IEEE P802.11
Wireless LANs

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| Resolution for CID 20346 related to BSS Color  |
| Date: July 12, 2019 |
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 Abstract

This submission proposes resolution for CID 20346 received for TGax D4.0:

Revisions:

* Rev 0: Initial version of the document.
* Rev1: Editorial changes
* Rev2: Add discussion part for the proposed resolution
* Rev3: Add more discussion about setting BSS color to 0

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** | **Commenter** | **Section** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 20346 | Kaiying Lv | 26.11.4 | 406 | 39 | How to ensure that all HE STAs associated with a non-HE AP use the same active BSS color for all their TDLS links? Provide a mechanism to ensure it, such as using partial BSSID of the non-HE AP as the active BSS color of the TDLS links. | As in comment. | **Revised**Agree with the comment.**TGax editor, please make changes as shown in 11-19/0494r2 CID 20346** |

**Discussion:**

As per BSS color for TDLS links among HE non-AP STAs associated with legacy AP, some questions have been raised about BSS color collision during last F2F meeting when doing presentation of 19/494r1.

Here are some further considerations about this issue.

The proposed resolution is that HE STAs associated with non-HE AP set up TDLS links and set the BSS color in TXVECTOR of HE PPDUs using partial BSSID of the non-HE AP.

When HE non-AP STAs discover BSS color collision, the following cases are analyzed below:

case1：Since HE PPDU on TDLS link sets the TXVECTOR parameter UPLINK\_FLAG to 0 which is taken as DL data, the HE non-AP STA associated with non-HE AP will not perform intra-PPDU power save no matter BSS color collision or not.  So there is no problem for this case.

case2:  When BSS color collision, no SR will be performed until HE OBSS changes its color. So there is no problem for this case.

case3: When receiving an HE PPDU with its own BSS color, the HE non-AP STA in TDLS link will set intra-BSS NAV, but its associated non-HE AP will never send trigger frame to it, therefore there is no problem!  For the HE OBSS with color collision, color change can be performed if necessary.

More comments during the ad-hoc discussion:

Partial BSSID might be zero. If this happens, then no intra-PPDU power save and no spatial reuse would be done as public action frame. And also it is a corner case. In general, setting the BSS color of the TDLS links to the partial BSSID of the non-HE AP can provide more benefits by using spatial reuse among HE OBSS and the TDLS links.

***TGax Editor: This document is based on 802.11-19/0395r1***

* **BSS color**

**26.17.3.0a General**

***TGax Editor: Please make changes to the 3rd paragraph in this clause as shown below***

A non-AP HE STA associated with an HE AP that is transmitting an HE PPDU in a direct path to a TDLS peer STA shall set the BSS Color subfield of the HE Operation element it transmits to the peer STA to the value indicated in the BSS Color subfield of the HE Operation element received from the HE AP. An HE STA associated with a non-HE AP that is the initiating STA of the TDLS link shall use the same active BSS color for all its TDLS links by setting the BSS Color subfield of the HE Operation element it transmits to the TDLS peer HE STA to the value of BSSID[39:44] of the non-HE AP or the transmitted BSSID[39:44] of the non-HE AP if the AP indicates the support of multiple BSSID in its Extended Capabilities element.[20346]