IEEE P802.11
Wireless LANs

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| Subclause 22.3.7 comment resolution for LB188 |
| Date: 2012-09-11 |
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Abstract

This submission contains proposed comment resolutions to comments received during WG letter ballot 188.

The comments included are non-editorial comments on 22.3.7 (Mathematical description of signals).

There are five such comments: 6346, 6648, 6590, 6591 and 6650.

All comments were assigned to PHY ad-hoc group.

R0: Initial Version

| **CID** | **By** | **Page** | **Clause** | **Comment** | **Proposed Change** |
| --- | --- | --- | --- | --- | --- |
| 6346 | Yusuke Asai | 214.10 | 22.3.7 | This sentence may be regarded that a PPDU is transmitted in each frequency segment when i\_{Seg} = 2. Ditto the title of Table 22-7. | Change "the center frequency of the PPDU transmitted in frequency segment i\_{seg}" to "the center frequency of the PPDU in each frequency segment i\_{seg}" |

**Context:**

At 214.10:

*fc*(*iSeg*) represents the center frequency of the PPDU transmitted in frequency segment *iSeg*. Table 22-7 (Center frequency of a PPDU transmitted in frequency segment iSeg) shows …

At 214.20:

**Table 22-7 – Center frequency of a PPDU transmitted in frequency segment *iSeg***

**Discussion:**

The phrase, “a PPDU transmitted in frequency segment *iSeg*” may be misunderstood that the PPDU transmitted per frequency segment, which means that a couple of PPDUs are parallelly transmitted by using two frequency segments in 80+80 MHz transmission. Of course, it is erroneous. To avoid such misunderstanding, the phrase should be revised.

**Proposed resolution to CID 6346:**

Revised. 11-12/1057r0 provides proposed text change.

**Proposed text change:**

At 214.10:

*fc*(*iSeg*) represents the center frequency of the frequency segment *iSeg* . Table 22-7 (Center frequency of frequency segment *iSeg*) shows …

At 214.20:

**Table 22-7 – Center frequency of frequency segment *iSeg***

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| 6648 | Vinko Erceg | 216.63 | 22.3.7 | Maybe write: "An example windowing function.." instead of "An example definition of the windowing function.."  | As in comment  |

**Context:**

 An example definition of the windowing function, , is given in 18.3.2.5 (Mathematical conventions in the signal descriptions).

**Discussion:**

Ahtough the window function is specified as an optional feature in TGac D3.0, the function does exist on Equation (22-9):



Therefore, in this sentence, first, it should be noted that  is a windows function. Then, an example function should be introduced.

**Proposed resolution to CID 6648:**

Revised. 11-12/1057r0 provides proposed text change.

**Proposed text change:**

At 216.63:

 is a windowing function. An example function is given in 18.3.2.5 (Mathematical converntions in the signal descriptions).

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| 6590 | Sigurd Schelstraete | 217.17 | 22.3.7 | user index is shown as u=0, 1, ..., Nu-1. There may not be a user "1" | Change notation to u=0, ..., Nu-1. |

**Context:**

*NSTS*,*u* For pre-VHT modulated fields, *NSTS*,*u* = 1. For VHT modulated fields, *NSTS*,*u* is the number of space-time streams (equal to the TXVECTOR parameter NUM\_STS) for user *u*, *u* = 0, 1, …, *Nu*-1.

**Discussion:**

At 182.21 (22.1.4 (PPDU formats)), it is defiled as follows:

*A VHT PPDU using a group ID value in the range of 1 to 62 is an MU PPDU, and carries one or more independent PSDU(s) to one or more STA(s).*

As defined in 22.1.4, an MU PPDU can carry only one PSDU to one STA. In this case, *Nu* = 1 and the maximum number of user index *u* is 0. Current notation for user index *u* does exclude this condition.

**Proposed resolution to CID 6590:**

Accepted. 11-12/1057r0 provides proposed text change.

**Proposed text change:**

At 217.17:

*NSTS*,*u* For pre-VHT modulated fields, *NSTS*,*u* = 1. For VHT modulated fields, *NSTS*,*u* is the number of space-time streams (equal to the TXVECTOR parameter NUM\_STS) for user *u*, *u* = 0, …, *Nu*-1.

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| 6591 | Sigurd Schelstraete | 217.22 | 22.3.7 | It should be explicitly stated that formula for M\_u is not valid for u=0. | Change description of M\_u as follows:"M\_u: for pre-VHT modulated fields and SU transmissions, M\_u=0. For MU transmissions, M\_0=0 and M\_u=sum(...) for u=1, ..., Nu-1.  |

**Context:**

At 217.22:

  For pre-VHT modulated fields, . For VHT modulated fields, with .

**Discussion:**

The parameter of *Mu* represents the initial index of the space-time strearm for user *u* for VHT modulated fields. The parameter of *Mu* is used on the Equation (22-9) (in the red square):



In this equation, the range of *u* is defined as *u* = 0, …, *Nu* – 1. *Nu* is the number of users in the transmission. Therefore, *Mu* = 0 for any fields of SU transmission. Current definition correctly covers *Mu* for the SU transmission:

* For pre-VHT modulated fields, *Mu* = 0.
* For VHT modulated field, *M*0 = 0.

On the other hands, the definition of *Mu* for MU transmission is as follows:

* For pre-VHT modulated fields, *Mu* = 0.
* For VHT modulated field, *M*0 = 0 for *u* = 0 and  for *u* = 1, …, *Nu* - 1.

Comparing these two sets of conditions, MU transmission case completely covers SU case, which corresponds to current definition but the definition. Therefore, there is no need to add the term of “SU”; however, as the commenter points out, it makes the definition clear to add the condition that *u* = 1, …, *Nu* – 1.

**Proposed resolution to CID 6591:**

Revised. 11-12/1057r0 provides proposed text change.

**Proposed text change:**

At 217.22

 For pre-VHT modulated fields, . For VHT modulated fields,  for *u* = 0 and for *u* = 1, …, *Nu*-1.

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| 6650 | Vinko Erceg | 217.47 | 22.3.7 | Maybe write: "have a value of zero." instead of "may have a value of zero" | As in comment  |

**Context:**

At 217.47:

 is the frequency-domain symbol in subcarrier *k* of user *u* for frequency segment *iSeg* of space-time stream *m*. Some of the  within  may have a value of zero.

**Discussion:**

In the VHT frame format, some subcarriers within a transmit spectrum are constantly assigned to zeros to reduce the influence of DC offset or to keep spectrum shape as backward compatible. (i.e. non-HT duplicate PPDU or 160MHz PPDU) Therefore, “may” is not appropriate auxiliary verb.

**Proposed resolution to CID 6650:**

Revised. 11-12/1057r0 provides proposed text change.

**Proposed text change:**

At 217.47:

 is the frequency-domain symbol in subcarrier *k* of user *u* for frequency segment *iSeg* of space-time stream *m*. Some of the s within  have values of zeroes.