

August 19, 2016

Via ECFS

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

RE: NOTICE OF EX PARTE
GN Docket No. 12-268
GN Docket No. 14-166
ET Docket No. 14-165
MB Docket No. 15-146

Dear Ms. Dortch,

Audio-Technica U.S., Inc. (Audio-Technica) writes in support of Shure Incorporated's ("Shure") *ex parte* filing¹ regarding Section 15.203's prohibition on standard antenna jacks and connectors to wireless microphones.² Like both Shure and Sennheiser Electronic Corporation ("Sennheiser"), Audio-Technica raised this issue in its Petition for Reconsideration,³ and noted its concern that the current Part 15 rules will hinder wireless microphone users and manufacturers by preventing the use of standard connectors on transmitters. In its Petition, Audio-Technica urged the Commission to clarify that this Part 15 restriction is not applicable to wireless microphones.⁴

Like Shure, Audio-Technica remains concerned that the Section 15.203 prohibition on standard antenna jacks and connectors would be problematic to implement given the inherent design

¹ [Letter](#) from Catherine Wang and Denise Wood, Counsel to Shure Incorporated, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 12-268 and 14-166, ET Docket No. 14-165, MB Docket No. 15-146 (June 29, 2016) (*Shure Ex Parte*).

² See 47 C.F.R. § 15.203.

³ See *Promoting Spectrum Access for Wireless Microphone Operations et. al.*, [Petition for Reconsideration of Audio-Technica U.S., Inc.](#), GN Docket Nos. 14-166 & 12-268, ET Docket No. 14-165, at pp. 8-10 (Dec. 17, 2015).

⁴ Audio Technica's Petition also urged the Commission to reconsider its decision to adopt the -90 dB requirement outside of the frequency range where the European Telecommunications Standards Institute ("ETSI") masks are defined, and instead adopt the ETSI EN 300-422-1 v.1.4.2 out of band emission ("OOBE") limits without modification, and sought reconsideration of the 30 MHz limitation for wireless microphone users in the 1435-1525 MHz ("1.4 GHz") band.

requirements of wireless microphones.⁵ Because body pack microphone transmitters are worn close to the body, antennas must be matched to the microphone transmitter's varying operating frequencies to ensure optimal function. In addition, antennas on these units are prone to damage and must often be replaced with spare antennas.⁶ Antenna combiners in multi-channel setups, use of omnidirectional or unidirectional antennas, and readily available replacements are necessary in order to accomplish satisfactory performance given technical restrictions.

Audio-Technica also agrees that Section 15.203 should not apply because wireless microphone size constraints and power requirements prevent the use of external amplifiers.⁷ Microphone transmitters, regardless of whether they are licensed under Part 74 or unlicensed pursuant to Part 15, are either hand-held or body-worn, and therefore are designed to be physically small (in some cases, miniaturized), lightweight, and unobtrusive. This reality (and the detrimental effect that affixing a high gain antenna would have on battery power) makes it very unlikely that a user would want -- or be able -- to affix a high gain antenna to a Part 15 wireless microphone.

Audio-Technica has operated for years with standard connectors for antennas without creating any interference or technical problems, and agrees with Shure that application of Section 15.203 to wireless microphones would: (1) impose an onerous burden on manufacturers and end users by requiring multiple designs to achieve the same functionality; and (2) be contrary to the Commission's efforts to harmonize the Part 15 and Part 74 wireless microphone technical requirements and to promote spectral efficiency.⁸ Application of the Part 15 antenna connector rule to unlicensed wireless microphones would significantly inhibit manufacturing, raise consumer costs, and cause user confusion, thus complicating the transition of wireless microphones to the new 600 MHz band plan as a result of the broadcast Incentive Auction.

Pursuant to Section 1.1206 of the FCC's Rules, 47 C.F.R. § 1.1206, this *ex parte* is being filed electronically with the Office of the Secretary. Please contact the undersigned with any questions you may have.

Jacquelynn A. Green

/s/ Jacquelynn A. Green

Vice President of R&D/Engineering
Audio-Technica U.S., Inc.

⁵ *Shure Ex Parte* at p. 2.

⁶ See [Letter](#) from Joe Ciaudelli, Director – Spectrum Affairs, Sennheiser Electronic Corporation, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 12-268 and 14-166, ET Docket No. 14-165, MB Docket No. 15-146 (August 12, 2016).

⁷ *Shure Ex Parte* at pp. 2-3.

⁸ *Shure Ex Parte* at p. 1.