IEEE P802.11  
Wireless LANs

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| IEEE 802.11bd May-June 2022 TC meeting minutes | | | | |
| Date: 2022-5-24 | | | | |
| Author(s): | | | | |
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Abstract

This document includes minutes of IEEE 802.11bd May-Jun 2022 teleconference meetings.

Version Tracking:

R0: May 24th , 31st and June 7th, 14th teleconference meetings minutes.

# Tuesday 24 May 2022 @ 10:00-11:59 am ET

## Opening (IEEE 802.11-22/0816r1)

* 1. Call to order 10:00 am ET
  2. Chair instructed members to record attendance in IMAT.
  3. Chair introduced the patent policy and meeting rules (slides 2-8).
  4. No response to the call for patents.
  5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 9-11)
  6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 12-14)
  7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 15-17)
  8. Chair introduced the task group leadership (slide 19)

## Agenda (IEEE 802. 11-22/0816r1)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11/dcn/22/11-22-0816-01-00bd-tgbd-tc-agenda-for-may-jun-2022.pptx. (slide 20)
     + Call meeting to order and remind the group to record attendance on imat.ieee.org
     + IEEE-SA IPR policies and meeting rules
     + Approval of agenda (slide 20)
     + Comment review and resolution discussion
       - 11-22/0764r2, TGbd D4.0 CR related to DMG STA communicating OCB, Hiroyuki Motozuka (Panasonic)
       - 11-22/0747r2, SA ballot CR 11bd D4.0 NGV Ranging, Stephan Sand (DLR)
       - 11-22/0813, Resolutions to NGV preamble and Data field, Yujin Noh (Senscomm)
       - 11-22/0814, Resolutions to NGV PPDU format and Transmitter block diagram, Yujin Noh (Senscomm)
       - 11-22/0817, crc-cr-clause-32-2, Bo Sun(ZTE)
     + Any other business
     + Adjourn
  2. Agenda was approved without objection

## 11-22/0764r2, TGbd D4.0 CR related to DMG STA communicating OCB, Hiroyuki Motozuka (Panasonic)

* 1. CID 5098: A comment was made that “dot11DMGOCBActivatie is true” should be modified to “dot11DMGOCBActivatie is equal true”.
  2. CID 5099, 5100: No discussions.

## 11-22/0747r2, SA ballot CR 11bd D4.0 NGV Ranging, Stephan Sand (DLR)

* 1. CID 5046: No discussions

## 11-22/0813r0, Resolutions to NGV preamble and Data field, Yujin Noh (Senscomm)

* 1. CID 5064: A comment was made that baseline document IEEE2020 can be quoted instead of all the other amendments in the comment resolution.
  2. CID 5062: A question was asked regarding dots in the figure. It is confirmed that dots in the figure will be removed.
  3. CID 5029: A comment was made that “a LDPC coding” should be “LDPC coding”.
  4. CID 5028, 5060, 5027, 5058, 5057: No discussions.

## 11-22/0814r1, Resolutions to NGV PPDU format and Transmitter block diagram, Yujin Noh (Senscomm)

* 1. CID 5071, 5068, 5067: No discussions.

## 11-22/0817r0, crc-cr-clause-32-2, Bo Sun(ZTE)

* 1. CID 5007, 5020, 5035, 5069, 5074, 5076, 5085: No discussions.
  2. CID 5072: A comment was made that “sub-clause 17-1” should be “Table 17-1”.
  3. CID 5074: A question was asked whether PSDU\_LENGTH for NGV ranging NDP can be known at receiver side. A comment was made that APEP\_LENGTH instead of PSDU\_LENGTH should be set to 0 to indicate NGV ranging NDP in TXVECTOR. A comment was made that the comment was resolved in CID 5075. So the comment is rejected.
  4. CID 5085: A comment was made that 35.1 should be 31.1 in discussion part.

## Closing

* 1. Chair adjourned the teleconference at 11:48am ET.
  2. Next TC will be on May 31st

**Attendance from IMAT**

| **Name** | **Affiliation** |
| --- | --- |
| Rui, Cao | NXP Semiconductors |
| Zaman, Malia | IEEE SA |
| Kain, Carl | USDoT |
| Sun, Bo | ZTE Corporation |
| Noh, Yujin | Senscomm |
| Yan, Zhang | NXP Semiconductors |
| Petrick, Albert | InterDigital, Inc. |
| Motozuka, Hiroyuki | Panasonic Corporation |
| Sand Stephan | German Aerospace Center (DLR) |
| Oyama, Satoshi | ARIB |

# Tuesday 31 May 2022 @ 10:00-11:59 am ET

## Opening (IEEE 802.11-22/0816r2)

* 1. Call to order 9:09 am ET
  2. Chair instructed members to record attendance in IMAT.
  3. Chair introduced the patent policy and meeting rules (slides 2-8).
  4. No response to the call for patents.
  5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 9-11)
  6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 12-14)
  7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 15-17)
  8. Chair introduced the task group leadership (slide 21)

## Agenda (IEEE 802. 11-22/0816r2)

* 1. Chair presented the agenda https://mentor.ieee.org/802.11/dcn/22/11-22-0816-02-00bd-tgbd-tc-agenda-for-may-jun-2022.pptx. (slide 22)
     + Call meeting to order and remind the group to record attendance on imat.ieee.org
     + IEEE-SA IPR policies and meeting rules
     + Approval of agenda (slide 22)
     + Comment review and resolution discussion
       - 11-22/0827r0, Resolutions to Clause 4.3.17 and 4.3.17a CIDs, John Kenney (Toyota)
       - 11-22/0828r0, 11bd D4.0 comment resolution, Liwen Chu (NXP)
       - 11-22/0769r1, Initial SA Ballot Proposed Resolution for CIDs 5084, 5088, 5093, Joseph Levy (InterDigital)
     + Any other business
     + Adjourn
  2. Agenda was approved without objection

## 11-22/0827r0, Resolutions to Clause 4.3.17 and 4.3.17a CIDs, John Kenney (Toyota)

* 1. CID 5000: A comment was made that it is better to add URL after document DCN number so that it is more convenient for people to review the document in the discussion part.
  2. CID 5005: A comment was made that it is better to add URL after document DCN number so that it is more convenient for people to review the document in the discussion part. A comment was made that whether it is worth mentioning this amendment does not need to do anything for OCB mode. The presenter answered that he is not sure it can be listed as rejection reason.
  3. CID 5039, 5040, 5041, 5043, 5044: A comment was made that “set” is also a normative, and has no difference than “shall set”. It is suggested to change it to “An NGV STA has dot11NGVActivated equal to true”.
  4. CID 5089, 5090: A comment was made that it is best to add a note to Editor when referring the CID with same resolution.
  5. CID 5038: A comment was made that power class C2 is only for 20MHz PPDU. A question was asked whether transmit power class A, B and D “shall” apply to only 10MHz PPDU or apply to both 10MHz and 20MHz PPDUs. A comment was made that 10MHz PPDU is carried from legacy, and 11bd amendment did nothing for 10MHz PPDU. The presenter answered that 10MHz NGV PPDU is enhanced. Transmit spectrum mask A, B and D apply to both 10MHz NGV PPDU and 10MHz non-NGV PPDU. It is suggested to add note that transmit spectral mask requirements for non-NGV PPDU are addressed elsewhere in the standard. The presenter answered that this clause is only for NGV PHY, and it does not make sense to mention non-NGV PPDU and adding not may cause confusion. A question was asked whether it is correct to more the sentence from may to shall. The presenter answered that it is a conditional shall.

## 11-22/0828r0, 11bd D4.0 comment resolution, Liwen Chu (NXP)

* 1. CID 5083, 5102 : A comment was made to provide more detailed resolution changes to Editor.
  2. CID 5103: No discussions.
  3. CID 5082: A comment was made that the original location does not have word “or”.
  4. CID 5101, 5003: No discussions.
  5. CID 5003: A comment was made that there is not much difference between original sentence and the suggest comment resolutions. The presenter answered that the comment resolutions has only one meaning while the original sentence can be interpreted different meanings.

## 11-22/0769r1, Initial SA Ballot Proposed Resolution for CIDs 5084, 5088, 5093, Joseph Levy (InterDigital)

* 1. CID 5084, 5093: It was suggested that the original sentence is aligned with baseline documents which is difficult to list all possible scenarios one by one. The resolution changes are ok since cases in 11bd is limited.

## Closing

* 1. Chair adjourned the teleconference at 12:00 pm ET.

**Attendance from IMAT**

| **Name** | **Affiliation** |
| --- | --- |
| Kipness, Michael | IEEE SA |
| Cao, Rui | NXP Semiconductors |
| Sun, Bo | ZTE Corporation |
| Kenney, John | Toyota Motor North America |
| Noh, Yujin | Senscomm |
| Levy, Joseph | InterDigital, Inc. |
| Liwen Chu | NXP Semiconductors |
| Rosdahl, Jon | Qualcomm Technologies, Inc. |
| Motozuka, Hiroyuki | Panasonic Corporation |

# Tuesday 7 June 2022 @ 10:00-11:59 am ET

## Opening (IEEE 802.11-22/0816r2)

* 1. Call to order 9:09 am ET
  2. Chair instructed members to record attendance in IMAT.
  3. Chair introduced the patent policy and meeting rules (slides 2-8).
  4. No response to the call for patents.
  5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 9-11)
  6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 12-14)
  7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 15-17)
  8. Chair introduced the task group leadership (slide 23)

## Agenda (IEEE 802. 11-22/0816r2)

* 1. Chair presented the agenda https://mentor.ieee.org/802.11/dcn/22/11-22-0816-02-00bd-tgbd-tc-agenda-for-may-jun-2022.pptx. (slide 24)
     + Call meeting to order and remind the group to record attendance on imat.ieee.org
     + IEEE-SA IPR policies and meeting rules
     + Approval of agenda (slide 24)
     + Comment review and resolution discussion
       - 11-22/0870r0, Resolutions for Miscellaneous PHY Comments for 11bd Initial SA Ballot, Rui Cao (NXP)
       - 11-22/0815r1, Resolutions to Transmit specification to NGV receive procedure, Yujin Noh (senscomm)
       - 11-22/0826r0, Viso file for Figure 32-16 NGV receive procedure, Yujin Noh (senscomm)
       - 11-22/0827r2, Resolutions to Clause 4.3.17 and 4.3.17a CIDs, John Kenney (Toyota)
     + Any other business
     + Adjourn
  2. Agenda was approved without objection

## 11-22/0870r0, Resolutions for Miscellaneous PHY Comments for 11bd Initial SA Ballot, Rui Cao (NXP)

* 1. CID 5045 : No discussions.
  2. CID 5079: A question was asked whether the sentence “NGV STA is also an non-NGV STA.” is needed since it is obvious. The presenter answered that the sentence is added to avoid cross reference.
  3. CID 5033, 5066, 5032, 5065, 5030, 5025: No discussions.

## 11-22/0815r1, Resolutions to Transmit specification to NGV receive procedure, Yujin Noh (senscomm)

* 1. CID 5056, 5055, 5054: No discussions.
  2. CID 5053: A comment was made that it is better to replace “coded SERVICE field and coded PSDU” with “coded SERVICE and PSDU”.
  3. CID 5052, 5050, 5048: No discussions.
  4. CID 5049: A comment was made that the arrow from CS/CCA to detect SIG is also in 11ax spec. The presenter said that she will make corresponding changes and present in the next meeting.

## 11-22/0827r2, Resolutions to Clause 4.3.17 and 4.3.17a CIDs, John Kenney (Toyota)

* 1. CID 5000, 5005: URL of the reference documents are added..
  2. CID 5043, 5044, 5089, 5090: Note to the Editor is added for cross references between difference CIDs. Changed “shall set” to “set” in three places including two other places. A comment was made that “attribute” is not needed after word “dot11NGVActivated” according to Editor’s guide.
  3. CID 5038: A comment was made that NGV 20 PPDU C2 class mapped to all power classes may be too relax for D class STAs. It is suggested to add sentence that the stricter regulatory requirements take precedence. The presenter agrees to check whether there are already similar sentence in the spec. A comment was made to add definition of C2 class in PHY clause and add stronger regulatory requirement taking precedence sentences. A question was asked about 11p 20MHz PPDU transmit power class. The presenter answered that 11p 20MHz PPDU still uses A/B/C/D power class requirements and the modified texts c) in D2.3 Transmit spectrum mask reflect that. A comment was made whether this paragraph should be moved to Transmit power mask requirement texts in PHY clause 32.3.10.1 instead of in Annex D which may be changed to be comply with regulatory requirement. A comment was made that Annex D is normative and product has to meet the requirements in Annex D.

## Closing

* 1. Chair adjourned the teleconference at 11:58 pm ET.

**Attendance from IMAT**

| **Name** | **Affiliation** |
| --- | --- |
| Au, Kwok Shum | Huawei Technologies., Ltd |
| Bahn, Christy | IEEE SA |
| Cao, Rui | NXP Semiconductors |
| Sun, Bo | ZTE Corporation |
| Kenney, John | Toyota Motor North America |
| Noh, Yujin | Senscomm |
| Sand, Stephan | German Aerospace Center (DLR) |
| Sosack, Robert | Molex incorporated |
| Rosdahl, Jon | Qualcomm Technologies, Inc. |
| Motozuka, Hiroyuki | Panasonic Corporation |

# Tuesday 14 June 2022 @ 10:00-11:59 am ET

## Opening (IEEE 802.11-22/0816r3)

* 1. Call to order 9:09 am ET
  2. Chair instructed members to record attendance in IMAT.
  3. Chair introduced the patent policy and meeting rules (slides 2-8).
  4. No response to the call for patents.
  5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 9-11)
  6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 12-14)
  7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 15-17)
  8. Chair introduced the task group leadership (slide 25)

## Agenda (IEEE 802. 11-22/0816r3)

* 1. Chair presented the agenda https://mentor.ieee.org/802.11/dcn/22/11-22-0816-03-00bd-tgbd-tc-agenda-for-may-jun-2022.pptx. (slide 26)
     + Call meeting to order and remind the group to record attendance on imat.ieee.org
     + IEEE-SA IPR policies and meeting rules
     + Approval of agenda (slide 24)
     + Comment review and resolution discussion
       - 11-22/0815r3, Resolutions to Transmit specification to NGV receive procedure, Yujin Noh (senscomm)
       - 11-22/0826r1, Viso file for Figure 32-16 NGV receive procedure, Yujin Noh (senscomm)
       - 11-22/0827r3, Resolutions to Clause 4.3.17 and 4.3.17a CIDs, John Kenney (Toyota)
       - 11-22/0870r1, Resolutions for Miscellaneous PHY Comments for 11bd Initial SA Ballot, Rui Cao (NXP)
     + CRC Motions
     + Any other business
     + Adjourn
  2. Agenda was approved without objection

## 11-22/0815r1, Resolutions to Transmit specification to NGV receive procedure, Yujin Noh (senscomm)

* 1. CID 5050: The resolution is updated based on offline discussions. The text and the VISIO figure are modified accordingly. A comment was made that the text “the PHY should continue the operation in clause 17 …” should be replaced with “the PHY should continue Non-NGV repetition check” which matches figure. A comment was made that “RL-SIG detection is failed” should be replaced with “RL-SIG detection fails”. The presenter agrees with the comments and changed the resolution.
  2. CID 5049: No discussions.

## 11-22/0827r4, Resolutions to Clause 4.3.17 and 4.3.17a CIDs, John Kenney (Toyota)

* 1. CID 5038: Transmit spectral mask C2 is applied to 20MHz non-NGV duplicate PPDU in the updated changes. Table of Spectrum mask data for 20MHz channel spacing is moved from Annex D to 32.3.10.1. The corresponding text are also moved from Annex D to 32.2.10.1. A comment was made that the table entry is changed to “Any class” in the new table, and a note to the Editor may be needed for clarification. A editorial change from “has” to “needs” is made which is in line with 11me terminology.

## 11-22/0870r1, Resolutions for Miscellaneous PHY Comments for 11bd Initial SA Ballot, Rui Cao (NXP)

* 1. CID 5025 : The resolution is updated based on the resolution of CID 5038 in document 0827r5..

## Motion #1 (CRC CR motion)

* 1. Move to approve the resolutions to following 26 comments collected from the 1st SA Ballot for IEEE P802.11bd D4.0:

CID 5086 5087, 5098, 5099, and 5100, as in 11-22/0764r3

CID 5046 as in 11-22/0747r2

CID 5064, 5062, 5029, 5028, 5060, 5027, 5058, and 5057, as in 11-22/0813r1

CID 5071, 5068, and 5067, as in 11-22/0814r1

CID 5007, 5020, 5035, 5069, 5070, 5072, 5074, 5076, and 5085, as in 11-22/0817r1

CID 5083, 5102, 5103, 5082, 5101, and 5003, as in 11-22/0828r1

CID 5091 and 5092, as in 11-22/0768r1

CID 5084, 5088, and 5093, as in 11-22/0769r1

CID 5056, 5055, 5054, 5053, 5052, 5050, 5049, and 5048, as in 11-22/0815r4

CID 5000, 5005, 5038, 5039, 5040, 5041, 5043, 5044, 5089, and 5090, as in 11-22/0827r5

CID 5025, 5030, 5031, 5032, 5033, 5045, 5065, 5066, and 5079, as in 11-22/0870r1

Moved: Rui Cao Seconded: Stephan Sand

Results: Approved unanimously

## Motion #2 (CRC CR motion, SA Recirculation Ballot)

* 1. Having approved comment resolutions for all of the comments received from the first SA Ballot for IEEE P802.11bd D4.0 as contained in document: [**https://mentor.ieee.org/802.11/dcn/22/11-22-0730-03-00bd-p802-11bd-initial-sa-ballot-comments.xlsx**](https://mentor.ieee.org/802.11/dcn/22/11-22-0730-03-00bd-p802-11bd-initial-sa-ballot-comments.xlsx),

instruct the TGbd Editor to incorporate all approved comment resolutions to create IEEE P802.11bd D5.0 and approve a 15-day SA Recirculation Ballot for IEEE P802.11bd D5.0

Moved: Yujin Noh Seconded: Rui Cao

Results: 9Y/0N/0A

## Closing

* 1. Chair adjourned the teleconference at 10:00 pm ET.

**Attendance from IMAT**

| **Name** | **Affiliation** |
| --- | --- |
| Yan, Zhang | NXP Semiconductors |
| Petrick, Albert | InterDigital, Inc. |
| Cao, Rui | NXP Semiconductors |
| Sun, Bo | ZTE Corporation |
| Kenney, John | Toyota Motor North America |
| Noh, Yujin | Senscomm |
| Sand, Stephan | German Aerospace Center (DLR) |
| Sosack, Robert | Molex incorporated |
| Oyama, Satoshi | Association of Radio Industries and Businesses (ARIB) |
| Motozuka, Hiroyuki | Panasonic Corporation |