IEEE P802.11
Wireless LANs

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| LB188 - Comment Resolution  |
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| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Chao-Chun Wang | MediaTek |  |  | Chaochun.wang@mediatek.com |
| James Yee  | MediaTek |  |  | james.yee@mediatek.com |

Abstract

This document provides resolution for the following CIDs:

6154, 6155, 6374, 6563, 6374, 6451

The comments are based on D3.0.

Edits for the proposed resolutions are based on D3.0.

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Changes** |
| 6154 | 10.39.4 | 162 | 43 | Two paragraphs in the subclause give contradictory behavior. L37 Paragraph mandates a VHT STA sets its NAV when a frame's RA is not its MAC address. L43 paragraph allows a VHT STA discards without setting its NAV. | Change paragraph 37 to "A VHT STA shall update its NAV using the Duration/ID field value in any frame that does not have an RA matching the STA's MAC address and that was received in a 20 MHz PPDU in the primary 20 MHz channel or received in a 40 MHz PPDU in the primary 40 MHz channel or received in a 80 MHz PPDU in the primary 80 MHz channel or received in a 160 MHz or 80+80 MHz PPDU when the PPDU is not discarded by the PHY." |
| 6155 | 10.39.4 | 162 | 43 | The case "RA is not the STA's MAC address" is missing. | Change L43 paragraph to "A STA may discard without setting its NAV a frame carried in a) an VHT SU PPDU with RXVECTOR parameters GROUP\_ID and PARTIAL\_AID fields that indicate that the STA cannot be a recipient of the frame according to 9.17a (Group ID and partial AID in VHT PPDUs) or b) a) an VHT SU PPDU with RA being not the STA's MAC address or c) an VHT MU PPDU containing a Group ID field for which either the STA is not a member or the STA is a member but the number of space time streams assigned to the user position of the STA for that group is zero. |
| 6563 | 10.39.4 | 162 | 43 | There appears to be a contradiction between the first and second paragraph of 10.39.4. The first paragraph states "A VHT STA shall update its NAV using the Duration/ID field value in any frame that does not have an RA matching the STA's MAC address ...". The second paragraph states "A STA may discard without setting its NAV a frame carried in an SU VHT PPDU with RXVECTOR GROUP\_ID and PARTIAL\_AID field that indicate that the STA cannot be the recipient of the frame". Frames that don't have a matching PARTIAL\_AID probably won't have a matching RA, so which of the two conditions applies? | Clarification |

**Discussion:**

The comments from commenters question the two conditions stated in the clause 10.39.4.

The first statement says when the MAC layer of a VHT STA receives a frame; the NAV shall be set according to the following rule.

“A VHT STA shall update its NAV using the Duration/ID field value in any frame that does not have an RA matching the STA’s MAC address and that was received in

* a 20 MHz PPDU in the primary 20 MHz channel or received in
* a 40 MHz PPDU in the primary 40 MHz channel or received in
* a 80 MHz PPDU in the primary 80 MHz channel or received in
* a 160 MHz or 80+80 MHz PPDU.

“

The proposed change, “when the PPDU is not discarded by the PHY", in 6154 is redundant because the Duration/ID field only appear in the MAC header and the frame “is not discarded”.

The second statement allows a VHT STA to discard a frame based on PHY layer information with the risk of the not having the correct NAV setting of the BSS but with the advantage of power saving.

“A STA may discard without setting its NAV a frame carried in

* ( a) an VHT SU PPDU with **RXVECTOR** parameters GROUP\_ID and PARTIAL\_AID fields that indicate that the STA cannot be a recipient of the frame according to 9.17a (Group ID and partial AID in VHT PPDUs) or
* (b) an VHT MU PPDU containing a Group ID field for which either the STA is not a member or the STA is a member but the number of space time streams assigned to the user position of the STA for that group is zero.”

The proposed change, “a) an VHT SU PPDU with RA being not the STA's MAC address”, in CID 6155 is not applicable since the frame is discarded by the PHY layer and there is no chance for the VHT STA to find out the MAC address in the MAC header.

CID #6563 shows the commentor would like to have a clearer decription about the two conditions.

**Proposed Response:**

CID 6154 is rejected.

CID 6155 is rejected.

For CID #6563, a sentence can be added to clarify the confusion.

**Proposed Resolution Text:**

For CID 6153,

*Adding following sentense in section 10.39.4*

The NAV setting rule describes the actions that a VHT STA takes when a frame is received on the respective layers, MAC or PHY.

A VHT STA shall update its NAV using the Duration/ID field value in any frame that does not have an RA matching the STA’s MAC address and that was received in a 20 MHz PPDU in the primary 20 MHz channel or received in a 40 MHz PPDU in the primary 40 MHz channel or received in a 80 MHz PPDU in the primary 80 MHz channel or received in a 160 MHz or 80+80 MHz PPDU.

A STA may discard without setting its NAV a frame carried in a) an VHT SU PPDU with RXVECTOR parameters GROUP\_ID and PARTIAL\_AID fields that indicate that the STA cannot be a recipient of the frame according to 9.17a (Group ID and partial AID in VHT PPDUs) or b) an VHT MU PPDU containing a Group ID field for which either the STA is not a member or the STA is a member but the number of space time streams assigned to the user position of the STA for that group is zero.

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Changes** |
| 6376 | 10.39.4 | 162 | 43 | Another instance where NUM\_STS = 0 for MU which is in consistent with the definiton for NUM\_STS in Table 22-1. | Fix NUM\_STS for MU in Table 22-1. |

**Discussion:**

In Table 22-1, the value field of the NUM\_STS says,

“indicates the number of space-time streams. Integer: range 1-8 for SU, 1-4 per user for MU.

NUM\_STS summed over all users is less than or equal to 8.”

In 10.39.4, “an VHT MU PPDU containing a Group ID field for which either the STA is not a member or the STA is a member but the number of space time streams assigned to the user position of the STA for that group is zero”

Since in table 22-1, the minimum number of stream for MU is 1. There is a conflict.

**Proposed Response:**

Agree with the comment.

Modify the value field in NUM\_STS in table 22-1 to include 0.

**Proposed Resolution Text:**

“indicates the number of space-time streams. Integer: range 1-8 for SU, ~~1~~ 0-4 per user for MU.

NUM\_STS summed over all users is less than or equal to 8.”

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Changes** |
| 6374 | 10.39.4 | 162 | 43 | On page 150, line 60, one of the conditions for a STA to optionally enter doze is that Partial AID is non-zero. So basically if Partial AID is zero then a STA shall not enter doze state. Condition a) here says does not require Partial AID to be non-zero for NAV setting. | Add the condition for Partial AID to be non-zero for NAV setting. |
| 6451 | 10.39.4 | 162 | 43 | The rules for when a VHT SU PPDU may be discarded without setting the NAV are not clear, because 9.17a is too loose (e.g. "sent to a STA for which it is not known which condition is applicable"). It would be better to tie this to the situations in which a STA may doze | Change "A STA may discard without setting its NAV a frame carried in (a) [...]" to "A STA may discard without setting its NAV a frame for which the STA would be allowed to enter Doze, as specified in 10.2.1.4a (Power management during VHT transmissions)". |

**Discussion:**

Both CIDs seems to point out that the second condition in 10.39.4 is to address power management operation described in 10.2.1.4a, “Power management during VHT transmissions”.

“A STA may discard without setting its NAV a frame carried in

* ( a) an VHT SU PPDU with **RXVECTOR** parameters GROUP\_ID and PARTIAL\_AID fields that indicate that the STA cannot be a recipient of the frame according to 9.17a (Group ID and partial AID in VHT PPDUs) or
* an VHT MU PPDU containing a Group ID field for which either the STA is not a member or the STA is a member but the number of space time streams assigned to the user position of the STA for that group is zero.”

If that is the purpose of the second condition, then the rule is incomplete comparing to the rules decribed in 10.2.1.4a. As a result, the second condition should be revised according to the proposal from CID #6451.

**Proposed Response:**

Accept the proposed changes in CID #6451.

**Proposed Resolution Text:**

Revised the text according the the following

A STA may discard without setting its NAV a frame for which the STA would be allowed to enter Doze, as specified in 10.2.1.4a (Power management during VHT transmissions)".~~a frame carried in a) an VHT SU PPDU with RXVECTOR parameters GROUP\_ID and PARTIAL\_AID fields that indicate that the STA cannot be a recipient of the frame according to 9.17a (Group ID and partial AID in VHT PPDUs) or b) an VHT MU PPDU containing a Group ID field for which either the STA is not a member or the STA is a member but the number of space time streams assigned to the user position of the STA for that group is zero.~~