

**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)	

**REPLY COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS**

I. INTRODUCTION AND SUMMARY

The National Association of Broadcasters (NAB)¹ hereby replies to comments submitted in response to the Petition for Rulemaking submitted by Microsoft Corporation in the above referenced proceedings.²

In its petition for rulemaking, Microsoft asked the Commission to issue a targeted Further Notice of Proposed Rulemaking (FNPRM) seeking five specific changes to the Commission's rules governing Television White Spaces (TVWS) operations. NAB and Microsoft

¹ 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.

² 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).

have made substantial progress with respect to four of these proposals. NAB supports a prompt FNPRM proposing these four changes, which build on a record of testing and analysis that serves as the foundation of the existing TVWS rules that serve to protect licensed operations.

Certain commenters, however, seek to revisit matters that have been thoroughly debated, or propose abandoning the existing protection regime in favor of a new, amorphous system that would require years of testing to evaluate. Inclusion of these additional issues will only foster controversy and delay in this proceeding. NAB urges the Commission to limit a FNPRM in this proceeding to the specific requests included in Microsoft's petition which have cross-industry support. We look forward to continuing to work constructively with Microsoft to develop final rules based on the record of this proceeding.

II. EXPANDING THE SCOPE OF THIS PROCEEDING BEYOND MICROSOFT'S PETITION IS UNWARRANTED

Microsoft's targeted, focused petition seeking changes to the current TVWS rules, filed after months of collaboration with NAB, has prompted some commenters to propose expansive and unrelated changes which have not been similarly vetted and are technically unsound. We urge the Commission to reject these invitations to needlessly mire this proceeding in uncertainty and delay.

First, and most importantly, the Commission should reject requests to allow increased out of band emissions (OOBE) from TVWS devices. The Dynamic Spectrum Alliance (DSA) and Rise Broadband ask the Commission to allow greater OOBE from unlicensed devices. The relaxation they seek appears to be as great as 31 dB in the adjacent channel.³ Such a drastic

³ See Letter from Jeff Kohler to Marlene H. Dortch, ET Docket No. 14-165 (June 10, 2019); DSA Comments at 4; see *also* ETSI EN 301 598 V2.1.1 (2018-01), Section 4.2.5.2.2, Table 2.

relaxation would require a comprehensive re-examination of the Commission's interference protection requirements, including receive site protection for rural TV translators, wireless medical telemetry systems and radio astronomy installations. This would, at a minimum, dramatically expand the scope of this proceeding and delay the outcome while the Commission evaluates this issue.

The only justification DSA and Rise offer for this change is that compliance with the existing emissions mask makes their business case more complex.⁴ It is not the Commission's role merely to make the business case for TVWS operations more appealing. Rather, the Commission's role should be to establish technically sound operating rules that protect licensed operations. Whether TVWS operations can develop a sustainable business model within those parameters is a matter for TVWS operators, not the Commission. In this case, given the more congested spectrum environment broadcasters face as a result of repacking following the broadcast spectrum incentive auction, relaxation of the OOB rules is unwarranted, unproven and technically unsound. We urge the Commission not to consider this proposal in this proceeding.

Second, the Commission should not consider alternative propagation models in this proceeding. Some commenters propose altering the present contour protection methodology embodied in the Commission's rules, suggesting that use of "terrain-based" propagation models could allow a more granular calculation of channel availability.⁵ The current rules

⁴ Rise Broadband Comments at 1; DSA Comments at 14.

⁵ See Comments of Open Technology Institute at New America, Next Century Cities, Gigabit Libraries Network, Tribal Digital Village and Public Knowledge at 9-10, ET Docket No. 14-165, RM-11840 (June 10, 2019); Comments of Dynamic Spectrum Alliance at 11-13, ET Docket No. 14-165 (June 10, 2019) (DSA Comments); Reply of Nominet to Petition for Rulemaking by the Microsoft Corporation at 4, ET Docket No. 14-165 (June 10, 2019) (Nominet Comments);

generally protect broadcast stations from interference within a well-defined, readily calculated noise-limited service contour. The Commission would introduce uncertainty and unreasonably increase the likelihood of interference were it to employ other factors. While the existing contour-protection rules are well-understood and easily applied, numerous studies have disclosed significant errors using so-called deterministic propagation models, and it is unclear whether the additional complexity these models introduce is actually accompanied by increased accuracy.⁶ The reality is that any interference protection methodology will rely on assumptions and reflect some degree of uncertainty. The Commission should not introduce a new and complex interference protection methodology in pursuit of illusory exactitude.

Third, the Commission should reject Nominet's request to redefine the "less congested areas" where higher radiated power limits would apply under Microsoft's proposal⁷ to turn on population density rather than channel availability. Presently, less congested areas include those areas where fewer than one-half of the TV channels are in use by broadcasters.⁸ Nominet asserts that, because channel availability is subject to change, this definition could require adjustment of TVWS operations in the event an area is no longer considered less congested due to new broadcaster operations. Accordingly, Nominet asks the Commission to

Comments of Wi-Fi Alliance at 5, ET Docket No. 14-165, RM-11840 (June 10, 2019); Comments of the Wireless Internet Service Providers Association at 4, ET Docket No. 14-165, RM-11840 (June 10, 2019); Comments of Sacred Wind Communications at 6, ET Docket No. 14-165, RM-11840 (June 5, 2019).

⁶ H.R. Anderson, New 2D Physical EM Propagation Model Selected, IEEE Vehicular Technology Society News, vol. 44, no. 3, p. 15-22 (August 1997).

⁷ Nominet Comments at 2-3.

⁸ See 15.703(h)

adopt a definition of “less congested” that turns on population density, not channel availability.⁹

As an initial matter, of course, TVWS operations are always subject to displacement or the need to alter operating parameters based on changes in licensed spectrum use. Nominet’s concern that changes in the broadcast operating environment might require changes to TVWS operations is entirely unremarkable – such is the nature of Part 15 unlicensed spectrum use. More specifically, from an interference protection standpoint, population density is not remotely equivalent to channel availability. While the incentive auction has repacked stations into less spectrum, meaning that there are likely fewer less congested areas, the reasoning for disallowing high-power TVWS operation in spectrally congested areas remains sound. Higher power operations are more likely to cause interference to licensed stations over greater distances, and such operations should be confined to areas where there are fewer licensed stations at risk of interference – regardless of population density.

Fourth, the Commission should not expand Microsoft’s proposal for geofenced mobile TVWS operations. RADWIN suggests that the Commission should allow high-power fixed devices to operate in motion in extended geographic areas, such as along roads and train routes.¹⁰ Broadcasters also transmit to mobile and portable devices, which operate along roads, and the Commission should not enhance the risk of interference to licensed operations by expanding Microsoft’s proposal – for mobile operation within a polygonal pre-defined geographic areas – to include operations along roads in congested or urban areas.

⁹ Nominet Comments at 3.

¹⁰ Letter from Adi Nativ to Marlene H. Dortch at 2, ET Docket No. 14-165, RM-11840 (June 10, 2019).

III. CONCLUSION

The Commission should move forward with a narrow FNPRM that focuses on proposed changes that have cross-industry support. Expanding the FNPRM to include proposals that introduce a substantial risk of harmful interference to licensed operations will only serve to mire this proceeding in unnecessary controversy and delay. NAB continues to appreciate Microsoft's engagement with respect to the proposals it has set forth, and we look forward to working constructively with the Commission and Microsoft in this proceeding.

Respectfully submitted,

**NATIONAL ASSOCIATION OF
BROADCASTERS**
1771 N Street, NW
Washington, DC 20036
(202) 429-5430



Rick Kaplan
Patrick McFadden
Robert Weller

June 25, 2019

CERTIFICATE OF SERVICE

I, Patrick McFadden, certify that on this 25th 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:

Michael Calabrese
Amir Nasr
New America's Open Technology
Institute
740 15th Street, NW Suite 900
Washington, DC 20005

Martha Suarez
Dynamic Spectrum Alliance
3855 SW 153rd Drive
Beaverton, OR 97003

Jeff Kohler
Rise Broadband
61 Inverness Drive East, Suite 250
Englewood, CO 80112

Adi Nativ
RADWIN
900 Corporate Drive
Mahwah, NJ 07430

Alex Roytblat
Wi-Fi Alliance
10900-B Stonelake Blvd.
Suite 126
Austin, TX 78759

Stephen E. Coran
Lerman Senter PLLC
2001 L Street, NW, Suite 400
Washington, DC 20036
*Counsel to the Wireless Internet
Service Providers Association*

John Badal
Sacred Wind Communications, Inc.
5901-J Wyoming Blvd
NE Box 266
Albuquerque, NM 87109

Justin Kempley
Nominet
Oxford Science Park
Oxford, OX4 4DQ
United Kingdom

By: /s/ Patrick McFadden
Patrick McFadden