IEEE P802.11
Wireless LANs

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| SA D6 resolution of CIDs 7056, 7057, 7058, 7059, 7060, 7061, 7062, 7063, 7064, 7065, 7066 |
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Abstract

Resolution of SA D6 ballot comments CIDs 7056, 7057, 7058, 7059, 7060, 7061, 7062, 7063, 7064, 7065, and 7066

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| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Line** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 7056 | 346.00 | 4 | 10.42.11.2 | "...the following offset from the end of the last transmitted TDD SSW:" Suggest to remove "last" | Remove the word "last" | **Revised** See below in the document |
| 7057 | 346.00 | 13 | 10.42.11.2 | "CountIndex is the value of the Count Index subfield in the received TDD SSW frame." The sentence belongs to the equation (3) that defines parameters of the frames transmitted by the Initiator. So it should be "the transmitted TDD SSW frame". | Replace by "CountIndex is the value of the Count Index subfield in the transmitted TDD SSW frames. | **Accept** |
| 7058 | 346.00 | 23 | 10.42.11.2 | "If the initiator received a TDD SSW Feedback frame, it shall set its DMG antenna to the same sector that was used to transmit the respective TDD SSW frame …" The TDD SSW Feedback delivers the Decoded TX Sector ID and Decoded TX Antenna ID from the TDD SSW frame that the feedback frame is sent in response to. The definition shall refer to these parameters. | Replace by "If the initiator received a TDD SSW Feedback frame, it shall set its antennas to the Decoded TX Sector ID and the Decoded TX Antenna ID from the last received TDD SSW Feedback frame" | **Revised**See below in the document |
| 7059 | 346.00 | 24 | 10.42.11.2 | "...and transmit one or more TDD SSW Ack frames to the responder starting at the following offset from the end of the last transmitted TDD SSW frame:" The definition is to allow the responder to know when to expect to get the TDD SSW Ack frames sent by the initiator. So, the responder shall be able to compute the offset from any of the previously transmitted TDD SSW frames it succeed to receive. Modify the text to clarify the responder behavior | Replace by "...and transmit one or more TDD SSW Ack frames to the responder starting at the following offset from the end of the any of the last transmitted TDD SSW frames the TDD SSW Feedback frame is responded to:" | **Revised**See below in the document |
| 7060 | 347.00 | 1 | 10.42.11.2 | "CountIndex is the value of the Count Index subfield in the received TDD SSW frame." The sentence belongs to the equation (4) that defines parameters of the frames transmitted by the Initiator. So it should be "the transmitted TDD SSW frame". | Replace by "CountIndex is the value of the Count Index subfield in the transmitted TDD SSW frames." | **Accept** |
| 7061 | 347.00 | 26 | 10.42.11.2 | "CountIndex is the value of the Count Index subfield in the received TDD SSW Ack frame." The sentence belongs to the equation (5) that defines parameters of the frames transmitted by the Initiator. So it should be "the transmitted TDD SSW Ack frame with the End of Training subfield set to 1". | Replace by "CountIndex is the value of the Count Index subfield in the transmitted TDD SSW Ack frame with the End of Training subfield set to 1" | **Accept** |
| 7062 | 347.00 | 39 | 10.42.11.2 | "CountIndex is the value of the Count Index subfield in the received TDD SSW Ack frame." The sentence belongs to the equation (6) that defines parameters of the frames transmitted by the Initiator. So it should be "the transmitted TDD SSW Ack frame with the End of Training subfield set to 1". | Replace by "CountIndex is the value of the Count Index subfield in the transmitted TDD SSW Ack frame with the End of Training subfield set to 1" | **Accept** |
| 7063 | 347.00 | 24 | 10.42.11.2 | "...from the end of the last transmitted TDD SSW frame:" The rule is true for any transmitted TDD SSW frame and not only the last. Remove the word "last" | Remove the word "last" | **Revised**See below in the document |
| 7064 | 351.00 | 32 | 10.42.11.4 | "CountIndex and AckCountIndex are, respectively, the values of the Count Index and Ack Count Index subfields in the received TDD SSW frame." The equation (7) is about initiator, so the Count Index and Ack Count Index subfields belong to the initiator. It should be "in the transmitted TDD SSW frame" | Replace by "…in the transmitted TDD SSW frame." | **Accept** |
| 7065 | 352.00 | 5 | 10.42.11.4 | "...from the end of the last transmitted TDD SSW frame:" The rule is true for any transmitted TDD SSW frame and not only the last. Remove the word "last" | Remove the word "last" | **Revised**See below in the document |
| 7066 | 352.00 | 13 | 10.42.11.4 | "CountIndex and AckCountIndex are, respectively, the values of the Count Index and Ack Count Index subfields in the received TDD SSW frame." The equation (8) is about initiator, so the Count Index and Ack Count Index subfields belong to the initiator. It should be "in the transmitted TDD SSW frame" | Replace by "…in the transmitted TDD SSW frame." | **Accept** |

Discussion

The CIDs are to resolve two issues found in the current text:

- “last transmitted frame” makes sense of a single frame. There is no need to mention “last”. The equations are valid for any transmitted TDD SSW frame since the values of the subfields ​​are defined in the paragraph above. The equations represent the offset at the time the frame is sent.

- “received … frame” is not true to say in relation to equations of the frames transmitted by the initiator

Make it clear that the equation of the offset is relevant for any of multiple TDD SSW and TDD SSW Ack frames transmitted in the same TDD slot

Make it clear that the equations belong to the frames transmitted by the initiator as far they appear in the subclauses of the initiator's behavior.

**CID 7056**

***TGay editor change as follows***

P346L1

TDD SSW and TDD SSW Ack frames transmitted in the same TDD slot shall be separated with SBIFS and shall have a strictly increasing Count Index subfield value. The first TDD SSW frame or TDD SSW Ack frame transmitted in a TDD slot shall have the Count Index subfield set to 0.The Responder Feedback Offset subfield shall be equal in all TDD SSW frames transmitted in the same TDD slot. The Initiator Ack Offset subfield shall be equal in all TDD SSW frames transmitted in the same TDD slot. The Initiator Transmit Offset subfield shall be equal in all TDD SSW Ack frames transmitted in the same TDD slot. The Responder Transmit Offset subfield shall be equal in all TDD SSW Ack frames transmitted in the same TDD slot.

To receive a TDD SSW Feedback frame from the responder, the initiator shall set its receive antenna to the same DMG antenna and sector that were indicated, respectively, in the TX Antenna ID and TX Sector ID subfield of the corresponding TDD SSW frame, in the following offset, calculated as a distance from the end of the transmitted TDD SSW frame to the start of the expected transmission of the TDD SSW Feedback frame by the responder.

**CID 7058, 7059**

***TGay editor change as follows***

P346L23

If the initiator received a TDD SSW Feedback frame, it shall transmit one or more TDD SSW Ack frames to the responder. To transmit the frames the initiator shall set its antennas to the Decoded TX Sector ID and the Decoded TX Antenna ID from the last received TDD SSW Feedback frame.

The transmission of the first TDD SSW Ack frame shall start in the following offset, calculated a distance from the end of the transmitted TDD SSW frame to the start of the transmission of the first TDD SSW Ack frame:

P347L3

The TDD SSW Ack frame shall include in the Decoded TX Sector ID subfield the sector indicated by the responder in the TX Sector ID subfield, and in the Decoded TX Antenna ID subfield the sector indicated by the responder in the TX Antenna ID subfield of the TDD SSW Feedback frame last received by the initiator. ,

**CID 7063**

***TGay editor change as follows***

P347L18

After the initiator has sent the TDD SSW Ack frame with the End of Training subfield set to 1 to the responder, it may transmit a single PPDU other than a TDD Beamforming frame to the responder. To transmit the frame the initiator shall set its antennas to the Decoded TX Sector ID and the Decoded TX Antenna ID from the last received TDD SSW Feedback frame. The transmission of the frame shall start in the following offset calculated as the distance from the end of the transmitted TDD SSW Ack frame with the End of Training subfield set to 1, to the start of the expected transmission:

*InitiatorTransmitOffset* – [(*CountIndex* + 1) × TXTIME(TDD SSW Ack) + (*CountIndex* × SBIFS)] (5)

***TGay editor change as follows***

P347L28

Subsequent opportunities for the initiator to transmit to the responder are separated by the value of the Transmit Period subfield in the TDD SSW Ack frame with the End of Training subfield set to 1.

After the initiator has sent the last TDD SSW Ack frame with the End of Training subfield set to 1 to the responder, it shall be ready to receive a single PPDU other than a TDD Beamforming frame from the responder by setting its receive DMG antenna and sector to the Decoded TX Sector ID and the Decoded TX Antenna ID from the last received TDD SSW Feedback frame, in the following offset calculated as the distance from the end of the transmitted TDD SSW Ack frame with the End of Training subfield set to, 1 to the start of the expected receive of the frame:

*ResponderTransmitOffset* – [(*CountIndex* + 1) × TXTIME(TDD SSW Ack) + (*CountIndex* × SBIFS)] (6)

***TGay editor change as follows***

P347L42

… subfield in the TDD SSW Ack frame with the End of Training subfield set to 1.

***TGay editor change as follows***

P353L7

Once the initiator sends a TDD SSW Ack frame with the End of Training subfield equal to 1 to a target responder, it may transmit a single PPDU other than a TDD Beamforming frame to the target responder. To transmit the frame the initiator shall set its transmit DMG antenna to the Decoded TX Sector ID and the Decoded TX Antenna ID from the TDD SSW Feedback frame last received from the target responder. The transmission of the frame shall start in the following offset calculated as the distance from the end of the last transmitted SSW Ack frame with the End of Training subfield set to 1, to the start of the expected transmission:

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P353L21

… subfield in the TDD SSW Ack frame with the End of Training subfield set to 1

***TGay editor change as follows***

P353L22

After the initiator has sent the last TDD SSW Ack frame with the End of Training subfield equal to 1 to a target responder, it shall be ready to receive a single PPDU other than a TDD Beamforming frame from the responder, by setting its receive DMG antenna and sector to the Decoded TX Sector ID and the Decoded TX Antenna ID from the TDD SSW Feedback frame last received from the target responder, in the following offset calculated as the distance from the end of the transmitted TDD SSW Ack frame with the End of Training subfield set to 1, to the start of the expected receiving:

***TGay editor change as follows***

P353L35

… subfield in the TDD SSW Ack frame with the End of Training subfield set to 1.

**CID 7065**

***TGay editor change as follows***

P352L3

If the initiator received a TDD SSW Feedback frame, it shall transmit one or more TDD SSW Ack frames to the responder that sent the TDD SSW Feedback frame. To transmit the frames to this responder the initiator shall set its antennas to the Decoded TX Sector ID and the Decoded TX Antenna ID from the last TDD SSW Feedback frame received from this responder. The transmission of the first TDD SSW Ack frame shall start in the following offset, calculated as the distance from the end of the transmitted TDD SSW frame to the start of the transmission of the first TDD SSW Ack frame to the responder that sent the TDD SSW Feedback frame:

P352L15

The TDD SSW Ack frame shall include the DMG antenna and sector used by the responder to transmit the TDD SSW Feedback frame in, respectively, the Decoded TX Antenna ID and Decoded TX Sector ID subfields,

**References:**

1. IEEE P802.11ay/D6.0, September 2020
2. IEEE P802.11-REVmd/D5.0, September 2020