IEEE P802.11
Wireless LANs

|  |
| --- |
| TXTIME and PSDU\_LENGTH Comment Resolution for LB 178 D1.0 |
| Date: 20 July 2011 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Eldad Perahia | Intel Corporation |  |  | eldad.perahia@intel.com |
|  |  |  |  |  |

Abstract

This document provides resolutions for CIDs 3273, 2712, 2976, 3692, 3724, 3693, 2714, 3694

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resn Status** | **Resolution** |
| 3273 | 199.05 | 22.4.3 | The equation uses the term "LENGTH", but the description of each of the terms refers to "LENGTHu". | Either add the subscript "u" to the term in the equation 22-96 or else drop the subscript in the explanation of that term below the equation. | P | Agree in Principle. See resolution in 11/0986 |
| 2712 | 199.11 | 22.4.3 | User index is not needed for SU packets. | Change to 'LENGTH is given by the TXVECTOR'. Also, is it clear that LENGTH in TXVECTOR, which has type MU, is also present for SU packets as well? | P | Agree in Principle. See resolution in 11/0986. In addition, see resolution to CID 2691 in 11/0954. |
| 2976 | 199.11 | 22.4.3 | Since LENGTHu does not appear in (22-96), it is unnessary to explain it. | Remove this sentence. | P | Agree in Principle. See resolution in 11/0986 |
| 3692 | 199.11 | 22.4.3 | For SU, the user index isn't needed in "LENGTH\_u is passed as the LENGTH parameter for user u in the TXVECTOR." | Change to "LENGTH is passed as the LENGTH parameter in the TXVECTOR" and update the TXVECTOR to include LENGTH also for the SU case. | P | Agree in Principle. See resolution in 11/0986 |
| 3724 | 199.11 | 22.4.3 | Should Lengthu be length? | Equation 22-96 is SU packet only | P | Agree in Principle. See resolution in 11/0986 |

Discussion:

LENGTHu does not apply to SU. Furthermore, in the TXVECTOR it is not clear whether the parameters with “MU” are valid for SU. In reality, the only parameter that is not valid for SU is USER\_POSITION. To resolve that, we’ll modify the notation in the TXVECTOR to include “MU-ONLY” and change “MU” to cover both MU and SU, as given by resolution to CID 2691 in 11/0954.

**TGac editor: modify D1.0 P199L11, as follows**

~~LENGTH~~~~u~~ ~~is passed as the LENGTH parameter for user~~ *~~u~~* ~~in the TXVECTOR.~~

**TGac editor: modify D1.0 Table 22-5, as follows**

|  |  |
| --- | --- |
| **Symbol** |  **Explanation** |
| … |  |
|  | Number of data bits per symbol for user *u*, *u*=0, 1, 2, 3.For SU packets, For MU packets, is undefined |

**TGac editor: modify D1.0 Table 22-1, as follows**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Condition** | **Value** | **TXVECTOR** | **RXVECTOR** |
| … |  |  |  |  |
| USER\_POSITION | FORMAT is VHT | Index for user in MU transmission. Integer: range 0-3 | MU-ONLY | O |
| Otherwise | Not present | N | N |
| … |  |  |  |  |
| NOTE 1—In the “TXVECTOR” and “RXVECTOR” columns, the following apply:Y = Present;N = Not present;O = Optional;MU indicates that the parameter is present per user. Parameters specified to be present per user are conceptuallysupplied as an array of values indexed by *u*, where *u* takes values 1 through NUM\_USERS-1.MU-ONLY indicates that the parameter is present per user. Parameters specified to be present per user are conceptuallysupplied as an array of values indexed by *u*, where *u* takes values 0 through NUM\_USERS-1. For SU, the parameter is not present .NOTE 2—On reception, where valid, the CH\_BANDWIDTH\_IN\_NON\_HT parameter is likely to be a more reliableindication of format and channel width than the NON\_HT\_DUP\_OFDM and CH\_BANDWIDTH parameters. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resn Status** | **Resolution** |
| 3693 | 199.52 | 22.4.3 | It is a bit vague to refer to TX-side computations for the RXVECTOR. | Instead, use a similar approach as described in Section 22.3.21 PLCP receive procedure, equations 22-92 and 22-93 and corresponding text | P | Agree in Principle. See resolution in 11/0986 |
| 2714 | 199.60 | 22.4.3 | Equation (22-49) is for TX. For PSDU\_LENGTH computation for RXVECTOR, N\_sym,init should be based on Equation (22-93). Same comment for P200L20. | Change to 'N\_sym,init is givne by Equation (22-49) when computing PSDU\_LENGTH for PLME-TIME.confirm primitive, and Equation (22-93) when computing PSDU\_LENGTH for RXVECTOR'. Similar change for P200L20. | P | Agree in Principle. See resolution in 11/0986 |
| 3694 | 200.02 | 22.4.3 | It is a bit vague to refer to TX-side computations for the RXVECTOR. | Instead, use a similar approach as described in Section 22.3.21 PLCP receive procedure, equations 22-92 and 22-93 and corresponding text | P | Agree in Principle. See resolution in 11/0986 |

Discussion:

PSDU\_LENGTH is computed for PLME-TXTIME and RXVECTOR. That’s problematic since we have different equations for N\_SYM depending on Tx or Rx. The solution for this is to create a separate PSDU\_LENGTH\_RX and move computation of PSDU\_LENGTH\_RX into Rx Procedure. On further examination of PSDU\_LENGTH, it is used several times in conjunction with TXVECTOR. This is an error since PSDU\_LENGTH is not in the TXVECTOR. Resolve this by deleting linkage to TXVECTOR, since “new” PSDU\_LENGTH is calculated by the PHY using the equations in section 22.4.3 using other parameters provided in the TXVECTOR.

**TGac editor: modify D1.0 P199L30, as follows**

The value of the PSDU\_LENGTH parameter returned in the PLME-TXTIME.confirm primitive for a SU packet using BCC encoding is calculated using Equation (22-97).



**TGac editor: modify D1.0 P199L51, as follows**

The value of the PSDU\_LENGTH parameter returned in the PLME-TXTIME.confirm primitive for a SU packet using LDPC encoding is calculated using Equation (22-98).

**TGac editor: modify D1.0 P200L31, as follows**

The value of the PSDU\_LENGTH parameter for user *u* returned in the PLME-TXTIME.confirm primitive

for a MU packet is calculated using Equation (22-99).

**TGac editor: modify D1.0 P200L31, as follows**

The value of the PSDU\_LENGTH parameter returned in the PLME-TXTIME.confirm primitive for an NDP is 0.

**TGac editor: insert the following text after Eq 22-92 in D1.0**

The value of the PSDU\_LENGTH\_RX parameter returned in the RXVECTOR using BCC encoding is calculated using Equation (22-YY). The value of the PSDU\_LENGTH\_RX parameter returned in the RXVECTOR for an NDP is 0.



where

**TGac editor: modify above reference to 22-96 to 22-92**

**TGac editor: insert the following text after Eq 22-93 in D1.0**

The value of the PSDU\_LENGTH\_RX parameter returned in the RXVECTOR using LDPC encoding is calculated using Equation (22-ZZ).



**TGac editor: modify above reference to 22-49 to 22-93**

**TGac editor: modify D1.0 Table 22-5, as follows**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Condition** | **Value** | **TXVECTOR** | **RXVECTOR** |
| … |  |  |  |  |
| PSDU\_LENGTH\_RX | FORMAT is VHT | Indicates the number of octets in the VHT PSDU in the range of0 to 1 048 575 octets. | N | Y |
| Otherwise | Not present | N | N |
| … |  |  |  |  |

**TGac editor: modify D1.0 P156L12, as follows**

PSDU\_LENGTHu is defined in 22.4.3

**TGac editor: modify D1.0 P156L31, as follows**

PSDU\_LENGTHu is defined in 22.4.3

**TGac editor: modify D1.0 P112L42, as follows**

NOTE—The rounding up of the LENGTH parameter to a 4-octet

word boundary may result in a LENGTH parameter that is larger

than the PSDU\_LENGTH calculated using the equations in section 22.4.3."