IEEE P802.11  
Wireless LANs

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| TGax Teleconference Minutes from July to August 2017 | | | | |
| Date: 2017-08-10 | | | | |
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Abstract

This document contains minutes of TGax teleconference from July to August 2017.

Rev. 0: Initial version.

Minutes from TGax teleconference on July 20th, 27th, and August 3rd, 2017 included.

# Teleconference on Thursday, July 20th, 2017, 10:00 – 12:00 (ET)

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 10:05 (ET).**
   1. Introduction of the chairperson.
2. **Agenda Setting**
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      4. Announcements
      5. September ad hoc meeting
         1. ePoll: <https://mentor.ieee.org/802.11/poll-vote?p=26500008&t=26500008>
      6. Presentation
         1. [11-17-1067-00](https://mentor.ieee.org/802.11/dcn/17/11-17-1067-00-00ax-comment-resolution-of-omi-operation-mode.docx), “LB225 11ax D1.0 Comment Resolution OMI and Operation Mode,” Liwen Chu (Marvell Semiconductors)
         2. [11-17-1173-00](https://mentor.ieee.org/802.11/dcn/17/11-17-1173-00-00ax-proposed-resolutions-to-cid-5011-6900-6998-and-9056.docx), “Proposed Resolutions to CID 5011, 6900, 6998, and 9056,” Osama Aboul-Magd (Huawei Technologies)
         3. [11-17-1174-00](https://mentor.ieee.org/802.11/dcn/17/11-17-1174-00-00ax-clauses-3-2-3-3-and-3-4-comment-resolution.docx), “Clauses 3.2, 3.3, and 3.4 Comment Resolution,” Osama Aboul-Magd (Huawei Technologies)
         4. [11-17-0949-01](https://mentor.ieee.org/802.11/dcn/17/11-17-0949-01-00ax-refinement-of-the-resolutions-in-17-0553r2-lb225-11ax-d1-0-comment-resolution-27-10-4-part-1.docx), “LB225 11ax D1.0 Comment Resolution 27.10.4 Part 1,” Mark Rison (Samsung Electronics) based on Liwen’s document.
      7. AOB
      8. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any item to add to the agenda. 🡪 No item to add to the agenda.
      2. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      3. The agenda was approved.
3. **IEEE 802 and 802.11 IPR Policy and Procedure**
   1. Chair mentioned that we are operating under the IEEE 802 and 802.11 Policy and Procedure.
   2. Relevant documents
      1. IEEE Patent Policy - <http://standards.ieee.org/board/pat/pat-slideset.ppt>
      2. Patent FAQ - <http://standards.ieee.org/board/pat/faq.pdf>
      3. LoA Form - <http://standards.ieee.org/board/pat/loa.pdf>
      4. Affiliation FAQ - <http://standards.ieee.org/faqs/affiliationFAQ.html>
      5. Anti-Trust FAQ - <http://standards.ieee.org/resources/antitrust-guidelines.pdf>
      6. Ethics - <http://www.ieee.org/portal/cms_docs/about/CoE_poster.pdf>
      7. IEEE 802.11 Working Group Operartions Manual - <https://mentor.ieee.org/802.11/dcn/14/11-14-0629-18-0000-802-11-operations-manual.docx>
      8. Participation in IEEE 802 Meetings
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. **Attendance**
   1. Chair asked the attendees to send an email to Yasu ([inoue.yasuhiko@lab.ntt.co.jp](mailto:inoue.yasuhiko@lab.ntt.co.jp)) and/or Osama ([osama.aboulmagd@huawei.com](mailto:osama.aboulmagd@huawei.com)) to record attendance.
5. **Announcement**
   1. Chair asked people to put cellphone on mute if not speaking.
   2. Chair asked people to state name and affiliation when addressing for the first time during the session.
   3. Chair mentioned that he is still looking for volunteers and asked people to send him an email if interested in this activity.
6. **Reminder of the September Ad Hoc meeting.**
   1. Chair reminded the audience to go to the ePoll and vote yes if they plan to attend the ad hoc
7. **Presentations**
   * 1. **Osama Aboul-Magd (Huawei) presented “proposed-resolutions-to-cid-5011-6900-6998-and-9056.docx 11-17-1173-00.**
        1. Summary
           1. CIDs 5011, 6900, and 6998 are related to the 4X improvement in HEW PAR.
           2. The proposed resolution is “Rejected.” Adding references to the simulation results presented in the TG.
           3. CID 6998 is a general statement about the draft.
           4. The proposed resolution is “Rejected” since the commenter doesn’t point to any specific issue with the draft.
        2. Discussion –
           1. For CID 6900, add an example from the simulation results for possible improvements will be added in revision 1 of the submission.
           2. For CID 6998 a couple of attendees agreed with the main thrust of the comment. However no statement on the quality of the draft will be added to the resolution. It is sufficient to say that the TG always seeks improvement of the draft as a result of the review and WG LB process.
        3. Next Step
           1. A new revision will be uploaded including suggestions received during the call.
     2. **LiWen Chu (Marvell) presented “comment-resolution-of-omi-operation-mode.docx,” based on the submission 11-17-1067-00.**
        1. Summary
           1. Resolutions for of a single CID.

CID #7617.

* + - 1. Discussion
         1. Many editorial and technical suggestions were provided.

Use symbol for “floor”

Extend Table 9-74 to the new equation

Cross reference to the new equation

TF maybe transmitted on different BW. Does this limit the Nss a transmitter can use?

Wording is all about PPDU bandwidth not channel bandwidth\The case where the first transmission is HE and the second transmission is not HE is not covered

“Valid 20 MHz” what does it mean?

* + - 1. Next Step
         1. Liwen to include the changes and generate a new revision.
    1. **Osama Aboul-Magd (Huawei Technologies) presented “Clauses 3.2, 3.3, and 3.4 Comment Resolution,” based on the submission 11-17-1174-00.**
       1. Summary
          1. Resolutions for CIDs 5308, 6070, 6914, 6915, 6916, 6922 (Editor group), and 6920, 7222 (MAC) are proposed.
          2. Abbreviations of BQRP, BSRP, MU-BAR, MU EDCA, SRP and DSRP\_PPDU are provided.
       2. Discussion
       3. Next Step
    2. **Mark Rison (Samsung Electronics) presented “LB225 11ax D1.0 Comment Resolution 27.10.4 Part 1,” based on the submission 11-17-0949-01.**
       1. Summary
          1. Mark has made further modification to the 17/0949 (Re: Multi-TID A-MPDU) and created rev.1 of the document.
       2. Discussion
       3. Next Step

1. **AOB**
   1. None.
2. **Adjournment**
   1. No time to go through the rest of the agenda items.
   2. Meeting adjourned at 12:00 (ET).
3. **List of Attendees – following people were on the call.**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Woojin Ahn | WILUS Institute |
| 3 | Jarkko Kneckt | Apple |
| 4 | Jing Ma | NICT |
| 5 | Abhishek Patil | Qualcomm |
| 6 | Albert Petrick | InterDigital |
| 7 | Kiseon Ryu | LG Electronics |
| 8 | Yongho Seok | Mediatek |
| 9 | Xiaofei Wang | InterDigital |
| 10 | Sungeun Lee | Cypress |
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# Teleconference on Thursday, July 27th, 2017, 20:00 – 22:00 (ET)

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 20:05 (ET).**
   1. Introduction of the chairperson.
2. **Agenda Setting**
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      4. Announcements
      5. September ad hoc meeting
         1. ePoll: <https://mentor.ieee.org/802.11/poll-vote?p=26500008&t=26500008>
      6. Presentation
         1. [11-17-1173-01](https://mentor.ieee.org/802.11/dcn/17/11-17-1173-01-00ax-proposed-resolutions-to-cid-5011-6900-6998-and-9056.docx), “Proposed Resolutions to CID 5011, 6900, 6998, and 9056,” Osama Aboul-Magd (Huawei Technologies)
         2. [11-17-1067-02](https://mentor.ieee.org/802.11/dcn/17/11-17-1067-02-00ax-comment-resolution-of-omi-operation-mode.docx), “LB225 11ax D1.0 Comment Resolution OMI and Operating Mode,” Liwen Chu (Marvell)
         3. [11-17-1068-00](https://mentor.ieee.org/802.11/dcn/17/11-17-1068-00-00ax-comment-resolution-10-7.docx), “LB225 11ax D1.0 Comment Resolution 10.7,” Liwen Chu (Marvell)
         4. [11-17-1183-05](https://mentor.ieee.org/802.11/dcn/17/11-17-1183-05-00ax-cr-for-cid-5772-9476-9480.docx), “11ax D1.3 MAC Comment Resolution for CID 5772, 9476, 9480,” Po-Kai Huang (Intel)
         5. [11-17-1174-00](https://mentor.ieee.org/802.11/dcn/17/11-17-1174-00-00ax-clauses-3-2-3-3-and-3-4-comment-resolution.docx), “Clauses 3.2, 3.3, and 3.4 Comment Resolution,” Osama Aboul-Magd (Huawei Technologies)
      7. AOB
      8. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any item to add to the agenda. 🡪 No item to add to the agenda.
      2. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      3. The agenda was approved.
3. **IEEE 802 and 802.11 IPR Policy and Procedure**
   1. Chair mentioned that we are operating under the IEEE 802 and 802.11 Policy and Procedure.
   2. Relevant documents
      1. IEEE Patent Policy - <http://standards.ieee.org/board/pat/pat-slideset.ppt>
      2. Patent FAQ - <http://standards.ieee.org/board/pat/faq.pdf>
      3. LoA Form - <http://standards.ieee.org/board/pat/loa.pdf>
      4. Affiliation FAQ - <http://standards.ieee.org/faqs/affiliationFAQ.html>
      5. Anti-Trust FAQ - <http://standards.ieee.org/resources/antitrust-guidelines.pdf>
      6. Ethics - <http://www.ieee.org/portal/cms_docs/about/CoE_poster.pdf>
      7. IEEE 802.11 Working Group Operartions Manual - <https://mentor.ieee.org/802.11/dcn/14/11-14-0629-18-0000-802-11-operations-manual.docx>
      8. Participation in IEEE 802 Meetings
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. **Attendance**
   1. Chair asked the attendees to send an email to Yasu ([inoue.yasuhiko@lab.ntt.co.jp](mailto:inoue.yasuhiko@lab.ntt.co.jp)) and/or Osama ([osama.aboulmagd@huawei.com](mailto:osama.aboulmagd@huawei.com)) to record attendance.
5. **Announcement**
   1. Chair asked people to put cellphone on mute if not speaking.
   2. Chair asked people to state name and affiliation when addressing for the first time during the session.
   3. Chair mentioned that he is still looking for volunteers and asked people to send him an email if interested in this activity.
6. **Reminder of the September Ad Hoc meeting**
   1. Chair reminded the audience to go to the ePoll and vote yes if they plan to attend the ad hoc
7. **Presentations**
   1. **Osama Aboul-Magd (Huawei) presented “Proposed Resolutions to CID 5011, 6900, 6998, and 9056,” based on the submission 11-17-1173-01.**
      1. Summary
         1. A new revision taking into accounts changes suggested during the previous call CIDs 5011, 6900, and 6998 are related to the 4X improvement in HEW PAR.
         2. Changes were made and indicated in red.
      2. Discussion –
         1. No discussion.
      3. Next Step
         1. Resolutions of CIDs in this document are ready for motion.
   2. **Liwen Chu (Marvell) presented “LB225 11ax D1.0 Comment Resolution OMI and Operating Mode” based on the submission 11-17-1067-02.**
      1. Summary
         1. Discussed changes made as a result of the discussion during the previous call.
            1. CID #7617.
      2. Discussion
         1. Many editorial and technical suggestions were provided.
      3. Next Step
         1. Liwen to include the changes and generate a new revision.
   3. **Liwen Chu (Marvell) presented “LB225 11ax D1.0 Comment Resolution 10.7” based on submission 11-17/1068-01**
      1. Summary
         1. Include comment resolutions to CIDs 3185, 4755, 7783, 7784, 7785, 9559.
      2. Discussion
         1. No Discussion
      3. Next Step
         1. Resolutions to CIDs in this document are ready for motion
   4. **Po-Kai Huang (Intel) presented “11ax D1.3 MAC Comment Resolutionfor CID 5772, 9476, 9480” based on document 11-17-1183r4**
      1. Summary
         1. CIDs 5772 and 9480 belong to the MAC geoup. CID 9476 belong to MU
      2. Discussion
         1. Few suggestion to be included in a new revision r5
      3. Next Step
         1. Ready for motion pending the proposed changes.
   5. **Osama Aboul-Magd (Huawei) presented “Clauses 3.2, 3.3, and 3.4 Comment Resolution” based on document 11-17-1174-00.**
      1. Summary
         1. 5308, 6070, 6914, 6915, 6916, 6922, and 8171 (Editor Group)
         2. 6920 and 7222 (MAC Gorup)
         3. Most comments are related to the abbreviations and their use
         4. Added few more abbreviations.
      2. Discussion
         1. Clarified the meaning of SRP and DSRP\_PPDU
         2. Add definitions for SRP and DSRP\_PPDU and generate new revision
      3. Next Step
         1. Ready for motion
8. **AoB**
   1. None.
9. **Adjournment**
   1. TGax teleconference adjourned upon completion of all the items on the agenda.
10. **List of Attendees – following people were on the call.**

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|  | | **Name** | **Affiliation** |
| 1 | | Osama Aboul-Magd | Huawei Technologies |
| 2 | | Woojin Ahn | WILUS Institute |
| 3 | | Jarkko Kneckt | Apple |
| 4 | | Jing Ma | NICT |
| 5 | | Abhishek Patil | Qualcomm |
| 6 | | Al Petrick | InterDigital |
| 7 | | Manish Kumar | Marvell |
| 8 | | Shoko Shinohara | ?? |
| 9 | | Liwen Chu | Marvell |
| 10 | | Peter | ?? |
| 11 | | Andrew McGarry | octoScope, Inc. |
| 12 | | Sigurd Schelstraete | Quantenna |
| 13 | | Yongho Seok | Mediatek |
| 14 | | Alfred Asterjadhi | Qualcomm |
| 15 | | Po-Kai Huang | Intel |
| 16 | | Kaiying Lv | ZTE |
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# Teleconference on Thursday, August 3rd, 2017, 10:00 – 12:00 (ET)

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 10:05 (ET).**
   1. Introduction of the chairperson and secretary.
2. **Agenda Setting**
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      4. Announcements
      5. September ad hoc meeting
         1. ePoll: <https://mentor.ieee.org/802.11/poll-vote?p=26500008&t=26500008>
      6. Presentation
         1. 11-17-0949-01, “,” Mark Rison (Samsung Electronics)
         2. 11-17-1220-00, “,” Osama Aboul-Magd (Huawei Technologies)
         3. 11-17-1144-00, “,” Robert Stacy (Intel)
      7. AOB
      8. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any item to add to the agenda. 🡪 No item to add to the agenda.
      2. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      3. The agenda was approved.
3. **IEEE 802 and 802.11 IPR Policy and Procedure**
   1. Chair mentioned that we are operating under the IEEE 802 and 802.11 Policy and Procedure.
   2. Relevant documents
      1. IEEE Patent Policy - <http://standards.ieee.org/board/pat/pat-slideset.ppt>
      2. Patent FAQ - <http://standards.ieee.org/board/pat/faq.pdf>
      3. LoA Form - <http://standards.ieee.org/board/pat/loa.pdf>
      4. Affiliation FAQ - <http://standards.ieee.org/faqs/affiliationFAQ.html>
      5. Anti-Trust FAQ - <http://standards.ieee.org/resources/antitrust-guidelines.pdf>
      6. Ethics - <http://www.ieee.org/portal/cms_docs/about/CoE_poster.pdf>
      7. IEEE 802.11 Working Group Operartions Manual - <https://mentor.ieee.org/802.11/dcn/14/11-14-0629-18-0000-802-11-operations-manual.docx>
      8. Participation in IEEE 802 Meetings
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. **Attendance**
   1. Chair asked the attendees to send an email to Yasu ([inoue.yasuhiko@lab.ntt.co.jp](mailto:inoue.yasuhiko@lab.ntt.co.jp)) and/or Osama ([osama.aboulmagd@huawei.com](mailto:osama.aboulmagd@huawei.com)) to record attendance.
5. **Announcement**
   1. Chair asked people to put cellphone on mute if not speaking.
   2. Chair asked people to state name and affiliation when addressing for the first time during the session.
   3. Chair mentioned that he is still looking for volunteers and asked people to send him an email if interested in this activity.
6. **Reminder of the September Ad Hoc meeting**
   1. Chair reminded the audience to go to the ePoll and vote yes if they plan to attend the ad hoc.
   2. What time to finish the meeting on Friday will be decided
   3. A member asked if hotel discount is available. 🡪 Should contact to Hongyuan.
7. **Presentations**
   1. **Mark Rison (Samsung Electronics) presented “LB225 11ax D1.0 Comment Resolution 27.10.4 Part 1,” based on the submission 11-17-0949-02.**
      1. Summary
         1. This is continuation of the discussion on Multi-TID A-MPDU.
      2. Discussion
         1. There was a discussion about the internal process of recording the results of frame receptions as well as the selection of Multi-TID Block Ack and other Acknowledgment frames.
         2. People also discussed the rules for EOF field setting and the selection of Ack frame.
         3. A member commented that the spec is in draft 1.3.
         4. People confirmed that there is no concensus and need to work on this issue.
      3. Next Step
         1. Chair suggested Mark to contact to the original author as well to get feedback.
   2. **Robert Stacy (Intel) presented “BAR Ack Policy: HTP Ack,” based on the submission 11-17-1144-00.**
      1. Summary
         1. Propsoed to modify the BAR Ack Policy field encoding for HT-immediate block ack so that responder knows whether the response is expected in HE TB PPDU or some other PPDU..
      2. Discussion
         1. People discussed about the cascading cases.
         2. A member commented that the discussion on the MU-BAR variant can also be applied to other types of frames.
         3. The presenter would like to re-open the discussion of Multi-TID and BlockAckReq.
      3. Next Step
         1. The presenter will have offline discussion with interested members and present the updated version in the September 2017 session.
   3. **Osama Abould-Magd (Huawei Technologies) presented “Clause 10.2 Comment Resolution” based on submission 11-17/1220-00.**
      1. Summary
         1. This submission includes resolutions to CIDs 4746, 5373, and 8207. The three CIDs belong to the **MAC** Group.
            1. Comments on the MAC architecture to include a new coordination function for multi-user transmissions..
         2. Proposed change to the MAC architecture was discussed.
      2. Discussion
         1. .People discussed how many coordination functions should be added. General agreement is to add one coordination function for UL MU procedures.
         2. A member mentioned possible deplication of HCCA, however, it is more appropriate to be discussed in TGmd.
         3. People also discussed about the text in 27.1 saying “The use of HCCA and TSPEC are banned at HE STAs.” A member suggested Osama to contact to Tomo who created this text.
      3. Next Step
         1. Osama to update the document.
8. **AoB**
   1. None.
9. **Adjournment**
   1. TGax teleconference adjourned @12:00 (ET).
10. **List of Attendees – following people were on the call.**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Woojin Ahn | WILUS Institute |
| 3 | Amelia Andresdotter | Article 19 |
| 4 | Alfred Asterjadhi | Qualcomm |
| 5 | Jiamin Chen | Huawei Technologies |
| 6 | Mark Hamilton | Ruckus Wireless |
| 7 | Yasuhiko Inoue | NTT |
| 8 | Jarkko Kneckt | Apple |
| 9 | Sungeun Lee | Cypress |
| 10 | Jing Ma | NICT |
| 11 | Abhishek Patil | Qualcomm |
| 12 | Al Petrick | InterDigital |
| 13 | Manish Kumar | Marvell |
| 14 | Mark Rison | Samsung |
| 15 | Sigurd Schelstraete | Quantenna |
| 16 | Yongho Seok | Mediatek |
| 17 | Robert Stacy | Intel |
| 18 | Po-Kai Huang | Intel |
| 10 | Kaiying Lv | ZTE |
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