LG
Life's Good

ENGLISH

USER GUIDE

LG Q70™

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BC

MFL71722701 (1.0)

www.lg.com

About this user guide

Thank you for choosing this LG product. Please carefully read this user guide before using the device for the first time to ensure safe and proper use.

- Always use genuine LG accessories. The supplied items are designed only for this device and may not be compatible with other devices.
- Descriptions are based on the device default settings.
- Default apps on the device are subject to updates, and support for these apps may be withdrawn without prior notice. If you have any questions about an app provided with the device, please contact a LG Authorized Service Center. For user-installed apps, please contact the relevant service provider.
- Modifying the device's operating system or installing software from unofficial sources may damage the device and lead to data corruption or data loss. Such actions will violate your LG license agreement and void your warranty.
- Some content and illustrations may differ from your device, depending on the area, service provider, software version, or OS version, and are subject to change without prior notice.
- Software, audio, wallpaper, images, and other media supplied with your device are licensed for limited use. If you extract and use these materials for commercial or other purposes, you may be infringing copyright laws. As a user, you are fully responsible for the illegal use of media.
- Additional charges may incur for data services, such as messaging, uploading, downloading, auto-syncing and location services. To avoid additional charges, select a data plan suitable to your needs. Contact your service provider to obtain additional details.
- Failure to follow the instructions in this guide and improper use may damage the device.

Instructional notices



WARNING: Situations that could cause injury to the user and third parties.



CAUTION: Situations that may cause minor injury or damage to the device.



NOTE: Notices or additional information.

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For Your Safety

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LIMITED WARRANTY USA

01

Custom-designed Features

Camera features

Portrait

You can create an artistic portrait photo, whereby the subject is in focus and the background is blurred. You can also edit the image by applying lighting or color effect to the background.

- While taking a photo, keep the distance to your subject to 1.3 ~ 5 feet.
- This feature is not available if the surroundings are too dark.

1 On the home screen, tap , and tap **Portrait**.

2 Drag the slide bar to the left or right to adjust the blur strength.



3 When **Portrait is available** appears on the screen, tap to take a photo.

- The Portrait feature may not work if the camera cannot recognize the subject.

Gallery features

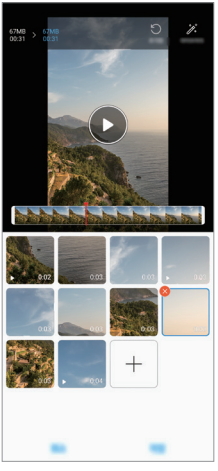
Creating a movie

You can create a new movie by putting images and videos together.

1 On the home screen, tap , select an album, then tap > **Create movie**.

2 Select images or videos for your movie and tap **Next**.

3 Edit the selected images and videos and then tap **Save**.



Deleting files

You can select images or videos to delete from your video by tapping at the top right corner of its thumbnail.

Adding files

You can select images or videos to add after tapping + at the bottom of the screen. You can also select the images or videos you have already previously added.

- Touch and hold a file, and then tap another file for multiple selection.

Rearranging files

To rearrange the images and videos, touch and hold the file you want to move, then dragging it to the desired location.

Adding file effects

Tap to add a theme or background music, or change the font.

Resetting the movie edits

You can reset the edits made to the movie (e.g. play time) by tapping .

Previewing a file

Check your new video before saving it by tapping ▶. After the playback time elapses, the next file is played automatically.

- A maximum of 50 images and videos can be used to create a video.
- The playback time for an image is 3 seconds by default and it cannot be changed. Videos can be trimmed down to a minimum of 1 second.
- This feature may not support some image or video formats.

Making a GIF

You can easily make a GIF file using recorded video.

1 At the desired starting point while watching a video, tap GIF.

2 Select the length of the GIF you want to create.
- GIF is generated for the time selected from the current time.
- For videos less than 5 seconds, GIF images are automatically generated for the remaining time.

- You may use this feature solely for creative purposes. The use of this feature involving infringement of any other person's rights, such as copyright or defamatory or offensive statements, may be subject to civil, criminal, or administrative liabilities and/or penalties under applicable laws. You shall not copy, reproduce, distribute, or otherwise make illegal use of any copyrighted materials without permission of the rightful owner or copyright holder. To the fullest extent permitted by applicable law, LG Electronics disclaims all expressed and implied warranties as well as liabilities associated thereto.

Google Assistant

Google Assistant overview

Your device has the built-in Google Assistant feature. Find answers and get things done while on-the-go.

- To use this feature, first connect to the network and sign in to your Google Account.

Sign in

1 Press the Google Assistant key on the left side of the device to launch **Google Assistant**.

2 Follow the on-screen instructions.
- The device saves your voice data for recognition.

3 Set whether to use the voice match unlock function.
- If you use the voice match unlock function, you can unlock the device even when the device screen is turned off or the device is charging by saying **"OK Google"** or **"Hey Google."**.

- This feature may be more vulnerable to security than the other screen locks, such as Pattern, PIN, and Password.
  When a similar voice or your recorded voice is used, the screen may be unlocked.
- To use this feature, tap **Settings** > **Lock screen & security** > **Secure lock settings** > **Smart Lock**, and then use the screen lock method you set to unlock the device. Tap **Voice Match**, then tap **Access with Voice Match**, then enter the currently used unlock method again. Note that Swipe is excluded.
- You need to unlock the device by using the specified method if you fail to unlock the device with voice recognition. See *Setting a screen lock* for details.

4 Tap **Save**.

Accessing by Voice

1 When the home screen is turned off or locked, say **"OK Google"** or **"Hey Google"**.

2 When the Google Assistant screen appears, say a command or ask a question.

Accessing from Home Screen or Any Other Screen

1 Press the Google Assistant key on the left side of the device.
or
Touch and hold ◯ from the Home screen to launch **Google Assistant**.

2 Say a command or question when you see •••• on the bottom of the screen.

- Voice recognition accuracy may decrease if you speak with an unclear voice or in a noisy place. When you use the voice recognition feature, increase its accuracy by speaking with a clear voice in a quiet place.

Fingerprint recognition

Fingerprint recognition overview

You must register your fingerprint on your device first before using the fingerprint recognition function.

You can use the fingerprint recognition function in the following cases:

- To unlock the screen.
- To view locked contents in Gallery and QuickMemo+.
- Confirm a purchase by signing in to an app or identifying yourself with your fingerprint.

- Your fingerprint can be used by the device for user identification. Very similar fingerprints from different users may be recognized by the fingerprint sensor as the same fingerprint. For added security, set the screen lock using a pattern, PIN or Password.
- If the device cannot detect your fingerprint, or you forget the value specified for registration, visit the nearest LG Authorized Service Center with your device and ID card.

Precautions for fingerprint recognition

Fingerprint recognition accuracy may decrease due to a number of reasons. To maximize the recognition accuracy, check the following before using the device.

- Ensure that the fingerprint sensor is not damaged by a metallic object, such as coin or key.
- When water, dust or other foreign substance is on the fingerprint sensor or your finger, the fingerprint registration or recognition may not work. Clean and dry your finger before using the fingerprint sensor.
- A fingerprint may not be recognized properly if the surface of your finger has a scar or is not smooth due to being soaked in water.
- If you bend your finger or use the fingertip only, your fingerprint may not be recognized. Make sure that your finger covers the entire surface of the fingerprint sensor.
- Scan only one finger for each registration. Scanning more than one finger may affect fingerprint registration and recognition.
- The device may generate static electricity if the surrounding air is dry. If the surrounding air is dry, avoid scanning fingerprints, or touch a metallic object, such as coin or key, to remove static electricity before scanning fingerprints.

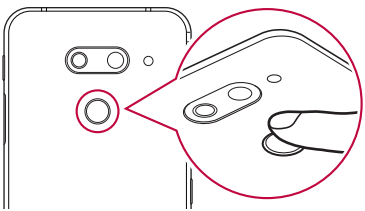
Registering fingerprints

You can register and save your fingerprint on the device to use fingerprint identification.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Fingerprints**.

- This feature is available only when the screen lock is set.
  - Lock the device with a pattern, PIN or password.
- If the screen lock is not set, enable it by following the on-screen instructions. See *Setting a screen lock* for details.

2 Locate the fingerprint sensor on the back of the device and gently put your finger on it to register the fingerprint.



3 Follow the on-screen instructions.

- Repeat scanning the fingerprint by moving your finger little by little until the fingerprint is registered.

4 When the fingerprint registration is done, tap **OK**.

- Tap **Add more** to register another fingerprint. If you register only one fingerprint and the corresponding finger is not in a good condition, the fingerprint recognition may not work well. As a preventative measure, register multiple fingerprints.

Managing fingerprints

You can edit or delete registered fingerprints.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Fingerprints**.

2 Unlock according to the specified lock method.

3 From the fingerprint list, tap a fingerprint to rename it. To delete it, tap 🗑.

Unlocking the screen with a fingerprint

You can unlock the screen or view locked content by using your fingerprint.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Fingerprints**.

2 Unlock according to the specified lock method.

3 On the fingerprint settings screen, activate the desired function:

- **Screen lock**: Unlock the screen with a fingerprint.
- **Content lock**: Access contents you have locked in Gallery and QuickMemo+ with a fingerprint.

Multi-tasking feature

Recent Uses Screen

Swipe the Home button — upward and hold to view the recent use history.

Pop-up window

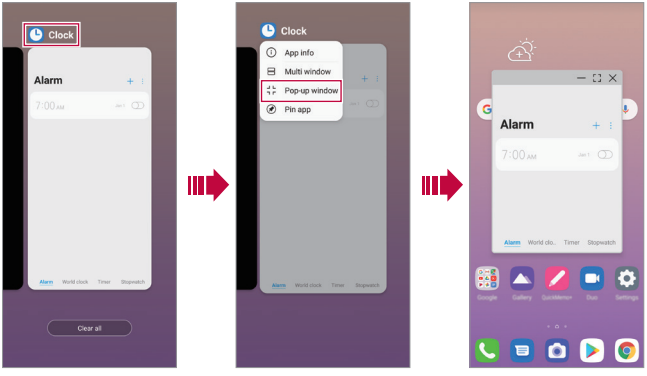
You can open multiple apps on the screen and easily switch between them at any time.

1 Swipe up and hold — from the bottom of the screen.

2 Tap the app icon on the top left of the app screen and select **Pop-up window**.

- If you tap the app icon, the **App info**, **Multi window**, **Pop-up window** and **Pin app** options appear.

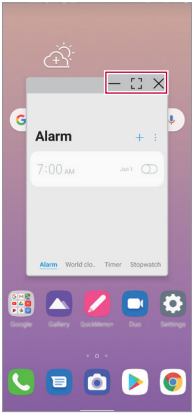
3 The app appears in the form of a pop-up window on the screen.



- This feature may not be available in some apps or screens.

Using the pop-up window

- — : Minimizes the pop-up window. The pop-up window is minimized into the app icon floating on the screen, which can be moved anywhere you want.
- ⛶ : Expands the app to full screen.
- ✕ : Closes the app.



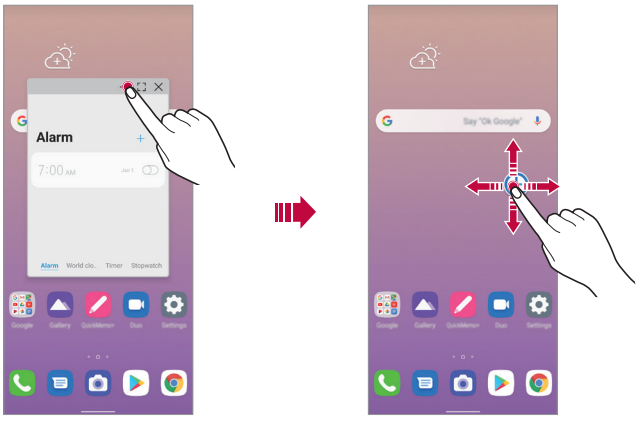
- **To move the pop-up window**: Drag the top of the pop-up window.
- **To adjust the size of the pop-up window**: Drag the left, right or bottom edge of the pop-up window.

- You can open up to 5 apps using the pop-up windows.
- To select an app from the opened apps, tap one of the pop-up windows. The selected pop-up window comes to the front.
- Pop-up windows cannot be moved to the status bar or navigation bar area.

Using the app folder for pop-up windows

If you tap — on the pop-up window, the pop-up window is minimized into the app icon.

You can move the app icon anywhere you want by dragging it.



If two or more pop-up windows are minimized, the app folder is created to contain the app icons.

- The recently-used app icon is used as the app folder icon. If you tab the icon, all the icons for the minimized pop-up windows appear in the app folder.
- If you touch and hold the app folder for pop-up windows and drag the app folder into **Remove**, the app folder will be removed.
- To remove one of the apps from the app folder, open the app folder and drag the app icon out of the app folder.

Multi window

When using Gestures navigation (by default)

1 Swipe up and hold — from the bottom of the screen.
- Recently-used apps appear.
- If you tap the app icon, the **App info**, **Multi window**, **Pop-up window** and **Pin app** options appear.

2 Tap the app icon on the top left of the app to be displayed in the multiwindow and select **Multi window**.
- The selected app appears at the top half of the screen.

3 Tap the other app to be displayed in the multi window.
- The selected app appears at the bottom half of the screen.

When using Buttons only navigation

1 Tap ☐ on the navigation bar.
- Recently-used apps appear.
- If you tap the app icon, the **App info**, **Multi window**, **Pop-up window** and **Pin app** options appear.

2 Tap the app icon on the top left of the app to be displayed in the multiwindow and select ⊟.
- The selected app appears at the top half of the screen.

3 Tap the other app to be displayed in the multi window.

- To adjust the size of the split screen, drag the bar on the center of the screen.
- To deactivate the multi window feature, drag the center bar up or down to the end of the screen.
- The multi window feature is not supported in some LG apps or apps downloaded from the Play Store.

02

Basic Functions

Product components and accessories

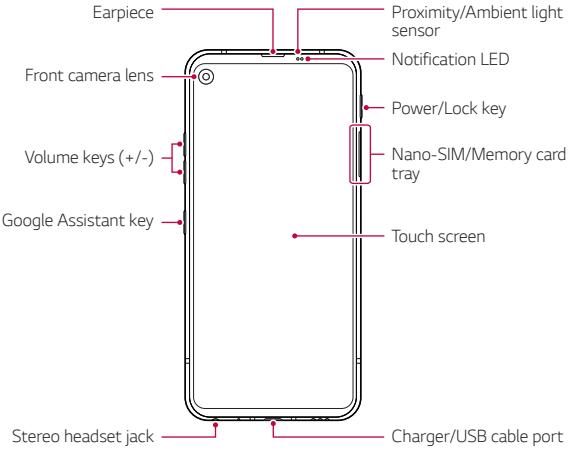
The following items are included with your device.

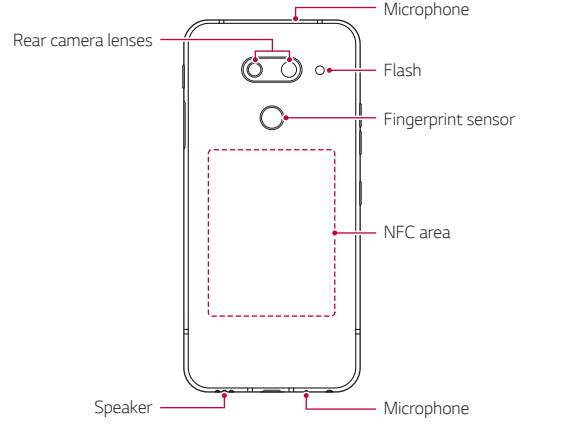
- Device
- USB cable
- Charger
- Quick Start Guide
- Ejection pin

- The items supplied with the device and any available accessories may vary depending on the area and service provider.
- Do not use unapproved USB cables or chargers with your device. The LG limited warranty does not cover damage caused by the use of third party accessories.
- Some of the device parts are made of tempered glass. If you drop your device on a hard surface or subject it to severe impact, the tempered glass may be damaged. If this happens, stop using your device immediately and contact a LG Authorized Service Center.

- If any of these basic items are missing, contact the dealer from which you purchased your device.
- To purchase additional basic items, contact a LG Authorized Service Center.
- To purchase optional items, contact a LG Authorized Service Center for available dealers.
- Some items in the product box are subject to change without notice.
- The appearance and specifications of your device are subject to change without notice.
- Device specifications may vary depending on the area or service provider.
- Be sure to use authentic accessories provided by LG Electronics. Using third-party accessories may damage the device or cause malfunctions.
- Remove the protective film from the Fingerprint sensor before using the fingerprint recognition feature.

Parts overview





Do NOT attempt to remove the back cover.

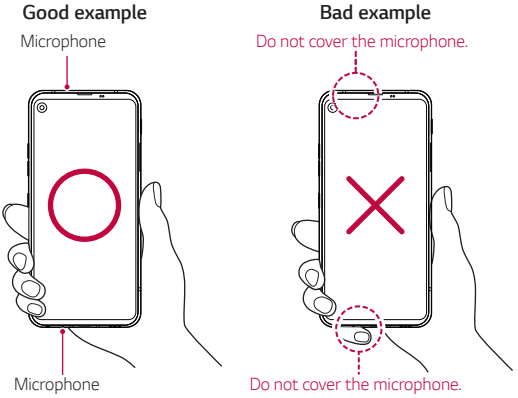
This device has a non-removable battery. Do not attempt to remove the back cover. Doing so may severely damage the battery and device, which could cause overheating, fire, and injury.

- Press and hold the volume down key and Power/Lock key at the same time for a second to take a screenshot.

- Proximity/Ambient light sensor
  - Proximity sensor: During a call, the proximity sensor turns off the screen and disables touch functionality when the device is in close proximity to the human body. It turns the screen back on and enables touch functionality when the device is outside a specific range.
  - Ambient light sensor: The ambient light sensor analyzes the ambient light intensity when the auto-brightness control mode is turned on.
- Volume keys
  - Adjust the volume for ringtones, calls or notifications.
  - While using the Camera, gently press a Volume key to take a photo. To take continuous photos, press and hold the Volume key.
  - Press the Volume Down key twice to launch the Camera app when the screen is locked or turned off. Press the Volume Up key twice to launch Screen-off memo.
- Power/Lock key
  - Briefly press the key when you want to turn the screen on or off.
  - Press and hold the key when you want to select a power control option.
- Google Assistant key
  - Your device has Google Assistant built in. Find answers and get things done while on-the-go. To get started, just tap the Google Assistant key on the side of the phone.
  - Activate Google assistant. See *Google Assistant* for details.

- Some functions may be restricted for access, depending on the device specifications.
- Do not put heavy objects on the device or sit on it. Doing so may damage the touch screen.
- Screen-protective film or accessories may interfere with the proximity sensor.
- If your device is wet or is being used in a humid place, the touch screen or buttons may not function properly.

Hold the device correctly as shown below. If you cover the microphone hole with a hand, finger, or protective case while using the device, you may sound unclear during a call.



Turning the power on or off

Turning the power on

When the power is turned off, press and hold the Power/Lock key.

- When the device is turned on for the first time, initial configuration takes place. The first booting time for the smart phone may be longer than usual.

Turning the power off

Press and hold the Power/Lock key, then select **Power off**.

Restarting the device

When the device is not working properly or does not respond, restart it by following the instructions below.

1. Press and hold the Power/Lock key and the Volume Down key at the same time until the power is turned off.
2. When the device restarts, release the key.

Power control options

Press and hold the Power/Lock key, then select an option.

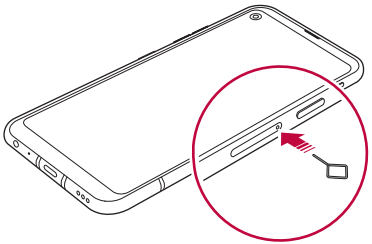
- **Power off**: Turn the device off.
- **Power off and restart**: Restart the device.

Installing the SIM card and memory card

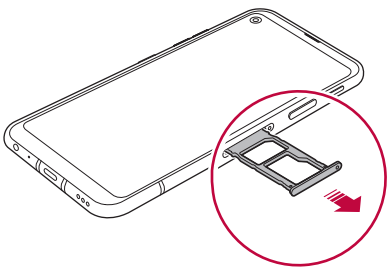
Insert the SIM card provided by your mobile service provider to start using your device.

- Be careful with the ejection pin since it has a sharp edge.

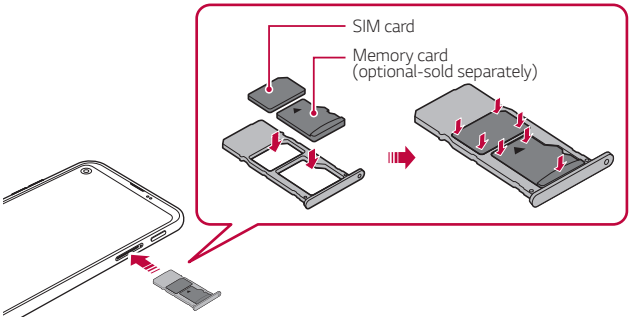
1 Insert the ejection pin into the hole on the card tray.



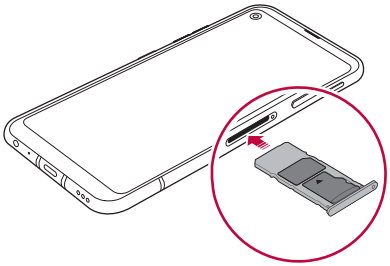
2 Pull out the card tray.



3 Put the SIM card (and a memory card; optional-sold separately) on the card tray with the gold-colored contacts facing downwards.



4 Insert the card tray back into the slot.



- This device supports only Nano SIM cards.
- For problem-free performance, it is recommended to use the device with the correct type of SIM card. Always use a factory-made SIM card supplied by the service provider.
- Do not lose your SIM card. LG is not responsible for damage and other issues caused by loss or transfer of a SIM card.
- Be careful not to damage the SIM card when you insert or remove it.
- When you insert the card tray back into the device, insert it horizontally in the direction of arrow as shown in the figure. Make sure that the card placed on the card tray does not move out of its position.
- Frequent writing and erasing of data may shorten the memory card lifespan.
- Some memory cards may not be fully compatible with the device. If you use an incompatible card, it may damage the device or the memory card, or corrupt the data stored in it.

Removing the memory card

Unmount the memory card before removing it for safety.

1 On the home screen, tap **Settings** > **Storage** > ⏏.

2 Insert the ejection pin into the hole in the card tray and then pull out the card tray from the device.

3 Remove the memory card from the card tray.

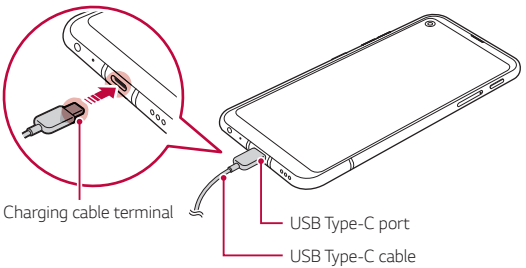
4 Insert the card tray back into the slot.

- Do not remove the memory card while the device is transferring or accessing information. This may cause data to be lost or corrupted, or may damage the memory card or the device. LG is not responsible for losses that result from the abuse or improper use of memory cards, including the loss of data.

Charging the battery

Before using the device, fully charge the battery.

Connect one end of the charging cable to the charger, insert the other end of the cable into the cable port, and then plug the charger into a power socket.



- Ensure that the inside of the device does not make contact with a metallic object or water.
- Do not charge while the device or charging cable is wet or contains moisture. This can cause fire, electric shock, injury or damage to device. If there is moisture, stop using the device immediately and remove the moisture completely.
- Do not use unapproved USB cables or chargers with your device. The LG limited warranty does not cover damage caused by the use of third party accessories.
- Using the device when it is charging may cause electric shock. To use the device, stop charging it.

- Remove the charger from the power socket after the device is fully charged. This prevents unnecessary power consumption.
- Another way to charge the battery is by connecting a USB cable between the device and a desktop or laptop computer. This may take a longer time than plugging the adapter to a wall outlet.
- Do not charge the battery by using a USB hub that is unable to maintain the rated voltage. Charging may fail or unintentionally stop.
- When you are visiting the LG Authorized Service Center with a battery issue, bring the product and the charger with you. Since the battery is a consumable, the battery life may be shortened as time goes.

Using the battery efficiently

Battery lifespan may decrease if you keep many apps and functions running simultaneously and continuously.

Stop apps and functions from running in the background to increase battery life.

To minimize battery consumption, follow these tips:

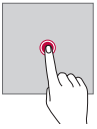
- Turn off the **Bluetooth®** or Wi-Fi network function when not using them.
- Set the screen timeout to as short a time as possible.
- Minimize the screen brightness.
- Set a screen lock when the device is not in use.
- Check the battery level while using any downloaded apps.

Touch screen

You can familiarize yourself with how to control your device by using touch screen gestures.

Tapping

Lightly tap with your fingertip to select or run an app or option.



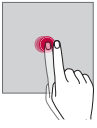
Touching and holding

Touch and hold for several seconds to display a menu with available options.



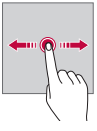
Double-tapping

Tap twice quickly to zoom in or out on a web page or map.



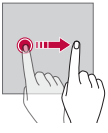
Dragging

Touch and hold an item, such as an app or widget, then move your finger to another location in a controlled motion. You can use this gesture to move an item.



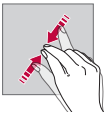
Swiping

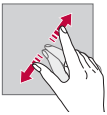
Touch the screen with your finger and move it quickly without pausing. You can use this gesture to scroll through a list, a web page, photos, screens, and more.



Pinching and spreading

Pinch two fingers to zoom out such as on a photo or map. To zoom in, spread your fingers apart.





- Do not expose the touch screen to excessive physical shock. You might damage the touch sensor.

- A touch screen failure may occur if you use the device near a magnetic, metallic or conductive material.
- If you use the device under bright lights, such as direct sunlight, the screen may not be visible, depending on your position. Use the device in a shady location or a location with an ambient light that is not too bright and bright enough to read books.
- Do not press the screen with excessive force.
- Gently tap with your fingertip on the desired option.
- The touch control may not work properly if you tap while wearing a glove or by using the tip of your fingernail.
- Touch control may not work properly if the screen is moist or wet.
- The touch screen may not function properly if a screen-protective film or accessory purchased from a third party store is attached to the device.
- Displaying a static image for extended periods of time may result in after-images or screen burn-in. Turn off the screen or avoid displaying the same image for a long time when you do not use the device.

Home screen

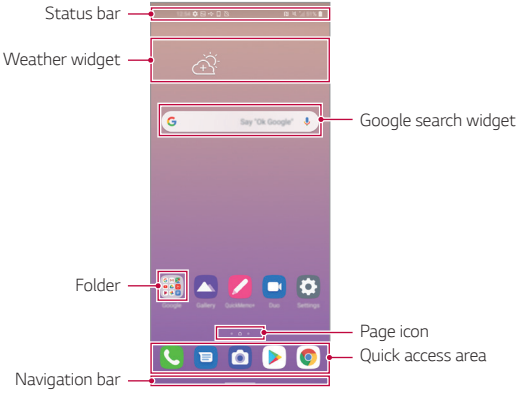
Home screen overview

The Home screen is the starting point for accessing various functions and apps on your device. Swipe up from the bottom edge of any screen to directly go to the Home screen.

You can manage all apps and widgets on the Home screen. Swipe the screen left or right to view all installed apps at a glance.

Home screen layout

You can view all apps and organize widgets and folders on the Home screen.



- The Home screen may differ depending on the manufacturer policy, user settings, software version or service provider.

- **Status bar**: View status icons, the time and the battery level.
- **Weather widget**: View the information of weather and time for a specific area.
- **Google Search widget**: Type or speak to open Google Search.
- **Folder**: You can create folders to classify the app based on desired criteria.
- **Page icon**: Display the total number of Home screen canvases. You can tap the desired page icon to go to the page. The icon reflecting the current canvas will be highlighted.
- **Quick access area**: Fix main apps at the bottom of the screen so that they can be accessed from any Home screen canvas.
- **Navigation bar**: You can do some gestures to go to the Home screen, previous screen, Overview screen, or quickly switch between apps.

Using Navigation bar

Here is the gestures guide to control the Navigation bar.

- To go to Home screen, swipe up from the bottom edge of the screen.
- To go back to the previous screen, swipe in from the left or right edge of the screen.
- To go to Overview screen, swipe up and hold from the bottom edge of the screen.
- To quickly switch between apps, swipe right at the bottom edge of the screen to go to previously used apps.

- **Gestures** is the default for the Navigation bar. To change it to **Buttons only** ◁ / ○ / □, tap **Settings** > **Display** > **Navigation bar**, then select **Buttons only**.

Status icons

When there is a notification for an unread message, calendar event or alarm, the status bar displays the corresponding notification icon. Check your device's status by viewing notification icons displayed on the status bar.

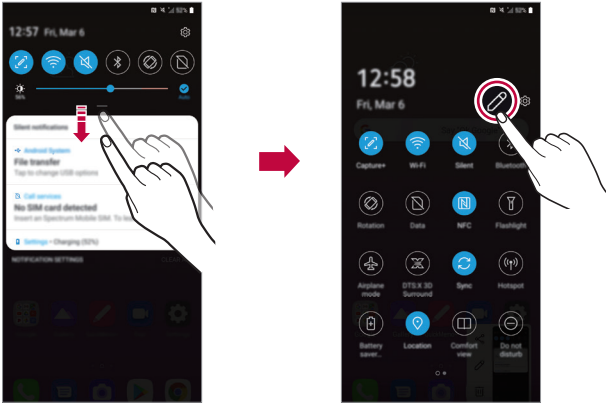
	No signal
	Data is being transmitted over the network
	Alarm is set
	Vibrate mode is on
	Bluetooth is on
	Connected to a computer via USB
	Battery level
	Airplane mode is on
	Missed calls
	Wi-Fi is connected
	Mute mode is on
	Checking the current location via GPS
	Hotspot is on
	No SIM card
	The NFC mode is on

- Some of these icons may appear differently or may not appear at all, depending on the device's status. Refer to the icons according to the actual environment and area in which you are using the device and your service provider.
- Displayed icons may vary, depending on the area or service provider.

Notifications panel

You can open the notifications panel by dragging the status bar downward on the main screen.

- You can drag down the notice window or tap — to open the list of quick setting icons.
- You can tap ✎ to add, delete or arrange icons in the notice window.
- If you touch and hold the icon, the settings screen for the corresponding function appears.



- You can use the notifications panel even on the lock screen. Drag the notifications panel while the screen is locked to quickly access the desired features.

Switching the screen orientation

You can set the screen orientation to automatically switch according to the device's physical orientation.

On the notification panel, tap **Rotation** from the quick access icon list.

You can also tap **Settings** on the home screen, tap **Display** and activate **Auto-rotate screen**.



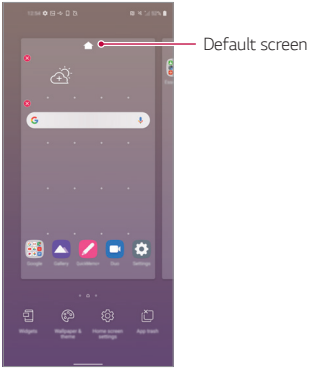
Editing the Home screen

On the Home screen, touch and hold on an empty space, then select the desired action from below.

- To rearrange the Home screen canvases, touch and hold on a canvas, then drag it to a desired location.
- To add a widget to the Home screen, touch and hold on a blank area of the Home screen, then select **Widgets**.
- To change wallpapers and themes, touch and hold on a blank area of the Home screen, then select **Wallpaper & theme**.

  You can also tap **Settings** on the home screen and tap **Display** > **Home screen** > **Wallpaper**, then select desired options from Wallpaper and Theme to apply to the device.

- To configure the Home screen settings, touch and hold on a blank area of the Home screen, then select **Home screen settings**. See *Home screen settings* for details.
- To view or reinstall the uninstalled apps, touch and hold on a blank area of the Home screen, then select **App trash**. See *App trash* for details.
- To change the default screen, touch and hold on a blank area of the Home screen, move to desired screen, tap ⌂, then tap the screen once more.

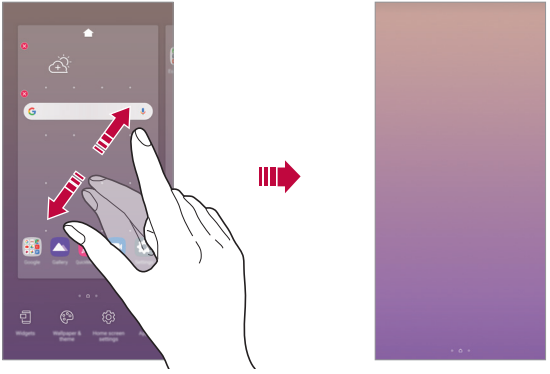


Viewing the background theme

You can view only the background image by hiding the apps and widgets on the Home screen.

Spread two fingers apart on the Home screen.

- To return to the original screen, which displays apps and widgets, pinch your fingers on the Home screen.



Moving apps on the Home screen

On the Home screen, touch and hold an app, then drag it to a desired location.

- To keep frequently used apps at the bottom of the Home screen, touch and hold an app, then drag it to the quick access area at the bottom.
- To remove an icon from the quick access area, drag the icon to the Home screen.

Using folders from the Home screen

Creating folders

On the Home screen, touch and hold an app, then drag it over another app.

- A new folder is created and the apps are added to the folder.

Editing folders

On the Home screen, tap a folder and do one of the following actions.

- To edit the folder name and color, tap the folder name.
- To add apps, touch and hold an app, then drag it over the folder and release it.
- To remove an app from the folder, touch and hold the app and drag it to outside the folder. If the removed app is the only one app that existed in the folder, the folder is removed automatically.
- You can also add or remove apps after tapping ⊕ in the folder.



- You cannot change the folder color while using downloaded theme.

Home screen settings

You can customize the Home screen settings.

1. On the home screen, tap **Settings** > **Display** > **Home screen**.
2. Customize the following settings:
   - **Select Home**: Select a Home screen mode.
   - **Wallpaper**: Change the Home screen background wallpaper.
   - **Screen swipe effect**: Select an effect to apply when the Home screen canvas switches.
   - **Icon shape**: Choose a desired shape for icons from the options provided.

- **Google feed**: Select whether to display Google feed on the screen located left to the main Home screen.
- **Sort apps by**: Set how apps are sorted on the Home screen.
- **Grid**: Change the app arrangement mode for the Home screen.
- **Hide apps**: Select apps you want to hide from the Home screen.
- **Loop Home screen**: Enable to allow continuous Home screen scrolling (loop back to the first screen after the last screen).



- This function is not available when Google feed is selected for Left Home screen.

- **Search**: Search by swiping down on the Home screen.
- **Home screen lock**: Enable to prevent apps and widgets from being rearranged or removed.

Screen lock

Screen lock overview

Your device's screen turns off and locks itself if you press the Power/Lock key. This also happens after the device is left idle for a specified period of time.

If you press the Power/Lock key when a screen lock is not set, the Home screen appears immediately.

To ensure security and prevent unwanted access to your device, set a screen lock.



- A screen lock also prevents unnecessary touch input on the device screen and reduces battery consumption. We recommend that you activate the screen lock while not using the device.

Setting a screen lock

There are several options available for configuring the screen lock settings.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Select screen lock** and then select the method you prefer.

2 Customize the following settings:

- **None**: Deactivate the screen lock function.
- **Swipe**: Swipe on the screen to unlock the screen.
- **Pattern**: Draw a pattern to unlock the screen.
- **PIN**: Enter a numeric password to unlock the screen.
- **Password**: Enter an alphanumeric password to unlock the screen.
- **Fingerprints**: Unlock the screen by using your fingerprint.

Secure start-up settings

For additional security for your device, you can enable the Secure start-up option when setting a screen lock.

- You cannot use all functions, except for emergency calls until you unlock the device.
- If you forget your decryption password, you cannot restore encrypted data and personal information.

Precautions for the secure start-up feature

- If you forget your decryption password, you cannot restore encrypted data and personal information.
- Be sure to keep your screen lock passwords separately.
- If you enter the screen lock passwords incorrectly more than the specified times, the device automatically resets itself and the encrypted data and your personal information are deleted automatically and they cannot be restored.
- Be cautious not to enter incorrect screen lock passwords more than the specified times.

- When you turn on the device right after the device resets, encryption also starts. If you stop the encryption arbitrarily, the data may be damaged. Be sure to wait until the reset is completed.

Customize Lock screen

You can customize lock screen.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Customize Lock screen**.

2 Select a function you want to set.
- **Wallpaper**: Allow you to set the background for your Lock screen.
- **Clock**: Allow you to set where to position the clock on the Lock screen.
- **Shortcuts**: Allow you to choose apps to run on your Lock screen. This setting appears only when a screen lock is set.
- **Contact info for lost phone**: Allow you to set text to be displayed on the Lock screen to identify the phone's owner.

Secure lock settings

You can set secure lock settings.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Secure lock settings**.

2 Select a function you want to set.
- **Make pattern visible** (shown only when Pattern is set as a screen lock): Turn on to make pattern visible.
- **Lock timer**: Allows you to set the amount of time before the screen automatically locks after the backlight turns off (time-out due to inactivity).
- **Power key instantly locks**: Enable this option to instantly lock the screen when the Power/Lock button is pressed. This setting overrides the Security Lock timer setting.

- **Show lockdown option** (shown only when a screen lock is set): Enable this option to display the Lockdown icon when you press and hold the Power/Lock button. Tap the Lockdown icon to turn off Smart Lock, biometric unlocking, and notifications on the lock screen.
- **Smart Lock**: Allows you to set trusted devices, places, voice, and/or on-body detection that will allow your phone to remain unlocked.

- Available menu options may vary depending on the lock screen method selected.

KnockON

You can turn the screen on or off by double-tapping the screen.

On the home screen, tap **Settings** > **Extensions** > **KnockON** to enable the option.

- This option is available only on the Home screen provided by LG. It may not function properly on a custom launcher or on the Home screen installed by the user.
- When tapping the screen, use your fingertip. Do not use a fingernail.
- To use the KnockON feature, make sure that the proximity/light sensor is not blocked by a sticker or any other foreign substance.

Turning the screen on

Double-tap the middle of the screen.

- Tapping the top or bottom of the screen may decrease the recognition rate.

Turning the screen off

Double-tap on an empty space on the Home screen and Lock screen.

You can also double-tap an empty space on the status bar.

Memory card encryption

You can encrypt and protect data saved on the memory card. The encrypted data in the memory card cannot be accessed from another device.

1 On the home screen, tap **Settings** > **Lock screen & security** > **Encryption & credentials** > **Encrypt SD card**.

2 Read the on-screen overview of memory card encryption and then tap **Continue** to continue.

3 Select an option and tap **Encrypt now**.

- **New data encryption**: Encrypt only data that is saved on the memory card after encryption.
- **Full encryption**: Encrypt all the data currently saved on the memory card.
- **Exclude media files**: Encrypt all files, except for media files such as music, photos and videos.

- Once memory card encryption starts, some functions are not available.
- If the device is turned off while encryption is underway, the encryption process will fail, and some data may be damaged. Therefore, be sure to check if the battery level is sufficient before starting encryption.
- Encrypted files are accessible only from the device where the files were encrypted.
- The encrypted memory card cannot be used on another device. To use the encrypted memory card on another mobile device, format the card.
- You can activate memory card encryption even when no memory card is installed into the device. Any memory card that is installed after encryption will automatically be encrypted.

Taking screenshots

You can take screenshots of the current screen you are viewing.

Via a shortcut

Press and hold the Power/Lock key and the Volume Down key at the same time for at least two seconds.

- Screenshots can be viewed from the **Screenshots** folder in **Gallery**.

Via Capture+

On the screen where you want to take a screenshot, drag the status bar downwards, then tap .

Do not disturb

You can limit or mute notifications to avoid disturbances for a specific period of time.

On the home screen, tap **Settings** > **Sound** > **Do not disturb**.

- **Mode**: Select a desired mode:
  - **Priority only**: Receive sound or vibrate notifications for the selected apps. Even when Priority only is turned on, alarms still sound.
  - **Total silence**: Disable both the sound and vibration.
- **Select priorities**: Receive alarms and the notifications for the selected apps.
  - **Calls from**: Set up a range of contacts from which you want to receive notifications for incoming calls.
  - **Repeated calls**: Second call from same caller within 15 min is not silenced.
  - **Messages from**: Set up a range of contacts from which you want to receive notifications for incoming messages.
- **Use Do not disturb**: Turn on the Do not disturb feature.
- **SCHEDULE**: Set the schedule for which you want to turn on the Do not disturb feature.
- **Help**: View the help for **Do not disturb**.

03

Useful Apps

Installing and uninstalling apps

Installing apps

Access an app store to search and download apps.

- You can use SmartWorld, Play Store or the app store provided by your service provider.

- Some app stores may require you to create an account and sign in.
- Some apps may charge fees.
- If you use mobile data, you may be charged for data usage, depending on your pricing plan.
- SmartWorld may not be supported depending on the area or service provider.

Uninstalling apps

Uninstall apps that you no longer use from your device.

Uninstalling with the touch and hold gesture

Touch and hold any empty area of the Home screen, and then tap ⊗ of the app you want to delete.

- Uninstalled apps can be reinstalled within 24 hours of uninstallation. See *App trash* for details.

Uninstalling by using the settings menu

On the home screen, tap **Settings** > **Apps & notifications** > **App info**, select an app, then tap **Uninstall**.

- Some apps cannot be uninstalled by users.

Uninstalling apps from the app store

To uninstall an app, access the app store from which you downloaded the app and uninstall it.

Installing and uninstalling apps during the setup

When you turn on the device for the first time, you can download recommended apps.

You can skip to the next step without installation.

App trash

You can view the uninstalled apps on the Home screen. You can also reinstall apps within 24 hours of uninstallation.

1 On the home screen, tap **Management** > **App trash**.
You can also touch and hold an empty area of the Home screen, then tap **App trash**.

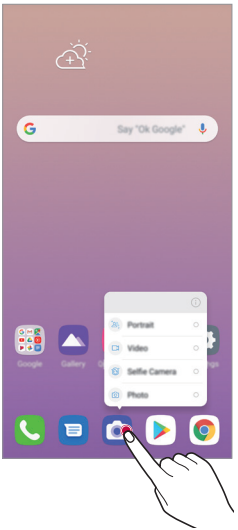
2 Choose the desired option.
- **Restore**: Restore the selected app.
- : Remove the uninstalled apps permanently from the device.

- Uninstalled apps are automatically removed from the device 24 hours after they were uninstalled. If you want to reinstall the uninstalled apps, you must download them again from the app store.
- This feature is activated on the default Home screen only. If you uninstall apps while using the EasyHome screen or other launcher, they are immediately and permanently removed from the device.

App Shortcuts

On the Home screen, touch and hold an app icon such as Phone, Messages, Camera, Gallery and Settings to display a quick access menu. Use apps more easily through App Shortcuts.

- Tap to set a widget for the app.
- Tap ⓘ to check the app information.



- This feature is available only on some apps.

Phone

Voice call

Make a phone call by using one of the available methods, such as manually entering a phone number and making a call from the contact list or the list of recent calls.

Making a call from the keypad

1 On the home screen, tap > **Dial**.

2 Make a call by using a method of your choice:

- Enter a phone number and tap .
- Touch and hold a speed dial number.
- Search for a contact by tapping the initial letter of a contact name in the contact list, and then tap .

- To enter "+" when making an international call, touch and hold number 0.
- See *Adding contacts* for details on how to add phone numbers to the speed dial list.

Making Calls from Contacts

1 On the home screen, tap > **Contacts**.

2 After selecting the number you want to call from the list of contacts, tap .

Answering/Ending a call

To answer a call, drag on the incoming call screen.

- When the stereo headset is connected, you can make calls by using the call/end button on the headset.
- To end a call with the Power key, tap **Settings** on the home screen and tap **Network & internet** > **Call** > **Answer and end calls** and then activate **End call with the Power key**.

Rejecting a call

To reject an incoming call, drag across the incoming call screen.

- To send a rejection message, drag the rejection message option across the screen.
- To add or edit a rejection message, tap **Settings** on the home screen and tap **Network & internet** > **Call** > **Call blocking & Ignore with message** > **Allow ignore with message**.
- When a call is coming in, press the Volume Up, Volume Down or Power/Lock key to mute ringtone or vibration, or to hold the call.

Checking an incoming call while using an app

When a call comes in while using an app, a pop-up notification can be displayed at the top of the screen. You can receive the call, reject the call, or send message from the pop-up screen.

- On the home screen, tap **Settings** > **Network & internet** > **Call** > **Additional settings** > **Incoming voice call pop-up** and then select the desired way you would like to display the incoming call while using an app.

Viewing missed calls

If there is a missed call, the status bar at the top of the screen displays .

To view missed call details, drag the status bar downwards. You can also tap on the home screen and tap **Call logs**.

Functions accessible during a call

During a call, you can access a variety of functions by tapping the on-screen buttons:

- **Add Call**: Tap here to add a call to the current conversation.
- **Contacts**: Allows access to your contacts list.
- **Keypad**: Display or hide the dial pad.
- **Speaker**: Turn on the speakerphone function.
- **Mute**: Block your voice so that the other party cannot hear your voice.
- **Bluetooth**: Switch the call to a Bluetooth device that is paired and connected.
- : End a call.
- : Access more options during a call.

- Some functions are not available during a video call.
- Available setting items may vary depending on the area or service provider.

Making a three-way calling

You can make a call to another contact during a call.

1 During a call, tap **Add call**.

2 Enter a phone number and tap .

- The two calls are displayed on the screen at the same time, and the first call is put on hold.

3 To start a conference call, tap **Merge calls**.

- You may be charged a fee for each call. Consult with your service provider for more information.

Viewing call records

To view recent call records, tap on the home screen and tap **Recent**. Then, you can use the following functions:

- To view detailed call records, select a contact. To make a call to the selected contact, tap .
- To delete call records, tap > **Delete**.

- The displayed call duration may differ from the call charge. Consult with your service provider for more information.
- The deleted call history can not be restored.
- Pinch two fingers or spread your fingers apart to adjust the font size of call logs or contacts.

Configuring call options

You can configure various call options.

1 On the home screen, tap > **Dial** or **Recent**.

2 Tap > **Call settings** and then configure the options to suit your preferences.

Messages

Sending a message

You can create and send messages to your contacts using the Messages app.

- Sending messages abroad may incur additional charges. Consult with your service provider for more information.

1 On the home screen, tap .

2 Tap .

3 Specify a recipient and create a message.
   - To use multimedia options, tap .
   - To access optional menu items, tap .

4 Tap to send the message.

Reading a message

You can view exchanged messages organized by contact.

1 On the home screen, tap .

2 Select a contact from the message list.

Configuring messaging settings

You can change messaging settings to suit your preferences.

1 On the home screen, tap .

2 Tap > **Settings** from the message list.

Camera

You can use the Camera app to take and share photos and videos.

It has many state-of-the-art features such as Portrait, Flash Jump-Cut, and much more.

These features will allow you to easily and creatively capture your world.

Starting the camera

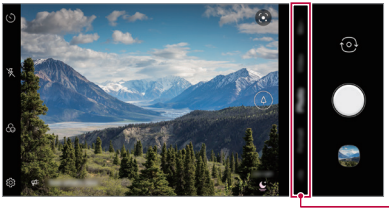
On the home screen, tap .

- Before taking a photo or recording a video, wipe the camera lens with a soft cloth.
- Be careful not to stain the camera lens with your fingers or other foreign substance.
- Images included in this user guide may be different from the actual device.
- Photos and videos can be viewed or edited in Gallery. See *Gallery overview* for details.

Changing the camera mode

You can select a camera mode that suits your environment to take a photo or record a video easily and conveniently.

On the home screen, tap , then swipe left or right over the camera mode area to select the desired mode.

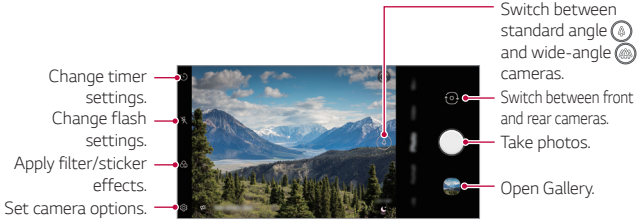


Auto mode

You can take photos or record videos by selecting a variety of camera options.

1 On the home screen, tap .

2 To take a photo, tap **Photo**, and tap . To record a video, tap **Video**, and tap .



Taking a photo

1 Select a camera mode and tap the subject to focus the camera on.

2 Tap to take a photo.

- You can also press the Volume Down or Volume Up key to take a photo.

- When the screen is turned off or locked, start the camera by pressing the Power or Volume Down key twice. On the home screen, tap **Settings** > **Extensions** > **Shortcuts** and enable **Open Camera** under **POWER** and/or **VOLUME** to use this feature.

Recording a video

1 Select a camera mode and tap the subject to focus the camera on.

2 Tap to start recording.

- To take a photo while recording a video, tap .
- To pause the video recording, tap . To resume the video recording, tap .
- While recording a video, you may spread or pinch two fingers to zoom in or out.
- While recording a video, you may tap the desired area to adjust the brightness.

3 Tap to end the video recording.

Customizing the camera options

You can customize a variety of camera options to suit your preferences.

Tap on the screen.

- Available options vary depending on the selected camera (front or rear camera) and the selected camera mode.

- : Take a photo or record a video in FullVision.
- : Select values for aspect ratio and size for taking photos.

Auto scene optimizer	By recognizing the scene that is being recorded, applies the optimal resolution setting automatically
Tips	Notifies the user when the subject's eyes were closed or the picture is blurry for optimal photography.
HDR	Obtain photos in vivid colors and get compensated effects even when they are taken against the light. These functions are provided by the High Dynamic Range (HDR) technology equipped in the camera.
Cheese shutter	Take photos with voice commands.
Tag locations	Save the image with GPS location data.
Grid	Displays guide grids so that you can take photos or record videos based on the horizontal and vertical reference lines.
Help	Provides help information for each camera menu.

Additional options on the front camera

Selfie shot	Take a selfie by selecting its option between **Gesture shot** and **Auto shot**.
Save as flipped	Save as flipped images after taking selfies.

- When using the front camera, you can adjust the makeup, filter, and stickers.

Manual Camera

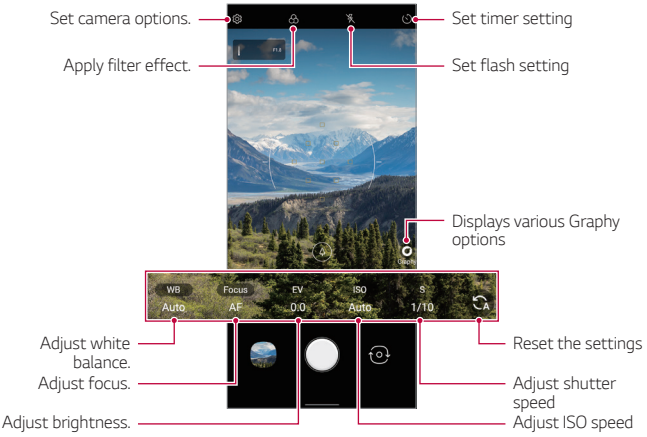
You can create photos featuring professional touch by using a variety of advanced features.

1 On the home screen, tap .

2 Select **Manual Camera** by swiping camera modes.

3 Customize the following camera settings.

- If you select **Auto**, the options are automatically adjusted according to the shooting target and environment.
- If the **Focus** option is selected, the focused area is highlighted in color. This feature is available only in **Manual Focus (MF)** mode.



4 To take a photo, tap .

- If you tap and select a Graphy effect, a list of recommended photos with various settings will appear.
- Selecting the Graphy effects allows you to shoot using the white balance, shutter speed, and ISO setting values applied to the recommended photo.
- The Graphy feature is available only in Manual Camera mode.
- You can see a variety of recommended photos if you download the **Graphy** app from Google Play Store.
- You may be charged for data usage, depending on your pricing plan.
- Tap , then tap Graphy photos to deactivate this feature.

Various camera modes

Slo-mo

You can create an entertaining video by changing the moving speeds of subjects in your video. This feature allows you to record a video at a faster rate of speed and then play it at the standard speed so that the video appears to be slowed down.

1 On the home screen, tap .

2 Select **More** by swiping camera modes, then tap .

3 Select an interval **Part** or entire **All** to apply the slow motion effect to it.
- **Part**: Allows you to apply a slow motion effect to a specific section of the video.
- **All**: Allows you to apply a slow motion effect to the entire video.



4 Tap ● to start recording.
   - To pause the video recording, tap ⏸. To resume the video recording, tap ●.

5 If you want to finish shooting, tap ■.

Panorama

You can create a panoramic photo by moving the camera in one direction to photograph and stitch continuous shots of a wide view.

1 On the home screen, tap Camera.

2 Select **More** by swiping camera modes, then tap Panorama.

3 Tap ○ and then slowly move the camera in one direction.
   - Move the device by following the direction of the arrow in the guideline.

4 Tap ■ to stop capturing the panoramic.



Flash Jump-Cut

Photos taken at a regular interval are saved as a GIF file.

1 On the home screen, tap .

2 Select **More** by swiping camera modes, then tap .

- Photos are taken every 3 seconds and saved as a GIF file.
- Tap 4 on the screen to select the number of photos you want to take.
- While taking photos, tap to create a GIF with the photos taken.

- The flash automatically turns on while taking photos.
- The current shot and the total number of shots are displayed at the bottom of the screen.
- All taken photos are saved as GIF files only.
- The GIF speed or image orders cannot be changed.

Food

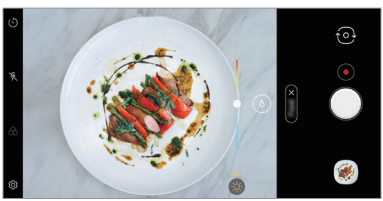
You can optimize the quality of your food photos or videos using the color slide bar and white balance.

1 On the home screen, tap .

2 Select **More** by swiping camera modes, then tap .

3 To take a photo, tap . To record a video, tap .

- Drag the color slide bar on the screen to adjust the white balance and select the best color.
- If the slide bar is not displayed, tap WB to adjust the white balance.



Night view

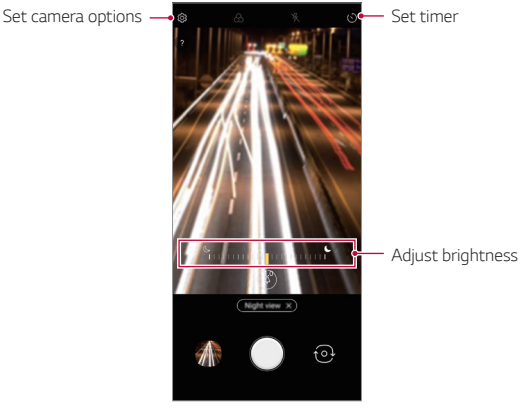
You can take vivid and clear night photos even in low light conditions by using the **Night view** feature.

1 On the home screen, tap .

2 Select **More** by swiping camera modes, then tap .

3 To take a photo, tap .

- To adjust the brightness of the photo, slide left or right.



- Hold the camera steady and firm while taking a photo.

YouTube Live

You can record a video and directly upload to YouTube.

1 On the home screen, tap .

2 Select **More** by swiping camera modes, then tap .

To use this feature, you need to verify your phone number.

- YouTube Live is available only when your device is connected to the Internet. If you use mobile data, you may be charged for data usage, depending on your pricing plan.

Time-lapse

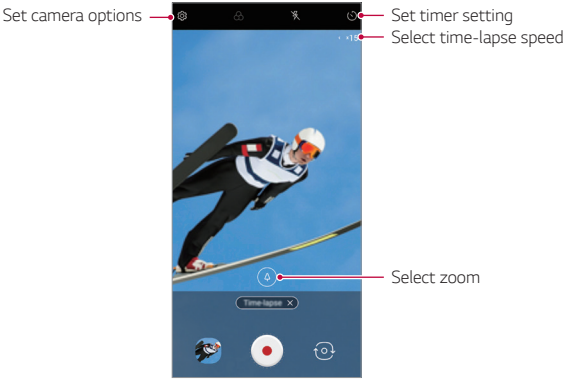
You can record Time-lapse videos optimized for the situation.

Videos can be recorded with optimal speed and steady motion by analyzing various shooting environments. The time-lapse speed can be automatically adjusted according to the shooting target and environment.

You can also select the time-lapse speed manually.

1 On the home screen, tap .

2 Select **More** by swiping camera modes, then tap .



3 Tap to record a video.
- To pause the video recording, tap . To resume the video recording, tap .

4 Tap to stop recording.
- The recorded video will be saved in Gallery.

- Audio is not recorded during Time-lapse recording.

Burst shot

You can take continuous shots of photos to create moving pictures.

In the **Photo** mode, touch and hold .

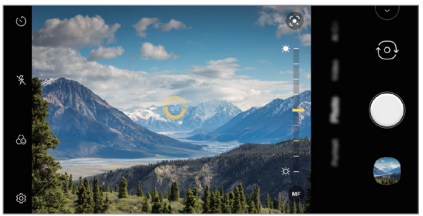
- Continuous shots are taken at a fast speed while is held down.

- When the storage is set as Internal storage, you can take up to 100 photos with the rear camera and 20 photos with the front camera. When the storage is set as SD card, you can take up to 30 photos with the rear camera and 20 photos with the front camera.
- This feature is available only in specific modes.

Other useful features in the Camera app

Auto-Exposure/Auto-Focus lock

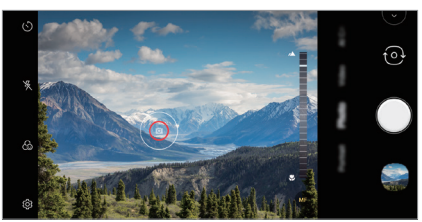
You can fix the current exposure level and focus position by touching and holding the screen in the Photo mode. To turn off the feature, tap a blank area on the screen.



Focus peaking

You can adjust the focus on the subject with the Focus peaking feature. Access Focus peaking by tapping the Manual Focus (MF) button. Move the toggle wheel up, down, left or right (depending on the orientation of the phone) to focus on the desired area, then take the photo.

- This feature is only available in the Photo mode.
- Disable this feature by tapping the Focus button once more.
- This feature is not available using the wide-angle camera.



Switching between cameras

You can switch between the front and rear cameras to suit your environment.

On the camera screen, tap to switch between the front and rear cameras.

- Use the front camera to take selfies. See *Selfie shot* for details.

Zoom in or out

You can use zoom in or out on the camera screen while taking a photo or recording a video.

- On the camera screen, pinch or spread two fingers to zoom in or out.

- The zoom feature is not available when using the front camera.

Selfie shot

You can use the front camera to view your face on the screen and take selfies.

Gesture shot

You can take selfies by using gestures.

Show your palm to the front camera and then clench your fist.

You can also clench your fist and then open it towards the front camera.

- In three seconds, a photo is taken.



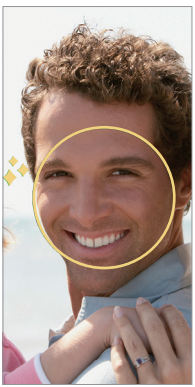


- To use this feature, switch to the front camera mode, then tap > **Selfie shot** > **Gesture shot**.
- Make sure that your palm and fist are within the reference line so that the camera can detect them.
- This feature may not be available while using some of the camera features.

Auto shot

You can use the face detection feature to take selfies easily and conveniently. You can set the device so that, when you look at the screen, the front camera detects your face and takes a selfie automatically.

- The white colored guide frame appears when the front camera detects your face. If the subject within the guide frame stops moving, the guide frame color turns yellow, then the camera takes a photo.



- Tap > **Selfie shot** > **Auto shot** to enable the Auto shot feature.

Interval shot

You can take selfies at an interval.

While using the front camera with Gesture shot enabled, you can show your palm to the camera, then clench your fist twice quickly.

- Four photos are taken at regular intervals after a timer delay of three seconds.

Save as flipped

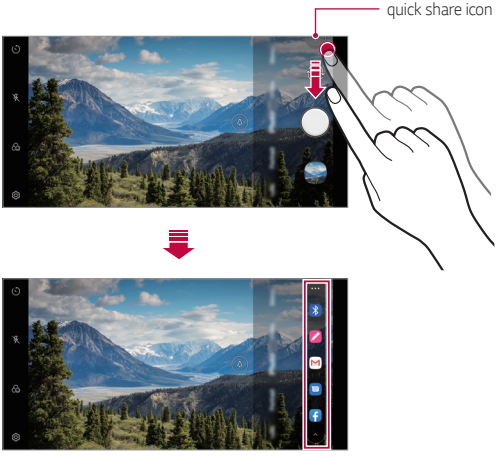
Before taking a photo with the front camera, tap > **Save as flipped**. The image is flipped horizontally.

- When using the front camera, you can change the selfie shot settings in the camera options. See *Customizing the camera options* for details.

quick share

You can share a photo or video using a desired app immediately after taking it.

1. On the home screen, tap , then take a photo or record a video.
2. Tap the app icon that appears on the screen to share it using that app. You can also swipe the icon towards the opposite direction to see what other apps you can use to share your photos and videos.



- The app displayed by the quick share icon may vary, depending on the type and frequency of access to the apps installed on the device.
- This feature is available only in specific modes.

Gallery

Gallery overview

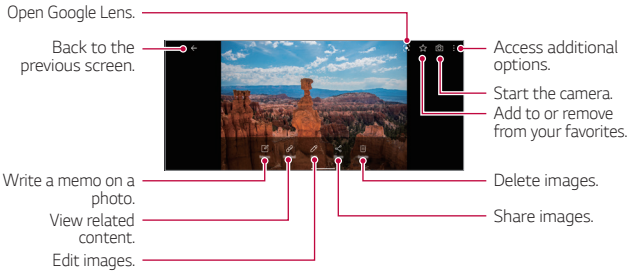
You can view and manage photos and videos saved on your device.

1 On the home screen, tap .
   - Saved photos and videos are displayed by folder.

2 Tap a folder and select a file.
   - View the selected file in full-screen mode.
   - While viewing a photo, swipe left or right to view the previous or next photo.
   - While viewing a video, swipe left or right to rewind or fast-forward the video.

- Some file formats may not be supported, depending on the installed software.
- Some files may not be opened due to encoding.
- Files that exceed the size limit may cause an error.

Viewing photos



- To display the menu items, gently tap the screen. To hide the menu items, tap the screen again.

Writing a memo on the photo

1 While viewing a photo, tap .

2 Write a memo on the photo and tap **Save**.
   - The memo is applied to the photo.

- Some photos may not support the photo memo feature.

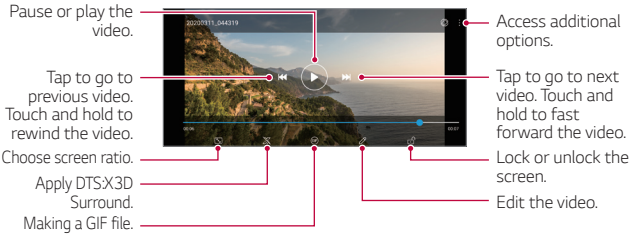
Editing photos

1 While viewing a photo, tap .

2 Use a variety of effects and tools to edit the photo.

3 Tap **Save copy** to save changes.

Playing a video

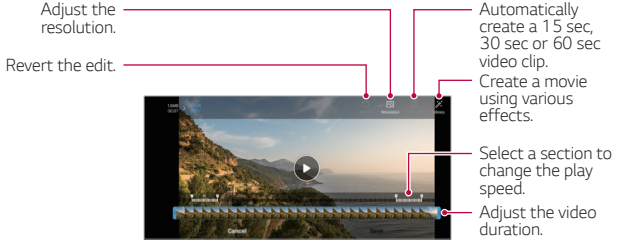


- To adjust the sound volume, drag the right side of the video screen up or down.
- To adjust the screen brightness, drag the left side of the video screen up or down.

Editing videos

1 While viewing a video, tap ✎.

2 Use a variety of effects and edit tools to edit the video.



3 Tap **Save** to save changes.

Creating a video

You can create a new video by putting images and videos together.

See *Creating a movie* for details.

Making a GIF

You can easily make a GIF file using recorded video.

See *Making a GIF* for details.

Deleting files

You can delete files by using one of the following options:

- Touch and hold a file from the file list, then tap **Delete**.
- Tap in an album, select files to delete, then tap **DELETE**.
- Deleted files are automatically moved to **Trash** and they can be restored to Gallery within 7 days.
- In Gallery, tap > **Trash**, then tap to permanently delete the files. In this case, the files cannot be restored.

Sharing files

You can share files by using one of the following options:

- While viewing a photo, tap to share the file by using a desired method.
- While viewing a video, tap > **Share** to share the file by using a desired method.
- Tap in an album to select files and share them using a desired method.

Chrome

Sign in to Chrome and import opened tabs, bookmarks and address bar data from a computer to your device.

On the home screen, tap .

Google apps

You can use Google apps by setting a Google account. The Google account registration window appears automatically when you use a Google app for the first time. If you do not have a Google account, create one from your device. For details on how to use an app, see the Help section in the app.



- Some apps may not work depending on the area or service provider.

Google

Use Google to search for web pages, images, news and more by entering or speaking keywords.

Gmail

Register your Google email account to your device to check or send email.

Maps

Find your location or the location of a place on the map. View geographical information.

YouTube

Search and play videos. Upload videos on YouTube to share them with people around the world.

Drive

Upload, save, open, share, and organize files from your device. Files accessible from apps can be accessed from anywhere, including online and offline environments.

YT Music

A new music streaming service from YouTube.

Play Movies & TV

Use your Google Account to rent or purchase movies. Purchased contents can be played anywhere.

Photos

View or share photos or albums saved on your device. Edit or enhance your photos.

Docs

Docs is a collaborative, word-processing tool that enhances productivity. Use Docs to create, edit and work together in real-time.

Sheets

Sheets is a collaborative spreadsheet processing tool that enhances productivity. Use Sheets to import, organize and analyze information together in real-time.

Slides

Google Slides is a collaborative presentation creation tool that enhances productivity. Use Slides to organize information, present results, and make decisions together in real-time.

Keep notes

Create, edit, and share your text and photo notes with your Google Account.

News

Access the comprehensive up-to-date news coverage, aggregated from sources all over the world by Google News.

Assistant

Ask Google Assistant to find answers and get things done while on-the-go.

Calendar

You can use the calendar to manage events and tasks.

Files

Helps you free up space on your device, browser files and share files offline.

Duo

Make a video call with your family, friends and anyone else who uses the app.

QuickMemo+

QuickMemo+ overview

You can make creative notes by using a variety of options on this advanced notepad feature, such as image management and screenshots, which are not supported by the conventional notepad.

Creating a note

1 On the home screen, tap **QuickMemo+**.

2 Tap + to create a note.

- : Tap to save the note you created.
- : Tap to undo the most recent action.
- : Tap to redo the most recently deleted action.
- T : Tap to insert text into your memo.
- : Tap to draw on your memo. Tap again to select the pen type, size, color, and transparency.
- : Tap to erase pen marks you've made on the memo.
- : Tap to select a section of your handwritten memo to modify (e.g., erase, rotate, expand, shrink, etc.).
- ⋮ : Tap to access additional options.

3 Tap to save the note.

Writing notes on a screenshot

1 While viewing the screen you want to capture, drag the status bar downwards and then tap .
   - The screen is captured and displayed as a thumbnail on the right bottom of the screen.
2 To write notes on the screen, tap .
3 Write notes using the tools.
4 Tap ✓ and save the notes.
   - Saved notes can be viewed in **Gallery**.

Managing folders

You can organize and view memos according to the memo type.

1 On the home screen, tap **QuickMemo+**.
2 Tap ☰ on the top part of the screen and then select the desired function.
   - **All memos**: You can collectively view all memos saved in QuickMemo+.
   - **My memos**: You can view the memos created in **QuickMemo+**.
   - **New category**: You can add folders.
   - ✎: You can change the order of folders or add/delete folders. By pressing the folder, you can change the folder name.

- Some folders do not appear when the folder app initially started. Folders are additionally displayed only when relevant memos exist.
- Deleted memos are moved to the trash bin and can be recovered within 7 days from the day they were deleted. In the Qmemo+ app, you can change the display type by placing two fingers on the screen and either widening or narrowing the fingers.
- Some folders do not appear when the folder app is initially started.

Contacts

Contacts overview

You can save and manage contacts.

On the home screen, tap **Essentials** > **Contacts**.

Adding contacts

Adding new contacts

1 On the contact list screen, tap +.
   - A pop-up appears for selecting the saving location for contact. Select the desired location.

2 Enter contact details and tap **Save**.

Importing contacts

You can import contacts from another storage device.

1 On the contact list screen, tap ⋮ > **Manage contacts** > **Import**.

2 Select the source and target locations of the contact you want to import, and then tap **OK**.

3 Select the contacts and tap **Import**.

Adding contacts to the speed dial list

1 On the contact list screen, tap ⋮ > **Speed dial**.

2 Tap **Add contact** from a speed dial number.

3 Select a contact.

- While adding a new contact, tap 1 2 3 to add a speed dial number.

Searching for contacts

You can search for contacts by using one of the following options:

- Tap the search bar at the top of the Contacts screen and enter the contact or phone number you want to search for.
- Scroll the contact list up or down.
- From the index of the contact list screen, tap the initial letter of a contact.



- Once you start typing numbers in the search bar, it brings up the integrated search results from the call history and contact list saved.

Contact list

Editing contacts

1 On the contact list screen, select a contact.

2 On the contact detail screen, tap and edit details.

3 Tap **Save** to save changes.

Deleting contacts

You can delete contacts by using one of the following options:

- On the contact list screen, touch and hold a contact you want to delete, tap **Delete contact**, then tap **Delete** to confirm.
- Tap ⋮ > **Delete** on the contact list screen, select contacts you want to delete, then tap **Delete**.



- Deleted contacts may not be restored.

Adding favorites

You can register frequently used contacts as favorites.

1 On the contact list screen, select a contact.

2 On the contact detail screen, tap ☆.

Creating groups

1 On the contacts group list, tap +.

2 Enter a new group name.

3 Tap **Add members**, select contacts, then tap **ADD**.

4 Tap **Save** to save the new group.

Clock

Alarm

You can set an alarm to trigger it at a specified time.

1 On the home screen, tap **Essentials** > **Clock** > **Alarm**.

2 Tap + to add a new alarm.

3 Configure the alarm settings and tap **Save**.

- If you select a previously set alarm, you can edit the alarm.
- To delete an alarm, tap 🗑 at the top of the screen. You can also touch and hold the alarm.

World clock

You can view the current time in cities around the world.

1 On the home screen, tap **Essentials** > **Clock** > **World clock**.

2 Tap + and add a city.

Timer

You can set the timer to trigger an alarm after a specified period of time.

1 On the home screen, tap **Essentials** > **Clock** > **Timer**.

2 Set the time and tap **Start**.

- To suspend the timer, tap **Pause**. To resume the timer, tap **Resume**.

3 Tap **Stop** to stop the timer alarm.

Stopwatch

You can use the stopwatch to record a lap time.

1 On the home screen, tap **Essentials** > **Clock** > **Stopwatch**.

2 Tap **Start** to initiate the stopwatch.

- To record a lap time, tap **Lap**.

3 Tap **Pause** to suspend the stopwatch.

- To resume the stopwatch, tap **Resume**.
- To clear all the records and restart the stopwatch, tap **Reset**.

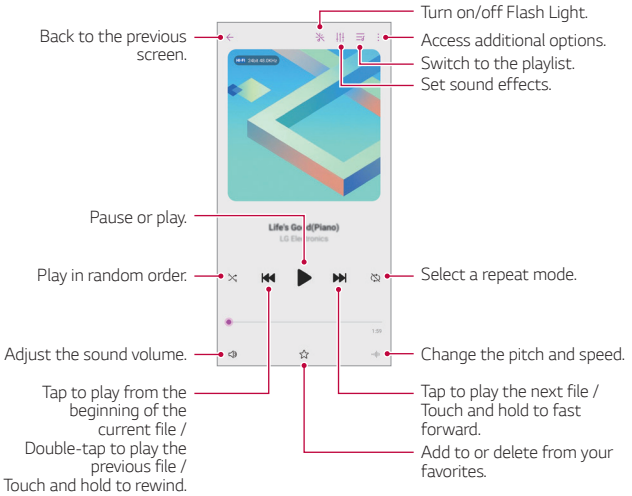
Music

You can play and manage songs or music albums.

1 On the home screen, tap **Essentials** > **Music**.

2 Select a category.

3 Select a music file.



- Some file formats may not be supported, depending on the installed software.
- Files that exceed the size limit may cause an error.
- Music files may be protected by international copyright owners or copyright laws. You may have to obtain legal permission before copying a music file. To download or copy a music file, first check the copyright law for the relevant country.

Calculator

Using your calculator

1 On the home screen, tap **Essentials** > **Calculator**.

2 Tap the number buttons and the function buttons (+ , − , × or ÷) as necessary. The result automatically appears as soon as sufficient calculation information is entered.

- To delete the last input, tap ⌫. To clear the display, touch and hold ⌫.

LG ThinQ

You can easily connect your device with IoT appliances to monitor and conveniently use the appliances.

On the home screen, tap **Essentials** > **LG ThinQ**.

- Washing machine, dryer, styler, dishwasher, oven, and robot cleaner can only be registered when the product is in the standby mode.
- Look for the ThinQ mark on the product to see if it can be connected to the LG ThinQ app.

HD Audio Recorder

You can record and save your voice or others' voices from important events. Recorded voice files can be played back or shared.

1 On the home screen, tap **Essentials** > **HD Audio Recorder**.
   - To save the recording's location details, tap ⋮ > **Add tags** > **Add** under **Location**.
   - To add an event, tap ⋮ > **Add tags** > **Add** under **Event**. Then, add an event to the desired date.

2 Tap ● to start recording.
   - To pause recording, tap ⏸.

3 Tap ■ to end the recording.
   - The file is saved automatically and the **Recordings** screen appears.

4 Tap ▶ to play the recorded voice.

- Tap to view the recorded files. You can play a recorded voice file from the list.

FM Radio

You can listen to FM Radio.

On the home screen, tap **Essentials** > **FM Radio**.

- To use this app, first connect earphones to the device. The earphones function as the radio antenna.
- This function may not be supported depending on the area.

Smart cleaning

You can delete temporary files or apps that are no longer used.

1 On the home screen, tap **Management** > **Smart cleaning**.

2 On the Smart cleaning screen, you can access **Optimize phone**, **Battery usage**, **Battery saver**, and **Test hardware**.

LG Mobile Switch

You can transfer data from your old LG device to a new LG device.

1 On the home screen, tap **Management** > **LG Mobile Switch**. You can also tap **Settings** on the home screen and tap **System** > **Backup** > **LG Mobile Switch**.

2 Follow the on-screen instructions to select a desired method for transfer.

- Data in a Google account will not be backed up. When you synchronize your Google account, Google apps, Google contacts, Google calendar, Google memo app data and apps downloaded from Play Store are stored on the Drive app automatically.
- Fully charge the battery before transferring data to avoid unintentional powering off during the process.

Game Launcher

You can use Game Launcher to view the entire list of installed games, or set the device to mute or prevent any notifications while playing games.

1 On the home screen, tap **Essentials** > **Game Launcher**.

2 Select the desired option.

04

Settings

Settings

You can customize the device settings in accordance with your preferences.

On the home screen, tap **Settings**.

- If you enter a keyword on the search window at the top of the screen, you can conveniently access the option that needs to be set.

Network & internet

Airplane mode

You can turn off the call and mobile data functions. When this mode is on, functions that do not involve data, such as games and music playback, remain available.

1 On the settings screen, tap **Network & internet** > **Airplane mode**.

2 Tap **TURN ON** in the confirmation screen.

Wi-Fi

You can connect to nearby devices over a Wi-Fi network.

Connecting to a Wi-Fi network

1 On the settings screen, tap **Network & internet** > **Wi-Fi**.

2 Tap to activate it.
- Available Wi-Fi networks appear automatically.

3 Select a network.
- You may need to enter the network's Wi-Fi password.
- The device skips this process for previously accessed Wi-Fi networks. If you do not want to automatically connect to a certain Wi-Fi network, tap the network and then tap **Forget**.

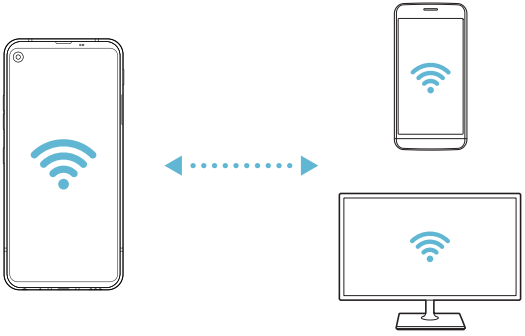
Wi-Fi Direct

You can connect your device to other devices that support Wi-Fi Direct to share data directly with them. You do not need an access point. You can connect with more than two devices by using Wi-Fi Direct.

1 On the settings screen, tap **Network & internet** > **Wi-Fi** > ⋮ > **Advanced Wi-Fi** > **Wi-Fi Direct**.
   - Nearby devices that support Wi-Fi Direct automatically appear.

2 Select a device.
   - Connection occurs when the device accepts the connection request.

- The battery may drain faster when using Wi-Fi Direct.



Mobile data

You can turn mobile data on and off. You can also manage mobile data usage.

Turning on mobile data

1 On the settings screen, tap **Network & internet** > **Mobile data**.

2 Tap ◯ to activate it.

Customizing mobile data settings

1 On the settings screen, tap **Network & internet** > **Mobile data**.

2 Customize the following settings:

- **On**: Enable to use data connections on mobile networks.
- **Limit mobile data usage**: Set a limit for mobile data usage to block mobile data if the limit is reached.
- ⋮ : Customize mobile data settings.

Advanced Calling

You can make High-Definition Voice and Video Calls, and surf the web while talking on the phone when you add Advanced Calling to your line.

On the settings screen, tap **Network & internet** > **Advanced Calling**.

Call

You can customize call settings, such as voice call and international call options.

- Some features may not be supported depending on the area or service provider.

1 On the settings screen, tap **Network & internet** > **Call**.

2 Customize the settings.

Tethering

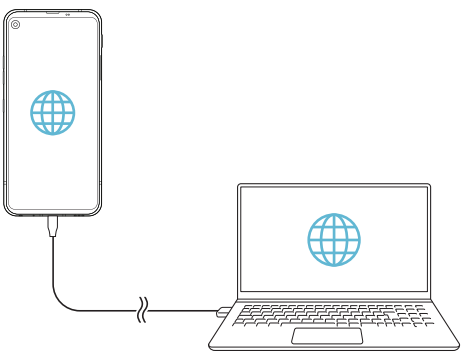
USB tethering

You can connect the device to another device via USB and share mobile data.

1 Connect your device and other devices via USB cable.

2 On the settings screen, tap **Network & internet** > **Tethering** > **USB tethering** and then tap ◯ to activate it.

- This option uses mobile data and may incur data usage fees, depending on your pricing plan. Consult with your service provider for more information.
- When connecting to a computer, download the USB driver from *www.lg.com* and install it on the computer.
- You cannot send or receive files between your device and a computer while USB tethering is turned on. Turn off USB tethering to send or receive files.
- Operating systems that support tethering are Window XP or higher, or Linux.



Wi-Fi hotspot

You can set the device as a wireless router so that other devices can connect to the Internet by using your device's mobile data.

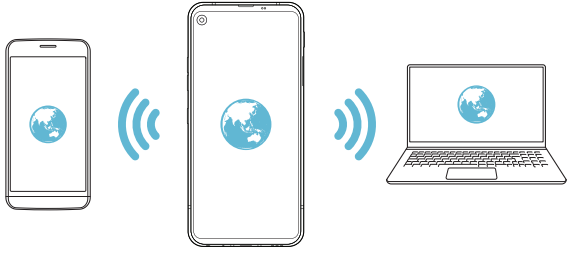
1 On the settings screen, tap **Network & internet** > **Tethering** > **Wi-Fi hotspot** and then tap ◯ to activate it.

2 Tap **Set up Wi-Fi hotspot**, and enter the Wi-Fi name (SSID) and password.

3 Turn on Wi-Fi on the other device, and select the name of the device network on the Wi-Fi list.

4 Enter the network password.

- This option uses mobile data and may incur data usage fees, depending on your pricing plan. Consult with your service provider for more information.
- More information is available at this web site: *http://www.android.com/tether#wifi*



Timeout

When the Mobile hotspot has not been used for a specific period of time, it is automatically disconnected. You can set the time for automatic disconnection.

Bluetooth tethering

A Bluetooth-connected device can connect to the Internet by using your device's mobile data.

1 On the settings screen, tap **Network & internet** > **Tethering** > **Bluetooth tethering** and then tap ◯ to activate it.

2 Turn on Bluetooth on both devices and pair them.

- This option uses mobile data and may incur data usage fees, depending on your pricing plan. Consult with your service provider for more information.
- More information is available at this web site: *http://www.android.com/tether#Bluetooth_tethering*

Help

You can view help on using tethering and hotspots.

On the settings screen, tap **Network & internet** > **Tethering** > **Help**.

Mobile networks

You can customize mobile data settings.

1 On the settings screen, tap **Network & internet** > **Mobile networks**.

2 Customize the following settings:

- **Data roaming**: Turn data roaming on or off.
- **System select**: Select your preferred network mode.
- **Access Point Names**: View or change the access point for using mobile data services. To change the access point, select a choice from the access point list.

VPN

You can connect to a safe virtual network, such as an intranet. You can also manage connected virtual private networks.

Adding VPN

1 On the settings screen, tap **Network & internet** > **VPN**.

2 Tap +.

- This feature is available only when the screen lock is activated. If the screen lock is deactivated, a notification screen appears. Tap **Change** from the notification screen to activate the screen lock. See *Setting a screen lock* for details.

3 Enter VPN details and tap **Save**.

Configuring VPN settings

1 Tap a VPN from the **VPNS** list.

2 Enter the VPN user account details and tap **Connect**.

- To save the account details, select the **Save account information** checkbox.

Wireless Emergency Alerts

You can view emergency alerts and customize your emergency alert settings. On the settings screen, tap **Network & internet** > **Wireless Emergency Alerts**.

Private DNS

You can configure the Private DNS (Domain Name System) options.

1 On the settings screen, tap **Network & internet** > **Private DNS**.

2 Select the desired option and tap **Save**.

Connected devices

Bluetooth

You can connect your device to nearby devices that support Bluetooth to exchange data with them. Connect your device to a Bluetooth headset and a keyboard. This makes it easier to control the device.

Pairing with another device

1 On the settings screen, tap **Connected devices** > **Bluetooth**.

2 Tap to activate it.

- Available devices appear automatically.
- To refresh the device list, tap.

- Only devices set as visible are displayed on the list.

3 Select a device from the list.

4 Follow the on-screen instructions to perform authentication.

- This step is skipped for previously accessed devices.

Sending data via Bluetooth

1 Select a file.

- You can send multimedia files or contacts.

2 Tap > **Bluetooth**.

3 Select a target device for the file.

- The file is sent as soon as the target device accepts it.

- File sharing processes may differ, depending on the file.

NFC

You can use the device as a transportation card or credit card. You can also share data with the other device.

1 On the settings screen, tap **Connected devices** > **NFC**.

2 Tap to activate it.

- Touch your device with other device that supports NFC to allow sharing data.

- The NFC antenna location may vary depending on the device type. See *Parts overview* for details about the NFC antenna area.

Sharing panel

You can share contents from Gallery and File Manager with nearby devices. Also, you can share the content with specific people in apps that work with Google Direct Share.

1 On the settings screen, tap **Connected devices** > **Sharing panel**.

2 Tap to deactivate each option.

File sharing

You can send and receive files between your device and other LG devices or tablets.

1 On the settings screen, tap **Connected devices** > **File sharing**.

2 Customize the following settings:

- **LG Q70**: Change the device name.
- **Save to**: Set the destination folder to save files sent from other devices in.
- **File sharing**: Permit receipt of files sent from other devices.
- **SmartShare Beam**: Share files with other devices via SmartShare Beam.
- **Help**: You can view help on sharing files.

Media server

You can share media content on your device with nearby devices that support DLNA.

1 On the settings screen, tap **Connected devices** > **Media server**.

2 Customize the following settings:

- **Content sharing**: Enable this option to allow nearby devices to access your content.
- **LG Q70**: Allows you to change your phone's name to easily identify it.
- **Content to share**: Allows you to set the type of content you want to share between devices.
- **Allowed devices**: Displays the nearby devices that can access your phone.
- **Not-allowed devices:** Displays the nearby devices that will be denied to access your phone.

Printing

You can connect your device to a Bluetooth printer and print photos or documents saved on the device.

1 On the settings screen, tap **Connected devices** > **Printing**.



- If the desired printer is not in the list, install the printer driver from the app store.

2 Select a printer from the printer list screen.

3 Tap to activate it.

- To add a printer, tap ⋮ > **Add printer**.
- To search for a printer name, tap ⋮ > **Search**.
- Tap ⋮ > **Settings** from the printer list screen.

4 Select a file and tap ⋮ > **Print**.

- The document prints.

- If you do not have a Google account, tap **ADD ACCOUNT** to create an account.

Sound

You can customize sound, vibration and notification settings.

On the settings screen, tap **Sound** and customize the following settings:

- **Sound profile**: Change the sound mode to **Sound**, **Vibrate only**, or **Silent**.
- **Volume**: Adjust the sound volume for various items.
- **Ringtone**: Select a ringtone for incoming calls. Add or delete ringtones.
- **Notification sound**: Select a notification ringtone. Set music saved on the device as a notification ringtone.
- **Ring with vibration**: Set the device to vibrate and play a ringtone simultaneously.
- **Ringtone ID**: Create a ringtone for an incoming call from a particular contact.
- **Flash alert for incoming call**: Set the device to flash alert for incoming calls.
- **Do not disturb**: Set the time, range and app type to receive notification messages. Receive notification messages only on particular days of the week.
- **Sound quality and effects**: Set the sound quality and effects.
- **Vibration type**: You can select the type of vibration when receiving calls.
- **Vibrate on tap**: Set the device to vibrate when you tap certain items on the screen.
- **Dialing keypad sound**: Enable the keypad sound effect.
- **Touch sound**: Enable the sound effect for tapping an item.
- **Screen lock sound**: Enable the sound effect to play when the screen is locked or unlocked.
- **Emergency tone**: Select the tone option for emergency alerts.

Display

The Display category allows you to manage various display settings.

On the settings screen, tap **Display** and customize the following settings:

- **Home screen**: Customize settings for the Home screen. See *Home screen settings* for details.
- **Wallpaper & theme**: Select a screen wallpaper, theme, and AOD option for your device.
- **Font**: Change the font size, boldness, or face.
- **New Second Screen**: Select how the status bar and app corners will look.
- **Navigation bar**: Configure the Navigation bar. See *Using Navigation bar* for details.
- **Comfort view**: Set the device to reduce amount of blue light on screen to reduce eye strain.
- **Night mode**: You can apply a dimmed screen theme to avoid glare on the screen at night time.
- **Screen color**: Adjust the color, color temperature, or RGB values for the desired screen.
- **App scaling**: Adjust the screen size of apps.

Aspect ratio

- This device uses 20.5:9 aspect ratio.
  - Some downloaded apps may not support 20.5:9 aspect ratio.

    In this case, select the most optimal screen ratio for the app or consult the app provider for more information.
  - You can select the aspect ratio for individual apps. On the home screen, tap **Settings** > **Display** > **App scaling**. Select an app, then select the desired aspect ratio from **None (Original)**, **Compatibility (16:9)**, **Standard (16.7:9)**, and **Full screen**.

- **Display size**: Set the items on the screen to a size that is easy for you to see. Some items may change position.

- When you change the screen resolution, currently running apps are closed.

- **Brightness**: Use the slide bar to change the device's screen brightness. To automatically adjust screen brightness according to ambient light intensity, tap the **Auto** switch.
- **Screen timeout**: Automatically turn off the screen when the device is left idle for a specified period of time.
- **Auto-rotate screen**: Automatically rotate the screen according to the device's orientation.
- **Screen saver**: Display a screen saver when the device is connected to the holder or charger. Select a screen saver type to display.
- **One-handed screen**: Make the screen size smaller to conveniently use the device with one hand. Drag the Home touch button at the bottom of the screen to the left or right.

Lock screen & security

You can customize lock screen and security settings. On the settings screen, tap **Lock screen & security.**

- **Google Play Protect**: Scan the device periodically for potentially harmful codes or apps.
- **Find My Device**: Remotely track the device location. You can also protect your data securely if you lost your device.
- **Security update**: Check for software update and configure automatic installation settings.
- **Google Play system update**: Check for Google Play system update.
- **Select screen lock**: Select the desired screen lock method. See *Setting a screen lock* for details.
- **Customize Lock screen**: Change the information displayed on the locked screen. See *Customize Lock screen* for details.

- **Secure lock settings**: Change the secure lock settings. See *Secure lock settings* for details.
- **Fingerprints**: Use your fingerprint to unlock the screen or content. See *Fingerprint recognition overview* for details.
- **Content lock**: Allows you to set a lock type (password or pattern) for your QuickMemo+ and Gallery files.
- **Encryption & credentials**: Configure the settings for SD card encryption and credentials.
  - **Encrypt SD card**: Encrypt the memory card to prevent use on another device. See *Memory card encryption* for details.
  - **Secure start-up**: Protect your device with a lock when it powers on.
  - **Credential protection**: View the type of the storage where the security certificate will be saved.
  - **Trusted credentials**: View your system's root CA certificates and user-installed CA certificates.
  - **User credentials**: View and change secure certificate information stored on your device.
  - **Install from storage**: Install a secure certificate from a storage.
  - **Clear credentials**: Delete user-installed secure certificates and related credentials.
- **Set up SIM card lock**: Lock or unlock the USIM card, or change the password (PIN).
- **Phone administrators**: Allows privileges to restrict the control or use of the device to particular apps.
- **Trust agents**: View and use trust agents installed on the device.
- **Screen pin**: Fix the app screen so that only the currently active app can be used.
- **Usage access**: View details on usage of apps on the device.

Privacy

You can find and adjust all your privacy settings.

1 On the settings screen, tap **Privacy**.

2 Customize the settings.

- **Permission manager**: Allows you to check and change the permissions granted to the apps.
- **Lock screen**: Allows you to set notifications to show on the lock screen.
- **Make passwords visible**: Enable this option to briefly show each character of the password as you type it so you can see what you've entered.
- **Autofill service from Google**: Enable this option to enter your information saved in your account such as password, address, or credit card number with a single tap. You can also disable this option, use the Google Autocomplete feature, or add a new service account.
- **Google location history**: Allows you to enable or disable Location History. When enabled, Google periodically stores and uses your phone's most recent location data in connection with your Google Account.
  From the Location History screen, tap ⋮ to view and/or manage your location data.
- **Activity controls**: Select activities and information which you want Google to save.
- **Ads**: Allows you to check the advertising ID and set the personalized ads.
- **Usage & diagnostics**: Enable this option to help improve the Android experience by automatically sending diagnostic, device, and app usage data to Google.

Location

You can check how your location information is shared and configure the permission to access your location information.

On the settings screen, tap **Location** and set the desired function.

Extensions

Smart cleaning

You can clean up temporary files or apps that are no longer used to free up storage space.

1 On the settings screen, tap **Extensions** > **Smart cleaning**.

2 Select a category, then select an item to delete.

3 Tap **Delete** > **Delete** to delete the selected item.

Gaming

You can configure settings for game tools, graphics and battery saving feature.

On the settings screen, tap **Extensions** > **Gaming**.

- **Game Launcher**: Tap ◯ to use the game launcher.
- **Game tools**: Tap ◯ to activate this feature. You can launch this feature by tapping the game tool icon at the bottom of the screen while playing games.
- **Game graphics**: Adjust the game graphics.



- When you change the resolutions on some games, the screen display feature may not work properly.

- **Break time**: Reduce the screen brightness and performance whenever you leave the game running for more than 5 minutes.

Screen recording

You can configure the settings for screen recording.

1 On the settings screen, tap **Extensions** > **Screen recording**.

2 Customize the following settings:

- **Include yourself in video by**: Select one from the following options.
  - **Image**: Includes your profile image in video when recording. After selecting this, tap Select a photo to take a photo or select a profile image from Gallery. Then, adjust the size of the image using the slide bar.
  - **Front camera**: Includes yourself recorded using the front camera while recording the screen.
  - **Never**: Nothing is included.
- **Audio source**: Choose the audio source between Mic and Contents.
- **Video resolution**: Select the resolution for screen recording.

To record the screen:

1 Drag the status bar downward to open the Quick access icons list.

2 (If necessary, swipe left over the Quick access icons area.) Tap .

3 Read the disclaimer and tap **Start**. It will start recording in 3 seconds.

4 To stop recording, tap located at the top right of the screen. The recorded video will be saved in Gallery.

- If you violate another person's rights such as portrait right or intellectual property right or defame another person's reputation by using the functions provided for the screen recording service, you may be held liable to civil, criminal or administrative charges in accordance with the relevant laws. LG Electronics is not legally responsible in any way for the acts of users.

Dual App

You can use some apps with two accounts.

1 On the settings screen, tap **Extensions** > **Dual App**.

2 After reading the disclaimer, tap **CONFIRM**.

In the list of available apps, tap **Install** to install a copy of a desired app and follow the on-screen instructions.

Shortcuts

You can use buttons such as the Lock/Power, Volume, and Google Assistant to run certain apps or functions right away.

1 On the settings screen, tap **Extensions** > **Shortcuts**.

2 Customize the following settings.

- **View notification panel**: Swipe down or up on the fingerprint sensor to open or close the notification panel.
- **Open Camera**: Press Power key twice to open Camera.
- **Open Capture+**: Press Volume Up key twice to open Capture+ when the screen is locked or off.
- **Open Camera**: Press Volume Down key twice to open Camera when the screen is locked or off.
- **Open Google Assistant**: Press the Google Assistant key on the side of the phone.
- **Talk to Google Assistant**: Press and hold the Google Assistant key to quickly talk to your Assistant.



- Google Assistant does not support certain languages.

KnockON

Double-tap the screen to turn the screen on or off.

On the settings screen, tap **Extensions** > **KnockON**.

See *KnockON* for details.

Digital Wellbeing & parental controls

You can get an overview of your device usage, set a timer for each app, and manage the screen time and notifications.

You can also set up parental controls.

On the settings screen, tap **Digital Wellbeing & parental controls** and set the desired function.

Apps & notifications

You can check a list of installed apps, app permissions, and more.

1 On the settings screen, tap **Apps & notifications**.

2 Customize the settings.

Battery

You can view the current battery information or turn on power-saving mode.

1 On the settings screen, tap **Battery**.

2 Customize the following settings:

- **Battery usage**: View the battery usage details.
- **Battery percentage on status bar**: Displays the remaining battery level as a percentage on the status bar.
- **Adaptive battery**: Allows you to save the battery by stopping apps running in the background.
- **Background restrictions**: Enable this option to restrict background apps to save the battery while using the device. Restricted apps for power saving may not work properly or may not send you notifications.
- **Battery saver**: Reduce battery consumption by cutting down some device settings, such as the display brightness, speed and vibration intensity.
- **Power saving exclusions**: Select apps to use without any functional limitation while in power saving or battery optimization mode.

Storage

You can view and manage internal storage on the device or storage space of the memory card.

1 On the settings screen, tap **Storage**.

2 Customize the following settings:

- **Internal storage**: View the total storage space and free space in the device's internal storage. View a list of apps in use and the storage capacity for each app.
- **SD card**: View the total storage space and free space in the memory card. This option appears only when a memory card is inserted. To unmount the memory card, tap ⏏.

Accounts

You can add users to share your device and register a cloud account.

1 On the settings screen, tap **Accounts**.

2 Customize the settings.

Google

You can use Google settings to manage your Google apps and account settings.

On the settings screen, tap **Google**.

System

Update center

You can check and install the latest version of the app or software provided by LG.

1 On the settings screen, tap **System** > **Update center**.

2 Customize the following settings:

- **App Updates**: Check if an app update is available. If available, you can install the update.
- **Software Update**: Check if a software update is available. If available, you can install the update.

Language & keyboard

You can customize language and keyboard settings for your device.

1 On the settings screen, tap **System** > **Language & keyboard**.

2 Customize the following settings:

- **Language**: Select a language to apply for your device.
- **Manage keyboards**: You can change the device's basic keyboard setting, set the use environments for LG Keyboard or other installed keyboards, and set the speech recognition function for Google Voice input. Also, you can set whether to display the keyboard button in the touch button area on the home screen so that you can quickly switch to another keyboard.
- **Physical keyboard**: Select to use the physical keyboard, or check keyboard shortcut keys.
- **Spell checker**: Allows you to set various options for Google Spell Checker.
- **Autofill service**: Enable this option to enter your information saved in your account such as password, address, or credit card number with a single tap. You can also disable this option, use Google Autocomplete, or add a new service account.

- **Text-to-speech output**: Configure the settings for text-to-speech output.
- **Pointer speed**: Adjust the pointer speed of a mouse or trackpad.
- **Reverse mouse buttons**: Reverse the right mouse button to perform primary direct-manipulation actions.

Date & time

You can customize date and time settings for your device.

1 On the settings screen, tap **System** > **Date & time**.

2 Customize the settings.

Memory

You can view the average amount of memory usage over a certain period of time and the memory occupied by an app.

1 On the settings screen, tap **System** > **Memory**.

2 Tap ▾ to set a time slot to retrieve data.

Backup

You can back up data saved on your device to another device or account.

1 On the settings screen, tap **System** > **Backup**.

2 Customize the following settings:

- **LG Mobile Switch**: Allows you to transfer data from an old LG device to your new LG device. See *LG Mobile Switch* for details.
- **Backup & restore**: Back up your device data or restore data to your device from a backup.

⚠ • Resetting your device may delete backup files saved in storage. Make sure to copy and store the important backup files to your PC.

- **Google backup**: Change Google drive backup settings. You can also check the backup account currently used, or add a new backup account.

Restart & reset

You can reset the device including network and app settings.

1 On the settings screen, tap **System** > **Restart & reset**.

2 Customize the following settings:

- **Auto-restart**: Automatically restart and optimize the phone at a set time. Tap ◯ to activate this feature. The device automatically restarts at a set time and optimize itself. Select a date and time for restart.

- You can set the device to restart itself once a week. The device automatically restarts in an hour from the preset time.
- Once the device restarts, notifications and badges are erased. Save important data before the preset time.
- The Auto-restart feature is not activated in the following situations: When the screen is turned on, when the device is in use, when the battery level is 30% or less, when the USIM card is locked, or when the device lock is activated while turning on the device.
  - Depending on the telecommunication provider, the auto-restart function may or may not be available.

- **Network settings reset**: Reset Wi-Fi, Bluetooth and other network settings.
- **Reset app preferences**: Reset the settings for an app. The data saved in the app will not be deleted.
- **Factory data reset**: Reset all settings for the device and delete data.

- Restarting and resetting your device deletes all data on it. Enter your device name, Google Account and other initial information again.
- After data initialization, the data cannot be restored.

About phone

You can view information about your device, such as the name, status, software details and legal information.

On the settings screen, tap **System** > **About phone** and view information.

Regulatory & safety

You can view regulatory marks and related information on your device.

On the settings screen, tap **System** > **Regulatory & safety**.

Accessibility

You can manage accessibility plug-ins installed on your device.

1 On the settings screen, tap **Accessibility**.

2 Customize the following settings:

- **Vision** > **TalkBack**: Set the device to notify screen status or actions via voice.
- **Vision** > **Voice notifications**: Set the device to read the caller information and messages via voice.
- **Vision** > **Font**: Change the font size, bold text or type.
- **Vision** > **Display size**: Set the items on the screen to a size easy for you to see. Some items may change position.
- **Vision** > **Touch zoom**: Zoom in or out by tapping the screen three times.
- **Vision** > **Window zoom**: Zoom in or out within a window and invert the color.
- **Vision** > **Large mouse pointer**: Magnify the mouse pointer.
- **Vision** > **High contrast screen**: Turn the background color into black for a high contrast screen.
- **Vision** > **Screen color inversion**: Increase the display color contrast for people with low vision.

- **Vision** > **Screen color adjustment**: Adjust the display color.
- **Vision** > **Monochrome**: Switch the screen to monochrome mode.
- **Vision** > **End call with the Power key**: End a call by pressing the Power/Lock key.
- **Hearing** > **Captions**: Turn on the subtitle service when playing videos for the hearing impaired.
- **Hearing** > **Blink LED**: Set to turn on LED light for incoming calls and notifications.
- **Hearing** > **Flash alerts**: Set the device to notify you with a blinking light for incoming calls, messages and alarms.
- **Hearing** > **TTY mode**: A TTY (teletypewriter, also known as a TDD or Text Telephone) is a telecommunications device that allows people who are deaf, hard of hearing, or who have speech or language impairments, to communicate by telephone.
- **Hearing** > **Real Time Text (RTT) keyboard**: Turn on RTT(Real Time Text) feature and select the desired option.
- **Hearing** > **Mute all sounds**: Mute all sounds and lower volume on the receiver.
- **Hearing** > **Audio channel**: Select the audio type.
- **Hearing** > **Sound balance**: Adjust the audio output balance. Use the slide bar to change the balance.
- **Motor & cognition** > **Touch assistant**: Turn on the touch board to make buttons and gestures easier to use.
- **Motor & cognition** > **Touch input**: Set the desired delay time for touching and holding, or adjust the touch input to ignore repeated taps.
- **Motor & cognition** > **Physical keyboard**: Customize the keyboard settings.
- **Motor & cognition** > **Auto mouse click**: Automatically click the mouse pointer in case of no movement.
- **Motor & cognition** > **Touch and hold for calls**: Answer or decline calls by touching and holding the call button instead of dragging it.

- **Motor & cognition** > **Screen timeout**: Turn off the screen automatically when the device is left idle for a specified period of time.
- **Motor & cognition** > **Touch control areas**: Limit the touch area so that only a particular portion of the screen can be controlled by touch input.
- **Accessibility features shortcut**: Quickly access selected Accessibility features by pressing the Power key and the Volume Up key simultaneously.
- **Auto-rotate screen**: Automatically change the screen orientation according to the physical position of the device.
- **Select to Speak**: Allow you to tap items to hear spoken feedback.
- **Switch Access**: Create key combinations to control your device.

05

Appendix

LG Language Settings

Select a language to use on your device.

- On the home screen, tap **Settings** > **System** > **Language & keyboard** > **Language** > **Add language**, and select a language.
  - Touch and hold ☰ and drag it to the top of the language list to set it as a default language.

LG Bridge

LG Bridge overview

LG Bridge is an app that helps you manage the photos, music, videos and documents saved on your LG smartphone from your computer conveniently. You can back up contacts, photos and more to the computer or update the device software.

- The supported features may vary depending on the device.
- LG USB driver is a necessary program to connect your LG smartphone with the computer and is installed when you install LG Bridge.

LG Bridge functions

- Manage the files on the device from a computer via Wi-Fi connection or mobile data connection.
- Back up data from the device to a computer or restore data from a computer to the device via USB cable connection.
- Update the device software from a computer via USB cable connection.

Installing LG Bridge on a computer

1 Go to *www.lg.com/us* from your computer.

2 In the search bar, enter the name of your device.

3 Click **Support** > **Manuals and Downloads**.

4 Click the **Software & Firmware** tab, then click **LG BRIDGE - COPY FILES, AND BACKUP YOUR DEVICE** and download the setup file.

Phone software update

LG Mobile phone software update from the Internet

For more information about using this function, please visit *http://www.lg.com/common/index.jsp*, select your country and language.

This feature allows you to conveniently update the firmware on your phone to a newer version from the Internet without needing to visit a LG Authorized Service Center. This feature will only be available if and when LG makes a newer firmware version available for your device.

Because the mobile phone firmware update requires the user's full attention for the duration of the update process, please make sure you check all instructions and notes that appear at each step before proceeding. Please note that removing the USB cable during the upgrade may seriously damage your mobile phone.

- LG reserves the right to make firmware updates available only for selected models at its own discretion and does not guarantee the availability of the newer version of the firmware for all handset models.

LG Mobile Phone software update via Over-the-Air (OTA)

This feature allows you to conveniently update your phone's software to a newer version via OTA, without connecting a USB cable. This feature will only be available if and when LG makes a newer firmware version available for your device.

To perform the phone software update, tap **Settings** > **System** > **Update center** > **Software Update**.

- Your personal data from internal phone storage—including information about your Google account and any other accounts, your system/application data and settings, any downloaded applications and your DRM license—might be lost in the process of updating your phone's software. Therefore, LG recommends that you backup your personal data before updating your phone's software. LG does not take responsibility for any loss of personal data.
- This feature depends on the area or service provider.

Notes on Water Resistant Properties

This product is water and dust resistant in compliance with the Ingress Protection rating IP68.

Your product has undergone testing in a controlled environment and is proven to be water and dust resistant in certain circumstances (meets the requirements of classification IP68 as described by the international standard IEC 60529 - Degrees of Protection provided by Enclosures [IP Code]; test conditions: 15-35°C/59-95 °F, 86-106kPa, 1.5 meters, for 30 minutes). Do not expose the device in conditions that are different from the test conditions. Results may vary in actual use.

WARNING

Despite a rating of IP68, your device is not impervious to conditions not tested in LG's controlled environment. Please note that any damages that occur due to such causes changes the color of the LDI (Liquid Damage Indicator). If the color of LDI located inside the product changes, the product may be considered ineligible for any free-of-charge repair services provided under the product's limited warranty.

Avoid excessive dust or moisture as it may cause damages to the LDI or other internally sealed components and therefore may render your product ineligible for repair services provided under the product's limited warranty. Do not use the product in the following environments:



Do not immerse the product in any liquid chemicals (soap, etc.).



Do not immerse the product in salt water, including seawater.



Do not immerse the product in a hot spring.



Do not swim with this product.



Do not place the product directly on sand (such as at a beach) or mud.



Do not immerse your product in water deeper than approximately 1.5 meters.

Do not immerse your product in water for longer than 30 minutes.

- If your product becomes wet be sure to wipe the microphone, speaker, and stereo jack with a dry cloth before use.
- Should your product or your hands become wet, dry them before handling the product.

- Do not use the product in places where it may be sprayed with high pressure water (e.g. near a faucet or shower head) or submerge it in water for extended periods of time, as the product is not designed to withstand high water pressure.
- This product is not resistant to shock. Do not drop the product or subject it to shock. Doing so might damage or deform the main unit, causing water leakage.
- The product's water and dust resistant features may be damaged by dropping or receiving an impact.
- If the product gets wet, use a clean, soft cloth to dry it thoroughly.
- The touch screen and other features may not work properly if the device is used while wet.
- Your product is water and dust resistant only when the SIM/Memory card tray is properly inserted into the product.
- Do not open or close the SIM/Memory card tray while the product is wet or immersed in water. Exposing the open tray to water or moisture may damage the product.
- The SIM/Memory card tray contains rubber [packing] to help prevent dust, water, or moisture from entering the product. Do not damage the rubber [packing] as this may allow dust, water, or moisture to enter your product and cause damage.



- Failure to follow the provided instructions may invalidate your device's limited warranty.

Anti-Theft Guide

You can set up your device to prevent other people from using it if it's been reset to factory settings without your permission. For example, if your device is lost, stolen, or wiped, only someone with your Google account or screen lock information can use the device.

All you need to make sure your device is protected is:

- Set a screen lock: If your device is lost or stolen but you have a screen lock set, the device can't be erased using the Settings menu unless your screen is unlocked.
- Add your Google account on your device: If your device is wiped but you have your Google account on it, the device can't finish the setup process until your Google account information is entered again.

After your device is protected, you'll need to either unlock your screen or enter your Google account password if you need to do a factory reset. This ensures that you or someone you trust is doing the reset.



- Do not forget your Google account and password you had added to your device prior to performing a factory reset. If you can't provide the account information during the setup process, you won't be able to use the device at all after performing the factory reset.

Open Source Software Notice Information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit *http://opensource.lge.com*.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to *opensource@lge.com*.

This offer is valid for a period of three years after our last shipment of this product. This offer is valid to anyone in receipt of this information.

Regulatory information (FCC ID number, etc.)

For regulatory details, go to **Settings** > **System** > **Regulatory & safety**.

Trademarks

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- Wi-Fi® and the Wi-Fi logo are registered trademarks of the Wi-Fi Alliance.
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Laser safety statement

FDA Notice

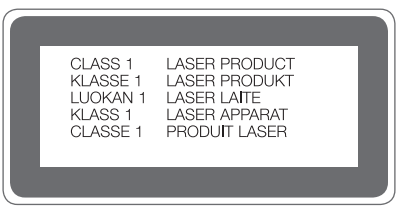
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

Caution!

This product employs a Laser system. To ensure proper use of this product, please read this owner's manual carefully and retain for future reference. Should the unit require maintenance, contact a LG Authorized Service Center.

Use of controls, adjustments, or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

To prevent direct exposure to laser beam, do not try to open the enclosure or make direct contact with the laser.



Guide to data transfers

For the data that can be exchange between LG devices or between the LG device and a third party device, see the following table.

Type	Item details	LG device → LG device	Third party Android device → LG device	iOS device → LG device
Personal data	Contacts, messages, dial logs, calendar, voice recordings	Supported	Supported	Supported
	Memos	Supported	Not supported	Supported
	Alarms	Supported	Not supported	Not supported
Media data	Photos, videos, songs, documents	Supported	Supported	Supported
Screen settings	Home screen settings (folders and widgets)	Supported	Not supported	Not supported
	Lock screen settings (screen lock settings excluded)	Supported	Not supported	Not supported
Apps	Downloaded apps	Supported	Supported	-
	Personal data of the downloaded app	Supported	Not supported	
Others	Public certificate	Supported	Supported	Not supported
	Settings (Wi-Fi, Bluetooth, Calls, sound & notification, accessibility, battery)	Supported	Not supported	Not supported

- Some data may not be transmitted depending on the software version, app version, operating system, manufacturer or service provider's policy.

FAQ

This chapter lists some problems you might encounter when using your device. Some problems require you to call your service provider, but most are easy to fix yourself.

Device overheats

Device overheats while it is in use.

In the following cases, the battery consumption increases and the device may overheat:

- When you turn on the device for the first time or back up the data
- When running multiple apps simultaneously
  - When multiple apps are running in the background
  - When downloading large files while making a video call or recording a video
- When using features that require high power
  - When watching video streaming on the internet, or recording a long video
  - When playing high-end games for long time
  - When using the device with maximum screen brightness for a long time
- When using lots of mobile data
  - When using Wi-Fi hotspot or tethering
  - When synchronizing the data for multiple accounts simultaneously
- Other cases
  - When roaming overseas
  - When using the device in areas with weak signals or no reception
  - When charging the device with the charger/USB cable port that is damaged or contaminated with foreign substance



- Some of the above cases may not apply depending on the features and apps.

Device overheats while charging.

- The device and the charger may become hot while charging. During wireless charging or fast charging (if supported), the device may become even hotter. If the battery temperature rises above a certain level, the device may stop charging.
  - Disconnect the charger from the device and close any running apps. Let the device cool down before charging the device or running an app again.
  - Stop charging if the charger/USB cable port at the lower part of the device overheats, and visit the nearest LG Authorized Service Center.

How to solve overheating of the device

- Close any running apps or features, and let the device cool down.
- Always update the software to the latest version.
- Turn off Wi-Fi, Bluetooth, or GPS features while not using them.
- Close apps you don't use.
- If you are using the device with maximum screen brightness, decrease the brightness.
- If the device overheats for a prolonged period, stop using it for a while. If the device continues to overheat, visit the LG Authorized Service Center.

Usage limitations when the device overheats

If the device overheats while using it or charging, some features, apps, or even the device may be turned off.

This is a normal operation for the devices that support this feature.

- If the device temperature rises above a certain level, a warning message appears.
  - If you play high-end games, record videos, or upload large files, the device may overheat for a prolonged period. In this case, a warning message may appear to notify automatic shutdown.

    Turn off the device or close any running apps or features, and let the device cool down.

- The screen brightness and the operating speed may be limited to cool down the device. Any running apps or features may slow down or stop. The device may stop charging.

SIM card error

Make sure the SIM card is correctly inserted.

No network connection or dropped network

Signal is weak. Move to a window or an open area.

You are outside the carrier network area. Move and check the network.

Calls are not available

New network not authorized.

Make sure you have not set call barring for the incoming number.

Make sure you have not set call barring for the number you are dialing.

Device cannot be turned on

When the battery is completely discharged, your device will not turn on.

Fully charge the battery before turning on the device.

Charging error

Make sure the device is charging at a moderate temperature.

Check the charger and its connection to the device.

Use only in-box accessories which are authorized by LG.

The battery depletes faster than when first purchased

When you expose the device or the battery to very cold or hot temperatures, the battery life may be reduced.

Battery consumption will increase when you use certain features or apps, such as GPS, games or the Internet.

The battery is consumable and the battery life will get shorter over time.

Error messages appear when launching the camera

Charge the battery.

Free some memory by transferring files to a computer or deleting files from your device.

Restart the device.

If you are still having trouble with the camera app after trying these tips, contact a LG Authorized Service Center.

The photo quality is poor

The quality of your photos may vary, depending on the surroundings and the photography techniques you use.

When you take photos and videos, keep in mind that the image quality with standard angle is better than that with wide-angle.

If you take photos in dark areas, at night or indoors, image noise may occur or images may be out of focus.

If you have any problems, reset the options.

The touch screen responds slowly or incorrectly

If you attach a screen protector or optional accessories to the touch screen, the touch screen may not function properly.

If you are wearing gloves, if your hands are not clean while touching the touch screen or if you tap the screen with sharp objects or your fingertips, the touch screen may malfunction.

The touch screen may malfunction in humid conditions or when exposed to water.

Restart your device to clear any temporary software bugs.

If the touch screen is scratched or damaged, visit a LG Authorized Service Center.

Hangs or freezes

Restart the device

- If your device freezes or hangs, you may need to close apps or turn the device off and then on again.

Perform a boot-up

- Press and hold the Power/Lock key and the Volume Down key until the device restarts.

Reset the device

- If the methods above do not solve your problem, perform a factory data reset.
- On the settings screen, tap **System** > **Restart & reset** > **Factory data reset**.
  - Reset all settings for the device and delete data. Before performing the factory data reset, remember to make backup copies of all important data stored in the device.
  - If you registered a Google account to the device, you must sign in to the same Google account after resetting the device.

Bluetooth device is not located

Make sure the Bluetooth wireless feature is activated on your device.

Make sure the Bluetooth wireless feature is activated on the device you wish to connect to.

Make sure your device and the other Bluetooth device are within the maximum Bluetooth range (10 m).

If the tips above do not solve your problem, contact a LG Authorized Service Center.

A connection is not established when you connect the device to a computer

Make sure the USB cable you are using is compatible with your device.

Make sure you have the proper driver installed and updated on your computer.

Downloaded application causes a lot of errors

Application has problems.

Remove and reinstall the application.

06

For Your Safety

Important Information

This user guide contains important information on the use and operation of this device. Please read all the information carefully for optimal performance and to prevent any damage to or misuse of the device. Any changes or modifications not expressly approved in this user guide could void your warranty for this equipment. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

HAC Statement

This device has been tested and rated for use with hearing aids for some of the wireless technologies that it uses. However, there may be some newer wireless technologies used in this device that have not been tested yet for use with hearing aids. It is important to try the different features of this device thoroughly and in different locations, using your hearing aid or cochlear implant, to determine if you hear any interfering noise. Consult your service provider or the manufacturer of this device for information on hearing aid compatibility. If you have questions about return or exchange policies, consult your service provider or device retailer.

This mobile phone has a Hearing Aid Mode that, when activated, may reduce interference with some hearing aid models.

FCC RF Exposure Information

WARNING! Read this information before operating the device.

In August 1996, the Federal Communications Commission (FCC) of the United States, with its action in Report and Order FCC 96-326, adopted an updated safety standard for human exposure to Radio Frequency (RF) electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this device complies with the FCC guidelines and these international standards.

Body-worn Operation

This device was tested for typical use with the back of the device kept 0.39 inches (1.0 cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 0.39 inches (1.0 cm) must be maintained between the user's body and the back of the device. Any belt-clips, holsters, and similar accessories containing metallic components may not be used. Avoid the use of accessories that cannot maintain 0.39 inches (1.0 cm) distance between the user's body and the back of the device and have not been tested for compliance with FCC RF exposure limits.

Consumer Information about Radio Frequency Emissions

Your wireless device, which contains a radio transmitter and receiver, emits radio frequency energy during use. The following consumer information addresses commonly asked questions about the health effects of wireless devices.

Are wireless devices safe?

Scientific research on the subject of wireless devices and radio frequency ("RF") energy has been conducted worldwide for many years, and continues. In the United States, the Food and Drug Administration ("FDA") and the Federal Communications Commission ("FCC") set policies and procedures for wireless devices. The FDA issued a website publication on health issues related to cell phone usage where it states, "The scientific community at large... believes that the weight of scientific evidence does not show an association between exposure to radiofrequency (RF) from cell phones and adverse health outcomes. Still the scientific community does recommend conducting additional research to address gaps in knowledge." That research is being conducted around the world and FDA continues to monitor developments in this field. You can access the joint FDA/FCC website at *http://www.fda.gov* (under "c" in the subject index, select **Cell Phones > Research**). You can also contact the FDA toll-free at (888) 463-6332 or (888) INFO-FDA. In June 2000, the FDA entered into a cooperative research and development agreement through which additional scientific research is being conducted. The FCC issued its own website publication stating that "there is no scientific evidence that proves that wireless device usage can lead to cancer or a variety of other problems, including headaches, dizziness or memory loss." This publication is available at *http://www.fcc.gov/cgb/cellular.html* or through the FCC at (888) 225-5322 or (888) CALL-FCC.

What does "SAR" mean?

In 1996, the FCC, working with the FDA, the U.S. Environmental Protection Agency, and other agencies, established RF exposure safety guidelines for wireless devices in the United States. Before a wireless device model is available for sale to the public, it must be tested by the manufacturer and certified to the FCC that it does not exceed limits established by the FCC. One of these limits is expressed as a Specific Absorption Rate, or "SAR." SAR is a measure of the rate of absorption of RF energy in the body. Tests for SAR are conducted with the device transmitting at its highest power level in all tested frequency bands. Since 1996, the FCC has required that the SAR of handheld wireless devices not exceed 1.6 watts per kilogram, averaged over one gram of tissue.

Although the SAR is determined at the highest power level, the actual SAR value of a wireless device while operating can be less than the reported SAR value. This is because the SAR value may vary from call to call, depending on factors such as proximity to a cell site, the proximity of the device to the body while in use, and the use of hands-free devices. For more information about SARs, visit the FCC website at *https://www.fcc.gov/consumers/guides/specific-absorption-rate-sar-cell-phones-what-it-means-you*. You may also wish to contact the manufacturer of your device.

Can I minimize my RF exposure?

If you are concerned about RF, there are several simple steps you can take to minimize your RF exposure. You can, of course, reduce your talk time. You can place more distance between your body and the source of the RF, as the exposure level drops off dramatically with distance. The FDA/FCC website states that "hands-free kits can be used with wireless devices for convenience and comfort. These systems reduce the absorption of RF energy in the head because the device, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the device is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless devices marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit." Also, if you use your wireless device while in a car, you can use a device with an antenna on the outside of the vehicle. You should also read and follow your wireless device manufacturer's instructions for the safe operation of your device.

Do wireless devices pose any special risks to children?

The FDA/FCC website states that "the scientific evidence does not show a danger to users of wireless communication devices, including children." The FDA/FCC website further states that "some groups sponsored by other national governments have advised that children be discouraged from using wireless devices at all." For example, the Stewart Report from the United Kingdom ["UK"] made such a recommendation in December 2000. In this report a group of independent experts noted that no evidence exists that using a cell phone causes brain tumors or other ill effects. [The UK's] recommendation to limit cell phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists. A copy of the UK's leaflet is available at *http://www.dh.gov.uk* (search "mobile"), or you can write to: NRPB, Chilton, Didcot, Oxon OX11 ORQ, United Kingdom. Copies of the UK's annual reports on mobile phones and RF are available online at *http://www.hpa.org.uk/radiation/* (search "mobile"). Parents who wish to reduce their children's RF exposure may choose to restrict their children's wireless device use.

Where can I get further information about RF emissions?

U.S. Food and Drug Administration
http://www.fda.gov

U.S. Federal Communications Commission
http://www.fcc.gov/oet/rfsafety

Royal Society of Canada Expert Panels on Potential Health Risks of Radio Frequency Fields from Wireless Telecommunication Devices
http://www.rsc.ca/index.php?page=Expert_Panels_RF&Lang_id=120

World Health Organization
http://www.who.int/mediacentre/factsheets/fs193/en/

International Commission on Non-Ionizing Radiation Protection
https://www.icnirp.org

American National Standards Institute
http://www.ansi.org

National Council on Radiation Protection and Measurements

http://www.ncrponline.org

Engineering in Medicine and Biology Society, Committee on Man and Radiation (COMAR) of the Institute of Electrical and Electronics Engineers

http://ewh.ieee.org/soc/embs/comar/

(websites current as of November 2018)

Consumer Information on SAR

(Specific Absorption Rate)

This model device meets the government's requirements for exposure to radio waves. Your wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to Radio Frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions specified by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. Because the device is designed to operate at multiple power levels to use only the power required to reach the network, in general, the closer you are to a wireless base station antenna, the lower the power output. Before a device model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model.

While there may be differences between SAR levels of various devices and at various positions, they all meet the government requirement for safe exposure.

The FCC has granted an Equipment Authorization for this model device with all reported SAR levels evaluated as in compliance with the FCC RF emission guidelines. SAR information on this model device is on file with the FCC and can be found under the Display Grant section of *http://www.fcc.gov/oet/fccid* after searching on FCC ID ZNFQ620WA.

Additionally, the highest SAR values can also be found on the LG website: *https://www.lg.com/global/support/sar/sar.*

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) website at *http://www.ctia.org/.*

* In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (W/kg) averaged over one gram of tissue. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurements.

FCC Hearing-Aid Compatibility (HAC) Regulations for Wireless Devices

On July 10, 2003, the U.S. Federal Communications Commission (FCC) Report and Order in WT Docket 01-309 modified the exception of wireless devices under the Hearing Aid Compatibility Act of 1988 (HAC Act) to require digital wireless devices be compatible with hearing-aids. The intent of the HAC Act is to ensure reasonable access to telecommunications services for persons with hearing disabilities.

While some wireless devices are used near some hearing devices (hearing aids and cochlear implants), users may detect a buzzing, humming, or whining noise. Some hearing devices are more immune than others to this interference noise, and devices also vary in the amount of interference they generate.

The wireless telephone industry has developed a rating system for wireless devices, to assist hearing device users to find devices that may be compatible with their hearing devices. Not all devices have been rated. Devices that are rated have the rating on their box or a label located on the box.

The ratings are not guaranteed. Results will vary depending on the user's hearing device and hearing loss. If your hearing device happens to be vulnerable to interference, you may not be able to use a rated device successfully. Trying out the device with your hearing device is the best way to evaluate it for your personal needs.

M-Ratings: Devices rated M3 or M4 meet FCC requirements and are likely to generate less interference to hearing devices than devices that are not labeled. M4

is the better/higher of the two ratings.

T-Ratings: Devices rated T3 or T4 meet FCC requirements and are likely to generate less interference to hearing devices than devices that are not labeled. T4 is the better/ higher of the two ratings.

Hearing devices may also be rated. Your hearing device manufacturer or hearing health professional may help you find this rating. Higher ratings mean that the hearing device is relatively immune to interference noise. The hearing aid and wireless device rating values are then added together. A sum of 5 is considered acceptable for normal use. A sum of 6 is considered for best use.



In the above example, if a hearing aid meets the M2 level rating and the wireless device meets the M3 level rating, the sum of the two values equal M5. This should provide the hearing aid user with "normal usage" while using their hearing aid with the particular wireless device. "Normal usage" in this context is defined as a signal quality that's acceptable for normal operation.

The M mark is intended to be synonymous with the U mark. The T mark is intended to be synonymous with the UT mark. The M and T marks are recommended by the Alliance for Telecommunications Industries Solutions (ATIS). The U and UT marks are referenced in Section 20.19 of the FCC Rules. The HAC rating and measurement procedure are described in the American National Standards Institute (ANSI) C63.19 standard.

To ensure that the Hearing Aid Compatibility rating for your device is maintained, secondary transmitters such as Bluetooth® and WLAN components must be disabled during a call.

For information about hearing aids and digital wireless devices:

Wireless Devices and Hearing Aid Accessibility
http://www.accesswireless.org/

Gallaudet University, RERC
http://tap.gallaudet.edu/Voice/

FCC Hearing Aid Compatibility and Volume Control
https://www.fcc.gov/general/hearing-aid-compatibility-and-volume-control

The Hearing Aid Compatibility FCC Order
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-168A1.pdf

Hearing Loss Association of America [HLAA]
http://hearingloss.org/content/telephones-and-mobile-devices

Caution! Avoid Potential Hearing Loss

Prolonged exposure to loud sounds (including music) is the most common cause of preventable hearing loss. Some scientific research suggests that using portable audio devices, such as portable music players and cellular telephones, at high volume settings for long durations may lead to permanent noise-induced hearing loss. This includes the use of headphones (including headsets, earbuds and Bluetooth or other wireless devices). Exposure to very loud sound has also been associated in some studies with tinnitus (a ringing in the ear), hypersensitivity to sound and distorted hearing. Individual susceptibility to noise-induced hearing loss and other potential hearing problems varies.

The amount of sound produced by a portable audio device varies depending on the nature of the sound, the device, the device settings and the headphones. You should follow some common sense recommendations when using any portable audio device:

- Set the volume in a quiet environment and select the lowest volume at which you can hear adequately.
- When using headphones, turn the volume down if you cannot hear the people speaking near you or if the person sitting next to you can hear what you are listening to.
- Do not turn the volume up to block out noisy surroundings. If you choose to listen to your portable device in a noisy environment, use noise-cancelling headphones to block out background environmental noise.
- Limit the amount of time you listen. As the volume increases, less time is required before your hearing could be affected.
- Avoid using headphones after exposure to extremely loud noises, such as rock concerts, that might cause temporary hearing loss. Temporary hearing loss might cause unsafe volumes to sound normal.
- Do not listen at any volume that causes you discomfort. If you experience ringing in your ears, hear muffled speech or experience any temporary hearing difficulty after listening to your portable audio device, discontinue use and consult your doctor.

TIA Safety Information

The following is the complete TIA Safety Information for wireless handheld devices.

Exposure to Radio Frequency Signal

Your wireless handheld portable device is a low power radio transmitter and receiver. When ON, it receives and sends out Radio Frequency (RF) signals.

In August, 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless devices. Those guidelines are consistent with the safety standards previously set by both U.S. and international standards bodies:

ANSI C95.1 (1992) *

NCRP Report 86 (1986)

ICNIRP (1996)

* American National Standards Institute; National Council on Radiation Protection and Measurements; International Commission on Non-Ionizing Radiation Protection

Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard (C95.1).

The design of your device complies with the FCC guidelines (and those standards).

Electronic Devices

Most modern electronic equipment is shielded from RF signals. However, certain electronic equipment may not be shielded against the RF signals from your wireless device.

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six (6) inches be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- Should ALWAYS keep the device more than six (6) inches from their pacemaker when the device is turned ON;
- Should not carry the device in a breast pocket;
- Should use the ear opposite the pacemaker to minimize the potential for interference;
- Should turn the device OFF immediately if there is any reason to suspect that interference is taking place.

Hearing Aids

Some digital wireless devices may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider (or call the customer service line to discuss alternatives).

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Health Care Facilities

Turn your device OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may use equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities

Turn your device OFF in any facility where posted notices so require.

Aircraft

FCC regulations prohibit using your device while in the air. Switch OFF your device before boarding an aircraft.

Blasting Areas

To avoid interfering with blasting operations, turn your device OFF when in a "blasting area" or in areas posted: "Turn off two-way radio." Obey all signs and instructions.

Potentially Explosive Atmosphere

Turn your device OFF when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Areas with a potentially explosive atmosphere are often, but not always marked clearly. Potential areas may include: fueling areas (such as gasoline stations); below deck on boats; fuel or chemical transfer or storage facilities; vehicles using liquefied petroleum gas (such as propane or butane); areas where the air contains chemicals or particles (such as grain, dust, or metal powders); and any other area where you would normally be advised to turn off your vehicle engine.

For Vehicles Equipped with an Air Bag

An air bag inflates with great force. DO NOT place objects, including either installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Part 15.19 Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Part 15.21 Statement

Changes or modifications that are not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

Part 15.105 Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Safety Information

Please read and observe the following information for safe and proper use of your device and to prevent damage.

Caution: Violation of the instructions may cause minor or serious damage to the product.

- Do not disassemble, open, crush, bend or deform, puncture or shred the device.
- Do not modify or re-manufacture the device. Do not insert foreign objects into the device or battery, or expose to fire, explosion or other hazard.
- Only use the device with an LG charging system that has been qualified with the device, per CTIA Certification Requirements for Battery System Compliance to IEEE1725. Use of an unqualified charger may present a risk of fire, explosion, leakage, or other hazard.
- Avoid dropping the device. If the device is dropped, especially on a hard surface, and you suspect damage, take it to a LG Authorized Service Center for inspection.

- The entire device should be recycled in compliance with Lithium-Ion battery recycling standards because of the internal battery. To dispose of properly, call (800) 822-8837 or visit www.call2recycle.org.
- Always unplug the charger from the wall socket after the device is fully charged to save unnecessary power consumption.
- Use and store your device in temperatures between 0 °C/32 °F and 35 °C/95 °F, if possible. Exposing your device to extremely low or high temperatures may result in damage, malfunction, or even explosion.
- A mobile device requires proper air circulation in order to dissipate heat. Direct skin contact and inadequate circulation of air flow to the device may cause the device to overheat. The device must be at least 1.0 cm from between the user's body.
- Prevent dust of any other foreign substances from getting into the Charger/ USB cable port. It may cause heat or fire.
- Avoid exposing the device to low air pressure at high altitude.
- Do not expose the device to extremely low air pressure. Otherwise, it can cause explosion of the battery or leakage of flammable liquid or gas.

Charger and Adapter Safety

- The charger and adapter are intended for indoor use only.
- Insert the battery charger vertically into the wall power socket.
- Only use the LG-approved battery charger. Otherwise, you may cause serious damage to your device.
- Use the correct adapter for your device when using the battery charger abroad.
- A charging adapter that supports fast charging is included with the product.
- Do not use third party chargers with your device as they may not support fast charging and may cause damage to your device.

Battery Information and Care

- Always unplug the charger from the wall socket after the device is fully charged to save unnecessary power consumption of the charger.
- Do not damage the power cord by bending, twisting, or heating. Do not use the plug if it is loose as it may cause electric shock or fire.
- Do not place any heavy items on the power cord. Do not allow the power cord to be crimped as it may cause electric shock or fire.

- Unplug the power cord prior to cleaning your device, and wipe the power plug pin with a clean dry cloth when it's dirty. When using the power plug, ensure that it's firmly connected. If not, it may cause excessive heat or fire. If you put your device in a pocket or bag without covering the receptacle of the device (power plug pin), metallic articles (such as a coin, paperclip or pen) may short-circuit the device. Always cover the receptacle when not in use.
- Recharge the device after long periods of non-use to maximize battery life. Battery life will vary due to usage pattern and environmental conditions.
- Improper handling of the charging port, as well as the use of an incompatible charger, may cause damage or defect to your device.
- Do not use or leave the device in direct sunlight or in a car heated by sunshine. The device may generate excessive heat, smoke, or flame. It also might cause deterioration of device's characteristics or cycle life.
- If the skin or clothes are smeared with liquid from the battery, wash with fresh water. It may cause skin inflammation.
- Please take your device to a LG Authorized Service Center immediately if this occurs.
- Do not handle the device with wet hands while it is being charged. It may cause an electric shock or seriously damage your device.
- Do not charge while the device or charging cable is wet or contains moisture. This can cause fire, electric shock, injury or damage to the device.
- Do not place or answer calls while charging the device as it may short-circuit the device and/or cause electric shock or fire.

WARNING! Notice for Battery Replacement

- Do not remove the back cover.
- Your device has an internal battery. For your safety, do not remove the battery incorporated in the product. If you need to replace the battery, take it to the nearest LG Authorized Service Center or dealer for assistance.
- The Li-Ion Battery is a hazardous component which can cause injury.
- Battery replacement by a non-qualified professional can cause damage to your device.

Explosion, Shock, and Fire Hazards

- Do not put your device in a place subject to excessive dust and keep the minimum required distance between the power cord and heat sources.
- Unplug the power cord prior to cleaning your device, and clean the power plug pin when it's dirty.
- When using the power plug, ensure that it's firmly connected. If not, it may cause excessive heat or fire.
- If you put your device in a pocket or bag without covering the receptacle of the device (power plug pin), metallic articles (such as a coin, paperclip or pen) may short-circuit the device and may cause an explosion. Always cover the receptacle when not in use.
- Do not charge while the device or charging cable is wet or contains moisture. This can cause fire, electric shock, injury or damage to the device.

General Notice

- Do not place items containing magnetic components such as a credit card, phone card, bank book, or subway ticket near your device. The magnetism of the device may damage the data stored in the magnetic strip.
- Talking on your device for a long period of time may reduce call quality due to heat generated during use.
- When the device is not used for a long period time, store it in a safe place with the power cord unplugged.
- Using the device in proximity to receiving equipment (i.e., TV or radio) may cause interference to the device.
- Conform device use to IP68 capabilities. Do not immerse in water deeper than approximately 1.5 meters. Do not immerse your product in water for longer than 30 minutes, or liquids other than water. Immediately, take it to a LG Authorized Service Center.
- Do not paint your device.
- The data saved in your device might be deleted due to careless use, repair of the device, or upgrade of the software. Please backup your important phone numbers. (Ringtones, text messages, voice messages, pictures, and videos could also be deleted.) The manufacturer is not liable for damage due to the loss of data.

- When you use the device in public places, set the ringtone to vibration so you don't disturb others.
- Do not turn your device on or off when putting it to your ear.
- Use accessories, such as earphones and headsets, with caution. Ensure that cables are tucked away safely.

FDA Consumer Update



The U.S. Food and Drug Administration's Center for Devices and Radiological Health Consumer Update on Mobile Phones:

1. Do wireless devices pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless devices. There is no proof, however, that wireless devices are absolutely safe. Wireless devices emit low levels of Radio Frequency (RF) energy in the microwave range while being used. They also emit very low levels of RF when in standby mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

2. What is the FDA's role concerning the safety of wireless devices?

Under the law, the FDA does not review the safety of radiation-emitting consumer products such as wireless devices before they can be sold, as it does with new drugs or medical devices. However, the agency has authority to take action if wireless devices are shown to emit Radio Frequency (RF) energy at a level that is hazardous to the user. In such a case, the FDA could require the manufacturers of wireless devices to notify users of the health hazard and to repair, replace, or recall the devices so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions, the FDA has urged the wireless device industry to take a number of steps, including the following:

- Support needed research into possible biological effects of RF of the type emitted by wireless devices;
- Design wireless devices in a way that minimizes any RF exposure to the user that is not necessary for device function; and
- Cooperate in providing users of wireless devices with the best possible information on possible effects of wireless device use on human health.

The FDA belongs to an interagency working group of the federal agencies that have responsibility for different aspects of RF safety to ensure coordinated efforts at the federal level. The following agencies belong to this working group:

- National Institute for Occupational Safety and Health
- Environmental Protection Agency
- Occupational Safety and Health Administration
- National Telecommunications and Information Administration

The National Institutes of Health participates in some interagency working group activities, as well.

The FDA shares regulatory responsibilities for wireless devices with the Federal Communications Commission (FCC). All devices that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. The FCC relies on the FDA and other health agencies for safety questions about wireless devices.

The FCC also regulates the base stations that the wireless device networks rely upon. While these base stations operate at higher power than do the wireless devices themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless devices. Base stations are thus not the subject of the safety questions discussed in this document.

3. What kinds of devices are the subject of this update?

The term "wireless device" refers here to handheld wireless devices with built-in antennas, often called "cell," "mobile," or "PCS" devices. These types of wireless devices can expose the user to measurable Radio Frequency (RF) energy because of the short distance between the device and the user's head.

These RF exposures are limited by FCC safety guidelines that were developed with the advice of the FDA and other federal health and safety agencies. When the device is located at greater distances from the user, the exposure to RF is drastically lower because a person's RF exposure decreases rapidly with increasing distance from the source. The so-called "cordless devices," which have a base unit connected to the telephone wiring in a house, typically operate at far lower power levels, and thus produce RF exposures far below the FCC safety limits.

4. What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of Radio Frequency (RF) energy exposures characteristic of wireless devices have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in the absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless devices, so we do not know with certainty what the results of such studies mean for human health. Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless devices and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless device RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of device use in these studies was around three years.

5. What research is needed to decide whether RF exposure from wireless devices poses a health risk?

A combination of laboratory studies and epidemiological studies of people actually using wireless devices would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but ten or more years follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop — if they do — may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless devices. Many factors affect this measurement, such as the angle at which the device is held, or which model of device is used.

6. What is the FDA doing to find out more about the possible health effects of wireless device RF?

The FDA is working with the U.S. National Toxicology Program and with groups of investigators around the world to ensure that high priority animal studies are conducted to address important questions about the effects of exposure to Radio Frequency (RF) energy.

The FDA has been a leading participant in the World Health Organization International Electro Magnetic Fields (EMF) Project since its inception in 1996. An influential result of this work has been the development of a detailed agenda of research needs that has driven the establishment of new research programs around the world. The project has also helped develop a series of public information documents on EMF issues.

The FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research And Development Agreement (CRADA) to do research on wireless device safety. The FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts with independent investigators. The initial research will include both laboratory studies and studies of wireless device users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

7. How can I find out how much Radio Frequency energy exposure I can get by using my wireless device?

All devices sold in the United States must comply with Federal Communications Commission (FCC) guidelines that limit Radio Frequency (RF) energy exposures. The FCC established these guidelines in consultation with the FDA and the other federal health and safety agencies. The FCC limit for RF exposure from wireless devices is set at a Specific Absorption Rate (SAR) of 1.6 watts per kilogram (1.6 W/kg). The FCC limit is consistent with the safety standards developed by the Institute of Electrical and Electronic Engineering (IEEE) and the National Council on Radiation Protection and Measurement. The exposure limit takes into consideration the body's ability to remove heat from the tissues that absorb energy from the wireless device and is set well below levels known to have effects. Manufacturers of wireless devices must report the RF exposure level for each model of device to the FCC. The FCC website (*http://www.fcc.gov/oet/rfsafety*) gives directions for locating the FCC identification number on your device so you can find your device's RF exposure level in the online listing.

8. What has the FDA done to measure the Radio Frequency energy coming from wireless devices?

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the Radio Frequency (RF) energy exposure from wireless devices and other wireless handsets with the participation and leadership of FDA scientists and engineers. The standard, "Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques," sets forth the first consistent test methodology for measuring the rate at which RF is deposited in the heads of wireless device users. The test method uses a tissue-simulating model of the human head. Standardized SAR test methodology is expected to greatly improve the consistency of measurements made at different laboratories on the same device.

SAR is the measurement of the amount of energy absorbed in tissue, either by the whole body or a small part of the body. It is measured in watts/kg (or milliwatts/g) of matter. This measurement is used to determine whether a wireless device complies with safety guidelines.

9. What steps can I take to reduce my exposure to Radio Frequency energy from my wireless device?

If there is a risk from these products — and at this point we do not know that there is — it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to Radio Frequency (RF) energy. Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless device will reduce RF exposure. If you must conduct extended conversations by wireless device every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless device away from your body or use a wireless device connected to a remote antenna. Again, the scientific data does not demonstrate that wireless devices are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless device use.

10. What about children using wireless devices?

The scientific evidence does not show a danger to users of wireless devices, including children and teenagers. If you want to take steps to lower exposure to Radio Frequency (RF) energy, the measures described above would apply to children and teenagers using wireless devices. Reducing the time of wireless device use and increasing the distance between the user and the RF source will reduce RF exposure. Some groups sponsored by other national governments have advised that children be discouraged from using wireless devices at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000.

They noted that no evidence exists that using a wireless device causes brain tumors or other ill effects. Their recommendation to limit wireless device use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

11. What about wireless device interference with medical equipment?

Radio Frequency (RF) energy from wireless devices can interact with some electronic devices. For this reason, the FDA helped develop a detailed test method to measure Electro Magnetic Interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones. This test method is now part of a standard sponsored by the Association for the Advancement of Medical Instrumentation (AAMI). The final draft, a joint effort by the FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless device EMI.

The FDA has tested hearing aids for interference from handheld wireless devices and helped develop a voluntary standard sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This standard specifies test methods and performance requirements for hearing aids and wireless devices so that no interference occurs when a person uses a "compatible" device and a "compatible" hearing aid at the same time. This standard was approved by the IEEE in 2000.

The FDA continues to monitor the use of wireless devices for possible interactions with other medical devices. Should harmful interference be found to occur, the FDA will conduct testing to assess the interference and work to resolve the problem.

12. Where can I find additional information?

For additional information, please refer to the following resources:

FDA web page on wireless devices
http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm

Federal Communications Commission (FCC) RF Safety Program
http://www.fcc.gov/oet/rfsafety

International Commission on Non-Ionizing Radiation Protection
http://www.icnirp.org

World Health Organization (WHO) International EMF Project
http://www.who.int/emf

National Radiological Protection Board (UK)
http://www.hpa.org.uk/radiation/

Driving

Check the laws and regulations on the use of wireless devices in the areas where you drive and always obey them. Also, if using your device while driving, please observe the following:

- Give full attention to driving -- driving safely is your first responsibility;
- Use hands-free operation, if available;
- Pull off the road and park before making or answering a call if driving conditions or the law require it.

10 Driver Safety Tips

Your wireless device gives you the powerful ability to communicate by voice almost anywhere, anytime. An important responsibility accompanies the benefits of wireless devices, one that every user must uphold. When operating a car, driving is your first responsibility. When using your wireless device behind the wheel of a car, practice good common sense and remember the following tips:

1. Get to know your wireless device and its features, such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most devices offer, including automatic redial and memory. Also, work to memorize the device keypad so you can use the speed dial function without taking your attention off the road.
2. When available, use a hands-free device. A number of hands-free wireless device accessories are readily available today. Whether you choose an installed mounted device for your wireless device or a speaker phone accessory, take advantage of these devices if available to you.
3. Make sure you place your wireless device within easy reach and where you can reach it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voicemail answer it for you.
4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.
5. Don't take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to-do" list while driving a car, you are not watching where you are going. It is common sense. Do not get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.

6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light, or otherwise stationary. But if you need to dial while driving, follow this simple tip -- dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix; they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.
8. Use your wireless device to call for help. Your wireless device is one of the greatest tools you can own to protect yourself and your family in dangerous situations -- with your device at your side, help is only three numbers away. Dial 911 or another local emergency number in the case of fire, traffic accident, road hazard, or medical emergency. Remember, it's a free call on your wireless device!
9. Use your wireless device to help others in emergencies. Your wireless device provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 911 or another local emergency number, as you would want others to do for you.
10. Call roadside assistance or a special wireless non-emergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you can still use your wireless device to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

The above tips are meant as general guidelines. Before deciding to use your mobile device while operating a vehicle, it is recommended that you consult your applicable jurisdiction's local laws or other regulations regarding such use. Such laws or other regulations may prohibit or otherwise restrict the manner in which a driver may use his or her device while operating a vehicle.

07

LIMITED WARRANTY USA

Limited Warranty – USA

ARBITRATION NOTICE: THIS LIMITED WARRANTY CONTAINS AN ARBITRATION PROVISION THAT REQUIRES YOU AND LG (as defined hereinafter in the Definitions) TO RESOLVE DISPUTES BY BINDING ARBITRATION INSTEAD OF IN COURT, UNLESS YOU CHOOSE TO OPT OUT. IN ARBITRATION, CLASS ACTIONS AND JURY TRIALS ARE NOT PERMITTED. PLEASE SEE THE SECTION TITLED "PROCEDURE FOR RESOLVING DISPUTES" BELOW.

Should your LG Mobile Phone ("Product") fail due to a defect in materials or workmanship under normal and proper use, during the warranty period set forth below, LG will, at its option, repair or replace the Product. This limited warranty is valid only to the original retail purchaser of the Product and applies only when purchased and used within the United States including U.S. Territories.

Warranty Period	Scope of Warranty
Twelve (12) months from date of original retail purchase (or absent valid proof of purchase, fifteen (15) months from manufacture date)	Parts and Labor (internal/ functional parts only)

- Replacement products and parts are warranted for the remaining portion of the original warranty period or ninety (90) days, whichever is greater.
- Replacement products and parts may be new, reconditioned, refurbished, or otherwise factory remanufactured.
- Replaced Products and parts will become the property of LG.

EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THE PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THE ABOVE LIMITED WARRANTY. UNDER NO CIRCUMSTANCES SHALL LG OR ITS U.S. DISTRIBUTORS/DEALERS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR PUNITIVE DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST GOODWILL, LOST REVENUES OR PROFITS, WORK STOPPAGE, IMPAIRMENT OF OTHER GOODS, COST OF REMOVAL AND REINSTALLATION OF THE PRODUCT, LOSS OF USE, OR ANY OTHER DAMAGES WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. LG'S TOTAL LIABILITY, IF ANY, SHALL NOT EXCEED THE PURCHASE PRICE PAID BY YOU FOR THE PRODUCT. **Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you. This limited warranty gives you specific legal rights and you may also have other rights that vary from state to state.**

HOW SERVICE IS HANDLED:

The original sales receipt specifying the Product and date of purchase is required to obtain warranty service.

LG will not re-install or back-up any data, applications, or software that you have added to your Product. It is therefore recommended that you back-up any such data or information prior to sending the Product to LG to avoid permanent loss of such information

You shall bear the cost of shipping the Product to LG Customer Service. LG shall bear the cost of shipping the Product back to you after completion of service under this limited warranty.

THIS LIMITED WARRANTY DOES NOT COVER:

(1) Damage or defects of the Product resulting from use of the Product in other than its normal and customary manner.

(2) Damage or defects of the Product resulting from abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications/connection/repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of LG, including damage or defects of the Product caused by shipping, blown fuses, spills of food or liquid.

(3) Damage or defects of the Product caused by transportation and/or handling, including scratches, dents, chips, and/or other damage to the finish of your Product including the external housing and cosmetic parts, unless such damage results from defects in materials or workmanship and is reported within one (1) week of delivery (Call: 1-800-793-8896).

(4) Damage or defects to antennas unless caused directly by defects in material or workmanship.

(5) Damage or defects of the Product resulting from operating the Product contrary to the instructions outlined in the Product owner's manual.

(6) That LG Customer Service was not notified by you of the alleged defect or malfunction of the Product during the applicable limited warranty period.

(7) Products with original serial numbers that have been removed, altered, or cannot be readily determined.

(8) Damage or defects of the Product or missing items to any Product sold "As Is", "With all Faults" or similar disclaimer.

(9) Damage or defect of the Product caused by the use of accessories, parts, consumable cleaning products, or service not provided or approved by LG.

(10) All plastic surfaces and all other externally exposed parts that are scratched or damaged.

(11) Products operated outside published maximum ratings.

(12) Replacement of any consumable parts (such as fuses).

The cost of repair or replacement under the above excluded circumstances shall be borne by you.

TO OBTAIN WARRANTY SERVICE AND ADDITIONAL INFORMATION:

Call 1-800-793-8896 and select the appropriate option from the menu.

Or visit our website at *http://www.lg.com*.

Or by mail: LG Electronics Customer Service P.O. Box 240007 Huntsville, AL 35813 ATTN: CIC – Mobile Handsets

DO NOT RETURN YOUR PRODUCT TO THE ABOVE ADDRESS. Please call or write for procedures for obtaining warranty service.

PROCEDURE FOR RESOLVING DISPUTES:

ALL DISPUTES BETWEEN YOU AND LG ARISING OUT OF OR RELATING IN ANY WAY TO THIS LIMITED WARRANTY OR THE PRODUCT SHALL BE RESOLVED EXCLUSIVELY THROUGH BINDING ARBITRATION, AND NOT IN A COURT OF GENERAL JURISDICTION. BINDING ARBITRATION MEANS THAT YOU AND LG ARE EACH WAIVING THE RIGHT TO A JURY TRIAL AND TO BRING OR PARTICIPATE IN A CLASS ACTION.

Definitions. For the purposes of this section, references to "LG" mean LG Electronics U.S.A., Inc., its parents, subsidiaries and affiliates, and each of their officers, directors, employees, agents, beneficiaries, predecessors in interest, successors, assigns and suppliers; references to "dispute" or "claim" shall include any dispute, claim or controversy of any kind whatsoever (whether based in contract, tort, statute, regulation, ordinance, fraud, misrepresentation or any other legal or equitable theory) arising out of or relating in any way to the sale, condition or performance of the product or this Limited Warranty.

Notice of Dispute. In the event you intend to commence an arbitration proceeding, you must first notify LG in writing at least 30 days in advance of initiating the arbitration by sending a letter to LG at LG Electronics U.S.A., Inc. Attn: Legal Department- Arbitration 1000 Sylvan Avenue Englewood Cliffs, NJ 07632. You and LG agree to engage in good faith discussions in an attempt to amicably resolve your claim. The notice must provide your name, address, and telephone number, identify the product that is the subject of the claim; and describe the nature of the claim and the relief being sought. If you and LG are unable to resolve the dispute within 30 days, either party may proceed to file a claim for arbitration.

Agreement to Binding Arbitration and Class Action Waiver. Upon failure to resolve the dispute during the 30 day period after sending written notice to LG, you and LG agree to resolve any claims between us only by binding arbitration on an individual basis, unless you opt out as provided below. Any dispute between you and LG shall not be combined or consolidated with a dispute involving any other person's or entity's product or claim. More specifically, without limitation of the foregoing, any dispute between you and LG shall not under any circumstances proceed as part of a class or representative action. Instead of arbitration, either party may bring an individual action in small claims court, but that small claims court action may not be brought on a class or representative basis.

Arbitration Rules and Procedures. To begin arbitration of a claim, either you or LG must make a written demand for arbitration. The arbitration will be administered by the American Arbitration Association ("AAA") and will be conducted before a single arbitrator under the AAA's Consumer Arbitration Rules that are in effect at the time the arbitration is initiated (referred to as the "AAA Rules") and under the procedures set forth in this section. The AAA Rules are available online at *www.adr.org/consumer*. Send a copy of your written demand for arbitration, as well as a copy of this provision, to the AAA in the manner described in the AAA Rules. You must also send a copy of your written demand to LG at LG Electronics, U.S.A., Inc. Attn: Legal Department- Arbitration 1000 Sylvan Avenue Englewood Cliffs, NJ 07632. If there is a conflict between the AAA Rules and the rules set forth in this section, the rules set forth in this section will govern. This arbitration provision is governed by the Federal Arbitration Act. Judgment may be entered on the arbitrator's award in any court of competent jurisdiction. All issues are for the arbitrator to decide, except that issues relating to the scope and enforceability of the arbitration provision and to the arbitrability of the dispute are for the court to decide. The arbitrator is bound by the terms of this provision.

Governing Law. The law of the state of your residence shall govern this Limited Warranty and any disputes between us except to the extent that such law is preempted by or inconsistent with applicable federal law.

Fees/Costs. You do not need to pay any fee to begin an arbitration. Upon receipt of your written demand for arbitration, LG will promptly pay all arbitration filing fees to the AAA unless you seek more than $25,000 in damages, in which case the payment of these fees will be governed by the AAA Rules. Except as otherwise provided for herein, LG will pay all AAA filing, administration and arbitrator fees for any arbitration initiated in accordance with the AAA Rules and this arbitration provision. If you prevail in the arbitration, LG will pay your attorneys' fees and expenses as long as they are reasonable, by considering factors including, but not limited to, the purchase amount and claim amount. Notwithstanding the foregoing, if applicable law allows for an award of reasonable attorneys' fees and expenses, an arbitrator can award them to the same extent that a court would. If the arbitrator finds either the substance of your claim or the relief sought in the demand is frivolous or brought for an improper purpose (as measured by the standards set forth in Federal Rule of Civil Procedure 11(b)), then the payment of all arbitration fees will be governed by the AAA Rules. In such a situation, you agree to reimburse LG for all monies previously disbursed by it that are otherwise your obligation to pay under the AAA Rules. Except as otherwise provided for, LG waives any rights it may have to seek attorneys' fees and expenses from you if LG prevails in the arbitration.

Hearings and Location. If your claim is for $25,000 or less, you may choose to have the arbitration conducted solely on the basis of (1) documents submitted to the arbitrator, (2) through a telephonic hearing, or (3) by an in-person hearing as established by the AAA Rules. If your claim exceeds $25,000, the right to a hearing will be determined by the AAA Rules. Any in-person arbitration hearings will be held at a location within the federal judicial district in which you reside unless we both agree to another location or we agree to a telephonic arbitration.

Opt Out. You may opt out of this dispute resolution procedure. If you opt out, neither you nor LG can require the other to participate in an arbitration proceeding. To opt out, you must send notice to LG no later than 30 calendar days from the date of the first consumer purchaser's purchase of the product by either: (i) sending an e-mail to *optout@lge.com*, with the subject line: "Arbitration Opt Out" or (ii) calling 1-800-980-2973. You must include in the opt out e-mail or provide by telephone: (a) your name and address; (b) the date on which the product was purchased; (c) the product model name or model number, and (d) the IMEI or MEID or Serial Number, as applicable (the IMEI or MEID or Serial Number can be found (i) on the product box; (ii) on a label on the back of the product beneath the battery, if the battery is removable; or (iii) from the settings menu via the following path: **Settings** > **System** > **About phone** > **Status**).
You may only opt out of the dispute resolution procedure in the manner described above (that is, by e-mail or telephone); no other form of notice will be effective to opt out of this dispute resolution procedure. Opting out of this dispute resolution procedure will not affect the coverage of the Limited Warranty in any way, and you will continue to enjoy the full benefits of the Limited Warranty. If you keep this product and do not opt out, then you accept all terms and conditions of the arbitration provision described above.


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