IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | LB 272 CR for CIDs on Instance – Part 2 | | | | | | Date: 2023-07-09 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Mahmoud Kamel | InterDigital |  |  | mahmoud.kamel@interdigital.com | | Rui Yang | InterDigital |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes resolutions for 10 CIDs (1012, 1136, 2000, 2030, 2031, 2032, 1728, 1732, 2287, 2242) in subclause 11.55.1.5 in P802.11bf D1.0:

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version

R1: Updated CR resolutions for some CIDs and added CID 2242

## CIDs: 1012, 1136, 2000, 2030, 2031, 2032

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 2000 | 11.55.1.5.2.3 | 180.24 | To improve the readability of the sentence, please change to: If the bandwidth of an SI2SR NDP is equal to 320 MHz for transmission of EHT-STFs and EHT-LTFs and if N\_{STS} = N\_{TX}, the spatial mapping matrix Q shall be an Identity matrix. If the bandwidth of an SI2SR NDP is equal to 320 MHz for transmission of EHT-STFs and EHT-LTFs and if N\_{STS}<N\_{TX}, the Q matrix shall be based on an antenna selection matrix with no antenna swapping. | As in comment | **Revise**  Agree in principle with the comment. The suggested text is adopted with some editorial changes.  TGbf editor: please incorporate changes shown in 11-23/0833r00833r1 below. |
| 1136 | 11.55.1.5.2.3 | 180.24 | Suggest adding a NOTE after the paragraph in 180.28-33 that states that similar conditions apply to the transmission of SI2SR NDPs with bandwidth less than 320 MHZ per the definition of HE Ranging NDPs. Make reference to the appropriate subclause. | As suggested. | **Revise**  Agree in principle with the comment. The suggested note is added with some editorial changes.  TGbf editor: please incorporate changes shown in 11-23/0833r1 below. |
| 1012 | 11.55.1.5.2.3 | 180.30 | Inline equations make use of Nsts and Ntx. I did not see a definition of Nsts in the document, althought it is defined in the REVme draft. | Add explanations of the variables or references to clauses where they are defined. | **Revise**  Agree in principle with the comment.  TGbf editor: please incorporate changes shown in 11-23/0833r0 below. |
| 2030 | 11.55.1.5.2.3 | 180.30 | "the spatial mapping matrix, Q matrix, shall be an Identity matrix,". There is no agreed-upon numbering of transmit antennas, so this requirement will be hard to enforce. A renumbering of the antennas will permutate the rows of the matrix. Propose to change the wording to equivalent but more accurate "each stream shall be mapped to exactly one antenna". | See comment | **Revise**  Agree in principle with the comment.  TGbf editor: please incorporate changes shown in 11-23/0833r1 below. |
| 2031 | 11.55.1.5.2.3 | 180.31 | "matrix shall be based on an antenna selection matrix with no antenna swapping" is not a clear specification. | Replace "the Q matrix shall be based on an antenna selection matrix with no antenna swapping. The Q matrix becomes an Identity matrix when all 0 rows are removed." with "Each stream shall be mapped to a single antenna, with N\_TX-N\_STS antennas being unused" | **Revise**  Agree in principle with the comment.  TGbf editor: please incorporate changes shown in 11-23/0833r00833r1 below. |
| 2032 | 11.55.1.5.2.3 | 180.31 | It is not clear why only direct stream to antenna is allowed here. As long as the transmitter maintains a fixed Q matrix, there is no reason not to use all antennas. Using all antennas has benefits, such as lowering the power per antenna, which can improve linearity. Using more antennas may also provide a richer, more diverse CSI. | Reconsider the requirement of direct mapping. | **Reject**  This requirement already exists in the definition of Ranging NDPs. |

***TGbf editor: please move the paragraph in D1.2 P142L14 to subclause 11.55.1.5.1 General and add the note below after the paragraph.***

If the bandwidth of an SI2SR NDP is equal to 320 MHz for transmission of EHT-STFs and EHT-LTFs and if where is the number of space-time streams and is the number of transmit antennas (#1012), the spatial mapping matrix Q shall be an Identity matrix. If the bandwidth of an SI2SR NDP is equal to 320 MHz for transmission of EHT-STFs and EHT-LTFs (#2000) and if , each stream shall be mapped to exactly one antenna, with antennas being unused(#2030, 2031).

NOTE- Similar conditions apply to the transmission of SI2SR NDPs with bandwidth less than 320 MHz per the definition of HE Ranging NDPs (see 27.3.18a.1 (HE Ranging NDP)) (#1136)

## CID: 1728 , 1732

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1728 | 11.55.1.5.2.3 | 185.59 | Add normative text to specify the use of Sounding dialog token such as | The AP maintains a sounding dialog token counter modulo 64 for each TB sensing measurement instance corresponding to a measurement setup ID. When transmitting a Sensing NDP announcement frame to one or more non-AP STAs, the Sounding Dialog Token Number subfield in the Sounding Dialog field shall be set to the value of the corresponding counter representing the measurement instance ID; after which the counter shall be incremented by 1 | **Revise**  Agree in principle with the comment. The suggested text is adopted with some editorial changes.  TGbf editor: please incorporate changes shown in 11-23/0833r1 below. |
| 1732 | 11.55.1.5.2.3 | 180.60 | Add a new paragraph to include normative text for transmission of STA Info with AID subfield equal to 2045 and its subfields for the Sensing NDP Announcement frame | Add a new paragraph such as "When transmitting a Sensing NDP Announcement frame as part of a TB sensing measurement instance, an AP shall include in the first STA Info field with AID11 subfield equal to 2045 the corresponding measurement setup ID subfield and the SI2SR NDP TX power subfield representing the TX power of the SI2SR NDP sent a SIFS after." or equivalent. | **Revise**  Agree in principle with the comment. The suggested text is adopted with some editorial changes.  TGbf editor: please incorporate changes shown in 11-23/0833r1 below. |

***TGbf editor: please make the following change in subclause 11.55.1.5, P142L47 in D1.1.***

When transmitting a Sensing NDP Announcement frame as part of a TB sensing measurement exchange, an AP shall include in the first STA Info field with AID11 subfield equal to 2045 the corresponding Measurement Session ID field and the SI2SR NDP TX power field representing the TX power of the SI2SR NDP following after a SIFS(#1732).

When transmitting a Sensing NDP Announcement frame as part of a TB sensing measurement exchange, an

AP shall include a value in the Partial TSF field in the STA Info field with the AID11 field equal to 2044,

that equals to the AP’s TSF[21:6] at the time of transmission of the preceding Sensing Polling Trigger

frame. Specifically, the time that the first data symbol of the PSDU of the frame was transmitted to the PHY

plus the AP’s delays through its local PHY from the MAC-PHY interface to its interface with the WM.

Additionally, the AP shall set the Token field in the STA Info field with the AID11 field equal to 2044 in the

Sensing NDP Announcement frame to the same trigger poll counter value as the Token field in the Sensing

Polling Trigger frame whose partial TSF time is carried in the Sensing NDP Announcement frame.

The AP maintains a sounding dialog token counter modulo 64 for each TB sensing measurement exchange corresponding to a Measurement Session ID. When transmitting a Sensing NDP announcement frame to one or more non-AP STAs, the Sounding Dialog Token Number field in the Sounding Dialog field shall be set to the value of the corresponding counter representing the Measurement Exchange ID; after which the counter shall be incremented by 1(#1728).

## CID: 2287

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 2287 | 11.55.1.5.2.3 | 182.01 | "The uplink power control, timing, and frequency synchronization requirements of unassociated STAs performing TB measurement instance shall follow the same rules as those of associated HE STAs"  Why thiere is no such requirement for sending SR2SR NDP or CTS-to-self | add similar requirements in other clauses | **Revise**  Agree in principle with the comment. This sentence is out of place! Since it applies to “ … unassociated STAs performing TB measurement exchange …”, we should move it to Clause 11.55.1.5.2.1 in D1.1 P138L39  TGbf editor: please incorporate changes shown in 11-23/0833r1 below. |

***TGbf editor: please make the following change in subclause 11.55.1.5, P142L47 in D1.1.***

If the TF sounding phase is the only sounding phase present in a TB sensing measurement exchange, and if

the polling phase is also present, the TF sounding phase shall start a SIFS after the polling phase. If both

NDPA sounding phase and TF sounding phase are present in a TB sensing measurement exchange, the TF

sounding phase shall start a SIFS after the NDPA sounding phase.

The uplink power control, timing, and frequency synchronization requirements of unassociated STAs performing TB measurement instance shall follow the same rules as those of associated HE STAs.

## CID: 2242

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 2242 | 11.5.1.4 | 174.13 | What if a sensing initiator assigns in a sensing Measurement Setup Request frame only the role of sensing receiver to the sensing responder and sets the Sensing Measurement Report Requested subfield to 1? In this case, does the sensing initiator need to assign the sensing responder to be polled in the TB sensing measurement instance? | Clarify the procedure | **Reject**  The comment does not propose a specific change to the text. |