

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

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| In the Matter of |) | |
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| Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band |) | WT Docket No. 08-166 |
| |) | |
| Public Interest Spectrum Coalition, Petition for Rulemaking Regarding Low Power Auxiliary Stations, Including Wireless Microphones, and the Digital Television Transition |) | WT Docket No. 08-167 |
| |) | |
| Amendment of Parts 15, 74 and 90 of the Commission’s Rules Regarding Low Power Auxiliary Stations, Including Wireless Microphones |) | ET Docket No. 10-24 |
| |) | |

COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® (“CTIA”) submits these comments in response to the *Public Notice* seeking to update and refresh the record in the *Wireless Microphones Further Notice* proceeding.¹ The Commission’s decision to extend the filing dates to coincide with the *Incentive Auction Notice* comment cycle recognizes that repurposing the 600 MHz band from TV broadcast to commercial wireless services affects reform of the wireless microphone

¹ *The Wireless Telecommunications Bureau and the Office of Engineering and Technology Seek to Update and Refresh Record in the Wireless Microphones Proceeding*, Public Notice, DA 12-1570, WT Docket Nos. 08-166 *et al.* (rel. Oct. 5, 2012) (“*Public Notice*”); *Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band*, Report and Order and Further Notice of Proposed Rulemaking, 25 FCC Rcd 643 (2010) (“*Wireless Microphones Order*” and “*Wireless Microphones Further Notice*,” respectively).

regulatory framework.² Among the lessons learned as part of the digital television (“DTV”) transition, the Commission concluded that wireless microphones and other low power auxiliary service (“LPAS”) devices in the 700 MHz band “pose a significant threat of interference” to new wireless services entering the band and mandated that such devices be cleared.³ The risk of interference found in the 700 MHz band applies equally to the 600 MHz spectrum, and the Commission similarly should bar wireless microphones and LPAS devices from spectrum to be repurposed for commercial wireless services. As a result, the Commission should:

- Prohibit wireless microphones and LPAS devices from operating on spectrum in the 600 MHz band that will be repurposed from broadcast TV to commercial wireless service, consistent with its 2010 decision barring wireless microphones from the 700 MHz band;
- Establish a process by which wireless microphones and LPAS devices (in addition to all broadcast-related operations) are cleared from the repurposed spectrum no later than the date of the Incentive Auction;
- Ban the manufacture, import, sale, lease, offer for sale or lease, or shipment of wireless microphones and LPAS devices in the United States for operation on the 600 MHz band spectrum that will be repurposed for commercial wireless service; and,
- Adopt CTIA’s proposals regarding interference protection in the 700 MHz band⁴ and extend them to the spectrum that will be repurposed in the 600 MHz band.

² See *Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band*, WT Docket No. 08-166 *et al.*, Order, DA 12-1926 (WTB OET rel. Nov. 30, 2012) (extending comment dates to Jan. 25, 2013 and reply comment dates to Mar. 12, 2013); *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357 (2012) (“*Incentive Auction Notice*”).

³ See *Wireless Microphones Order*, 25 FCC Rcd at 663.

⁴ See, e.g., Reply Comments of CTIA, WT Docket Nos. 08-166, 08-167 (Oct. 20, 2008) (“CTIA 2008 Wireless Microphones Reply Comments”); Comments of CTIA, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (Mar. 1, 2010) (“CTIA 2010 Wireless Microphones Comments”).

These important steps are critical to ensuring that the repurposed spectrum is fully available for both the licensed mobile broadband and unlicensed uses identified in the Middle Class Tax Relief and Job Creation Act of 2012 (“Spectrum Act”).⁵

I. THE COMMISSION SHOULD PROHIBIT WIRELESS MICROPHONE AND LPAS DEVICE OPERATIONS IN 600 MHz BAND SPECTRUM THAT WILL BE REPURPOSED FOR COMMERCIAL WIRELESS USE.

In 2010, the Commission concluded that wireless microphones and LPAS devices could interfere with commercial base and mobile receivers (and public safety) entering the 700 MHz band and determined that such devices must be cleared from the band. The Commission made clear: “[o]ur primary goal in this proceeding is to clear all wireless microphones from the 700 MHz band, thereby simplifying the process of making this spectrum fully available for public safety and commercial broadband licensees.”⁶ That same goal must extend to the 600 MHz band in order to fulfill the promise of the Incentive Auction to make this spectrum fully available for licensed and unlicensed innovation and utilization to benefit wireless consumers.

The *Wireless Microphones Order* relied on significant evidence in the record in finding that wireless microphones and LPAS devices can cause harmful interference to commercial mobile 4G devices, and vice versa.⁷ The Commission concluded that “power levels employed by the respective devices pose a significant risk of co-channel interference and would be strong

⁵ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-6, 126 Stat. 156 (2012) (“Spectrum Act”).

⁶ *Wireless Microphones Order*, 25 FCC Rcd at 685.

⁷ See, e.g., *Wireless Microphones Order*, 25 FCC Rcd at 663 (citing Report of V-COMM, L.L.C., WT Docket Nos. 08-166, 08-167 (Oct. 1, 2008); Ex Parte Letter from Sean Haynberg, V-COMM, L.L.C., to Marlene H. Dortch, FCC, WT Docket No. 08-166 (Apr. 17, 2009); CTIA 2008 Wireless Microphones Reply Comments at 4-7; Ex Parte Letter from Christopher Guttman-McCabe, CTIA, to Marlene H. Dortch, FCC, WT Docket Nos. 08-166, 08-167 (Jan. 30, 2009)).

enough to disrupt the operations of both public safety and commercial mobiles and base station receivers in the 700 MHz Band.”⁸ Such co-channel interference would lead to large “dead zones” and loss of coverage to commercial devices.⁹ Moreover, the Commission found that LPAS devices can cause harmful interference to adjacent bands “due to out-of-band emissions and intermodulation interference caused by emissions from multiple devices.”¹⁰ Thus, commercial operations could be disrupted where multiple LPAS transmitters are used (*e.g.*, concerts or sporting events).¹¹ The Commission thus concluded, “the risk of interference supports our determination to prohibit operation of lower power auxiliary stations in the 700 MHz band.”¹²

The Commission’s findings with respect to harmful interference from wireless microphones and LPAS devices in the 700 MHz band apply equally to the 600 MHz frequencies that will be repurposed for commercial wireless service. The Commission should act promptly to make clear that such devices will be cleared from the repurposed spectrum. Such action is necessary to provide prospective bidders with certainty to bid for unencumbered spectrum, for licensees to build out networks and innovate, and for possible unlicensed operations in the guard bands. Moreover, it is fully consistent with the proposal in the *Incentive Auction Notice* to require secondary fixed broadcast auxiliary stations (“BAS”) to discontinue operations in the

⁸ *Wireless Microphones Order*, 25 FCC Rcd at 663.

⁹ *See id.*

¹⁰ *Id.* at 664.

¹¹ *See id.*

¹² *Id.* at 663.

repurposed spectrum and relocate to the repacked TV band or other available frequency bands.¹³ Any other result is contrary to Congress' goal that the Incentive Auction should produce fully available spectrum to help keep pace with the ever growing demand for wireless services.

II. THE COMMISSION SHOULD REQUIRE ALL EXISTING WIRELESS MICROPHONE AND LPAS DEVICES TO BE CLEARED BY THE DATE THAT THE REPURPOSED SPECTRUM IS AUCTIONED.

As the Commission envisions, the spectrum to be repurposed through the TV broadband band Incentive Auction process will “promote economic growth and enhance America’s global competitiveness, increase the speed, capacity and ubiquity of mobile broadband service, such as 4G LTE and Wi-Fi like networks, and accelerate the smartphone- and tablet-led mobile revolution.”¹⁴ But these objectives can be fulfilled only if the repurposed spectrum is cleared of wireless microphones and LPAS devices (in addition to broadcast-related operations), like the 700 MHz band was cleared following the digital TV transition. It is incumbent on the Commission to ensure that *all operations* – not just broadcast TV and BAS operations – that currently operate in the 600 MHz band are moved from the repurposed spectrum so that it is fully available for wireless broadband use.

In contrast to the 700 MHz band experience, the Commission has the opportunity to proactively address these issues now and provide notice to wireless microphone and LPAS device users before the transition takes place and the threat of interference becomes a reality. Importantly, the Commission has sufficient time to establish a policy in advance of the Incentive Auction that wireless microphones and LPAS devices will be cleared from the repurposed spectrum. By doing so, the Commission would not need to provide for a transition period that

¹³ See *Incentive Auction Notice*, 27 FCC Rcd at 12432.

¹⁴ *Id.*, ¶ 4.

extends into the term of the newly assigned 600 MHz licenses, as was the case in the 700 MHz band. Moreover, the Commission and affected parties would not need to implement an early clearing mechanism like the one created for commercial wireless licensees that initiated service in the 700 MHz band before the clearance deadline.¹⁵ Accordingly, the Commission should encourage wireless microphone and LPAS users to cease operating on the repurposed spectrum as quickly as possible, and should set a deadline to cease operations in the spectrum to be repurposed for commercial wireless service no later than the day the Incentive Auction begins. The Commission should act promptly in this matter in order to provide wireless microphone and LPAS users as much time as possible to prepare for and clear the repurposed spectrum.

III. THE COMMISSION SHOULD PROHIBIT THE MANUFACTURE, IMPORT, SALE, LEASE OR SHIPMENT IN THE U.S. OF WIRELESS MICROPHONES OR LPAS DEVICES THAT OPERATE ON THE REPURPOSED SPECTRUM.

In the *Wireless Microphones Order*, the Commission prohibited the manufacture, import, sale, lease, offer for sale or lease, or shipment of wireless microphones and LPAS devices in the United States for operation in the 700 MHz band.¹⁶ The Commission concluded that the prohibition “is necessary to ensure that new services in this valuable spectrum will be provided without interruption to benefit all Americans.”¹⁷ The Commission should similarly prohibit the manufacture, import, sale, lease, offer for sale or lease, or shipment of wireless microphones and

¹⁵ See *Wireless Microphones Order*, 25 FCC Rcd at 667-68; see also 47 C.F.R. § 74.802(e). Under this mechanism, wireless microphone and LPAS users were required to discontinue operations within 60 days after receiving notice from a 700 MHz band licensee that it was initiating service.

¹⁶ See *Wireless Microphones Order*, 25 FCC Rcd at 672.

¹⁷ *Id.*

LPAS devices in the United States that can operate in the repurposed commercial wireless 600 MHz band spectrum.¹⁸

Consistent with the Commission’s decision in the *Wireless Microphones Order*, the prohibition would help mitigate the potential for increased interference to new 600 MHz commercial wireless licensees by decreasing the number of wireless microphones and LPAS devices that are available for use in the band.¹⁹ Moreover, permitting the sale or lease of such devices on the repurposed spectrum would be “inconsistent with [the Commission’s] goal of taking all steps necessary to make this spectrum available” for commercial wireless service.²⁰

IV. THE COMMISSION SHOULD ENSURE THAT CTIA’S PROPOSALS IN RESPONSE TO THE *FURTHER NOTICE* EXTEND TO THE 600 MHz SPECTRUM TO BE REPURPOSED FOR WIRELESS BROADBAND USE.

In response to the *Wireless Microphones Further Notice*, CTIA urged the Commission to take several steps to help ensure that 700 MHz band wireless licensees can operate free of interference as contemplated by the *Wireless Microphones Order*. The Commission should adopt the measures CTIA raised and apply them equally to the 600 MHz spectrum that will be repurposed for wireless broadband use.

The Commission should adopt appropriate power levels and out-of-band emission limits for new Wireless Audio Devices that provide adequate protection to 700 MHz and new 600 MHz commercial wireless operations. CTIA also reiterates its support for a rule that prohibits the

¹⁸ CTIA does not oppose the manufacture in the United States of wireless microphones and LPAS devices that are capable of operating on the repurposed 600 MHz spectrum so long as the devices, as in the 700 MHz band context, are for export only and their labels make clear that the devices cannot be used in the United States. *See id.* at 673-74; 47 C.F.R. § 74.851(h).

¹⁹ *See Wireless Microphones Order*, 25 FCC Rcd at 673.

²⁰ *Id.*

attachment of amplifiers to wireless microphones, the use of which would necessarily undermine the proposed power limit.

In addition, if the Commission chooses to modify its rules to permit the use of Part 74 devices inside nuclear power plants, such operations should be strictly limited to the repacked TV bands that do not include the 600 MHz spectrum to be repurposed for wireless use.²¹ The risk of interference is especially serious in this case given that disrupted communications and operations in and around nuclear power plants could endanger the plants' workers, public safety personnel, and others near the plants.

Finally, CTIA reiterates its support for proposals that will ensure that Part 74 devices are marketed and sold only to eligible users, including requirements on marketing solely to parties eligible to operate the equipment; mandatory labels or other advisory information; and other restrictions on the sale (including requirements related to record keeping, point of sale eligibility verification, and/or point of sale contractual acknowledgement).²² The public interest would be best served by rules that impose a level of responsibility and accountability on manufacturers, retailers, and distributors of Part 74 devices.

V. CONCLUSION

The promise of the TV broadcast Incentive Auction can only be achieved if the 600 MHz band is cleared of operations that will interfere with new mobile wireless services – including wireless microphones and LPAS devices. The Commission should follow its 700 MHz blueprint and set a specific date to clear such devices from the spectrum to be repurposed for commercial

²¹ *See id.* at 3-4.

²² *See id.* at 6-7.

wireless service. The Commission should take further steps to limit the risk of wireless microphones and LPAS devices interfering with these new 600 MHz commercial wireless services.

Respectfully submitted,

CTIA – THE WIRELESS ASSOCIATION®

Respectfully submitted,

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