Dell Latitude 3350
Owner's Manual

Regulatory Model: P47G
Regulatory Type: P47G002

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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1

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

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. Turning off your computer:
   - In Windows 10 (using a touch enabled device or mouse):
     1. Click or tap .
     2. Click or tap ⏻ and then click or touch **Shut down**.
   - In Windows 8 (using a touch enabled device):
     1. Swipe in from the right edge of the screen, opening the **Charms** menu and select **Settings**.
     2. Tap ⏻ and then tap **Shut down**
   - In Windows 8 (using a mouse):
     1. Point to upper-right corner of the screen and click **Settings**.
     2. Click ⏻ and then click **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 and then click **Log off**.
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 6 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.

2

Removing and installing components

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

Recommended tools

The procedures in this document require the following tools:

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

Removing the Secure Digital (SD) card

1. Follow the procedure in Before working inside your computer.
2. Press the SD card to release it from the computer.

3. Slide the SD card out of the computer.

Installing the Secure Digital (SD) card

1. Slide the SD card into the slot and press it until it clicks into place.
2. Follow the procedure in After working inside your computer.

Removing the battery

1. Follow the procedure in Before working inside your computer.
2. Slide the release latches to the unlock position and pull the battery from the computer.

Installing the battery

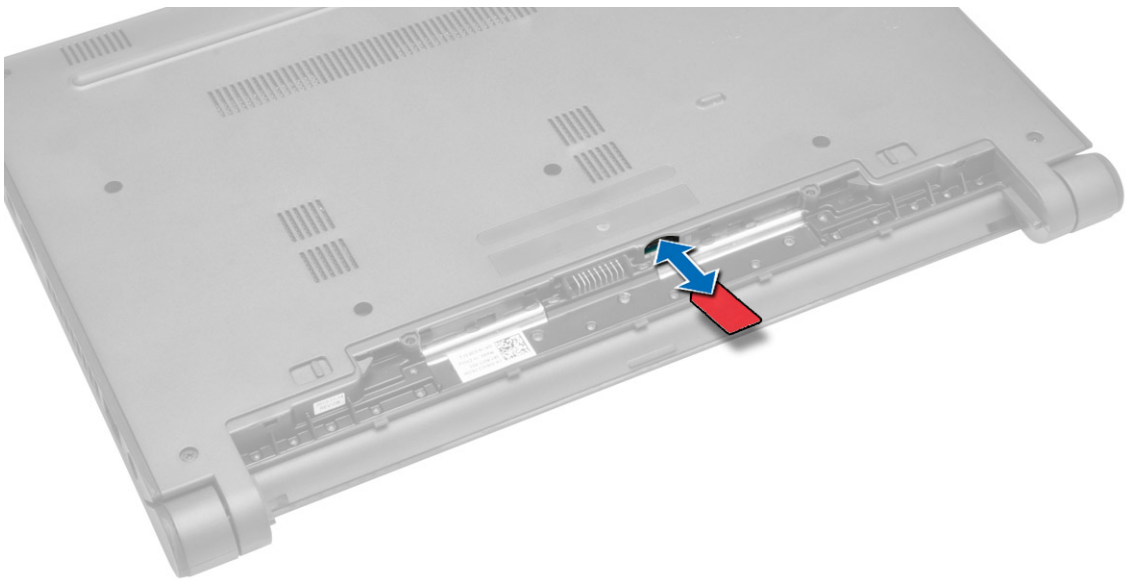
CAUTION: Ensure that both sides of the battery are aligned with the battery slot. If the battery is not aligned correctly, the battery and the battery latches may get damaged. Do not use force while inserting the battery in the battery slot.

1. Align both sides of the battery with the battery slot.
2. Slide the battery into the slot until the battery clicks into place.

   NOTE: If the battery is not seated firmly, reinstall it.
3. Follow the procedure in After working inside your computer.

Removing the Subscriber Identity Module (SIM) card

1. Follow the procedure in Before working inside your computer.
2. Remove the battery.
3. Press the SIM card and pull the SIM card out from the computer.

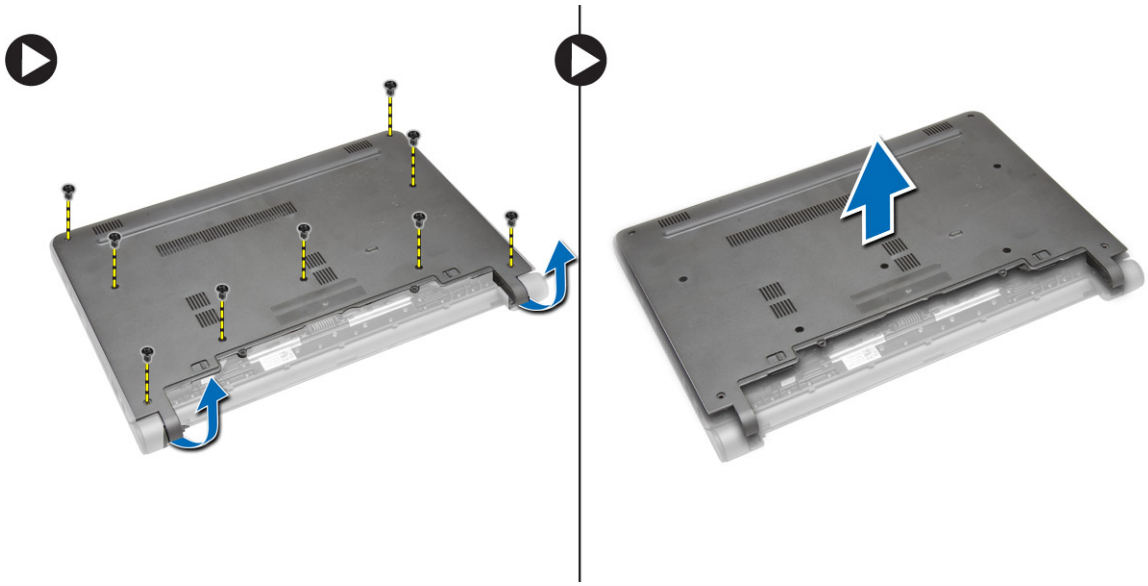


Installing the SIM card

1. Insert the SIM card into the slot on the computer and press until it clicks in place.
2. Install the battery.
3. Follow the procedure in After working inside your computer.

Removing the base cover

1. Follow the procedure in Before working inside your computer.
2. Remove the battery.
3. To remove the base cover:
   a. Remove the screws that secure the base cover to the computer.
   b. Using a plastic scribe, lift the edges of the base cover, and then remove the base cover from the computer.

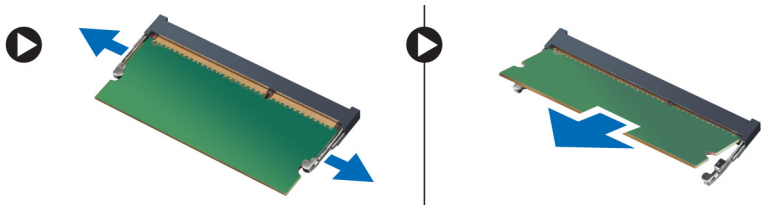


Installing the base cover

1. Align the edges of the base cover with the computer and press it until it clicks into place.
2. Tighten the screws to secure the base cover to the computer.
3. Install the battery.
4. Follow the procedure in After working inside your computer.

Removing a memory module

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. To remove a memory module:
   a. Pull the retention clips away from the memory module until the memory module pops-up.
   b. Remove the memory module from the computer.

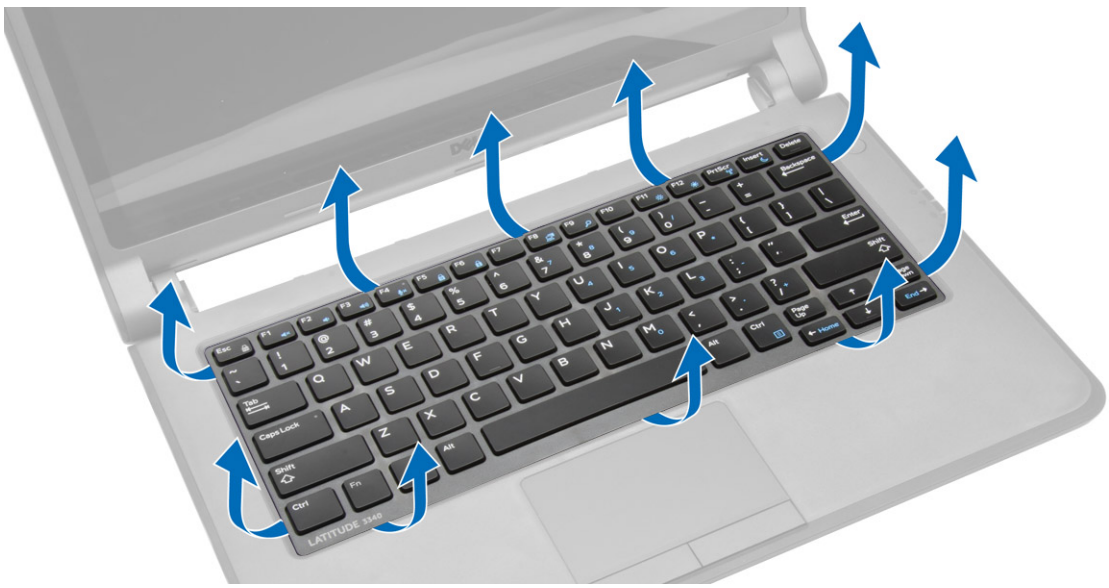


Installing a memory module

1. Insert the memory module into the memory module socket and press it until it clicks into place.
2. Install the:
   a. base cover
   b. battery
3. Follow the procedure in After working inside your computer.

Removing the keyboard trim

1. Follow the procedure in Before working inside your computer.
2. Using a plastic scribe, lift the edges of the keyboard trim.



3. Lift the keyboard trim from the computer.

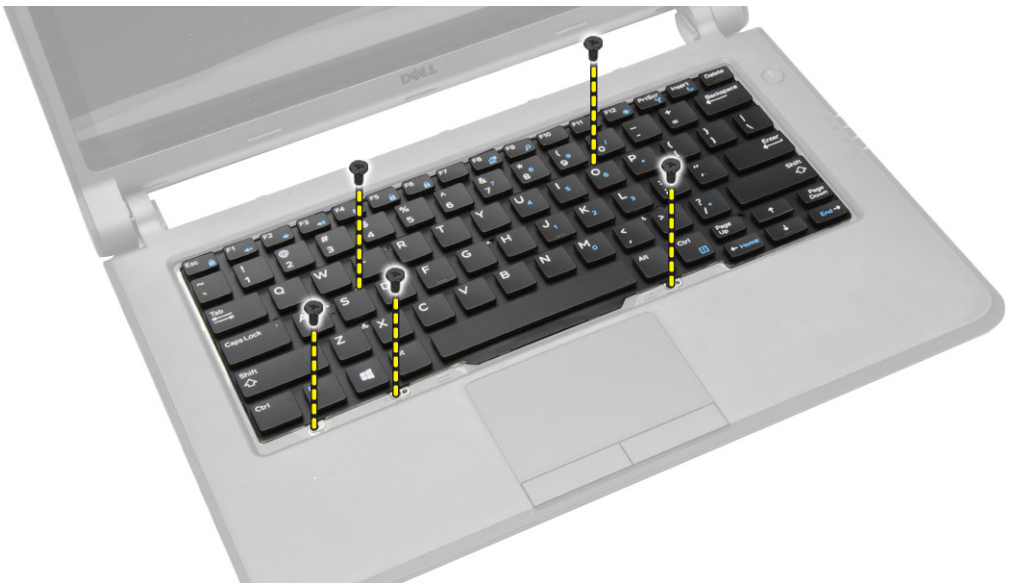
Installing the keyboard trim

1. Align the keyboard trim with the keys on the computer.
2. Press along the sides of the keyboard trim until it clicks into place.
3. Follow the procedure in After working inside your computer.

NOTE: You may also need to press the center of the keyboard trim to secure the keyboard trim.

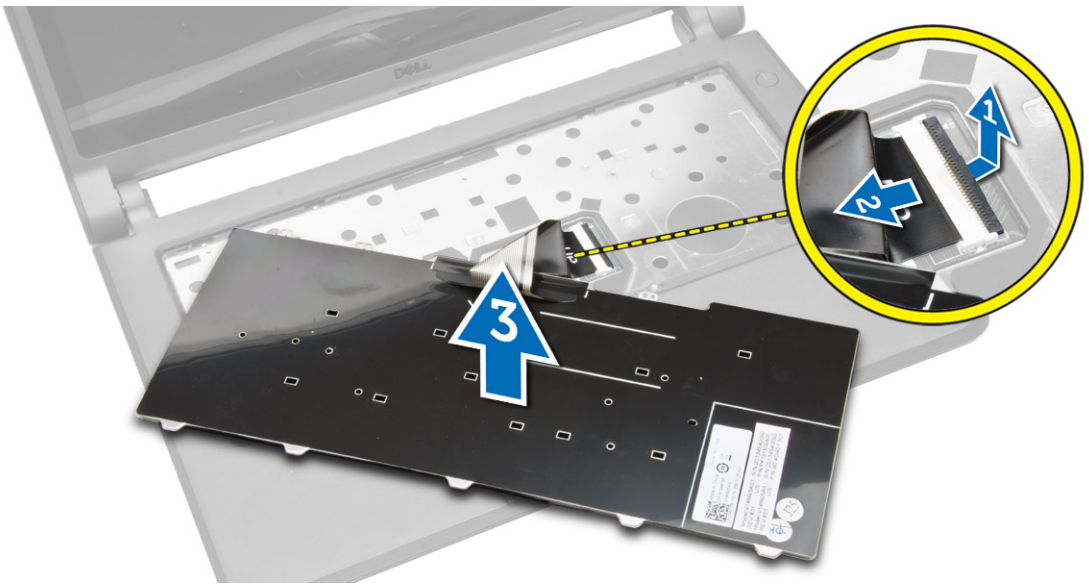
Removing the keyboard

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. keyboard trim
3. Remove the screws that secure the keyboard to the computer.



4. Slide the keyboard down down [1] and lift [2] it from the computer to access the keyboard cable.

5. Turn the keyboard over, and disconnect the keyboard cable from the connector on the keyboard.
6. Lift the keyboard from the computer.

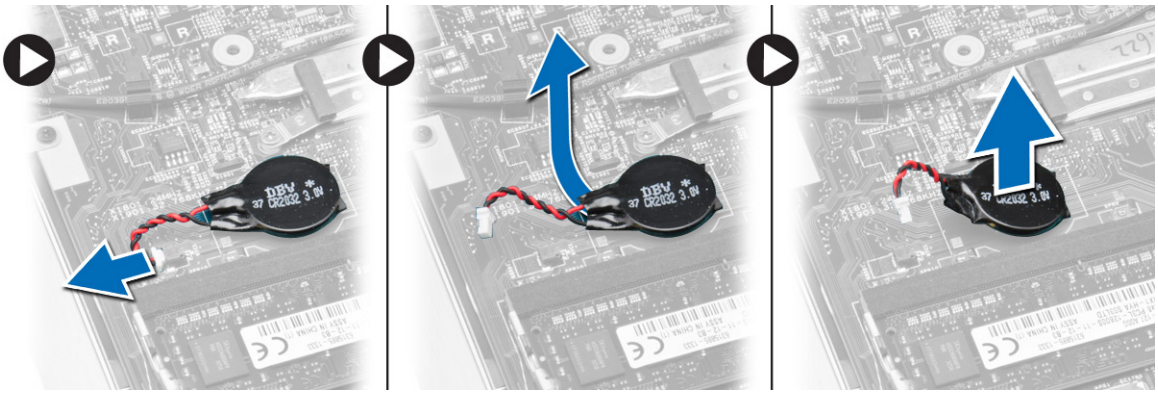


Installing the keyboard

1. Connect the keyboard cable to the connector on the computer.
2. Turn the keyboard over and install the keyboard.
3. Tighten the screws to secure the keyboard to the computer.
4. Install the:
   a. keyboard trim
   b. battery
5. Follow the procedure in After working inside your computer.

Removing the coin cell battery

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. To remove the coin cell battery:
   a. Disconnect the coin cell battery cable from the system board.
   b. Pull the coin cell battery from the adhesive on the system board.
   c. Lift the coin cell battery from the system board.

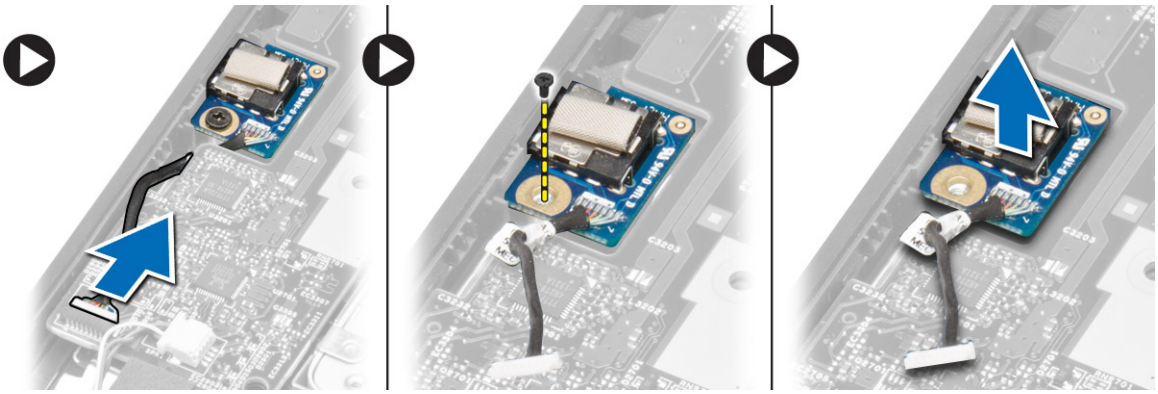


Installing the coin cell battery

1. Connect the coin cell battery cable to the system board.
2. Attach the coin cell battery to the adhesive on the system board.
3. Install the:
   a. base cover
   b. battery
4. Follow the procedure in After working inside your computer.

Removing the audio connector board

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. To remove the audio connector board:
   a. Disconnect the audio connector board cable from the system board.
   b. Remove the screw that secures the audio connector board to the computer.
   c. Lift the audio connector board from the computer.

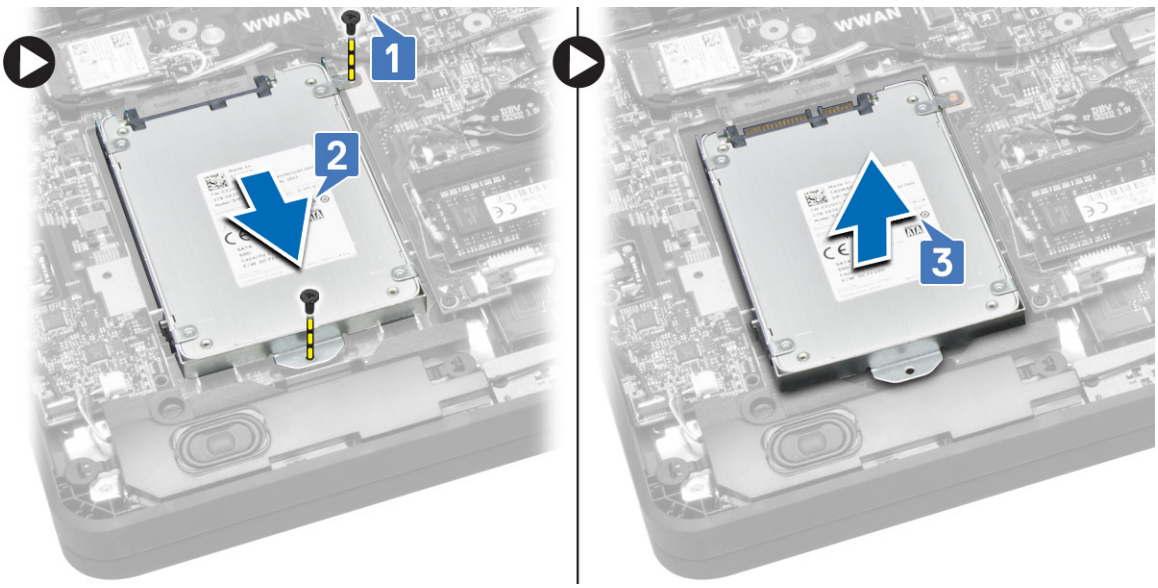


Installing the audio connector board

1. Place the audio connector board into the slot on the computer.
2. Tighten the screw to secure the audio connector board to the computer.
3. Connect the audio connector board cable to the system board.
4. Install the:
   a. base cover
   b. battery
5. Follow the procedure in After working inside your computer.

Removing the hard drive

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. To remove the hard drive:
   a. Remove the screws that secure the hard drive to the computer [1].
   b. Slide the hard drive to disconnect it from the connector on the system board [2].
   c. Lift the hard drive from the computer [3].

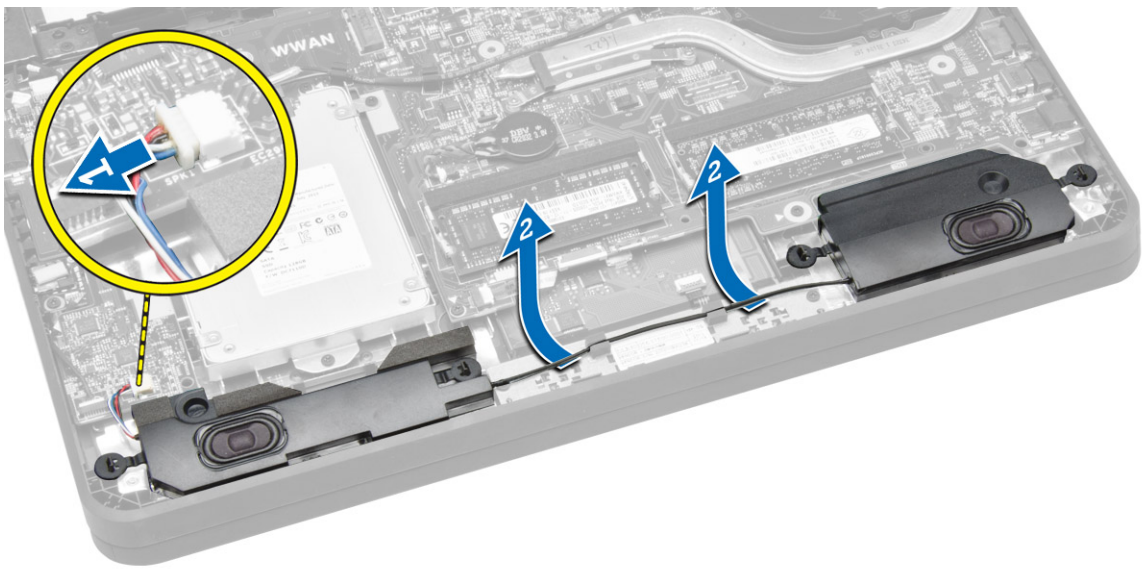


Installing the hard drive

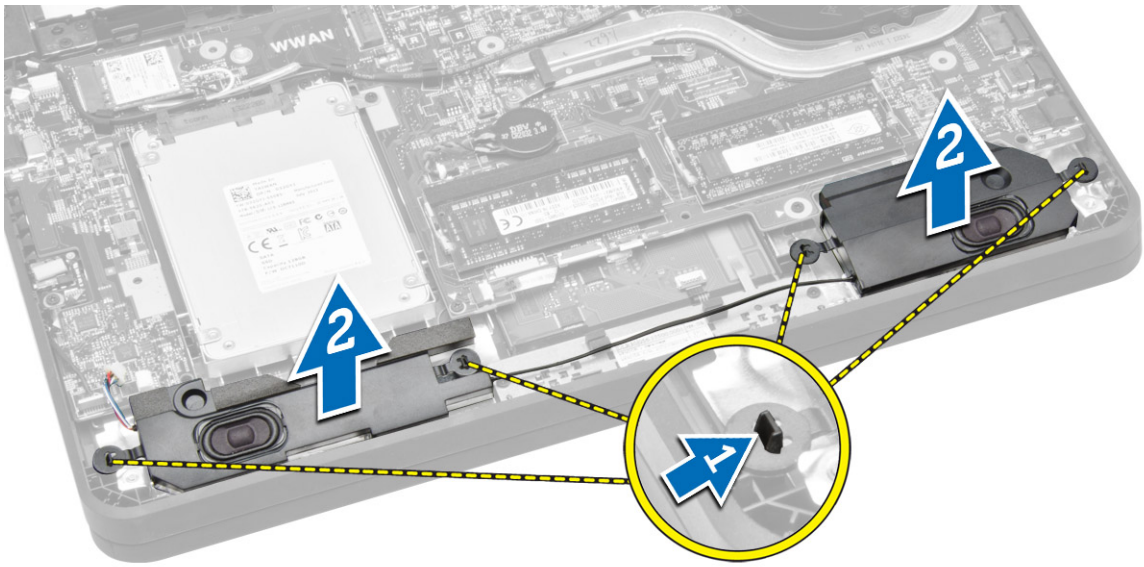
1. Align the hard drive on with the slot on the computer.
2. Slide the hard drive into the connector on the system board.
3. Tighten the screws to secure the hard drive to the computer.
4. Install the:
   a. base cover
   b. battery
5. Follow the procedure in After working inside your computer.

Removing the speakers

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. To release the speaker:
   a. Disconnect the speaker cable from the system board [1].
   b. Unroute the speaker cable from the routing channels on the computer [2].



4. To remove the speakers:
   a. Push the speaker tabs to disengage them from the holders on the computer [1].
   b. Lift the speakers from the computer [2].

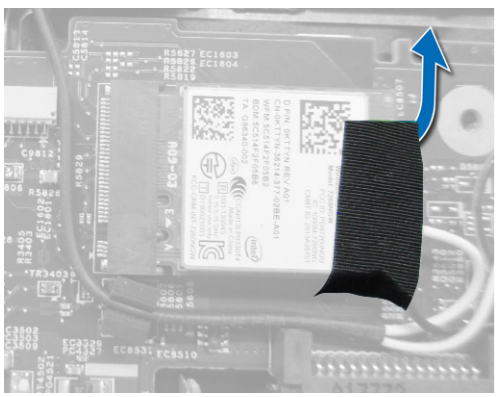


Installing the speakers

1. insert the speakers into the slot and route the cable through the channels.
2. Press the speakers until the tabs on the speakers snap into the holders on the computer.
3. Connect the speaker cable to the system board.
4. Install the:
   a. base cover
   b. battery
5. Follow the procedure in After working inside your computer.

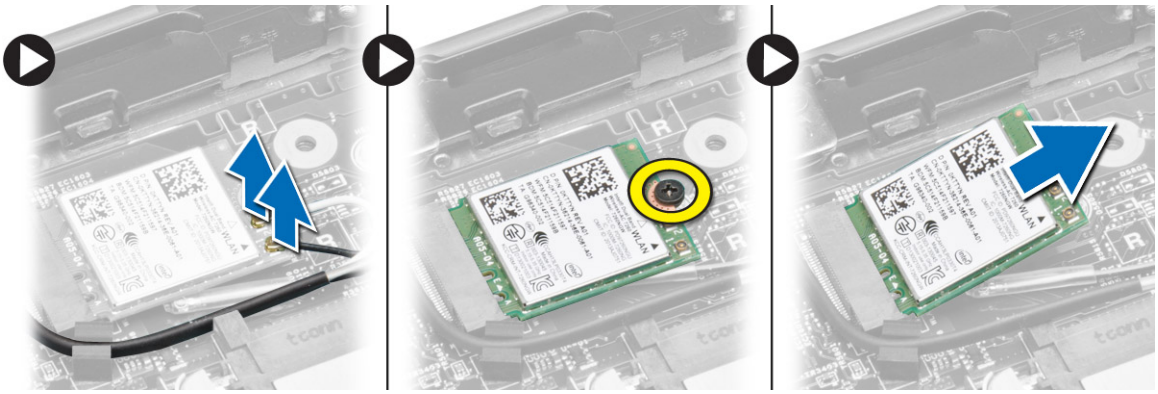
Removing the Wireless Local Area Network (WLAN) card

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. Remove the adhesive tape that secures the antenna cables to the WLAN card.



4. To remove the WLAN card:
   a. Disconnect the antenna cables from the WLAN card.
   b. Remove the screw that secures the WLAN card to the computer.

c. Remove the WLAN card from the computer.

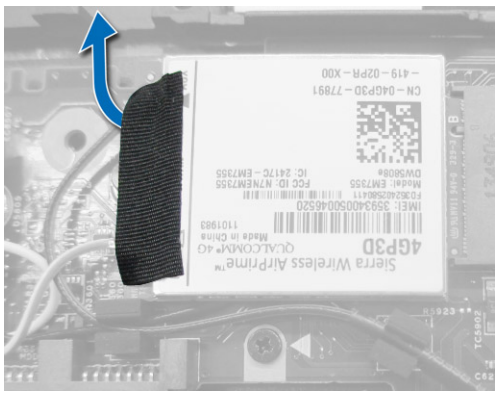


Installing the WLAN card

1. Insert the WLAN card into the connector on the computer.
2. Press the WLAN card and tighten the screw to secure the WLAN card to the computer.
3. Connect the antenna cables to the connectors on the WLAN card.
4. Stick the adhesive tape to secure the antenna cables to the WLAN card.
5. Install the:
   a. base cover
   b. battery
6. Follow the procedure in After working inside your computer.

Removing the Wireless Wide Area Network (WWAN) card

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. Remove the adhesive tape that secures the antenna cables to the WWAN card.



4. To remove the WWAN card:
   a. Disconnect the antenna cables from the WWAN card.
   b. Remove the screw that secures the WWAN card to the computer.
   c. Remove the WWAN card from the computer.

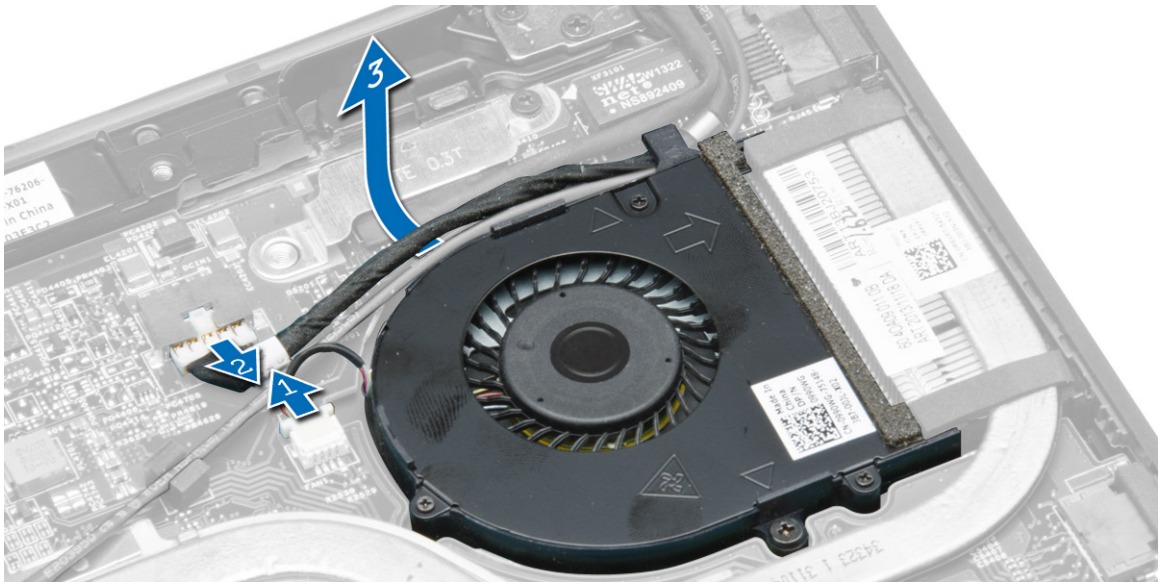
Installing the WWAN card

1. Insert the WWAN card into the connector on the computer.
2. Press the WWAN card and tighten the screw to secure the WWAN card to the computer.
3. Connect the antenna cables to the connectors on the WWAN card.
4. Stick the adhesive tape to secure the antenna cables to the WWAN card.
5. Install the:
   a. base cover
   b. battery
6. Follow the procedure in After working inside your computer.

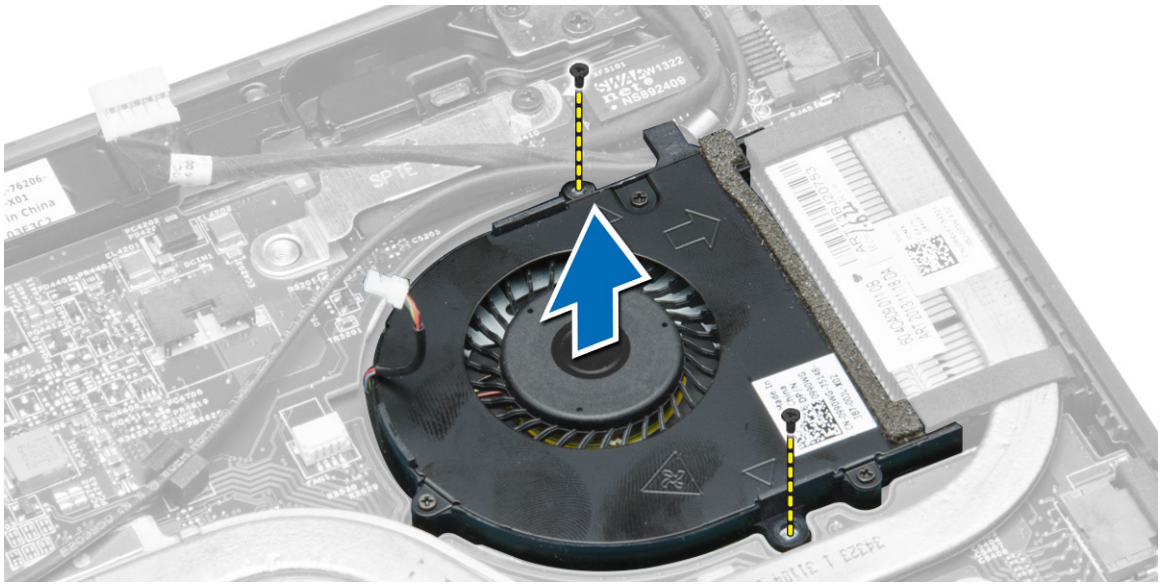
Removing the system fan

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. base cover
   b. battery
3. To remove the system fan:
   a. Disconnect the system fan cable [1] and power cable [2] from the system board.
   b. Unroute the power cable from the holder to access the system fan screw [3].

   NOTE: Disconnecting the power cable is optional. For easy removal of the system fan, it is recommended to disconnect the power cable.



c. Remove the screws that secure the system fan to the computer. Lift the system fan away from the computer.

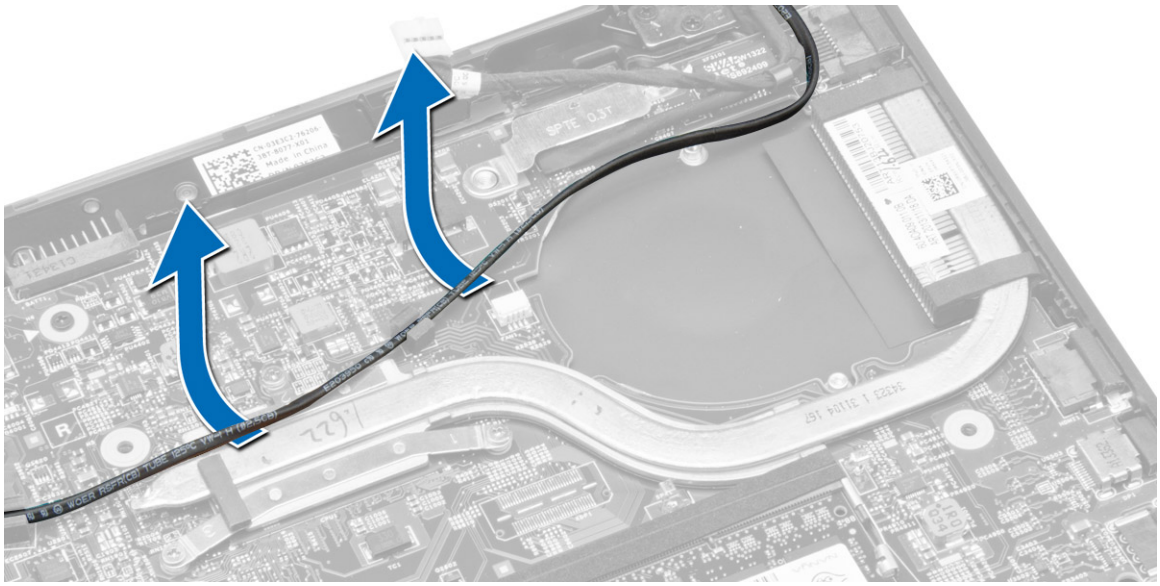


Installing the system fan

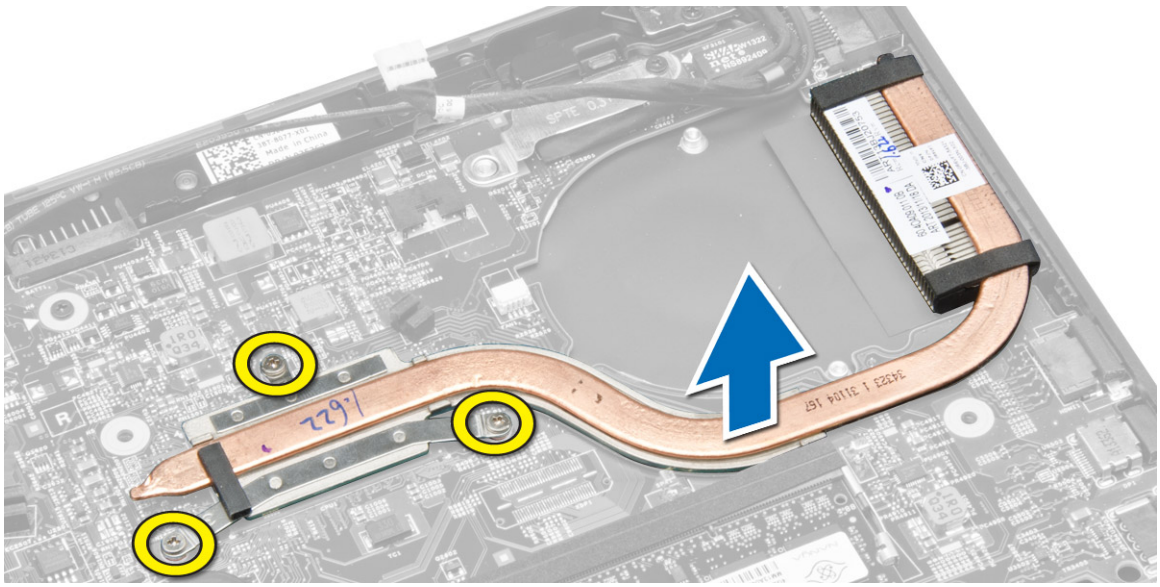
1. To install the system fan:
   a. Insert the system fan into the slot on the computer.
   b. Connect the system fan cable and power cable to the system board.
   c. Tighten the screws to secure the system fan to the computer.
   d. Route the power cable through the holder in the computer.
2. Install the:
   a. base cover
   b. battery
3. Follow the procedure in After working inside your computer.

Removing the heat sink

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
   c. system fan
3. Unroute the WLAN antenna cables from the routing channels on the system board.



4. Loosen the captive screws that secure the heat sink to the computer and lift the heat sink from the computer.



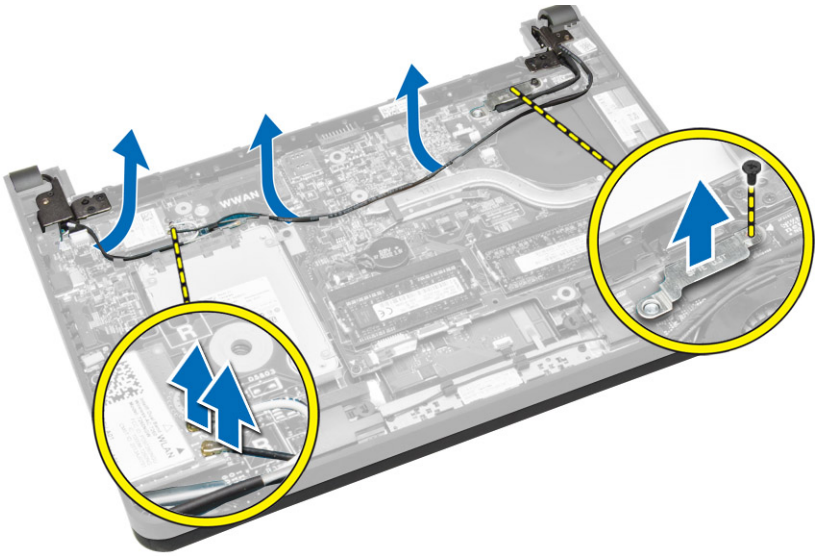
Installing the heat sink

1. Place the heat sink in the computer.
2. Tighten the captive screws to secure the heat sink to the system board.
3. Route the WLAN antenna cables along the channels on the system board.

4. Install the:
   a. system fan
   b. base cover
   c. battery
5. Follow the procedure in After working inside your computer.

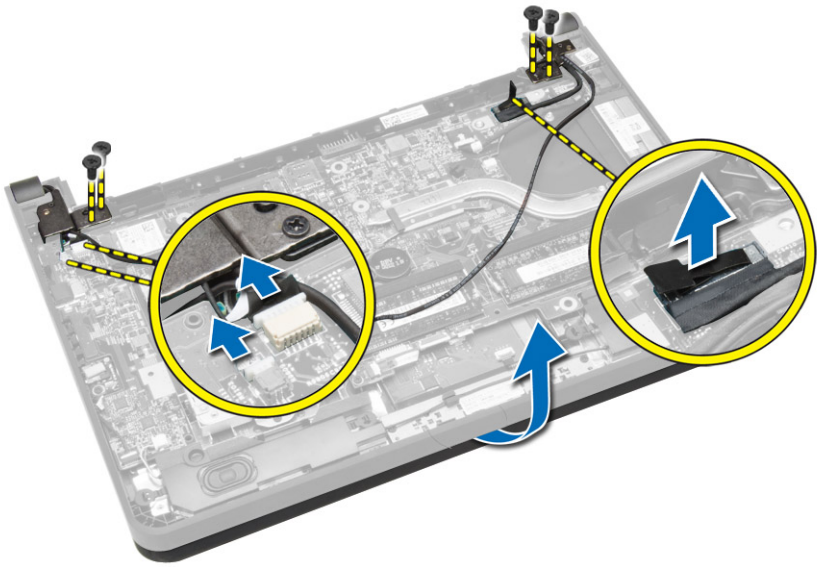
Removing the display assembly

1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. battery
   b. base cover
3. To disconnect the display cables:
   a. Disconnect the antenna cables from WLAN card.
   b. Unroute the antenna cables from the WLAN card.
   c. Remove the screw that secures the bracket over the display cable and remove the bracket.
   d. Disconnect the display cable from the system board.



4. To remove the display assembly:
   a. Disconnect the touch panel, network connector, and display cables.
   b. Remove the screws that secure the display hinges to the palmrest assembly.
   c. Lift the palmrest assembly away from the display assembly.

CAUTION: Lift the palmrest assembly slowly to avoid damaging the display assembly.



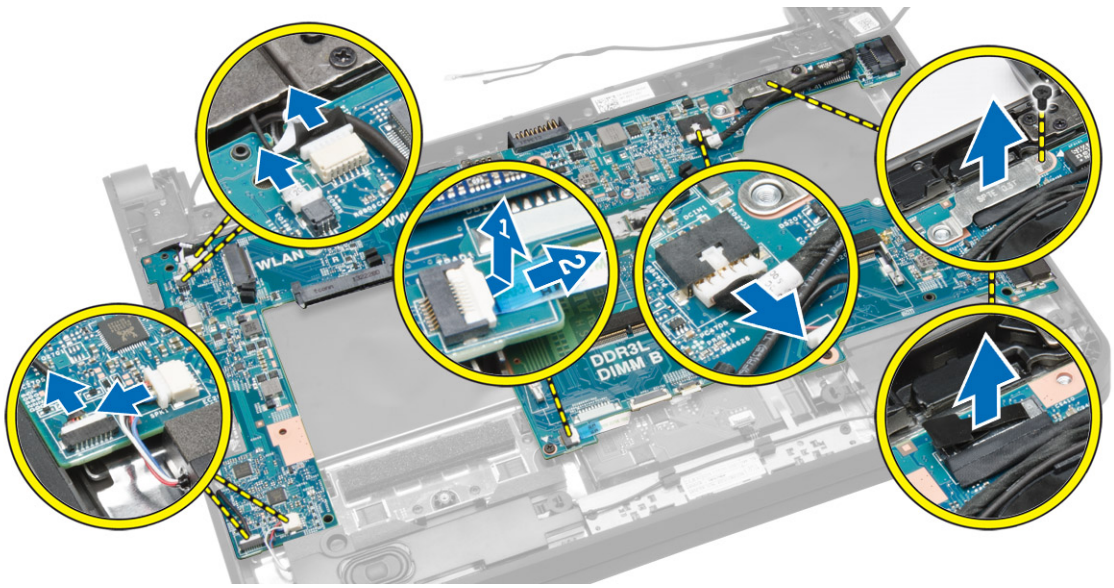
5. Slide the palmrest assembly away to release the display assembly.

Installing the display assembly

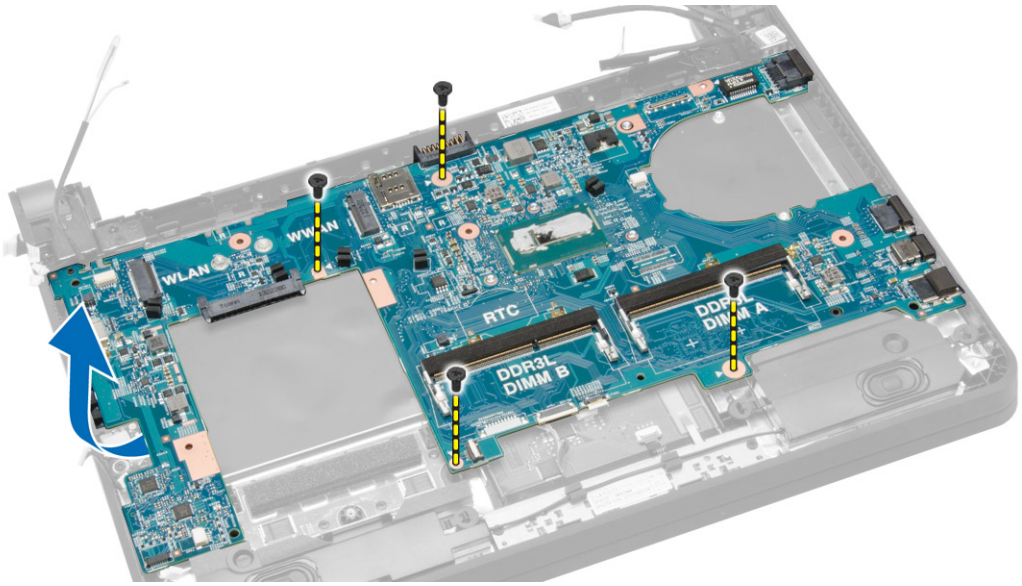
1. Align the palmrest assembly with the display assembly.
2. Tighten the screws to secure the display hinges to the palmrest assembly.
3. Connect the following cables:
   a. touch panel
   b. network connector
   c. display
4. Align the bracket over the display cable and tighten the screw to secure the bracket to the computer.
5. Connect the antenna cables to the WLAN card and route them along the channels on the computer.
6. Install the:
   a. base cover
   b. battery
7. Follow the procedure in After working inside your computer.

Removing the system board

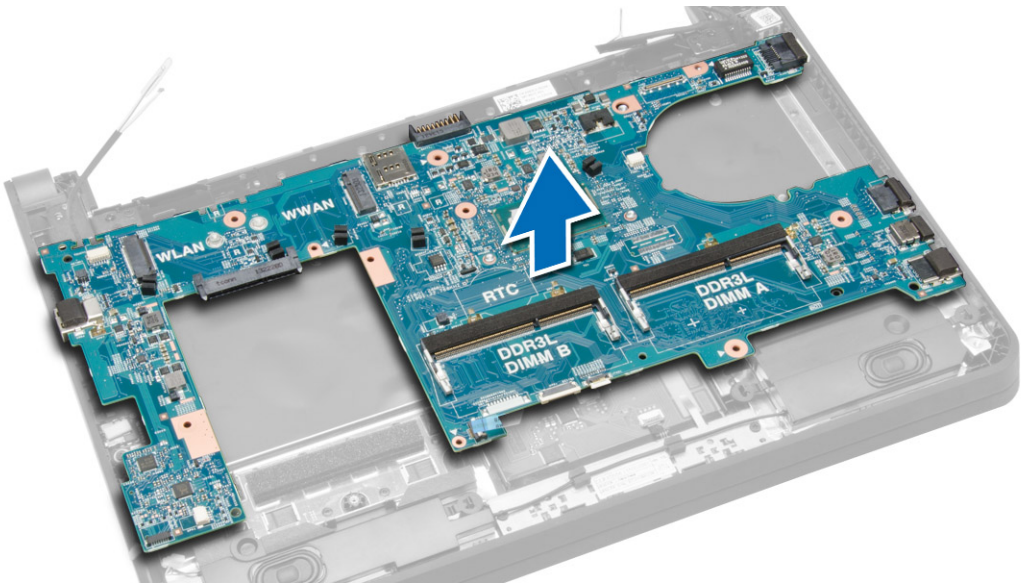
1. Follow the procedure in Before working inside your computer.
2. Remove the:
   a. SD card
   b. battery
   c. SIM card
   d. base cover
   e. memory module
   f. keyboard trim
   g. keyboard
   h. coin cell battery
   i. audio connector board
   j. hard drive
   k. WLAN card
   l. WWAN card
   m. system fan
   n. heat sink
3. Disconnect the following cables from the system board:
   a. touchpad
   b. audio connector
   c. speaker
   d. touch panel
   e. network connector
   f. display cable bracket and display
   g. power



4. Remove the screws that secure the system board to the chassis.



5. Lift and remove the system board from the computer.



Installing the system board

1. Insert the system board into the computer.
2. Tighten the screws to secure the system board to the computer.
3. Connect the following cables to the connectors on the system board:
   a. power
   b. display cable bracket and display
   c. network connector
   d. touch panel
   e. speaker
   f. audio connector
   g. touchpad
4. Install the:
   a. heat sink

b. system fan
c. WWAN card
d. WLAN card
e. hard drive
f. audio connector board
g. coin cell battery
h. keyboard
i. keyboard trim
j. memory module
k. base cover
l. SIM card
m. battery
n. SD card

5. Follow the procedure in After working inside your computer.

3

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 restart 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. **NOTE: For the standard graphics browser only.**

Keys	Navigation
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: Depending on your computer and the installed devices, the items listed in this section may or may not appear.

Table 2. General

Option	Description
System Information	This section lists the primary hardware features of your computer. • System Information • Memory Information • Processor Information • Device Information
Battery Information	Displays the charge status of the battery.
Boot Sequence	Allows you to change the order in which the computer attempts to find an operating system. All the options are selected. • Windows Boot Manager • UEFI LITEONIT LCS-128M6S 2.57 mm XX GB. **NOTE: XX refers to the size of the hard drive.** You can also choose the Boot List option. The options are: • Legacy • **UEFI** (Default Setting)
Advanced Boot Options	Allows you to enable the Legacy Option ROMs during the UEFI boot mode.
Date/Time	Allows you to set the date and time.

Table 3. System Configuration

Option	Description
Integrated NIC	Allows you to configure the integrated network controller. The options are: • Disabled • Enabled • **Enabled w/PXE** (Default Setting) • Enabled UEFI Network Stack

Option	Description
	NOTE: This option is disabled by default. If you enable this option, the UEFI Networking Protocols that are available are installed, allowing the pre-OS and the OS networking features to use the enabled NICs. You may have to disable the Enabled w/PXE to use this option.
SATA Operation	Allows you to configure the internal SATA hard-drive controller. The options are: • Disabled • **AHCI** (Default Setting) **NOTE: SATA is configured to support AHCI mode.**
Drives	Allows you to configure the SATA drives on board. The option is: • SATA-0 Default Setting: The drive is enabled.
SMART Reporting	This field controls if the hard drive errors for the integrated drives are reported during system startup. This technology is part of the SMART (Self Monitoring Analysis and Reporting Technology) specification. • **Enable SMART Reporting** — This option is disabled by default.
USB Configuration	Allows you to define the USB configuration. The options are: • Enable Boot Support • Enable External USB Port • Enable USB 3.0 Controller Default Setting: All the options are enabled.
USB PowerShare	Allows you to configure the behavior of the USB PowerShare feature. The option is disabled by default. • Enable USB PowerShare
Audio	Allows you to enable or disable the integrated audio controller. • **Enable Audio** (Default Setting)
Unobtrusive Mode	When enabled, pressing Fn + B turns off all light and sound emissions in the system. Press Fn + B to resume normal operation. • Enable Unobtrusive Mode By default it is disabled.
Miscellaneous Devices	Allows you to enable or disable the various on board devices. The options are: • Enable Microphone • Enable Hard Drive Free Fall Protection

Option	Description
	• Enable Camera • Enable Media Card • Disable Media Card Default Setting: All devices are enabled.

Table 4. Video

Option	Description
LCD Brightness	Allows you to set the panel brightness when the ambient sensor is Off.

Table 5. Security

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. **NOTE: You must set the admin password first if an admin password is used with a system password and/or Hard Drive password** **NOTE: Successful password changes take effect immediately.** **NOTE: 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**
System Password	Allows you to set, change or delete the system password. **NOTE: Successful password changes take effect immediately.** Default Setting: **Not set**
Internal HDD-0 Password	Allows you to set, change, or delete the administrator (admin) password. Default Setting: **Not set**
Strong Password	Allows you to enforce the option to always set strong passwords. Default Setting: **Enable Strong Password** is disabled.
Password Configuration	You can define the length of your password. Min = 4, Max = 32
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** (Default Setting) • Reboot bypass
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 not selected.
Non-Admin Setup Changes	Allows you to determine whether changes to setup option are permitted when an administrator password is set. The option is disabled. • Allows Wireless Switch Changes
Computrace	Allows you to activate or disable the optional Computrace software The options are:

Option	Description
	• **Deactivate** (Default Setting) • Disable • Activate **NOTE: The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed.**
CPU XD Support	Allows you to enable the Execute Disable mode of the processor. Default Setting: **Enable CPU XD Support**
OROM Keyboard Access	Allows you to set access to enter the Option ROM Configuration screens using hotkeys during boot process. The options are: • **Enable** (Default Setting) • One Time Enable • Disable
Admin Setup Lockout	Allows you to prevent users from entering Setup when an Administrator password is set. Default Setting: **Disabled**

Table 6. Secure Boot

Option	Description
Secure Boot Enable	Allows you to enable or disable the secure boot. The options are: • Disabled • **Enabled** (Default Setting)
Expert Key Management	Allows you to manipulate the security key databases only if the system is in Custom Mode. The **Enable Custom Mode** option is disabled by default. The options are: • PK • KEK • db • dbx If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are: • **Save to File**–Saves the key to a user-selected file • **Replace from File**– Replaces the current key with a key from a user-selected file • **Append from File**– Adds a key to the current database from a user-selected file • **Delete**– Deletes the selected key • **Reset All Keys**– Resets to default setting • **Delete All Keys**– Deletes all the keys **NOTE: If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.**

Table 7. Performance

Option	Description
Multi Core Support	This field specifies whether the process will have one or all cores enabled. The performance of some applications will improve with the additional cores. This option is enabled by default. Allows you to enable or disable multi-core support for the processor. The options are: • **All** (Default Setting) • 1 • 2
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep feature. Default Setting: **Enable Intel SpeedStep**
C States Control	Allows you to enable or disable the additional processor sleep states. Default Setting: **Enable C states**.
Intel TurboBoost	This option allows you to enable or disable the Intel TurboBoost mode of the processor. Default Setting: **Enable Intel TurboBoost**
Hyper-Thread Control	Allows you to enable or disable the Hyper-Threading in the processor. Default Setting: **Enabled**
Rapid Start Technology	This option allows you to enable or disable the Intel Rapid Start feature which improves battery life by automatically putting the system into a low-power state during Sleep after a user-specified amount of time. • Intel Rapid Start Feature • Transition to Rapid Start when using timer Default Setting: **Both fields are Enabled**

Table 8. Power Management

Option	Description
AC Behavior	Allows the computer to power on automatically, when AC adapter is plugged. The option is disabled. • Wake on AC
Auto On Time	Allows you to set the time at which the computer must turn on automatically. The options are: • **Disabled** (Default Setting) • Every Day • Weekdays • Select Days
USB Wake Support	Allows you to enable the USB devices to wake the computer from standby mode. The option is disabled. • Enable USB Wake Support

Option	Description
Wireless Radio Control	Allows you to control the WLAN and WWAN radio. The options are: • Control WLAN radio • Control WWAN radio Default Setting: both the options are disabled.
Wake on LAN/WLAN	This option allows the computer to power up from the off state when triggered by a special LAN signal. Wake-up from the Standby state is unaffected by this setting and must be enabled in the operating system. This feature only works when the computer is connected to AC power supply. • **Disabled** – Does not allow the system to power on by special LAN signals when it receives a wake-up signal from the LAN or wireless LAN. (Default Setting) • LAN Only - Allows the system to be powered on by special LAN signals. • WLAN Only • LAN or WLAN • LAN with PXE Boot
Block Sleep	Allows you to block the computer from entering into the sleep state. Option is disabled by default. • Block Sleep (S3)
Peak Shift	Peak Shift minimizes AC power usage at times of peak demand. Option is disabled by default.
Advance Battery Charge Configuration	Advanced Battery Charge minimizes battery health while still supporting heavy use during the work day. Option is disabled by default.
Primary Battery Charge Configuration	Allows you to change the battery charge configuration. • **Adaptive** (Default setting) • Standard • ExpressCharge • Primarily AC Use • Custom **NOTE: Battery settings may not be available for all battery types. To enable this option 'Advanced Battery Charge Mode' must be disabled.**
Intel Smart Connect Technology	This feature allows your system to periodically sense nearby wireless connections while the system is asleep. Default Setting: **Enabled**

Table 9. POST Behavior

Option	Description
Adapter Warnings	Allows you to activate the adapter warning messages when certain power adapters are used. The option is enabled by default. • Enable Adapter Warnings
Keypad	Allows you to choose one of two methods to enable the keypad that is embedded in the internal keyboard. • **Fn Key Only** (Default Setting) • By Numlock
Numlock Enable	Allows you to enable the Numlock when system boots. The option is enabled by default.
Fn Key Emulation	Allows you to match the <Scroll Lock> key feature of PS-2 keyboard with the <Fn> key feature in an internal keyboard. The option is enabled by default.

Option	Description
	• Enable Fn Key Emulation
Fn Lock Options	This option when enabled allows the hot key combination Fn +Esc toggle the primary behavior of F1 – F12 between their standard and secondary functions. • **Fn Lock Hot Key** (Default Setting) – **Standard** (Default Setting) – Secondary
Fastboot	Allows you to speed up the boot processes. The options are: • **Minimal** (Default Setting) • Thorough • Auto
Extend BIOS POST Time	This option creates an extra pre-boot delay. This allows you to see the POST status messages. • **0 seconds** (Default Setting) • 5 seconds • 10 seconds

Table 10. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization technology. • **Enable Intel Virtualization Technology** (Default Setting)

Table 11. Wireless

Option	Description
Wireless Switch	Allows you to determine which wireless device can be controlled by the wireless switch. The options are: • WWAN • Bluetooth • WLAN All options are enabled by default. **NOTE: For Windows 8.1 Operating System, the Wireless Switch option is directly controlled by the OS driver. So, this setting here does not affect the Wireless Switch Behavior.**
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. The options are: • WWAN • Bluetooth • WLAN All options are enabled by default.
Lid-Mounted Wireless Activity LED	This field allows you to control the wireless activity LED mounted on the lid of the system. • Always Off • **Led Indicates Wireless Activity** (Default Setting)

Table 12. Maintenance

Option	Description
Service Tag	Displays the Service Tag of your computer.
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.

Table 13. System Logs

Option	Description
BIOS Events	Displays the BIOS event log and allows you to clear the log. • Clear Log
Thermal Events	Displays the Thermal event log and allows you to clear the log. • Clear Log
Power Events	Displays the Power event log and allows you to clear the log. • Clear Log

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. Restart the computer.
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 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.

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: 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 are 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 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 the System Setup.
   The computer reboots.

4

Diagnostics

If you experience a problem with your computer, run the ePSA diagnostics before contacting Dell for technical assistance. The purpose of running diagnostics is to test your computer's hardware without requiring additional equipment or risking data loss. If you are unable to fix the problem yourself, service and support personnel can use the diagnostics results to help you solve the problem.

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. 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.
	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.

5

Technical specifications

NOTE: Offerings may vary by region. For more information regarding the configuration of your computer in:

- Windows 10, click or tap **Start** → **Settings** → **System** → **About**.
- Windows 8.1 and Windows 8, click or tap **Start** → **PC Settings** → **PC and devices** → **PC Info**.
- Windows 7, click **Start**, right-click **My Computer**, and then select **Properties**.

Table 14. Chipset

Feature	Specification
Chipset	Intel 6th Generation Processors

Table 15. Processor

Feature	Specification
Types	• Intel Core i3 • Intel Core i5 • Intel Celeron • Intel Pentium

Table 16. Video

Feature	Specification
Type	Integrated on system board
Data bus	Integrated video
Controller:	
Intel Broadwell, Celeron	Intel Integrated HD Graphics
Intel i3 and i5 series	Intel Integrated HD 5500 Graphics

Table 17. Memory

Feature	Specification
Memory connector	Two SODIMM slots
Memory capacity	4 GB or 8 GB
Memory type	1600 MHz DDR3L
Minimum memory	4 GB
Maximum memory	16 GB **NOTE: Each memory module slot supports a maximum of 8 GB memory.**

Table 18. Audio

Feature	Specification
Type	Two-channel high definition audio
Controller	Realtek ALC3234
Stereo conversion	24-bit (analog-to-digital and digital-to-analog)
Interface:	
Internal	High definition audio
External	Microphone-in/stereo headphones combo connector
Speakers	Two (2 W per channel)
Internal speaker amplifier	Two (2 W per channel)
Volume controls	Software program menus, media controls, and keyboard function keys

Table 19. Communications

Features	Specification
Network adapter	10/100/1000 Mb/s Ethernet (RJ-45)
Wireless	• Wi-Fi 802.11 b/g/n and 802.11a/b/g/n/ac • Bluetooth 4.0 • HSPA+ and 4G LTE (WWAN) (optional)

Table 20. Ports and Connectors

Features	Specification
Audio	Audio In/Out one Combo Jack
Video	• One 19-pin HDMI connector • One 20-pin mini DisplayPort connector
Network adapter	• One RJ-45 connector • M.2 Key A, Type 3030 connector (WLAN/BT) • M.2 Key B, Type 3042 connector (WWAN/LTE)
USB	• Two USB-3.0 compliant connectors • One USB-3.0 PowerShare connector
Memory card reader	One MultiMediaCard reader: • SD • SDHC (SD High Capacity) • SDXC (SD eXtended Capacity) • SD UHS-I (SD3.0) • SD UHS-II (SD4.0) • MMC • MMC+ (supported in MMC compatibility mode only)

Table 21. Display

Features	Specifications
Type	
Touch	• Corning Gorilla Glass NBT • Anti-Reflective • Anti-Smudge
Non-Touch	HD WLED Anti-Glare
Size	13.30 inches
Active area (X/Y)	Non-touch & touch – 293.4 mm x 165 mm (11.55 inches x 6.49 inches)
Maximum resolution	1366 x 768 pixels at 262 K colors
Maximum Brightness	200 nits
Refresh rate	60 Hz
Operating Angle	0° (closed) to 187.5°
Minimum Viewing Angles:	
Horizontal	40/45 @ CR ≥10
Vertical	15/20 @ CR ≥10
Pixel pitch	0.2148 mm x 0.2148 mm

Table 22. Keyboard

Features	Specifications
Number of keys	• United States and Canada: 82 keys • Europe and Brazil: 83 keys • Japan: 86 keys

Table 23. Touchpad

Features	Specifications
Active Area:	
X-axis	81.00 mm (3.18 inches)
Y-axis	41.00 mm (1.61 inches)

Table 24. Battery

Features	Specifications
Type	• 4-cell lithium ion (3.0 AHr) (43 Whr) • 6-cell lithium ion (3.0 AHr) (65Whr)
Dimensions:	
Depth:	
4-cell and 6-cell	228.30 mm (8.99 inches)
Height:	
4-cell	22.70 mm (0.89 inch)
6-cell	33.95 mm (1.34 inches)
Width:	

Features	Specifications
4-cell and 6-cell	49.15 mm (1.94 inches)
Weight:	
4-cell	259.00 g (0.57 lb)
6-cell	364.00 g (0.80 lb)
Voltage:	
4-cell	7.40 V
6-cell	11.10 V
Life span	300 discharge/charge cycles
Approximate charge time of battery with computer off	• 4 cell – 6 hours • 6 cell – 8 hours
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)
Coin cell battery	3 V CR2032 lithium ion

Table 25. AC Adapter

Type	65W	65W BFR/PVC free	90W (India only)
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC	100 VAC to 240 VAC
Input current (maximum)	1.70 A	1.70 A	2.5 A
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz
Output current	3.34 A (continuous)	3.34 A (continuous)	4.62 A
Rated output voltage	19.50 VDC	19.50 VDC	19.50 VDC
Dimensions:			
Height	22.00 mm (0.87 inch)	28.00 mm (1.10 inches)	32.00 mm (1.30 inches)
Width	66.00 mm (2.60 inches)	47.00 mm (1.90 inches)	52.00 (2.00 inches)
Depth	106.00 mm (4.17 inches)	108.00 mm (4.30 inches)	128.00 (5.00 inches)
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 26. Physical

Features	Specifications
Height	• Non touch — 243.20 mm (9.57 inches) • Touch — 243.47 mm (9.58 inches)
Width	330.90 mm (13.03 inches)
Z-height	
Front	• Non touch – 22.70 mm (0.89 inch) • Touch – 24.40 mm (0.96 inch)
Back	• Non touch – 22.70 mm (0.89 inch)

Features	Specifications
	• Touch – 25.60 mm (1.01 inch)
Weight (with 4-cell battery) — minimum	Non touch – 3.69 lb (1.67 kg)

Table 27. Environmental

Features	Specifications
Temperature range:	
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% (noncondensing)
Storage	5% to 95% (noncondensing)
Altitude (maximum):	
Operating	–15.2 m to 3048 m (–50 to 10,000 ft)
	0°C to 35°C
Non-Operating	-15.20 m to 10,668 m (-50 ft to 35,000 ft)
Maximum vibration:	
Operating	0.66 Grms (2 Hz - 600 Hz)
Storage	1.30 Grms (2 Hz - 600 Hz)
Maximum shock:	
Operating	110 G
Storage	160 G
Airborne contaminant level	G1 or lower as defined by ISA-S71.04–1985

6

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.