IEEE P802.11  
Wireless LANs

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| TGbn MAC Ad Hoc Jan 2025 Kobe Minutes | | | | |
| Date: 2025-04-10 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Srinivas Kandala | Samsung Electronics |  |  | [srini.k1@samsung.com](mailto:srini.k1@samsung.com) |
| Jeongki Kim | Offino |  |  |  |

This document contains the minutes for the IEEE 802.11bn MAC Ad Hoc sessions between March and May 2025

Abbreviation(s) used:

C: Comment

Q: Question

A: Answer

r0: initial version

r1: minutes until teleconference on Mar. 27th

r2: minutes of the teleconferences on Mar. 31st and Apr. 3rd added

r3: minutes of the teleconferences on Apr. 7th and 10th added

# Minutes for the IEEE 802.11bn MAC Ad Hoc Mar-May Sessions

TGbn MAC Ad Hoc Chair chairing: Xiaofei Wang (Interdigital)

TGbn MAC Ad Hoc Chair serving as recording secretary: Srinivas Kandala (Samsung)

## 1st Conf. Call: March 24 (19:00–21:00 ET)–MAC

1. The chair called the meeting to order at 7:02 PM EDT.
   1. The chair, Xiaofei Wang, introduced himself.
   2. The secretary for the session is Srinivas Kandala
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees of the patent polices.
   2. Chair called for essential patents, and none was indicated.
   3. The chair reminded attendees that participation is on an individual basis.
   4. The chair reminded attendees of IEEE meeting and copy right policies.
   5. Chair’s reminder on recording attendance through IMAT

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

|  |  |
| --- | --- |
| **Name** | **Affiliation** |
| Park, Minyoung | Apple Inc. |
| Sakamoto, Ryunosuke | SHARP CORPORATION |
| Sato, Takuhiro | SHARP CORPORATION |
| Jee, Anand | SAMSUNG ELECTRONICS |
| Inoue, Kyosuke | SHARP CORPORATION |
| Sevin, Julien | Canon Research Centre France |
| Inohiza, Hirohiko | Canon |
| Shabdanov, Samat | Mediatek |
| Shafin, Rubayet | Samsung Electronics |
| Huang, Po-Kai | Intel Corporation |
| huang, kaikai | Nokia |
| Shi, Jiacheng | TCL |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd |
| Kalamkar, Sanket | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Shirakawa, Atsushi | SHARP CORPORATION |
| Ho, Duncan | Qualcomm Technologies, Inc |
| Sung, Hyeonjun | WILUS Inc. |
| Hedayat, Ahmadreza | Apple Inc. |
| Tanaka, Yusuke | Sony Corporation |
| Hasabelnaby, Mahmoud | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Urabe, Yoshio | Panasonic Holdings Corporation |
| Hart, Brian | Cisco Systems, Inc. |
| Varshney, Prabodh | Nokia |
| Wang, Qi | Apple Inc |
| Hamilton, Mark | Ruckus/CommScope |
| Wang, Xiaofei | InterDigital, Inc. |
| Haider, Muhammad Kumail | Meta Platforms, Inc. |
| Hsu, Ostrovsky | Xiaomi Communications Co., Ltd. |
| Ryu, Kiseon | WILUS Inc. |
| Ratnam, Vishnu | Samsung Research America |
| Kandala, Srinivas | Samsung |
| Li, Weiyi | Spreadtrum Communication USA, Inc |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| LEE, JOONSOO | Newracom Inc. |
| Ma, Yongsen | SAMSUNG ELECTRONICS |
| Lee, Hong Won | LG ELECTRONICS |
| Mehrnoush, Morteza | Apple Inc. |
| Mohamed Hassan Salem, Nedime Pelin | Cisco Systems, Inc. |
| Kuo, Chih-Chun | MediaTek Inc. |
| Monajemi, Pooya | Apple Inc. |
| Koo, Jonghoe | SAMSUNG ELECTRONICS |
| Klein, Arik | Huawei Technologies Co., Ltd |
| Kishida, Akira | NTT |
| Montemurro, Michael | Huawei Technologies Co., Ltd |
| Motozuka, Hiroyuki | Panasonic Holdings Corporation |
| Nayak, Peshal | Samsung Research America |
| Kim, Sang Gook | LG ELECTRONICS |
| Noh, Si-Chan | Newracom Inc. |
| Kim, Jungjun | Samsung Electronics |
| Ouchi, Masatomo | Canon |
| Kim, Jeongki | Ofinno |
| Park, Sungjin | Senscomm |
| Kim, Geon Hwan | LG ELECTRONICS |
| Patil, Abhishek | Qualcomm Incorporated |
| Perez, Javier | Ofinno |
| Kang, HaoHua | MediaTek Inc. |
| Quan, Yingqiao | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. |
| Xia, Qing | Sony Corporation |
| Lou, Hanqing | InterDigital, Inc. |
| Xiao, Tong | Xiaomi Communications Co., Ltd. |
| Xu, Yanchao | Amlogic |
| Chen, Wei-Han | Mediatek Inc |
| Cha, Dongju | LG ELECTRONICS |
| Byeon, Seongho | SAMSUNG ELECTRONICS |
| Baykas, Tuncer | Self |
| CHENG, yajun | Xiaomi Communications Co., Ltd. |
| Aio, Kosuke | Sony Corporation |
| Bansal, Ankur | SAMSUNG ELECTRONICS |
| Choi, JinHo | SAMSUNG ELECTRONICS |
| Yan, Zhongjiang | Northwestern Polytechnical University |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. |
| Yang, Haorui | China Mobile |
| Gu, Junrong | Clourney Semiconductor |
| Gu, Jaheon | Samsung Electronics Co., Ltd. |
| Yang, Jay | ZTE Corporation |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| Yin, Shirley | Clourney Semiconductor |
| Fischer, Matthew | Broadcom Corporation |
| Yoon, Yelin | LG ELECTRONICS |
| Fang, Yonggang | MediaTek Inc. |
| Zhang, Maolin | Huawei Technologies Co., Ltd |
| Fan, Shuang | Sanechips Technology Co., Ltd. |
| Zhao, Yue | Huawei Technologies Co., Ltd |
| Erkucuk, Serhat | Ofinno |
| Dumdei, Alan | Cisco |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| Zhou, Renlong | Sanechips Technology Co., Ltd. |
| Das, Subir | Peraton Labs |
| Cui, Yaoshen | TP-Link Systems Inc. |
| Coffey, John | Realtek Semiconductor Corp. |
| Chu, Liwen | NXP Semiconductors |
| Gupta, Binita | Cisco Systems, Inc. |
| li, yan | ZTE Corporation |

1. The agenda is [11-25/0504r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0504-00-00bn-mar-may-tgbn-teleconference-agenda.docx).
   1. The chair reviews agenda
      1. The author of [24/2007r4](https://mentor.ieee.org/802.11/dcn/24/11-24-2007-04-00bn-pdt-mac-p-edca.docx) stated that he has presented in an earlier meeting and has been working on r5, but is not ready to be presented and requested to be removed
      2. Rest of the agenda is approved by unanimous consent by all attendees.
2. Announcements: None
3. CR/PDT Submissions:

* [~~24/2007r4~~](https://mentor.ieee.org/802.11/dcn/24/11-24-2007-04-00bn-pdt-mac-p-edca.docx) ~~PDT-MAC-P EDCA Akhmetov, Dmitry~~
  + Removed from agenda.
* [25/0448r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0448-02-00bn-pdt-mac-on-low-latency-indication.docx) PDT MAC on low latency indication Mohamed Abouelseoud
  + Submission has been walked through
  + Discussion:
    - C: Any reason for not reserving the Fragment Number field in the Multi-STA BA?
    - A: Fragment number is used for determing the size of the feedback and this is still going to be used.
    - C: What is the intent of Low Latency Indication?
    - A: This is in the motion passed. What is sent is TBD, but there should be enough number of bits.
    - C: Is the feature described somewhere?
    - A: It is already in D0.1.
    - C: But isn’t this confusing when competing STAs put this indication, how would the scheduler react?
    - A: You just give it to the TXOP holder and it would determine how to act on it. This could be scheduled in the same TXOP and is not related to the scheduling based on BSRP etc.
    - C: If it were limited to the current TXOP, it makes sense, but if it is for the subsequent TXOPs, then there is this issue if multiple STAs indicate and may lead for competition.
    - A: For now, the indication is TBD. Currently this is what is in the draft – this is being sent to the AP and AP will take action.
    - C: Same question as above. My initial understanding is the low latency indication would be a single bit, but now it appears to be multiple number of bits.
    - A: No, it could be just one bit, the figure only shows multiple bits but it is for indicating TBD.
    - C: I would like to understand the usecase if there is more than one bit
    - A: Not in disagreement, it is just TBD number of bits, so that we can move forward.
    - C: We need to understand what we are indicating.
    - A: There are missing details as AP may not know how AP should be using this information.
    - C: On signalling, in the starting sequenc control, why do we have “feedback type” in the middle of the reserved bits?
    - A: I wanted to put it in the end, but some commenter asked for a reason. So, I kept it this way.
    - C: Similar comment. The expectation now is to resolve the TBDs and attempt to remove them and if we find comments, can we enter and resolve the related comments as this is targeted towards incorporating into D1.0, better to minimize.
* [25/0479r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0479-00-00bn-cr-for-cid-1378.docx) CR\_for\_CID\_1378 Dibakar Das
  + Submission has been walked through
  + Discussion
    - C: There are couple of TBDs. It is better to resolve them before incorporating into the draft.
    - C: One comment is editorial and will discuss offline. The other one, I see the motion #244 differently. The scope is not limited to C-TDMA, but to time-sharing.
    - A: But there is motion 329 that discusses C-TDMA specifically.
    - C: I agree that there should not be TBDs in the draft, but wiping out the TBDs without placeholder carries some risk.
    - C: In the second subbulet in 37.17, the TXOP limit it advertises, AP is already using the TXOP, so it should be reduced.
    - A: Agree and will try to work it out.
    - C: In the final paragraph, you mention TXOP sharing mode 2, in mode 2, the STA can communicate to the AP for uplink.
    - A: It is not disallowed and still operating within the limit.
    - C: My understanding from the paragraph that the AP should start with its own STA, but in mode 2, the STA can send uplink, and we should not exclude this case.
    - A: Mode 2 is mainly for P2P, but if there is uplink mode it can be used and better to use.
    - C: Perhaps we can take it offline, but it may be better to limit. Mode 2 is different from C-TDMA and C-TDMA could have OBSS traffic.
    - A: Let us take it offline
    - C: To clarify, the suggestion is not to remove TBD, but replace it with a value that is acceptable to the group. The purpose is not to add TBDs without any resolution
    - C: Also, the txop sharing can be used for other purposes and should be added.
    - A: But the motion is limited to C-TDMA.
    - C: I prefer to finalize for C-TDMA and then extend to others.
    - C: The TXOP limit announced is not a restriction to the AP and thus the minus part is not needed (mentioned above).
    - A; I understand.
    - C: I would like to generalize to other mechanisms.
    - C: Everyone should be limited to the same limit
    - A: Let us move it offline
    - C: Include .11bn reflector to all offline discussions

1. Technical Submissions – Roaming Part 3:

* [24/1890](https://mentor.ieee.org/802.11/dcn/24/11-24-1890-00-00bn-seamless-roaming-follow-up-2.pptx) Seamless roaming follow up 2 Liwen Chu
  + Submission has been walked through
  + Discussion
    - C: For the example in slide 7, the SN for AP1 is until 31 and for AP2, it starts at 32. Will it be continuous?
    - A: Yes, in seamless roaming it needs to be continuous.
    - C: Slide 3, for first association ML set up will be first but should not need to have the SMD.
    - A: If seamless roaming is supported, the ML set up should have the required information
    - C: During association, isn’t it sufficient with basic procedure?
    - A: Modifications need to be made.
    - The author chooses to defer running the SP and asks people to contact him offline.
* [24/1898](https://mentor.ieee.org/802.11/dcn/24/11-24-1898-00-00bn-low-latency-roaming-flow.pptx) Low Latency Roaming Flow Pooya Monajemi
  + Submission has been walked through
  + Discussion
    - C: Did you think of the signaling that you want to use?
    - A: Havent thought about signaling yet.
    - C: One caution is not to use management frames and perhaps use some other ways.
    - A: Your idea is to have management frames should be sent by only one AP.
    - C: Yes, that is correct.
    - C: Slide 11, you mentioned that this is an optimization issue. I want to check with you. Is this optimization issue or an implementation issue?
    - A: Not sure if it is implementation, but if you have to ignore one TID, but then you would have loss in transmission.
    - C: Would you be using the BAR to indicate per TID?
    - A: Yes, something like that.
* [24/0656](https://mentor.ieee.org/802.11/dcn/24/11-24-0656-01-00bn-seamless-roaming-signaling-details.pptx) Seamless roaming signalling details Binita Gupta
  + Submission has been walked through
  + Discussion
    - C: link reconfiguring req/resp are link-level and not MLD level and AIDs may not match.
    - A: AID scope is with MLD.
    - C: But the same AID could be used by target MLD.
    - A: Let us move to offline discussion.
    - C: You mentioned the SMD ID being one byte. Earlier the domain ID was two bytes. Do you plan to keep it that way or will you have to versions?
    - A: We already have an agreement that SMD 1D would be 6 octets. This is a shortened version to only identify the SMDs locally.
    - C: On AID, receiving that AID at the last minute may not be good and should be done earlier. Why not just run multiple preparations and if there is concern on running out AID space, then there can be the risk of running out the SCS? The prep phase should not be too light and should be like association.
    - A: We split into phases for a reason. With the link set up, there is not a lot of processing involved. Let us discuss more offline.
* [24/0658](https://mentor.ieee.org/802.11/dcn/24/11-24-0658-00-00bn-optimizing-roaming-scan.pptx) Optimizing Roaming Scan Binita Gupta
  + Submission has been walked through partially
  + Discussion:
    - C: Do you plan to define a new element?
    - A: You can use one bit.
    - Ran out of time

1. AoB: None
2. Adjourn: Meeting was adjourned at 9:01 PM EDT

## 2nd Conf. Call: March 27 (10:00–12:00 ET)–MAC

1. The chair called the meeting to order at 10:02 AM EDT.
   1. The chair, Xiaofei Wang, introduced himself.
   2. The secretary for the session is Srinivas Kandala
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees of the patent polices.
   2. Chair called for essential patents, and none was indicated.
   3. The chair reminded attendees that participation is on an individual basis.
   4. The chair reminded attendees of IEEE meeting and copy right policies.
   5. Chair’s reminder on recording attendance through IMAT

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

|  |  |
| --- | --- |
| **Name** | **Affiliation** |
| Cha, Dongju | LG ELECTRONICS |
| Carney, William | Sony Group Corporation |
| Byeon, Seongho | SAMSUNG ELECTRONICS |
| Baykas, Tuncer | Self |
| baron, stephane | Canon Research Centre France |
| Lorgeoux, Mikael | Canon Research Centre France |
| Bai, Jiyang | TCL |
| Chaturvedi, Abhishek | Samsung Electronics |
| Bansal, Ankur | SAMSUNG ELECTRONICS |
| Chen, Junbin | TP-Link Systems Inc. |
| CHENG, yajun | Xiaomi Communications Co., Ltd. |
| Fischer, Matthew | Broadcom Corporation |
| Zhang, Jiayi | Ofinno |
| Fang, Yonggang | MediaTek Inc. |
| Zhao, Xuwen | TCL |
| Zhao, Yue | Huawei Technologies Co., Ltd |
| Fan, Shuang | Sanechips Technology Co., Ltd. |
| Zhong, Ke | Ruijie Networks Co.,Ltd. |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| Chen, Wei-Han | Mediatek Inc |
| Doppler, Klaus | Nokia |
| Dong, Xiandong | Xiaomi Communications Co., Ltd. |
| Di Taranto, Rocco | Ericsson AB |
| Ding, Qian | TP-Link Systems Inc. |
| Das, Subir | Peraton Labs |
| Chung, Chulho | SAMSUNG |
| Chu, Liwen | NXP Semiconductors |
| Choi, Jinsoo | LG ELECTRONICS |
| Choi, JinHo | SAMSUNG ELECTRONICS |
| Zhou, Lei | H3C Technologies Co., Limited |
| Yoon, Yelin | LG ELECTRONICS |
| Lim, Dong Guk | LG ELECTRONICS |
| Genc, Eda | Nokia |
| Georgiev, Zahari | Cisco Systems, Inc. |
| Nezou, Patrice | Canon Research Centre France |
| Noh, Si-Chan | Newracom Inc. |
| Kim, Sang Gook | LG ELECTRONICS |
| Kim, Jungjun | Samsung Electronics |
| Park, Sungjin | Senscomm |
| Kim, Jeongki | Ofinno |
| Patil, Abhishek | Qualcomm Incorporated |
| Neishaboori, Azin | General Motors Company |
| Kim, Geon Hwan | LG ELECTRONICS |
| Karthik, S. G. | SAMSUNG ELECTRONICS |
| Quan, Yingqiao | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. |
| Kang, HaoHua | MediaTek Inc. |
| Ratnam, Vishnu | Samsung Research America |
| Kandala, Srinivas | Samsung |
| RISON, Mark | Samsung Cambridge Solution Centre |
| Roy, Rishabh | SAMSUNG ELECTRONICS |
| Ryu, Kiseon | WILUS Inc. |
| Perez, Javier | Ofinno |
| Kamel, Mahmoud | Interdigital Inc. |
| Kim, Sanghyun | WILUS Inc. |
| Kim, Suhwook | SAMSUNG ELECTRONICS |
| Lou, Hanqing | InterDigital, Inc. |
| li, yan | ZTE Corporation |
| Lovison, Federico | Cisco Systems, Inc. |
| Lu, kaiying | MediaTek Inc. |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. |
| Li, Weiyi | Spreadtrum Communication USA, Inc |
| LU, Yuxin | TCL Industries |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| Mutgan, Okan | Nokia |
| Li, Haozheng | TP-Link System Inc. |
| LEE, JOONSOO | Newracom Inc. |
| Manoharan, Jegan | Cisco Systems, Inc. |
| McCann, Stephen | Huawei Technologies Co., Ltd |
| Lee, Hong Won | LG ELECTRONICS |
| Lee, Gwangho | Korea National University of Transportation |
| Monajemi, Pooya | Apple Inc. |
| Kuo, Chih-Chun | MediaTek Inc. |
| Kishida, Akira | NTT |
| Ma, Yongsen | SAMSUNG ELECTRONICS |
| Kalamkar, Sanket | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Kakani, Naveen | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Scott, David | Cisco Systems, Inc. |
| Wang, Xiaofei | InterDigital, Inc. |
| Halna du Fretay, Tristan | Canon Research Centre France |
| Wang, Ying | InterDigital, Inc. |
| Wee, Gaius | Panasonic Holdings Corporation |
| Xia, Qing | Sony Corporation |
| Haider, Muhammad Kumail | Meta Platforms, Inc. |
| Xiao, Tong | Xiaomi Communications Co., Ltd. |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. |
| Handte, Thomas | Sony Group Corporation |
| Xu, Yanchao | Amlogic |
| Yan, Zhongjiang | Northwestern Polytechnical University |
| GUIGNARD, Romain | Canon Research Centre France |
| Yang, Haorui | China Mobile |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. |
| Yang, Jay | ZTE Corporation |
| Gu, Jaheon | Samsung Electronics Co., Ltd. |
| Yang, Yunpeng | TP-Link Systems Inc. |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| Gupta, Binita | Cisco Systems, Inc. |
| Wang, Qi | Apple Inc |
| Hart, Brian | Cisco Systems, Inc. |
| Varshney, Prabodh | Nokia |
| Sevin, Julien | Canon Research Centre France |
| Inoue, Kyosuke | SHARP CORPORATION |
| Shabdanov, Samat | Mediatek |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Huang, Qisheng | ZTE Corporation |
| Shi, Jiacheng | TCL |
| huang, kaikai | Nokia |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd |
| HUANG, CHIHAN | MediaTek Inc. |
| Hu, Chunyu | Spreadtrum Communications US |
| Smith, Graham | SRT Wireless |
| Sun, Bo | Sanechips Technology Co., Ltd. |
| Sung, Hyeonjun | WILUS Inc. |
| Hervieu, Lili | CableLabs |
| Hedayat, Ahmadreza | Apple Inc. |
| Tsujimaru, Yuki | Canon |
| Urabe, Yoshio | Panasonic Holdings Corporation |
| Hasabelnaby, Mahmoud | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Val, Inaki | MaxLinear, Inc. |
| Yee, James | MediaTek Inc. |

1. The agenda is [11-25/0504r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0504-01-00bn-mar-may-tgbn-teleconference-agenda.docx).
   1. The chair reviews agenda
      * Document 24/2007r4 should be 24/2007r5
      * No objections to the agenda. The agenda is approved.
2. Announcements: None
3. CR/PDT Submissions – Miscellaneous:
   1. [24/2007r5](https://mentor.ieee.org/802.11/dcn/24/11-24-2007-04-00bn-pdt-mac-p-edca.docx) PDT-MAC-P EDCA Akhmetov, Dmitry
   * Submission has been walked through
   * Discussion
     + C: If RTS/CTS sent then it may violate the rules
     + A: If P-EDCA, CTS may be transmitted or you could still use RTS/CTS. There is no conflict
     + C: But there will be inconsistency in frame exchange and may result in unfairness
     + A: There is really no inconsistency. After a collision, a CTS can be sent or RTS/CTS can be sent
     + C: There should be a comment on the format and transmit rate for RTS as initial freame in the TXOP
     + A: There should be some justification as that is not there in the regular EDCA
     + C: Since there are two options, we need to consider the format of EDCA
     + A: We may take it to offline, but it doesn’t matter whether you use a regular RTS or a special RTS as it will be a collision anyway
     + C: We can take it offline
     + C: “The protected duration of P-EDCA is TBD” can be deleted as it is already resolved
     + A: Yes
     + C: Editorial, some PEDCA to be replaced with P-EDCA. Also, it may be good to avoid confusion better to call it CTSDS instead of CTS.
     + A: But it is still only a CTS and may be there is no need for a new name
     + C: But as CTS is used in another context, it may be better to say unsolicited CTS
     + C: How do you enforce “EDCA eligible STA has AC\_VO traffic buffered traffic”?
     + A: But if someone wants to cheat, the standard cannot prevent it, so it can not be enforced
     + C: There has been no discussion on the MAC address
     + A: Yes, but in order to resolve TBD, either we choose AP MAC address or some newly defined. For now, AP MAC address has been chosen
     + C: Can you add the explanation?
     + A: I understand but not sure what to add. I will see what I can add
   1. [25/0437r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0437-00-00bn-cc-d0-1-subclause-37-11.docx) CC D0.1 subclause 37.11 Laurent Cariou
   * Submission has been walked through
   * Discussion
     + C: Need time to review the document
     + C: For 2694 it might be better to add a definition in 3.2
     + A: Agree
     + C: The number of availability bits is 9 but the unavailability duration field can be set up to 1023
     + A: Yes, this needs to be resolved by the group
     + C: Can we walk through the comment and the corresponding changes?
     + A: Per the latest guidelines for comment collection, we are providing references but not necessarily walking them through
     + C: Is the MIB variable dot11DUOOptionImplemented or should it be activated?
     + A: Need to look into what we use and harmonize
     + C: There does not appear to be an option to initiate a tear down per STA from the AP, so all STAs may be penalized
     + A: It is just an enabled feature and typically we don’t tear down if there is no negotiation
     + C: But there is a negotiation, so if agreement is followed then it should be torn down
     + A: yes, we can follow it
     + C: For Multi-STA BlockAck frame with ACK does not need TID Subfield
     + A: Good point and I will look into it
     + C: Request to run the SP after some more time to review
     + A: Agree to delay until hearing other comments
   1. [25/0438r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0438-00-00bn-cc-d0-1-subclause-9-3-1-8-6.docx) CC D0.1 subclause 9.3.1.8.6 Laurent Cariou
      * Submission has been walked through
      * Discussion
        + C: Is there a reason to place the feedback type at the location it is as there may be issues?
        + A: We can flip the order if there are no other issues
        + C: There is a deletion and is not shown as a change
        + A: Thanks, I will correct those
        + C: The comma should be a semicolon in Table 9-40 in the last column?
        + A: Yes
        + C: Can the added text in the last column header to be moved to a note with an asterisk?
        + A: Yes
        + C: Figure 9-60b – you don’t need to say it is 4 octets
        + A: Will fix
        + C: Feedbak type will be same size or different
        + A: It will depend on the feedback type
        + (Discussion on number of bits for unavailability)
        + C: We may need to coordinate as there is another contribution using some of the fields
        + Presenter will take comments in the chat and work on them
   2. [25/0513r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0513-00-00bn-pdt-mac-and-cc50-cr-of-bsr-enhancement.docx) PDT MAC and CC50 CR of BSR Enhancement Frank Hsu
      * Submission has been walked through
      * Discussion
        + C: What is the need for the two reserved bits
        + A: This is because it is still TBD
        + C: We may amend if there is a need in the future
        + C: Delivery queue is per AC and not TID and you may want to clarify
        + C: “may set” may not be correct and probably should be “shall” if the field value is 255. May be not even needed as it is repeating is what is in clause 9
        + C: Is there a need for the note?
        + C: OK to keep the note if the note is precise or should be removed. Will send some proposed text
        + C: Going back to “may set” comment, we have larger and unknown. Is the intention to have only one?
        + A: But unknown is already covered in QoS Control so no need for it to be in two places
4. Technical Submissions – Roaming Part 3:
   1. [24/1894](https://mentor.ieee.org/802.11/dcn/24/11-24-1894-00-00bn-smd-architecture.pptx) SMD architecture Binita Gupta
      * Submission has been walked through
      * Discussion
        + C: Each SMD has an authenticator function, that means you have distributed authenticator and I am not sure if it follows the current motion which states that each STA will connect to the same SMD
        + A: I think the motion indicates support to both centralized and distributed architectures. In distributed architecture, as shown in slide 6, the identifier is the same SMD and is just deployed in a distributed manner
        + C: This association with SMD is conflicting with the existing spec. Today, the data frame is sent to a specific AP and sending the association sending to SMD, the definitions need to be changed as I am not convinced that this is the way and we want more discussion
        + A: I think the discussions should follow the motion and move forward
        + C: But this means that we may have to change all the defintions and what you say about data frames is something I disagree. If you want to go there, we should do the entire thing.
5. AoB: None
6. Adjourn: Meeting was adjourned at 12:00 PM EDT

## 3rd Conf. Call: March 31 (19:00–21:00 ET)–MAC

1. The chair called the meeting to order at 7:02 PM EDT.
   1. The chair, Xiaofei Wang, introduced himself.
   2. The secretary for the session is Srinivas Kandala
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees of the patent polices.
   2. Chair called for essential patents, and none was indicated.
   3. The chair reminded attendees that participation is on an individual basis.
   4. The chair reminded attendees of IEEE meeting and copy right policies.
   5. Chair’s reminder on recording attendance through IMAT

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Affiliation** | |  |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. | | |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd | | |
| Son, Ju-Hyung | WILUS Inc. | |  |
| Noh, Si-Chan | Newracom Inc. | |  |
| Ouchi, Masatomo | Canon |  |  |
| Ohtani, Tomoya | Canon |  |  |
| Shirakawa, Atsushi | SHARP CORPORATION | | |
| Smith, Malcolm | Cisco Systems, Inc. | |  |
| Singh, Aditi | Charter Communications | | |
| huang, kaikai | Nokia |  |  |
| Fischer, Matthew | Broadcom Corporation | | |
| Byeon, Seongho | SAMSUNG ELECTRONICS | | |
| Ratnam, Vishnu | Samsung Research America | | |
| Patil, Abhishek | Qualcomm Incorporated | | |
| Fujimori, Yuki | Canon Research Centre France | | |
| Gu, Jaheon | Samsung Electronics Co., Ltd. | | |
| Rosdahl, Jon | Qualcomm Technologies, Inc. | | |
| Quan, Yingqiao | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. | | |
| Ryu, Kiseon | WILUS Inc. | |  |
| Georgiev, Zahari | Cisco Systems, Inc. | |  |
| Qi, Yue | Samsung Research America | | |
| Genc, Eda | Nokia |  |  |
| Perez, Javier | Ofinno |  |  |
| Patwardhan, Gaurav | Hewlett Packard Enterprise | | |
| Shabdanov, Samat | Mediatek |  |  |
| Zhou, Renlong | Sanechips Technology Co., Ltd. | | |
| Shi, Jiacheng | TCL |  |  |
| Scott, David | Cisco Systems, Inc. | |  |
| Sakamoto, Ryunosuke | SHARP CORPORATION | | |
| Varshney, Prabodh | Nokia |  |  |
| Fang, Yonggang | MediaTek Inc. | |  |
| Yang, Haorui | China Mobile | |  |
| Das, Subir | Peraton Labs | |  |
| Cui, Yaoshen | TP-Link Systems Inc. | | |
| Coffey, John | Realtek Semiconductor Corp. | | |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) | | |
| Yee, James | MediaTek Inc. | |  |
| Chu, Liwen | NXP Semiconductors | | |
| Yin, Shirley | Clourney Semiconductor | | |
| Cha, Dongju | LG ELECTRONICS | |  |
| Yoon, Yelin | LG ELECTRONICS | |  |
| Yukawa, Mitsuyoshi | Canon |  |  |
| Choi, JinHo | SAMSUNG ELECTRONICS | | |
| Zhang, Maolin | Huawei Technologies Co., Ltd | | |
| Chisci, Giovanni | Qualcomm Technologies, Inc | | |
| Zhao, Yue | Huawei Technologies Co., Ltd | | |
| CHENG, yajun | Xiaomi Communications Co., Ltd. | | |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. | | |
| Chen, Wei-Han | Mediatek Inc | |  |
| Yan, Zhongjiang | Northwestern Polytechnical University | | |
| Sung, Hyeonjun | WILUS Inc. | |  |
| Dezfouli, Behnam | Nokia |  |  |
| Xiao, Tong | Xiaomi Communications Co., Ltd. | | |
| Tanaka, Yusuke | Sony Corporation | |  |
| Tsai, BingHan | Moxa Inc. |  |  |
| Tsujimaru, Yuki | Canon |  |  |
| Fan, Shuang | Sanechips Technology Co., Ltd. | | |
| Urabe, Yoshio | Panasonic Holdings Corporation | | |
| Erkucuk, Serhat | Ofinno |  |  |
| Wang, Lei | Futurewei Technologies/Huawei Technologies | | |
| Wang, Qi | Apple Inc |  |  |
| Carney, William | Sony Group Corporation | | |
| Wang, Xiaofei | InterDigital, Inc. | |  |
| Doppler, Klaus | Nokia |  |  |
| Wang, Ying | InterDigital, Inc. | |  |
| Wee, Gaius | Panasonic Holdings Corporation | | |
| Dong, Xiandong | Xiaomi Communications Co., Ltd. | | |
| Wullert, John | Peraton Labs | |  |
| Xia, Qing | Sony Corporation | |  |
| Xu, Yanchao | Amlogic |  |  |
| Neishaboori, Azin | General Motors Company | | |
| Gu, Junrong | Clourney Semiconductor | | |
| Kang, HaoHua | MediaTek Inc. | |  |
| Hart, Brian | Cisco Systems, Inc. | |  |
| Ma, Yongsen | SAMSUNG ELECTRONICS | | |
| Kim, Geon Hwan | LG ELECTRONICS | |  |
| Li, Yunbo | Huawei Technologies Co., Ltd | | |
| Levy, Joseph | InterDigital, Inc. | |  |
| Adachi, Tomoko | TOSHIBA Corporation | | |
| Kim, Jungjun | Samsung Electronics | | |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. | | |
| Klein, Arik | Huawei Technologies Co., Ltd | | |
| Hedayat, Ahmadreza | Apple Inc. | |  |
| LU, Yuxin | TCL Industries | |  |
| Kim, Sang Gook | LG ELECTRONICS | |  |
| Kim, Sanghyun | WILUS Inc. | |  |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. | | |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. | | |
| Kishida, Akira | NTT |  |  |
| Lu, kaiying | MediaTek Inc. | |  |
| Hamilton, Mark | Ruckus/CommScope | | |
| Kandala, Srinivas | Samsung |  |  |
| Nayak, Peshal | Samsung Research America | | |
| LEE, JOONSOO | Newracom Inc. | |  |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd | | |
| HUANG, CHIHAN | MediaTek Inc. | |  |
| Inohiza, Hirohiko | Canon |  |  |
| Li, Weiyi | Spreadtrum Communication USA, Inc | | |
| Montemurro, Michael | Huawei Technologies Co., Ltd | | |
| Inoue, Kyosuke | SHARP CORPORATION | | |
| Gupta, Binita | Cisco Systems, Inc. | |  |
| Jang, Insun | LG ELECTRONICS | |  |
| Kakani, Naveen | Qualcomm Incorporated; Qualcomm Technologies, Inc | | |
| Monajemi, Pooya | Apple Inc. | |  |
| Hu, Chunyu | Spreadtrum Communications US | | |
| Kalamkar, Sanket | Qualcomm Incorporated; Qualcomm Technologies, Inc | | |
| Bao, Zhanjing | TCL |  |  |
| Lee, Hong Won | LG ELECTRONICS | |  |
| Mehrnoush, Morteza | Apple Inc. | |  |
| Kalyankar, Shravan | Huawei Technologies Co., Ltd | | |
| Baykas, Tuncer | Self |  |  |
| li, yan | ZTE Corporation | |  |

1. The agenda is [11-25/0504r3](https://mentor.ieee.org/802.11/dcn/25/11-25-0504-03-00bn-mar-may-tgbn-teleconference-agenda.docx).
   1. The chair reviews agenda
      * No objections to the agenda. The agenda is approved.
2. Announcements: None
3. CR/PDT Submissions – Topic:
   1. [25/0503r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0503-00-00bn-pdt-mac-dbe.docx) PDT-MAC-DBE Binita Gupta
      * Submission has been walked through
      * Discussion:
        + C: Why do you have expand/reduced? DBE is always expanded. The word modify covers sufficiently
        + A: Ok to remove expand/reduces
        + C: If we can change to dynamic bandwidth modification (DBM), that may be better.
        + A: But the intention is really to expand and it will always be more than the BSS bandwidth
        + C: Maybe you don’t want to say modify, but you may not at all modify. But it is better to keep expanded, where the AP would set it operation bandwidth to 160 and have the option of modifying. Perhaps you can come up with suitable wording
        + C: Regarding BSS bandwidth and EHT bandwidth, it is very confusing when you add EHT bandwidth.
        + A: Should we just say BSS bandwidth?
        + C: Yes, it should just be BSS bandwidth, and indicate DBE, but we also need to define the operation including expected operation from the non-AP STA side
        + C: During comment resolutions this document will be expanded to include additional details
        + C: On second to last line, it says subsequent bandwidth change and it is not clear what that is
        + A: Referring to DBE
        + C: Then make it clear.
        + C: Will there be a new BSS color, the EHT STAs will not expect this behaviour. Can we ensuere that the EHT devices will not disassociate?
        + A: Take it offline and discuss more
        + C: Let us continue to use expand/reset so that there is no confusion. If we want anything more, we can discuss further
        + A: Got feedback that reset is not needed and took it out. Take it offline
        + C: Why do you need “dynamic”? Dynamic indicates something that changes rapidly and it is not clear why the word dynamic is needed here
        + C: 3rd paragraph, first sentence – the multiple beacon interval does not refer to DTIM, something needs to be looked into
        + C: Primary should be set after bandwidth expansion
        + C: Based on your description, it can reest to the BSS bandwidth, so in the last sentence it should be greater than or equal to
        + A: When it resets the bandwidth, it is not in the expansion mode
        + C: But you are using the same signalling to indicate the reset bandwidth
        + A: That is correct, but it is reset, it is no longer operating in DBE mode
        + C: From the name DBE, dynamic is included, there are occurences where there are both DBE and dynamic together
        + A: Will remove dynamic
        + C: Is the capability bit for the use by the AP and non-AP STA?
        + A: Yes
        + C: What is the benefit for the non-AP STA?
        + A: This is STA capability, that is where we indicate. If we want to change the bandwidth by the non-AP STA after association, we can discuss further
        + C: Question on how does this feature operates; We understand the expanding, but how do you reduce and is there a need to reduce or not at all or just reset? How do you visualize this feature to operate?
        + A: Some times the APs see higher load and increase the bandwidth and once they don’t see the higher load they may reset back to the BSS bandwidth
        + C: So, is there a need to progressively increase or reduce from 40 -> 80 -> 160 and vice-versa
        + A; The load conditions may make the AP change the bandwidth.
        + C: Can it back to the intermediate bandwidth or just the original bandwidth?
        + A: It can go to an intermediate bandwidth
   2. [25/0551r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0551-00-00bn-cr-mac-cc50-cids-in-clause-9.docx) CR-MAC-cc50-CIDs\_in\_clause-9 Abhishek Patil [6C]
      * Submission has been walked through
      * Discussion:
        + C: For UHR indication, add “UHR” in front of the AP in resolution to 3852
        + A: Will fix it
        + C: Adding the UHR PHY to BSS Membership Selector, has there been any agreement on the mandatory features in UHR?
        + A: I do not know and following baseline
        + C: It may be best to check with PHY as the discussion there appears to be different.
        + A: For now, I will hold off on this CID and will remove it. CID is 3849.
        + C: The “same SMD” may not be enough
        + A: This is along the same line as same SSID. It will set to 1 if it is the same SMD, but may be set to 0 for a non-transmitting BSSID. Same philosophy applies to transmitted and non-transmited
        + C: Yes, this needs some indication
        + A: Yes
        + C: Going back to optional/mandatory and there will be some minimum such as UHR PPDU
        + C: On bit 23 in 9-416, make sure that there is no conflict with other specifications
        + C: I cannot find the definition of SMD
        + A: It is covered under Roaming PDT in clause 3
   3. [25/0521r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0521-00-00bn-pdt-mac-co-tdma-cr-cc50-part-1.docx) PDT-MAC-Co-TDMA-CR-CC50-Part-1 Sanket Kalamkar [56C]
      * Submission has been walked through
      * Discussion:
        + C: Changed “set of APs” to “one or more other APs”. It is not clear, if it is one time or just added to the group. Could you clarify?
        + A: The answer is there is 37.8.2.3.3 TXOP allocation phase. It said one AP.
        + C: That is true, the initial wording indicates something else – to other APs. I think the change is not good.
        + A: You mean that you would like to say that there is one more AP or send to one AP at once
        + C: Yes, or just keep the original wording
        + C: When you say “one or more Aps” in the first paragraph, you need to add “with which the sharing AP has sufficiently negotiated for co-ordinated TDMA”
        + A: For my own understanding, is there something that says that negotiation should be done for co-ordinated TDMA?
        + C: Yes, there is a motion
        + C: In the note that is changed to normative, if an AP does not respond then there would be other STAs that may jump, how do you handle that?
        + A: There are such comments and I will get to those comments in the next revisions
        + C; The second paragraph is general for all MAPC modes and can be indicated as such
        + A: I was planning to make it general but there were comments to keep it specific for C-TDMA, so I have kept it the same way
        + C: For the normative text, shouldn’t the AP not send TXS and hence will not be responded
        + A: Yes, that is correct. These are next level of detail awaiting additional motion/details
        + C: In one place polled AP shall not respond whereas in other place you say sharing AP does not receie a response frame; there is a conflict
        + A: Yes, this is based on the motion. But when we update with the details and the contiions that need to be added
        + C: In the polling phase, there is the motion that ICF shall be sent at the beginning of the AP. That means the TXOP is obtained by the BSS. But if the shared AP has no access to this channel, that means the shared AP would not be respond at all. We may need to think about the issue
        + A: This text is just a copy of the motion 268 but several details need to be added, based on the comments that are yet to be resolved
        + C: (first set of changes in 37.8.2.3.1(Extending to “one or more AP” may have many other implications and how it impacts other MAPC. Better to keep it the way it is
        + A: Thanks. I will probably revert it back
        + C: Changing note to normative text has many problems with the “shall” as it does not make sense for current TXOP. So, it may be better to leave in the note without the “shall”
        + A: Let me think over and initiate a thread
        + C: I disagree that it should be a note and it should be normative behaviour. There will be times when polled AP does not respond. It will be crucial for interop issues
        + C: Page 14, last paragraph. It appears that you are talking request/response frame. But the current motion does not have the request/response frame
        + A: Yes, there was a comment, I was suggesting possible direction if people do not agree then I can remove so that we have more discussion
        + C: In polling phase, do you mean that the BSRP trigger frame shall include TB PPDU response
        + A: Yes, the details needed to be added for TB and non-TB
        + C: Again, on the first change in the document
        + A: Yes, I will rever the change
        + C: I am wondering if we should still use ICF as it is settled that it will be BSRP trigger frame
        + A: It is a good suggestion and I will make the changes as I make the next revision
4. Straw Polls:

**SP1: Hirohiko Inohiza, 24/1699r1, NPCA – Result:**

Do you agree to include the following into the 11bn SFD?  
- An UHR STA shall not support NPCA operation when the operating band of an AP is 2.4GHz band.  
- The NPCA Supported field of the UHR MAC Capabilities Information field of the UHR Capabilities element is set to 0 for the 2.4GHz band.

* + - Straw Poll has been walked through
    - Discussion
      * C: I think you can remove “of an AP” as it is not needed
      * A: Agree
      * C: Not clear what this SP is mentioning. Clearing NPCA is only active for 80 MHz, which is not possible in 2.4 GHz
      * A: But we want to be explicitly mentioned
      * C: same question as previous
      * A: Just want to avoid any ambiguity for implementations
      * C: But already 40 MHz NPCA is not allowed
      * A: But the motion explicitly set it
      * C: In the current draft there is signalling and the second bullet is covered
      * Revised SP question:
      * Do you agree to include the following into the 11bn SFD?  
        - A UHR STA shall not support NPCA operation when the operating band of an AP is 2.4GHz band.  
        - The NPCA Supported field of the UHR MAC Capabilities Information field of the UHR Capabilities element is set to 0 for the 2.4GHz band.
      * Chair asked if there is an objection, count is requested
      * Result: 45Y, 31N, 31A

1. Technical Submissions – Roaming Part 3:
   1. [24/2118](https://mentor.ieee.org/802.11/dcn/24/11-24-2118-00-00bn-uplink-rssi-and-ap-transmit-power-for-effective-roaming.pptx) Uplink RSSI & AP TX PWR Info. 4 Effective Roaming Neel Krishnan
      * Document has been walked through
      * Discussion:
        + C: It is a good idea to include. Is there a value including it in transmit power in probe request?
        + A: Not really – because the probe request is transmitted by unassociated STAs and it is not easy to track unassociated STAs. Also, this is for STAs selecting the APs where it is more useful
        + C: In slide 6, here you are trying to estimate the uplink RSSI, for you to get correct estimate you may need antenna gain if you want to check with another link?
        + A: This a single value covering one link and we estimate for the other link is still useful as long as the antenna gain is similar
        + C: Antenna gain may be different in different directions. The only thing that is useful is the gain/transmit power for AP and STA at the current position. But going into different bands it may be different as the patterns can be different for each band
2. AoB: None
3. Adjourn; The meeting is adjourned at 8:59 PM EDT

## 4th Conf. Call: April 03 (10:00–12:00 ET)–MAC

1. The chair called the meeting to order at 10:00 AM EDT.
   1. The chair, Xiaofei Wang, introduced himself.
   2. The secretary for the session is Srinivas Kandala
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees of the patent polices.
   2. Chair called for essential patents, and none was indicated.
   3. The chair reminded attendees that participation is on an individual basis.
   4. The chair reminded attendees of IEEE meeting and copy right policies.
   5. Chair’s reminder on recording attendance through IMAT

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Affiliation** | | |
| Carney, William | Sony Group Corporation | | |
| baron, stephane | Canon Research Centre France | | |
| Baykas, Tuncer | Self |  |  |
| Cha, Dongju | LG ELECTRONICS | |  |
| Bredewoud, Albert | Broadcom Corporation | | |
| Byeon, Seongho | SAMSUNG ELECTRONICS | | |
| huang, kaikai | Nokia |  |  |
| Choi, JinHo | SAMSUNG ELECTRONICS | | |
| Handte, Thomas | Sony Group Corporation | | |
| Li, Weiyi | Spreadtrum Communication USA, Inc | | |
| Li, Yanchun | Huawei Technologies Co., Ltd | | |
| Liubogoshchev, Mikhail | Nokia |  |  |
| Halna du Fretay, Tristan | Canon Research Centre France | | |
| Lou, Hanqing | InterDigital, Inc. | |  |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. | | |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. | | |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. | | |
| Ma, Yongsen | SAMSUNG ELECTRONICS | | |
| Manoharan, Jegan | Cisco Systems, Inc. | |  |
| McCann, Stephen | Huawei Technologies Co., Ltd | | |
| Gupta, Binita | Cisco Systems, Inc. | |  |
| Motozuka, Hiroyuki | Panasonic Holdings Corporation | | |
| GUIGNARD, Romain | Canon Research Centre France | | |
| Neishaboori, Azin | General Motors Company | | |
| Noh, Si-Chan | Newracom Inc. | |  |
| Levy, Joseph | InterDigital, Inc. | |  |
| LEE, JOONSOO | Newracom Inc. | |  |
| Hart, Brian | Cisco Systems, Inc. | |  |
| Koundourakis, Michail | Samsung Cambridge Solution Center | | |
| Huang, Po-Kai | Intel Corporation | |  |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd | | |
| Inoue, Kyosuke | SHARP CORPORATION | | |
| Jang, Insun | LG ELECTRONICS | |  |
| Kakani, Naveen | Qualcomm Incorporated; Qualcomm Technologies, Inc | | |
| Kandala, Srinivas | Samsung |  |  |
| Ho, Duncan | Qualcomm Technologies, Inc | | |
| Karthik, S. G. | SAMSUNG ELECTRONICS | | |
| Park, Sungjin | Senscomm | |  |
| Hervieu, Lili | CableLabs | |  |
| Kim, Geon Hwan | LG ELECTRONICS | |  |
| Kim, Jeongki | Ofinno |  |  |
| Kim, Jungjun | Samsung Electronics | | |
| Kim, Sang Gook | LG ELECTRONICS | |  |
| Hedayat, Ahmadreza | Apple Inc. | |  |
| Kim, Sanghyun | WILUS Inc. | |  |
| Klein, Arik | Huawei Technologies Co., Ltd | | |
| Koo, Jonghoe | SAMSUNG ELECTRONICS | | |
| Kedem, Oren | Maxlinear | |  |
| Patil, Abhishek | Qualcomm Incorporated | | |
| Patwardhan, Gaurav | Hewlett Packard Enterprise | | |
| Perez, Javier | Ofinno |  |  |
| Erkucuk, Serhat | Ofinno |  |  |
| Ekkundi, Manasi | SAMSUNG ELECTRONICS | | |
| Wang, Lei | Futurewei Technologies/Huawei Technologies | | |
| Wang, Qi | Apple Inc |  |  |
| Dumdei, Alan | Cisco |  |  |
| Wang, Xiaofei | InterDigital, Inc. | |  |
| Wee, Gaius | Panasonic Holdings Corporation | | |
| Wullert, John | Peraton Labs | |  |
| Val, Inaki | MaxLinear, Inc. | |  |
| Xia, Qing | Sony Corporation | |  |
| Dharap, Anuj | Cisco Systems, Inc. | |  |
| Dezfouli, Behnam | Nokia |  |  |
| Das, Subir | Peraton Labs | |  |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) | | |
| Yee, James | MediaTek Inc. | |  |
| Chu, Liwen | NXP Semiconductors | | |
| Yoon, Yelin | LG ELECTRONICS | |  |
| Zhang, Maolin | Huawei Technologies Co., Ltd | | |
| Di Taranto, Rocco | Ericsson AB | |  |
| CHENG, yajun | Xiaomi Communications Co., Ltd. | | |
| Fan, Shuang | Sanechips Technology Co., Ltd. | | |
| Thakore, Darshak | CableLabs | |  |
| Pettersson, Charlie | Ericsson AB | |  |
| Quan, Yingqiao | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. | | |
| Ratnam, Vishnu | Samsung Research America | | |
| RISON, Mark | Samsung Cambridge Solution Centre | | |
| Gu, Jaheon | Samsung Electronics Co., Ltd. | | |
| Rodriguez, Stephen | Cisco Systems, Inc. | |  |
| Rosdahl, Jon | Qualcomm Technologies, Inc. | | |
| Roy, Rishabh | SAMSUNG ELECTRONICS | | |
| Urabe, Yoshio | Panasonic Holdings Corporation | | |
| Ryu, Kiseon | WILUS Inc. | |  |
| Genc, Eda | Nokia |  |  |
| Fujimori, Yuki | Canon Research Centre France | | |
| Silverman, Matt | Cisco Systems, Inc. | |  |
| Singh, Aditi | Charter Communications | | |
| Smith, Malcolm | Cisco Systems, Inc. | |  |
| Son, Ju-Hyung | WILUS Inc. | |  |
| Sung, Hyeonjun | WILUS Inc. | |  |
| Taori, Rakesh | Infineon Technologies | | |
| Sevin, Julien | Canon Research Centre France | | |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd | | |

1. The agenda is [11-25/0504r5](https://mentor.ieee.org/802.11/dcn/25/11-25-0504-05-00bn-mar-may-tgbn-teleconference-agenda.docx).
   1. The chair reviews agenda
      * Some changes and reflected below. The agenda is approved.
2. Announcements: Time assignment for submissions –10 mins each (15 mins if with SP)
3. CR/PDT Submissions:
   1. [~~25/0526r0~~](https://mentor.ieee.org/802.11/dcn/25/11-25-0526-00-00bn-cc50-cr-for-cid144.docx) ~~cc50 cr for cid144 Bo Cao [1 CID]~~
      * [25/0551r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0551-02-00bn-cr-mac-cc50-cids-in-clause-9.docx) already included this CID and has been discussed
   2. [25/0571r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0571-01-00bn-cr-mac-cc50-cids-1550-1551-and-1553.docx) CR-MAC-CC50-CIDs 1550,1551 and 1553 Yajun Cheng [3 CIDs]
      * The document presented is [25/0571r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0571-02-00bn-cr-mac-cc50-cids-1550-1551-and-1553.docx)
      * CIDs have been walked through
      * Discussion
        + C: CID 1550, Rephrase the resolution so that it simplified. Change a “A non-AP NPCA STA” to “An NPCA STA”
        + Presenter made the suggested change
        + C: CID 1553: Minor grammar suggestion made
        + Presenter made the suggested change
        + C: Document number needs to change the document number from r2 to r3
        + SP on the document
        + C: There are some comments on where the changes to be made. Can the SP on the document be deferred?
        + A: Agreed. Further discussion to be on reflector
   3. [25/0527r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0527-00-00bn-cc50-cr-for-cids-in-subclause-6.docx) cc50 cr for cids in subclause 6 Bo Cao [17 CIDs]
      * CIDs have been walked through
      * Discussion
        + C: CID 280, 2845, change the resolution from “Accepted” to “Revised”
        + C: Is the note in 6.3.7 new text?
        + A: Yes
        + C: Resolution to CID 280 should be revised
        + Presenter accepted
        + C: CID 280, period at the end of the sentence; resolution should be “Revised, add “STAs” to the end of the sentence
        + C: Presenter accepted
        + C: CID502, change 337.8 to 37.8 and change from accepted to revised. Delete the editorial instructions
        + C: The TG chair would like to move these set of changes offline so that agenda time can be used for technical disussions
4. Technical Submissions – Roaming Part 3 (**10 mins each (15 mins if with SP)**):
   1. [24/2120](https://mentor.ieee.org/802.11/dcn/24/11-24-2120-00-00bn-roaming-configuration-to-reduce-ping-pong.pptx) Roaming Configuration to Reduce Ping-Pong Pei Zhou
      * Document has been walked through
      * Discussion
        + C: Agree that ping-pong is important. On slide 4, your condition is always adding ref\_1 to hys\_1, why do we need two parameters?
        + A: We can just use two parameters. We don’t mandate the hysteresis value and only one can be used
        + C: Why should the serving AP MLD need to recommend, why cannot the non-AP MLD decide?
        + A: The serving AP MLD may have extra information, but doesn’t need to be used
        + C: Slide 4, the way the hysteresis is defined, it is a bit different. It may change the stickiness of one AP and it may just move the ping pong from hysteresis to threshold – hysteresis. What are your assumptions on ping-pong?
        + A: We use roaming configuration. We can use explicit signalling between the AP and non-AP MLD
        + C: This may restrict the conditions that the non-AP MLD to use
        + A: But the feature itself is optional and the non-AP MLD can use its own conditions
        + C: In general, there are many other parameters and it may become complicated and different sitautions may impose different condtiiosn. Updating those rules becomes very complicated. Also, not clear why these need to be provide by the non-AP MLD. Also, hard to specify. Too many open questions
        + C: Generally, agree. This seems to be implementation specific
        + A: If we only use condition A or condition B it can be implementation issue, but if we use both then there are more items

* 1. [24/2122](https://mentor.ieee.org/802.11/dcn/24/11-24-2122-00-00bn-fast-rssi-measurement-follow-up.pptx) Fast RSSI Measurement Follow-up Guogang Huang
     + Document has been walked through
     + Discussion
       - C: For your SP1, there are other methods that can be used and not sure if we need to have a new method
       - A: We just defined a new measurement mode
       - C: the first bullet says other methods and I want to highlight that this is nothing new
       - C: Slide 7, are you suggesting that all the APs in the current and target will have the same TSF
       - A: Yes, if there is a wide time synchronization within the DS, it can be accomplished
       - C: I understand that for fast RSSI measurement we need some methods. But do you intend to have NDPA/NDP for this?
       - A: I think we can have new control frames, but others show preference to RTS/CTS
       - C: If NDPA/NDP is optional do we want to tie with an optional mechanism that may or may not be present
       - Chair points out there are several comments in the chat window and asks the presenter to follow up
  2. [24/2129](https://mentor.ieee.org/802.11/dcn/24/11-24-2129-00-00bn-aid-assignment-for-seamless-roaming.pptx) AID assignment for Seamless Roaming Kyosuke Inoue
     + Document has been walked through
     + Discussion
       - C: Are you saying that the AP space is shared across all APs and SMD
       - A: Having the same
       - C: Having the same AID space across all devices may make it complicated
       - C: It is better for the AID to be assigned per AP as in enterprise we may end up using up and also not clear if legacy can handle it
       - C: Same comment – not scalable especially in enterprise
       - C: The problem with having at MLD level, but right now the association will be handled by SMD, so we need to have a clear way of assigning AID and how it will be inserted into association response as it is handled by SMD ME. We may need to have some information sharing between AP MLD and SMD
  3. [24/2137](https://mentor.ieee.org/802.11/dcn/24/11-24-2137-01-00bn-enable-daps-transmission-for-roaming.pptx) Enable DAPS Transmission for Roaming Guogang Huang
     + Document has been walked through
     + Discussion
       - C: Do you suggest adding 2 octets for GSN, Will it be before LLC? (Yes) How do you know that there is GSN within encryption mode but after the Sequence number? How do you know the GSN is present? Is it always present from a given transmit address?
       - A: If it is enabled then all frames will have
       - C: Slide 6, the client keeps synchronized WinStart\_O1 to ensure that the frames do not become old
       - A: Yes
       - C: If you do this, the roaming procedure will become complicated. There maybe other ways
       - A: Discuss offline
       - C: The duplication that is talked about, only during roaming or duing other times
       - A: When SMD mode is enabled, current AP assigns a SN and forwards it to target AP
       - C: This may be an issue and complicate it
       - A: This proposal’s target is to improve the reliability during roaming and data can be retrived from both the APs
       - C: If you want to take this route, is IEEE 802.11bn the correct forum or should it be in in IEEE 802.1 TSN?

1. Technical Submissions – Complete Submissions from 1st Cut-off queue:
   1. [~~24/1863~~](https://mentor.ieee.org/802.11/dcn/24/11-24-1863-00-00bn-performance-benefits-of-dso.pptx) ~~Performance Benefits of DSO Kerstin Johnsson~~
      * Document already presented
   2. [24/1872](https://mentor.ieee.org/802.11/dcn/24/11-24-1872-00-00bn-opportunistic-channel-access-mechanism-for-buffer-reporting.pptx) Opp. Channel Access Mechanism for Buffer Reporting Behnam Dezfouli
      * Document has been walked through
      * Discussion
        + C: Slide 6. The initial action would be some kind of UORA
        + A: It is more than UORA but time domain
        + C: Within the windows is it UORA?
        + A: It could be UORA or something else
        + C: As there are SCS setups, are you assuming that they wont be there
        + A: SCS works well for periodic traffic, but we are considering aperiodic here
        + C: There are LL traffic indicatiors
        + A: That works only if there are other TXOP holders
        + C: In some applications, low latency will be dynamic. Can your proposals handle such dynamicity? Specifically, if there is low-latency trffic, should they wait?
        + A: No, should use this along with EDCA
   3. [24/1880](https://mentor.ieee.org/802.11/dcn/24/11-24-1880-00-00bn-solutions-for-beacon-bloating.pptx) Solutions for Beacon Bloating Reza Hedayat
      * Document has been walked through
      * Discussion
        + Ran out of time. Chair will work with the leadership to get a Q & A session
2. AoB: No time
3. Adjourn: Meeting was adjourned at 12:00 PM EDT

## 5th Conf. Call: April 07 (19:00–21:00 ET)–MAC

This meeting took place using a webex.

**Introduction**

1. The Chair (Xiaofei Wang) calls the meeting to order at 19:00ET. The Chair introduces himself and the Secretary (Jeongki Kim).
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 Wireless Plenary Session” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click the “TGbn (MAC)”” meeting 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 Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com)), Xiaofei Wang ([xiaofei.wang@interdigital.com](mailto:xiaofei.wang@interdigital.com)), and Srinivas Kandala ([srini.k1@samsung.com](mailto:srini.k1@samsung.com))

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

|  |  |
| --- | --- |
| **Name** | **Affiliation** |
| Wang, Xiaofei | InterDigital, Inc. |
| Kim, Sang Gook | LG ELECTRONICS |
| Shabdanov, Samat | Mediatek |
| Li, Weiyi | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. |
| Rodriguez, Stephen | Cisco Systems, Inc. |
| Perez, Javier | Ofinno |
| Minotani, Jun | Panasonic Holdings Corporation |
| Noh, Si-Chan | Newracom Inc. |
| CHENG, yajun | Xiaomi Communications Co., Ltd. |
| Ryu, Kiseon | WILUS Inc. |
| Silverman, Matt | Cisco Systems, Inc. |
| Wee, Gaius | Panasonic Holdings Corporation |
| Wang, Lei | Futurewei Technologies/Huawei Technologies |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Cha, Dongju | LG ELECTRONICS |
| Smith, Malcolm | Cisco Systems, Inc. |
| li, yan | ZTE Corporation |
| Xia, Qing | Sony Corporation |
| Adachi, Tomoko | TOSHIBA Corporation |
| Baykas, Tuncer | Self |
| Inoue, Kyosuke | SHARP CORPORATION |
| Patwardhan, Gaurav | Hewlett Packard Enterprise |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| Hedayat, Ahmadreza | Apple Inc. |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. |
| Erkucuk, Serhat | Ofinno |
| Kim, Geon Hwan | LG ELECTRONICS |
| Ouchi, Masatomo | Canon |
| Levy, Joseph | InterDigital, Inc. |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. |
| Byeon, Seongho | SAMSUNG ELECTRONICS |
| Kim, Jeongki | Ofinno |
| Hart, Brian | Cisco Systems, Inc. |
| Mohamed Hassan Salem, Nedime Pelin | Cisco Systems, Inc. |
| Gu, Junrong | Clourney Semiconductor |
| Park, Minyoung | Apple Inc. |
| Jang, Insun | LG ELECTRONICS |
| Ratnam, Vishnu | SAMSUNG ELECTRONICS |
| Chu, Liwen | NXP Semiconductors |
| Xu, Yanchao | Amlogic |
| Xiao, Tong | Xiaomi Communications Co., Ltd. |
| Yin, Shirley | Clourney Semiconductor |
| Fischer, Matthew | Broadcom Corporation |
| Tsai, BingHan | Moxa Inc. |
| Yang, Hang | Ruijie Networks Co., Ltd. |
| Varshney, Prabodh | Nokia |
| Sato, Takuhiro | SHARP CORPORATION |
| Aio, Kosuke | Sony Corporation |
| Lu, kaiying | MediaTek Inc. |
| Wang, Qi | Apple Inc. |
| Hasabelnaby, Mahmoud | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Singh, Aditi | Charter Communications |
| LU, Yuxin | TCL Industries |
| Fan, Shuang | Sanechips Technology Co., Ltd. |
| Chisci, Giovanni | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Qi, Yue | Samsung Research America |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| Haider, Muhammad Kumail | Meta Platforms, Inc. |
| Zhao, Yue | Huawei Technologies Co., Ltd |
| Gu, Jaheon | Samsung Electronics Co., Ltd. |
| Shirakawa, Atsushi | SHARP CORPORATION |
| Dharap, Anuj | Cisco Systems, Inc. |
| Sung, Hyeonjun | WILUS Inc. |
| Choi, JinHo | SAMSUNG ELECTRONICS |
| Kalamkar, Sanket | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Yang, Haorui | China Mobile |
| Dong, Xiandong | Xiaomi Communications Co., Ltd. |
| Scott, David | Cisco Systems, Inc. |
| Neishaboori, Azin | General Motors Company |
| Gupta, Binita | Cisco Systems, Inc. |
| Lee, Hong Won | LG ELECTRONICS |
| Yee, James | MediaTek Inc. |
| Zhang, Maolin | Huawei Technologies Co., Ltd |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| Coffey, John | Realtek Semiconductor Corp. |
| Urabe, Yoshio | Panasonic Holdings Corporation |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. |
| Fu, Qingwei | TP-Link Systems Inc. |
| Procyk, Ian | Cisco Systems |
| Dezfouli, Behnam | Nokia |
| Friedl, Stephan | Cisco |
| Petrick, Albert | Jones-Petrick and Associates |
| Dumdei, Alan | Cisco |
| Tanaka, Yusuke | Sony Corporation |
| Yukawa, Mitsuyoshi | Canon |
| Cui, Yaoshen | TP-Link Systems Inc. |
| huang, kaikai | Nokia |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd |
| Kuo, Chih-Chun | MediaTek Inc. |
| Ajami, Abdel Karim | Apple Inc. |
| Tsujimaru, Yuki | Canon |
| Orr, Stephen | Cisco Systems, Inc. |
| Lijun, Yu | self |
| Luo, Sixian | SHARP CORPORATION |
| Hsu, Ostrovsky | Xiaomi Communications Co., Ltd. |
| Chen, Junbin | TP-Link Systems Inc. |
| LEE, JOONSOO | Newracom Inc. |
| Hervieu, Lili | CableLabs |
| Ryu, Kiseon | WILUS Inc. |
| Bredewoud, Albert | Broadcom Corporation |
| Li, Weiyi | Spreadtrum Communication USA, Inc. |
| Kim, Geon Hwan | LG ELECTRONICS |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| Wee, Gaius | Panasonic Holdings Corporation |
| Chaturvedi, Abhishek | Samsung Electronics |
| Rodriguez, Stephen | Cisco Systems, Inc. |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. |
| Sung, Hyeonjun | WILUS Inc. |
| Kandala, Srinivas | Samsung |
| Lee, Hong Won | LG ELECTRONICS |
| Park, Sungjin | Senscomm |
| Noh, Si-Chan | Newracom Inc. |
| Kim, Jeongki | Ofinno |
| Singh, Aditi | Charter Communications |
| Kim, Jungjun | Samsung Electronics |
| Sakamoto, Ryunosuke | SHARP CORPORATION |
| Erkucuk, Serhat | Ofinno |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd |
| Motozuka, Hiroyuki | Panasonic Holdings Corporation; Panasonic Operational Excellence Co., Ltd. |
| Cha, Dongju | LG ELECTRONICS |
| Mutgan, Okan | Nokia |
| Fu, Qingwei | TP-Link Systems Inc. |
| Kedem, Oren | Maxlinear |
| Handte, Thomas | Sony Group Corporation |
| Ma, Yongsen | SAMSUNG ELECTRONICS |
| Scott, David | Cisco Systems, Inc. |
| Huang, Po-Kai | Intel Corporation |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. |
| Urabe, Yoshio | Panasonic Holdings Corporation |
| Wang, Lei | Futurewei Technologies/Huawei Technologies |
| Tsujimaru, Yuki | Canon |
| Tanaka, Yusuke | Sony Corporation |
| Roy, Rishabh | SAMSUNG ELECTRONICS |
| Fan, Shuang | Sanechips Technology Co., Ltd. |
| Xu, Yanchao | Amlogic |
| Gu, Jaheon | Samsung Electronics Co., Ltd. |
| Manoharan, Jegan | Cisco Systems, Inc. |
| Choi, JinHo | SAMSUNG ELECTRONICS |
| Kishida, Akira | NTT |
| Liubogoshchev, Mikhail | Nokia |
| Dong, Xiandong | Xiaomi Communications Co., Ltd. |
| Karthik, S. G. | SAMSUNG ELECTRONICS |
| Genc, Eda | Nokia |
| Minotani, Jun | Panasonic Holdings Corporation |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| Byeon, Seongho | SAMSUNG ELECTRONICS |
| LU, Yuxin | TCL Industries |
| Perez, Javier | Ofinno |
| Inohiza, Hirohiko | Canon |
| Hart, Brian | Cisco Systems, Inc. |
| Park, Minyoung | Apple Inc. |
| Yang, Hang | Ruijie Networks Co., Ltd. |
| Wang, Qi | Apple Inc. |
| Doppler, Klaus | Nokia |
| Halna du Fretay, Tristan | Canon Research Centre France |
| Kim, Sang Gook | LG ELECTRONICS |
| Nezou, Patrice | Canon Research Centre France |
| Varshney, Prabodh | Nokia |
| Xiao, Tong | Xiaomi Communications Co., Ltd. |
| Ding, Qian | TP-Link Systems Inc. |
| baron, stephane | Canon Research Centre France |
| Smith, Malcolm | Cisco Systems, Inc. |
| Hasabelnaby, Mahmoud | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Xia, Qing | Sony Corporation |
| Carney, William | Sony Group Corporation |
| Patil, Abhishek | Qualcomm Incorporated |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Yee, James | MediaTek Inc. |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. |
| Karmakar, Anirban | Cisco Systems, Inc. |
| Chu, Liwen | NXP Semiconductors |
| Dharap, Anuj | Cisco Systems, Inc. |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| Ratnam, Vishnu | SAMSUNG ELECTRONICS |
| Silverman, Matt | Cisco Systems, Inc. |
| Val, Inaki | MaxLinear, Inc. |
| Dumdei, Alan | Cisco |
| siaud, isabelle | Orange |
| Montemurro, Michael | Huawei Technologies Co., Ltd |
| Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| Kalamkar, Sanket | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Quan, Yingqiao | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. |
| Patwardhan, Gaurav | Hewlett Packard Enterprise |
| LEE, JOONSOO | Newracom Inc. |
| Gupta, Binita | Cisco Systems, Inc. |
| Kang, HaoHua | MediaTek Inc. |
| Zimmer, Ethan | Cisco Systems, Inc. |
| Shatil, Ohad | Zebra Technologies |
| Yang, Haorui | China Mobile (Hangzhou) Information Technology Co., Ltd |
| Aio, Kosuke | Sony Corporation |
| Neishaboori, Azin | General Motors Company |
| huang, kaikai | Nokia |
| Ajami, Abdel Karim | Apple Inc. |
| Kain, Carl | Noblis, Inc.; USDoT |
| CHENG, yajun | Xiaomi Communications Co., Ltd. |
| Zhou, Renlong | Sanechips Technology Co., Ltd. |
| Kakani, Naveen | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Klein, Arik | Huawei Technologies Co., Ltd |
| Ekkundi, Manasi | SAMSUNG ELECTRONICS |
| Coffey, John | Realtek Semiconductor Corp. |
| Son, Ju-Hyung | WILUS Inc. |
| Baykas, Tuncer | Self |
| Dezfouli, Behnam | Nokia |
| Das, Subir | Peraton Labs |
| Kuo, Chih-Chun | MediaTek Inc. |

* CR/PDT Submissions – Miscellaneous:
  + [25/0551r2](https://mentor.ieee.org/802.11/dcn/25/11-25-0551-02-00bn-cr-mac-cc50-cids-in-clause-9.docx) CR-MAC-cc50-CIDs\_in\_clause9 Abhishek Patil [6C SP]

C: go to RNR, Neighbor AP information field. SMD ID. Same SMD or SMD ID. Should be discussed further. Defer CID 3851 .

C: 3848, already discussed in Raming PDT.

A: We can mention to Duncun. It’s in this.

C: 3848 should be changed to 3849.

C: 3851

SP: Do you support to incorporate the CR for the following CIDs in 11-25/0551r3 into the next 802.11 bn draft?

* + - 3848, 3852, 3853, 3859, 144

C: Defer the SP after the next CR.

A: Ok,

C: 551r3 is not uploaded

C: SMD description, terminology of SMD between this doc and Duncun’s document looks different each other. I don’t know which one is correct. It’s different from SFD. Exact full name is different.

C: This doc seems ok. We can fix it in the duncun’s document.

No objection.

* + [25/0479r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0479-01-00bn-cr-for-cid-1378.docx) CR\_for\_CID\_1378 Dibakar Das [1C SP]

C: The exact mechanism is TBD. I need to have more time to look at the changes in r2.

A: Can we do in this call? No technical changes.

C: The last paragraph, we need more discussion for threshold from TBD. We can just say a portion of obtained TXOP.

C: I’d like to keep it too simple to aviod to introduce too many. TBD doesn’t equivalent to a threshold. Go back is fine.

C: SP mentioned this TXOP limit smaller value?

A: the minum of this one?

C: Ok.

C: I want to check the language.

C: I want to add ”the exact mechanism is TBD”.

C: Are you precluding the management frame exchange?

A: Yes it’s intention. Data communication.

SP: do you support to incorporate the CR in 11-25/0479r3 for the following CIDs into the next 802.11bn draft: 1378?

Recorded voting requested.

Result: 43Y, 13N, 29A

* + [25/0527r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0527-00-00bn-cc50-cr-for-cids-in-subclause-6.docx) cc50 cr for cids in subclause 6 Bo Cao [17 CIDs SP]

C: r2 is not on the server.

C: You remove the CID tags. why wat that? What did you add in the next table? Note is also new? Underline?

C: It’s for members can review that part. However, it’s not a requirement, it’s just someing that can help out.

C: confusing about highlighted red in the table. Red part is not changed?

A: the draft has red line.

SP: do you support to incorporate the CR in 11-25/0527r2 for the following CIDs into the next 802.11bn draft: 280 401 402 463 464 848 895 1459 1517 1966 1967 2572 2619 2660 2845 2846 2852?

No objection

* + [25/0571r1](https://mentor.ieee.org/802.11/dcn/25/11-25-0571-03-00bn-cr-mac-cc50-cids-1550-1551-and-1553.docx) CR-MAC-CC50-CIDs 1550,1551 and 1553 Yajun Cheng [3 CIDs SP]

C: r5

C: Page 3, the first paragraph. You want to define both NPCA AP and NPCA non-AP STA. You can add the NPCA non-AP STA and NPCA AP instead of NPCA STA.

C: We can add MIB variable to indicate the NPCA support.

C: 1553, can we defer?

C: You can highlight the CID list for deferred CIDs.

C: 1551, are you suggesting the change of the current text or insert the new texts?

C: 1550, in original text, non-AP STA indicates it. AP doesn’t maater whether it annoucne or not because AP figure out. This document may contradic with other contribution in the future.

A: It’s ok with NPCA STA. Because STA covers non-AP STA and AP.

C: We can defer 1551.

SP is deferred

* Technical Submissions – From 1st Cut-off (**10 mins each (15 mins if with SP)**):
  + [24/1880](https://mentor.ieee.org/802.11/dcn/24/11-24-1880-01-00bn-solutions-for-beacon-bloating.pptx) Solutions for Beacon Bloating Reza Hedayat [Q&A 5mins]

C: 11bi, how device passive scanning can discover anything if you’re gonna hold information from the beacon?

C: CUF is set stays until the next DTIM . waking up every DTIM Beacon. CUF is said although they have acquired all the updates and then they will still end up.

C: the reason of beacon bloating is early termination by STA?

* + [24/1888](https://mentor.ieee.org/802.11/dcn/24/11-24-1888-00-00bn-light-beacon-consideration.pptx) Light beacon consideration Liwen Chu

C: Passive scanning is something we should allow for. Without probing, STA will never know if it can associate with this AP or not. Might lead to unncessary number of probes that happens. Which parameters to include and which to acquired even among the static parameters.

C: What do you mean semi-static? UHR operation element? Basic MCS or Nss sets.

A: This is just after association.

C: slide 8, why do you need this field? We already have it.

* + [24/1892](https://mentor.ieee.org/802.11/dcn/23/11-23-1892-00-00bn-thoughts-on-dynamic-subchannel-operation.pptx) Low capability mode follow up Liwen Chu

C: I have a question. When AP or mobile AP siwtches back, it Cause issues of medium sync at the AP side.

A: we have different view for this one. We assume this.

Adjourned

## 6th Conf. Call: April 10 (10:00–12:00 ET)–MAC

1. The chair called the meeting to order at 10:00 AM EDT.
   1. The chair, Xiaofei Wang, introduced himself.
   2. The secretary for the session is Srinivas Kandala
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees of the patent polices.
   2. Chair called for essential patents, and none was indicated.
   3. The chair reminded attendees that participation is on an individual basis.
   4. The chair reminded attendees of IEEE meeting and copy right policies.
   5. Chair’s reminder on recording attendance through IMAT

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

|  |  |
| --- | --- |
| **Name** | **Affiliation** |

|  |  |
| --- | --- |
| Hervieu, Lili | CableLabs |
| Ryu, Kiseon | WILUS Inc. |
| Bredewoud, Albert | Broadcom Corporation |
| Li, Weiyi | Spreadtrum Communication USA, Inc. |
| Kim, Geon Hwan | LG ELECTRONICS |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| Wee, Gaius | Panasonic Holdings Corporation |
| Chaturvedi, Abhishek | Samsung Electronics |
| Rodriguez, Stephen | Cisco Systems, Inc. |
| Ha, Taeyoung | Samsung Electronics Co., Ltd. |
| Sung, Hyeonjun | WILUS Inc. |
| Kandala, Srinivas | Samsung |
| Lee, Hong Won | LG ELECTRONICS |
| Park, Sungjin | Senscomm |
| Noh, Si-Chan | Newracom Inc. |
| Kim, Jeongki | Ofinno |
| Singh, Aditi | Charter Communications |
| Kim, Jungjun | Samsung Electronics |
| Sakamoto, Ryunosuke | SHARP CORPORATION |
| Erkucuk, Serhat | Ofinno |
| Shi, Zhenpeng | Huawei Technologies Co., Ltd |
| Motozuka, Hiroyuki | Panasonic Holdings Corporation; Panasonic Operational Excellence Co., Ltd. |
| Cha, Dongju | LG ELECTRONICS |
| Mutgan, Okan | Nokia |
| Fu, Qingwei | TP-Link Systems Inc. |
| Kedem, Oren | Maxlinear |
| Handte, Thomas | Sony Group Corporation |
| Ma, Yongsen | SAMSUNG ELECTRONICS |
| Scott, David | Cisco Systems, Inc. |
| Huang, Po-Kai | Intel Corporation |
| Gu, Xiangxin | Spreadtrum Communications (Shanghai) Co., Ltd. |
| Urabe, Yoshio | Panasonic Holdings Corporation |
| Wang, Lei | Futurewei Technologies/Huawei Technologies |
| Tsujimaru, Yuki | Canon |
| Tanaka, Yusuke | Sony Corporation |
| Roy, Rishabh | SAMSUNG ELECTRONICS |
| Fan, Shuang | Sanechips Technology Co., Ltd. |
| Xu, Yanchao | Amlogic |
| Gu, Jaheon | Samsung Electronics Co., Ltd. |
| Manoharan, Jegan | Cisco Systems, Inc. |
| Choi, JinHo | SAMSUNG ELECTRONICS |
| Kishida, Akira | NTT |
| Liubogoshchev, Mikhail | Nokia |
| Dong, Xiandong | Xiaomi Communications Co., Ltd. |
| Karthik, S. G. | SAMSUNG ELECTRONICS |
| Genc, Eda | Nokia |
| Minotani, Jun | Panasonic Holdings Corporation |
| Zhou, Huixuan | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| Byeon, Seongho | SAMSUNG ELECTRONICS |
| LU, Yuxin | TCL Industries |
| Perez, Javier | Ofinno |
| Inohiza, Hirohiko | Canon |
| Hart, Brian | Cisco Systems, Inc. |
| Park, Minyoung | Apple Inc. |
| Yang, Hang | Ruijie Networks Co., Ltd. |
| Wang, Qi | Apple Inc. |
| Doppler, Klaus | Nokia |
| Halna du Fretay, Tristan | Canon Research Centre France |
| Kim, Sang Gook | LG ELECTRONICS |
| Nezou, Patrice | Canon Research Centre France |
| Varshney, Prabodh | Nokia |
| Xiao, Tong | Xiaomi Communications Co., Ltd. |
| Ding, Qian | TP-Link Systems Inc. |
| baron, stephane | Canon Research Centre France |
| Smith, Malcolm | Cisco Systems, Inc. |
| Hasabelnaby, Mahmoud | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Xia, Qing | Sony Corporation |
| Carney, William | Sony Group Corporation |
| Patil, Abhishek | Qualcomm Incorporated |
| Hussein, Abdalla | Huawei Technologies Canada; Huawei Technologies Co., Ltd |
| Yee, James | MediaTek Inc. |
| Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd. |
| Karmakar, Anirban | Cisco Systems, Inc. |
| Chu, Liwen | NXP Semiconductors |
| Dharap, Anuj | Cisco Systems, Inc. |
| Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| Ratnam, Vishnu | SAMSUNG ELECTRONICS |
| Silverman, Matt | Cisco Systems, Inc. |
| Val, Inaki | MaxLinear, Inc. |
| Dumdei, Alan | Cisco |
| siaud, isabelle | Orange |
| Montemurro, Michael | Huawei Technologies Co., Ltd |
| Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| Kalamkar, Sanket | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Quan, Yingqiao | Spreadtrum Communications (Shanghai) Co., Ltd.; Unisoc (Shanghai) Technologies Co., Ltd. |
| Patwardhan, Gaurav | Hewlett Packard Enterprise |
| LEE, JOONSOO | Newracom Inc. |
| Gupta, Binita | Cisco Systems, Inc. |
| Kang, HaoHua | MediaTek Inc. |
| Zimmer, Ethan | Cisco Systems, Inc. |
| Shatil, Ohad | Zebra Technologies |
| Yang, Haorui | China Mobile (Hangzhou) Information Technology Co., Ltd |
| Aio, Kosuke | Sony Corporation |
| Neishaboori, Azin | General Motors Company |
| huang, kaikai | Nokia |
| Ajami, Abdel Karim | Apple Inc. |
| Kain, Carl | Noblis, Inc.; USDoT |
| CHENG, yajun | Xiaomi Communications Co., Ltd. |
| Zhou, Renlong | Sanechips Technology Co., Ltd. |
| Kakani, Naveen | Qualcomm Incorporated; Qualcomm Technologies, Inc |
| Klein, Arik | Huawei Technologies Co., Ltd |
| Ekkundi, Manasi | SAMSUNG ELECTRONICS |
| Coffey, John | Realtek Semiconductor Corp. |
| Son, Ju-Hyung | WILUS Inc. |
| Baykas, Tuncer | Self |
| Dezfouli, Behnam | Nokia |
| Das, Subir | Peraton Labs |
| Kuo, Chih-Chun | MediaTek Inc. |

1. The agenda is [11-25/0504r7](https://mentor.ieee.org/802.11/dcn/25/11-25-0504-07-00bn-mar-may-tgbn-teleconference-agenda.docx).
   1. The chair reviews agenda
      * The agenda is approved.
2. Announcements: None
3. Straw Polls (Morteza, DSO):

SP1: Do you support that TGbn will define a mechanism where a non-AP STA can be allocated frequency resources dynamically (i.e., on a per-TXOP basis) outside of the non-AP STA's current operating bandwidth and within the associated AP's BSS bandwidth?

* For a non-AP STA, the channel with bandwidth equaling its operating bandwidth and including the BSS primary channel is referred to as primary sub-band
* For a non-AP STA, a channel with the bandwidth equaling its operating bandwidth outside of its primary sub-band where it can be allocated resources by the AP is referred to as DSO sub-band
* A non-AP STA that supports this mechanism is referred to as a DSO STA

*Supporting list: [11-24/1589, 11-22/2204, 11-23/2141, 11-23/2027, 11-23/843, 11-23/1496, 11-24/591, 11-23/1892, 11-23/1913, 11-23/1935, 11-24/1553, 11-24/1564, 11-24/1588, 11-24/2141, 11-24/1587]*

* SP has been walked through:
* Discussion:
* C: From what I see, the changes are more of definition.
* A: Yes
* C: Do we need a SP for this as these are definitions?
* A: Moving forward we can use this
* C: I also see these are defintions. Can you add that DSO subband can be in the expanded bandwidth per DBE feature?
* A: Since I am not amending that part it would be better to run another SP, as I do not want to change the whole concept as the definition of DBE needs to be clarified.
* C: This can be BSS bandwidth or DBE bandwidth
* A: That opens the door for other things and I do not want to do it now
* C: First paragraph has already passed, why do you need to change?
* A: I am amending the first paragraph
* C: Can you add that this is for DSO
* A: Yes
* Modified question:

SP1: Do you support the following for DSO

* For a non-AP STA, the channel with bandwidth equaling its operating bandwidth and including the BSS primary channel is referred to as primary sub-band
* For a non-AP STA, a channel with the bandwidth equaling its operating bandwidth outside of its primary sub-band where it can be allocated resources by the AP is referred to as DSO sub-band
* A non-AP STA that supports this mechanism is referred to as a DSO STA

*Supporting list: [11-24/1589, 11-22/2204, 11-23/2141, 11-23/2027, 11-23/843, 11-23/1496, 11-24/591, 11-23/1892, 11-23/1913, 11-23/1935, 11-24/1553, 11-24/1564, 11-24/1588, 11-24/2141, 11-24/1587]*

* C: Better to have a clear definition
* A: We need to define what is primary subband and DSO subband and how the DSO TXOP will be schedule on primary and DSO subband
* C: In the definition there can be multiple sizes and better to have clear definition
* A: This is from the STA perspective
* C: But for each STA, there will be different DSO from the STA point of view
* A: don’t quite understand the point here
* C: Generally good with the SP. I just want to comment on DBE aspects. These can be handled during spec writing. I also have a number of SPs and without some definitions it will be hard to go through the SPs.
* C: Agree with the commenter who said that the primary and DSO subbands for non-AP STA
* A: That is what I say
* C: Point is that it can be different for each non-AP STA
* Replace second bullet with the follows:
  + For a non-AP STA, a channel with the bandwidth equaling its operating bandwidth outside of its primary sub-band where it can be allocated resources by the AP is referred to as DSO sub-band for that non-AP STA
* No objections to the SP

SP2: Do you support that a non-AP STA shall indicate the following parameters to its associated AP when enabling the DSO mode?

       •  DSO Switching delay

              –       time required by the DSO STA to switch from the primary sub-band to the DSO sub-band

       •   DSO Switch Back delay

              –       time required by the DSO STA to switch from the DSO sub-band to the primary sub-band

       •    Other parameters TBD

*Supporting list: [11-24/1589, 11-22/2204, 11-23/2141, 11-23/2027, 11-23/843, 11-23/1496, 11-24/591,  11-23/1892, 11-23/1913, 11-23/1935, 11-24/1553, 11-24/1564, 11-24/1588, 11-24/2141, 11-24/1587]*

* SP has been walked thorugh
* Discussion
* C: I have a question on switching and switching back delay. The switching is used for switching frequency.
* A: I did not get the question
* C: Switching delay is used both for DSO and NPCA for switching frequency and there is the dependency on the oscillator frequency
* A: There are two points: DSO and NPCA are completely different features and we have to have delay for the switching features for both. Second for DSO, the switch is happening frequently where as NPCA may not happen at the same rate. It is better that DSO is seen to be a different feature from NPCA and keep them different
* C: Task group chair reminds that we should not have TBDs
* A: Hoping that these are resolved as soon as possible
* C: In DPS, there is also switching delay, perhaps it is better to say DSO switching delay and should it be aligned?
* A: I do not have any preference
* C: There is intermediate FCS and they will be similar. It is better to align so that we do not end up with different intepretations. For DSO and DPS, a trigger frame starts the process where as NPCA it is based on OBSS and they work out differently
* A: These are completely different definitions
* C: Since the number of subbands are going to be allocated, say something like “switching delay per DSO subband” and similarly for “switching back”
* A: That needs additional definitions that are needed and we can add additional cases as we define them
* A: I can modify with the change. Add “a” to “DSO sub-band” in the first bullet and same thing in second bullet
* C: If there are multiple subbands, will the switching delay be the same or different?
* A: First we have to decide if we will have multiple subbands and then decide on the switching delays. But first we need to resolve the first question
* Chair states that there are other comments in the chat window and asks the presenter if he wants to discuss them
* A: what is the “maximum time” suggested in the client
* C: Since we have not decided, is it better to use “maximum time”? Since there may be multiple delays, a maximum time may be better than just time
* C: Prefer the original SP. This has been a point of contention. The modification suggests that we have decided multiple subbands
* A: ”a” is fine as it indicate one or multiple
* C: Having “the” does not mean that it is multiple
* Chair asks how to run. The presenter chooses to run the original question
* SP was run on the original question
* Result: 48Y, 31N, 31A

1. Technical Submissions – From 1st Cut-off (**10 mins each (15 mins if with SP)**):
   1. [24/1899](https://mentor.ieee.org/802.11/dcn/24/11-24-1899-00-00bn-uhr-scs-enhancements.pptx) UHR SCS Enhancements Abdel Karim Ajami
      * Discussion
        + If the AP does not have the capacity it may not be able to provide. Also, it is just not buffer, but there could be latency issues and should be good to have an indication for latency
        + A: Our intention is to indicate it at the SCS level and I am aligned with you, but we are hoping to have a maximum so that the AP has an idea as we may not be able to give the exact value. For the second comment, this could be the first step and if the client desires to provide more information it can do so.
        + C: This is more for static and if you need more information you can ask the AP to switch especially if both of them agree, where as here it may not be sufficient
        + A: Discuss more offline
        + C: You are saying that you are providing this information at SCS level The STAs that indicate “I have more BSRs and trigger me”. But in some applications, you change your codecs on the fly and there will be different requirements for different codec rates. So, having one profile is not good enough as your parameters may change. Having multiple profiles upfront is better
        + A: I am not against the idea. If there is a change we can negotiate again. I understand that multipleprofiles are being proposed and not opposed, but here we are just focusing on one MCS
        + C: But it is better to be have that
        + A: But in our example we are not changing the codec rate and it is solving a different problem.
2. Technical Submissions–Roaming (from 2nd cut-off) (**10 mins each (15 mins if with SP)**):
   1. [24/2147](https://mentor.ieee.org/802.11/dcn/24/11-24-2147-01-00bn-discussion-on-buffered-data-deliver.pptx) Discussion on buffered data deliver Hang Yang
      * Discussion
        + C: Summary page: for option 1, we had a similar motion the STA can send an early termination to the target AP, so it is similar to the previous motion
        + A: Yes
        + C: Option 1 is better as it is better for the STA to make a decision
3. Technical Submissions – Ack + CR-TWT (**10 mins each (15 mins if with SP)**):
   1. [24/0414](https://mentor.ieee.org/802.11/dcn/24/11-24-0414-00-00bn-improving-acknowledgment-mechanisms.pptx) Improving acknowledgment mechanisms Sherief Helwa
      * Discussion
        + C: Slide 3, the STA has two ways, so the scenario in slide 4 will happen
        + A: In current mechanism, it is not guaranteed that the AP can take an action and ensure that there is no overlap. So, this is really important to cover these gaps
        + C: Slide 7 – just a quick comment on the location of the feedback type. Agree with the intention but to relocate the field to beginning
        + A: There are pros and cons for the argument. The conclsuion was that we could go with the last 4 bits of the field and it did not yield any consensus and I feel that we should go with this as it seemed like it had more consensus
   2. [24/0908](https://mentor.ieee.org/802.11/dcn/24/11-24-0908-00-00bn-negotiation-for-r-twt-coordination-follow-up.pptx) Negotiation for R-TWT Coordination-Follow up SunHee Baek
      * Discussion
        + C: This is aligned with the current PDP and agrees with the contribution
        + C: Generally, agree. Just to understand the stauts on it. There are two options, which one are you proposing?
        + A: Clear indication of which one you are responding to ut
        + C: Prefer the second but still thinking
        + C: For status, there are only two options, accept or reject and you can use reason code or status code
        + A: We can discuss this offline
   3. [25/0011](https://mentor.ieee.org/802.11/dcn/25/11-25-0011-01-00bn-co-rtwt-follow-up.pptx) Co-RTWT-follow-up Xiangxin Gu
      * Discussion
        + C: A comment on the first bullet on summary. Agree in principle if you have Co-RTWT you can use other coordination mechanisms and this is not precluded and wondering if there is anything that needs to be done for the spec.
        + A: We can have offline discussion
        + C: Slide 7, The AP may set its NAV one TU after the R-TWT SP. Does it mean that this NAV should be ignored? Can you explain more?
        + A: We can have offline discussion
   4. [25/0276](https://mentor.ieee.org/802.11/dcn/25/11-25-0276-00-00bn-co-rtwt-start-time-protection-rule.pptx) Co-RTWT Start Time Protection Rule Brian Hart
      * No time for Q & A
4. AoB: None
5. Adjourn: Adjourned at 12:03 PM EDT

**References:**