



November 10, 2004

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Ex Parte* Presentation in WT Docket No. 01-309
Section 68.4(a) of the Commission's Rules Governing
Hearing Aid Compatible Telephones

Dear Ms. Dortch:

On November 5, 2004, representatives from the Alliance for Telecommunications Industry Solutions ("ATIS") Incubator Solutions Program 4 dealing with Hearing Aid Compatibility issues ("AISP.4-HAC" or "HAC Incubator"), met with representatives from the Federal Communications Commission's ("FCC") Wireless Bureau and Office of Engineering & Technology ("OET"). The purpose of the meeting was to provide a status report on the various projects this group has underway.

In attendance, representing the FCC, were: Julius Knapp, Deputy Chief, OET; Michael Wilhelm, Chief, Public Safety & Critical Infrastructure Division, WTB; Nicole McGinnis, Front Office Legal Advisor, WTB; Greg Guice, Assistant Division Chief, WTB; Andra Cunningham, Attorney Advisor, WTB; Richard Fabina, Equipment Authorization Branch Chief, OET; Martin Perrine, Electronic Engineer, Laboratory Division, OET; Bill Hurst, Technical Research Branch Chief, Laboratory Division, OET; and Rashmi Doshi, Chief, Laboratory Division, OET. The individuals representing the HAC Incubator were: Steve Coston, Technical Manager, Regulatory Project Office, Sony Ericsson Mobile Communications; Mary Jones, Consultant, T-Mobile USA; Scott Kelley, Senior Staff Engineer, Disability Access, Product Safety & Compliance, Motorola Personal Communications Sector; Al Wiczorek, Distinguished Member of the Technical Staff, Motorola; David Dzumba, Senior Manager, Global Accessibility, Nokia; Susan Mazrui, Director, Federal Regulatory Affairs, Cingular Wireless; Jim Turner, Technical Coordinator, ATIS and Megan Campbell, General Counsel, ATIS.

The HAC representatives began by discussing specific examples of outreach to other industry and consumer groups. Round Robin testing currently underway was also summarized and discussed. Finally, there was extensive discussion around the C63.19 Standard and the differences with the HACTS Test Specification. It was explained that the HAC Incubator has worked cooperatively with the C63.19 Committee to introduce the differences as recommended revisions to the standard. The discussion at the meeting was consistent with the presentation materials distributed during the meeting (a copy of which is attached with this letter).

Pursuant to Section 1.1206(b)(2) of the Commission's rules, one copy of this letter is being filed electronically for inclusion in the public record of the above-referenced proceeding.

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If there are any questions regarding this matter, please do not hesitate to contact the undersigned.

Sincerely,



Megan L. Campbell
General Counsel
The Alliance for Telecommunications
Industry Solutions
1200 G Street NW
Suite 500
Washington, DC 20005
Phone: (202) 434-8830

Attachment

cc: Julius Knapp, Deputy Chief, OET
Michael Wilhelm, Chief, Public Safety & Critical Infrastructure Division, WTB
Nicole McGinnis, Front Office Legal Advisor, WTB
Greg Guice, Assistant Division Chief, WTB
Andra Cunningham, Attorney Advisor, WTB
Rashmi Doshi, Chief, Laboratory Division, OET
Richard Fabina, Equipment Authorization Branch Chief, OET
Martin Perrine, Electronics Engineer, Laboratory Division, OET
Catherine Seidel, Deputy Chief, WTB
Steve Coston, Technical Manager, Regulatory Project Office, Sony Ericsson Mobile Communications
Mary Jones, Consultant, T-Mobile USA
Scott Kelley, Senior Staff Engineer, Disability Access, Product Safety & Compliance, Motorola Personal
Communications Sector
Al Wiczorek, Distinguished Member of the Technical Staff, Motorola
David Dzumba, Senior Manager, Global Accessibility, Nokia
Susan Mazrui, Director, Federal Regulatory Affairs, Cingular Wireless
Jim Turner, Technical Coordinator, ATIS
Megan Campbell, General Counsel, ATIS

AGENDA

November 5, 2004

ATIS Incubator and FCC Wireless Bureau and OET Meeting

I. Incubator Members exemplary effort

- A. Outreach to hearing impaired groups
- B. Cooperation with C63 Committee
- C. Industry 'checks and balances'
- D. Round Robin test effort

II. Round Robin Test Results

- A. Common wireless devices
- B. Calibrated equipment
- C. Repeatable test results
- D. Measurement Uncertainty Factors

III. Document updates & clarifications to C63.19

- A. Non-controversial changes
- B. Comments from changes
- C. Second recirculation Ballot
- D. Focus on RF emissions
- E. T-coil Compatibility
- F. Future changes to C63.19

IV. Consumer Outreach Accomplishments

- A. Audiologists
- B. CTIA Web site
- C. Labels and Markings
- D. SHHH Convention 2004

V. November 2004 Report

- A. Joint Filing

Wireless Devices/Telephones and Hearing Aids FAQ's

Recently, there has been talk about the compatibility between hearing aids and wireless devices. What's this all about?

- On July 10, 2003, the Federal Communications Commission (FCC) issued a Report and Order modifying the exemption for wireless phones under the Hearing Aid Compatibility ACT of 1988. The Report and Order will require wireless phone manufacturers and service providers to meet the following:
 1. In two years, each large wireless carrier will have at least two phone models or 25% of its models offered (whichever is greater) with reduced Radio Frequencies (RF) interference for each air interface offered (eg. GSM, CDMA, iDen).
 2. In three years, wireless carriers will offer built in t-coil coupling in at least two phone models for each air interface the carrier offers.
 3. By February 18, 2008, 50% of all digital wireless phone models will have reduced RF interference.

There are some exceptions. Those manufacturers that offer only one or two phone models for sale in the U.S. do not have to comply with these requirements. And manufacturers offering only three models for sale in the U.S. must reduce interference and provide t-coil compatibility for at least one of its phones.

What is the correct name for a wireless phone, I hear all kinds of terms used?

- A wireless phone is really a radio, which send and receives radio signals. Wireless phones are often called cell phones, mobile phones and or PCS phones.

Is a cordless phone the same thing as a wireless phone?

- No, it is a wireline phone that plugs into a wall telephone jack and recharges in a base unit when not in use. Whereas wireless phones have a dedicated phone number and are not physically connected to a phone jack.

How do wireless phones work?

- A wireless phone operates as a two-way radio. For instance, when a caller turns on a wireless phone, the phone searches for a local network and then transmits identification information so that the network can verify certain caller details, including service provider and phone number of the wireless phone. If the caller is calling from a mobile phone to a landline phone, the call connects to the nearest wireless antenna, which, in turn, sends the call to an exchange. The exchange then connects the call to the landline network where the call is directed to its destination whether it is local or long distance call.

If the caller is calling another wireless phone, the call is connected with the nearest wireless antenna and it will be connected through the mobile network exchange within the wireless network to the person called. These transactions all take place within a few seconds.

What causes the interference between some hearing aids and wireless phone?

- When using a digital wireless phone, the conversation is transmitted using radio waves. These radio waves or RF emissions create an electromagnetic (EM) field around the phones antenna. This magnetic field sends off a pulsating pattern and can be picked up by the hearing aid's microphone or the t-coil and may cause a buzzing or pulsating sound.

In addition, the wireless phones backlighting, display, keypad, battery and the circuit board may cause interference. This interference is sometimes referred to as baseband electromagnetic interference. It is only audible when the hearing aid is set to the telecoil position.

A good way to test if there may be interference between your wireless phone and hearing aid is to "test-drive" the phone before you buy.

Is there a difference between the transmitting technologies, CDMA, iDEN & GSM and their compatibility with hearing aids?

- Wireless phones operate using several different technologies including CDMA, iDEN and GSM, which represents a different way of transmitting the digital signal over the airwaves. The following is a list of service providers and their technologies.

1. Verizon – CDMA

2. Sprint PCS – CDMA
3. Nextel – iDEN
4. Cingular Wireless – GSM
5. T-Mobile – GSM
6. AT&T – GSM
7. ALLTEL - CDMA

Anecdotal report, clinical experience and some research have noted that CDMA and iDEN transmission technologies seem to have less interference than the GSM technology. However, this does not mean that the CDMA and the iDEN technologies are interference free and that the GSM always has interference.

I am looking to buy a new hearing aid, are there some that cause less interference than others?

- Hearing aids come in a number of different styles, In-the-Ear (ITE), In-the-Canal (ITC), Completely-in-the Canal (CIC) and Behind-the-Ear (BTE). Individuals who wear hearing aids that are inside their ears, such as ITE's, ITC's and CIC's experience less interference/buzzing than those wearing BTE's. Also newer, hearing aids are generally more immune than older hearing aids due in part to recent efforts to immunize new hearing aids.

How should someone who wears a hearing aid go about buying a wireless phone?

- First, consult with your audiologist or hearing professional. He or she will be able to give you some pointers as to what works best with your hearing aid.

Second, it is better to shop at the full retail stores of service providers. They have a full selection of phones and their staff is better trained than stores that sell many types of electronics. They often have telephones that you can try while in the store

Since almost everyone has a wireless phone today, you may want to try some wireless phones of family and friends to see which carrier and handset design works best with your hearing aid. And finally, make sure when you buy a wireless/cell phone that you have a trial period, this gives you the option of bringing it back if it doesn't work.

Wireless phones have many features today. Are there some that are more important than others for hearing aid users?

- Yes, there are a number of features that should be taken into consideration when purchasing a wireless/cell phone. Your audiologist or hearing healthcare professional

can help you choose which ones are most important for you. The degree of hearing loss and the type of hearing aid being worn will make a difference in which ones are most important. These features include but are not limited to:

1. Vibrating alert for incoming calls
2. Selectable ringer tones – different frequencies or patterns may make it easier to hear
3. T-coil coupling (consider how strong it is)
4. Short messaging service (SMS)
5. Increased volume control
6. Headset jack
7. Compatibility with a neckloop
8. Compatibility with TTYs
9. Accessible alerts (low battery signal etc.)

There are many styles of wireless phones. Are there particular styles that work best with hearing aids?

- Hearing aid users have been reporting that the “clam shell” or “flip up” design works best. You want to make sure that in the “flip up” phone, the only part that “flips up” is the speaker. These designs tend to either shield or provide distance from the transmission technology and RF emissions.

Are there any accessories that can be added to the wireless/cell phone that can help?

- Yes, there are a number that are made by both the wireless phone manufactures and third party accessory makers. These include such things as loopsets , headsets, inductive silhouettes with microphones and more. Using an accessory device moves the handset away from the hearing aid that reduces interference.

Where can I go for help if I still have questions or am experiencing problems?

- One of the best places to go is www.accesswireless.org, which is sponsored by CTIA, The Cellular Telecommunication and Internet Association. This site provides a great deal of information and an on-line discussion board, where hearing aid wearers can share information about what phones work best with their particular hearing aids.

Also, many of the handset manufacturers and wireless service providers have information on their websites as well as 800 numbers for customers with disabilities.

Also your Audiologist/ hearing healthcare provider can supply specific information about your hearing aid and make recommendations.

Have the hearing aid companies been doing anything to address this issue?

- Yes. Most of the European manufacturers of hearing aids have been working on this issue for over 10 years. This came about because digital wireless devices were introduced into the overseas market about 5 years earlier than in the U.S. In testing the hearing aids with digital wireless devices, the hearing aid manufacturers found that the wires inside the hearing aid pick up the RF emissions. The transformation to integrated circuitry has cut down on the number of wires inside a hearing aid and the wires that remain have been made shorter. This reportedly has cut down on the interference tremendously.

A few other things have been noted. Hearing aids that fit inside the ear tend to experience less interference. This is because much of the hearing aid is encased in the body and therefore, less of the hearing aid is exposed to the RF emissions. Also, the hearing aid is farther away from the digital device. Generally speaking, the smaller that the hearing aid is and the deeper the hearing aid goes into the ear, the less interference that is experienced.

The main problem that the hearing aid manufacturers are facing is reducing the RF interference with Behind-the-Ear (BTE) hearing aids. They have been experimenting with a number of materials that they can put inside the case to protect the circuitry from the RF emissions. They have not come up with an ideal material yet, but they are working on it. Perhaps one of the best ways to have BTE's work with wireless devices is to use T-Coil coupling which is one of the areas that the wireless devices manufacturers are working on at this time.

Wireless phones have many features today. Are some more important than others for hearing aid users?

Yes, there are a number of features that should be taken into consideration when purchasing a wireless/cell phone. Your audiologist or hearing healthcare professional can help you chose which ones are most important for you. The degree of hearing loss and the type of hearing aid being worn will make a difference in which ones are most important. These features include but are not limited to:

1. Vibrating alert for incoming calls
2. Selectable ringer tones – different frequencies or patterns make it easier to hear
3. T-coil coupling
4. Short messaging services (SMS)
5. Increased volume control
6. Headset
7. Compatibility with accessories



Hearing Professionals

USA

Hearing Aids & Digital Wireless Phones



Recently, there has been talk about the compatibility between hearing aids and wireless phones. What's this all about?

On August 14, 2003, the Federal Communications Commission (FCC) released a Report & Order, which modified the exemption for wireless phones under the Hearing Aid Compatibility Act of 1988. This means that wireless phone manufacturers and service providers must make digital wireless phones accessible to individuals who use hearing aids. The FCC gave the telecommunication industry two years (summer of 2005) to have the first telephones with reduced RF (Radio Frequencies) available. More information is available at FCC website: www.fcc.gov/cgb/dro/hearing.html

How do wireless phones work?

You can think of wireless phones as two-way radios. When you talk into a wireless telephone, your voice is picked up and converted into radiofrequency energy (or radio waves). These radio waves travel through the air to a tower or base station which in turn sends your call through the telephone network to a base station close to the person you are calling. The base station sends the radio waves which are detected by the receiver of the telephone and are turned back into the sound of a voice.

What causes some hearing aids to have interference when a cell phone is put up to them?

When using a wireless or digital cell phone, the conversation is transmitted using radio waves. These radio waves or RF emissions create an electromagnetic (EM) field around the phone's antenna. This EM has a pulsating pattern and can be picked up by the hearing aid's microphone or tele-coil and cause a buzzing or pulsating sound. To make matters even more complicated, there are a number of transmitting technologies (CDMA, iDEN & GSM). Verizon Wireless and Sprint PCS use CDMA technology, Nextel uses iDEN technology and AT&T Wireless, Cingular Wireless and T-Mobile all use GSM technology.

Are there other issues besides RF emissions and interference that hearing aid users should be concerned about?

Yes, there is another form of interference which is referred to as baseband or magnetic interference. This is related to the backlighting, display, keypad, battery and the circuit board of wireless phones. As you can see, this is a complicated issue which makes it imperative to "test drive" a wireless phone before buying!

Is there a difference between the transmitting technologies, CDMA, iDEN & GSM and their compatibility with hearing aids?

Through anecdotal reports, clinical experience and some research, CDMA and iDEN transmission technologies seem to work better than the GSM transmission

technology. However, this does not mean that the CDMA and iDEN technologies are interference free and that the GSM always has interference.

If you are going to buy a new hearing aid, are there some that have less difficulty than others when used with wireless phones?

Generally speaking, individuals who wear hearing aids that are inside their ears, such as ITE's, ITC's and CIC's experience less interference/buzzing than those wearing BTE's. Also, the newer, digital hearing aids are generally more immune than the older, conventional analog hearing aids.

How should someone who wears a hearing aid go about buying a cell phone?

First, consult with your audiologist or hearing professional. He or she will be able to give you some pointers as to what works best with your hearing aid.

Second, it is better to shop at the full retail store of service providers. They have a full selection of phones and their staff is better trained than stores that sell many types of electronics. They often have telephones that you can try while in the store

Since almost everyone has a wireless phone today, you may want to try some wireless phones of family and friends to see which carrier and handset design works best with your hearing aid. And finally, make sure when you buy a wireless/cell phone that you have a trial period, this gives you the option of bringing it back if it doesn't work.

Proposed Symbols v1.5

A
Rated for Hearing
Aids: M4, T3



D
M4, T3

Working Group 6, of the Alliance for Telecommunications Industry Solutions (ATIS) Incubator for Hearing Aid and Cell Phone Compatibility has come up with four proposed labels and/or symbols that will appear on the outside of the boxes of cellular phones. The Working Group would like to survey the public to find out which of the four provides the clearest understanding that the cellular phone is compatible with a hearing aid. Also, they would like to know which of the two symbols (B or C) and which of the two “verbal descriptions” (A or D) provides the clearest understanding that the cellular phone is compatible with a hearing aid.

1. Of the four proposed labels/symbols (A, B, C or D), which one provides the clearest message that the cellular phone is likely to work with a hearing aid?

A
B
C
D
None of the above

2. Of the two proposals that use labels/symbols, which one (B or C) provides the clearer message that the cellular phone is likely to work with a hearing aid?

B
C
Neither

3. Of the two proposals that use only words, which one (A or D) provides the clearer message that the cellular phone is likely to work with a hearing aid?

A
D
Neither



PHOTO: Oticon

For information about hearing aids and digital wireless phones

FCC Hearing Aid Compatibility and Volume Control
<http://www.fcc.gov/cgb/dro/hearing.html>

Gallaudet University, RERC
<http://tap.gallaudet.edu/DigWireless.KS/DigWireless.htm>

Self Help for Hard of Hearing People Inc. [SHHH]
www.hearingloss.org/hat/TipsWirelessPhones.htm

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

How can I learn more about my company's responsibilities?



ATIS Incubator Solutions Program – The Alliance for Telecommunications Industry Solutions (ATIS) is a United States organization that is committed to rapidly developing and promoting technical and operations standards for the communications and related information technologies industry worldwide using an approval by consensus approach. Over 1,100 industry professionals from more than 350 communications companies actively participate in ATIS' industry committees and incubator solutions programs where standards and solutions are developed addressing a wide range of industry issues. The Industry, health care professionals and consumers with disabilities have been working together to develop solutions and meet the FCC requirements, through the ATIS Hearing Aid Compatibility - Incubator Solutions Program. This working group is an open and impartial consensus program that investigates and develops recommendations to standards for magnetic coupling and interference from wireless devices. Members of the Incubator Solutions Program include: Sony Ericsson Mobile, Research In Motion, Nokia, Motorola, Kyocera Wireless, Nextel, Audiovox, Panasonic, Siemens, Samsung Electronics, NEC America, Cingular Wireless, AT&T Wireless, Dobson Cellular Systems, Inc., Leap Wireless/Cricket Communications, Alltel, Keystone Wireless, Verizon Wireless, Sprint PCS, Carolina West Wireless, Western Wireless Corporation, Louisiana Unwired LLC, T-Mobile, Key Communications, American Cellular Systems, Inc., Nextel Partners Inc, Brookings Municipal Utilities d/b/a Swiftel Communications, and HIA. Other participants within the Incubator Solutions Program include: Self Help for Hard of Hearing People Inc. (SHHH), Gallaudet University, Siemens Hearing Aids, Etymotic, Starkey, ASHA, AAA, CTIA, ANSI ASC C63, FCA and FCC. The ATIS website, www.atis.org, has information about the ATIS Incubator Solutions Program #4 on HAC (AISP.4-HAC).

www.atis.org



The Wireless Association™

CTIA–The Wireless Association™ is the international organization that represents all sectors of wireless communications-cellular, personal communication services and enhanced specialized mobile radio. CTIA serves the interests of service providers, manufacturers, wireless data and Internet companies and other contributors to the wireless universe. www.ctia.org. The CTIA website, www.accesswireless.org, has information for deaf and hard of hearing consumers. This site provides consumers with relevant information to help them select a wireless phone and service that best meets their needs.

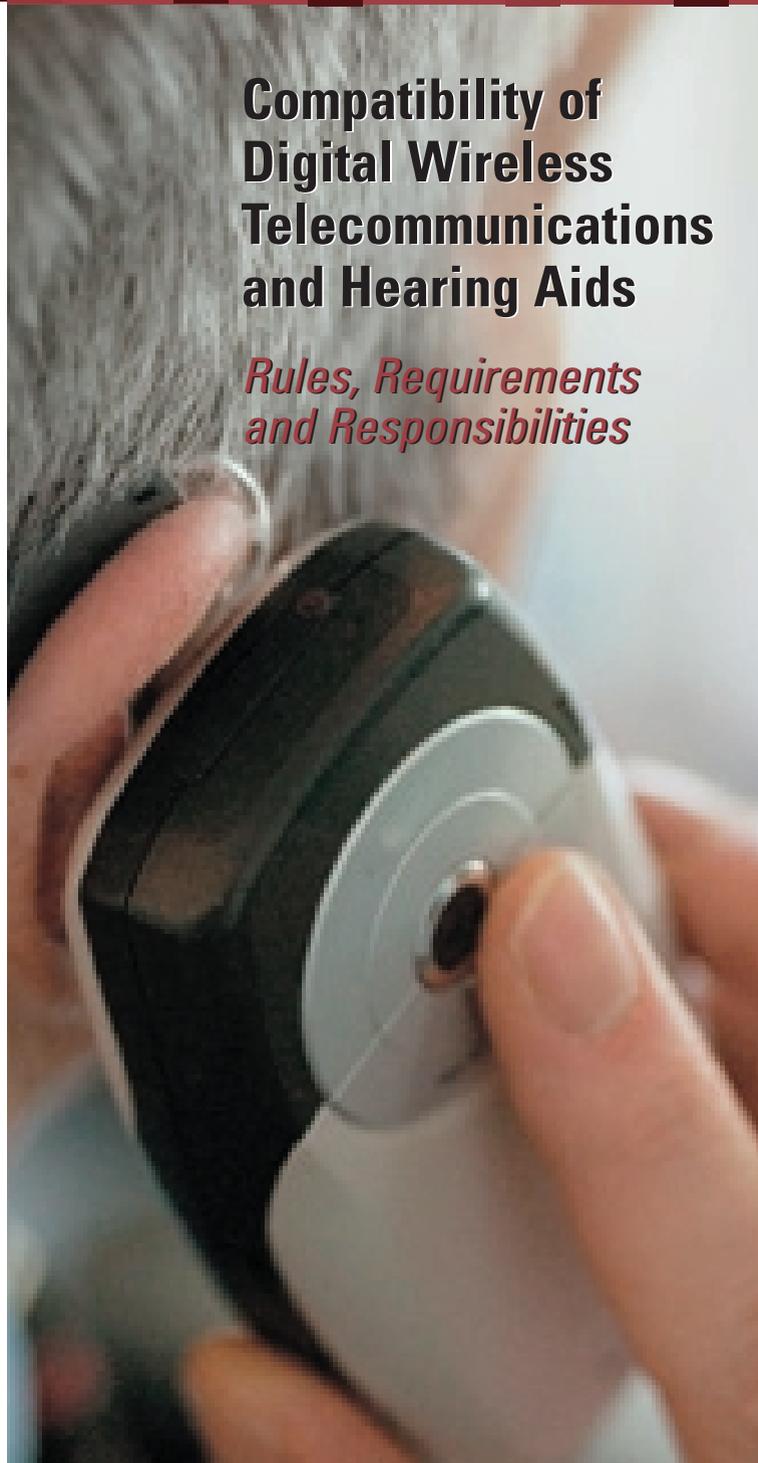
www.ctia.org

www.accesswireless.org

PHOTO: Oticon

Compatibility of Digital Wireless Telecommunications and Hearing Aids

Rules, Requirements and Responsibilities



Wireless telecommunications technology is increasingly important in people's everyday lives. These wireless devices are used for transacting business, staying in touch with family and friends, and for communicating during emergencies. While the digital wireless revolution has brought many benefits to consumers, including customers with disabilities, there continue to be technical challenges which limit the use of digital wireless telecommunications for some consumers who wear hearing aids.



A key challenge for our industry is reducing the interference between some hearing aids and some digital wireless phones. Wireless telecommunications

devices emit two types of electromagnetic (EM) fields: those necessary to connect phone calls that sometimes cause RF interference and those emitted by the circuitry and device backlighting that sometimes cause baseband interference. Some hearing aids, particularly those with low immunity levels, unintentionally pick up outside electromagnetic (EM) fields (e.g. florescent lighting, PC monitors , some digital wireless phones...etc.) creating a "buzz" heard by a hearing aid wearer that makes it difficult or impossible to hear the telephone conversation. A consumer's experience with interference to his hearing aid is dependent on the unique interaction between the digital wireless telecommunications device he's using and his hearing aids.

The Hearing Aid Compatibility Act

Effective November 17, 2003 the Federal Communications Commission (FCC) updated the Hearing Aid Compatibility Act of 1998 implementing new requirements for digital wireless phones (WT Docket No. 01-309; FCC 03-168) to enable hearing aid wearers to more effectively use these devices. The FCC adopted certain handset performance levels established by the American National Standards Institute (ANSI C63.19) that require companies to certify compliance with the ANSI C63.19 standard and indicate the appropriate device ratings for both reduced RF emissions and magnetic coupling¹. In addition, by September 2005 digital wireless handset packaging material will be made available to clearly display the handset's performance level (M rating). Further explanations about the ANSI C63.19 M ratings will be included in the User's manual or as an insert in the handset packaging materials.

¹Approximately 30% of the hearing aids sold in the United States are telecoil equipped. The telecoils provide magnetic coupling which creates a direct feed of sound from the phone to the hearing aid. The magnetic coupling cuts out background noise and increases the hearing aid user's ability to better hear the phone conversation.

What does this law mean for companies?

Which companies have to comply?

- **Service Providers** offering commercial wireless communications within the United States
- **Manufacturers** of wireless telecommunications devices used in the delivery of the abovementioned services within the United States.
- **Exemption from requirements**
Service providers and manufacturers that offer only two or fewer digital wireless phone models for sale in the United States. are exempt from these requirements

What are the technical requirements?

For Manufacturers with more than two digital wireless phone models for sale in the United States

Reduced RF emissions

- **By September 16, 2005** - Offer to service providers at least two handset models for each air interface offered that comply with a minimum of M3 rating as set forth in the ANSI C63.19 requirements
- **By February 18, 2008** - Ensure at least 50% of handset offerings for each air interface offered comply with a minimum of M3 rating as set forth in the ANSI C63.19 standards

Telecoil / Magnetic Coupling

- **By September 18, 2006** - Offer to service providers at least two handset models for each air interface offered that comply with a minimum of T3 rating as set forth in the ANSI C63.19 standards

For Manufacturers with only three digital wireless phone models for sale in the United States

- **By September 16, 2005** – Offer to service providers at least one compliant model for each air interface offered that comply with a minimum of M3 rating as set forth in the ANSI C63.19 standards

For Tier I Carriers

Reduced RF emissions

- **By September 16, 2005** - Include in handset offerings at least two handset models or 25% (whichever is greater) of the total number of unique digital wireless handset models offered by the carrier nationwide for each air interface, that comply with a minimum of M3 rating as set forth in the ANSI C63.19 standards, and make available in each retail store owned / operated by the carrier all of these handset models for consumers to test in the store
- **By February 18, 2008** – Ensure that at least 50% of handset models for each air interface comply with a minimum of M3 rating as set forth in the ANSI C63.19 standards calculated based on the total number of unique digital wireless phone models that the carrier offers nationwide

Telecoil / Magnetic Coupling

- **By September 18, 2006** - Include in handset offerings at least two handset models for each air interface that comply with a minimum of T3 rating as set forth in the ANSI C63.19 standards, and make available in each retail store owned / operated by the provider all of these handset models for consumers to test in the store

For Tier I Carriers that obtain handsets only from manufacturers that offer three digital wireless phone models in the United States

- **By September 16, 2005** – Offer at least one compliant model for each air interface offered that comply with a minimum of M3 rating as set forth in the ANSI C63.19 standards



What does this law mean for our customers?

Approximately one in ten people in the United States have a hearing loss, and this number is increasing especially as our population ages. Many of these individuals wear hearing aids and they want to use wireless phones for the same reasons that everyone else wants to use them. Educating company call center and retail representatives about hearing aids and digital wireless phones and encouraging customers to try the phones before they purchase them, will help to insure a successful customer experience. A company's compliance with this law will translate into new customers, extending the benefits of digital wireless technology to millions of people with a hearing loss.