IEEE P802.11
Wireless LANs

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| LB203 Comment resolution for clause 10 (CID 3965,3967,3968) |
| Date: 2014-09-15 |
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Abstract

This submission proposes resolutions for following comments in LB203 to P802.11ah Draft 2.0:

- 3965 (for 10.19)

- 3967 (for 10.41)

- 3968 (for 10.42)

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Change the resolution of CID 3968 as discussion in Sep. 15 MAC ad-hoc.

### Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGah Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGah Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGah Editor: Editing instructions preceded by “TGah Editor” are instructions to the TGah editor to modify existing material in the TGah draft. As a result of adopting the changes, the TGah editor will execute the instructions rather than copy them to the TGah Draft.***

### Comments Resolutions

| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- |
| 3965 | 10.19 |  |  | The subclause 10.19 (RSNA A-MSDU procedures) is also applied to an S1G STA, and needs to be amended. | Replace "HT STA" by "HT or S1G STA" in the subclause 10.19 (RSNA A-MSDU procedures). | Revised.Agree in principle.However, it is better to change draft text directly.TGah editor to make changes shown in 11-14/1129r1 under the heading for CID 3965. |
| 3967 | 10.41 |  |  | The subclause 10.41 (Group ID management operation) of P802.11mc D2.5 needs to be applied to an S1G STA.\* This comments relates to other comment to subclause 9.19b and 24.3.19. | Insert a following text as the first paragraph of 10.41.---For an S1G STA, the same Group ID management operation is applied, with "VHT" is replaced by "S1G" across the whole subclause 10.41 (Group ID management operation). | Revised.Agree in principle.However, it is better to change draft text directly.TGah editor to make changes shown in 11-14/1129r1 under the heading for CID 3967. |
| 3968 | 10.42 |  |  | As an S1G STA may support Operating Mode Notification frame (see 8.6.23.4 (Operating Mode Notification frame format), P177L3), it is necessary to amend the subclause 10.42 (Notification of operating mode changes) of the P802.11mc D2.5 for the S1G STA. | Insert a following text as the first paragraph of 10.42.---For an S1G STA, the same procedure for notification of operating mode changes is applied, with "VHT" is replaced by "S1G" across the whole subclause 10.42 (Notification of operating mode changes). | Revised.Agree in principle.However, it is better to change draft text directly.In addition, support of Operating Mode Notification frame may be optional for the S1G STA.TGah editor to make changes shown in 11-14/1129r1 under the heading for CID 3968. |

**Proposed Remedy for CID 3965:**

***TGah Editor: Insert the following text as subclause 10.19:***

* 1. **RSNA A-MSDU procedures**

***Change the second paragraph of this subclause as follows:***

Table 10-13 (A-MSDU STA behavior for RSN associations) defines behavior related to the transmission and reception of individually addressed A-MSDUs of a first HT STA or S1G STA (STA1) that has successfully negotiated an RSNA (re)association with a second HT STA or S1G STA (STA2). Reception and transmission of A-MSDUs using a non-RSN association is unaffected by the values of the SPP A-MSDU Capable and SPP A-MSDU Required subfields.

**Proposed Remedy for CID 3967:**

***TGah Editor: Insert the following text as subclause 10.41:***

* 1. **Group ID management operation**

***Change the first paragraph of this subclause as follows:***

An AP determines the possible combinations of STAs that can be addressed by a VHT MU PPDU or an S1G MU PPDU by assigning STAs to groups and to specific user positions within those groups.

***Change the fifth paragraph of this subclause as follows:***

A~~n~~ non-S1G AP may transmit a Group ID Management frame only if dot11VHTOptionImplemented is true. A Group ID Management frame shall not be sent to a VHT STA that does not have the MU Beamformee Capable field in the VHT Capabilities element equal to 1.

***Insert the following text after the fifth paragraph of this subclause as follows:***

An S1G AP shall not transmit a Group ID Management frame to an S1G STA that does not have the MU Beamformee Capable field in the S1G Capabilities element equal to 1.

***Change the eighth to tenth paragraphs of this subclause as follows:***

Group ID values of 0 and 63 are used for SU PPDU and the PHY filtering of such PPDUs is controlled by the PHYCONFIG\_VECTOR primitive LISTEN\_TO\_GID00 and LISTEN\_TO\_GID63 parameters. The User Position in Group ID information is interpreted by a STA receiving a VHT MU PPDU or an S1G MU PPDU as explained in 22.3.11.4 (Group ID) or 24.3.10.4 (Group ID) respectively.

Transmission of a Group ID Management frame to a STA and any associated acknowledgment from the

STA shall complete before the transmission of a VHT MU PPDU and an S1G MU PPDU to the STA.

A VHT MU PPDU and an S1G MU PPDU shall be transmitted to a STA based on the content of the Group ID Management frame most recently transmitted to the STA and for which an acknowledgment was received.

**Proposed Remedy for CID 3968:**

***TGah Editor: Insert the following text as subclause 10.42:***

* 1. **Notification of operating mode changes**

***Change the first paragraph of this subclause as follows:***

A STA whose dot11OperatingModeNotificationImplemented is true shall set the Operating Mode Notification field in the Extended Capabilities element to 1. A VHT STA shall set dot11OperatingModeNotificationImplemented to true. An S1G STA may set dot11OperatingModeNotificationImplemented to true. A STA that has the value true for dot11OperatingModeNotificationImplemented is referred to as operating mode notification capable.

***Change the tenth paragraph of this subclause as follows:***

A~~n~~ non-S1G AP should notify associated STAs of a change in its operating channel width through one or more of the following mechanisms:

* Using the Channel Switch Announcement element, Channel Switch Announcement frame or both following the procedure defined in 10.9.8.2 (Selecting and advertising a new channel in a non-DMG infrastructure BSS)
* Using the Extended Channel Switch Announcement element, Extended Channel Switch Announcement frame or both, following the procedure described in 10.10 (Extended channel switching (ECS))
* Using individually addressed Operating Mode Notification frames and/or Notify Channel Width frames
* Using the STA Channel Width field in the HT Operation element and/or Channel Width field in the VHT Operation element.

***Insert the following text after the 10th paragraph of this subclause as follows:***

An S1G AP should notify associated STAs of a change in its operating channel width through one or more of the following mechanisms:

* Using the Extended Channel Switch Announcement element, Extended Channel Switch Announcement frame or both, following the procedure described in 10.10 (Extended channel switching (ECS))
* Using individually addressed Operating Mode Notification frames
* Using the Channel Width subfield in the S1G Operation element.

***Insert the following text after the 15th paragraph of this subclause as follows:***

An S1G STA shall not transmit a Notify Channel Width frame.

An S1G AP that changes its operating channel width shall indicate the new operating channel width in the Channel Width field in the S1G Operation element.

***Change the 17th paragraph of this subclause as follows:***

A STA shall not transmit an Operating Mode field with the value of the Rx NSS subfield indicating a number of spatial streams not supported by the recipient STA. The number of spatial streams supported by the recipient STA is reported in the Supported Rates element, Extended Supported Rates element, Supported MCS Set, ~~or~~ Supported VHT-MCS and NSS Set, or Supported S1G-MCS and NSS Set field transmitted in Management frames by the recipient STA.

***Change the 18th paragraph of this subclause as follows:***

A STA shall not transmit an Operating Mode field with the value of the Channel Width subfield indicating a bandwidth not supported by the STA, as reported in the Supported Channel Width Set subfield in the HT Capabilities Info field, ~~or~~ the VHT Capabilities Info field, or the S1G Capabilities info field in Management frames transmitted by the STA.

***Change the NOTE 3 of this subclause as follows:***

NOTE 3—To avoid possible frame loss, a VHT or S1G STA that sends an individually addressed Operating Mode Notification frame to a second VHT or S1G STA indicating reduced operating channel width and/or reduced active receive chains can continue with its current operating channel width and active receive chains until it infers that the second STA has processed this notification. The first VHT or S1G STA might make this inference from either of the following:

* By receiving a frame addressed to itself from the second VHT or S1G STA in a PPDU with a bandwidth and NSS that are equal to or less than the channel width and NSS, respectively, indicated in the Operating Mode Notification frame
* Based on the passage of time in some implementation dependent way, which is outside the scope of this standard