

July 23, 2015

**VIA ELECTRONIC FILING**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: *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, and 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* (ET Docket No. 14-165); *Promoting Spectrum Access for Wireless Microphone Operations* (GN Docket No. 14-166); *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions* (GN Docket No. 12-268)

Dear Ms. Dortch,

Over the course of this proceeding, CTIA – The Wireless Association® (“CTIA”) and its members have been actively engaged in the development of a 600 MHz band framework that will maximize opportunities for repurposing spectrum to meet consumers’ significant demand for mobile broadband services. CTIA believes that the 600 MHz band can and should serve as a home for both licensed, exclusive use, and non-interfering, unlicensed operations. However, for these services to successfully coexist, the Commission must adopt a framework that adequately protects licensed services from harmful interference. Indeed, the Spectrum Act compels such action.<sup>1</sup>

As CTIA has previously indicated, independent, real-world testing conducted by V-COMM demonstrated that the Commission’s proposed technical rules for unlicensed devices and wireless microphone operations in the 600 MHz guard bands and duplex gap would result in harmful interference to licensed services in violation of the Spectrum Act. CTIA urges the Commission to heed the results of the V-COMM testing and adopt the out of band emissions (“OOBE”) limits, power limits, and other technical regulations proposed by the V-COMM test report and CTIA’s filings in this proceeding.

Additionally, it is essential that the Commission provide a means for addressing harmful interference from unlicensed white space devices and wireless microphone operations in the event they cause harmful interference to licensed wireless services in the 600 MHz band. In other proceedings where the Commission has used a predictive model to prevent interference, the Commission also has adopted rules requiring the termination of interfering operations. For example, in the concurrent inter-service interference proceeding, the Commission has proposed

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<sup>1</sup> Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6407(e) (codified at 47 U.S.C §1452), 126 Stat. 156 (2012) (“Spectrum Act”).

to require wireless licensees to eliminate any actual harmful interference to television service in the 600 MHz band, even if no harmful interference is predicted under the Commission's model.<sup>2</sup> Similarly, when the Commission adopted rules for unlicensed TV white space device operation, it required TV white space device operators to cooperate with the Commission's investigation of potential interference and, where necessary, prohibit the interfering device from transmitting.<sup>3</sup>

As it has done in the past and proposes to do with respect to other 600 MHz coexistence scenarios, the Commission should ensure that its rules include a requirement that no actual harmful interference be caused to licensed 600 MHz operations by unlicensed white space devices or wireless microphones. CTIA also believes that a mechanism for ensuring that interfering white space devices and wireless microphones are able to be located and required to cease operations can leverage the Spectrum Act requirement that these devices utilize a database. All white space devices and wireless microphones are required by the Spectrum Act to "rely on a database."<sup>4</sup> The Commission has proposed that unlicensed wireless microphones that operate in the guard bands and duplex gap rely on a database prior to operation,<sup>5</sup> while white space devices have always been required to rely upon a database.<sup>6</sup> To protect licensed 600 MHz operations, the Commission should require that database administrators cooperate in the termination of interfering operations. The FCC has proposed that licensed wireless microphones not be required to utilize a database,<sup>7</sup> but presumably these sophisticated users can be required to manage their use and comply with provisions to cease interfering operations. Consistent with the Commission's experimental licensing rules, the Commission should require the provision of a "Stop Buzzer" point of contact for each device and adopt a rule requiring this person or entity to

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<sup>2</sup> *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Second Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 13071, ¶¶ 74-75 (2014) ("While we propose to use a predictive model to prevent inter-service interference to television stations based on wireless base station deployments, we also propose to require a wireless licensee to eliminate any actual harmful interference to television service in the 600 MHz Band, even if no harmful interference is predicted. This proposed requirement will ensure that television stations assigned to the 600 MHz Band are not detrimentally affected by being co-channel or adjacent channel to wireless operations."); *see also id.* at Proposed Rule § 27.1310.

<sup>3</sup> *Unlicensed Operation in the TV Broadcast Bands*, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd 16807, ¶ 212 (2008) ("If there is a claim of interference, a database administrator, upon request from the Commission, must provide TVBD identifying information. If a device is found to be causing interference, the Commission may then require that the party responsible for the unlicensed device take corrective actions or cease operating the device until the interference is resolved. In addition, if a representative of the Commission attempts and is unable to contact the person responsible for a device that is determined to be causing interference, the Commission may require the TV bands database to return a message of 'no channels available' to the device at its next scheduled re-check. This will effectively shut down the device until contact is made with the responsible party so that the interference can be resolved. The database administrator will rescind a 'no channels available' status for that device only upon authorization by the Commission.").

<sup>4</sup> Spectrum Act §6407(d).

<sup>5</sup> *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, and Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600MHz Duplex Gap*, Notice of Proposed Rulemaking, 29 FCC Rcd 12248, ¶ 163 (2014) ("Unlicensed NPRM").

<sup>6</sup> 47 C.F.R. § 15.713.

<sup>7</sup> Unlicensed NPRM ¶ 165.

be available at all times to resolve interference concerns and/or cease transmissions immediately in the event of interference.<sup>8</sup> Unlicensed users of the guard bands and duplex gap could be managed by a database and database administrators would be the responsible “Stop Buzzer” parties. Licensed wireless microphones would be required, as part of their licensing process, to identify a “Stop Buzzer” point of contact. Such action is consistent with the Spectrum Act’s mandate that these secondary operations not cause harmful interference to licensed 600 MHz wireless services. CTIA has attached text that the Commission could insert in its rules to serve this purpose.

CTIA continues to believe that the best course of action for the 600 MHz band is to adopt the technical rules for unlicensed devices and wireless microphone operations in the duplex gap and guard bands proposed by V-COMM and endorsed by CTIA. Such rules will help ensure that forward auction bidders who must make enormous capital investments have access to the spectrum purchased at auction free from harmful interference. In addition, a rule prohibiting *actual* harmful interference is necessary to ensure Spectrum Act compliance.

Pursuant to Section 1.1206 of the Commission’s rules, 47 C.F.R. § 1.1206, this letter is being electronically filed via ECFS. Please direct any questions to the undersigned.

Sincerely,

/s/ Krista L. Witanowski

Krista L. Witanowski  
AVP, Regulatory Affairs  
CTIA – The Wireless Association®

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<sup>8</sup> 47 C.F.R. §§ 5.307, 5.308.

## Appendix: Proposed Part 15 and Part 74 Rules

**The Commission's Proposed Section 15.236 is amended by adding new paragraph (c)(7) to read as follows:**

**§ 15.236 Operation of wireless microphones in the bands 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-698 MHz.**

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(7)(i) Wireless microphone operation in the frequencies identified in paragraphs (c)(3)-(5) of this section must cause no harmful interference to reception of licensed wireless transmissions in the repurposed 600 MHz band. If a wireless microphone operating in the 600 MHz duplex gap or 600 MHz guard band causes harmful interference to any 600 MHz Band licensee, that wireless microphone must cease operations immediately, consistent with the rules for secondary use. A "Stop Buzzer" point of contact must be identified and available at all times during operation of any unlicensed wireless microphone in the 600 MHz duplex gap or 600 MHz guard band. A "Stop Buzzer" point of contact is a person who can address interference concerns and cease all transmissions immediately if interference occurs. This "Stop Buzzer" point of contact can be provided by a database administrator. *See* § 15.707.

**The Commission's Proposed Section 15.707 is amended by adding new paragraph (g) to read as follows:**

**§ 15.707 Permissible channels of operation.**

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(g) Fixed and personal/portable device operation in the frequencies identified in paragraphs (e)-(f) of this section must cause no harmful interference to reception of licensed wireless transmissions in the repurposed 600 MHz band. If a fixed or personal/portable device operating in the 600 MHz duplex gap or 600 MHz guard band causes harmful interference to any 600 MHz Band licensee, that device must cease operations immediately. Further, white spaces database administrators shall provide relevant device information to the Commission in the event of a claim of harmful interference, and shall cooperate in taking any corrective action requested by the Commission, including returning a "no channels available" to the interfering device. In addition, a "Stop Buzzer" point of contact must be identified by each white spaces database administrator and available at all times during operation of any fixed or personal/portable device in the 600 MHz duplex gap or 600 MHz guard band. A "Stop Buzzer" point of contact is a person who can address interference concerns and cease all transmissions immediately if interference occurs.

**Section 74.802 is amended by adding new paragraph (f) to read as follows:**

**§ 74.802      Frequency assignment**

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*(f) No interference to licensed wireless operations in the repurposed 600 MHz band.*

Low power auxiliary stations operating in the 600 MHz duplex gap must cause no harmful interference to reception of licensed wireless transmissions in the repurposed 600 MHz Band. Any low power auxiliary station operating in the 600 MHz duplex gap that causes harmful interference to any 600 MHz Band licensee in the repurposed 600 MHz band must cease operations immediately, consistent with the rules for secondary use. A “Stop Buzzer” point of contact must be identified in the license application and available at all times during operation of any low power auxiliary station in the 600 MHz duplex gap. A “Stop Buzzer” point of contact is a person who can address interference concerns and cease all transmissions immediately if interference occurs.