

Congress of the United States
Washington, DC 20515

533
MTB
Spectrum
Incentive
Auctions

May 22, 2015

Chairman Tom Wheeler
Commissioner Mignon Clyburn
Commissioner Jessica Rosenworcel
Commissioner Ajit Pai
Commissioner Michael O'Rielly
c/o Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: ET Docket No. 14-165 and GN Docket Nos. 12-268 and 14-166

Dear Chairman Wheeler, Commissioner Clyburn, Commissioner Rosenworcel,
Commissioner Pai, Commissioner O'Rielly and Ms. Dortch:

As the Commission works to implement spectrum auctions, we write to stress the importance of wireless microphones to the performing arts which rely on this efficient and reliable technology. The Commission ruled last year that performing arts entities regularly using 50 or more wireless devices would now be eligible to apply for a Part 74 license and would have access to a database which protects against interference. This decision was a move in the right direction and protects some large events and performances against interference from White Space devices.

The Commission is currently considering making database registration unavailable to performing arts entities utilizing fewer than 50 devices on a regular basis. Unfortunately, this would leave major not-for-profit regional theatres, and our nation's symphony orchestras, opera companies, dance companies, presenting organizations and educational entities without interference protection against White Space devices. We urge that the Commission's final rules preserve the quality and integrity of wireless microphones used in the performing arts. As you develop the spectrum rules, we hope you will keep in mind the following sectors that depend heavily on wireless microphones:

- **Live Performing Arts Events:** Performing arts venues rely on wireless microphones to transmit crystal-clear songs and dialogue to the audience. Because wireless microphones are small, they can be unobtrusively hidden in performers' costumes. Wireless devices are also used backstage by stagehands to govern the operations of a production. They mitigate safety hazards and protect performers, stagehands and audiences from harm. Also, hearing-impaired patrons may rely on listening devices that operate in White Space. For these reasons, many large venues have invested in dozens of wireless microphones. For instance, the Shakespeare Theatre Company uses approximately 30 wireless microphones and instruments for a single performance.

- **Music industry:** From Nashville to Las Vegas, from large arenas to small clubs, wireless microphones are vital to musical artists in the creation and presentation of music. Wireless microphones are ubiquitous in the music industry and make both concerts and studio sessions possible. Any FCC decision that impaired the ability of the music industry to use wireless microphones would hurt artists, the record companies, venue operators, and fans.

Further, the Commission already ordered that wireless microphone operations vacate the 700 MHz band of the broadcast spectrum in 2010. To comply, many of these not-for-profit institutions made considerable investments to replace their sound equipment. If the Commission seeks to move the wireless operations of these entities again, we urge the Commission to offer as much transition time as possible and seek to minimize the financial impact on not-for-profit professional and educational entities.

The Commission has already eliminated the two designated channels it had previously set aside for wireless microphones – an action that will increase the likelihood of interference for wireless microphone users. Now, the only remaining interference protection mechanism is registration in the database – denying access to professional not-for-profit and educational performing arts institutions would leave these entities vulnerable to interference and unable to properly serve the public. This decision would be harmful both to the performing arts and to new White Space devices. Interference protection would serve to protect both of these industries.

In light of the overwhelming benefits of wireless microphones, the decreased available spectrum, and the increased potential of interference, we urge you to retain the ability of wireless microphones in the performing arts to register in the database.

Thank you for considering this matter, and we look forward to working with you to promote the development and use of vital communication technologies such as wireless microphones.

Sincerely,



Leonard Lance
Member of Congress



Louise M. Slaughter
Member of Congress



Marsha Blackburn
Member of Congress



Eliot Engel
Member of Congress



Kevin Cramer
Member of Congress



Jerrold Nadler
Member of Congress



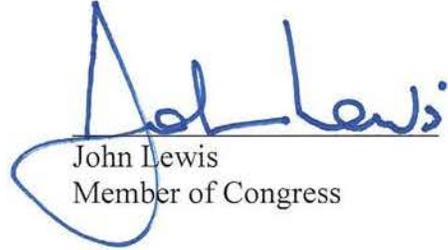
Don Young
Member of Congress



Chellie Pingree
Member of Congress



Peter DeFazio
Member of Congress



John Lewis
Member of Congress



Steve Cohen
Member of Congress



OFFICE OF
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

August 20, 2015

The Honorable Marsha Blackburn
U.S. House of Representatives
217 Cannon House Office Building
Washington, D.C. 20515

Dear Congresswoman Blackburn:

Thank you for your letter urging the Commission to allow wireless microphone users in the performing arts using fewer than 50 microphones to reserve vacant TV channels by registering in the Television White Space (TVWS) Database. Your view is very important, and please know that the Commission is trying to strike the right balance to allow both unlicensed and licensed users to operate efficiently.

The action the Commission took in 2014 on redefining the entities that are eligible for a Part 74 license and may seek protection in the database to groups that regularly use 50 microphones or more was a measured approach. It was meant to strike an appropriate balance in providing the benefits of a license for entities and events that have a demonstrated need, while ensuring that spectrum is shared effectively with existing Part 74 operations and remains available for other uses, including TV white space devices.

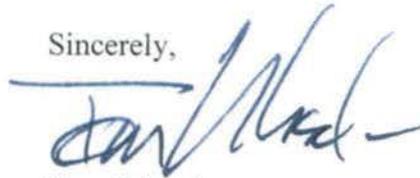
In the May 2014 *Incentive Auction Report and Order*, the Commission adopted rules to implement the broadcast television spectrum incentive auction, which will involve reorganizing the existing television band and repurposing a portion of the UHF television band for new wireless broadband services. Until the incentive auction is completed and the Commission establishes the final 600 MHz band plan, the impact of repurposing spectrum on wireless microphone users will not be known. The Commission has provided for a multi-year period after the auction during which wireless microphone operators may continue to access the 600 MHz band on a secondary basis. This 39-month period will help smooth the transition as wireless microphone operators obtain new equipment and transition out of the repurposed 600 MHz band to other spectrum, including vacant channels and guard bands in the post-auction 600 MHz band.

On August 6, 2015, the Commission adopted an order amending the Part 15 rules which will allow unlicensed wireless microphone users who do not qualify for a Part 74 license to operate as unlicensed devices in the TV bands and the new 600 MHz service band after the incentive auction. Unlicensed wireless microphones, as well as white space devices, will continue to operate on vacant channels in the TV bands on an equal basis and shall not cause interference to adjacent licensees, although vacant channels may be fewer in number in certain

geographic areas. The *Part 15 Report and Order* eliminates the current rule that permits unlicensed microphone users to register with the TVWS Database to reserve vacant TV channels for their use, but this will not occur until 18 months after the effective date of the rule change or no later than the conclusion of the incentive auction, whichever comes first. However, after the incentive auction and subsequent repacking of television broadcasters, unlicensed microphone users will be able to operate in the 600 MHz guard bands and duplex gap on a shared basis with white space devices, and they may have some exclusive use in the guard bands depending on the amount of spectrum recovered in the auction.

I understand the importance of wireless microphones to the performing arts groups you highlight in your letter. The Commission will continue to work with the wireless microphone community to examine their long-term spectrum needs. I appreciate your interest in this matter. Please let me know if I can be of any further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Wheeler", with a horizontal line extending to the left of the first few letters.

Tom Wheeler



OFFICE OF
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

August 20, 2015

The Honorable Steve Cohen
U.S. House of Representatives
2404 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman Cohen:

Thank you for your letter urging the Commission to allow wireless microphone users in the performing arts using fewer than 50 microphones to reserve vacant TV channels by registering in the Television White Space (TVWS) Database. Your view is very important, and please know that the Commission is trying to strike the right balance to allow both unlicensed and licensed users to operate efficiently.

The action the Commission took in 2014 on redefining the entities that are eligible for a Part 74 license and may seek protection in the database to groups that regularly use 50 microphones or more was a measured approach. It was meant to strike an appropriate balance in providing the benefits of a license for entities and events that have a demonstrated need, while ensuring that spectrum is shared effectively with existing Part 74 operations and remains available for other uses, including TV white space devices

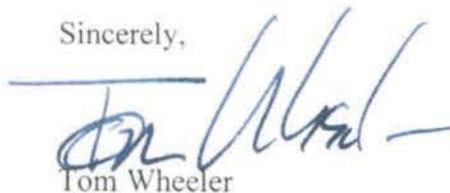
In the May 2014 *Incentive Auction Report and Order*, the Commission adopted rules to implement the broadcast television spectrum incentive auction, which will involve reorganizing the existing television band and repurposing a portion of the UHF television band for new wireless broadband services. Until the incentive auction is completed and the Commission establishes the final 600 MHz band plan, the impact of repurposing spectrum on wireless microphone users will not be known. The Commission has provided for a multi-year period after the auction during which wireless microphone operators may continue to access the 600 MHz band on a secondary basis. This 39-month period will help smooth the transition as wireless microphone operators obtain new equipment and transition out of the repurposed 600 MHz band to other spectrum, including vacant channels and guard bands in the post-auction 600 MHz band.

On August 6, 2015, the Commission adopted an order amending the Part 15 rules which will allow unlicensed wireless microphone users who do not qualify for a Part 74 license to operate as unlicensed devices in the TV bands and the new 600 MHz service band after the incentive auction. Unlicensed wireless microphones, as well as white space devices, will continue to operate on vacant channels in the TV bands on an equal basis and shall not cause interference to adjacent licensees, although vacant channels may be fewer in number in certain

geographic areas. The *Part 15 Report and Order* eliminates the current rule that permits unlicensed microphone users to register with the TVWS Database to reserve vacant TV channels for their use, but this will not occur until 18 months after the effective date of the rule change or no later than the conclusion of the incentive auction, whichever comes first. However, after the incentive auction and subsequent repacking of television broadcasters, unlicensed microphone users will be able to operate in the 600 MHz guard bands and duplex gap on a shared basis with white space devices, and they may have some exclusive use in the guard bands depending on the amount of spectrum recovered in the auction.

I understand the importance of wireless microphones to the performing arts groups you highlight in your letter. The Commission will continue to work with the wireless microphone community to examine their long-term spectrum needs. I appreciate your interest in this matter. Please let me know if I can be of any further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Wheeler", with a horizontal line extending to the right from the end of the signature.

Tom Wheeler



OFFICE OF
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

August 20, 2015

The Honorable Kevin Cramer
U.S. House of Representatives
1032 Longworth House Office Building
Washington, D.C. 20515

Dear Congressman Cramer:

Thank you for your letter urging the Commission to allow wireless microphone users in the performing arts using fewer than 50 microphones to reserve vacant TV channels by registering in the Television White Space (TVWS) Database. Your view is very important, and please know that the Commission is trying to strike the right balance to allow both unlicensed and licensed users to operate efficiently.

The action the Commission took in 2014 on redefining the entities that are eligible for a Part 74 license and may seek protection in the database to groups that regularly use 50 microphones or more was a measured approach. It was meant to strike an appropriate balance in providing the benefits of a license for entities and events that have a demonstrated need, while ensuring that spectrum is shared effectively with existing Part 74 operations and remains available for other uses, including TV white space devices.

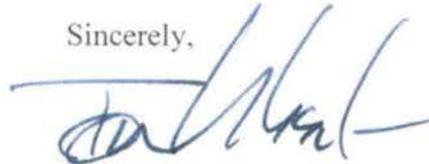
In the May 2014 *Incentive Auction Report and Order*, the Commission adopted rules to implement the broadcast television spectrum incentive auction, which will involve reorganizing the existing television band and repurposing a portion of the UHF television band for new wireless broadband services. Until the incentive auction is completed and the Commission establishes the final 600 MHz band plan, the impact of repurposing spectrum on wireless microphone users will not be known. The Commission has provided for a multi-year period after the auction during which wireless microphone operators may continue to access the 600 MHz band on a secondary basis. This 39-month period will help smooth the transition as wireless microphone operators obtain new equipment and transition out of the repurposed 600 MHz band to other spectrum, including vacant channels and guard bands in the post-auction 600 MHz band.

On August 6, 2015, the Commission adopted an order amending the Part 15 rules which will allow unlicensed wireless microphone users who do not qualify for a Part 74 license to operate as unlicensed devices in the TV bands and the new 600 MHz service band after the incentive auction. Unlicensed wireless microphones, as well as white space devices, will continue to operate on vacant channels in the TV bands on an equal basis and shall not cause interference to adjacent licensees, although vacant channels may be fewer in number in certain

geographic areas. The *Part 15 Report and Order* eliminates the current rule that permits unlicensed microphone users to register with the TVWS Database to reserve vacant TV channels for their use, but this will not occur until 18 months after the effective date of the rule change or no later than the conclusion of the incentive auction, whichever comes first. However, after the incentive auction and subsequent repacking of television broadcasters, unlicensed microphone users will be able to operate in the 600 MHz guard bands and duplex gap on a shared basis with white space devices, and they may have some exclusive use in the guard bands depending on the amount of spectrum recovered in the auction.

I understand the importance of wireless microphones to the performing arts groups you highlight in your letter. The Commission will continue to work with the wireless microphone community to examine their long-term spectrum needs. I appreciate your interest in this matter. Please let me know if I can be of any further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Wheeler", with a stylized flourish extending to the right.

Tom Wheeler



OFFICE OF
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

August 20, 2015

The Honorable Peter A. DeFazio
U.S. House of Representatives
2134 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman DeFazio:

Thank you for your letter urging the Commission to allow wireless microphone users in the performing arts using fewer than 50 microphones to reserve vacant TV channels by registering in the Television White Space (TVWS) Database. Your view is very important, and please know that the Commission is trying to strike the right balance to allow both unlicensed and licensed users to operate efficiently.

The action the Commission took in 2014 on redefining the entities that are eligible for a Part 74 license and may seek protection in the database to groups that regularly use 50 microphones or more was a measured approach. It was meant to strike an appropriate balance in providing the benefits of a license for entities and events that have a demonstrated need, while ensuring that spectrum is shared effectively with existing Part 74 operations and remains available for other uses, including TV white space devices

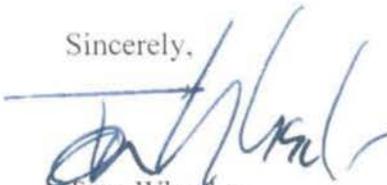
In the May 2014 *Incentive Auction Report and Order*, the Commission adopted rules to implement the broadcast television spectrum incentive auction, which will involve reorganizing the existing television band and repurposing a portion of the UHF television band for new wireless broadband services. Until the incentive auction is completed and the Commission establishes the final 600 MHz band plan, the impact of repurposing spectrum on wireless microphone users will not be known. The Commission has provided for a multi-year period after the auction during which wireless microphone operators may continue to access the 600 MHz band on a secondary basis. This 39-month period will help smooth the transition as wireless microphone operators obtain new equipment and transition out of the repurposed 600 MHz band to other spectrum, including vacant channels and guard bands in the post-auction 600 MHz band.

On August 6, 2015, the Commission adopted an order amending the Part 15 rules which will allow unlicensed wireless microphone users who do not qualify for a Part 74 license to operate as unlicensed devices in the TV bands and the new 600 MHz service band after the incentive auction. Unlicensed wireless microphones, as well as white space devices, will continue to operate on vacant channels in the TV bands on an equal basis and shall not cause interference to adjacent licensees, although vacant channels may be fewer in number in certain

geographic areas. The *Part 15 Report and Order* eliminates the current rule that permits unlicensed microphone users to register with the TVWS Database to reserve vacant TV channels for their use, but this will not occur until 18 months after the effective date of the rule change or no later than the conclusion of the incentive auction, whichever comes first. However, after the incentive auction and subsequent repacking of television broadcasters, unlicensed microphone users will be able to operate in the 600 MHz guard bands and duplex gap on a shared basis with white space devices, and they may have some exclusive use in the guard bands depending on the amount of spectrum recovered in the auction.

I understand the importance of wireless microphones to the performing arts groups you highlight in your letter. The Commission will continue to work with the wireless microphone community to examine their long-term spectrum needs. I appreciate your interest in this matter. Please let me know if I can be of any further assistance.

Sincerely,



Tom Wheeler



OFFICE OF
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

August 20, 2015

The Honorable Eliot L. Engel
U.S. House of Representatives
2161 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman Engel:

Thank you for your letter urging the Commission to allow wireless microphone users in the performing arts using fewer than 50 microphones to reserve vacant TV channels by registering in the Television White Space (TVWS) Database. Your view is very important, and please know that the Commission is trying to strike the right balance to allow both unlicensed and licensed users to operate efficiently.

The action the Commission took in 2014 on redefining the entities that are eligible for a Part 74 license and may seek protection in the database to groups that regularly use 50 microphones or more was a measured approach. It was meant to strike an appropriate balance in providing the benefits of a license for entities and events that have a demonstrated need, while ensuring that spectrum is shared effectively with existing Part 74 operations and remains available for other uses, including TV white space devices

In the May 2014 *Incentive Auction Report and Order*, the Commission adopted rules to implement the broadcast television spectrum incentive auction, which will involve reorganizing the existing television band and repurposing a portion of the UHF television band for new wireless broadband services. Until the incentive auction is completed and the Commission establishes the final 600 MHz band plan, the impact of repurposing spectrum on wireless microphone users will not be known. The Commission has provided for a multi-year period after the auction during which wireless microphone operators may continue to access the 600 MHz band on a secondary basis. This 39-month period will help smooth the transition as wireless microphone operators obtain new equipment and transition out of the repurposed 600 MHz band to other spectrum, including vacant channels and guard bands in the post-auction 600 MHz band.

On August 6, 2015, the Commission adopted an order amending the Part 15 rules which will allow unlicensed wireless microphone users who do not qualify for a Part 74 license to operate as unlicensed devices in the TV bands and the new 600 MHz service band after the incentive auction. Unlicensed wireless microphones, as well as white space devices, will continue to operate on vacant channels in the TV bands on an equal basis and shall not cause interference to adjacent licensees, although vacant channels may be fewer in number in certain

geographic areas. The *Part 15 Report and Order* eliminates the current rule that permits unlicensed microphone users to register with the TVWS Database to reserve vacant TV channels for their use, but this will not occur until 18 months after the effective date of the rule change or no later than the conclusion of the incentive auction, whichever comes first. However, after the incentive auction and subsequent repacking of television broadcasters, unlicensed microphone users will be able to operate in the 600 MHz guard bands and duplex gap on a shared basis with white space devices, and they may have some exclusive use in the guard bands depending on the amount of spectrum recovered in the auction.

I understand the importance of wireless microphones to the performing arts groups you highlight in your letter. The Commission will continue to work with the wireless microphone community to examine their long-term spectrum needs. I appreciate your interest in this matter. Please let me know if I can be of any further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Wheeler", with a horizontal line extending to the left of the first few letters.

Tom Wheeler