Latitude 5285 2-in-1

Owner's Manual

Notes, cautions, and warnings

ⓘ | **NOTE: A NOTE indicates important information that helps you make better use of your product.**

△ | **CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

⚠ | **WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**

Contents

System specifications

ⓘ **NOTE:** Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to Help and Support in your Windows operating system and select the option to view information about your computer.

Topics:

Processor specifications

Feature	Specification
Types	• 7th generation Intel processors

System specifications

Feature	Specification
Chipset	Integrated in the processor
DRAM bus width	64-bit; 2 channels

Memory specifications

Feature	Specification
Memory connector	Onboard memory
Memory capacity	4 GB, 8 GB, and 16 GB (on board)

ⓘ **NOTE:** The memory is dependent on the processor shipped with the system.

Feature	Specification
Memory type	• LPDDR3—2133 MHz

Video specifications

Feature	Specification
Type	Integrated on system board
UMA controller	Intel Integrated HD Graphics 620
External display support	Optional Dell Adapter - USB Type-C to HDMI/VGA ⓘ **NOTE: Supports VGA, DisplayPort, HDMI through the docking station (Dell Dock WD15).**

Audio specifications

Feature	Specification
Types	High-definition audio
Controller	Realtek ALC3253
Stereo conversion	24-bit—analog-to-digital and digital-to-analog
Internal interface	High-definition audio
External interface	Microphone-in, stereo headphones, and speakers universal connector
Speakers	Two
Internal speaker amplifier	2 W (RMS) per channel
Volume controls	Volume up and Volume down buttons

Port and connector specifications

Feature	Specification
Audio	• Realtek ALC3253-CG Controller • Microphone-in and stereo headphones/speakers universal connector
Video	• Two DisplayPorts over USB Type-C
Memory card reader	• micro SD 4.0 • Optional smart card reader
Micro Subscriber Identity Module (uSIM) card	Optional
USB ports	• 1 x USB 3.1 Gen1 (with PowerShare)

Feature	Specification
Micro SIM	Optional micro-SIM card slot (under the kickstand)
Security Lock	• Noble Wedge Lock slot
Other	• Optional contacted smart card reader and touch finger print reader • Windows Home Button • Power Button • I2C for the Dock Pin Keyboard connection

Communication specifications

Features	Specification
Wireless	WiFi Display (Miracast)
Wireless LAN	• Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1 • Intel Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2). Bluetooth Optional
Mobile Broadband (Optional)	• Dell Wireless Qualcomm Snapdragon X7 LTE-A • Dell Wireless Qualcomm Snapdragon X7 LTE-A • Dell Wireless Qualcomm Snapdragon X7 HSPA+ • Dell Wireless Telit Intel Ln-930 AP LTE CAT4
WiGig (Optional)	Intel Tri-Band Wireless-AC 18265 WiGig + Wi-Fi + BT4.2 Wireless Card

Camera specifications

Feature	Specification
Type	• Front Camera- 5MP fixed focus • Rear Camera- 8MP auto focus • IR Camera- VGA IR cameraOptional IR camera (Win Hello compliant)
Sensor type	CMOS sensor technology (Front and Rear camera)
Imaging rate	Up to 30 frames per second
Video Resolution	• Front Camera- 2592 x 1944 pixels • Rear Camera- 3264 x 2448 pixels

Display specifications

Feature	Specification
Type	12.3" 3:2 Touch with Corning Gorilla Glass 4, Anti-reflective, and Anti-smudge
Luminance	340 nits

Feature	Specification
Height	265.56 mm(10.55 inches)
Width	185.06 mm (7.28 inches)
Diagonal	312.42 mm (12.0 inches)
Maximum resolution	1920x1280
Refresh rate	60 Hz
Maximum viewing angles—horizontal	+/-80°
Maximum viewing angles—vertical	+/-80°
Pixel pitch	0.135 mm

AC adapter specifications

Feature	Specification
Type	45 W USB Type-C, 46 W small form factor (SFF) USB Type C and 65 W USB Type-C
Input voltage	100 V AC–240 V AC
Input current—maximum	1.3 A / 1.7 A
Input frequency	47 Hz to 63 Hz
Output current	• 2.25 A, 3 A, and 3.25 A
Rated output voltage	20 VDC/15 VDC/9 VDC/5 VDC
Weight	• 0.385 lbs(45 W) and 0.476 lbs(65 W) • 175 g (45 W) and 216.2 g (65 W)
Dimensions	• 0.191 x 0.121 x 0.048 inches (45 W) and 0.217 x 0.145 x 0.048 (65 W) • 87 x 55 x 22 mm (45 W) and 99 x 66 x 22 mm (65 W)
Temperature range—Operating	0°C to 40°C (32°F to 104°F)
Temperature range—Non-Operating	–40°C to 70°C (–40°F to 158°F)

Battery specifications

Feature	Specification
Type	• 31.5 Whr Polymer battery with ExpressCharge • 42 Whr Polymer battery with ExpressCharge • 42 WHr Polymer Long Life Cycle

Feature	Specification
31.5 Whr:	
Length	177.6 mm (6.99 inches)
Width	82.6 mm (3.25 inches)
Height	5.5 mm (0.21 inch)
Weight	135.0 g (0.29 lb) (126 GB m2 SATA)
Voltage	11.4 VDC
42 WHr:	
Length	177.6 mm (6.99 inches)
Width	82.6 mm (3.25 inches)
Height	5.5 mm (0.21 inch)
Weight	170 g (0.37 lb)
Voltage	7.6 VDC
Life span	300 discharge per charge cycles
Temperature range	
Operating	• Charge: 0°C to 50°C (32°F to 122°F) • Discharge: 0°C to 70°C (32°F to 158°F)
Non-operating	- 20°C to 85°C (- 4°F to 185°F)

Physical specifications

Feature	Specification
Weight - Tablet only(with 32 Whr battery and 126 GB m2 SATA base)	1.89 lbs (856 g)
Weight - Tablet +Keyboard	2.64 lbs(1.196 kg)
Input current—maximum	1.3 A / 1.7 A
Width	11.5 inches (292 mm)
Height (Tablet only)	0.38 inch (9.76 mm)
Height(Tablet +Keyboard only)	0.59 inch (14.9 mm)
Depth	8.22 inches(208.8 mm)

Environmental specifications

Temperature	Specifications
Operating	0°C to 35°C (32°F to 95°F)

Temperature	Specifications
Storage	−40°C to 65°C (−40°F to 149°F)

Relative humidity—maximum	Specifications
Operating	10% to 90% (non-condensing)
Storage	10% to 95% (non-condensing)

Altitude—maximum	Specifications
Operating	0 m to 3048 m (0 to 10,000 ft)
Non-operating	0 m to 10,668 m (0 ft to 35,000 ft)
Airborne contaminant level	G2 or lower as defined by ISA S71.04–1985

Using your tablet

This section covers how to power on and turn off your tablet including how to install the micro SD and micro SIM cards.

Topics:

- Screw list
- Recommended tools
- Deploying the kickstand
- Before Working Inside Your Tablet
- After working inside your tablet
- micro SD - micro SIM card
- Display Panel and display cable
- PCIe Solid State Drive (SSD)
- WLAN card
- Speaker
- Battery
- System fan
- Heat sink
- Front facing camera
- Rear facing camera
- Smart Card Cage
- Docking board
- System Board
- Coin cell battery
- Antenna
- USH board

Screw list

Table 1. Latitude 5285 2-in-1 Screw size list

Component	M2.0x 1.1+1.7	M2.0X4.0	M1.6x3.0	M2.0X2.5	M1.6x3.0	M2.0X2.0	M2.0X3.5
Back cover	3						
Battery		4					
Heat sink				4			
Hinges		4					
Display panel			6				
System fan		2					
WWAN card							1
WLAN card							1

Component	M2.0x 1.1+1.7	M2.0X4.0	M1.6x3.0	M2.0X2.5	M1.6x3.0	M2.0X2.0	M2.0X3.5
Smart card cage				3			
SSD card				1			
Docking bracket						2	
Kickstand					4		
Camera module					2 (front) 1(rear)		
Antenna module					1		
System board				4			

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver
    - #0 Phillips head screwdriver
    - #1 Phillips head screwdriver
- Plastic scribe

Deploying the kickstand

1   Hold the tablet vertically on a plane surface.
2   Press the tablet to allow the kickstand to open.
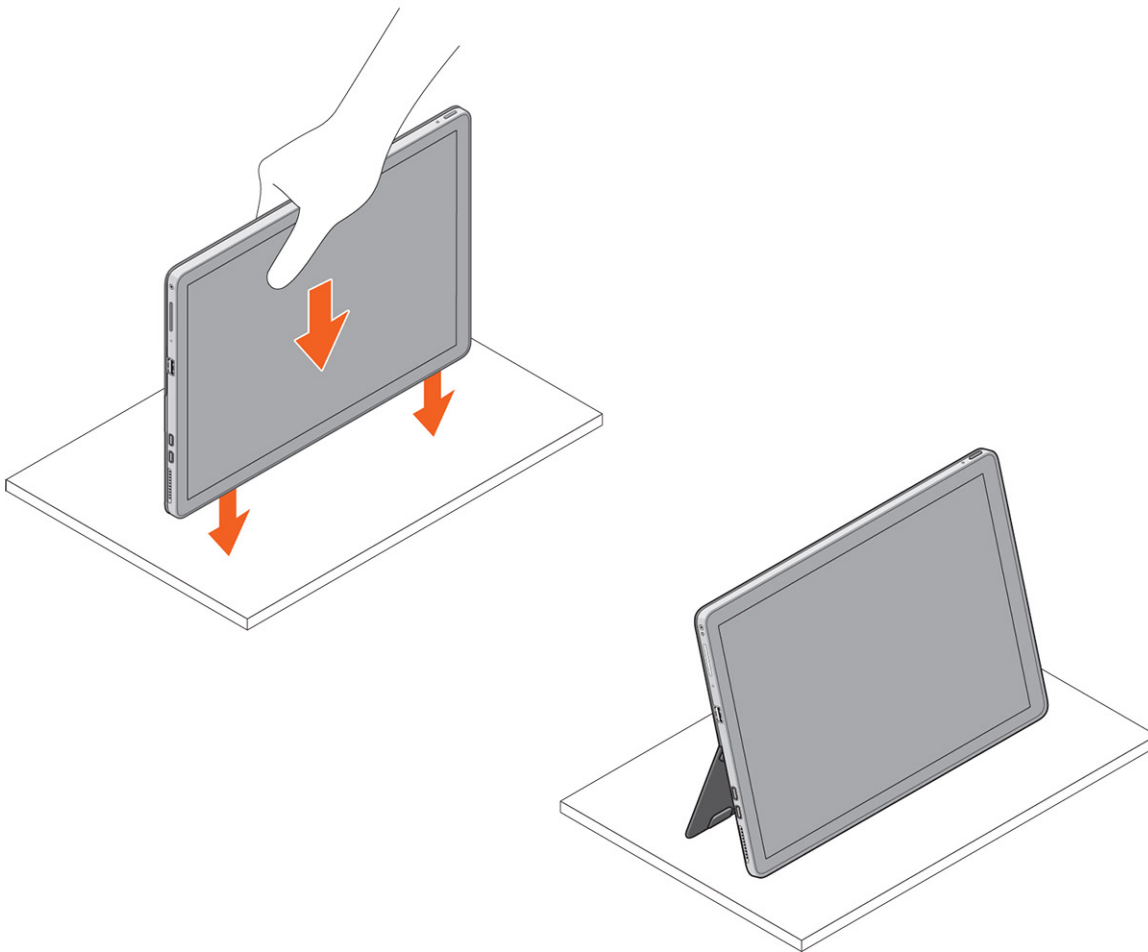
ⓘ **NOTE:** The pegs at the bottom of the tablet allow the kickstand to open.

Before Working Inside Your Tablet

Use the following safety guidelines to help protect your tablet from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following condition exists:

- You have read the safety information that shipped with your tablet.

⚠ **WARNING:** Before working inside your tablet, read the safety information that shipped with your tablet. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance

⚠ **CAUTION:** Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

⚠ **CAUTION:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the tablet.

⚠ **CAUTION:** Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket.

⚠ **CAUTION:** When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

ⓘ **NOTE: The color of your tablet and certain components may appear differently than shown in this document.**

To avoid damaging your tablet, perform the following steps before you begin working inside the tablet.

1   Ensure that your work surface is flat and clean to prevent the tablet cover from being scratched.
2   Turn off your tablet.
3   If the tablet is connected to a docking device (docked) such as the optional docking station or keyboard dock, un-dock it.
4   Disconnect the power adapter from the tablet.
5   Press and hold the power button for a few seconds to remove the flea power from the system board.

⚠ **CAUTION: To guard against electrical shock, always unplug your tablet from the electrical outlet.**

⚠ **CAUTION: Before touching anything inside your tablet, ground yourself by touching an unpainted metal surface, such as the metal at the back of the tablet. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.**

6   Remove the storage SD card from the tablet.

Turning off your tablet — Windows 10

⚠ **CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer .**

1   Click or tap ▣ .
2   Click or tap ⏻ and then click or tap **Shut down**.

ⓘ **NOTE: Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 6 seconds to turn them off.**

After working inside your tablet

⚠ **CAUTION: Leaving stray or loose screws inside your tablet may severely damage your tablet.**

1   Replace all screws and ensure that no stray screws remain inside your tablet.
2   Connect any external devices, peripherals, and cables that you removed before working on your tablet.
3   Replace any media card, SIM card, and any other parts that you removed before working on your tablet.
4   Connect your tablet and all attached devices to their electrical outlets.
5   Turn on your tablet.

micro SD - micro SIM card

uSIM cards can be installed only on tablets shipped with WWAN module.

1   Follow the procedure in Before working inside your tablet.

ⓘ **NOTE: disconnect the power and drain flea power before preforming the steps**

2   Lay the tablet on a plane and flat surface, with the kickstand facing upward.

ⓘ **NOTE: Pull the kickstand to open by 135° to access the micro SD and micro SIM card slot**

⚠ **CAUTION: Do not pull or slide more than 135° to avoid damage to the hinges.**

3   Slide and lift the cover.

ⓘ **NOTE:** Ensure to turn off or disconnect power, to drain flea power before installing the micro SD and/or micro-SIM.

4   Slide the kickstand to an angle 135°, to microSD and micro-SIM cards slot.

5   Insert the SD card and/or micro-SIM cards into the slots indicated on the slots.

6   Align the cover with the groove on the tablet and slide it inside to secure the microSD and the micro-SIM cards.
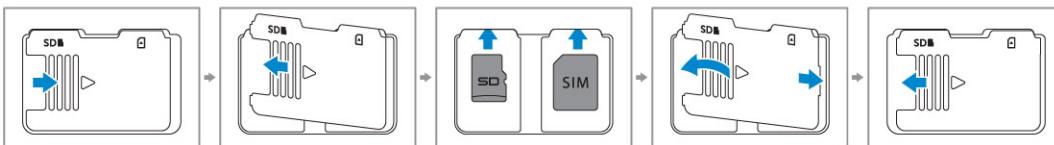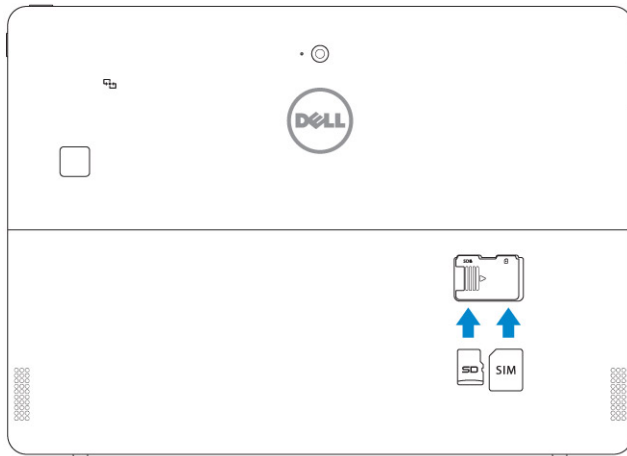
7   Perform the same steps to remove the microSD / micro-SIM cards

Display Panel and display cable

Removing the display panel and display cable

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   uSIM/microSD card

        ⓘ NOTE: uSIM card slot is available only on tablets shipping with WWAN module.

3   Open the kickstand by holding the tablet vertically and pressing it down. Place the tablet with the display facing down.

        ⓘ NOTE: You can also open the kickstand from the speaker recess area.

4   Place the tablet on a flat surface and lift the stand to reveal the base of the tablet.

5   To release the display panel:

    a   Remove the M1.6 x 3.0 screws that secure the base cover to the tablet [1].

    b   Close the kickstand [2] .
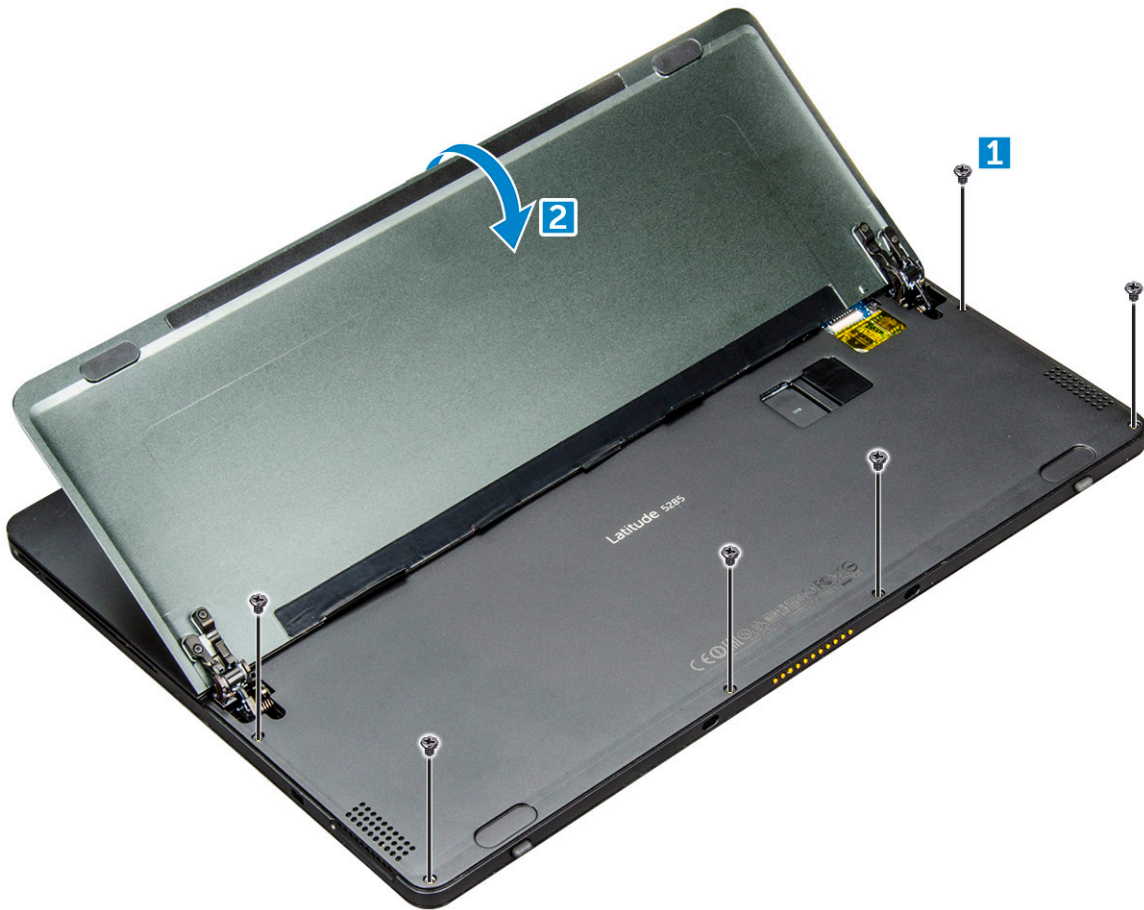
6   Use a plastic scribe [1] to pry the edges [2] of the display panel starting from the bottom side first (near the docking port).

ⓘ NOTE: **Flip the tablet so the LCD is upward.**

7   Flip the display panel on a plane surface .

8   To disconnect the cables:
    a   Disconnect the battery cable on the system board [1].
    b   Disconnect the display cable on the system board [2].
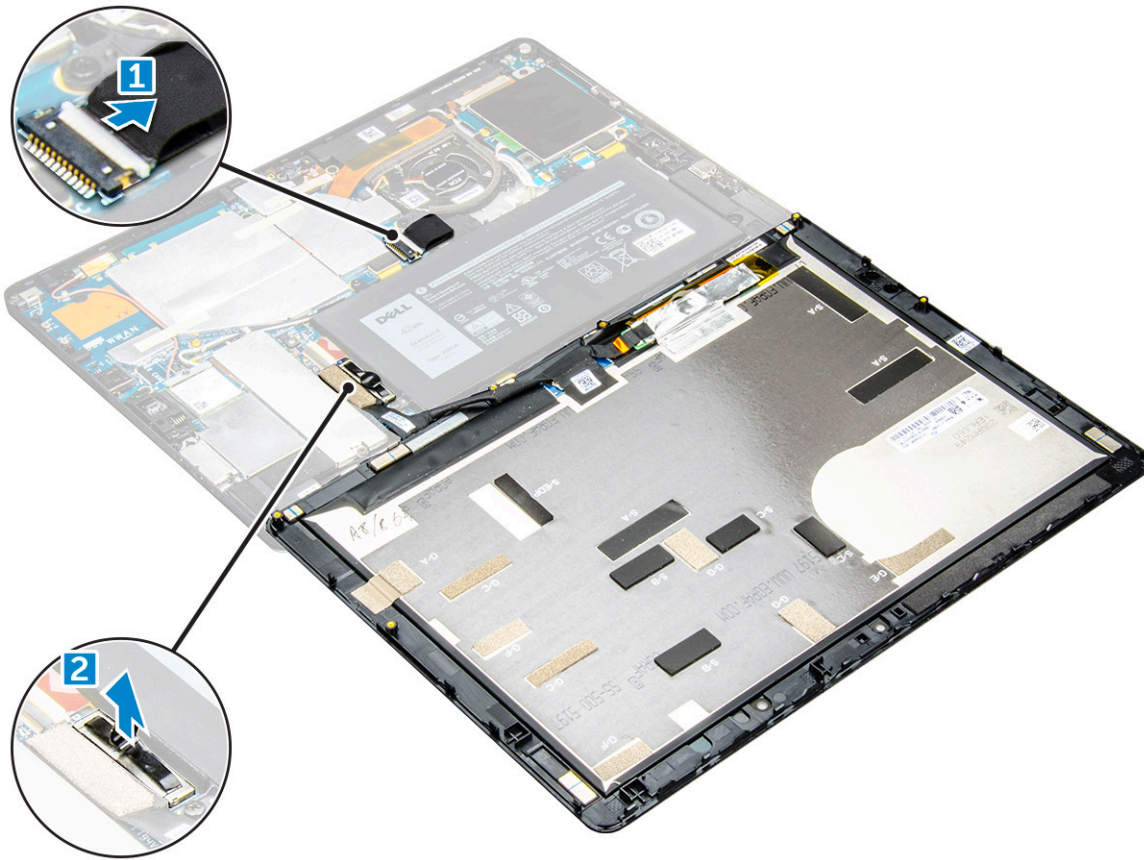
9   Lift the display panel from the tablet.

Installing the display panel

1   Place the display panel on a plane surface.

2   Connect the display cable to the connector on the system board

3   Connect the battery cable to the connector on the system board.

4   Install the display panel on the tablet and press the edges until they snap in.

5   Flip the tablet and open the kickstand.

6   Replace the M1.6 x 3.0 screws to secure the tablet to the display panel.

7   Install the:

    a   uSIM/micro SD card

8   Follow the procedure in After working inside your tablet.

Removing the display cable

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   uSIM and/or microSD card

    b   display panel

3   Removing the display cable:

    a   Peel the tape that secures the touch module cable [1].

    b   Disconnect the touch module cable from the connector on the display panel [2].

    c   Do-not peel the tape that secures the display cable [3].

d   Disconnect the display cable from the connector on the display panel [4].
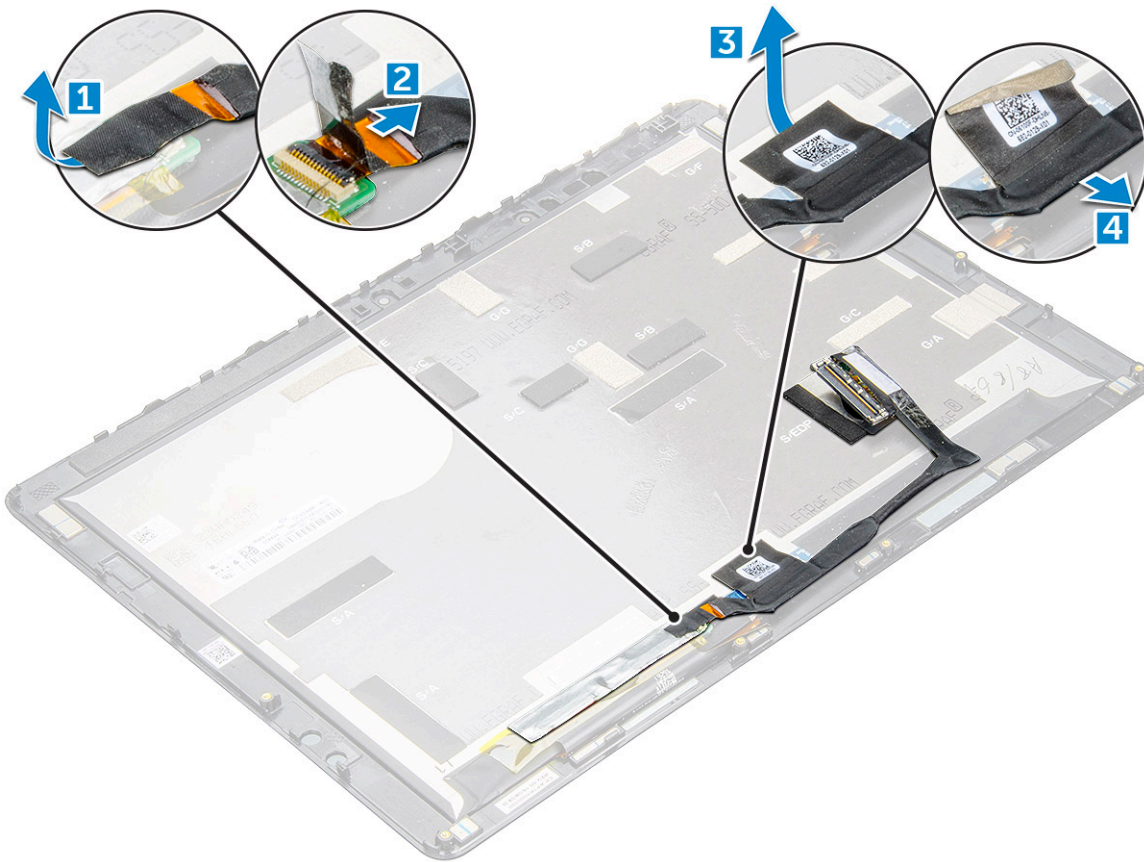
Installing the display cable

1   Connect the display cable to connector on the display panel.
2   Affix the tape to secure the display cable to the display panel.
3   Connect the touch module cable to connector on the display panel.
4   Affix the tape to secure the touch module cable to the display panel.
5   Install the:
    a   display panel
    b   uSIM/microSD card

    ⓘ NOTE: uSIM card is installed only on tablets shipping with WWAN module.

6   Follow the procedure in After working inside your tablet.

# PCIe Solid State Drive (SSD)

Removing the SSD module

1   Follow the procedure in Before working inside your tablet.
2   Remove the:
    a   uSIM/microSD card

    ⓘ NOTE: uSIM card slot is available only on tablets shipping with WWAN module.

    b   display panel

3   To remove the SSD module:

    a   Remove the M2.0 x 2.5 screw securing the SSD shield [1].

    b   Lift the SSD shield away from the tablet [2].

    c   Slide and lift the SSD module from the slot on the tablet [3].

Installing SSD module

1   Insert the SSD module into the connector on the system board.

2   Install the SSD shield on the SSD module.

    ⚠ **CAUTION: Align the five clips heads into the system board clips holes, to install the shield properly. Ensure to insert the clips with caution, as the clips are small and delicate. Mishandling damages the clips head and needs replacing the shield.**

3   Replace the M2.0 x 2.5 screw to secure SSD shield.

    ⓘ **NOTE: Align the shield carefully to avoid damage to the clips heads.**

4   Install the:

    a   Display panel

    b   uSIM/microSD

       Micro-SIM card is installed only on tablets shipped with WWAN module.

5   Follow the procedure in after working inside your tablet.

WLAN card

Removing the WLAN card

1 Follow the procedure in Before working inside your tablet.
2 Remove the:
   a uSIM/micrSD card

      ⓘ NOTE: uSIM card slot is available only on tablets shipping with WWAN module.
   b display panel
3 To remove the WLAN card:
   a Remove the M2.0 x 3.5 screw securing the WLAN bracket [1] .
   b Disconnect the antenna cables from the WLAN card [2] .
   c Lift and slide the WLAN card from the connector on the system board [3].

      ⓘ NOTE: The system shipped with WiGig model have the optional WiGig (orange) cable connected.

Installing the WLAN card

1 Insert the WLAN card into the connector on the system board.
2 Connect the antenna cables to the WLAN card.

3   Insert the WLAN bracket to the WLAN card.

4   Replace the M2.0 x 3.5 screw to secure WLAN bracket.

5   Install the:

    a   display panel

    b   uSIM/microSD

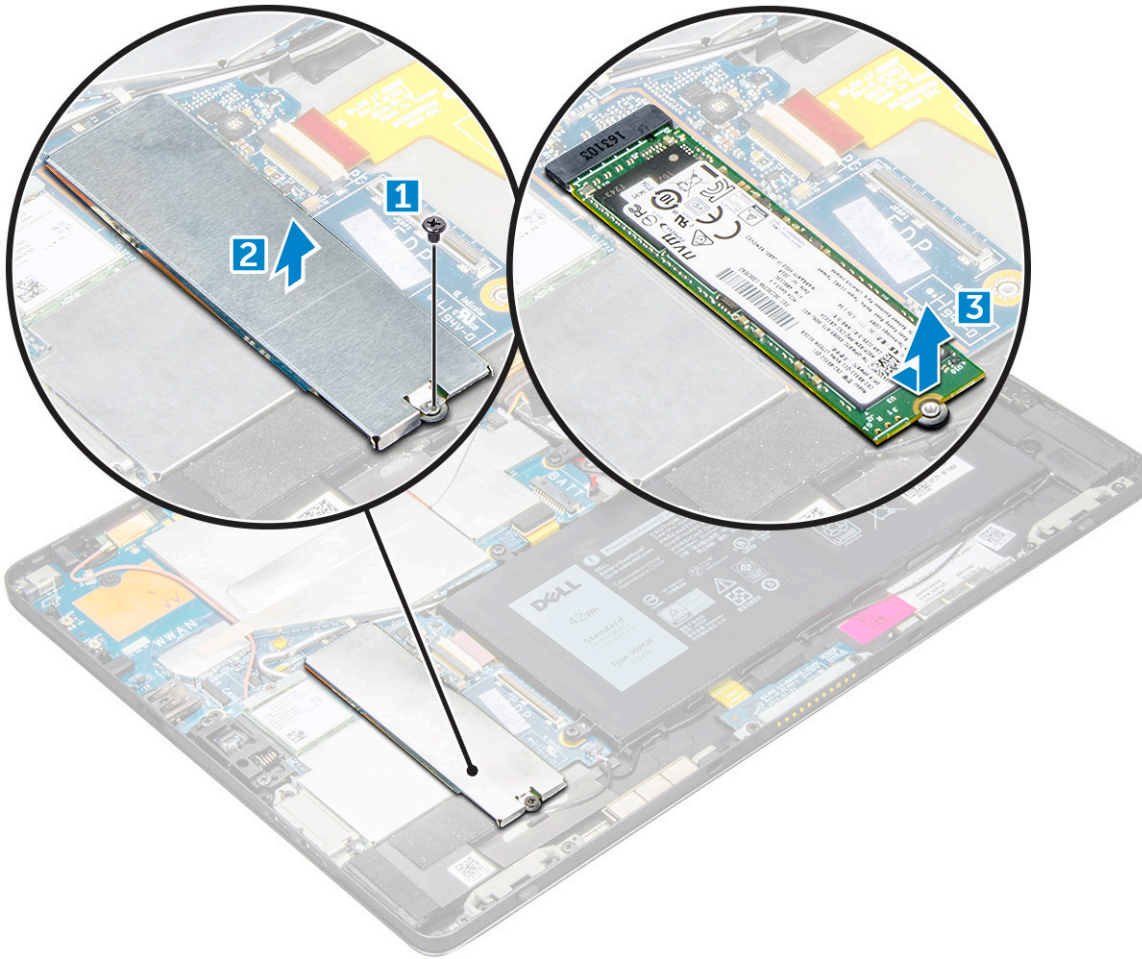   ⓘ NOTE: uSIM card is installed only on tablets shipping with WWAN module.

6   Follow the procedure in After working inside your tablet.

Speaker

Removing the speaker

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   Micro SIM/micro SD card

         ⓘ NOTE: Micro SIM card slot is available only on tablets shipping with WWAN module.

    b   display panel

3   To remove the speaker:

    a   Remove the M.2 2280 SSD

         ⓘ NOTE: Ensure to remove the SSD, to create more space to pry off the speakers.

    b   Slide the plastic scribe to clockwise to peel off and remove both speakers from the system chassis [].
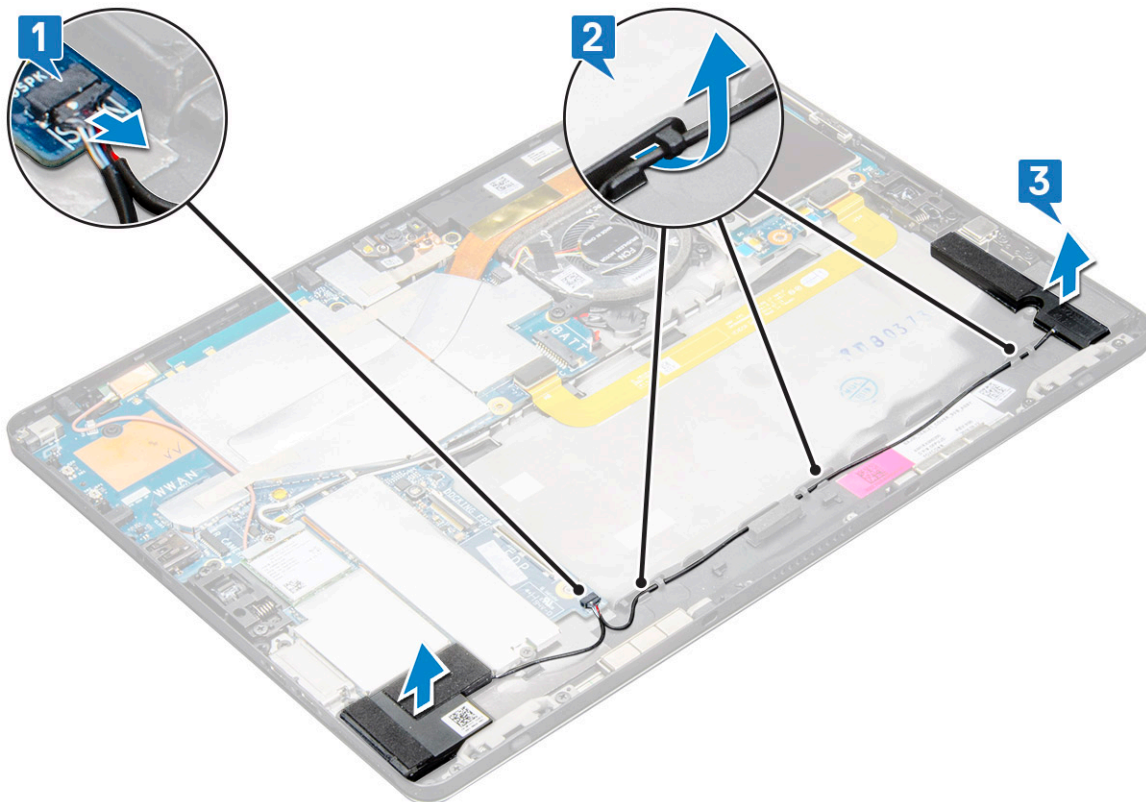
    c   Remove the speaker cable from the connector on the system board [].

Installing speaker

1   Insert the speaker in the block on the system board.

2   Connect the cables to the system board.

3   Press the speaker to glue it to the adhesive paste on the system.
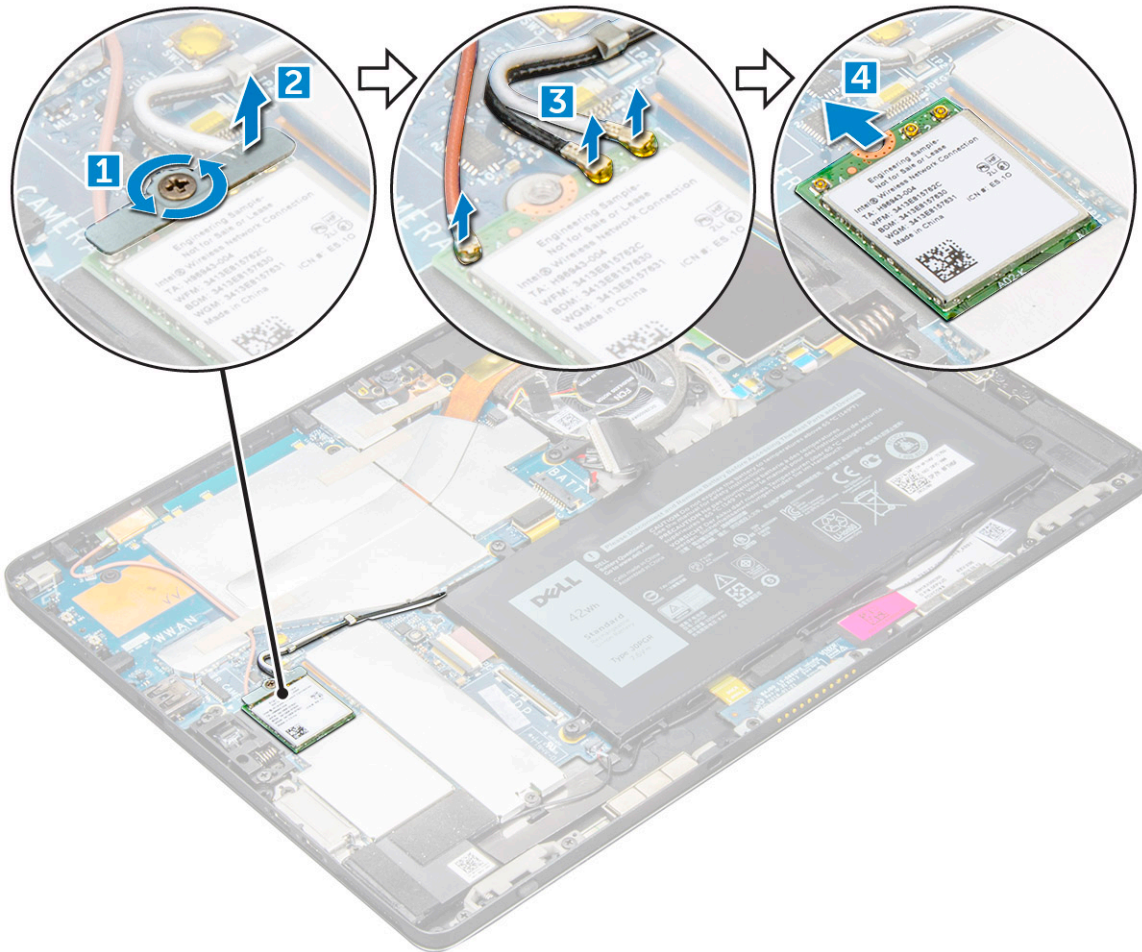
4   Install the:

    a   Display panel

    b   uSIM/microSD

        ⓘ **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

5   Follow the procedure in After working inside your tablet.

Battery

Lithium-ion battery precautions

⚠️ **CAUTION:**

- Exercise caution when handling Lithium-ion batteries.
- Discharge the battery as much as possible before removing it from the system. This can be done by disconnecting the AC adapter from the system to allow the battery to drain.
- Do not crush, drop, mutilate, or penetrate the battery with foreign objects.
- Do not expose the battery to high temperatures, or disassemble battery packs and cells.
- Do not apply pressure to the surface of the battery.
- Do not bend the battery.
- Do not use tools of any kind to pry on or against the battery.
- If a battery gets stuck in a device as a result of swelling, do not try to free it as puncturing, bending, or crushing a Lithium-ion battery can be dangerous. In such an instance, the entire system should be replaced. Contact https://www.dell.com/support for assistance and further instructions.
- Always purchase genuine batteries from https://www.dell.com or authorized Dell partners and re-sellers.

Removing the battery

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   uSIM/micro SD card

        ⓘ **NOTE: uSIM card slot is available only on tablets shipping with WWAN module.**

    b   display panel

3   To remove the battery:

    a   Remove the M2.0 x 4.0 screws that secure the battery to the tablet [1].

    b   Lift the battery from the tablet [2].
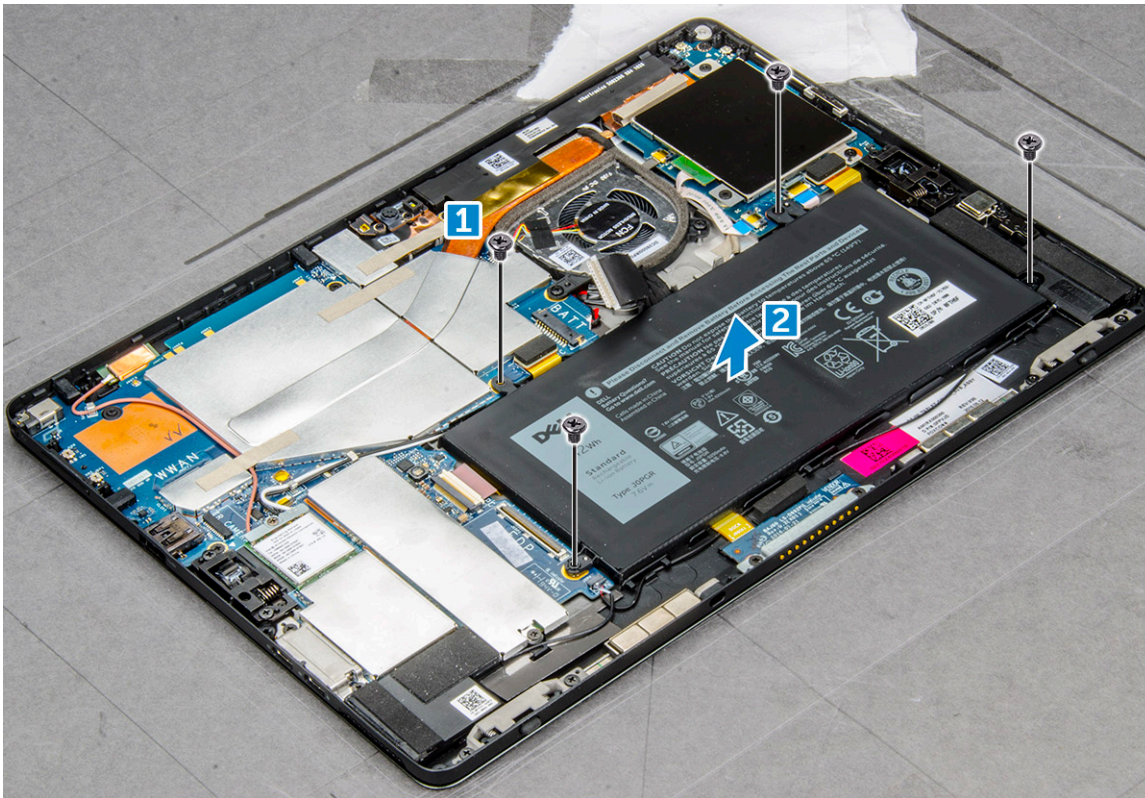
Installing the battery

1   Insert the battery into the slot on the tablet.

2   Replace the M2.0 x 4.0 screws to secure the battery to the tablet.

3   Install the:

      a   display panel

      b   uSIM/microSD card

          ⓘ **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

4   Follow the procedure in After working inside your tablet.

System fan

Removing the system fan

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

      a   uSIM/microSD card

          ⓘ **NOTE: Micro-SIM card slot is available only on tablets shipped with WWAN module.**

      b   Display panel

3   To remove the system fan:

      a   Disconnect the system fan cable from the system board [1].

      b   Remove the M2.0 x 4.0 screws that secure the system fan [2].

      c   Lift the system fan from the tablet [3].
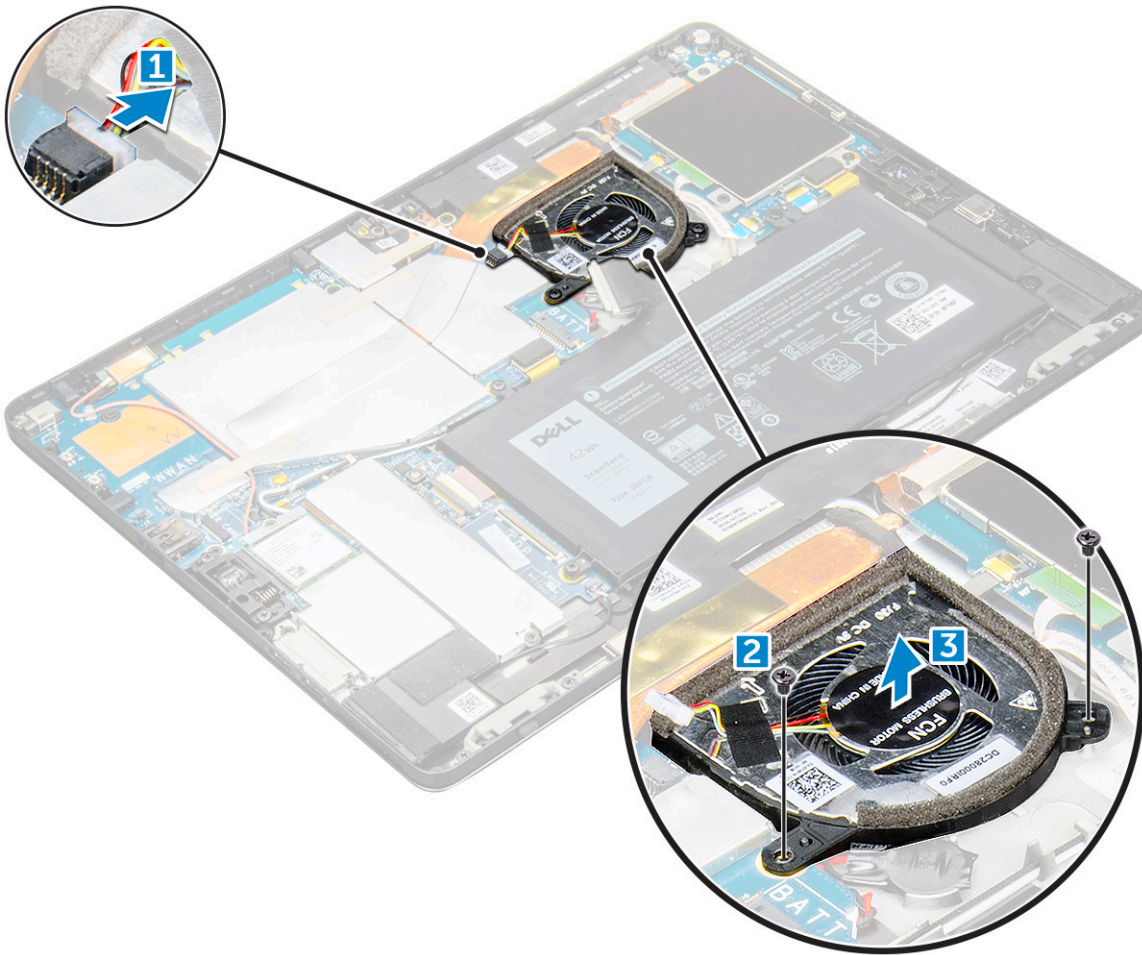
Installing the system fan

1   Align the system fan with screw holders on the system board.

2   Replace the M2.0 x 3.0 screws to secure the system fan to the system board.

3   Connect the system fan cable to the system board.

4   Install the:

    a   display panel

        ⓘ NOTE: uSIM card is installed only on tablets shipping with WWAN module.

    b   uSIM/microSD card

5   Follow the procedure in After working inside your tablet.

Heat sink

Removing heat sink assembly

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   Micro-SIM and/or microSD card

        ⓘ NOTE: Micro-SIM card slot is available only on tablets shipping with WWAN module.

b   Display panel

3   To remove the heat sink assembly:

    a   Peel the conductive tapes that secure the shielding cover [1].

        ⓘ **NOTE: Ensure to peel off the tape carefully, as any damage to the tape will need to raise a new order for conductive tapes. The tape secures the IR camera cable from any damage. Ensure to fix the tapes while installing or replacing the component. Gently remove the 4 conductive tapes, so that the conductive tapes can be reused.**

    b   Lift the shielding covers that secure the heat sink assembly [2,3].

        ⓘ **NOTE: Peel the black tape / copper tape that secure the IR camera cable for model shipped with IR camera (optional).**
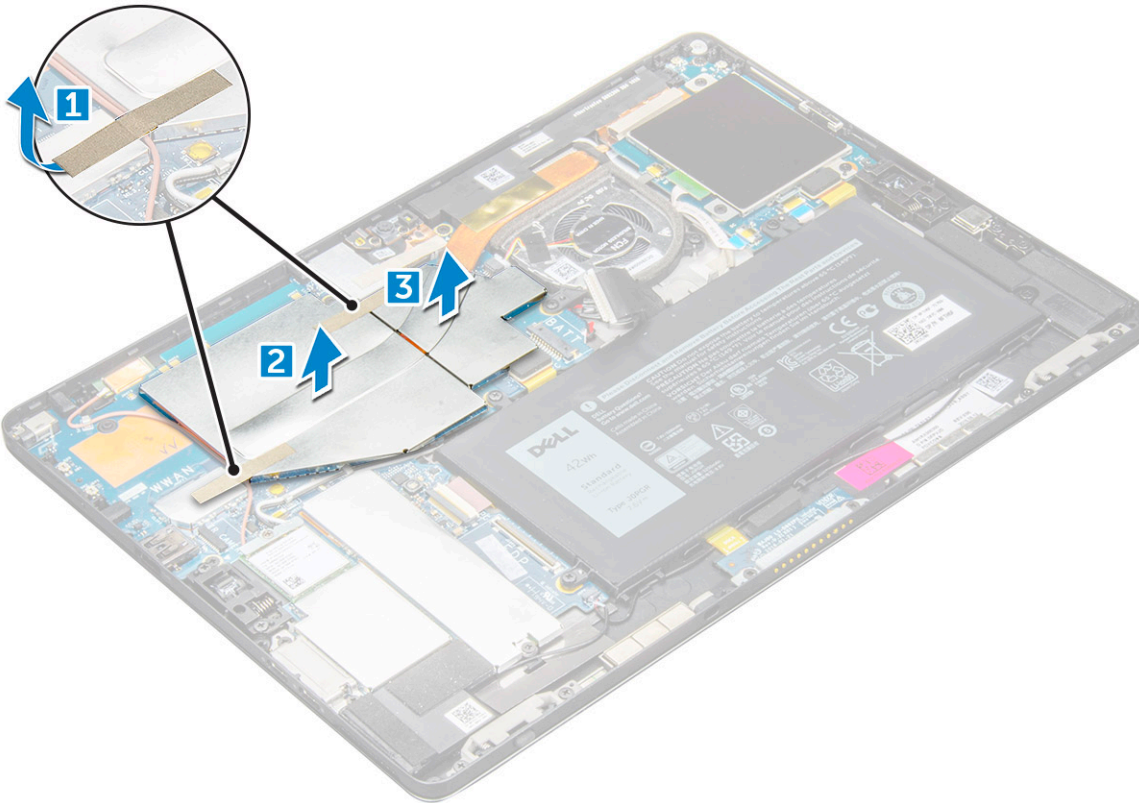
4   To remove the heat sink assembly:

    a   Loosen the M2.0 x 2.5 captive screws that secure the heat sink assembly to the tablet [1].

        ⓘ **NOTE: Remove the screws in the order of the callout numbers [1, 2, 3, 4] as indicated on the heat sink.**

    b   Lift the heat sink assembly from the tablet [2].
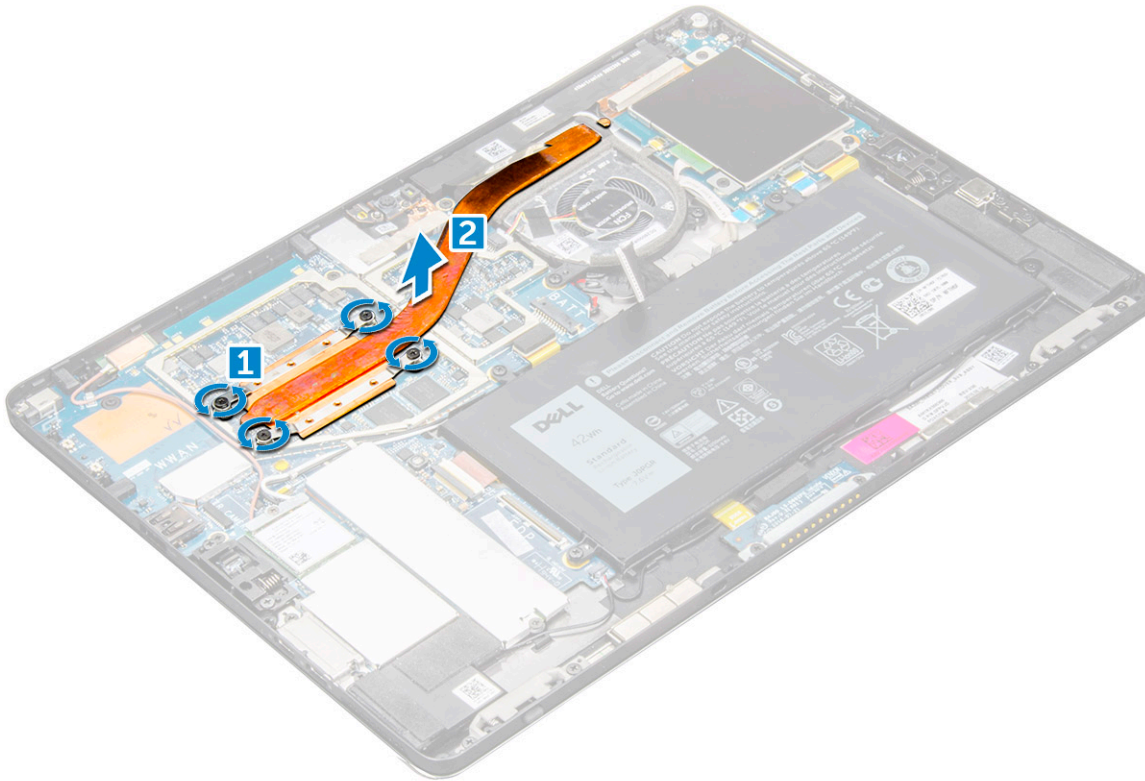
Installing heat sink assembly

1   Align the heat sink assembly with screw holders on the system board.

2   Replace the M2.0 x 2.5 screws to secure the heat sink to the system board.

> ⓘ **NOTE: Tighten the screws on the system board in the order of the callout numbers [1, 2, 3, 4] as indicated on the heat sink.**

3   Install the shielding covers on the heat sink assembly.

> ⓘ **NOTE: Affix the black tape / copper tape that secure the IR camera cable for model shipped with IR camera (optional).**

4   Affix the conductive tapes to secure the shielding covers.

5   Replace the shielding covers to cover the heat sink assembly.

> ⓘ **NOTE: The shield covers can break if not handled carefully.**

6   Install the:

    a   display panel

    b   uSIM/microSD card

> ⓘ **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

7   Follow the procedure in After working inside your tablet

Front facing camera

Removing front camera

1   Follow the procedure in Before working inside your tablet.
2   Remove the:
    a   Micro-SIM and/or microSD card

        ⓘ NOTE: Micro-SIM card slot is available only on tablets shipping with WWAN module.
   b   Display panel
3   To remove the front camera:
    a   Remove the conductive tape covering the camera module, heatsink, antenna and shielding cover [1].
    b   Gently pry and lift the shielding cover covering the front camera[2].
    c   Use a plastic scribe to pry and disconnect the front camera cable [3]

        ⓘ NOTE: Ensure to peel off the adhesive tape that secures the front camera to the rear camera. The front camera cable
        is glued to the rear camera, ensure to gently peel off, to remove the screw that secures the rear camera to the system
        board.
    d   Remove the M1.6 x 3.0 screws securing the front camera module to the system chassis [4].
    e   Peel off and lift the front camera module from the tablet [5].
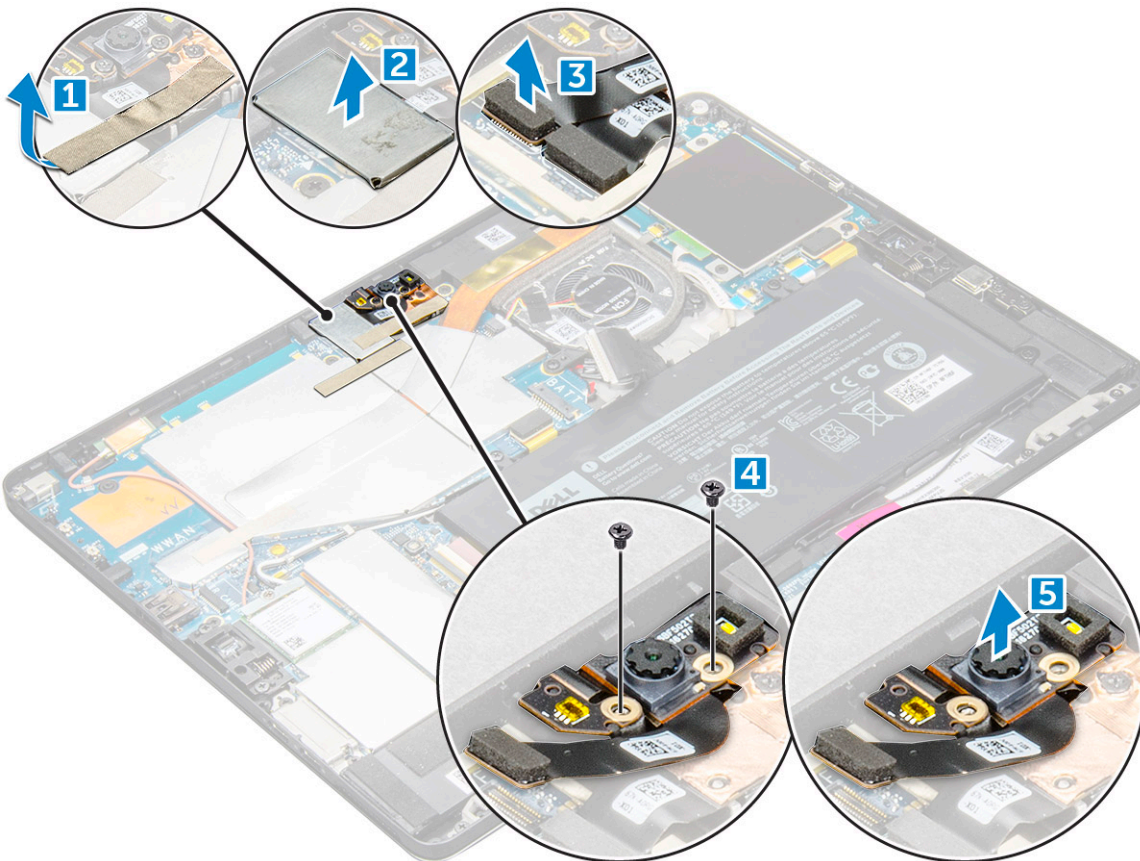
Installing the front camera

1   Insert the camera module into the slot on the tablet.
2   Replace the M1.6 x 3.0 screws to secure the front camera module.
3   Connect the front camera cable to the system board.

(i) **NOTE: Affix the adhesive tape that secures the front camera to the rear camera.**

4   Place the shielding cover to secure the front camera module.

(i) **NOTE: Handle the covering shield with care else it may break.**

5   Affix the conductive tape covering the camera module, heatsink, antenna and shielding cover.

6   Install the:

    a   display panel

    b   uSIM/microSD card

(i) **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

7   Follow the procedure in After working inside your tablet.

Rear facing camera

Removing rear camera

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   uSIM/microSD

(i) **NOTE: Micro-SIM card slot is available only on tablets shipping with WWAN module.**

    b   Display panel

    c   front facing camera

3   To remove the rear camera:

    a   Disconnect the rear camera cable from the system board [1].

    b   Remove the M1.6 x 3.0 screw securing the rear camera module [2].

    c   Lift the camera module from the tablet [3].

Installing the rear camera

1   Insert the rear camera module into the slot on the tablet.

2   Replace the M1.6 x 3.0 screw to secure the rear camera module.

3   Connect the rear camera cable to the system board.

4   Install the:

    a   front camera

    b   display panel

    c   uSIM/microSD

        ⓘ NOTE: uSIM card is installed only on tablets shipping with WWAN module.

5   Follow the procedure in After working inside your tablet.

Smart Card Cage

Removing the smart card cage

ⓘ NOTE: Always remove the smart card from the smart card reader.

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   uSIM/microSD card

    b   display panel

3   To disconnect the cables:

    a   Disconnect the smart card cable from the smart card cage [1].

    b   Remove the M2.0 x 2.5 screws from the smart card module [2].

    c   Lift the smart card cage from the tablet [3].

Installing the smart card cage

1   Insert the smart cage into the slot on the tablet.

2   Replace the M2.0 x 2.5 screws screws to secure the smart card cage to the tablet.

3   Connect the smart cable to the smart card module.

4   Install the:

    a   display panel

    b   uSIM/microSD card

       (i) **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

5   Follow the procedure in After working inside your tablet.

Docking board

Removing the docking board

1   Follow the procedure in Before working inside your tablet.
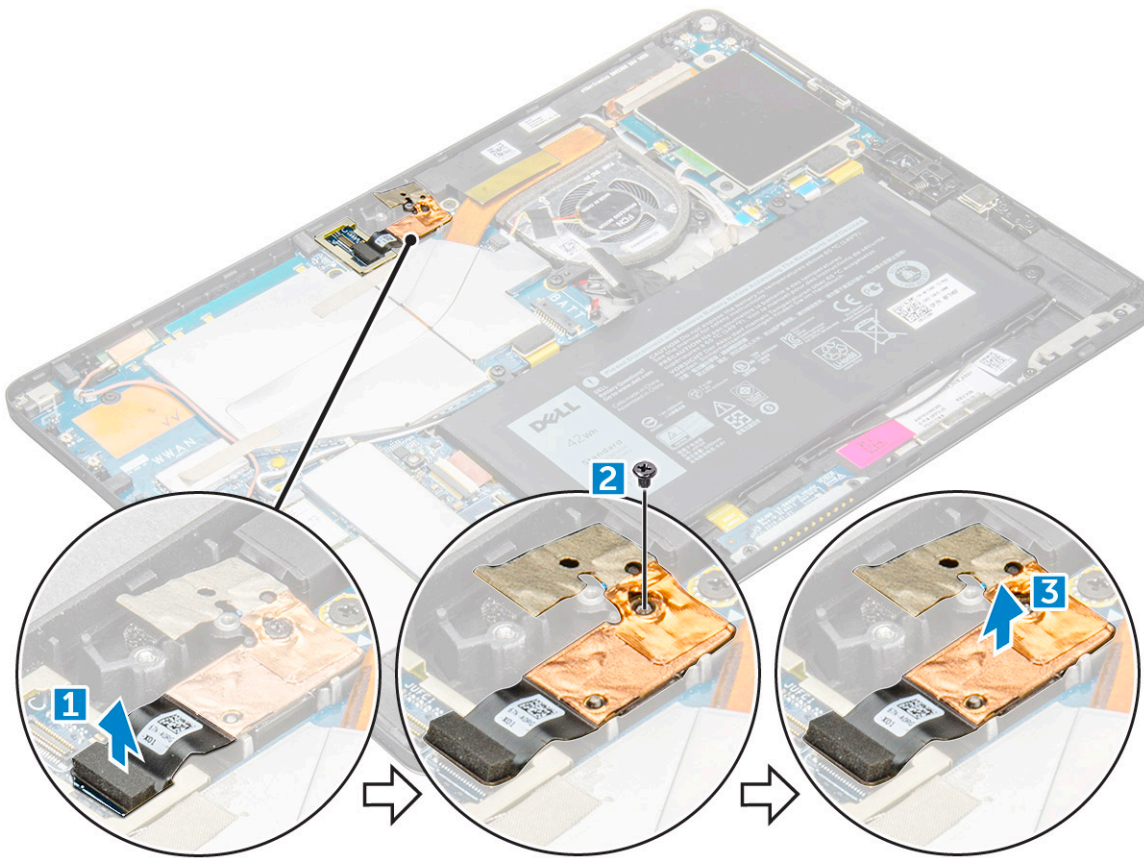2   Remove the:
     a   uSIM/microSD card

         ⓘ NOTE: uSIM card slot is available only on tablets shipping with WWAN module.
     b   display panel
     c   battery
3   To release the docking board:
     a   Disconnect the docking board cable from the system board [1].

         ⓘ NOTE: The docking board FPC is obstructed by the speaker cable. Remove the right speaker first from the system to
         replace the docking board.
     b   Peel the docking board cable from the tablet [2].
     c   Remove the M2.0 x 2.0 screws securing the docking board bracket to the docking board [3].
     d   Lift the docking board from the tablet [4].

Lift the docking board after releasing the cable from the adhesive.

Installing the smart card cage

1   Insert the smart cage into the slot on the tablet.
2   Replace the M2.0 x 2.5 screws screws to secure the smart card cage to the tablet.

3   Connect the smart cable to the smart card module.

4   Install the:

    a   display panel

    b   uSIM/microSD card

        ⓘ **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

5   Follow the procedure in After working inside your tablet.

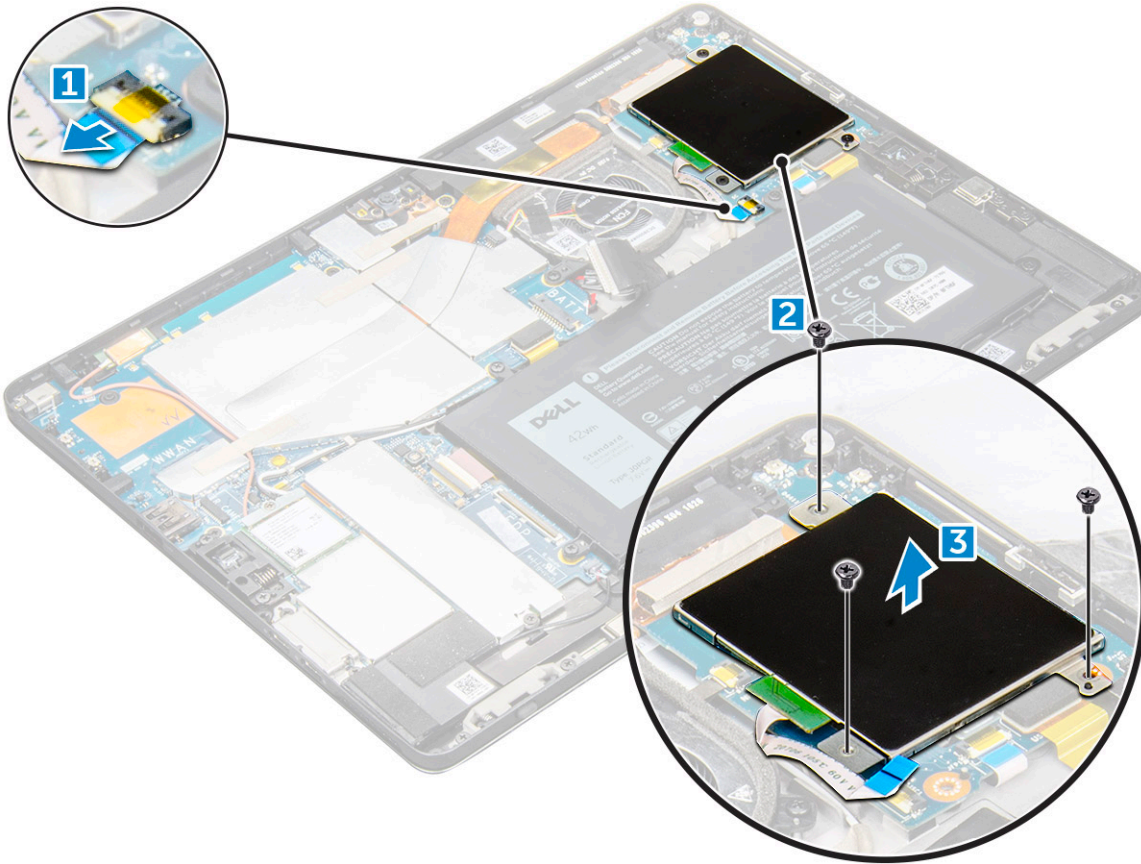# System Board

Removing system board

1   Follow the procedure in Before working inside your tablet.

2   Remove the:

    a   uSIM/microSD card

        ⓘ **NOTE: Micro-SIM card slot is available only on tablets shipping with WWAN module.**

    b   display panel

    c   battery

    d   SSD card

    e   system fan

    f   WLAN card

        ⓘ **NOTE: Remove the WWAN card (optional)**

    g   front camera

    h   rear camera

    i   heat sink

3   Disconnect the following cables from the system board .

    a   docking board cable [1]

    b   speaker cable [2]

    c   USH board cable [3]
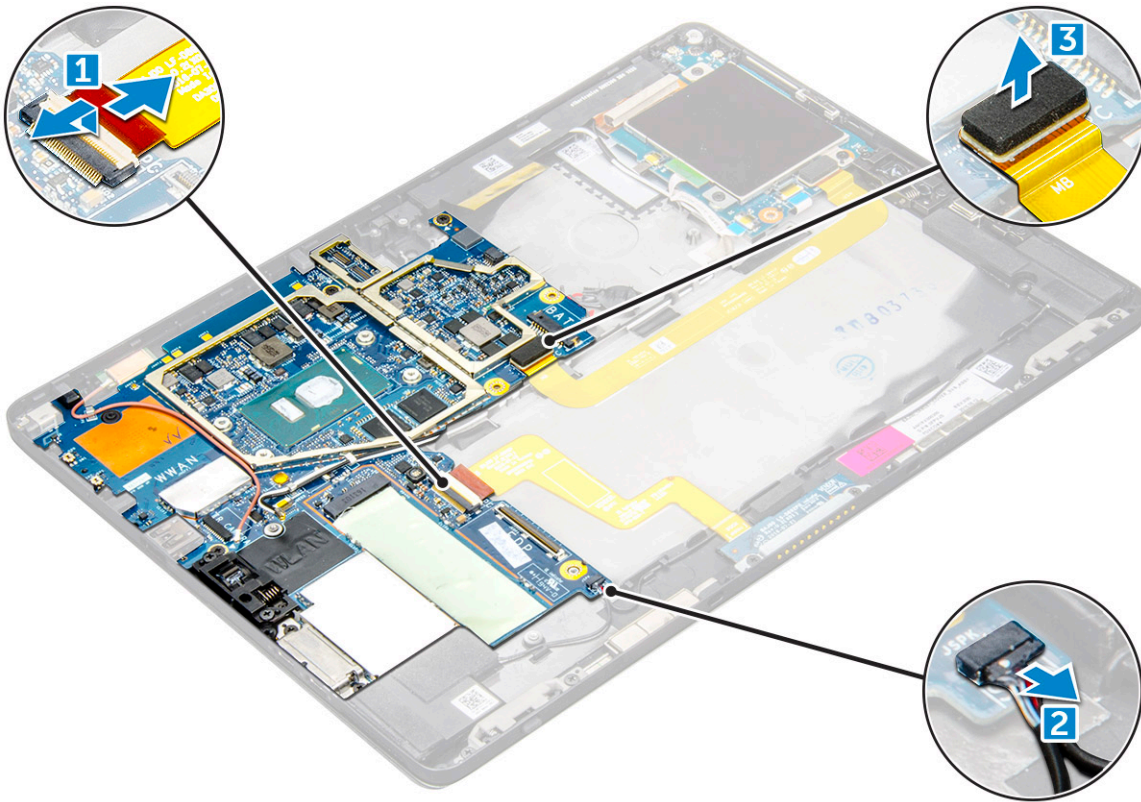
4   Un route the antenna cables from the routing clips [1,2, 3, 4].
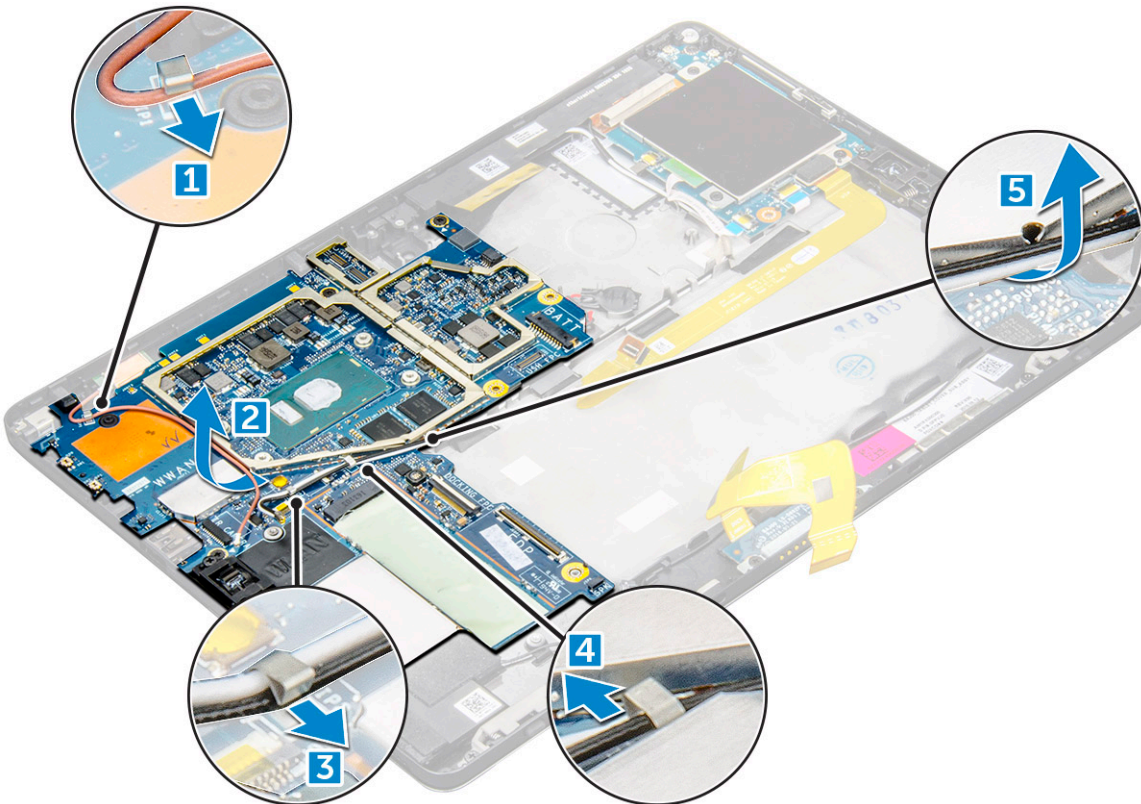
5   To remove the system board
    a   Remove the M2.0 x 2.5 screws that secure the system board to the tablet [1].
    b   Lift the system board from the tablet [2].
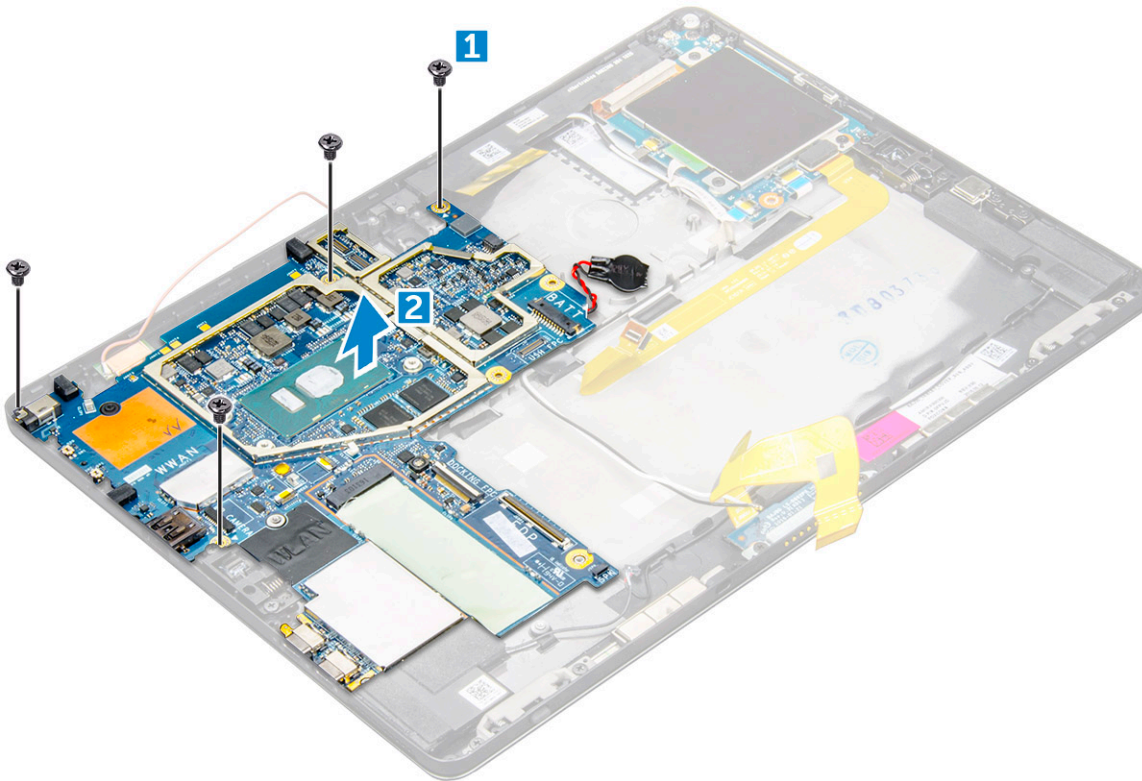
Installing system board

1   Align the system board with the screw holders on the tablet.

2   Tighten the M2.0 x 2.5 screws to secure the system board to the tablet.

> ⓘ | **NOTE: Remember to align the Type-C port and tighten the two screws to secure the port to the system chassis.**

3   Route the antenna cables through the routing clips and channels.

4   Connect the docking board cable, speaker cable and the USH board cable to the connectors on the system board.

5   Install the:

    a   heat sink

    b   rear facing camera

    c   front facing camera

> ⓘ | **NOTE: Remove the IR camera if shipped and installed on the tablet (optional).**

    d   system fan

    e   WLAN card

> ⓘ | **NOTE: Remove the WWAN card installed on tablets shipped with WWAM module (optional).**

    f   SSD card

    g   battery

    h   display panel

    i   uSIM/microSD

> ⓘ | **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

6   Follow the procedure in After working inside your tablet.

Coin cell battery

Removing the coin cell battery

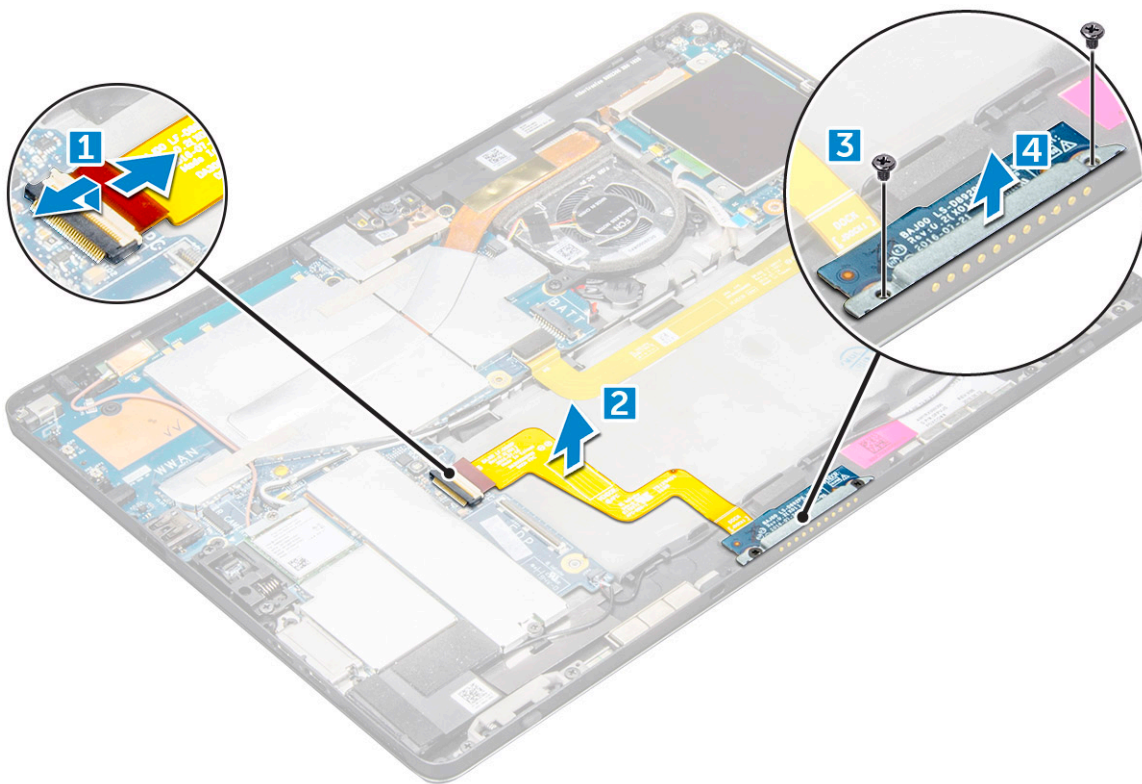Coin cell battery connector is located beneath the system board.

1   Follow the procedure in Before working inside your tablet.
2   Remove the:
    a   uSIM and/or microSD card

        ⓘ NOTE: uSIM card slot is available only on tablets shipping with WWAN module.
    b   display panel
    c   battery
    d   system board
3   To remove the coin cell battery:
    a   Disconnect the coin cell battery cable from the connector beneath the system board.
    b   Lift the coin cell battery from the tablet.

ⓘ NOTE: If you can easily disconnect the coin cell battery cable from beneath the connector on the system board, you need not remove the system board to remove the coin cell battery.

Installing the coin cell battery

1   Insert the coin cell battery to the slot on and affix it to the back cover.
2   Connect the coin cell battery cable to the connector beneath the system board.
3   Install the:
    a   battery
    b   display panel
    c   uSIM/microSD card

> ⓘ **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**

4   Follow the procedure in After working inside your tablet.

Antenna

Removing the antenna module

1   Follow the procedure in Before working inside your tablet.
2   Remove:
    a   uSIM and/or microSD card

>   ⓘ **NOTE: uSIM card slot is available only on tablets shipping with WWAN module.**

    b   display panel
    c   battery
    d   front facing camera
    e   rear facing camera
    f   system board
3   To un route the antenna cables of the antenna module:
    a   Peel the tape that secures the cables to the back cover of the tablet [1].
    b   Un route the cables from routing channels on the back cover [2].
    c   Peel the conductive tape that secures the cables [3].
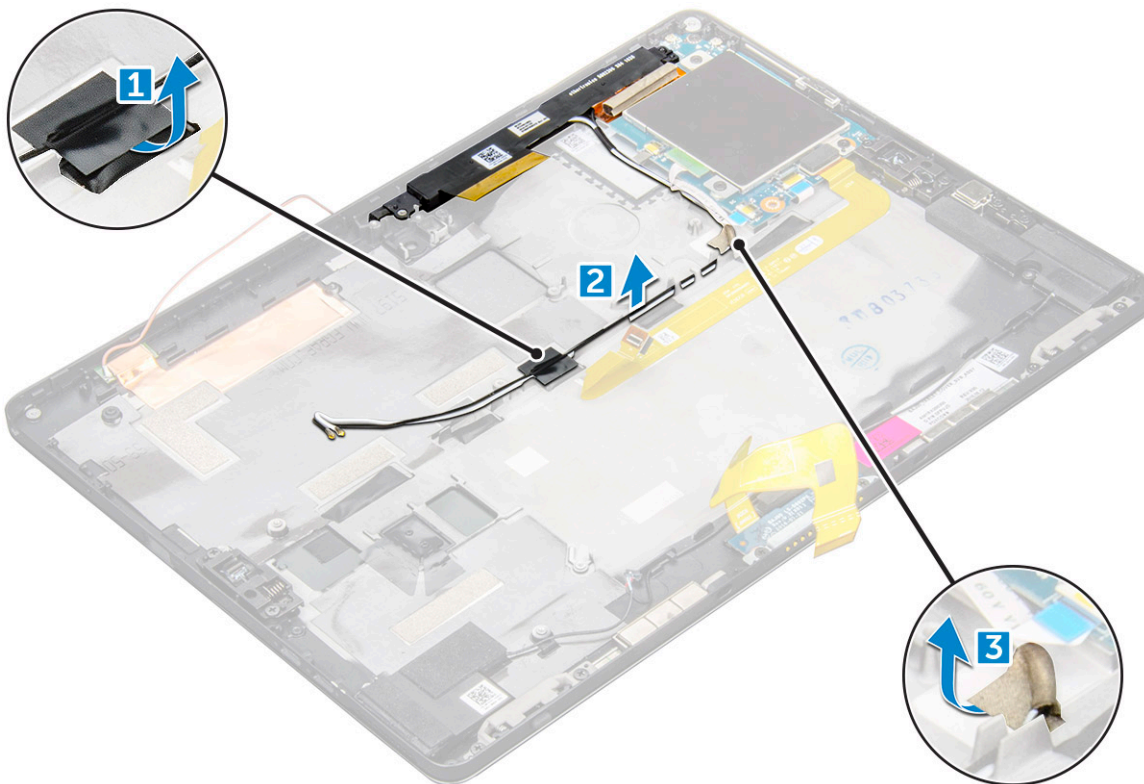
4   To remove the antenna module:
    a   Remove the M1.6 x 3 screw that secures the antenna module to the back cover of the tablet [1].
    b   Lift the antenna module from the back cover [2].
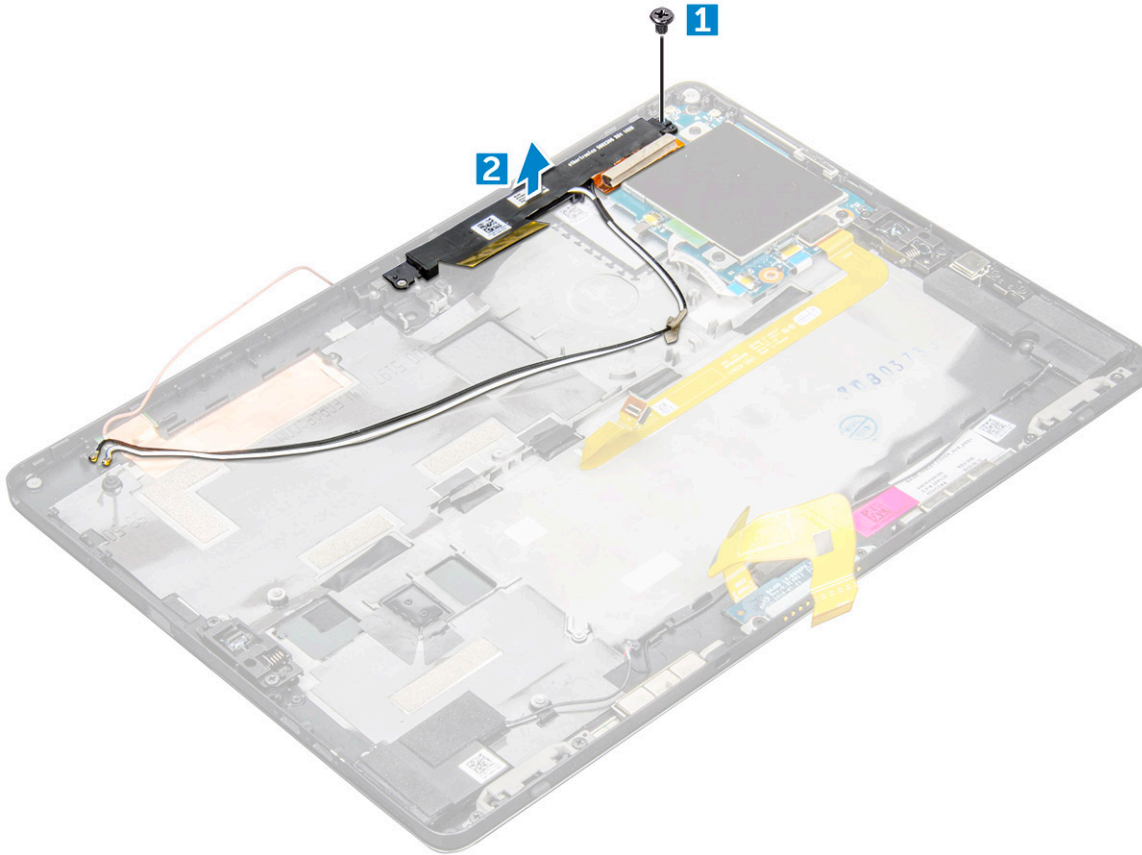
Installing the antenna module

1   Insert the antenna module into the slot on the back cover of the tablet.

2   Tighten the M1.6 x 3 screw to secure the antenna module.

3   Route the antenna cables to the routing channels.

4   Affix the tape and the conductive tapes to secure the antenna cables.

5   Install the:

      a   heat sink

      b   rear facing camera

      c   front facing camera

      d   system fan

      e   WLAN card

      f   SSD card

      g   battery

      h   display panel

      i   uSIM/microSD card

> ⓘ **NOTE: uSIM card is installed only on tablets shipping with WWAN module.**
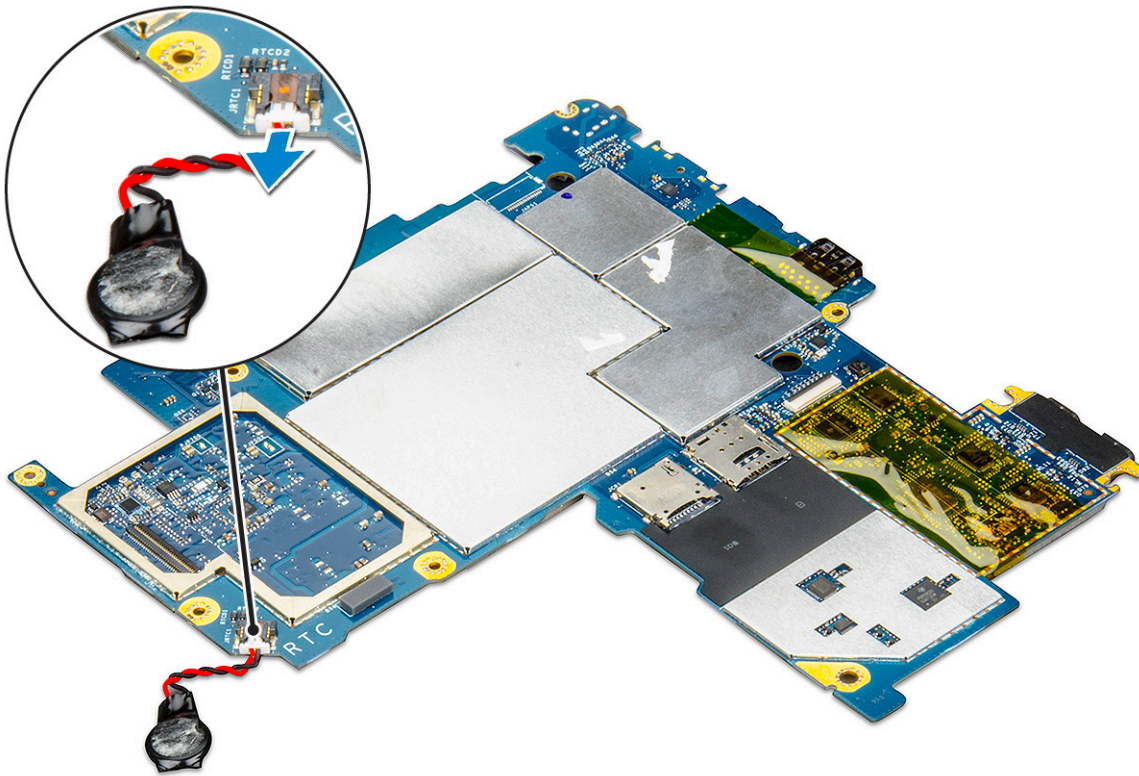
6   Follow the procedure in After working inside your tablet.

USH board

Removing the USH board

1   Follow the procedure in Before working inside your tablet.
2   Remove the:
    a   uSIM/microSD card

        ⓘ NOTE: uSIM card slot is available only on tablets shipping with WWAN module.
    b   display panel
    c   battery
    d   smart card cage
3   To disconnect the cables:
    a   Lift the shield from the connector on the USH board [1].
    b   Disconnect the NFC and fingerprint reader cables from the connectors on the USB board [2].
    c   Disconnect the USH board cable from the connector on the USH board [3]
    d   Remove the M2.0 x 2.5 screw that secures the USH board [4].
    e   Lift the USH board from the tablet [5].
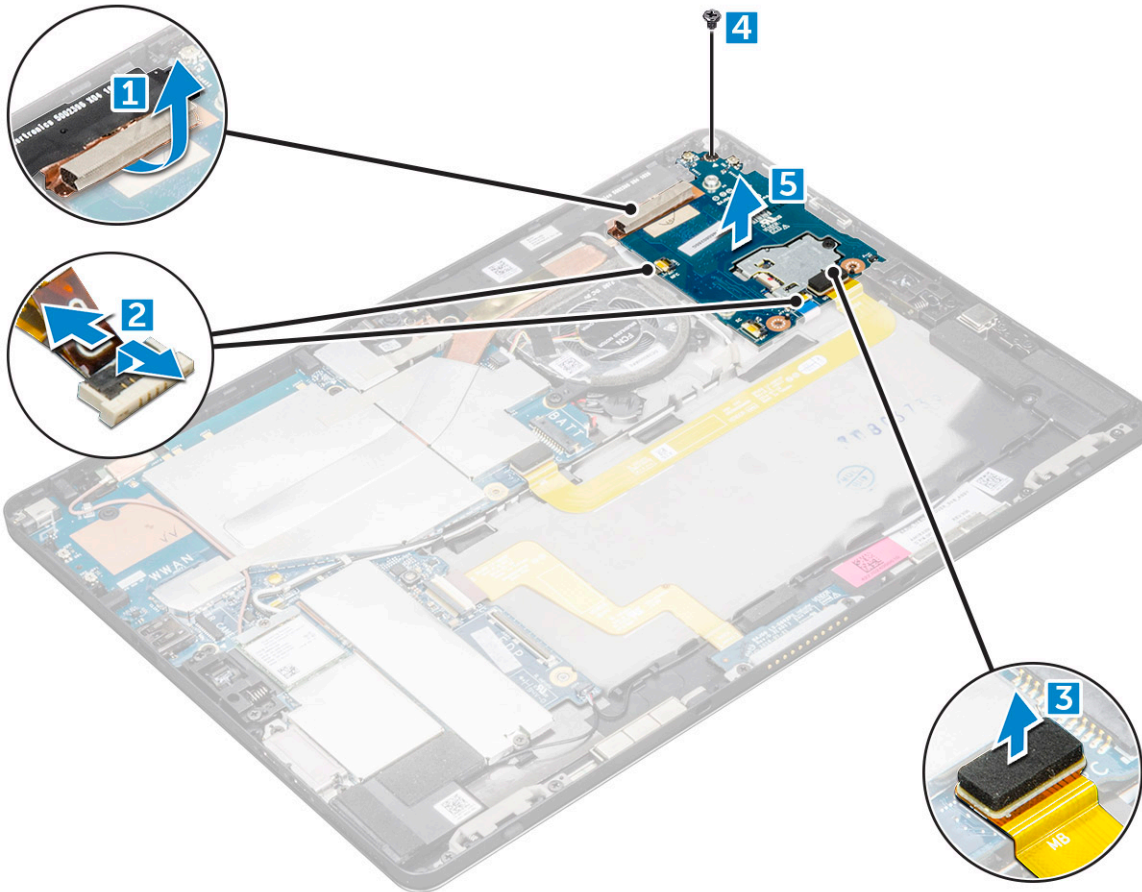
Installing the USH board

1   Replace the USB board in the slot on the tablet.
2   Connect the M2.0 x 2.5 screw to secure the USH board
3   Connect the USH board cable to the connector on the USH board.

4   Connect the NFC and the fingerprint reader cables to the connectors on the system board.

5   Replace the shield on the USH board.

6   Install the:
    a   smart card cage
    b   battery
    c   display panel
    d   uSIM/microSD card

    ⓘ NOTE: uSIM card is installed only on tablets shipping with WWAN module.

7   Follow the procedure in After working inside your tablet.

3

Technology and components

This chapter details the technology and components available in the system.

Topics:

Power adapter

This system is shipped with 45 W or 65 W Type-C power adapters.

⚠ **WARNING: When you disconnect the power adapter cable from the tablet, grasp the connector, not the cable itself, and then pull firmly but gently to avoid damaging the cable.**

⚠ **WARNING: The power adapter works with electrical outlets worldwide. However, power connectors and power strips vary among countries. Using an incompatible cable or improperly connecting the cable to the power strip or electrical outlet may cause fire or equipment damage.**

Processors

Latitude 5285 is shipped with:

- Intel Core i3-7100U (Dual Core, 3M cache, 2.4 GHz,15 W)
- Intel Core i5-7200U (Dual Core, 3M Cache, up to 3.1 GHz, 15 W)
- Intel Core i5-7300U (vPro, Dual Core, 3M Cache, up to 3.5 GHz, 15 W)
- Intel Core i7-7600U (vPro, Dual Core, 4M cache, up to 3.9 GHz, 15 W)

ⓘ **NOTE: The clock speed and performance varies depending on the workload and other variables.**

Identifying processors in Windows 10

1   Type **Device Manager** in **Ask me anything** field.
    The **Device Manager** window is displayed.
2   Click **Processor**.
    The processor information is displayed.
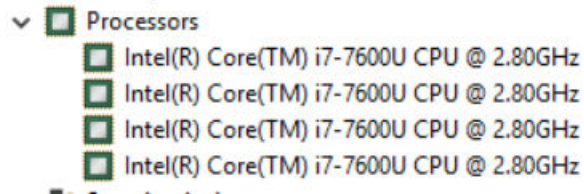
Figure 1. Processor

Verifying processor usage in task manager

1   Right click on the taskbar. Select **Task Manager**
2   You can also access the task manager by clicking **CTRL+ALT+DEL** keys.
    The **Windows Task Manager** window is displayed.
3   Click the **Performance** tab in the **Windows Task Manager** window.
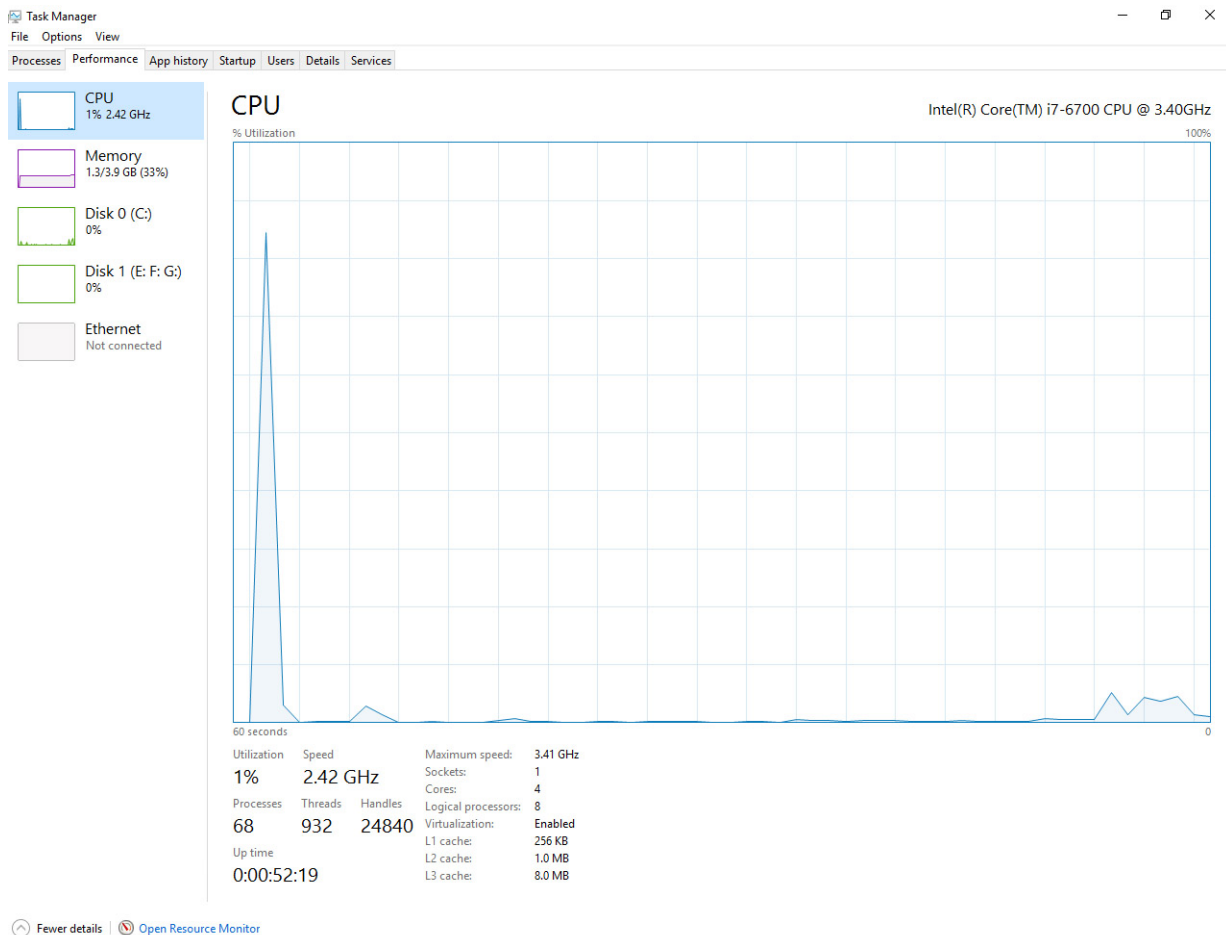
Verifying processor usage in resource monitor

1   Right click the on tablet.
2   Select **Start Task Manager**.
    The **Windows Task Manager** window is displayed.

3   Click the **Performance** tab in the **Windows Task Manager** window.

The processor performance details are displayed.

4   Click **Open Resource Monitor**.
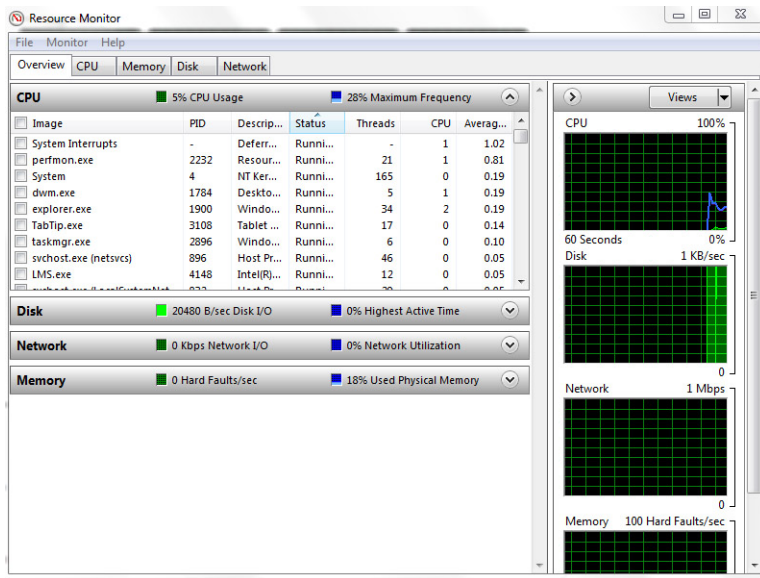
Chipset

The chipset is integrated on the processor.

Identifying chipset in device manager on Windows 10

ⓘ | **NOTE:** The Chipset information displayed is a generic image and may be different from what is displayed.

1   Type **Device Manager** in the **Ask me anything field**.

Device Manager window appears.

2   Expand **System Devices** and search for the chipset.

```
∨ 🖳 System devices
    📷 ACPI Fan
    📷 ACPI Fan
    📷 ACPI Fan
    📷 ACPI Fan
    📷 ACPI Fan
    📷 ACPI Fixed Feature Button
    📷 ACPI Power Button
    📷 ACPI Processor Aggregator
    📷 ACPI Thermal Zone
    📷 ACPI Thermal Zone
    📷 Composite Bus Enumerator
    📷 High Definition Audio Controller
    📷 High precision event timer
    📷 Intel(R) 100 Series/C230 Series Chipset Family LPC Controller - A143
    📷 Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #7 - A116
    📷 Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #6 - A115
    📷 Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #5 - A114
    📷 Intel(R) 100 Series/C230 Series Chipset Family PMC - A121
    📷 Intel(R) 100 Series/C230 Series Chipset Family SMBus - A123
    📷 Intel(R) 100 Series/C230 Series Chipset Family Thermal subsystem - A131
    📷 Intel(R) Management Engine Interface
    📷 Intel(R) Power Engine Plug-in
    📷 Intel(R) Xeon(R) E3 - 1200/1500 v5/6th Gen Intel(R) Core(TM) PCIe Controller (x16) - 1901
    📷 IWD Bus Enumerator
    📷 Legacy device
    📷 Microsoft ACPI-Compliant System
    📷 Microsoft System Management BIOS Driver
    📷 Microsoft UEFI-Compliant System
    📷 Microsoft Virtual Drive Enumerator
    📷 Microsoft Windows Management Interface for ACPI
    📷 NDIS Virtual Network Adapter Enumerator
    📷 Numeric data processor
    📷 PCI Express Root Complex
    📷 PCI Express to PCI/PCI-X Bridge
    📷 PCI standard host CPU bridge
    📷 Plug and Play Software Device Enumerator
    📷 Programmable interrupt controller
    📷 Remote Desktop Device Redirector Bus
    📷 System CMOS/real time clock
    📷 System timer
    📷 UMBus Root Bus Enumerator
```

Memory features

Latitude 5285 supports the following memory configurations:

- 4G 1866MHz LPDDR3 - Intel Core i3-7100U
- 8G 1866MHz LPDDR3 - Intel Core i5-7200U/ Intel Core i5-7300U
- 16G 1866MHz LPDDR3 - Intel Core i7-7600U

Verifying system memory in setup

1   Turn on or restart your tablet.
2   When the Dell logo appears, press F2.
    Entering BIOS setup message appears.
3   On the left pane, select **Settings** > **General** > **System Information**,
    The memory information is displayed on the right pane.

Verifying system memory

Windows 10

1   Click the **Windows** button and select **All Settings** ⚙ > **System** .
2   Under **System**, click **About**.

Testing memory using ePSA

1 Turn on or restart your tablet.
2 Perform one of the following actions after the Dell logo is displayed:
   a With keyboard—Press **F12**
   b Press **Volume Up** button before pressing the **Power button** to turn on the tablet.
   c Release the **Volume Up** button, once the power sequence is initiated and ePSA will launch.

   The PreBoot System Assessment (PSA) is launched on your tablet.

   ⓘ **NOTE: If you wait too long and the operating system logo appears, continue to wait until you see the desktop. Turn off the tablet, and try again.**

3 Follow the steps in Running ePSA diagnostics.

Display options

This tablet is shipped with 12.3" 1920x1280 Touch with Corning Gorilla Glass, Antireflective and Antismudge display.

Identifying display adapter

1 Type **Device manager** in the **Ask me anything** field.
   The **Display Manager** window is displayed.
2 Expand the **Display adapters**.
   The display adapter information is displayed.
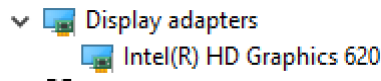
Figure 2. display adapter

Changing the screen resolution

1 Right click on the desktop and select **Display Settings**.
2 Tap or click the **Advanced display settings**.
3 Select the required resolution from the drop-down list and tap **Apply**.
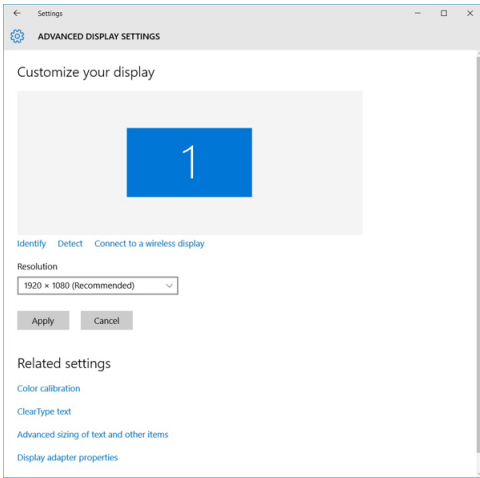
Camera features

This system is shipped with front facing camera with 5 MP and rear facing camera with 8 MP

Identifying the camera in Device Manager on Windows 10

1 In the **Search** box, type `device manager`, and tap to start it.
2 Under **Device Manager**, expand **Imaging devices**.
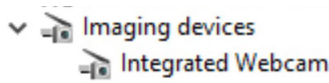
Starting the camera

To start the camera, open an application that uses the camera. For instance, if you tap the Skype software that is shipped with the 2-in-1, the camera turns on. Similarly, if you are chatting on the internet and the application requests to access the webcam, the webcam turns on.

Starting the camera application

1 Tap or click the **Windows** button and select **All apps**.
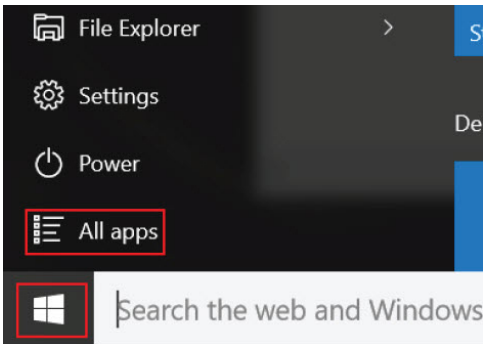
2 Select **Camera** from the apps list.
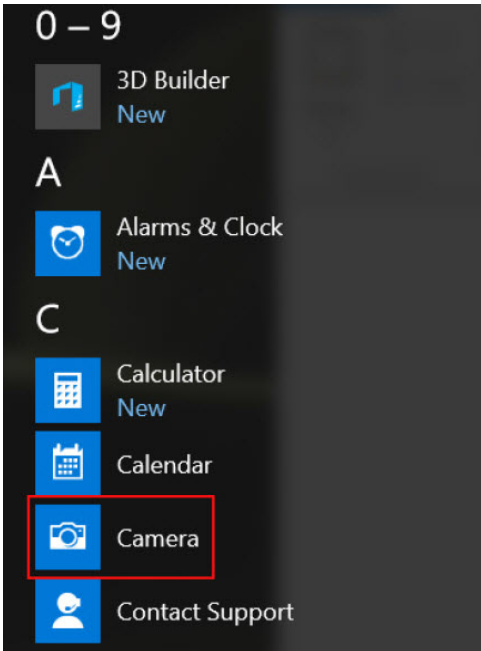
3 If the **Camera** App is not available in the apps list, search for it.
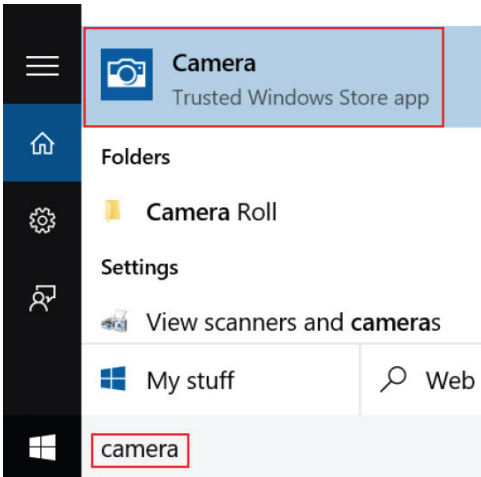
Hard drive options

This system supports M.2 SATA SSD, M.2 PCIe NVMe SSD, and M.2 PCIe NVMe SED.

Identifying the hard drive in the BIOS

1 Turn on or restart your laptop.
2 When the Dell logo appears, perform one of the following actions to enter the BIOS setup program:
   - With keyboard — Tap **F2** until the Entering BIOS setup message appears. To enter the Boot selection menu, tap **F12**.
   - In tablet mode — Press the **Volume Up** button to display the **F12** boot selection or press **Volume Down** button to enter BIOS setup directly.

   Hard drive is listed under the **System Information** under the **General** group.

Dell Active Pen

- Natural writing feel for a pen on paper experience
- Industry leading accuracy, built with Wacom feel IT technologies
- Active stylus with hovering and pressure-sensitive tip (2048 levels of pressure)
- Magnetic attach feature with built-in magnet for increased fastening strength
- Removed Pen clip and added Tethering functionality
- Customizable* 2 barrel buttons and Top button
- Quick launch and note taking over lock screen (requires Bluetooth pairing)
- LED light to show Bluetooth pairing status
- 12 months battery life**, with AAAA battery

**Based on 3 hours daily usage for 5 days a week

System setup

System setup enables you to manage your tablet hardware and specify BIOS level options. From the System setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Topics:

Accessing System Setup BIOS

Latitude 5285 Extreme Tablet BIOS can be accessed without keyboard and with keyboard. To navigate follow the procedure:

Without Keyboard:

1   Power on the Latitude tablet.
2   Hold down the **Volume Down** button during startup (as the Dell logo appears) until the BIOS (System Setup) page is displayed.

With Keyboard:

1   Power on the Latitude tablet.
2   Tap **<F2>** during startup (as the Dell logo appears) until the BIOS (System Setup) page is displayed.
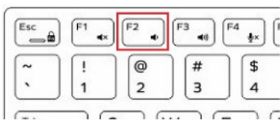
Entering BIOS without keyboard

1   Press the power button to turn on your tablet.
2   Press and hold the **Volume Up** button when the Dell logo appears on the screen.
3   When the **F12** boot selection menu appears, select **BIOS Setup** using the **Volume Up** button.
4   Press the **Volume Down** button to enter BIOS setup program.

System setup options

ⓘ NOTE: Depending on the tablet and its installed devices, the items listed in this section may or may not appear.

General screen options

This section lists the primary hardware features of your tablet.

Option	Description
System Information	This section lists the primary hardware features of your tablet. • System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, Express Service Code, the Signed Firmware update—enabled by default • Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology • Processor Information: Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable, and 64-Bit Technology • Device Information: Displays M.2 SATA, M.2 PCIe SSD-0, Passthrough MAC address, Video Controller, Video BIOS Version, Video Memory, Panel Type, Native Resolution, Audio Controller, Wi-Fi Device, WiGig Device, Cellular Device, Bluetooth Device
Battery Information	Displays the battery status health and whether the AC adapter is installed.
Boot Sequence	Allows you to change the order in which the tablet attempts to find an operating system. • Internal SSD • USB Storage Device • CD/DVD/CD-RW Drive • Onboard NIC
Boot sequence options	Allows you to change the order in which the tablet attempts to find an operating system: • Windows boot manager-selected by default
Boot list options	• Legacy • UEFI—selected by default
Advanced Boot Options	This option allows you the legacy option ROMs to load. The options are: • Enable Legacy Option ROMs-default • Enable Attempt Legacy Boot • Enable UEFI Network Stack
UEFI boot path security	• Always, except internal SSD • Always • Never
Date/Time	Allows you to change the date and time.

System Configuration screen options

Option	Description
SMART Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the SMART (Self-Monitoring Analysis and Reporting Technology) specification. This option is disabled by default. • Enable SMART Reporting
USB Configuration	This is an optional feature. This field configures the integrated USB controller. If Boot Support is enabled, the system is allowed to boot any type of USB Mass Storage Devices—HDD, memory key, floppy. If USB port is enabled, device attached to this port is enabled and available for OS. If USB port is disabled, the OS cannot see any device attached to this port. The options are: • Enable USB Boot Support—enabled by default • Enable External USB Port—enabled by default • Always Allow dell docks—enabled by default ⓘ NOTE: USB keyboard and mouse always work in the BIOS setup irrespective of these settings.
USB PowerShare	This field configures the USB PowerShare feature behavior. This option allows you to charge external devices using the stored system battery power through the USB PowerShare port. This option is disabled by default
Audio	This field enables or disables the integrated audio controller. By default, the **Enable Audio** option is selected. The options are: • Enable Microphone—enabled by default • Enable Internal Speaker—enabled by default
Keyboard Illumination	This field lets you choose the operating mode of the keyboard illumination feature. The keyboard brightness level can be set from 0% to 100%. The options are: • Disabled—enabled by default • Dim (50%) • Bright
Keyboard Backlight Timeout on Battery	The Keyboard Backlight Timeout dims out with the Battery option. The main keyboard illumination feature is not affected. Keyboard Illumination will continue to support the various illumination levels. This field has an effect when the backlight is enabled. The options are: • 5 sec • 10 sec—enabled by default • 15 sec • 30 sec • 1 min • 5 min • 15 min

Option	Description
	• Never
Keyboard Backlight with AC	The Keyboard Backlight with AC option does not affect the main keyboard illumination feature. Keyboard Illumination will continue to support the various illumination levels. This field has an effect when the backlight is enabled. This option is enabled by default.
Keyboard Backlight Timeout on AC	The Keyboard Backlight Timeout dims out with AC option. The main keyboard illumination feature is not affected. Keyboard Illumination will continue to support the various illumination levels. This field has an effect when the backlight is enabled. The options are: • 5 sec • 10 sec—enabled by default • 15 sec • 30 sec • 1 min • 5 min • 15 min • Never
Unobtrusive Mode	This option, when enabled, pressing **Fn+F7** turns off all light and sound emissions in the system. To resume normal operation, press **Fn+F7** again. This option is disabled by default.
Miscellaneous Devices	Allows you to enable or disable the following devices: • Enable Front Camera—enabled by default • Enable Back Camera—enabled by default • Secure Digital (SD) card—enabled by default • Secure Digital (SD) card boot • Secure Digital (SD) card read-only-mode

Video screen options

Option	Description
Display Brightness(LCD Brightness)	Allows you to set the display brightness depending up on the power source—On Battery and On AC. The display brightness is independent for battery and AC adapter. It can be set using the slider.

Security screen options

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. ⓘ NOTE: **You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password.** ⓘ NOTE: **Successful password changes take effect immediately.** Default setting: Not set

Option	Description
System Password	Allows you to set, change, or delete the system password. ⓘ **NOTE: Successful password changes take effect immediately.** Default setting: Not set
Strong Password	Allows you to enforce the option to always set strong passwords. Default Setting: Enable Strong Password is not selected. ⓘ **NOTE: If Strong Password is enabled, the Admin and System passwords must contain at least one uppercase character, one lowercase character and be at least 8 characters long.**
Password Configuration	Allows you to specify the minimum and max password lengths of the Administrator and System passwords. • min-4—by default, if you want to change you can increase the number • max-32—you can decrease the number
Password Bypass	Allows you to enable or disable the permission to bypass the System and the Internal HDD password, when they are set. The options are: • Disabled • Reboot bypass Default setting: Disabled
Password Change	Allows you to enable the disable permission to the System and Hard Drive passwords when the admin password is set. Default setting: **Allow Non-Admin Password Changes** is selected.
Non-Admin Setup Changes	Allows you to determine whether changes to the setup options are allowed when an Administrator Password is set. If disabled the setup options are locked by the admin password. Option "allow wireless switch changes" is not selected by default.
UEFI capsule firmware updates	This option controls whether the system allows BIOS updates using UEFI capsule update packages. This option is enabled by default
TPM 2.0 Security	Allows you to enable the Trusted Platform Module (TPM) during POST. The options are: • TPM On—enabled by default • Clear • PPI Bypass for Enable Commands—disabled by default • PPI Bypass for Disabled Commands • Attestation enable—enabled by default • Key storage enable—enabled by default • SHA-256—enabled by default • Disabled • Enabled—enabled by default
Computrace	Allows you to activate or disable the optional Computrace software The options are: • Deactivate • Disable • Activate—enabled by default

Option	Description
	ⓘ **NOTE: The Activate and Disable options will permanently activate or disable the feature and no further changes are allowed**
CPU XD Support	Allows you to enable the Execute Disable mode of the processor. Enable CPU XD Support—enabled by default
Admin Setup Lockout	Allows you to prevent users from entering Setup when an Administrator password is set. Default Setting: This option is enabled
Master password lockout	This option is not enabled by default

Secure Boot screen options

Option	Description
Secure Boot Enable	This option enables or disables the **Secure Boot** feature. • Disabled • Enabled Default setting: Enabled
Expert Key Management	Allows you to manage all secure boot keys. Manage All Factory Keys (PK, KEK, DB, DBX)

ⓘ **NOTE: For Secure Boot to be enabled, the system needs to be in UEFI boot mode and the Enable Legacy Option ROMs option needs to be turned off.**

Intel software guard extensions screen options

Option	Description
Intel SGX Enable	This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS. The options are: • Software controlled—enabled by default • Enabled Default setting: Software controlled
Enclave Memory Size	This option allows you to set the **SGX Enclave Reserve Memory Size**. The options are: • 32 MB • 64 MB • 128 MB—enabled by default

Performance screen options

Option	Description
Multi-Core Support	This field specifies whether the process has one or all cores enabled. The performance of some applications improves with the additional cores. This option is enabled by default. Allows you to enable or disable multi-core support for the processor. The installed processor supports two cores. If you enable Multi-Core Support, two cores are enabled. If you disable Multi-Core Support, one core is enabled. · Enable Multi-Core Support Default setting: The option is enabled.
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep feature. · Enable Intel SpeedStep Default setting: The option is enabled.
C-States Control	Allows you to enable or disable the additional processor sleep states. · C states Default setting: The option is enabled.
Intel TurboBoost	Allows you to enable or disable the Intel TurboBoost mode of the processor. · Enable Intel TurboBoost Default setting: The option is enabled.
HyperThread Control	Allows you to enable or disable the Hyper-Threading in the processor. · Disabled · Enabled Default setting: Enabled is selected.

Power management screen options

Option	Description
AC Behavior	Allows you to enable or disable the tablet from turning on automatically when an AC adapter is connected. Default setting: Wake on AC is not selected.
Auto On Time	Allows you to set the time at which the tablet must turn on automatically. The options are: · Disabled · Every Day · Weekdays · Select Days

Option	Description
	Default setting: Disabled
USB Wake Support	Allows you to enable USB devices to wake the system from Standby.
	ⓘ **NOTE: This feature is only functional when the AC power adapter is connected. If the AC power adapter is removed during Standby, the system setup removes power from all the USB ports to conserve battery power.**
	• Wake on the Dell USB-C dock
	Default setting: The option is enabled by default.
Wireless Radio Control	Allows you to enable or disable the feature that automatically switches from wired or wireless networks without depending on the physical connection.
	• Control WLAN Radio
	• Control WWAN Radio
	Default setting: The options are disabled.
Peak Shift	This option enables you to minimize the AC power consumption during the peak power times of day. After you enable this option, your system runs only in battery even if the AC is attached.
	• Enable peak shift
	• Set battery threshold (15% to 100%) - 15 % (enabled by default)
Advanced Battery Charge Configuration	This option enables you to maximize the battery health. By enabling this option, your system uses the standard charging algorithm and other techniques, during the nonwork hours to improve the battery health.
	Disabled
	Default setting: Disabled
Primary Battery Charge Configuration	Allows you to select the charging mode for the battery. The options are:
	• Standard—Fully charges your battery at a standard rate—enabled by default.
	• ExpressCharge—The battery charges over a shorter time using Dell's fast charging technology.
	If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop.
	ⓘ **NOTE: All charging mode may not be available for all the batteries. To enable this option, disable the Advanced Battery Charge Configuration option.**

POST Behavior screen options

Option	Description
Adapter Warnings	Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters.
	Default setting: Enable Adapter Warnings
Keypad (Embedded)	Allows you to choose one of two methods to enable the keypad that is embedded in the internal keyboard.
	• Fn Key Only—enabled by default
	• By Numlock

Option	Description
	ⓘ NOTE: When setup is running, this option has no effect. Setup works in Fn Key Only mode.
Numlock Enable	Allows you to enable the Numlock option when the tablet boots. Enable Numlock. This option is enabled by default.
Fn Key Emulation	Allows you to set the option where the Scroll Lock key is used to simulate the Fn key feature. Enable Fn Key Emulation—enabled by default
Fn Lock Options	Allows you to let hot key combinations Fn + Esc toggle the primary behavior of F1–F12, between their standard and secondary functions. If you disable this option, you cannot toggle dynamically the primary behavior of these keys. The available options are: · Fn Lock—enabled by default · Lock Mode Disable/Standard · Lock Mode Enable/Secondary
Fastboot	Allows you to speed up the boot process by bypassing some of the compatibility steps. The options are: · Minimal · Thorough—enabled by default · Auto
Extended BIOS POST Time	Allows you to create an additional preboot delay. The options are: · 0 seconds—enabled by default · 5 seconds · 10 seconds
Full Screen Logo	This option will display full screen logo if your image match screen resolution · Enable Full Screen Logo
Warnings and Errors	This option will cause the boot process to only pause when warnings or errors are detected. · Prompt on Warnings and Errors—enabled by default · Continue on Warnings · Continue on Warnings and Errors ⓘ NOTE: Error deemed critical to the operation of the system hardware will always halt the system.
Sign of Life Indication	This option is disabled by default.

Virtualization support screen options

Option	Description
Virtualization	Allows you to enable or disable the Intel Virtualization Technology. Enable Intel Virtualization Technology—default.

Option	Description
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O. Enable VT for Direct I/O - enabled by default.
Trusted Execution	This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel Trusted Execution Technology. The TPM Virtualization Technology, and the Virtualization technology for direct I/O must be enabled to use this feature. Trusted Execution - disabled by default.

Wireless screen options

Option	Description
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. · WWAN/GPS · WLAN/WiGig · Bluetooth All the options are enabled by default.

ⓘ **NOTE: IMEI number for WWAN can be found on the outer box or the WWAN card.**

Maintenance screen options

Option	Description
Service Tag	Displays the Service Tag of your tablet.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.
BIOS Downgrade	This controls flashing of the system firmware to previous revisions. Option 'Allow BIOS downgrade' is enabled by default.
Data Wipe	This field allows users to erase the data securely from all internal storage devices. Option 'Wipe on Next boot' is not enabled by default. The following is list of devices affected: · Internal M.2 SATA SDD · Internal M.2 PCIe SSD · Internal eMMC
BIOS Recovery	This field allows you to recover from certain corrupted BIOS conditions from a recover file on the user primary hard drive or an external USB key. · BIOS Recovery from Hard Drive—enabled by default · Always perform integrity check—disabled by default

System logs screen options

Option	Description
BIOS Events	Allows you to view and clear the System Setup (BIOS) POST events.
Thermal Events	Allows you to view and clear the System Setup (Thermal) events.
Power Events	Allows you to view and clear the System Setup (Power) events.

Updating the BIOS

It is recommended to update your BIOS (System setup) on replacing the system board or if an update is available. Ensure that your tablet battery is fully charged and connected to a power outlet.

1 Restart the tablet.
2 Go to **Dell.com/support**.
3 Enter the **Service Tag** or **Express Service Code** and click **Submit**.

> ⓘ **NOTE: To locate the Service Tag, click Where is my Service Tag?**

> ⓘ **NOTE: If you cannot find your Service Tag, click Detect My Product. Proceed with the instructions on screen.**

4 If you are unable to locate or find the Service Tag, click the Product Category of your tablet.
5 Choose the **Product Type** from the list.
6 Select your tablet model and the **Product Support** page of your tablet appears.
7 Click **Get drivers** and click **View All Drivers**.
   The Drivers and Downloads page opens.
8 On the Drivers and Downloads screen, under the **Operating System** drop-down list, select **BIOS**.
9 Identify the latest BIOS file and click **Download File**.
   You can also analyze which drivers need an update. To do this for your product, click **Analyze System for Updates** and follow the instructions on the screen.
10 Select your preferred download method in the **Please select your download method below** window, click **Download File**.
   The **File Download** window appears.
11 Click **Save** to save the file on your tablet.
12 Click **Run** to install the updated BIOS settings on your tablet.
   Follow the instructions on the screen.

> ⓘ **NOTE: It is recommended not to update the BIOS version for more than 3 revisions. For example: If you want to update the BIOS from 1.0 to 7.0, then install version 4.0 first and then install version 7.0.**

System and setup password

You can create a system password and a setup password to secure your computer.

Password type	Description
System password	Password that you must enter to log on to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

> ⚠ **CAUTION: The password features provide a basic level of security for the data on your computer.**

> ⚠ **CAUTION: Anyone can access the data stored on your computer if it is not locked and left unattended.**

ⓘ NOTE: System and setup password feature is disabled.

Assigning a system password and setup password

You can assign a new **System Password** only when the status is in **Not Set**.

To enter the system setup, press F2 immediately after a power-on or re-boot.

1   In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
     The **Security** screen is displayed.
2   Select **System Password** and create a password in the **Enter the new password** field.
     Use the following guidelines to assign the system password:
     • A password can have up to 32 characters.
     • The password can contain the numbers 0 through 9.
     • Only lower case letters are valid, upper case letters are not allowed.
     • Only the following special characters are allowed: space, ("), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).
3   Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4   Press Esc and a message prompts you to save the changes.
5   Press Y to save the changes.
     The computer reboots.

Deleting or changing an existing system and or setup password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.
To enter the System Setup, press F2 immediately after a power-on or reboot.

1   In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.
     The **System Security** screen is displayed.
2   In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3   Select **System Password**, alter or delete the existing system password and press Enter or Tab.
4   Select **Setup Password**, alter or delete the existing setup password and press Enter or Tab.

     ⓘ NOTE: If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.
5   Press Esc and a message prompts you to save the changes.
6   Press Y to save the changes and exit from System Setup.
     The computer reboots.

Troubleshooting

Enhanced Pre-boot System Assessment - ePSA

The ePSA is a diagnostic utility available on the tablet. This utility includes a series of tests for a tablet's hardware. Customers can run these tests even if the computer lacks any media (hard drive, CD drive, etc.). If an ePSA-tested component fails, the system displays an error code and generates a beep code.

Features:

- Graphical User Interface.
- Automatic Default Operation- runs test on all devices, allowing a user to interrupt and select any device.
- Checks the Master Boot Record for readiness to boot into a full OS environment.
- Tablet panel test.
- Video card.
- Battery test.
- Charger test.
- Primary battery.
- Multiprocessor cache test.

Running the ePSA Diagnostic Utility

ⓘ NOTE: The following steps can be used to run the ePSA diagnostic utility in DOS mode without using an external keyboard.

1. Power on the system.
2. Before the Dell Logo is displayed, immediately press the **Volume Up** button to get the **Boot Menu**.
3. Scroll down the **Diagnostics** and then press the **Volume Down** button to select.
4. The tablet will begin running the ePSA utility.

LCD Built-in Self Test - BIST

Dell laptop PCs have a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with the LCD (screen) of the Dell laptop PC or with the video card (GPU) and PC settings.

When you notice screen abnormalities like flickering, distortion, clarity issues, fuzzy or blurry image, horizontal or vertical lines, color fade etc., it is always a good practice to isolate the LCD (screen) by running the built-in self test (BIST).

1. Power on the system.
2. Before the Dell Logo is displayed, immediately press the **Volume Up** button to get the **Boot Menu**.
3. Scroll down the **Diagnostics** and then press the **Volume Down** button to select.
4. The tablet will begin running the ePSA utility.

Method 1 - Run the laptop LCD built-in self test - BIST

1   Power off the Dell laptop PC.
2   Disconnect any peripherals connected to the PC. Connect the AC adapter (charger) to the PC.
3   Make sure that the LCD (screen) is clean (no dust particles on the surface of the screen).
4   Press and hold **D** key and power on the PC to enter LCD built-in self test (BIST) mode. Continue to hold the **D** key, until you see color bars on the LCD (screen).
5   The screen will display multiple color bars and change colors on the entire screen to red, green and blue.
6   Carefully inspect the screen for abnormalities.
7   Press **Esc** key to exit.

Method 2 - Run the laptop LCD built-in self test - BIST

1   Power off the Dell laptop PC.
2   Disconnect any peripherals connected to the PC. Connect the AC adapter (charger) to the PC.
3   Make sure that the LCD (screen) is clean (no dust particles on the surface of the screen).
4   Press and hold **Fn** key and power on the PC to enter ePSA or PSA diagnostics mode. Continue to hold the **Fn** key, until you see the ePSA or PSA diagnostic screen.
5   ePSA or PSA will run a series of tests on the PC.
6   Press **N** key to enter LCD built-in self test mode when you see the message "Do you see the color bars? Yes/No".

> ⓘ **NOTE: If you do not respond for 30 seconds, the diagnostics will automatically assume your response as 'No' and proceed to the laptop LCD built-in self test (BIST).**

7   The screen will display multiple color bars and change colors on the entire screen to black, white, red, green and blue.
8   Carefully inspect the screen for abnormalities.
9   The PC will restart once the remaining tests are completed.

> ⓘ **NOTE: If you do not detect any screen abnormalities in the built-in self test mode, the laptop LCD is functioning properly. Check the video card (GPU) and PC settings. If you do notice any abnormalities in the built-in self test mode, you may get the laptop LCD repaired/replaced if it is under warranty by contacting Dell Technical Support.**

Method 3 - Run the laptop LCD built-in self test - BIST

1   Power off the Dell laptop PC.
2   Disconnect any peripherals connected to the PC. Connect the AC adapter (charger) to the PC.
3   Make sure that the LCD (screen) is clean (no dust particles on the surface of the screen).
4   Press and hold the **Volume down** key and power on the PC to enter LCD built-in self test (BIST) mode. Continue to hold the **Volume down** key, until you see color bars on the LCD (screen).
5   The screen will display series of colors flashing on-screen.
6   Carefully inspect the screen for abnormalities.
7   Press **Esc** key to exit.

Tablet LED

This section details the diagnostic features of the battery LED in a tablet.

Diagnostic LED

Tablets rely on the Battery LED light blinking amber/white pattern to determine failures listed in the following table:

(i) **NOTE:**

- The blinking patterns will consist of 2 sets of numbers being represented by (First Group: Amber blinks, Second Group: White blinks)
- First Group: The LED blinks 1 to 9 times followed by a brief pause with LED off at the interval of 1.5 seconds. (This is in Amber color)
- Second Group: The LED blinks 1 to 9 times, followed by a longer pause before the next cycle starts again at the interval of 1.5 seconds. (This is in White color)
- **Example**: No Memory detected (2,3), Battery LED blinks two times of amber color followed by a pause, and then blinks three times of white color. The Battery LED will pause for 3 seconds before the next cycle repeat itself again

The following table depicts the amber and white blinking patterns with possible troubleshooting resolution:

Table 2. LED pattern

Blinking pattern	Problem Description	Suggested Resolution
2,1	processor	processor failure
2,2	system board, BIOS ROM	system board, covers BIOS corruption or ROM error
2,3	memory	no memory/no RAM detected
2,4	memory	memory failure/RAM failure
2,5	memory	invalid memory installed
2,6	system board; chipset	system board/ chipset error
2,7	display	display failure
3,1	RTC power failure	coin-cell battery failure
3,2	PCI/Video	PCI/Video card/chip failure
3,3	BIOS recovery 1	recovery image not found
3,4	BIOS recovery 2	recovery image found but invalid

Real Time Clock reset

The Real Time Clock (RTC) reset function allows you or the service technician to recover the recently launched model Dell Latitude and Precision systems from select **No POST/No Boot/No Power** situations. You can initiate the RTC reset on the system from a power off state only if it is connected to AC power. Press and hold the power button for 25 seconds. The system RTC reset occurs after you release the power button.

(i) **NOTE: If AC power is disconnected from the system during the process or the power button is held longer than 40 seconds, the RTC reset process is aborted.**

The RTC reset will reset the BIOS to Defaults, un-provision Intel vPro and reset the system date and time. The following items are unaffected by the RTC reset:

- Service Tag
- Asset Tag
- Ownership Tag
- Admin Password
- System Password
- HDD Password
- Key Databases
- System Logs

The following items may or may not reset based on your custom BIOS setting selections:

- The Boot List
- Enable Legacy OROMs
- Secure Boot Enable
- Allow BIOS Downgrade

Identifying the AC adapter shipped with your tablet

AC adapters are shipped based on customer requirements or based on regions. To identify the AC adapter shipped with your tablet, you can verify it from the service tag.

1   Go to **Dell.com/support**
2   Type the service tag of your tablet.
3   Click **System configuration**. System configuration details are displayed.
4   Click **Original configuration** to view the AC adapter shipped with your tablet.

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Contacting Dell

ⓘ NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1   Go to **Dell.com/support.**
2   Select your support category.
3   Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4   Select the appropriate service or support link based on your need.