IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Proposed resolution of CID 5060 | | | | |
| Date: 2019-07-11 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Li-Hsiang Sun | Interdigital |  |  | Lihsiang.sun@interdigital.com |
| Yunsong Yang | Futurewei Technologies |  |  |  |
| Kome Oteri | Interdigital |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes resolutions to CID 5060.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Prposed change** | **Proposed resolution** |
| 5060 | 9.4.2.269 | 183.1 | The current format can not guarantee that the total length is an interger number of octets, given variable number of instances of the repeatable fields, especially some of the repeatable fields have an odd number of bits. | Add a Reserved field with 0-7 bits to the end to ensure that the total length is an interger number of octets. | Revised.  Add a padding field with 0~7 bits.  Additionally fix the the alignment of the ‘size’ column in table 27. |

***Editor Instruction: change the table 27 as follows:***

**Table 27 —Digital BF Feedback element format**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | | | **Size** | **Meaning** |
| Element ID | | | 8 bits |  |
| Length | | | 8 bits |  |
| Digital Beamforming Feedback Information | Digital Beamforming Feedback Matrix 1 | | bits, | If the Feedback Type subfield is 0, represents the beamforming matrix in time domain for the 1st tap as described above.  If Feedback Type subfield is 1, represents the beamforming matrix for the 1st subcarrier, indexed by matrix angles in the order shown in Table 9-73 |
|  | | … |  |
| Digital Beamforming Feedback Matrix | | bits | If the Feedback Type subfield is 0, represents the beamforming matrix in time domain for the NSCth tap as described above.  If Feedback Type subfield is 1, represents the beamforming matrix for the NSCth subcarrier, indexed by matrix angles in the order shown in Table 9-37 |
| Differential Subcarrier Index | Differential subcarrier index scidx(0)-scidx(1) | | 3 bits | When the Grouping subfield is 3, this field represents the number of subcarriers between scidx(0) and scidx(1). Otherwise, it is not present.  It is set to j to indicate the distance between the scidx(0) and scidx(1) is 2j  Set to 0 to indicate 1  Set to 1 to indicate 2  Set to 2 to indicate 4  Set to 3 to indicate 8  Set to 4 to indicate 16  Set to 5 to indicate 32  Values 6 and 7 are reserved. |
| … | | … |  |
| Differential subcarrier index scidx() - scidx() | | 3 bits | When the Grouping subfield is 3, this field represents the number of subcarriers between scidx(*NSC* – 1) and scidx(*NSC*. Otherwise it is not present.  It is set to *j* to indicate the distance between the scidx(*NSC – 1*) and scidx(*NSC* is 2j |
| Tap Delay | Relative Tap Delay 2 | | 12 bits | When the Feedback Type subfield is 0 and *NSC* > 1, this field represents the delay of tap #2 in units of *TC/NCB* relative to Tap 1. Otherwise, it is not present. |
| … | | ... | … |
| Relative Tap Delay Nsc | | 12 bits | When the Feedback Type subfield is 0 and *NSC* > 1, this field represents the delay of tap #Nsc in units of *TC/NCB* relative to Tap 1. Otherwise, it is not present. |
| MU Exclusive Beamforming Report | Differential SNR for space-time stream 1 for subcarrier *k* = scidx(0) | | 8 bits | *D\_SNRscidx(0),1* as defined in Equation (2) |
| … | | … | … |
| Differential SNR for space-time stream *Nc* for subcarrier *k* = scidx(0) | | 8 its | *D\_SNRscidx(0),Nc* as defined in Equation (2) |
| Differential SNR for space-time stream 1 for subcarrier *k* = scidx(1) | | 4 bits | *D\_SNRscidx(1),1* as defined in Equation (1) |
| … | | … | … |
| Differential SNR for space-time stream *Nc* for subcarrier *k* = scidx(1) | | 4 bits | *D\_SNRscidx(1),Nc* as defined in Equation (1) |
| … | | … | … |
| Differential SNR for space-time stream 1 for subcarrier *k* = scidx(*NSC* – 1) | | 4 bits | *D\_SNRscidx(Nsc-1),1* as defined in Equation (1) |
| … | | … | … |
| Differential SNR for space-time stream *Nc* for subcarrier *k* = scidx(*NSC* – 1) | | 4 bits | *D\_SNRscidx(Nsc-1),Nc* as defined in Equation (1) |
| Padding | | 0-7 bits | | Zero padding to make the Digital BF Feedback element length a multiple of 8 bits |