IEEE P802.11
Wireless LANs

|  |
| --- |
| [The Comment resolution for 32.3.8.2.4] |
| Date: 2020-01-11 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Dongguk Lim | LG Electronics | 19, Yangjae-Daero 11 gil, Seoch-gu, Seoul, Korea |  | dongguk.lim@lge.com |
|  |  |  |  |  |

Abstract

This submission proposes resolutions for following 6 CIDs: 1027, 1082, 1317, 1539, 1540, and 1778

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Resolution and document link updated
* Rev 2: The Resolution for CID 1317 (green part) is updated.

## CID 1027, 1082, 1317, 1539, 1540, and 1778

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 1027 | 64.28 | 32.3.8.2.4 | which one is correct the phrase in 32.3.4.4. step a), stating the SIGNAL field set to 6Mbps, or in 32.3.8.2.4 stating the rate set to 3Mbps? | Clarify the spec | Revised. The commenter is right. Since 2x downclocking is used, the Rate field should set to 3Mbps in the 10MHz transmission. TGbd Editor: Incorporate the changes in https://mentor.ieee.org/802.11/dcn/21/11-21-0024-02-00bd-the-comment-resolution-for-32-3-8-2-4.docx |
| 1082 | 64.28 | 32.3.8.2.4 | In 32.3.4.4. step a), it states that SIGNAL field set to 6Mbps, while in 32.3.8.2.4 it states the rate set to 3Mbps. Which one is correct? | as in comment | Revised.Agree to the commenter. Since 2x downclocking is used, the Rate field should set to 3Mbps in the 10MHz transmission. Note to editor :Same resolution for CID 1027 |
| 1317 | 64.36 | 32.3.8.2.4 | In equation (32-8), should a ceiling operator be required for (TXTIME-40)/8 to make sure that its value is an integer? | Add a ceiling operator for (TXTIME-40)/8. | Rejected. Since the equation for TXTIME as described in eq(32-39) is consist of multiple 8, we don’t need to apply a celling operator in equation 32-8  |
| 1539 | 65.32 | 32.3.8.2.4 | Suggest to change "D\_{k,20}" to "D\_{k,10}" in Equation (32-9) as the BW is 10MHz. Need to make the change thoughout the spec. | As in the comment. | Revised The commenter is right. Basically, L-SIG is transmitted by using the 10MHz. so, the indication of 20MHz should be modified with that for 10MHz. TGbd Editor: Incorporate the changes in https://mentor.ieee.org/802.11/dcn/21/11-21-0024-02-00bd-the-comment-resolution-for-32-3-8-2-4.docx  |
| 1540 | 65.25 | 32.3.8.2.4 | Suggest to change "M\_20(k)" to "M\_10(k)" in Equation (32-10) as the BW is 10MHz. Need to make the change thoughout the spec. | As in the comment. | Revised Agree to the commenter.Basically, L-SIG is transmitted by using the 10MHz. so, the indication of 20MHz should be modified with that for 10MHzTGbd Editor: Incorporate the changes in https://mentor.ieee.org/802.11/dcn/21/11-21-0024-02-00bd-the-comment-resolution-for-32-3-8-2-4.docx  |
| 1778 | 65.19 | 32.3.8.2.4 | In Equation (32-8), D\_k,20 and M\_20(k) are quite misleading since each duplicated subband is only 10MHz instead of 20MHz as in other 802.11 standards. | Please change D\_k,20 to D\_k,10, and change M\_20(k) to M\_10(k) in all relevant math equations to reflect the subband is 10MHz | RevisedAgree to the commenter.Basically, L-SIG is transmitted by using the 10MHz. so, the indication of 20MHz should be modified with that for 10MHzNote to editor :Same resolution for CIDs 1539, 1540 |

### Discussion:

Propose :

***TGbd editor: please modify the sentence of L55, P22 as follows***

a) In a NGV PPDU set the RATE subfield in the SIGNAL field to ~~6~~ 3 Mb/s. Set the Length, Parity, and

Tail bits in the SIGNAL field as described in Clause 32.3.8.2.4 (L-SIG definition). (#1027, #1082)

Propose :

***TGbd editor: please modify the equation (32-9) and (32-10) as follows***

…

The time domain waveform of the L-SIG field shall be as given by Equation (32-9).

$r\_{L-SIG}^{\left(i\_{TX}\right)}\left(t\right)=\frac{1}{\sqrt{N\_{TX}N\_{L-SIG}^{Tone}}}w\_{T\_{L-SIG}}η\_{L-SIG}(t)\sum\_{i\_{BW=0}}^{N\_{10MHz}-1}\sum\_{k=-26}^{26}\left(\begin{matrix}γ\_{k-K\_{shift}(i\_{BW}),BW}(D\_{k,2010}+p\_{0}P\_{k})\\ ∙exp⁡(j2π(k-K\_{shift}\left(i\_{BW}\right))∆\_{F,NGV}(t-T\_{GI}-T\_{cs}^{i\_{TX}})\end{matrix}\right)$ (32-9) (#1539, #1778, and #1114)

Where

$$N\_{10MHz}= \left\{\begin{matrix}1, if dot11CurrentChannelWidth indicates 10MHz\\2, if dot11CurrentChannelWidth indicates 20MHz\end{matrix}\right.$$

$K\_{shift}\left(i\right)=(N\_{10MHz}-1-2i)∙32$

$D\_{k,120}=\left\{\begin{matrix}0, k=0,\pm 7,\pm 21\\d\_{M\_{210}^{r}(k)}, otherwise\end{matrix}\right.$ (33-x5) (#1539, #1778)

$M\_{210}^{r}\left(k\right)=\left\{\begin{matrix}k+26, -26\leq k\leq -22\\k+25, -20\leq k\leq -8\\\begin{matrix}k+24, -6\leq k\leq -1\\k+23, 1\leq k\leq -6\\\begin{matrix}k+22, 8\leq k\leq 20\\k+21, 22\leq k\leq 26\end{matrix}\end{matrix}\end{matrix}\right.$ (32-10) (#1540, #1778)

 $η\_{L-SIG}=1$

**References:**

**[1] 802.11bd\_D1.0**