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

In the Matter of	)	
	)	
Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions	)	GN Docket No. 12-268

OPPOSITION AND REPLY OF CTIA – THE WIRELESS ASSOCIATION® TO PETITIONS FOR RECONSIDERATION

Michael F. Altschul
Senior Vice President and General Counsel

Scott K. Bergmann
Vice President, Regulatory Affairs

Krista L. Witanowski
Assistant Vice President, Regulatory Affairs

CTIA – The Wireless Association®
1400 Sixteenth Street, NW
Suite 600
Washington, DC 20036
(202) 785-0081

November 12, 2014

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

In the Matter of	)	
	)	
Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions	)	GN Docket No. 12-268

OPPOSITION AND REPLY OF CTIA – THE WIRELESS ASSOCIATION® TO PETITIONS FOR RECONSIDERATION

I. INTRODUCTION AND SUMMARY

CTIA – The Wireless Association® ("CTIA") hereby responds to various Petitions for Reconsideration filed in response to the Commission's *Report and Order* establishing rules for the upcoming broadcast television incentive auction.[1] The *Report and Order* represented a significant step toward a successful incentive auction that will help to address the surge in demand for mobile broadband spectrum. The spectrum made available for this auction will fuel a number of key public interest benefits, including investment in infrastructure, job creation, enhanced innovation and competition in the wireless industry, and improved wireless networks and services for consumers.

Thirty-one parties have filed seeking reconsideration and/or clarification of various elements of the *Report and Order*. As explained below, CTIA believes the *Report and Order* helps lay the groundwork for a highly successful incentive auction. Further, CTIA notes that the need for additional spectrum is great, and that the Commission should avoid actions that would seek to delay the auction or otherwise undermine its success. For the reasons discussed herein,

[1] *Expanding the Economic and Innovation Opportunities for Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6567 (2014) ("*Report and Order*")

CTIA believes that several of the petitions for reconsideration in this proceeding would, if granted, undermine the incentive auction's success. In fact, several of these petitions "[r]ely on arguments that have been fully considered and rejected by the Commission within the same proceeding," and thus do not warrant reconsideration.[2] Certain other petitions, however, may enhance the success of the incentive auction by encouraging participation by interested broadcasters and ensuring that the new 600 MHz band plan does not result in interference to licensed operations. As the Commission reviews the record before it, CTIA urges the Commission to take the following actions.

First, the Commission should aim to maximize the amount of spectrum made available for wireless services in the incentive auction. Accordingly, it should reject proposals to adopt a "Lowest Common Denominator" nationwide band plan that would allow the most constrained markets to dictate spectrum availability for the rest of the country. It should also reject petitions that would inhibit the amount of spectrum cleared or delay the licensing of the 600 MHz band for wireless broadband. Furthermore, the Commission should reject changes to its technical rules that would decrease the amount of spectrum available for auction or unnecessarily encumber 600 MHz wireless licenses. The Commission should, however, expand opportunities to facilitate channel sharing by interested parties, and for this reason CTIA supports proposals made by the Expanding Opportunities for Broadcasters Coalition that would lower barriers to channel sharing.

Second, the Commission should uphold its determination to use its TVStudy software to determine broadcasters' coverage area and population served for purposes of the incentive auction. As CTIA previously indicated, and as the Commission affirmed, the use of *TVStudy* is

[2] *See* 47 C.F.R. § 1.429(l)(3).

entirely consistent with the Spectrum Act and will improve the accuracy of the Commission's calculations. This will result in a more accurate, equitable, and efficient incentive auction.

Third, the Commission's decisions regarding other current and future 600 MHz band occupants must be guided by the Spectrum Act. Several parties have filed petitions for reconsideration related to the status of low power television ("LPTV") incumbents, and the Commission should conclude that it properly applied the Spectrum Act in determining that these stations are afforded few to no rights in the incentive auction process. The Commission should also reaffirm that it is under no obligation to reimburse wireless microphone incumbents, or reserve spectrum for wireless microphone use. And finally, the Commission should closely examine the submission of Qualcomm Incorporated ("Qualcomm") and only uphold the current unlicensed operations framework if, consistent with the Spectrum Act, these operations will not cause harmful interference to licensed wireless services.

Finally, the Commission should uphold the technical rules for mobile wireless service adopted in the Report and Order. These rules are well-developed and have been successfully applied to similar bands. The result is a spectrum environment that has allowed the U.S. to be a world leader in LTE deployment. The Commission should therefore reject Artemis Networks' self-serving and unprecedented request to adopt spectrum efficiency requirements in the 600 MHz band.

By any measure, the *Report and Order* is a tremendous achievement by the Commission. By taking the steps proposed herein, the Commission will ensure that it continues its path toward a successful incentive auction.

II. THE COMMISSION SHOULD AIM TO MAXIMIZE THE AMOUNT OF SPECTRUM MADE AVAILABLE FOR WIRELESS SERVICES IN THE INCENTIVEAUCTION, AND TO MINIMIZE DELAY.

A. CTIA Opposes Proposals to Adopt a "Lowest Common Denominator" Nationwide Band Plan.

In their Petition for Reconsideration, the Affiliates Associations ask the Commission to reconsider the current 600 MHz band plan, which allows for limited market variability in markets where less spectrum can be cleared.[3] The Affiliates Associations submit that "the FCC should consider focusing resources on recovering sufficient spectrum in the most constrained markets to allow a truly national plan, even if that means accepting a lower spectrum clearing target."[4] CTIA opposes this proposal. While CTIA believes that a near-national band plan will greatly simplify the auction and deployment of 600 MHz spectrum, the band plan can and should accommodate a limited amount of market variability to increase the amount of spectrum available in non-constrained markets.

As the Affiliates Associations concede, a nationwide band plan brings with it the "least common denominator" problem – adoption of a nationwide band plan will require the FCC to limit the amount of spectrum offered across the nation to that cleared in the most constrained market.[5] It is for this reason that CTIA has supported a band plan that allows for a limited amount of market variability.[6] The need for additional licensed spectrum is overwhelming, and the Commission should not permit constraints in one market to cause the withholding of needed

---

3 Petition for Reconsideration of ABC Television Affiliates Association, CBS Television Network Affiliates Association, FBC Television Affiliates Association, and NBC Television Affiliates, GN Docket No. 12-268, at 17-18 (Sept. 15, 2014) ("Affiliates Associations Petition").

4 *Id.*

5 *Id.* at 17.

6 *See, e.g.*, Reply Comments of CTIA – The Wireless Association®, GN Docket No. 12-268, at 14-16 (June 28, 2013).

spectrum in others. The Commission agreed, finding in the *Report and Order* that "[i]f the 600 MHz Band Plan could not accommodate some market variation, we would be forced to limit the amount of spectrum offered across the nation to what is available in the most constrained market. . . even if more spectrum could be made available in the vast majority of the country."[7] The Commission added that "[b]y allowing for market variation in our 600 MHz Band Plan, we can ensure that broadcasters have the opportunity to participate in the reverse auction in markets where interest is high. As a result, more spectrum can be made available nationwide in the forward auction."[8]

The potential for market variability is one of the most complex elements of the incentive auction. However, CTIA agrees that the Commission should not sacrifice a potentially higher clearing target in favor of a nationwide band plan. The Affiliates Associations mischaracterize the potential for constrained markets as primarily an urban/rural problem.[9] While spectrum constraints are greater in urban areas, and urban areas also tend to have more broadcast stations, the Affiliates Associations ignore other factors influencing market constraint -- specifically border coordination issues and the potential "daisy-chain" effect of one market on another. The Affiliates Associations also assume that the most constrained markets are also the markets with the greatest spectrum demand.[10] This is not necessarily the case, and thus defaulting to the "lowest common denominator" will not satisfy spectrum demand. The demand for spectrum is ever-growing, and even if the "lowest common denominator" market happens to be the market

---

7 *Report and Order* ¶ 82.

8 *Id.*

9 *See* Affiliates Associations Opposition at 17 ("It is likely the case that the markets likely to experience the lowest levels of broadcaster participation (and with the highest station values) are also the markets where wireless carriers have the highest demand for spectrum.").

10 *Id.*

with the greatest spectrum demand – an unlikely result – this will not satisfy spectrum demand in the long or even medium term. The Commission should therefore uphold its original finding that while the band plan should be as uniform as possible nationwide, a certain amount of market variability will be accommodated. This will prevent a handful of particularly constrained markets from limiting the amount of spectrum made available in other, possibly equally congested markets.

B. CTIA Supports Expanding Opportunities to Facilitate Channel Sharing.

The Commission has repeatedly voiced its support for channel sharing as a "win-win" that will allow spectrum to be freed up and broadcasters to receive an infusion of capital while staying on the air. CTIA agrees, and thus joins the Expanding Opportunities for Broadcasters Coalition ("EOBC") in calling for the reconsideration of rules that would inhibit channel sharing. CTIA shares EOBC's view that some of the Commission's adopted rules regarding channel sharing will prevent otherwise-interested broadcasters from entering channel sharing arrangements, and therefore supports modifications proposed by EOBC.

First, CTIA agrees that the Commission should clarify that entering into a channel sharing agreement does not trigger the Commission's reversionary interest rule.[11] The Commission should also permit broadcasters to include puts, calls, options, rights of first refusal, and other common contractual rights in their agreements, subject to applicable Commission

[11] Petition for Reconsideration of the Expanding Opportunities for Broadcasters Coalition, GN Docket No. 12-268, at 5-6 (Sept. 15, 2014) ("EOBC Petition") ("As a policy matter, restricting the ability of broadcasters to control not only the terms of their sharing agreement, but the identity of their sharing partners, would be troubling for many potential channel sharing participants. Sharing a channel between two unaffiliated broadcasters is a complex and novel proposition that requires careful consideration and planning. If broadcasters are unable to include puts, calls, options, rights of first refusal, and other common contractual rights to control some of the uncertainty involved in CSAs, many broadcasters will choose not to enter into these agreements at all.").

rules. This will provide broadcasters with certainty that they will be able to control the identity of their sharing partners. In the absence of such certainty, broadcasters interested in channel sharing may nonetheless determine that such an arrangement will not work for them, an outcome clearly not in the public interest.

Second, the Commission should allow broadcasters to enter into channel sharing agreements after the auction. EOBC observes that the Commission's requirement that channel sharing agreements ("CSAs") be executed by the auction application deadline "may prove difficult or impossible for many parties to whom channel sharing is an attractive option."[12] The negotiation and execution of a CSA is a highly complex and time-consuming process, and the window provided by the Commission may dissuade broadcasters from attempting channel sharing. Thus, CTIA agrees that the Commission should permit broadcasters to negotiate CSAs before or after the completion of the auction. As EOBC notes, there is no legal impediment to such action by the Commission, and it is a feasible policy.[13] CTIA supports EOBC's proposal because it greatly increases flexibility for broadcasters, and encourages the Commission to adopt it.

Third, the Commission should allow channel sharers to choose the length of their agreements.[14] In the *Report and Order*, the Commission adopted a requirement that shared channels will be permanently designated as shared in the Table of Allotments absent a future rulemaking to redesignate the channel. This assumes that CSAs will have permanent terms. CTIA agrees with EOBC that channel sharers should be given greater flexibility. Specifically, at the end of the agreement's term, channel sharers should have the opportunity to terminate their

---

12 *Id.* at 7.

13 *Id.* at 8.

14 *Id.* at 10.

agreements and then go off the air, seek new licenses, or seek new channel sharing partners. Absent such flexibility, broadcasters may choose not to explore channel sharing.

Finally, CTIA agrees that if a sharing station relinquishes its license, the shared spectrum should revert to the sharing partner.[15] Under the current rule, the shared spectrum would revert to the Commission, who could assign a new sharing partner without the existing partner's input.[16] Such a policy understandably is troubling to broadcasters, and could cause broadcasters to forego channel sharing or sit out the auction altogether – a result clearly not consistent with the goals of this proceeding.

Channel sharing is an exciting opportunity, and the Commission should endeavor to make it available for as many interested parties as possible. By adopting these proposals of EOBC, the Commission will greatly increase flexibility for potential channel sharers, and in turn make the channel sharing option much more attractive.

C. The Repacking Process Must Not Inhibit the Amount of Spectrum Cleared or Unnecessarily Delay the Reallocation of Spectrum.

In seeking reconsideration of the *Report and Order,* several parties have proposed actions involving the repacking process that would limit the amount of spectrum made available, or unnecessarily delay the availability of spectrum. The Commission should reject such proposals.

---

15 *Id.* at 12-14.

16 EOBC Petition at 13 ("Channel sharing partners are long-term business partners, with joint responsibilities to each other relating to the upkeep of their shared transmission facilities. It is imperative, therefore, that broadcasters have the ability to choose partners that satisfy their own criteria. If, instead, the Commission may dictate channel sharing partners without regard for the other stations' interests, many broadcasters will choose to forego channel sharing – and possibly the auction – altogether.").

Block Communications, for instance, argues that the Spectrum Act requires the Commission to limit repacking costs to $1.75 billion.[17] As the Commission notes, "the statute on its face does not condition the Commission's repacking authority on our ability to [reimburse all eligible costs reasonably incurred]."[18] The Spectrum Act merely limits the *budget* of the Relocation Fund to $1.75 billion – it does not require that actual costs fall below this level. Such a limitation on repacking threatens to limit the number of stations repacked and thus the amount of spectrum made available for wireless services. The Commission correctly interpreted the Spectrum Act with respect to reimbursement, and should reject calls to the contrary.

Block Communications also challenges the repacking on the grounds that it is "illegal" and that "the FCC should adopt a strict service replication standard for the repack."[19] From an engineering perspective, this is simply not possible when a station is being relocated to a new channel. Each radio frequency carries with it its own characteristics, and requiring that the Commission precisely duplicate a station's coverage area at a different frequency would create an impossible task. The plan proposed by the Commission is entirely consistent with the Spectrum Act's "all reasonable efforts" requirement. A strict service replication standard would render repacking essentially impossible, and would prevent spectrum from being made available for new wireless services.

Finally, the Affiliates Associations make a variety of arguments aimed at extending the repacking process beyond the current 39 month length.[20] For example, they propose that the forward auction not be deemed "complete" until licenses are issued, that the Media Bureau

---

17 Petition for Reconsideration of Block Communications, Inc., GN Docket No. 12-268, at 8-10 (Sept. 15, 2014) ("Block Petition").

18 *Report and Order* ¶ 646.

19 Block Petition at 2.

20 Affiliates Associations Petition at 7-14.

establish variable construction deadlines, that the Commission extend deadlines for the submission of construction permit applications and estimated costs, and that the Commission not impose hard deadlines to transition to new channels.[21] The Commission should reject all such proposals. The existing timetable is more than sufficient for broadcasters to relocate to new channels. The need for spectrum and more certainty on access to spectrum in a timely manner compels the Commission not to further extend this process.

D. CTIA Opposes Other Attempts to Delay the Licensing of the 600 MHz Wireless Spectrum.

In this proceeding, including in petitions for reconsideration, several parties have argued that the Spectrum Act requires the Commission to complete border coordination arrangements with Canada and Mexico prior to any auction.[22] For example, Block Communications argues that "the FCC simply ignored Congress's directive and decided to repack broadcasters regardless of how much progress it is able to make in consultation with Canada and Mexico."[23] As CTIA has noted, this is plainly not correct, and the Commission properly concluded that its approach to border coordination is consistent with the Spectrum Act.[24] CTIA agrees with the Commission's conclusion that completion of border coordination is not a precondition to repacking as either a legal or practical matter.[25]

---

21 *Id.*

22 *See, e.g.*, Petition for Reconsideration and Clarification of Gannett Co., Inc., Graham Media Group, and ICA Broadcasting, at 2 (Sept. 15, 2014) ("Gannett et al Petition"); Block Petition at 7-8.

23 Block Petition at 7.

24 *Report and Order* ¶¶ 253-257.

25 Gannett also argues that coordination must be completed prior to repacking because if coordination is not completed by the repacking deadline, affected stations will be required to go dark. Gannett et al Petition at 5-6. The Commission already addressed this issue in the Order, where it made clear that if for any reason the Commission is unable to conclude coordination

It is plain that the Commission acted well within its statutory authority when it concluded that the completion of coordination not serve as a condition precedent to repacking. In the *Report and Order*, the Commission properly interpreted the Spectrum Act's language that the Commission may repack television stations "subject to international coordination along the border with Mexico and Canada," as acknowledging that the Commission's repacking decisions necessarily will be governed or affected by coordination.[26] CTIA agrees with the Commission that the Spectrum Act does not impose a temporal requirement on international coordination.

Further, completion of international coordination is not a necessary prerequisite to conducting the auction as a practical matter. Matters of international coordination are familiar to the Commission, and border coordination need not and should not serve as a source of delay. The Commission has dealt with similar issues every time it auctions newly-allocated wireless broadband spectrum. CTIA is confident that the Commission will "reach arrangements with Canada and Mexico that will enable us to carry out the repacking process in a manner that is fully consistent with the requirements of the statute and our goals for the auction."[27]

E. The Commission's Technical Rules for 600 MHz Licensed Services Sufficiently Protect Channel 37 Incumbents.

In the *Report and Order*, the Commission adopted policies for Channel 37 incumbents that properly protected these incumbents while allowing either broadcast television or wireless operations in nearby frequencies. In its Petition for Rulemaking, GE Healthcare has argued that

---

prior to repacking, stations will be repacked consistent with existing arrangements. *See Report and Order* n. 780.

26 *Report and Order* ¶ 253.

27 *Id.* ¶ 254.

the Commission's newly-adopted rules do not sufficiently protect incumbents at Channel 37.[28] CTIA disagrees, and notes that the relief requested by GE Healthcare would: (1) threaten to limit the amount of licensed spectrum made available in the incentive auction, and (2) increase the number of new wireless licenses that are encumbered. CTIA therefore opposes these proposals, and stresses that to the extent the Commission creates encumbrances on 600 MHz licenses, these must be determined and communicated up front to potential auction bidders.

First, GE Healthcare asks the Commission to adopt additional protections to protect Wireless Medical Telemetry Service ("WMTS").[29] These protections include the adoption of rules specifying revised field strength values at the perimeter of WMTS facilities that all 600 MHz licensees must meet.[30] Alternatively, GE Healthcare has asked that the Commission require all 600 MHz operations to coordinate with WMTS facilities all base stations located within 2.5 kilometers of WMTS operations.[31] As an initial matter, CTIA is skeptical that wireless operations in the former Channels 36 and 38 will cause harmful interference to WMTS operations when such systems have managed to coexist with much higher power broadcast facilities in these adjacent channels. Furthermore, CTIA does not believe GE Healthcare has provided sufficient detail on the technical parameters associated with WMTS devices in use. For example, GE Healthcare has not specified the technical parameters of the filters and other receiver protections that they utilize for existing WMTS devices. Such technical data must be clearly specified by GE Healthcare so that interested parties will be able to determine if WMTS equipment has been built with sufficient care to protect from the potential of harmful interference

---

28 Petition for Reconsideration of GE Healthcare, GN Docket No. 12-268 (Sept. 15, 2014) ("GE Healthcare Petition").

29 *Id.* at 15.

30 *Id.*

31 *Id.*

from adjacent band operations. Additionally, CTIA strongly opposes providing any more protections to WMTS operations as inappropriate and inconsistent with the goals of the Spectrum Act. In particular, the intent of Congress was to reallocate broadcast television spectrum to licensed mobile broadband systems. By increasing protections to WMTS in the TV 37 spectrum, the Commission would be frustrating this goal as adoption of the protections suggested would create "impaired blocks" similar to those in constrained markets.[32] CTIA strongly opposes the creation of any additional impairment on licensed mobile broadband spectrum. However, should the Commission ignore the clear guidance provided by Congress in the Spectrum Act and allow for even greater protections of WMTS operations, there should be significant limitations placed on these added protections. WMTS equipment installed prior to the enactment of the Spectrum Act (February 22, 2012) and devices/equipment that complied with the dictates of the WMTS and were registered in the WMTS database prior to February 22, 2012 should be the only equipment that receives such additional protection. Finally, as with other impaired blocks, the Commission must provide clarity and transparency to potential bidders regarding these impairments during the forward auction process. Any "generic" licenses offered by the Commission must be truly fungible, so that no bidder finds themselves unexpectedly holding a license with much less value than was anticipated by the bidder.

Second, GE Healthcare requests that the Commission "minimize DTV repacking in Channels 36 and 38."[33] CTIA opposes this proposal. Channel 37 incumbents have never been able to rely on Channels 36 and 38 being vacant. Even in markets where these channels are not allotted, the Table of Allotments has always been subject to change upon a broadcaster's request. For this reason, WMTS incumbents should have designed their equipment to protect from

---

32 *See Report and Order* ¶ 45.

33 GE Healthcare Petition at 18.

interference from neighboring broadcasters. Channel 37 incumbents have coexisted (or should have been prepared to coexist) with adjacent-channel broadcast operations in many markets, and expect the same post-auction. If the Commission were to adopt GE Healthcare's proposal, it would limit the Commission's repacking flexibility and potentially create additional constrained markets.

For these reasons, the Commission should uphold its policies regarding Channel 37 incumbents. However, to the extent the Commission believes that particular wireless licensees must be encumbered to accommodate Channel 37 operations, these encumbrances must be limited to equipment deployed and registered prior to the enactment of the Spectrum Act and made clear to forward auction bidders prior to the auction.

III. THE COMMISSION'S USE OF *TVSTUDY* SOFTWARE IS ENTIRELY CONSISTENT WITH THE SPECTRUM ACT.

Petitioners continue to argue that the Commission's use of *TVStudy* software to determine the coverage area and population served of incumbent broadcast stations violates the Spectrum Act's "all reasonable efforts" mandate. Specifically the Affiliates Associations argue that the Spectrum Act requires the Commission "to use a particular tool," that the Commission has altered the methodology in OET Bulletin 69 by changing certain inputs, and that the use of *TVStudy* is inconsistent with Congressional intent by producing different results than the previous software would have.[34] The Commission properly concluded that *TVStudy* represents a faithful execution of OET Bulletin 69 and the Spectrum Act, and should reject all arguments to the contrary.

First, the Spectrum Act does not require the Commission to "use a particular tool" other than to use the methodology described in OET Bulletin 69 to calculate the coverage area and

[34] Affiliates Associations Petition at 21-23.

population served of each broadcast television licensee.[35] The Commission has done precisely that. CTIA agrees with the Commission's finding that "the statutory language allows the Commission to update the computer software and input values used to implement the OET-69 methodology while adhering to the methodology described in OET Bulletin No. 69."[36] The statute's reference to OET Bulletin 69 could not possibly be read to mandate the use of a particular tool. This is because OET Bulletin 69 specifically contemplates that parties could implement the Longley-Rice model using the computer program of their choice.[37] The Affiliates Associations, like other opponents of *TVStudy*, cannot square the language in OET Bulletin 69, which allows parties to develop and utilize their *own* software to calculate OET-69, with the position that Congress' reference to OET Bulletin 69 necessarily mandates use of particular software. And as the Commission notes, OET Bulletin 69 specifically contemplates that the computer program used to apply OET-69 is subject to change.[38]

Second, the Commission's election to change certain inputs does not alter the methodology contained in OET Bulletin 69. In fact, by developing software that is a *more faithful implementation* of OET Bulletin 69's methodology than *TVStudy*'s predecessor, the Commission has complied entirely with Congress' wishes. In developing *TVStudy*, the Commission has not done anything that it would not have done at the time of OET Bulletin 69's implementation, but for the limitations of software and data at the time. As the Commission

---

35 *Id.* at 21; Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6403 (codified at 47 USC §1452), 126 Stat. 156 (2012) ("Spectrum Act")

36 *Report and Order* ¶ *134.*

37 OET Bulletin No. 69, "Longley-Rice Methodology for Evaluating TV Coverage and Interference," at 5 (Feb. 6, 2004) ("OET Bulletin 69") ("Those desiring to implement the Longley-Rice model in their own computer program to make these calculations should consult NTIA Report 82-100 . . .").

38 *Report and Order* ¶ 135.

observed, the use of updated inputs such as 2010 U.S. Census data, one arc-second terrain data, actual beam tilt data, and full-precision geographic coordinate data will result in a more accurate calculation of coverage area and population served.[39] And as the Commission correctly determined in the *Report and Order,* there is not a single instance of the Commission defining or using the phrase "methodology described in OET Bulletin 69" prior to the enactment of the Spectrum Act. Thus, no party can argue that this phrase was a term of art intended to include implementing software and input values in addition to the methodology.

Third, the fact that use of *TVStudy* will produce different results than the previous implementing software does not violate the Spectrum Act.[40] As the Commission stated in the *Report and Order,* the Spectrum Act required the Commission to preserve the *actual* coverage areas and populations served of broadcast stations on February 22, 2012.[41] By referencing the February 22, 2012 date, Congress did *not* require the Commission to use only the input values and implementing software in use on that date.[42] To the extent that inaccurate inputs in the prior software overstate the coverage areas and populations served on February 22, 2012, the Spectrum Act does not require the Commission to preserve such inaccuracies in conducting the incentive auction. Rather, the Commission's preservation obligation extends only to *actual* coverage, which is more accurately calculated through the use of *TVStudy.* The Commission correctly reached this same conclusion, and there is no basis for reversal of this decision.

CTIA continues to believe that *TVStudy* represents a significant improvement over its predecessor, and that it will be a valuable tool to stakeholders in the incentive auction. The

---

39 *Id.* ¶¶ 148-155.

40 Affiliates Associations Petition at 22.

41 *Report and Order* ¶ 139.

42 *Id.*

Commission's adoption of *TVStudy* is plainly consistent with the language and intent of the Spectrum Act, and the Commission should reject all calls for reconsideration of its decision to adopt *TVStudy*.

IV. THE COMMISSION'S DECISIONS REGARDING OTHER CURRENT AND FUTURE 600 MHZ BAND OCCUPANTS MUST BE GUIDED BY THE SPECTRUM ACT.

Several parties filed Petitions for Reconsideration raising issues connected to low power television ("LPTV") stations, TV translators, wireless microphones, and unlicensed devices. All of these stakeholders are subject to various provisions of the Spectrum Act. In the *Report and Order*, the Commission correctly implemented the Spectrum Act when it established policies for LPTV, TV translator, and wireless microphone incumbents. Petitioners have provided no basis for reversal of these decisions. With respect to unlicensed operations, CTIA asks the Commission to carefully consider submissions regarding interference from unlicensed operations, and to only uphold its unlicensed operations framework if it will comply with the Spectrum Act's stipulations regarding harmful interference to licensed services.

A. The Commission's Conclusions Regarding LPTV Were Appropriate and Consistent with the Spectrum Act.

Several parties submitted petitions for reconsideration relating to the status of LPTV and TV translator incumbents and their rights in the incentive auction. On this point, the Spectrum Act could not have been more clear – LPTV and translator stations are afforded few to no rights in the incentive auction process. Such action by Congress was an appropriate response to the secondary license status of LPTV stations and translators. As explained below, the Commission has already done more than what was required of it to accommodate LPTV in the context of the incentive auction. For this reason, all petitions arguing for reconsideration of the *Report and Order* based on LPTV and translator issues should be dismissed.

Petitioners have made a wide variety of arguments related to the incentive auction rights of LPTV and translator incumbents. Some of these arguments include: (1) that the Commission should base its auction scheduling and processes around consideration of LPTV issues,[43] (2) that the incentive auction constitutes an unlawful revocation of LPTV licenses,[44] (3) that the Commission failed to conduct a cost-benefit analysis for excluding LPTV stations from the incentive auction,[45] (4) that the LPTV analog-to-digital transition date should be extended,[46] (5) that the Commission should prioritize LPTV repacking over making more spectrum available in the forward auction,[47] (6) that the Commission's band plan violates the Spectrum Act by allocating spectrum for unlicensed operations but not for LPTV,[48] and (7) that forward auction winners should reimburse displaced LPTV stations.[49] All of these arguments – and similar arguments related to LPTV – should be rejected.

The Spectrum Act's classification of LPTV is not a matter of interpretation – Congress afforded LPTV stations few to no rights in the incentive auction process. Specifically, Congress limited auction participation and repacking/compensation rights to broadcast television

---

43 *See, e.g.,* Petition for Reconsideration of the Advanced Television Broadcasting Alliance, GN Docket No. 12-268, at 3-7 (Sept. 15, 2014) ("ATBA Petition").

44 Petition for Reconsideration of Mako Communications, LLC, GN Docket No. 12-268, at 3-9 (Sept. 12, 2014) ("Mako Petition").

45 *See, e.g.,* Petition for Reconsideration of Free Access & Broadcast Telemedia, LLC, GN Docket No. 12-268, at 4 (Sept. 15, 2014) ("FAB Petition"); Petition for Reconsideration of the LPTV Spectrum Rights Coalition, GN Docket No. 12-268, at 1 ("Coalition Petition"); Petition for Reconsideration of Signal Above, LLC, GN Docket No. 12-268, at 2 (Sept. 15, 2014) ("Signal Above Petition").

46 Signal Above Petition at 2-3.

47 FAB Petition at 7.

48 *See, e.g.,* FAB Petition at 9-10; Coalition Petition at 2.

49 ATBA Petition at 11.

licensees.[50] And Congress' definition of "broadcast television licensee" is unambiguous – the only parties included are full-power television stations and Class A licensees.[51] Therefore, the Commission was under no obligation to: (1) allow LPTV stations to participate in the reverse auction, (2) take steps to preserve "the coverage area and population served" of an LPTV station, or (3) provide for reimbursement for displaced LPTV stations. The Commission's actions in the *Report and Order* therefore were in complete compliance with the Spectrum Act.

Not only were the Commission's actions consistent with the Spectrum Act, but Congress' and the Commission's determinations with respect to LPTV were entirely consistent with LPTV stations' secondary license status.[52] LPTV stations are secondary to exclusive licensed operations for interference purposes, and there is no basis for LPTV licensees to assume any extensive rights to continued operations.[53] When spectrum was reallocated from TV Channels 60-69 to public safety and commercial wireless services, LPTV licensees were required to either cease operations or otherwise relocate their operations without any reimbursement or protection from the new licensees at the end of the DTV transition.[54] Thus, and as has always been the

---

50 Spectrum Act §§ 6403(a)(1); 6403(b)(2); 6403(b)(4).

51 Spectrum Act § 6001(6) ("The term "broadcast television licensee" means the licensee of – (A) a full-power television station; or (B) a low-power television station that has been accorded primary status as a Class A television licensee under section 73.6001(a) of title 47, Code of Federal Regulations.").

52 *See, e.g., Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television,* Second Report and Order, 26 FCC Rcd 10732, ¶ 31 (2011) ("[L]ow power television stations operating in the 700 MHz band have been on notice since the release of the *Digital LPTV Order* in 2004 that they are secondary to commercial wireless and public safety operators.").

53 *See, e.g., id.*

54 *See, e.g., Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations,* Second Memorandum Opinion and Order, 28 FCC Rcd 14412, ¶ 8 (2013) ("Thus, for many years out-of-core channel low power television broadcasters have known that their use of the 700 MHz band was authorized only on an interim

case, LPTV operations do not have any protection rights nor any assurance that their operations will be protected from any reallocation process initiated by the Commission concerning TV spectrum.

CTIA supports the Commission's determinations with respect to LPTV stations, and notes that the Commission has already done more than is required of it to accommodate LPTV. Specifically, the Commission has stated its intent to open a special filing window for displaced LPTV and TV translator stations that will allow them to select a new channel.[55] Further, consistent with the Commission's actions in the 700 MHz band, an LPTV station will be permitted to continue operating until it receives notice from an incoming wireless licensee that it is preparing to deploy service.[56] The Commission has also initiated a proceeding to address other LPTV issues.[57] Given that the Spectrum Act imposed no new obligations on the Commission with respect to LPTV, the actions taken and promised by the Commission thus far are entirely appropriate, and the Commission should not jeopardize the incentive auction's success by taking the steps proposed by the LPTV petitioners.

B. The Commission is Under No Obligation to Reimburse Wireless Microphone Users or Reserve Spectrum for Wireless Microphone Use.

In its Petition, Sennheiser Electronic Corporation ("Sennheiser") argues that displaced wireless microphone users should be compensated by 600 MHz auction winners, and that the Commission should set aside two blocks of reserved UHF spectrum for wireless microphone

---

basis, that their out-of-core facilities would ultimately be displaced by new wireless licensees, and that shortly after the completion of the full power digital conversion they would be forced to vacate these channels and find a permanent in-core channel.").

55 *Report and Order* ¶ 659.

56 *Id.* ¶ 669.

57 *Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television and Television Translator Stations*, Third Notice of Proposed Rulemaking, FCC 14-151 (Oct. 10, 2014).

use.[58] The Spectrum Act imposed no obligations on the Commission with respect to wireless microphones, and as such the *Report and Order* did not err with respect to its treatment of wireless microphone matters. The Commission should reject any proposal that would require compensation of displaced wireless microphone users by incoming wireless operations. Further, to the extent that the Commission reserves spectrum for wireless microphone use, this spectrum should be in the repacked broadcast TV band below Channel 37, not in the newly-cleared wireless spectrum, to ensure protection of commercial wireless licenses from harmful interference.

In its Petition, Sennheiser argues that displaced wireless microphone users should be compensated by 600 MHz forward auction winners.[59] The Commission should reject this proposal. First, as Sennheiser concedes, the Spectrum Act does not grant the Commission authority to require such reimbursement.[60] Specifically, the Spectrum Act did not grant any relocation or reimbursement rights to wireless microphones or other broadcast auxiliary services.[61] Instead, Sennheiser argues that the Commission should use alternative grants of authority to grant such reimbursement.[62] However, and as noted below, the action proposed by Sennheiser is inconsistent with the Commission's past treatment of wireless microphones, and even the Commission's stated intent regarding future treatment of wireless microphones.

In the 700 MHz proceeding, the Commission properly found that wireless microphones must be prohibited from operating in the 700 MHz spectrum and that wireless microphone

---

58 Petition for Reconsideration of Sennheiser Electronic Corporation, GN Docket No. 12-268 (Sept. 15, 2014) ("Sennheiser Petition").

59 *Id.* at 10.

60 *Id.* at 11.

61 *Report and Order* ¶ 316 n. 957.

62 Sennheiser Petition at 11-12.

manufacturers must be financially responsible for relocating and developing compliant equipment.[63] Such an approach is appropriate for the 600 MHz band as well. Indeed, wireless microphone manufacturers have had several years to develop frequency-agile equipment that could be readily retuned to alternate channels in the event of broadcast spectrum reallocation. Wireless microphone manufacturers were on notice that the Commission might require future reallocation of broadcast television spectrum that would impact wireless microphone operations. The FCC also explicitly warned wireless microphone companies in 2010 that current channels may not always be available and that manufacturers should design their equipment accordingly.[64] Manufacturers' choice not to do so should not be anyone's financial responsibility but their own.

Sennheiser has also asked the Commission to set aside two blocks of reserved UHF spectrum for wireless microphone use.[65] While Sennheiser has focused on Channel 37 and the "naturally occurring" vacant UHF channel, it asked that in the alternative the Commission set

---

63 *Revision 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 (Jan. 15, 2010).

64 *See Unlicensed Operation in the TV Broadcast Bands*, Second Memorandum Opinion and Order, 25 FCC Rcd 18661, ¶ 133 (2010) ("If the Commission makes changes to the rules concerning the channels available for operation for TV and other authorized services, the channels available for use by unlicensed TV bands devices and wireless microphones could change, and any TV bands device or wireless microphone that operates on a channel that is later designated for another use would have to cease operation on that channel. Depending on the tuning range of the TV bands device, particularly personal/portable devices, or wireless microphone these radios could have a reduced operating range. We recognize that the anticipated Commission proceedings introduce some uncertainty for manufacturers of TV bands devices and could delay their deployment. To avoid this problem, manufacturers can design devices that have the capability to tune over a wider range of frequencies than the rules currently permit, but that incorporate measures to limit operation to the frequency range over which the device is certified. Manufacturers would therefore not have to redesign their equipment if the Commission modifies the permitted operating frequency range and could modify their equipment certification through a streamlined procedure.").

65 Sennheiser Petition at 4-10.

aside an unauctioned 5x5 MHz pairing in the wireless band for wireless microphone use.[66] CTIA reiterates that if the Commission sets aside frequencies for wireless microphone use, these frequencies should be in the repacked TV broadcast band below Channel 37, not in the newly cleared wireless spectrum. This is necessary to protect commercial wireless licensees from harmful interference, as has been well-documented in previous proceedings.[67]

C. The Commission Should Closely Examine Qualcomm's Submission Regarding Unlicensed Operations.

In its Petition for Reconsideration, Qualcomm Incorporated's ("Qualcomm") technical analysis concludes that the unlicensed operations authorized by the Commission in the *Report and Order* would cause harmful interference to licensed mobile services.[68] The Spectrum Act stipulates that the Commission must not permit any use of a guard band that would cause harmful interference to licensed services.[69] CTIA submits that the Commission should carefully consider Qualcomm's Petition and technical findings and only uphold its unlicensed operations framework if, consistent with the Spectrum Act, these operations will not cause harmful interference to licensed wireless services. The Commission recently initiated a subsequent

---

66 *Id.* at 10.

67 *See, e.g., Revision 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, ¶ 37 (2010) ("Based on the record, we find that we need to be establishing expeditious time frames and procedures for clearing wireless microphones from the 700 MHz band on our path to providing an interference-free environment for new services in the 700 MHz Band, especially public safety services that are used to protect safety of life, health, or property. We find that low power auxiliary stations could interfere with public safety and commercial base and mobile receivers. Such interference raises the potential for a disruption of vital public safety services and commercial services.").

68 Petition for Reconsideration of Qualcomm Incorporated, GN Docket No. 12-268 (Sept. 15, 2014).

69 Spectrum Act § 6407(e).

proceeding on issues of unlicensed operation in the 600 MHz band,[70] and with so many technical issues pending it would be premature for the Commission to make a final determination on unlicensed operations at this time.

V. THE COMMISSION SHOULD UPHOLD THE TECHNICAL RULES ADOPTED IN THE INCENTIVE AUCTION REPORT AND ORDER.

Finally, the Commission should uphold the technical rules for mobile wireless services adopted in the *Report and Order*. These rules are modeled after requirements in other spectrum bands that have allowed spectrum to be put to its highest and best use and promote the public interest. Such technical rules have proven highly successful, and there is no basis to depart from this framework in the 600 MHz band.

The Commission should therefore reject Artemis Networks' self-serving request to adopt spectrum efficiency requirements for the 600 MHz band.[71] Such rules are unprecedented, are not required under the Spectrum Act, and are unnecessary. U.S. wireless companies consistently lead the world in efficient use of spectrum, and there is no evidence to the contrary that would justify the imposition of additional regulations.[72] Artemis' request appears to be motivated by its desire to promote its product. Consistent with past practice, the Commission should reject this request.[73]

---

70 *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,* Notice of Proposed Rulemaking, FCC 14-144 (2014).

71 Petition for Reconsideration of Artemis Networks LLC, GN Docket No. 12-268 (Sept. 15, 2014) ("Artemis Networks Petition").

72 *See, e.g.,* Comments of CTIA – The Wireless Association®, WT Docket No. 13-135, at 67 (June 17, 2013).

73 The Commission has previously dismissed arguments that are motivated primarily by financial incentives. *See, e.g., In the Matter of Second Periodic Review of the Commission's*

VI. CONCLUSION

The *Report and Order* represents the culmination of many years' work by the Commission and various stakeholders in the broadcast television incentive auction. The majority of Petitions for Reconsideration filed against the *Report and Order* seek to undermine the incentive auction's success and/or limit the auction's ability to address the critical need for new wireless broadband spectrum. Such petitioners restate arguments that have been considered and rejected by the Commission, and have misinterpreted or completely ignored the provisions of the Spectrum Act. CTIA strongly supports the Commission's efforts to unleash new licensed and unlicensed wireless spectrum, and stresses the importance of an auction framework that maximizes clarity and certainty for all interested parties. By taking the actions proposed herein, the Commission will promote a successful incentive auction that will help to maintain America's leadership in wireless innovation.

Respectfully submitted,

By: /s/ *Krista L. Witanowski*

Krista L. Witanowski
Assistant Vice President, Regulatory Affairs

Michael F. Altschul
Senior Vice President, General Counsel

Scott K. Bergmann
Assistant Vice President, Regulatory Affairs

CTIA – The Wireless Association®
1400 16th Street, NW, Suite 600
Washington, D.C. 20036
(202) 785-0081

Dated: November 12, 2014

Rules & Policies Affecting the Conversion to Digital Television, Second Report & Order, 22 FCC Rcd 8776, 8781 n.33 (2007) (dismissing commenters' arguments where retailer had "an incentive to sell" analog products already in inventory).

CERTIFICATE OF SERVICE

I hereby certify that on November 12, 2014, I caused a true and correct copy of the foregoing to be served by first-class mail on the following:

Benjamin Perez
Abacus Television
514 Chautauqua Street
Pittsburgh, PA 15214

Stephen G. Perlman
Antonio Forenza, PhD
Artemis Networks LLC
355 Bryant Street, Suite 110
San Francisco, CA 94107

Neal Seidl
Matthew Pekarske
GE Healthcare
8200 W. Tower Avenue
Milwaukee, WI 53223

Ari Q. Fitzgerald
Carly Didden
Wesley Platt
Hogan Lovells US LLP
555 Thirteenth Street, NW
Washington, DC 20004
Counsel to GE Healthcare

Steven K. Berry
Rebecca Murphy Thompson
C. Sean Spivey
Competitive Carriers Association
805 15th Street NW, Suite 401
Washington, DC 20005

Louis Libin
Executive Director
Advanced Television Broadcasting Alliance
382 Forest Avenue
Woodmere, NY 11598

Andrew W. Levin
Kathleen O'Brien Ham
Steve Sharkey
Joshua Roland
T-Mobile USA, Inc.
601 Pennsylvania Avenue, NW
Washington, DC 20004

Trey Hanbury
Hogan Lovells US LLP
555 Thirteenth Street, NW
Washington, DC 20004
Counsel to T-Mobile USA, Inc.

Melodie A. Virtue
Garvey Schubert Barer
1000 Potomac St., N.W., 5th Floor
Washington, DC 20007
Counsel to Beach TV Properties, Inc.
Counsel to Free Access & Broadcast Telemedia, LLC

Jennifer Johnson
Eve Pogoriler
Michael Beder
Covington & Burling LLP
1201 Pennsylvania Avenue, NW
Washington, DC 20004
Counsel to Bonten Media Group, Inc. and Raycom Media, Inc.

John R. Feore
Jason E. Rademacher
Cooley LLP
1299 Pennsylvania Ave., NW
Washington, DC 20004
Counsel to Block Communications, Inc.

Eve Pogoriler
Jeff Kosseff
Covington & Burling LLP
1201 Pennsylvania Avenue, NW
Washington, DC 20004
Counsel to Gannett Co., Inc., Graham Media Group, and ICA Broadcasting

Dean R. Brenner
John W. Kuzin
Qualcomm Incorporated
1730 Pennsylvania Avenue, NW
Suite 850
Washington, DC 20006

Wade H. Hargrove
Mark J. Prak
Brooks, Pierce, Mclendon,
Humphrey & Leonard, LLP
PO Box 1800
Raleigh, North Carolina 27602
Counsel for ABC Television Affiliates Association

Gerard J. Waldron
Jennifer J. Johnson
Eve R. Pogoriler
Covington & Burling LLP
1201 Pennsylvania Avenue NW
Washington, DC 20004-2401
Counsel for CBS Television Network Affiliates Association and NBC Television Affiliates

John R. Feore
Cooley LLP
1299 Pennsylvania Avenue, NW
Suite 700
Washington, DC 20004
Counsel for FBC Television Affiliates Association

Donald G. Everist
Cohen, Dippell & Everist, P.C.
1420 N. Street, N.W.
Suite One
Washington, DC 20005

Dale Woodin
Executive Director
The American Society for Healthcare Engineering of the American Hospital Association
155 North Wacker Drive
Suite 400
Chicago, IL 60606

Sally A. Buckman
Lerman Senter PLLC
2000 K Street, NW, Suite 600
Washington, DC 20006
Counsel to Journal Broadcast Corp.

Margaret L. Tobey
Assistant Secretary
NBC Telemundo License LLC
300 New Jersey Avenue, N.W.
Washington, DC 20001

Mike Cavender
Executive Director
Radio Television Digital News Association
The National Press Building
529 14th Street, NW
Suite 1240
Washington, DC 20045

Michael Gravino
LPTV Spectrum Rights Coalition
PO Box 15141
600 Pennsylvania Ave, SE
Washington, DC 20003

Mitchell Lazarus
Fletcher, Heald & Hildreth, PLC
1300 North 17th Street, 11th floor
Arlington VA 22209
Counsel to Sennheiser Electronic Corp.

Jennifer A. Johnson
Eve R. Pogoriler
Morgan R. Kennedy
Covington & Burling LLP
1201 Pennsylvania Avenue, N.W.
Washington, DC 20004-2401
Counsel for the Dispatch Printing Company

M. Anne Swanson
Jason E. Rademacher
Cooley LLP
1299 Pennsylvania Avenue, NW
Washington, DC 20004
Counsel to Media General, Inc.

Mace Rosenstein
Covington & Burling LLP
1201 Pennsylvania Avenue, NW
Washington, DC 20004
Counsel to The Videohouse, Inc.

Lonna Thompson
Association of Public Television Stations
2100 Crystal Drive, Suite 700
Arlington, VA 22202

Katherine Lauderdale
Thomas Rosen
Public Broadcasting Service
2100 Crystal Drive
Arlington, VA 22202

J. Westwood Smithers, Jr.
Corporation for Public Broadcasting
401 Ninth Street, NW
Washington, DC 20004

Mace Rosenstein
Lindsey Tonsager
Michael Beder
Covington & Burling LLP
1201 Pennsylvania Avenue, NW
Washington, DC 20004
Counsel to Public Broadcasting Service

A. Wray Fitch III
Gammon & Grange, PC
8280 Greensboro Drive, 7th Floor
McLean, VA 22101-3807
Counsel to American Legacy Foundation

A. Wray Fitch III
George R. Grange, II
Gammon & Grange, PC
8280 Greensboro Drive, 7th Floor
McLean, VA 22101-3807
Counsel to Signal Above, LLC

Susan L. Fox
Vice President, Government Relations
The Walt Disney Company
425 Third Street, S.W., Suite 1100
Washington, D.C. 20024

Tom W. Davidson
Karen L. Milne
Akin Gump Strauss Hauer & Feld LLP
1333 New Hampshire Ave., NW
Washington, D.C. 20036
Counsel to The Walt Disney Company

Paul J. Broyles
President
International Broadcasting Network
P.O. Box 691111
Houston, TX 77269-1111

Dean M. Mosely
CEO and President
U.S. Television, LLC
P.O. Box 3042
Jena, LA 71342

William H. Shawn
ShawnCoulson, LLP
1825 M Street, NW Suite 280
Washington, DC 20036
Counsel to Mako Communications, LLC

Aaron P. Shainis
Lee J. Peltzman
Shainis & Peltzman Chartered
1850 M Street, NW Suite 240
Washington, DC 20036
Counsel to Mako Communications, LLC

Preston Padden
Expanding Opportunities for
Broadcasters Coalition
1301 Canyon Blvd #306
Boulder, Colorado 80302

By: */s/ Patricia Destajo*
Patricia Destajo