



# PUBLIC NOTICE

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DA 10-2388  
December 28, 2010

## COMMENT SOUGHT ON 2010 REVIEW OF HEARING AID COMPATIBILITY REGULATIONS

### PLEADING CYCLE ESTABLISHED

WT Docket No. 10-254

**Comment Date: February 14, 2011**  
**Reply Comment Date: March 1, 2011**

By this Public Notice, the Wireless Telecommunications Bureau (Bureau) seeks comment on the operation and effectiveness of the Commission's rules relating to hearing aid compatibility of wireless handsets.<sup>1</sup> In the *Hearing Aid Compatibility Second Report and Order and Further NPRM* released on August 5, 2010, the Commission reiterated its intention, first stated in 2008,<sup>2</sup> to initiate a review of the hearing aid compatibility rules for digital wireless services and handsets in 2010.<sup>3</sup> In this review, we will comprehensively evaluate the operation of the current hearing aid compatibility rules and their success in making a broad selection of wireless phones accessible to people who use hearing aids and cochlear implants, as well as in making information about those phones available to the public. On the basis of this evaluation, the Bureau will consider whether to recommend to the Commission both rule revisions and non-regulatory measures to ensure that persons with hearing loss will continue to have broad access to evolving modes of wireless communication, consistent with the three principles the Commission has set forth to guide its hearing aid compatibility policies:<sup>4</sup>

- Ensuring that developers of new technologies consider and plan for hearing aid compatibility at the earliest stages of the product design process;

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<sup>1</sup> 47 C.F.R. § 20.19.

<sup>2</sup> Amendment of the Comm'n's Rules Governing Hearing Aid-Compatible Mobile Handsets, WT Docket No. 07-250, *First Report and Order*, 23 FCC Rcd 3406, 3451 ¶ 117 (2008) (*Hearing Aid Compatibility First Report and Order*).

<sup>3</sup> Amendment of the Comm'n's Rules Governing Hearing Aid-Compatible Mobile Handsets, WT Docket No. 07-250, *Policy Statement and Second Report and Order and Further Notice of Proposed Rulemaking*, 25 FCC Rcd 11167, 11173-74 ¶ 17 (2010) (*Hearing Aid Compatibility Second Report and Order and Further NPRM*).

<sup>4</sup> *Id.* at 11174 ¶ 18.

- Accounting for technological feasibility and marketability in the Commission’s rules pertaining to hearing aid compatibility, thereby maximizing conditions for innovation and investment; and
- Providing industry with the ability to harness innovation to promote inclusion by allowing the necessary flexibility for developing a range of solutions to meet consumers’ needs while keeping up with the rapid pace of technological advancement.

The Commission is required by law to ensure that persons with hearing loss have access to telephone service.<sup>5</sup> The Hearing Aid Compatibility Act of 1988 required all telephones manufactured or imported for use in the United States to meet established technical standards for hearing aid compatibility, with certain exceptions, among them an exception for telephones used with mobile wireless services.<sup>6</sup> To ensure that the Act kept pace with the evolution of telecommunications technology, Congress granted the Commission authority to “revoke or otherwise limit” the wireless telephone exception, based on considerations of public interest, adverse effect on individuals with hearing loss, technological feasibility, and marketability of compliant wireless telephones.<sup>7</sup>

In the *2003 Hearing Aid Compatibility Order*, the Commission determined that continuation of a complete exemption for wireless telephones would have an adverse effect on individuals with hearing loss, and that limiting the exemption was technologically and economically feasible and in the public interest.<sup>8</sup> Accordingly, the Commission promulgated rules to ensure that all manufacturers and service providers offer consumers a selection of wireless handsets that are compatible with hearing aids. These rules were later modified and strengthened in the *Hearing Aid Compatibility First Report and Order* in 2008 and in the *Hearing Aid Compatibility Second Report and Order and Further NPRM* in August 2010. Presently, the wireless hearing aid compatibility rules include the following:

- Requirements that handset manufacturers and service providers meet defined benchmarks for offering minimum numbers or percentages of handset models that meet at least an M3 and T3 rating for hearing aid compatibility under the American National Standards Institute (ANSI) C63.19 technical standard;<sup>9</sup>
- Requirements that service providers make hearing aid-compatible models available for consumer testing in retail stores that they own or operate;<sup>10</sup>

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<sup>5</sup> Hearing Aid Compatibility Act, Pub. L. No. 100-394, 102 Stat. 976 (1988) (codified at 47 U.S.C. § 610).

<sup>6</sup> 47 U.S.C. § 610(b).

<sup>7</sup> 47 U.S.C. § 610(b)(2)(C).

<sup>8</sup> Section 68.4(a) of the Comm’n’s Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, *Report and Order*, 18 FCC Rcd 16753, 16764-65 ¶ 26 (2003) (*2003 Hearing Aid Compatibility Order*); *see also Erratum*, 18 FCC Rcd 18047 (2003).

<sup>9</sup> 47 C.F.R. § 20.19(c)(1)-(3), (d)(1)-(3); *see also* 47 C.F.R. § 20.19(e) (*de minimis* exception).

<sup>10</sup> 47 C.F.R. § 20.19(c)(4)(i), (d)(4)(i).

- Requirements that handset manufacturers regularly refresh their hearing aid-compatible offerings with new handset models and that service providers offer hearing aid-compatible models with differing levels of functionality;<sup>11</sup>
- Requirements that handset manufacturers and service providers disclose information about their hearing aid-compatible models in packaging materials, at the point of sale, and on their websites, including disclosures regarding handset operations that do not have established hearing aid compatibility technical standards;<sup>12</sup>
- Annual reporting requirements for manufacturers and service providers.<sup>13</sup>

In the *Hearing Aid Compatibility Second Report and Order and Further NPRM*, the Commission sought comment on proposed changes to the wireless hearing aid compatibility rules in three specific areas: 1) whether to extend the hearing aid compatibility requirements beyond the currently covered class of commercial mobile radio services to include handsets used to provide wireless voice communications over any type of network among members of the public or a substantial portion of the public; 2) whether to extend the in-store testing requirement to include retail outlets other than those owned or operated by service providers; and 3) whether to generally permit a user-controlled reduction of power as a means to meet the hearing aid compatibility standard for operations over the Global System for Mobile (GSM) air interface in the 1900 MHz band.<sup>14</sup> The Commission will address these matters in a Report and Order in WT Docket No. 07-250, and we urge commenters not to repeat their comments on these matters in response to this Public Notice. To the extent any comments made in the rulemaking docket are relevant to the questions asked in this Public Notice, commenters should restate those points in response to the questions below.

On October 8, 2010, President Obama signed into law the Twenty-first Century Communications and Video Accessibility Act of 2010 (Communications Accessibility Act), ensuring that individuals with disabilities have access to emerging Internet Protocol-based communications and video programming technologies in the 21<sup>st</sup> Century. Among other provisions, the Communications Accessibility Act extends hearing aid compatibility requirements to customer premises equipment “used with advanced communications services that is designed to provide 2-way voice communications via a built-in speaker intended to be held to the ear in a manner functionally equivalent to a telephone.”<sup>15</sup> The Communications Accessibility Act preserves the exemption of mobile handsets from the requirement that all telephones be hearing aid-compatible, while maintaining the Commission’s authority to revoke or limit such exemption.<sup>16</sup> The Commission will address in WT Docket No. 07-250 whether changes to its rules are necessary to effectuate the hearing aid compatibility provisions of the Communications Accessibility

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<sup>11</sup> 47 C.F.R. § 20.19(c)(1)(ii), (c)(4)(ii), (d)(4)(ii).

<sup>12</sup> 47 C.F.R. § 20.19 (f), (h).

<sup>13</sup> 47 C.F.R. § 20.19(i).

<sup>14</sup> *Hearing Aid Compatibility Second Report and Order and Further NPRM*, 25 FCC Rcd at 11192-11202 ¶¶ 73-101.

<sup>15</sup> Pub. L. No. 111-260, sec. 102 (2010) (to be codified as an amendment to 47 U.S.C. § 610).

<sup>16</sup> *Id.*

Act.<sup>17</sup> Commenters should consider the context of the new legislation in framing their responses to this Public Notice.

All parties with knowledge and interest are encouraged to file. In addition to written responses, we encourage submission of any data, charts or proposed plans that can be entered into the public record for purposes of building a record on this subject.

In order to assist the Bureau in evaluating the wireless hearing aid compatibility rules, we ask commenters specifically to address the questions set forth below. To the extent feasible, commenters may want to organize their responses alphabetically/numerically as set forth below in order to facilitate Commission review.

### **Availability of Hearing Aid-Compatible Handsets**

On July 15, 2010, manufacturers of handsets were required to file reports detailing the hearing aid compatibility status of their handset offerings from July 1, 2009, through June 30, 2010.<sup>18</sup> Twenty-one manufacturers have filed reports pursuant to this provision identifying a total of 302 handset models that they offered as of June 2010. The hearing aid compatibility status of these handsets, sorted according to the air interface(s) incorporated in the handset, is summarized in the table below.<sup>19</sup>

<b>June 2010</b>	<b>Total Offered by Handset Manufacturers</b>	<b>M3/M4 Handsets</b>	<b>T3/T4 Handsets</b>
CDMA-Only	134	133	105
CDMA/WCDMA	1	1	1
GSM-Only	60	33	26
GSM/CDMA	3	3	3
GSM/WCDMA	88	44	31
iDEN	16	14	8
Total	302	228	174

In this section, we seek comment on whether hearing aid-compatible handsets are sufficiently available to consumers in the current marketplace, including phones with a full range of different feature sets. In this regard, we seek comment on the impact that the Commission's deployment benchmarks and technical standards have had on increasing compatibility between hearing aids and wireless handsets. We also seek comment on the impact of the rules on smaller service providers.

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<sup>17</sup> See Wireless Telecommunication Bureau Requests that Comments in Hearing Aid Compatibility Proceeding Address Effects of New Legislation, WT Docket No. 07-250, *Public Notice*, FCC 10-1936 (WTB rel. Oct. 12, 2010).

<sup>18</sup> See 47 C.F.R. § 20.19(i)(1).

<sup>19</sup> The reports are available at: [http://wireless.fcc.gov/hac/index.htm?job=rpt\\_dm\\_c](http://wireless.fcc.gov/hac/index.htm?job=rpt_dm_c). Handsets that were offered during the reporting period but discontinued prior to June 2010 are not included in this analysis.

**1. Do the Commission's deployment benchmarks appropriately ensure that hearing aid-compatible handsets are available to all consumers?**

- a. The Commission's rules currently require handset manufacturers, other than those subject to the *de minimis* exception, to meet at least an M3 rating for radio frequency (RF) interference reduction for at least one-third of their models (rounded down) over each air interface, with a minimum of two models, and to meet a T3 rating for inductive coupling capability for at least 25 percent of their models (rounded down) over each air interface, with a minimum of two models.<sup>20</sup> Service providers must meet an M3 rating for at least 50 percent of their models or 10 models over each air interface, and must meet a T3 rating for at least one-third of their models or seven models over each air interface.<sup>21</sup> Under these benchmarks, has a selection of hearing aid-compatible handsets become readily available to all consumers across the various air interfaces, including third-generation (3G) air interfaces? Should the benchmarks be increased in future years or restructured in any way? In particular, should the T3 benchmark be increased to equal the M3 benchmark, given the growing number of consumers using hearing aids with telecoils? Commenters should consider the cost to manufacturers and service providers of complying with any changed benchmarks and any effects on innovation as well as the benefits to consumers with hearing loss.
- b. In enacting the Hearing Aid Compatibility Act, Congress found that people with hearing loss should have access to the telecommunications network "to the fullest extent made possible by technology and medical science."<sup>22</sup> In light of this policy, should the Commission be moving toward a goal of ensuring that all wireless handsets meet hearing aid compatibility standards? If the Commission were to institute a 100% compatibility requirement, what would be the effects on investment and innovation?
- c. Should the Commission consider applying different benchmarks to different technologies in light of the circumstances surrounding each technology? For example, should higher benchmarks apply to future technologies in order to encourage consideration of hearing aid compatibility in the early stages of product development? Should lower benchmarks be kept in place for the legacy GSM air interface in recognition of the technical challenges to achieving hearing aid compatibility using that technology,<sup>23</sup> as well as the likelihood that it will be phased out over the next several years? Should different benchmarks be adopted for CDMA than for GSM?

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<sup>20</sup> 47 C.F.R. § 20.19(c)(1), (d)(1). The percentage benchmark for inductive coupling capability will increase to one-third on February 15, 2011.

<sup>21</sup> 47 C.F.R. § 20.19(c)(2), (3), (d)(2), (3). The numerical benchmark for inductive coupling capability will increase to 10 models in 2011.

<sup>22</sup> 47 U.S.C. § 610 note; see also *Hearing Aid Compatibility Second Report and Order and Further NPRM*, 25 FCC Rcd at 11174 ¶ 18 (Policy Statement).

<sup>23</sup> See *Hearing Aid Compatibility Second Report and Order and Further NPRM*, 25 FCC Rcd at 11186-87 ¶ 52. We note, however, that the ANSI C63.19 standard revision that is under consideration, by measuring RF interference potential directly, would eliminate the need for certain conservative assumptions and make it approximately 2.2 dB easier for a GSM phone to achieve an M3 rating. *Id.* at 11187 ¶ 53.

- d. Are hearing aid-compatible handsets widely available across all market segments, including the prepaid phone market? We note that under the current rules, service providers must meet the hearing aid compatibility benchmarks across their entire product line, and are not required separately to account for the phones offered to different market segments, such as prepaid versus postpaid. Is there a need for rules specifically addressing the prepaid market or any other segment, and what would be the effects of any such rules on manufacturers or service providers?

**2. *Are hearing aid-compatible phones available to consumers with a full range of different feature sets?***

- a. The Commission's rules require manufacturers to "refresh" their hearing aid-compatible products by ensuring, in most instances, that at least half their required minimum number of M3-rated phones is met by models introduced within a given calendar year.<sup>24</sup> Service providers must offer hearing aid-compatible models with different levels of functionality.<sup>25</sup> We seek comment on whether these rules have succeeded in making hearing aid-compatible handsets available to consumers with different feature sets? For example, do consumers with hearing loss have access comparable to the general population both to handsets with the most advanced features, including smartphones, and to basic models? Is there a concentration of hearing aid-compatible handsets in a particular feature set? Commenters should note any differences in variety specific to particular air interfaces or market segments. Are any additional rules needed to ensure availability of a full range of hearing aid-compatible models?
- b. At the same time, are the refresh and level of functionality rules necessary? Given the usual product cycles for wireless handsets, would manufacturers produce and service providers offer hearing aid compatibility in many of the newest models in the absence of these rules simply to meet the benchmarks? What paperwork or other burdens do these rules impose, and are these burdens outweighed by the benefits to consumers? Do these rules remain necessary in the CDMA air interface, given that nearly all CDMA phones produced today meet hearing aid compatibility standards? Should the rules be modified or eliminated for some or all handset lines?

**3. *Do the rules appropriately account for the challenges facing smaller service providers?***

- a. When the Commission adopted the current handset deployment benchmarks, it provided service providers that are not Tier I carriers with an additional three months to meet each benchmark.<sup>26</sup> In addition, businesses that are small entities as defined by the U.S. Small Business Administration, unlike larger manufacturers and service providers, are exempt from offering hearing aid-compatible phones over an air interface indefinitely so long as they offer

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<sup>24</sup> 47 C.F.R. § 20.19(c)(1)(ii).

<sup>25</sup> 47 C.F.R. § 20.19(c)(4)(ii), (d)(4)(ii).

<sup>26</sup> 47 C.F.R. § 20.19(c)(3), (d)(3). Tier I carriers are Commercial Mobile Radio Service (CMRS) providers with nationwide footprints. *See* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Phase II Compliance Deadlines for Non-Nationwide Carriers, CC Docket No. 94-102, *Order to Stay*, 17 FCC Rcd 14841, 14843 ¶ 7 (2002).



no more than two models.<sup>27</sup> We request comment on whether these provisions appropriately accommodate the difficulties faced by smaller service providers in offering hearing aid-compatible handsets.

- b. We seek information on the burden that hearing aid compatibility requirements impose on smaller service providers. Is there a significant difference in the cost of rule compliance between Tier I carriers and non-Tier I carriers? To what extent are smaller service providers delayed in their ability to obtain new and desirable handsets, or are they able to obtain these handsets at all? Does the extent of any additional costs or delays depend on the size of the service provider, for example, as between a small local company and a sizable regional carrier? Are resellers differently situated than small facilities-based providers?
- c. In light of these burdens, is it appropriate to modify the Commission's rules with respect to smaller service providers? For example, would smaller providers need more than three months additional time to meet any future benchmarks the Commission may adopt, or is no additional time warranted? Are the current benchmarks appropriate for non-Tier I carriers, or should they be reduced? Should different rules apply to different tiers of non-Tier I service providers, and if so, on what criteria should these tiers be based? Commenters should address the effect of any such potential rule changes on the customers of smaller service providers, and how their access to hearing aid-compatible handsets can be protected.
- d. Similarly, should the Commission consider amending the *de minimis* rule to exempt some small entities from requirements to offer hearing aid-compatible handset models, even if they offer more than two models per air interface? For example, an exception could be based on a service provider's monthly sales. Would such a rule better reflect market realities, under which small service providers may have access only to small lots of multiple different handset models? Would customers of small carriers, particularly in the most rural areas, still have access to a selection of hearing aid-compatible handsets?
- e. Are smaller service providers and manufacturers, particularly new entrants, adequately informed about their obligations under the hearing aid compatibility rules? Is there anything the Commission can and should do to improve communications with these entities?

**4. Do the M3 and T3 technical standards appropriately ensure compatibility with hearing aids?**

- a. The Commission's rules consider a handset to be hearing aid-compatible for RF interference reduction if it meets at least an M3 rating under ANSI Standard C63.19-2007, and for inductive coupling capability if it meets at least a T3 rating.<sup>28</sup> Are these requirements appropriate to ensure that users of hearing aids and cochlear implants will be able to access wireless communications? Would any other standards be more appropriate? Should there be any requirements to offer handsets that meet M4 and/or T4 ratings? On the other hand, do handsets that are rated less than M3 or T3 provide effective compatibility for some users of hearing aids and cochlear implants, and if so should the Commission's rules recognize their performance?

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<sup>27</sup> 47 C.F.R. § 20.19(e).

<sup>28</sup> 47 C.F.R. § 20.19(b).

- b. Under the 2007 revision of ANSI Standard C63.19, a handset must meet an acceptable rating for RF interference reduction - *i.e.*, an M3 or M4 rating under the Commission's rules - in order to be rated T3 or T4 for inductive coupling capability.<sup>29</sup> Would there be benefits to wearers of hearing aids with telecoils if the minimum RF noise threshold requirement to achieve a T3 rating were relaxed? Is there evidence to support such a change that ANSI Accredited Standards Committee C63® (ANSI ASC C63®) should consider?

### **Sufficiency of Information**

The hearing aid compatibility rules include several provisions to ensure that device manufacturers and service providers share information on their hearing aid-compatible handset offerings with the Commission and with the public. In this section, we seek comment on the value and any negative effects of the information disclosures required in reports to the Commission, on manufacturers' and service providers' websites, at the point of sale, and in packaging materials. We also seek comment on the in-store testing requirement and on measures that could be taken to improve the availability of information to consumers who purchase their phones from sources other than their service provider.

***1. Is the reporting system collecting appropriate information in an efficient way, and is the Commission making this information available to the public in an accessible and easily manipulable manner?***

- a. The wireless hearing aid compatibility rules require handset manufacturers and service providers to submit annual reports to the Commission on the status of their compliance.<sup>30</sup> In June 2009, the Bureau introduced the electronic FCC Form 655 as the mandatory form for filing these reports,<sup>31</sup> and since that time both service providers and manufacturers have filed reports using the electronic system.<sup>32</sup> We seek comment on the functioning of this system.
- b. Does Form 655 collect the necessary information on hearing aid-compatible handset offerings? Is any unnecessary information being collected? Do third-party sources provide information about hearing aid-compatible handsets that may diminish the need for reporting to the Commission?<sup>33</sup> Even if information about hearing aid-compatible handsets is available

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<sup>29</sup> See ANSI C63.19-2007, "American National Standard Methods of Measurement of Compatibility Between Wireless Communication Devices and Hearing Aids," Section 7.3.3 (June 8, 2007).

<sup>30</sup> 47 C.F.R. § 20.19(i)(1)-(3).

<sup>31</sup> See The Wireless Telecommunications Bureau Reminds Wireless Handset Manufacturers of Their Obligation to Report on the Status of Compliance with the Commission's Hearing Aid Compatibility Requirements by July 15, 2009, *Public Notice*, 24 FCC Rcd 5821 (WTB 2009).

<sup>32</sup> Pursuant to 47 C.F.R. § 20.19 (i)(1), annual reports must be filed by July 15 of each year by device manufacturers and by January 15 of each year by service providers. Thus, handset manufacturers have filed reports using the electronic filing system in July 2009 and July 2010, and service providers have filed their reports under the system in January 2010.

<sup>33</sup> For example, the Global Accessibility Reporting Initiative (GARI) provides a central source of information about accessibility in mobile devices. All phones released by participating manufacturers are searchable on this website, which provides information on the accessibility features that a particular model offers. See



from other sources, is reporting to the Commission still necessary to ensure compliance with the rules?

- c. Is the electronic Form 655 an efficient means of collecting information? What burdens does the reporting impose on device manufacturers and service providers? What changes to the system might improve its operation?
- d. Does the reporting requirement impose special burdens on small device manufacturers and service providers? In light of any such burdens, should smaller entities be exempt from some or all reporting requirements? If so, what should be the threshold for such an exemption? What effects would an exemption of smaller entities have on the availability of information to consumers?
- e. Is the information collected by the Commission on Form 655 made accessible to the public in an easily usable manner?<sup>34</sup> What changes might the Commission make to its website to improve the accessibility of this information? Are there measures the Commission could take that would facilitate use of this information by application developers to provide richer information products? Would it be helpful to collect and post the information in XML or any other format? Should the Commission incorporate the information it receives on Form 655 into the clearinghouse of information on the availability of accessible products and services and accessibility solutions that it is establishing pursuant to new Section 717(d) of the Communications Act?<sup>35</sup>

**2. *Are manufacturers' and service providers' websites providing useful information in an accessible manner?***

- a. The rules require that each handset manufacturer and service provider make available on its website a list of its hearing aid-compatible handset models, the hearing aid compatibility ratings of those models, and an explanation of the rating system.<sup>36</sup> Do these websites contain the required information? Is it posted in a manner that is easily accessible to and understandable by consumers? Would it be helpful to develop best practices or other guidance to promote the most user-friendly approaches? If so, should this guidance be promulgated by the Commission or developed through collaboration among industry and consumer representatives?
- b. Is there any additional information that consumers or other stakeholders would find helpful to have posted on manufacturers' or service providers' websites? Should the posting of any such information be required by the Commission or should it be voluntary?

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<http://www.mobileaccessibility.info> (last visited Dec. 8, 2010). Domestically, CTIA – The Wireless Association maintains a website on accessibility of wireless products at <http://www.accesswireless.org/>.

<sup>34</sup> See <http://wireless.fcc.gov/hac>.

<sup>35</sup> 47 U.S.C. § 618(d) (added to the U.S. Code through Section 104 of the Communications Accessibility Act).

<sup>36</sup> 47 C.F.R. § 20.19(h). Service providers also must include the levels of functionality of their hearing aid-compatible phones and an explanation of their methodology for determining levels of functionality. *Id.*

**3. *Are the point-of-sale and packaging disclosures appropriately informing consumers?***

- a. The rules require that manufacturers and service providers clearly display the hearing aid compatibility ratings on the packaging material of a hearing aid-compatible handset, and that they include an explanation of the rating system in the device's user manual or as a packaging insert.<sup>37</sup> Are manufacturers and service providers supplying this information, and are they doing so in a manner that is clear and helpful to consumers? Are consumers able to understand the hearing aid compatibility rating system? If not, are there any measures the Commission can and should take to improve the disclosures? Should such measures take the form of a rule or voluntary guidance?
- b. The rules further require that, for handsets that include operations over an air interface or frequency band for which hearing aid compatibility technical standards do not currently exist, each manufacturer and service provider must disclose to consumers by clear and effective means that such handset has not been rated for hearing aid compatibility with respect to that operation.<sup>38</sup> We note that ANSI ASC C63® is developing a revision of the C63.19 technical standard that would be independent of air interface and cover a broad range of frequency bands.<sup>39</sup> Until such time as the promulgation and adoption of a revised technical standard renders this disclosure unnecessary, is the disclosure effective and should any changes be made?
- c. Are consumers adequately informed of the need to activate the hearing aid compatibility functions in their phones, particularly when used with hearing aids containing a telecoil? If not, what actions might the Commission take to promote more effective dissemination of this information?
- d. Is there any additional information that should be made available to users of hearing aids or cochlear implants at the point of sale or in product manuals? How should any such additional disclosure be achieved?

**4. *Is the rule that requires phones to be made available for in-store testing effective?***

The current rules require that service providers offer in-store testing of hearing aid-compatible handset models in each retail store they own or operate.<sup>40</sup> Is the testing offered under this rule effective in helping consumers choose a hearing aid-compatible phone? What challenges have service providers encountered in offering effective in-store testing? Are there any rule changes or other Commission action that would make the testing more effective or efficient?

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<sup>37</sup> 47 C.F.R. § 20.19(f)(1).

<sup>38</sup> 47 C.F.R § 20.19(f)(2). We note that effective March 8, 2011, manufacturers and service providers will be required to use specific prescribed language in making this disclosure. *See Amendment of the Commission's Rules Governing Hearing Aid-Compatible Mobile Handsets; Announcement of Effective Date*, 75 Fed. Reg. 77781 (Dec. 14, 2010).

<sup>39</sup> *Hearing Aid Compatibility Second Report and Order and Further NPRM*, 25 FCC Rcd at 11173, ¶¶ 25-26.

<sup>40</sup> 47 U.S.C. § 20.19(c)(4)(i), (d)(4)(i).

5. ***What actions might the Commission take to provide better information to consumers with hearing loss who obtain phones from sources other than their service provider?***

In the *Hearing Aid Compatibility Second Report and Order and Further NPRM*, the Commission asked whether the in-store testing requirement should be extended to independent retailer outlets not owned or operated by service providers, and whether independent retailers should be required to offer a customer with hearing loss a flexible return policy to ensure that a handset is compatible with the customer's hearing aid.<sup>41</sup> Are there any other measures the Commission might take to assist consumers who purchase their phones from independent retailers in obtaining hearing aid-compatible phones? For example, is there a need for disclosure of hearing aid compatibility information by third-party online vendors? Commenters should address the Commission's authority to adopt these measures and the burdens imposed on retailers as well as the benefits for consumers.

**Technical Issues**

In this section, we seek comment on questions relating to technical issues affecting hearing aid compatibility. In particular, we ask about the need for additional measures to facilitate acoustic coupling compatibility, as well as the effects of display screens, wireless headsets, and simultaneous transmission capabilities in handsets. We also seek comment on what the Commission can do to facilitate better operation of hearing aids and cochlear implants with wireless handsets.

1. ***Are measures needed to facilitate acoustic coupling between wireless handsets and hearing aids?***

- a. ANSI Standard C63.19 and the Commission's existing wireless hearing aid compatibility rules address the compatibility of wireless handsets with hearing aids in two respects: (1) RF interference with hearing aids operating in acoustic mode and (2) inductive coupling capability with hearing aids containing a telecoil. However, other obstacles to acoustic coupling compatibility may exist. In particular, a Working Group of the Alliance for Telecommunications Industry Solutions (ATIS), WG-11, is studying issues involving volume control and acoustic coupling.<sup>42</sup> We seek comment on any measures the Commission should take, in addition to our rules regarding RF interference reduction, to promote acoustic coupling capability between wireless handsets and hearing aids or cochlear implants.
- b. Wireline and cordless phones are subject to technical standards and rules regarding volume levels and controls.<sup>43</sup> Are similar rules feasible and necessary to ensure that wireless phones will operate at appropriate volumes to achieve acoustic coupling compatibility? If so, what should these rules require? What burdens would these requirements impose on manufacturers and service providers?
- c. Is adequate information currently available to consumers and hearing aid manufacturers regarding wireless phones' volume settings and sound quality? What challenges exist to

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<sup>41</sup> *Hearing Aid Compatibility Second Report and Order and Further NPRM*, 25 FCC Rcd at 11200-01 ¶¶ 94-98.

<sup>42</sup> See Report of ATIS on behalf of ATIS Incubator Solutions Program #4, WT Docket No. 07-250, at 6 (filed Jan. 15, 2009).

<sup>43</sup> See 47 C.F.R. § 68.4.

providing such information? For example, to what extent are volume and sound quality affected by the network rather than the consumer device? Is information about volume and sound quality proprietary to the handset manufacturer or service provider? What actions can and should the Commission take to promote greater availability of this information?

- d. Are there any other measures the Commission should take to facilitate acoustic coupling compatibility? For example, wireline phones typically emit a magnetic field that may be sensed by some hearing aids to trigger an acoustic coupling telephone mode. Wireless phones, however, may not emit a magnetic field of similar strength. Do differences between wireline and wireless technology mean that certain hearing aids are not receiving effective signals to activate special acoustic coupling modes for telephone use? If so, are there actions the Commission might take to enable such signaling? What would be the costs of such measures?

**2. *Are measures needed to address the effect of display screens on hearing aid compatibility?***

In earlier proceedings, concerns have been expressed that the display screens on smart phones emit electromagnetic energy that may interfere with the operation of hearing aids.<sup>44</sup> In light of ongoing experience, are measures needed to address the effects of display screens on hearing aid compatibility? Do the measurement procedures specified in ANSI Standard C63.19 appropriately account for these effects? Might these effects be ameliorated by, for example, programming a handset so that the backlighting fades when it is held close to an object such as the human ear? We seek comment on the benefits and costs of regulatory or non-regulatory measures that might be appropriate to promote this and other potential technical solutions.

**3. *Do wireless headsets create special issues for hearing aid compatibility?***

Consumers are increasingly using Bluetooth and other headset or earpiece technologies to communicate over their wireless phones. Does the use of these technologies pose special challenges for users of hearing aids and cochlear implants? For example, might the headset or earpiece create RF interference with the hearing assistance device? Are there physical difficulties using a headset or earpiece with certain types of hearing aids? What regulatory or non-regulatory measures might be appropriate to address these concerns?

**4. *Are measures needed to address handsets that can transmit simultaneously over multiple air interfaces or frequency bands?***

The 2007 revision of ANSI Standard C63.19 does not include a detailed method for testing RF interference when a handset is simultaneously transmitting over more than one air interface or frequency band. Current Commission guidance requires handsets with such capability to be tested over each air interface or frequency band separately.<sup>45</sup> Until a protocol

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<sup>44</sup> See *Hearing Aid Compatibility Second Report and Order and Further NPRM*, 25 FCC Rcd at 11192 ¶ 71, citing Comments of Technology Access Program of Gallaudet University in WT Docket No. 06-203 at 7.

<sup>45</sup> See OET Knowledge Data Base Publication No. 285076, para. 6, available at [www.fcc.gov/labhelp](http://www.fcc.gov/labhelp) (revised Dec. 15, 2010). Simultaneous transmission is distinguished from concurrent connection using other modes, such as time division multiplexing, which can be tested for RF interference under the existing ANSI standard.

for testing in these situations has been developed, are there other actions the Commission should take?

**5. *What actions might the Commission take to facilitate better interoperability of hearing aids and cochlear implants with handsets?***

- a. Interoperability between wireless handsets, on the one hand, and hearing aids and cochlear implants on the other involves the functioning of two different devices in a single operating system. In order to help us best to understand this system, we encourage commenters to provide information regarding the technical operation of hearing aids and cochlear implants. In particular, we seek information on new and emerging technical advances that may affect how hearing aids and cochlear implants interoperate with wireless phones.
- b. We invite public comment on how effectively different types of hearing assistance devices operate with wireless handsets. Do they generally function as anticipated, or is there a substantial amount of uncertainty? Is the functioning different for different types of hearing aids? Are cochlear implants different from hearing aids in this regard?
- c. Are there actions that the Commission, in coordination with the Food and Drug Administration, could take to facilitate the dissemination of information about hearing aids and cochlear implants to wireless handset manufacturers, service providers, and consumers of wireless service?

**Innovation, Investment, and Competition**

**1. *What is the state of innovation in solutions to enable people with hearing loss to access wireless technology, and do the Commission's rules appropriately facilitate and encourage such innovation?***

- a. As the number and types of features embedded in smartphones and other wireless handsets continue to evolve, new challenges may be posed for hearing aid compatibility. For example, as noted above, simultaneous transmission capabilities pose challenges for measuring RF interference. Are there other emerging or anticipated technological developments that may create similar issues? Do our rules create appropriate incentives to consider hearing aid compatibility early in the product development cycle, when any concerns can be most efficiently addressed? Are there measures the Commission could take that would better ensure the early consideration of such issues?
- b. The Commission's rules assume that wireless handsets will achieve hearing aid compatibility by meeting an M3 and/or T3 rating through features that are built into the handset. Are there other means of achieving hearing aid compatibility, either existing or under development, that may be more efficient or effective? For example, could hearing aid compatibility be achieved through a downloaded application? Do the Commission's rules in any way inhibit development of such innovative solutions? If so, how might the rules be modified to address this without compromising their effectiveness?
- c. Are there other technologies, either in existence or on the horizon, that may assist people with hearing loss in using wireless technology? Are there technical developments that may create new obstacles for people with hearing loss?

**2. *Do the Commission's rules successfully promote investment and competition with respect to hearing aid-compatible wireless handset offerings?***

- a. What is the nature and extent of competition among device manufacturers and service providers with respect to hearing aid-compatible phones? Is it similar to competition in the handset and service markets generally?<sup>46</sup> Is the incentive to invest in features for hearing aid-compatible phones comparable to that in the broader handset market?
- b. Do the Commission's rules appropriately assign responsibility for hearing aid compatibility compliance in cases of joint ventures and other complex market arrangements? Is there any need for clarification in this regard?

**Ongoing Collaboration**

***What actions should the Commission take to promote ongoing collaboration among consumers with hearing loss, the communications industry, and the hearing aid industry?***

- a. In July 2003, the ATIS Incubator Solutions Program #4 (AISP.4) (Incubator), was created to investigate methods of enhancing interoperability and usability between hearing aids and wireless handsets. The Incubator has performed invaluable work in bringing together wireless device manufacturers, service providers, and consumers to discuss and develop solutions to hearing aid compatibility problems and in proposing to the Commission consensus plans to best meet the needs of both the industry and consumers with hearing loss.<sup>47</sup> We understand that this body is now approaching the end of its institutional life. In the absence of the Incubator, how can we best ensure that the industry and consumers will continue collaborating to address new technological and market developments in a timely manner. Could the Commission's Accessibility and Innovation Initiative provide support for such collaboration?<sup>48</sup>
- b. We also seek comment on how best to promote increased collaboration between the communications and hearing aid industries. Could the Accessibility and Innovation Initiative be an appropriate venue for these conversations as well?

**Procedural Matters**

Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments on or before February 14, 2011 and reply comments on or before March 1, 2011. All filings should refer to WT Docket No. 10-254. Comments may be filed using: (1) the Commission's

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<sup>46</sup> See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, WT Docket No. 09-66, *Fourteenth Report*, FCC 10-81 (rel. May 20, 2010).

<sup>47</sup> See Supplemental Comments of ATIS in WT Docket No. 06-203 (filed June 25, 2007); Letter from Thomas Goode, General Counsel, ATIS, and Deirde Y. Cheek, Attorney, ATIS, to Marlene H. Dortch, Secretary, FCC, dated Sept. 11, 2008.

<sup>48</sup> See generally <http://www.broadband.gov/accessibilityandinnovation/>.



Electronic Comment Filing System (ECFS), or (2) by filing paper copies. See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- **Electronic Filers:** Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/>. Filers should follow the instructions provided on the website for submitting comments. If multiple dockets or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, Postal Service mailing address, and the applicable docket number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for email comments, filers should send an e-mail to [ecfs@fcc.gov](mailto:ecfs@fcc.gov), and should include the following words in the body of the message, “get form <your e-mail address>.” A sample form and directions will be sent in response.
- **Paper Filers:** Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.

- The Commission’s contractor will receive hand-delivered or messenger-delivered paper filings for the Commission’s Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12<sup>th</sup> Street, SW, Washington, D.C. 20554.

One copy of each pleading must be delivered electronically, by e-mail or facsimile, or if delivered as paper copy, by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (according to the procedures set forth above for paper filings), to the Commission’s duplicating contractor, Best Copy and Printing, Inc., at [FCC@BCPIWEB.COM](mailto:FCC@BCPIWEB.COM) or (202) 488-5563 (facsimile).

Copies of the public notice and any subsequently-filed documents in this matter may be obtained from Best Copy and Printing, Inc. in person at 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, via telephone at (202) 488-5300, via facsimile at (202) 488-5563, or via e-mail at [FCC@BCPIWEB.COM](mailto:FCC@BCPIWEB.COM). The public notice and any associated documents are also available for public inspection and copying during normal reference room hours at the following Commission office: FCC Reference Information Center, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554. The public notice is also available electronically through the Commission’s ECFS, which may be accessed on the Commission’s Internet website at <http://www.fcc.gov>.

To request information in accessible formats (computer diskettes, large print, audio recording, and Braille), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the FCC's Consumer and Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

Wireless Telecommunications Bureau contact: Michael Rowan at (202) 418-1883 or by e-mail: [Michael.Rowan@fcc.gov](mailto:Michael.Rowan@fcc.gov).

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