



**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
Expanding the Economic and Innovation)
Opportunities of Spectrum Through Incentive) Docket No. 12-268
Auctions)
)
)

COMMENTS OF WI-FI ALLIANCE®

Wi-Fi Alliance hereby respectfully submits these comments in response to the Commission’s Notice of Proposed Rule Making FCC 12-118, which invites comments regarding the auctions proposed for the TV bands spectrum, repacking of the DTV spectrum and allocation of spectrum for TV White Spaces. Wi-Fi Alliance comprises more than 500 companies that work with the standards developers and the manufacturers that enable the market for wireless LAN in the TV White Spaces. We respectfully offer some comments on the issues contained in FCC 12-118 that directly impact our plans for this market.

INTRODUCTION

Wi-Fi Alliance supports the Commission’s goals for unlicensed use of the unused TV White Spaces spectrum, including those included in the National Broadband Plan and the various White Spaces proceedings. We believe that the additional bandwidth and propagation characteristics of TV band White Spaces spectrum will help to alleviate the existing congestion in the 2.4 GHz

band, reduce outage probability and improve coverage, and provide the necessary expansion opportunities for Wi-Fi® devices - now in virtually every laptop, tablet and smartphone sold today, and expanding to everything from toys to appliances, smart meters to sensor networks and the smart grid itself in the rapidly approaching future.

**WI-FI ALLIANCE HAS ALWAYS SUPPORTED THE FCC EFFORTS TO FIND WAYS TO
ENABLE UNLICENSED SHARING OF LICENSED SPECTRUM, BUT INCREASING
LIMITS AND DECREASING SPECTRUM AVAILABILITY WILL NEGATE
COMMISSION EFFORTS IN THE TV BAND WHITE SPACES**

At a time when spectrum available for wireless broadband applications is under increasing strain, it is critically important that the Commission place a high priority on the expansion of available unlicensed spectrum. As outlined in the National Broadband Plan, and brought into focus in the September 2012 report to the President by his Council of Advisors on Science and Technology (the PCAST Report), spectrum sharing is at the heart of this effort. Starting back at the beginning of this century, the FCC recognized that the TV band spectrum was underutilized, and that an effective means for determining the geographical and temporal nature of TV broadcasting provided an opportunity to prove that unlicensed users could share this spectrum while protecting the operations of its license holders. In 2009, IEEE P802.11y developed a standard for sharing of the 3650 to 3700 MHz band, but a market failed to materialize due to the severe geographical limitations presented by government installation “keepout zones”. We fear that with excessive limitations on TV band White Spaces, we could be facing a similar fate.

**WE CANNOT BUILD A MARKET FOR TV BAND WI-FI DEVICES WITHOUT A
BETTER UNDERSTANDING OF THE AMOUNT OF SPECTRUM THAT WILL
ACTUALLY BE AVAILABLE, THE CHARACTERISTICS OF THAT SPECTRUM AND
THE LIMITS IMPOSED BY NEIGHBORING TECHNOLOGIES**

In paragraphs 126 and 234 the Commission asks if the Guard Bands should be made available for unlicensed spectrum use, but the term Guard Bands does not provide sufficient information to determine whether or not these could be commercially viable, lacking bandwidth and neighboring technology OOB requirements. Certainly, if conditions are favorable we could use guard bands, but at this point in the process there are too many unknowns.

Paragraph 174 asks “If we decide not to license certain heavily encumbered blocks, should we make the “cleared” spectrum available for unlicensed use? For example, if 90 percent of the geographic area of a spectrum block is encumbered by broadcasters, should we make the remaining 10 percent available for unlicensed use?” This is a basic tenet of the White Spaces philosophy: use of spectrum that is not in use. We do not distinguish between 10 percent availability or 90 percent availability. Let the database lead the way.

Expansion of 6 MHz guard bands (paragraph 176) can provide additional guarantees that TVBD transmit spectrum can meet the OOB requirements of neighboring licensed users, but again, without knowing what these requirements will be, makes it impossible to determine the commercial viability of the expanded guard bands.

We believe the proposal in paragraph 182 represents an important piece for this TVWS puzzle. An unlicensed channel available nationwide could enable single-radio devices that can access the database via this channel in order to find another channel to operate on.

Relocation of the RAS as proposed in paragraph 199 seems unnecessary, due to the limited number of locations that would have to be protected, especially from the low-power TVBDs, which we believe will represent the majority of Wi-Fi applications. On the other hand, WMTS locations are more difficult to work around. Consideration of a harmonized band for all wireless medical applications could represent a benefit for both TVWS and wireless medical devices.

Paragraphs 232 through 239 lack sufficient specificity to enable responses that will stand the test of the time (between now and the actual repacking of the band).

CONCLUSION

Wi-Fi Alliance recognizes that permitting operation of unlicensed devices in the TV band is a complex issue, and one that must be resolved to enable industry to develop devices that are both commercially feasible and protective of the licensed users of this spectrum. Wi-Fi has been a great success, and expanding the available spectrum for it and other TVBDs will go a long way to providing access for more of the population to better connectivity, communications and wireless applications.

Wi-Fi Alliance believes that more rigorous engineering study of the spectrum being made available for TVBDs must be undertaken so that decisions can be made on the feasibility of this market before the industry gets too far down the road. Currently, the characteristics of the guard

bands, being proposed as White Spaces is virtually impossible for us to assess. Additionally, with the remaining White Spaces being dependent on the outcome of auctions in 2014, and the subsequent repacking of the spectrum, we cannot now or anytime soon guarantee to our more than 500 member companies that this will be a market they should pursue. We recognize that the Commission does not yet have all the answers, but we urge the FCC to provide a better engineering assessment of the future for unlicensed use of this band.

Respectfully submitted

WI-FI ALLIANCE

A handwritten signature in black ink, appearing to read 'Edgar Figueroa', written over the printed name.

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