IEEE P802.11  
Wireless LANs

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| IEEE 802.11bd September 2020 meeting minutes - Interim | | | | |
| Date: 2019-09-15 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Joseph LEVY | InterDigital Communication, Inc. | 111 W 33rd Street New York, NY 10120 | +1.631.622.4139 | [joseph.levy@interdigital.com](mailto:joseph.levy@interdigital.com) |
| James Lepp | BlackBerry | Ottawa |  | [jlepp@ieee.org](mailto:jlepp@ieee.org) |
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Abstract

This document includes minutes of all IEEE 802.11bd teleconferences occurring during the 802.11 September Interim meeting – 14-18 September 2020.

Version Tracking:

R0: 15 September teleconference session 9:00-11:00 h ET

R1: 16 September teleconference session 19:00-21:00 h ET

# Tuesday 15 September 2020 @ 9:00-11:00 h ET

## Opening (IEEE 802.11-20/0774r10)

* 1. Call to order 9:02 h ET
  2. Chair called for a Secretary – there was no volunteer. Chair requested the Vice Chair to take minutes, Joseph Levy (TGbd Vice Chair) agreed to take minutes.
  3. Chair instructed members on how to use webex and to record attendance in IMAT.
  4. Chair introduced the patent policy and meeting rules (slides 2-6).
  5. No response to the call for patents.
  6. Chair reviewed Meeting Guidelines (slides 7-10)
  7. Chair reviewed Teleconference plan, the TGbd Documents, and TBbd Timeline (slides 11-13)
  8. Chair introduced the task group leadership (slide 33)

## Agenda (IEEE 802.11-20/0774r10)

* 1. Chair presented the agenda: <https://mentor.ieee.org/802.11/dcn/20/11-20-1352-04-00bd-tgbd-teleconference-agenda-for-sep-2020.pptx>. (slide 35):
* 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
* Approve the TC minutes
* Comment resolutions progress update (TGbd editor)
* Presentations and discussion (Call for submission)
  + SP for 11-20/1228r8, D0.3 comment resolution subclause 5, Liwen Chu (NXP)
  + 11-20/1301, cid237-240-ngv-60ghz-sta-definition, Hiroyuki Motozuka (Panasonic)
  + 11-20/1302, ngv-60ghz-beamforming, Hiroyuki Motozuka (Panasonic)
  + 11-20/1303, ngv-60ghz-beamforming-text, Hiroyuki Motozuka (Panasonic)
  + TBD
* Next teleconference on Sep 16th
* Adjourn
  1. Chair amended the agenda: adding 4 items to the presentations and discussion section:
  + 11-20/1461, Resolutions to 32.3.4 NGV modulation and coding schemes Part 2, Yujin Noh (Newracom)
  + 11-20/1268r1, Resolution of 8 CIDs, Bahar Sadeghi (Intel) [CID 29/86/100/205]
  + 11-20/1264r2, D0.3 editorial comments resolutions, Bahar Sadeghi (Intel) [CID 74]
  + 11-20/1383r2, comment resolution of clause 31.2.2, Hanseul Hong (WILUS) [CID 232]
  1. The updated agenda was approved without objection

### Approval of the TC minutes

The minutes were not available for approval at this time – the approval was deferred to later in the meeting. (see item 8 below)

### Comment resolution progress update (TGbd Editor)

* 1. The Editor (Bahar Sadeghi – Intel) presented [11-20/2045r7](https://mentor.ieee.org/802.11/dcn/19/11-19-2045-07-00bd-tgbd-editor-s-report.ppt),
  2. The Editor reported the latest revision of the comment resolution spread sheet [11-20/0701](https://mentor.ieee.org/802.11/dcn/20/11-20-0701-00bd-tgbd-d0-3-comments.xlsx) is R4, which needs to be updated.
  3. Comment resolution status is reported on Slide 3
  4. Open CIDs are listed on Slide 4 with assignees: copied here for reference:

Bahar 4 (editorial) CIDs 29, 74, 100, 205

Dongguk 5 CIDs170, 288, 324, 325, 326

Hanseul 1 CID 232

Hiroyuki 2 CIDs 237, 240

James 9 CIDs 32, 33, 34, 36, 57, 72, 215, 216, 217

Joe 12 CIDs 2, 3, 30, 43, 52, 53, 54, 65, 70, 71, 210, 212

Liwen 4 CIDs 39, 59, 61, 89

Qinghua 18 CIDs 7,108, 109, 132, 133, 134, 159, 160,162, 185, 241, 243, 244, 245, 246, 261, 262, 263

Yujin 4 CIDs 11, 12, 13, 156

* 1. A request was made for the Editor to update the comment resolution spreadsheet, the Editor agreed to update the document.

### SP for 11-20/1228r8, D0.3 comment resolution subclause 5, Liwen Chu (NXP) (see item 15)

* 1. Chair call for the presenter, Liwen was not present the SP was differed
  2. It was noted that there is a TBD in the document which need to be removed, or a plan to do so needs to be discussed.

### 11-20/1301, cid237-240-ngv-60ghz-sta-definition, Hiroyuki Motozuka (Panasonic)

* 1. Presented by Hiroyuki Motozuka
  2. It was noted that CID 238 was addressed by the resolution of CID 183
  3. It was noted that CID 240 was addressed by the proposed changes in 11-20-1301r0
  4. Chair requested conflicts with changes made by .11ay be checked. The presenter agreed to do so.
  5. A question was asked as to why the document shows 60 GHz features as mandatory, the presenter indicated that the PICs are formatted that way for conditional mandatory features, and that 60 GHz features are optional.
  6. A question was asked as to why the behavior is in the Frame Format clause (Clause 9) and not in the MAC clause, the presenter indicated that he will consider where to place the behavior.
  7. Chair indicated that a SP on this document will be run on the next teleconference and requested everyone review this contribution.

### 11-20/1302, ngv-60ghz-beamforming, Hiroyuki Motozuka (Panasonic)

* 1. Presented by Hiroyuki Motozuka
  2. A comment was made that it takes milliseconds to set up beamforming, and the vehicular channel changes very quickly. It is possible that since there constantly transmission by NGV devices this information can be used to better understand the environment and this additional information should be considered to help configure beamforming. The presenter commented that for now the 11ad defined procedure provides good tracking and beamforming capability and that we can use the 11ad features now and extend them in the future to include additional information/capabilities. The 11ad features are good enough for now.
  3. A comment was made that on slide 4 the 11ad operation does not include high mobility, the presenter agreed.
  4. The SP on slide 11 was reviewed, but the SP will be deferred to the next teleconference.
  5. Chair called for additional offline discussion, prior to the SP, being run.
  6. A question was asked regarding the availability of specification text for this feature.
  7. This contribution does not address a CID from the comment collection. This statement provoked a discussion on what is in scope and the comment resolution process and the process of creating draft 1.0. The conclusion was: 1) a comment collection does not mandate that all comment be resolved, 2) additional features can be considered, even if there are no related comments, 3) TGbd will recommend to 802.11 WG that a ballot be started on .11bd D1.0 when TGbd agrees the draft is ready, 4) only the 802.11 WG can agree to launch a 802.11 WG letter ballot (this is not something TGbd can do).

### Approval of the TC minutes (returned to after minutes were mad available, see item 3 above)

* 1. **Move to approve the TGbd TC minutes for IEEE 802.11 Jul plenary week and TCs after that individually as below:**
* - <https://mentor.ieee.org/802.11/dcn/20/11-20-1082-00-00bd-tgbd-july-2020-meeting-minutes.docx>
* - [https://mentor.ieee.org/802.11/dcn/20/11-20-1105-08-00bd-tgbd-aug-2020-teleconference-minutes.docx](https://mentor.ieee.org/802.11/dcn/20/11-20-1105-07-00bd-tgbd-aug-2020-teleconference-minutes.docx)

Moved by Joseph Levy, Seconded by John Kenny

Motion approved without objection.

### 11-20/1303, ngv-60ghz-beamforming-text, Hiroyuki Motozuka (Panasonic)

* 1. Document not taken

### Technical Contribution (802.11-20/1110r1)

* 1. Document not taken

### 11-20/1461, Resolutions to 32.3.4 NGV modulation and coding schemes Part 2, Yujin Noh (Newracom)

* 1. Presented by Yujin Noh
  2. CIDs: 11, 12, 13, and 156 were all resolved by changes made to address other CIDs
  3. SP to agree these resolutions will be run during the next teleconference.

### 11-20/1268r1, Resolution of 8 CIDs, Bahar Sadeghi (Intel) [CID 29/86/100/205]

* 1. Presented by Bahar Sadeghi
  2. The document provides proposed updated resolutions for CIDs 29 and 100, new text is provided, and a TBD was removed.
  3. There was no discussion
  4. A SP will be run during the next teleconference.

### 11-20/1264r2, D0.3 editorial comments resolutions, Bahar Sadeghi (Intel) [CID 74]

* 1. Presented by Bahar Sadeghi
  2. This comment is purely editorial and makes sense if the NGV MAC section is small. The Editor will decide with input from the TGbd once the D1.0 text is available, and the size of the MAC clause is known. For now, this comment will be Rejected.

### 11-20/1383r2, comment resolution of clause 31.2.2, Hanseul Hong (WILUS) [CID 232]

* 1. Presented by Hanseul Hong
  2. This document removes a TBD from the previous draft
  3. Comment that the primary channel field will only indicate the OCB primary channel
  4. It was noted that the Primary Channel and the Channel width are two parameters, not one as the text indicates (“primary channel and channel width”. Therefore, the text should be modified so that they are listed as independent parameters. It was noted that it is the 802.11 style that "A value representing “selection within MAC sublayer” shall exist for each element. "
  5. It was agreed that Liwen will update this in his document 11-20/1228 to fix both the parameter list and the TBD addressed in this document.

### SP for 11-20/1228r8, D0.3 comment resolution subclause 5, Liwen Chu (NXP) (see item 5)

* 1. Presented by Liwen Chu – presented r9 for discussion and to capture changes, to be posted to mentor after this meeting.
  2. Question this document paraphrases the SME definition, do we need to provide a reference to the source? Note #41 has been motioned, need to update it with the change.
  3. The use of the words “control the” were questions, it was stated that this may be a layer violation, it was suggested that the phrase “indicate the desired” be used instead.
  4. R9 will provide updated resolutions for CIDs 38, 39, 41, 59 and 61
  5. A comment was made that CID 80 also needs to be addressed

1. Adjourn
   1. Chair announced the next TGbe teleconference will be on Wednesday 16 September @ 19:00 h ET
   2. Chair recessed the meeting at 11:00 h ET.

**Attendance from IMAT**

| **Name** | **Affiliation** |
| --- | --- |
| An, Song-Haur | INDEPENDENT |
| Andersdotter, Amelia | None - Self-funded |
| Banerjea, Raja | Qualcomm Incorporated |
| Bei, Jianwei | NXP Semiconductors |
| Berens, Friedbert | FBConsulting Sarl |
| Cao, Rui | NXP Semiconductors |
| Chu, Liwen | NXP Semiconductors |
| Chung, Chulho | SAMSUNG |
| Ding, Yanyi | Panasonic Corporation |
| Edelmayer, Andras | Commsignia |
| Goto, Fumihide | Self |
| HAN, CHONG | pureLiFi |
| Hong, Hanseul | WILUS Inc. |
| Kain, Carl | USDoT |
| Kakani, Naveen | Qualcomm Incorporated |
| Kenney, John | TOYOTA InfoTechnology Center U.S.A. |
| Kim, Yongho | Korea National University of Transportation |
| Kim, Youn-Kwan | The Catholic University of Korea |
| Lansford, James | Qualcomm Incorporated |
| Levy, Joseph | InterDigital, Inc. |
| Li, Nan | ZTE Corporation |
| Loginov, Vyacheslav | IITP RAS |
| Montemurro, Michael | Self |
| Montreuil, Leo | Broadcom Corporation |
| Motozuka, Hiroyuki | Panasonic Corporation |
| Nakano, Takayuki | Panasonic Corporation |
| Nguyen, An | DHS/CISA/ECD |
| noh, yujin | Newracom Inc. |
| Oyama, Satoshi | Association of Radio Industries and Businesses (ARIB) |
| Perkins, Richard | Qorvo |
| Petrick, Albert | InterDigital, Inc. |
| Sadeghi, Bahareh | Intel Corporation |
| Sakamoto, Takenori | Panasonic Corporation |
| Sand, Stephan | German Aerospace Center (DLR) |
| Schiessl, Sebastian | u-blox |
| Smely, Di Dieter | Kapsch TrafficCom AG |
| Sun, Bo | ZTE Corporation |
| Takai, Mineo | Space-Time Engineering |
| Urabe, Yoshio | Panasonic Corporation |
| yi, yongjiang | Futurewei Technologies |

# Wednesday 16 September 2020 @ 19:00-21:00 h ET

## Opening (IEEE 802.11-20/1352r6)

* 1. Call to order 19:01 h ET
  2. Chair called for a Secretary – James Lepp (BlackBerry) volunteered.
  3. Chair instructed members on how to use webex and to record attendance in IMAT.
  4. Chair introduced the patent policy and meeting rules (slides 2-6).
  5. No response to the call for patents.
  6. Chair reviewed Meeting Guidelines (slides 7-10)
  7. Chair reviewed Teleconference plan, the TGbd Documents, and TBbd Timeline (slides 11-13)
  8. Chair introduced the task group leadership (slide 33) and notified the group that the secretary position is open and they are looking for a volunteer.

## Agenda (IEEE 802.11-20/1352r6)

* 1. Chair presented the agenda: <https://mentor.ieee.org/802.11/dcn/20/11-20-1352-06-00bd-tgbd-teleconference-agenda-for-sep-2020.pptx>. (slide 35):
* Call meeting to order and remind the group to record attendane on imat.ieee.org
* IEEE-SA IPR policies and meeting rules
* Approval of agenda
* Presentations and discussion (Call for submission)
  + SP for 11-20/1228r9, D0.3 comment resolution subclause 5, Liwen Chu (NXP)
  + SP for 11-20/1301r1, cid237-240-ngv-60ghz-sta-definition, Hiroyuki Motozuka (Panasonic)
  + SP for 11-20/1461r0, Resolutions to 32.3.4 NGV modulation and coding schemes Part 2, Yujin (Newracom)
  + SP for 11-20/1268r1, resolution of 8 CIDs, Bahar Sadeghi (Intel) [CID 29/86/100/205]
  + SP for 11-20/1264r2, D0.3 editorial comments resolution, Bahar Sadeghi (Intel) [CID 74]
  + SP for 11-20/1383r3, comment resolution of clause 31.2.2, Hanseul Hong (WILUS) [CID 232]
  + SP for 11-20/0728r1, comment resolution D0.3 Sec 4, Jame Lepp (BlackBerry)
  + 11-20/1490, comment-resolutions-for-misc-phy-comments, Bahar Sadeghi (Intel)
  + 11-20/1491, additional cr for NGV data field, Rui Cao (NXP)
  + 11-20/1302, ngv-60ghz-beamforming, Hiroyuki Motozuka (Panasonic)
  + 11-20/1303, ngv-60ghz-beamforming-text, Hiroyuki Motozuka (Panasonic)
* Next teleconference on Sep 17th
* Adjourn
  1. Chair amended the agenda: 1301r0 changed to 1301r1. Presenter for 1228r9 will join later so it will be taken out of order.
  2. The updated agenda was approved without objection

### Straw Poll for 11-20/1301r1, cid237-240-ngv-60ghz-sta-definition, Hiroyuki Motozuka (Panasonic)

* 1. Presenter described changes made in r1 of the document.
  2. Discussion
     1. No discussion
  3. Straw Poll: “Do you agree on the comment resolution to following 2 CIDs and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/1301r0? CID 237 and 240”
  4. Straw poll was taken using Webex voting tool
  5. Straw poll result: 14 yes /0 no/10 abstain/ 15 no response

### Straw Poll for 11-20/1461r0, Resolutions to 32.3.4 NGV modulation and coding schemes Part 2, Yujin (Newracom)

* 1. No changes, the strawpoll is for r0
  2. No discussion on the straw poll.
  3. Straw Poll: “Do you agree on the comment resolution to following 4 CIDs and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/1461r0? CID 11, 12, 13, and 156”
  4. Straw Poll result 15 yes / 0 no / 8 abstain / 17 no response

### Straw Poll for 11-20/1268r1, resolution of 8 CIDs, Bahar Sadeghi (Intel)

* 1. Chair verified with the author that the revision and CID numbers were correct
  2. No discussion on the straw poll.
  3. Straw Poll: “Do you agree on the comment resolution to following 4 CIDs and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/1268r1? CID 29, 86, 100 and 205”
  4. Straw Poll results: 16 yes / 0 no / 10 abstain / 18 no response

### Straw Poll for 11-20/1264r2, D0.3 editorial comments resolution, Bahar Sadeghi (Intel)

* 1. No changes, the strawpoll is for r0.
  2. No discussion on the straw poll.
  3. Straw Poll: “Do you agree on the comment resolution to CID 74 and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/1264r2?”
  4. Straw Poll result: 16 yes / 0 no /9 abstain/ 21 no response

### Straw Poll for 11-20/1383r3, comment resolution of clause 31.2.2Hanseul Hong (WILUS)

* 1. Chair verified with the author that the revision and CID numbers were correct
  2. No discussion on the straw poll.
  3. Straw Poll: “Do you agree on the comment resolution to CID 232 and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/1383r3?”
  4. Straw Poll result: 16 yes / 0 no / 13 abstain/ 16 no response

### Straw Poll for 11-20/0728r1, comment resolution D0.3 Sec 4, James Lepp (BlackBerry)

* 1. Chair verified with the author that the revision and CID numbers were correct
  2. No discussion on the straw poll.
  3. Straw Poll: “Do you agree on the comment resolution to following 7 CIDs and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/0728r1? CID 32, 33, 34, 36, 215, 216, and 217”
  4. Straw Poll result: 16yes / 0 no / 12 abstain/ 19 no response

1. 11-20/1491r0, additional cr for NGV data field, Rui Cao (NXP)
   1. Presented by Rui Cao (NXP)
   2. Change made on screen to figure 32-29 to make PSDU\_LENGTH not italic, and also in the text.
   3. Comment that the period in figure 32-29 should be a dot symbol.
   4. The text was changed in response.
   5. This was saved to 11-20/1491r1
   6. Task group will proceed with a straw poll on r1 after other presentations are finished.

### 11-20/1490r2, comment-resolutions-for-misc-phy-comments, Bahar Sadeghi (Intel)

* 1. Bahar is presenting these on behalf of Qinghua Li (Intel) who is not available.
  2. Discussion about changes to section 32.1.1 (PHY introduction)
     1. Discussion about whether to explicitly state “STBC is not employed”. Member suggests that the way that STBC is defined in 11mc D4.0 it is worth noting here. Consensus to keep resolution as proposed.
     2. Discussion about mentioning Round Trip Time (RTT). Consensus to move that line to optional.
     3. Discussion about removing the line about Class C, as that was defined in 11p, and is not a new feature defined in this amendment. Consensus is to keep class C for 10MHz NGV PPDU and C2 for 20MHz PPDU.
     4. Comment about level of detail in the list of features. Response that this is similar to other recent ammendments.
  3. Discussion about CID 262 and the tone mapper text. Comment is on the transmitter block diagram, and the suggested resolution is truncated. Consensus is to reject the comment.
  4. No further comments
  5. Presenter will upload a new revision for the group to straw poll.

### Straw Poll for 11-20/1228r9, D0.3 comment resolution subclause 5, Liwen Chu (NXP)

* 1. “Do you agree on the comment resolution to following 3 CIDs and the proposed spec text modification to IEEE P802.11bd D0.3 as in 11-20/1228r9? CID 39, 59 and 61”
  2. No discussion
  3. Straw Poll Result 19 Yes / 0 No / 10 Abstain / 23 No response

### 11-20/1498r0, D0.3 comment resolution CID 89, Liwen Chu (NXP)

* 1. Presented this single comment resolution for CID 89
  2. Discussion
     1. Comment that this is not an acceptable definition, all acronyms need to be written in full, but question is do we need a definition for NGV PPDU in section 3.2
     2. Response that HE PPDU and other PPDUs are defined in the baseline.
     3. Editor states she will take care of acronym formatting to match the required style guide when implementing.
     4. Comment that the definition proposed is circular and it doesn’t say much
     5. Response that the meat of the definition is that X PPDU follows X format.
     6. Comment that other PPDU definitions reference a clause number.
     7. Discussion about using text similar to the CDMG PPDU.
  3. Updated text on screen, will be uploaded in r1.

### 11-20/0744r4, resolution clause 6 CIDS 43 66 67 68 69 70 71, Joseph Levy (Interdigital)

* 1. Presenter highlighting changes since R3.
  2. Discussion
     1. Discussion about timing of the flow when the PHY lets the MAC know when its ready for the next MPDU. This is to ensure there is consistent non-ambiguous behavior for CancelTX for non head of line MPDUs.
     2. Response that the spec has no partial PPDUs, there is clear state of whether the frame is in the MAC queue or the PHY queue or not. Implementation may do things differently.
     3. Comment that in 802.11 the PHY works on CSMA, once the PHY starts a transmission, it will transmit the entire MPDU or not. There is no concern about half of it transmitted.
     4. Based on discussion, commenter stated the proposed resolution is acceptable.
  3. All comments are now resolved in this document, presenter will upload a new revision for strawpoll tomorrow

### 11-20/0709r2, resolution clause 3.2 CIDS, Joseph Levy (Interdigital)

* 1. Presenter highlighting changes since R1. (R2 had error)
  2. Discussion
     1. CID 2, CID 3, Commenter stated their acceptance of the reject comments due to insufficient detail.
     2. CID 53 Commenter stated their acceptance of the reject comment.
     3. CID 52 no discussion
     4. CID 173, CID 211 have already been corrected in D0.4, so accepted but no work for the editor to do.
     5. CID 54 no discussion
     6. CID 30 no discussion
     7. CID 213 no discussion
  3. Presenter will upload r3 to stawpoll tomorrow.

### Closing

* 1. Chair announced the next TGbd teleconference will be on Thursday 17 September @ 10:00 h ET
  2. Chair recessed the meeting at 21:00 h ET.

Attendance from IMAT pending

# Next Meetings

Working Group Plenary:

Online, TBS

Teleconferences:

TBS

Meeting Documents:

<https://mentor.ieee.org/802.11/documents>

Task Group Email reflector:

<http://www.ieee802.org/11/email/stds-802-11-tgbd/index.html>

Website:

<http://www.ieee802.org/11/Reports/tgbd_update.htm>