

# Dell Latitude 3540 Owner's Manual

Regulatory Model: P28F  
Regulatory Type: P28F004



# Notes, Cautions, and Warnings



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



**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.

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# Working on Your Computer

## Before Working Inside Your Computer


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


- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.


 **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://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 computer.

 **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. Hold a component such as a processor by its edges, not by its pins.

 **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 computer and certain components may appear differently than shown in this document.

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

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).
3. If the computer is connected to a docking device (docked) such as the optional Media Base or Battery Slice, undock it.


 **CAUTION:** To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

 **NOTE:** To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Remove the main battery.
8. Turn the computer top-side up.
9. Open the display.
10. Press the power button to ground the system board.

 **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

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

11. Remove any installed ExpressCards or Smart Cards from the appropriate slots.

## Turning Off Your Computer


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

1. Shut down the operating system:

- In Windows 8:


- Using a touch-enabled device:

- a. Swipe in from the right edge of the screen, opening the Charms menu and select **Settings**.

- b. Select the  and then select **Shut down**

- Using a mouse:

- a. Point to upper-right corner of the screen and click **Settings**.

- b. Click the  and select **Shut down**.

- In Windows 7:

1. Click **Start** .

2. Click **Shut Down**.

or

1. Click **Start** .

2. Click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**.



2. 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 4 seconds to turn them off.

## After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.



**CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.**

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.



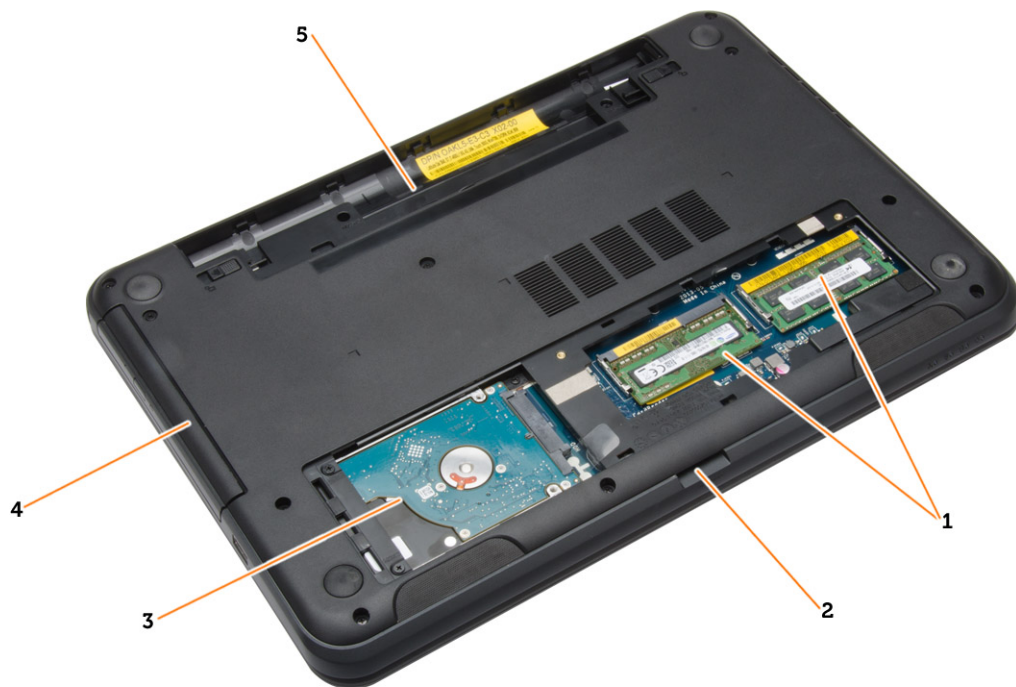
**CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.**

3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

# Removing and Installing Components

This section provides detailed information on how to remove or install the components from your computer.

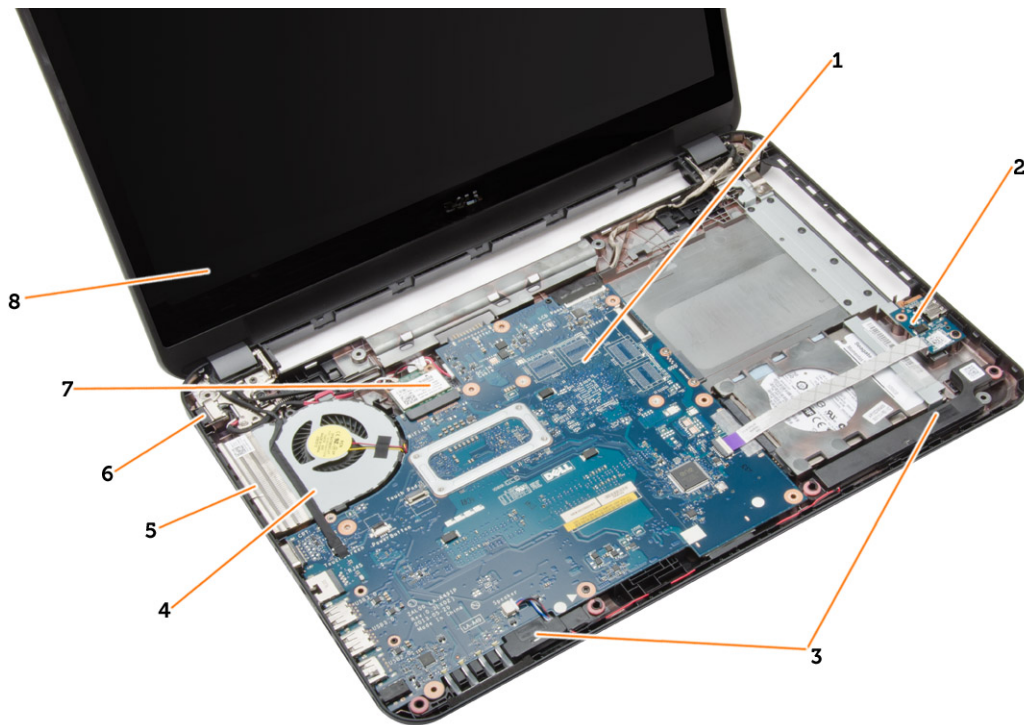
## System Overview



1. memory module(s)
3. hard drive
5. battery bay

2. SD card slot
4. optical drive





- |                 |                    |
|-----------------|--------------------|
| 1. system board | 2. I/O board       |
| 3. speakers     | 4. system fan      |
| 5. heatsink     | 6. power connector |
| 7. WLAN card    | 8. display         |

## Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe

## Removing the SD Card

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Press in on the SD memory card to release it from the computer.



## Installing the SD Card

1. Push the memory card into the compartment until it clicks into place.
2. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Battery

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Slide the release latches outwards to unlock the battery and lift the battery to remove it from the computer.

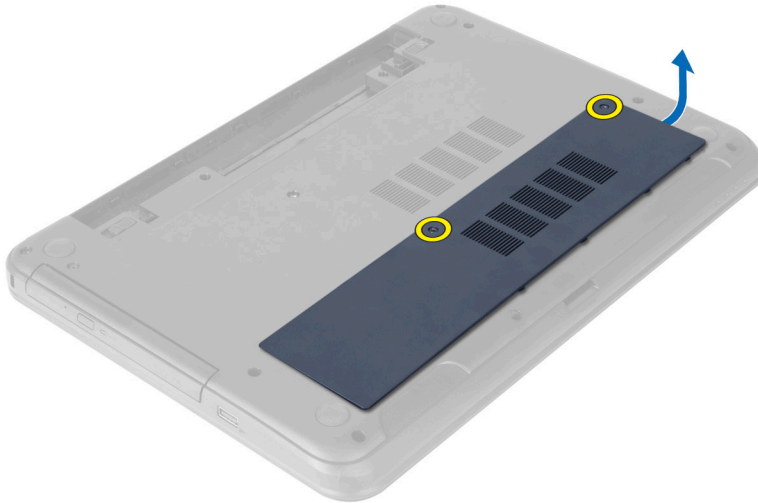


## Installing the Battery

1. Slide the battery into its slot until it clicks into place.
2. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Access Panel

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the battery.
3. Loosen the captive screws that secure the access panel and remove it from the computer.

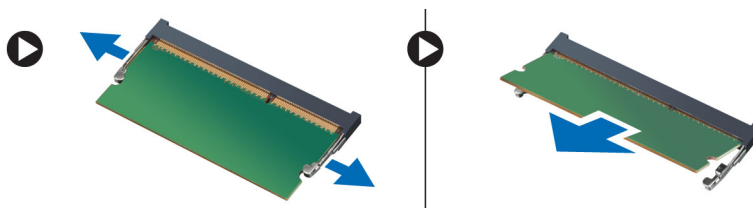


## Installing the Access Panel

1. Slide the access panel into its slot.
2. Tighten the screws to secure the access panel to the computer.
3. Install the battery.
4. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Memory Module

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel
3. Pry the securing clips away from the memory module until it pops up. Remove the memory module from its socket on the system board.



## Installing the Memory Module

1. Insert the memory module into the memory socket and press until it clicks into place.
2. Install:
  - a. access panel
  - b. SD card
  - c. battery

3. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Hard Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel
3. Remove the screws that secure the hard drive to the computer.



4. Slide the hard drive to release it from its connector. Lift the tab to remove the hard drive from the computer.



5. Remove the screws that secure the hard-drive bracket. Lift the latch to remove the hard-drive bracket from the hard drive.

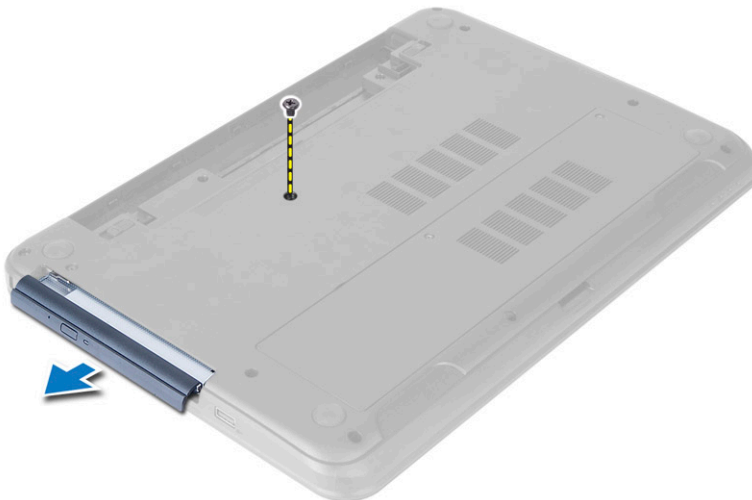


## Installing the Hard Drive

1. Place the hard drive in the hard-drive bracket and secure the latch.
2. Tighten the screws to secure the hard-drive bracket to the hard drive.
3. Slide the hard drive in its slot in the computer.
4. Tighten the screws to secure the hard drive to the computer.
5. Install:
  - a. access panel
  - b. SD card
  - c. battery
6. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Optical Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the battery.
3. Remove the screw that secures the optical drive and slide the optical drive out of the drive bay.



4. Remove the screws that secure the optical-drive bracket to the optical drive. Remove the optical-drive bracket from the optical drive.



## Installing the Optical Drive

1. Place the optical-drive bracket on to the optical drive.
2. Tighten the screws to secure the optical-drive bracket to the optical drive.
3. Slide the optical drive into the drive bay in the computer.
4. Tighten the screw to secure the optical drive to the computer.
5. Install the battery.
6. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Keyboard

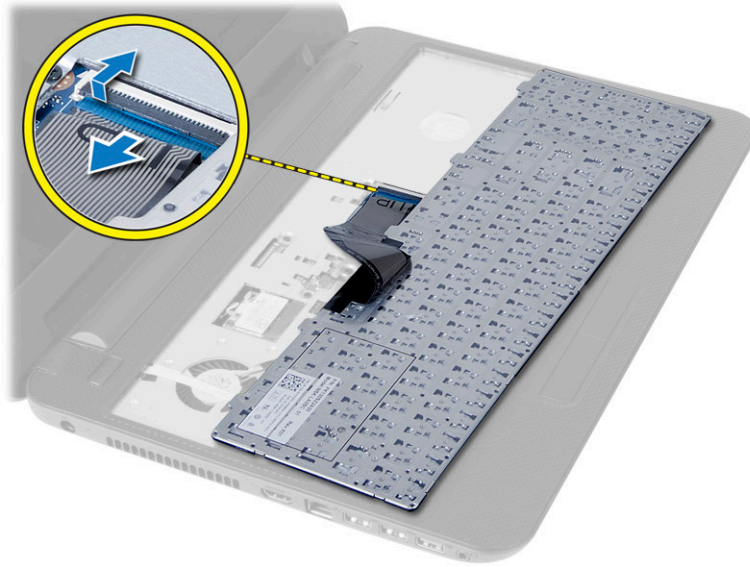
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the battery.
3. Release the keyboard by pressing the tabs on the palmrest.



4. Slide the keyboard towards the display assembly and flip the keyboard over the palmrest.



5. Disconnect the keyboard cable from the connector on the system board and lift the keyboard off the palmrest.

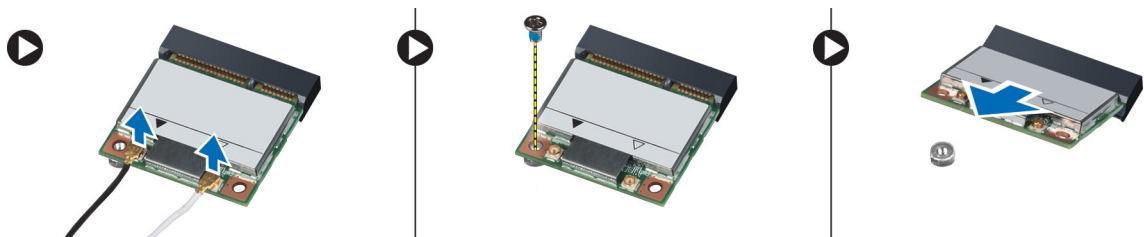


## Installing the Keyboard

1. Connect the keyboard cable to the connector on the system board.
2. Slide the keyboard in its place on the computer and snap it into place.
3. Install the battery.
4. Follow the procedures in *After Working Inside Your Computer*.

## Removing the WLAN Card

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. keyboard
3. Disconnect the antenna cables, remove the screw that secures the WLAN card to the system board and lift the WLAN card from the computer.



## Installing the WLAN Card

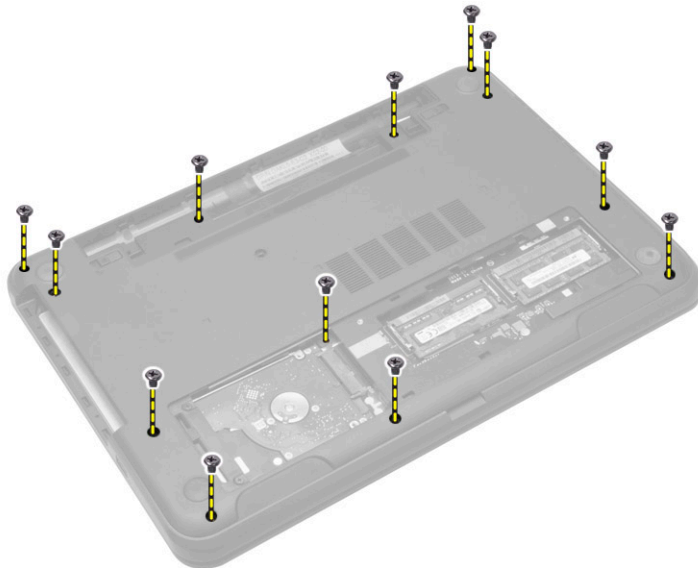
1. Insert the WLAN card in its connector at a 45-degree angle in its slot.
2. Connect the antenna cables to their respective connectors marked on the WLAN card.
3. Tighten the screw to secure the WLAN card to the computer.
4. Install:



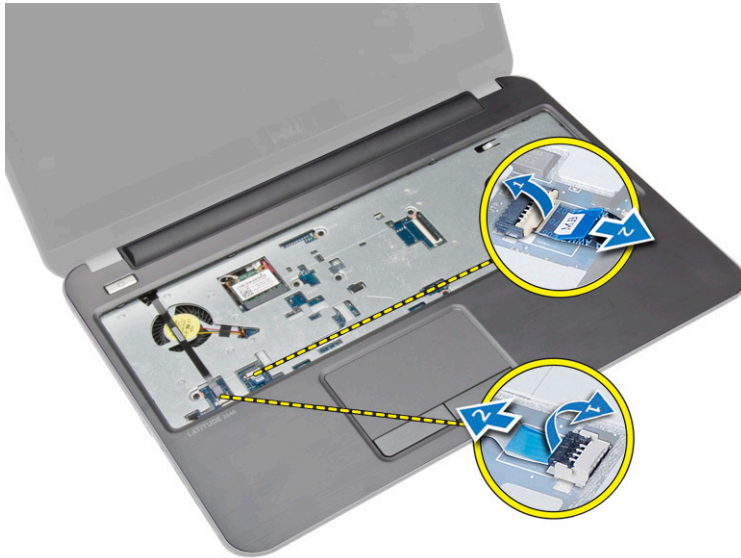
- a. keyboard
- b. battery
5. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Palmrest

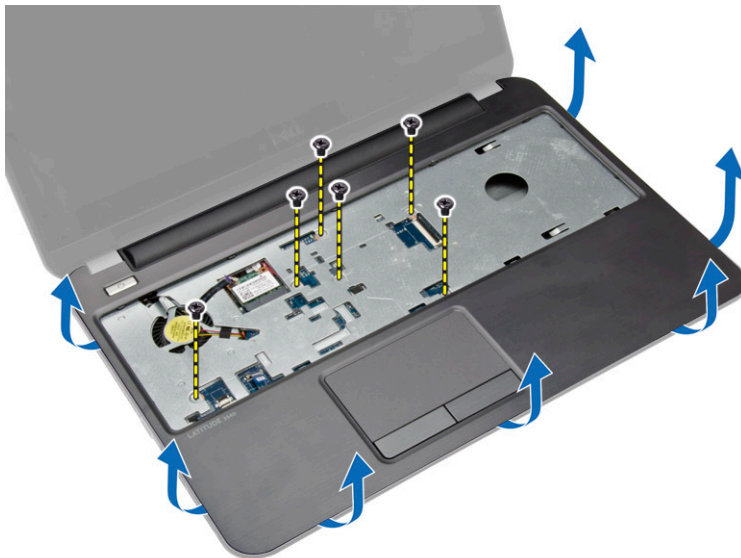
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel
  - d. hard drive
  - e. optical-drive
  - f. keyboard
3. Remove the screws that secure the palmrest to the computer.



4. Flip the computer and disconnect the touchpad cable and power-button cable from the system board.



5. Remove the screws that secure the palmrest to the system board. Lift and release the tabs on palmrest from the slots on the computer.



6. Lift the palmrest at 45-degree angle and remove it from the computer.

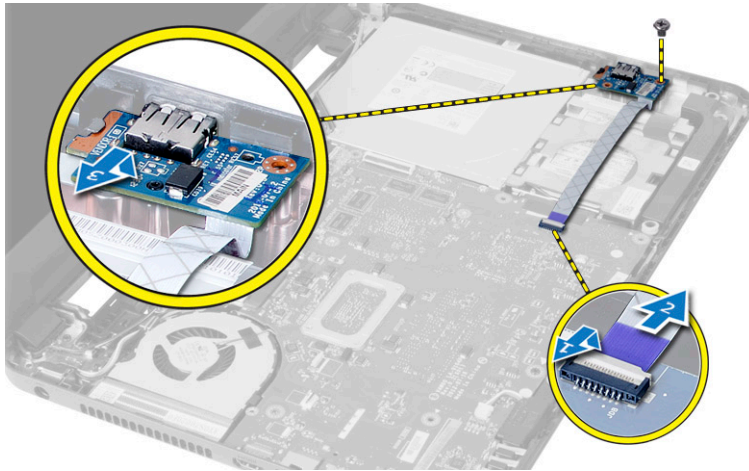


## Installing the Palmrest

1. Align and press the palmrest on the computer until it snaps into place at all sides.
2. Connect the touchpad cable and the power-button cables to the system board.
3. Tighten the screws to secure the palmrest to the system board.
4. Flip the computer and tighten the screws to secure the palmrest to the computer.
5. Install:
  - a. keyboard
  - b. optical drive
  - c. hard drive
  - d. access panel
  - e. SD card
  - f. battery
6. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Input/Output (I/O) Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. access panel
  - c. keyboard
  - d. palmrest
3. Disconnect the I/O cable from the system board. Remove the screw that secures the I/O board to the computer and lift the I/O board from the computer.

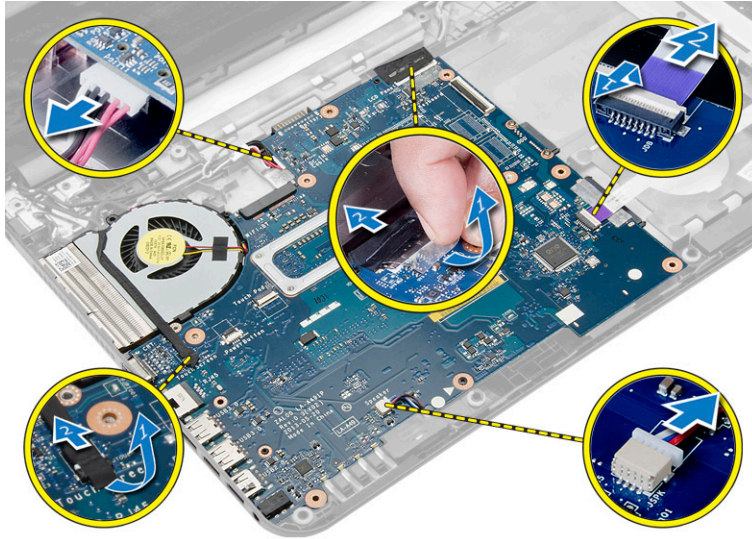


## Installing the Input/Output (I/O) Board

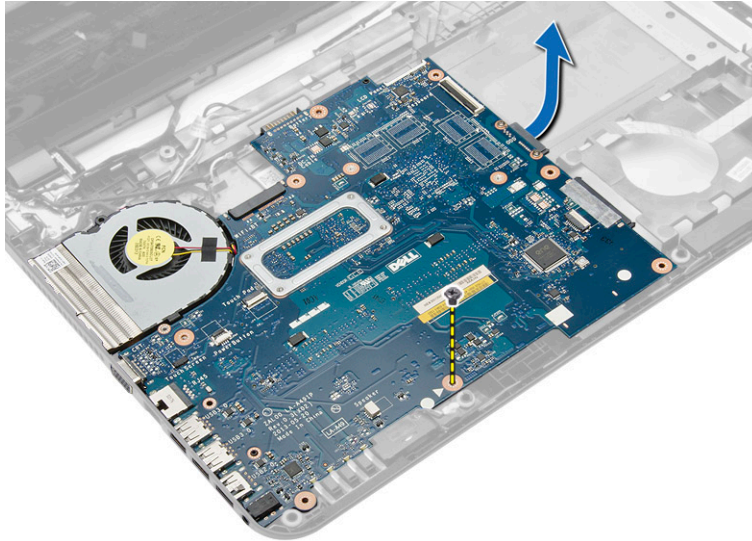
1. Place the I/O board in its slot.
2. Tighten the screw to secure the I/O board to the computer.
3. Connect the I/O cable to the system board.
4. Install:
  - a. palmrest
  - b. keyboard
  - c. access panel
  - d. battery
5. Follow the procedures in *After Working Inside Your Computer*.

## Removing the System Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. SD card
  - b. battery
  - c. access panel
  - d. memory module
  - e. hard drive
  - f. optical drive
  - g. keyboard
  - h. palmrest
  - i. WLAN card
3. Disconnect the following cables:
  - a. display cable
  - b. power-connector port cable
  - c. speaker cable
  - d. I/O board cable
  - e. Touch cable (for touch computer only)



4. Remove the screw that secures the system board to the computer. Lift the system board from the computer.



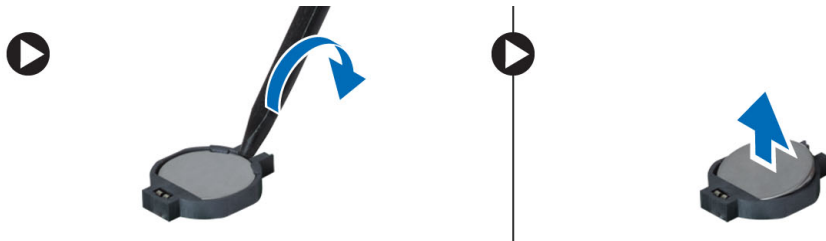
## Installing the System Board

1. Align the system board in its place on the computer.
2. Tighten the screw to secure the system board to the computer.
3. Connect the following cables to their connectors on the system board:
  - a. touch cable (for touch computer only)
  - b. I/O board cable
  - c. speaker cable
  - d. power-connector cable
  - e. display cable
4. Install:
  - a. WLAN card

- b. palmrest
  - c. keyboard
  - d. optical drive
  - e. hard drive
  - f. memory module
  - g. access panel
  - h. battery
  - i. SD card
5. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Coin-Cell Battery

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. access panel
  - c. memory module
  - d. hard drive
  - e. optical drive
  - f. keyboard
  - g. palmrest
  - h. WLAN card
  - i. system board
3. Flip the system board and place it on a flat surface.
4. Pry out the coin-cell battery from the system board.

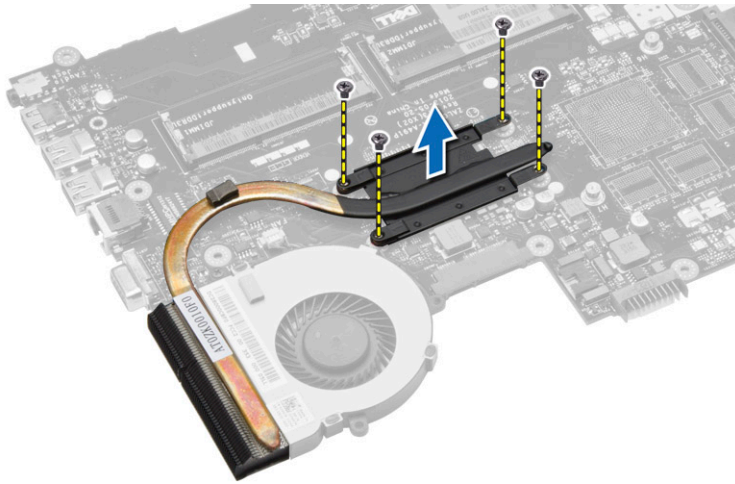


## Installing the Coin-Cell Battery

1. Place the coin-cell battery in its slot.
2. Install:
  - a. system board
  - b. WLAN card
  - c. palmrest
  - d. keyboard
  - e. optical drive
  - f. hard drive
  - g. memory module
  - h. access panel
  - i. battery
3. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Heatsink

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. SD card
  - b. battery
  - c. access panel
  - d. memory module
  - e. hard drive
  - f. optical drive
  - g. keyboard
  - h. palmrest
  - i. WLAN card
  - j. system board
3. Flip the system board and place it on a flat surface.
4. Remove the screws that secure the heatsink to the system board. Lift the heatsink from the system board.



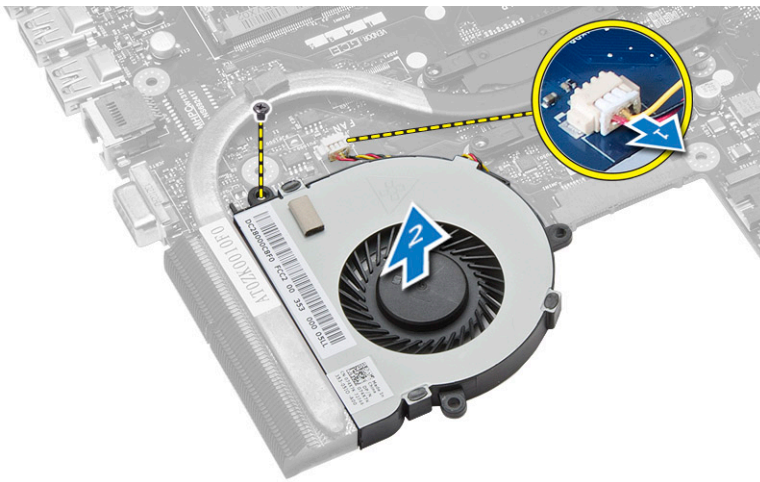
## Installing the Heatsink

1. Align the heatsink in its place on the system board.
2. Tighten the screws to secure the heatsink to the system board.
3. Install:
  - a. system board
  - b. palmrest
  - c. keyboard
  - d. optical drive
  - e. hard drive
  - f. memory module
  - g. WLAN card
  - h. access panel
  - i. SD card
  - j. battery

4. Follow the procedures in *After Working Inside Your Computer*.

## Removing the System Fan

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. access panel
  - c. memory module
  - d. hard drive
  - e. optical drive
  - f. keyboard
  - g. palmrest
  - h. WLAN card
  - i. system board
3. Perform the steps as shown in the illustration:
  - a. Disconnect the system-fan cable from the system board.
  - b. Remove the screw that secures the system fan to the system board.
  - c. Lift the system fan from the system board.



## Installing the System Fan

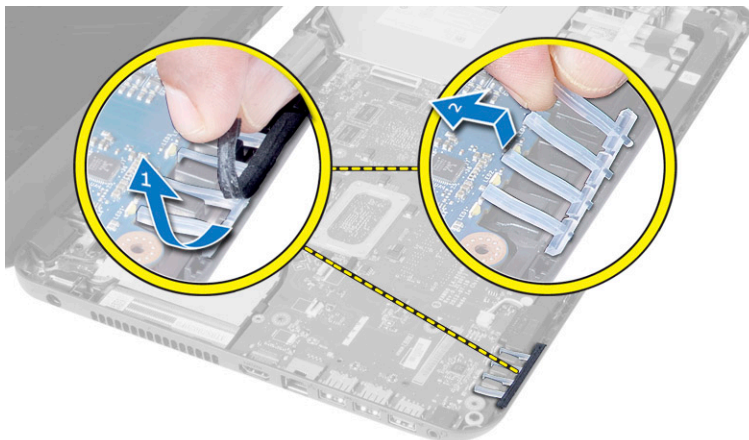
1. Align the system fan in its place on the system board.
2. Tighten the screw to secure the system fan to the system board.
3. Connect the system-fan cable to the system board.
4. Install:
  - a. system board
  - b. WLAN card
  - c. palmrest
  - d. keyboard
  - e. optical drive
  - f. hard drive
  - g. memory module



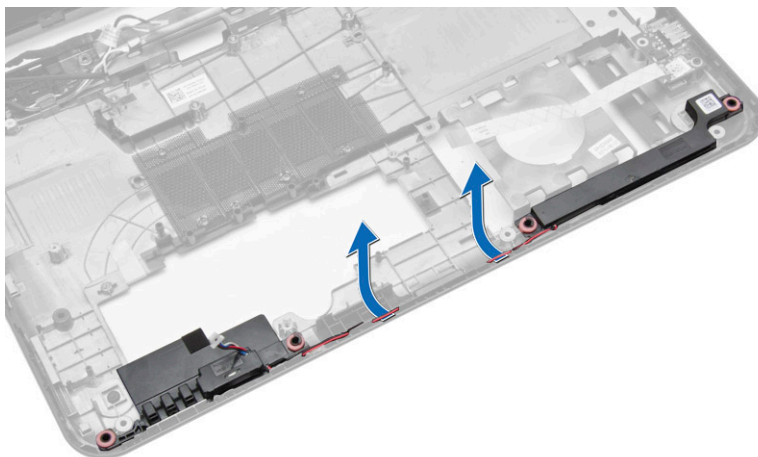
- h. access panel
  - i. battery
5. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Speakers

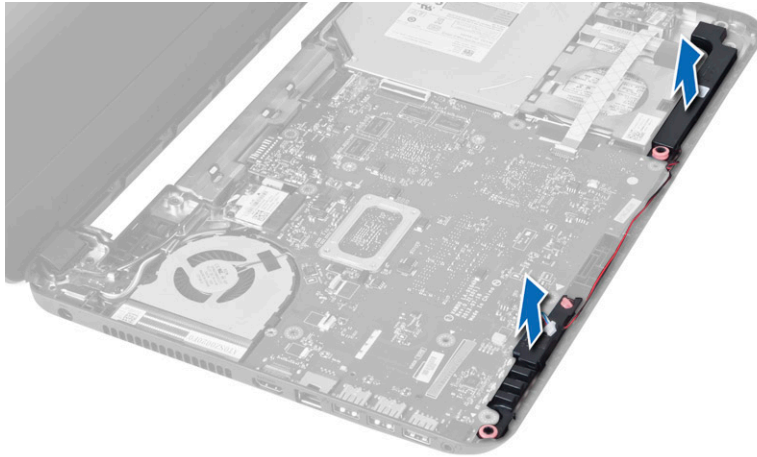
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel
  - d. memory module
  - e. hard drive
  - f. optical drive
  - g. keyboard
  - h. palmrest
  - i. WLAN card
  - j. system board
3. Peel the tape that secures the LED silicon tubes to the computer. Lift and remove the LED silicon tubes from the computer.



4. Unroute the speaker cables from their routing channel.



5. Lift the speaker assembly from the computer.



## Installing the Speakers

1. Place the speakers in their slot and route the cables through the channels.
2. Place the LED silicon tubes on the computer.
3. Affix the tape that secures the LED silicon tubes to the computer.
4. Install:
  - a. system board
  - b. WLAN card
  - c. palmrest
  - d. keyboard
  - e. optical drive
  - f. hard drive
  - g. memory module
  - h. access panel
  - i. SD card
  - j. battery
5. Follow the procedures in *After Working Inside Your Computer*.

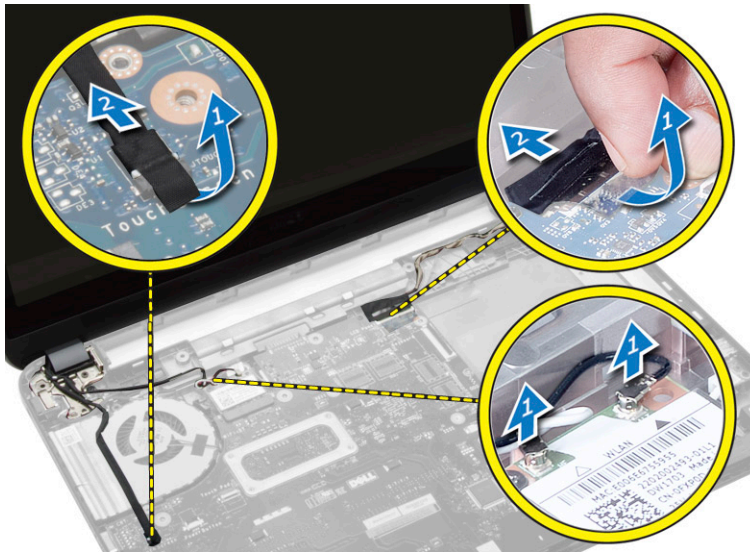
## Removing the Display Assembly (Touch)



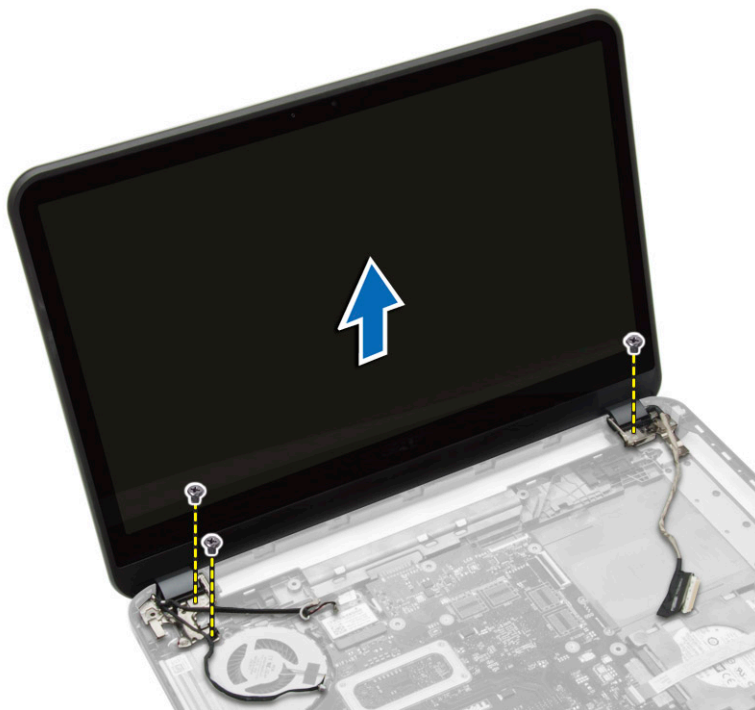
**WARNING:** For the Touch system, the display assembly is a single component and should not be further dismantled.

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. access panel
  - c. memory module
  - d. hard drive
  - e. optical drive
  - f. keyboard
  - g. palmrest


3. Disconnect the touch cable and display cable. Disconnect the antennae cables from the WLAN card



4. Remove the screws that secure the display assembly to the computer. Lift the display assembly from the computer.



## Installing the Display Assembly (Touch)

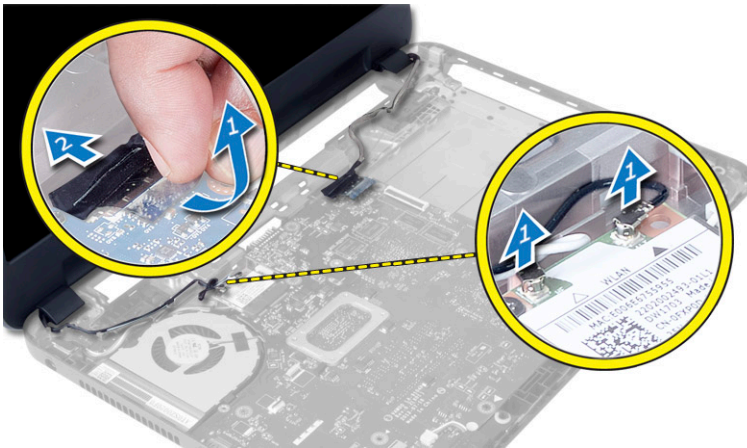
 **WARNING:** For the Touch system, the display assembly is a single component and should not be further dismantled.

1. Place the display assembly on the computer and tighten the screws to secure it to the computer.
2. Connect the touch cable and display cable to the system board.

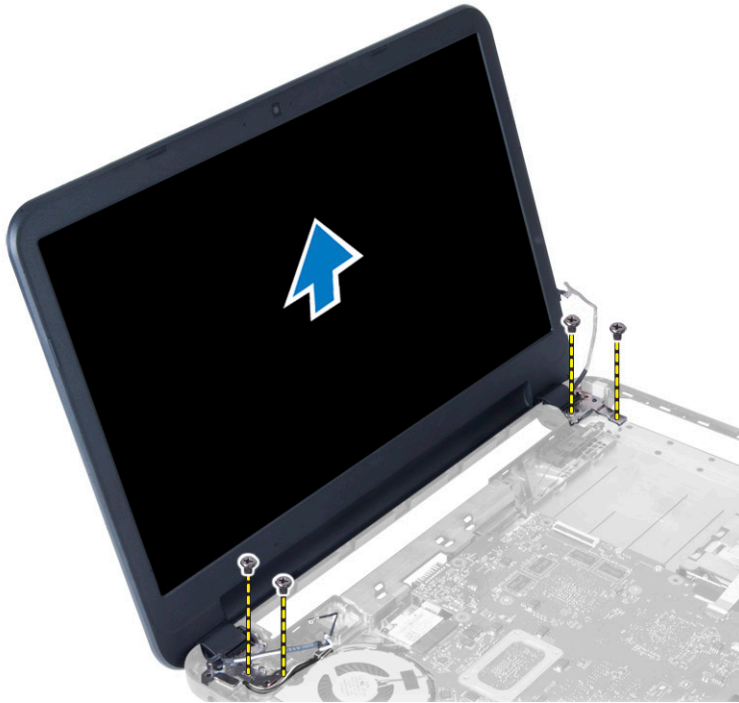
3. Connect the antennae cables to the WLAN card.
4. Flip the computer and tighten the screws to secure the display assembly to the computer.
5. Install:
  - a. palmrest
  - b. keyboard
  - c. optical drive
  - d. hard drive
  - e. memory module
  - f. access panel
  - g. battery
6. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Display Assembly

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. access panel
  - c. memory module
  - d. hard drive
  - e. optical drive
  - f. keyboard
  - g. palmrest
3. Peel the tape that secures the display and camera cables to the system board. Disconnect the cables from their connector on the system board. Disconnect the antennae cables from the WLAN card.



4. Remove the screws that secure the display assembly to the computer and lift the display assembly off the computer.



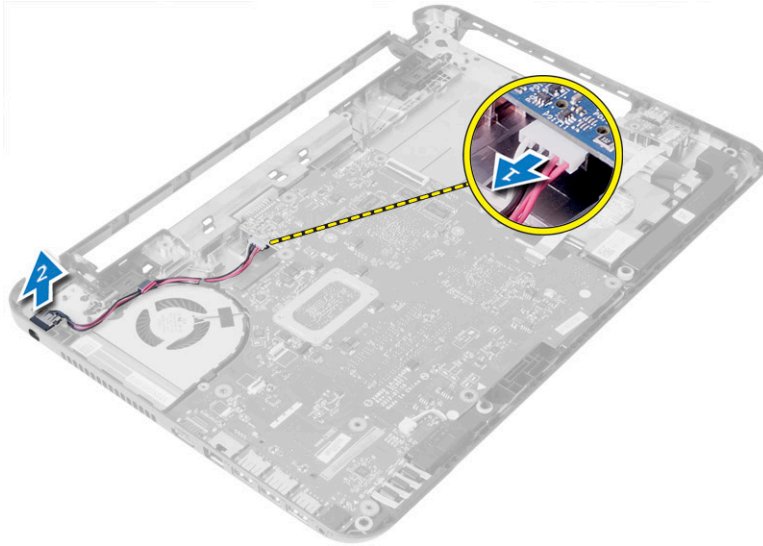
## Installing the Display Assembly

1. Place the display assembly on the computer.
2. Tighten the screws to secure the display assembly to the computer.
3. Connect the antennae cables to the WLAN card.
4. Connect the display and power-connector cables to the system board.
5. Affix the tape that secures the display and camera cable to the computer.
6. Install:
  - a. palmrest
  - b. keyboard
  - c. optical drive
  - d. hard drive
  - e. memory module
  - f. access panel
  - g. battery
7. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Power Connector

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. access panel
  - c. hard drive
  - d. optical drive

- e. keyboard
  - f. palmrest
  - g. WLAN card
  - h. display assembly
3. Perform the following steps as shown in the illustration:
    - a. Disconnect the power-connector cable and release the power-connector cable from the routing channel.
    - b. Remove the power connector from the computer.



## Installing the Power Connector

1. Align the power connector to its position in the computer.
2. Route the power-connector cable through the routing channel.
3. Connect the power-connector cable to the system board.
4. Install:
  - a. display assembly
  - b. WLAN card
  - c. palmrest
  - d. keyboard
  - e. optical board
  - f. hard drive
  - g. access panel
  - h. battery
5. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Display Bezel

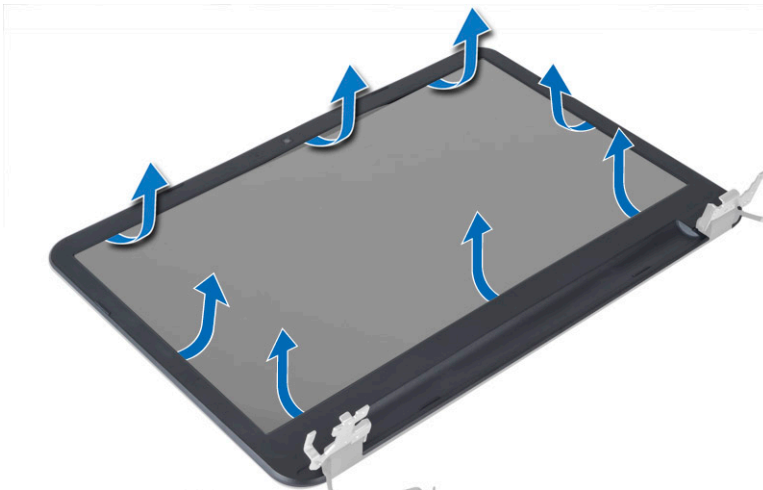
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel

- d. memory module
- e. WLAN card
- f. hard drive
- g. optical drive
- h. keyboard
- i. palmrest
- j. system board
- k. display assembly

3. Press the hinge covers on the side. Lift and remove the hinge covers from the computer.



4. Pry the edges of the display bezel. Remove the display bezel from the computer.



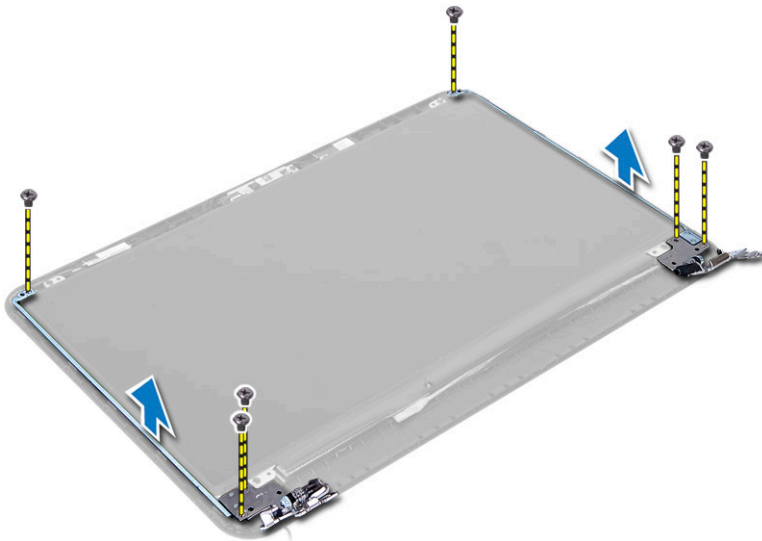
## Installing the Display Bezel

1. Align the display bezel in place and snap it in place.
2. Align the hinge covers on display assembly and snap the hinge covers on its place.
3. Install:
  - a. display assembly

- b. system board
  - c. palmrest
  - d. keyboard
  - e. optical drive
  - f. hard drive
  - g. memory module
  - h. WLAN card
  - i. access panel
  - j. SD card
  - k. battery
4. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Display Hinges

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel
  - d. memory module
  - e. WLAN card
  - f. hard drive
  - g. optical drive
  - h. keyboard
  - i. palmrest
  - j. system board
  - k. display assembly
  - l. display bezel
3. Remove the screws that secure the display hinges to the display assembly. Lift the display hinges off the display panel.



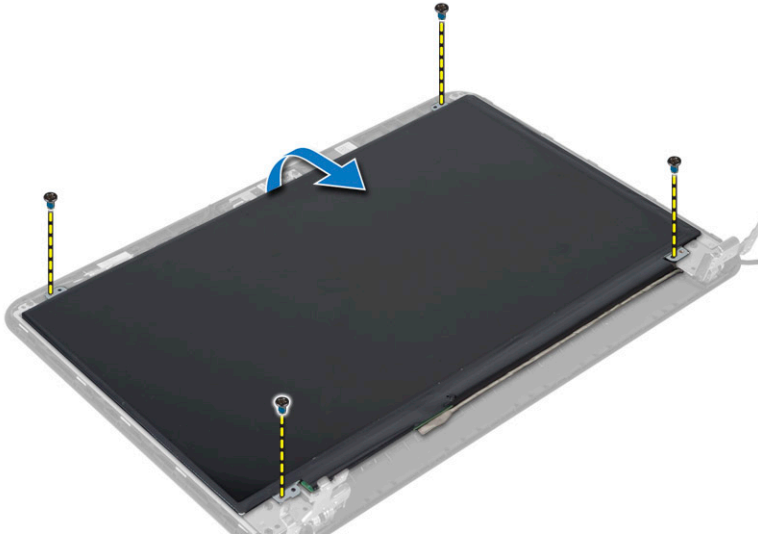


## Installing the Display Hinges

1. Place the display hinges on its place.
2. Tighten the screws to secure the display hinges to the display assembly.
3. Install:
  - a. display bezel
  - b. display assembly
  - c. system board
  - d. palmrest
  - e. keyboard
  - f. optical drive
  - g. hard drive
  - h. memory module
  - i. WLAN card
  - j. access panel
  - k. SD card
  - l. battery
4. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Display Panel

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. SD card
  - c. access panel
  - d. memory module
  - e. WLAN card
  - f. hard drive
  - g. optical drive
  - h. keyboard
  - i. palmrest
  - j. system board
  - k. display assembly
  - l. display bezel
  - m. display hinges
3. Remove the screws that secure the display panel to the display assembly. Lift the display panel and flip to access the display cable.



4. Peel the tape that secures display cable and disconnect the cable from the connector. Remove the display panel from the display assembly.



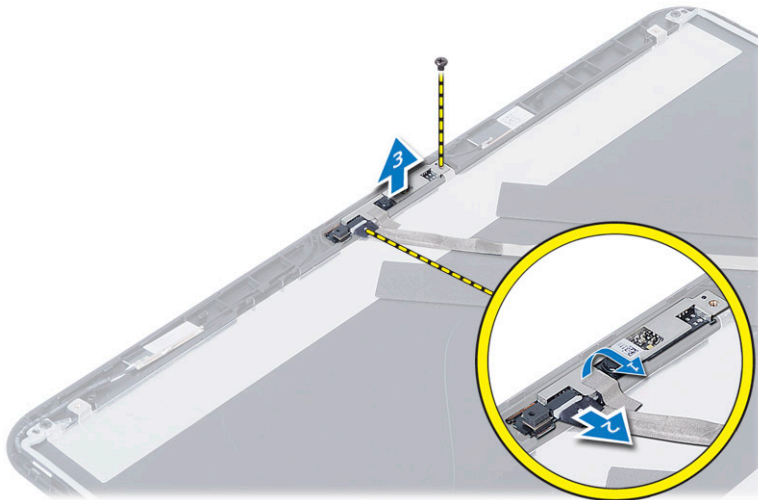
## Installing the Display Panel

1. Connect the display cable to the display panel.
2. Affix the tape to secure the display cable.
3. Place the display panel on the display assembly.
4. Tighten the screws to secure the display panel to the display assembly.
5. Install:
  - a. display hinges
  - b. display bezel
  - c. display assembly
  - d. system board
  - e. palmrest

- f. keyboard
  - g. optical drive
  - h. hard drive
  - i. memory module
  - j. WLAN card
  - k. access panel
  - l. SD card
  - m. battery
6. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Camera Module

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. battery
  - b. memory module
  - c. hard drive
  - d. optical drive
  - e. keyboard
  - f. palmrest
  - g. display assembly
  - h. display bezel
3. Remove the screw, peel the tape and disconnect the camera cable from the connector and remove the camera module from the display assembly.



## Installing the Camera Module

1. Connect the camera cable to the connector on the camera module.
2. Align the camera module in its position on the display assembly.
3. Tighten the screw to secure the camera module to the display assembly.
4. Affix the tape to the camera module.
5. Install:

- a. display bezel
  - b. display assembly
  - c. palmrest
  - d. keyboard
  - e. optical drive
  - f. hard drive
  - g. memory module
  - h. battery
6. Follow the instructions in *After Working Inside Your Computer*.

## System Setup

System Setup enables you to manage your computer 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


## Boot Sequence

Boot Sequence allows you to bypass the System Setup-defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:


- Access System Setup by pressing <F2> key
- Bring up the one-time boot menu by pressing <F12> key

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot-menu options are:

- Removable Drive (if available)
- STXXXX Drive

 **NOTE:** XXX denotes the SATA drive number.


- Optical Drive
- Diagnostics

 **NOTE:** Choosing Diagnostics, will display the **ePSA diagnostics** screen.


The boot sequence screen also displays the option to access the System Setup screen.

## Navigation Keys


The following table displays the system setup navigation keys.

 **NOTE:** For most of the system setup options, changes that you make are recorded but do not take effect until you re-start the system.

**Table 1. Navigation Keys**

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
<Enter>	Allows you to select a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
<Tab>	Moves to the next focus area.
	 <b>NOTE:</b> For the standard graphics browser only.
<Esc>	Moves to the previous page till you view the main screen. Pressing <Esc> in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.
<F1>	Displays the System Setup help file.

## System Setup Options

 **NOTE:** The system setup options may vary depending on the computer model.

The Main tab lists out the primary hardware features of the computer. The table below defines the function of each option.

**Table 2. Main Options**

Option	Description
System Time	Allows you to reset the time on the computer's internal clock.
System Date	Allows you to reset the date on the computer's internal calendar.
BIOS Version	Displays the BIOS revision.
Product Name	Displays the product name and the model number.
Service Tag	Displays the service tag of your computer.
Asset Tag	Displays the asset tag of your computer (if available).
CPU Type	Displays the type of processor.
CPU Speed	Displays the speed of the processor.
CPU ID	Displays the processor ID.
CPU Cache	

Option	Description
L1 Cache	Displays the processor L1 cache size.
L2 Cache	Displays the processor L2 cache size.
L3 Cache	Displays the processor L3 cache size.
Fixed HDD	Displays the model number and capacity of the hard drive.
SATA ODD	Displays the model number and capacity of the optical drive.
AC Adapter Type	Displays the type of the AC adapter.
Total Memory	Displays the memory installed on the computer
System Memory Speed	Displays the memory speed.

The Advanced tab allows you to set various functions that affect the performance of the computer. The table below defines the function of each option and its default value.

**Table 3. Advance Options**

Option	Description
Intel SpeedStep	Enable or disable the Intel SpeedStep feature. The default option is <b>Enabled</b>
Virtualization	Enable or disable the Intel Virtualization feature. The default option is <b>Enabled</b>
Integrated NIC	Enable or disable the power supply to the on-board network card. The default option is <b>Enabled</b>
USB Emulation	Enable or disable the USB emulation feature. The default option is <b>Enabled</b>
USB Wake Support	Allows USB devices to wake-up the computer from standby. This feature is enabled only when the AC adapter is connected. The default option is <b>Disabled</b>
SATA Operation	The default SATA controller mode is AHCI.
Adapter Warnings	Enables or disables adapter warnings. The default option is <b>Enabled</b>
Function Key Behavior	Specifies the behavior of the function key <Fn> . The default option is <b>Function key first</b>
Battery Health	Specifies the health of the battery.

Option	Description
Miscellaneous Devices	These fields let you enable or disable various on-board devices.
External USB Ports	Enables or disables external USB ports. The default option is <b>Enabled</b>
USB debug	Enables or disables USB debug. The default option is <b>Disabled</b>

The Security tab displays the security status and allows you to manage the security features of the computer.

**Table 4. Security Options**

Option	Description
Admin Password Status	Displays the status of the administrator password. The default option is <b>Not Set</b>
System Password Status	Displays the status of the system password. The default option is <b>Not Set</b>
Set Admin Password	Enables to set an administrator password.
Set System Password	Enables to set a system password.
Set HDD Password	Enables to set the hard drive password.
Password Change	Allows you to add/remove permission for changing passwords.
Computrace	Enables or disables the Computrace feature on your computer.

The Boot tab allows you to change the boot sequence.

**Table 5. Boot Options**

Option	Description
Legacy Boot	Allows you to set boot device sequence.
UEFI Boot	Allows you to set boot device sequence.
Secure Boot	Allows you to perform a secure boot to your computer. The default option is <b>Enabled</b> .
Load Legacy Option ROM	Allows you to load legacy option. The default option is <b>Disabled</b>
Boot List Option	Displays the boot option of the computer. The default option is <b>UEFI</b>
Add Boot Option	Allows you to add a boot option.
Delete Boot Option	Allows you to delete a boot option.
View Boot Option Priorities	Allows you to prioritize the system boot order.





**Table 6. Exit**

<b>Option</b>	<b>Description</b>
Exit Savings Changes	Allows you to exit while saving changes.
Save Change Without Exit	Allows you to save changes without exiting.
Exit Discarding Changes	Allows you to exit while discarding changes.
Load Optimal Defaults	Allows you to load optimal defaults.
Discard Changes	Allows you to discard changes.

## Updating the BIOS


It is recommended to update your BIOS (system setup), on replacing the system board or if an update is available. For laptops, ensure that your computer battery is fully charged and connected to a power outlet

1. Re-start the computer.
2. Go to [dell.com/support](http://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 computer.
5. Choose the **Product Type** from the list.
6. Select your computer model and the **Product Support** page of your computer 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 computer.
12. Click **Run** to install the updated BIOS settings on your computer.  
Follow the instructions on the screen.


## System and Setup Password

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

<b>Password Type</b>	<b>Description</b>
<b>System password</b>	Password that you must enter to log on to your system.
<b>Setup password</b>	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:** Your computer is shipped with the system and setup password feature disabled.

## Assigning a System Password and Setup Password

You can assign a new **System Password** and/or **Setup Password** or change an existing **System Password** and/or **Setup Password** only when **Password Status** is **Unlocked**. If the Password Status is **Locked**, you cannot change the System Password.

 **NOTE:** If the password jumper is disabled, the existing System Password and Setup Password is deleted and you need not provide the system password to log on to the computer.

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

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>. The **System Security** screen appears.

2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.

3. Select **System Password**, enter your system password, and press <Enter> or <Tab>.

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, ("), (+), (.), (-), (.), (/), (;), ([), (\), (]), (^).

Re-enter the system password when prompted.

4. Type the system password that you entered earlier and click **OK**.

5. Select **Setup Password**, type your system password and press <Enter> or <Tab>.

A message prompts you to re-type the setup password.

6. Type the setup password that you entered earlier and click **OK**.

7. Press <Esc> and a message prompts you to save the changes.

8. 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 prompted. If you delete the System and/or Setup password, confirm the deletion when prompted.

5. Press <Esc> and a message prompts you to save the changes.
6. Press <Y> to save the changes and exit from the System Setup.  
The computer reboots.

# Troubleshooting

## Enhanced Pre-Boot System Assessment (ePSA) Diagnostics

The ePSA diagnostics (also known as system diagnostics) performs a complete check of your hardware. The ePSA is embedded with the BIOS and is launched by the BIOS internally. The embedded system diagnostics provides a set of options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing






**CAUTION:** Use the system diagnostics to test only your computer. Using this program with other computers may cause invalid results or error messages.




**NOTE:** Some tests for specific devices require user interaction. Always ensure that you are present at the computer terminal when the diagnostic tests are performed.

1. Power-on the computer.
2. As the computer boots, press the <F12> key as the Dell logo appears.
3. On the boot menu screen, select the **Diagnostics** option.  
The **Enhanced Pre-boot System Assessment** window is displayed, listing all devices detected in the computer. The diagnostics starts running the tests on all the detected devices.
4. If you wish to run a diagnostic test on a specific device, press <Esc> and click **Yes** to stop the diagnostic test.
5. Select the device from the left pane and click **Run Tests**.
6. If there are any issues, error codes are displayed.  
Note the error code and contact Dell.

## Device Status Lights

Icon	Description
	Turns on when you turn on the computer and blinks when the computer is in a power management mode.
	Turns on when the computer reads or writes data.
	Turns on steadily or blinks to indicate battery charge status.

Icon	Description
	Turns on when wireless networking is enabled.

## Battery Status Lights

If the computer is connected to an electrical outlet, the battery light operates as follows:

- **Alternately blinking amber light and white light** — An unauthenticated or unsupported non-Dell AC adapter is attached to your laptop.
- **Alternately blinking amber light with steady white light** — Temporary battery failure with AC adapter present.
- **Constantly blinking amber light** — Fatal battery failure with AC adapter present.
- **Light off** — Battery in full charge mode with AC adapter present.
- **White light on** — Battery in charge mode with AC adapter present.

## Beep Codes

The computer may emit a series of beeps during start-up if the display cannot show errors or problems. These series of beeps, called beep codes, identify various problems. The delay between each beep is 300 ms, the delay between each set of beeps is 3 seconds, and the beep sound lasts 300 ms. After each beep and each set of beeps, the BIOS should detect if the user presses the power button. If so, BIOS will jump out from looping and execute the normal shutdown process and power system.



Code	Cause and Troubleshooting Steps
1	BIOS ROM checksum in progress or failure System board failure, covers BIOS corruption or ROM error
2	No RAM detected No memory detected
3	Chipset Error (North and South Bridge Chipset, DMA/IMR/ Timer Error) , Time-Of-Day Clock test failure , Gate A20 failure , Super I/O chip failure , Keyboard controller test failure System board failure
4	RAM Read/Write failure Memory failure
5	Real-time clock power fail CMOS battery failure
6	Video BIOS test failure Video card failure
7	CPU - cache test failure Processor failure
8	Display Display failure

## LED Error Codes

Diagnostic LED codes are communicated via the Power Button LED. The Power Button LED blinks the corresponding LED codes for the corresponding fault condition. Example: For No Memory detected (LED code 2) , The Power Button LED blinks two times followed by a pause, blinks two times, pause, etc. This pattern continues until the system is powered off.

<b>Code</b>	<b>Cause and Troubleshooting Steps</b>
<b>1</b>	System board: BIOS ROM failure System board failure, covers BIOS corruption or ROM error
<b>2</b>	Memory No memory/RAM detected
<b>3</b>	Chipset Error (North and South Bridge Chipset, DMA/IMR/ Timer Error) , Time-Of-Day Clock test failure , Gate A20 failure , Super I/O chip failure , Keyboard controller test failure System board failure
<b>4</b>	RAM Read/Write failure Memory failure
<b>5</b>	Real-time clock power fail CMOS battery failure
<b>6</b>	Video BIOS test failure Video card failure
<b>7</b>	CPU - cache test failure Processor failure
<b>8</b>	Display Display failure

# Specifications

 **NOTE:** Offerings may vary by region. For more information regarding the configuration of your computer, click Start  (Start icon) → **Help and Support**, and then select the option to view information about your computer.

**Table 7. System Information**

Feature	Description
DRAM bus width	64 bits and 128 bits
Flash EPROM	8 MB

**Table 8. Processor**

Feature	Description
Type	<ul style="list-style-type: none"> <li>Intel Core i3 ULV (4th Generation)</li> <li>Intel Core i5 ULV (4th Generation)</li> <li>Intel Core i7 ULV (4th Generation)</li> </ul>
L1 cache	64 KB
L2 cache	256 KB
L3 cache	Up to 4 MB

**Table 9. Memory**

Feature	Description
Memory connector	two internally accessible DDR3L connectors
Memory capacity	2 GB and 4 GB
Memory type	1600 MHz (dual channel DDR3L configuration)
Minimum memory	2 GB, 4 GB, 6 GB, and 8 GB
Maximum memory	8 GB

**Table 10. Audio**

Feature	Description
Type	2 channel high definition audio
Controller	Realtek ALC3223
Stereo conversion	24-bit (analog to digital and digital to analog)
Interface	Intel HDA bus

Feature	Description
Speakers	2 x 2 W
Volume controls	program menu and keyboard media-control keys

**Table 11. Video**

Feature	Description
Video type	Integrated on system board / discrete
Video controller:	
UMA	Intel HD Graphics 4400 (shared memory)
Discrete	
Latitude 3440	NVIDIA GeForce GT740M (2GB DDR3)
Latitude 3540	AMD Radeon HD 8850M (2GB DDR5)
Data bus:	
Latitude 3440	64 bits
Latitude 3540	128 bits

**Table 12. Camera**

Feature	Description
Camera resolution	0.92 megapixels
Video resolution (maximum)	1280 x 720 (HD) at 30 fps (maximum)
Diagonal viewing angle	66°

**Table 13. Communication**

Feature	Description
Network adapter	10/100/1000 Mbps Ethernet LAN on Motherboard (LOM)
Wireless	<ul style="list-style-type: none"> <li>• Wi-fi 802.11 b/g/n</li> <li>• bluetooth 4.0</li> </ul>

**Table 14. Ports and Connectors**

Feature	Description
Audio	one headphone/microphone combo port (headset)
Video	one 19-pin VGA port
Network adapter	one RJ45 port
USB:	
Latitude 3440	<ul style="list-style-type: none"> <li>• two USB 3.0 ports (rear one with window debug)</li> </ul>



Feature	Description
Latitude 3540	<ul style="list-style-type: none"> <li>one USB 2.0 port</li> <li>two USB 3.0 ports (rear one with window debug)</li> <li>two USB 2.0 port</li> </ul>
Media card reader	one 4-in-1 slot



**NOTE:** The powered USB 3.0 connector also supports Microsoft Kernel Debugging. The ports are identified in the documentation shipped with your computer.

**Table 15. Display**

Feature	Latitude 3440	Latitude 3540
Type	14.0 inches HD WLED	15.6 inches HD WLED
Height	205.60 mm (8.09 inches)	344.23 mm (13.55 inches)
Width	320.90 mm (12.63 inches)	193.54 (7.61 inches)
Diagonal	355.60 mm (14.00 inches)	396.24 mm (15.60 inches)
Active area (X/Y)	309.40 mm x 173.95 mm (12.18 inches x 6.85 inches)	344.23 x 193.54 mm (13.55 inches x 7.61 inches)
Maximum resolution		1366 x 768 pixels
Maximum brightness		200 nits
Operating angle	0° (closed) to 135°	0° (closed) to 140°
Refresh rate		60 Hz
Minimum viewing angles:		
Horizontal		40°/40°
Vertical		10°/30°
Pixel pitch	0.2265 mm x 0.2265 mm	0.252 mm x 0.252 mm
External display		VGA

**Table 16. Keyboard**

Feature	Description
Number of keys:	
Latitude 3440	US 86, Brazil 87, UK 87 and Japan 90
Latitude 3540	US 102, Brazil 105, UK 103 and Japan 106

**Table 17. Touchpad**

Feature	Description
Active area:	240 dpi
X-axis	56.00 mm (2.20 inches)
Y-axis	100.00 mm (3.94 inches)

**Table 18. Battery**

Feature	Description
Type	<ul style="list-style-type: none"> <li>4-cell “smart” lithium ion (40 WHr)</li> <li>6-cell “smart” lithium ion (65 WHr)</li> </ul>
Dimensions:	
Height	<ul style="list-style-type: none"> <li>4-cell — 20.00 mm (0.79 inch)</li> <li>6-cell — 35.40 mm (1.39 inches)</li> </ul>
Width	46.30 mm (1.82 inches)
Depth	272.40 mm (10.72 inches)
Weight	<ul style="list-style-type: none"> <li>4-cell — 260 g</li> <li>6-cell — 360 g</li> </ul>
Life span	300 discharge/charge cycle
Voltage	<ul style="list-style-type: none"> <li>14.80 VDC (4-cell)</li> <li>11.10 VDC (6-cell)</li> </ul>
Temperature range:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Non-Operating	–40 °C to 65 °C (–40 °F to 149 °F)
Coin-cell battery	3 V CR2032 lithium ion

**Table 19. AC Adapter**

Feature	Description
Type	65 W and 90 W
Input voltage	100 VAC to 240 VAC
Input current (maximum)	1.50 A/1.60 A/1.70 A/2.50 A
Input frequency	50 Hz–60 Hz
Output power	65 W/90 W
Output current	3.34 A/4.62 A
Rated output voltage	19.50 VDC

Feature	Description
Temperature range:	
Operating	0 °C to 40 °C (32 °F to 104 °F)
Non-Operating	-40 °C to 70 °C (-40 °F to 158 °F)


**Table 20. Physical**

Physical	Latitude 3440		Latitude 3540	
	Non-Touch	Touch	Non-Touch	Touch
Height:				
with 4-cell battery	25.00 mm (0.98 inch)	27.90 mm (1.10 inches)	25.30 mm (1.00 inch)	27.85 mm (1.10 inches)
with 6-cell battery	29.60 mm (1.17 inches)	32.90 mm (1.30 inches)	31.30 mm (1.23 inches)	33.85 mm (1.33 inches)
Width	346.00 mm (13.62 inches)		376.00 mm (14.80 inches)	
Depth	245.00 mm (9.65 inches)		259.00 mm (10.20 inches)	
Weight (minimum):				
with 4-cell battery	2.00 kg (4.30 lb)	2.20 kg (4.85 lb)	2.20 kg (4.85 lb)	2.50 kg (5.51 lb)
with 6-cell battery	2.10 kg (4.60 lb)	2.35 kg (5.18 lb)	2.35 kg (5.18 lb)	2.65 kg (5.84 lb)

**Table 21. Environmental**

Feature	Description
Temperature:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Storage	-40 °C to 65 °C (-40 °F to 149 °F)
Relative humidity (maximum):	
Operating	10 % to 90 % (non-condensing)
Storage	10 % to 95 % (non-condensing)
Altitude (maximum):	
Operating	-15.2 m to 3048 m (-50 to 10,000 ft) 0° to 35°C
Non-Operating	-15.2 m to 10,668 m (-50 ft to 35,000 ft)
Airborne contaminant level	G1 as defined by ISA-S71.04-1985

## 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. Visit [dell.com/support](https://dell.com/support)
2. Select your support category.
3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.
4. Select the appropriate service or support link based on your need.