IEEE P802.11
Wireless LANs

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| Minutes of the January 2021 IEEE 802.11 Coexistence Standing Committee meeting |
| Date: 2021-01-29 |
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Abstract

This document contains the minutes of the January 2021 meeting of the IEEE 802.11 Coexistence Standing Committee (SC).

At 2021-01-13T22:02+01:00 the chair calls the meeting to order. Andrew Myles acts as chair of the IEEE 802.11 Coexistence Standing Committee (SC). Guido R. Hiertz acts as recording secretary of the SC.

At 2021-01-13T22:02+01:00 the chair presents 11-20/1928r4. At this time, 11-20/1928r4 is equivalent to 11-20/1928r3. In case changes will be applied to 11-20/1928r3 these changes will be uploaded as 11-20/1928r4.

At 2021-01-13T22:03+01:00 the chair reminds attendees to comply with all applicable rules as shown on pages four to nine in 11-20/1928r4.

At 2021-01-13T22:06+01:00 the chair asks for approval of the agenda as shown on page eleven of 11-20/1928r4. Nobody objects to approving the agenda. The chair continues to present from page 13.

At 2021-01-13T22:07+01:00 the chair presents the following motion and asks for unanimous approval:

The IEEE 802 Coex SC approves 11-20-1898-00 as the minutes of its virtual meeting in November 2020

Nobody comments on or objects to the chair’s proposal to unanimously approve the motion. The chair continues from page 17.

At 2021-01-13T22:12+01:00 Vanlin Sathya presents 11-20/1973r1. At 2021-01-13T22:29+01:00 he concludes his presentation.

Comment: Have you tried this scenario with Wi-Fi deployed outdoor?

Comment: We tried to do this. We used a phone as hotspot. However, we could not capture traffic in monitor mode. We changed the indoor APs to use a different bandwidth. E.g. that all Wi-Fi APs operate in 20 MHz.

Comment: What’s the power of the T-Mobile LAA system?

Comment: We assume 23 dBm but we don’t know. We are unable to identify the true transmit power.

Comment: What is the LAA systems’s operating bandwidth?

Comment: In LAA, they always use 20 MHz. At most they combine three channels for a total of 60 MHz. LAA is not doing dynamic channel assignment at all. We did not observe this. Wi-Fi is changing when loaded. Therefore, we fixed our APs to use the same channels.

Comment: Did you repeat the experiment with LAA replaced with another Wi-Fi system instead?

Comment: You mean at the same location?

Comment: Yes, only then your comparisons are apple by apple. You are saying the LAA system has an impact on Wi-Fi. The question is what happens if you repeat the experiment with LAA replaced by another Wi-Fi system.

Comment: We speculate that we are the only LAA client. We assume Wi-Fi to Wi-Fi coexistence is okay when LAA is not there.

Comment: If the Wi-Fi system is alone, it’s not the same situation as when sharing with another Wi-Fi system. So, are you planning to replace LAA system with a Wi-Fi system to understand what the impact of another Wi-Fi system is on the indoor Wi-Fi system?

Comment: Have you found out which multi-channel scheme the LAA product uses?

Comment: You mean type A or B? We guess its type A. But we don’t know.

Comment: On slide 10, there seems to be a large reduction of beacon success. Do you know at which signal strength level APs receive LAA?

Comment: Indoors, the LAA client is not able to connect to LAA at all because Wi-Fi is not aware of LAA and stomps on it.

Comment: Is the beacon transmission missing or is the beacon not successfully received?

Comment: We do not know if the beacons were actually transmitted or not.

Comment: For Wi-Fi OBSS scenarios, the long downloads are causing problems even in Wi-Fi vs. Wi-Fi scenarios. We propose you do some normal web browing instead.

Comment: Video and streaming is our small traffic scenario.

Comment: I am concerned about your pure data download scenario. That is too much traffic and not realistic.

Comment: The conclusion I draw from it is that this a typical scenario and Wi-Fi is significantly impacted by a single LAA. Woud you agree?

Comment: Yes.

Comment: What EDT is LAA using?

Comment: LAA LTE uses −72 dBm/20 MHz.

At 2021-01-13T22:45+01:00 chair continues to present 11-20/1928r4 from page 26.

At 2021-01-13T22:53+01:00 attendees comment on page 36.

Comment: I assume that all FBE needs some synchronization. This will never work unless there is a point controller with nanosecond accuracy. This works only in places where you have GNSS controlled clocks.

Comment: This scheme does need some accuracy.

Comment: I am just curious how anyone could even consider this. It’s not robust. I would like to hear from anyone that FBE is a good idea.

Comment: We had experience with PCF that did not work well.

Comment: They did it 30 years ago and they do it again, now. Makes me wonder what is going on.

Comment: Contention-based implies there is a random backoff. That is not the case here with FBE. Here it is about randomizing this single slot to sense the medium.

Comment: Previously, the frames definitely collided. With the proposed change they collide less, now.

Comment: Wi-Fi is not affected by this change.

Comment: Correct.

At 2021-01-13T22:59+01:00 continues to present from page 37.

Comment: We have two different cultures colliding. These are different scenarios. The cellular industry simulates two operators that share the channel. However, Wi-Fi deployments have many independent operators that overlap. Look at Times Square. Consider residential scenarios with every home having its own Wi-Fi. Starting from the simulations is good to understand the strengths of synchronous vs. asynchronous access.

At 2021-01-13T23:07+01:00 attendees comment on page 48.

Comment: They try to take capabilities out of standard and rather have a regulation for it.

Comment: The ETSI standard adopts many aspects of 802.11. The claim is that these rules don’t work. Thus, it is claimed that they should not be in 6 GHz. It is true that there should be less rules than more. The counter argument is that more rules provide the Wi-Fi industry with better coexistence.

At 2021-01-13T23:16+01:00 attendes discuss

Comment: In 1990, a group was formed that defined a PHY for Frequency Hopping. This clause has been removed, recently. This is a proof that after 30 years this is a bad idea. Please explain it to me.

Comment: In a busy environment, Bluetooth hops between Wi-Fi.

Comment: I conclude the opposite. Every year, billions of Bluetooth devices are sold. Many more Bluetooth devices are sold than Wi-Fi devices. It may not be a very good idea, but FH is not a bad idea. FH with LBT may make sense. They need to demonstrate good coexistence and why FH is useful in this band. The burden is on them. Now it’s about what is an appropriate sharing text.

Comment: In 2.4 GHz, the coexistence mechanism is that BT avoids Wi-Fi.

At 2021-01-13T23:37+01:00 comment on page 65

Comment: In my on home, I don’t care about the Energy Detection Threshold level. The goals have moved becaue more people carry more devices around. The EDT rules are stuck in the past.

Comment: The trouble is there are so many scenarios today.

Comment: People should think about the whole idea. It has failed for last thirty years and more.

Comment: Some regulators became sick and tired of the discussions about preamble detection. Regulators were looking to a single solution with a unified energy detection threshold for all.

At 2021-01-13T23:45+01:00 the chair declares the meeting adjourned.