IEEE P802.11
Wireless LANs

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| CR for CID 13736 and 13973 |
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Abstract

This submission proposes comment resolution(s) for the following 2 CID(s) received in LB266 on TGbe D2.2 related to 35.2.1.2 Triggered TXOP sharing procedure

CIDs:

13736, 13973

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: minor changes
* Rev 2: change the baseline from D2.1 to D2.2

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| **CID** | **Commenter** | **Clause**  | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 13736 | Yunbo Li | 35.2.1.2.2 | 401.08 | Since AP is allowed to transmit a PPDU if the last PPDU transmission by AP ended less than aSIFSTime before the end of the allocated time, how about the case that less than aSIFSTime plus a duration of shortest PPDU? In this case, the allocated STA can not do any transimission, the spec should allow AP do the transmission. It doesn't add any extra complexity, but will leave less possibility for a thrid party STA to jump in, and also improve the system efficiency a little bit. | change "aSIFSTime" to "aSIFSTime plus 24us". 24us is the PPDU duration of a possible shortest frame. E.G. CTS at highest Ctrl MCS rate of 54 Mbps | RevisedAgree with the commenter. The current rules leave the gap between two PPDU transmission up to 50 us, which is less efficient, and can also be easily interrupted by a third party STA’s transmission.The solution is to change "aSIFSTime" to "aSIFSTime plus 24 us" in the following subbullet.“*—The last PPDU transmission by the AP ended less than aSIFSTime before the end of the allocated time in which case it may transmit a SIFS after the end of the last PPDU transmission.*”TGbe editor to make changes in 11-22/1265r2 under CID 13736 |
| 13973 | Geonjung Ko | 35.2.1.2.2 | 401.05 | If the last PPDU transmission by the AP ends less than a PIFS and larger than SIFS before the end of the allocated time, the AP may transmit a PPDU a PIFS after the end of the allocated time. It results a gap larger than PIFS. | Modify the rule not to make a gap larger than PIFS. | RevisedAgree with the commenter. The current rules leave the gap between two PPDU transmission up to 50 us, which is less efficient, and can also be easily interrupted by a third party STA’s transmission.The solution is to change "aSIFSTime" to "aSIFSTime plus 24 us" in the following subbullet.“*—The last PPDU transmission by the AP ended less than aSIFSTime before the end of the allocated time in which case it may transmit a SIFS after the end of the last PPDU transmission.*”TGbe editor to make changes in 11-22/1265r2 under CID 13736 |

Discussion:

According to the current rules in the specification, when the last PPDU transmission by the AP ends less than aSIFSTime before the end of the allocated time, the AP could transmit a proceeding PPDU SIFS after the end of the last PPDU transmission (as illustrated in Figure 1). It works well.

The problem mentioned in CID 13973 is illustrated in Figure 2, in which case the time gap between the last PPDU transmission and the next PPDU is up to PIFS + PIFS = 50 µs, which is less efficient and can be easily interrupted by the third party STA’s transmission.

There is a rule in current spec allows the AP ransmit a SIFS after the end of the last PPDU transmission, if the last PPDU transmission by the AP ended less than aSIFSTime before the end of the allocated time.

By simply extend the threshold of “aSIFSTime” to “aSIFSTime plus 24 µs”, the issue in Figure 2 will be solved. The result of the new rule is illustrated in Figure 3, in which the time gap will always remain as SIFS.

The value of 24 µs is chosen to correspond to the transmission of the shortest typical frame (CTS) transmitted at highest Control MCS rate of 54 Mbps. If the remaining time is larger than or equal to aSIFSTime plus 24 µs, STA1 may transmit one more PPDU.



Figure 1



Figure 2



Figure 3

**Proposed spec text**

***TGbe editor: Please make the following changes in subclause 35.2.1.2.2 (AP behaviour):***

If the EHT AP determines that the transmission of an MU-RTS TXS Trigger frame is successful, then the AP may transmit a PPDU after the end of the allocated time and before its TXNAV timer has expired, if any of the following conditions are satisfied:

—The medium is determined to be idle by the CS mechanism at the end of the allocated time in which case it may transmit a PIFS after the end of the allocated time.

—The last PPDU transmission by the AP ended less than an aSIFSTime plus 24 microseconds (#13736) before the end of the allocated time, in which case it may transmit a SIFS after the end of the last PPDU transmission.

—The last PPDU transmitted by the allocated STA to its associated AP did not contain any MPDU soliciting immediate acknowledgement from the AP and ended less than an aSIFSTime plus 24 microseconds (#13736) before the end of the allocated time in which case it may transmit SIFS after the end of the last PPDU transmission.

NOTE- The value 24 microseconds is chosen to correspond to the transmission of the shortest typical frame (CTS) transmitted at highest modulation rate of non-HT PPDU, which is 54 Mbps (#13736).