**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **Draft 1.0 Sensing Related Comments Resolution Part 2** |
| Date Submitted | Sep. 2024 |
| Sources | Bin Qian, Panpan Li, Lei Huang, Rojan Chitrakar, David Xun Yang (Huawei)  |  |
| Re: |   |
| Abstract |  |
| Purpose | To propose comments resolution for “P802.15.4ab™/D1.0 Draft Standard for Low-Rate Wireless Networks”  |
| Notice | This document does not represent the agreed views of the IEEE 802.15 Working Group or IEEE 802.15.4ab Task Group. It represents only the views of the participants listed in the “Sources” field above.It is offered as a basis for discussion and is not binding on the contributing individuals. The material in this document is subject to change in form and content after further study. The contributors reserve the right to add, amend or withdraw material contained herein. |

R0: CID 222, 223, 224, 225, 226, 227, 228,

***Comment Index #222, #223, #224, #225, #226 in 15-24-0371-12-04ab-consolidated-comments-draft-1-0***

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| --- | --- | --- | --- | --- | --- | --- |
| **Index #** | **Commenter** | **Sub-Clause** | **Page** | **Line** | **Comment** | **Proposed Change** |
| 222 | Aniruddh Rao Kabbinale | 10.39.1 | 128 | 24 | Sensing initiator is the one who transmits always. | Remove the part of the line "For the cases that the sensing initiator is the sensing transmitter" |
| 223 | Aniruddh Rao Kabbinale | 10.39.1 | 129 | 1 | It is not clear by what is meant by "Initator is a sensing receiver". Since it is initiator who sends the sensing PPDUs and may receive CIR report from responder. However, controller can take up roles of sensing initiator or responder | Change as follows" Bistatic sensing - where controller is the sensing responder. |
| 224 | Aniruddh Rao Kabbinale | 10.39.1 | 129 | 2 | It is not clear by what is meant by "Initator is a sensing transmitter". Since it is the case always. However, controller can take up roles of sensing initiator or responder | Change as follows" Bistatic sensing - where controller is the sensing initiator. |
| 225 | Aniruddh Rao Kabbinale | 10.39.1 | 129 | 3 | It is not clear by what is meant by "Initator is a sensing receiver". Since it is initiator who sends the sensing PPDUs and may receive CIR report from responder. However, controller can take up roles of sensing initiator or responder | Change as follows " Multi static sensing, where controller is the responder" |
| 226 | Aniruddh Rao Kabbinale | 10.39.1 | 129 | 4 | It is not clear by what is meant by "Initator is a sensing transmitter". Since it is the case always. However, controller can take up roles of sensing initiator or responder | Change as follows: " Multistatic sensing, where controller is the initiator, supporting scheduling of CIR reports from multiple responders" |
| 227 | Aniruddh Rao Kabbinale | 10.39.4.2 | 129 | 28 | Capabilities are not exchanged between initiator and responder but between controller and controlee | Change initiator to controller and responder to controlee |
| 228 | Aniruddh Rao Kabbinale | 10.39.4.4 | 130 | 19 | Sensing packets are sent by sensing initiator only. Responders only process CIR and may report to initiator | Remove the part " and/or sensing responders" |

**Discussion:**

1. Since sensing does not have a poll-response requirement, the device initiating and controlling the sensing session could be called the “sensing controller” with the controlled devices being “sensing controlee”.
2. The explicit initialization process of sensing sessions is not defined in 4ab, which could be performed via OOB method.
3. Sensing transmitter / sensing receiver are well defined as the device which sends / receivers the sensing PPDU.

**Resolution: Revised**

**Proposed text changes on P802.15.4ab™-D01:**

**10.39 Sensing**

**10.39.1 Introduction**

*Change Line 14 on page 128 as follows*

The following nomenclature is used:

⎯ Sensing controller: an SDEV that initiates and controls an RF sensing session with one or more other SDEVs.

⎯ Sensing controlee: an SDEV that Participates in an RF sensing session under the control of a sensing controller, responding to the actions initiated by the sensing controller.

⎯ Sensing transmitter: an SDEV that sends a PPDU to enable channel estimation for sensing purposes.

⎯ Sensing receiver: an SDEV that receives a PPDU from the transmitter and performs channel estimation for sensing purposes.

⎯ Sensing requesting device: an SDEV that requests the sensing CIR measurement report in a proxy application.

**10.39.2 Operational modes for sensing**

*Change Line 23 on page 128 as follows*

In most RF sensing scenarios, the sensing controller is the device where the RF sensing applications reside, and hence the sensing controller may require the sensing measurement report. For the cases that the sensing controller is the sensing transmitter, a sensing measurement report shall be sent by the sensing controlee to provide the measurement report to the sensing controller. Based on the roles of sensing devices, the possible scenarios are:

⎯ Mono-static sensing.

⎯ Bistatic sensing, where the sensing controller is the sensing receiver.

⎯ Bistatic sensing, where the sensing controller is the sensing transmitter.

⎯ Multistatic sensing, where the sensing controller is the sensing receiver.

⎯ Multistatic sensing, where the sensing controller is the sensing transmitter, supporting scheduling of CIR measurement reports from multiple responders.

⎯ Sensing by proxy.

**10.39.4.4 Sensing measurements**

*Change Line 19 on page 130 as follows*

In the sensing phase sensing packets are sent by the sensing controller or sensing controlees.

*Note to the editor: please change “sensing initiator” or “initiator” to “sensing controller” and change “sensing responder” or “responder” to “sensing controlee” in 10.39.*