IEEE P802.11
Wireless LANs

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| **TGbe D0.3 Comment Resolutions****for Restricted TWT SP** |
| **Date:** 2021-04-15 |

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Abstract

This submission proposes resolutions for one comment on TGbe D0.4 regarding restricted TWT with the following CID (1 **CID**):

* 2922

Revisions:

- Rev 0: Initial version of the document.

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 TGbe Draft. This introduction is not part of the adopted material.

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

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

***TGbe editor: Please note that baselines are D0.4***

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| **CID** | **Commenter** | **Assignee** | **Comment** | **Proposed Change** | **Resolution** |
| 2922 | SunHee Baek | Chunyu Hu, SunHee Baek | (The part of PDT about quality of service for latency sensitive traffic was approved, and a motion of SP#1 about restricted TWT in 20/1046r11 was passed.) If the starting time of the restricted TWT is postponed, the scheduled total duration of restricted SP is shortened. In this case, the later part of latency sensitive traffic cannot be finished within the remaining time of the SP. | If the STA doesn't stop its TXOP, the starting time of restricted TWT SP shall be postponed and ending time may be postponed (extended). (A related proposal will be presented\_21/0091) | **Revised**The start time of the restricted TWT SP can be affected by the preceding TXOP of the STA that does not support the restricted TWT or OBSS. So the end time of the restricted TWT SP may be extended.By extending the end time of the restricted TWT SP, the low latency STA can have enough of the medium access time for transmitting the latency sensitive data/traffic.If the end time is extended, the modified duration of the TWT SP cannot exceed over the original duration of the TWT SP.**TGbe editor, please make changes as shown in doc 11-21/0672r0 tagged as CID 2922** |

**Discussion:**

The comment of CID 2922 is about end time of the restricted TWT SP. The start time of the restricted TWT SP can be affected when the WM is busy. (The start time means to start exchange of latency sensitive data/traffic between AP and STA, which means the SP doesn’t move backward itself.) For example, the STA that does not support the restricted TWT and does not obtain the announcement of the restricted TWT SP from the associated AP may keep its TXOP. Also we can consider the TXOP is operating in the OBSS during the restricted TWT SP. The total duration of the restricted TWT SP decreases, which may not provide enough time to transmitting the latency sensitive data/traffic. To gurantee it, a way is needed to have enough of the medium access time for latency sensitive data/traffic.

The comment of CID 2922 suggests that non-AP EHT STA assigned restricted TWT SP can extend to the end time of the TWT SP only when the start time is affected because of the busy of WM. (There could be some additional discussion about signaling to AP about extending the end time and Next TWT depending on the perspective and implementation.)

**Propose:**

**35.7.4 Channel access rules for restricted TWT service periods**

A non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true as a TXOP holder shall ensure the TXOP ends before the start of any restricted TWT service periods if the TXOP is obtained outside of a restricted TWT service period.

***TGbe editor: Please add the new paragraph***

The end time of a restricted TWT service period may be extended when the member STA(s) cannot obtain TXOP at start of the restricted service period due to the busy WM. The maximum extended duration shouldn’t exceed over the overlapped duration between the end time of the preceding TXOP and the start time of the restricted TWT service period. A scheduling AP should not allow the restricted TWT service period with extended duration to overlap with any scheduled individual/broadcast or other restricted TWT service period. (#2922)

Note: The TXOP of the STA with dot11RestrictedTWTOptionImplemented set to false or operating in the OBSS during the restricted TWT service period may make the WM scheduled for the restricted TWT service period busy.

Note: During the (extended) restricted TWT service period, the STA with dot11RestrictedTWTOptionImplemented set to true follows the procedure described in 26.8.5 (Power save operation during TWT SPs) to determine if restricted TWT service period termination event has occurred and may enter doze state.