IEEE P802.11Wireless LANs

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| Proposed Resolutions to 11az LB255 CIDs on LTF Repetition |
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Abstract

This submission proposes the resolutions to 11az LB 255 CIDs on LTF Repetition. These CIDs are # 6033, 6034, 6035, 6036, 6037, 6038, 6039, and 6040.

The page and line numbers refer to those in 11az Draft 4.0 [1].

**Introduction**

This submission proposes the resolutions to 11az LB 255 CIDs on LTF Repetition. These CIDs are # 6033, 6034, 6035, 6036, 6037, 6038, 6039, and 6040.

The page and line numbers refer to those in 11az Draft 4.0 [1].

**Comments:**

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| CID | Page/Line | Clause | Comment | Proposed change | Resolution |
| 6033 | 51/22 | 9.3.1.22.10.3 | "The I2R Rep subfield signals the number of repetitions N\_REP of the HE LTF symbols in the corresponding HE TB Ranging NDP". First N\_REP should be replaced by N\_LTF\_REP, e.g. see paragraph before this subclause. Second, the number of repetitions is "N\_LTF\_REP-1" see paragraph on P132L14. | as in comment | Reject. This is an editorial comment, where N\_REP needs to be replaced with N\_LTF\_REP. It is clearly stated on page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0 , that when N\_LTF\_REP is equal to 1, then there is no repetition and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec.This comment has been passed to the TG technical editor for consideration during preparation of a subsequent draft.  |
| 6034 | 46/1 | 9.3.1.19 | According to the paragraph on P132L14, N\_LTF\_REP=1 means no repetition and N\_LTF\_REP>1 means one or more repetitions. Hence, N\_LTF\_REP-1 is the number of repetitions. Therefore, correct all occurences, where N\_LTF\_REP is used as the number of HE-LTF repetitions with "(N\_LTF\_REP-1)". The following occurences were found: P46L1, P51L8, P51L22, P52L10, P77L33, P77L36, P78L1, P236L32, P237L12, P237L19, P237L23, P239L26 | as in comment | Reject. It is clearly stated on page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0 , that when N\_LTF\_REP is equal to 1, then there is no repetition and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |
| 6035 | 232 | 27.2.2 | Based on the last bullet on P236 the LTF\_REP value equals N\_LTF\_REP, which indicate no repetition for 1 and 1 ore more repetitions for greater than 1. Hence the second sentence in the Value column should be changed to "Set to the number of repetitions plus one." | as in comment | Reject. It is clearly stated on page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0 , that when N\_LTF\_REP is equal to 1, then there is no repetition, and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |
| 6036 | 237/14 | 27.3.18a.1 | "Figure 27-46b --Example of HE-LTFs in an HE Ranging NDP with N\_STS=2 and N\_LTF\_REP=2" shows four HE-LTF symbols numbered A1, A2, B1, B2. The first two HE-LTF symbols (A1, A2) are due to N\_STS=2 and the third and fourth HE-LTF symbols (B1, B2) are the first repetition, (N\_LTF\_REP-1)=1, of the first two HE-LTF symbols. Hence make the following changes in Fig. 27-46b:1. "First repetition" with "N\_STS" and the arrow with a bracket spanning the two first symbols;2. "Second repetition" with "First repetition, N\_LTF\_REP-1=1";3. Add a bracket spanning over all four symbols and add the text "N\_STS┬╖N\_LTF\_REP H-LTF symbols";4. Please explain the numbering A1, A2, B1, B2 in a paragraph near Figure 27-46b. | as in comment | Reject. It is clearly stated on page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/Line 26-28 in 11az\_D4.0 , that when N\_LTF\_REP is equal to 1, then there is no repetition, and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |
| 6037 | 237/31 | 27.3.18a.1 | "The total number of HE-LTF symbols is the product of the number of HE-LTF repetitions N\_LTF\_REP and NHE-LTF, the number of HE-LTF based on the number of space-time streams N\_STS". Since "N\_LTF\_REP-1" is the number of HE-LTF repetitions, remove "the number of HE-LTF repetitions" to avoid confusion. | as in comment | Reject.It is clearly stated on page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0 , that when N\_LTF\_REP is equal to 1, then there is no repetition, and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |
| 6038 | 237/35 | 27.3.18a.1 | "the number of LTF repetitions LTF\_REP" is confusing, since LTF\_REP = N\_LTF\_REP and is one for no repetitions and greater than one for one or more repetitions. Hence replace "LTF\_REP" with "N\_LTF\_REP-1". The same correction should be applied to P238L9. | as in comment | Reject. LTF\_REP is a TXVECTOR parameter which is referred to in this sentence, not to be confused with the general parameter N\_LTF\_REP refer to table 21-13 in the relevant PHY clause.As to N\_LTF\_REP needs to be N\_LTF\_REP-1, page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0 states that when N\_LTF\_REP is equal to 1, then there is no repetition, and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |
| 6039 | 238/26 | 27.3.18a.1 | "Figure 27-46d--Example of secure LTFs with NUM\_USERS=2, N\_STS=[2,1] and 28 N\_LTF\_REP =[2,2]": Both users have "one" repetition as N\_LTF\_REP-1 is the number of repetitions see last bullet on P236. Hence, replace "2 Repetitions" with "1 Repetition". | as in comment | Reject. It is clearly stated on page 46/ line 3-4, page 132/kine 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0, that when N\_LTF\_REP is equal to 1, then there is no repetition, and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |
| 6040 | 238/26 | 27.3.18a.1 | "Figure 27-46d--Example of secure LTFs with NUM\_USERS=2, N\_STS=[2,1] and 28 N\_LTF\_REP =[2,2]": The numbering of the HE-LTF symbols seems to be inconsistent as for user 1 the first and the repeaated set of HE-LTF symbols is denoted by A and B and for user 2 by numbers 1 and 2. Please make the numbering consisent, for example numbering the HE-LTF symbols for user 2 U2-A and U2-B. | as in comment | Reject.It is clearly stated on page 46/ line 3-4, page 132/line 14-21, page 236/line 33-35, page 239/line 26-28 in 11az\_D4.0, that when N\_LTF\_REP is equal to 1, then there is no repetition, and when N\_LTF\_REP is greater than 1, repetition is used. So the text here is consistent with the rest of the 11az draft spec. |

**References**

[1] IEEE P802.11az™/D4.0, Draft Standard for information technology – Telecommunications and information exchange between systems Local and metropolitan area networks – Specific requirements, Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications, Amendment 4: Enhancements for positioning