IEEE P802.11  
Wireless LANs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Preamble Comment Resolution | | | | | | Date: 2018-09-06 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Ron Porat | Broadcom |  |  | [Ron.porat@broadcom.com](mailto:Ron.porat@broadcom.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes resolution of comments

15128

15823

15956

16109

16110

16340

16342

16343

16344

16630

16695

15570

16802

16850

16855

From the letter ballot of TGax D3.0.

Changes relative to D3.0

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.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page/Line** | **Comment** | **Proposed Change** | **Resolution** |
| 15128 | Ahmadreza Hedayat | 28 |  | The use of the same 2.4/5GHz preamble (including 11a preamble) for operation of 802.11ax in 6GHz spectrum is not efficient and has unnecessary overhead. The presence of an ancient preamble in a new greenfield spectrum sounds like ignoring today realities such as presence of multiple competing technologies in 6GHz. | Consider a new preamble design that does not include 11a preamble. Given the greenfield 6GHz spectrum and multiple technologies preparing to operate in this band, the preamble for 6GHz should facilitate coexistence among competing technologies. | Rejected  We plan to put 11ax in 6GHz as soon as possible.  The legacy preamble can facilitate coex among technologies as could be done in 5GHz |
| 15823 | Laurent Cariou | 28.3.10.10 | 508.11 | In table 28-29, RU tone index should start at 0 and not 1, as considered in section 27.5.6 | Modify accordingly | Accepted  Editor please make change as described |
| 15956 | Mark RISON | 28.3.10.10 | 496.40 | There is inconsistency/confusion between HE LTF "mode" and HE LTF "type". E.g. in Table 28-28--HE-LTF mode and GI duration combinations for various HE PPDU formats things like "1x HE-LTF" is called an HE LTF mode, but in Table 28-1---TXVECTOR and RXVECTOR parameters that's an HE-LTF type and HE LTF mode is whether it's single-stream pilot or masked | Use "mode" for the 1x/2x/4x thing and "type" for the masked/single-stream thing. So in 28.3.10.10 change "HE-LTF mode" to "HE-LTF type" throughout (not forgetting the plural at 496.40 and 507.31) except at 507.12 and 507.39. Make the same change in 28.3.16 and 28.3.17 | Accepted  Editor: in 28.3.10.10 change "HE-LTF mode" to "HE-LTF type" throughout (not forgetting the plural at 496.40 and 507.31) except at 507.12 and 507.39. Make the same change in 28.3.16 and 28.3.17 |
| 16109 | Mark RISON | 28.3.10.9 | 494.55 | "participates in the HE TB NDP feedback" is not clear | Change to "sends an HE TB NDP report response (see 27.5.6)" | Accepted  Editor please make change as described |
| 16110 | Mark RISON | 28.3.10.10 | 512.36 | "HE TB NDP feedback is used" is not clear | Change to "for an HE TB NDP report response" | Accepted  Editor please make change as described |
| 16340 | Mark RISON | 28.3.10.10 | 496.42 | "It is mandatory to support 1x HE-LTF for full bandwidth UL MU-MIMO, for a STA declaring support for UL MU-MIMO." is not clear as to whether this is tx or rx or both | State this is for both tx and rx | Revised  Editor please make this change:  “It is mandatory to support the transmission of 1x HE-LTF |
| 16342 | Mark RISON | 28.3.10.10 | 497.7 | Table 28-28 misses the conditional nature of the optionality of HE SU and HE MU 4x 0.8 us indicated in 28.1.1: "shall support [...] HE SU PPDUs with 0.8 us GI duration on both the HE-LTF and Data field symbols when the HE- LTF is a 4x LTF if the STA supports HE ER SU PPDUs with 0.8 us GI duration on both the HE- LTF and Data field symbols when the HE-LTF is a 4x LTF (transmit and receive). [...] HE MU PPDUs with 0.8 us GI duration on both the HE-LTF and Data field symbols when the 4x HE-LTF is used if the HE AP supports HE ER SU PPDUs with 0.8 us GI duration on both the HE- LTF and Data field symbols when the HE-LTF is a 4x LTF (transmit)." | Indicate in the table that those combinations are mandatory if the corresponding ER combinations are supported | Rejected  This option is fundamentally optional so keeping it as O in the table seems suitable |
| 16343 | Mark RISON | 28.3.10.10 | 497.7 | Table 28-28 is not clear as to whether it's about tx or rx or both | Indicate in each cell whether it is about tx or rx and whether it is about an AP or a non-AP STA | Rejected  This detailed information can be found in section 28.1.1 and adding it to the table will render it cumbersome |
| 16344 | Mark RISON | 28.3.10.10 | 497.40 | "It is optional to support the 1x HE-LTF in an HE SU PPDU and HE ER SU PPDU. It is mandatory to support 1x HE-LTF for full bandwidth UL MU-MIMO, for a STA declaring support for UL MU-MIMO. The 1x HE-LTF is dis- allowed in an HE MU PPDU and in an HE TB PPDU with more than one RU." duplicates a subset of the information in Table 28-28 | Delete the cited text | Rejected  It doesn’t hurt to have it written as long as there is no contradiction |
| 16630 | Pooya Monajemi | 28.3.10.9 | 492.12 | LSTF of DSRC operating at 10MHz in 5.9 GHz has 1.6us periodicity, and is a more-primary technology than classic Wi-Fi at 5.9 GHz. If 11ax devices attempt to use DSRC spectrum, having a field with a periodicity of 1.6us means that ther eis a much higher chance that HETB PPDUs will be detected as DSRC and cause DSRC-protection mecanisms to be invoked even if no DSRC is even present. | Add the option to send HESTF in HETB as 10 x 0.8us (e.g. HESTF of HESU duplicated). Make this option mandatory in DSRC spectrum. | Rejected  The rules for DSRC are not decided yet.  Simulation results in 15/0381 show that for TB PPDU 0.8uS periodicity had poor performance.  Hence it’s premature to make any technical changes to the spec solely for the DSRC band |
| 16695 | Robert Stacey | 28.3.10.5 | 457.22 | The statement "The LENGTH field shall be set to the value given by Equation (28-11)" is not true. In the case of an HE TB PPDU, the LENGTH field is set to the value received in the TXVECTOR parameter L\_LENGTH (since it is obtained from the Trigger frame). | Change to "For an HE TB PPDU, the LENGTH field is set to the TXVECTOR parameter L\_LENGTH. For an HE SU PPDU, HE ER SU PPDU and HE MU PPDU, the LENGTH field is set to the value given by the Equation (28-11)." Remove the note at L38. | Revised  Please change to:  “For an HE TB PPDU, the LENGTH field is set to the to the value decoded from the preceding Trigger frame in the field named UL Length as shown in Figure 9-52d. For an HE SU PPDU, HE ER SU PPDU and HE MU PPDU, the LENGTH field is set to the value given by the Equation (28-11)."  Remove the note at L38. |
| 15570 | Bin Tian | 28.3.10.5 | 457.38 | "The value of the LENGTH field for an HE TB PPDU is set to the value decoded from the preceding Triggerframe.". Better to specify which field in the Trigger frame | as in comment | Revised  See resolution to 16695 |
| 16802 | Sigurd Schelstraete | 28.3.10.5 | 457.38 | "The value of the LENGTH field for an HE TB PPDU is set to the value decoded from the preceding Trigger frame." Should the value included in the Trigger frame use the value m=2. I don't believe this is explicitly stated anywhere. | Clarify that UL Length in Trigger frame needs to follow (28-11) as well. | Revised  Editor please add on page 97 of D3.0 line 32:  The UL Length subfield shall use the value m=2 in Eq. 28-11 |
| 16850 | Song-Haur An | 28.3.10.3 | 455.37 | Where is "the set of 20 MHz channels" defined or passed to for HE TB PPDU and HE MU PPDU? This is the first time appearing in the equations. It will be nice to note the source of the set, if any. | Please clarify or provide. | Rejected  I think the text is pretty clear what the set is for the various PPDU formats |
| 16855 | Song-Haur An | 28.2.10.10 | 496.44 | Can a user be assigned to two different RUs? Depending on the answer, the phrase " ... in an HE TB PPDU with more than one RU" may conflict with " ... number of users for an ... or HE TB PPDU is always 1" as stated in the Note of NUM\_USERS in TXVECTOR (line 55, p. 393). | Please clarify. | Revised  A user can only be assigned to one RU.  Editor please remove as follows on line 56 page 393 “…PPDU ~~or HE TB PPDU~~ is always 1. |