

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of:	)	
	)	
Amendment of Part 15 of the Commission's	)	ET Docket No. 14-165
Rules for Unlicensed Operations in the Television	)	
Bands, Repurposed 600 MHz Band, 600 MHz	)	
Guard Bands and Duplex Gap, and Channel 37	)	
	)	
Request to Amend 47 CFR Sections 15.703,	)	RM-11840
15.707, 15.709, 15.711 and 15.712 for	)	
Unlicensed Operations in the Television Bands,	)	
Repurposed 600 MHz Band, 600 MHz Guard	)	
Bands and Duplex Gap, and Channel 37	)	

**COMMENTS OF  
THE NATIONAL ASSOCIATION OF BROADCASTERS**

**I. INTRODUCTION AND SUMMARY**

The National Association of Broadcasters (NAB)<sup>1</sup> hereby submits the following comments in response to the Petition for Rulemaking submitted by Microsoft Corporation in the above referenced proceedings.<sup>2</sup>

NAB appreciates the constructive approach Microsoft has taken in pursuing changes to the Television White Spaces (TVWS) rules in its petition. Rather than proceed unilaterally with expansive requests to fundamentally change the ground rules of TVWS operations,

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<sup>1</sup> The National Association of Broadcasters (NAB) is the nonprofit trade association that advocates on behalf of free local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

<sup>2</sup> Microsoft Corporation Petition for Rulemaking, ET Docket No. 14-165 (May 3, 2019) (Microsoft Petition); *Consumer & Governmental Affairs Bureau Reference Information Center Petition for Rulemakings Filed*, Public Notice (May 9, 2019).

Microsoft has sought to limit its petition to a narrow set of five asks, four of which NAB is able to support for inclusion in a focused Further Notice of Proposed Rulemaking. In considering the adoption of an FNPRM to address those requests, the Commission should not seek to include other questions or issues, which will inevitably lead to controversy and delay. We look forward to working constructively with Microsoft and the Commission to develop final rules based on the record of this proceeding.

## **II. THE COMMISSION SHOULD CONSIDER A FURTHER NOTICE PROPOSING FOUR OF MICROSOFT'S REQUESTED RULE CHANGES**

Microsoft proposes five rule changes it states will support expansion of broadband service in rural communities. NAB believes the Commission should consider four of these proposed changes in a narrowly tailored Further Notice. A Further Notice on these issues will develop a record that will allow the Commission to adopt final rules that will provide the additional flexibility Microsoft seeks while still protecting licensed television operations.

First, Microsoft proposes higher radiated power limits in rural areas. In particular, Microsoft proposes to increase the limit on EIRP from 40 dBm to 42 dBm in less congested areas.<sup>3</sup> Microsoft further proposes that if the gain of the TVWS antenna is increased above 12 dBi, the rules should require a commensurate decrease in the conducted power level so that EIRP remains at 42 dBm.<sup>4</sup> To protect broadcast operations, Microsoft proposes increased

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<sup>3</sup> The Commission has defined “less congested” locations as those where at least half of the allocated television channels within the intended band of operation (low VHF, high VHF, or UHF) are unused for broadcast services and available for white space use, and where a fixed white space device is sufficiently separated from protected operations. *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*, Report and Order, 30 FCC Rcd 9551, ¶ 51 (2015).

<sup>4</sup> Microsoft Petition at 4.

separation distances consistent with the methodology set forth in section 15.712 of the Commission's rules.<sup>5</sup> Particularly given the Commission's recent action to require automatic geolocation for TVWS devices,<sup>6</sup> NAB believes it may be possible for TVWS devices to operate at the EIRP levels Microsoft proposes without causing harmful interference to existing licensed operations.

Second, Microsoft proposes allowing TVWS operations at higher antenna heights, specifically 500 meters height above average terrain. These operations would be subject to a two part protection regime involving: (1) adjusted separation distances consistent with the Commission's existing methodology; and (2) a special coordination requirement for all operations above 250 meters.<sup>7</sup> Microsoft's petition sets forth its specific proposed separation distances, which appear to be correctly calculated based on the Commission's current rules. It also describes its proposed protection regime as requiring an installer to contact a database administrator to identify all broadcast contours within the separation distance applicable to a TVWS device operating at 50 meters above the planned height, and to contact each broadcast licensee and provide each licensee with further information regarding the deployment.<sup>8</sup> Subject to these restrictions, NAB believes the Commission should consider allowing operations at heights above average terrain of up to 500 meters.

Third, Microsoft proposes to allow geofenced fixed TVWS operations and fixed TVWS operations on movable platforms within geofenced areas. The Commission's current rules

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<sup>5</sup> *Id.*

<sup>6</sup> *Amendment of Part 15 of the Commission's Rules for Unlicensed White Space Devices, Report and Order and Order on Reconsideration, ET Docket No. 16-56, FCC 19-24 (March 20, 2019).*

<sup>7</sup> Microsoft Petition at 11-12.

<sup>8</sup> *Id.* at 14.

permit geofenced operations for Mode II personal/portable TVWS devices. Microsoft seeks an analogous rule that would permit fixed TVWS operations on platforms (such as vehicles) that operate within a pre-defined area on channels determined using the interference protection rules that would apply throughout that area. Such devices would be required to check their location every 60 seconds while in operation, and would not be permitted onboard an aircraft, ship or satellite. Further, such devices could not use channel availability information if they move within 1.6 km of the boundary of their defined area of operation.<sup>9</sup> Subject to these protections, NAB believes the Commission should move forward with an FNPRM including this proposal.

Fourth, Microsoft proposes the Commission adjust its rules to support the use of TVWS for narrowband Internet of Things (IoT) uses. Microsoft proposes a series of rules to allow such use while ensuring that simultaneous narrowband transmissions will not aggregate to produce total conducted power levels above what the Commission's rules presently allow in a 6 MHz-wide channel. These protections include: (1) a listen-before-talk requirement; (2) a prohibition on continuous transmission of video or audio including a maximum transmission limit of ten seconds per hour; and (3) a channel plan that limits total transmitted power density in any 100 kHz bandwidth within a 6 MHz channel to no more than existing limits for TVWS operations adjusted for that bandwidth.<sup>10</sup>

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<sup>9</sup> As Microsoft explains, a vehicle traveling at 60 miles per hour would travel approximately 1.6 kilometers in 60 seconds. Microsoft Petition at 24, n. 41. This limitation would therefore help ensure that, in most cases, a vehicle traveling at normal highway speeds would not cross the boundary of its pre-defined area of operations before a mandatory recheck of channel availability information.

<sup>10</sup> *Id.* at 18-19.

This proposal appears to be directed at urban IoT applications rather than expanding rural broadband access – the justification for Microsoft’s other proposals. Nonetheless, subject to the protections Microsoft has specified, NAB believes the Commission should move forward with a Further Notice including this issue along with the other proposals described above to develop a record to confirm that such proposals will not interfere with licensed uses.

**III. THE COMMISSION SHOULD NOT ALLOW HIGHER-POWER TVWS OPERATION ON FIRST-ADJACENT CHANNELS**

As noted above, NAB appreciates the constructive approach Microsoft has taken in discussing its proposals with NAB prior to submitting its petition. NAB supports a Further Notice exploring the four proposals above.

NAB disagrees, however, that the time is right for a Further Notice exploring Microsoft’s fifth proposal, which would authorize higher power operations on first-adjacent channels to broadcasters. Microsoft bases this proposal in part on the assumptions that Next Gen TV receivers “will be more robust to adjacent-channel interference than the ATSC 1.0 receivers that the Commission’s previous analysis assumed,” and/or that the need to upgrade DTV receivers as part of the Next Gen transition presents an opportunity to reduce their susceptibility to adjacent-channel interference.<sup>11</sup> Neither one of these assumptions provides a basis for the change Microsoft seeks.

First, there is no evidence that Next Gen TV receivers will prove less susceptible to interference than existing receivers. Even if Microsoft’s assumption were substantiated, which it is not, consideration of rule changes based on more robust Next Gen receivers is premature

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<sup>11</sup> *Id.* at 7.

until the existing receiver base is replaced with Next Gen receivers – a transition which likely will take several years.

Second, Microsoft's suggestion that the Commission should require equipment manufacturers to make Next Gen receivers more robust to allow for expanded white spaces operations is, to NAB's knowledge, unsupported. Certainly Microsoft has not suggested this new mandate is supported by the consumer electronics industry. Even if the Commission did impose such a mandate, again, the transition is likely to take considerable time and Microsoft's rule changes could not be implemented until the transition was complete.

NAB respectfully submits that, for these reasons, Microsoft's fifth proposal is on an entirely different time horizon than its other four proposals. Inclusion of this proposal will simply delay the proceeding. Even if these changes were adopted, they could not be implemented for several years. The Commission can return to this proposal when the Next Gen transition has made further progress and Microsoft's assumptions regarding receivers can be verified or disproven.

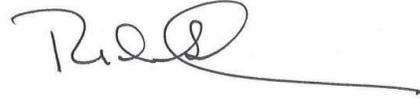
#### **IV. CONCLUSION**

The Commission should move forward with a focused FNPRM proposing four of the five rule changes set forth in Microsoft's petition. NAB appreciates the constructive approach Microsoft has taken to developing these proposals, and we look forward to working with the Commission and Microsoft to develop a record supporting final rules in this proceeding to ensure that TVWS operations will not cause interference to current and future licensed operations.

Respectfully submitted,

**NATIONAL ASSOCIATION OF  
BROADCASTERS**

1771 N Street, NW  
Washington, DC 20036  
(202) 429-5430

A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right from the end of the signature.

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Rick Kaplan  
Patrick McFadden  
Robert Weller

June 10, 2019

CERTIFICATE OF SERVICE

I, Patrick McFadden, certify that on this 10<sup>th</sup> day of June, 2019, I have caused a true and correct copy of the foregoing Comments to be served via first class mail, postage paid, upon:

Paula Boyd  
Michael Daum  
Microsoft Corporation  
901 K Street NW, 11<sup>th</sup> Floor  
Washington, DC 20001

Paul Margie  
Paul Caritj  
Harris, Wiltshire & Grannis LLP  
1919 M Street NW, Suite 800  
Washington, DC 20036

Robert M. McDowell  
Cooley LLP  
1299 Pennsylvania Avenue NW, Suite 700  
Washington, DC 20004

By:         /s/ Patrick McFadden          
Patrick McFadden