IEEE P802.11
Wireless LANs

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| Minutes of the May meetings of the Coexistence Standing Committee |
| Date: 2018-06-04 |
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Abstract

This document contains the minutes of the May meetings of the IEEE 802.11 Coexistence Standing Committee (SC).

# Wednesday, 2018-05-09

At 2018-05-09T13:33+02:00 the chairman of the Coexistence Standing Committee (SC) calls the meeting of the Coexistence SC to order. Andrew Myles acts as chairman of the SC. Guido R. Hiertz acts as recording secretary of the meeting.

At 2018-05-09T13:34+02:00 the chairman presents slides 4 and 5 of 11-18/659r5. 11-18/659r5 is equivalent to 11-18/659r4 of the submission. 11-18/659r5 will be uploaded if changes to 11-18/659r5 will be made during the meeting. At 2018-05-09T13:35+02:00 the chairman presents the proposed agenda for this week. The agenda is contained in slide 7 of 11-18/659r5. At 2018-05-09T13:37+02:00 the SC approves the proposed agenda by unanimous consent.

At 2018-05-09T13:37+02:00 the chairman asks for approval of the minutes of the March 2018 meetings of the SC contained in document 11-18/671r0. One attendee objects to approving the minutes by unanimous consent. The attendee states that he did not attend the March meeting. Thus, he wants to abstain on approval of the March meeting minutes. The chairman asks for other objections. Nobody objects. Therefore, the chairman declares the SC’s March 2018 meeting minutes approved by unanimous consent except for one person abstaining.

At 2018-05-09T13:39+02:00 the chairman begins presenting from page 13 of his submission 11-18/659r5. At 2018-05-09T13:48+02:00 an attendee asked about availability of the ETSI Technical Committee (TC) BRAN submissions as indicated on page 21. The chairman and an attendee stated that TC BRAN submissions are available from the IEEE 802.11 members area. The 802.11 Working Group chairwoman copies them to the members area.

At 2018-05-09T13:49+02:00 the chairman continues presenting from page 21 of his submission. At 2018-05-09T13:55+02:00 attendees discuss page 23. An attendee concludes that the statements on page 23 are incorrect. The attendee explains that simulation results presented to ETSI TC BRAN reveal that when IEEE 802.11 products operating an Energy Detection (ED) threshold of −72 dBm share a frequency channel with IEEE 802.11 products operating the legacy ED threshold of −62 dBm, the products operating ED at −72 dBm do not perform worse than having all products sharing at the legacy ED threshold of −62 dBm. However, when products operating ED at −72 dBm share with products operating ED at −62 dBm, the products operating ED at −62 dBm achieve a throughput gain over products operating ED at −72 dBm. Thus, the conclusion on page 23 is wrong, since the long-term advantage of achieving a better throughput in all BSSs and each single BSS depends on all products operating ED at −72 dBm. Since products operating ED at −62 dBm achieve a throughput gain over products operating ED at −72 dBm selfish behavior prevents that implementers intrinsically transition to an ED of −72 dBm, which would be preferential for all.

At 2018-05-09T14:00+02:00 the chairman continues from page 25 of his presentation. At 2018-05-09T14:04+02:00 the chairman stops at page 27. An attendee mentioned that an ETSI Harmonized Standard (HS) is for bringing products to the European market. The attendee highlights that a new HS does not revoke existing products. Products sold earlier are not affected by an updated HS. These products can be used legally even if a HS contains diverging new rules. The attendee mentions that the statement on page 26 of submission 11-18/659r5 is misleading, therefore. The attendee explains that devices on the market cannot become incompliant when a new version of a HS is published.

At 2018-05-09T14:06+02:00 the chairman presents page 28 of his submission. An attendee mentions that on behalf of his employer he objected to a modification proposed in a document submitted to ETSI TC BRAN by Intel, Broadcom, HPE, and Cisco. The attendee states that his employer is an ETSI member company. The attendee states that his employer prefers the next version of EN 301 893 to agree on harmonizing the ED threshold for all technologies as previously agreed by ETSI TC BRAN. The attendee explains that he currently debates with his company colleagues about extending an ED related exception to 802.11ax because of the advanced stage of the related draft standard.

At 2018-05-09T14:10+02:00 the chairman continues from page 28 of his submission. At 2018-05-09T14:23+02:00 the chairman reaches page 32. An attendee mentions that the load points of various simulations are important to consider. The attendee explains that simulation results presented to ETSI TC BRAN and simulation results to the SC reveal performance differences when the saturation point is exceeded. The attendee states that at such load point no service can be provided anymore since the packet loss exceeds levels acceptable for TCP or other protocols. An attendee explains that different simulation results are similar. However, various entities and stakeholders draw different conclusions.

At 2018-05-09T14:24+02:00 the chairman continues from page 34 of his submission. At 2018-05-09T14:28+02:00 an attendee states that page 35 lists LTE and 802.11 stakeholders. The attendee explains that his employer does characterize itself as belonging to one of the two categorizes. The attendee explains that his employer is an ETSI TC BRAN member entity considering itself to belong to both stakeholder categories. The chairman removes the the term “802.11 and LTE stakeholders” and replaces it with “all stakeholders.”

At 2018-05-09T14:29+02:00 the chairman continues from page 36 of his submission. At 2018-05-09T14:30+02:00 the SC debates page 37. An attendee explains that the logic on this page is inconsistent. The attendee explans that not promoting something does not mean that one discourages something. The act of discouraging is very different from not supporting or promoting something. An attendee explains the concept of alternative 4. The attendee explains that a generic statement does not need technology-specific references. The attendee explains that a generic description may cover the 802.11 practice of applying two different sensing thresholds.

At 2018-05-09T14:34+02:00 the chairman continues from page 38. At 2018-05-09T14:38+02:00 An attendee objects to the chairman’s statement that EN 301 893 mandates ED to be performed at the threshold described in the HS. The attendee explains that the threshold described in EN 301 893 defines an upper limit. Any vendor may choose to implement a lower ED threshold. It is always possible to be more cautious and to defer for received levels of power lower than the threshold required in EN 301 893. An attendee explains that alternative 2 prohibits raising the Preamble Detection (PD) threshold because of the proposed reference to 802.11 Clause 17.3. When using this reference, it will not be permissible to raise the PD threshold beyond what is defined in this clause of 802.11-2016. An attendee states that with this reference all EN 301 893 compliant products must operate PD at at threshold of −82 dBm.

At 2018-05-09T14:40+02:00 the chairman continues from page 39. An attendee asks for clarification of alternative 3. The attendee asks the chairman to explain the difference between the alternatives.

Question: Isn’t alternavie 3 just alternative 4?

Response: No, because different preambles are not necessarily the same.

Comment: Alternative 3 grants an exceptional ED threshold only when implementing the 802.11 preamble. Alternative 4 grants a higher ED threshold for all technologies that implement a preamble and defer for it. But we want that everybody implements our 802.11 preamble. We must not allow other SDOs implementing their own 5 GHz preamble.

At 2018-05-09T14:45+02:00 the chairman introduces document 11-18/708r0. At 2018-05-09T14:55+02:00 an attendee comments that there is too much speculation regarding the ratification of 802.11ax.

Comment: As of now, we know that 802.11ax does not have an approved draft.

Comment: The TGax chairman’s timeline indicates that ratification is planned for December 2019.

Comment: It will take longer than this. The 802.11ax will be published in 2020.

Comment: We should not speculate. Let’s stick with the facts and what we know.

Comment: I like alternative 3 because it allows more forward looking,

Comment: I agree. Alternative 2 is kicking the can down the road.

Comment: With alternative 2 you cannot build a system that only operates on ED.

Comment: This is speculation. ETSI TC BRAN may agree on rules to switch.

Commen: Atlernative 2 allows for using all 802.11ax spatial reuse features.

Comment: Alternative 3 prohibits the use of 802.11ax spatial reuse.

Comment: On the one hand, there is innovation and liberty. On the other hand, there is protection and restrictions. We cannot have both at the same time.

Comment: Alternative 4 is not bad. It’s generic. I don’t see any risk with it. Does anyone know of non-802.11 products planning to use a preamble? I don’t know anything.

Question: Where does the restriction to not switch more between two versions of ED more often than once per 1 min come from?

Comment: This value is just random value. There is no evidence of science behind this value.

Comment: There will be changes with later drafts. So, if we pick a draft do we have to update EN 301 893 every time?

Comment: There is no way that ETSI will allow us to refer to a draft. A draft is not a normative reference. It has to have a fixed document. I am doing a lot of ETSI work. In ETSI it is not possible to accept draft TS etc as normative reference. Informative references can refer to draft document. But not normative references cannot. Thereferore, we can do only alternative 3.

Comment: Alternative 4 is generic. You are over emphasizing the risk.

Comment: I am in support of alternative 3. We should be pushing in this direction.

Comment: I am not sure alternative 4 can be written in a normative way.

Comment: Yes, we can. It is possible to define this.

At 2018-05-09T15:28+02:00 the chairman declares the meeting to be in recess.

# Thursday, 2018-05-10

At 2018-05-10T13:34+02:00 the chairman calls the meeting of the Standing Committee Coexistence to order. Andrew Myles acts as chairman. Guido R. Hiertz acts as recording secretary. The chairman presents document 11-18/659r7. This document contains the agenda of the SC. Revision 6 of the document is stored on the server. Revision 7 is identical to revision 6 expect for modifications that may be applied to submission 11-18/659 during this session.

At 2018-05-10T13:36+02:00 the chairman continues from page of 44 of document 11-18/659r7. The chairman introduces 11-18/708r2. He explains the modifications from r1 to r2. At 2018-05-10T14:01+02:00 attendees debate the differences between document 11-18/708r2 and a proposed modified liaison letter contained in document 11-18/971r0.

Comment: I want references to be included in document 11-18/708r2. There are statements without any justification.

Comment: The next ETIS BRAN meeting begins June 18th.

 Comment: I believe the text in 11-18/971r0 is not clear enough.

Comment: I cannot follow some of the arguments in submission 11-18/971r0.

Comment: I prefer document 11-18/971r0 as it is more balanced.

Comment: We should go with the original liaision letter in submission 11-18/708r2.

Because attendees cannot agree which document to use as baseline for a liaison letter to ETSI TC BRAN, the chairman proposes a strawpoll:

Do you prefer document 11-18/971r0 or document 11-18/708r2 as baseline for a liaison letter to ETSI TC BRAN?

Attendees debate the straw poll.

Comment: What happens if neither get more support?

Response: Let’s deal with it if get to it.

At 2018-05-10T14:10+02:00 attendees decide on the straw poll.

Straw poll result: 7 attendees prefer document 11-18/971r0 and 10 attendees prefer document 11-18/708r2

The SC continues futher discussing and modifying 11-18/708r2. Modifications will be documented in submission 11-18/708r3.

At 2018-05-10T14:22+02:00 the SC completes its review of 11-18/708r2 and the chairman uploads document 11-18/708r3. At 2018-05-10T14:25+02:00 an attendee raises a question:

Question: Do we need to add saying that we are also okay with alternative 2?

Comment: Alternative 2 adds the IEEE 802.11ax draft standard to a list of standards that receive an exception to operate ED at a threshold of −62 dBm. Alternative 3 refers to clause 17.3 in IEEE 802.11-2016, which describes the 5 GHz preamble introduced by 802.11a in 1999. This preamble is used by all 802.11 5 GHz technologies, including IEEE 802.11a, 802.11n, 802.11ac, and 802.11ax.

Comment: Alternative 3 allows everyone to also switch to ED only at −72 dBm

At 2018-05-10T14:27+02:00 a motion to adopt 11-18/708r3 as proposed liaison letter to ETSI TC BRAN is called. There is no discussion of the motion.

Moved: Stephen McCann

Second: Jeff Jones

Results: Yes: 11, No: 0, Abstain: 10

At 2018-05-10T14:29+02:00 Girish Madpuwar presents 11-18/916r0. At 2018-05-10T14:47+02:00 he completes his presentation.

Comment: What is a hotspot deployment?

Comment: It means that in a certain area multiple APs have been deployed. Each deployment consists of multiple APs.

Comment: RAN1 has not recognized the data in R1-1805555. It has not agreed to this.

Comment: I interpret this submission not as the position of RAN1.

Comment: There is discussion ongoing and only Broadcom appears to be deeply involved. We as an industry need to be more involved maybe.

Comment: The two authors are struggling to get input from anybody else.

Comment: I concur with your scenario. There are time constraints on this work in 3GPP.

Comment: Over the last two years it has been four Wi-Fi friendly companies only that did engage. It’s only Broadcom pushing things.

Comment: Majority of people in NR don’t want to stop.

Comment: So, we have probably some time. Maybe six months.

At 2018-05-10T14:55+02:00 the chairman presents page 48 of his submission 11-18/659r7.

Comment: Luckily, they will only do this revolutionary approach in spectrum that Wi-Fi is not allowed to operate in.

Comment: We have an inner and outer medium access in 802.11ax, we have 802.16, HCCA and MCCA. We should not miss out here. Maybe something for our future.

Comment: It might happen that in 6 GHz some part of the spectrum will be assigned for licensed use. We need to be cautious. Licensed spectrum would not be available for 802.11 then. We must prevent this.

Comment: There is also the shared approach, where you must coordinate among a few only.

Comment: 3GPP does not necessarily consider LBT for 6 GHz.

Comment: We must force them to use LBT.

At 2018-05-10T15:07+02:00 the chairman presents page 53 of document 11-18/659r7.

Comment: You are quoting an anonymous source in your submission. I believe this is inappropriate.

Comment: In July last year, this SC asked you to not quote any anonymous source.

Comment: You can appeal with the WG chairwoman. I will not change my policy. These anonymous sources provide information to the group.

Comment: I sent the e-mail to the SC chairman, which he quotes anonymously in his slide.

Comment: The SC has disagreed with you. There shall be no anonymous sources in slides or statements without references.

At 2018-05-10T15:14+02:00 attendees discuss about page 56 of document 11-18/659r7.

Comment: It’s good to talk with each other than talking about each other. There are some merits in inviting chairpersons of other SDOs.

Comment: It’s difficult for organizational reasons.

Comment: In the past 3GPP did not accept an 802.11 representative. They would only accept a 3GPP member company providing input.

Comment: Our liaison letters were just noted.

Comment: We seem to be hesitating to organize a workshop.

Comment: 802.11 is not recognized as an entity when you send things to 3GPP

At 2018-05-10T15:23+02:00 the chairman quickly browses through pages 59 to 92 of document 11-18/659r7. The chairman declares the meetings of the SC Coexistence adjourned at 2018-05-10T15:29+02:00.