IEEE P802.11
Wireless LANs

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| SA2 Comment Resolutions |
| Date: 2024-11-11 |
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Abstract

Comment resolution for CIDs R1-1, R1-2, R1-4, R1-19, R1-21, R1-22, R1-26, R1-29 (total of 8 CIDs). Also, there is a missing normative text regarding AP sending explicit termination frame during the non-TB sensing measurement exchange.

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| **CID** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| R1-1 | 28.21 | "and the presence or absence of the STA Info field with AID11 subfield equal to 2045 and with B31 set to 1 (see Table 9-42b (NDP Announcement frame variant encoding) and Table 9-42ba (Ranging NDP Announcement frame and Sensing NDP Announcement frame encoding))." - Can be more concise | Change to "and the presence of the STA Info field with AID11 subfield equal to 2045 with B31 set to 1 ." | Revise<https://mentor.ieee.org/802.11/dcn/24/11-24-1795-01-00bf-SA2-comment-resolutions.docx> |
| R1-2 | 28.26 | "The STA Info field with AID11 subfield equal to 2045 is not present in the Ranging NDP Announcement frame used for TB ranging measurement exchange but it is present in the non-TB ranging measurement exchange." - not correct, the STA Info field with AID-2045 is not necessarily present in any Ranging NDP Announcement frame. | Remove, it does not help clarify anything here. | Revise<https://mentor.ieee.org/802.11/dcn/24/11-24-1795-01-00bf-SA2-comment-resolutions.docx> |
| R1-4 | 30.36 | Table 9-42ba - STA Info field with AID11=2045 is not always present in Ranging NDP Announcement frame of any kind. | remove table, it doesn't add any new, relevant information | Revise<https://mentor.ieee.org/802.11/dcn/24/11-24-1795-01-00bf-SA2-comment-resolutions.docx> |
| R1-19 | 136.58 | "An AP acting as a sensing initiator shall limit each non-AP STA acting as a sensing receiver to participate ..." - this paragraph is inserted haphazardly. What is a "NDPA sounding phase" or "SR2SR variant"? | At this point many of the terms in this paragraph are not defined yet, consider moving to a later point in the text or add some references where to look up more of the things described in this paragraph | ReviseInstruction to TGbf editor:Move text in P136L57-61 to P162L48 under **11.55.1.5.4.1 General part of Common rules**. |
| R1-21 | 137.19 | "A sensing STA that supports receiving up to four spatial streams ..." - what is the difference to the next paragraph? Seems that could get consolidated. | As per comment | Revise<https://mentor.ieee.org/802.11/dcn/24/11-24-1795-01-00bf-SA2-comment-resolutions.docx> |
| R1-22 | 137.24 | "A sensing STA that supports receiving five or more spatial streams from an SI2SR NDP, SR2SI NDP, or SR2SR NDP ...", why are the three NDP (variants?) listed out separately, but not in the previous paragraph, are there other NDPs which are hereby excluded? | As per comment | Revise<https://mentor.ieee.org/802.11/dcn/24/11-24-1795-01-00bf-SA2-comment-resolutions.docx> |
| R1-26 | 139.25 | "If the Sensing Capabilities element is included in the Probe Request frame, a non-AP STA shall set the Poll Required subfield in the Sensing Capabilities element to 1 if it intends to be polled in TB sensing measurement exchanges." Not sure what the probe request frame changes from usual behavior? | Please specify how this is different from usual or otherwise how this is handled, if "not included in the Probe Request frame" | Revise<https://mentor.ieee.org/802.11/dcn/24/11-24-1795-01-00bf-SA2-comment-resolutions.docx> |
| R1-29 | 143.38 | "The requested number of chains to be used in the reception of SI2SR NDPs and SR2SR NDPs by the sensing responder. This value shall not be greater than the maximum number of chains the sensing responder is capable of using in the reception of SI2SR NDPs and SR2SR NDPs." - but can it be smaller? So can you ask a 2x2 STA to only report 1x1 CSI? | Seems a lot of complexity to ask a STA to configure/ throw out part of the generated CSI. Why allow this, can a STA refuse this? | RejectThis is essentially an assignment (done by initiator) for RX Nsts based on responder’s capability. Similarly, there is assignment for TX Nsts. Nsts number directly impacts sensing measurement report which is managed by the initiator for application.  |

Resolution for CIDs R1-1, R1-2, and R1-4

TGBF editor, change the text in P17-29 as follows:

The NDP Announcement frame has ~~four~~ five variants, the NDP Announcement frame, the HE NDP

Announcement frame, the Ranging NDP Announcement frame, the Sensing NDP Announcement frame, and the EHT NDP Announcement frame. The ~~four~~ five formats are distinguished by the setting of the NDP Announcement Variant subfield in the Sounding Dialog Token field~~.~~ and the presence ~~or absence~~ of the STA Info field with AID11 subfield equal to 2045 and with B31 set to 1 (see Table 9-42b (NDP Announcement frame variant encoding)~~. and Table 9-42ba (Ranging NDP Announcement frame and Sensing NDP Announcement frame encoding)~~)~~. The STA Info field with AID11 subfield equal to 2045 is always present in a Sensing NDP Announcement frame and it is transmitted as the first STA Info field. The STA Info field with AID11 subfield equal to 2045 is not present in the Ranging NDP Announcement frame used for TB ranging measurement exchange but it is present in the non-TB ranging measurement exchange.~~ (“R1-1, R1-2, R1-4)

TGBF editor, add following text under clause 9.3.1.19.6 (Sensing NDP Announcement frame format)in P30 L50 and move Table 9-42b from P30 L25-40 with changes shown below right after the text

In the Sensing NDP Announcement frame the STA Info field with AID11 subfield equal to 2045 is always present and it is transmitted as the first STA Info field. The STA Info field with AID11 subfield equal to 2045 is not present in the Ranging NDP Announcement frame used for TB ranging measurement exchange but might be present in the non-TB ranging measurement exchange (see Table 9-42b (Ranging NDP Announcement frame and Sensing NDP Announcement frame encoding)). (“R1-1, R1-2, R1-4)

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| * Ranging NDP Announcement frame and Sensing NDP Announcement frame encoding
 |
| Presence of STA Info field with AID11 subfield equal to 2045 | B31 in the STA Info field with AID11 subfield equal to 2045 | NDP Announcement frame variant |
|
|
| N/A | N/A | Ranging NDP Announcement frame in TB ranging exchange |
| Yes | Reserved | Ranging NDP Announcement frame in non-TB ranging exchange when negotiated to include TX power for I2R NDP (“R1-1, R1-2, R1-4”) |
| Yes | 1 | Sensing NDP Announcement frame in TB/non-TB sensing measurement exchange |

Resolution for CID R1-21 and R1-22, TGBF editor, delete the text in P137L19-22 and add the text below as a replacement texts:

~~A sensing STA that supports receiving up to four spatial streams shall support~~ *~~Ng~~* ~~= 4 and may support~~ *~~Ng~~* ~~= 16 in the Sensing Measurement Report frame (see Table 9-129h (Sensing Measurement Report Control~~

~~field definition)).~~

~~A sensing STA that supports receiving five or more spatial streams shall support~~ *~~Ng~~* ~~= 4 and may support~~ *~~Ng~~* ~~= 16 in the Sensing Measurement Report frame that results from an SI2SR NDP, SR2SI NDP, or~~

~~SR2SR NDP where the bandwidth is less than or equal to 80 MHz.~~

~~A sensing STA that supports receiving five or more spatial streams shall support~~ *~~Ng~~* ~~= 8 and may support~~

*~~Ng~~* ~~= 16 in the Sensing Measurement Report frame that results from an SI2SR NDP, SR2SI NDP, or~~

~~SR2SR NDP where the bandwidth is greater than or equal to 160 MHz.~~

A sensing STA shall support *Ng* = 4 and may support *Ng* = 16 in the Sensing Measurement Report frame that results from receiving an SI2SR NDP, SR2SI NDP, or SR2SR NDP with:

* up to four spatial streams and a bandwidth of less than or equal to 320 MHz
* five or more spatial streams and a bandwidth of less than or equal to 80 MHz

A sensing STA shall support *Ng* = 8 and may support *Ng* = 16 in the Sensing Measurement Report frame that results from receiving an SI2SR NDP, SR2SI NDP, or SR2SR NDP with five or more spatial streams and a bandwidth of greater than or equal to 160 MHz. (“R1-21, R1-22)

Resolution for CID R1-26, TGBF editor, change the text in P137L21-282 as follows:

An unassociated non-AP STA shall set the Poll Required field in the Sensing Capabilities element to 1 in

any Sensing Measurement Query frame that it transmits.

~~If~~ When the Sensing Capabilities element is included in the ~~Probe Request~~ (Re) Association Request (“R1-26”) frame, a non-AP STA shall set the Poll Required subfield in the Sensing Capabilities element to 1 if it intends to be polled in TB sensing measurement exchanges.

TGBF editor, add the text below under clause 11.55.1.6 (Sensing measurement session termination) in P165L5.

An AP as a sensing responder shall only transmit a Sensing Measurement Termination frame to an unassociated non-AP STA as a sensing initiator during the non-TB sensing measurement exchange either in an A-MPDU aggregated with the Sensing Measurement Report frame if required, or as a S-MPDU frame SIFS after SR2SI NDP transmission

**References: References: P802.11bfD5.0, P802.11REVmeD7.0 and P802.11bkD3.0.**