

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

In the Matter of)	
)	
Promoting Spectrum Access for Wireless)	GN Docket No. 14-166
Microphone Operations)	
)	
Amendment of Part 15 of the Commission's)	Docket No. 14-165
Rules for Unlicensed Operations in the)	
Television Bands, Repurposed 600 MHz Band,)	
600 MHz Guard Bands and Duplex Gap, and)	
Channel 37)	
)	
Amendment of Part 74 of the Commission's)	
Rules for Low Power Auxiliary Stations in the)	
Repurposed 600 MHz Band and 600 MHz)	
Duplex Gap)	
)	
Expanding the Economic and Innovation)	GN Docket No. 12-268
Opportunities of Spectrum Through Incentive)	
Auctions)	

**REPLY COMMENTS OF
AEROSPACE AND FLIGHT TEST RADIO COORDINATING COUNCIL, INC.**

Aerospace and Flight Test Radio Coordinating Council, Inc. ("AFTRCC") hereby submits its Reply Comments on the Commission's Further Notice of Proposed Rulemaking in the above-captioned proceedings.¹ As explained herein, AFTRCC does not oppose an expansion

¹ *Promoting Spectrum Access for Wireless Microphone Operations; Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37; Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600 MHz Duplex Gap; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Order on Reconsideration and Further Notice of Proposed Rulemaking, 32 FCC Rcd 6077 (2017) ("Order on Reconsideration" and "Further Notice").*

in the eligibility for licensed wireless microphone users in the 1435-1525 MHz aeronautical mobile telemetry (“AMT”) band as proposed in the *Further Notice* provided that the Commission’s existing prior coordination and authentication and geolocation verification requirements remain unchanged and fully applicable to all wireless microphone operations in the band.

As an initial matter, AFTRCC applauds the Commission’s recognition in its 2015 *Order*, when making the 1435-1525 MHz band (the “L-Band”) available for licensed, secondary use by wireless microphones by professional users, that protection from interference to primary aeronautical mobile telemetry (“AMT”) operations in the L-Band “is of paramount importance.”² The *Further Notice* affirmed that recognition.³ Accordingly, the Commission’s Rules governing wireless microphone access to the 1435-1525 MHz band reflect the critical importance not only for prior coordination with AFTRCC,⁴ but the obligation for post-coordination authentication of wireless microphones based on an automated, integrated software-based mechanism repeated “regularly”⁵ to ensure that operation of wireless microphones occurs only at pre-coordinated times and places.

² *Promoting Spectrum Access for Wireless Microphone Operations*, GN Docket No. 14-166, and *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Report and Order, 30 FCC Rcd 8739, ¶ 118 (rel. Aug. 11, 2015) (“Order”).

³ See *Further Notice* at 6125, ¶90 (underscoring “the critical importance of preventing potential interference to primary aeronautical mobile telemetry users”).

⁴ In Section 74.803 of the Commission’s Rules, there is a requirement for wireless microphone users seeking to operate in the 1435-1525 MHz band to coordinate the proposed use with the “Aerospace and Flight Test Radio Coordinating Committee.” AFTRCC notes that the Commission should take the opportunity to correct that reference to the “Aerospace and Flight Test Radio Coordinating Council, Inc.”

⁵ *Order*. ¶ 119. The Commission stated that “we will require manufacturers to design, and operators to use, software-based controls (or similar functionality) to prevent devices

In the *Further Notice*, the Commission proposes to permit professional theater, music, and performing arts organizations that do not meet the existing fifty (50) device proxy threshold but are able to meet a separate two-part test to obtain a Part 74 license in the TV bands and operate in the lower portion of the 600 MHz duplex gap.⁶ The Commission also proposes to permit these entities to qualify for a license in the 1435-1525 MHz band, among other bands, upon a demonstration of need provided the applicant also possesses the ability to meet the necessary coordination and other requirements pertaining to the band.⁷

from operating in the band except in the specific channels coordinated with AFTRCC for any given location.” *Id.*

⁶ The *Further Notice* explains that, under the proposal, an applicant that cannot meet the fifty-microphone threshold would have to “show that its needs for high-quality audio services for its audiences are identical or substantially similar to those of current Part 74 licensees” and that “it has the professional-level technical and operational capabilities to carry out its responsibilities associated with holding a license (e.g., coordination responsibilities, technical capabilities, and registration capabilities.)” *Further Notice*, 32 FCC Rcd at 6124, ¶¶ 87-88. In reference to the second prong of this two-part test, Shure Incorporated (“Shure”) suggested in its October 2, 2017, Comments on the *Further Notice* (p. ii) that a licensee applicant make a “certification that [it] has personnel with the requisite training, knowledge, and expertise with respect to skills necessary to properly operate a professional audio system, avoid interference to others, coordinate with other spectrum users, and assume the responsibilities of a Part 74 licensee and adhere to all applicable Commission rules and policies” and “affirm that they have sufficient knowledge and training with respect to several core principles of wireless microphone operations.” See also Comments of Sennheiser Electronic Corporation (“Sennheiser”) on the *Further Notice*, at 7 (erratum filed Oct. 5, 2017) (“[w]ith regard to the second part of the test, this showing should be similar to what professional sound companies and large venues are required to show”).

⁷ *Id.* at 6125, ¶ 90. In the *Order on Reconsideration*, the Commission noted it “was not opening up [the 1435-1525 MHz] band either for widespread use or for itinerant uses throughout the nation” but instead “restricted use to specific fixed locations, such as large venues where there is a need to deploy large numbers of microphones (typically 100 or more) for specified time periods and indicated that access to the band is intended for situations in which the other available spectrum resources are insufficient.” *Id.* at 6111, ¶ 64.

Six parties filed comments on the *Further Notice*, each of them essentially supporting expanded eligibility criteria.⁸ While these commenters generally support the expansion of the class of entities eligible for licenses in one fashion or another, critically none sought a relaxation of the coordination procedures in the L-Band. Indeed, several commenters, for example Shure and Sennheiser, expressly recognized the need for existing coordination procedures to continue to apply.⁹ AFTRCC has no objection to the Commission expanding the class of eligible users of the 1435-1525 MHz band on a case-by-case basis subject to additional criteria like those proposed in the *Further Notice* provided the advance coordination and electronic authentication procedures are equally applicable to all wireless microphone operation in the L-Band.¹⁰ To ensure that this occurs if the Commission expands the potential class of Part 74 licensees in the band, the Commission should underscore that any applicant for FCC certification for wireless microphone equipment to operate in the L-Band must demonstrate in its certification application that the equipment has a built-in capability that cannot be defeated by the user to meet the applicable rules governing authentication and geolocation verification requirements following

⁸ See Comments of CP Communications, Microsoft Corporation, Performing Arts Wireless Microphone Working Group, the Recording Academy, Sennheiser, and Shure. While there was some variation among these commenters' support, that variation is not relevant to AFTRCC's views expressed herein.

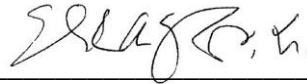
⁹ See Comments of Shure at 12 (supporting operation in the 1435-1525 MHz band "if operation in [this band] is required to meet the spectrum needs of the production and the proper coordination and permission procedures are followed"); Comments of Sennheiser at 8 (noting that "the new rules for wireless microphone use of 1.4 GHz already have numerous restrictions and limitations, such as pre-coordination and the use of highly-specialized and more costly equipment that employs an 'electronic key.'")

¹⁰ AFTRCC agrees with Shure that, as an assurance that coordination and electronic authentication will occur, would-be wireless mike licensees in the L-Band (regardless of size) must certify that they possess the requisite training and expertise to operate a professional audio system, avoid interference, and coordinate with other spectrum users. See Comments of Shure at ii, 7-8.

specific coordination at a particular time and place before operation commences and at regular intervals.

Respectfully submitted,

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