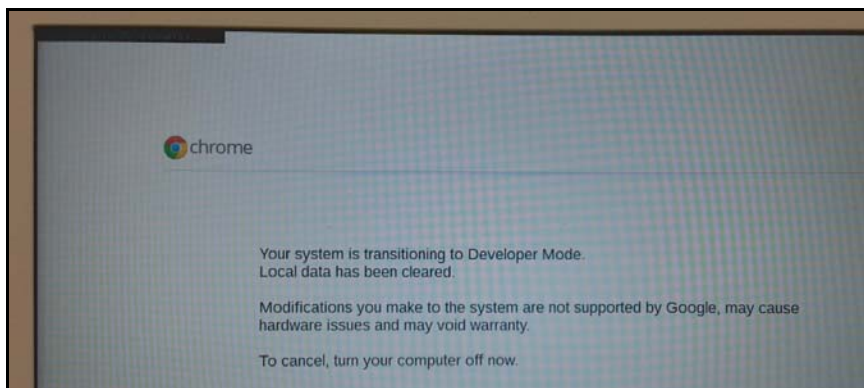

Figure 2-13. OP System Verification Off Screen

5. Press *Enter* to turn operating system verification off and clear local data. The system will then automatically reboot.

6. The system will clean the data and switch to Developer Mode. Wait about 30 seconds, and then the system will automatically transfer to the next step.

Figure 2-14.   Transitioning to Developer Mode Screen

7. A message will appear to indicate that the system is transitioning to Developer Mode. There is transition status on the top portion of the screen. This process may take about 5 minutes. Once this process finishes the system will automatically restart.
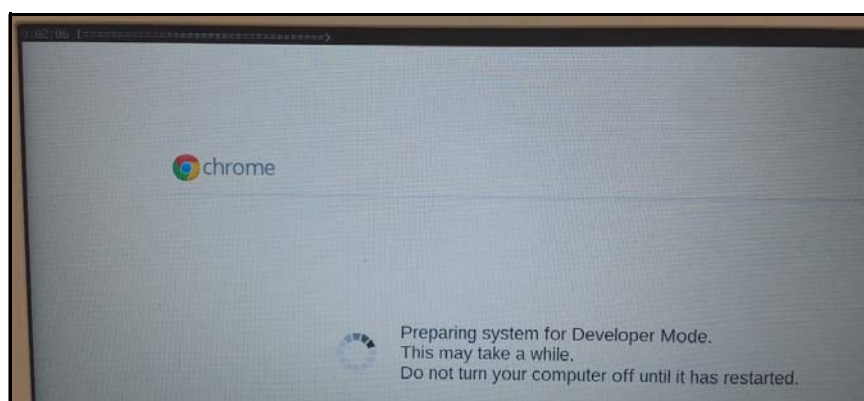

Figure 2-15.   Preparing System for Developer Mode Screen

8. Once the system restarts, a message will appear notifying you that OS verification is off (Figure 2-16). Press *Ctrl + D* to skip waiting time and wait about 30 seconds (after 20 seconds the system will beep twice) the system will restart.

9. When the `OS verification is OFF` message (Figure 2-16) is displayed, press the *Power* key to power off the system.
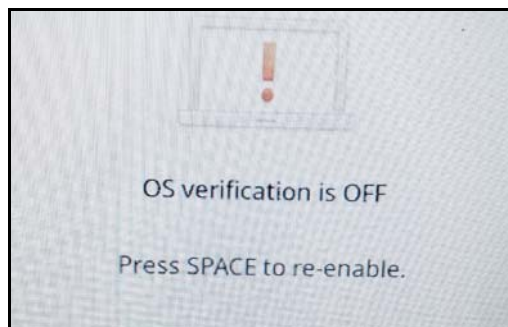
Figure 2-16.   OS Verification Off Screen

Install RMA Shim

1. Place the system on a stable work surface.
2. Remove the power adapter and all cables from the system.
3. Remove eleven (11) screws from the base cover (Figure 2-17).

Figure 2-17.   Base Cover Removal

4. Using a flat-headed tool, carefully pry open the base cover starting from the upper right corner of the base cover (Figure 2-18).

**Figure 2-18.   Base Cover Removal**

Then continue to pry the left and bottom sides to release the latches.

5. After all the latches are released, slightly lift the base cover to release it from the I/O connectors and then remove (Figure 2-19).

Figure 2-19.   Base Cover Removal

6. Disconnect the battery cable from the mainboard connector (Figure 2-20).

WEEE Annex VII Component: Battery
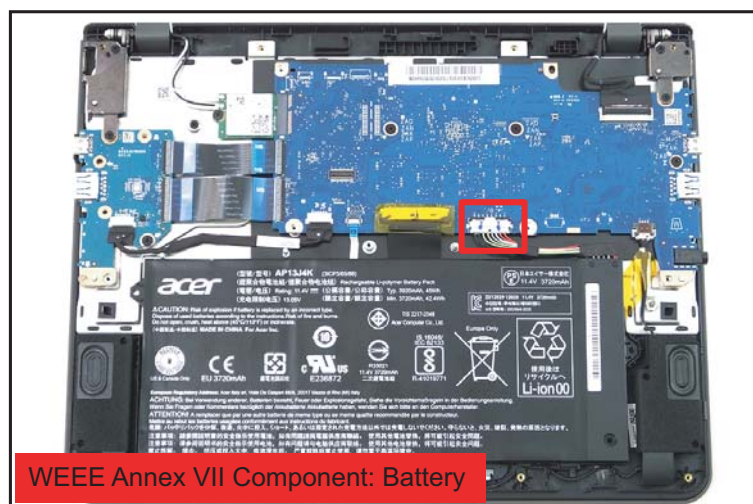
Figure 2-20.   Battery Cable Disconnection

7. Carefully place the base cover onto the top assembly and slide the base cover onto the top of the system as indicated by the yellow line. Make sure that the edges of the base cover are aligned properly to those of the top assembly (Figure 2-21).


Figure 2-21.   Replacing the Base Cover

8. Make sure the base cover fits into the top assembly then press along the sides of the base cover to engage all latches (Figure 2-22).

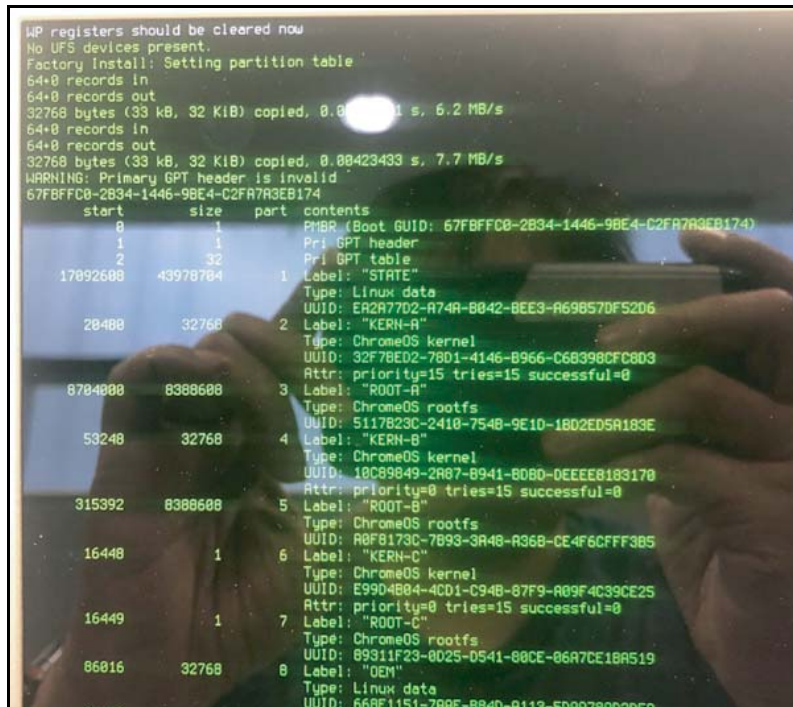**Figure 2-22. Replacing the Base Cover**

9. Plug in the AC adapter. Then press *Esc + Power + Refresh (F3)* keys.

10. When the system displays `Please insert a recovery USB stick or SD card` message on the screen, plug in the USB disk with RMA Shim (Figure 2-23).
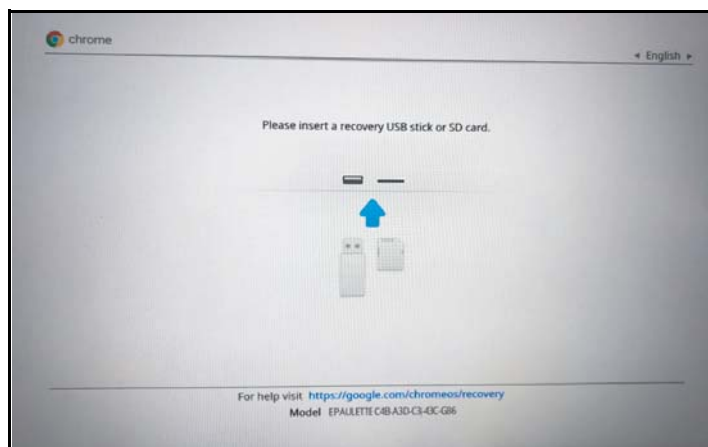


Figure 2-23. Insert a Recovery USB Stick or SD Card

11. After the USB disk is inserted, the system starts installing RMA shim. The system will display the RAM shim installation process as shown in Figure 2-24.

Figure 2-24.   Installation Process

12. The system will restart automatically when RMA image installation is completed. Unplug the USB RMA drive and AC adapter from the machine during the restart.

13. Repeat steps 4 to 5 to remove the base cover.

14. Connect the battery cable to the mainboard connector (Figure 2-25).
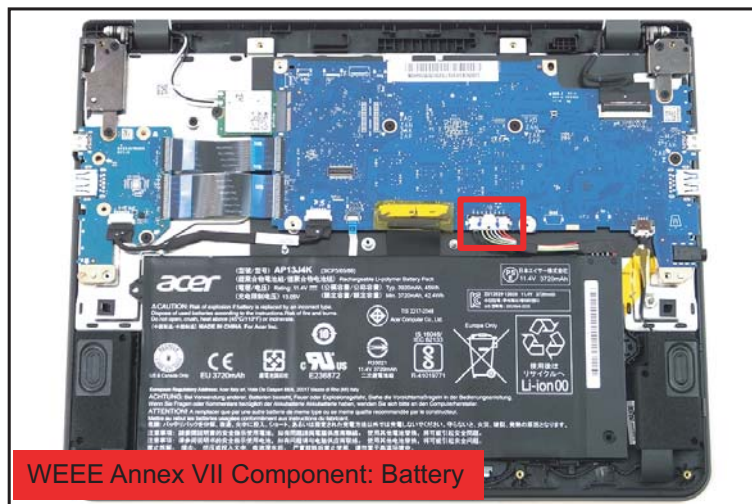
Figure 2-25.   Battery Cable Connection

15. Repeat steps 7-8 to install the base cover.

16. Install eleven (11) screws to secure the base cover in place (Figure 2-26).

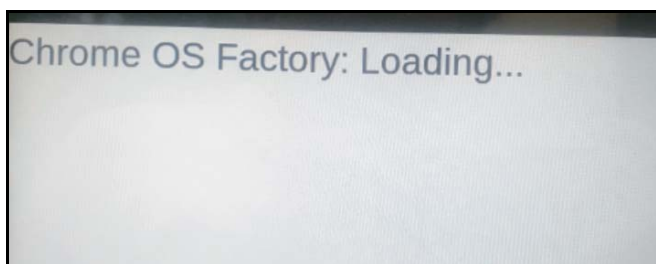**Figure 2-26.   Replacing the Base Cover**

Run RMA Shim Process

1. Plug in the AC adapter and open the lid to turn on the system.
2. The system will restart automatically when RMA image installation is completed and automatically boot to Factory Test mode. The restart will take about 30-60 seconds.
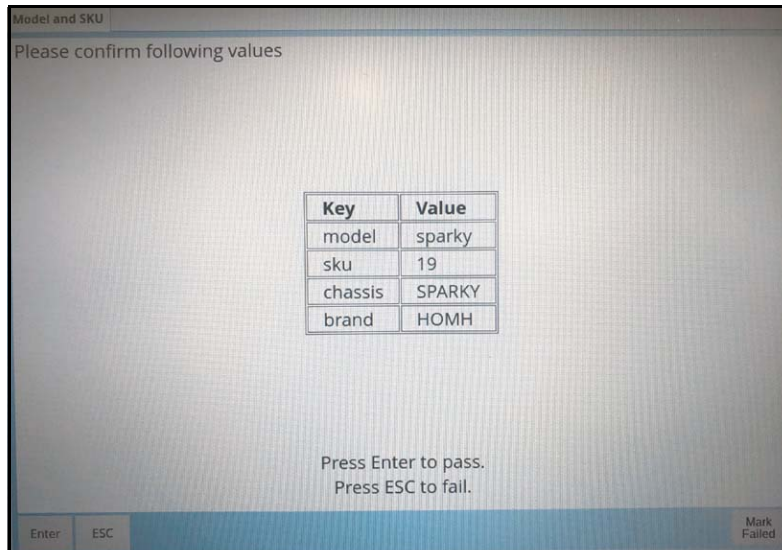

Figure 2-27.   Factory Test Mode (1 of 2)

Figure 2-28.   Factory Test Mode (2 of 2)

Start the RMA Tests

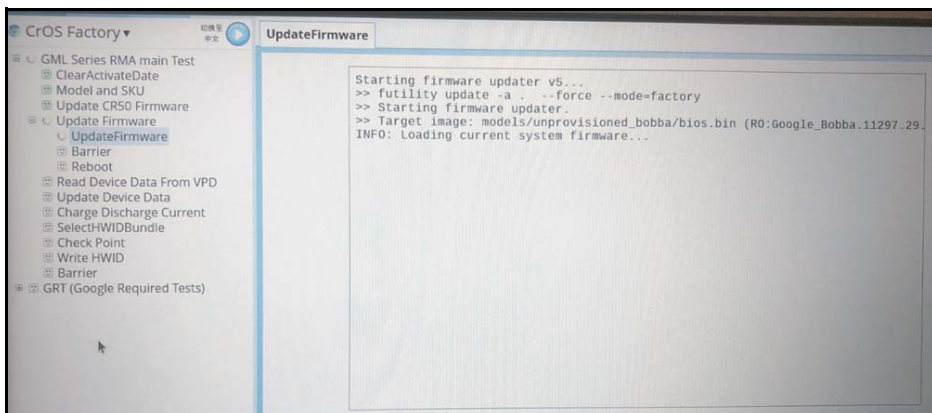1. Verify the model name and SKU. Then press *Enter* to pass.

Figure 2-29. Model and SKU Screen

2. Update the firmware. This procedure will take about 30-60 seconds.
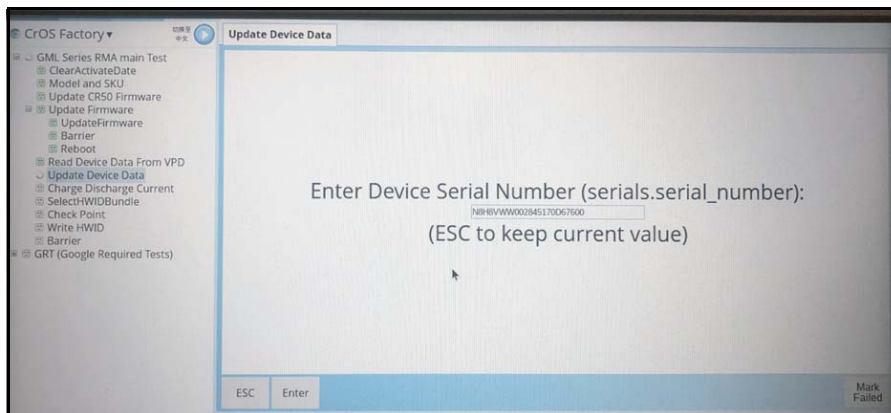

Figure 2-30. Firmware Update Screen
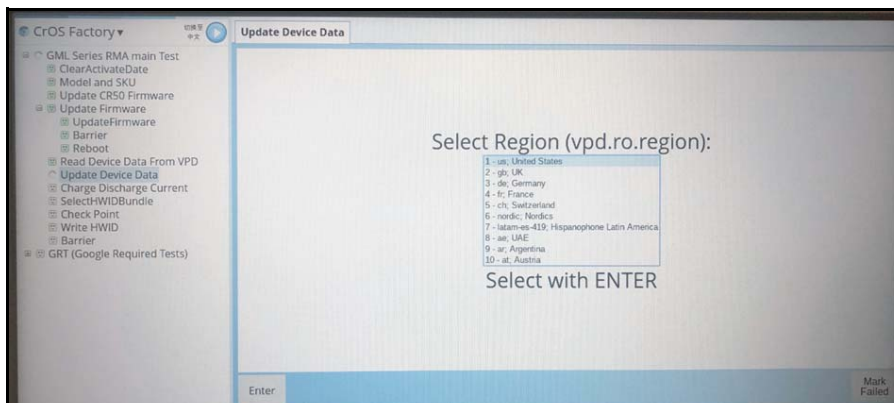
3. Update device data.

   a) Type in the serial number to `Enter Device Serial Number (serials.serial_number):` field.

Figure 2-31.   Enter Device Serial Number

   b) Select the region.

Figure 2-32.   Select the Region

4. The test continues with `Write_HWID` procedure.

5. The test status for GRT (Google Required Tests) is displayed on `Check Point for All Tests` screen.Click or press on *Space* to continue.
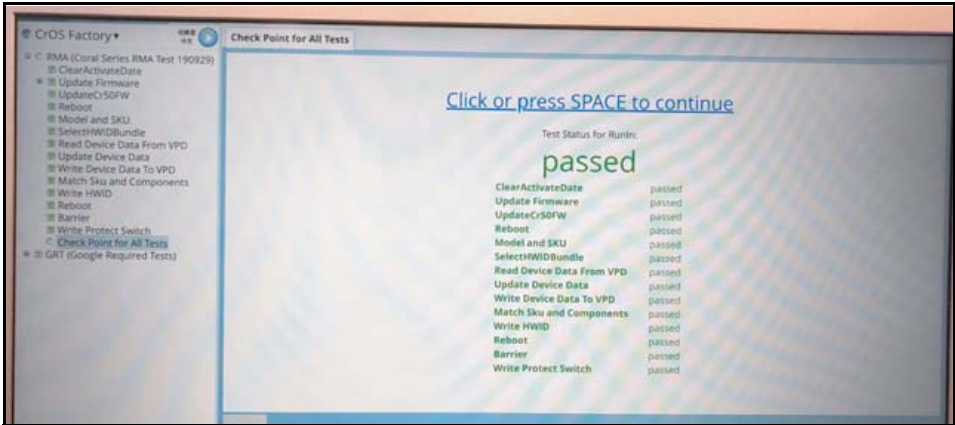
Figure 2-33.   Test Status for GRT

6. The system starts running the Finalize procedure. Wait until finalizing is completed.

⇒ **NOTE:**

Do NOT restart the system or terminate the test manually during the finalize procedure.

a) The system begins to wipe image. Wait until the procedure is completed.

Figure 2-34.   Factory Wiping Screen

b) Please remove the AC power for battery cut-off. Then the system will reboot.

Figure 2-35. Unplug the AC Adapter

c) The system turns on and displays the OOBE screen. This indicates the RAM shim process is complete.
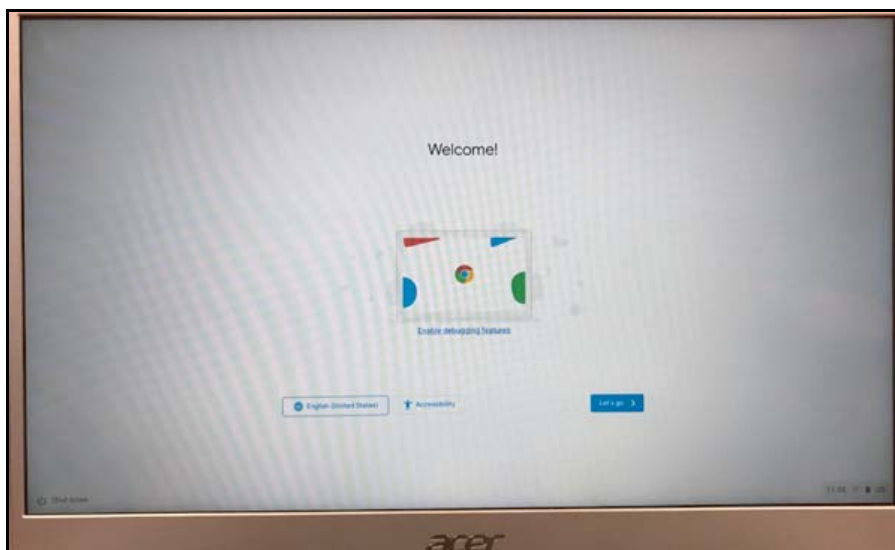
Figure 2-36. OOBE Screen

Start the FFT Test

Prior running the RMA Shim, you need to switch the device to FFT mode.

1. Press *Ctrl + Alt + o* simultaneously to enter CrOS mode.

Figure 2-37.   Ctrl + Alt + o Key Location

2. Type *cros* in the `Password` field and click `OK` to begin the test.
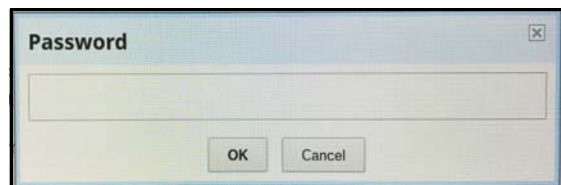
Figure 2-38.   FFT Tests

3. Select `CrOS Factory` > `Switch test list` > GML Series RMA FFT Test-List.
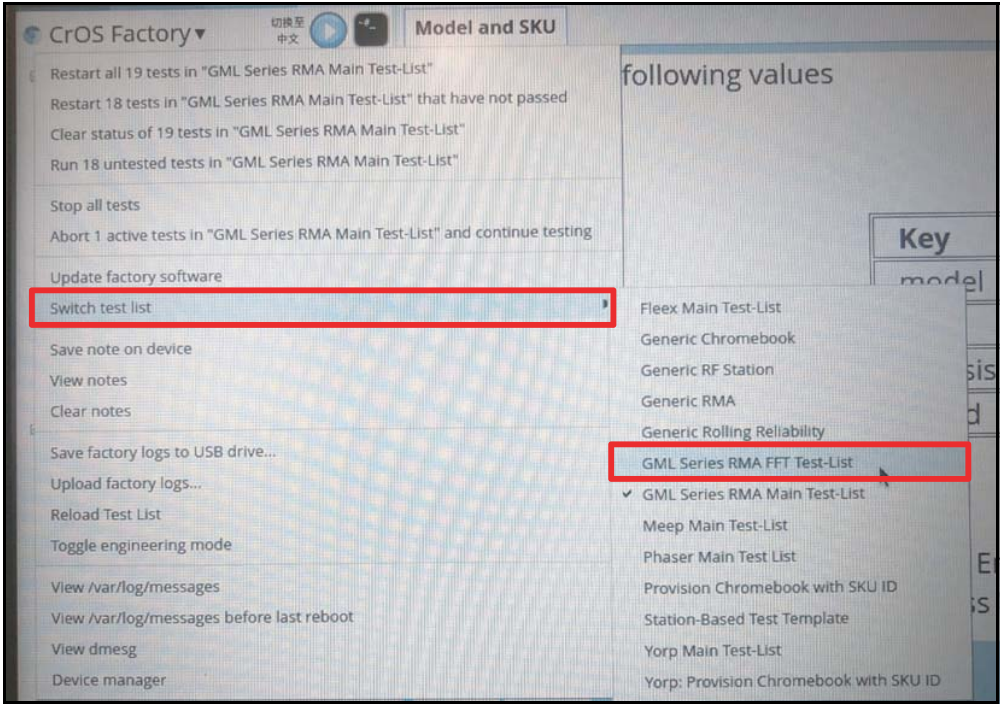
Figure 2-39.   Start GML Series RMA FFT Tests

4. Confirm your decision in the pop-up window. The GML Series RMA FFT test will start.
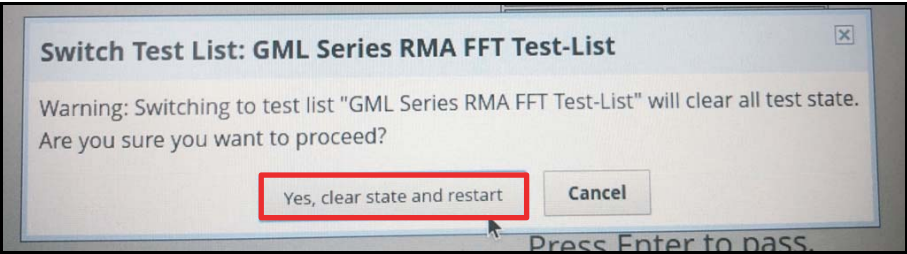
Figure 2-40.   Confirmation Window

Conventions

Model and SKU

Verify the model name and SKU. Then press *Enter* to pass.
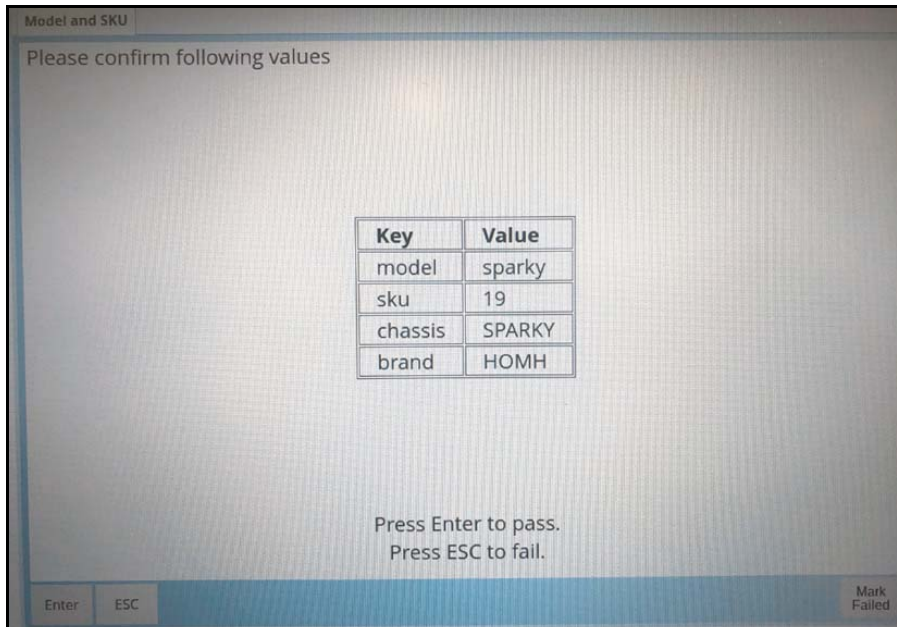
Figure 2-41.   Model and SKU Test

WiFi Test

1.   Turn on the WiFi device.
2.   Test will start automatically.

Bluetooth Test

1. Place the Bluetooth device near the system.
2. Turn on the Bluetooth device.
3. Enable Bluetooth on the device.
4. Press *Enter*.
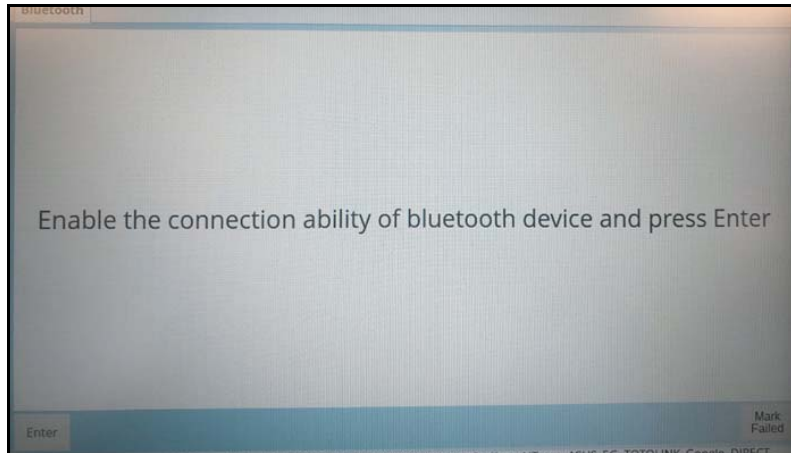
Figure 2-42.   Bluetooth Test

DisplayPoint

1. Press *Space* to test the display point and start the points check.
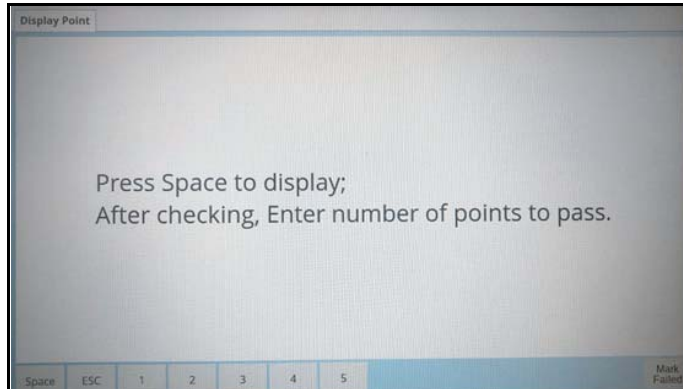
Figure 2-43. Display Point Test

2. Check if there is any point shown. Press *Space*.

Figure 2-44. Display Point Test

3. Enter the number of points found.

4. Check the points quantity on the screen. Press *Space*.

Figure 2-45.   Display Point Test

5. Enter the number of points found.

Display Test

1. Press *Space* to test the color listed in the display test.
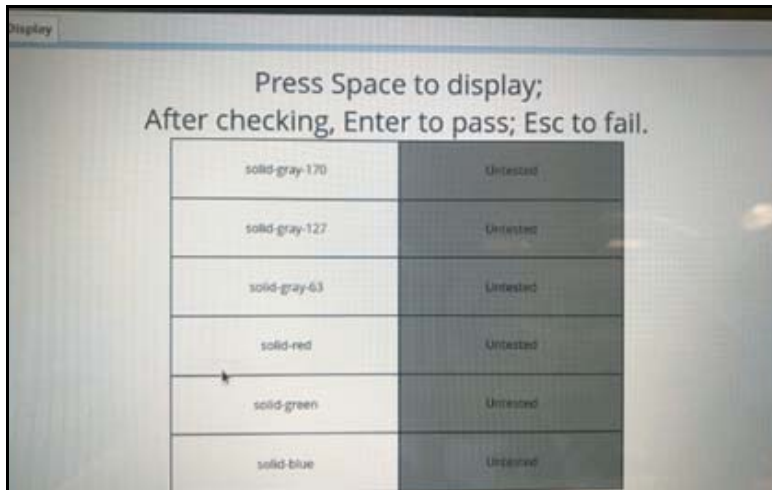
Figure 2-46.   Display Test

2. If the color displayed on the screen matches the color listed in the display test press *Enter*.

⇒ **NOTE:**

   If the color displayed on the screen does not match with the description, press *Esc*.
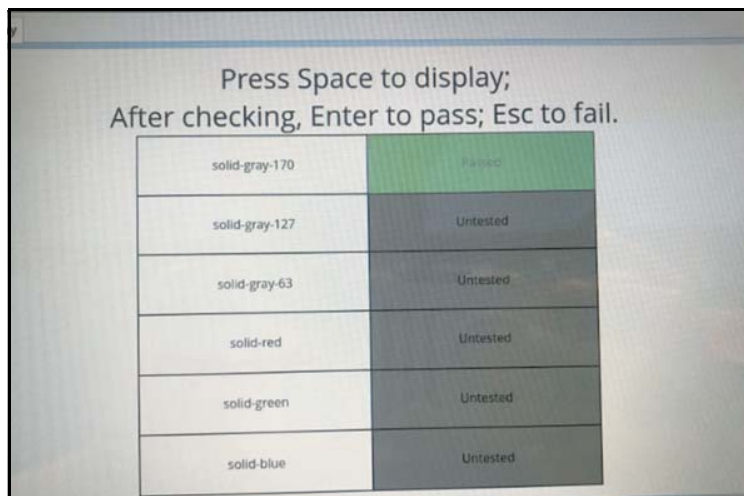
Figure 2-47.   Display Test

3. Repeat this process for each color listed in the display test.

LED Test

1. Press the *number* key according to the LED color.
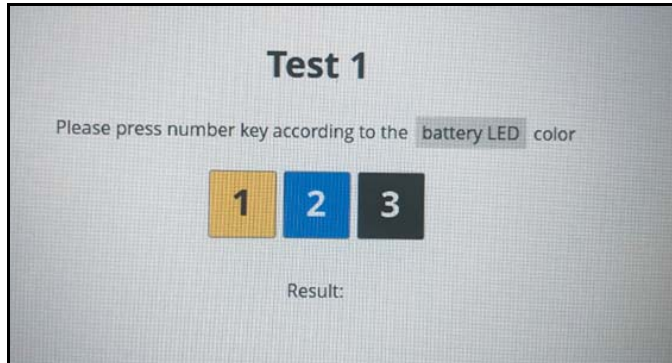
Figure 2-48.   LED Test

Figure 2-49.   Battery LED Location

2. Repeat step 1 until the test is completed.

Backlight Test

1. Press *Space* to change the backlight brightness. Then press *Esc* to reset the backlight brightness to its default setting.
2. After checking, enter H if pressing *Space* changes the backlight to be brighter. Otherwise, enter L if pressing *Space* changes the backlight to be dimmer.

Backlight

Press Space to change backlight brightness;
Press Esc to reset backlight brightness to original;
After checking, Enter H if pressing Space changes the backlight to be brighter;
Enter L if pressing Space changes the backlight to be dimmer.
This test will be executed twice.
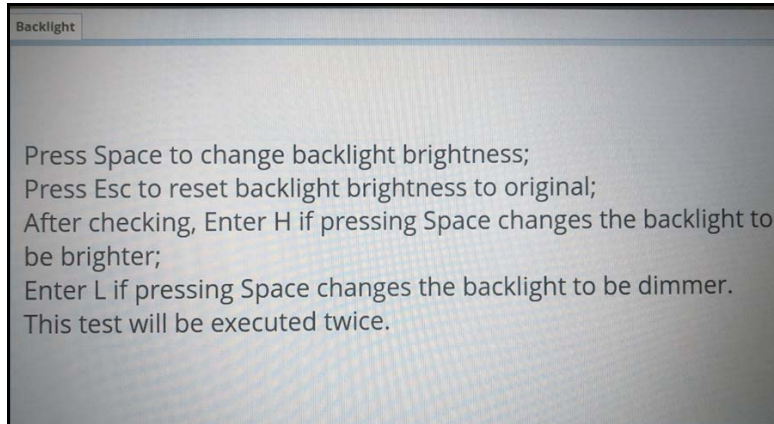
Figure 2-50.   Backlight Test

3. Repeat step 1 and 2 twice.

Front Camera Test

Press **_Enter_** to pass if the image from the integrated webcam appears on screen, or press **_Esc_** to fail.
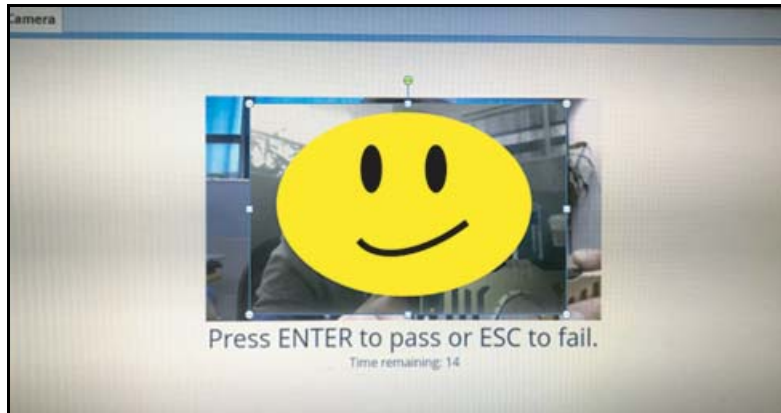
Figure 2-51.   Front Camera Test

Rear Camera Test

Press **_Enter_** to pass if the image from the integrated webcam appears on screen, or press **_Esc_** to fail.

Figure 2-52.   Rear Camera Test

SD Performance Test

1. Insert an SD card to the card reader.

⚠ CAUTION:

> Any data in the inserted SD card reader will cleared during the card reader test. Please ensure that you either use an empty SD card or backup all the data located in the drive before you proceed with the card reader test.

Figure 2-53. SD Performance Test

2. Remove the SD card when you see the message instructing you to do so.

Figure 2-54. SD Performance Test

Touchpad Test

Please take off your fingers and then press **Space** to start testing.

1. Place one finger on the touchpad and move your finger in the all area.
2. Place 2 fingers on the touch pad. One finger hold. Other One finger on the right edge of the touchpad and slide the finger up to down.
3. Click left-Top/Left bottom/Right-Top/Right-Bottom by one finger. Repeat the same procedure for each item 3 times.
4. Place 2 fingers on the touch pad and click it 10 times.

Figure 2-55. Touchpad Test

Touchscreen Test

1. Draw blocks on the screen beginning from upper left corner in a sequence.
2. Press *Esc* if the test fails.
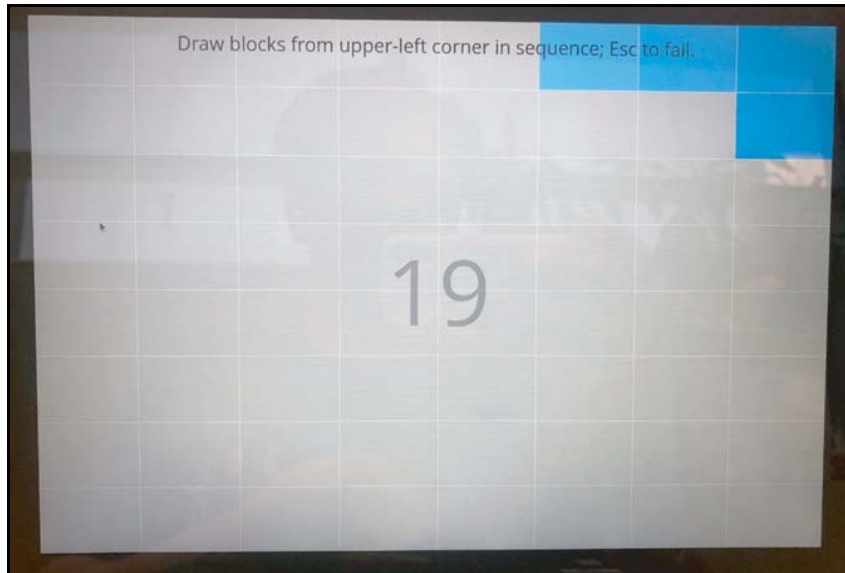
Figure 2-56.   Touchscreen Test

Keyboard Test

Press the keyboard keys from left to right and top to bottom, except for the **Power** key.
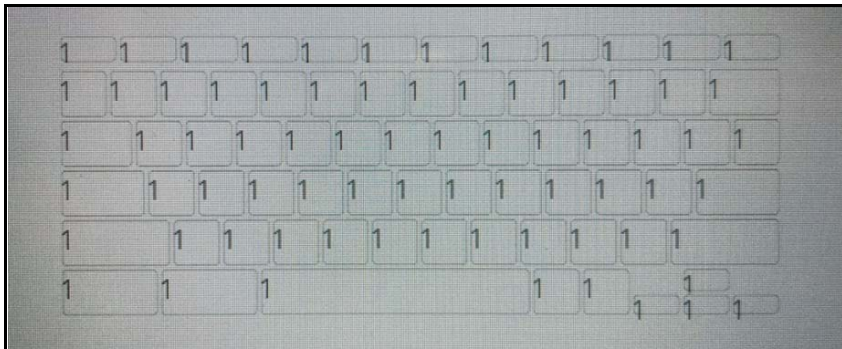
Figure 2-57.   Keyboard Test

USB Port Type A 3.0 Test (Left Side)

1. Insert a USB 3.0 drive to the USB port on the left side of the notebook.

⚠ CAUTION:

> Any data in the inserted USB drive will cleared during the USB test. Please
> ensure that you either use an empty USB drive or backup all the data located
> in the drive before you proceed with the USB test.

Figure 2-58.   USB 3.0 Performance Test

2. Remove the USB 3.0 drive when you see the message instructing you to do so.
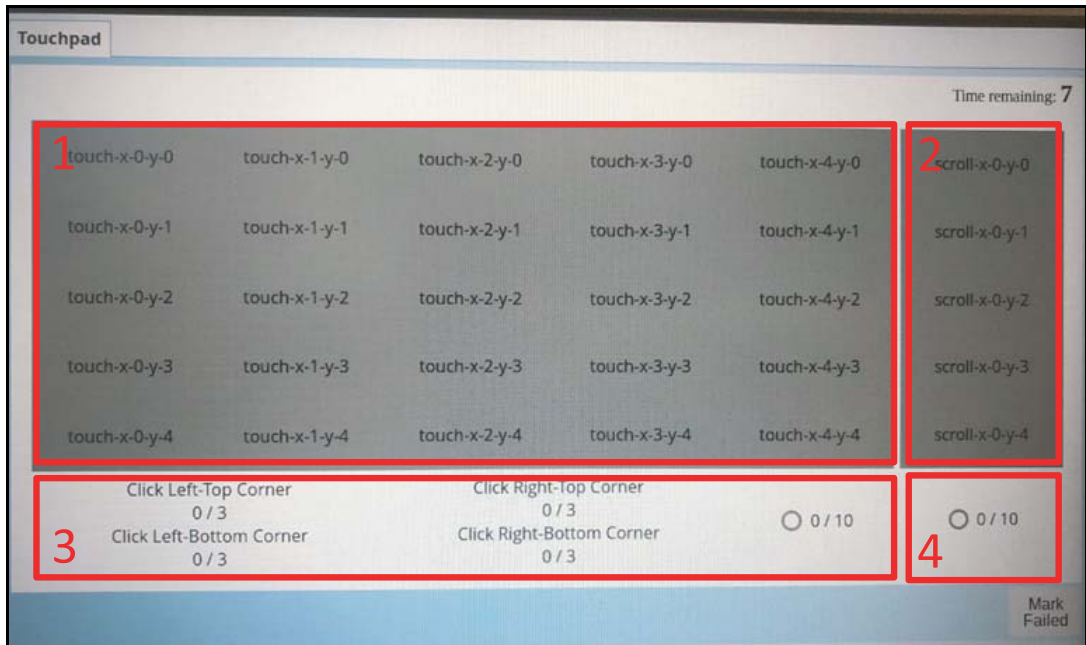

Figure 2-59.   USB 3.0 Performance Test

USB Port Type A 2.0 Test (Left Side)

1. Insert a USB 2.0 drive to the USB port on the left side of the notebook.

⚠ CAUTION:

Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-60.   USB 2.0 Performance Test

2. Remove the USB 2.0 drive when you see the message instructing you to do so.

Figure 2-61.   USB 2.0 Performance Test

USB Port Type A 3.0 Test (Right Side)

1. Insert a USB 3.0 drive to the USB port on the right side of the notebook.

⚠ **CAUTION:**

>   Any data in the inserted USB drive will cleared during the USB test. Please
>   ensure that you either use an empty USB drive or backup all the data located
>   in the drive before you proceed with the USB test.

Figure 2-62.   USB 3.0 Performance Test

2. Remove the USB 3.0 drive when you see the message instructing you to do so.

Figure 2-63.   USB 3.0 Performance Test

USB Port Type A 2.0 Test (Right Side)

1. Insert a USB 2.0 drive to the USB port on the right side of the notebook.

⚠ CAUTION:

Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-64.   USB 2.0 Performance Test

2. Remove the USB 2.0 drive when you see the message instructing you to do so.

Figure 2-65.   USB 2.0 Performance Test

USB Port Type C 3.0 Test (Left Side; CC1)

1. Insert a USB 3.0 drive to the USB port on the left side of the notebook.

⚠ CAUTION:

> Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-66.   USB 3.0 CC1 Performance Test

Figure 2-67.   USB Port Location

2. Remove the USB 3.0 drive when you see the message instructing you to do so.

Figure 2-68.   USB 3.0 CC1 Performance Test

USB Port Type C 3.0 Test (Left Side; CC2)

1. Insert a USB 3.0 drive to the USB port on the left side of the notebook.

⚠ CAUTION:

Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-69.   USB 3.0 CC2 Performance Test

Figure 2-70.   USB Port Location

2. Remove the USB 3.0 drive when you see the message instructing you to do so.

Figure 2-71.   USB 3.0 CC2 Performance Test

USB Port 2.0 Test

1. Insert a USB 2.0 drive to the USB port on the left side of the notebook.

⚠ CAUTION:

> Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-72. USB 2.0 Performance Test

Figure 2-73. USB Port Location

2. Remove the USB 2.0 drive when you see the message instructing you to do so.

Figure 2-74. USB 2.0 Performance Test

USB 3.0 External Display Test

1. Connect the system to an external display via the USB port type C 3.0 located at the left side of the system.
2. Press the number displayed on the screen to finish the test.

Figure 2-75.   USB 3.0 External Display Test

3. Disconnect the external display.

Figure 2-76.   USB 3.0 External Display Test

USB Port Type C 3.0 Test (Right Side; CC1)

1. Insert a USB 3.0 drive to the USB port on the right side of the notebook.

⚠ CAUTION:

Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-77.   USB 3.0 CC1 Performance Test
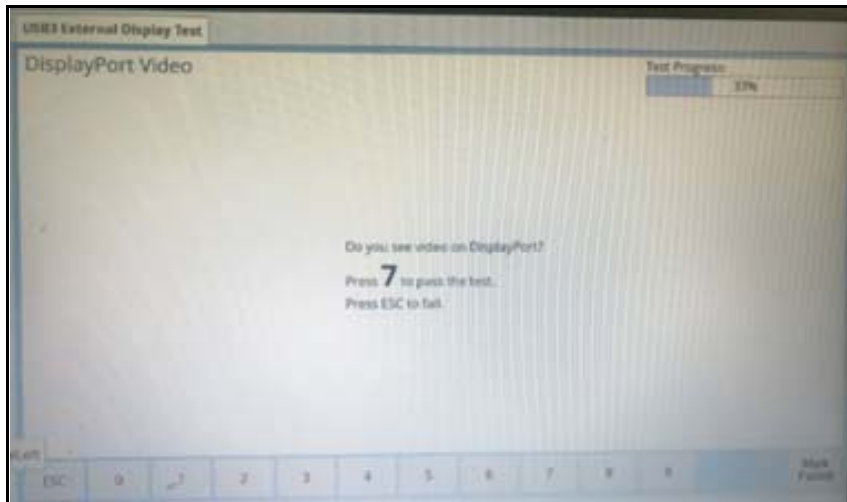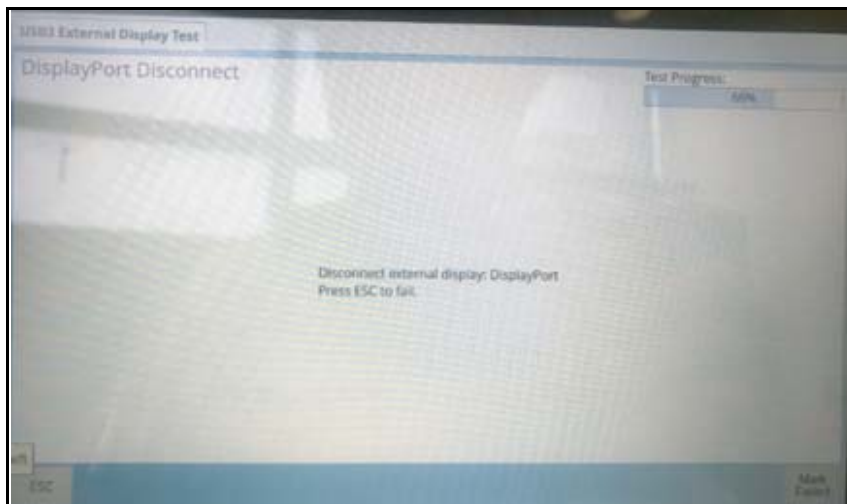

Figure 2-78.   USB Port Location

2. Remove the USB 3.0 drive when you see the message instructing you to do so.

Figure 2-79.   USB 3.0 CC1 Performance Test

USB Port Type C 3.0 Test (Right Side; CC2)

1. Insert a USB 3.0 drive to the USB port on the right side of the notebook.

⚠ CAUTION:

Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.

Figure 2-80.   USB 3.0 CC2 Performance Test

Figure 2-81.   USB Port Location

2. Remove the USB 3.0 drive when you see the message instructing you to do so.

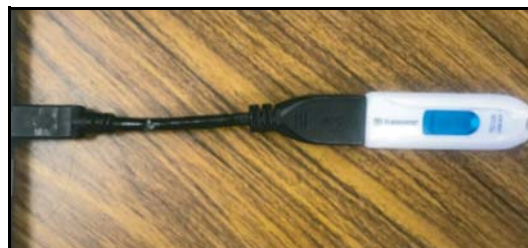**Figure 2-82.   USB 3.0 CC2 Performance Test**

USB Port 2.0 Test

1. Insert a USB 2.0 drive to the USB port on the right side of the notebook.

⚠ CAUTION:

> Any data in the inserted USB drive will cleared during the USB test. Please ensure that you either use an empty USB drive or backup all the data located in the drive before you proceed with the USB test.
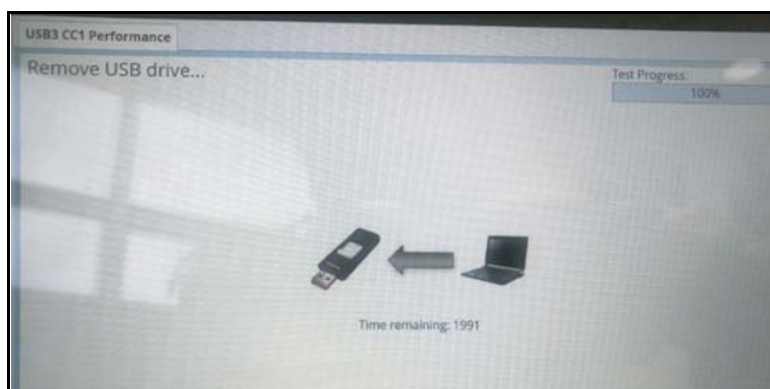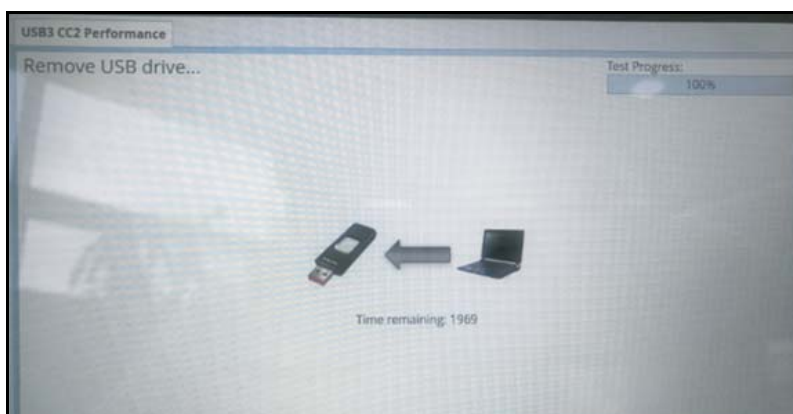

Figure 2-83.   USB 2.0 Performance Test

Figure 2-84.   USB Port Location

2. Remove the USB 2.0 drive when you see the message instructing you to do so.

Figure 2-85.   USB 2.0 Performance Test

USB 3.0 External Display Test

1. Connect the system to an external display via the USB port type C 3.0 located at the right side of the system.
2. Press the number displayed on the screen to finish the test.
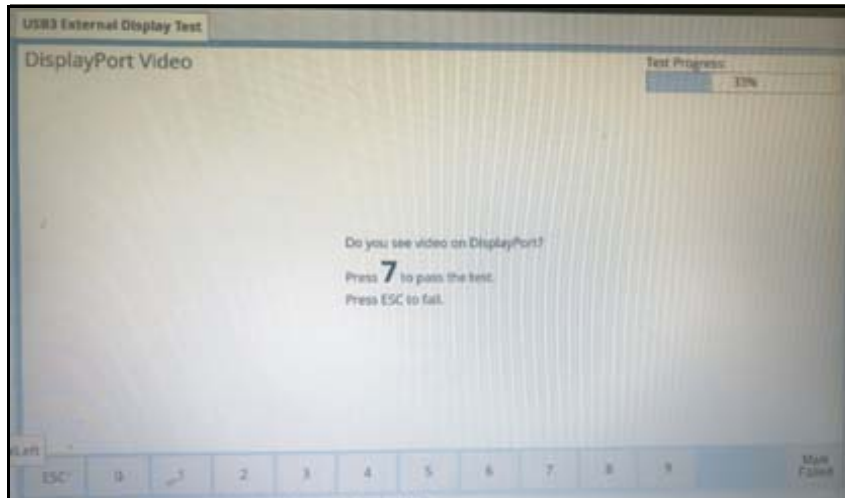
Figure 2-86.   USB 3.0 External Display Test

3. Disconnect the external display.
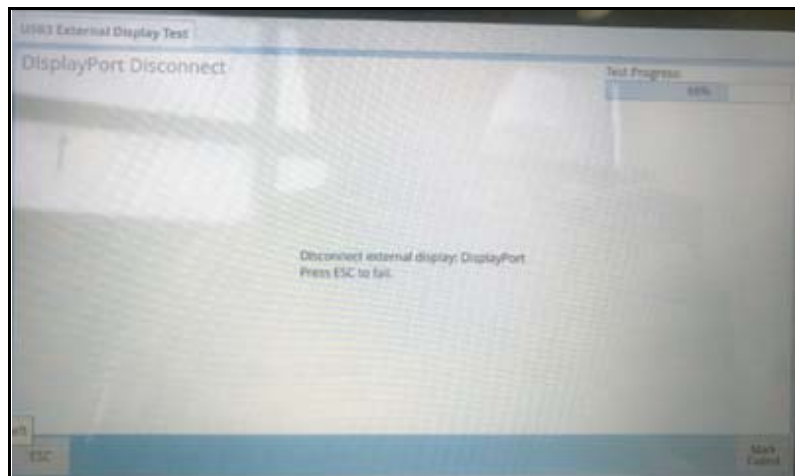
Figure 2-87.   USB 3.0 External Display Test

Stylus Test

1. Press *Space* to start testing.
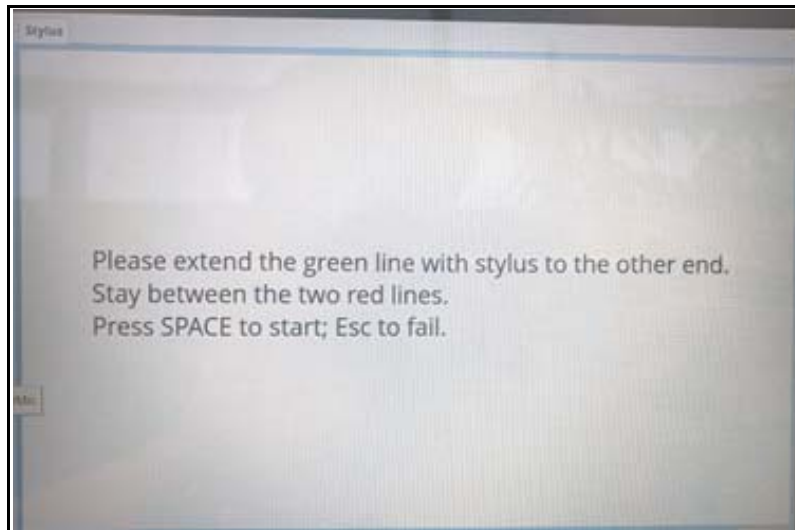
Figure 2-88.   Stylus Test

2. Use stylus pen to draw the line form top to down inside the red area.

Figure 2-89.   Stylus Test

Speaker / Microphone Test

Automatic test.

Accelerometer Test

a) Lid Accelerometers Auto calibration: Please put device on a horizontal plane and then press *Space* to start calibration.
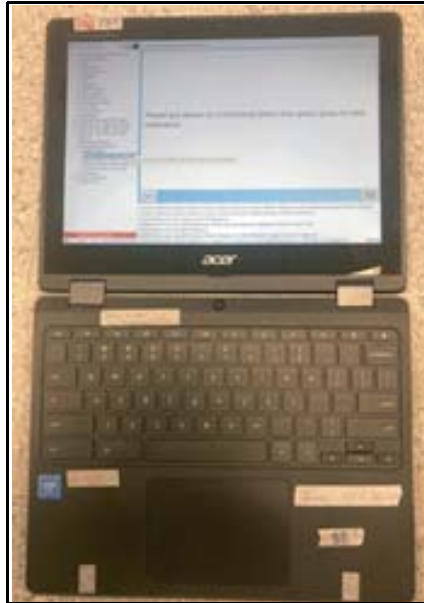
Figure 2-90. Lid Accelerometer Test

b) Base Accelerometers Auto calibration ZAQ: Please put device on a horizontal plane and then press *Space* to start calibration.

Figure 2-91. Base Accelerometer Test

c) Accelerometers Lid Angle: Please open the lid to 180 degrees and then press *Space* to start testing.

Figure 2-92.   Accelerometer Lid Angle Test

Gyroscope Test

a) Enable Gyroscope: Please put the device I face-up position and then press *Enter* to continue.

b) Gyroscope Calibration: Auto Calibration.
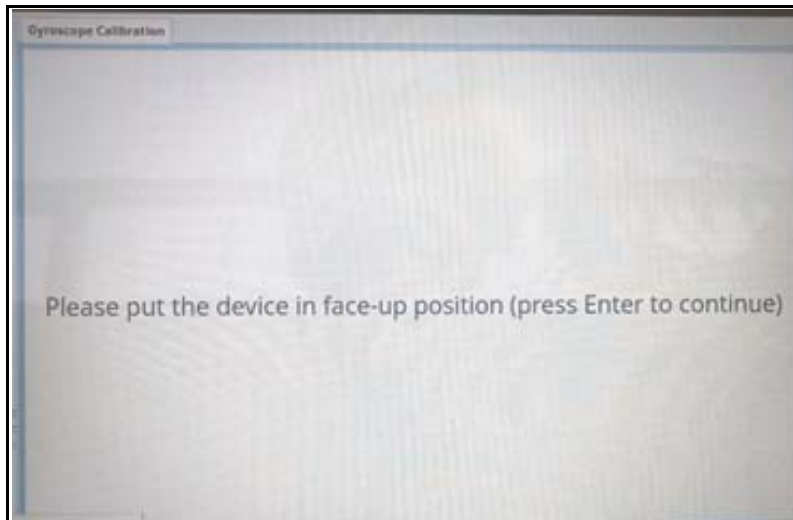
Figure 2-93.   Gyroscope Test

c) Gyroscope: Please rotate the device.
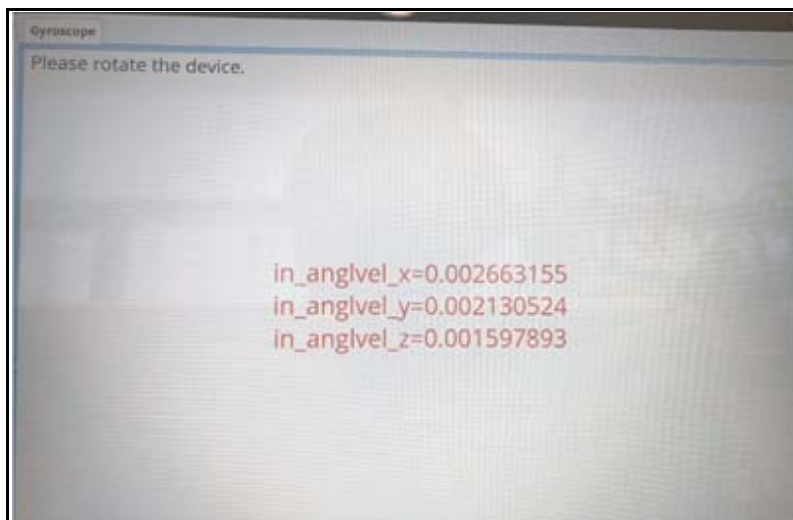
Figure 2-94.   Gyroscope Test

Screen Rotation Test

a) Tablet mode

Flip the lid into tablet mode, then tap `Confirm tablet mode` to start test.
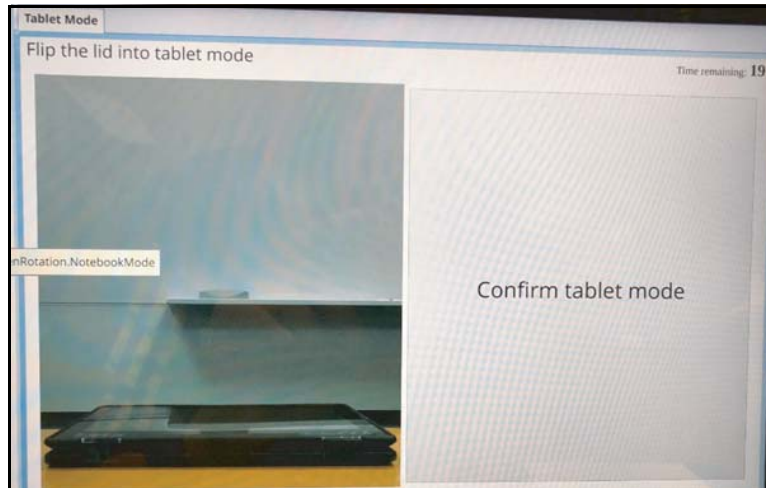
Figure 2-95.   Tablet Mode Test

b) Tablet Rotation Base-Accel

1.   Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
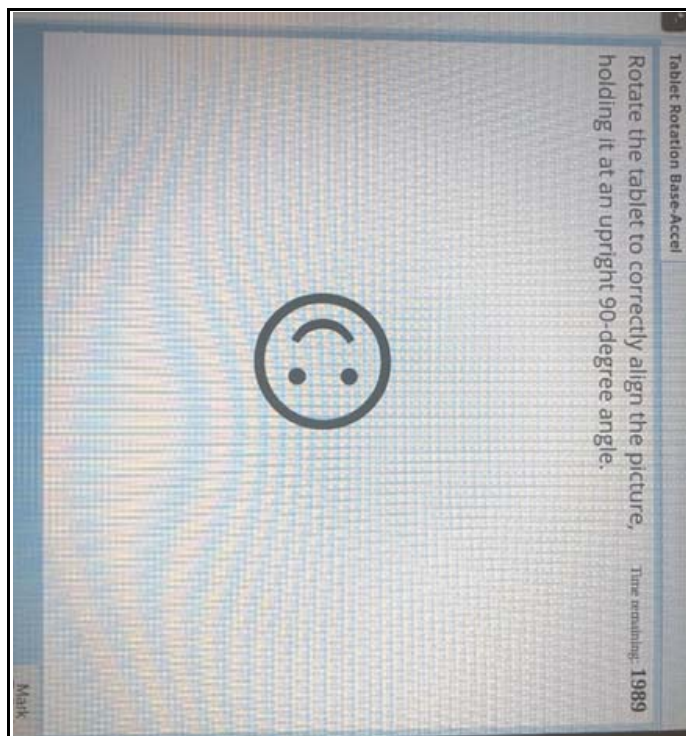
Figure 2-96.   Tablet Rotation Base-Accel Test

2. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
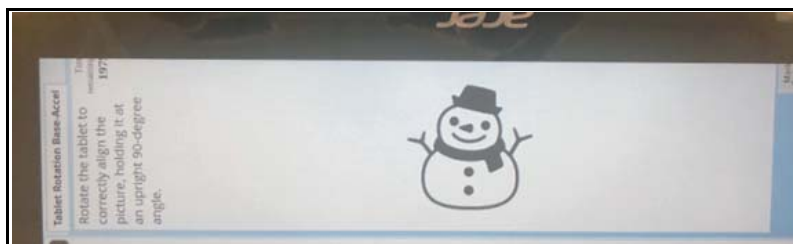
Figure 2-97.   Tablet Rotation Base-Accel Test

3. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
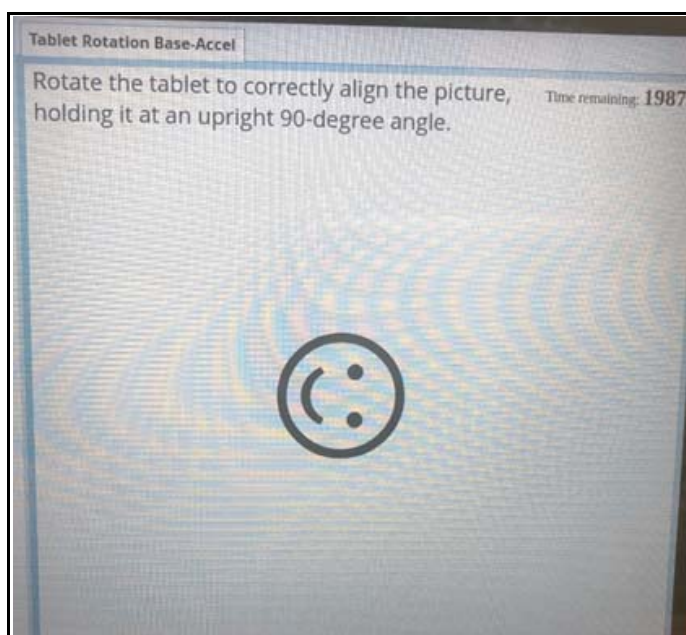
Figure 2-98.   Tablet Rotation Base-Accel Test

4. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.

Figure 2-99.   Tablet Rotation Base-Accel Test

c) Tablet Rotation Lid-Accel

1. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
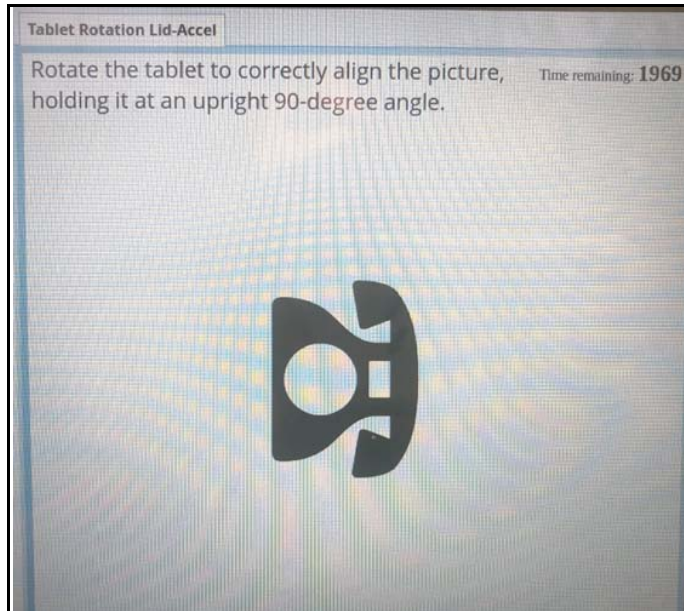
Figure 2-100.   Tablet Rotation Lid-Accel Test

2. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
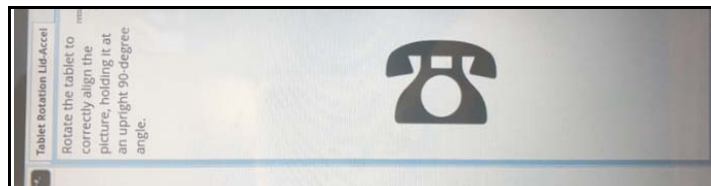
Figure 2-101.   Tablet Rotation Lid-Accel Test

3. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
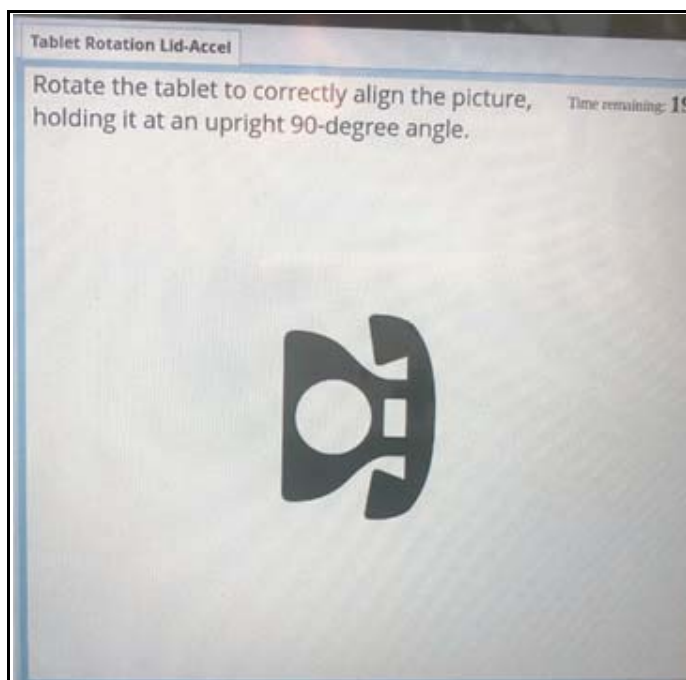
Figure 2-102.   Tablet Rotation Lid-Accel Test

4. Rotate the tablet to correctly align the picture, holding it at an upright 90-degree angle.
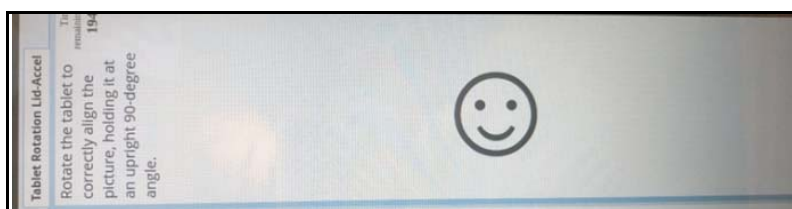
Figure 2-103.   Tablet Rotation Lid-Accel Test

Notebook Mode Test

Open the lid back to notebook mode and press **Space** to confirm notebook mode.
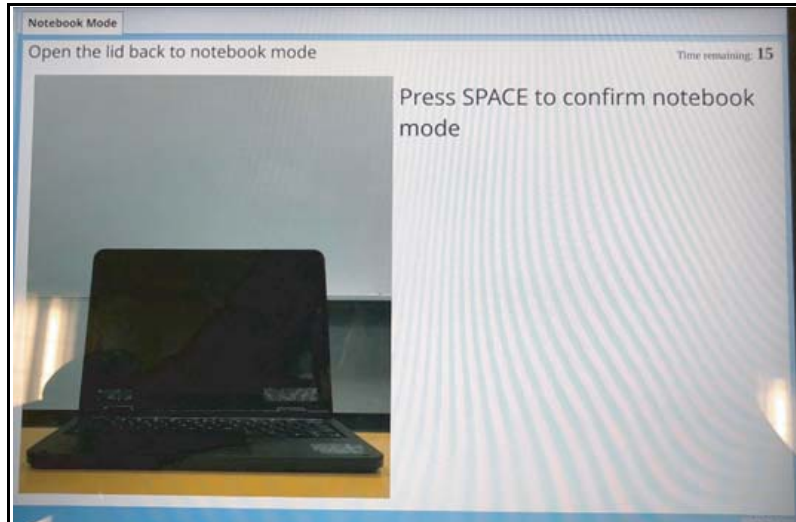
Figure 2-104.   Notebook Mode Test

Finish the Test

To finish the test, click or press on *Space* to continue.

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 power adapter from the USB Type-C port (A or B) as shown in Figure 3-1 or Figure 3-2.
3. Remove all cables from system.
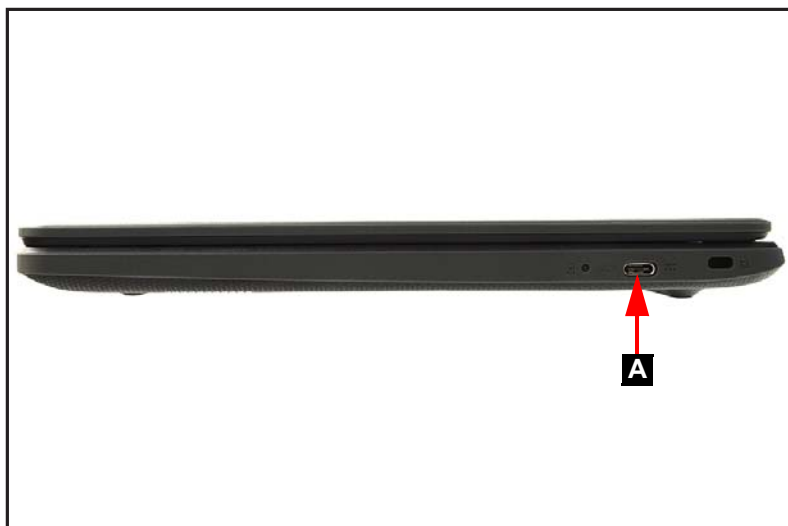
Figure 3-1. AC Adapter Outlet

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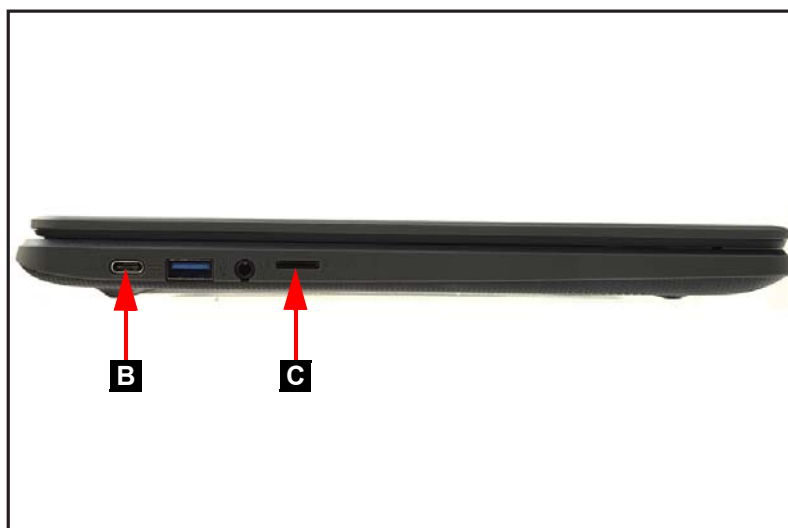
Figure 3-2. MicroSD Card Removal

➯ **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 mainboard, remove first the Base Cover, Battery, fan module, and heatsink in that order.

Table 3-1.   Main Screw List

Size	Quantity	Acer Part No.
SCREW M2.0*4-I*(BNI)(NYLOK)	8	86.N1407.004
SCREW M2.0*3.0-I(BZN)(NYLOK)IRON	8	86.GDEN7.001
SCREW M2.0*3.0-I(NI)(NYLOK)IRON	1	86.MQNN7.002
SCREW M2.0*6.6-I(BNI)D4.5(NYLOK)	10	86.EF2N7.002
SCREW M2.5*2.5-I(BNI)(NYLOK)T=0.6	6	86.SHXN7.003
SCREWM2*2.5-I(BNI)(NYLOK)D7T0.3IRON	3	86.GE8N7.001

Main Unit Disassembly Process

Main Unit Disassembly Flowchart

```
                    ┌──────────────┐
                    │  Base Cover  │
                    └──────┬───────┘
                           │
                    ┌──────▼───────┐
                    │   Battery    │
                    └──────┬───────┘
         ┌─────────┬───────┼─────────┬──────────┐
         │         │       │         │          │
    ┌────▼────┐ ┌──▼────┐ ┌▼────────┐ ┌─────────▼──┐
    │Fan Module│ │Heatsink│ │Speaker │ │LCD Module  │
    └────┬─────┘ └──┬────┘ └───┬────┘ └────────────┘
         │          │          │
    ┌────▼────┐ ┌───▼─────┐ ┌──▼───────┐
    │USB Board│ │Mainboard│ │ Touchpad │
    └────┬────┘ └────┬────┘ │  Module  │
         │           │      └──────────┘
         └─────┬─────┘
         ┌─────▼──────┐
         │Top Assembly│
         └────────────┘
```
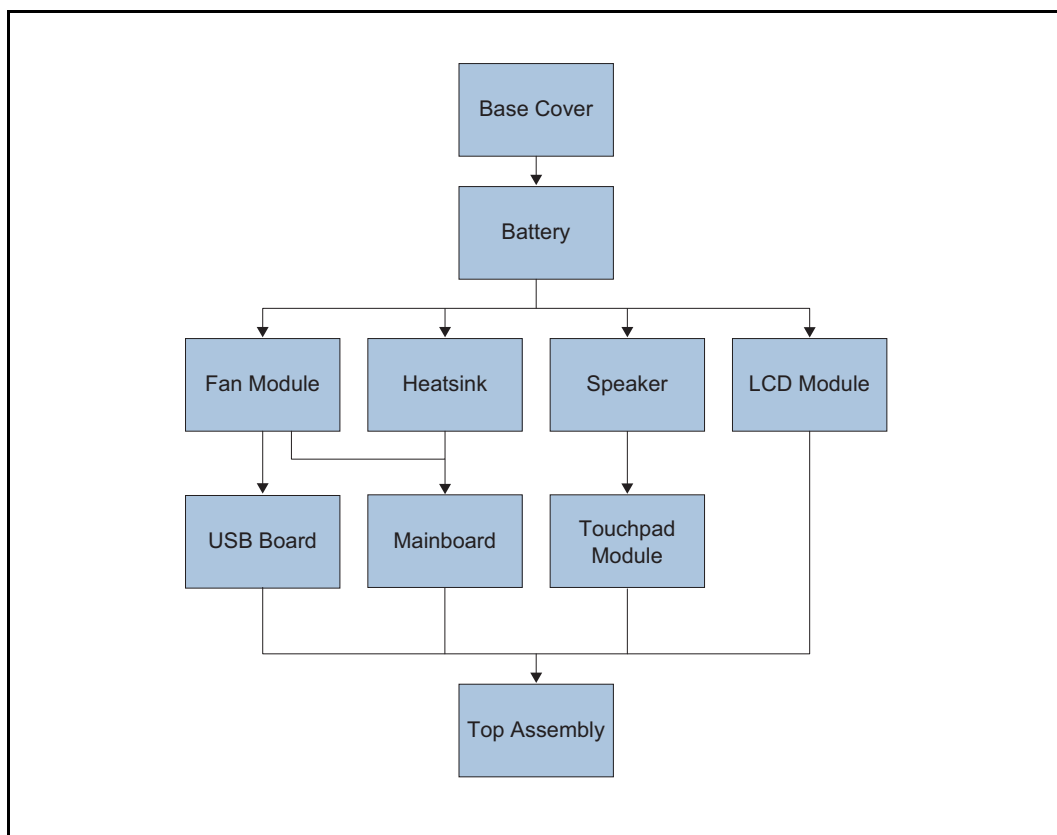
Table 3-2.   Main Unit Screw List

Step	Size	Quantity	Acer Part No.
Base Cover Removal	M2.0*6.6	10	86.EF2N7.002
Fan Module Removal	M2.0*4.0	2	86.N1407.004
Heatsink Removal	M2.0*3.0	4	86.GDEN7.001
LCD Module Removal	M2.0*4.0	6	86.N1407.004
USB Board Removal	M2.0*2.5	1	86.GE8N7.001
Mainboard Removal	M2.0*2.5	2	86.GE8N7.001
Touchpad Module Removal	M2.0*2.5	1	86.MQNN7.002

⇒ **NOTE:**

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

Base Cover Removal

1. Remove ten (10) screws from the base cover (Figure 3-3).

Figure 3-3.   Base Cover Removal

2. Carefully pry up the base cover starting from the upper side to release the latches. Then continue releasing the remaining latches on the left, right, and bottom sides (Figure 3-4).

Figure 3-4.   Base Cover Removal

Then continue to pry the left and bottom sides to release the latches.

3. Grasp and remove the base cover from the system (Figure 3-5).

Figure 3-5. Base Cover Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*6.6	2.0+10%KGF/CM	10	

Battery Pack Removal

Prerequisite:

Base Cover Removal

1. Find the battery pack (A) on the top assembly (Figure 3-6).
2. Detach the transparent mylar (B) securing the battery cable (Figure 3-6).

Figure 3-6.   Battery Pack Removal

3. Detach the tape (C) securing the battery cable to the mainboard connector (Figure 3-9).

Figure 3-7.   Battery Pack Removal

4. Disconnect the battery cable (D) from the mainboard connector (Figure 3-8).

Figure 3-8.   Battery Pack Removal

5. Remove the battery pack (A) from the top assembly (Figure 3-9).
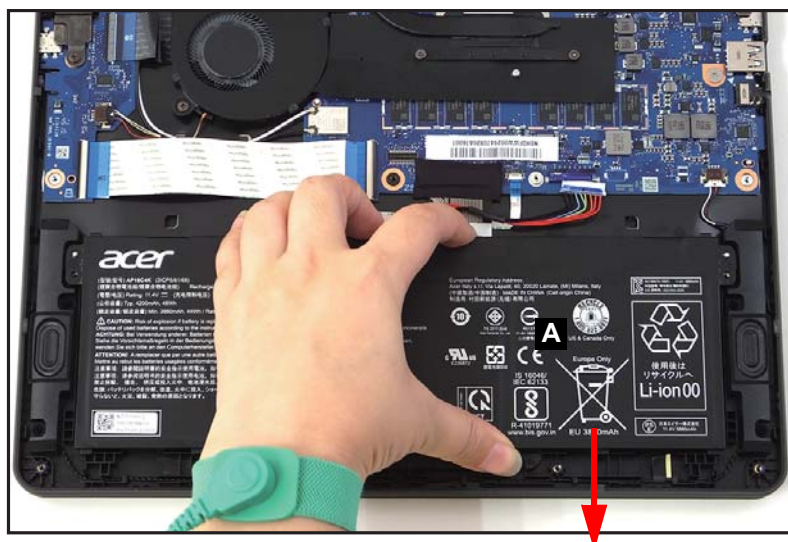
WEEE Annex VII Component: Battery

Figure 3-9.   Battery Pack Removal

+ **IMPORTANT:**

> Follow local regulations for battery disposal.

Fan Removal

Prerequisite:

Battery Pack Removal

1. Find the fan (A) on the top assembly (Figure 3-10).
2. Disconnect the fan cable from the mainboard connector (B) (Figure 3-10).
3. Remove two (2) screws securing the fan in place (Figure 3-10).
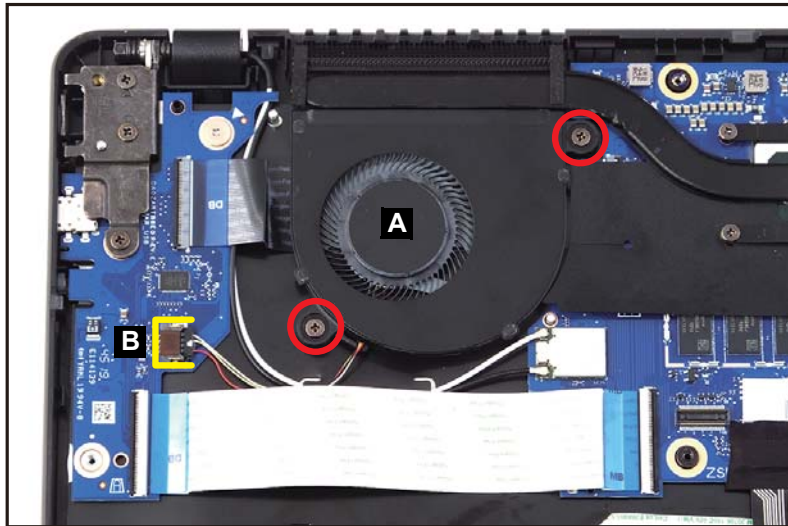
Figure 3-10.   Fan Removal

4. Remove the fan from the top assembly (Figure 3-11).
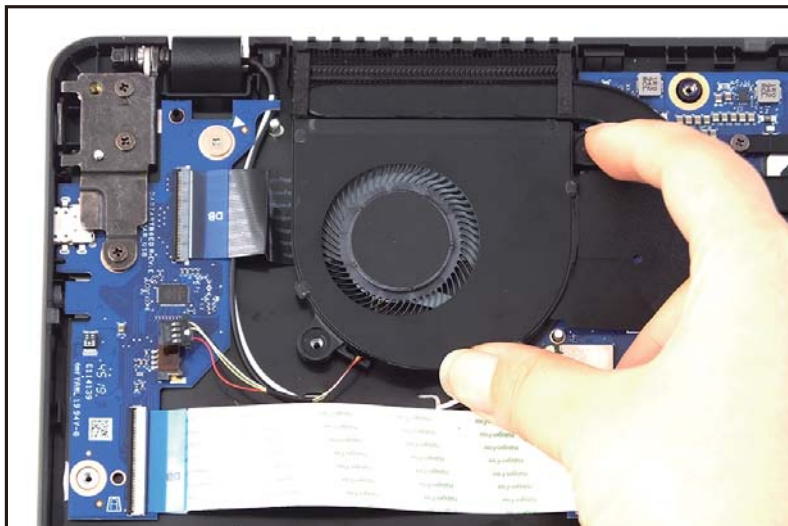
Figure 3-11.   Fan Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*4.0	2.0+10%KGF/CM	2	

Heatsink Removal

Prerequisite:

Battery Pack Removal

1. Remove four (4) screws securing the CPU heatsink in place (Figure 3-12).
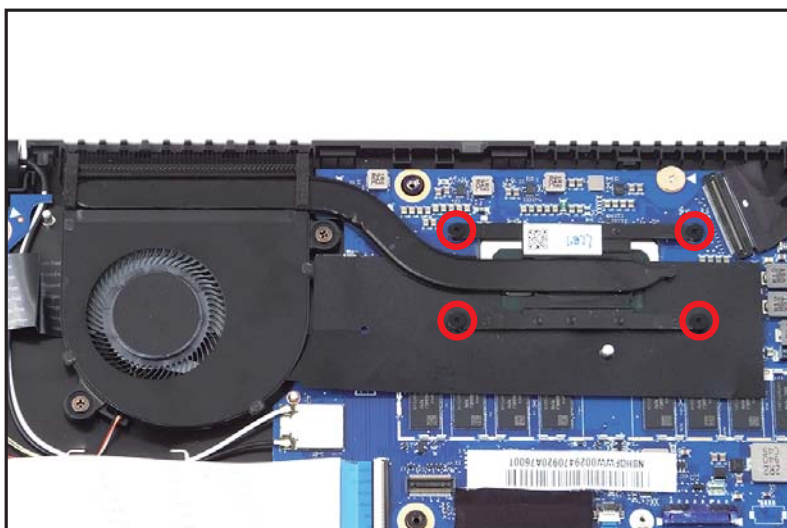
Figure 3-12.   Heatsink Removal

2. Remove the heatsink (A) from the mainboard and top assembly (Figure 3-13).
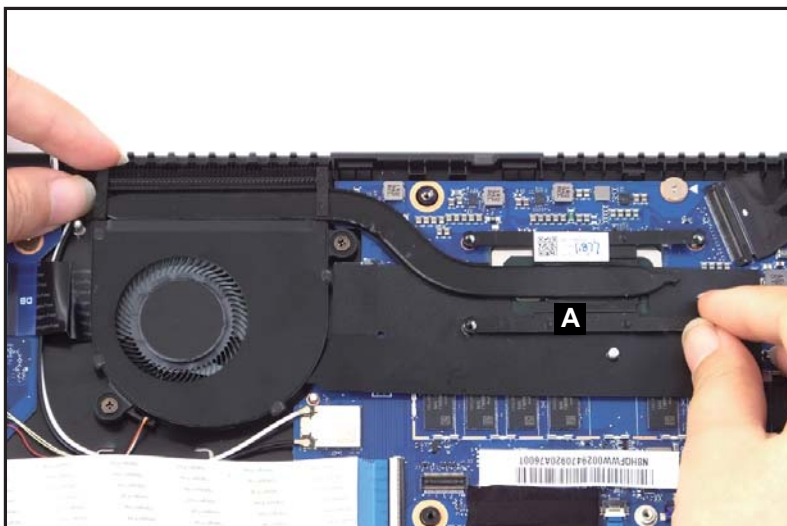
Figure 3-13.   Heatsink Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*3.0	2.0+10%KGF/CM	4	

Speaker Module Removal

Prerequisite:

Battery Pack Removal

1. Find the speaker module (A) on the top assembly (Figure 3-14).

2. Disconnect the speaker cable from the mainboard connector (B) (Figure 3-14).

3. Detach the tape (C) and unroute the speaker cable (D) from the cable guides (Figure 3-14).
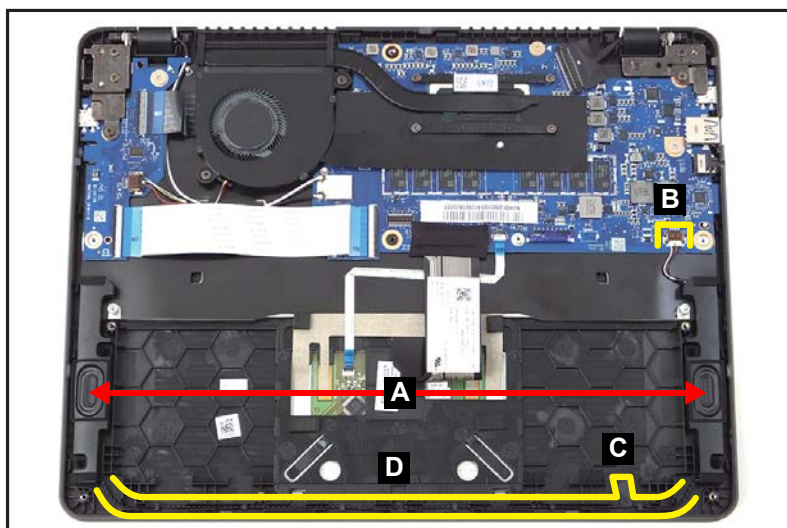
Figure 3-14.   Speaker Module Removal

4. Release both speakers from the guide pins (E), and then remove the speakers from the top assembly (Figure 3-15).
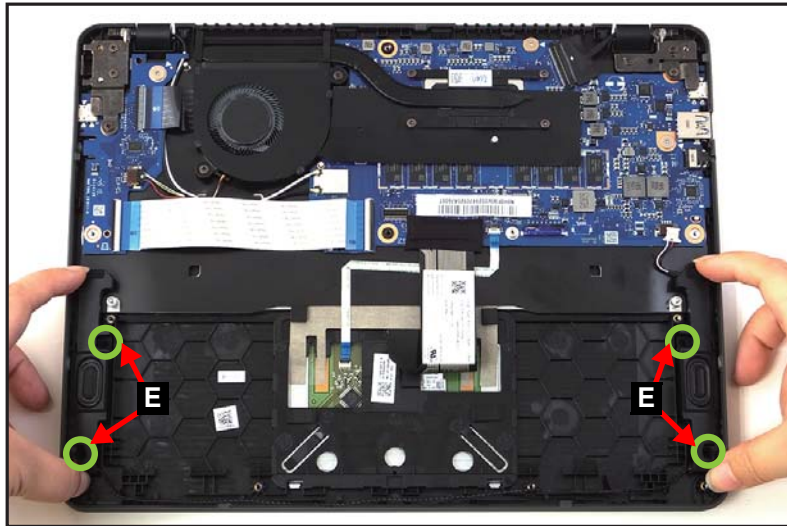
Figure 3-15.   Speaker Module Removal

LCD Module Removal

Prerequisite:

Battery Pack Removal

1. Disconnect the 40-pin USB board FFC from the USB board connector (A) (Figure 3-16).
2. Disconnect the 45-pin USB board FFC from the USB board connector (B) and the mainboard connector (C). Then remove the 45-pin USB board FFC (Figure 3-16).
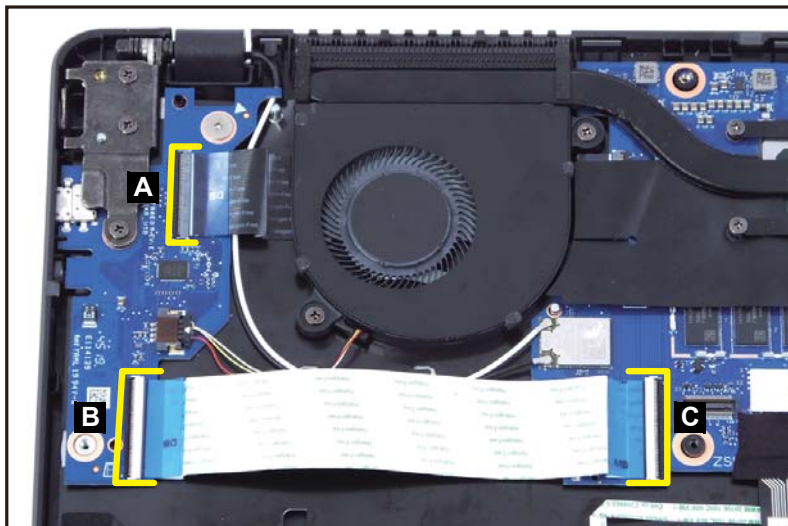
Figure 3-16.   LCD Module Removal

3. Detach the tape (D) securing the cables (Figure 3-17).

4. Disconnect WLAN antennas cables from the WLAN module connectors (E) (Figure 3-17).

5. Unroute the WLAN antennas cables (F) from the cable guide (Figure 3-17).
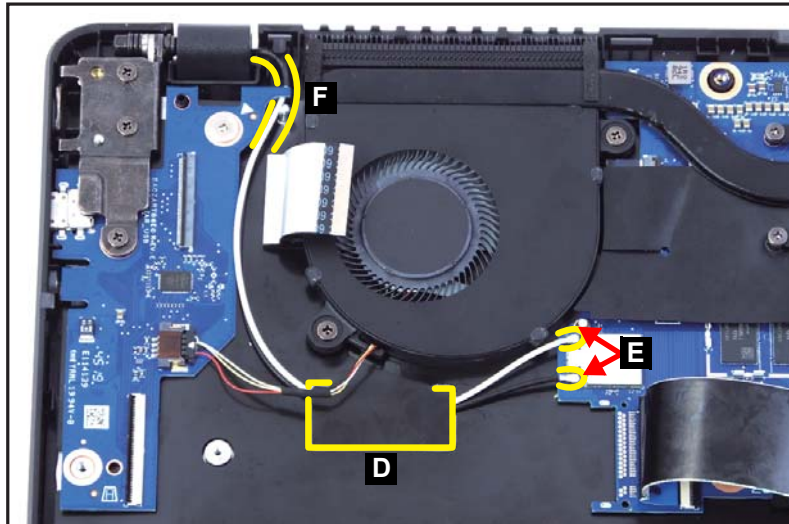
Figure 3-17.   LCD Module Removal

6. Remove six (6) screws securing the LCD hinges in place (Figure 3-18).
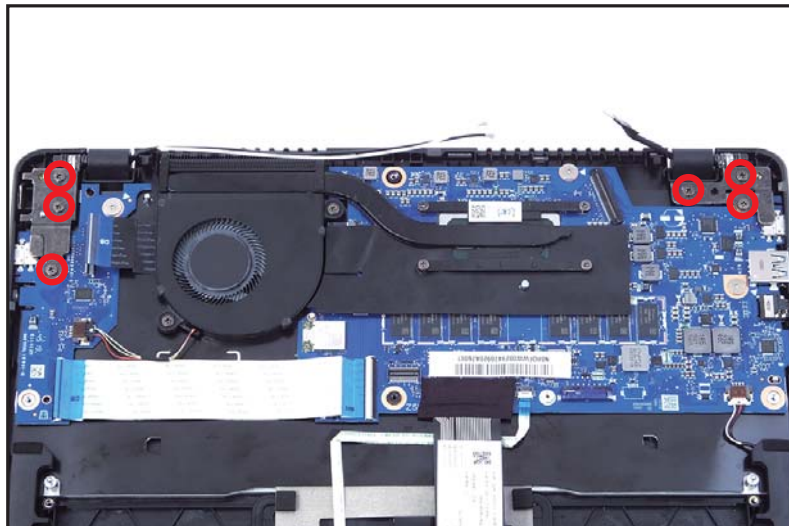
Figure 3-18.   LCD Module Removal

7. Disconnect the eDP cable from the mainboard connector (G) (Figure 3-19).
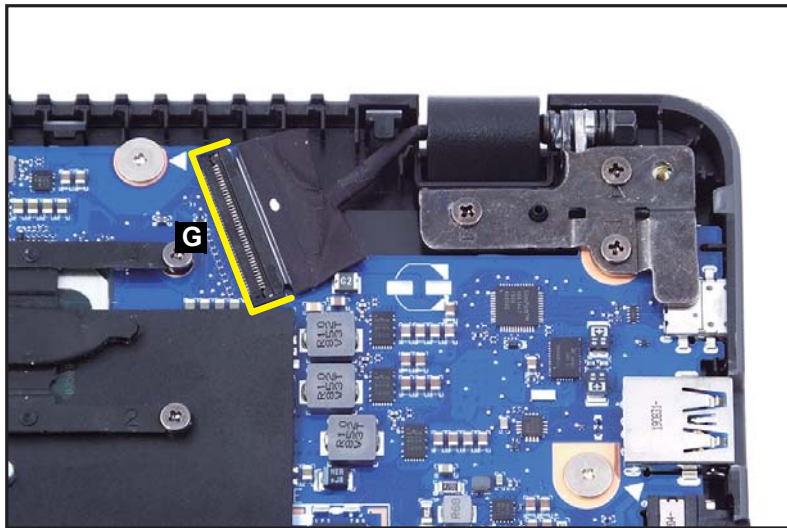
Figure 3-19.   LCD Module Removal

8. Lift the top assembly until it is fully open (Figure 3-20).
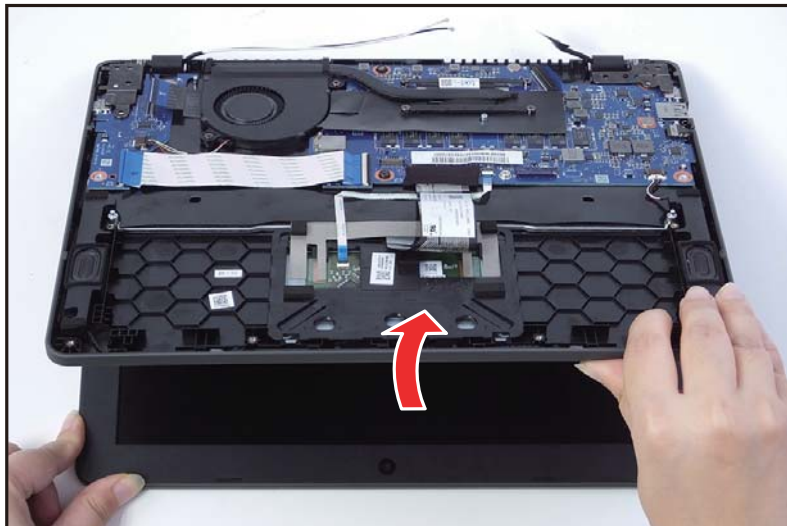
Figure 3-20.   LCD Module Removal

9. Close the top assembly and lift both LCD hinges until they are fully extended (Figure 3-21).
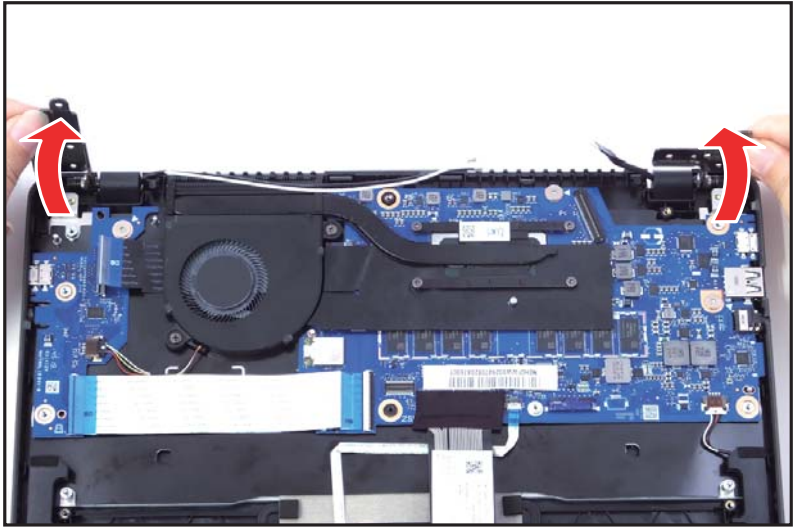
Figure 3-21. LCD Module Removal

10. Open the top assembly again, and then pull it backwards to remove the top assembly away from the LCD module (Figure 3-22).

Figure 3-22. LCD Module Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*4.0	2.0+10%KGF/CM	6	

USB Board Removal

Prerequisite:

1. Remove three (3) screws (A) securing the left side of LCD hinge in place (Figure 3-23).
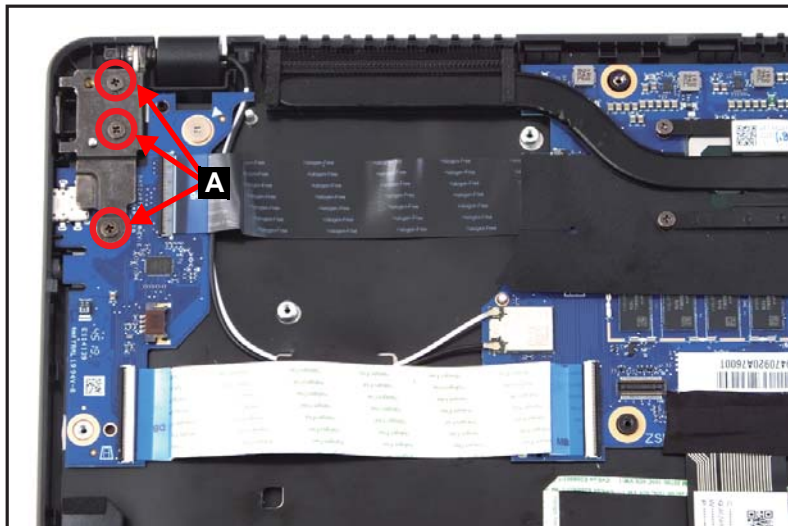
Figure 3-23.   USB Board Removal

2. Lift the top assembly until it is fully open (Figure 3-24).
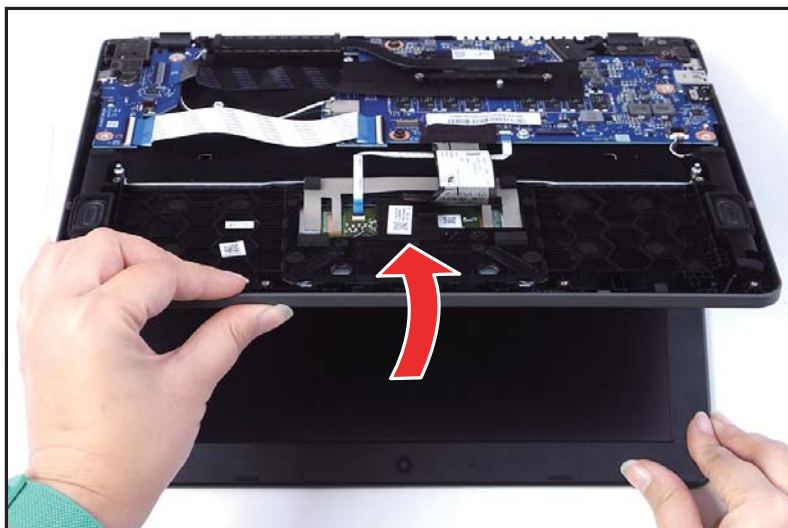
Figure 3-24.   USB Board Removal

3. Close the top assembly and lift the left side of LCD hinge until it is fully extended (Figure 3-25).
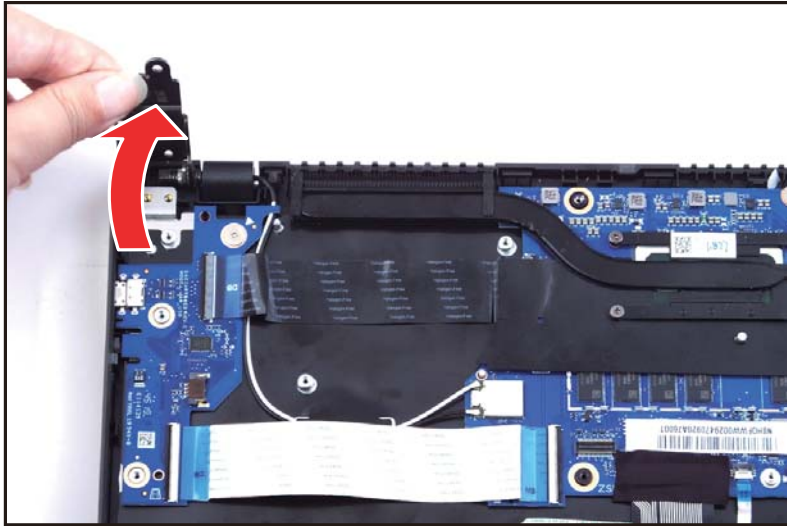
Figure 3-25.   USB Board Removal

4. Lift slightly the mylar covering the connected 40-pin USB board FFC on the mainboard connector. Then disconnect the 40-pin USB board FFC (B) from the mainboard and USB board connectors (Figure 3-26).

5. Disconnect the 45-pin USB board FFC (C) from the mainboard and USB board connectors (Figure 3-26).

6. Remove one (1) screw (D) securing the USB board in place (Figure 3-26).
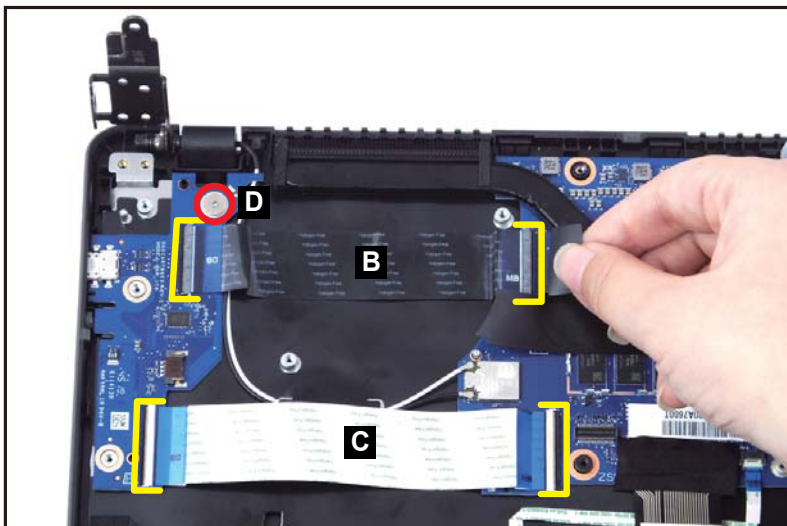
Figure 3-26.   USB Board Removal

7. Release the USB board from the USB port slot and guide pin (E) on the top assembly. Then remove the USB board (Figure 3-27).
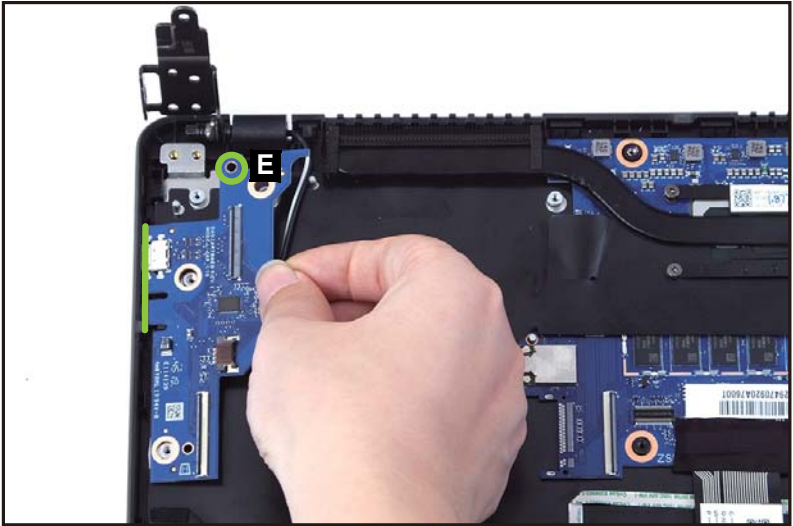
Figure 3-27.   USB Board Removal

ID	Size	Torque	Quantity	Screw Type
A	M2.0*4.0	2.0+10%KGF/CM	3	
D	M2.0*2.5	2.0+10%KGF/CM	1	

Mainboard Removal

Prerequisite:

Fan Removal and Heatsink Removal

1. Remove three (3) screws (A) securing the right side of LCD hinge in place (Figure 3-28).
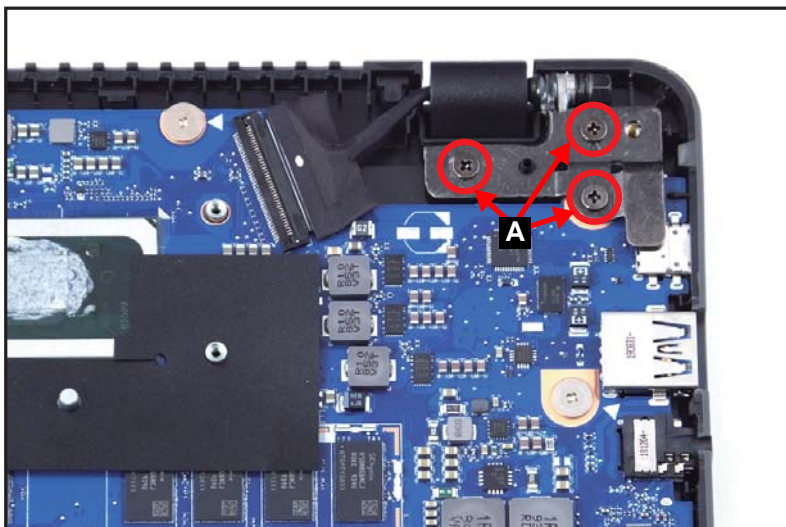
Figure 3-28. Mainboard Removal

2. Lift the top assembly until it is fully open (Figure 3-29).
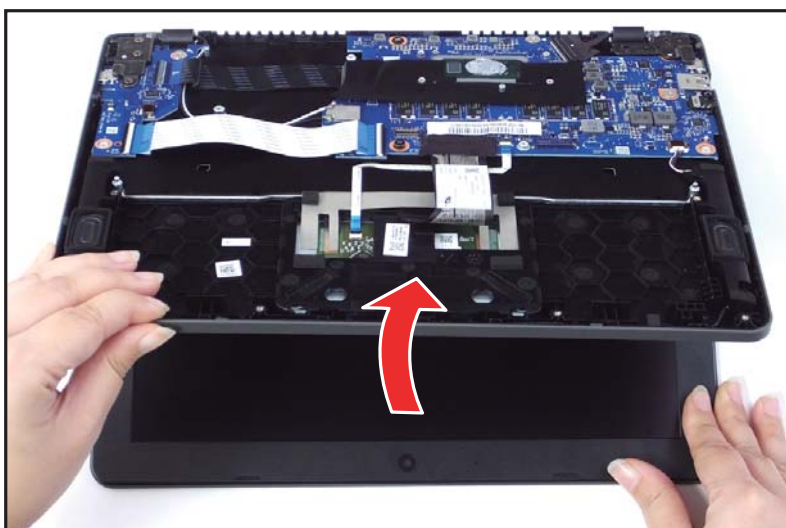
Figure 3-29. Mainboard Removal

3. Close the top assembly and lift the right side of LCD hinge until it is fully extended (Figure 3-30).
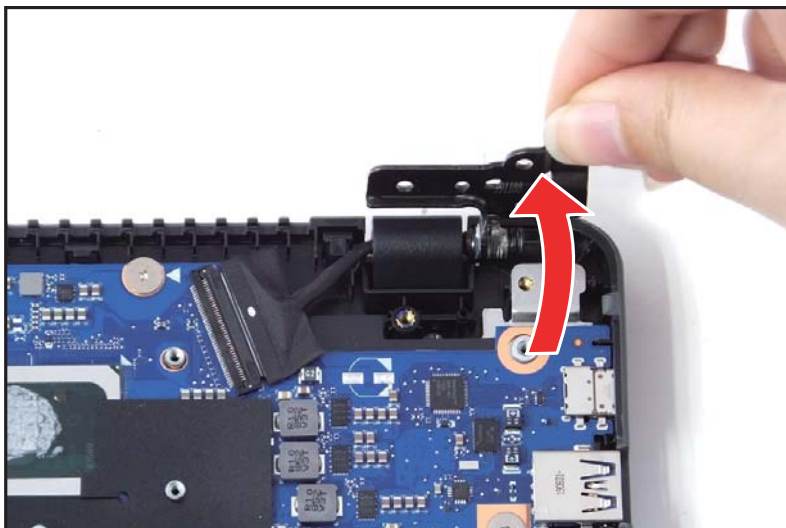
Figure 3-30.   Mainboard Removal

4. Detach the tape (B) securing the keyboard FPC (Figure 3-31).
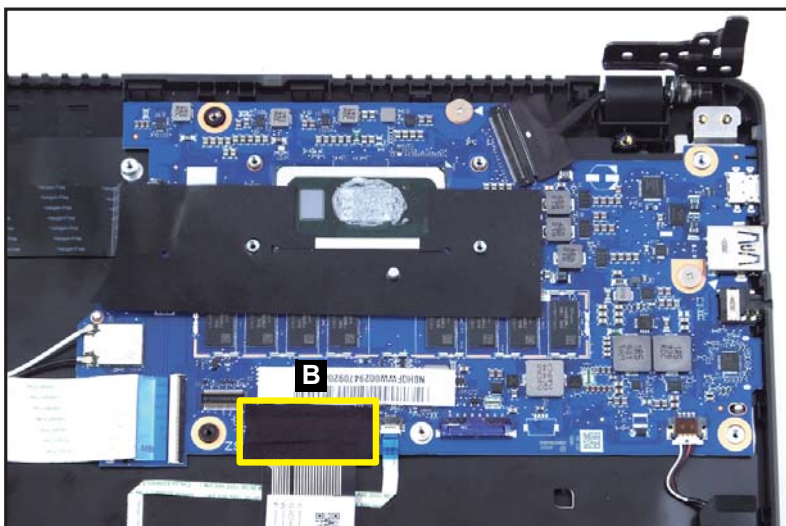
Figure 3-31.   Mainboard Removal

5. Lift slightly the mylar covering the connected 40-pin USB board FFC on the mainboard connector. Then disconnect the 40-pin USB board FFC to the mainboard connector (C) (Figure 3-32).
6. Disconnect WLAN antennas cables from the WLAN module connectors (D) (Figure 3-32).
7. Disconnect the 45-pin USB board FFC to the mainboard connector (E) (Figure 3-32).
8. Disconnect the keyboard FPC from the mainboard connector (F) (Figure 3-32).

9.   Disconnect the touchpad FFC from the mainboard connector (G) ([Figure 3-32](#)).

10. Disconnect the speaker cable from the mainboard connector (H) ([Figure 3-32](#)).

11. Disconnect the eDP cable from the mainboard connector (I) ([Figure 3-32](#)).

⚠ CAUTION:

Make sure all cables, FFCs, and FPC are disconnected from the connectors on the mainboard to avoid damage during removal.

12. Remove two (2) screws (J) securing the mainboard in place ([Figure 3-32](#)).
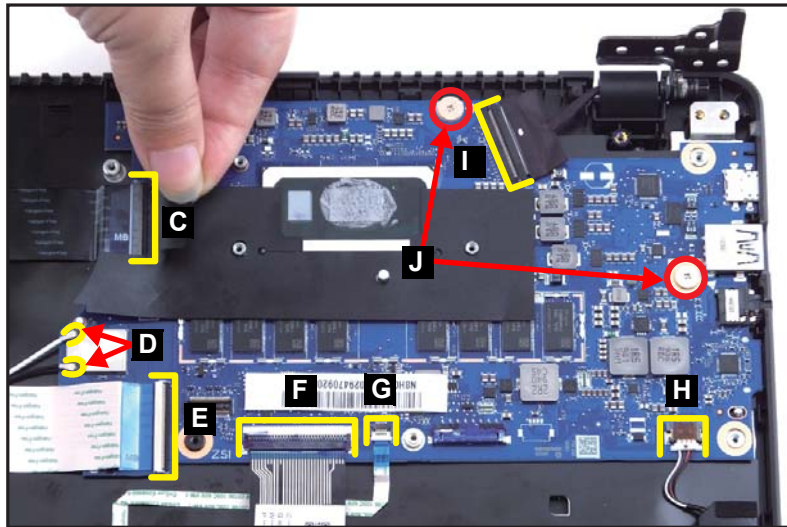
Figure 3-32.   Mainboard Removal

13. Release the mainboard from the I/O ports slots and guide pins (K) on the top assembly. Then remove the mainboard ([Figure 3-33](#)).
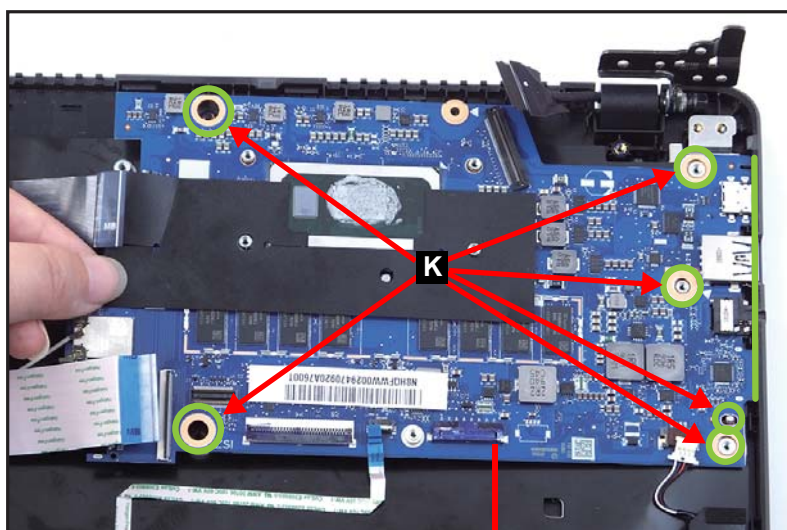
WEEE Annex VII Component: Mainboard

Figure 3-33.   Mainboard Removal
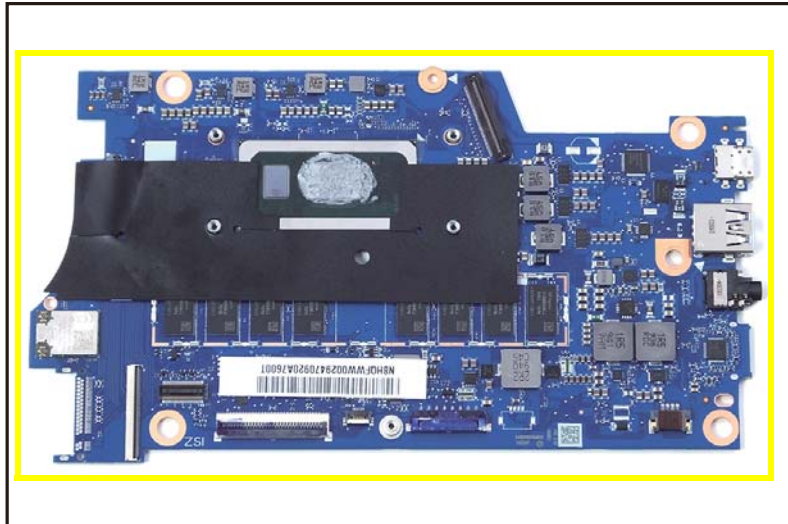
Figure 3-34.   Mainboard

+ **IMPORTANT:**

Circuit boards >10 cm² have been highlighted with a yellow rectangle as shown in Figure 3-34. 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	3	
J	M2.0*2.5	2.0+10%KGF/CM	2	

Touchpad Module Removal

Prerequisite:

Speaker Module Removal

1. Remove the tape (A) securing the keyboard FPC in place (Figure 3-35).
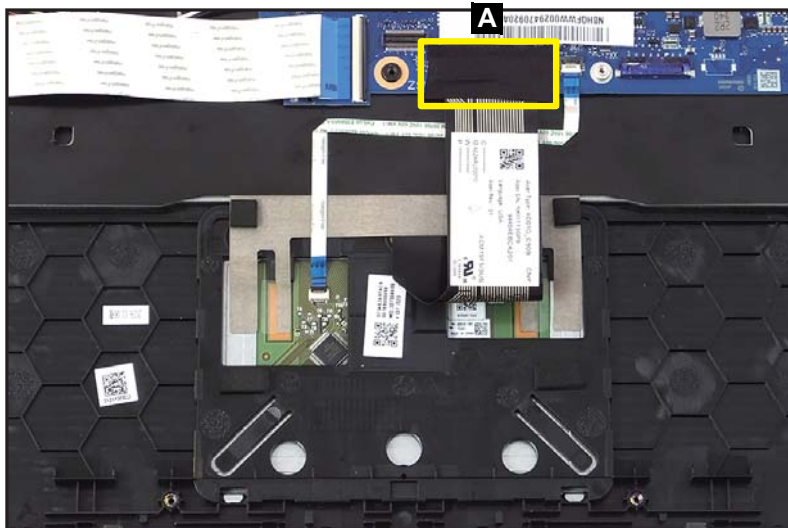
Figure 3-35.   Touchpad Module Removal

2. Disconnect the keyboard FPC from the mainboard connector (B) (Figure 3-36).
3. Disconnect the touchpad FFC from the mainboard connector (C) and the touchpad connector (D). Then remove the touchpad FFC from the top assembly (Figure 3-36).
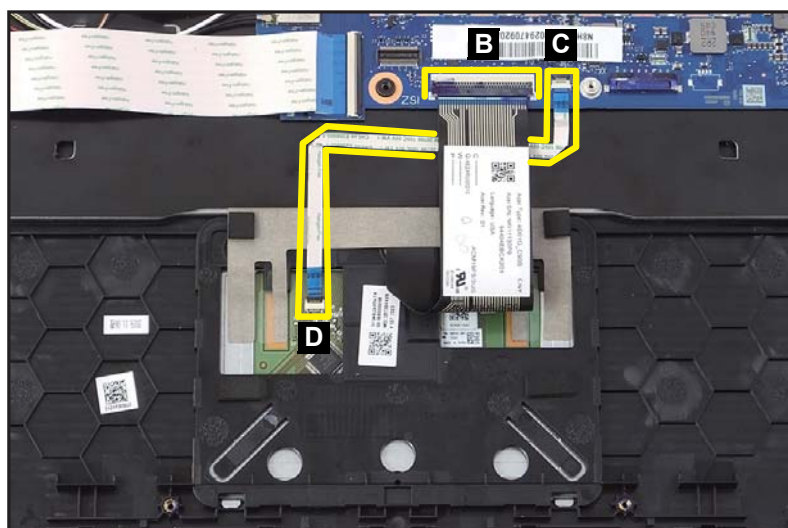
Figure 3-36.   Touchpad Module Removal

4. Detach the conductive tape (E) from the touchpad module (Figure 3-37).
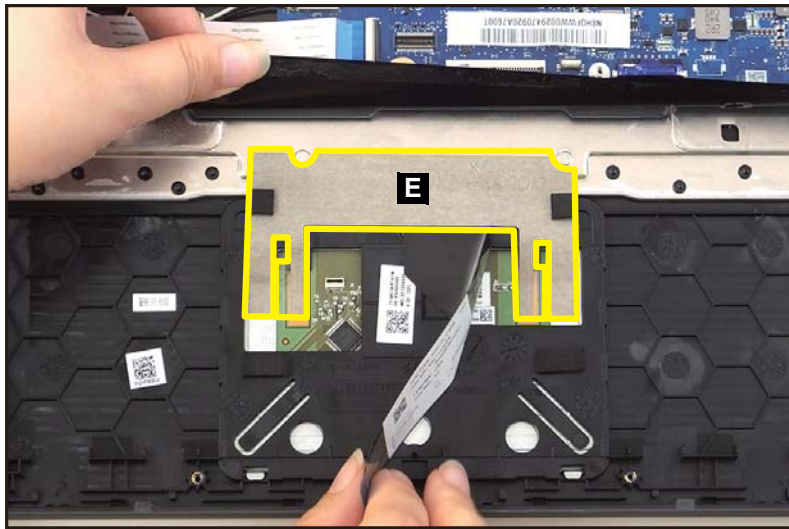
Figure 3-37.   Touchpad Module Removal

5. Remove one (1) screw securing the touchpad module in place (Figure 3-38).
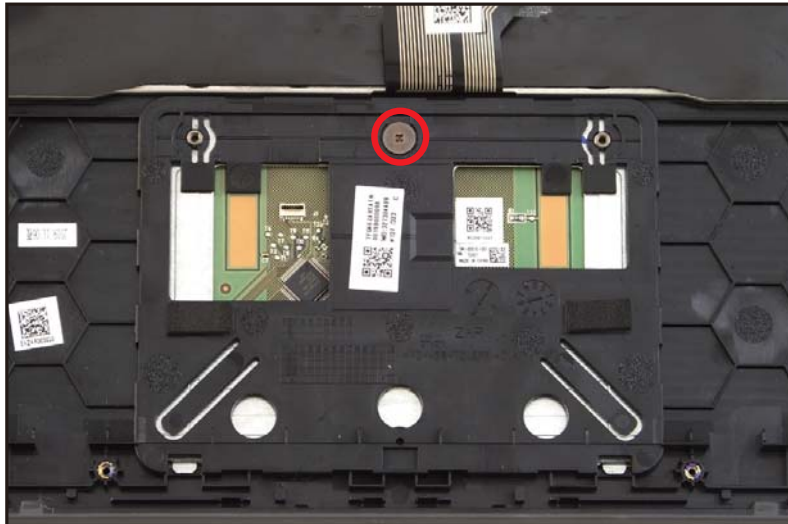
Figure 3-38.   Touchpad Module Removal

6. Using the screwdriver, push the guide pins (F) firmly to release them from the top assembly (Figure 3-39).

7. With one hand is placed underneath the touchpad module, push the touchpad module slightly to disengage it from the bottom latches, and then remove the touchpad module (G) from the top assembly (Figure 3-39).

WEEE Annex VII Component: Touchpad
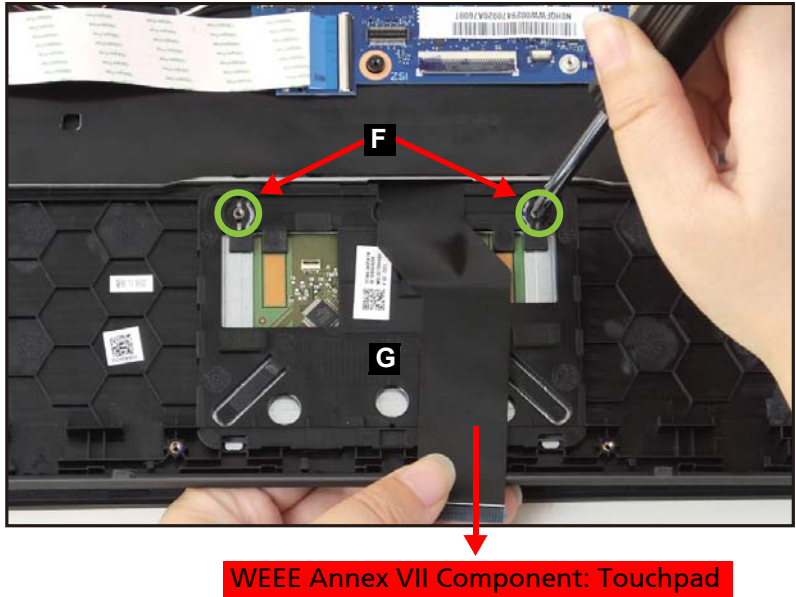
Figure 3-39.   Touchpad Module Removal

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.5	2.0+10%KGF/CM	1	

Top Assembly Removal

Prerequisite:

USB Board Removal, Mainboard Removal, Touchpad Module Removal, and LCD Module Removal

⇛ **NOTE:**

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

Figure 3-40. Top Assembly

LCD Module Disassembly Process

LCD Module Disassembly Flowchart

```
                    ┌──────────────┐
                    │  LCD Module  │
                    └──────┬───────┘
                           │
                    ┌──────▼───────┐
                    │  LCD Bezel   │
                    └──────┬───────┘
              ┌────────────┴────────────┐
        ┌─────▼──────┐          ┌───────▼────────┐
        │ LCD Panel  │          │ Camera Module  │
        └─────┬──────┘          └───────┬────────┘
        ┌─────┴──────┐                  │
  ┌─────▼─────┐  ┌───▼──────┐           │
  │ eDP Cable │  │ LCD Hinge│           │
  └─────┬─────┘  └───┬──────┘           │
        └──────┬─────┴──────────────────┘
          ┌────▼─────┐
          │  WLAN    │
          │ Antenna  │
          └──────────┘
```
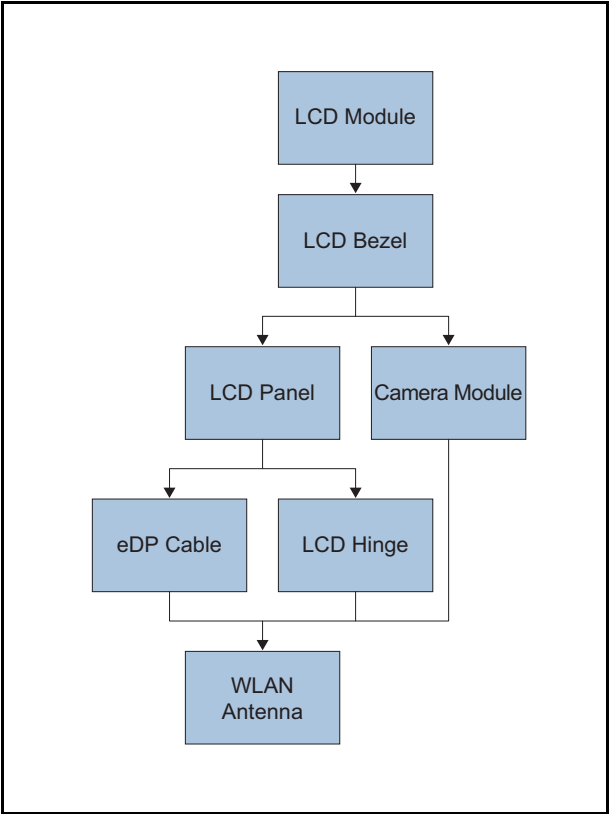
Table 3-3.   LCD Module Screw List

Step	Size	Quantity	Acer Part No.
LCD Hinge Removal	M2.0*3.0	4	86.GDEN7.001
	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 latches (Figure 3-41).

Figure 3-41.   LCD Bezel Removal

2. Continue along the left side of the bezel (Figure 3-42).

Figure 3-42.   LCD Bezel Removal

3. Continue along the right side of the bezel (Figure 3-43).

Figure 3-43.   LCD Bezel Removal

4. Continue along the bottom side of the bezel until all the latches have been released (Figure 3-44). Then lift and remove the bezel from LCD module.

Figure 3-44.   LCD Bezel Removal

LCD Panel Removal

Prerequisite:

1. Pry slightly to access the double-sided mounting tape (A) underneath the LCD panel (B). Then pull to detach the double-sided mounting tape from the LCD cover. Repeat the same procedure to remove the double-sided mounting tape on another side of the LCD panel (Figure 3-45).
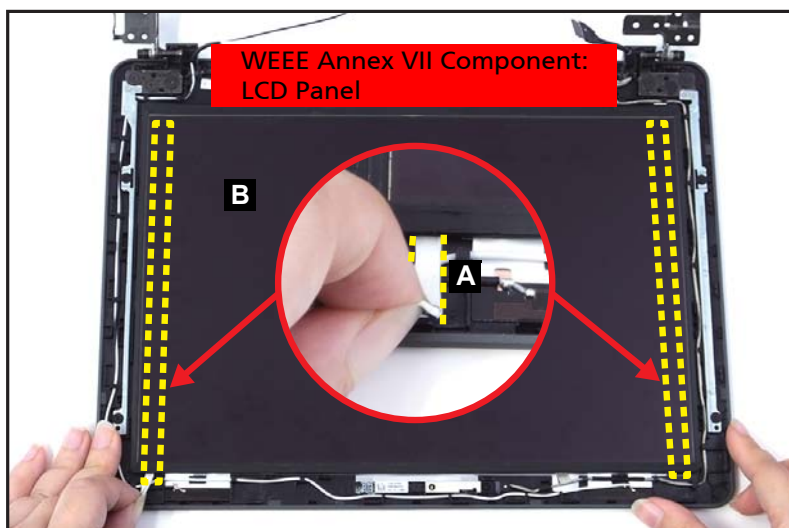
Figure 3-45.   LCD Panel Removal

2. Carefully turn the LCD panel over so that the display panel is facing down on a flat surface. Then detach the mylar tape (C) securing the eDP cable to the LCD panel (Figure 3-46).
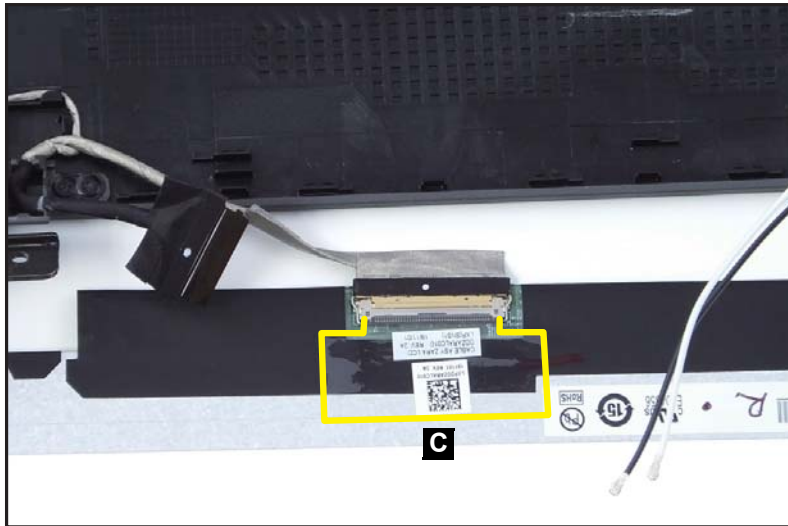
Figure 3-46.   LCD Panel Removal

3. Lift the latch (D) securing the eDP cable (Figure 3-47).
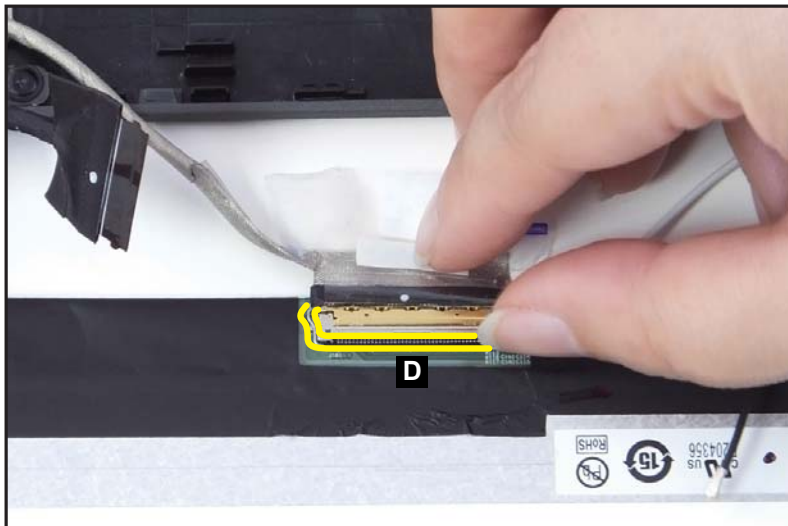
Figure 3-47.   LCD Panel Removal

4. Disconnect the eDP cable from the LCD panel connector (E) (Figure 3-48).
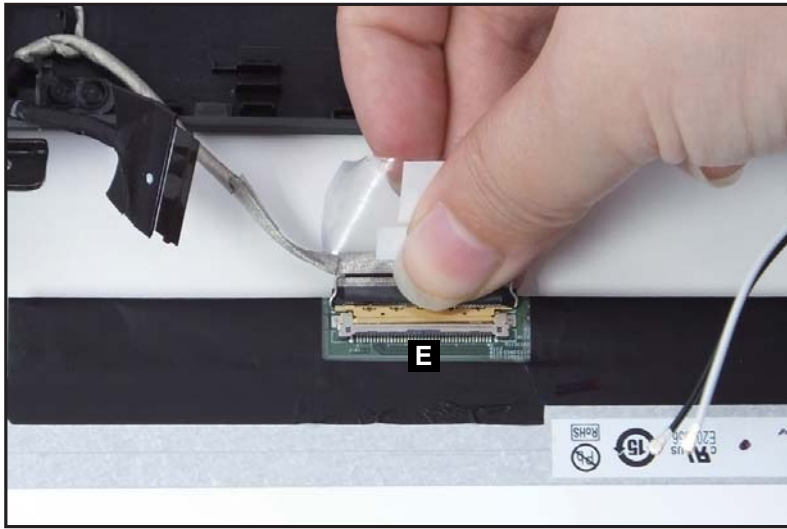
Figure 3-48.   LCD Panel Removal

5. Remove the LCD panel.

⚠ CAUTION:

> Make sure the eDP cable is moved away from the device to avoid damage during LCD panel removal.

Camera Module Removal

Prerequisite:

LCD Bezel Removal

1. Find the camera module (A) on the LCD cover (Figure 3-49).
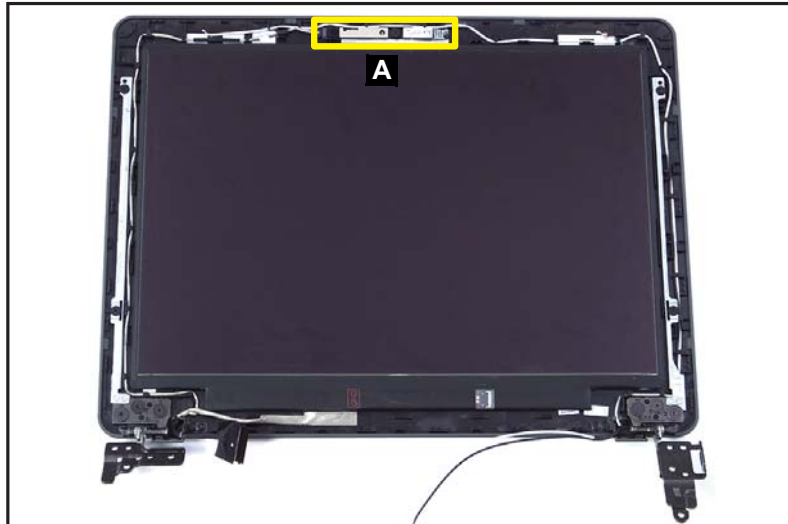
Figure 3-49.   Camera Module Removal

2. Disconnect the eDP cable (B) from the camera module connector (C) (Figure 3-50).

⇒ **NOTE:**

Use care not to damage the cable. Please take note that the eDP cable includes the camera cable and the LCD panel cable.
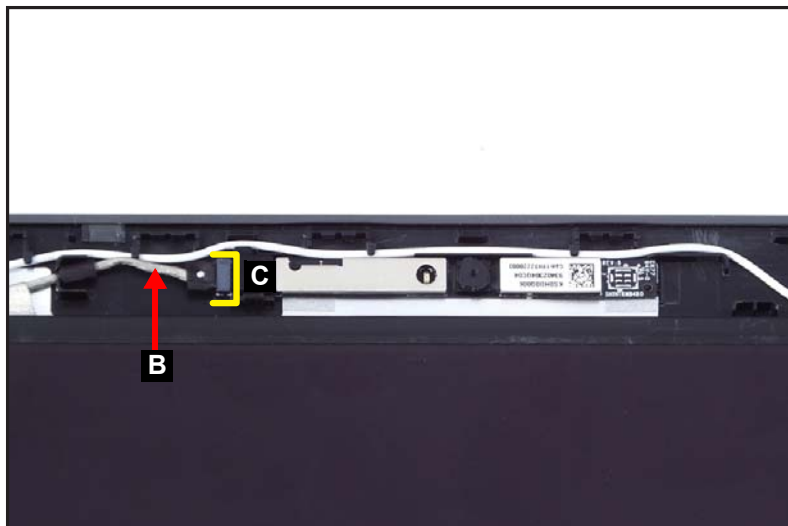
Figure 3-50.   Camera Module Removal

3. Carefully remove the camera module from the LCD cover (Figure 3-51).

Figure 3-51.   Camera Module Removal

eDP Cable Removal

Prerequisite:

LCD Panel Removal

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

1. Disconnect the eDP cable (A) from the camera module connector (B) (Figure 3-52).
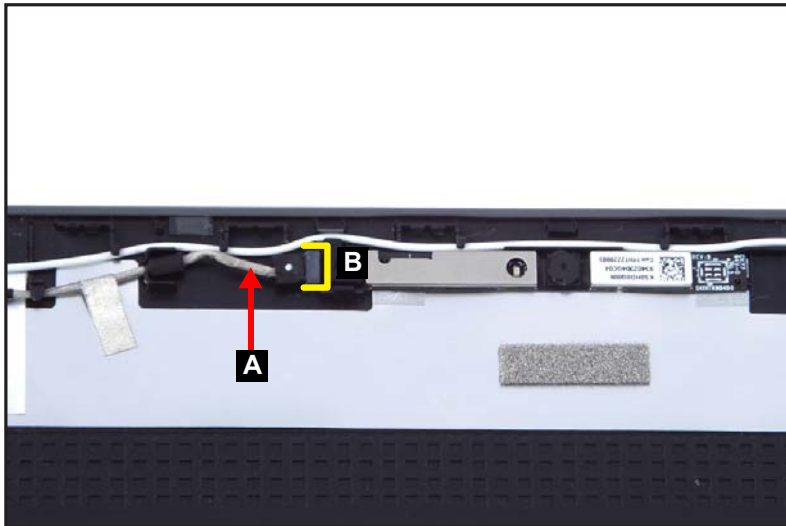
Figure 3-52. eDP Cable Removal

⇒ NOTE:
Use care not to damage the cable.

2. Unroute the eDP cable from the cable guides and remove it from the LCD cover (Figure 3-53).
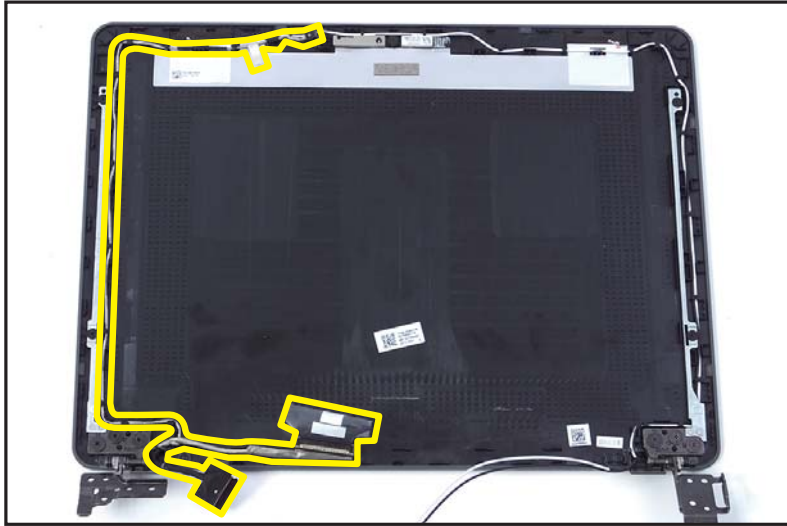
Figure 3-53.   eDP Cable Removal

LCD Hinges Removal

Prerequisite:

LCD Panel Removal

1. Remove four (4) screws (A) and six (6) screws (B) securing the LCD hinges in place (Figure 3-54).
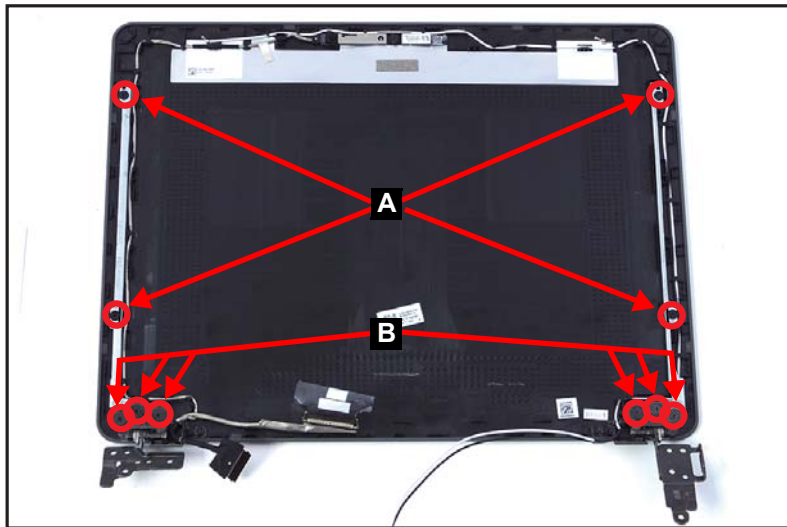
Figure 3-54.   LCD Hinges Removal

2. Remove the LCD hinges (C) from the LCD cover (Figure 3-55).
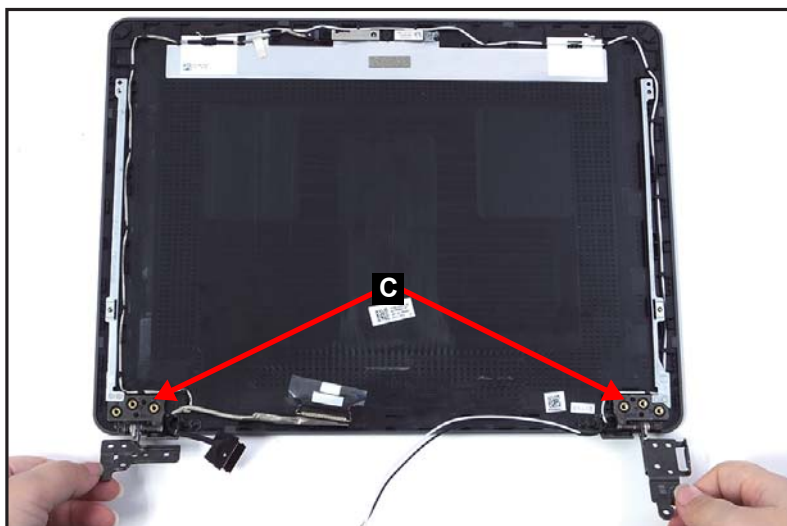
Figure 3-55.   LCD Hinges Removal

ID	Size	Torque	Quantity	Screw Type
A	M2.0*3.0	2.0+10%KGF/CM	4	
B	M2.5*2.5	3.0+10%KGF/CM	6	

WLAN Antenna Removal

Prerequisite:

eDP Cable Removal, LCD Hinges Removal, and Camera Module Removal

1. Unroute the WLAN antennas cables from the cable guides (Figure 3-56).

Figure 3-56.   WLAN Antenna Removal

2. Continue to unroute the AUX antenna cable (white-color) from the cable guides on the upper side of the LCD cover (Figure 3-57).
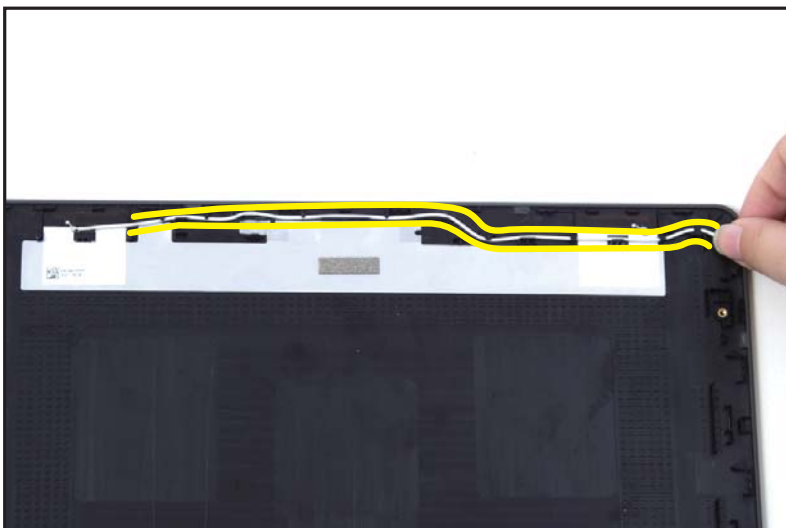
Figure 3-57.   WLAN Antenna Removal

3. Gently peel off the AUX antenna and its grounding foil (Figure 3-58).

4. Remove the AUX antenna from the LCD cover (Figure 3-58).

Figure 3-58.   MAIN Antenna Removal

5. Gently peel off the MAIN antenna and its grounding foil (Figure 3-59).

6. Remove the MAIN antenna from the LCD cover (Figure 3-59).
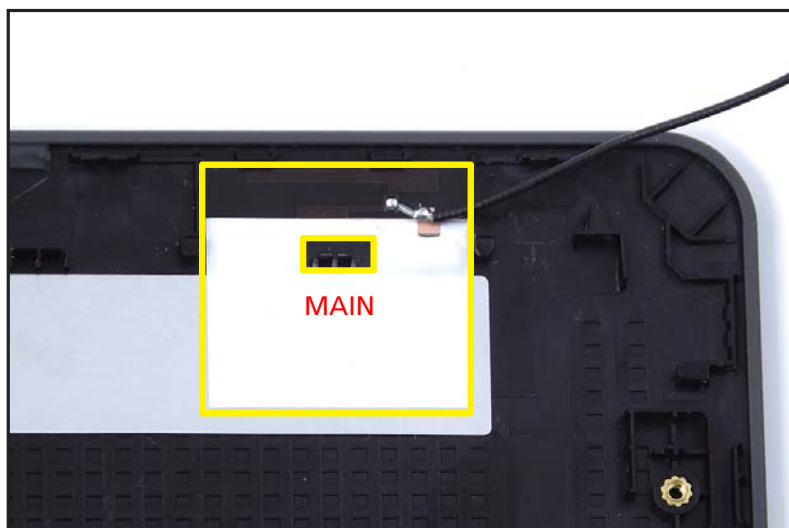
Figure 3-59.   WLAN Antenna Removal

⚠ CAUTION:

Use care not to damage the antenna PCB circuit area when the grounding foil is removed.

LCD Module Reassembly Process

Replacing the WLAN Antenna

1. Place the MAIN antenna to the right side of the LCD cover. Make sure the antenna PCB circuit area is properly seated and placed onto its compartment highlighted by a green rectangle as shown in Figure 3-60.

2. Adhere the grounding foil of the MAIN antenna as marked in yellow (Figure 3-60).
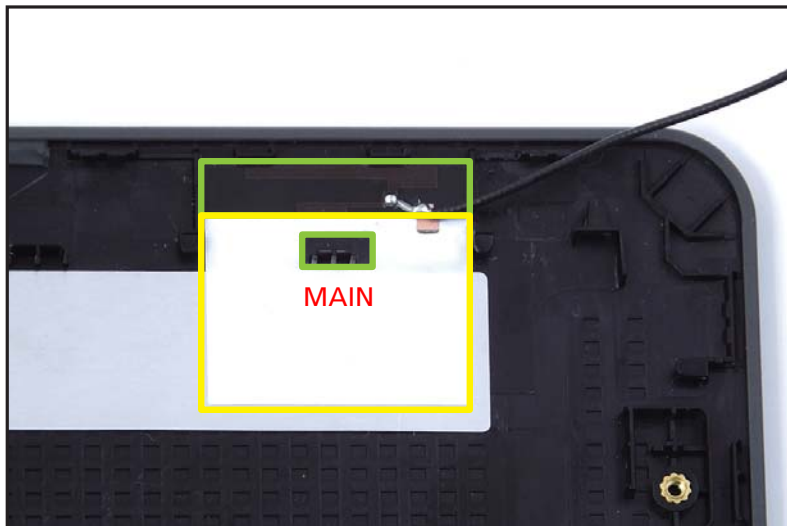
Figure 3-60.   Replacing the WLAN Antenna

3. Place the AUX antenna to the left side of the LCD cover. Make sure the antenna PCB circuit area is properly seated and placed onto its compartment highlighted by a green rectangle as shown in Figure 3-61.

4. Adhere the grounding foil of the AUX antenna as marked in yellow (Figure 3-61).

Figure 3-61.   Replacing the WLAN Antenna

5. Route the AUX antenna cable (white-color) through the cable guides on the upper side of the LCD cover (Figure 3-62).
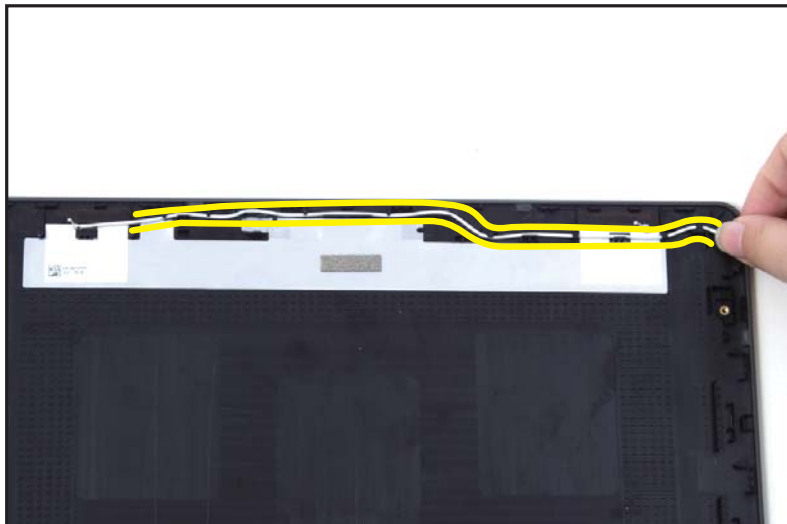
Figure 3-62.   Replacing the WLAN Antenna

6. Route the WLAN antenna cables through the cable guides on the right side of the LCD cover (Figure 3-63).

Figure 3-63.   Replacing the WLAN Antenna

Replacing the LCD Hinges

1. Place the left and right LCD hinges (A) on the LCD cover (Figure 3-64).
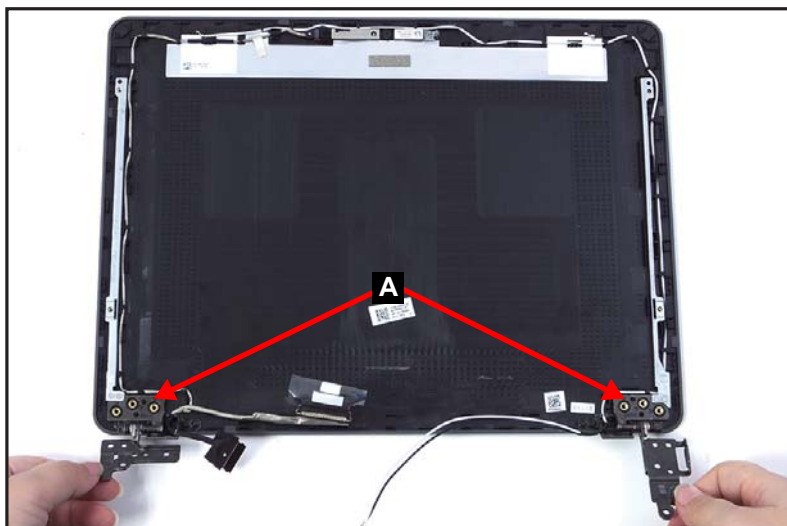
Figure 3-64.   Replacing the LCD Hinges

2. Install four (4) screws (B) and six (6) screws (C) to secure the LCD hinges in place (Figure 3-65).
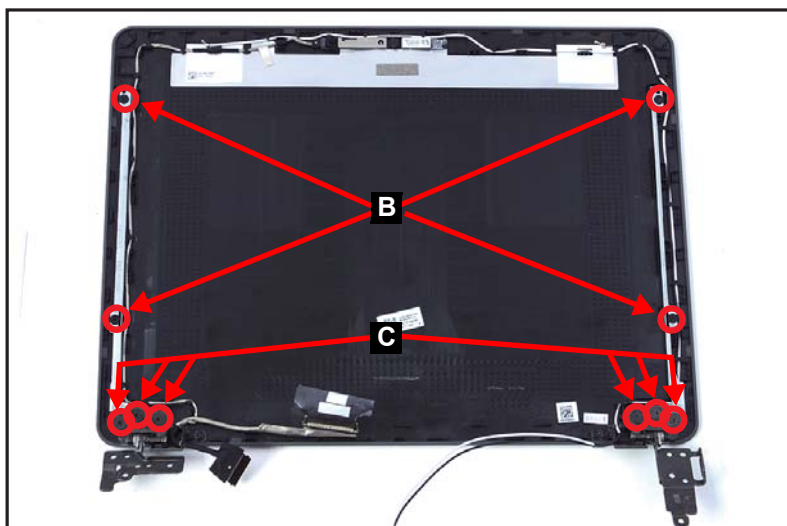
Figure 3-65.   Replacing the LCD Hinges

ID	Size	Torque	Quantity	Screw Type
B	M2.0*3.0	2.0+10%KGF/CM	4	
C	M2.5*2.5	3.0+10%KGF/CM	6	

Replacing the eDP Cable

⇛ NOTE:

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

1. Route the eDP cable to the cable guides on the bottom side of the LCD cover first. Then continue to route and secure the eDP cable through the cable guides on the left and upper sides of the LCD cover as shown in Figure 3-66.

⚠ CAUTION:

Make sure the eDP cable is secured in the cable guides to avoid damage to the cable.
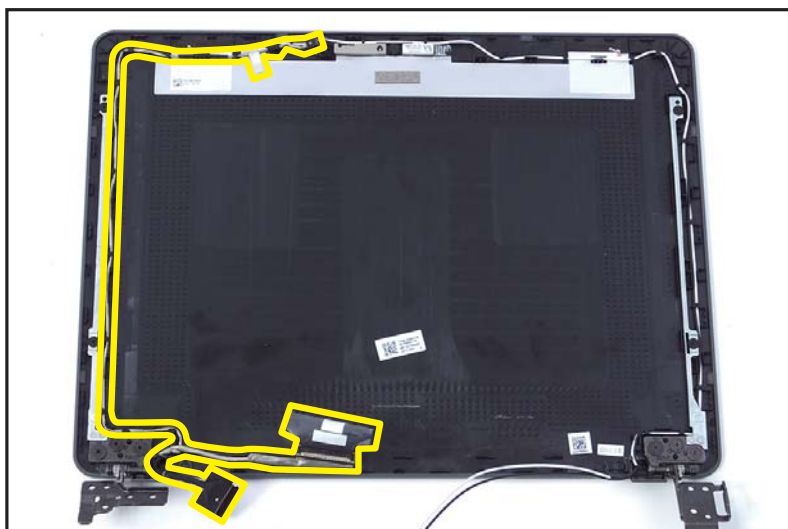
Figure 3-66.   Replacing the eDP Cable

2. Connect the eDP cable (A) to the camera module connector (B) (Figure 3-67).
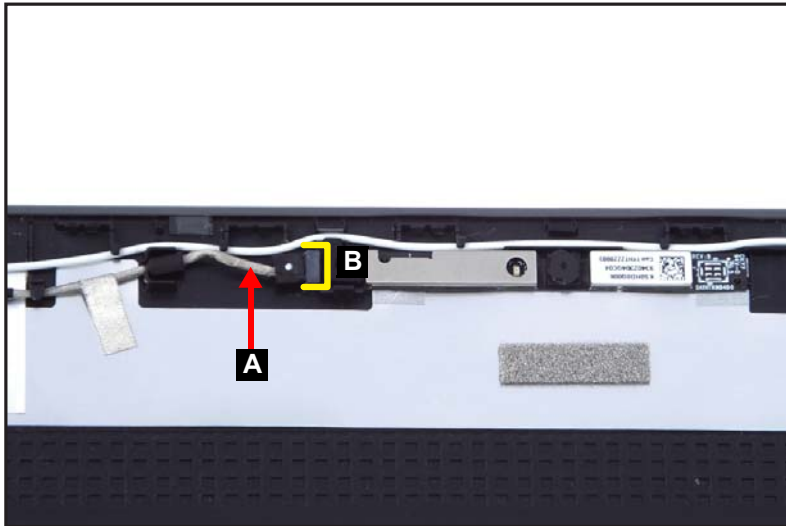
Figure 3-67.   Replacing the eDP Cable

Replacing the Camera Module

1. Connect the eDP cable (A) to the camera module connector (B) (Figure 3-68).

⇒ **NOTE:**

Use care not to damage the cable. Please take note that the eDP cable includes the camera cable and the LCD panel cable.
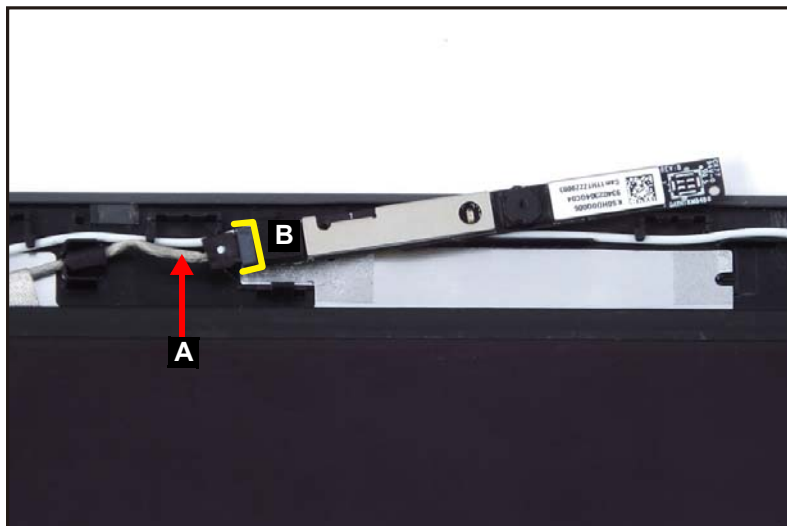
Figure 3-68.   Replacing the Camera Module

2. Align and install the camera module (C) to its compartment on the LCD cover (Figure 3-69).
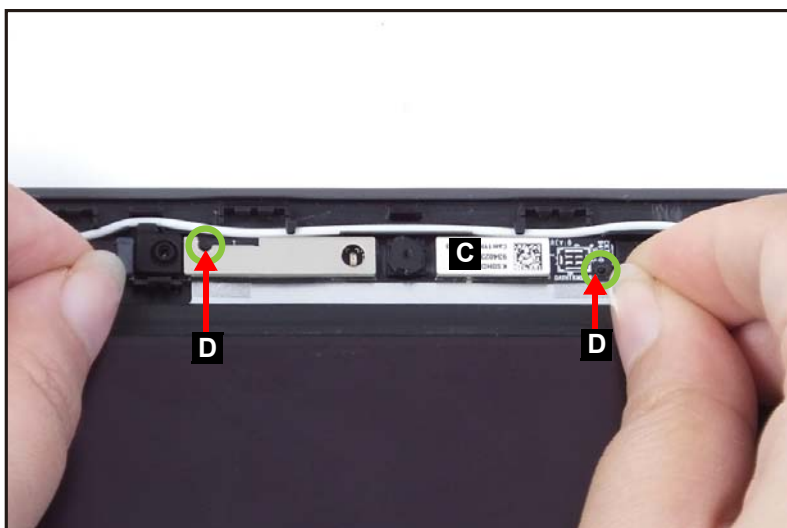
Figure 3-69.   Replacing the Camera Module

+ **IMPORTANT:**

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

Replacing the LCD Panel

1. Place the LCD panel on a flat surface with the back side facing up and aligned properly to the bottom of the LCD cover as shown in Figure 3-70.

2. Connect the eDP cable to the LCD panel connector (A) (Figure 3-70).
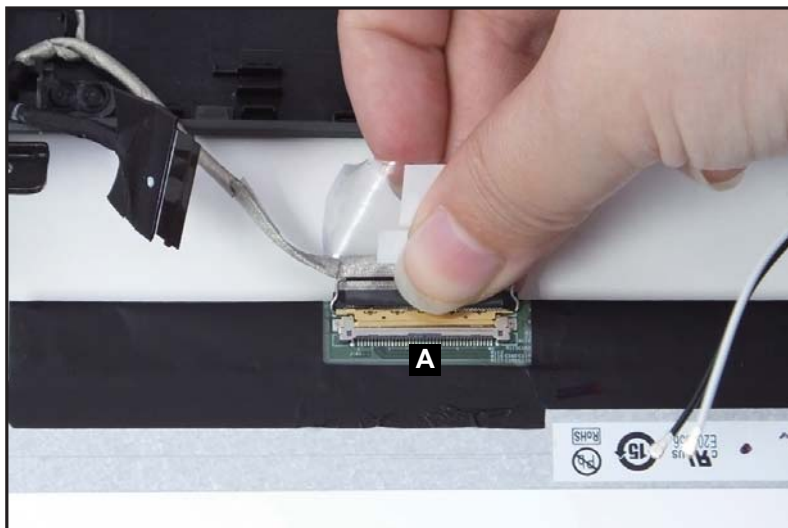
Figure 3-70.   Replacing the LCD Panel

3. Push the latch (B) down to secure the eDP cable in place (Figure 3-71).
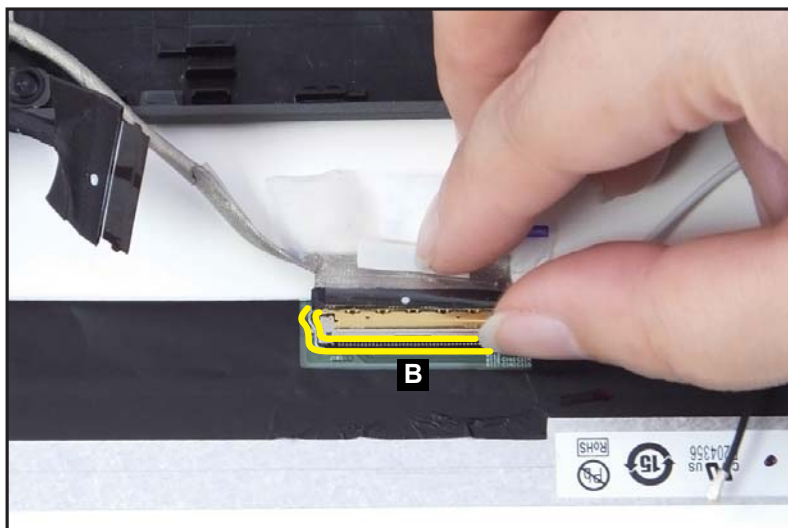
Figure 3-71.   Replacing the LCD Panel

4. Adhere the mylar tape (C) to secure the eDP cable to the LCD panel (Figure 3-72).
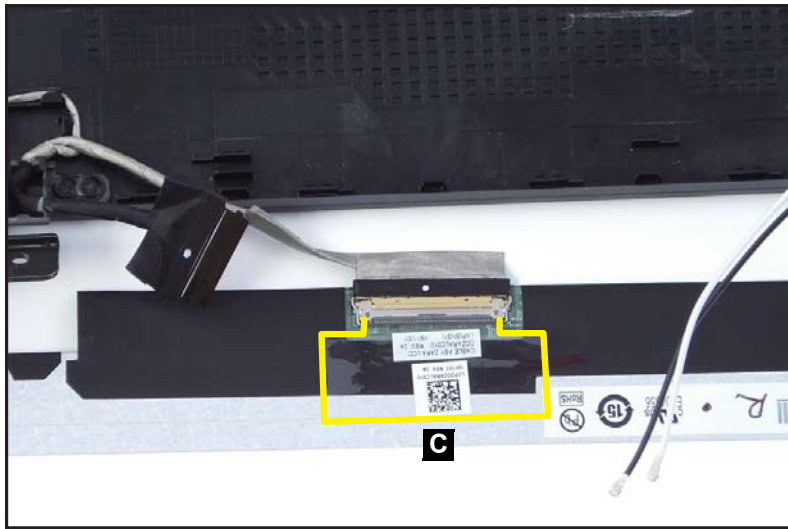
Figure 3-72.   Replacing the LCD Panel

5. Adhere the double-sided adhesive mounting tapes (D) on both sides of the LCD cover and press each tape for about 30 seconds. Then peel off the protective film from the double-sided adhesive mounting tapes (Figure 3-73).

⇒ **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 the below illustration (Figure 3-73).
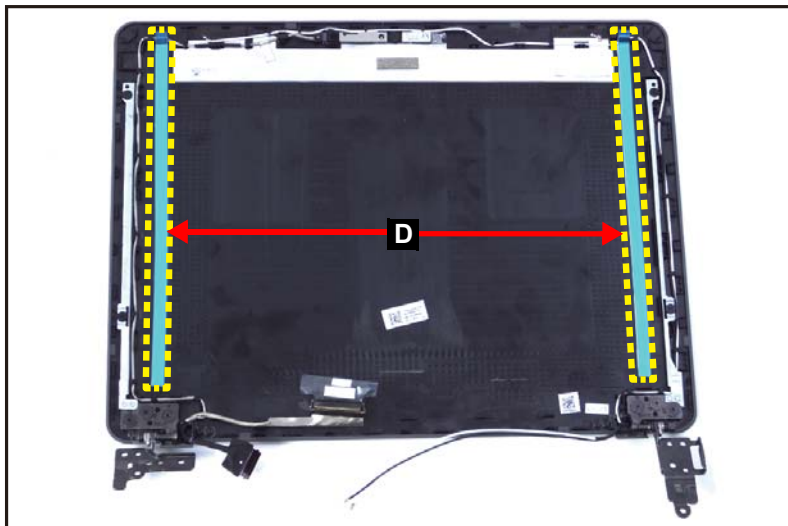
Figure 3-73.   Replacing the LCD Panel

6. Place four (4) 0.5mm LCD alignment mylars (E) on the upper part of the LCD cover as shown in Figure 3-74.

7. Starting from the upper side, carefully place the LCD panel (F) on the LCD cover. Then press the LCD panel down until it is firmly seated on the LCD cover (Figure 3-74).
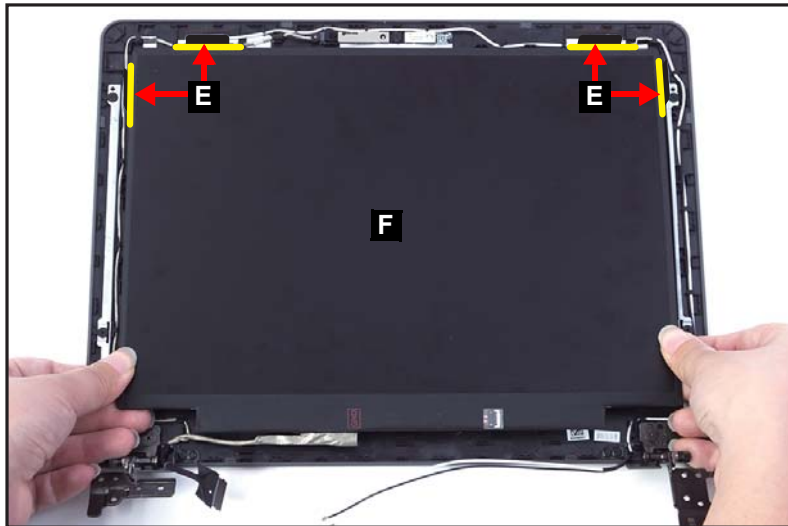
Figure 3-74.   Replacing the LCD Panel

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

9. Route and secure the eDP cable along the bottom left side of the cable guides on the LCD cover (Figure 3-75).

Figure 3-75.   Replacing the LCD Panel

Replacing the LCD Bezel

1. Place and align the bottom side of the LCD bezel with the LCD cover (Figure 3-76).

Figure 3-76.   Replacing the LCD Bezel

2. Start pressing along the bottom edge (A) of the LCD bezel to secure the latches to the LCD cover (Figure 3-77).

3. Continue pressing upward along the sides (B) of the LCD bezel to engage the latches (Figure 3-77).

4. Finally, press along the upper side (C) of the LCD bezel to fully secure the bezel to the LCD cover (Figure 3-77).

NOTE:

When pressing on the latches, make sure to follow the direction of the arrows (Figure 3-77).
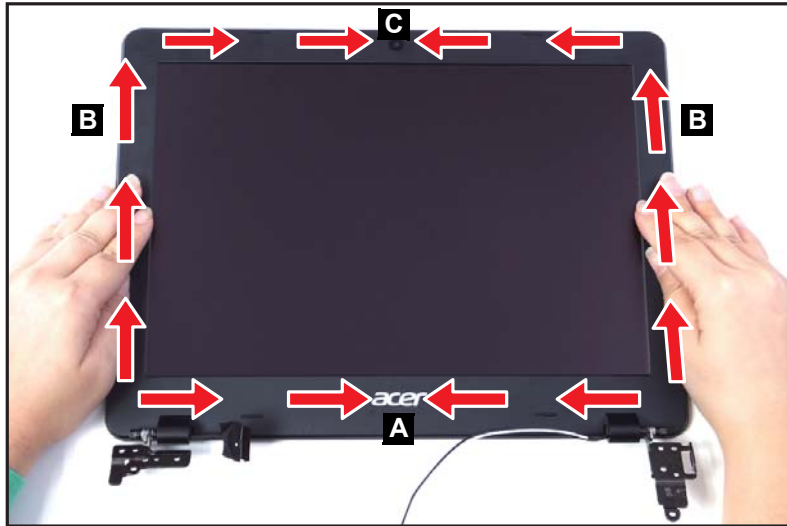
Figure 3-77.   Replacing the LCD Bezel

⚠ **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 cannot be disassembled. In the event that the keyboard can no longer be used, replace the entire top assembly.

Figure 3-78.   Top Assembly

Replacing the Touchpad Module

1. Slide the touchpad module (A) into the bottom latches (B) until those are fully engaged (Figure 3-79).

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 3-79).
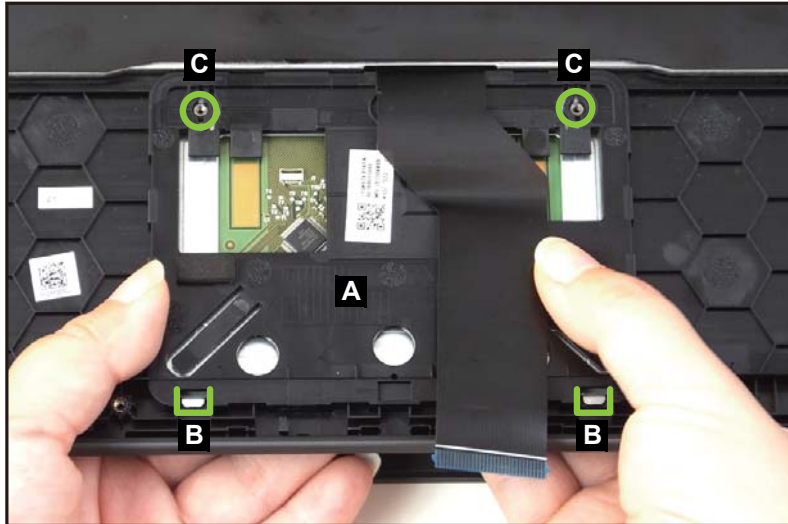
Figure 3-79.   Replacing the Touchpad Module

3. Install and secure one (1) screw to the touchpad module (Figure 3-80).
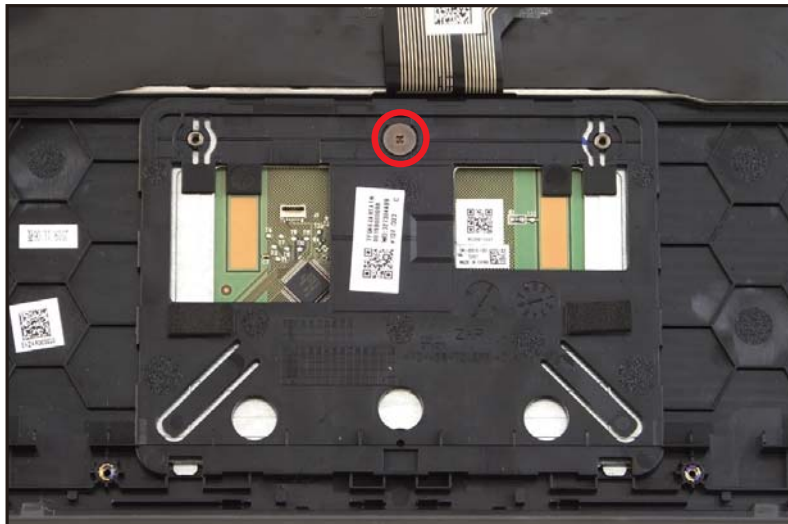
Figure 3-80.   Replacing the Touchpad Module

4. Attach the conductive tape (D) onto the touchpad module and top assembly (Figure 3-81).
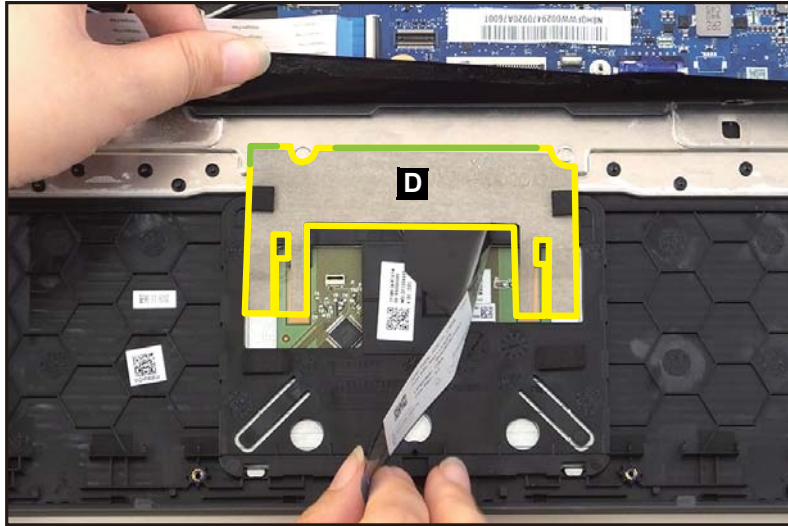
Figure 3-81.   Replacing the Touchpad Module

5. Connect the touchpad FFC to the mainboard connector (E) and the touchpad connector (F) (Figure 3-82).

6. Connect the keyboard FPC to the mainboard connector (G) (Figure 3-82).
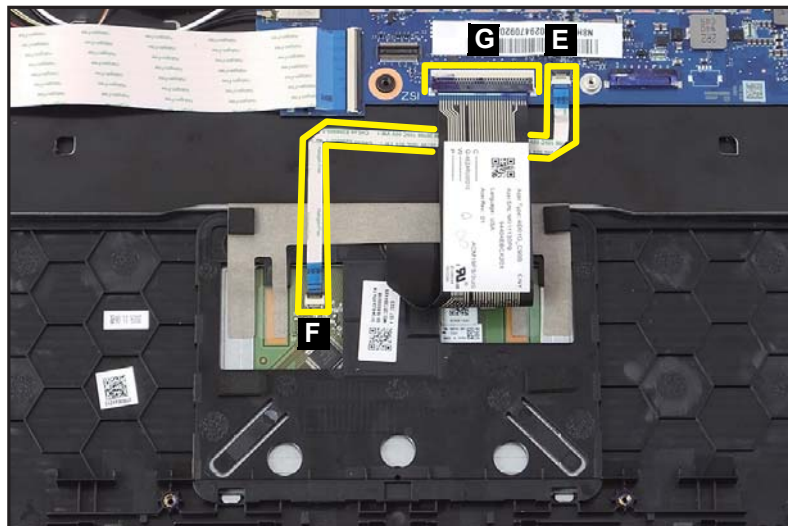
Figure 3-82.   Replacing the Touchpad Module

7. Attach the tape (H) to secure the keyboard FPC in place (Figure 3-83).
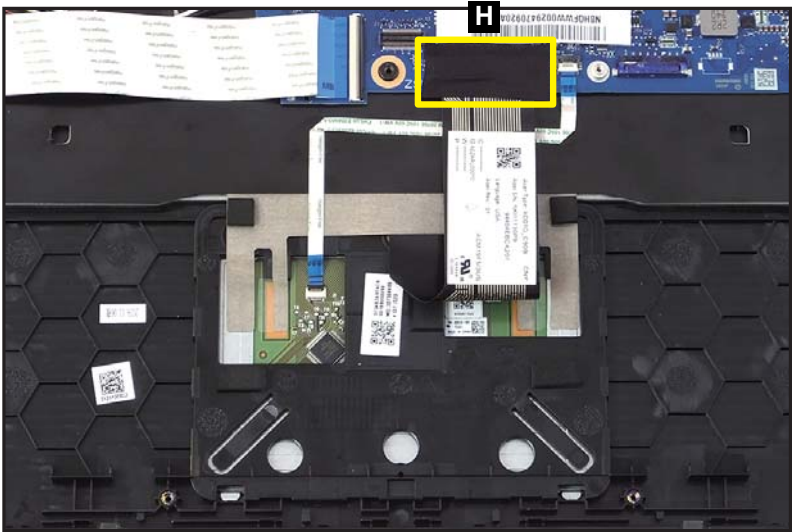
Figure 3-83.   Replacing the Touchpad Module

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*2.5	2.0+10%KGF/CM	1	

Replacing the Mainboard

1. Install the mainboard by aligning and inserting its I/O ports into their slots on the top assembly (Figure 3-84).
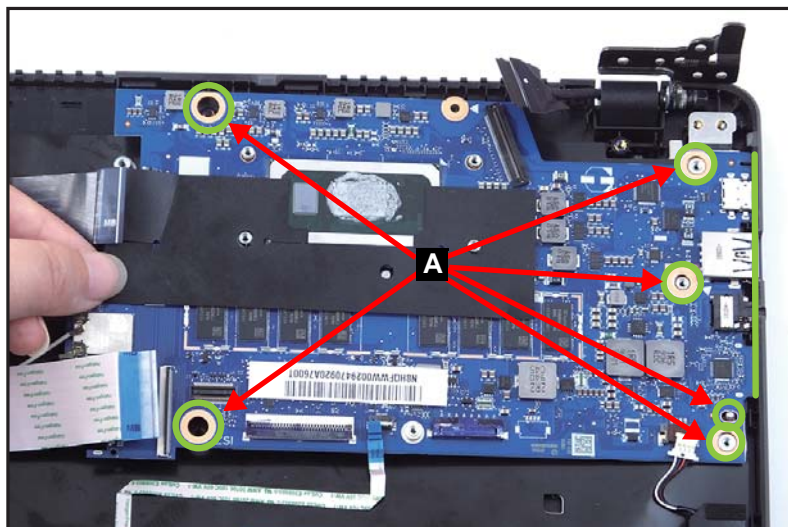
Figure 3-84.   Replacing the Mainboard

+ **IMPORTANT:**

   When installing the mainboard, make sure it is properly aligned with the guide pins (A) and placed onto its designated location as shown in Figure 3-84.

⚠ **CAUTION:**

   Make sure all cables, FFCs, and FPCs are moved away from the mainboard during installation.

2. Install two (2) screws (B) to secure the mainboard in place (Figure 3-85).

3. Lift slightly the mylar covering the mainboard connector for 40-pin USB board FFC. Then connect the 40-pin USB board FFC to the mainboard connector (C) (Figure 3-85). Attach the mylar back into place.

4. Connect the WLAN antennas cables from the WLAN module connectors (D) (Figure 3-85).

5. Connect the 45-pin USB board FFC to the mainboard connector (E) (Figure 3-85).

6. Connect the keyboard FPC to the mainboard connector (F) (Figure 3-85).

7. Connect the touchpad FFC to the mainboard connector (G) (Figure 3-85).

8. Connect the speaker cable to the mainboard connector (H) (Figure 3-85).

9. Connect the eDP cable to the mainboard connector (I) (Figure 3-85).
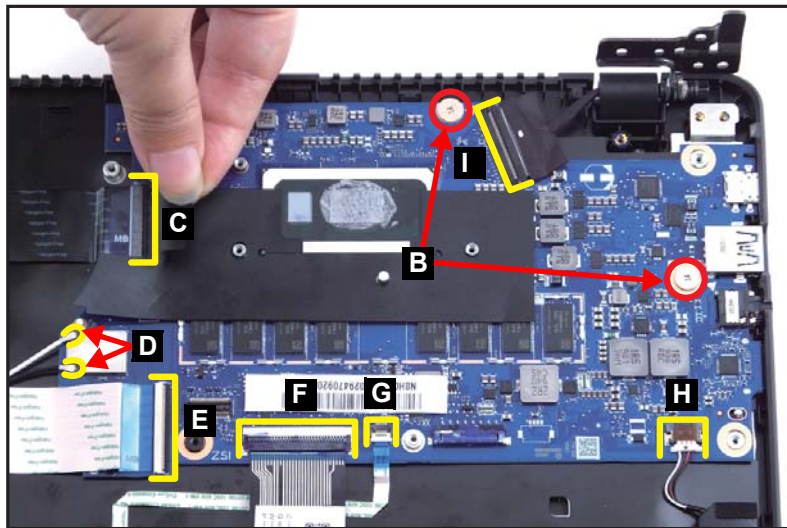
Figure 3-85. Replacing the Mainboard

10. Attach the tape (J) to secure the keyboard FPC in place (Figure 3-86).
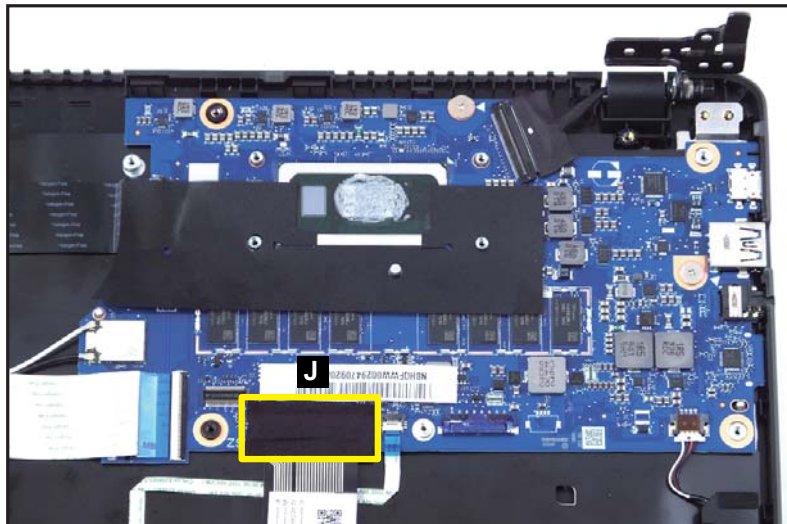
Figure 3-86. Replacing the Mainboard

11. Close the right side of LCD hinge until it is fully seated in place (Figure 3-87).
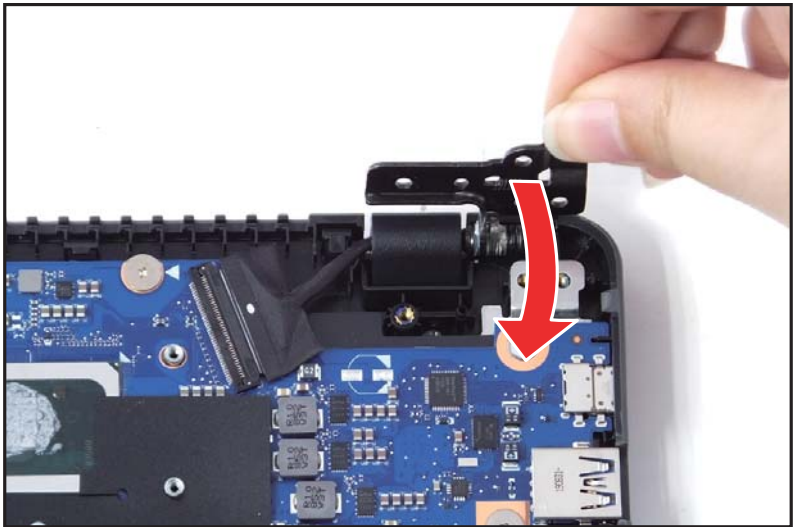
Figure 3-87. Replacing the Mainboard

12. Install and secure three (3) screws (K) to the right side of LCD hinge (Figure 3-88).
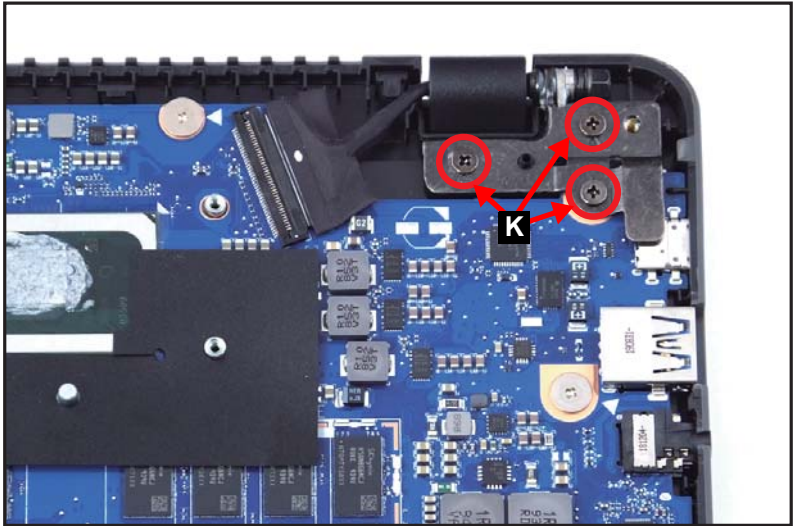
Figure 3-88. Replacing the Mainboard

ID	Size	Torque	Quantity	Screw Type
B	M2.0*2.5	2.0+10%KGF/CM	2	
K	M2.0*4.0	2.0+10%KGF/CM	3	

Replacing the USB Board

1. Place the USB board (A) to its compartment on the top assembly. Make sure the guide pin (B) and USB port slot are properly aligned (Figure 3-89).
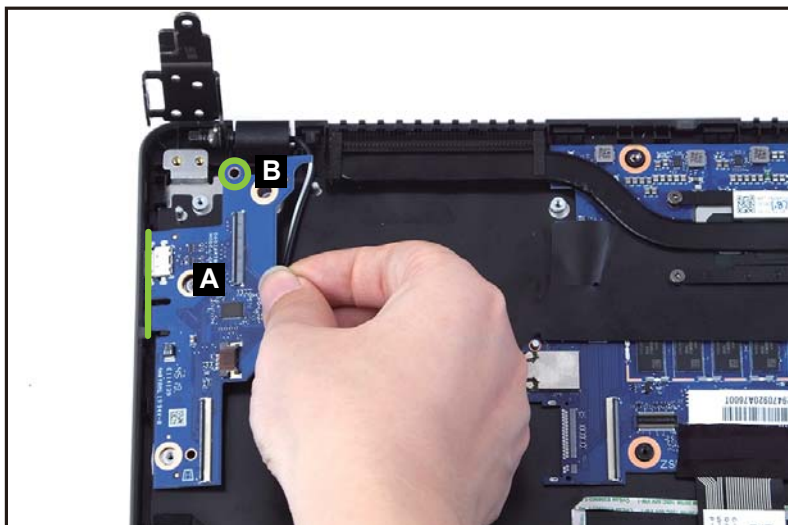
Figure 3-89.   Replacing the USB Board

2. Install one (1) screw (C) to secure the USB board in place (Figure 3-90).
3. Lift slightly the mylar covering the mainboard connector for 40-pin USB board FFC. Then connect the 40-pin USB board FFC (D) to the mainboard and USB board connectors (Figure 3-90). Attach the mylar back into place.
4. Connect the 45-pin USB board FFC (E) to the mainboard and USB board connectors (Figure 3-90).
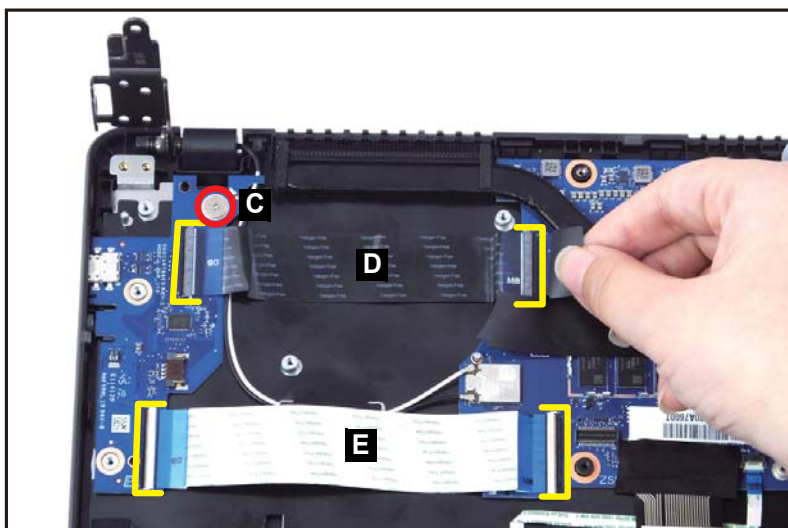
Figure 3-90.   Replacing the USB Board

5. Close the left side of LCD hinge until it is fully seated in place (Figure 3-87).
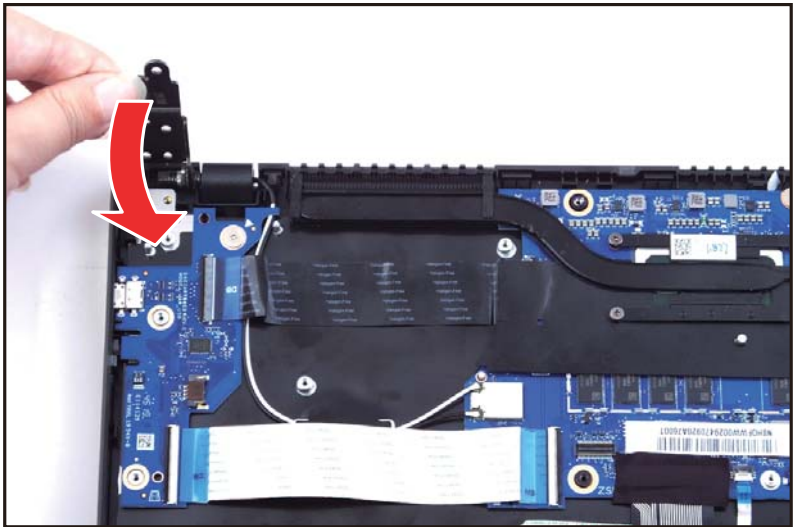
Figure 3-91.   Replacing the Mainboard

6. Install and secure three (3) screws (F) to the left side of LCD hinge (Figure 3-87).
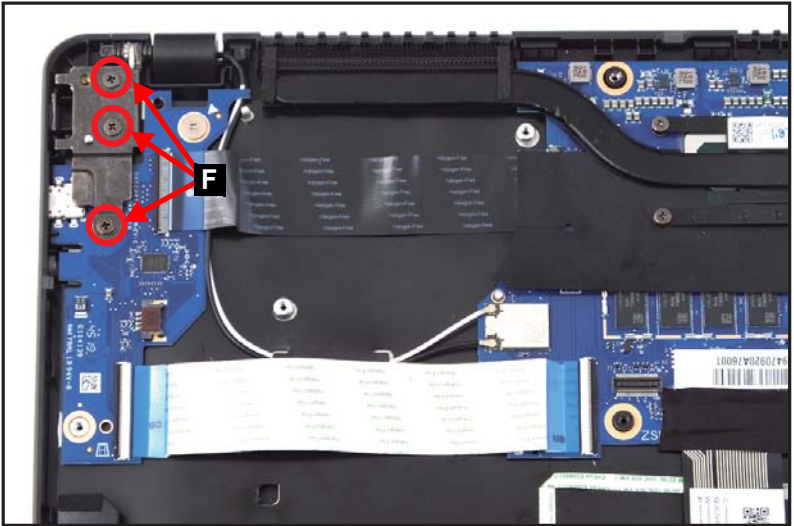
Figure 3-92.   Replacing the Mainboard

ID	Size	Torque	Quantity	Screw Type
C	M2.0*2.5	2.0+10%KGF/CM	1	
F	M2.0*4.0	2.0+10%KGF/CM	3	

Replacing the LCD Module

1. By holding the top assembly upright and the keyboard is facing you, align the top assembly with the LCD hinges slots on the LCD module as shown in Figure 3-93. Then close the top assembly (Figure 3-93).

Figure 3-93.   Replacing the LCD Module

2. Close both LCD hinges until there are fully seated in place (Figure 3-94).
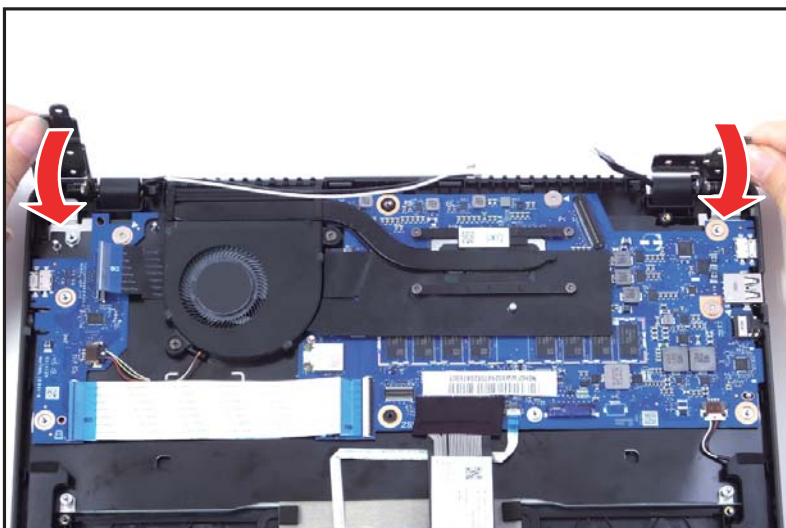
Figure 3-94.   Replacing the LCD Module

3. Install six (6) screws to secure the LCD module in place (Figure 3-95).

⚠ **CAUTION:**

Make sure all cables and antennas are moved away from the device to avoid damage during installation.
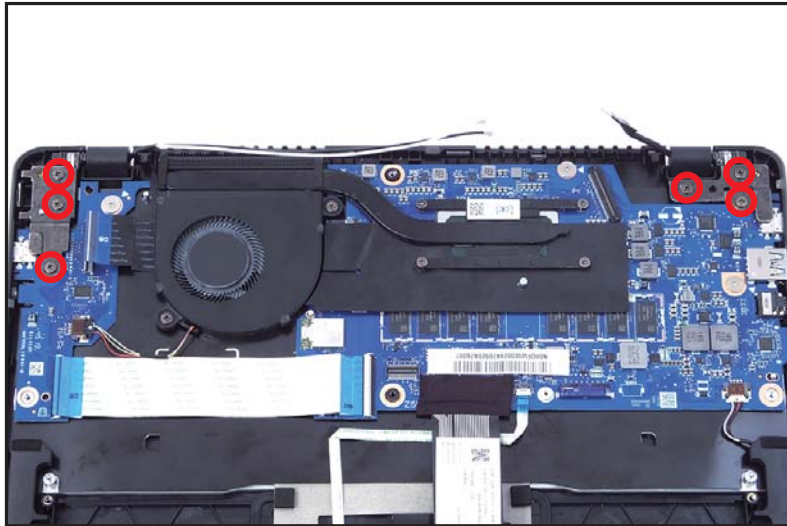
Figure 3-95.   Replacing the LCD Module

4. Connect the eDP cable to the mainboard connector (A) (Figure 3-96).
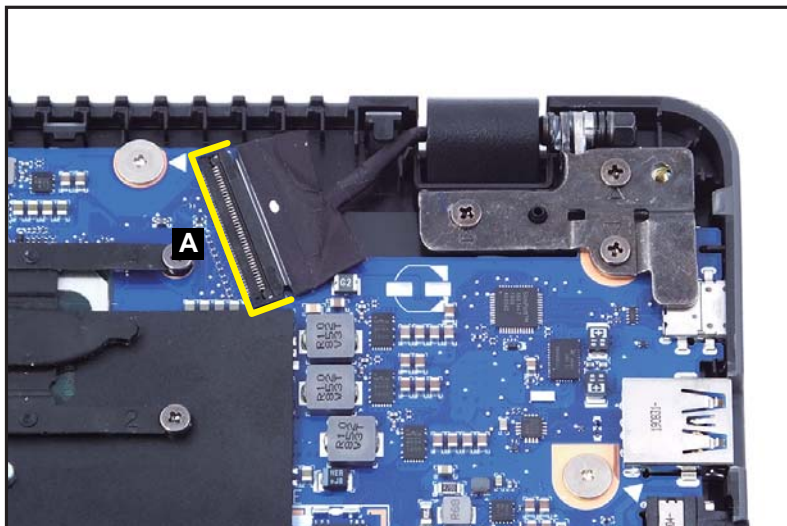
Figure 3-96.   Replacing the LCD Module

5. Route the WLAN antennas cables (B) through the cable guide (Figure 3-97).

6. Connect the WLAN antennas cables to the WLAN module connectors (C) (Figure 3-97).

7. Attach the tape (D) to secure the cables (Figure 3-97).
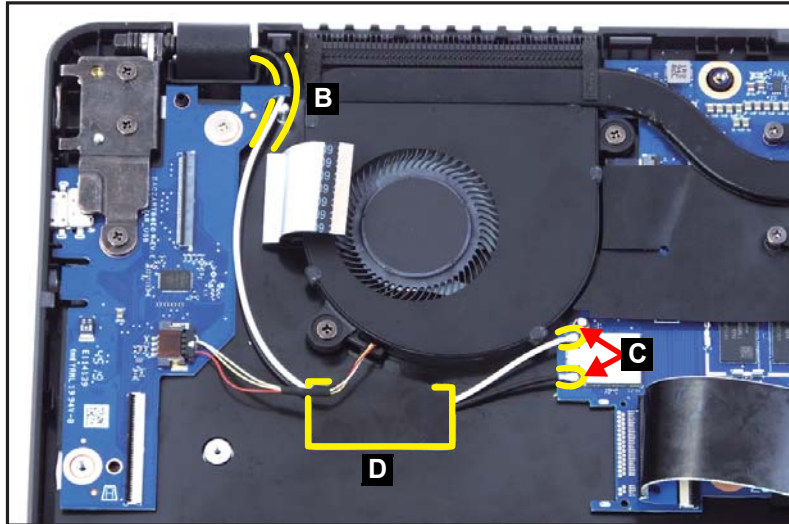
Figure 3-97.   Replacing the LCD Module

8. Connect the 40-pin USB board FFC to the USB board connector (E) (Figure 3-98).

9. Connect the 45-pin USB board FFC to the USB board connector (F) and the mainboard connector (G) (Figure 3-98).
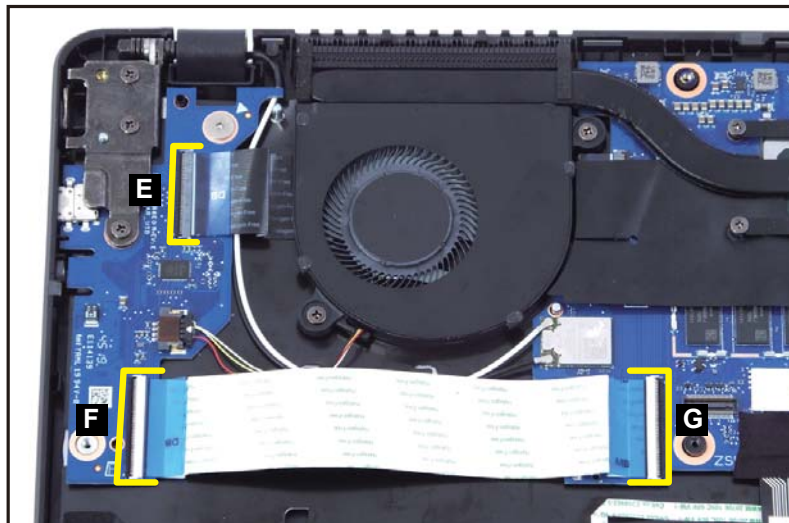
Figure 3-98.   Replacing the LCD Module

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*4.0	2.0+10%KGF/CM	6	

Machine Maintenance Procedures

Replacing the Speaker Module

1. Place the speaker module (A) into its compartment on the top assembly (Figure 3-99).
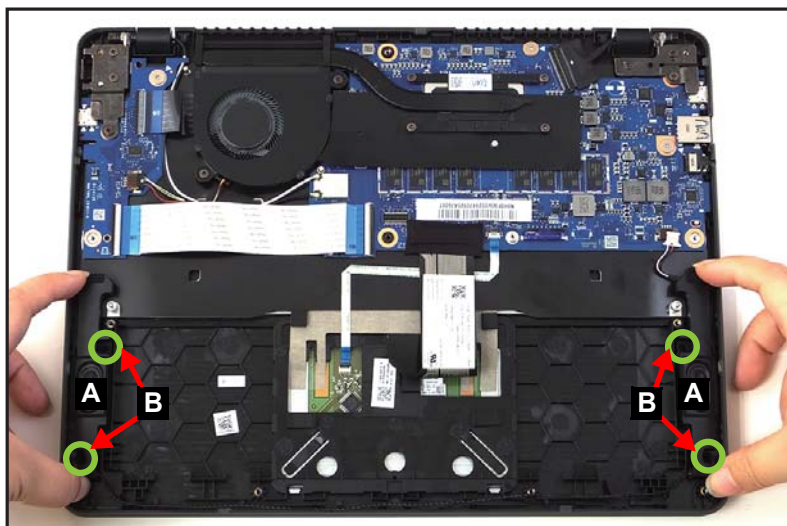
Figure 3-99.   Replacing the Speaker Module

+ **IMPORTANT:**

When installing the speaker module, make sure it is properly aligned with the guide pins (B) and placed onto its designated location as shown in Figure 3-99.

2. Route and secure the speaker cable (C) along the cable guides on the top assembly. Then attach the tape (D) to secure the speaker cable (Figure 3-100).

3. Connect the speaker cable to the mainboard connector (E) (Figure 3-100).
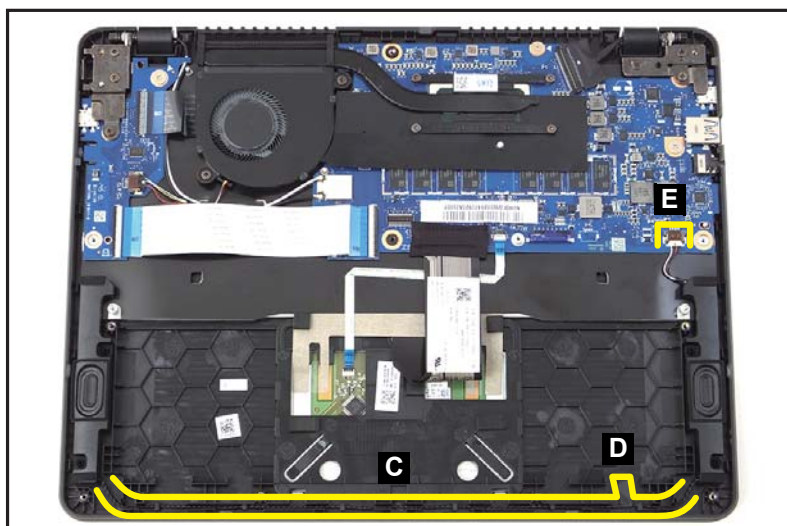
Figure 3-100.   Replacing the Speaker Module

Replacing the Heatsink

+ **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 heatsink (A) onto its compartment on the top assembly (Figure 3-101).
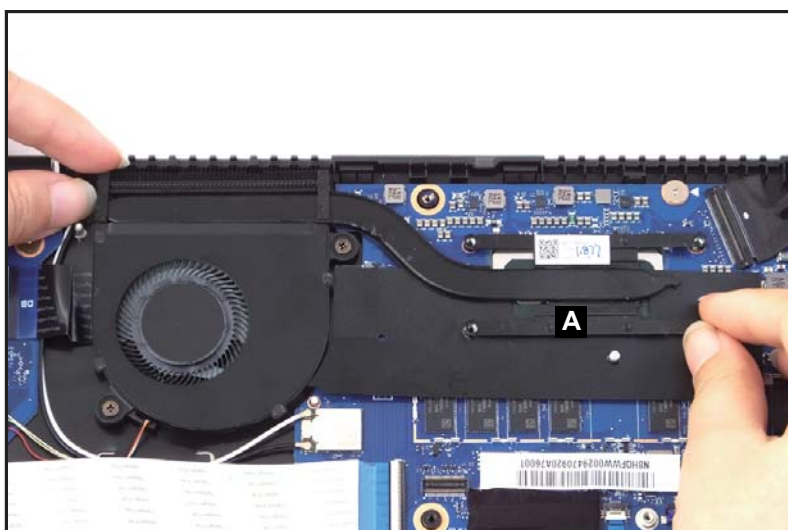
Figure 3-101.   Replacing the Heatsink

4. Install and secure four (4) screws to the heatsink (Figure 3-102). Ensure the heatsink is properly aligned and seated.
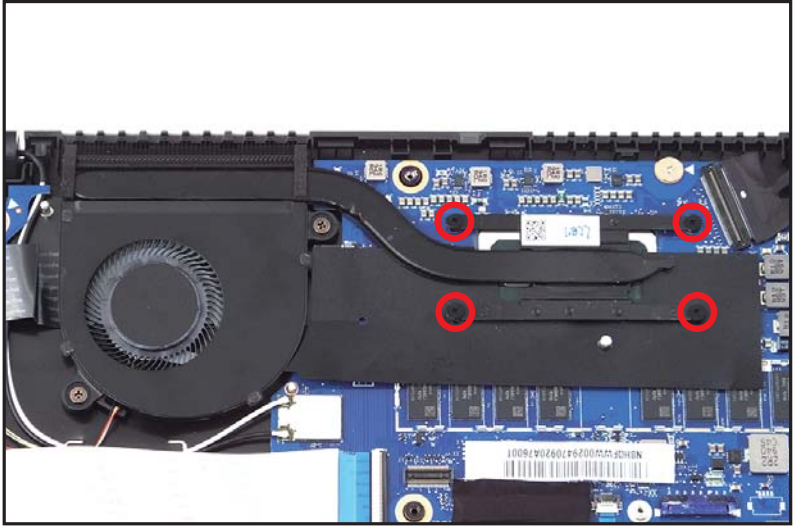
Figure 3-102.   Replacing the Heatsink

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*3.0	2.0+10%KGF/CM	4	

Replacing the Fan

1. Place the fan (A) onto its compartment on the top assembly (Figure 3-103).
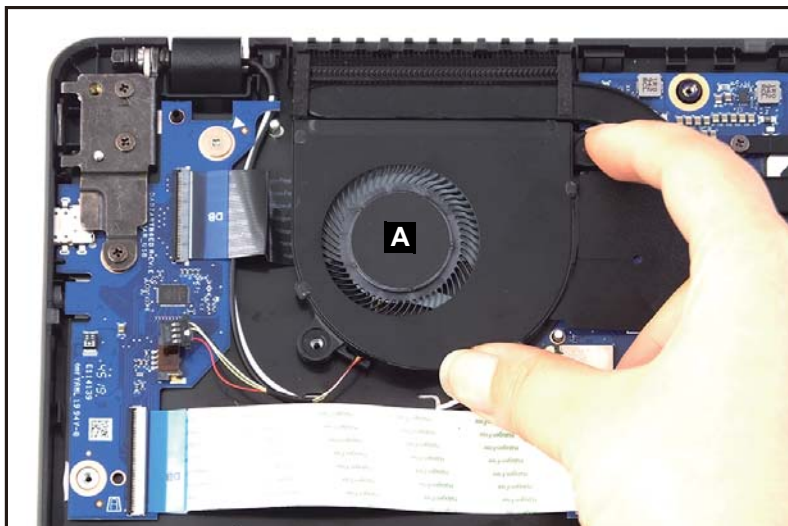
Figure 3-103.   Replacing the Fan

2. Install and secure two (2) screws to the fan (Figure 3-104).
3. Connect the fan cable to the mainboard connector (B) (Figure 3-104).
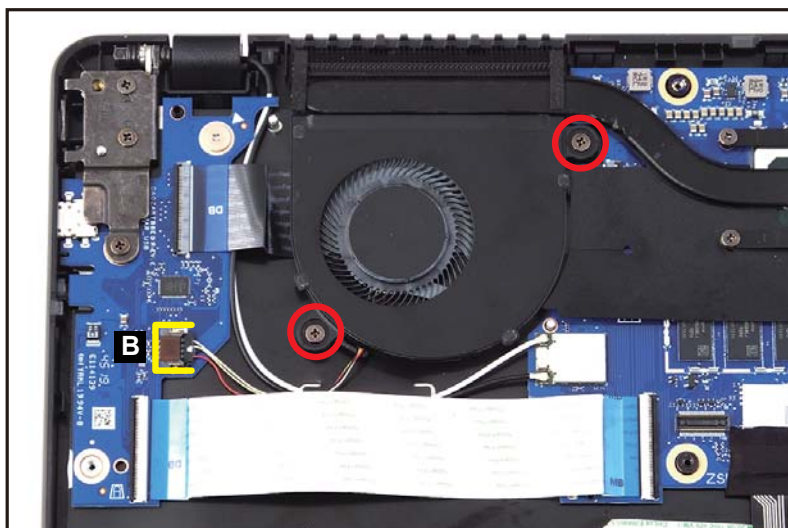
Figure 3-104.   Replacing the Fan

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*4.0	2.0+10%KGF/CM	2	

Replacing the Battery Pack

1. Install the battery pack (A) onto its compartment on the top assembly (Figure 3-105).

Figure 3-105.   Replacing the Battery Pack

+ **IMPORTANT:**

When installing the battery pack, make sure it is properly aligned with the guide pins (B) and placed onto its designated location as shown in Figure 3-105.

2. Connect the battery cable to the mainboard connector (B) (Figure 3-106).

Figure 3-106.   Replacing the Battery Pack

3. Attach the tape (C) to secure the battery cable to the mainboard connector (Figure 3-107).

Figure 3-107.   Replacing the Battery Pack

4. Attach the transparent mylar (D) to secure the battery cable (Figure 3-108).

Figure 3-108.   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 3-109).

Figure 3-109. Replacing the Base Cover

2. Press downward on the system to engage the tabs. Make sure all the tabs are fully engaged (Figure 3-110).

Figure 3-110. Replacing the Base Cover

3. Install ten (10) screws to secure the base cover in place (Figure 3-111).
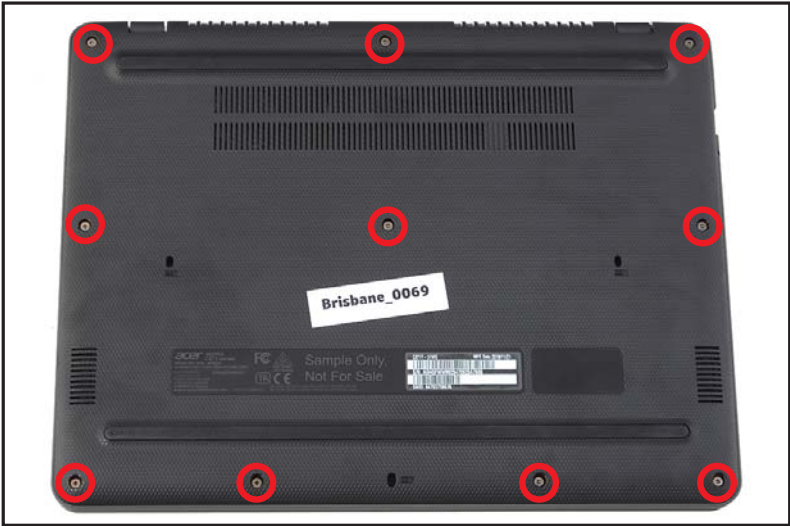
Figure 3-111.   Replacing the Base Cover

ID	Size	Torque	Quantity	Screw Type
Red Call out	M2.0*6.6	2.0+10%KGF/CM	10	

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
Audio Codec 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:
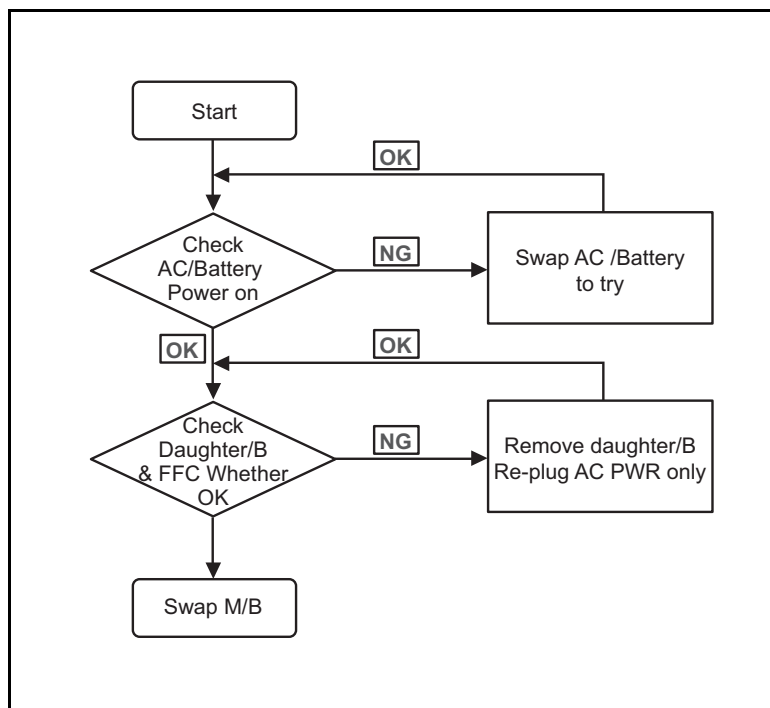
Figure 4-1.   Power On Issue

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. Remove all external and non-essential hardware connected to the computer that are not necessary to boot the computer to the failure point.
5. Remove any recently installed software.
6. If the Issue is still not resolved, refer to *Online Support Information*.

No Display Issues

If the Display does not work, perform the following:
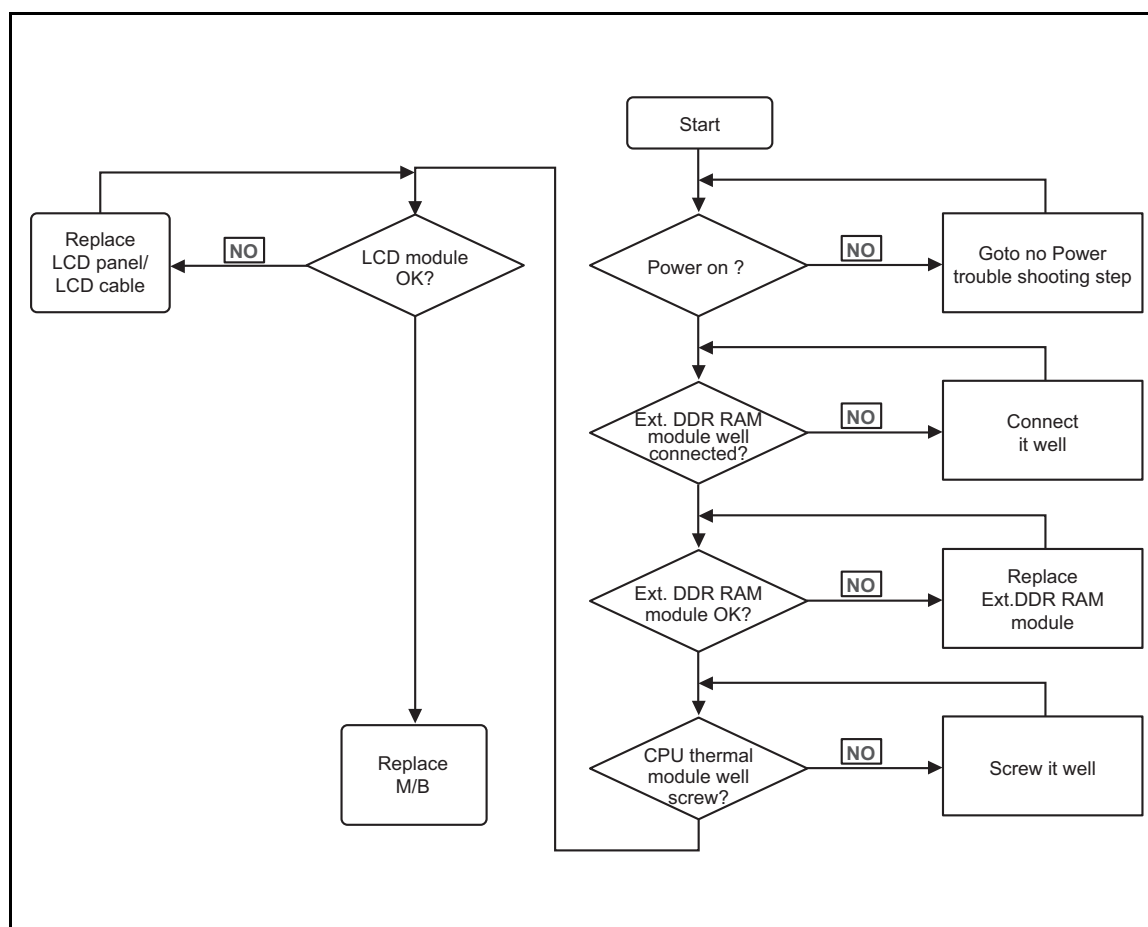
Figure 4-2. No Display Issue

No POST or Video

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

1. Make sure that internal display is selected. Switching between internal and external display by pressing *Ctrl* + ▢. Reference product pages for specific model procedures.

2. Make sure the computer has been turned on.

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

3. Turn off the Chromebook. Remove the power cable, and then plug it back in. Press **Refresh** ⟳ + **Power** ⏻ to perform the hard reset.

4. Connect an external monitor to the computer and switch between the internal display and the external display is pressing *Ctrl* + ▢. If you are using a separate keyboard, press *F4*.

NOTE:
> If you've connected an external monitor, the screen will only appear on the external monitor. If you've connected a projector, the screen will be displayed on both your Chromebook and via the projector.

5. If the POST or video appears on the external display only, refer to *LCD Picture Failure*.

6. Disconnect power and all external devices including port replicators or docking stations. Remove any memory cards.

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

8. 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. Refer to *LCD Module Removal* and *Replacing the LCD Module*.

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 the Chromebook display resolution is not normal, click the status area where your account picture appears.

    - Click `Settings` > `Display Settings`.

    - Click on the `Resolution` drop-down menu to choose the desired resolution.

    - Check the display again. Readjust if necessary

4. Roll back the video driver to the previous version if updated.

5. Remove and reinstall the video driver.

6. Run the Diagnostic test and follow the on-screen prompts, refer to *Key Component Replacement and HWID Re-configuration*.

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

LCD Picture Failure

If the LCD fails, perform the following:
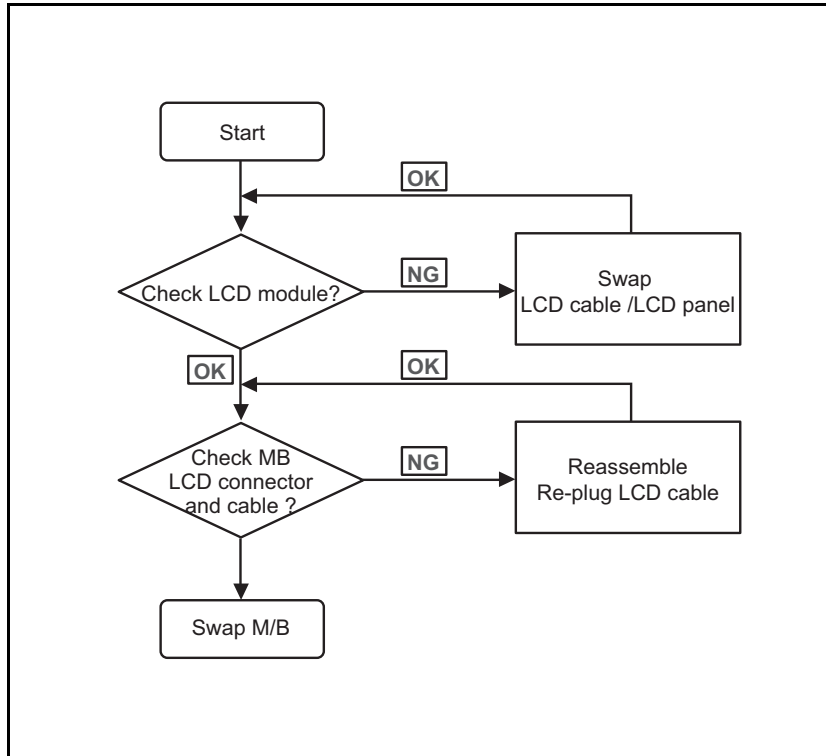
Figure 4-3. LCD Failure

Internal Keyboard Failure

If the internal keyboard fails, perform the following:
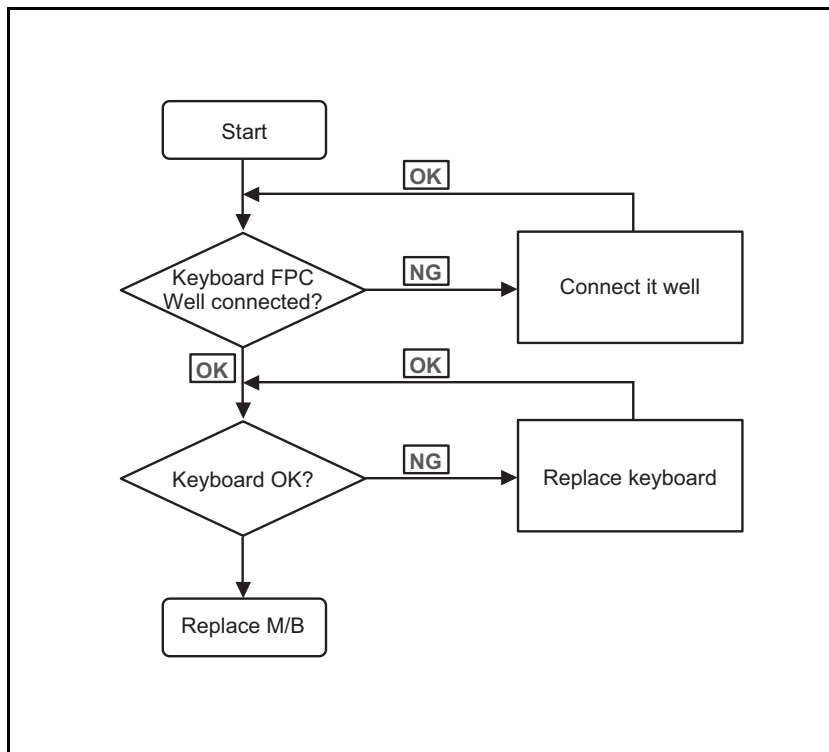
Figure 4-4.   Internal Keyboard Failure

Touch Pad Failure

If the touch pad fails, perform the following:
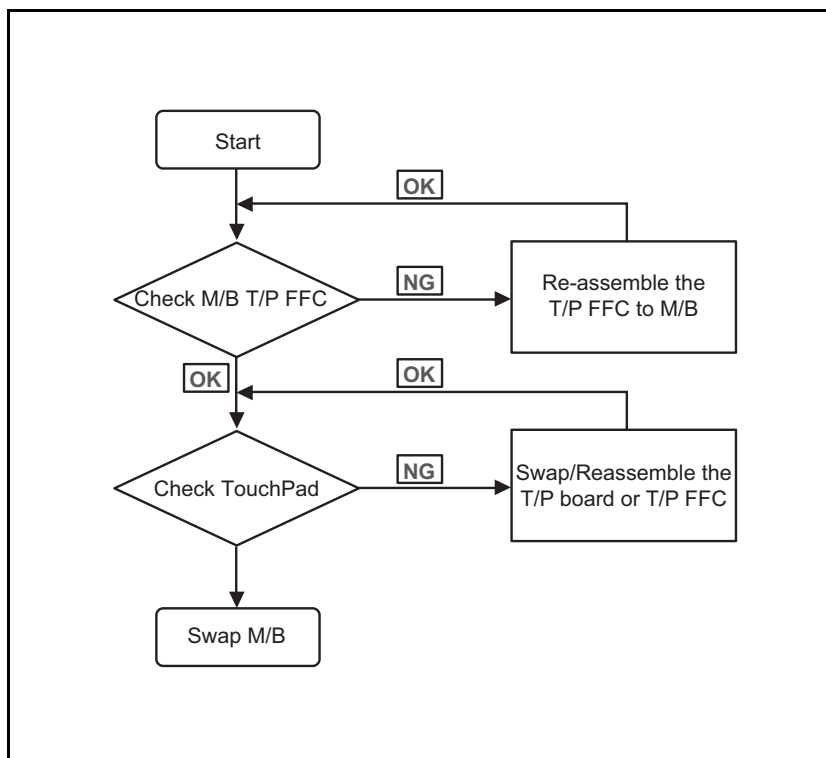
Figure 4-5.   Touch Pad Failure

Internal Speaker Failure

If internal speakers fail, perform the following:
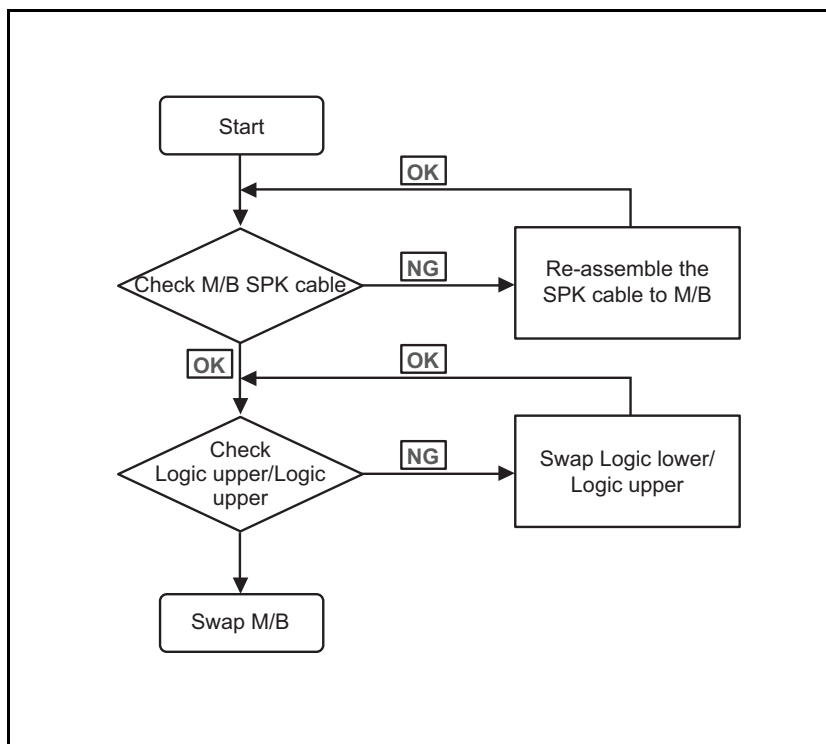
Figure 4-6.   Internal Speaker Failure

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 🔊 or 🔊, or click the status area of 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.   Factory reset your Chromebook:

➡ **NOTE:**

    Make sure to back up all the files on Google Drive or an external hardrive.

    ●   Sign out of the Chromebook and press and hold *Ctrl* + *Alt* + *Shift* + *R*.

    ●   Click Restart to restart the Chromebook, and then follow the on-screen

instructions.

- Check if the problem is fixed once you set up the Chromebook.

6. Restore system and file settings from a known good date using *Chromebook Recovery Utility*.

7. Reinstall the operating system.

8. If the issue is still not resolved, refer to *Online Support Information*.

Audio Codec Failure

If the audio codec fails, perform the following:

```
                    ┌──────────┐
                    │  Start   │
                    └────┬─────┘
                         │            [OK]
                         ▼    ┌──────────────────┐
                    ╱Check╲   │  Re-assemble the │
                   ╱Audio to╲  │ Audio and USB DB │
                   ╲M/B cable╱  │   to M/B cable   │
                    ╲──────╱    └──────────────────┘
              [OK] │    [NG] ──►
                    ▼            [OK]
                    ╱Check╲   ┌──────────────────┐
                   ╱ Audio ╲  │   Swap DB cable  │
                   ╲ Codec ╱  └──────────────────┘
                    ╲─────╱ [NG] ──►
                       │
                       ▼
                ┌──────────┐
                │ Swap M/B │
                └──────────┘
```
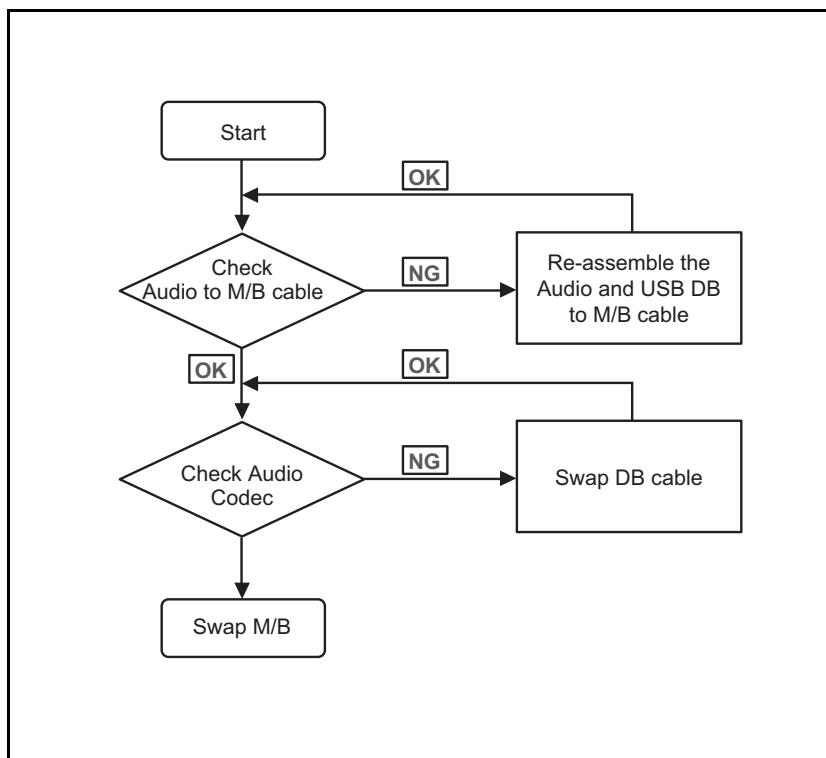
Figure 4-7.   Audio Codec Failure

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

CHAPTER 5
Jumper and Connector Locations

Jumper and Connector Locations

Mainboard Jumper and Connector Locations
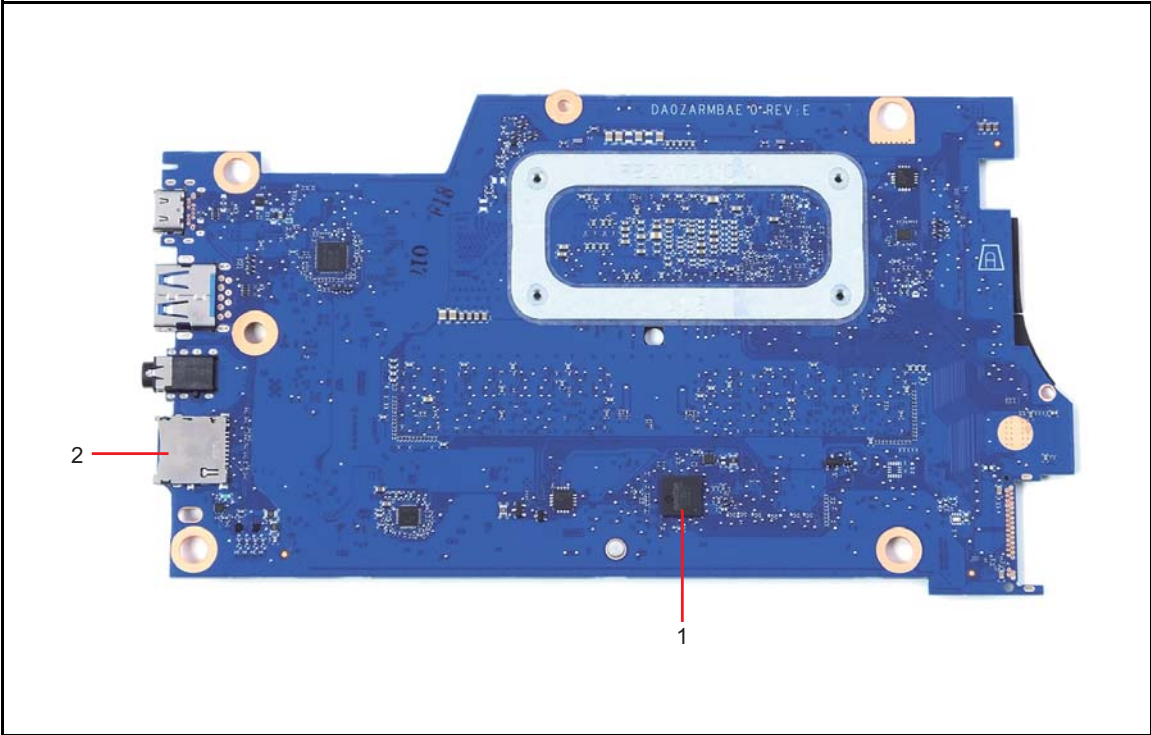
Figure 5-1. Mainboard Top

Table 5-1. Mainboard Top

Item	Description	Item	Description
1	EC	2	SD Card Reader
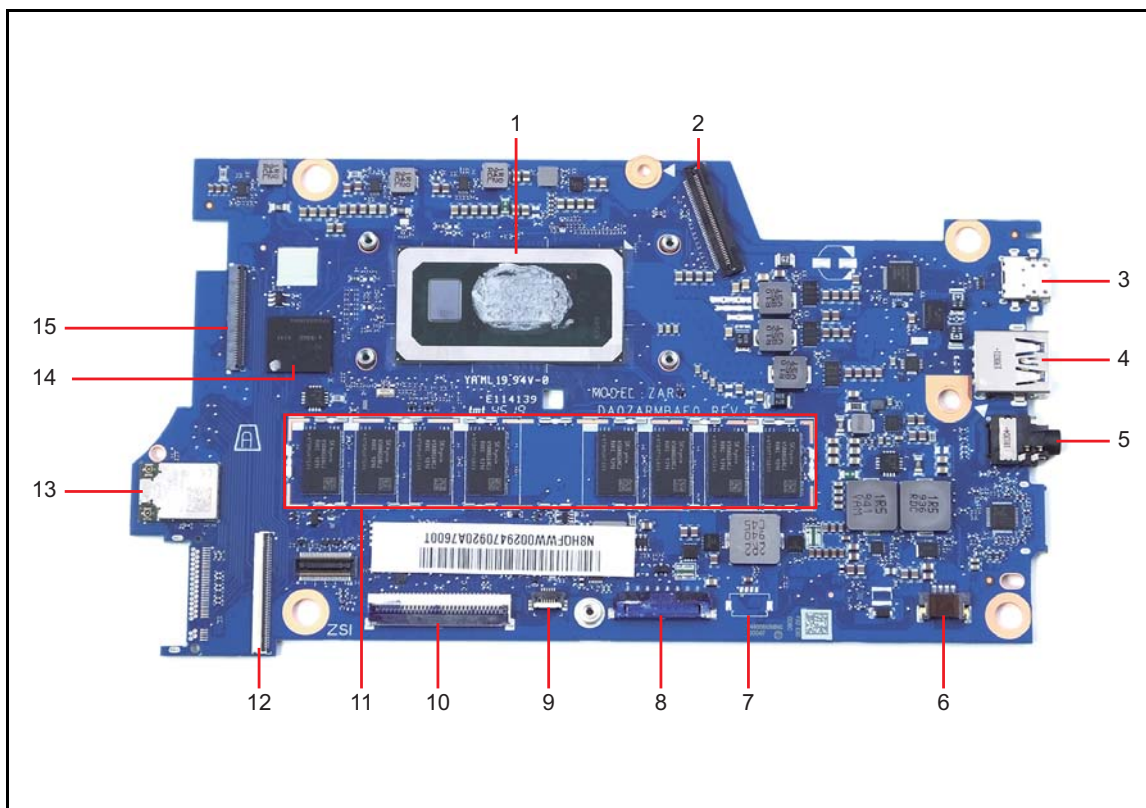
Figure 5-2.   Mainboard Bottom

Table 5-2.   Mainboard Bottom

Item	Description	Item	Description
1	CML CPU	9	Touchpad Connector
2	eDP Connector	10	Keyboard Connector
3	USB Type-C Connector	11	DDR4
4	USB Type-A Connector	12	DB FFC Connector
5	Audio Jack	13	Wi-Fi
6	Speaker Connector	14	eMMC
7	Keyboard Backlight Connector	15	DB FFC Connector
8	Battery 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 Chromebook C871/C871T. 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

FRU (Field Replaceable Unit) List

Table 6-1. System Exploded Diagram

No.	Description	Acer Part No.
1	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Arabic Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P2	6B.HQFN7.001
2	TOUCHPAD FFC CABLE	50.HQFN7.003
3	TOUCH PAD W/MYLAR, BRCKET NC.24611.04Z	56.HQFN7.001
4	CONDUCTIVE TAPE	47.HQFN7.001
5	Mainboard C871 Intel Intel Celeron 5205U 4GB eMMC32GB UMA INTAX201.D2WG.NV_AX_w/BT 5.0 1216	NB.HQE11.005
6	HEAT SINK UMA	24.HQFN7.001
7	USB BOARD	55.HQFN7.001
8	FAN	23.HQFN7.001
9	USB FFC CABLE 107MM,40P	50.HQFN7.001
10	USB FFC CABLE 119.5MM,45P	50.HQFN7.002
11	SPEAKER SET	23.HQFN7.002
12	Battery MURATA Typ.48Wh 4200mAh 3S1P 248x84.4x5.5(mm) AP18C 11.4V 60W Polymer	KT.00304.012
13	LOWER CASE	60.HQFN7.001
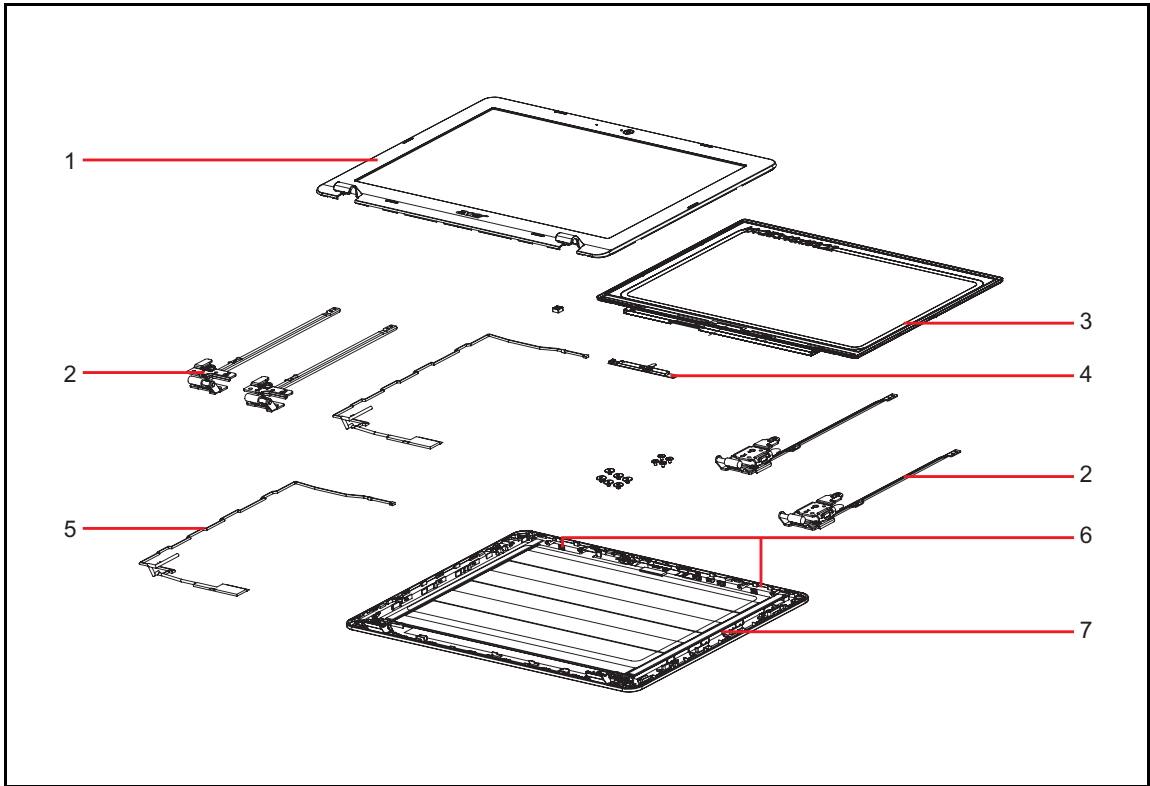
Figure 6-2.   LCD Assembly Exploded Diagram

Table 6-2.   LCD Assembly Exploded Diagram

No.	Description	Acer Part No.
1	LCD BEZEL	60.HQFN7.003
2	HINGE L	33.HQFN7.001
	HINGE R	33.HQFN7.002
3	LED LCD Panel INNOLUX 12' HD+ None Glare N120ACA-EA1 LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.6mm max)	KL.1200D.001
4	Camera Tech-Front HD Camera TF_HM1091B_SPCA2087L2_Newmax_FG6531S for Chrome (add Mic*1)	KS.0HD0Q.006
5	LCD CABLE FOR NON-TOUCH SKU	50.HQEN7.001
	LCD CABLE FOR TOUCH SKU	50.HQFN7.005
6	ANTENNA MAIN+AUX	50.HQFN7.004
7	LCD COVER	60.HQFN7.002

FRU List

Category	Description	Acer Part No.
ADAPTER		
	Adapter LITE-ON 45W 5V/3A_9V/3A_12V/3A_15V/3A_20V/2.25A Type C PA-1450-50AD LF Black Meet DOE6, CoC Tier2, IEC 62368	KP.04503.014
	Adapter Chicony Power 45W 5V/3A_9V/3A_12V/3A_15V/3A_20V/2.25A Type C A045RP05P LF Black Meet DOE6, CoC Tier2, IEC 62368	KP.0450H.012
	Adapter DELTA 45W 5V/3A_9V/3A_12V/3A_15V/3A_20V/2.25A Type C ADP-45HG BA LF Black Meet CoC Tier-2 & IEC 62368	KP.04501.023
BATTERY		
	Battery MURATA Typ.48Wh 4200mAh 3S1P 248x84.4x5.5(mm) AP18C 11.4V 60W Polymer	KT.00304.012
	Battery LGC Typ.50Wh 4470mAh 3S1P 248x84.4x5.5(mm) AP18C 11.25V 65W Polymer	KT.0030G.020
BOARD		
	USB BOARD	55.HQFN7.001
	TOUCH PAD W/MYLAR, BRCKET NC.24611.04Z	56.HQFN7.001
CABLE		
	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

Table 6-3. FRU List **(Continued)**

Category	Description	Acer Part No.
	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
	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
	USB FFC CABLE 107MM,40P	50.HQFN7.001
	USB FFC CABLE 119.5MM,45P	50.HQFN7.002
	TOUCHPAD FFC CABLE	50.HQFN7.003
	ANTENNA MAIN+AUX	50.HQFN7.004
	LCD CABLE FOR NON-TOUCH SKU	50.HQEN7.001
	LCD CABLE FOR TOUCH SKU	50.HQFN7.005
CAMERA		
	Camera Tech-Front HD Camera TF_HM1091B_SPCA2087L2_Newmax_FG6531S for Chrome (add Mic*1)	KS.0HD0Q.006
	Camera CHICONY HD Camera CH_OV9734_RTS5846N_AOET_FG6531S for Chrome (add Mic*1)	KS.0HD06.013

Table 6-3.   FRU List **(Continued)**

Category	Description	Acer Part No.
CASE/COVER/BRACKET ASSEMBLY		
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Arabic Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P2	6B.HQFN7.001
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black FR/Arabic Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PJ	6B.HQFN7.002
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Belgium Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PE	6B.HQFN7.003
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Brazilian Portuguese Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PF	6B.HQFN7.004
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Bulgaria Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PC	6B.HQFN7.005
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black US w/ Canadian French Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PY	6B.HQFN7.006
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black SLO/CRO Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PS	6B.HQFN7.007
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black CZ/SK Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PG	6B.HQFN7.008

Table 6-3.   FRU List (Continued)

Category	Description	Acer Part No.
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Danish Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PH	6B.HQFN7.009
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black French Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PK	6B.HQFN7.010
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black German Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PL	6B.HQFN7.011
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Greek Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P4	6B.HQFN7.012
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black US International w/ Hebrew Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PB	6B.HQFN7.013
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Hungarian Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PM	6B.HQFN7.014
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Persian Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P6	6B.HQFN7.015
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Italian Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PN	6B.HQFN7.016
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AL01G_C70B AL1G Internal 11 Standard 74KS Black Korean Chrome OS for Full Size, Power Icon, V-0 Mylar NK.I1113.0M8	6B.HQFN7.017

Table 6-3.   FRU List (Continued)

Category	Description	Acer Part No.
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black ALA-Spanish Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PD	6B.HQFN7.018
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Norwegian Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PQ	6B.HQFN7.019
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Portuguese Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PR	6B.HQFN7.020
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Russian Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P5	6B.HQFN7.021
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Nordic Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PP	6B.HQFN7.022
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Spanish Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PT	6B.HQFN7.023
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Sweden Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PU	6B.HQFN7.024
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Swiss/G Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PV	6B.HQFN7.025
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Traditional Chinese Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P3	6B.HQFN7.026

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Thailand Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P8	6B.HQFN7.027
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black Turkish Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PW	6B.HQFN7.028
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black US International Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PA	6B.HQFN7.029
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 75KS Black UK Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0PX	6B.HQFN7.030
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black Ukrainian Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P7	6B.HQFN7.031
	UPPER CASE ASSY W/ NBL KB Keyboard CHICONY AD01G_C90B AD1G Internal 11 Standard 74KS Black US Chrome OS for Full Size EDU anchored V0 Mylar NK.I1113.0P9	6B.HQFN7.032
	LOWER CASE	60.HQFN7.001
	LCD COVER	60.HQFN7.002

Table 6-3.   FRU List (Continued)

Category	Description	Acer Part No.
	LCD BEZEL	60.HQFN7.003
	HINGE L	33.HQFN7.001
	HINGE R	33.HQFN7.002
FAN SINK/SPEAKER/EARPHONE/RTC		
	FAN	23.HQFN7.001
	HEAT SINK UMA	24.HQFN7.001
	SPEAKER SET	23.HQFN7.002
LCD		
	LED LCD Panel INNOLUX 12' HD+ None Glare N120ACA-EA1 LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.6mm max)	KL.1200D.001
	LED LCD Panel AUO 12' HD+ None Glare B120XAN01.0 LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.6mm max)	KL.12005.001
	LED LCD Panel AUO 12' HD+ None Glare B120XAK01.0 H/W 0A LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.75/3.2mm max)	KL.12005.002
	LED LCD Panel AUO 12' HD+ None Glare B120XAK01.0 H/W 1A LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.75/3.2mm max)	KL.12005.004

Table 6-3. FRU List (Continued)

Category	Description	Acer Part No.
MAINBOARD		
	Mainboard C871 Intel Intel Celeron 5205U 4GB eMMC32GB UMA INTAX201.D2WG.NV_AX_w/BT 5.0 1216	NB.HQE11.005
MISCELLANEOUS		
	LCD ADHESIVE TAPE W/ MYLAR	47.HQFN7.003
	RUBBER FOR MIC	47.HAWN7.002
	CONDUCTIVE TAPE	47.HQFN7.001
	INS MYLAR FOR LCD PANEL	47.HKCN7.001
	ACETATE TAPE FOR BATTERY(21*21mm)	47.HKKN7.001
	BATTERY MYLAR	47.HQFN7.002

Screw List

Table 6-4. Screw List

Category	Description	Acer Part No.
	SCREW M2.0*4-I*(BNI)(NYLOK)	86.N1407.004
	SCREW M2.0*3.0-I(BZN)(NYLOK)IRON	86.GDEN7.001
	SCREW M2.0*3.0-I(NI)(NYLOK)IRON	86.MQNN7.002
	SCREW M2.0*6.6-I(BNI)D4.5(NYLOK)	86.EF2N7.002
	SCREW M2.5*2.5-I(BNI)(NYLOK)T=0.6	86.SHXN7.003
	SCREWM2*2.5-I(BNI)(NYLOK)D7T0.3IRON	86.GE8N7.001

CHAPTER 7

Model Definition and Configuration

Model Definition and Configuration

Chromebook C871/C871T

Table 7-1.   RO, Description (UMACkkR_4(HQE))

Model	RO	Country	Acer Part No	Description
C871-C85K	PA	USA	NX.HQEAA.001	C871-C85K CHROMENUS7 UMACkkR_4 5205/1*4G/32G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENPG -
C871-30AZ	EMEA	Nordic	NX.HQEED.005	C871-30AZ CHROMENND1 UMACkkR_4 310110/1*8G/32G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -
C871-34JZ	EMEA	Nordic	NX.HQEED.006	C871-34JZ CHROMENND1 UMACkkR_4 310110/1*8G/64G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -
C871-36QF	EMEA	Nordic	NX.HQEED.004	C871-36QF CHROMENND1 UMACkkR_4 310110/1*4G/64G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -
C871-38HK	EMEA	Nordic	NX.HQEED.003	C871-38HK CHROMENND1 UMACkkR_4 310110/1*4G/32G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -
C871-C1PT	EMEA	Nordic	NX.HQEED.008	C871-C1PT CHROMENND1 UMACkkR_4 5205/1*4G/64G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -
C871-C5CV	EMEA	Bulgaria	NX.HQEEX.002	C871-C5CV CHROMENBG3 UMACkkR_4 5205/1*4G/64G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_BG61 -
C871-C5DD	EMEA	Nordic	NX.HQEED.00A	C871-C5DD CHROMENND1 UMACkkR_4 5205/1*8G/64G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -
C871-C7Z4	EMEA	Nordic	NX.HQEED.007	C871-C7Z4 CHROMENND1 UMACkkR_4 5205/1*4G/32G/48Wh/R/12HDI_WiFi6+BT5_HD_Mic_Sha Black_ENS2 -

Table 7-1. RO, Description (UMACkkR_4(HQE)) (Continued)

Model	RO	Country	Acer Part No	Description
C871-C9JV	EMEA	Nordic	NX.HQEED.009	C871-C9JV CHROMENND1 UMACkkR_4 5205/1*8G/32G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_ENS2 -
C871-P139	EMEA	Romania	NX.HQEEX.001	C871-P139 CHROMENRO1 UMACkkR_4 6405/1*4G/64G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_EN11 -
C871-P1H9	EMEA	Nordic	NX.HQEED.00B	C871-P1H9 CHROMENND1 UMACkkR_4 6405/1*4G/32G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_ENS2 -
C871-P25B	EMEA	Nordic	NX.HQEED.00C	C871-P25B CHROMENND1 UMACkkR_4 6405/1*4G/64G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_ENS2 -
C871-P5WE	EMEA	Nordic	NX.HQEED.002	C871-P5WE CHROMENND1 UMACkkR_4 6405/1*8G/64G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_ENS2 -
C871-P85M	EMEA	Middle East	NX.HQEEM.001	C871-P85M CHROMENME1 UMACkkR_4 6405/1*4G/32G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_ARA1 -
C871-P8XE	EMEA	Nordic	NX.HQEED.001	C871-P8XE CHROMENND1 UMACkkR_4 6405/1*8G/32G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_ENS2 -
C871-C6PP	EMEA	UK	NX.HQEEK.001	C871-C6PP CHROMENGB1 UMACkkR_4 5205/1*8G/64G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_EN11 -
C871-C756	EMEA	France	NX.HQEEF.001	C871-C756 CHROMENFR1 UMACkkR_4 5205/1*4G/32G/48Wh/R/12HDI_WiFi 6+BT5_HD_Mic_Sha Black_FRW3 -

Table 7-2. CPU, LCD (UMACkkR_4(HQE))

Model	Country	Acer Part No	CPU	LCD
C871-C85K	USA	NX.HQEAA.001	CM5205U	N12HD+SSPIL
C871-30AZ	Nordic	NX.HQEED.005	Ci310110U	N12HD+SSPIL
C871-34JZ	Nordic	NX.HQEED.006	Ci310110U	N12HD+SSPIL
C871-36QF	Nordic	NX.HQEED.004	Ci310110U	N12HD+SSPIL
C871-38HK	Nordic	NX.HQEED.003	Ci310110U	N12HD+SSPIL
C871-C1PT	Nordic	NX.HQEED.008	CM5205U	N12HD+SSPIL
C871-C5CV	Bulgaria	NX.HQEEX.002	CM5205U	N12HD+SSPIL
C871-C5DD	Nordic	NX.HQEED.00A	CM5205U	N12HD+SSPIL
C871-C7Z4	Nordic	NX.HQEED.007	CM5205U	N12HD+SSPIL
C871-C9JV	Nordic	NX.HQEED.009	CM5205U	N12HD+SSPIL
C871-P139	Romania	NX.HQEEX.001	PMD6405U	N12HD+SSPIL
C871-P1H9	Nordic	NX.HQEED.00B	PMD6405U	N12HD+SSPIL
C871-P25B	Nordic	NX.HQEED.00C	PMD6405U	N12HD+SSPIL
C871-P5WE	Nordic	NX.HQEED.002	PMD6405U	N12HD+SSPIL
C871-P85M	Middle East	NX.HQEEM.001	PMD6405U	N12HD+SSPIL
C871-P8XE	Nordic	NX.HQEED.001	PMD6405U	N12HD+SSPIL
C871-C6PP	UK	NX.HQEEK.001	CM5205U	N12HD+SSPIL
C871-C756	France	NX.HQEEF.001	CM5205U	N12HD+SSPIL

Table 7-3. VGA Chip, Memory (UMACkkR_4(HQE))

Model	Country	Acer Part No	VGA Chip	Memory
C871-C85K	USA	NX.HQEAA.001	UMA	OB4GBIV(512x16*4)
C871-30AZ	Nordic	NX.HQEED.005	UMA	OB8GBIV(512x16*8)
C871-34JZ	Nordic	NX.HQEED.006	UMA	OB8GBIV(512x16*8)
C871-36QF	Nordic	NX.HQEED.004	UMA	OB4GBIV(512x16*4)
C871-38HK	Nordic	NX.HQEED.003	UMA	OB4GBIV(512x16*4)
C871-C1PT	Nordic	NX.HQEED.008	UMA	OB4GBIV(512x16*4)
C871-C5CV	Bulgaria	NX.HQEEX.002	UMA	OB4GBIV(512x16*4)
C871-C5DD	Nordic	NX.HQEED.00A	UMA	OB8GBIV(512x16*8)
C871-C7Z4	Nordic	NX.HQEED.007	UMA	OB4GBIV(512x16*4)
C871-C9JV	Nordic	NX.HQEED.009	UMA	OB8GBIV(512x16*8)

Table 7-3.   VGA Chip, Memory (UMACkkR_4(HQE)) (Continued)

Model	Country	Acer Part No	VGA Chip	Memory
C871-P139	Romania	NX.HQEEX.001	UMA	OB4GBIV(512x16*4)
C871-P1H9	Nordic	NX.HQEED.00B	UMA	OB4GBIV(512x16*4)
C871-P25B	Nordic	NX.HQEED.00C	UMA	OB4GBIV(512x16*4)
C871-P5WE	Nordic	NX.HQEED.002	UMA	OB8GBIV(512x16*8)
C871-P85M	Middle East	NX.HQEEM.001	UMA	OB4GBIV(512x16*4)
C871-P8XE	Nordic	NX.HQEED.001	UMA	OB8GBIV(512x16*8)
C871-C6PP	UK	NX.HQEEK.001	UMA	OB8GBIV(512x16*8)
C871-C756	France	NX.HQEEF.001	UMA	OB4GBIV(512x16*4)

Table 7-4.   HDD, Card Reader, Wireless LAN (UMACkkR_4(HQE))

Model	Country	Acer Part No	HDD (GB)	Card Reader	Wireless LAN
C871-C85K	USA	NX.HQEAA.001	eMMC32GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-30AZ	Nordic	NX.HQEED.005	eMMC32GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-34JZ	Nordic	NX.HQEED.006	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-36QF	Nordic	NX.HQEED.004	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-38HK	Nordic	NX.HQEED.003	eMMC32GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-C1PT	Nordic	NX.HQEED.008	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-C5CV	Bulgaria	NX.HQEEX.002	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-C5DD	Nordic	NX.HQEED.00A	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871-C7Z4	Nordic	NX.HQEED.007	eMMC32GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216

Table 7-4.   HDD, Card Reader, Wireless LAN (UMACkkR_4(HQE)) (Continued)

Model	Country	Acer Part No	HDD (GB)	Card Reader	Wireless LAN
C871-C9JV	Nordic	NX.HQEED.009	eMMC32GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-P139	Romania	NX.HQEEX.001	eMMC64GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-P1H9	Nordic	NX.HQEED.00B	eMMC32GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-P25B	Nordic	NX.HQEED.00C	eMMC64GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-P5WE	Nordic	NX.HQEED.002	eMMC64GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-P85M	Middle East	NX.HQEEM.001	eMMC32GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-P8XE	Nordic	NX.HQEED.001	eMMC32GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-C6PP	UK	NX.HQEEK.001	eMMC64GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216
C871-C756	France	NX.HQEEF.001	eMMC32GB	MicroSD	INTAX201.D2WG. NV_AX_w/BT 5.0 1216

Table 7-5. Camera, NB Chipset (UMACkkR_4(HQE))

Model	Country	Acer Part No	Camera	NB Chipset
C871-C85K	USA	NX.HQEAA.001	HD_Mic_Chrome_66mm	none NB Chipset
C871-30AZ	Nordic	NX.HQEED.005	HD_Mic_Chrome_66mm	none NB Chipset
C871-34JZ	Nordic	NX.HQEED.006	HD_Mic_Chrome_66mm	none NB Chipset
C871-36QF	Nordic	NX.HQEED.004	HD_Mic_Chrome_66mm	none NB Chipset
C871-38HK	Nordic	NX.HQEED.003	HD_Mic_Chrome_66mm	none NB Chipset
C871-C1PT	Nordic	NX.HQEED.008	HD_Mic_Chrome_66mm	none NB Chipset
C871-C5CV	Bulgaria	NX.HQEEX.002	HD_Mic_Chrome_66mm	none NB Chipset
C871-C5DD	Nordic	NX.HQEED.00A	HD_Mic_Chrome_66mm	none NB Chipset
C871-C7Z4	Nordic	NX.HQEED.007	HD_Mic_Chrome_66mm	none NB Chipset
C871-C9JV	Nordic	NX.HQEED.009	HD_Mic_Chrome_66mm	none NB Chipset
C871-P139	Romania	NX.HQEEX.001	HD_Mic_Chrome_66mm	none NB Chipset
C871-P1H9	Nordic	NX.HQEED.00B	HD_Mic_Chrome_66mm	none NB Chipset
C871-P25B	Nordic	NX.HQEED.00C	HD_Mic_Chrome_66mm	none NB Chipset
C871-P5WE	Nordic	NX.HQEED.002	HD_Mic_Chrome_66mm	none NB Chipset
C871-P85M	Middle East	NX.HQEEM.001	HD_Mic_Chrome_66mm	none NB Chipset
C871-P8XE	Nordic	NX.HQEED.001	HD_Mic_Chrome_66mm	none NB Chipset
C871-C6PP	UK	NX.HQEEK.001	HD_Mic_Chrome_66mm	none NB Chipset
C871-C756	France	NX.HQEEF.001	HD_Mic_Chrome_66mm	none NB Chipset

Table 7-6.   Battery, Adapter (UMACkkR_4(HQE))

Model	Country	Acer Part No	Battery	Adapter
C871-C85K	USA	NX.HQEAA.001	48Wh_150300	45W_Google PD
C871-30AZ	Nordic	NX.HQEED.005	48Wh_150300	45W_Google PD
C871-34JZ	Nordic	NX.HQEED.006	48Wh_150300	45W_Google PD
C871-36QF	Nordic	NX.HQEED.004	48Wh_150300	45W_Google PD
C871-38HK	Nordic	NX.HQEED.003	48Wh_150300	45W_Google PD
C871-C1PT	Nordic	NX.HQEED.008	48Wh_150300	45W_Google PD
C871-C5CV	Bulgaria	NX.HQEEX.002	48Wh_150300	45W_Google PD
C871-C5DD	Nordic	NX.HQEED.00A	48Wh_150300	45W_Google PD
C871-C7Z4	Nordic	NX.HQEED.007	48Wh_150300	45W_Google PD
C871-C9JV	Nordic	NX.HQEED.009	48Wh_150300	45W_Google PD
C871-P139	Romania	NX.HQEEX.001	48Wh_150300	45W_Google PD
C871-P1H9	Nordic	NX.HQEED.00B	48Wh_150300	45W_Google PD
C871-P25B	Nordic	NX.HQEED.00C	48Wh_150300	45W_Google PD
C871-P5WE	Nordic	NX.HQEED.002	48Wh_150300	45W_Google PD
C871-P85M	Middle East	NX.HQEEM.001	48Wh_150300	45W_Google PD
C871-P8XE	Nordic	NX.HQEED.001	48Wh_150300	45W_Google PD
C871-C6PP	UK	NX.HQEEK.001	48Wh_150300	45W_Google PD
C871-C756	France	NX.HQEEF.001	48Wh_150300	45W_Google PD

Table 7-7.   RO, Description (UMACkkR_4T(HQF))

Model	RO	Country	Acer Part No	Description
C871T-P8E5	EMEA	France	NX.HQFEF.001	C871T-P8E5 CHROMENFR1 UMACkkR_4T 6405/1*8G/64G/48Wh/R/12HDITP3_WiFi6+BT5_HD_Mic_Sha Black_FRW3 - OnS3Y
C871T-C8ZY	AAP	Singapore	NX.HQFSG.001	C871T-C8ZY CHROMENSG1 UMACkkR_4T 5205/1*4G/64G/48Wh/R/12HDITP3_WiFi6+BT5_HD_Mic_Sha Black_EH62 -
C871T-C69K	EMEA	France	NX.HQFEF.002	C871T-C69K CHROMENFR1 UMACkkR_4T 5205/1*4G/32G/48Wh/R/12HDITP3_WiFi6+BT5_HD_Mic_Sha Black_FRW8 -
C871T-C2EA	EMEA	France	NX.HQFEF.003	C871T-C2EA CHROMENFR1 UMACkkR_4T 5205/1*8G/32G/48Wh/R/12HDITP3_WiFi6+BT5_HD_Mic_Sha Black_FRW8 -
C871T-P29D	EMEA	France	NX.HQFEF.004	C871T-P29D CHROMENFR1 UMACkkR_4T 6405/1*8G/64G/48Wh/R/12HDITP3_WiFi6+BT5_HD_Mic_Sha Black_FRW8 -
C871T-37KZ	EMEA	France	NX.HQFEF.005	C871T-37KZ CHROMENFR1 UMACkkR_4T 310110/1*8G/64G/48Wh/R/12HDITP3_WiFi6+BT5_HD_Mic_Sha Black_FRW8 -

Table 7-8.   CPU, LCD (UMACkkR_4T(HQF))

Model	Country	Acer Part No	CPU	LCD
C871T-P8E5	France	NX.HQFEF.001	PMD6405U	N12HD+SSPIL/TP3L
C871T-C8ZY	Singapore	NX.HQFSG.001	CM5205U	N12HD+SSPIL/TP3L
C871T-C69K	France	NX.HQFEF.002	CM5205U	N12HD+SSPIL/TP3L
C871T-C2EA	France	NX.HQFEF.003	CM5205U	N12HD+SSPIL/TP3L
C871T-P29D	France	NX.HQFEF.004	PMD6405U	N12HD+SSPIL/TP3L
C871T-37KZ	France	NX.HQFEF.005	Ci310110U	N12HD+SSPIL/TP3L

Table 7-9. VGA Chip, Memory (UMACkkR_4T(HQF))

Model	Country	Acer Part No	VGA Chip	Memory
C871T-P8E5	France	NX.HQFEF.001	UMA	OB8GBIV(512x16*8)
C871T-C8ZY	Singapore	NX.HQFSG.001	UMA	OB4GBIV(512x16*4)
C871T-C69K	France	NX.HQFEF.002	UMA	OB4GBIV(512x16*4)
C871T-C2EA	France	NX.HQFEF.003	UMA	OB8GBIV(512x16*8)
C871T-P29D	France	NX.HQFEF.004	UMA	OB8GBIV(512x16*8)
C871T-37KZ	France	NX.HQFEF.005	UMA	OB8GBIV(512x16*8)

Table 7-10. HDD, Card Reader, Wireless LAN (UMACkkR_4T(HQF))

Model	Country	Acer Part No	HDD (GB)	Card Reader	Wireless LAN
C871T-P8E5	France	NX.HQFEF.001	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871T-C8ZY	Singapore	NX.HQFSG.001	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871T-C69K	France	NX.HQFEF.002	eMMC32GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871T-C2EA	France	NX.HQFEF.003	eMMC32GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871T-P29D	France	NX.HQFEF.004	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216
C871T-37KZ	France	NX.HQFEF.005	eMMC64GB	MicroSD	INTAX201.D2WG.NV_AX_w/BT 5.0 1216

Table 7-11. Camera, NB Chipset (UMACkkR_4T(HQF))

Model	Country	Acer Part No	Camera	NB Chipset
C871T-P8E5	France	NX.HQFEF.001	HD_Mic_Chrome_66mm	none NB Chipset
C871T-C8ZY	Singapore	NX.HQFSG.001	HD_Mic_Chrome_66mm	none NB Chipset
C871T-C69K	France	NX.HQFEF.002	HD_Mic_Chrome_66mm	none NB Chipset
C871T-C2EA	France	NX.HQFEF.003	HD_Mic_Chrome_66mm	none NB Chipset
C871T-P29D	France	NX.HQFEF.004	HD_Mic_Chrome_66mm	none NB Chipset
C871T-37KZ	France	NX.HQFEF.005	HD_Mic_Chrome_66mm	none NB Chipset

Table 7-12.   Battery, Adapter (UMACkkR_4T(HQF))

Model	Country	Acer Part No	Battery	Adapter
C871T-P8E5	France	NX.HQFEF.001	48Wh_150300	45W_Google PD
C871T-C8ZY	Singapore	NX.HQFSG.001	48Wh_150300	45W_Google PD
C871T-C69K	France	NX.HQFEF.002	48Wh_150300	45W_Google PD
C871T-C2EA	France	NX.HQFEF.003	48Wh_150300	45W_Google PD
C871T-P29D	France	NX.HQFEF.004	48Wh_150300	45W_Google PD
C871T-37KZ	France	NX.HQFEF.005	48Wh_150300	45W_Google PD

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 Chrome OS 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 Chromebook C871/C871T. Compatibility Test Report released by the Acer Mobile System Testing Department.

Chrome OS Environment Test

Table 8-1.   Test Compatible Components

Vendor	Type	Description	Part No.
A Cover			
10001028 QUANTA	Shale Black 12 P+R Texture	QUANTA A cover Shale Black 12 P+R Texture	NC.21011.0P6
Adapter			
60035715 DELTA-SINGAPORE	45W_Google PD	Adapter DELTA 45W 5V/3A_9V/3A_12V/3A_15V/3A_20V/2.25A Type C ADP-45HG BA LF Black Meet CoC Tier-2 & IEC 62368	KP.04501.023
60036752 LITE-ON SINGAPORE	45W_Google PD	Adapter LITE-ON 45W 5V/3A_9V/3A_12V/3A_15V/3A_20V/2.25A Type C PA-1450-50AD LF Black Meet DOE6, CoC Tier2, IEC 62368	KP.04503.014
60016453 CHICONY POWER	45W_Google PD	Adapter Chicony Power 45W 5V/3A_9V/3A_12V/3A_15V/3A_20V/2.25A Type C A045RP05P LF Black Meet DOE6, CoC Tier2, IEC 62368	KP.0450H.012
Audio Codec			
10000981 MISC	Non-AVAP Audio Codec	Non-AVAP Audio Codec WW	NC.21011.00V
B Cover			
10001028 QUANTA	Shale Black 12 PC+ABS Texture w/ Camera	QUANTA B cover Shale Black 12 PC+ABS Texture w/ Camera	NC.21011.0P7
Battery			
60060184 MURATA-TWN	3CELL4.2	Battery MURATA Typ.48Wh 4200mAh 3S1P 248x84.4x5.5(mm) AP18C 11.4V 60W Polymer	KT.00304.012
60032811 LGC	3CELL4.2	Battery LGC Typ.50Wh 4470mAh 3S1P 248x84.4x5.5(mm) AP18C 11.25V 65W Polymer	KT.0030G.020
10000981 MISC	48Wh_150300	Battery 48Wh_150300	KT.DUM00.004
C Cover			
10001028 QUANTA	Shale Black 12 P+R Texture	QUANTA C cover Shale Black 12 P+R Texture	NC.21011.0XD

Table 8-1.   Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
Camera			
10256402 CHICONY	HD_Mic_Chrome _66mm	Camera CHICONY HD Camera CH_OV9734_RTS5846N_AOET_F G6531S for Chrome (add Mic*1)	KS.0HD06.013
10174742 TECH-FRONT(CQ)	HD_Mic_Chrome _66mm	Camera Tech-Front HD Camera TF_HM1091B_SPCA2087L2_New max_FG6531S for Chrome (add Mic*1)	KS.0HD0Q.006
Card Reader			
10000981 MISC	MicroSD	Card Reader MicroSD	NC.21511.001
CPU			
10001067 INTEL	CM5205U	CPU(BGA) Intel Celeron 5205U BGA 1.9G 15W V0 Comet Lake	KC.52001.5UB
10001067 INTEL	Ci310110U	CPU(BGA) Intel Core i3 i3-10110U BGA 4M 15W V0 Comet Lake	KC.10101.U00
10001067 INTEL	PMD6405U	CPU(BGA) Intel Pentium 6405U BGA 2.4G 15W V0 Comet Lake	KC.64001.5UB
D Cover			
10001028 QUANTA	Shale Black 12 PC+ABS Texture BB	QUANTA D cover Shale Black 12 PC+ABS Texture BB	NC.21011.0XE
HDD			
60058983 SANDISK	eMMC32GB	eMMC SANDISK NAND 32GB SDINBDA4-32-1220W LF+HF F/W :QS1.1D	KN.0320D.008
60058983 SANDISK	eMMC64GB	eMMC SANDISK NAND 64GB SDINBDA4-64-1220W LF+HF F/W:QS1.1D	KN.0640D.009
Keyboard			
10001044 CHICONY	AD01G_C90B	Phantom KB SUNREX AD01G_C90B AD1G Internal 11 Standard Black Chrome OS for Full Size EDU anchored V0 Mylar	NK.I111S.090
LAN			
10000981 MISC	none LAN	LAN none LAN without LAN	NI.22400.051

Table 8-1.   Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
LCD			
60003316 AUO	N12HD+SSPIL	LED LCD Panel AUO 12' HD+ None Glare B120XAN01.0 LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.6mm max)	KL.12005.001
10001022 INNOLUX	N12HD+SSPIL	LED LCD Panel INNOLUX 12' HD+ None Glare N120ACA-EA1 LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.6mm max)	KL.1200D.001
60003316 AUO	N12HD+SSPIL/TP3 L	LED LCD Panel AUO 12' HD+ None Glare B120XAK01.0 H/W 0A LF 235nit 25ms 800:1 (eDP, NTSC 50%, 2.75/3.2mm max)	KL.12005.002
Memory			
60002050 MICRON SG	CM8GbIV	Memory Chip MICRON DDRIV 3200 8Gb MT40A512M16TB-062E:J LF+HF 512*16 Z21C	KN.8GB04.043
60002215 SAMSUNG	CM8GbIV	Memory Chip SAMSUNG DDRIV 2666 8Gb K4A8G165WC-BCTD LF+HF 512*16 D18	KN.8GB0B.063
60002045 SK HYNIX	CM8GbIV	Memory Chip HYNIX DDRIV 2666 8Gb H5AN8G6NCJR-VKC LF+HF 512*16 AL	KN.8GB0G.061
10000981 MISC	OB4GBIV(512x16 *4)	Memory Chip Qimonda DDRIV 4GB Dummy LF+HF 512*16	KN.4GB02.004
60002041 QIMONDA	OB8GBIV(512x16 *8)	Memory Chip DDRIV 8GB Dummy LF+HF 512*16	KN.8GB00.007
NB Chipset			
10000981 MISC	none NB Chipset	NB Chipset none NB Chipset without NB Chipset	KI.22600.054
Packaging			
60059923 SEN HSIN	2020-Brown Box	2020 Brown Box SY Rev 1.0	NC.25811.0R2
Touchpad			
60040547 SYNAPTICS	CP5CIG3M	Synaptics ea Chromebook 15 TM-03510-001 105x76.7x0.86mm 6-pin Moisture	NC.24611.04Z
VGA Chip			
10001067 INTEL	UMA	UMA (Intel)	KI.23200.038

Table 8-1.   Test Compatible Components (Continued)

Vendor	Type	Description	Part No.
WiFi Antenna			
10000105 WNC	PIFA 2017	WNC PIFA WiFi Antenna	NC.23511.00L
Wireless LAN			
10001067 INTEL	INTAX201.D2WG. NV_AX_w/BT 5.0 1216	Wireless LAN Intel 802.11ax Bluetooth FM AX201.D2WG.NV WiFi 6 AX 2x2 HrP2 M.2 + BT 5.0 1216 No vPro	KE.11X0N.007

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.