(typically back to back) and then tap your screen. The app determines what gets beamed.

To activate Android Beam:

Tap > > **Settings** > **Share & connect** > **Android Beam** .

NOTE

- You must enable NFC to activate Android Beam.

SmartShare Beam

Allows you to receive multimedia content from LG phones or tablets.

To activate SmartShare Beam:

Tap > > **Settings** > **Share & connect** > **SmartShare Beam**. Then tap the switch to activate SmartShare Beam and set the desired options.

NOTE

- You must enable Wi-Fi to activate SmartShare Beam.

Media Server

Share media content with nearby devices via DLNA.

1 Tap > > **Settings** > **Networks** tab > **Share & connect**.

2 Tap **Media sever** and checkmark the **Content sharing** checkbox to allow nearby devices to access your content.

LG PC Suite – Check this to use LG PC Suite with your Wi-Fi connection. Please note that Wi-Fi network should be connected to LG PC Suite via a Wi-Fi connection.

Tethering & networks

Allows you to configure mobile networks, tethering, and VPNs (Basic VPN, LG VPN).

USB Tethering

You can share your phone's data connection with a computer by turning on USB tethering.

To share your phone's data connection via USB cable:

Tap > > **Settings** > **Networks tab** > **Tethering & networks**. Then tap the **USB Tethering** switch to turn the function on.

NOTE

- You cannot access your phone's memory on your computer when using USB tethering.

Mobile Hotspot

You can also use your smartphone to provide a mobile broadband connection for up to 8 other devices. Create a hotspot and share your connection. To create a portable hotspot, tap > > **Settings** > **Networks** tab > **Tethering & networks** > **Mobile Hotspot**. Then tap the **Mobile Hotspot** switch to activate the feature. Tap **Set up Mobile Hotspot** to change the SSID, password, security type, and other hotspot options.

NOTE

- Mobile Hotspots requires an appropriate DataPro data plan. Devices connected to your Mobile Hotspot use data from your DataPro plan. Plans are not unlimited and significant charges may be incurred if the included data allowance is exceeded. Performance may vary depending on the number of devices connected and other factors. If you do not use a password, others will be able to use your Mobile Hotspot connection.

Bluetooth tethering

Bluetooth tethering allows you to connect other devices to your phone via Bluetooth.

To share your connection via Bluetooth tethering:

Tap > > **Settings** > **Networks** tab > **Tethering & networks**. Then tap the **Bluetooth tethering** switch to turn the function on.

NOTE

- Bluetooth tethering can be activated only when your smartphone is connected to the AT&T network.

Help

Tap to view help information about the Mobile Hotspot and Bluetooth tethering functions.

Mobile networks

You can set whether to enable or disable data access on your phone.

Data enabled - Select whether to enable or disable data access.

International data roaming - Select whether to enable or disable data access while international roaming.

Access point names - You can select the access point name, add a new APN, or reset to default.

Search for AT&T MicroCell - You can search and register an AT&T MicroCell in order to use it.

VPN

From your phone, you can add, set up, and manage virtual private networks (VPNs) that allow you to connect and access resources inside a secured local network, such as your corporate network.

Prepare Your Device for VPN Connection

Depending on the type of VPN you are using at work, you may be required to enter your login credentials or install security certificates before you can connect to your company's local network. You can get this information from your network administrator. Before you can initiate a VPN connection, you must set the screen lock option (Pattern, PIN, or Password only).

Add a Basic VPN Connection

The Basic VPN menu allows you to use the built-in Android VPN client supporting basic features.

1 Tap > > **Settings**.

2 Select the **Networks** tab.

3 Tap **Tethering & networks** > **VPN** > **Basic VPN > Add Basic VPN profile.**

NOTE

- You must change your screen lock before you use credential storage. You can set a pattern, PIN, or password.

4 Enter the VPN network according to the security details you have obtained from your network administrator.

5 When finished, tap **Save**.

Add a LG VPN Connection

The LG VPN menu allows you to use the advanced LG VPN client supporting full IPSec features and interoperability.

1 Tap > > **Settings**.

2 Select the **Networks** tab.

3 Tap **Tethering & networks** > **VPN** > **LG VPN** > **Add LG VPN network**.

4 Enter the VPN network according to the security details you have obtained from your network administrator.

5 When finished, tap **Save**.

Sound tab

Sound profile

Allows you to set the sound profile to Sound, Vibrate only, or Silent.

Volumes

Adjust the phone's volume settings to suit your needs and your environment.

Quiet mode

Tap the switch to enable this function. Tap **Quiet mode** to open a screen to set the days and times to automatically turn off all sounds except for alarms and media and to set allowed calls during the quiet mode.

Ringtone

Select the ringtone for incoming calls.

Default notification sound

Select the ringtone for notifications such as new messages receipt or calendar events.

Ringtone with vibration

Checkmark for vibration feedback for calls.

Vibration Type

Allows you to choose the type of vibration.

Vibrate on tap

Vibrate when tapping the Home touch buttons and during other UI interactions.

Sound effects

This menu lets you select whether you hear tones when touching numbers on the dialpad, selecting on-screen options, and more.

Message/Call Voice Notifications

To read out the incoming call and the message event automatically.

Display tab

Home screen

Select Home - Sets the home style for your device. Choose **Home** (standard Android layout) or **EasyHome** (simplified version for users less familiar with Android navigation).

Wallpaper - Allows you to set the Home screen wallpaper.

Screen swipe effect - Choose the desired type of effect to display when you swipe from one Home screen canvas to the next.

Allow Home screen looping - Allows you to select the type of effect to display when you swipe from one Home screen canvas to the next.

Home backup & restore - Select to backup and restore app/widget configurations.

Lock screen

Select screen lock - Select the desired option to secure your phone from the below.

None - No lock screen.

Swipe - Swipe any part of the screen to unlock screen.

Face Unlock - Unlocks the screen through facial recognition. Follow the prompts. You are asked to select Pattern and/or PIN as a backup.

Knock Code - Create your own lock code using the 2x2 grid on the screen. Tap the same sequence you established while the screen is off to access the Home screen directly.

NOTE

- KnockON is disabled when Knock Code is in use.

Pattern - Allows you to set a pattern as your screen lock. It's recommended that you enter a backup PIN as well in case you forget the pattern.

PIN - Enter a numeric PIN to unlock the screen.

Password - Enter a password to unlock the screen.

Screen swipe effect - Select the screen effect you want to use when unlocking the screen. The Swing Lock screen option must be disabled to be able to access this feature.

Wallpaper - Select the wallpaper to display for your lock screen. The Swing Lock screen option must be disabled to be able to access this feature.

Widgets - This menu allows you to show widgets on the Lock screen.

Missed Calls & New Messages

Show notifications of missed calls and new messages on Lock screen.

Shortcuts - Customize shortcuts on the lock screen.

1 Tap > > **Settings** > **Display** tab, then tap the **Lock screen** > **Shortcuts.**
2 Select the app you want to add as a shortcut on the Lock screen.

Contact Info for Lost Phone

Select whether to display the owner information on the lock screen and customize the owner information.

Lock timer

Allows you to set the amount of time before the screen automatically locks after the screen has timed-out.

Power button instantly locks

Checkmark to instantly lock the screen when the **Power/Lock Key** is pressed.

Home touch buttons

Configure the front tap buttons options.

Button combination - Select the desired front tap button combination.

Color - Select the color of the front tap buttons.

Transparent background - Select to use a transparent background on the front tap buttons area.

Font type

Select the desired font type.

Font size

Select the desired font size.

Brightness

Adjust the screen brightness by using the slider. Tap **Auto** to set the brightness to automatically change.

Notification LED

Select which type of notifications to display the front or rear LED for.

Auto-rotate screen

Set to switch orientation automatically when you rotate the phone.

Screen timeout

Set the time delay before the screen automatically turns off.

Smart screen

Checkmark this option to keep screen on when the phone detects your face looking at the screen.

Screen-off effect

Set the screen off effect used when the screen turns off.

Daydream

Select the screensaver to display when the phone is sleeping while docked and/or charging.

General tab

Language & input

Select the language for the text on your phone and for configuring the on-screen keyboard, including words that you've added to its dictionary.

Language - Choose a language to use on your phone.

Spelling correction - Allows spelling correction when using the on-screen keyboard.

Personal dictionary - Allows you to view, edit, and add words to your personal dictionary.

Default - Allows you to select the default keyboard type.

Checkmark the keyboard you want to use from **Android keyboard (AOSP)**, **Google voice typing**, and **LG Keyboard**. Tap ⚙ to configure each keyboard's settings.

Voice Search - Tap to configure the Voice Search settings.

Text-to-speech output - Tap to set the preferred engine or general settings for text-to-speech output.

Pointer speed - Adjust the pointer speed.

Location

Turn on location service so your phone can determine your approximate location using Wi-Fi and mobile networks. When you select this option, you're asked whether you consent to allowing Google

to use your location when providing these services.

Accounts & sync

Use the Accounts & sync settings menu to add, remove, and manage your Google and other supported accounts. You also use these settings to control how and whether all applications send, receive, and sync data on their own schedules and whether all applications can synchronize user data automatically. Gmail™, Calendar, and other applications may also have their own settings to control how they synchronize data; see the sections on those applications for details. Tap **Add account** to add new account.

Accessibility

Use the Accessibility settings to configure any accessibility plug-ins you have installed on your phone.

NOTE

- Requires additional plug-ins to become selectable.

TalkBack - Allows you to set up the TalkBack function which assists people with impaired vision by providing verbal feedback. Tap the switch at the top right corner of the screen to turn it on. Tap **Settings** at the bottom of the screen to adjust the TalkBack settings.

Large text - Checkmark to increase the size of the text.

Invert color - Increases the color contrast for people with difficulty perceiving color.

Color adjustment - Allows you to adjust the screen and content color. Tap the switch at the top right corner of the screen to turn it on. Drag your finger across the screen to adjust contrast and hue when Color adjustment is on.

Touch zoom - When this feature is turned on, you can zoom in and out by triple-tabbping the screen.

Screen shades - Checkmark to dim the screen's backlight.

Text-to-speech output - Text-to-speech output provides audible readout of text, for example, the contents of text messages, and the Caller ID for incoming calls.

Audio type - Choose between **Mono** and **Stereo**.

Sound balance - To manually set the audio route, move the slider on the mono audio slide bar.

Captions - Allows customized caption settings for those with hearing impairments.

Touch feedback time - Sets the touch and hold delay (short, medium, or long).

Universal tap - Tap the switch to toggle it On or off. On allows you to replace the hardware keys with a Universal tap board .Tap the Universal tap icon to access the Power, Home, Volume down, Volume up, and Pinch buttons. Draw a "C" on the board to automatically display the Dial tab. Draw an "M" on the board to automatically display the Messaging application. Draw a "W" on the board to automatically launch the Chrome application.

Auto-rotate screen - Checkmark to allow the device to rotate the screen depnding on the device orientation (portrait or landscape).

Read passwords - Allows the device to confirm characters via voice feedback when you are inputting passwords.

Power key ends call - Checkmark so that you can end voice calls by pressing the Power/Lock Key. When this option is enabled, pressing the Power/Lock Key during a call does not lock the screen.

Accessibility settings shortcut - Turning this feature on allows you to activate an accessibility feature by tapping the **Home Key** three (3) times. Choose from **Off, Show all, TalkBack, Invert color, Universal touch**, and **Accessibility settings**.

On-Screen Phone - Turns the On-Screen Phone function on so that you can receive Wi-Fi connection requests. Refer to page 101 for information about LG On-Screen Phone.

One-handed operation

Allows you to adjust the position of the dial keypad, LG keyboard, or lock screen to the left or right side of the screen to easily use it with one hand.

Dial keypad - Checkmark to adjust the position of the dial keypad.

LG keyboard - Checkmark to adjust the position of the LG keyboard.

Lock screen - Checkmark to adjust the position of the the PIN entry.

Help - Displays help information for each available option.

Shortcut key

Get quick access to apps by pressing and holding the volume keys when screen is off or locked.

Security

Use the Security menu to configure how to help secure your phone and its data.

Encrypt phone - Allows you to encrypt data on the phone for security. You will be required to enter a PIN or password to decrypt your phone each time you power it on.

Encrypt SD card storage - Encrypt SD card storage and keep data unavailable for other devices.

Set up SIM card lock - Allows you to set if you want to require a PIN to use or, if set, allows you to change the PIN.

Password typing visible - Checkmark to briefly show each character of passwords as you enter them so that you can see what you enter.

Phone administrators - Add or remove phone administrators.

Unknown sources - Allow installation of non-Play Store applications.

Verify apps - Disallow or warn before installation of apps that may cause harm.

Trusted credentials - Checkmark to allow applications to access your phone's encrypted store of secure certificates and related passwords and other credentials. You use credential storage to establish some types of VPN and Wi-Fi connections. If you have not set a password for the secure credential storage, this setting is dimmed.

Install from storage - Tap to install a secure certificate.

Clear credentials - Deletes all secure certificates and related credentials and erases the secure storage's own password.

Guest mode

Use Guest mode when you let someone else use your phone. They will only be able to use the applications that you've selected. Once you set it up, you can

easily put your phone in Guest mode by drawing the guest pattern on the Lock screen that you set, which is different from your normal unlock pattern.

NOTE

- To use Guest mode, set the Lock screen to pattern lock. Guest can also use apps not pre-selected but linked to pre-selected apps.

Gestures

Silence incoming calls - Flip the device to silence incoming calls.

Snooze or stop alarm - Flip the device to snooze or stop the alarm.

Pause video - Flip the device to pause the video.

Help - Tap to get information on using the Gesture functions of your device.

Motion sensor calibration - Improve the accuracy of the tilt and speed of the sensor.

QuickCircle case

Keep in mind that turning on these quickcircle case settings may result in irregular device behavior.

Date & time

Set your preferences for how the date and time is displayed.

Storage

You can monitor the used and available internal memory in the device.

Battery

See how much battery power is used for device activities. The battery level displays in a percentage. The remaining time of use is also displayed.

Battery percentage on status bar - Displays the battery percentage on the Status Bar.

Battery saver

Tap the switch to turn this feature on or off. Tap **Battery saver** for the following options.

Turn Battery saver on: Select the level at which you want to turn on the Battery saver function.

Auto-sync: Turns off Auto-sync.

Wi-Fi: Turns off Wi-Fi if data is not in use.

Bluetooth: Turns off Bluetooth if it's not connected to a device.

Vibrate on tap: Turns off tap feedback.

Brightness: Adjusts the brightness.

Auto-adjust screen tone: Turns on auto-adjust screen tone.

Screen timeout: Adjusts the screen timeout.

Notification LED: Turns off the notification LED.

Help - Tap to access some tips for the Battery saver function.

Smart cleaning

Display the space in use and free in your phone. Tap ⋮ at the top right corner of the screen to set notification interval and idle time period.

Browser Bar

The Browser Bar at the bottom of the Browser enhances your mobile browsing experience with contextual recommendations, social networking applications and browser utilities.

We've included some buttons to get you started and have made it easy to add more buttons, move or remove them. To display the Browser Bar, tap and drag the tab upwards.

TIP

- You must enable the **Toolbar** and **Active Browsers** options to activate the Browser Bar.

Apps

You use the Apps settings menu to view details about the applications installed on your phone, manage their data, or force them to stop. Tap the **DOWNLOADED, RUNNING** or **ALL** tabs to view information about your installed apps.

Default message app

The LG Messaging app should be set up as the default SMS app. If not, some message functions will be limited.

Backup & reset

Back up my data - Back up app data, Wi-Fi passwords, and other settings to Google servers.

Backup account - Displays the account

that is currently being used to back up information.

Automatic restore - When reinstalling an app, restore backed up settings and data.

LG Backup service - Backs up all information on the device and restores it in the event of data loss or replacement. For more information, tap ⋮ > **Help**.

Factory data reset - Erases all data on the phone, except as follows. In the event of device failure or error, your device may record in an error log information about the device's status at the time of the error event. The information recorded in the error log may include data about application names and usage, cell phone location and number, GPS status, memory usage and other non-personal device status information. This information is stored on your phone, and can only be accessed by LG if the phone is physically returned to LG for repair and service The error log information is used by LG only to diagnose, repair, and improve LG's products and services.

Printing

This menu allows you to manage your Google Cloud Print settings and print jobs.

About phone

View legal information, check phone status and software versions, and perform a software update.

LG On-Screen Phone

LG SOFTWARE

On-Screen Phone allows you to remotely control your mobile phone from a PC via a USB and Wi-Fi connection. You can also control your mobile phone from your PC using the mouse or keyboard.

On-Screen Phone icons

- Changes the On-Screen Phone preferences.
- Connects your mobile phone to your PC, or disconnects it.
- Minimizes the On-Screen Phone window.
- Maximizes the On-Screen Phone window.
- Exits the On-Screen Phone program.

On-Screen Phone features

- **Real-time transfer and control**: Displays and controls your mobile phone screen when connected to your PC.
- **Mouse control**: Allows you to control your mobile phone by using the mouse to click and drag on your PC screen.
- **Text input with keyboard**: Allows you to compose a text message or note using your computer keyboard.
- **File transfer (mobile phone to PC)**: Sends a file from your mobile phone (e.g. Gallery, Video Player, and Music) to your PC. Simply right-click on the file and drag it to send it to your PC.
- **File transfer (PC to mobile phone)**: Sends files from your PC to your mobile phone. Just select the files you wish to transfer and drag and drop them into the On-Screen Phone window. The sent files are stored in the OSP folder.

NOTE

- Please make sure that LG Home is the default launcher.

- **Real-time event notifications**: Prompts a pop-up to inform you of any incoming calls or text messages, as well as alarm and event notifications.

How to install On-Screen Phone on your PC

Visit **LG.com** (http://www.lg.com/us). Locate the search box in the upper right corner and enter the model number. From

the **SUPPORT** list, select your model. Scroll down and select the **OSP** tab and click on **DOWNLOAD**. When prompted, select **Run** to install On-Screen Phone on your PC.

How to connect your mobile phone to your PC

On-Screen Phone provides, USB, and Wi-Fi connection. Please follow the instructions on the Connection Wizard of the On-Screen Phone program.

NOTE

- To use On-Screen Phone using Wi-Fi connection, tap > > **Settings** > **General** tab > **PC connection** > **On-Screen Phone** checkbox is selected.
  Please make sure that the battery may run out more quickly due to the current consumption if On-Screen Phone is connected via Wi-Fi.
  When you connect your mobile phone to your PC via Mobile Hotspot and access to the Internet on the PC, additional data charges may be incurred depending on your DataPro data plan.

Access to the Internet using Wi-Fi networks may not work well depending on the network's traffic. When you enlarge the On-Screen Phone window, the display on the screen might become slow.

To check the phone-to-PC connection

Once the devices have been connected, drag the Status Bar down to check the On-Screen Phone connection status.

To disconnect your phone from your PC

Click in the top left of the On-Screen Phone window. Alternatively, drag the Status Bar down and select **On-Screen Phone connected** > **OK**.

LG PC Suite

LG PC Suite helps you manage media contents and applications in your phone by allowing you to connect to your phone to your PC.

With the LG PC Suite software, you can...

- Manage and play your media contents (music, movie, picture) on your PC.
- Send multimedia contents to your device.
- Backup the applications in your device.
- Update your device's software.
- Play multimedia contents of your PC from your device.
- Backup, create, and edit the memos in your device.

NOTE

- You can use the Help menu from the application to find out how to use the LG PC Suite software.

Installing the LG PC Suite Software

To download the LG PC Suite software, please do the following:

1. Go to www.lg.com/us.
2. Go to **SUPPORT** > **MOBILE SUPPORT** > **PC Sync**
3. Select the model information and click **GO**.
4. Scroll down, select the **PC Sync** tab and click **DOWNLOAD** to download LG PC Suite.

System Requirements for LG PC Suite software

- OS: Windows XP (Service pack 3) 32bit, Windows Vista, Windows 7, Windows 8
- CPU: 1 GHz or higher processors
- Memory: 512 MB or higher RAMs
- Graphic card: 1024 x 768 resolution, 32 bit color or higher
- HDD: 500 MB or more free hard disk space (More free hard disk space may be needed depending on the volume of data stored.)
- Required software: LG integrated drivers, Windows Media Player 10 or later.

NOTE

- **LG Integrated USB Driver**
  The LG integrated USB driver is required to connect an LG device and PC. It is installed automatically when you install the LG PC Suite software application.

Software Update

Phone Software Update

This feature allows you to update the firmware of your phone to the latest version conveniently from the internet without the need to visit a service center.

For more information on how to use this function, please visit:

http://update.lgmobile.com or

http://www.lg.com/common/ index.jsp.

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

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

This feature allows you to update the firmware of your phone to the newer version conveniently via OTA without connecting the USB data cable. This feature is only available if and when LG makes the newer version of the firmware available for your device.

First, you can check the software version on your mobile phone:

Tap > > **Settings** > **General** tab > **About phone** > **Software information**.

To perform the phone software update, tap > > **Settings** > **General** tab > **About phone** > **Software Update** > **Update now**.

NOTE

- Your personal data—including information about your Google account and any other accounts, your system/ application data and settings, any downloaded applications and your DRM licence —might be lost in the process of updating your phone's software. Therefore, LG recommends that you back up your personal data before updating your phone's software. LG does not take responsibility for any loss of personal data.

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DivX HD

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ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to vod.divx.com for more information on how to complete your registration.

DivX Certified® to play DivX® video up to HD 720p, including premium content.

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  To obtain the corresponding source code under GPL, LGPL, MPL and other open source licences, please visit http://opensource.lge.com. All referred licence terms, disclaimers and notices are available for download with the source code.
- Wi-Fi® and Wi-Fi Protected Access®are registered trademarks of the Wi-Fi Alliance.

Q&A

Please check to see if any problems you have encountered with the phone are described in this section before taking the phone in for a service or calling the Customer Service Center.

Q How do I view the list of outgoing calls, incoming calls and missed calls?

A Tap the **Phone Key** and tap the **Call logs** tab.

Q Why is the connection inconsistent or not audible in certain areas?

A When the frequency environment is unstable in a certain area, connection may be inconsistent and inaudible. Relocate to another area and try again.

Q Why is the connection inconsistent or abruptly disconnects even when established?

A When frequency is unstable or weak, or if there are too many users, a connection may be cut off even after it was established. Please try again later or attempt again after relocating to other areas.

Q Why does the phone heat up?

A The phone may get hot when there is a very long call duration, when games are played or even when surfing the Internet for a long time. This has no effect upon the life of the product or performance.

Q Why does the battery run out so quickly during normal use?

A This may be due to the user environment, a large number of calls or a weak signal.

Q Why is no number dialed when an Address Book entry is recalled?

A Check that the number has been stored correctly by using the Address book Search feature. Re-store them, if necessary.

Q The screen got frozen. How can I solve this problem?

A Press and hold the **Power/Lock Key** for 10 seconds to turn it off. Then press and hold the **Power/Lock Key** again for 1.5 seconds to reboot the phone.

Accessories

There are a variety of accessories available for your mobile phone, some of which may be sold separately. You can select these options according to your personal communication requirements. Visit your local AT&T store or www.att.com/wirelessaccessories for specific offerings.

NOTE

- Always use genuine LG accessories. Failure to do this may invalidate your warranty.
- Accessories may be different in different regions; please check with our regional service company or agent for further enquiries.

For Your Safety

Important Information

This user guide contains important information on the use and operation of this phone. Please read all the information carefully for optimal performance and to prevent any damage to or misuse of the phone. 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.

Before You Start

WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm. ***Wash hands after handling***.

Safety Instructions

WARNING! To reduce the possibility of electric shock, do not expose your phone to high humidity areas, such as the bathroom, swimming pool, etc.

Always store your phone away from heat. Never store your phone in settings that may expose it to temperatures less than 32°F or greater than 104°F, such as outside during extreme weather conditions or in your car on a hot day. Exposure to excessive cold or heat will result in malfunction, damage and/or catastrophic failure.

Be careful when using your phone near other electronic devices. RF emissions from your mobile phone may affect nearby in adequately shielded electronic equipment. You should consult with manufacturers of any personal medical devices such as pacemakers and hearing aides to determine if they are susceptible to interference from your mobile phone. Turn off your phone in a medical facility or at a gas station. Never place your phone in a microwave oven as this will cause the battery to explode.

IMPORTANT! Please read the TIA SAFETY INFORMATION before using your phone.

Safety Information

Read these simple guidelines. Breaking the rules may be dangerous or illegal. Further detailed information is given in

this user guide.

- Do not disassemble this unit. Take it to a qualified service technician when repair work is required.
- Keep away from electrical appliances such as TVs, radios, and personal computers.
- The unit should be kept away from heat sources such as radiators or cookers.
- Do not drop.
- Do not subject this unit to mechanical vibration or shock.
- The coating of the phone may be damaged if covered with wrap or vinyl wrapper.
- Use dry cloth to clean the exterior of the unit. (Do not use solvent such as benzene, thinner or alcohol.)
- Do not subject this unit to excessive smoke or dust.
- Do not keep the phone next to credit cards or transport tickets; it can affect the information on the magnetic strips.
- Do not tap the screen with a sharp object; otherwise, it may damage the phone.
- Do not expose the phone to liquid or moisture.
- Use the accessories like an earphone cautiously. Do not tap the antenna unnecessarily.

FCC RF Exposure Information

WARNING! Read this information before operating the phone.

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 phone complies with the FCC guidelines and these international standards.

CAUTION

Use only the supplied antenna. Use of unauthorized antennas or modifications could impair call quality, damage the phone, void your warranty and/or result in violation of FCC regulations. Do not use the phone with a damaged antenna. A damaged antenna could cause a minor skin burn. Contact your local dealer for a replacement antenna.

Body-worn Operation

This device was tested for typical body-worn operations with the back of the phone kept 0.39 inches (1cm) between the user's body and the back of the phone. To comply with FCC RF exposure requirements, a minimum separation distance of 0.39 inches (1cm) must be maintained between the user's body and the back of the phone. Third-party belt-clips, holsters, and similar accessories containing metallic components may not be used. Body-worn accessories that cannot maintain 0.39 inches (1cm) separation distance between the user's body and the back of the phone, and have not been tested for typical body-worn operations may not comply with FCC RF exposure limits and should be avoided.

Part 15.19 statement

This device complies with part15 of FCC rules.Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

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

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.

Cautions for Battery

- Do not disassemble or open crush, bend or deform, puncture or shred.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.
- Only use the battery for the system for which it is specified.
- Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.
- Battery usage by children should be supervised.
- Avoid dropping the phone. If the phone is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- Improper battery use may result in a fire, explosion or other hazard.
- For those host devices that utilize a USB port as a charging source, the host device's user manual shall include a statement that the phone shall only be connected to products that bear

the USB-IF logo or have completed the USB-IF compliance program.

Adapter (Charger) Cautions

- Using the wrong battery charger could damage your phone and void your warranty.
- The adapter or battery charger is intended for indoor use only.

Do not expose the adapter or battery charger to direct sunlight or use it in places with high humidity, such as the bathroom.

Avoid damage to your hearing

- Damage to your hearing can occur if you are exposed to loud sound for long periods of time. We therefore recommend that you do not turn on or off the handset close to your ear. We also recommend that music and call volumes are set to a reasonable level.
- If you are listening to music while out and about, please ensure that the volume is at a reasonable level so that you are aware of your surroundings. This is particularly imperative when attempting to cross the street.

Wi-Fi Caution

This device is capable of operating in 802.11a/n mode. For 802.11a/n devices operating in the frequency range of 5.15 – 5.25 GHz, they are restricted for indoor operations to reduce any potential harmful interference for Mobile Satellite Services (MSS) in the US. Wi-Fi Access Points that are capable of allowing your device to operate in 802.11a/n mode(5.15 – 5.25 GHz band) are optimized for indoor use only.

If your Wi-Fi network is capable of operating in this mode, please restrict your Wi-Fi use indoors to not violate federal regulations to protect Mobile Satellite Services.

TIA Safety Information

Provided herein is the complete TIA Safety Information for Wireless Handheld phones. Inclusion of the text covering Pacemakers, Hearing Aids, and Other Medical Devices is required in the owner's manual for CTIA Certification. Use of the remaining TIA language is encouraged when appropriate.

Exposure to Radio Frequency Signal

Your wireless handheld portable telephone is a lowpower radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.

In August, 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless phones. 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)

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).

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

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

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate FCC regulations.

Tips on Efficient Operation

For your phone to operate most efficiently: Don't tap the antenna unnecessarily when the phone is in use. Contact with

the antenna affects call quality and may cause the phone to operate at a higher power level than otherwise needed.

Driving

Check the laws and regulations on the use of wireless phones in the areas where you drive and always obey them. Also, if using your phone 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.

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 phone.

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six (6') inches be maintained between a handheld wireless phone 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 phone more than six (6) inches from their pacemaker when the phone is turned ON;
- Should not carry the phone in a breast pocket;
- Should use the ear opposite the pacemaker to minimize the potential for interference;
- Should turn the phone OFF immediately if there is any reason to suspect that interference is taking place.

Hearing Aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult AT&T.

HAC

This phone 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 phone that have not been tested yet for use with hearing aids. It is important to try the different features of this phone 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 phone for information on hearing aid compatibility. If you have questions about return or exchange policies, consult your service provider or phone retailer.

Other Medical Devices

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

Health Care Facilities

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

Aircraft

FCC regulations prohibit using your phone while in the air. Turn your phone OFF before boarding an aircraft.

Blasting Areas

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

Potentially Explosive Atmosphere

Turn your phone 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.

Charger and Adapter Safety

- The charger and adapter are intended for indoor use only.

Battery Information and Care

- Always unplug the charger from the wall socket after the phone is fully charged to save unnecessary power consumption of the charger.
- Please read the manual of specified charger about charging method.
- 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 phone, 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 phone in a pocket or bag without covering the receptacle of the phone (power plug pin), metallic articles (such as a coin, paperclip or pen) may short-circuit the phone. Always cover the receptacle when not in use.
- Recharge the battery after long periods of non-use to maximize battery life. Battery life will vary due to usage pattern and environmental conditions.
- Never store your phone in temperature less than -4°F or greater than 122°F. Charge the battery in range of 0°C ~ 45°C.
- Charging temperature range is regulated between 0°C and 45°C. Do not charge the battery out of recommended temperature range. Charging out of recommended range might cause the generating heat or serious damage of battery. And also, it might cause the deterioration of battery's characteristics and cycle life.
- Do not use or leave the battery under the blazing sun or in heated car by sunshine.The battery may generate heat, smoke or flame. And also, it might cause the deterioration of battery's characteristics or cycle life.
- The battery pack has protection circuit to avoid the danger. Do not use nearby the place where generates static electricity more than 100V which gives damage to the protection circuit. If the protection circuit were broken, the battery would generate smoke, rupture or flame.
- If the skin or cloth is smeared with liquid from the battery, wash with fresh water. It may cause the skin inflammation.

- Please take your phone to an authorized service center immediately if this occurs.
- Do not handle the phone with wet hands while it is being charged. It may cause an electric shock or seriously damage your phone.
- Do not place or answer calls while charging the phone as it may short-circuit the phone and/or cause electric shock or fire.
- The charger and adapter are intended for indoor use only.
- Talking on your phone for a long period of time may reduce call quality due to heat generated during use.

Explosion, Shock, and Fire Hazards

- Do not put your phone 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 phone, and clean the power plug pin when it is dirty.
- When using the power plug, ensure that it is firmly connected. If it is not, it may cause excessive heat or fire.
- If you put your phone in a pocket or bag without covering the receptacle of the phone (power plug pin), metallic articles (such as a coin, paperclip or pen) may short-circuit the phone. Always cover the receptacle when not in use.
- Do not short-circuit the battery. Metallic articles such as a coin, paperclip or pen in your pocket or bag may short-circuit the + and – terminals of the battery (metal strips on the battery) upon moving. Short-circuit of the terminal may damage the battery and cause an explosion.

General Notice

- Using a damaged battery or placing a battery in your mouth may cause serious injury.
- Do not place items containing magnetic components such as a credit card, phone card, bank book or subway ticket near your phone. The magnetism of the phone may damage the data stored in the magnetic strip.

- Talking on your phone for a long period of time may reduce call quality due to heat generated during use.
- When the phone is not used for a long period time, store it in a safe place with the power cord unplugged.
- Using the phone in proximity to receiving equipment (i.e., TV or radio) may cause interference to the phone.
- Do not use the phone if the antenna is damaged. If a damaged antenna contacts skin, it may cause a slight burn. Please contact an LG Authorized Service Center to replace the damaged antenna.
- Do not immerse your phone in water. If this happens, turn it off immediately and remove the battery. If the phone does not work, take it to an LG Authorized Service Center.
- Do not paint your phone.
- The data saved in your phone might be deleted due to careless use, repair of the phone, or upgrade of the software. Please backup your important phone numbers. (Ring tones, 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 phone in public places, set the ring tone to vibration so as not to disturb others.
- Do not turn your phone on or off when putting it in your ear.
- Your phone is an electronic device that generates heat during normal operation. Extremely prolonged, direct skin contact in the absence of adequate ventilation may result in discomfort or minor burns. Therefore, use care when handling your phone during or immediately after operation.

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 commonsense recommendations when using any portable audio device: **204 Safety**

- 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 noisecancelling 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.

You can obtain additional information on this subject from the following sources: **Safety 205**

American Academy of Audiology 11730 Plaza American Drive, Suite 300

Reston, VA 20190

Voice: (800) 222-2336

Email: info@audiology.org

Internet: www.audiology.org

National Institute on Deafness and Other Communication

Disorders

National Institutes of Health

31 Center Drive, MSC 2320

Bethesda, MD USA 20892-2320

Voice: (301) 496-7243

Email: nidcdinfo@nih.gov

Internet: http://www.nidcd.nih.gov/health/hearing

National Institute for Occupational Safety and Health Hubert H. Humphrey Bldg.

200 Independence Ave., SW Washington, DC 20201 Voice: 1-800-35-NIOSH (1-800-356-4674)

Internet: http://www.cdc.gov/niosh/topics/noise/default.html

FDA Consumer Update

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

1.Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe. Wireless phones emit low levels of radiofrequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the Home screen. 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 phones?

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

Although the existing scientific data do not justify FDA regulatory actions, the FDA has urged the wireless phone 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 phones;
- Design wireless phones 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 phones with the best possible information on possible effects of wireless phone 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 phones with the Federal Communications Commission (FCC). All phones 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 phones.

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

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

The term 'wireless phone' refers here to handheld wireless phones with built-in antennas, often called 'cell', 'mobile', or 'PCS' phones. These types of wireless phones can expose the user to measurable radiofrequency energy (RF) because of the short distance between the phone 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 phone 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 phones,' 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 radiofrequency energy (RF) exposures characteristic of wireless

phones 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 phones, so we don't 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 phones 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 phone RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

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

A combination of laboratory studies and epidemiological studies of people actually using wireless phones 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 10 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 phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

6. What is the FDA doing to find out more about the possible health effects of wireless phone 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 radiofrequency energy (RF). The FDA has been a leading participant in the World Health Organization International Electromagnetic 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 phone 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 phone 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 phone?

All phones sold in the United

States must comply with Federal Communications Commission (FCC) guidelines that limit radio frequency energy (RF) 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 telephones 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 phone and is set well below levels known to have effects. Manufacturers of wireless phones must report the RF exposure level for each model of phone to the FCC. The FCC website (http://www.fcc.gov/oet/rfsafety) gives directions for locating the FCC identification number on your phone so you can find your phone's RF exposure level in the online listing.

8. What has the FDA done to measure the radio frequency energy coming from wireless phones?

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the radio frequency energy (RF) exposure from wireless phones 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 phone users. The test method uses a tissuesimulating 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 phone. 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 phone complies with safety guidelines.

9. What steps can I take to reduce my exposure to radiofrequency energy from my wireless phone?

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 radiofrequency energy (RF). Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure. If you must conduct extended conversations by wireless phone 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 phone away from your body or use a wireless phone connected to a remote antenna. Again, the scientific data do not demonstrate that wireless phones 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 phone use.

10. What about children using wireless phones?

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers.
If you want to take steps to lower exposure to radiofrequency energy (RF), the measures described above would apply to children and teenagers using wireless phones. Reducing the time of wireless phone 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 phones 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 phone causes brain tumors or other ill effects. Their recommendation to limit wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

11. What about wireless phone interference with medical equipment?

Radio frequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, the FDA helped develop a detailed test method to measure electromagnetic 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 phone EMI. The FDA has tested hearing aids for interference from handheld wireless phones 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 phones so that no interference occurs when a person uses a 'compatible' phone 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 phones 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 phones (http://www.fda.gov, click on "C" in the index and "Cell Phones")

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

International Commission on Non-Ionizing Radiation Protection (http://www.icnirp.de)

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

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

10 Driver Safety Tips

Your wireless phone gives you the powerful ability to communicate by voice almost anywhere, anytime. An important responsibility accompanies the benefits of wireless phones, one that every user must uphold.

When operating a car, driving is your first responsibility.

When using your wireless phone behind the wheel of a car, practice good common sense and remember the following tips:

1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone 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 phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
3. Make sure you place your wireless

phone 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. Do not 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. Don't 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 phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations — with your phone at your side, help is only three numbers away. Dial 911 or other local emergency number in the case of fire,

traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!

9. Use your wireless phone to help others in emergencies. Your wireless phone 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 other 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 phone 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 phone while operating a vehicle.

For more information, please call to 888-901-SAFE, or visit our website http://www.ctia.org.

Consumer Information on SAR (Specific Absorption Rate)

This model phone meets the government's requirements for exposure to radio waves.

Your wireless phone 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 (FCC) 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 phone 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 phone while operating can be well below the maximum value. Because the phone 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 phone 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. The highest SAR value for this phone when tested for use at the ear is 1.07 W/kg and when worn on the body, as described in this user's manual, is 1.07 W/kg. (Body-worn measurements differ among phones models, depending upon available accessories and FCC requirements.) While there may be differences between SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF emission guidelines. SAR information on this model phone 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 ZNFD725.

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 phones under the Hearing Aid Compatibility Act of 1988 (HAC Act) to require digital wireless phones 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 phones 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 phones also vary in the amount of interference they generate.

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

The ratings are not guarantees. 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 phone successfully. Trying out the phone with your hearing device is the best way to evaluate it for your personal

needs.

M-Ratings: Phones rated M3 or M4 meet FCC requirements and are likely to generate less interference to hearing devices than phones that are not labeled. M4 is the better/higher of the two ratings.

T-Ratings: Phones rated T3 or T4 meet FCC requirements and are likely to generate less interference to hearing devices than phones 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 phone 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 phone 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 phone. "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.

When you're talking on a cell phone, it's recommended that you turn the BT or WLAN mode off for HAC.

For information about hearing aids and digital wireless phones

Wireless Phones and Hearing Aid Accessibility

http://www.accesswireless.org/

Gallaudet University, RERC

http://tap.gallaudet.edu/Voice/

FCC Hearing Aid Compatibility and Volume Control

http://www.fcc.gov/cgb/dro/hearing.html

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