IEEE P802.11
Wireless LANs

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| WLAN Sensing SG – February and March 2020 Teleconference Meeting Minutes |
| Date: 2020-03-30 |
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Abstract

This document contains the meeting minutes of the IEEE 802.11 Study Group on WLAN Sensing (SENS SG) teleconferences held in February and March 2020.

**Teleconference on February 18, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:30am ET by the Chair (Tony Xiao Han, Huawei).
	1. Attendance log can be found in Appendix 1.
	2. There was a 30-minute delay to start the teleconference due to an access issue with Webex. The delayed start of the teleconference was announced in the 802.11 email list.
2. The agenda for the meeting can be found in IEEE 802.11-20/0339r0.
3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.
4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.
5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.
6. The proposed agenda (slide 14) was reviewed and approved without objection.
7. Chair reviewed the goal of SENS SG (slide 15).
8. Chair discussed the motion brought to the WG in the closing plenary of the January interim (slide 16) and the result/vote obtained. The chair also reviewed the group timeline (slide 17 and 18).
9. Presentation of “802.11 SENS SG Proposed PAR” - docs. IEEE 11-19/2103r4, IEEE 11-19/2103r5, and IEEE 11-19/2103r6 - by Claudio da Silva (Intel).
	1. Comments were made both in favour and against the proposed reduction in the PAR scope (namely, including/excluding lower band PHY modifications) in r5. Possibility of having SENS TG to “liason” proposed modifications to other TGs was also discussed. No comments on the editorial changes proposed in r6.
	2. Presenter will discuss with 802.11 leadership (a) if SENS TG would be able to consider contributions on PHY areas beyond the service interface for 1-7.125 GHz systems and (b) if SENS TG could request another TG to consider a certain contribution (i.e., to “liason” a contribution to a different TG).
	3. Discussion will continue in a future teleconference or meeting.
10. Meeting adjourned at 11:30am ET.

**Teleconference on March 12, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:08am ET by the Chair (Tony Xiao Han, Huawei).
	1. Attendance log can be found in Appendix 2.

2. The agenda for the meeting can be found in IEEE 802.11-19/0339r1.

3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.

4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.

5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.

6. The proposed agenda (slide 19) was reviewed and approved without objection.

7. Presentation by Claudio da Silva (Intel), 802.11 SENS SG Proposed PAR, Doc. IEEE 11-19/2103r7 and Doc. IEEE 11-19/2103r8.

* 1. Presenter went over 19/2103r7, which includes all changes/feedback/comments obtained up to and including the last SENS SG teleconference on 02/18/2020.
		1. No modifications were suggested by the group.
	2. Presenter went over 19/2103r8, which includes feedback (editorial modifications) received from 802.11 leadership (specifically, its chair and two vice-chairs) on 19/2103r7.
		1. No modifications were suggested by the group.
	3. Presenter showed and discussed answers received from 802.11 leadership to the following two questions raised by SENS SG members in its last teleconference on 02/18/2020:
		1. Question: While SENS TG will not define modifications to 1-7.125 GHz PHYs, except for their PHY service interface as defined in 5.2.b (PAR), SENS SG members would still like SENS TG to be able to consider technical contributions on PHY areas beyond the service interface for 1-7.125 GHz systems. Should this fact be explicitly stated in the PAR?

802.11 leadership feedback:

* + - * The scope already includes "modifications to the PHY service interface...." of 1-7.125 GHz PHYs. Most likely technical contributions on PHY topics related to WLAN sensing related to 1-7.125 GHz PHYs go beyond just the "PHY service interface".
			* Discussion of contributions related to PHYs in 1-7.125 GHz is in scope.
			* No additional change needed to the PAR.

Discussion:

* + - * There were no objections for SENS TG to consider and discuss technical contributions on PHY areas beyond the service interface for 1-7.125 GHz systems.
			* There were no objections to not including a statement in the PAR that explicitly states this fact.
			* Clarification that the SENS TG chair will be responsible for allocating time to all contributions, including those on PHY areas beyond the service interface for 1-7.125 GHz systems.
		1. Question: Could SENS TG request another TG to consider a certain contribution (i.e., to “liason” a contribution to a different TG)?

802.11 leadership feedback:

* + - * SENS TG could pass a motion requesting another TG to consider a specific contribution. Nothing prevents this today.
			* Probably should also have visibility in the WG (e.g. mid-week plenary presentation).

Discussion:

* + - * There were no objections to not including a statement in the PAR that explicitly states this fact.
			* Clarification that members could bring sensing-related contributions to other TGs, as it is already possible today.
			* Discussion on whether it is advantageous to bring sensing-related contributions to SENS TG first or to a different TG. Opportunity to reach a consensus in SENS TG first might be advantageous.
	1. Given that no further modifications were proposed to the PAR (as proposed in 19/2103r8), the presenter asked the Chair to conduct a strawpoll in the next SENS SG teleconference. Chair confirmed the strawpoll and announced it to the group.

8. Presentation by Debashis Dash (Quantenna Communications), SENS SG proposed CSD draft, Doc. IEEE 11-20/0042r3.

1. Presenter went over the revised CSD, which mirrors all modifications made to the PAR since the January meeting.
2. No modifications were suggested by the group.

9. Meeting adjourned at 11:30am ET.

**Teleconference on March 18, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:00am ET by the Chair (Tony Xiao Han, Huawei).
	1. Attendance log can be found in Appendix 3.
2. The agenda for the meeting can be found in IEEE 802.11-20/0339r2.
3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.
4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.
5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.
6. The proposed agenda (slide 23) was reviewed and approved without objection.
7. Chair discussed a way forward on the PAR and CSD approval process (slide 26). Plan of record is:
	1. Reach consensus within SENS SG about PAR and CSD (no motion, but e-poll SP on March 18)
	2. Send the PAR and CSD to the 802.11 reflector for more people to review.
	3. Schedule time in one of our conference calls (e.g., April 2) to have an “introduction to sensing”-like presentation (and send an invitation to the 802.11 list). We can quickly go over the PAR and CSD.
	4. Subject to reconfirmation with WG leadership, run an electronic ballot to get WG approval. This is a WG vote and subject to a return requirement (50% of WG members must vote) + an approval requirement (>75%)
	5. Send to the EC by 29 May (deadline for July Plenary)
8. Presentation by Claudio da Silva (Intel), 802.11 SENS SG Proposed PAR, Doc. IEEE 11-19/2103r7 and Doc. IEEE 11-19/2103r8.
	1. Clarification question on the timeline of 11be and its impact to SENS TG.
	2. No modifications were suggested by the group.
9. Presentation by Debashis Dash (Quantenna Communications), SENS SG proposed CSD draft, Doc. IEEE 11-20/0042r3.
10. No modifications were suggested by the group.
11. Chair conducted the straw poll “Should the proposed PAR found in 19/2103r8 be accepted as the SENS SG PAR?” was conducted. Result: Yes: 36; No 0; Abstain 4.
12. Chair conducted the straw poll “Do you agree that the CSD contained in 20/0042r3 be accepted as the IEEE 802.11 SENS Study Group CSD?” was conducted. Result: Yes: 34; No 0; Abstain 4.
13. Claudio da Silva (Intel) indicated intent to start working on a draft functional requirements document (FRD) based on the proposed PAR found in 19/2103r8.
	1. Clarification question on whether the document would automatically become the SENS TG FRD. Answer is no – Goal is to have a draft that the TG could build upon and vote/motion after it is formed.
	2. Chair extended an invitation to the group to start working on other TG documents, such as the usage model document.
14. Meeting adjourned at 11:08am ET.

**Teleconference on March 30, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:00am ET by the Chair (Tony Xiao Han, Huawei).
	1. Attendance log can be found in Appendix 4.
2. The agenda for the meeting can be found in IEEE 802.11-20/0532r0.
3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.
4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.
5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.
6. The proposed agenda (slide 14) was reviewed and approved without objection.
7. Chair reviewed the “Introduction to WLAN Sensing” material found in slides 18 and 19. No items noted.
8. Presentation by Claudio da Silva (Intel), 802.11 SENS SG Proposed PAR, Doc. IEEE 11-19/2103r8.
	1. No modifications were suggested by the group.
	2. A newer version of the PAR with no Word markup (redline) was uploaded as IEEE 11-19/2103r9.
9. Presentation by Debashis Dash (self), SENS SG proposed CSD draft, Doc. IEEE 11-20/0042r3.
	1. One editorial suggestion was suggested and incorporated into the document.
	2. A newer version of the CSD with no Word markup (redline) was uploaded as IEEE 11-20/0042r4.
10. Chair conducted the straw poll “Do you agree that the CSD contained in 20/0042r4 be accepted as the IEEE 802.11 SENS Study Group CSD?” was conducted. Result: Yes: 32; No 0; Abstain 1.
11. Chair conducted the straw poll “Should the proposed PAR found in 19/2103r9 be accepted as the SENS SG PAR?” was conducted. Result: Yes: 31; No 0; Abstain 1.
12. Chair informed the group that, with the positive result obtained on both SPs, he will request the 802.11 leadership to open ballots in the epoll system to approve the SENS SG PAR and CSD at the WG level.
13. Meeting adjourned at 11:10am ET.

**Appendix 1: Attendance log or the February 18, 2020 teleconference**

Note: The list below was recorded from Webex and may be incomplete.

1. Tony Xiao Han (Huawei)
2. Claudio da Silva (Intel)
3. Abdullah Haskou
4. Ahmet
5. Alecs (Qualcomm)
6. Allen
7. Assaf Kasher
8. Chenchen Liu (Huawei)
9. Dongguk Lim
10. Enrico Rantala (Nokia)
11. Jeongki Kim (LG)
12. Jinsoo Choi
13. Nelson Costa (Peraso)
14. Oscar Au
15. Rui Yang (Interdigital)
16. Sang Kim (LGE)
17. Solomon
18. Sun Yingxiang
19. Sungjin
20. Xiaofei
21. Yan Xin
22. Yonggang Fang
23. Young Hoon Kwon (NXP)

**Appendix 2: Attendance log for the March 12, 2020 teleconference**

Note: The list below was recorded from Webex and may be incomplete.

1. Tony Xiao Han (Huawei)
2. Claudio da Silva (Intel)
3. Albert Bredewoud
4. Alecs (Qualcomm)
5. Anthony Pesin
6. Assaf Kasher
7. Bo
8. Chenchen Liu (Huawei)
9. Debashis Dash (Quantenna)
10. Dongguk Lim
11. Insun Jang (LGE)
12. Jeongki Kim (LG)
13. Jinsoo Choi
14. Joseph Levy (InterDigital)
15. Michel
16. Nelson Costa (Peraso)
17. Osama Aboul-Magd
18. Oscar Au
19. p.nikolich@ieee.org
20. Pu (Perry) Wang
21. Rui Du
22. Rui Yang (InterDigital)
23. Sang Kim (LGE)
24. smerlin
25. Solomon
26. Sun Yingxiang
27. Sungjin
28. Yonggang Fang
29. Zhangmeihong

**Appendix 3: Attendance log for the March 18, 2020 teleconference**

1. Claudio da Silva (Intel)
2. Tony Xiao Han (Huawei)
3. Dongguk Lim (LGE)
4. Debashis Dash (Quantenna)
5. Meihong Zhang (Huawei)
6. Sun Yingxiang (Huawei)
7. Sang Kim (LGE)
8. Mathias Wendt (Signify)
9. Osama Aboul-Magd (Huawei)
10. Oscar Au (Origin)
11. Albert Bredewoud (Broadcom)
12. Insun Jang (LGE)
13. James Yee (MediaTek)
14. Nelson Costa (Peraso)
15. Cheng Chen (Intel)
16. Chris Beg (Cognitive Systems)
17. Chenchen Liu (Huawei)
18. Bahar Sadeghi (Intel)
19. Assaf Kasher (Qualcomm)
20. Mark Rison (Samsung)
21. Po-Kai Huang (Intel)
22. Rui Yang (Interdigital)
23. Simone Merlin (Qualcomm)
24. Solomon Trainin (Qualcomm)
25. Sungjin Park (LGE)
26. Xiaoqing Zhu
27. Jinsoo Choi (LGE)
28. Carol Ansley (Commscope)
29. Pu (Perry) Wang (MERL)
30. Rui Cao (NXP)
31. Rui Du (Huawei)
32. Alecs Eitan (Qualcomm)
33. Ganesh Venkatesan (Intel)
34. Yunggang (ZTE)
35. Dibakar Das (Intel)
36. Feng Jiang (Intel)
37. Gaurav Patwardhan (HPE)
38. Xiaoqing Zhu (Cisco)
39. Alan Zeleznikar
40. Timothy Jeffries
41. Dmitry Akmetov (Intel)
42. Jianwei Bei (NXP)
43. Jeongki Kim (LG)

**Appendix 4: Attendance log for the March 30, 2020 teleconference**

Note: The list below was recorded from IMAT and may be incomplete.

1. Aboulmagd, Osama (Huawei Technologies Co. Ltd)
2. Allegue Martinez, Michel (Aerial Technologies Inc)
3. Au, Oscar (Origin Wireless)
4. Beg, Chris (Cognitive Systems Corp.)
5. Choi, Jinsoo (LG ELECTRONICS)
6. Costa, D.Nelson (Peraso Technologies Incorporated)
7. Dash, Debashis (Self)
8. da Silva, Claudio (Intel Corporation)
9. Eitan, Alecsander (Qualcomm Incorporated)
10. Fang, Yonggang (ZTE TX Inc)
11. HAN, Xiao (Huawei Technologies Co. Ltd)
12. Handte, Thomas (Sony Corporation)
13. Haskou, Abdullah (InterDigital, Inc.)
14. Hu, Chunyu (Facebook)
15. Jang, Insun (LG ELECTRONICS)
16. Kim, Jeongki (LG ELECTRONICS)
17. Kim, Sang Gook (LG ELECTRONICS)
18. Levy, Joseph (InterDigital, Inc.)
19. Lim, Dong Guk (LG ELECTRONICS)
20. LIU, CHENCHEN (Huawei Technologies Co. Ltd)
21. Merlin, Simone (Qualcomm Incorporated)
22. Park, Sung-jin (LG ELECTRONICS)
23. Patwardhan, Gaurav (Hewlett Packard Enterprise)
24. Rantala, Enrico-Henrik (Nokia)
25. Riegel, Maximilian (Nokia)
26. RISON, Mark (Samsung Cambridge Solution Centre)
27. Rosdahl, Jon (Qualcomm Technologies, Inc.)
28. Stanley, Dorothy (Hewlett Packard Enterprise)
29. Varshney, Prabodh (Nokia)
30. Wang, Pu (Mitsubishi Electric Research Labs (MERL))
31. Xin, Yan (Huawei Technologies Co. Ltd)
32. Yee, James (MediaTek Inc.)
33. Zeleznikar, Alan (CommScope)
34. Sun Yingxiang (Huawei)
35. Meihong Zhang (Huawei)
36. Rui Du (Huawei)
37. Jonathan Goldberg (IEEE)