IEEE P802.11
Wireless LANs

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| **TGbf CC40 CR for CIDs for Sensing Measurement Setup – Part 1** |
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Abstract

This submission proposes resolutions for following 13 CIDs received for TGbf CC40:

182, 415, 147, 754, 181, 416, 535, 782, 810, 811, 218, 586, 836

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revised texts related to some CIDs based on offline discussion.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbf Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbf Draft (i.e., they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbf Editor: Editing instructions preceded by “TGbf Editor” are instructions to the TGbf editor to modify existing material in the TGbf draft. As a result of adopting the changes, the TGbf editor will execute the instructions rather than copy them to the TGbf Draft.***

**List of CIDs**

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| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 182 | Mahmoud Kamel | 11.21.18.1 | 64.60 | It is stated that A STA acting as a sensing initiator may be neither a sensing transmitter nor a sensing receiver. This may be true for TB sensing measurement instances, but this is not the case for non-TB sensing measurement instances. | Add a text to specify that in non-TB measurement instances the initiator cannot be neither a sensing transmitter nor a sensing receiver. | RevisedThe commented case (i.e., NOTE) would be applied to R2R sounding case only. Therefore, it is proper to add a reference 11.21.18.6 (TB sensing measurement instance) since R2R is the one of the instance types.**TGbf editor, please make changes as shown in doc 11-22/1402r1 tagged as CID 182** |
| 415 | Assaf Kasher | 11.21.18.4 | 67.40 | How are the roles of of the sensing responders determiend in a sensing setup? | Indicate which fields are used to control that. | RejectedHow to control fields corresponding to the cited paragraph was already referred by the text “see 9.4.2.317 (Sensing Measurement Parameters element))” which describes them. |
| 147 | Mahmoud Kamel | 11.21.18.4 | 67.21 | "Otherwise, the sensing responder shall set the Status Code field to TBD in the Sensing MeasurementSetup Response frame". It is not clear if the TBD in this sentence indicates the case when the responder rejects the requested sensing measurement setup or it rejects the parameters of the requested sensing measurement setup. | Define the TBD in this sentence and state clearly the case. Also, differentiate between the case when the responder is rejecting the requested measurement setup request or rejecting the parameters of the requested measurement setup | RevisedIncorporate the changes as shown in 11-22/1245r5.**Note to the Editor:**The identified statement was revised during CC40 in the approved document 11-22/1245r5. No further changes are required for the resolution of this CID in this document. |
| 535 | Dong Guk Lim | 11.21.18.4 | 67.21 | Add the description for Deny or Reject case-DENIED\_SENSING\_MEASUREMENT\_SETUP | As in comment | RevisedAgree in principle with the commenter. The text is revised by describing “decline” cases explicitly.**TGbf editor, please make changes as shown in doc 11-22/1402r1 tagged as CID 535.** |
| 810 | James Yee | 11.21.18.4 | 67.34 | What does 'determined' mean? Why is it 'determined' if it is part of a 'Request' that can be rejected? | Please clarify. | RevisedThe cited sentence was revised to make it clear**TGbf editor, please make changes as shown in doc 11-22/1402r1 tagged as CID 810.** |
| 754 | Alireza Raissinia | 11.21.18.4 | 67.44 | Change the text "whether the sensing responder shall send or not send Sensing Measurement Report frames" to | whether the sensing responder shall optionally send Sensing Measurement Report frames' | RevisedTo make it clear, the text was rephrased by separating the cases as “shall” and “shall not”. In addition, a typo (field name) was fixed in 11.21.18.6.5 Basic reporting procedure.**TGbf editor, please make changes as shown in doc 11-22/1402r1 tagged as CID 754.** |
| 811 | James Yee | 11.21.18.4 | 67.43 | Does "sensing receiver or sensing trans-mitter and sensing receiver to the sensing responder" exclude "sensing transmitter" as the only role? | Please clarify. | RevisedTo make it clear, the text was rephrased by separating the cases as “shall” and “shall not”. In addition, a typo (field name) was fixed in 11.21.18.6.5 Basic reporting procedure.**TGbf editor, please incorporate changes as shown in doc 11-22/1402r1 tagged as CID 754.** |
| 181 | Mahmoud Kamel | 9.4.2.317 | 33.37 | It is not clear if the Sensing Transmitter subfield and the Sensing Receiver subfield can be both set to 0. The specs should explicitly indicate that this setting is not allowed since the responder cannot be neither a transmitter nor a receiver | Add a text to specify that the case where both the Sensing Transmitter subfield and the Sensing Receiver subfield be set to 0 is not allowed. One suggestion to such text would be "The Sensing Transmitter subfield and the Sensing Receiver subfield cannot be both set to 0 in the same Sensing Measurement Setup" | RevisedAgree in principle with the commenter. The revised text provides that it is invalid to set both of subfields to 0 at the same time.**TGbf editor, please make changes as shown in doc 11-22/1402r1 tagged as CID 181** |
| 416 | Assaf Kasher | 11.21.18.4 | 67.40 | What happens if both the transmitter and receiver fields are set to 0 in the sensing measurement ? | indicate the behavior in this case or define it is invalid. | RevisedAgree in principle with the commenter. The revised text provides that it is invalid to set both of subfields to 0 at the same time.**TGbf editor, please incorporate the changes as shown in 22/1402r1 under CID 181**. |
| 782 | Dibakar Das | 11.21.18.4 | 67.09 | Define the frame format of Sensing Measurement Setup Request and Sensing Measurement Setup Response frames in clause 9. | As in comment. | RejectedWe already had the formats of Sensing Measurement Setup Request frame in 9.6.7.49 (Sensing Measurement Setup Request frame format) and Sensing Measurement Setup Response frame in 9.6.7.50 (Sensing Measurement Setup Response frame format). |
| 218 | Claudio da Silva | 9.4.2.317 | 33.58 | The condition should be made on the Sensing Transmitter/Receiver subfields within the field. | Replace "If the sensing initiator is a sensing receiver, it is reserved." with "The subfield is reserved when the Sensing Receiver subfield is set to 0." | RevisedAgree in principle with the commenter. The text was revised according to the proposed changes.**TGbf editor, please make changes as shown in doc 11-22/1402r1 tagged as CID 218** |
| 586 | Chaoming Luo | 9.4.2.317 | 33.58 | "If the sensing initiator is a sensingreceiver, it is reserved." is not accurate, because if the sensing initiator is a sensingreceiver and transmitter, Measurement Report Type shall be set. | Change to "If the sensing responder is not a sensing receiver, it is reserved"Add a note "If the Sensing Measurement Report subfield is set to 0, how the receiver transmit the measurment report to the initiator is out of scope" | RevisedAgree in principle with the commenter. The text was revised according to the proposed changes.However, the proposed Note as informative is not necessary for this part.**TGbf editor, please incorporate the changes as shown in doc 11-22/1402r1 tagged as CID 218** |
| 836 | Chris Beg | 9.4.2.317 | 33.58 | The second sentence is not complete, as there are other cases not covered when the measurement report type subfield can be ignored. The measurement report type subfield should be considered meaningful only when the sensing measurement report subfield bit is set to 1. | Change text to: "If the Sensing Measurement Report subfield is 0, then the Sensing Measurement Report Type subfield is reserved." | RevisedThe condition of setting Sensing Measurement Report subfield is not needed because when Sensing Receiver subfield is set 0, it is reserved.Instead, the text was revised to make it clear by using the condition of setting Sensing Receiver subfield**TGbf editor, please incorporate the changes as shown in doc 11-22/1402r1 tagged as CID 218** |

**Discussion for CID 182:**

NOTE—A sensing initiator may choose not(#473, #876) to participate in a sensing measurement instance as a sensing transmitter nor sensing receiver but may still initiate the WLAN sensing procedure and optionally obtain sensing measurement reports.

The case mentioned in that NOTE would be applied only to R2R sensing regardless of SBP. Therefore, it would be better to refer TB sensing measurement instance subclause including the following sentence

*“The TB sensing measurement instance initiated by an AP optionally allows a sensing responder to measure an NDP transmitted by another sensing responder(#615).”*

In terms of SBP initiator, the following sentence was already covered regarding roles

*“The SBP initiator may participate in the WLAN sensing procedure as a sensing responder.”*

**Proposed spec text:**

***TGbf editor: The baseline for this document is 11bf D0.3***

11.21.18 WLAN sensing procedure

11.21.18.1 Overview

***TGbf editor: Please modify the subclause 11.21.18.1 (Overview) as follows:***

A STA acting as a sensing initiator may participate in a sensing measurement instance as a sensing transmitter, a sensing receiver, both a sensing transmitter and a sensing receiver, or neither a sensing transmitter nor a sensing receiver. A STA acting as a sensing responder may participate in a sensing measurement instance as a sensing transmitter, a sensing receiver, or both a sensing transmitter and a sensing receiver.

NOTE—A sensing initiator may choose not(#473, #876) to participate in a sensing measurement instance as a sensing transmitter nor sensing receiver but may still initiate the WLAN sensing procedure and optionally obtain sensing measurement reports (see 11.21.18.6 (TB sensing measurement instance)).

***TGbf editor: Please modify the subclause 11.21.18.4 (Sensing measurement setup) as follows:***11.21.18.4 Sensing measurement setup

Sensing measurement setup allows for a sensing initiator and a sensing responder to exchange and agree on operational parameters associated with sensing measurement instance(s)(#429, #665, #848, #852, #853, #854, #856, #858, #859, #841) of a given Measurement Setup ID(#191).

A sensing initiator shall transmit a Sensing Measurement Setup Request frame to a sensing responder with which it intends to initiate a sensing measurement setup(#88, #431, #453, #612, #751).

After receiving the Sensing Measurement Setup Request frame, the sensing responder shall transmit a Sensing Measurement Setup Response frame to the sensing initiator which transmitted the Sensing Measurement Setup Request frame, according to the following rules:

* If the sensing responder accepts the requested sensing measurement setup parameters in the received Sensing Measurement Setup Request frame, it shall set the Status Code field to SUCCESS(#522) in the Sensing Measurement Setup Response frame.
* (#535)If the sensing responder declines the requested sensing measurement setup parameters in the received Sensing Measurement Setup Request frame, the sensing responder shall set the Status Code field to DECLINED\_SENSING\_MEASUREMENT\_SETUP or PREFERRED\_MEASUREMENT\_SETUP\_PARAMETERS\_SUGGESTED in the Sensing Measurement Setup Response frame(#613). If the Status Code field is set to PREFERRED\_MEASUREMENT\_SETUP\_PARAMETERS\_SUGGESTED(#148, #522), the sensing responder shall provide its preferred sensing measurement parameters in the Sensing Measurement Setup Response frame(#613).

The sensing responder should transmit the Sensing Measurement Setup Response frame within TBD ms in response to the Sensing Measurement Setup Request frame. If no Sensing Measurement Setup Response frame is received within this time period, or if a Sensing Measurement Setup Response frame is received with a status code other than 0 (SUCCESS), the Measurement Setup shall be considered unsuccessful(#770).

The Measurement Setup ID(#217) shall be assigned by a sensing initiator, the <sensing initiator’s MAC address, Measurement Setup ID> tuple should be used to uniquely(#25) identify the corresponding sensing measurement setup(#861, #752).

During a sensing measurement setup, (#810)the sensing initiator shall assign the role(s) of a sensing responder as one of following (see 9.4.2.317 (Sensing Measurement Parameters element)):

— Sensing receiver

— Sensing transmitter

— Sensing transmitter and sensing receiver

(#754)(#754)If a sensing initiator assigns in the a Sensing Measurement Setup Request frame the role of sensing receiver to the sensing responder and also sets the Sensing Measurement Report Requested subfield to 1, the sensing responder shall send Sensing Measurement Report frames in sensing measurement instances that result from the sensing measurement setup.

(#754)If a sensing initiator assigns in the a Sensing Measurement Setup Request frame the role of sensing receiver to the sensing responder and also sets the Sensing Measurement Report Requested subfield to 0, the sensing responder shall not send Sensing Measurement Report frames in non-TB sensing measurement instances that result from the sensing measurement setup.

(#754)NOTE – In TB sensing measurement instances, the sensing initiator does not assign any RU for reporting to a sensing responder if the sensing initiator assigns in the a Sensing Measurement Setup Request frame the role of sensing receiver to the sensing responder and also sets the Sensing Measurement Report Requested subfield to 0.

The assignment of sensing transmitter and/or sensing receiver role(s) of a STA corresponding to a Measurement Setup ID(#217) shall be fixed until the sensing measurement setup is terminated.

The assignment of measurement report type of a sensing responder as a sensing receiver corresponding to a Measurement Setup ID(#217) shall be fixed until the sensing measurement setup is terminated.

***TGbf editor: Please modify the subclause 11.21.18.6.5 Basic reporting phase as follows:***

11.21.18.6.5 Basic reporting phase(#282)

For a sensing responder which is a sensing receiver, the reporting phase shall be present in a TB sensing measurement instance if the Sensing Measurement Report (#754)Requested subfield within the Sensing Measurement Setup Request frame is set to 1(#199, #92, #625). In this case, sensing measurement results obtained in a TB sensing measurement instance shall be reported during the reporting phase and the transmission of Sensing Measurement Report frame shall be conveyed to the STA by the MLME primitive MLMESENSTBREPORTRQ. request(#92, #195, #625). The sensing measurement reporting may be either immediate or delayed(#92, #195, #625).

***TGbf editor: Please modify the subclause 9.4.2.317 (Sensing Measurement Parameters element) as follows:***

9.4.2.317 Sensing Measurement Parameters element

The Sensing Transmitter subfield is set to 1 to indicate a sensing transmitter role for a sensing responder corresponding to the measurement setup ID; and is set to 0 otherwise.

The Sensing Receiver subfield is set to 1 to indicate a sensing receiver role for a sensing responder corresponding to the measurement setup ID; and is set to 0 otherwise.

(#181) Either of the Sensing Transmitter subfield or the Sensing Receiver subfield is set to 1 in the same Sensing Measurement Setup Request frame or if present in the same Sensing Measurement Setup Response frame (i.e., setting both subfields to 0 is invalid).

The Sensing Measurement Report Requested(#183) subfield is reserved if the Sensing Receiver subfield is set to 0(#199). If the Sensing Receiver subfield is set to 1,(#199)

— the Sensing Measurement Report Requested(#183) subfield is set to 1 to indicate that the sensing responder sends Sensing Measurement Report frames in sensing measurement instances that result from the sensing measurement setup.

— the Sensing Measurement Report Requested(#183) subfield is set to 0 to indicate that the sensing responder does not send Sensing Measurement Report frames in sensing measurement instances that result from the sensing measurement setup.

The Measurement Report Type subfield indicates the type of measurement result reported in sensing measurement instance(s) corresponding to the measurement setup ID. (#218) This subfield is reserved, when the Sensing Receiver subfield is set to 0.