Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

2010 Review of Hearing Aid Compatibility Regulations	)	**WT Docket No. 10–254**
Updated Information and Comment Sought on Review of Hearing Aid Compatibility Regulations	)	**DA 12–1745**

COMMENTS
OF
AMERICAN NATIONAL STANDARDS INSTITUTE
ACCREDITED STANDARDS COMMITTEE C63®

On November 1, 2012, the Commission issued a Public Notice seeking updated comments on the operation and effectiveness of the Commission's Rules relating to hearing aid compatibility of wireless handsets,[1] including a request for updated information on issues that were previously raised in a December 2010 Public Notice.[2] ANSI ASC C63®, which is the accredited standard development organization responsible for developing and maintaining ANSI C63.19, *American National Standard Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids*, welcomes the opportunity to share its views on issues raised in the 2012 Public Notice.

Most recently, ANSI ASC C63® published the 2011 version of the ANSI C63.19 standard (which is the 4th revision of this standard). Each new version has been issued in response to the

[1] Updated Information and Comment Sought on Review of Hearing Aid Compatibility Regulations, *Public Notice,* WT Docket No. 10-254, DA 12-1745 (rel. Nov. 1, 2012) ("2012 Public Notice").
[2] Comment Sought on 2010 Review of Hearing Aid Compatibility Regulations, WT Docket No. 10-254, *Public*

changing technologies, feedback on user experience and our growing insight into the issues related to hearing aid compatibility and techniques that are effective in bringing improvement. We are pleased that the Commission has adopted the 2011 ANSI C63.19 Standard into its Part 20 Rules.[3]

Beyond the development of standards, ANSI ASC C63® supports industry through training and issuing of interpretations of ANSI ASC C63® standards. We have issued interpretations of the ANSI C63.19 Standard when such assistance is requested.[4] For example, in May and June of 2012, several questions regarding this standard were brought to the committee. In response, the committee published four interpretations in the June-July 2012 timeframe.[5]

The continuing revisions and supporting interpretations demonstrate ANSI ASC C63®'s commitment to keeping its standards both current and responsive to the purposes they serve. This commitment continues in 2013. ANSI ASC C63® is open to further changes to the standard or improvements in its test methodology and to make any changes needed to insure that the ANSI C63.19 standard continues to be a useful tool in the pursuit of providing hearing aid compatibility.

Set forth below are ANSI ASC C63®'s responses to various issues noted in the 2012 Public Notice.

Notice, 25 FCC Rcd 17566 (WTB December 2010) ("2010 Public Notice").

[3] Amendment of the Commission's Rules Governing Hearing Aid-Compatible Mobile Handsets, WT Docket No. 07-250, *Third Report and Order,* 27 FCC Rcd 3732, 3735, ¶ 9 (2012).

[4] Although ANSI ASC C63® provides standards interpretations upon industry request, it is our belief that the Commission should be consulted on the interpretations of any Commission rule that incorporates ANSI standards.

[5] Interpretations of C63 standards are found at: http://www.c63.org/documents/misc/posting/new_interpretations.htm.

I. We believe the standard does ensure hearing aid compatibility

The Commission asked:

> *In addition, we requested comment on whether the M3 and T3 technical standards contained in American National Standards Institute Technical Standard C63.19 (ANSI Standard C63.19) appropriately ensure that users of hearing aids and cochlear implants will be able to access wireless communications.*[6]

ANSI ASC C63® believes that the current M3 and T3 technical standards contained in the 2011 ANSI C63.19 Standard appropriately ensure that users of hearing aids and cochlear implants will be able to access wireless communications. The working group developing the standard developed significant engineering evidence that the test methods in the standard were effective and correlated to the desired outcome of user's experiencing hearing aid compatibility. The standard was carefully developed by engineers who are both skilled and experienced on this topic and with contributions from all key stakeholders. The balloting process offered an open opportunity for anyone with data related to the effectiveness of the standard to bring it to the attention of the committee and influence the form of the published standard.

However, we are concerned about the following statement made by the Hearing Loss Association of America ("HLAA") in a recent filing in this proceeding involving a recent consumer survey on hearing aid compatible mobile phones:

> *The survey revealed that consumers were facing more problems than we anticipated, including consumers who reported difficulty finding HAC mobile devices and consumers who purchased mobile devices they thought were HAC, but experienced interference (buzzing) when the phone was held to their hearing instruments.*[7]

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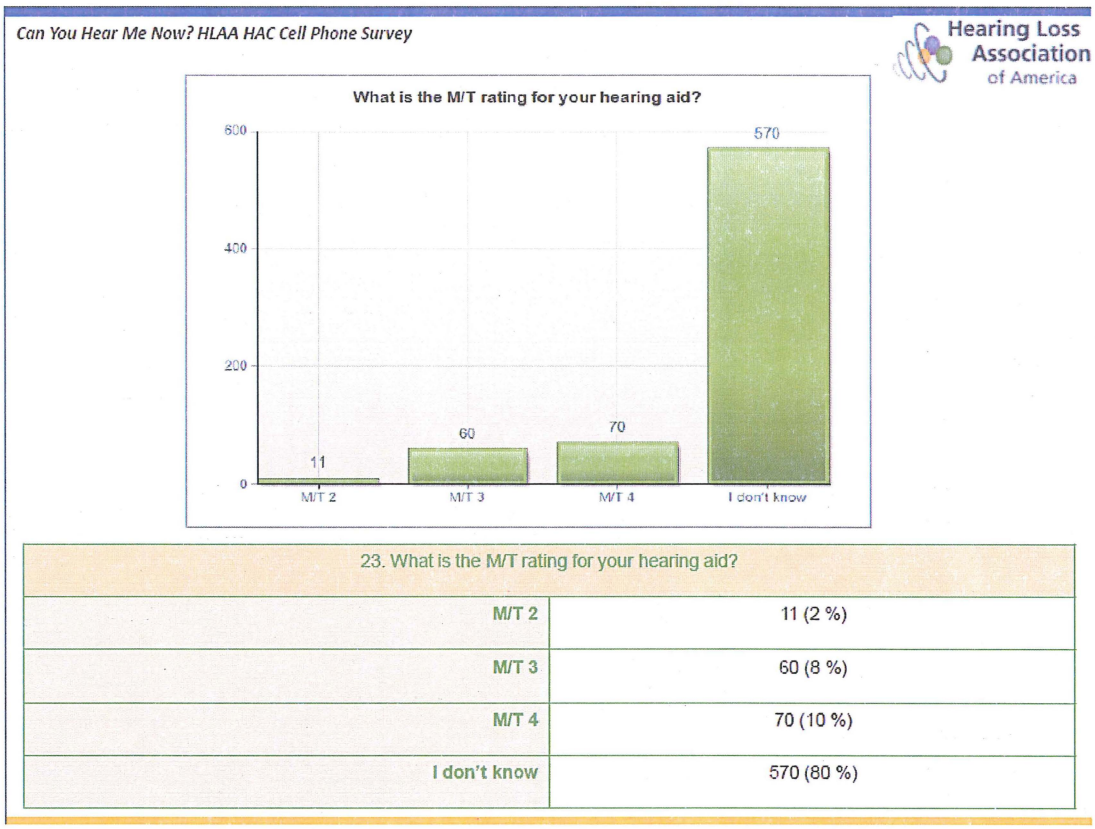
[6] *See* 2012 Public Notice at page 2.

[7] *See* Letter from Lise Hamlin, Hearing Loss Association of America, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-254, dated July 16, 2012, at page 1.

Because of our concern about this survey, within the last month there was a teleconference between HLAA, Hearing Industries Association ("HIA") and ANSI ASC C63®. We discussed the reports received and made plans to gather additional information in early 2013. We look forward to working closely with HLAA, HIA and any others who have an interest in participating. We are optimistic that these efforts will bring insight into the underlying causes for these complaints and what actions would be effective in addressing them.

In the interim, we note that there are several possible explanations for the interference reported in the HLAA survey. For the standard to achieve its intended purpose, it is necessary that the immunity of the hearing aid match the RF emission level from the mobile phone. This survey report does not state whether those respondents who reported hearing aid interference had hearing aids at the appropriate M/T level. If that information is available in the raw survey response, it would be helpful to assess the reasons for this interference.



23. What is the M/T rating for your hearing aid?	
M/T 2	11 (2 %)
M/T 3	60 (8 %)
M/T 4	70 (10 %)
I don't know	570 (80 %)

Figure 1 – "Can You Hear Me Now? HLAA HAC Cell Phone Survey" slide 23

In an earlier filing in this docket (and as noted in the chart above), HLAA found that 80% of survey respondents did not know the rating of their hearing aids.[8] One possible explanation for the interference could be that the hearing aid was an older and/or untested model. We look forward to working with HLAA and HIA to gain insight into the reported problems with hearing aid compatibility.

The Commission further asked:

The Bureau also sought comment on technical issues. Specifically, we asked whether additional measures are needed to facilitate acoustic coupling compatibility. We asked about the effects on hearing aid compatibility of display screens, wireless headsets, and simultaneous transmission capabilities in handsets. The Bureau also asked what actions the Commission might take to

[8] Comments of HLAA, WT Docket No. 10-254, filed February 14, 2011, at slide 23.

facilitate better interoperability of hearing aids and cochlear implants with handsets.[9]

While preparing the 2011 ANSI C63.19 Standard, the ANSI ASC C63® working group specifically considered the potential impact of display screens and associated electronics. There is the potential for screen refreshing and keyboard scans to create electromagnetic emissions which could impact hearing aid compatibility. These sources can be a particular problem for T-Coil reception. However, the 2011 ANSI C63.19 Standard addresses this possibility and we believe the threat is adequately addressed in the standard. The committee believed that if the display could be turned off by the user, it was acceptable to assume that the user would do so if display interference was a problem. Accordingly Clause 7.4 of the 2011 ANSI C63.19 Standard states:

> *All measurements shall be done with the WD operating on battery power with an appropriate normal speech audio signal input level given in Table 7.1. If the device display can be turned off during a phone call then that may be done during the measurement as well, but should be documented in the test report.*

The impact of wireless headsets was also considered by the ANSI ASC C63® working group during the 2011 revision effort. Bluetooth is the dominant RF protocol used by wireless headsets. The working group sought data specifically on the potential for Bluetooth transmissions to cause interference. The data that the committee reviewed showed that there was little risk of interference from Bluetooth device which fall within the low power exemption in the latest version of the standard.

While preparing the 2011 revision of the standard, the issue of simultaneous transmissions was also considered by the working group. However, the working group did not feel it had sufficient data to render an opinion at the time. Accordingly, this is a topic of ongoing

[9] *See* 2012 Public Notice at page 3.

study. To date, no evidence has been presented to the committee that simultaneous transmissions present any new factors or fundamentally different interference mechanism. There is the concern that simultaneous transmissions can have an additive effect of increasing the RF power imposed on a hearing aid. However, study of this issue continues. The working group will issue guidance on testing of simultaneous transmitters once it has concluded its study of the issue.

II. Coordination with TIA is ongoing

Regarding the 2011 version of the ANSI C63.19 standard and coordination with TIA, the Commission asked:

> *We also seek comment on the impact of the newly adopted 2011 revision of ANSI Standard C63.19. In particular, because the direct measurement methodology made it possible to eliminate certain conservative assumptions, it is approximately 2.2 dB easier under the new standard for a GSM phone to receive an M3 rating. In light of this development, is it still necessary and appropriate to allow phones operating over GSM at 1900 MHz to achieve an M3 rating by means of a user-controlled power reduction? Do the new standard or the rules implementing that standard affect any other issues addressed in the 2010 Review PN? We also note that the Telecommunications Industry Association (TIA) has released new and revised standards relating to volume control and amplification for wireline phones, including digital cordless phones, which include revised measurement procedures as well as a new metric based on conversational gain. Although ASC C63® has not addressed these procedures and metrics in the context of mobile phones, the Consumer and Governmental Affairs Bureau has recognized their value in promoting accessibility to wireline services for people with hearing loss, and we invite comment on their potential relevance and benefits in the mobile context. better interoperability of hearing aids and cochlear implants with handsets.*[10]

The TIA is a member of ANSI ASC C63® and a very active participant in the working group for the ANSI C63.19 standard. As a result, there has been (and will continue to be) coordination between TIA and ANSI ASC C63® on the harmonization of standards including

[10] *See Id.* at page 5.

those relating to volume control and amplification. It has been an ongoing goal to keep the TIA and ANSI standards harmonized to the greatest degree possible while understanding some differences will be necessary given the differing purposes of the two standards.

III. We recommend early planning to support transition to improved solutions

The Commission also asked:

> *In addition, the Bureau sought comment about the state of innovation in solutions to enable people with hearing loss to access wireless technology and whether the Commission's rules appropriately facilitate such innovation, investment, and competition. Finally, we asked what the Commission should do to promote collaboration among consumers with hearing loss, the communications industry, and the hearing aid industry.*[11]

In response, ANSI ASC C63® notes that the current definition of hearing aid compatibility deals solely with a single technical solution, the T-Coil interface. The T-Coil interface has been in use for over 75 years.[12] While it has a long history of useful service, at its core, the T-Coil is simply an analog AM receiver. AM radio has almost entirely been replaced by newer and improved means of wireless communication, yet the current rules are still linked to this out-dated means of wireless transmission.

There are currently on the market various hearing aids that are equipped with Bluetooth receivers, operating in the 2.4 GHz ISM band and others that use proprietary protocols operating in the 900 MHz ISM band. The current rules and the 2011 ANSI C63.19 Standard do not support these RF protocols for dealing with hearing aid compatibility. However, this is not

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[11] *Id.* at page 3.

[12] The first known hearing aid with a t-coil was made by Tel-Audio of Washington, DC in 1936. This hearing aid was a vacuum-tube, table-top model that used A/C power and thus needed to be plugged into a wall socket. The t-coil was a large external device measuring 4½" long x 3" wide x 1¾" thick. Tel-Audio went out of business in 1938. In 1937, Joseph Poliakoff of Great Britain received an early patent for an induction-loop hearing assistance system. http://www.hearingaidmuseum.com/gallery/General_Info/HACompanies/generalinfo-tcoils.htm

currently a problem because these protocols represent a small portion of the market and have been developed in support of other applications.

We recommend that the Commission consider how it might support a transition to a new, improved (but different) means of wireless coupling between phones and hearing aids. Almost all hearing aids and phones would still rely on T-Coil for wireless coupling at the beginning of such a transition. The current structure of the rules does not support the migration to an improved form of wireless coupling because, under the current rules, a phone must support T-Coil connectivity to be considered hearing aid compatible. Thus, there would be little motivation under the current regulatory structure for phones to move to an improved form of coupling even though it may provide a superior solution for hearing aid users. We suggest it is not too early to deliberate how a transition might be effected so that the current deployed base is appropriately supported while simultaneously encouraging innovation and improved technology to support the needs of hearing aid and cochlear implant users.

The issues involved are both numerous and complex. If the transition to a consensus solution by both the hearing and telephone industries is not carefully coordinated, there could be unfortunate disruptions and barriers to hearing aid compatibility. Further, any new solution would likely be more expensive than the current T-Coil (especially during the early stages of any transition). Hence, identifying the factors and the characteristics of an acceptable transition plan would be useful for those who desire to advance hearing aid compatible technology.

IV. Summary

The 2011 ANSI C63.19 Standard provides a significant advancement to prior versions of the standard, providing coverage for more frequency bands and improved tests that are more correlated to the desired result. The new test methods are better at measuring the potential for hearing aid interference. We believe the standard serves its intended purpose. However, ANSI ASC C63® remains open to new information and feedback on how the standard might be further improved or adopted to changing needs.

We thank the Commission for this opportunity to provide them an update on the issues discussed herein and look forward, in the near future, to further communications with the Commission on this important topic.

Respectfully submitted,

ANSI ASC C63®

/s/ Mr. Daniel Hoolihan
Chairman, ANSI ASC C63®

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Terry G. Mahn
Jay S. Newman
Fish & Richardson P.C.
1425 K Street N.W.
Suite 1100
Washington, D.C.
Counsel to ANSI ASC C63®