IEEE P802.11
Wireless LANs

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| Resolutions to S1G PHY |
| Date: 2020-02-14 |
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Abstract

This submission shows

* Resolutions for comments from REVmd draft 3.0
* 5 CIDs: 4137, 4142, 4236, 4405 and 4452

Revisions:

* Rev 0: Initial version of the document.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 4137 | 3370.6 | Why is bit 0 of the SIG-1 symbol of the short preamble reserved and set to 1 rather than 0? Is it reserved for future use or is it reserved for some other reason? If it will always be the value 1 then we can use it to further verify the short preamble signal field, which is protected by a weak CRC4. | Add a note saying why b0 of the S1G-1 symbol of the short preamble is reserved. | Rejected.To be specific, the Reserved SIG Indication is used as one of criteria in PHY receive procedure whether the PHY shall issue the error condition PHY-RXEND.indication(FormatViolation) in different amendments (e.g. 11ac, 11ah and 11ax) when its reserved bit set to 0.However, not to add the note - a proposed note is not necessary because 1) weak CRC4 is not a technical approach 2) when CRC8 is supported in 11ac, reserved bits are still setting to 1. |

***Discussion***

At P3434, highlighted texts can be refered



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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 4142 | 3406.7 | Equation 23-64, which specifies the 2 MHz duplicate data field, references (N-1) x 1 MHz subchannels. I assume it should be (N-1) x 2 MHz subchannels. The error appears to be in the equation. The definition of the variables below the equation references 2 MHz subchannels. There also seems to be a stray % sign in the equation which might supposed to be a bar. Some other equations may be similarly affected. | Review and correct equation 23-64 if necessary | Revised.*N1MHz* in Equation (23-64) needs to be replaced with *N2MHz*. *N2MHz* is the number of 2 MHz subchannels that are contained within the whole bandwidth of the current PPDU.Typo %s are shown in several equations. It should be ~ such as $\tilde{D}.$The equations to be updated are below.Equation (23-55), (23-56), (23-57), (23-59), (23-62) and (23-64).As for Equatoin (23-59), there are two %s.TGm Editor: make changes according the direction above.  |

***Discussion***

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 4236 | 3528.41 | "If the channel bandwidth is 1080 MHz, the modulated SIG symbols are transmitted using duplication style as described in 25.3.10 (Duplication transmission on a 1080 MHz channel)." -- itself duplicates 25.6.5.3 | Delete the cited text | Accepted. |

***Discussion***

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If the channel bandwidth is 1080 MHz, the modulated SIG symbols are transmitted using duplication style

as described in 25.3.10 (Duplication transmission on a 1080 MHz channel).

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

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 4405 | 3371.1 | Table 23-11--Fields in the SIG field of short preamble numbers each bit within a symbol starting from 0, but Table 23-18--Fields in the SIG field of S1G\_1M PPDU numbers the bits from 0 in the first symbol and doesn't reset to 0 for each symbol | Since 9.9.1 counts without resetting, add 13 to each of the bit numbers shown in the second column of Table 23-11--Fields in the SIG field of short preamble for the SIG-2 row | Option 1) Rejected.HT-SIG field, VHT-SIG field, HE-SIG field consist of two SIG symbols with resetting. (e.g. starting B0 in the 2nd SIG symbol).SIG field in S1G\_1M PPDU is only one exception because one symbol contains only 6 bits (not 24 or 26 bits). Since Length field is 9 bits, it would be better to keep counting without resetting.Option 2) RevisedTGm Editor: make changes according to this document 11-20-0244-00-00m Resolutions to S1G PHY |

***Discussion***

Table 23-11 shows Fields in the SIG field of sholrt preamble below



**…**





**…**

Table 23-18 shows Fields in the SIG field of S1G\_1M PPDU below







**…**

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Which option do you prefer?

* Option 1
* Option 2
* A

If Option 2 is accepted, then

***To TGm Editor:*** ***P31905L10*** *update the text of the first three colums in the Table 23-18 as shown below.*

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

**Table 23-18 – Fields in the SIG field of S1G\_1M PPDU**

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Bit** | **Field** |
|  |  |  |
| SIG-2 | B0 | Reserved |
| B1–B4 | MCS |
| B5 | Aggregation |
| SIG-3 | B0-B5 | Length |
| SIG-4 | B0-B2 |
| B3-B4 | Response Indication |
| B5 | Smoothing |
| SIG-5 | B0 | TravelingPilots |
| B1 | NDPIndication |
| B3- B6 | CRC |
| SIG-6 | B0-B6 | Tail |

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

|  |  |  |  |  |
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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 4452 |  | Should not refer to TXVECTOR in SIG descriptions, since what matters is what is signalled, not how the signalling was achieved | In Table 21-12--Fields in the VHT-SIG-A field delete "Set to the value of the TXVECTOR parameter GROUP\_ID.", "Set to the value of the TXVECTORparameter PARTIAL\_AID" (also delete in 22.3.8.3.3 TVHT-SIG-A definition). In Table 23-11--Fields in the SIG field of short preamble and Table 23-13--Fields in the SIG-A field of S1G\_LONG preamble SU PPDU and Table 23-18--Fields in the SIG field of S1G\_1M PPDU and Table 25-7--Fields in the CMMG SIG field change "Set to the value of the TXVECTOR parameterUPLINK\_INDICATION." to "Set to 1 for uplink and to 0 otherwise." and delete "set to the value of the TXVECTOR parameterPARTIAL\_AID" and change "B7-B9 are set to the value of the TXVECTORparameter COLOR and B10-B15 are set to the value ofthe TXVECTOR parameter PARTIAL\_AID." to "B7-B9 are the BSS color and B10-B15 are the partial AID." and " the value of the TXVECTOR parameterPSDU\_LENGTH" to " the PSDU length" | Revised.TGm Editor: make changes according to this document 11-20-0244-00-00m Resolutions to S1G PHY |

***To TGm Editor:*** ***P3190L10*** *update the description in the Table 21-12 below.*

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

|  |  |  |  |
| --- | --- | --- | --- |
| Two parts ofVHT-SIG-A | Bit | Field | Description |
| VHT-SIG-A1 |  |  |  |
| B4-B9 | Group ID | ~~Set to the value of the TXVECTOR parameter GROUP\_ID.~~A value of 0 or 63 indicates a VHT SU PPDU; otherwise,indicates a VHT MU PPDU.(See TXVECTOR parameter GROUP\_ID.) |
| B10-B21 | NSTS/PartialAID | …B13-B21Partial AID: ~~Set to the value of the TXVECTOR parameter PARTIAL\_AID.~~ Partial AID provides an abbreviated indication of the intended recipient(s) of the PSDU. (See TXVECTOR parameter PARTIAL\_AID and 10.19 (Group ID and partial AID in VHT and CMMG(11aj) PPDUs)). |
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***------------- End Text Changes ------------------***

***To TGm Editor:*** ***P3370L02*** *update the description in the Table 23-11 below.*

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

|  |  |  |  |
| --- | --- | --- | --- |
| Two parts ofVHT-SIG-A | Bit | Field | Description |
| SIG-1 |  |  |  |
| B2 | UplinkIndication | Set to 1 if the PPDU is addressed to an AP. Set to 0 otherwise.~~Set to~~ (See TXVECTOR parameter UPLINK\_INDICATION.) |
| B7–B15 | ID | If Uplink Indication (Ed)field is not present or set to 1,~~set to the value of the TXVECTOR parameter PARTIAL\_AID.~~ ~~PARTIAL\_AID~~ B7-B15 are the partial AID to provide~~s~~ an abbreviated indication of the intended recipient(s) of the PSDU (see 10.21)). If Uplink Indication field is set to 0, B7-B9 are an identifier of the BSS ~~set to the value of the TXVECTOR parameter COLOR~~ and B10–B15 are the Partial AID ~~set to the value of the TXVECTOR parameter PARTIAL\_AID.~~(See TXVECTOR parameter COLOR and TXVECTOR parameter PARTIAL\_AID.) |
|  |  |  |
| SIG-2 |  |  |  |
| B1–B9 | Length | When the Aggregation subfield is equal to 0, set to the number of octets in the PSDU~~value of the TXVECTOR parameter PSDU\_LENGTH~~. When the Aggregation subfield is equal to 1, set to *NSYM*, given in 23.4.3 (TXTIME and PSDU\_LENGTH calculation)(See TXVECTOR parameter PSDU\_LENGTH.) |
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***------------- End Text Changes ------------------***

***To TGm Editor:*** ***P3377L02*** *update the description in the Table 23-13 below.*

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

|  |  |  |  |
| --- | --- | --- | --- |
| Symbol | Bit | Field | Description |
| SIG-A1 |  |  |  |
| B2 | UplinkIndication | Set to 1 if the PPDU is addressed to an AP. Set to 0 otherwise.~~Set to~~ (See TXVECTOR parameter UPLINK\_INDICATION.) |
| B7–B15 | ID | If Uplink Indication field is not present or set to 1,~~set to the value of the TXVECTOR parameter PARTIAL\_AID.~~ ~~PARTIAL\_AID~~ B7-B15 are the partial AID to provide~~s~~ an abbreviated indication of the intended recipient(s) of the PSDU (see 10.21)). If Uplink Indication field is set to 0, B7-B9 are an identifier of the BSS ~~set to the value of the TXVECTOR parameter COLOR~~ and B10–B15 are the Partial AID ~~set to the value of the TXVECTOR parameter PARTIAL\_AID.~~(See TXVECTOR parameter COLOR and TXVECTOR parameter PARTIAL\_AID.)  |
|  |  |  |
| SIG-A2 |  |  |  |
| B1–B9 | Length | When the Aggregation subfield is equal to 0, set to the number of octets in the PSDU~~value of the TXVECTOR parameter PSDU\_LENGTH~~. When the Aggregation subfield is equal to 1, set to *NSYM*, given in 23.4.3 (TXTIME and PSDU\_LENGTH calculation)(See TXVECTOR parameter PSDU\_LENGTH.) |
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***------------- End Text Changes ------------------***

***To TGm Editor:*** ***P3391L02*** *update the description in the Table 23-18 below.*

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

|  |  |  |  |
| --- | --- | --- | --- |
| Symbol | Bit | Field | Description |
| SIG-3 and SIG-4 |  |  |  |
| B12–B20 | Length | When the Aggregation subfield is equal to 0, set to the number of octets in the PSDU~~value of the TXVECTOR parameter PSDU\_LENGTH~~. When the Aggregation subfield is equal to 1, set to *NSYM*, given in 23.4.3 (TXTIME and PSDU\_LENGTH calculation)(See TXVECTOR parameter PSDU\_LENGTH.) |
|  |  |  |

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

***To TGm Editor:*** ***P3504L06*** *update the description in the Table 25-7 below.*

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

|  |  |  |  |
| --- | --- | --- | --- |
| Bit | Field | Number of bits | Description |
|  |  |  |  |
| B8 | UplinkIndication | 1 | Set to 1 if the PPDU is addressed to an AP. Set to 0 otherwise.~~Set to~~ (See TXVECTOR parameter UPLINK\_INDICATION.) |
| B9–B17 | PAID | 9 | If Uplink Indication (Ed)field is not present or set to 1,~~set to the value of the TXVECTOR parameter PARTIAL\_AID.~~ ~~PARTIAL\_AID~~ B9-B17 are the partial AID to provide~~s~~ an abbreviated indication of the intended recipient(s) of the PSDU (see 10.19 (Group ID and partial AID in VHT and CMMG(11aj) PPDUs)). If Uplink Indication field is set to 0, B9-B11 are an identifier of the BSS ~~set to the value of the TXVECTOR parameter COLOR~~ and B12–B17 are the Partial AID ~~set to the value of the TXVECTOR parameter PARTIAL\_AID.~~(See TXVECTOR parameter COLOR and TXVECTOR parameter PARTIAL\_AID.)  |
|  |  |  |  |

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