IEEE P802.11  
Wireless LANs

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| Comments on FCC NPRM 12-118 | | | | |
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#### Before the

**FEDERAL COMMUNICATIONS COMMISSION**

**Washington, D.C. 20554**

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

**REPLY COMMENTS OF 802.11**

**INTRODUCTION**

802.11 focus its reply comments in this document to unlicensed white space channels. We support the Commission’s goals for unlicensed use of the unused TV White Spaces spectrum. , We firmly believe that the additional bandwidth and propagation characteristics of TV band White Spaces spectrum will significantly augment WLAN user experience by reducing outage, improving coverage and providing opportunities for new applications that are not well served using the 5GHz spectrum or the congested 2.4 GHz spectrum.

**FOR A SUCCESSFUL TVWS MARKET, EVERY HOUSEHOLD SHOULD BE ABLE TO ACCESS THREE OR MORE UHF TVWS CHANNELS WITH MORE THAN 99% CONFIDENCE**

Over 20 years of engineering and deployment experience with 802.11 in the 2.4 GHz band confirms that a minimum of three 6 MHz channels is required for successful WLAN deployments.

The 18 MHz of TVWS spectrum need not be contiguous or in the same location throughout the nation. In addition, the 18 MHz should come in minimum contiguous segments of 6 MHz.

Ensuring a minimum number of quality channels (power levels on par with current TVWS regulations) on a nationwide basis is much more important than having many channels in many areas and no channels in two million households.

IEEE 802.11 is in the process of finalizing 802.11af specification, a new WLAN standard designed to operate in TVWS 6MHz channels according to current FCC rules. In order to guarantee success in the market we believe that a minimum amount of spectrum should be available in the largest metropolitan areas.

The location of the 6 MHz channels may come from of the following sources: remaining available TVWS channels, guard bands, Duplex Gap, channel 37 and the two channels allocated to wireless microphones. t

**802.11 RECOMMENDS THE COMMISSION SERIOUSLY CONSIDER THE FOLLOWING CHANNEL ALLOCATION PARAMETERS**

We note that several approaches for unlicensed operation are described by the commission in which 802.11 devices may be able to operate in the guard bands, Duplex Gap, channel 37 and channels reserved for wireless microphones. We strongly support usage of the Duplex Gap, guard bands, channel 37 and the two channels currently reserved for wireless microphones but would like to emphasize the following:

1. We note that the industry, in filed comment 7022111151 by AT&T, Intel, NAB, Qualcomm, T-mobile and Verizon Wireless, has coalesced around a proposal ‘down from TV 51’. In light of this proposal we would like to emphasize the importance of ensuring that the entire spectrum under channel 51 will continue to be utilized by licensed, unlicensed, wireless microphones or TV operation. IEEE 802.11af was developed to minimize interference to DTV reception in compliance with FCC rules and a similar engineering effort can address unlicensed device operation in the Duplex Gap and guard band without impacting licensed device operation.
2. Sharing of channel 37 and the wireless microphone channels with unlicensed devices would be of enormous value. Having a fixed known channel location for unlicensed devices can considerably reduce initial scanning time and power consumption.
3. Cellular uplink OOBE may cause interference to nearby TV receivers and other authorized users, therefore, newly licensed device out of band emissions need to be specified considering all the authorized uses.
4. Current TVWS regulations for operation in adjacent channels are partially based on incumbent receivers’ performance. Some of those receivers were built without proper consideration for adjacent channel rejection requirements. Adequate adjacent channel rejection of all new devices should be required in this band.

CONCLUSION

We would like to thank the FCC for promoting usage of new frequencies under 1GHz for unlicensed usage. .

We can’t stress enough the importance of having at least three quality channels, without excessive interference present, available on a nationwide basis for the success of unlicensed TVWS deployments. Ensuring a minimum number of channels on a nationwide area is much more important than having many channels in some areas and no channels in some other urban areas.

We welcome this opportunity and expect that when the uncertainty of spectrum availability on a nationwide basis is removed, white space products will be widely deployed.

Respectfully submitted,