IEEE P802.11  
Wireless LANs

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| TGax Teleconference Minutes from September to October 2016 | | | | |
| Date: 2016-11-02 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Yasuhiko Inoue | NTT | 1-1 Hikaro-no-oka, Yokosuka, Kanagawa 238-0847 Japan | ++81-46-859-5097 | inoue.yasuhiko@lab.ntt.co.jp |
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Abstract

This document contains minutes of TGax teleconference from September to October 2016.

Rev. 0: The minutes from TGax teleconference on Septeber 29th, 2016.

Rev. 1: Included the minutes from TGax teleconference on October 13th, 2016.

Rev. 2: Included the minutes from TGax teleconference on October 20th, 2016 and October 27th, 2016.

# Teleconference on Thursday, September 29th, 2016, 10:00 – 12:00 (ET)

1. Meeting called to order by Osama Aboul-Magd (Huawei Technologies) @ 10:04 (ET).
2. Agenda Setting
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Annoucement
      4. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      5. Presentation
         1. 11-16-1064-02 “A Unified Approach to Spatial Reuse,” Graham Smith (SR Technologies)
      6. AOB
      7. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any discussion on the agenda.
      2. 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/14/11-14-0629-14-0000-802-11-operations-manual.docx>
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. Announcement
   1. Chair asked the attendees to state name and affiliation when speaking for the first tme.
   2. Chair mentioned that Eldad Perahia who had created CA documents for 802.11n, 802.11ac, etc. agreed to create CA document for the 802.11ax which has to be ready before start of the WG letter ballot.
5. 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.
6. Presentations
   1. **Graham Smith (SR Technologies) presented “TGax A Unified Approach to Spatial Reuse,” based on the submission 11-16-1064-02.**
      1. Summary:
         1. DSC can be merged with OBSS\_PD based spatial reuse using BSS Color, Transmit Power Control, and CCA Treshold adjustment.
         2. Proposals contained in slide 9 satisfy all conditions described in the previous presentations.
         3. Proposed text contained in 11-16-1063-02.
      2. Discussion:
         1. No discussion
      3. Next Step:
         1. Chair asked Graham to present this material during the next face to face meeting in San Antonio again. Graham agreed.
7. AOB
   1. No other business.
8. Adjourn
   1. Meeting adjourned at 10:38 (ET).
9. List of Attendees

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | David Bagby | Calypso Ventures |
| 3 | Stephane Baron | Canon |
| 4 | Bill Carney | SONY |
| 5 | Mark Hamilton | Ruckus Wireless |
| 6 | Yasuhiko Inoue | NTT |
| 7 | Junichi Iwatani | NTT |
| 8 | Parag Kulkarni | Toshiba |
| 9 | Sungeun Lee | Cypress |
| 10 | Oghenekome Oteri | InterDigital |
| 11 | Al Petrick | Jones-Petrick and Associates |
| 12 | Jon Rosdahl | Qualcomm |
| 13 | Sigurd Schelstraete | Quantenna |
| 14 | Graham Smith | SR Technologies |
| 15 | Jung Hoon Suh | Huawei |
| 16 | Yusuke Tanaka | SONY |
| 17 | Pascal Viger | Canon |
| 18 | Xiaofei Wang | InterDigital |
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# Teleconference on Thursday, October 13th, 2016, 20:00 – 22:00 (ET)

1. Meeting called to order by Osama Aboul-Magd (Huawei Technologies) @ 20:03 (ET).
2. Agenda Setting
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Annoucement
      4. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      5. Presentation
         1. 11-16-1332-01, “Draft P802.11ax\_D0.1 Comment Resolution,” Jinjing Jiang (Marvell)
         2. 11-16-1335-00, “IEEE 802.11ax Annex B (PICs),” Osama Aboul-Magd (Huawei Technologies)
         3. 11-16-1336-00, “Clause 4.3.12a Comment Resolution,” Osama Aboul-Magd (Huawei Technologies)
      6. AOB
      7. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any discussion on the agenda.
      2. 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/14/11-14-0629-14-0000-802-11-operations-manual.docx>
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. Announcement
   1. Chair asked the attendees to state name and affiliation when speaking for the first tme.
   2. Chair mentioned that Eldad will create the CA document for the 802.11ax. We will be able to review it during the conference call the week after next.
5. 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.
6. Presentations
   1. **Jinjing Jiang (Marvell) presented “Draft P802.11ax\_D0.1 Comment Resolution,” based on the submission 11-16-1332-02.**
      1. Summary
         1. Resolutions for the following CIDs and proposed changes to the draft are included.
            1. CIDs: 861, 1073, 16, 1398, 1212, 1211, 1176, 964, 823, 798, 797, 781, 733, 1400, 1072, and 735.
      2. Discussion
         1. Resulutions for some CIDs such as 1073 and 1212 should be changed from “Accept” to “Revised” since the presenter provided some texts.
         2. Need to include instruction to the editor in the resolution.
      3. Next step
         1. Jinjing to revise the document based on the comments received during the call.
   2. **Osama Aboul-Magd (Huawei Technologies) presented “IEEE 802.11ax Annex B (PICs),” based on the submission 11-16-1335-00.**
      1. Summary
         1. Osama proposed the Annex B (PICS) as the response to CIDs 1700 and 2504.
      2. Discussion
         1. There were some discussion on the expression of HE devices.
         2. Some items such as Beamforming and CQI only feedback suggested to add.
         3. Clarification of transmitter behaviour or receiver behaviour requested for some items.
      3. Next step
         1. Osama to update the document.
   3. **Osama Aboul-Magd (Huawei Technologies) presented “Clause 4.3.12a Comment Resolution,” based on the submission 11-16-1336-00.**
      1. Summary
         1. Resolutions for the nine CIDs on clause 4.3.12a proposed.
            1. CIDs: 81, 82, 710, 1226, 1235, 1236, 1351, 1707, and 1776.
      2. Discussion
         1. Some editorial corrections suggested.
      3. Next step
         1. Osama to upload revision 1 of this document incorporating the changes based on the discussion.
7. AoB
   1. No other business to conduct.
8. Adjourn
   1. TGax teleconference adjourned @ 21:43.
9. List of Attendees

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Tomoko Adachi | Toshiba |
| 3 | Woojin Ahn | WILUS Institute |
| 4 | David Bagby | Calypso Ventures |
| 5 | Jinsoo Choi | LG Electronics |
| 6 | Liwen Chu | Marvell |
| 7 | Hanseul Hong | Yonsei Univ. |
| 8 | Yasuhiko Inoue | NTT |
| 9 | Junichi Iwatani | NTT |
| 10 | Jinjing Jiang | Marvell |
| 11 | Jeongki Kim | LG Electronics |
| 12 | Joonsuk Kim | Apple |
| 13 | Geonjung Ko | WILUS Institute |
| 14 | Oghenekome Oteri | InterDigital |
| 15 | Jayh Park | LG Electronics |
| 16 | Al Petrick | Jones-Petrick and Associates |
| 17 | Kiseon Ryu | LG Electronics |
| 18 | L. Sun | IDCC |
| 19 | Lochan Verma | Qualcomm |
| 20 | Xiaofei Wang | InterDigital |
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# Teleconference on Thursday, October 20th, 2016, 10:00 – 12:00 (ET)

1. Meeting called to order by Osama Aboul-Magd (Huawei Technologies) @ 10:03 (ET).
2. Agenda Setting
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Annoucement
      4. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      5. Presentation
         1. 11-16-1139-00 “11ax D0.5 MU Comment Resolution for Some Remaining NAV CIDs,” Po-Kai Huang (Intel).
      6. AOB
      7. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any discussion on the agenda.
      2. 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>
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      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/14/11-14-0629-14-0000-802-11-operations-manual.docx>
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. Announcement
   1. Chair asked the attendees to state name and affiliation when speaking for the first tme.
   2. Chair mentioned that Eldad will create the CA document for the 802.11ax. We will be able to review it during the conference call the week after next.
5. 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.
6. Presentations
   1. **Po-Kai Huang (Intel) presented “11ax D0.5 MU Comment Resolution for Some Remaining NAV CIDs,” based on the submission 11-16-1139-00.**
      1. Summary
         1. Resolutions for remaining comments on NAV proposed.
            1. Relevant CIDs: 729, 1069, 806, 2261, 2909, 1468, 1637, 998, 730, 245, 246, 247, 248, 399, 421, 1464, 588, 256, 812, 1661
      2. Discussion
         1. A member objects for the new style of the standard. 🡪 Chair mentioned that the new organization was still experimental phase. The clause 25 only applies to HE devices. The comment will be a feedback to the editor.
         2. Another member suggested discussion during the November face-to-face.
      3. A member commented on a technical term and suggested used of “Basic NAV” instead of “Regular NAV”.
         1. Po-Kai to revise the document.
7. AoB
   1. Chair asked if there is any other business we can conduct in rest of the time.
   2. No response.
8. Adjourn
   1. TGax teleconference adjourned @ 10:46 AM (ET).
9. Attendees

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|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Yasuhiko Inoue | NTT |
| 3 | Junichi Iwatani | NTT |
| 4 | Jeongki Kim | LG Electronics |
| 5 | Geonjung Ko | WILUS Institute |
| 6 | Jayh Park | LG Electronics |
| 7 | Al Petrick | Jones-Petrick and Associates |
| 8 | Mark RISON | Samsung |
| 9 | John Son | WILUS |
| 10 | Adrian Stephens | Intel |
| 11 | L. Sun | IDCC |
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# Teleconference on Thursday, October 20th, 2016, 10:00 – 12:00 (ET)

1. Meeting called to order by Osama Aboul-Magd (Huawei Technologies) @ 10:03 (ET).
2. Agenda Setting
   1. Proposed Agenda
      1. Call the meeting to order
      2. IEEE 802 and 802.11 IPR Policy and Procedure
      3. Annoucement
      4. Attendance (Please send an e.mail to Yasuhiko Inoue (inoue.yasuhiko@lab.ntt.co.jp) and/or Osama Aboul-Magd (osama.aboulmagd@huawei.com))
      5. Presentation
         1. 11-16-1348-00 “Coexistence Assurance,” Eldad Perahia (HP Enterprize).
         2. 11-16-1340-00 “CR HE PHY miscellaneous – part 3,” Lochan Verma (Qualcomm)
         3. 11-16-1341-00 “CR HE PHY introduction – part 2,” Lochan Verma (Qualcomm)
         4. 11-16-1238-00 “Setting quiet time period text,” Chao-Chun Wang (MediaTek)
         5. 11-16-1342-00 “CID 2186 comment resolution,” Tomo Adachi (Toshiba)
         6. 11-16-1346-00 “Proposed fix to PHY reference in Trigger frame,” Tomo Adachi (Toshiba)
         7. 11-16-1350-00 “Comment resolution for CID 1012,” Yusuke Tanaka (SONY)
      6. AOB
      7. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any discussion on the agenda.
      2. 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>
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      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/14/11-14-0629-14-0000-802-11-operations-manual.docx>
   3. Chair asked if there is any potentially essential patent that people are aware of.
      1. No potentially essential patent reported.
4. Announcement
   1. Chair asked the attendees to state name and affiliation when speaking for the first tme.
   2. Chair mentioned that Eldad will create the CA document for the 802.11ax. We will be able to review it during the conference call the week after next.
5. 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.
6. Presentations
   1. **Eladad Perahia (HPE-Aruba) presented “Coexistence Assurance,” based on the submission 11-16-1348-00.**
      1. Summary
         1. Eldad prepared a draft version of CA document.
      2. Discussion
         1. (Sec.3) A member commnted that sensitivity may be changed by the spatial reuse technique and this section needs to be updated. The commenter asked for the procedure to do it.
         2. (Sec. 3) Another member commented that we should be careful in talking about the non-802.11 systems.
         3. (Sec. 4) A member commented that we do not have definition of “Legacy preamble field.” It should be added if we would like to use this technical term.
         4. (Sec. 5) The purpose of this section was discussed.
      3. Next Step
         1. The CA document will be discussed during the November 2016 meeting.
         2. Eldad to update the document based on the comments.
   2. **Lochan Verma (Qualcomm) presented “CR HE PHY miscellaneous – part 3,” based on the submission 11-16-1340-00.**
      1. Summary
         1. Resolutions for the following CIDs were proposed.
            1. CIDs: 1932, 2106, 2572, 2796
      2. Discussion
         1. (26.3.6.4 Construction of L-SIG): Step f) is the only difference from the 802.11ac.
         2. (26.3.6.9 Construction of HE-LTF): The author tried not to go to too much details of the procedure.
      3. Next Step
         1. Chair asked the members to review the document.
   3. **Lochan Verma (Qualcomm) presented “CR HE PHY introduction – part 2,” based on the submission 11-16-1341-00.**
      1. Summary
         1. Resolution for CID 1864 was proposed.
         2. Text in 26.1.1 Introduction to the HE PHYwas updated.
      2. Discussion
         1. C: There are big changes in 26.1.1.
      3. Next Step
         1. Chair asked the members to review the document.
   4. **Chao-Chun Wang (MediaTek) presented “Setting Quiet Time Period text,” based on the submission 11-16-1238-00.**
      1. Summary
         1. The presenter prepared the text for the Quiet Time Period which passed the motion during September 2016 session.
      2. Discussion
         1. A member suggested correction of editorial mistakes. He commented to check the consistency of technical term.
      3. Next Step
         1. Chao-Chun to update the document.
   5. **Tomoko Adachi (Toshiba) presented “CID 2186 comment resolution,” based on the submission 11-16-1342-00.**
      1. Summary
         1. Resolution for the CID 2186 was proposed.
         2. Related text for HE PHY in 9.4.2.3 Supported Rates and BSS Membership Selector element was proposed.
      2. Discussion
      3. Next Step
         1. Chair suggested the review of the document.
   6. **Tomoko Adachi (Toshiba) presented “Proposed fix to PHY Reference in Trigger frame,” based on the submission 11-16-1346-00.**
      1. Summary
         1. A fix to the resolution for CIS 2113 was proposed.
            1. Name of the subfield “Number Of HE-LTF Symbols” in common info in the text 9.3.1.23 was updated to be consistent with the figure.
            2. Reference to a table was updated.
      2. Discussion
         1. No discussion.
      3. Next Step
         1. Review of the document suggested.
   7. **Yusuke Tanaka (SONY) presented “Comment resolution for CID 1012,” based on the submission 11-16-1350-00**
      1. Summary
         1. Resolution for CID 1012 was proposed.
            1. The comment was rejected since it is about 802.11aa related issue.
      2. Discussion
         1. A member asked if it had been discussed in TGmc. The answer was yes.
      3. Next Step

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1. AoB
   1. No other business to conduct.
2. Adjourn
   1. TGax teleconference adjourned @ 11:49 AM (ET)
3. Attendees

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|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Tomoko Adachi | Toshiba |
| 3 | Woojin Ahn | WILUS |
| 4 | Rui Cao | Marvell |
| 5 | Hanseul Hong | Yonsei Univ. |
| 6 | Yasuhiko Inoue | NTT |
| 7 | Junichi Iwatani | NTT |
| 8 | Ma Jing | NICT |
| 9 | Ann Krieger | DOD |
| 10 | Kome Oteri | InterDigital |
| 11 | Jayh Park | LG Electronics |
| 12 | Eldad Perahia | HPE-Aruba |
| 13 | Al Petrick | Jones-Petrick and Associates |
| 14 | Mark RISON | Samsung |
| 15 | Sigurd Schelstraete | Quantenna Communications |
| 16 | John Son | WILUS |
| 17 | Jung Hoon Suh | Huawei Technologies |
| 18 | L. Sun | IDCC |
| 19 | Yusuke Tanaka | SONY |
| 20 | Lochan Verma | Qualcomm |
| 21 | Chao-Chun Wang | MediaTek |
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