IEEE P802.11
Wireless LANs

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| Comment resolution for CIDs: 2110, 3578, 2288 |
| Date: 2011-11-07 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Patil Sandhya | Samsung |  |  | sandhya.raga@samsung.com  |
| David Xun Yang | Huawei Technologies |  |  | david.yangxun@huawei.com  |

Abstract

The document provides the comment resolution for the CIDs: 2110, 3578 and 2288

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| **CID** | **Section** | **P** | **L** | **Type** | **Comment** | **Suggestion** | **Status** |
| 2110 | 10.2.1.4a | 94 | 32 | T | If an NDPA is transmitted in a TXOP to request CSI feedback from multiple STAs, the TXVECTOR GROUP\_ID parameter of the NDPA frame is set to 63. For the STAs that are not listed in the STA Info list of NDPA frame, they still can not enter DOZE state since all four conditions can not be fulfilled. | Add one more condition for NDPA - The STA finds that its AID does not match any of the AIDs in the STA Info fields of an NDPA frame. | AGREE.See 11-11/1538r1. |

Discussion:

The NDPA frame is addressed to one or multiple stations using a STA info list for the beam forming report. If the NDPA frame is addressed to multiple STAs and the STA info list in the NDPA does not contain the AID of a station, then the station can enter Doze state for the duration of TXOP if it supports TXOP power save.

In addition to this, the unicast control frames BAR and Beam forming report poll frames transmitted by AP can cause the unintentional STAs to enter the Doze state during the TXOP. Hence, in a TXOP, if AP has allowed the STAs to enter Doze state by setting TXOP\_PS\_NOT\_ALLOWED to 0 then it should not transmit these frames in VHT format.

**Editing Instructions in IEEE Draft P802.11ac\_D1.2:**

*Page 116, Line 48:*

Add the following sentence at line 45.

* STA finds that the Partial AID in the RXVECTOR is 0 and the AID in the STA Info field in the received NDPA frame does not match with its AID.

*Page 116, line 52*

TheVHT AP shall include a NAV-set sequence (e.g. RTS/CTS) at the beginning of such a TXOP with the Duration/ID value set to the remainder of the TXOP duration. A VHT AP shall not transmit frames to a non-AP VHT STA that has been allowed to enter Doze state for the remainder of the TXOP.

Note: A VHT AP must not transmit VHT SU PPDUs if TXOP\_PS\_NOT\_ALLOWED has been already set to 0 in the current TXOP and it does not want the STAs in Awake state to enter the Doze state.

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| **CID** | **Section** | **P** | **L** | **Type** | **Comment** | **Suggestion** | **Status** |
| 3578 | 10.2.1.4a | 94 | 15 | T | "dot11VHTTXOPPowerSave is true at the VHT AP.". I'm not sure what relevance "only applicable" has. But if it determines the non-AP's behaviour, the cited statement should relate to on-the-air signalling, not the invisible state of its MIB. | Relate statement to OTA signalling or remove it. | AGREE IN PRINCIPLE.See 11-11/1538r1 |

Discussion: The value of MIB dot11VHTTXOPPowerSaveOptionImplemented rather than OTA used because MIB defines the support for TXOP power save at VHT AP. OTA signaling is for the STAs to know the capability of AP.

**Editing Instructions in IEEE Draft P802.11ac\_D1.2:**

*Page 116, Line 14-15:*

*Replace*

The power management scheme described in this section is applicable only when the dot11VHTTXOPPowerSave is true at the VHT AP.

*With*

A VHT AP supports the operation of VHT non-AP STAs in TXOP power save mode in a BSS when the dot11VHTTXOPPowerSaveOptionImplemented at AP is true.

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| **CID** | **Section** | **P** | **L** | **Type** | **Comment** | **Suggestion** | **Status** |
| 2288 | 10.2.1.4a | 94 | 28 | T | When a STA enters DOZE under these conditions, does it first have to send something from the PHY to the MAC? This partial AID matching operation is occurring within the MAC based on RXVECTOR - if the STA goes to sleep at the time of receipt of RXVECTOR, then where it the STA with respect to the ongoing PHY reception? What is the required MAC behavior with respect to that ongoing reception? E.g. will there be no PHY-RXEND.indication, or will there? If there is, where in the PHY description does it say how this is generated if the MAC puts the PHY into DOZE? And what do the parameters of PHY-RXEND.indicate look like when this happens? And what is the MAC supposed to do when it sees these values? E.g. is there an EIFS? If so, does it extend during sleep, and if the MAC wakes before the end of EIFS, must it complete the EIFS after waking, ending it where it would have originally been scheduled to end? | Clarify | DISAGREE |

**Discussion**:

The RXVECTOR is received with the PHY-RXSTART.indication by MAC from PHY. The Partial AID in the RXVECTOR and the RA in the MAC header comparison with the Partial AID and RA of STA is performed at MAC. Based on the result of comparison, the STA may enter the Doze state. The ongoing reception may be suspended for this frame if the STA enters Doze state. There is no PHY-RXEND.indication generated for this frame. In case the STA does not enter the Doze state, then station performs EIFS subject to the value of RXERROR parameter in PHY-RXEND.indication.

Pre-Motion 1:

Do you accept the resolutions provided to the CIDs and the changes to the spec text as presented in editing instructions sections of this document?

Yes:

No:

Abstain:

**References:**

1. IEEE Draft P802.11ac\_D1.0
2. IEEE Draft P802.11ac\_D1.2
3. IEEE 11-11-0907-04-00ac-lb178-comments-tgac-d1-0