IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Minutes for TGbe MAC Ad-Hoc Teleconferences in November 2022 to January 2023 | | | | |
| Date: 2022-11-30 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Jeongki Kim | Ofinno |  |  | [jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com) |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This document contains the meeting minutes for the TGbe MAC ad hoc teleconferences in November 2022 to January 2023.

Revisions:

* Rev0: Added the minute from the MAC ad hoc teleconference held on November 30 2022.
* Rev1: Added the minute from the MAC ad hoc teleconference held on December 1 2022.
* Rev2: Added the minute from the MAC ad hoc teleconference held on December 5 2022.

**30 Novemver 2022, (TGbe MAC ad hoc teleconference)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex and in Bangkok (in-person).

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:00 ET. The Chair introduces himself and the Secretary.
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     + 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-22/2066r0. The agenda was approved.

**Submissions**

1. [1881r4](https://mentor.ieee.org/802.11/dcn/22/11-22-1881-03-00be-lb266-cr-for-leftover-cids.docx) CR for Leftover CIDs Ming Gan [1C-SP 10’]

13873, 12588

Discussion:

C: more than two is for MLO. What is the non-MLO?

C: One or more TWT mean how many TWT elements are included?

A: It depends on the number of links.

C: In TWT parameter ranges is set to 1, two elements are present.

A: I don’t touch that part.

SP: Do you support to accept the resolution in 11-22/1881r4 for the following CIDs?

13873, 12588

No objection

1. [1796r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1796-00-00be-lb266-resolution-for-comments-related-to-multi-link-tdls.docx) Res. for comments rel. to Multi-Link TDLS Abhishek Patil [10C 15’]

Discussion:

C: Why do you bring the multi-link TDLS direct link setup? I don’t think it works well. What about channel access rules for NSTR pair?

C: update the sentence related to inclusion of per-STA profile to exclude the link where the frame is sent

C: Direction is ok. But the details should be updated. For scenario where the number of links being considered for TDLS discover/setup are greater than those with the intermediate AP (MLD)

C: link ID of TDLS is based on the affilicated AP? if non-AP MLD has 3 links, but AP MLD only has 2 links, how to set up 3 links for TDLS? no link ID on the third link..

C: based on the current spec, we can't set up the three links in the scenario you described.

C: As 2 MLD non-APs are associated to same AP MLD, the TDLS can use Link IDs of AP MLD. I think the links are limited to overall number of Links of AP MLD.

1. 1887 Qi Wang

Discussion:

C: I’m ok with the resolution. But might be confusing. A1 is not group addressed. DA is group addressed.

SP: Do you support to accept the resolution in 11-22/1887r0 for the following CIDs?

11377, 11378, 12089, 13120, 13121

No objection

1. [1756r5](https://mentor.ieee.org/802.11/dcn/22/11-22-1756-05-00be-lb266-cr-cl35-emlsr-part4.docx) CR CL35 EMLSR part4 Minyoung Park [2C SP 10’]

Discussion:

C: 13005, I have a concern on it. I dont agree what’s shown in the figure. The spec text does not match the figure.

A: After the sucessful transission, the first sentence happens but not rest. I think the current text exactly matches what I drawed.

C: Entering EMLSR mode. The spec currently matches the draws.

C: In ax, after receiving TWT element, STA may enter the doze state immediately. I don’t think we need this optimization. Immediate means next txop.

A: Do you want to remove the immediately still?

C: Do you mean that in link 0, after timeout interval, the link is disabled?

C: you can not have power save mode change that happens at different time as the change from MLSR to eMLSR mode. those have to be aligned.

SP is deferred.

1. [1768r6](https://mentor.ieee.org/802.11/dcn/22/11-22-1768-06-00be-lb266-cr-for-subclause-35-3-16-8-1.docx) CR for subclause 35.3.16.8.1 Ming Gan [1C SP 10’]

10036,

C: I cannot see green text clearly. It’s ok.

SP: Do you support to accept the resolution in 11-22/1768r6 for the following CIDs?

10036

No objection

1. [1766r3](https://mentor.ieee.org/802.11/dcn/22/11-22-1766-03-00be-lb266-cr-for-various-cids.docx) CR for various CIDs Ming Gan [1C SP 10’]

13128 for PBAC MLD.

SP: Do you support to accept the resolution in 11-22/1766r3 for the following CIDs?

13128

No objection

1. [1747r4](https://mentor.ieee.org/802.11/dcn/22/11-22-1747-04-00be-lb266-cr-for-subclause-35-3-15.docx) CR for subclause 35.3.15 Ming Gan [3C SP 10’]

C: Is this similar to baseline operation?

A: This is non-AP MLD.

C: AP MLD intends to transmit? AP affiliated with AP MLD . schedules for the transmission in next paragraph.\

C: This is transmission for DS?

A: This is TO DS equal to 1 and From DS equal to 0.

C: You can just mention the group addressed Data frame.

SP: Do you support to accept the resolution in 11-22/1747r5 for the following CIDs?

11752 13517 12111

No objection

1. [1418r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1418-01-00be-lb266-cr-of-nstr-capability-update.docx) cr of nstr capability update Yunbo Li [6C 15’]

Discussion:

C: What is the purpose of this confirmation message?

A: Once this message is received by AP MLD, the AP may not schedule the transmission. So, I described the NSTR timeout. It’s similar to EMLSR.

C: I think EMLSR is different from NSTR case

C: You have a strong opinion on timeout? Capability related update?

A: One way is STA MLD responds confirmation frame.

C: We can remove the timeout. the initial frame exchange was modeled similar to another one that had a timeout. we can simplify this one by getting rid of the timeout.

1. [1774r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1774-01-00be-lb266-cr-for-misc-cids.docx) CR for Misc. CIDs Rubayet Shafin [6C 15’]

Not finish presenting

The teleconference was adjourned at 12:00 ET.

**1 December 2022, (TGbe MAC ad hoc teleconference)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex and in Bangkok (in-person).

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:00 ET. The Chair introduces himself and the Secretary.
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     + 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-22/2066r1. The agenda was approved.

**Submissions**

1. [1846r4](https://mentor.ieee.org/802.11/dcn/22/11-22-1846-04-00be-cr-for-nstrmobileap-part3.docx) CR for NSTRMobileAP part3 Kaiying Lu [4C SP 10’]

Discussion:

C: how do you control the same PPDU length of response frames by the AP MLD in case of multiple frame exchanges in a TXOP?

A: There is description for ending time alignment for NSTR case.

C: Why do you limit the mode 2?

A: In mode 2, STA can transmit to peer STA. It may increase complexity.

SP: Do you support to accept the resolution in 11-22/1846r4 for the following CIDs?

14036, 14037, 14073

No objection

1. [1833r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1833-01-00be-lb266-cr-for-35-3-7-1-3.docx) CR for 35.3.7.1.3 Yongho Seok [2C SP 10’]

SP: Do you support to accept the resolution in 11-22/1833r1 for the following CIDs?

12170, 12171

No objection

1. [1417r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1417-01-00be-lb266-cr-for-35-3-16-2.docx) CR for 35.3.16.2 Yunbo Li [1C SP 10’]

SP: Do you support to accept the resolution in 11-22/1417r2 for the following CID?

10364

No objection

1. [1744r2](https://mentor.ieee.org/802.11/dcn/22/11-22-1744-02-00be-lb266-cr-for-miscellaneous-cids.docx) CR for Miscellaneous CIDs Yunbo Li [1C SP 10’]

SP: Do you support to accept the resolution in 11-22/1744r2 for the following CIDs?

11838

No objection

1. [1793r3](https://mentor.ieee.org/802.11/dcn/22/11-22-1793-03-00be-nstr-mobile-ap-miscellaneous-cids.docx) NSTR Mobile AP Miscellaneous CIDs Morteza Mehrnoush [8C SP 10’]

SP: Do you support to accept the resolution in 11-22/1793r4 for the following CIDs?

10032, 12331, 10658, 11646, 13853, 13074, 14034, 14004

No objection

1. [1774r3](https://mentor.ieee.org/802.11/dcn/22/11-22-1774-01-00be-lb266-cr-for-misc-cids.docx) CR for Misc. CIDs Rubayet Shafin [6C Q&A 10’]

Discussion:

C: Broadcast TWT scheduler is not MLD level but link level. You need to mention separate schedule instead of single schedule. What if the link bitmap present is set to 0?

C: Why these element and indication needed?

A: This is to reduce the latency because STA can transmit using multiple links at the same time.

C: Why do you limit to use the same broadcast ID? Why don’t you have different ID?

C: Broadcast ID is link level.

C: This is used that AP sliently schedules the aligned TWT SP? That is, there is no request from non-AP MLD.

C: If there is no this information, each STA should decode each TWT information and check whether each TWT is aligned? Right?

SP: Do you support to accept the resolution in 11-22/1774r3 for the following CIDs?

11111, 11117, 12461

No objection

1. [1733r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1733-00-00be-cr-for-13-part-ii.docx) CR for 13 part II Po-Kai Huang [2C 10’]

C: Page 4, what is the target AP address?

A: the MAC address of the FTR. I should not remove MAC address.

C: MLD MAC address for MLD. You may miss the MLD address there.

C: Do we need to say when it’s not included.

SP: Do you support to accept the resolution in 11-22/1733r1 for the following CIDs?

12784, 12405, 10295, 12108

No objection

1. [1789r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1789-00-00be-lb266-cr-for-remaining-cids-in-35-3-19-3.docx) CR for remaining CIDs in 35.3.19.3 Sanghyun Kim [3C 10’]

C: Generally I have several comments on most of texts. First, I don’t think the first paragraph is needed.

A: There is text that next beacon frame on the new channel is not related to the TBTT. The baseline spec does not say all the Aps shall transmit the beacon frame immediately on the new channel except the ...

C: In clause 9, channel switch annoucement element, the description of the channel switch rsays that when the channel switch count is set to 1, the subsequent beacon which have been switch count equal to 0 that beacon would have been generated on the new channel.

A: There is no restriction the next beacon frame is exactly transmitted on the nextTBTT

C:Second statement. You already have note. Primary and non-primary links have to be switched or changed. They do simultaneously channel switch. I think it’s reduandant.

A: The currently note 2 is just a note. There is no details. Note 2 says may perform channel switch simultaneously. In my understanding, simultaneously being is not clear.

C: I think group agreed we should go with the note. That’s why we already have that.

1. [1743r2](https://mentor.ieee.org/802.11/dcn/22/11-22-1743-00-00be-lb266-cr-for-emlmr-supported-mcs-and-nss-set-related-cids.docx) CR for EMLMR Supp. MCS And NSS Set related CID Yousi Lin [4C 10’]

C: you changed for which to when. Original intention is which link was made. But you changed to time.

The teleconference was adjourned at 12:00 ET.

**5 December 2022, (TGbe MAC ad hoc teleconference)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex and in Bangkok (in-person).

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 19:00 ET. The Chair introduces himself and the Secretary.
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     + 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-22/2066r3. The agenda was approved.

**Submissions**

1. [1260r2](https://mentor.ieee.org/802.11/dcn/22/11-22-1260-02-00be-cr-for-5-1-5-1-architecture-part-2.docx) CR for 5.1.5.1 Architecture (Part 2) Duncan Ho [SP-14C 10’]

Discussion:

SP: Do you support to accept the resolution in 11-22/1260r2 for the following CIDs?

10279, 10342, 10343, 10344, 10446, 10447, 10528, 10898, 12087, 12282, 12364, 12950, 13045

No objection

1. [1669r2](https://mentor.ieee.org/802.11/dcn/22/11-22-1669-02-00be-lb266-cr-for-35-2-3.docx) CR for 35.2.3 SunHee Baek [SP-1C 10’]

Discussion:

C: How many user field is in EHT MU PPDU? What if EHT AP transmits EHT MU PPDU addressed to one STA and it’s Intra-BSS PPDU?

C: In HE PPDU, HE STA transmits HE SU PPDU for p2p case while EHT STA transmits EHT MU PPDU for that.

C: what is the purpose of classifying? Why do you emphisize it? HE does not use classifying

A: we added the more than one STA.

C: We already have EHT SU transmission in 2.3.2. We can rephrase it accordingly.

SP: Do you support to accept the resolution in 11-22/1669r3 for the following CID?

14097

No objection

1. [2033r1](https://mentor.ieee.org/802.11/dcn/22/11-22-2033-01-00be-cr-for-miscellaneous-cids-ii.docx) CR for Miscellaneous CIDs II Po-Kai Huang [10C 20’]

Discussion:

14101 is deferred after the discussion

C: split window

C: I have similar opinion on ”correct content”.

C: OCV or OCI, subbullet on resolution should be discussed

A: I just copied from the referred document.

C: I sent you how to resolve this. I prepared it and I will send you updated version.

10212 is deferred

SP: Do you support to accept the resolution in 11-22/2033r1 for the following CIDs?

10068, 11072, 11073, 11939, 13601

No objection

1. [1900r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1900-00-00be-lb266-cr-for-remaining-cids.docx) CR for remaining CIDs Ming Gan [6C 15’]

Discussion:

C: In the baseline, if AP transmits DTIM beacon, the AP shall transmit group addressed frames after DTIM. What if rTWT is overlapped with it?

A: We can resolve it at next round

C: subclause is wrong. Annex might be better for this example. We can place it there.

A: we, maybe in Yunbo CR, already had the discussion whether we move all examples figures in 35 to annex. We can fix the subclause and can move them to annex at next round or later.

C: In EMLSR, STA in active mode can receive group addressed frame.

C: we can change just via DS

A: It’s related to group addressed MMPDU. Where is the group addressed management frame?

C: That seems like new requirement.

A: Fine with changing to via

SP: Do you support to accept the resolution in 11-22/1900r2 for the following CIDs?

12713 13387 13666 13390 12817 10325

No objection

1. [2045r0](https://mentor.ieee.org/802.11/dcn/22/11-22-2045-00-00be-lb266-cr-misc-part2.docx) CR misc. part 2 Minyoung Park [6C 20’]

C: I have a similar proposal. You have a different type.

A: What is the status of it? I can work with you.

C: Similar comment. We need to define a unified format for covering all cases.

C: MLPM bit can be comfined with PM bit?

A: I don’t want to touch the PM bit operation. If you use PM bit, then all PS state should be changed all together.

C: I will provide some comments once this passed

C: This should be optional

C: We can discuss it in UHR

A: I’m open to it.

C: Where is the original text of 72us? You just added the reference.

SP: Do you support to accept the resolution in 11-22/2045r0 for the following CIDs?

12886, 13400, 13674, 13703

No objection

1. [1683r1](https://mentor.ieee.org/802.11/dcn/22/11-22-1683-01-00be-lb-266-cr-for-capability-update-notification.docx) CR for Capability Update Notification Frank Hsu [1C 15’]

C: The capabilities are decided by association generally. Need to think about comprehensive parameters. Which parameters can be changed except. This point is a little bit late.

SP is deferred.

1. [1771r0](https://mentor.ieee.org/802.11/dcn/22/11-22-1771-00-00be-lb266-cr-for-9-6-35-8.docx) CR for 9.6.35.8 SunHee Baek [1C 10’]

C: Acknowledging may be confusing with control leve ack. Just AP responds the frame. Instead of acknowledging it, we can rephrase it to “indicate that the AP MLD is ready to serve the non-AP MLD in the updated EML operation”.

C: Your text covers the disable of EML operation?

A: Yes.

C: Do we need to change subclaue 35? I think it would be better to align.

C: Maybe "... an AP affiliated with an AP MLD as a response to the received EML Operating Mode ... "

SP: Do you support to accept the resolution in 11-22/1771r1 for the following CID?

12610

No objection

The teleconference was adjourned at 21:00 ET.