IEEE P802.11
Wireless LANs

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| Power Save Clarifications |
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| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Rony Gutierrez | Qualcomm |  |  | ronyg@qti.qualcomm.com |
| Mordechay Aharon | Qualcomm |  |  | maharon@qti.qualcomm.com |
| Ruvi Alpert | Qualcomm |  |  |  |
| Shahar Gal | Qualcomm |  |  |  |
| Assaf Kasher | Qualcomm | Nahum Het, 11  |  | assaf.kasher@qti.qualcomm.com |

Abstract

This document proposes several corrections and clarifications to the power save transitions in DMG and a couple of editorial issues in RevMC D6.0

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| 8043 | 30 | 11.2.6.2.2 | "During an awake BI, a non-AP and non-PCP STA that has not set up a wakeup schedule with the AP or PCP and that is in PS mode shall be awake during any allocated CBAP for which the STA is the source DMG STA or destination DMG STA, or the source AID of the CBAP is equal to the broadcast AID or the destination AID of the CBAP is equal to the broadcast AID.": This text enables dozing using unscheduled PS in CBAP only BIs , a non AP non PCP STA will not be able to doze using unscheduled PS in a DTI with allocated periods , since a "CBAP only like" allocation of CBAP with broadcast destination and source AID is included in the text above. | Replace the text with ": ""During an awake BI, a non-AP and non-PCP STA that has not set up a wakeup schedule with the AP or PCP and that is in PS mode shall be awake during any allocated CBAP if at least one of the following requirements is met:1) The STA is the source DMG STA of the CBAP, or2) The STA is the destination DMG STA of the CBAP, or3) If an awake window is not present in the beacon interval, the source AID of the CBAP is equal to the broadcast AID or the destination AID of the CBAP is equal to the broadcast AID."" |

**Discussion (1):**

The current text allows a STA to doze using unscheduled PS in CBAP only BIs. A non AP non PCP STA will not be able to doze using unscheduled PS in a DTI with allocated periods. Once allocated periods are present, “CBAP like” allocations of broadcast destination and source AID will be likely to be used for the time periods not allocated to specific STAs. Current text includes these allocations in those which the STA shall stay awake. To correct this the text shall allow to a STA to doze in these periods.

***Editor: Replace the note in P1616L28-31 as follows:–***

A STA that transmits a group addressed ATIM frame shall not transmit group addressed BUs beyond the current beacon interval without transmitting another group addressed ATIM frame in another awake window. A STA that receives a group addressed ATIM frame should stay awake until the end of the current beacon interval to receive group addressed BUs. In an infrastructure BSS, a non-AP STA that responds with an Ack frame to a received individually addressed ATIM frame remains in doze state and shall use the unscheduled power save mechanism described in 11.2.6.2.2 (Non-AP and non-PCP operation without a wakeup schedule) to leave the doze state. In a PBSS or IBSS, a STA that responds with an Ack frame to a received individually addressed ATIM frame shall switch to the awake state following the end of the awake window.

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| 8044 | 1616.18 | 11.2.6.4 | "A STA that receives or transmits an ATIM frame during the awake window may enter the doze state when it has successfully transmitted to and received from all corresponding peer STAs for this beacon interval a QoS Data frame with the EOSPsubfield set to 1; otherwise it shall stay active until the end of the current BI.": This text refers to scheduled PS, but it does not mention it explicitly, so it can be interpreted as also referring to unscheduled PS, in which case it contradicts with other statements in the spec. | Replace with "A STA that is in PS mode, and has not performed unscheduled power save, and following a wakeup schedule receives or transmits an ATIM frame during the awake window may enter the doze state when it has successfully transmitted to and received from all corresponding peer STAs for this beacon interval a QoS Data frame with the EOSP subfield set to 1; otherwise it shall stay active until the end of the current BI" |

**Discussion (2):**

This text to be replaced refers to scheduled PS, but it does not mention it explicitly, so it can be interpreted as also referring to unscheduled PS, in which case it contradicts with other statements in the spec.

***Editor: Modify the text in the 6th paragraph of 11.2.6.4 (lines 18-22) with following text:***

DMG Parameters field (9.4.1.47 (DMG Parameters field)) set to 1. A STA that is in PS mode, and has not performed unscheduled power save, and following a wakeup schedule receives or transmits an ATIM frame during the awake window may enter the doze state when it has successfully transmitted to and received from all corresponding peer STAs for this beacon interval a QoS Data frame with the EOSP subfield set to 1; otherwise it shall stay active until the end of the current beacon interval.ATIM frame transmissions and

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| 8045 | 1615.63 | 11.2.6.4 | "A STA in PS mode that is awake during an awake window shall listen for these announcements to determine if it needs to remain in the awake state.": This text assumes that the STA is following only scheduled PS, and therefore its decision is to remain or not remain in doze. Since STA may be also or only in unscheduled PS, the text should reflect this. | Replace with :"A STA in PS mode that is awake during an awake window shall listen for these announcements to determine if it needs to switch to or remain in the awake state.": |

**Discussion (3)**

This text to be replaced assumes that the STA is following only scheduled PS, and therefore its assumed PS state is awake and its decision is to remain or not remain in the state. Since STA may be also or only in unscheduled PS, it may be already in doze state. The text should reflect this.

***Editor: Replace the text in 11.2.6.4 page 1615 line 63-64 with following text:***

the awake window. A STA in PS mode that is awake during an awake window shall listen for these announcements to determine if it needs to change its power state. If during the awake window the STA.