IEEE P802.11  
Wireless LANs

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| Comments on FCC NPRM 12-118 | | | | |
| Date: 2013-02-12 | | | | |
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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 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.

**802.11 RECOMMENDS THE COMMISSION  IDENTIFY AT LEAST 18MHz OF TVWS UHF SPECTRUM IS AVAILABLE FOR UNLICENSED USE IN ALL LOCATIONS**

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

Ensuring a minimum number of quality channels (power levels on par with current TVWS regulations) on a nationwide area is much more important than having many channels in some areas and no channels in some other urban areas.

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

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. However, in order to guarantee success in the market we believe that a minimum amount of spectrum should be available in the largest metropolitan areas.

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

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 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, wirlesss microphones or TV operation. 802.11af was developed to minimize interference to TV stations in compliance with FCC rules and a similar engineering work can ensure that unlicensed devices operation in the Duplex Gap and guard band is possible without impacting licensed devices.
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. Operation of unlicensed devices and possibly TV receivers near cellular uplink may experience high interference. Therefore, licensed devices out of band emissions requirements may need to be specified. Similarly, requirements were specified for unlicensed devices when adjacent to TV channels.
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,