IEEE P802.11  
Wireless LANs

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Abstract

This submission proposes resolutions for multiple comments related to TGax D1.1 with the following CIDs:

* CIDs: 7103,7106,7412,8152,8221,9103,9533

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

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

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

# OFDMA based Random Access (27.5.2.6)

| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 7103 | 173.10 | 27.5.2.6.2 | Regarding Figure 27-1--Illustration of the UL OFDMA-based random access procedure,  1) The meaning of the location of the arrows is not clear.  2) The differences between "before" and "after" the decrement is not explained and unclear.  3) Only one "SIFS" is written. This should be added to other places. | Modify Figure 27-1 for clarification. | Revised  Added text and Figure 27-1 to explain more precisely  TGax editor please make the changes as shown in 11-17/0443r0 |
| 7106 | 173.41 | 27.5.2.6.2 | "decrement their nonzero OBO counters by 1"  In Figure 27-1, the number of RUs is 2. Then it seems that "decrement.. by 2" is correct. | as in comment | Revised  Added text and Figure 27-1 to explain more precisely  TGax editor please make the changes as shown in 11-17/0443r0 |
| 7412 | 173.18 | 27.5.2.6.2 | M-BA in Figure 27-1 is not defined in D1.0. In addition, BA could be used as an acknowledgement for HE trigger-based PPDU. | Change "Ack/M-BA" in Figure 27-1 to "Ack/BA/Multi-STA BA" | Accepted  TGax editor please make the changes as shown in 11-17/0443r0 |
| 8152 | 173.25 | 27.5.2.6.2 | The overall procedure shown in Figure 27-1 is not really described very well. Its not clear to the reader. | Add an explanation in the paragraphe that introduces Figure 27-1 | Revised  Added text to explain the overall procedure shown in Figure 27-1  TGax editor please make the changes as shown in 11-17/0443r0 |
| 8221 | 173.17 | 27.5.2.6 | In Figure 27-1, what does M-BA mean? | I think it mean Multi-STA BlockAck. If correct please make the changes. | Accepted  TGax editor please make the changes as shown in 11-17/0443r0 |
| 9103 | 173.40 | 27.5.2.6.2 | In the exemple of random access the text describing the figure 27-1 should the rules defined line 30. decrementing the nonzero OBO counters by 1 in every RU assigned to AID value 0 is less clear than decrementing by a value equal to the number of Rus assigned to AID 0 | replace the sentence by "For instance, as shown in Figure 27-1 (Illustration of the UL OFDMA-based random access procedure), the number of RUs assigned to AID value 0 beeing equal to 2, STA 1 decrements it OBO counter from 3 to 1, and STA 2 decrements its OBO counter smaller than 2 to 0. | Revised  Added text and Figure 27-1 to explain more precisely  TGax editor please make the changes as shown in 11-17/0443r0 |
| 9533 | 173.11 | 27.5.2.6.2 | Figure 27-1--Illustration of the UL OFDMA-based random access procedure is ambiguous.  (1) IFS except the left side one is not specified. (2) Not clear why the OBO value of a STA changes depending on the height of a Trigger frame. (3) Not clear the timing of decrementing the OBO value. | The figure should be modified to explain the change of the OBO in relation to time. | Revised  Added text and Figure 27-1 to explain more precisely  TGax editor please make the changes as shown in 11-17/0443r0 |

* Random access procedure[7103,7106,7412,8152,8221,9103,9533]

TGax Editor: Please modify the 4th , 5th paragraph (pg 177, line 52 in D1.1), and Figure 27-1 as follows:



Figure 27-1. Illustration of the UL OFDMA-based random access procedure

An HE AP that transmits a Trigger frame for random access, uses the AID value 0 to indicate random RUs allocated for STAs associated with it, and the AID value 2045 to indicate random RUs allocated for STAs not associated with it. For an HE STA, that is associated with the AP, if the OBO counter is smaller than the number of RUs assigned to AID12 subfield value 0 in a Trigger frame, then the HE STA shall decrement its OBO counter to zero. Otherwise, the HE STA decrements its OBO counter by a value equal to the number of RUs assigned to AID12 subfield value 0 in a Trigger frame. For an HE STA, that is not associated with the AP, if the OBO counter is smaller than the number of RUs assigned to AID12 subfield value 2045 in a Trigger frame, then the HE STA shall decrement its OBO counter to zero. Otherwise, the HE STA decrements its OBO counter by a value equal to the number of RUs assigned to AID12 subfield value 2045 in a Trigger frame. For instance, as shown in Figure 27-1 (Illustration of the UL OFDMA-based random access procedure), HE STA 1 and HE STA 2, both associated with the AP, decrement their non-zero OBO counters by 1 in every RU assigned to AID12 subfield value 0 for random access within the Trigger frame. HE STA 3, that is not associated with the AP, decrement their non-zero OBO counters by 1 in every RU assigned to AID12 subfield value 2045 for random access within the Trigger frame.

For an HE STA associated with the AP, if the OBO counter is 0 or if the OBO counter decrements to 0, then the STA randomly selects one of the RUs assigned to AID12 subfield value 0. For an HE STA not associated with the AP, if the OBO counter is 0 or if the OBO counter decrements to 0, then the STA randomly selects one of the RUs assigned to AID12 subfield value 2045. If the selected RU is idle as a result of both physical and virtual carrier sensing as defined in subclause 27.5.2.4 (UL MU CS mechanism), the HE STA transmits its HE trigger-based PPDU in the randomly selected RU. If the selected RU is considered busy as a result of either physical or virtual carrier sensing, then the HE STA shall not transmit its HE trigger-based PPDU in the randomly selected RU. Instead, the STA ~~and it~~ randomly selects any one of the RUs that are assigned to AID12 subfield value 0 if it is an associated STAs or AID12 subfield value 2045 if it is an unassociated STA in the subsequent Trigger frame. If the OBO counter is not zero and does not decrements to 0, the STA resumes with its OBO counter in the next Trigger frame with RUs assigned for random access. For instance, as shown in Figure 27-1, after receiving Trigger frame 1, HE STA 1 transmits its HE triggered-based PPDU because its OBO counter decrements to 0, then the STA 1 randomly selects RU1 from RU1, RU2, and RU3 which are assigned to AID12 subfield value 0. On the other hand, HE STA 2 and HE STA 3 resume with its OBO counter in the next Trigger frame because their OBO counters don’t decrement to 0. After receiving Trigger frame 2, HE STA 2 and HE STA 3 resume with their OBO counters and then their OBO counters decrement to 0 individually. HE STA 2 and HE STA 3 transmit HE triggered-based PPDU on randomly selected RU [respectively](http://endic.naver.com/search.nhn?query=respectively" \t "_blank).