IEEE P802.11  
Wireless LANs

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| Minutes for TGbe MAC Ad-Hoc teleconferences in November 2021 to January 2022 | | | | |
| Date: 2021-11-17 | | | | |
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Abstract

This document contains the meeting minutes for the TGbe MAC ad hoc teleconferences in November 2021 to January 2022.

Revisions:

* Rev0: Added the minute from the teleconference held on November 17.
* Rev1: Added the minute from the teleconference held on November 18.
* Rev2: Added the minute from the teleconference held on November 22 and some updates.
* Rev3: Added the minute from the teleconference held on November 29.

**Wednsday, November 17, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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 11-21/1775r2. Some modifications. The agenda was approved.

**Recorded attendance through Imat and e-mail:**

**Submissions**

1. [1685r5](https://mentor.ieee.org/802.11/dcn/21/11-21-1685-05-00be-cc36-cr-for-aar.docx) CC36 CR for AAR Ming Gan [15C SP-10’]

Discussion:

There were discussions on EMLSR/EMLMR links.

C: Regarding the AP shall schedule, can you consider some other conditions (e.g., TBTT, )?

C: Note has shall requirement. You need to provide the reference. You don’t need to have shall text in the note.

A: Ok

C: I need to more think about the EMLSR?EMLMR. Could you defer it?

A: Ok.

C: Do we need to have shall requirement of the AP operation? The AP may not schedule due to some reason (e.g., busy, or not available links,).

A: At the begining, AP does not have a capability for that operation. So, I changed it to shall based on other comments.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1685r6 for the following CIDs?-** 4239 4240 4484 4729 4731 4732 5318 5707 6322 6926 6991 7575 8218 8219

Y/N/A: 33/19/27

1. [1562r](https://mentor.ieee.org/802.11/dcn/21/11-21-1562-05-00be-cc36-resolution-for-cids-for-35-3-9-2.docx)5 CC36 resolution for CIDs for 35.3.9.2 Laurent Cariou [31C 20’]

Discussion:

The following texts are added on 2295 during the discussion.

”Between the target swtich time and the time at which the AP will start beaconing in the target operating class/channel, the Neighbor AP TBTT Offset field for the corresponding AP in the Reduced Neighbor Report element shall be set to 255.

C: For the last sentence, the time is not accurate time?

A: You mean tentative time?

C: estimated time is used in the baseline.

C: 5038, what does the condition mean?

There were long discussions on resolution on 5038.

C: You can remove the note on 5038. That’s legacy operation. We don’t need it here.

A: I can defer it.

C: In another note, Quiet element and Quiet Channel element could be inherited. Please remove it.

A: Ok.

C: There is no impact of beacon reception. You can remove the new added wrapper element.

A: We need to provide the consistent information. The element just carries the bandwidth information.

C: We don’t need to carry complete information in the beacon. Why do we need the information? It has a lot of overhead.

5308 is defered by discussion.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1562r6 for the following CIDs?**4385 4462 4463 4464 5035 5036 5037 5062 5218 5258 5690 5691 5838 5925 5989 6099 6209 6298 6299 6491 6492 6671 7373 7374 7443 7820 7854

No objection.

1. [1704r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1704-01-00be-cc36-resolution-for-cids-related-to-nsep-3-1-3-4-c-3.docx) Res. 4 CIDs related to NSEP\_3.1\_3.4\_C-3 Subir Das [12C 15’]

Discussion:

C: I think the comment is reasonable. National is too limited.

A: Ok, It’s open. It could be international or global.

C: You can remove the prefix on it.

A: I can defer it.

C: Resolution of 4172, you can change the specific subclause to the draft standard.

A: Ok.

C: could you defer 5284?

A: I already do it.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1704r2 for the following CIDs?-**  6155, 4091, 7675, 4804, 7483, 6156, 5652, 6117, 4172, 6119, 7526

No objection

1. [1714r](https://mentor.ieee.org/802.11/dcn/21/11-21-1714-01-00be-cc36-cr-for-traffic-indication-in-multiple-bssid-set.docx')2 CR 4 Traffic Ind. in Multiple BSSID Set Ming Gan [1C 15’]

Discussion:

C: you can change in the first paragraph, like AP does not corresponding the transmitted BSSID.

A: I think the meaning is same.

C: performed multi-link setup?

C: how about for an associated non-AP MLD instead of it?

C: last paragraph: for non-AP MLDs associated with any AP MLD that has an affiliated AP in the same multiple BSSID set as the AP.

C: by following.

C: AP MLD that corresponds to...? or AP?

A: AP.

C: where the AP corresponds..

A: Ok

C: using the partial virtual bitmap,

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1714r3 for the following CID?**

**6254**

No objection

1. [1611r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1611-00-00be-tid-to-link-mapping-enhancements.pptx) TID Mapping Enhancements Pooya Monajemi [Tech. 30’]

Discussion:

C: In the sequence 0 , 1, 2, AP can choose all sequences . AP can do all possbile combination.

A: Yes

C: AP need to control uplink. Why should the AP enforce the ul operation? I understand DL cases. Loadbalancing case?

C: slide 9, how does the client benefit ?

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**Thursday, November 18, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

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5. The Chair asked whether there is comment about agenda in 11-21/1775r3. Some modifications. The agenda was approved.

**Recorded attendance through Imat and e-mail:**

**Submissions**

1. [1176r](https://mentor.ieee.org/802.11/dcn/21/11-21-1176-07-00be-cc36-resolution-for-cids-related-to-ml-advertisement-part-2.docx)8 Res. 4 CIDs related to ML advertisement-Part 2 Abhishek Patil [4C SP-10’]

Discussion:

C: Multi-level inheritance, we haven’t decided the details of it. Could we settle it down firstly?

C: Note 2, non-inheritance elements are in the note 2. If you don’t address the problem of non-inheritance elements,..., we should wait the conclusion.

A: Inheritance and non-inheritance elements apply here. I can move the note 2 to cover inheritance and non-inheritance elements.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1176r9 for the following CID?- 7812**

No objection.

1. [1330r4](https://mentor.ieee.org/802.11/dcn/21/11-21-1330-04-00be-cc36-for-sn-indication.docx) CC36 for SN indication Jay Yang [1C SP-10’]

Discussion:

C: If there is no PS STA, the AP will deliver the group addressed frame anytime.

A: Yes. I already described it in the document. I just mentioned the update.

C: This use cases, IPTV, would be covered by TGbc instead of Tgbe.

A: 11be device may support TGbc. If it does not support it, ...

C: It might be very corner case. It’s not common case.

A: It will be useful for a single radio MLD. 11be don’t have the missing issue.

C: Each different link may have different SN.

C: In D1.3, a single radio MLD does not switch link if there is on-going traffic.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1330r4 for the following CIDs?5380 6648**

Y/N/A: 5/29/38

1. [1657r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1657-02-00be-tgbe-cc36-misc-comment-resolutions.docx) TGbe CC36 Misc Comment Resolutions M. Montemurro [5C 2SP-15’]

Discussion:

C: You remove the validation part? KDEs?

A: Yes

C: If you delete the note, you may have another note for the description. It’s not friendly.

C: If there is no consensus, do we reject two comments? I want to keep two notes in my mind.

A:  if the straw poll does not show support for the resolution, we should be rejecting 6184 and 5191 with a rejection reason of the group could not come to consensus.

**SP1: Do you agree to accept the resolution in IEEE 802.11-21/1657r3 for the following CIDs?6050, 6052, 6934**

**No objection.**

**SP2: Do you agree to accept the resolution in IEEE 802.11-21/1657r3 for the following CIDs?6184, 5191**

22/22/29

1. [1710r](https://mentor.ieee.org/802.11/dcn/21/11-21-1710-02-00be-cc36-resolution-for-cids-for-9-4-2.docx)3 CC36 resolution for CIDs for 9.4.2 Laurent Cariou [29C 35’]

Discussion:

C: We updated the texts of 35.3.10. Consistent with the update?

A: Yes.

C: BSS transition, add new subclause.

A: It’s part 2. Let’s go the part 1 firstly.

**SP1: Do you agree to accept the resolution in IEEE 802.11-21/1710r3 for the following CIDs?7437 7438 5594 6229 5321 4259 6010 4258 6231 7806 6232 6970 7700 8275 5122 8163 8276 5123 8164 8277 4099 6233 4260 5368**

No objection.

C: new subclause BSS transition. For recommended Aps, You suggest Link ID Info in ML element.

C: Link ID info is in Per-STA profile. You move it to common. How about the STA Info field?

A: I can double check.

C: Neighbor report does not carry the Per-STA profile in ML element.

A: Ok. We can have more discussion.

1. 1756r3, Jarkko.

Discussion:

C: Why do you add these in RNR?

A: You can improve scanning in 6GHz.

C: TIM broadcasting, the field in the ML element.

C: Group frames in the spec? You can just say group addressed frames.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 12:00 ET**

**Monday, November 22, 2021, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 19:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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.
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5. The Chair asked whether there is comment about agenda in 11-21/1775r5. Some modifications. The agenda was approved.

**Recorded attendance through Imat and e-mail:**

**Submissions**

1. [1756r](https://mentor.ieee.org/802.11/dcn/21/11-21-1756-03-00be-cr-for-beacon-type-information.docx/)6 CR for Beacon Type Information Jarkko Kneckt [10C SP-10’]

Discussion:

C: Page 6, equation, ML probe request/response happens in link1, how can you know the pathloss of link 2?

A: You can estimate that of the link 2.

C: Delta pathloss is fixed or variable?

C: This is for STA to estimate whether the AP MLD is good or not based on the equation.

C: Equation may be wrong if the STA is mobile. Delta pathloss is not fixed.

C: I’m not sure whether the Beacon type is useful for the pre-association or post association.

A: It could be good for both cases. Multi-link setup, post association.

C: This can happen in a single link STA. Why do you mention only in multi-link?

C: You removed the duplicated ppdu for group frame. You can also remove the non-HT dup ppdu for beacon?

A:

**SP2: Do you agree to accept the resolution in IEEE 802.11-21/1756r6 for the following CIDs?**

#5324, #5325

C: Which part is covered in the document?

A: Only texts related to Beacon Type. Clearly indicated with CIDs in the doc. We can run SP

Y/N/A: 17/21/28

1. [1452r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1452-01-00be-cr-for-probe-request-variant-mle.docx) CR-for-Probe-Request-Variant-MLE Jason Y. Guo [1C 15’]

Discussion:

C: I support the intention. ML probe does not carry the information of the current AP. Which information is carried among parameters? All mandatory or optional? I think the action frame is better than the normal probe response.

C: Similar to previous. how can the probe response body be comprised?

C: I have a similar contribution.

A: Why is this related to ML fragmentation?

C: We can define new action frame for ML.

C: I also think that new action frame is good candidate for this.

C: In AP operation, if do not retrieve the information, the value should be 0. Not 1.

1. [1718r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1718-01-00be-cc36-cr-for-rtwt-sp-protection.docx) CC36 CR for rTWT SP Protection Patrice NEZOU [4C 15’]

Discussion:

C: Second part, you restrict the rTWT to Triggered based TWT. Too restricted.

C: First part, there were long discussion about why the quiet interval should not protect the whole rTWT SP.

A: although Trigger field is set to 1, The STA is not forbided EDCA operation.

C: the TXOP limit is only for AP self?

C: This is unfair with legacy STA and EHT STA that does not support rTWT.

C: AP shall set the field to 1. Why?

A: Not always. Not forfiding the EDCA.

C: AP can transmit a Trigger frame to protect it.

C: If the STA may contends the channel again at the last sentence, the medium may loss by AP.

C: MaxProbisionTime seems like TXOPlimit. ProvisionPeriod and rTWT SP are beyond TXOPlimit.

1. [1681r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1681-00-00be-resolutions-for-cids-related-to-annex-b.docx) Resolutions for CIDs related to Annex B Rajat Pushkarna [6C 25’]

Discussion:

C: Soft AP, you can change to mobile.

A: Ok

C: EMLSR or EMLMR signaling is mandatory.

C: Do we have to have CFEHT160?

A: Ok, 6GHz?

C: Yes

C: And non-STR operation?

C: Do you want to run SP now?

A: You can review it more.

1. [395r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0395-05-00be-tspec-request.pptx) TSPEC Request Rubayet Shafin [SP-10’]

Discussion:

C: what is the motivation of SP1? AP can do rTWT.

A: AP can recommend the TWT parameters. Another is STA can recommend.

C: SP2, there is not TSPEC for it.

C: how does AP know the DL traffic pattern to tell the STA?

A: two type. One is server. The other is packet arrival measurement. I mean the second case.

* **SP1: Do you agree that a non-AP STA or non-AP MLD can benefit from information related to the DL traffic pattern (e.g., DL timing information) when specifying a suggested/demanded set of TWT parameters in TWT Setup:**

Y/N/A: 8/43/18

* **SP2: Do you agree that the capability to request the TSPEC element(s) or its variant from the AP or AP MLD can be beneficial for the non-AP STA or non-AP MLD?**

Y/N/A: 7/32/16

* **SP3: Do you agree to add the following to 11be R2:**
  + The non-AP STA or non-AP MLD may send a TSPEC request IE to the AP or AP MLD to request for the DL traffic characteristic of a traffic flow
  + Upon receiving the TSPEC request IE, the AP or AP MLD can send the requested information using the TSPEC element(s) or its variant to the non-AP STA or non-AP MLD

Y/N/A: 6/41/13

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 21:00 ET**

**Monday, November 29, 2021, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)**

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

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5. The Chair asked whether there is comment about agenda in 11-21/1775r6. Some modifications. The agenda was approved.

**Recorded attendance through Imat and e-mail:**

**Submissions**

1. [1699r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1699-00-00be-cc36-cr-for-r-twt-rbo-before-service-period.docx) CR for r-TWT RBO before service period Abdel K. Ajami [3C 15’]

Discussion:

C: Your intention is shall operation than should? If implemented set to true, the STA do perform the shall at the condition?

A: Yes.

C: These other cases should be covered.

C: The other text mentions the EHT STA ends the TXOP ..... I think two texts are overlapped.

C: Ok with the general direction. Just clarifiction, is this defer transmission or stop the transmission?

A: The other text is mentioning to stop the transmission.

C: If the EHT STA is a memeber of rTWT SP, is it applied to this?

A: It’s already handled with the baseline text.

C: the current text already mentions if the STA supports rTWT, then the STA ends TXOP before the start of the rTWT SP. Do we need this additional text?

A: If the RBO is 0 and the remaining time is not enough, the STA should decide whether it transmits or not.

C: This is only applied to non-AP EHT STA. 11.8.3. only limits the non-AP STA.

A: The comment does not mention the STA is AP or non-AP.

C: There is no reason for AP to check whether it’s enough or not.

1. [1698r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1698-00-00be-cc36-cr-for-r-twt-quieting-rules.docx) CR for r-TWT Quieting rules Abdel K. Ajami [7C 15’]

Discussion:

C: Agree with the resolution. I think the STAs that are memebers of a restricted TWT SP imply the do11RestrictedTWT OptionImplemented set true. Seems redundant.

A:Ok

C: For intention of the current text, if EHT STAs don’t support the rTWT SP, the STA allows to ignore the quiet interval. This is EHT STA’s behavior. What is the problem on the current text? Do you want to make rTWT mandatory?

C: the correspond to the rTWT SP seems like redundant. The overlapping quiet interval already cover. You can remove the last part.

A: Ok.

C: The STA that is member of rTWT SP does not need to oberserve the quiet interval

C: You may describe the additional text in some cases for other STAs that is not member.

C: minor corrections: corresponds, a r-TWT scheduled STA, a member,..

A: Ok.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1698r2 for the following CIDs?7470, 6337, 6338, 4161, 4435, 6745, 4089, 4490, 4784**

42/7/16

1. [1086r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1086-00-00be-cc36-resolution-for-cids-in-clause-35-3-4-3.docx) CC36 Resolution for CIDs in Clause 35.3.4.3 Gaurang Naik [7C 15’]

Discussion:

C: Generally Ok. When the Neigbor Report element includes is weird. Instead of it, the Neigbor Report element including the Basic ML subelement ...

A: Ok.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1086r1 for the following CIDs?**

6687, 4045, 4740, 4741, 4046

No objection

1. [1731r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1731-00-00be-cr-for-35-2-1-3-remaining-part1.docx) CR for 35.2.1.3 remaining-part1 Dibakar Das [24C 35’]

Discussion:

C: The note is not the an MU-RTS TXS or basic Trigger frame.

A: OK.

C: I agree with you for the capability of 1 or 2. Only mode equal to 2.

A: OK.

C: Do we need still the Triggered TXOP sharing mode subfield?

A: OK, I’ll take a look at it.

C: The sentence for MU EDCA timer is too complicated.

A: I keep the same text as 11ax. We can check offline.

...

A: TDLS is no issue. Fine. TDLS is one type of p2p TXs.

C: extended too much.

C: how does the P2P work in mode set to 2? In changed figure. There is no setup between STA1 and STA2. How does the STA 2 know when the STA 1 transmits to STA2?

A: That is the part of P2P operation.

C: This is not clear to me.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 21:00 ET**