IEEE P802.11
Wireless LANs

|  |
| --- |
| IEEE 802.11bd May 2021 Interim TC meeting minutes  |
| Date: 2021-05-11 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Yan Zhang | NXP | 350 Holger Way, San Jose, CA,  |  | yan.zhang\_5@nxp.com |

Abstract

This document includes minutes of all IEEE 802.11bd May Interim teleconferences from May 11th- 14th.

Version Tracking:

R0: May Interim teleconference meeting minutes

# Tuesday 11 May 2021 @ 9:00-11:00 am ET

## Opening (IEEE 802.11-21/0597r1)

* 1. Call to order 9:00 am ET
	2. Chair instructed members to record attendance in IMAT.
	3. Chair introduced the patent policy and meeting rules (slides 2-6).
	4. No response to the call for patents.
	5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 7-9)
	6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 10-13)
	7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 14-17)
	8. Chair introduced the task group leadership (slide 18)

## Agenda (IEEE 802. 11-21/0597r1)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11/dcn/21/11-21-0597-01-00bd-tgbd-teleconference-agenda-for-apr-2021.pptx. (slide 19):
		+ 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 19)
		+ Approval of TG minutes
		+ Tech Editor report (tbd)
		+ SPs

SP for 11-21/0559r1, comment resolution for misc topics, Rui Cao (NXP)

* + - Presentations and discussion
			* 11-21/0736r0, comment resolution for CAD, Rui Cao (NXP)
			* 11-20/1564r3, TGbd coexistence assessment document, Rui Cao (NXP)
		- Next teleconference on May 12th
		- Recess
	1. Agenda was approved without objection

## Approval of TGbd meeting minutes

* 1. Move to approve the following minutes for TGbd teleconferences during IEEE 802.11 Mar plenary week and following teleconferences:
		+ <https://mentor.ieee.org/802.11/dcn/21/11-21-0454-00-00bd-tgbd-march-plenary-2021-teleconference-minutes.docx>
		+ <https://mentor.ieee.org/802.11/dcn/21/11-21-0565-00-00bd-ieee-802-11bd-march-2021-tc-meeting-minutes.docx>
		+ [https://mentor.ieee.org/802.11/dcn/21/11-21-0655-01-00bd-ieee-802-11bd-april-2021-tc-meeting-minutes.docx](https://mentor.ieee.org/802.11/dcn/21/11-21-0655-00-00bd-ieee-802-11bd-april-2021-tc-meeting-minutes.docx)
		+ Moved: Yan Zhang Seconded: Stephan Sand
		+ Passed with unanimous consensus.

## Editor Tech reports (11-19/2045r10)

* 1. Total 135CIDs remaining, 109 technical CIDs, 22 editorial CIDs and 4 general CIDs remaining.

## SP for 11-21/0559r1, comment resolution for misc topics, Rui Cao (NXP)

* 1. Do you agree on the comment resolution to the following 9 CIDs and proposed spec text modification to IEEE P802.11bd D1.0 as in 11-21/0559r1?
		+ CID 1518, 1431, 1156, 1761, 1762, 1628, 1247, 1112, and 1454.
		+ 15Y/0N/5A

## 11-21/0736r0, comment resolution for CAD, Rui Cao (NXP)

* 1. CID 1519: A comment was made that the sentence “The FCC ruling does not change the market aspect” is not accurate since there is potential change. Revised to “There is still global market potentials with FCC ruling”.
	2. CID 1175: Change rejected to revised.
	3. CID 1697: A comment was made that in Europe 60GHz is not referred as unlicensed, it is referred as license exempt, same as 5.9GHz.
	4. CID 1712, 1721, 1722, 1723: no discussion.
	5. CID 1698, 1714,1705: A comment was made that the main question is the interpretation of coexistence. Coexistence can be interpreted as no interference to others, or it can be interpreted as both devices can coordinate. If the interpretation is the latter, then “assure” wording is correct. The commentor thinks the CID wording is not correct.
	6. CID 1699, 1700: no discussion.
	7. CDI 1727,1176: A comment was made to change “unlicensed” to “license exempt under short range device(SRD) rules”.
	8. CID 1715, 1716, 1701, 1702, 1728, 1703,1177,1717,1729,1704,1718,1719, 1706, 1726: no discussion.
	9. CID 1720: A comment was made to add “license exempt” in the resolution.
	10. CID 1707, 1178: A comment was made that we should not prohibit 11bd devices to operate at unlicensed band after FCC ruling because we can still configure it to 10MHz channel. Another comment was made that we shall not limit the use of 11bd devices in band lower than 5.9GHz band in Europe. Another comment was made that the coexistence is required only on the bands where 11p devices are operating. There is no need to complicate hardware implementations to provide coexistence where 11p devices are not operating. This topic might be better to be revisited after D2.0.
	11. CID 1708: A comment was made that “facilitate” is a better wording than “provide”. The presenter answered that other 802.11 amendments use “provide”, and will check the contexts to see which word is more appropriate.
	12. CID 1709: no discussion.

## 11-20/1564r3, TGbd coexistence assessment document, Rui Cao (NXP)

* 1. A comment was made that 5.9GHz band definition needs to be modified to reflect rules for different regions. The presenter agrees to modify accordingly.

## Closing

* 1. Any other business
		+ None
	2. Chair announced the next TGbd teleconference will be on May 12th at 11:15 am ET
	3. Chair adjourned the teleconference at 11:00 am ET

# Wednesday 12 May 2021 @ 11:15am -13:15 pm ET

## Opening (IEEE 802.11-21/0597r3)

* 1. Call to order 11:15 am ET
	2. Chair instructed members to record attendance in IMAT.
	3. Chair introduced the patent policy and meeting rules (slides 2-6).
	4. No response to the call for patents.
	5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 7-9)
	6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 10-13)
	7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 14-17)
	8. Chair introduced the task group leadership (slide 22)

## Agenda (IEEE 802. 11-21/0597r3)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11/dcn/21/11-21-0597-03-00bd-tgbd-teleconference-agenda-for-apr-2021.pptx. (slide 23):
		+ 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 23)
		+ Presentations and discussion
			- 11-20/1564r4, TGbd coexistence assessment document, Rui Cao (NXP)
			- 11-21/0736r1, comment resolution for CAD, Rui Cao (NXP)
			- 11-21/0797r0, comment resolution of miscellaneous CIDs in Annex D, Rui Cao (NXP)
			- 11-21/0779r0, 11bd D1.0 comment resolution 5.3, Liwen Chu (NXP)
		+ Next teleconference on May 13th
		+ Recess
	2. Agenda was approved without objection

## 11-20/1564r3, TGbd coexistence assessment document, Rui Cao (NXP)

* 1. A comment was made that 5.9GHz band also needs to be added in section 3 depending on the frequency range. The present answered that section 3 is for 802 standards other than dot11.
	2. A comment was made on the definitions of OCB. The commentor prefers not to refer OCB as a mode, and 11p avoids use OCB as a mode. The presenter answered that OCB is referred as a mode in 802.11-2020 document. The commentor agrees to keep the original text for consistency.
	3. A comment was made that section 7 sentence “interference mitigation techniques like beamforming” can completely mitigate interference is not accurate because it is impossible to form narrow beams.

## 11-21/0736r1, comment resolution for CAD, Rui Cao (NXP)

* 1. CID 1728: change licensed 5.9GHz band to 5.9GHz band since it is possible that it becomes unlicensed band for 11p device after FCC ruling.

## 11-21/0797r0, comment resolution of miscellaneous CIDs in Annex D, Rui Cao (NXP)

* 1. CID 1007,1297: No discussion.
	2. CID 1600: A comment was made that the CID comment is correct in terms of the regulatory band usage according to FCC R&O first record order. But it is uncertain how 11bd needs to operate in these bands. Another comment was made to avoid regulatory languages in IEEE standard spec.

## 11-21/0779r0, 11bd D1.0 comment resolution 5.3, Liwen Chu (NXP)

* 1. CID 1055, 1057, 1106, 1143, 1145, 1207, 1208, 1209, 1210, 1211, 1370, 1389, 1488, 1489, 1491, 1552, 1741, 1742, 1755, 1756, 1840, 1274: No discussion.
	2. CID 1553: TXVECTO parameter N\_TX is the number of transmit chain, the presenter asks whether upper layer or MAC/PHY interface decides this parameter. A comment was made that N\_TX parameter is only used in MAC/PHY interface to notify PHY layer to normalize the waveform and add corresponding CSD.
	3. A comment was made regarding 5.3.1 radio environment request vector parameters, and the commentor suggests to add parameter values for each separate radio environment element. The presenter agrees to modify the text to reflect the comment.

## Closing

* 1. Any other business
		+ None
	2. Chair announced the next TGbd teleconference will be on May 13th at 7pm ET
	3. Chair adjourned the teleconference at 1:10 pm ET

# Thursday 13 May 2021 @ 7-9 pm ET

## Opening (IEEE 802.11-21/0597r3)

* 1. Call to order 7pm ET
	2. Chair instructed members to record attendance in IMAT.
	3. Chair introduced the patent policy and meeting rules (slides 2-6).
	4. No response to the call for patents.
	5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 7-9)
	6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 10-13)
	7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 14-17)
	8. Chair introduced the task group leadership (slide 24)

## Agenda (IEEE 802. 11-21/0597r3)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11/dcn/21/11-21-0597-03-00bd-tgbd-teleconference-agenda-for-apr-2021.pptx. (slide 25):
		+ 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 25)
		+ SPs
			- SP for 11-21/0736r2, comment resolution for CAD, Rui Cao (NXP)
			- SP for 11-21/0797r0, comment resolution of miscellaneous CIDs in Annex D, Rui Cao (NXP)
			- SP for 11-21/0779r2, 11bd D1.0 comment resolution 5.3, Liwen Chu (NXP)
		+ Discussion on CID 1278 (10 min)
		+ Presentations and discussion
			- 11-21/0171r3, Resolutions Clause 31.2.3 comments for LB-251, Joseph Levy (InterDigital)
		+ Next teleconference on May 14th
		+ Recess
	2. Agenda was approved without objection

## SP 11-21/0736r2, comment resolution for CAD, Rui Cao (NXP)

* 1. Do you agree on the comment resolution to the following 40 CIDs as in 11-21/0736r2 and proposed spec text modification to IEEE 802.11 TGbd CAD document as in 11-20/1564r5?
		+ CID [1175 to 1178], 1519, [1695 to 1729]
		+ 10Y/1N/1A

## SP 11-21/0797r0, comment resolution of miscellaneous CIDs in Annex D, Rui Cao (NXP)

* 1. Do you agree on the comment resolution to the following 3 CIDs and proposed spec text modification to IEEE 802.11bd D1.0 as in 11-21/0797r0?
		+ CID 1007, 1297 and 1600
		+ Y/N/A No objection

## SP 11-21/0779r2, 11bd D1.0 comment resolution 5.3, Liwen Chu (NXP)

* 1. The presenter showed the update: added PPDU format value 2 to indicate PPDU format decided by MAC layer. A question was asked why MAC layer cannot determine the frequency band parameter and the primary channel. The presenter answered that these should use default values from MIB if no values are set from upper layer. The presenter modified text according to the discussions.
	2. Do you agree on the comment resolution to the following 24 CIDs and proposed spec text modification to IEEE 802.11bd D1.0 as in 11-21/0779r1?
		+ CID 1055, 1056, 1057, 1106, 1143, 1145, 1207, 1208, 1209, 1210, 1211, 1370, 1389, 1488, 1489, 1491, 1552, 1553, 1741, 1742, 1755, 1756, 1840, 1274
		+ Y/N/A No objection

## Discussion on CID 1278, Bahar Sadeghi (Intel)

* 1. CID 1278 discussion: the group decided to reject this CID since there is not enough time to solve it, and go back to this CID in the next round letter ballot.

## 11-21/0171r3, Resolutions Clause 31.2.3 comments for LB-251, Joseph Levy (InterDigital)

* 1. CID 1752: A comment was made that TXOP limit of 5484us should be doubled since the symbol duration is doubled to 8us. Another comment was made to revise the text to “An NGV STA shall not transmit a PPDU of duration that exceeds aPPDUMaxTime, specified in Table 32-23 (NGV PHY characteristics)”
	2. CID 1429: A comment was made that it is hard to implement the protocol which specifies 2us spacing after certain amount of bytes, and certain amount bytes after 2us spacing. Another commentor pointed out that this is the procedure done for A-MPDU in baseline.
	3. CID 1282, 1430, 1040: A comment was made that 7991 number should be replaced with a MIB variable. The presenter answered that it is also referred as the maximum size of an A-MSDU.
	4. CID 1498: No discussion.

## Closing

* 1. Any other business
		+ None
	2. Chair announced the next TGbd teleconference will be on May 14th at 9am ET
	3. Chair adjourned the teleconference at 9pm ET

# Friday 14 May 2021 @ 9-11am ET

## Opening (IEEE 802.11-21/0597r4)

* 1. Call to order 9am ET
	2. Chair instructed members to record attendance in IMAT.
	3. Chair introduced the patent policy and meeting rules (slides 2-6).
	4. No response to the call for patents.
	5. Chair introduced IEEE-SA COPYRIGHT POLICY (slides 7-9)
	6. Chair reviewed other Guidelines for IEEE WG Meetings (slides 10-13)
	7. Chair reviewed current Teleconference plan, TGbd Documents Update, and current TGbd Timeline (slides 14-17)
	8. Chair introduced the task group leadership (slide 26)

## Agenda (IEEE 802. 11-21/0597r4)

* 1. Chair presented the agenda: https://mentor.ieee.org/802.11/dcn/21/11-21-0597-04-00bd-tgbd-teleconference-agenda-for-apr-2021.pptx. (slide 27):
		+ 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 27)
		+ Presentations and discussion
			- 11-21/0171r6, Resolutions Clause 31.2.3 comments for LB-251, Joseph Levy (InterDigital)
			- 11-21/0442r3, D1.0 comment resolution subclause 9.2.4.7.1, Liwen Chu (NXP)
			- 11-21/0697r2, D1.0 comment resolution subclause 5.4, Liwen Chu (NXP)
			- 11-21/0431r1, D1.0 comment resolution subclause 31.2.5, Liwen Chu (NXP)
		+ Review LB251 comment resolution progress
		+ Tech motions (including motions for CRs, CAD)
		+ Revisit Timeline (update approval if needed)
		+ Future teleconference plan
		+ Adjourn
	2. Agenda was approved without objection

## 11-21/0171r6, Resolutions Clause 31.2.3 comments for LB-251, Joseph Levy (InterDigital)

* 1. CID 1760: The resolution is updated to reject.

## 11-21/0442r3, 11bd D1.0 comment resolution subclause 9.2.4.7.1, Liwen Chu (NXP)

* 1. CID 1401: updated maximal PSDU size of NGV PPDUs to 246780 based on the aMaxPPDU time 2\*5484us.

## 11-21/0697r2, 11bd D1.0 comment resolution subclause 5.4, Liwen Chu (NXP)

* 1. CID 1213: update resolution from reject to revised. Added MIB variable dot11StationMeasurementPeriod in Radio Environment report. A question was asked about TU duration, whether TU is 1ms. The commentor requested to change TU to millisecond, and set DEFVAL to 1000. Another comment was made that it is more appropriate to use TU than a magic number. The group decides to use millisecond based on SP result.
	2. CID 1371, 1490: A question was asked whether 6.x NGV Radio Environment report is part of the resolution. The presenter answered that CID 1372, 1841 already addressed to add 6.x to the draft.

## 11-21/0431r4, 11bd D1.0 comment resolution subclause 31.2.5, Liwen Chu (NXP)

* 1. CID 1234, 1440: A comment was made to change CCA has been idle to CCA indicates idle.

## Review LB251 progress.

* 1. Total 46 CIDs left, 18 CIDs have not been addressed yet.

## Motion #1 (approval of Comment Resolutions)

Move to approve the comment resolutions as included in 11-20/1887r8

Moved: Bahar Sadeghi Seconded: Joseph Levy

Result: approved unanimously

## Motion #2 (approval of updated CAD document)

Move to approve the TGbd CAD document be updated as in 11-20/1564r5.

Moved: Rui Cao Seconded: Bahar Sadeghi

Result: approved unanimously

## Revisit Timeline

D2.0 LB recirculation has to change to July 2021.

SP: What timeline solution do you prefer?

A: TB motion and WG e-poll motion in June

B: WG motion in July plenary week

C: None of above

D: Abstain

Results: 5A/3B/0C/2D

## Closing

* 1. Any other business
		+ None
	2. Chair announced the next TGbd teleconference will be on May 25th at 10am ET
	3. Chair adjourned the teleconference at 11am ET