IEEE P802.11
Wireless LANs

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| Minutes of the March 2018 Coexistence SC meetings |
| Date: 2018-03-30 |
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Abstract

This document contains the minutes of the meetings of the IEEE 802.11 Coexistence Standing Committee in March 2018.

# Wednesday, March 7th 2018

At 13:30 pm the chairman (Andrew Miles) presents the proposed meeting agenda in 11-18/280r2.

The chair asks for a secretary. George Calcev volunteers for the secretary position.

Proposed agenda:

* What is happening this week? (in no particular order)
	+ Some history of why we are here
	+ Relationships
		- Review ETSI BRAN meeting agenda
		- Review recent 3GPP RAN1 activities
		- Follow up on WFA’s recent LS to 3GPP RAN4
	+ Technical issues
		- Review possible adaptivity position for ETSI BRAN meeting
		- Review blocking energy discussions on ETSI BRAN e-mail reflector
		- Review “Paused COT” issue for ETSI BRAN meeting
	+ Other issues

The Coexistence SC approves the agenda by unanimous consent.

The Coexistence SC approves the meeting minutes of the previous meeting contained in 11-18/285r0 by unanimous consent

The chairman presents slides 11 to 12 from11-18/280r2.

Comment: In the next meeting is this SC going to elect a new chair?

Response: I believe that the chair is nominated by the WG chair.

Andrew continues presenting the slides 13, 14, 15.

Comment: the WLAN industry needs to be represented more by various companies.

The chairman presents the 3GPP RAN1 last meeting agenda. He presents slide 16 of 11-18/280r2.

Question: What about the critical participation?

Comment: It should be technical participation of 5 to 6 WLAN companies with simulations.

Comment: Companies need to argue on the technical merits. Proposals get modified on the floor. More work is necessary for NR-U.

Comment: There is heavy load on the emails.

Comment: You do not interact much with the regulators. I plan the spectrum. There is something missing. You need a balance between 3GPP and IEEE. Try to involve the country’s regulators.

Comment: We had contacts with FCC, and through the ETSI BRAN not only OFCOM

Comment: We contacted SENELAC.

Comment: We need to get involved.

Comment: South Africa dominates, there are many regulatory bodies for different regions

Comment: Please prepare a submission with the details of Africa regulatory bodies

Sindhu Verma presents submission 11-18/257r0. Sindhu talks about feLAA design in 3GPP.

Comment: The starting positions are only 2 different from a previous LS.

Comment: UL starting position does not impact the coexistence, but the DL does. The end of the packet is fixed.

Sindhu presents Autonomous UL–COT sharing. Nothing in the new ETSI prevent this operation (slide 6)

Comment: I was involved in the negotiation.

Comment: Our proposal of sharing is allowed for ALU. We need to find the same traffic multiplexing as in legacy, failure to decode still needs to require LBT. There is opposition to our proposal. Agreement the eNB cannot share the COT with UE for AUL if does not transmit packet in DL.

Comment: UE to eNB COT sharing was introduced only to help LAA UL.

Comment: It is possible that UE that cannot see contention are used to get the channel.

Sindhu presents the final agreement in 3GPP on slide 9.

Sindhu presents multiple CAT4 LBT transmissions w/o waiting for feedback on slides 10, 11.

Question: How is the interpretation of N?

Comment: I concur with speakers (about the participation in 3GPP), there are very few people to know both technologies. But we need to get people to make the investment.

Comment: I agree that is good to know both technologies. Encourage people even they are not experts to go to 3GPP.

Comment: You have to attend all the meetings including the plenary.

Comment: We needed to design the backoff. LAA uses the same mechanism as in Wi-Fi.

Sindhu preents slide 13 on NR unlicensed. feLAA will just have maintenance.

Question: You say that LAA is done? What about LTE-U?

Comment: Yes, just maintenance.

Comment: My personal impression is that LTE-U will not have impact.

Sindhu presents slide 15. A lot of companies wanted a technology neutral channel access.

Comment: 6 GHz is considered green field

Comment: Only ambiguity is licensed versus unlicensed, 66 GHz to 71 GHz is IMT candidate.

Sindhu talks about the simulation methodology on slide 16.

Comment: 11ax cannot have incumbent status.

Question: Can we have visibility of 11ax in 3GPP?

Comment: For mutual coexistence the two groups (IEEE and 3GPP) need to work together.

Comment: 3GPP will not consider (study) technology neutrality for 5GHz. For other bands is green field.

Question: Is this valid for 60 GHz?

Comment: Fairness is just for the deployed devices (Wi-Fi). Any futures WLAN do not benefit.

Comment: There has to be collaboration between SDOs.

Question: What is the network topology for simulations on slide 18?

Comment: Clarification to gNB and eNB, and micro layer (small cells).

Comment: The parameters are not agreed yet.

Comment: For the NR energy detection still open.

Comment: WLAN channel model does not reflect reality.

Question: If the channel model 3GPP is replaced with our WLAN channel model is the CDF changing?

Question: Is anything agreed regarding the simulation methodology?

Comment: We told them that we want to evaluate all options.

Comment: Topologies are not finalized.

Comment: 11ax was an enterprise scenario, we have plenty of cdf to find the RSSI

Question: Could we have weak links (less than -72 dBm) because the faulty roaming? Sticky client?

Comment: The presented measurements (slide 20) from fixed devices in the stadium

The presenter stops at slide 20 due to the time limit. The chairman presents the agenda for the next meeting. The SC recesses at 3:30pm .

# Thursday, March 8th 2018

At 1:30pm, the chairman calls the meeting to order. Andrew Myles acts as chairman. George Calcev voluenteers to act as secretary. The chairman presents BRAN(18)097004. The document is embedded in the agenda document.

Chairman presents slides 8 to 9 of BRAN(18)097004.

Comment: Refinement to Option 1: change the Threshold -75 dBm accessible to any technology

Comment: The equipment can switch between options once per minute (slide 11)

Question: Can we confirm consensus?

Nobody responds to the question.

Chair presents the second document, BRAN(18)097006.

Comment: It is proposed that Option2 be used with paused COT in EN 301 893.

The chairman asks the group for endorsement of these two proposal.

The chairman presents a Liaison to ETSI BRAN that proposes to endorse the proposals, see slide 29 of 11-18/280r3

Question: What is COT?

Comment: Channel Occupancy Time.

Question: What is ETSI BRAN and 3GPP relationship?

Comment: ETSI supports 3GPP but quasi-independent

Comment: I am in full in favor of the first part, but not the second part. 802.11 has TXOP recovery short LBT. This is used for continuation of a TXOP

Comment: CCA check is -62 dBm, my fear is someone can make a case to change it to -72 dBm. I see a risk.

Comment: It is a risk, a small risk because nobody raised the argument. We have to deal with it when will be proposed.

Comment: In LTE it is a normal procedure, in Wi-Fi is an error condition based, only if the first packet has no collision could do the TXOP recovery, there are few instances for the packet collision because the channel sensing was done already.

Comment: The TXOP recovery is already allowed in the present operating Wi-Fi.

Question: Could we first deal with first reference?

Question: What is the feeling about these two documents?

Question: What if I want a video delivery in Wi-Fi? The coexistence is just about only ETSI?

Comment: The rules are essentially the same as EDCA by design. Yes, we refer only to ETSI.

Comment: I need more time to read the contributions.

Comment: They were available for two months.

The chairman asks for a SP.

Straw Poll: “Do you support the idea endorsing the material in BRAN(18)097005\_Editing Instructions?”

Comment: I see only ED. I do not see the PD.

Comment: We introduced it by reference 9.

Question: Option2, why do we have it?

Comment: 11ax using Option 2 and 11ac Option1.

Question: I want to understand the PD part. Are we talking about legacy preamble?

Comment: Yes.

Question: Option 1 is not power dependent, while Option 2 is more restrictive. Who is going do Option2?

Comment: I believe that some for vendors it is useful in stadium situation. The LAA spec will use option 2. I believe some LAA could use Option 1.

Question: So reference including 11ax?

Comment: It’s the same preamble.

Comment: I believe that LSIG was changed.

Commen: The LSIG was not changed. But I will double check.

Comment: Let’s assume things are good. Go back to the straw poll.

Comment: If you vote yes, it will allow the 11ax access.

Straw Poll result: Yes: 25, No: 0

The chairman call for a straw poll asking for support for document BRAN(18)97007.

Comment: If support feature means the same usage as in the past. If not support it means that expand COT but is not risk for Wi-Fi. If yes there is a small risk.

Comment: In the status quo only access to -72dBm. In LAA is used to grant access to UE and transmit later.

Comment: LAA specification already handling this. But in the future both option could be used by NR.

Question: So we try to change regulation to limit LAA at the expense of a introduncing a risk for Wi-Fi?

Comment: Concern that will increase the LAA interference, LAA will not change it. NRU potentially change it.

Comment: I can find contribution that already suggest that minimum regulation should be followed.

Question: Switching from Option1 and Option2?

Question: In the case of LAA it will be doing Option 1 looking for Wi-Fi preamble or ED -62 dBm or Option 2?

Comment: Since is a confusion I want to explain that using Option 1 is 25 µs LBT but if it is not enough will go to -62 dBm.

Comment: TXOP recovery is also a short LBT. There are no perceived advantages of introducing this.

Comment: PIFS is allowed, the risk you are talking about is PIFS might be forced to do -72 dBm.

Comment: This is the behavior of response device, there is no risk. The PIFS recovery is not covered by this one.

Straw Poll: “Do you support the text BRAN(18)97007 with permission for editorial modifications?”

Yes: 13 No: 8

Comment: I will try a motion of LS text as written.

Comment: I do not think that the second support for ETSI document should be part of the motion, given the SP result.

Comment: Please clarificy the motion rules.

Chairman explains the rules.

Comment: Let’s go for the first one document first as it was suggested.

Question: What is your intent at closing plenary?

Comment: I will bring it only if it passes.

Motion: “The IEEE 802.11 Coexistence SC recommends recommend WG that material pages on pp 27-29 of document 11-18/280r4 be sent to ETSI BRAN in a Liaison Statement (with appropriate editorial changes).”

Menzo Wentink moves the motion.

Mike F. seconds the motion.

Discussion on the motion.

Comment: I check there are extra tones in 11ax.

Comment: But they are not used.

Question: I ask for clarification about the tones.

An antendee explains the extra 4 tones in the LSIG with 802.11ax.

Comment: The legacy preamble duration is all that matters.

Comment: The signal waveform is totally different.

Comment: The same preamble detection is done for legacy.

Comment: 11ax can receive legacy preambles. Can receive 17.3 defined preamble.

Comment: We cannot refer to anything in 11ax. There is no 11ax defined preamble.

Comment: 11ax is expected to detect legacy devices.

Motion result:

Yes: 27 No: 0 Abstain: 3

Motion: “The IEEE 802.11 Coexistence SC recommends recommend WG that material pages on pp 27-29 of document 11-18/280r4 (with changes removed) be sent to ETSI BRAN in a Liaison Statement (with appropriate editorial changes).”

Moved: Michael F.

Seconded: Dorothy Stanley

Motion result:

Yes: 15 No: 10 Abstain: 7

Sindhu provides a 3GPP status update as per slide 32 of the agenda (11-18/280)

Sindhu presents document 11-18/0542r0. She starts with slide 19.

Comment: NRU is potential competition to Wi-Fi.

Chairman: in 5 GHz Wi-Fi is the incumbent, but 6 GHz is green field. We need to define fair access in 6 GHz. Proposal for a workshop to engage 3GPP.

Lloyd Matabishi presents submission 11-18/580r0 “Enhancing the collaboration between IEEE 802 and World regulators on unlicensed spectrum.” Lloyd talks about advantages and disadvantages of cooperating only with OFCOM and FCC. The devices need to satisfy the country regulators (National Regulatory Agency) as they do not use the same rules as FCC and OFCOM.

At 3:30pm the chairman declares the meetings of the SC Coexistence to be adjourned.