Wireless Innovation Forum's comments to the FCC on the Further Notice of Proposed Rulemaking regarding "Facilitating Shared Use in the 3100 to 3550 Band"

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

In the Matter of	)	
	)	WT Docket No. 19-348
Facilitating Shared Use in the 3100-3550 MHz Band	)	

COMMENTS OF THE WIRELESS INNOVATION FORUM ON THE FEDERAL COMMUNICATIONS COMMISSION FURTHER NOTICE OF PROPOSED RULEMAKING SEEKING COMMENT ON FACILITATING SHARED USE IN THE 3100 TO 3550 MHZ BAND

The Wireless Innovation Forum (WInnForum) is pleased to provide these comments to the above-captioned proceeding.

Introduction

The Wireless Innovation Forum is a US based international non-profit organization whose members are dedicated to advancing technologies supporting the innovative utilization of spectrum and the development of wireless communications systems, including essential or critical communications systems. Forum members bring a broad base of experience in Software Defined Radio (SDR), Cognitive Radio (CR) and Dynamic Spectrum Access (DSA) technologies in diverse markets and at all levels of the wireless value chain to address emerging wireless communications requirements through enhanced value, reduced total life cost of ownership, and accelerated deployment of standardized families of products, technologies, and services.

The Commission, NTIA, and DoD should adopt an informing incumbent framework for the 3.45 GHz band, and explore extending that framework to the adjoining CBRS band

Protecting sensors that are part of the CBRS Environmental Sensing Capability (ESC) from in-band interference has turned out to be highly problematic for CBRS, constraining or even eliminating CBRS service for tens of millions of potential users. The situation gets worse over time as new ESC networks are brought online, and additional sensors are deployed. Also, as has occurred during the recent very active hurricane season, coastal sensors have been brought down due to storm damage. Because of the large geographic extent of hurricanes, even redundant sensors were impacted. Under such circumstances in which a DPA can't be monitored, ESC Operators and their affiliated Spectrum Access Systems are required to automatically assume incumbent activity is occurring in the DPA across the entire 3550-3650 MHz band, potentially causing major impacts to PAL license holders and GAA users, regardless of actual incumbent activity. This caused the loss of service, or reduced service, to CBRS users in the aftermath of a natural disaster, just when they needed it most. The enormous sizes of DPA neighborhoods cause these negative impacts to extend hundreds of km inland.

It is quite apparent that the ESC concept has some major shortcomings, and alternative approaches are warranted for CBRS. Many of these same problems would exist for a 3.45 GHz sensing network. We would like to strongly discourage the use of a sensing network in this band and instead recommend that the 3.45 GHz band be covered by an informing incumbent capability currently being contemplated by the NTIA, where DoD provides information regarding operations that could affect spectrum availability directly by way of a portal or other system. As in the AWS bands, part of the auction revenue could be used to support the development of such a capability on a short timeframe. As part of this development, the DoD and

industry should investigate the benefits and drawbacks of expanding the use of the informing incumbent framework in the CBRS band. This is particularly justifiable because the relocation of DoD systems out of the 3.45-3.55 GHz band may push more radar activity into the CBRS band, as recently noted by the CBRS Alliance.[1]

Good-faith coordination between 3.45 GHz Service and CBRS should be required to mitigate any cases of harmful interference between operations in the two bands

Recent technical work by industry has shown that co-existence issues may arise at the boundary between the CBRS band and the immediately adjacent 3.7 GHz Service band.[2] The proposed rules for the 3.45 GHz Service are similar to those adopted for the 3.7 GHz Service and we expect that the same co-existence issues may arise at the lower CBRS band edge. Industry has examined various potential technical solutions to mitigate potential interference. We encourage the FCC to rule that 3.45 GHz Service and CBRS operators should coordinate in good faith to mitigate occurrences of harmful interference between the two services if and when such interference occurs.

Some elements of Incumbent protection methods employed in CBRS could be adapted to the 3450-3550 MHz band

Because it represents a very diverse range of interests, WInnForum makes no recommendation on the nature of operations that should be adopted in the 3.45 GHz band. It is important to note that DoD estimates show there will be no need for any type of sharing for areas

[1] See *ex parte* filing by the CBRS Alliance, August 31, 2020, available at https://ecfsapi.fcc.gov/file/10831276779235/CBRS%20Alliance_3450-3550%20MHz_Ex%20Parte_19-348.pdf
[2] See "Report of the C-Band Technical Working Group 4 5G / CBRS Coexistence," October 6, 2020, available at https://ecfsapi.fcc.gov/file/1012676927498/C-Band%20TWG4%205G-CBRS%20Coexistence%20Cover%20Letter%20and%20Report%202020-10-12.pdf

that include 93% of the population. For the areas that include the remaining 7% of the population, we propose to have a light-weight database approach that might be able to draw upon some of the mechanisms developed for CBRS protection areas. Some aspects of operation in the band, such as protection of Cooperative Planning Areas and Periodic Use Areas, are very similar in nature to protection of coastal and inland Dynamic Protection Areas and exclusion zones that apply to CBRS. For this reason, some principles and algorithms created by the WInnForum Spectrum Sharing Committee may be of value when applied to 3.45 GHz operations.

Respectfully submitted,

By /s/:
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President and Chair
The Wireless Innovation Forum

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