IEEE P802.11
Wireless LANs

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| LB 200 MAC Miscellaneous comment resolution |
| Date: 2014-05-01 |
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Abstract

This submission proposes comment resolutions of MAC miscellaneous comments from TGah Draft 1.0.

* CIDs: 1638, 2523, 2534, 2936, 1135, 1425, 1484, 1485, 1494, 2269, 2061, 2872, 1391 (13 CIDs)

NOTE- Alfred and Jason asked me to transfer CID 1391 and CID 2534, respectively. When Alfred and Jason are ready to submit resolution, I will remove those CIDs from this document.

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.***

| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 1638 | 85 | 8.4.2.17 | Is the transmit power in the Open-Loop Link Margin Index radiated or EIRP? | Specify whether transmit power is radiated or EIRP. | Revised-Agree in principle. TGah editor to make changes shown in 11-14-0483r1 under the heading for CID 1638. |
| 2523 |  | 8.4.2.170a | Open-link margin is desirable to be defined per each sub-channel because each coverage depending on the BW is also useful, especially when SST operation is allowable in a BSS. | Extend open-link margin for multi-sub-channel for SST operation in a BSS in an efficient way | Rejected-The open-link margin index is defined on 1MHz channel bandwidth. Since the transmit power is inversely proportion to transmit bandwidth, the STA can calculate the open-link margin index for each sub-channels if it is necessary. |
| ~~2534~~ |  | ~~8.4.2.170b~~ | ~~Reporrt RAW which efficiently responds to the sounding RAW needs to be defined~~ | ~~Define Report RAW as an sub-mode of sounding RAW indication~~ | ~~Rejected-~~~~If it is necessary, the Regular RAW can be used for the Report RAW.~~ |
| 2936 | 90 | 8.4.2.170c | We should allow multiple pages to be included in one segment count IE. | Indicate the size of Page bitmap for each page. | Rejected- In the current TGah Draft 1.2, the Page Slice element (the Segment Count IE was changed to the Page Slice element) contains a subset of blocks from a single page. So, there is no reason to allow the multiple page option in the Page Slice element.  |
| 1135 | 94 | 8.4.2.170f | ".. the duration of the current sector transmissions and it is measured in 10 milliseconds time units."Somewhat awkward. Also doesn't follow style for a value/unit pair. | Replace with " the duration of the current sector transmissions, in units of 10 ms"Change 94.45 to match. | Revised- Agree in principle. But, the TGah Draft 1.2 already applied the proposed change. No change is needed. |
| 1425 | 102 | 8.4.2.170k.2 | Some capability indications in the S1G Capabilities element are present but their describption is not present in the corresponding protocol behavior subclauses, e.g., BAT Support, TIM ADE Support, TWT Support, etc. Also what other features from VHT should be inherited for S1G? | Describe how the transmitter sets each of the missing indications in the S1G capabilities element and what does it mean for the intended receiver. | Revised- Agree in principle. The normative behavior of the TIM ADE Support filed in the S1G Capabilities element is not described. TGah editor to make changes shown in 11-14-0483r1 under the heading for CID 1425. |
| 1484 | 172 | 9.20.5.2 | if there is channel indication on the RAW, the slot cross boundary should be disabled? What happens if it is enabled and the STA cross the boundary while the other STA start transmission on another allowed sub-channel. Also AP may need some time interval between slots to tune on other channel. please address these concerns | Clarify and address the concerns stated in the comment1-disbale the cross boundary functionality in the case that there is a channel indication2-clarify how can the AP tuning delay can be addressed3-how does the CCA work for each slot, what is the primary channel? | Revised- The Channel Indication information applies on a whole RAW duration.It means that each time slots inside the RAW have same channel constraint.The Cross Boundary Option of the RAW does not make any problem with the SST operation. But, other issue is that the SST operation shall not be allowed after the end of the RAW. Since the Channel Indication is only vaild for the RAW duration. TGah editor to make changes shown in 11-14-0483r1 under the heading for CID 1484. |
| 1485 | 172 | 9.20.5.2 | if there is channel indication on the RAW, and there is more than one STAs in a slot, there will be undetactable collisions in that slot if the STAs choose different channels to access. Should it be prevented? | resolve the issue, as a suggestion, limit the number of ones in the channel indication of the RAW to one, or replace the channel bitmap with "the RAW temporary primary channel number and bandwidth" | Rejected-It is an implementation issue. If the AP can receive multiple frames on the different channels simultaneously, the AP can set the one more bits in the bitmap to 1. |
| 1494 | 176 | 9.20.5.6 | is it possible for the AP to indicate a RAW with RA frame and not send the RA frame at the beginning? On that case, how long the first allocated STA should wait before accessing the channel. Because we don't want the first STAs UL transmission colide with the AP RA frame at the begining of the RAWthere is a "RAW Duration" defined in the RA frame but how it is being used and how it will be indicated is not described in this subclause. should it be set to the same value as indicated in the RPS element in the Beacon?In General the whole subclause is not written properly in normative language. For example: "If the Access Restricted to Paged STAs Only bit in RPS element is set to 0 and an RA frame is broadcasted at RAW Start Time, then the STAs within the RAW Group may wake up to receivethis frame in order to learn their assigned RAW slots for their UL and DL traffic and corresponding SlotStart Offsets." | Clarify the behaviour of AP with sending RA frame at the beginning of a RAW to resolve the issues discussed in the comment or remove theRAW operation with Resouce Allocation.Define the RAW Duration or remove it if not needed.Also, write the sub-clause in normative language. | Revised- Agree in principle. The RAW operation with the Resource Allocation (9.20.5.6) has been re-written by the 11-14/0366r1. Since 11-14/0366r1 was already approved in March meeting, no change is needed.  |
| 2269 | 176 | 9.20.5.6 | Is RAW used for UL channel access only or both UL DL? If it is for both UL and DL, then the text in paragraph in line 33 page 171 should be revised. If it is for UL only, then why the text in line 22 page 176 should be revised. | Please clarify. | Revised- Agree in principle. The RAW operation with the Resource Allocation (9.20.5.6) has been re-written by the 11-14/0366r1. Since 11-14/0366r1 was already approved in March meeting, no change is needed. |
| 2061 |  | 4.13 | "Such assignment is a form of sectorization" implies that this belongs under 4.16. Suggest consolidating or explain why it is not really sectorization. | As suggested. | Revised- I agree that the current wording is not clear. But, the document 11-14/337r3 already resolved this comment by deleting the unnecessary wording. |
| 2872 | 137 | 8.6.3 | A-MPDU contents for a S1G PPDU (e.g., short MAC frame) is not defined. | Define the A-MPDU contents for a short MAC frame. | Rejected-It was withdrawn by the commenter. |
| ~~1391~~ | ~~214~~ | ~~10.1.3.8~~ | ~~10.1.3.8 Multiple BSSID procedure; how is it done in 11ah beacon?~~ | ~~Describe procedure for 11ah~~ | ~~Rejected-~~ ~~There is no different feature on 11ah multiple BSSID.~~ |

**Propose:**

Revised for CID 1638, 1425, 1484, per discussion and editing instructions in 11-14/0483r1.

***TGah editor: Modify the sub-clause*** ***8.4.2.170a as the following:***

8.4.2.170a Open-Loop Link Margin Index element

The transmit power *Ptx* ~~is the transmit power used to transmit~~ indicates the actual power used as measured at the output of the antenna connector, in units of dBm, by a STA when transmitting the frame containing the Open-Loop Link Margin Index element. The receiver sensitivity *RXsensitivity* is the minimum required receive power for reception of MCS10 for 1MHz channel.

***TGah editor: Modify the sub-clause 9.20.5.1 as the following:***

* Restricted Access Window (RAW) Operation
* General

…

An AP may further indicate on which channel(s) the SST STA(s) that are granted access to the RAW are allowed to transmit for the RAW duration, through the Channel Indication subfield in the RAW Assignment field of the RPS element (see 8.4.2.170b) ~~which has the same definition as described in the Channel Activity Bitmap subfield in the Channel Activity Schedule field of the Subchannel Selective Transmission element (8.4.2.170l)~~. A value of 1 in a bit position in the Channel Activity Bitmap in the Channel Indication subfield of the RPS element ~~bitmap~~ indicates that operation is allowed on the BSS operating channel for the RAW duration, with any allowed operating bandwidth that includes that channel, subject to the limitations described in clause 9.46 (Subchannel Selective Transmission (SST)). Access to the channel shall be performed according to the procedure described in 9.46 (Subchannel Selective Transmission (SST)) assuming the primary channel is a channel identified by a value of 1 in one of the Channel Activity Bitmap ~~bitmap~~ bits in the Channel Indication subfield in the RAW Assignment field of the RPS element. An AP shall not include the any STA that is not supporting the SST Operation in the RAW Group of an RPS element that has a Channel Indication that does not include the primary BSS operation Channel.

***TGah editor: Modify the sub-clause 10.2.2.3 as the following:***

10.2.2.3 AP TIM transmissions

The TIM shall identify the STAs for which traffic is pending and buffered in the AP. This information is coded in a *partial virtual bitmap*, as described in 8.4.2.6 (TIM element). In addition, the TIM contains an indication whether group addressed traffic is pending. Every STA is assigned an AID by the AP as part of the association process. AID 0 (zero) is reserved to indicate the presence of buffered non-GCR-SP(11aa) group addressed BUs. The AP shall identify those STAs for which it is prepared to deliver buffered BUs by setting bits in the TIM’s partial virtual bitmap that correspond to the appropriate AIDs.

For S1G band, the TIM is coded in an *S1G* *partial virtual bitmap*, as described in 8.4.2.6.1 (S1G Partial Virtual Bitmap encoding). This information is constructed with one of the four encoding modes: the Block Bitmap mode, the Single AID mode, the OLB (Offset, Length, Bitmap) mode, and the ADE (AID Differential Encode) mode. An S1G AP shall not transmit the TIM with the encoding mode in the Block Control subfield set to ADE mode to another S1G STA unless the TIM ADE Support field of the most recent S1G Capabilities element received from that STA contained a value of 1 and dot11TIMADEImplemented is true.

***TGah editor: Modify the Table 8-191d as the following:***

Table 8-191d—Subfields of the S1G Capabilities Info field

|  |  |  |
| --- | --- | --- |
| Subfield | Definition | Encoding |
| … | … | … |
| TIM ADE Support | This bit indicates support of the ADE mode of TIM bitmap encoding as described in 8.4.2.6.1.4 (ADE mode). | Set to 1 if dot11TIMADEImplemented is true ~~a STA supports the ADE mode of TIM bitmap encoding as described in 8.4.2.6.1.4 (ADE mode)~~.Set to 0 otherwise. |

***TGah editor: Modify Annex C as the following:***

Dot11S1GStationConfigEntry ::=

 SEQUENCE {

 ...

 dot11S1GSectorImplemented TruthValue,

 dot11S1GSectorizationActivated TruthValue,

 dot11TIMADEImplemented TruthValue

 }

...

dot11TIMADEImplemented OBJECT-TYPE

 SYNTAX TruthValue

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "This is a capability variable.

 Its value is determined by device capabilities.

 This attribute, when true, indicates that the station implementation is capable of suppoting the ADE mode of TIM bitmap encoding. The capability is disabled, otherwise."

 DEFVAL { false }

 ::= { dot11S1GStationConfigEntry 44 }

dot11S1GComplianceGroup OBJECT-GROUP

 OBJECTS {

 ...

 dot11S1GSectorImplemented,

 dot11S1GSectorizationActivated,

 dot11TIMADEImplemented }

 STATUS current

 DESCRIPTION

 "Attributes that configure the S1G Group for IEEE 802.11."

 ::= { dot11Groups 84 }