IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB 238 Annex G Comment Resolution | | | | |
| Date: 2019-07-14 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Osama Aboul-Magd | Huawei Technologies |  |  |  |
|  |  |  |  |  |

Abstract

This document provides resolutions to CIDs 20092, 20681, 20682, 20906, 21338, 21339, 21340, 21341.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | PP.L |  | Comment | Proposed Resolution | Resolution |
| 20092 | 750.64 | ANNEX G | Add frame exchange sequence for NFRP\_Trig | As commented | Revised.  NFRP sequence is added.  TGax Editor- please make changes in <this document> related to CID 20092 |
| 20681 | 739.01 | G | Many HE frame sequences are missing (e.g. anything to do with Multi-STA BlockAck) | Add all the HE frame sequences to Annex G | Revised.  The NFRP sequence is added in CID 20092. The commenter is not specific what other aequences need to be added.  Annex G does not specify those BlockAck variant. Multi-STA BlockAck is implied in the HE UL seuqnce. |
| 20682 | 739.01 | G | Some rules are not invoked (e.g. he-non-trigger-based-sounding) so are effectively useless | Hook the new rules into existing rules | Revised.  The he-non-trigger-based-sounding is added to account for a sounding from one STA. The sequence is updated to include the Compressed/CQI frame.  TGax Edior: please makes changes in this document related to CID 20682 |
| 20906 | 739.55 | G.4 | The frame exchange sequences are not all included | Add all HE frame sequences | Revised.  The NFRP sequence is added in CID 20092. The commenter is not specific what other aequences need to be added. |
| 21338 | 740.58 | G.5 | he-trigger-based-sounding sequence is incorrect. | Delete the he-feedback after the HE sounding PPDU | Revised.  The commenter is correct in the sense that the he-feedback was not defined. A definition of the sequence was added.  TGax Editor please make changes related to CID 21338 in <this document> |
| 21339 | 740.62 | G.5 | The he-bf sequence seems redundent | delete the he-bf sequence | Accepted |
| 21340 | 740.15 | G.5 | The +MU-RTS\_Trig is not optional | Change to "Trigger+MU-RTS\_Trig" without [] | Revised.  Changes are made in the CID 21341 resolution. |
| 21341 | 739.36 | G.5 | In the sequences that include a Trigger frame, the +yyy\_Trig is not optional (shouldn't have []). All Trigger frames have a type so it doesn't make sense to use a modifier syntax. Just use the full name -- the total length is no longer | Delete the \_Trig entries in this table. Replace Trigger[+MU-RTS\_Trig] with MU-RTS Trigger, Trigger[+Basic\_Trig] with Basic Trigger, etc. | Accepted.  Changes as recommended are made.  TGax Editor: please make changes in <this document> related to CID 21341 |

* General

Insert rows in Table G.1 as follows (existing rows shown without underline):

|  |  |
| --- | --- |
| * Attributes applicable to frame exchange sequence definition | |
| Attribute | Description |
| *mu-user-respond* | The preceding frame or A-MPDU is part of a VHT MU PPDU and is addressed to a user from which an immediate response is expected. See NOTE 3 and NOTE 4.. |
| *mu-users-respond* | The preceding frame or A-MPDU is part of an HE MU PPDU |
| *mu-user-not-respond* | The preceding frame or A-MPDU is part of a VHT MU PPDU and is addressed to a user from which no immediate response is expected. See NOTE 3 and NOTE 4. |
| *mu-users-not-respond* | The preceding frame or A-MPDU is part of a VHT MU PPDU. |
| *S1GAP* | Frame is transmitted by an S1G AP. |

* HT and VHT and S1G sequences

Change as follows:

(\* The per-user parts of a VHT MU PPDU and HE MU PPDU that do not require a response \*)

other-users = {ppdu-not-requiring-response-per-user +mu-user-not-respond} +mu-ppdu-end;

Insert a new subclause G.5 as follows:

* HE sequences

he-txop-sequence = he-nav-protected-sequence |

1{initiator-sequence};

(\* an he-nav-protected-sequence consists of setting the NAV, performing one or more initiator-sequences and then resetting the NAV if time permits \*)

he-nav-protected-sequence = he-nav-set 1 {initiator-sequence} [resync-sequence];

(\* This is the sequence of frames that establish protection use MU-RTS \*)

he-nav-set = (**MU-RTS Trigger (#21341)** 1{**CTS**}) |

(**Data**[+HTC]+*individual*[+*null*][+*QoS*+*normal-ack*] **Ack**) |

**Data**[+HTC]+*individual*[+*QoS*+*block-ack*] |

**Data**+*group*[+*null*][+*QoS*] |

(1 {**Data**[+HTC]+*individual*+*QoS*+*implicit-bar*+*a-mpdu*}+*a-mpdu-end*} **BlockAck**) |

(**BlockAckReq** (**BlockAck**|**Ack**)) |

(**BlockAck**|**Ack**);

he-dl-mu-sequence = (**BlockAck**+*delayed*[+*mu-users-respond*] **Ack** |

(**BlockAckReq**+delayed[+*mu-users-respond* ] **Ack**) |

(**Data**[+HTC]+*individual*[+*null*][+*QoS*+*normal-ack*][+*mu-usesr-respond*] **Ack** | **Ack**);

(\* Trigger frame is sent by the AP to initiate non-AP UL transmission. A PPDU containing a Trigger frame is either a non-A-MPDU Trigger frame, or an A-MPDU carrying a Trigger frame \*)

he-ul-mu-sequence = (**Basic\_ Trigger(#21341)** | (**Basic Trigger(#21341)** +*a-mpdu* + *mu-user-respond* + *a-mpdu-end*)

1{**Data**[+*HTC*]+*QoS*+(*no-ack* | *block-ack*)+*a-mpdu*}

+ *a-mpdu-end*;

he-cascading-sequence = he-dl-mu-sequence + he-ul-mu-sequence

(\* HE beamforming sequence \*)

he-non-trigger-based-sounding = (**HE NDP Announcement**) (**HE sounding NDP**) **HE Compressed/CQI frame (#20682)(**;

he-trigger-based-sounding = (**HE NDP Announcement**) (**HE Sounding NDP**) he-feedback

{(**BFRP Trigger(#21341)** he-feedback};

he-feedback =

(**HE Compressed Beamforming/CQI** ) | (\* S-MPDU or non-HE

PPDU \*) 1{(**HE Compressed Beamforming /CQI**) +*a-mpdu*} +*a-mpdu-end*; (#21338)

\*(#21339)

he-nfrp-report = (**NFRP Trigger**) n (**he TB feedback NDP**), (#20092)

**References:**