IEEE P802.11
Wireless LANs

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| IEEE 802.11 Task Group AYMarch, April, and May 2019 Teleconference Call Meeting Minutes |
| Date: 2019-05-01 |
| Author: |
| Name | Affiliation | Address | Phone | email |
| Edward Au | Huawei Technologies | 303 Terry Fox Drive, Suite 400,Ottawa, ON, K2K 3J1, Canada |  | edward.ks.au@huawei.com |

Abstract

Task Group AY meeting minutes from the IEEE 802.11 conference call session on March 20, March 27, April 3, April 10, April 17, April 24, and May 1, 2019.

**IEEE 802.11 Task Group AY**

**March, April, May 2019 Teleconference Call Meetings**

**Wednesday, March 20, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r1.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 10).
5. Comment Resolution
	1. Presentation by Assaf Kasher (Qualcomm), LB239 BRP Protocol, Doc. IEEE 11-19/0535r1.
		1. Opened the floor for discussion. Edits are made during the discussion on CID 4175. The latest version for consideration is 19/0535r2.
		2. Members do not have any technical concern on the following 4 CIDs as proposed in 19/0535r2, namely 4116, 4168, 4175, and 4333. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	2. Presentation by Assaf Kasher (Qualcomm), LB239 CH Access CIDs, Doc. IEEE 11-19/0536r0.
		1. Opened the floor for discussion. .
		2. Members do not have any technical concern on the following 3 CIDs as proposed in 19/0536r0, namely 4326, 4144, and 4195. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
6. The next teleconference call is scheduled at 10:00am ET on March 27 (Wednesday).
7. Meeting adjourned at 10:33am ET.

**Appendix A: March 20, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Dana Ciochina (Sony)
* Nelson Costa (Peraso)
* Claudio da Silva (Intel)
* Alecsander Eitan (Qualcomm)
* Thomas Handte (Sony)
* Chris Hansen (Peraso)
* Assaf Kasher (Qualcomm)
* Sang Kim (LGE)
* Artyom Lomayev (Intel)
* Hiroyuki Motozuka (Panasonic)
* Kome Oteri (InterDigital)
* Takenori Sakamoto (Panasonic)
* Yan Xin (Huawei)

**Wednesday, March 27, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r3.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 11).
5. Comment Resolution
	1. Presentation by Artyom Lomayev (Intel), CID resolution – part XIII, Doc. IEEE 11-19/0546r0.
		1. Opened the floor for discussion. Editorial fixes are needed for the equations of *Nx* and *Ny* in CIDs 4076 and 4077. The latest version for consideration is 19/0546r1.
		2. Members do not have any technical concern on the following 13 CIDs as proposed in 19/0546r1, namely 4083, 4084, 4085, 4086, 4198, 4149, 4152, 4064, 4076, 4077, 4171, 4154, and 4159. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
		3. The proposed resolution for CID 4466 needs further refinement, particularly on the proposed text “not beamformed”.
	2. Presentation by Alecsander Eitan (Qualcomm), Resolution to CID 4267, Doc. IEEE 11-19/0532r0.
		1. Opened the floor for discussion.
		2. The proposed resolution for CID 4267 needs further refinement.
	3. Presentation by Solomon Trainin (Qualcomm), Resolution of multiple LB239 CIDs, Doc. IEEE 11-19/0490r1.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on the following 25 CIDs as proposed in 19/0490r0, namely 4215, 4230, 4257, 4280, 4291, 4295, 4234, 4346, 4348, 4350, 4372, 4428, 4435, 4436, 4439, 4443, 4444, 4445, 4446, 4447, 4452, 4453, 4454, 4455, and 4463. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
6. The next teleconference call is scheduled at 10:00am ET on April 3 (Wednesday).
7. Meeting adjourned at 11:29am ET.

**Appendix B: March 27, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Dana Ciochina (Sony)
* Carlos Cordeiro (Intel)
* Nelson Costa (Peraso)
* Claudio da Silva (Intel)
* Alecsander Eitan (Qualcomm)
* Thomas Handte (Sony)
* Chris Hansen (Peraso)
* Assaf Kasher (Qualcomm)
* Oren Kedem (Intel)
* Sang Kim (LGE)
* Artyom Lomayev (Intel)
* Kome Oteri (InterDigital)
* Al Petrick (Jones-Petrick and Associates)
* Li-Hsiang Sun (InterDigital)
* Solomon Trainin (Qualcomm)
* Yan Xin (Huawei)

**Wednesday, April 3, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r5.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 12).
5. Comment Resolution
	1. Presentation by Kome Oteri (InterDigital), D3.0 comment resolutions on hybrid beamforming part I, Doc. IEEE 11-19/0554r0.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on the proposed resolution for the following 6 CIDs as proposed in 19/0554r0, namely 4062, 4134, 4231, 4315, 4329, and 4344. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	2. Presentation by Kome Oteri (InterDigital), D3.0 CR on hybrid beamforming for CID 4310, Doc. IEEE 11-19/0555r0.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on the proposed resolution for CID 4310 as proposed in 19/0555r0. No straw poll is taken, and this CID is ready for motion in the May 2019 interim.
	3. Presentation by Claudio da Silva (Intel), LB239 comment resolution II, Doc. IEEE 11-19/0547r1.
		1. Opened the floor for discussion. Edits are made during the discussion on CID 4469. The latest version for consideration is 19/0547r2.
		2. Members do not have any technical concern on the proposed resolution for the following 3 CIDs as proposed in 19/0547r2, namely 4142, 4143, and 4469. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	4. Presentation by Artyom Lomayev (Intel), CID resolution - Part XIII, Doc. IEEE 11-19/0546r1, which proposes an updated resolution for CID 4466.
		1. Opened the floor for discussion.
		2. The proposed resolution for CID 4466 needs further discussion.
	5. Presentation by Solomon Trainin (Qualcomm), LB239 CIDs 4058, 4073, 4106, 4107, 4108, 4420, 4421, 4422, 4423, Doc. IEEE 11-19/0578r0.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on the proposed resolution for the following 9 CIDs as proposed in 19/0578r0, namely 4058, 4073, 4106, 4107, 4108, 4420, 4421, 4422, and 4423. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
6. The next teleconference call is scheduled at 10:00am ET on April 10 (Wednesday).
7. Meeting adjourned at 10:19am ET.

**Appendix C: April 3, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Dana Ciochina (Sony)
* Carlos Cordeiro (Intel)
* Nelson Costa (Peraso)
* Claudio da Silva (Intel)
* Alecsander Eitan (Qualcomm)
* Thomas Handte (Sony)
* Chris Hansen (Peraso)
* Assaf Kasher (Qualcomm)
* Oren Kedem (Intel)
* Sang Kim (LGE)
* Artyom Lomayev (Intel)
* Hiroyuki Motozuka (Panasonic)
* Kome Oteri (InterDigital)
* Al Petrick (Jones-Petrick and Associates)
* Takenori Sakamoto (Panasonic)
* Li-Hsiang Sun (InterDigital)
* Solomon Trainin (Qualcomm)
* Yan Xin (Huawei)
* Rui Yang (InterDigital)

**Wednesday, April 10, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r7.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 13). The latest version of the submission 19/0621 is revision 1, instead of revision 0.
5. Comment Resolution
	1. Presentation by Oren Kedem (Intel), Resolution of SAR related CIDs, Doc. IEEE 11-19/0621r1.
		1. Opened the floor for discussion. Edits are made during the discussion on CID 4221. The latest version for consideration is 19/0621r2.
		2. Members do not have any technical concern on the following 6 CIDs as proposed in 19/0621r2, namely 4221, 4216, 4292, 4285, 4293, and 4451. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
		3. The proposed resolution for CIDs 4411, 4450, and 4449 needs further discussion.
	2. Presentation by Alecsander Eitan (Qualcomm), Resolution to CID 4267, Doc. IEEE 11-19/0532r1, which proposes an updated resolution for the CID.
		1. Opened the floor for discussion. Edits are made during the discussion on CID 4221. The latest version for consideration is 19/0532r2.
		2. Members do not have any technical concern on the proposed resolution for CID 4267 as proposed in 19/0532r2. No straw poll is taken, and this CID is ready for motion in the May 2019 interim.
	3. Presentation by Alecsander Eitan (Qualcomm), Resolution to CID 4433, Doc. IEEE 11-19/0578r0.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on the proposed resolution for CID 4433 as proposed in 19/0578r0. No straw poll is taken, and this CID is ready for motion in the May 2019 interim.
	4. Presentation by Assaf Kasher (Intel), LB239 HBF sounding CIDs, Doc. IEEE 11-19/0620r0.
		1. Opened the floor for discussion. Edits are made during the discussion on CID 4137. The latest version for consideration is 19/0620r1.
		2. Members do not have any technical concern on the following 9 CIDs as proposed in 19/0620r1, namely 4131, 4132, 4133, 4135, 4136, 4137, 4138, 4139, and 4140. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
6. Bug fixes
	1. Presentation by Claudio da Silva (Intel), Changes to dual polarization TRN training text, Doc. IEEE 11-19/0629r0.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on this contribution. No straw poll is taken, and this contribution is ready for motion in the May 2019 interim.
7. The next teleconference call is scheduled at 10:00am ET on April 17 (Wednesday).
8. Meeting adjourned at 11:22am ET.

**Appendix D: April 10, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Carlos Cordeiro (Intel)
* Nelson Costa (Peraso)
* Claudio da Silva (Intel)
* Alecsander Eitan (Qualcomm)
* Thomas Handte (Sony)
* Chris Hansen (Peraso)
* Assaf Kasher (Qualcomm)
* Oren Kedem (Intel)
* Sang Kim (LGE)
* Al Petrick (Jones-Petrick and Associates)
* Takenori Sakamoto (Panasonic)
* Dorothy Stanley (HPE)
* Li-Hsiang Sun (InterDigital)
* Solomon Trainin (Qualcomm)
* Yan Xin (Huawei)
* Rui Yang (InterDigital)

**Wednesday, April 17, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r9.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 14).
5. Comment Resolution
	1. Presentation by Oren Kedem (Intel), Resolution of SAR related CIDs, Doc. IEEE 11-19/0621r2, which proposes updated resolution for CIDs 4411, 4450, and 4449.
		1. Opened the floor for discussion. .
		2. Members do not have any technical concern on the following 3 CIDs as proposed in 19/0621r2, namely 4411, 4450, and 4449. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	2. Presentation by Oren Kedem (Intel), Resolution of TDD BF and TDD sector switch related CIDs, Doc. IEEE 11-19/0648r1.
		1. Opened the floor for discussion. Edits are made during the discussion on a few CIDs. The latest version for consideration is 19/0648r2.
		2. Members do not have any technical concern on the following 34 CIDs as proposed in 19/0648r2, namely 4251, 4282, 4456, 4457, 4030, 4031, 4032, 4048, 4050, 4052, 4027, 4028, 4029, 4049, 4051, 4053, 4047, 4413, 4111, 4112, 4118, 4272, 4275, 4298, 4299, 4301, 4302, 4308, 4271, 4117, 4254, 4255, 4273, and 4269. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
		3. Due to the limit of time, the remaining 22 CIDs will be discussed in the next teleconference call on April 24.
6. The next teleconference call is scheduled at 10:00am ET on April 24 (Wednesday).
7. Meeting adjourned at 11:28am ET.

**Appendix E: April 17, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Carlos Cordeiro (Intel)
* Claudio da Silva (Intel)
* Alecsander Eitan (Qualcomm)
* Chris Hansen (Peraso)
* Assaf Kasher (Qualcomm)
* Oren Kedem (Intel)
* Sang Kim (LGE)
* Hanqing Lou (InterDigital)
* Hiroyuki Motozuka (Panasonic)
* Al Petrick (Jones-Petrick and Associates)
* Takenori Sakamoto (Panasonic)
* Li-Hsiang Sun (InterDigital)
* Payam Torab (Facebook)
* Yan Xin (Huawei)
* Rui Yang (InterDigital)

**Wednesday, April 24, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r10.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 15). The latest version of the submission 19/0648 is revision 3, instead of revision 2.
5. Comment Resolution
	1. Presentation by Lei Huang (Panasonic), Comment resolution on MIMO BF (Part II), Doc. IEEE 11-19/0658r0.
		1. Opened the floor for discussion. .
		2. Members do not have any technical concern on the following 8 CIDs as proposed in 19/0658r0, namely 4124, 4243, 4125, 4248, 4129, 4337, 4130, and 4126. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	2. Presentation by George Calcev (Huawei), Proposed comment resolutions 4173, 4174, Doc. IEEE 11-19/0655r0.
		1. Opened the floor for discussion. .
		2. Members do not have any technical concern on the following 2 CIDs as proposed in 19/0655r0, namely 4173 and 4174. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	3. Presentation by Oren Kedem (Intel), Resolution of TDD BF and TDD sector switch related CIDs, Doc. IEEE 11-19/0648r3.
		1. Opened the floor for discussion. Edits are made during the discussion on a few CIDs. The latest version for consideration is 19/0648r4.
		2. Members do not have any technical concern on the following 22 CIDs as proposed in 19/0648r2, namely 4277, 4270, 4278, 4252, 4253, 4368, 4374, 4297, 4373, 4395, 4401, 4009, 4369, 4370, 4017, 4018, 4019, 4020, 4022, 4008, 4289, and 4290. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
6. The next teleconference call is scheduled at 10:00am ET on May 1 (Wednesday).
7. Meeting adjourned at 10:59am ET.

**Appendix F: April 24, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* Ilya Bolotin (Intel)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Nelson Costa (Peraso)
* Claudio da Silva (Intel)
* Chris Hansen (Peraso)
* Lei Huang (Panasonic)
* Oren Kedem (Intel)
* Sang Kim (LGE)
* Hiroyuki Motozuka (Panasonic)
* Artyom Lomayev (Intel)
* Al Petrick (Jones-Petrick and Associates)
* Takenori Sakamoto (Panasonic)
* Li-Hsiang Sun (InterDigital)
* Payam Torab (Facebook)
* Solomon Trainin (Qualcomm)
* Yan Xin (Huawei)
* Rui Yang (InterDigital)

**Wednesday, May 1, 2019, Conference Call Session (10:00-11:30 ET)**

1. The IEEE 802.11ay task group meeting was called to order at 10:00am ET by the Chair, Edward Au (Huawei).
2. Agenda Doc. IEEE 802.11-19/0543r12.
3. Chair reviewed the IEEE-SA patent policy, logistics, and reminders on Task Group rules, including meeting guidelines and attendance recording procedures.
	1. Chair asked if anyone has any questions about the IEEE-SA patent policy, logistics or reminders. No questions.
	2. Chair asked if anybody has any disclosures related to the patent policy. None.
	3. Chair asked if there were any questions on any of the above items. None.
	4. Chair reminded all to record their attendance by sending an email to chair and secretary.
4. Chair reviewed the meeting agenda for the conference call (slide 16). The latest version of the submission 19/0281 is revision 1, instead of revision 0.
5. Comment Resolution
	1. Presentation by Solomon Trainin (Qualcomm), TDD slot timing CID resolution, Doc. IEEE 11-19/0281r1.
		1. Opened the floor for discussion. Edits are made during the discussion on CID 4393. The latest version for consideration is 19/0281r2.
		2. Members do not have any technical concern on the following 21 CIDs as proposed in 19/0281r2, namely 4055, 4059, 4072, 4145, 4264, 4265, 4274, 4300, 4347, 4349, 4353, 4354, 4355, 4356, 4364, 4371, 4385, 4391, 4393, 4394, and 4429. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
	2. Presentation by Solomon Trainin (Qualcomm), Resolution of multiple LB239 CIDs, Doc. IEEE 11-19/0490r2, which proposed an updated resolution for CID 4463.
		1. Opened the floor for discussion. .
		2. Members do not have any technical concern on the updated resolution for CID 4463 as proposed in 19/0492r2. No straw poll is taken, and this CID is ready for motion in the May 2019 interim.
	3. Presentation by Solomon Trainin (Qualcomm), Resolution of LB239 CIDs, Doc. IEEE 11-19/0665r0.
		1. Opened the floor for discussion.
		2. Members do not have any technical concern on the following 7 CIDs as proposed in 19/0665r0, namely 4070, 4223, 4419, 4424, 4425, 4426, and 4030. No straw poll is taken, and these CIDs are ready for motion in the May 2019 interim.
6. The next teleconference call is scheduled at 10:00am ET on May 8 (Wednesday).
7. Meeting adjourned at 11:03am ET.

**Appendix G: May 1, 2019, 10:00am ET Conference Call Attendance Log**

**Name and Affiliation:**

* Edward Au (Huawei)
* George Calcev (Huawei)
* Cheng Chen (Intel)
* Alecsander Eitan (Qualcomm)
* Chris Hansen (Peraso)
* Assaf Kasher (Qualcomm)
* Artyom Lomayev (Intel)
* Al Petrick (Jones-Petrick and Associates)
* Li-Hsiang Sun (InterDigital)
* Solomon Trainin (Qualcomm)