



March 21, 2019

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Notice of Ex Parte Communication, ET Docket Nos. 16-56, 14-165

Dear Ms. Dortch:

For the past several months, the National Association of Broadcasters (NAB) and Microsoft have been engaged in productive discussions regarding potential modifications to the Commission's television white spaces (TVWS) rules to facilitate operations in rural areas while ensuring that licensed operations are protected. As a result of these conversations, NAB agrees that the Commission should pursue certain, but not all, changes Microsoft is seeking, as long as the Commission takes important steps to protect licensed users.

On October 2, 2018, Microsoft submitted an ex parte letter in the above-referenced dockets urging the Commission to modify its TVWS rules.¹ These changes would require the Commission to issue a Further Notice of Proposed Rulemaking, as they are beyond the scope of any pending Commission proceeding. While NAB's position on any rule changes would ultimately depend on their precise details, NAB believes it would be appropriate to explore the changes Microsoft seeks in a further notice. In particular, NAB believes the Commission should consider a Further Notice addressing the following issues.

A. Permitting Higher Radiated Power Limits in Less Congested Areas

Microsoft proposes that the Commission increase the limit on Equivalent Isotropically Radiated Power (EIRP) from 40 dBm to 42 dBm in less congested areas. Microsoft requests that, if the gain of an antenna operating in less congested areas is increased above 12 dBi, the rules should require a commensurate decrease in the conducted power limit so that the EIRP limit remains 42 dBm. Microsoft further proposes an increase in the separation distance beyond the distance for TVWS devices operating at 42 dBm, consistent with the

¹ Letter to Marlene H. Dortch from Paula Boyd and Michael Daum, ET Docket No. 14-165, GN Docket No. 12-268 (Oct. 2, 2018) (Microsoft Letter).

methodology set forth in section 15.712 of the Commission's rules.² Particularly with the recent adoption of automatic geolocation requirements for TVWS devices,³ NAB believes that it may be possible for TVWS devices to operate at the EIRP levels Microsoft proposes without causing harmful interference to licensed operations.

B. Permitting Fixed TVWS Device Operations at Up to 500 Meters Height Above Average Terrain Under Certain Conditions

Microsoft sets forth a proposal to allow TVWS operations at HAATs of up to 500 meters subject to a two-part protection regime: (1) adjusted separation distances consistent with the FCC's existing methodology; and (2) a special coordination requirement for all operations above 250 meters. While NAB reserves the right to comment on specific proposed rules set forth by the Commission, NAB believes that TVWS operations at these heights subject to the protections Microsoft describes could likely be permitted in rural areas without materially increasing the chances of harmful interference.

C. Permitting Geofenced Fixed TVWS Operations and Fixed TVWS Operations on Movable Platforms Within Geofenced Areas

The Commission's current rules 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 school buses and agricultural equipment that operate within a pre-defined area on channels determined using the interference protection rules that would apply throughout that area. Under Microsoft's proposal, 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 km⁴ of the boundary of the area.

D. Supporting the Use of TVWS for Narrowband IoT

Microsoft proposes to define a narrowband TVWS device as one operating in a bandwidth of no greater than 100 kHz that incorporates a listen-before-talk spectrum access mechanism. Microsoft proposes rules to accommodate such operations, including a rule that total

² 47 C.F.R. § 15.712(a)(2)(iv).

³ *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).

⁴ As Microsoft explains, a vehicle traveling at 60 miles per hour would travel approximately 1.6 kilometers in 60 seconds. Microsoft Letter at 14, n. 42. 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.

channel occupancy for a given device shall be limited to 10 seconds per hour. Microsoft also proposes requiring all narrowband TVWS operations to comply with the separation distances that apply to 4-Watt devices, since the maximum aggregate energy in a 6 MHz channel from narrowband devices will be no greater than that produced by a single broadband device operating at 4 Watts.

E. Oppose Higher Power Operation on First Adjacent Channels to Broadcasters

NAB strongly opposes Microsoft's fifth proposal, which would authorize higher power operations on first-adjacent channels to broadcasters. This proposal is technically unsound and relies on unsupportable assumptions. It is also based on unsubstantiated claims that Next Gen TV receivers will be less susceptible to interference than existing receivers. Even if this proposal were substantiated, consideration of new rules on first-adjacent channels is premature until the existing receiver base is replaced with Next Gen receivers, which will take years.

NAB would support a further notice proposing the other four rule changes outlined above and would look forward to working with the Commission and Microsoft to develop final rules that would allow greater flexibility for TVWS operations in rural areas while continuing to provide robust protections for licensed operations.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Patrick McFadden", with a long horizontal flourish extending to the right.

Patrick McFadden
Associate General Counsel,
National Association of Broadcasters