IEEE P802.11  
Wireless LANs

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| IEEE 802.11ba Task Group Meeting Minutes for September Meeting, Hanoi, Vietnam | | | | |
| Date: 2019-09-19 | | | | |
| Author(s): | | | | |
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Abstract

Rev 0: Meeting Minutes for the IEEE 802.11ba TG sessions held in Hanoi, Vietnam

**Monday, September 16, 2019, 10:30-12:30 am**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/19/11-19-1418-02-00ba-2019-september-tgba-agenda.pptx>

* Call meeting to order
* IEEE 802 and 802.11 IPR Policy and procedure
* Motion: May 2019 meeting (doc: IEEE 802.11-19/1341r0) and teleconference minutes (doc: IEEE 802.11-19/1449r2) approval
* Presentations on comment resolutions
* Recess

**Chair Minyoung Park (Intel) calls the meeting to order at 10:30 am.** (about20 persons in the room.)

Minyoung presents the slide about Meeting protocol (slide 4).

Minyoung reminds about recording attendance (slide 5) and goes through slide 6 “Attendance, Voting & Document Status”.

Minyoung presents the schedule for the week (slide 7). There are six sessions in total.

Minyoung presents the slide “Main agenda items for the week” (slide 8). The main agenda items are shown below:

* Complete comment resolution on TGba D3.0 (LB241) and instruct the editor to generate P802.11ba D4.0
* Approve WG recirculation letter ballot
* Review TG timeline

Minyoung goes through the list of submissions. (slides 9-10). 8 submissions received in total.

Minyoung goes through the agenda for meeting (slide 11). Minyoung asks if there are any questions on the agenda. No response from the group.

**Motion to approve the agenda**

**Move:** Xiaofei Wang

**Second:** Rojan Chitrakar

Motion passed by unanimous consent.

Minyoung goes through the slides “Participants have a duty to inform the IEEE” (slide 13) and “Ways to inform IEEE” (slide 14).

Minyoung makes a Call for Potentially Essential Patents. No potentially essential patents reported and no questions asked.

Minyoung goes through “Other Guidelines for IEEE WG meetings” (slide 15) and “Patent-related information” (slide 16).

Minyoung reads through “Participation in IEEE 802 Meetings” (slide 17).

Minyoung goes through the Summary from July 2019 Meeting and Teleconference Calls, shown below.

* In July, resolved 185 technical comments, 139 editorial comments received on D3.0 (LB241)
  + Total unresolved comments after the July meeting: 94
* In three teleconference calls, resolved 66 CIDs and ready for motion
* Total unresolved CIDs: 28
* Agenda: doc:11-19/988r11

**Motion - Minutes**

* Approve TGba minutes of July 2019 meeting [doc: IEEE 802.11-19/1341r0] and teleconference calls [doc: IEEE 802.11-19/1449r2]
  + Move: Eunsung Park
  + Second: Po-Kai Huang

Motion passed by unanimous consent.

**Presentations:**

**11-19/1570r0, “LB241 CR WUR FDMA” Yongho Seok (Mediatek):** This submission proposes resolutions of comments received from TGba LB241.

(The proposed change is based on TGba Draft 3.0.)

* CIDs: 3312, 3374, 3011, 3236 (4 CIDs)

CID 3312: No discussion.

CID 3374: No discussion.

CID 3011: Question/Comment (Q): In the PHY part of the spec it is not allowed to implement things as you discuss.

Answer(A): I agree.

The comment related to the proposed resolution is updated based on this, but the proposed text remains.

Q: I have question on CID 3312. I believe the commenter may have point. I believe the sentence at best is unclear.

As a result, the resolution of CID 3312 is changed from rejected to revised and the text is slightly updated.

CID 3236: No discussion.

Document 11-19/1570r2 will be ready for motion (there was an error in r1).

**11-19/1571r0**, **“LB241 CR Coexistence Assurance”, Yongho Seok (Mediatek):**

This submission proposes resolutions of comments received from TGba LB241.

* CIDs: 3004, 3005, 3006, 3007, 3008 (5 CIDs)

CID 3004: No discussion.

CID 3005: No discussion.

CID 3006: No discussion.

CID 3007: No discussion.

CID 3008: No discussion.

11-19/1571r0 is ready for motion.

**11-19/1456r0, “11ba D3.1 MAC Comment Resolution for Key ID of WUR Broadcast frame”, Po-Kai Huang (Intel):** This submission proposes resolutions for comments of TGba Draft D3.1 with the following CIDs: 3262, 3187

CID 3262: No discussion.

CID 3187: No discussion.

11-19/1456r0 is ready for motion.

**11-19/1539r2, “CR for CID 3356” Xiaofei Wang (Interdigital):** This submission proposes resolutions for the CID 3356. The baseline for this comment resolution document is 802.11ba Draft 3.1.

CID 3356: Q: For the unsolicited case there may not be a request.

A: We had an email discussion about this.

Document 11-19/1539r2 is ready for motion.

**11-19/1543r0, “Comment resolutions for CID 3134”, Minyoung Park (Intel):**

This submission proposes resolutions for CID 3134 related to TGba D3.0:

CID 3134: No discussion.

Document 11-19/1543r0 is ready for motion.

**11-19/1179r3, “CR for TX/RX Specification D3.0”, Leif Wilhelmsson (Ericsson):**

This submission addresses CID 3291, which was deferred in r2 of the document.

CID 3291: No discussion.

Document 11-19/1179r3 is ready for motion. (The only new CID that has a resolution that needs to be motioned is 3291, the remaining ones where motioned already in the July meeting.)

**11-19/1586r0, “Comment Resolutions on Contents of BPSK Mark Symbols” Steve Shellhammer (Qualcomm):** This document proposes a new technical solution.

The background to this contribution is “*The BPSK-Mark1 is a repeat of the L-SIG, similar to the RL-SIG in 802.11ax. Similarly, BPSK-Mark2 is a repeat of L-SIG. There is interest in the 802.11be Task Group in using the RL-SIG in 802.11be. To avoid confusion between 802.11ba and 802.11be we should change the contents of the BPSK Mark Symbols while maintaining the use of BPSK modulation*.”

Q: I don’t see why we need to consider what may happen in 11be. They can do appropriate modification in 11be.

A: The reason is that this approach may be simpler.

Q: I agree with the previous commenter.

Q: I also agree with the comments. I believe we need to have a more detailed analysis of the problem before making this kind of decision. It can also be so that someone already has implemented what is currently suggested.

Q: I think we need to check false detection more before making this kind of decision.

Q: We have studied the false detection for 11be, and think the proposal is interesting. We are not so worried about 11ba implementations as we have not heard much about any available ones at this point.

**Recess 12.20pm.**

**Tuesday, September 17, 2019, 8:00-10:00 am**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/19/11-19-1418-04-00ba-2019-september-tgba-agenda.pptx>

* Call meeting to order
* IEEE 802 and 802.11 IPR Policy and procedure
* Presentations on comment resolutions
* Recess

**Chair Minyoung Park (Intel) calls the meeting to order at 8:00 am.** (about12 persons in the room.)

Minyoung reminds about recording attendance.

Minyoung goes through the agenda. If things go well, we may run the motions already on Wednesday AM1. However, the agenda for the week will not be updated until Wednesday AM1, after seeing the progress of the session today.

Minyoung asks if there are any questions on the agenda. No response from the group.

Minyoung makes a Call for Potentially Essential Patents. No potentially essential patents reported and no questions asked.

**Presentations:**

**11-19/1171r0, “Comment Resolutions on MC-OOK On Symbols”, Steve Shellhammer (Qualcomm):** The document provides comment resolutions for CIDs: 3064, 3304, 3305 and 3383.

CID 3064: No discussion.

CID 3304: No discussion.

CID 3305: No discussion.

CID 3383: No discussion.

Q: Why did you select this specific correlation value? I believe we need more study on this.

A: The value is selected based on the simulations we showed in document 11-19/1120r0. The value 0.35 seems reasonable, but it can be adjusted slightly if desired.

Q: You did not apply a channel in these simulations?

A: The correlations are done without any channel, it is on the transmitted signal.

Q: If you would do this test with a channel, the correlation may go above the threshold and result in the original problem?

A: No, that is not what we see. We see that the correlation goes down.

Q: Basically, we don’t get the same results as you when we do the simulations.

A: We are happy to change the threshold, but we do see a problem.

Q: In the high SNR region, where you see high correlation values, it is better to detect interference since there is no use transmitting on top of it. Basically, this means I see no reason trying to make the correlation low in this region as it works as intended.

A: OK, so maybe the high SNR region is no problem, but we see problems in some SNR regions. Say around 5 dB.

Q: Still I think that it really depends on the implementation whether you have a problem with the current examples.

A: I understand that your argument is that this may actually be good for the WUR, but we believe it is bad for the legacy devices.

A: To get ready for a vote I will update the numbers for tomorrow.

**11-19/1641r0, “Comment Resolutions on Power Management and Capabilities”, Suhwook Kim(LGE):** This submission proposes resolutions for multiple comments related to TGba D1.0 with the following CID:

* 3103

CID 3103:

Document 11-19/1641r0 is ready for motion.

**11-19/1445r3, “CR for 29.4”, John Son (WILUS):**

This submission proposes resolutions for comments related to TGba D3.0 with the following CIDs (4 CIDs):

* 3077, 3117, ~~3154~~, 3209

All CIDs except 3154 has already been resolved, but 3154 was deferred.

CID 3154: No discussion.

11-19/1445r3 is ready for motion.

**11-19/1447r2, “CR for WUR frame format”, John Son (WILUS):**

This submission proposes resolutions for comments related to TGba D3.0 with the following CIDs (17 CIDs):

* 3210, ~~3392~~, ~~3175, 3393~~, 3111, 3369, 3394, 3260, 3370, 3371, 3395, 3261, 3397, 3046, 3398, 3176, 3368

CID 3393 No discussion.

CID 3392 No discussion.

CID 3175 No discussion.

The document will be revisited tomorrow morning to give Alfred a chance to comment.

**11-19/1644r0, “Comment Resolutions for remaining Protected WUR frames CIDs” Rojan Chitrakar (Panasonic):** This submission proposes resolutions of comments received from TGba comment collection (TGba Draft 3.0).

* CIDs: 3179, 3191, 3188, 3278 (4 CIDs)

CID 3179: No discussion.

CID 3191: A typo is spotted in relation to Fig. 9-993e (the bit counters below the figure should be swapped).

CID 3188: No discussion.

CID 3278: No discussion.

Document 11-19/1644r1 will be ready for motion.

No more submissions to review.

**The meeting is recessed at 9.23 am.**

**Wednesday, September 18, 2019, 8:00-10:00 am**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/19/11-19-1418-06-00ba-2019-september-tgba-agenda.pptx>

* Call meeting to order
* IEEE 802 and 802.11 IPR Policy and procedure
* Presentations on comment resolutions
* Recess

**Chair Minyoung Park (Intel) calls the meeting to order at 8:00 am.** (about30 persons in the room.)

Minyoung reminds about recording attendance.

Minyoung goes through the agenda. There will be no agenda change at this point, but if things go well we may be able to cancel the later sessions.

Minyoung asks if there are any questions on the agenda. No response from the group.

Minyoung makes a Call for Potentially Essential Patents. No potentially essential patents reported and no questions asked.

**Presentations:**

**11-19/1539r3, “CR for CID 3356”, Xiaofei Wang (Interdigital):** This submission proposes resolutions for the CID 3356.The baseline for this comment resolution document is 802.11ba Draft 3.1.

CID 3356: No discussion.

Document 11-19/1539r3 is ready for motion.

**11-19/1657r0, “CR for CID 3351”, Xiaofei Wang (Interdigital):** This submission proposes resolutions for the CID 3151.The baseline for this comment resolution document is 802.11ba Draft 3.1.

CID 3151: No discussion.

Document 11-19/1657r0 is ready for motion.

**11-19/1171r1, “Comment Resolutions on MC-OOK On Symbols”, Steve Shellhammer (Qualcomm):** The document provides comment resolutions for CIDs: 3064, 3304, 3305 and 3383.

All CIDs relate to that legacy STAs may falsely detect a L-STF based on the ON waveform.

CID 3064: No discussion.

CID 3304: No discussion.

CID 3305: No discussion.

CID 3383: No discussion.

Q: What threshold is used in an implementation?

A: Depends on the implementation, I cannot really give you a value.

Q: In the correlation metric, what are the reason for the length of the summations?

A: We selected to correlate over a time corresponding to six periods of the STF, which here is considered reasonable for an implementation.

Q: I suggest to change the this to a parameter and then in the text explain why a certain value has been selected to better explain the equation.

A: OK, I can do this.

A: So the problem is in a sense unique that the data itself causes a false detect due to the properties of the ON signal. How much of a problem this is will depend of the legacy implementation.

Q: I suggest changing “shall” to “should”.

A: I believe this is fine.

Q: Does this have any impact on the system as such?

A: We have not done any further investigation on this. What we already mentioned is that in case of false detect there is a risk that one misses an intended transmission while still processing and before determining that it was a false detection.

Q: I don’t think this is such a big issue in the real world.

A: We don’t really know at this point. This is basically to avoid that the problem may occur.

Based on the discussion, Steve will update the document and send out the updated revision.

**11-19/1447r3, “CR for WUR frame format”, John Son (WILUS):**

1447r2 has already been presented, and now John has also talked to Alfred and generated r3.

CID 3392: The resolution remains, but the argument is updated based on the discussion with Alfred.

CID 3393: Based on the discussion with Alfred, the resolution is changed from revised to reject.

CID 3175: No update has been made based on the discussion with Alfred.

Document 11-19/1447r3 is ready for motion.

Short recess at 8.55 to give Steve time to update the document. The meeting will restart at 9.20

The meeting is resumed at 9.20 am.

**Presentation:**

**11-19/1171r2, “Comment Resolutions on MC-OOK On Symbols”, Steve Shellhammer (Qualcomm):**

The document is updated based on the previous discussion.

“shall” is changed to “should” in three places, and the equation and the corresponding text are also updated as discussed.

**Straw Poll:** “Do you support the changes in this document?”

**Y/N/A: 3/9/10**

**Straw Poll:** “Do you support the changes in this document, excluding the appendix”

**Y/N/A: 4/0/many**

**Straw Poll:** “Do you support the changes in the appendix”

**Y/N/A: 2/11/7**

10 minutes recess. We will resume at 9.43am.

The meeting is resumed at 9.43.

**11-19/1171r3, “Comment Resolutions on MC-OOK On Symbols”, Steve Shellhammer (Qualcomm):**

Based on the SP results on r2, the changes in Appendix are removed.

Document 11-19/1171r3 is ready for motion.

Since we are done with all the presentation and will start with motions in PM2. The agenda will be updated accordingly.

**Recess at 9.47 am.**

**Wednesday, September 18, 2019, 4:00-6:00 pm**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/19/11-19-1418-08-00ba-2019-september-tgba-agenda.pptx>

* Call meeting to order
* IEEE 802 and 802.11 IPR Policy and procedure
* **Motions: Comment resolutions**
* **Motion: WG recirculation letter ballot**
* TG timeline discussion
* Goal for November 2019 F2F meeting
* Teleconference call schedule
* Recess

**Chair Minyoung Park (Intel) calls the meeting to order at 4:02 pm.** (about10 persons in the room.)

Minyoung reminds about recording attendance.

Minyoung goes through the updated agenda.

Minyoung asks if there are any questions on the agenda. No response from the group.

**Motion to approve the agenda**

**Move:** Xaoifei

**Second:** Rojan

Motion passed by unanimous consent

Minyoung makes a Call for Potentially Essential Patents. No potentially essential patents reported and no questions asked.

**Motion #3030:**

Move to accept the comment resolutions in [11-19/1065r2] for the CIDs listed below:  
3021, 3022, 3125, 3024, 3088, 3132, 3239, 3321, 3322

**Move:** Eunsung Park

**Second:** Leif Wilhelmsson

**Result:** Motion passed by unanimous consent

**Motion #3031:**

Move to accept the comment resolutions in [11-19/1445r3] for the CIDs listed below:  
3077, 3117, 3209, 3154

**Move:** Eunsung Park

**Second:** Leif Wilhelmsson

**Result:** Motion passed by unanimous consent

**Motion #3032:**

Move to accept the comment resolutions in [11-19/1447r3] for the CIDs listed below:  
  
3210, 3111, 3369, 3394, 3260, 3370, 3371, 3395, 3261, 3397, 3046, 3398, 3176, 3368, 3392, 3393, 3175

**Move:** Eunsung Park

**Second:** Leif Wilhelmsson

**Result:** Motion passed by unanimous consent

**Motion #3033:**

Move to accept the comment resolutions in [11-19/1435r1] for the CIDs listed below:  
3399

**Move:** Steve Shellhammer

**Second:** Leif Wilhelmsson

**Result:** Motion passed by unanimous consent

**Motion #3034:**

Move to accept the comment resolutions in [11-19/1433r2 ] for the CIDs listed below:  
3012

**Move:** Steve Shellhammer

**Second:** Leif Wilhelmsson

**Result:** Motion passed by unanimous consent

**Motion #3035:**

Move to accept the comment resolutions in [11-19/1431r2 ] for the CIDs listed below:  
3402, 3403

**Move:** Steve Shellhammer

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3036:**

Move to accept the comment resolutions in [11-19/1430r1 ] for the CIDs listed below:  
3264, 3359, 3037, 3404

**Move:** Steve Shellhammer

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3037:**

Move to accept the comment resolutions in [11-19/1060r1] for the CIDs listed below:  
3277, 3411, 3412, 3413, 3414, 3415

**Move:** Steve Shellhammer

**Second:** Po-Kai Huang

**Result:** Motion passed by unanimous consent

**Motion #3038:**

Move to accept the comment resolutions in [11-19/1166r1] for the CIDs listed below:  
3034, 3171, 3135, 3160, 3122, 3123, 3310, 3299, 3300, 3302, 3202, 3200, 3149, 3082, 3298, 3083, 3084, 3085, 3150, 3152, 3153

**Move:** Po-Kai Huang

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3039:**

Move to accept the comment resolutions in [11-19/1465r0] for the CIDs listed below:  
3028, 3138, 3141, 3095, 3174

**Move:** Po-Kai Huang

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3040:**

Move to accept the comment resolutions in [11-19/1456r0] for the CIDs listed below:  
3187, 3262

**Move:** Po-Kai Huang

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3041:**

Move to accept the comment resolutions in [11-19/1539r3] for the CIDs listed below:  
3356

**Move:** Xiaofei Wang

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3042:**

Move to accept the comment resolutions in [11-19/1543r0] for the CIDs listed below:  
3134

**Move:** Po-Kai Huang

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3043:**

Move to accept the comment resolutions in [11-19/1570r2] for the CIDs listed below:  
3312, 3374, 3011, 3236

**Move:** Po-Kai Huang

**Second:** Rojan Chitrakar

**Result:** Motion passed by unanimous consent

**Motion #3044:**

Move to accept the comment resolutions in [11-19/1571r0] for the CIDs listed below:  
3004, 3005, 3006, 3007, 3008

**Move:** Rojan Chitrakar

**Second:** Eunsung Park

**Result:** Motion passed by unanimous consent

**Motion #3045:**

Move to accept the comment resolutions in [11-19/1179r3] for the CIDs listed below:  
3291

**Move:** Leif Wilhelmsson

**Second:** Eunsung Park

**Result:** Motion passed by unanimous consent

**Motion #3046:**

Move to accept the comment resolutions in [11-19/1641r0] for the CIDs listed below:  
3103

**Move:** Po-Kai Huang

**Second:** Eunsung Park

**Result:** Motion passed by unanimous consent

**Motion #3047:**

Move to accept the comment resolutions in [11-19/1644r1] for the CIDs listed below:  
3179, 3191, 3188, 3278

**Move:** Rojan Chitrakar

**Second:** Xiaofei Wang

**Result:** Motion passed by unanimous consent

**Motion #3048:**

Move to accept the comment resolutions in [11-19/1657r0] for the CIDs listed below:  
3151

**Move:** Xiaofei Wang

**Second:** Eunsung Park

**Result:** Motion passed by unanimous consent

**Motion #3049:**

Move to accept the comment resolutions in [11-19/1171r3] for the CIDs listed below:  
3064, 3304, 3305, 3383

**Move:** Steve Shellhammer

**Second:** Eunsung Park

**Result:** Motion passed by unanimous consent

The meeting is recessed to allow the Technical Editor Po-Kai Huang to finalize and upload a new revision of document 11-19/1016. The meeting will be resumed at 4.30pm

The meeting is resumed at 4.35pm.

**WG Recirculation LB Motion:**

* Having approved comment resolutions for all of the comments received from LB 241 on P802.11ba D3.0 as contained in document 11-19/1016r10,
* Instruct the editor to prepare Draft 4.0 incorporating these resolutions and,
* Approve a 15 day Working Group Recirculation Ballot asking the question “Should P802.11ba D4.0 be forwarded to Standards Association (SA) Ballot?”

**Move:** Eunsung Park

**Second:** Po-Kai Huang

**Result:** Y/N/A: 9/0/0, Motion passes

**TGba Timeline discussion:**

The TGba timeline is shown below. Minyoung goes through the timeline in detail. The timeline is shifted so that the SB can be based on 802.11md3.0. The end date is still the same.

* **2019:**
  + **January**: TGba Draft 2.0
  + **March**: Comment resolution on D2.0
  + **May**: TGba Draft 3.0 – WG Recirculation LB
  + **July**: Comment resolution on D3.0
  + August: Formation of sponsor ballot pool (invitation open till Aug. 7)
  + **September**: TGba Draft 4.0 – WG Recirculation LB
  + October: MDR/MEC done (start after LB and done before Nov. F2F meeting)
  + **November**: TGba Draft 5.0 – WG Recirculation LB
* **2020:**
  + **January**: TGba Draft 5.0 (unchanged draft), EC approval to SB (SA ballot)
  + February: Initial SB (Draft 5.0)
  + **May**: 1st recirculation SB (Draft 6.0)
  + June: 2nd recirculation SB (Draft 7.0)
  + **July**: 3rd recirculation SB (Draft 7.0, unchanged draft)
  + **September**: RevCom

Q: There is no f2f in June, is this a problem?

A: In the SB phase, this is OK.

**Goals for November 2019:**

* Comment assignment
* Comment resolution on D4.0
* Review timeline

**Teleconference Call Schedule:**

Proposed schedule (each 2 hours):

* October 21st, 10:00 ET
* October 28th, 17:00 ET
* November 4th, 23:00 ET

Minyoung declares that the group has finalized all its business for this week, and that the remining time slots will be released.

**The meeting is adjourned without objection at 4.55 pm.**