IEEE P802.11
Wireless LANs

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| Comment resolution for CIDs related to dual beacon operation  |
| Date: 9th May 2017 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D1.0 with the following CIDs (8):

* 3054, 5392, 5393, 9415, 5390, 5391, 6179, 7042

Revisions:

* Rev 0: Initial version of the 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 TGax Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **Section** | **P/L** | **Comment** | **Proposed Change** | **Resolution** |
| 3054 | 11.1.3.10 | 141.00 | Action on non-AP STA needs to be described - esp how will the non-AP HE STA that is close to the HE AP (and can receive group address traffic in both the formats) manage filtering duplicate group address traffic | Need to specify non-AP STA action - for example, a non-AP STA that is close to the AP can receive both ER and non-ER frames. Need a mechanism to filter duplicate group addressed traffic and indicating preference for receiving unicast frames in one particular PHY (ER or non-ER) format. This can help with power-save. Need a mechanism to differentiate between group addressed and unicast so that STA can quickly filter a particular PHY format. For example, HE-SIG-A field could carry a particular combination of values to indicate groupcast traffic in ER format. A non-AP STA can choose to monitor all group address traffic on just one type of PPDU and ignore all group addressed traffic received on the other PPDU type. The criteria for a nearby HE non-AP STA to decide monitoring one type of PPDU versus the other is out of scope of the standard (a far off HE STA can only receive ER frames, while nearby legacy STA can only process non-ER frames). Further, HE STA should have a way to indicate (via ROMI) preference to receive in one particular PHY format. This preference may change if the STA moves close or away from the AP. This can help power-save since the HE non-AP STA (near to the AP) can drop unicast frames belong to the non-preferred format and enter power-save mode for the duration of the PPDU. | RejectDuring the TGax telcon on April 6th 2017, TGax members indicated preference to not have more than one beacon in the same BSS. Discussion narrowed down to two options: remove ER Beacon feature completely or have ER Beacon as part of a separate (ER) BSS.Further, during the PM2 MAC session on 9th May 2017 group voted to support the proposal for having two separate BSS. SP result:Option 1 (separate BSS):  11-17/340r3 – 20 votesOption 2 (remove ER beacon):  11-17/576r2 – 2 votesConsidering the above developments, the issues pointed by this comment will not occur in a BSS with a single beacon. Therefore, the comment is rejected. |
| 5392 | 27.5.2.6.2 | 206.39 | When an AP uses the Dual Beacon, a non-AP STA that receives RAPS elements from both Beacon frames of two PPDU formats would initialize its OBO counter twice. Then the STA may have less probability to access the random access RU than a STA that receives one Beacon frame. | When an AP uses the Dual Beacon, the STA should use the RAPS element from one format of Beacon frame. | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |
| 5393 | 9.4.2.220 | 95.24 | When an AP uses the Dual Beacon, a non-AP STA that receives RAPS elements from both Beacon frames of two PPDU formats would initialize its OBO counter twice. Then the STA may have less probability to access the random access RU than a STA that receives one Beacon frame. | When an AP uses the Dual Beacon, the RAPS element should be included only in one format of Beacon frame between two formats of Beacon frames. | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |
| 9415 | 27.5.2.6.2 | 173.31 | A STA might receive both normal Beacon and Dual Beacon. If both of the two beacons included RAPS elements, the STA might reset its OBO and OCW twice. | If a STA receives a normal Beacon and a Dual beacon including RAPS elements, it shall initialize its OBO and OCW only for the normal Beacon | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |
| 5390 | 27.16.2 | 93.14 | We need a clarification on what is BSS Color change TBTT when the HE extended range SU PPDU format Beacon is used. When the Dual Beacon is used, two kinds of Beacon frames have different TBTTs. | Even if the STA receives any Beacon frame between Beacon frames of two PPDU formats, all STAs in the BSS shall start to use the BSS Color at the same time. e.g. at the TBTT of non-HE format Beacon frame. | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |
| 5391 | 9.4.2.222 | 206.39 | When an AP uses the Dual Beacon, even if the STA receives any Beacon frame between Beacon frames of two PPDU formats, all STAs in the BSS shall start to use the BSS Color at the same time. e.g. at the TBTT of non-HE format Beacon frame. Need a clarification on a setting of the Color Switch Countdown field. | When an AP uses the Dual Beacon, a value of 0 indicates that the switch occurs at the current TBTT if the element is carried in a non-HE format Beacon frame or at the next TBTT of a non-HE format Beacon frame if the element is not carried in a nonHE format Beacon frame. | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |
| 6179 | 27.16.2 | 206.39 | In case that an AP uses the Dual Beacon, all of STAs associated with the AP should identify the same BSS Color change TBTT. | Please define the BSS Color change TBTT to be the same to all of STAs in a BSS when the BSS uses the Dual Beacon. | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |
| 7042 | 27.16.2 | 173.31 | When Dual Beacon is used, two kinds of Beacon frames have TBTTs respectively. Please specify BSS color change sequence when Dual Beacon is used. | As per comment. | RejectPlease see resolution for CID 3054The issues pointed by this comment will not occur in a BSS with a single beacon. |