

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington D.C. 20554**

In the Matter of)	
)	
Unlicensed Operation in the TV Broadcast Bands)	ET Docket No. 04-186
)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band)	ET Docket No. 02-380
)	
)	

**COMMENTS OF SHURE INCORPORATED
TO
PETITION FOR RECONSIDERATION**

Shure Incorporated (“Shure”), by its undersigned counsel, hereby submits these Comments in response to the Petition for Reconsideration (“Petition”) filed by the New America Foundation and the Champaign Urbana Wireless Network (collectively “New America”) on December 18, 2006. New America seeks reconsideration of the Commission’s Further Notice of Proposed Rulemaking (“FNPRM”) released October 18, 2006, in the above-captioned matter.¹ Specifically New America argues that the Commission (1) ought not reopen the question on whether to authorize devices in the television broadcast bands on a licensed or unlicensed basis; (2) should permit mobile operations on television channels 14-20; and (3) should not prohibit the marketing or sale of products until after February 17, 2009.

As explained below, Shure’s primary concern regarding whatever regulatory scheme is adopted for the new devices is that wireless microphone operations be fully protected. Further, it is premature to permit the introduction of personal/portable devices in any of the television bands

¹ *Unlicensed Operation in the TV Broadcast Bands*, First Report and Order and Further Notice of Proposed Rulemaking, ET Docket Nos. 04-186, 02-380, FCC 06-156 (released Oct. 18, 2006) (“*FNPRM*”).

until the complex technical issues associated with protection of incumbent users are resolved. Finally, Shure believes that it was entirely appropriate for the Commission to defer the marketing and sale of new devices in the television spectrum until after the end of the digital television (“DTV”) transition on February 17, 2009.

I. Background

As the leading manufacturer of high-quality wireless microphone and other audio products authorized for operation under Part 74 of the Commission’s Rules, Shure has been a long-time participant in the Commission’s proceedings examining whether new unlicensed devices² should be permitted in the unassigned TV bands. Shure’s principal concern is the significant risk of interference to wireless microphone systems operating in the TV channels.³ Throughout this process, Shure has adopted a constructive approach to the complex issues raised by the Commission’s proposals and endeavored to identify and facilitate objective study of potential technical solutions to the very real threat of devastating interference to existing microphone operations. It is not Shure’s objective to forestall development of new broadband products for operation in the TV bands, but it is Shure’s goal to protect wireless microphones and existing spectrum users from interference from new unlicensed devices. To this end, Shure filed comments on January 31, 2007, and reply comments on March 2, 2007, to the FNPRM in this proceeding.

² For convenience, throughout this document Shure refers to the new devices proposed to operate in the TV bands as “unlicensed devices,” even though the Commission has not yet concluded whether the devices will be licensed or unlicensed.

³ “Wireless microphones” as used herein includes a variety of audio devices authorized under Part 74 of the Commission’s Rules as secondary users of locally unoccupied television channels. In addition to wireless microphones, this equipment includes in-ear monitors, wireless intercoms, wireless assist video devices (WAVDs) and wireless cueing (IFB) systems.

II. Licensed, Unlicensed, or Hybrid Licensing Regime

In its Petition, New America argues that the Commission should not have reopened and sought additional comment on the question of whether new unlicensed devices should be licensed, unlicensed or subject to hybrid licensing. Whether or not the Commission should have reopened the record is now a moot point, because the record has been reopened, and parties filed Comments and replies in response to the questions asked by the Commission. The Commission can therefore not ignore the fact that the record has been refreshed. Shure explained in its Comments filed on January 31, 2007, that new uses of the TV band should only be authorized if wireless microphone operation is fully protected, whether the new devices operate pursuant to a licensed, unlicensed or hybrid regime. Shure's Comments, as well as its Reply Comments filed on March 2, 2007, address in detail Shure's technical proposals to assure such protection.

III. Personal/Portable Unlicensed Devices

In its Petition, New America asks the Commission to reconsider its decision to prohibit personal/portable devices on television channels 14-20. Shure opposes New America's request because many technical and operational issues regarding the introduction of new *fixed* television band devices have yet to be resolved. Until operational experience is gained from *fixed* unlicensed devices in the television bands and how to protect incumbent users from interference, it is simply too risky to permit mobile unlicensed devices. Therefore, as Shure explained in its Comments filed on January 31, 2007, the prohibition of personal/portable devices on television channels 14-20 should be expanded to include all television bands until the technical issues associated with the protection of incumbent users, including wireless microphones, have been resolved.

Despite the progress on fixed applications, it is entirely premature for the Commission to consider allowing personal/portable devices in the “white spaces.” As the Commission recognized, non-fixed or personal/portable devices “generally pose a greater risk of harmful interference to authorized operations than fixed devices.”⁴ The IEEE 802.22 Working Group, which has been diligently developing interference mitigation proposals for fixed point-to-multipoint devices for the past 2 ½ years, has not yet even begun to tackle the much more challenging interference case posed by personal/portable devices. Thus, little progress has been made by the leading engineering experts in this field to define -- let alone resolve -- the complex interference issues raised by personal/portable operations.

In other words, contrary to the arguments of New America, it is a question of timing. It is simply premature to permit personal/portable unlicensed devices on any television band until the interference issues are fully studied and resolved. New America claims that if there is a prohibition on personal/portable unlicensed devices in the television bands, no one will conduct the necessary studies to determine whether such devices can protect incumbent users, and as a result the use of valuable spectrum will be foreclosed. On the contrary, if personal/portable unlicensed devices are introduced prematurely and they cause interference to incumbent users, it will be difficult to clear them from the band, and as a result, everyone’s use of the band will be impeded, if not foreclosed. If there is a commercial market for personal/portable unlicensed devices, there will be a financial incentive to conduct the necessary research on how to protect incumbent users from interference.

The Commission should thus focus its limited administrative resources on developing technical rules for fixed devices where it is at least feasible to implement effective interference

⁴ See *FNPRM*, at ¶ 18.

protection, while postponing consideration of personal/portable devices until the engineering community can develop proven, demonstrable technical solutions that can protect incumbent users. Given the absence of any demonstrable solutions for personal/portable interference operations, Shure urges the Commission to expressly limit the introduction of new unlicensed devices to fixed devices at this time. If and when proponents of personal/portable devices can demonstrate the technical development of effective interference protection techniques, including thorough laboratory and field testing, then, and only then, should the Commission reopen the proceeding to consider the terms and conditions under which personal/portable devices may operate in the television bands.

IV. Timing of Retail Distribution of New Devices in the Television Spectrum

In its Petition, New America asks the Commission to reconsider its decision to prohibit the sale of unlicensed devices until after February 17, 2009. New America argues that the various applications for unlicensed devices cannot be developed until after the hardware is introduced, and there should thus be no set date constraining manufactures from selling the hardware any sooner. Shure opposes New America's request, and as explained in its Comments filed on January 31, 2007, Shure supports the Commission's decision to defer the marketing and sale of new devices in the TV channel spectrum until after the end of the DTV transition on February 17, 2009.⁵ Many concerns have been expressed about interference that might be caused with the introduction of unlicensed devices prior to the completion of the DTV transition, given the rebalancing of spectrum occupancy and the current spectrum congestion in certain markets. The Commission's decision to defer introduction until after the DTV transition alleviates the principal concerns. As of February 17, 2009, the final allocations and changes for

⁵ *Id.* at ¶ 22.

channels is expected to be complete and TV stations will not be broadcasting both analog and digital signals.

The deferral provides the Commission and the public much-needed time to identify interference issues and develop workable rules and requirements for unlicensed device certification. The Commission set a certification timetable as well that anticipates acceptance of certification applications beginning in late 2007 after new technical rules are adopted.⁶ Because this timeframe is intended for the study and analysis of technology not yet proven or demonstrated, it is difficult to predict whether the Commission's very aggressive timetable is realistic. It is more important for the Commission to develop proven, effective rules, than it is to allow introduction of TV band devices on a certain date at any cost. Therefore, it will be important for the Commission to continue to assess the appropriate timetable and, if necessary, to revise and extend the timetable to better match what is feasible to be accomplished. Rushing to introduce new devices to the TV spectrum, only to have them interfere with incumbent devices, would not benefit consumers or the businesses operating existing devices or new devices.

⁶ *Id.* at ¶ 16.

Conclusion

Wireless microphone systems are an integral part of many existing services vitally important to American businesses and consumers today. For the reasons discussed above, Shure urges the Commission to: (1) protect wireless microphone systems, whether new devices in the television bands operate on an unlicensed, licensed or hybrid basis; (2) find that it is premature to permit the use of personal/portable devices in the television bands at this time; and (3) affirm its decision to defer the marketing a sale of new fixed devices in the television bands until after the end of the DTV transition on February 17, 2009.

Respectfully submitted,

/s/

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CERTIFICATE OF SERVICE

I, Elyse N. Sanchez, do hereby certify that I sent to the following individual the “Comments of Shure Incorporated to Petition for Reconsideration” by first class mail on this 8th day of March, 2007.

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/s/

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