IEEE P802.11
Wireless LANs

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| Resolutions to 32.3.8.2 and 32.3.8.3 NGV format preamble |
| Date: 2021-09-13 |
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Abstract

This submission shows

* Comments from TGbd draft 2.0.
* Resolutions applied to TGbd draft 2.0.
* 14 CIDs:

2186, 2095, 2096, 2097, 2099, 2100, 2101, 2041, 2192, 2102

2042, 2103, 2193, and 2104

Revisions:

* Rev 0: Initial version of the document.

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2186 | 88.08 | The "N" on the first sum of Equation (32-9) is "cropped". Please add enough space so that the "N" is fully visible as in (32-7). | as in comment | RevisedAgreed in principle. However, the change is applied to resolution under CID 2031 in DCN 21/1344r1.To TGbd editor: no modification is required. |
| 2095 | 88.10 | (t) should be moved to right after w\_T\_L-SIG. | As in comment. | RevisedAgreed in principle. However, the change is applied to resolution under CID 2031 in DCN 21/1344r1.To TGbd editor: no modification is required. |
| 2096 | 88.59 | Change 20 to 10. | As in comment. | RevisedAgreed in principle. However, the change is applied to resolution under CID 2188 in DCN 21/1344r1. To TGbd editor: no modification is required. |

***Discussion***

For CIDs 2186 and 2095, at P88L08



In DCN 21/1344r1,



For CID 2096, at P88L59



In DCN 21/1344r1,



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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2097 | 88.61 | Remove 32.3.8.2.5 | As in comment. | RevisedAgreed in principle. However, one of subclauses on RL-SIG definition is deleted and a new subclause number is assigned. The change is applied to resolution under CID 2032 in DCN 21/1344r1.To TGbd editor: no modification is required. |
| 2099 | 90.53 | As a reminder when NGV-LTF-2x-Repeat is used, add a note "This bit is not used regardless of the setting when MCS15 is used in CBW10." | As in comment. | Revised.Agreed in principle. Add the NOTE in the Table 32-10.TGbd Editor: Incorporate the changes in 11-21-1465-00-00bd-Resolutions to 32.3.8.2 and 32.3.8.3 NGV format preamble |

***Discussion***

For CID 2099, at P90L53



At P93L45 in 32.3.8.3.7 (NGV-LTF definition)



***To TGbd Editor:*** ***P90L53*** *update the description in Table 32-10 as below.*

***------------- Begin Text Changes ---------------***

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| B10 | LTF Format | 1 | Set to 0 for NGV-LTF-2xSet to 1 for NGV-LTF-1xNOTE – Reserved and set to 1 if NGV-LTF-2x-Repeat is used (see 32.3.8.3.7 (NGV-LTF definition)). |

***------------- End Text Changes ------------------***

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2100 | 91.33 | Need to change D\_k,20 to D\_k,10 and change M\_20 to M\_10 in this equation. There are three spots to fix. | As in comment. | RevisedAgreed in principle. However, the change is applied to resolution under CID 2039 in DCN 21/1345r1.To TGbd editor: no modification is required. |

***Discussion***

At P91L33



In DCN 21/1345r1,



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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2101 | 92.14 | Change D\_k,20 to D\_k,10. | As in comment. | RevisedAgreed in principle. However, the change is applied to resolution under CID 2040 in DCN 21/1345r1.To TGbd editor: no modification is required. |
| 2041 | 92.58 | Nss and Nsr are not shown properly in Equation (32-18). | as in comment | Revised.The cropped two N should be recovered to indicate N\_SS and N\_SR properly. Same resolution applied for CIDs 2041 and 2192. To TGbd editor: the cropped two N should be recovered. |
| 2192 | 92.58 | The "N"s on the sums of Equation (32-18) are "cropped". Please add enough space so that the "N"s are fully visible as in (32-18). | as in comment | Revised.The cropped two N should be recovered to indicate N\_SS and N\_SR properly. Same resolution applied for CIDs 2041 and 2192. To TGbd editor: the cropped two N should be recovered. |

***Discussion***

For CID 2101,



In DCN 21/1345r1,



For CIDs 2041 and 2192,

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2102 | 95.24 | Append "at subcarrier k" to the caption. | As in comment. | Rejected.There is no confusion to interpret the Figure 32-10 without “at the subcarrier k”. Moreover, the same caption has been used in different amendments without any technical issues. |

***Discussion***



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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2042 | 96.02 | ? Needs to be shown in proper symbol. | as in comment | Revised.?s should be μs. Same resolution applied for CIDs 2042, 2103, and 2193. To TGbd editor: change ? to μ. |
| 2103 | 96.02 | Change ?s To us (microsecond). | As in comment. | Revised.?s should be μs. Same resolution applied for CIDs 2042, 2103, and 2193. To TGbd editor: change ? to μ. |
| 2193 | 96.02 | Replace "?s" with symbol for microsecond | as in comment | Revised.?s should be μs. Same resolution applied for CIDs 2042, 2103, and 2193. To TGbd editor: change ? to μ. |

***Discussion***

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 2104 | 97.02 | Change the typo w\_T\_NGV-STF to w\_T\_NGV-LTF. N\_NGV-LTF needs to be revised to reflect the new parameter LTF\_REP, perhaps done in Table 32-11. | As in comment. | RevisedMathematical notation in Equation (32-29) updated based on the comment. N\_NGV-LTF is updated in Table 32-11 (Number of NGV-LTFs required for different numbers of spatial streams)TGbd Editor: Incorporate the changes in 11-21-1465-00-00bd-Resolutions to 32.3.8.2 and 32.3.8.3 NGV format preamble |

***Discussion***

No discussion

***To TGbd Editor:*** ***P97L02*** *update the description as below.*

***------------- Begin Text Changes ---------------***

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$$r\_{NGV-LTF}^{\left(i\_{TX}\right)}\left(t\right)=$$

$$ \frac{1}{\sqrt{N\_{SS}N\_{NGV-LTF}^{Tone}}}\sum\_{n=0}^{N\_{NGV-LTF}-1}w\_{T\_{NGV-LTF}}\left(t-nT\_{NGV-LTF}\right)$$

$\sum\_{k=-N\_{SR}}^{N\_{SR}}\sum\_{m=1}^{N\_{SS}}\left(\begin{matrix}\left[Q\_{k}\right]\_{i\_{TX},m}γ\_{k,BW}[A\_{NGV-LTF}^{k}]\_{m,\left(n+1\right)}NGV-LTF\_{k}\\ ∙exp⁡\left(j2πk∆\_{F}(t-nT\_{NGV-LTF}-T\_{GI}-T\_{CS,NGV}(m))\right)\end{matrix}\right)$ (32-29)

***------------- End Text Changes ------------------***

***To TGbd Editor:*** ***P93L27*** *update the description as below.*

***------------- Begin Text Changes ---------------***

The number of NGV-LTF symbols, $N\_{NGV-LTF}$, is a function of the number of spatial streams, $N\_{SS}$, as shown in Table 32-11 (Number of NGV-LTFs required for different numbers of spatial streams) and LTF\_REP as shown in 32.3.15 (NGV Ranging NDP). As a result the NGV-LTF field consists of ~~one or two~~ one, two, or four symbols.

**Table 32-11—Number of NGV-LTFs required for different numbers of spatial streams**

|  |  |
| --- | --- |
| $$N\_{SS}$$ | $$N\_{NGV-LTF}$$ |
| 1 | 1×(LTF\_REP+1) |
| 2 | 2×(LTF\_REP+1) |

***------------- End Text Changes ------------------***