

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Access to Telecommunications Equipment and Services by Persons with Disabilities)	CG Docket No. 12-32
)	
Petition for Rulemaking Filed by the Telecommunications Industry Association Regarding Hearing Aid Compatibility Volume Control Requirements)	CG Docket No. 13-46
)	
Amendment of the Commission's Rules Governing Hearing Aid-Compatible Mobile Handsets)	WT Docket No. 07-250
)	
Comment Sought on 2010 Review of Hearing Aid Compatibility Regulations)	WT Docket No. 10-254
)	

COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

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I. INTRODUCTION AND SUMMARY

The Telecommunications Industry Association (“TIA”)¹ hereby submits comments in the Federal Communications Commission’s (“Commission”) above-captioned Notice of Proposed Rulemaking (“*NPRM*”), which seeks comment on various proposed changes to the rules regarding hearing aid compatibility (“HAC”) standards for wireline and wireless communication devices.² TIA members include the manufacturers of wireline telephone and customer premises equipment as well as wireless handsets who are committed to ensuring their products and services are accessible to individuals with hearing loss.

TIA also serves as an American National Standards Institute (“ANSI”)-accredited standards development organization (“SDO”) for the information and communications technology (“ICT”) industry that develops and maintains voluntary standards for the performance and accessibility of wireline telephones with handsets, headsets, and speakerphones, communications gateways, and other products that are typically installed at the user’s premises. Additionally, TIA and its members have been involved with the ANSI C63.19® committee and the development of HAC standards for wireless communications devices. Thus, the scope of issues addressed in the *NPRM* of significant interest to both our policy advocacy and SDO members.

¹ TIA is the leading trade association for the information and communications technology (“ICT”) industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on the full range of policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce, and deploy a wide variety of devices with the goal of making technology accessible to all Americans. TIA’s standards committees, which operate under an American National Standards Institute-accredited process, create consensus-based voluntary standards for numerous facets of the ICT industry.

² HAC Standards Notice of Proposed Rulemaking, et al., CG Docket Nos. 12-32, 13-46; WT Docket Nos. 07-250, 10-254 (rel. Oct. 30, 2015) (“*NPRM*”).

In our comments, we commend the Commission for issuing this *NPRM* to update the references to the TIA wireline standard to ensure consumers have an enhanced experience with their products. However, we express concern about the value and necessity of the proposal to set a standard for volume control for wireless handsets. Finally, we provide guidance on the Commission's proposed process for simplifying the standards approval and consumer participation procedures.

II. CONSISTENT WITH OUR PETITION FOR RULEMAKING, TIA STRONGLY SUPPORTS THE COMMISSION'S PROPOSAL TO AMEND WIRELINE HAC RULES TO REFERENCE THE UPDATED TIA-4965 STANDARD.

TIA commends the Commission for initiating a rulemaking proceeding in response to our Petition for Rulemaking³ ("*Petition*") and strongly supports the proposal to amend the Part 68 rules to incorporate the 2012 ANSI Wireline Volume Control Standard. This rule change will be beneficial to consumers with hearing loss providing them a better experience of amplified gain level and regulatory certainty for manufacturers who need to comply with the rules.

A. Background On TIA Wireline Standards Effort, FCC Part 68 Rules, And Revisions.

TIA's TR-41 Engineering Committee (User Premises Telecommunications Requirements)⁴ develops voluntary standards for telecommunications terminal equipment ("TE") and systems; specifically those used for voice services, integrated voice and data services, and

³ See TIA Petition for Rulemaking, (filed Oct. 25, 2012), available at <http://www.tiaonline.org/sites/default/files/pages/TIA%20Petition%20for%20Rulemaking%20-%20Part%2068%20%28Terminal%20Equipment%29%20102512.pdf>.

⁴ TIA publishes an annual report that includes the latest actions taken by each respective TIA engineering committee, including TR-41, toward the development of standards for the advancement of global communications. See TIA, 2011-2012 Standards & Technology Annual Report (rel. Apr. 2012) at 9-10, available at http://www.tiaonline.org/standards/about/documents/STAR_2011-2012.pdf.

Internet protocol (“IP”) applications. The committee develops performance and interface criteria for equipment, systems and private networks, as well as the information necessary to ensure their proper interworking with each other, with public networks, with IP telephony infrastructures and with carrier-provided private-line services.

Wireline terminal equipment is currently covered by the HAC requirements under the Commission’s Part 68 rules. Part 68 of the Commission’s rules govern the connection of TE to the telephone network including the HAC volume control requirements. Currently, the rules reference HAC volume control requirements in two TIA standards, ANSI/EIA-470-A-1987 (Telephone Instruments With Loop Signaling) for analog TE, and ANSI/EIA/TIA-579-1991 (Acoustic-To-Digital and Digital-To-Acoustic Transmission Requirements for ISDN Terminals) for digital TE.⁵ The versions referenced in the rules specify that gain is measured in terms of the change in Receive Objective Loudness Rating (“ROLR”) level. The Commission last incorporated by reference TIA’s standards covering analog and digital HAC volume control requirements in 1996.⁶

Both standards have been updated and even superseded multiple times, with the latest change being to a new and improved method of measuring amplification called Conversational Gain, a more rational and intuitive way to measure telephone speech amplification than ROLR requirements. After conversations with consumers and a sampling study, TIA’s TR-41 committee determined that unexpected divergences existed between the amount of telephone amplification many consumers with hearing loss believed they needed and the actual amount of amplification required. This led TIA to undertake an effort to change the receive amplification

⁵ See 47 C.F.R. § 68.317.

⁶ See *In the Matter of Access to Telecommunications Equipment and Services by Persons with Disabilities*, Report and Order, CC Dkt. No. 87-124, FCC 96-285, 11 FCC Rcd 8249, 8278-79 (July 3, 1996) (“TE HAC R&O”).

measurements in TIA's standards for analog and digital telephones to the Conversational Gain method.⁷ Under the Conversational Gain measurement, 0 dB means that the voice heard from the telephone sounds as loud as a face-to-face conversation in which the participants are 1 meter apart.

The currently cited standards, along with their multiple revisions and replacements, cover a wide range of topics related to voice transmission performance.⁸ TIA developed the new ANSI/TIA-4965 standard, *Receive Volume Control Requirements for Digital and Analog Wireline Terminals*⁹ as a single standard covering just Conversational Gain for analog and digital telephones that would be more appropriate for regulatory purposes. Numerous consultations were made with hearing loss researchers during the development of the Conversational Gain concept for use in these standards and well-received presentations on the subject have been made to the hearing loss community.

B. TIA Commends The Commission For Taking This Important Step To Provide Consumers With Hearing Loss An Improved Experience With Their Terminal Equipment.

TIA supports the Commission's proposal to incorporate into the rules the revised version of the standard into its hearing aid compatibility rules for wireline handset. TIA also supports the application of the rules to wireline VoIP telephones.¹⁰ As we noted in the *Petition*, the ANSI/TIA-4965-2012 standard being proposed for adoption includes test procedures for VoIP

⁷ See Ex Parte Letter from Brian Scarpelli, TIA to Marlene H. Dortch, Secretary, FCC, CC Docket No 93-268, CG Docket No. 10-266 (dated Aug. 26, 2012).

⁸ Full technical details on the changes incorporated into the revised standard and how it compares to the original can be found in TIA's *Petition*, 5-10.

⁹ See http://global.ihs.com/search_res.cfm?RID=TIA&INPUT_DOC_NUMBER=ANSI/TIA-4965.

¹⁰ See NPRM ¶¶ 28 (proposing to apply inductive and volume control requirements to wireline VoIP telephones).

telephones.¹¹ Therefore, we support the Commission's proposal to clarify in the Part 68 rules that interconnected VoIP phones are a subset of the covered digital telephones.¹² Consumers and the manufacturers of TE would benefit from the Commission updating the reference to the Part 68 standard.

We believe that updating the references would improve the ability of consumers to purchase the TE they need, increase access for hard-of-hearing TE users to emergency services, and, for industry, would promote regulatory and market certainty. The Conversational Gain method is not only more intuitive but it is easier for consumers to understand. Additionally, it uses a method that permits the absolute dB sound pressure level to be determined easier and with more certainty. This heightened ease of determination will allow consumers to determine if mass-market telephones are capable of meeting their volume control needs or if they require specialized high amplification telephones. Many older Americans, including those with hearing loss, continue to rely on TE to connect to emergency services. By updating the references in Part 68, this population and others who may need TE to reach emergency services would have increased and improved access to the telephone network, and a better ability to get help from the authorities in times of need.

C. TIA Supports The Commission's Proposal To Adopt Rules Incorporating The Revised Standards, To The Extent The Rules Do Not Extend Beyond The Scope TIA Proposed.

TIA emphasizes that it supports the Commission's proposals to adopt new volume control standards, only to the extent they are limited to the scope of products that we originally recommended in the *Petition*. In the *NPRM*, the Commission proposes a requirement that wireline telephone manufacturers consult with consumers and representative organizations after

¹¹ See *Petition* fn. 27.

¹² See *id.* (asking for the Commission to make this clarification).

the adoption of the new rules to assess effectiveness of the change.¹³ TIA does not believe such a rule is necessary and worries about the implications for manufacturer reliance on new standards when designing their products. TIA's TR-41 standards group engaged with consumers throughout the process of developing the updated standard, as discussed above. Manufacturers are engaged in regular consultations with this community both through TIA's policy group as well as individual company activities. In accordance with requirements under the CVAA¹⁴, wireline manufacturers already have processes and mechanisms in place that facilitate consultations with the disability community regarding product testing and experience. We believe the current requirements already serve as a mechanism to address the issues the Commission raises and thus, a requirement around consultation specific to wireline products and the TIA-4965 standard would be duplicative and potentially burdensome.

Also, the proposal for sample testing of products would create uncertainty in the marketplace, inhibit innovation, and place undue costs on wireline manufacturers.¹⁵ Once the Part 68 rules are revised, manufacturers would need to test their product and ensure it complies with the new standard in order to be certified for sale so one could not claim to be compliant as the *NPRM* suggests.¹⁶ Therefore, a sample testing of products would be unnecessary. Manufacturers make significant investments when redesigning a device or testing to new standards therefore, it is imperative that assessments and input regarding products happen at the

¹³ See *NPRM* ¶ 24 (“We propose that an initial consultation should occur one year after the effective date of the revised standard, with the follow-up every three years thereafter to assess the impact of the technological changes.”).

¹⁴ Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751 (2010) (“CVAA”) Sec. 717(a)(5).

¹⁵ See *id.* ¶ 25.

¹⁶ See *id.* (proposing manufacturers “be required to test a sample of products claiming to be compliant with the revised standard.”).

early stages of the process rather than after it is already on the market as the Commission's proposed rules seem to suggest.

Furthermore, in the *Petition*, TIA specifically noted that the standards being proposed for adoption are intended to apply to wireline telephone equipment only, stating “[w]hile we believe the concept of Conversational Gain can be applied to a wide range of audio products for the transmission and/or reproduction of speech, we make clear that the current standards and this proposal are intended to govern wireline telephone equipment only.” As a result, we have concerns with the Commission's decision to propose pursuing similar regulatory requirements for wireless handsets. In the *NPRM*, the Commission proposes a rule that would set a standard for volume control for wireless handsets.¹⁷ We do not believe the TIA-4965 standard or any other volume control standard-setting requirement for wireless handsets is appropriate, as discussed further below.

III. TIA DISCOURAGES THE COMMISSION FROM PURSUING THE ADOPTION OF VOLUME CONTROL STANDARD FOR WIRELESS HANDSETS AS SUCH A REGULATION WOULD BE DUPLICATIVE OF EXISTING FEATURES AND REQUIREMENTS.

A. Wireless Handsets Already Enable Consumers to Adjust Their Volume Control.

In the *NPRM*, the Commission states that it is proposing to set a requirement for a volume control standard for wireless handsets in order “to ensure more effective acoustic coupling between handsets and hearing aids or cochlear implants.” TIA and its members have questions about the value and rationale for this proposal. Currently, all models of wireless

¹⁷ See *NPRM* at ¶ 3.

handsets already provide adjustable gain using the volume control that is built into these current models.

There are important differences in the use cases between wireline and wireless phones, as well as in the functional design of each such that it is not appropriate to assume the standards for each should be equivalent and applied to the other product category. We urge the Commission not to blur the distinction between Part 68 terminal equipment HAC and HAC in the wireless handset context.

Wireless handsets are designed for use in a wide variety of scenarios therefore volume control features are already made inherent in the design by manufacturers in order to ensure they provide an acceptable, comfortable user experience. However, the designs and specifications for these devices are subject to safety considerations to address concerns about not providing a signal that would damage a person's hearing.

Thus, TIA discourages the Commission from pursuing this approach because such a requirement would be duplicative of existing features and requirements for wireless handsets.

B. Currently, Wireless Handset Manufacturers Are Required to Design to Existing Safety Standards for Volume Control And Unintentional Acoustic Shocks.

TIA advises the Commission against adopting volume control requirements for wireless handsets as not only do the designs already build in considerations for this capability but there are in fact, other global regulatory obligations and technical standards that are tied into the premise of volume control requiring manufacturers to design their products to adhere to safety caps and maximum thresholds for volume control and unintentional acoustic shocks. Wireless handsets are required to adhere to the 3GPP standards TS26.131 "Terminal Acoustic Characteristics for Telephony" and TS26.132 "Speech and Video Telephony Terminal Acoustic

Test Specification.” Conformity with these specifications is necessary in order for wireless handsets to obtain device certification with wireless carriers in both Europe and North America.

There are requirements for volume control implemented into TS26.131/ TS26.132, referencing a nominal loudness level and a maximum loudness level. The speakerphone maximum loudness levels that can be achieved are limited by the size of the product and available power on the wireless handset. If a regulatory change was made to increase the maximum levels, it would be necessary to increase the size of the wireless handsets in order to be able to achieve that higher level, which would not be practical from a mobile handset design perspective.

Additionally, TIA does not believe that the TIA-4965 should be applied to CMRS wireless handsets. The conversational gain standard was developed specifically for digital and analog wireline handset terminals and does not include test procedures applicable to CMRS wireless handsets. Also, the values in the TIA conversational gain standard fall within the range of the 3GPP standard and thus, would not extend the range. Indeed, if the Commission adopted a requirement to use ANSI/TIA-4965-2012 (2012 ANSI Wireline Volume Control Standard), it would be duplicative of existing standards that are already being utilized and are required for wireless devices, and would result in additional testing costs for manufacturers without impacting the stated objective to ensure more effective acoustic coupling between handsets and hearing aids or cochlear implants.

Furthermore, there are also unique obligations in many countries that manufacturers must design to. Wireless handsets are required to protect the user from unintentional acoustic outputs exceeding specific thresholds defined in “EN 60950-1:2006+A12:2011, EN 50332-1 and EN 50332-2 Clause 5.1”, which are required in order to obtain CE mark in Europe. There is also the

“Australian Standard AS/CA S042.1, Release 2010” which must be adhered to for products being sold into Australia. Therefore, the Commission’s proposed rules would create additional testing and design limitations for manufacturers in a space where industry is already providing devices that allow consumers to adjust the volume settings in a way that is customized to their individual needs and preference.

IV. THE CURRENT OPERATING RULES FOR ANSI-APPROVED SDOS MEET THE CVAA PUBLIC PARTICIPATION REQUIREMENTS AND ALREADY ENABLE CONSUMER STAKEHOLDER INVOLVEMENT.

A. TIA Has A Significant Interest In The Commission’s Proposed Rules Around The Use Of Future Technical Standards.

As discussed above, TIA operates as both as an ANSI-accredited SDO as well as a government affairs organization that represents members who must comply with both the wireline and wireless HAC standards and TIA regularly engages on these matters. Thus, we are very interested in ensuring the Commission’s rules around the development of standards in this space are reasonable and consider the interests of all stakeholders.

TIA’s membership include manufacturers of both types of handsets who are engaged in, and affected by, the discussions and outcomes of HAC standards development organizations like TIA’s TR-41 and C63. TIA and its members are supportive of the idea of a streamlined process that would enable manufacturers to rely on updated versions of the HAC standards without a full rulemaking process. However, there are concerns about some of the Commission’s proposals around what an SDO must do to be able to rely on the streamlined process and be considered compliant. We believe the current SDO rules and the requirements for consultation under the CVAA, as discussed above, already serve as an effective mechanism for engagement with

consumers and their representative organizations without the need for further rigid rules and processes that aim to further the same objective.

In the *NPRM*, the Commission proposes the adoption of a streamlined process for wireline phones or wireless handsets to rely on an updated version of a technical standard for HAC compliance.¹⁸ TIA encourages the adoption of this proposal to enable manufacturers to rely on newer technologies and testing processes when they become available without waiting on Commission approval thereby ensuring consumers have access to improved products that provide an enhanced user experience. We also support the Commission's effort to streamline the process by allowing final determinations about approval to be made at the Bureau-level. TIA's *Petition* makes the case for this especially when such changes are administrative in nature and would not have a substantive effect on those who must comply.¹⁹

B. As The Commission Notes, The Rules For ANSI-Approved SDOs Like TIA And C63 Already Allow Anyone To Participate.

TIA and its members also acknowledge the need for the simplified process to ensure the standard was developed through a public participation process consistent with the statute. TIA, with the support of its SDO counterpart C63, believe, however, that the current rules and processes already serve to address this need and thus, changes to the rules are unnecessary. Voluntary, consensus-driven standards processes customarily operate under open procedures whereby any individual with any interest can join and contribute to the development process.

¹⁸ See *NPRM* ¶ 53.

¹⁹ See *Petition* 12.

Currently, all ANSI-approved SDOs, including those addressing hearing aid compatibility matters, are open to the general public which the Commission recognizes in the *NPRM*.²⁰

Further, this process is not only open to the public, it enables individuals representing or familiar with the interests of consumers with hearing loss to participate in standards development activities thereby facilitating consumer consultation. Representatives from consumer advocacy organizations have been valued contributors to both the efforts of TR-41 and C63 aiding to ensure the standards are designed to most effectively meet the needs of people with hearing impairment. In addition, SDO representatives have presented at and participated in consumer stakeholder conferences like HLAA and TDI to consult with consumers and share information about the standards and how they work.

C. TIA Is Concerned About The FCC's Attempts To Define Specific Rules For The Consumer Consultation Process For Outside Entities.

TIA recognizes the Commission's desire to complete its statutory obligation and designate consumer stakeholders to be consulted with but we do not believe the statute requires, or authorizes, the agency to designate how that consultation should work and how SDOs should operate. The FCC proposes that in order to qualify as a consumer consultation process, SDOs should waive certain fees and take on additional costs for providing accessible accommodations and the implications of these proposals for SDO business operations must be a factor considered when weighing the impact of the proposed rules.²¹

TIA is concerned about the precedent this suggestion sets regarding the agency's ability to direct the operations of other entities on matters that are outside of the Commission's

²⁰ See *NPRM* ¶ 55, stating "we believe that the current ANSI process meets" criteria for being open to participation from relevant stakeholders and allowing interested parties to comment on a proposed standard before adoption.

²¹ See *id* ¶ 60.

jurisdiction. Also, these requirements would potentially place a financial burden and cost on SDOs who also are non-profit entities. There are many costs associated with developing, maintaining, and distributing standards that SDOs regularly take on to facilitate the process. TIA does not take lightly or devalue the need to consult with consumer representatives and ensure technical requirements will provide results that meet their needs and ensure they continue to have access to accessible communications. In fact, TIA and its members have and continue to make a concerted effort to consult with consumer groups about standards matters and accessibility issues generally. Also, in the past, TIA has worked with individuals and made accommodations to costs based on that person or organization's needs and specific situation but we deem this to be a decision that must be left to the SDO's discretion rather than a blanket rule.

As a result, we question the appropriateness of aspects of the Commission's proposal for consumer consultations under section 710 and the impact it would have on SDOs like TIA to access the simplified approval process. While the Commission states that the proposal would not be a mandate for SDOs, the proposed rules would have the same effect because prior examples have shown that the time frame for adoption of rulemaking can be variable and significantly long in some instances. Thus, manufacturers and consumers could be harmed by the inability to have products designed to improved specifications.

D. Other Suggestions On The Consideration Factors For The Streamlined Procedure.

The Commission notes that many standards development processes are highly technical and thus, for a representative to play a proper consultative role it is important that they have a proper technical understanding. And as such, in designating a consumer stakeholder representative, the Commission should focus on individuals with technical expertise and

understanding of telephony technical considerations such electronic magnetic interference as opposed to just having an understanding of hearing loss.²²

V. CONCLUSION

TIA appreciates the Commission's effort to act on its *Petition* and the interest in having thoughtful dialogue on the issues surrounding standards for HAC. We encourage the Commission to consider our recommendations and look forward to continued discussion on these important issues.

Respectfully submitted,

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²² See *NPRM* ¶ 59 (“[W]e propose that, to qualify for designation as ‘interested consumer stakeholders,’ individuals or organizations should have technical expertise in the field of hearing loss and high level of knowledge about the communication needs of people who are deaf and hard of hearing.”).

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