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

In the Matter of)	
)	ET Docket No. 04-186
Unlicensed Operation in the TV Broadcast Bands)	
)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band)	ET Docket No.02-380
)	
Second Report and Order and Memorandum Opinion and Order)	FCC 08-260
)	
Second Memorandum Opinion and Order)	FCC 10-174
)	

THE WI-FI ALLIANCE PETITION FOR RECONSIDERATION

The Wi-Fi Alliance hereby respectfully submits this Petition for Reconsideration regarding the Commission’s September 23, 2010 decision in the above-captioned rulemaking relating to Part 15 devices operating on vacant TV channels (“white spaces”).¹ The Wi-Fi Alliance is an interested party in this Proceeding and we appreciate the opportunity to express our concerns with some provisions in the Second Memorandum Opinion and Order, as part of our continuing effort to help ensure that this spectrum is most effectively and efficiently utilized for the greatest social and commercial benefit, while meeting the Commission’s goals of expanding the unlicensed sharing of licensed spectrum opportunities.

¹ Catherine Wang & Timothy Bransford, for Bingham McCutchen LLP, on behalf of Shure Incorporated (“SHURE”), 03/19/09, available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520201892

INTRODUCTION

On September 23, 2010, the Commission adopted a Second Memorandum Opinion and Order (Second MO&O) that establishes final rules to allow wireless devices to operate in broadcast television spectrum on an unlicensed basis at locations where that spectrum is available. (This unused TV spectrum is now commonly referred to as television “white spaces”). We continue to view this as a significant opportunity for the Wireless LAN industry to participate in developing new technology and applications for wireless services. It is obvious from the language in its opening paragraph that the Commission shares this view. However, we believe that certain provisions in the newly adopted rules actually will stifle the growth of this market sector, but that minor modifications can correct this while having no impact on the protection of the licensed services in the band.

THE ISSUES

The Wi-Fi Alliance sees two market limiting issues in the rules as spelled out in FCC 10-174:

1. In order to meet the specified Out-of-Band (OOB) emissions mask across the VHF and UHF spectrum, expensive and complex filtering must be added to low-cost devices, significantly increasing the cost and thereby limiting market applicability. The current rules should be modified to allow for innovation and operational flexibility that would enable TVBDs to meet the non-interference requirements without added, prohibitive costs.
2. A significant class of mass market devices, assumed to be Mode II Personal/Portables, will be eliminated by virtue of the fact that they are stationary and indoors, and therefore unable to reliably sense their geo-location coordinates to within the limits specified in the Order.

The Wi-Fi Alliance believes that an OOB emissions mask specified in dBr terms removes one important tool that TVDBs can use to maximize performance while limiting transmit signal power: Transmit Power Control. With a very basic geo-location database providing a white space map for TVDB transmit power limits, TPC will enable devices to meet the required interference threshold. With advances in database technology and collected historical broadcast TV signal strength at specific GPS coordinates, this can be a major TVWS enabler.

The Wi-Fi Alliance has seen huge growth of Wi-Fi devices in consumer audio and video over the last few years, and with the opening of the TV bands, whose in-building propagation has the potential to succeed in providing whole-home coverage, TV manufacturers have lent their full support and resources to the standards and compatibility assurance development efforts. TV manufacturers' focus is on streaming audio and video to flat-panel TV receivers that are typically stationary; most are designed to be mounted to fixed walls within the home. The need to add GPS location capability and check every 60 seconds for movement from its last known location creates more problems than it solves. If in fact the device is located where it might be able to detect a few satellites, chances are the location accuracy will provide false indications of crossing the 50 meter movement boundary. But more likely, insufficient satellite signal detection will make the required geo-location information impossible to discern. For these reasons, the Wi-Fi Alliance petitions to extend the operation of Fixed devices to include indoor operation with the same Power and Power Spectral Density Limits that personal/portable devices have at the same indoor locations.

In paragraph 178 of the Second Report and Order, the Commission expresses support for the Google and Motorola concern regarding the critical importance of the adjacent channels. We

believe that this change will enable better utilization of adjacent channels without creating additional interference risk for the licensed operations.

THE WI-FI ALLIANCE PROPOSES THAT INDOOR, STATIONARY DEVICES, WITH THE SAME TRANSMIT POWER LIMITS AS MODE II PERSONAL/PORTABLE DEVICES BE ALLOWED TO OPERATE ON ADJACENT CHANNELS IN URBAN AND SUBURBAN ENVIRONMENTS

We recommend the following change to support this:

Change item 15.709(a)(5)(ii) as shown:

(ii) Fixed and Personal/portable devices operating adjacent to occupied TV channels: -1.8 dBm

THE WI-FI ALLIANCE PROPOSES THAT IN ADDITION TO THE OOB EMISSIONS dBr LIMIT, AN ABSOLUTE EIRP VALUE BE PROVIDED TO ALLOW INNOVATION AND OPERATIONAL FLEXIBILITY OF UNLICENSED TVBDS TO ENSURE NON-INTERFERENCE WITH LICENSED DEVICES IN THE BAND

We recommend the following changes to support this:

Change item 15.709(c)(1) as shown:

(c) *Emission limits for TVBDs.*

(1) In the television channels immediately adjacent to the channel in which a TVBD is operating, emissions from the TVBD shall be at least 72.8 dB below the highest average power in the TV channel in which the device is operating, or at a level less than -25.8 dBm/100 KHz where the transmitted power is less than or equal to 100mW EIRP.

Section 15.712 Interference protection requirements.

(a) *Digital television stations, and digital and analog Class A TV, low power TV, TV translator and TV booster stations:*

Change item 15.712(a)(2) as shown:

(2) Required separation distance. TVBDs must be located outside the contours indicated in paragraph (1) of this section of co-channel and adjacent channel stations by at least the minimum distances specified in the following table. Personal/portable TVBDs operating in Mode II must comply with the separation distances specified for an unlicensed device with an antenna height of less than 3 meters. Alternatively, Fixed and Mode II personal/portable TVBDs may operate at closer separation distances, including inside the contour of adjacent channel stations, provided the power level is reduced to 40 mW or less as specified in § 15.709(a)(2).

CONCLUSION

The Wi-Fi Alliance believes that with the incorporation of these changes, the goals of the Commission and the Wi-Fi community will both be satisfied: licensed operators will be protected and unlicensed users will have the additional, more eminently usable spectrum they need to support new indoor applications. We have more work to do before Wi-Fi can live up to the expectations of the Commission and industry, and for the TVWS to be a continuation of the Wi-Fi success story; the “Super Wi-Fi” mentioned in FCC 10-174. We thank you for this opportunity to present our views and we look forward to participating in the development of new technology and applications for wireless services in this spectrum.

WI-FI ALLIANCE



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