

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

2108 Biennial Review of)
Telecommunications Regulations)
Office of Engineering and Technology) ET Docket No. 18-370
Amending Parts 1 (Section 1.1307 and)
1310), 2 (Subparts A, B, I, J and K),)
5, 15, and 18)

**REPLY COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (“TIA”)¹ hereby submits these reply comments in response to the Federal Communications Commission’s (“Commission”) Public Notice of its 2018 Biennial Review. These reply comments are specifically directed to rules administered by the Office of Engineering and Technology (“OET”).² TIA appreciates the Commission’s critical efforts to modernize its regulatory approach by examining regulations that are either in need of an update or are “no longer in the public interest” and thus prime targets for

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.

² FCC Bureaus and Offices Seek Public Comment in 2018 Biennial Review of Telecommunications Regulations, Public Notice, CG Docket No. 18-375, EB Docket No. 18-379, IB Docket No. 18-377, ET Docket No. 18-370, PS Docket No. 18-376, WT Docket No. 18-374, WC Docket No. 18-378, Public Notice, DA 18-1260 (December 17, 2018) (“Biennial Review”).

removal.³ TIA welcomes this opportunity to respond to the Commission’s invitation and support proposals that have been raised by other commenters in their initial comments.

Specifically, TIA supports the proposals made by Cisco Systems, Inc.⁴ and the Mobile & Wireless Forum.⁵ As a representative of the ICT industry, TIA welcomes any suggestion that updates the Commission’s rules to more appropriately align with modern technology. As such, TIA supports Cisco’s proposal to review and amend Part 15 of the Commission’s rules relating to Class A testing and certification. Additionally, TIA strongly believes that the Commission’s rules must be harmonious with other global standards in order for modern technologies and 5G devices to flourish in the United States. Accordingly, TIA agrees with the MWF Comments, which call for the Commission to update and harmonize the standards and guidelines on Radio Frequency (“RF”) exposure.

I. The Commission Should Revise the Field Strength Measurement Procedures for Class A Devices in Section 15.109 to Accurately Reflect Modern Technological Capabilities.

Cisco requests that the Commission examine and modify Section 15.109⁶ of its rules, specifically with regard to the presentation of field strength measurement data to the Commission during the equipment certification process for Class A devices.⁷ The current Class A test mandated by Section 15.109 requires field strength measurement testing to begin at the clock speed of the computer or microprocessor. This test was adopted in the late 1980s, at a time when microprocessor clock speeds were far slower than their modern-day equivalents. Cisco

³ *Id.*

⁴ Comments of Cisco Systems, Inc. (“Cisco Comments”).

⁵ Comments of the Mobile & Wireless Forum (“MWF Comments”).

⁶ 47 CFR § 15.109.

⁷ *See Generally* Cisco Comments. Class A devices are digital devices that are “marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home.” 47 CFR § 15.3.

provides examples of how today's technology has "long since surpassed" the levels contemplated almost thirty years ago when this rule was adopted, when microprocessors were operating at 25MHz as opposed to modern speeds of up to 25GHz.⁸

To modernize this rule, Cisco first requests that the FCC corrects the 4 dB penalty imposed in the rule's limits table for Class A devices operating at a high frequency of 960 MHz or above. TIA fully supports Cisco's proposal and would welcome the Commission's efforts to modernize and rework Section 15.109, which has become difficult to apply to the much faster clock speeds of today's technologies. A review of the limits imposed by this rule seems reasonable with regards to advancements in technology that has resulted in devices operating at frequencies well above 1GHz.

Second, TIA supports Cisco's proposal for the Commission to modernize its rules regarding test distances to reflect how industry actually conducts these measurements. As modern clock speeds have increased, it has become increasingly difficult for industry to test emissions measured at a 10-meter distance due to floor noise. As a result, the ICT industry has generally moved from testing at a 10-meter distance to 3 meters. Given this general practice among industry, TIA supports Cisco's proposal that the Commission reformat the limits table in Section 15.109(b) to account for 3-meter measurement distances for these devices, while allowing measurements at up to 10 meters.

Third, TIA agrees with Cisco that while evaluating Section 15.109, the Commission should "future-proof" the measurements rule and should initiate a review of how to further amend testing requirements under this rule to account for future technological advances. TIA supports Cisco's suggestion that as part of this review the Commission should revise the base

⁸ Cisco Comments at 2-3.

limits for high frequency Class A devices, which are currently the same for frequencies ranging from 1 GHz to 40 GHz. Interference from devices operating across this broad spectrum are not identical, and this base limit unnecessarily penalizes high frequency Class A devices. As an alternative to the base limit, TIA supports Cisco's approach of using a sloping frequency-dependent limit that more accurately adjusts limits with regard to potential for interference.⁹

II. The Commission Should Adopt RF Exposure Rules that are Harmonious with Global Standards and Facilitate the Development of New Technologies.

As technology continues to advance at a rapid pace and the United States prepares for the rollout of a nationwide 5G network, it is imperative that the Commission takes the long awaited and much anticipated step of updating their regulations regarding RF exposure limits. In order to allow businesses and customers to compete on an equal playing field in the global ICT industry, the Commission cannot continue to mandate RF exposure limits pursuant to the superseded 1991 Institute of Electrical and Electronics Engineers ("IEEE") standard that the Commission adopted in 1996.¹⁰ Likewise, the National Council on Radiation Protection Report No. 86, released in 1986, that is also underpinning the current rules¹¹ has never been updated to reflect current knowledge on RF health effects as well as significant advancements in ICT technology. As a result, these rules prescribe unnecessarily technologically restrictive and imposing requirements.

Instead, TIA agrees with MWF that the Commission should adopt a more recent version of either the IEEE or International Commission on Non-Ionizing Radiation Protection ("ICNIRP") science-based standards on RF exposure limits that would harmonize the US exposure limits with those used in most countries around the world, providing a single, reliable

⁹ See Cisco Comments at 6-7.

¹⁰ See Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Report and Order, ET Docket 93-62, 11 FCC Rcd 15123 (August 1, 1996).

¹¹ 47 CFR § 1.1310

framework for global product certification.¹² As the number of 5G devices utilizing millimeter wave technology are brought to market increases, it is imperative that the Commission adopts a standard for RF exposure limits that are developed for 5G devices while protecting the general public. To that end, as part of the Commission's review of their RF exposure limits, TIA agrees with MWF that the Commission should evaluate the 2019 IEEE and the upcoming ICNIRP revised standards that will offer guidance for millimeter wave devices and optimum 5G performance once they are released.¹³

III. Conclusion

TIA supports the Commission's efforts to modernize its rules through the Biennial Review process and appreciates this opportunity to provide our input on potential revisions to OET rules and regulations as described above.

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February 19, 2019

¹² MWF Comments at 6-7.

¹³ MWF Comments at 6.