IEEE P802.11  
Wireless LANs

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| LB272 CR for SBP CID 2209 | | | | |
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**Abstract**

This document proposes the comment resolution for CID 2209.

R0: initial version on July 7, 2023.

R1: revised version on July 7, 2023, modified the text in subclause 9 and 11, changed discussions.

# CID 2209

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 2209 | 11.55.2.2 | 191--194 | If SBP initiator is able to provide a list of sensing responders, the SBP initiator should also be able to request SR2SR sensing between certain pairs of sensing responders if the channel between sensing responders is of interest. | The commenter will provide a contribution. | REVISED.  Based on many offline discussions, many TGbf member have agreed to enable SR2SR sounding in the SBP procedure.  As for suggesting the sounding direction for SR2SR sounding, the commenter has agreed to resolve it in the next round of comment collection.  Please refer to the changes specified in 23/1170r1 (<https://mentor.ieee.org/802.11/dcn/23/11-23-1170-01-00bf-lb272-cr-for-cid-2209.docx>) for CID 2209. |

**Discussions**

1. **Motivation:**
2. SR2SR sounding is not yet enabled in the SBP procedure. There are use cases where the application wants to measure the channels between clients. For example, the application intends to monitor the environment in the bedroom whereas the AP is located in the living room. In such a case, the channel between the AP and the client in the bedroom is unlikely to be able to capture useful features within the bedroom. So, to support more use cases, and not lose functionality, SR2SR sounding should be supported in the SBP procedure.
3. TGbf have discussed the assumption that the SBP initiator can know the MAC addresses and capabilities of sensing responders (how is out of the scope of 11bf standard) and also the possibility that the SBP initiator and the sensing responders (aka, sensors) belong to the same system (please refer to DCN0073r0: <https://mentor.ieee.org/802.11/dcn/23/11-23-0073-00-00bf-sbp-indication-in-measurement-setup.pptx>). For many smart home systems, when the user registers a new home appliance, the application can catalog some basic information, such as the power status and the location of the device. So, the application can request precisely a set of clients to perform sensing and even configure parameters per client. One obvious benefit is that the reporting overhead can be controlled to only necessary.
4. **Offline discussions and ad-hoc discussions:**
   1. A resolution to this comment is provided in a technical contribution, which can be found via <https://mentor.ieee.org/802.11/dcn/23/11-23-1113-00-00bf-sr2sr-link-setup-in-sbp.pptx>. This contribution has been discussed several times with many TGbf members offline and during ad-hoc calls. The key spec changes proposed in this contribution are that the SBP initiator indicates which sensing responders should perform SR2SR sounding and their roles (TX/RX). (based on Motivation a) and b))
5. **Converged resolutions:**
   1. **Add 1 bit in the SBP request to enable SR2SR sounding in the SBP procedure** (based on Motivation a))
      1. A NOTE is needed: which sensing responders are transmitters or receivers in the SR2SR sounding is up to AP; how AP determines the role is implementation-dependent.
   2. The proposal “*SBP initiator indicates the direction of sounding between sensing responders in SR2SR sounding*” can be left for further discussions in the future. (based on Motivation b))

**Modifications:**

**9.4.2.321 SBP Parameters element**

***To TGbf Editor: Please modify Figure 9-1002be in D1.2 as follows.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 B4 | B5 | B6 B9 | B10 | B11 |
|  | SBP Request | SBP Procedure Expiry Exponent | Sensing Responder | Number of Sensing Responders | Mandatory Number of Responders | Preferred Responder List |
| Bits: | 1 | 4 | 1 | 4 | 1 | 1 |
|  | B12 B15 | B16 | B17 | B18 B23 |  |  |
|  | Number of Preferred Responders | Mandatory Preferred Responder | SR2SR Sounding Request | Reserved |  |  |
| Bits | 4 | 1 | 1 | 6 |  |  |

Figure 9-1002be – SBP Parameters Control field format

***To TGbf Editor: Please add the following text after P77L33 in D1.2.***

If the SBP Request field is equal to 1(\*0626),

…

* The SR2SR Sounding Request field is set to 1 to indicate that the SBP initiator requests the SR2SR variant of the TF sounding phase to be implemented in the sensing procedure used by the SBP responder to satisfy the SBP request. Otherwise, it is set to 0.

***To TGbf Editor: Please add the following text after P78L9 in D1.2.***

If the SBP Request field is equal to 0(\*0626),

…

* The SR2SR Sounding Request field is reserved.

**11.55.2.2 Setup exchange**

***To TGbf Editor: Please add the following text to P156L30 in D1.2.***

If the SR2SR Sounding Request field within the SBPParameters parameter of the MLME-SBP.indication primitive is equal to 1, and if the StatusCode parameter within the MLME-SBP.response primitive is set to SUCCESS, the SBP responder shall initiate the SR2SR variant of the TF sounding phase with sensing responders that support SR2SR sounding (see 9.4.2.320 (Sensing Capabilities element)) in the sensing procedure initiated by the SBP responder to satisfy the SBP request.

NOTE – The SBP responder determines the sensing transmitter role and the sensing receiver role for the sensing responders that participate in the SR2SR variant of the TF sounding phase in the SBP procedure. The method used by the SBP responder to determine the sensing transmitter role and the sensing receiver role in the SR2SR variant of the TF sounding phase in the SBP procedure is implementation specific.

SP:

Do you agree to include the resolutions provided for CID 2209 in the latest 11bf Draft?

Y/N/A