Cisco/UDel Meeting Minutes
May 26, 2016

Attendees: Jim Seymour, Chien-Chung Shen, Li Li
Minutes Taken By: Li Li

A. Review proposal

- Jim: One proposed work is 802.11ah, we can focus on 802.11ad/ay, the millimeter stuffs.
- Chien-Chung: Yes, we can do that. We proposed to study 802.11ah, because it is related to Internet of Things.
- Jim: For 802.11ax, there are some new techniques, like OFDMA for both downlink and uplink transmission, and distributed MAC scheduling. Instead of studying this from WiFi's perspective, we can study the coexistence problem of 802.11ax and LAA.

B. Review slides

Slides #4 – Simulation results with lambda of 2.5. In this case, since there are 4 subchannels available, it will not be so congested anymore, and everyone is happy and can transmit data out.

Slides #6 – Simulation setting with lambda of 10.

- Jim: In the single-carrier case, at -72 dBm, LAA and WiFi have similar performance. However, In the multi-carrier case, LAA's performance is much better than that of WiFi. This is not consistent.
- Li: Yes, I also noticed this problem, however, I do not have a good explanation so far. I will continue to check this.
- Li: In these cases, all APs and LAA eNBs only transmit with 80 MHz bandwidth, even though channel bonding and carrier aggregation are supported. This is because both APs and eNBs try to occupy as many channels as they can. For example, at the very beginning, one AP will occupy 4 subchannels, and then release the 4 subchannels after data transmissions. Then, one LAA will also occupy all 4 subchannels when it has data to transmit.

Slides #8 – Simulations with mixed traffic. Even though there are 4 subchannels available, a transmitter only occupy the primary channel other than all 4 subchannels with a certain probability.

- Jim: These numbers are not much worse than the results before, even though AP/LAA will only use the primary channel. I would expect some lower numbers.
- Jim: We may want to increase the number of subchannels so that we can create a scenario to see is there a potential of unfairness between WiFi and LAA when multi-carrier LBT is adopted.

Actions Items:

- Check the simulations.
- Simulate a scenario with a larger number of subchannels.
- **Work on the channel selection problem.**

Next meeting: Thursday June 17 1:15 - 2:15 pm (EST)