IEEE P802.11
Wireless LANs

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| Proposed resolution of CID 3443 |
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Abstract

This submission proposes resolutions to CID 3443.

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Prposed change** | **Proposed resolution** |
| 3443 | 10.43.1 | 227.18 | Based on baseline 10.36.7.3 (GP), the allocation is granted (grant frame is sent) by the AP/PCP. Non-AP STAs only send grant frame to relinquish an allocation. The text seems inconsistent with such requirement if the SLS is performed by 2 non-AP STAs.Following the procedure in 10.36.7, for SLS between non-AP STA1 and STA2, initiator STA1 should send SPR to AP (indicating the request for a BF training, number of sector and rx antenna)In GP, AP first exchanges Grant/Grant ack frame with the responder, then exchanges Grant/Grant ack with the initiator. The text should follow the correct protocol. | will provide a contribution to address this comment | Revised |

Discussion:

The comment can be summarized in the following figure.



In 11ay, there is no capability for defining the number of sectors. The ‘Number of DMG antennas’ is in Antenna Polarization subelement of EDMG capabilities element, but it does not necessarily reflect the desired number of repetitions one STA wants another STA to perform (e.g. STA with SM power save may not have all RF chains turned on for receiving SLS). Because of this, a grant/grant ack is always exchanged before SLS in current D2.0.

However, for a non-AP STA requesting to perform SLS with another non-AP STA, the AP would not know how to set the parameters related to these 2 parameters in the BF control field of the Grant frame in ①. Furthermore, there is no guarantee that initiator would set to the same parameter in ② consistent to ①.

Suggest having SPR+CT to signal in advance the desired parameters the initiator would signal in ②. If SPR is sent without CT, the AP would set “Number of Rx Antennas” in BF control field in ① to indicate 1.

Proposed change: Revise

***Editor Instruction: change the table 78 as follows:***

**Table 78 —Control trailer definition when CT\_TYPE is SPR**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Number of bits** | **Start bit** | **Description** |
| ChannelAggregation | 1 | 0 | See Table 53 |
| BW | 8 | 1 | Corresponds to the TXVECTOR parameter BW\_IN\_CT. Indicates the requested channel width or channel number of the allocation. If the Is Channel Number field is set to 1, the BW field indicates the requested channel number for the allocation per the channel numbers defined in Annex E. If the Is Channel Number field is set to 0, the BW field indicates a channel width using the bitmap format of the BW field defined in Table 53. In this case, the channel width can be allocated on any channel number.  |
| Primary ChannelNumber | 3 | 9 | See Table 53 |
| IsChannelNumber | 1 | 12 | Corresponds to the TXVECTOR parameter IS\_CHANNEL\_NUMBER. Indicates whether the value in the BW subfield represents a channel width or a channel number (see 11.4.13.3).  |
| Total Number of Sectors | 11 | 13 | This field indicates the total number of sectors the initiator or the unsolicited RSS responder uses during an SLS. This field is reserved and set to 0 when the PPDU does not carry a SPR frame with the Beamforming Training field equal to 1.  |
| Number of RX DMG Antennas | 3 | 24 | This field indicates the total number of repetitions of the TXSS that the responder uses during the SLS. This field is reserved and set to 0 when the PPDU does not carry a SPR frame with the Beamforming Training field equal to 1.  |
| Reserved | 101 | 27 | Set to 0 by the transmitter and ignored by the receiver. |
| CTCS | 16 | 128 | Control Trailer Check Sequence (CTCS) is a CRC-16 computed over the content of the control trailer. The CRC-16 is computed as defined in section 20.3.7.  |

 ***Editor Instruction: change the last paragraph of 10.43.1 with the following two paragraphs***

A non-AP/non-PCP initiator or a non-AP/non-PCP unsolicited RSS responder may send an SPR frame to request a dynamic allocation of a service period to the AP/PCP to perform beamforming training. If either the initiator or the responder is an AP/PCP, both initiator and responder are EDMG STAs and have an established control mode link between them, then the AP/PCP shall send a Grant frame to the responder (or the initiator of an unsolicited RSS). The non-AP/non-PCP STA shall respond with a Grant Ack frame to the AP/PCP to update the last negotiated Total Number of Sectors field and Number of RX DMG Antennas field with respect to each other before starting an SLS procedure in the same CBAP or SP.

If both the initiator and the responder are non-AP and non-PCP EDMG STAs, the initiator (or the responder of an unsolicited RSS) may send an SPR frame in a PPDU with NUM\_SECTORS and NUM\_ANT parameter of TXVECTOR set to the number of sectors of the I-TXSS (or R-TXSS if an unsolicited RSS) and the requested number of repetitions of the R-TXSS in the SLS to be performed. If the AP/PCP did not receive an SPR frame in a PPDU with a control trailer from the initiator (or the responder of an unsolicited RSS) immediately prior to a GP, the AP/PCP shall set the Number of RX DMG Antennas field to 1 and set the Total Number of Sectors field to the value indicated in the Total Number of Sectors field in the DMG Capabilities element previously received from the initiator (or the responder of an unsolicited RSS) in a Grant frame transmitted to the responder (or the initiator of an unsolicited RSS) during the GP.

***Editor Instruction: Add the following 2 rows to table 43***

**Table 43 —TXVECTOR and RXVECTOR parameters**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NUM\_SECTORS | FORMAT is NON\_EDMG | Indicates the value of the Total Number of Sectors field in the control trailer of a SPR frameThe parameter is valid only when the CT\_TYPE is SPR  | Y | Y |
| NUM\_ANT | FORMAT is NON\_EDMG | Indicates the value of the Number of RX DMG Antennas field in the control trailer of a SPR frameThe parameter is valid only when the CT\_TYPE is SPR | Y | Y |