IEEE P802.11
Wireless LANs

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| Comment resolution on CID 782 (Intra-PPDU PS) |
| Date: 2016-07-24 |
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Abstract

This submission proposes resolution for a comment related to TGax D0.1 with the following CID:

* 782

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** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 782 | 66.60 | Intra-PPDU power save could be adopted to the legacy frames. For example, regarding the VHT UL PPDU, HE STA can distinguish if the received VHT UL PPDU is Intra-BSS PPDU or Inter-BSS PPDU by the Partial AID(i.e., partial BSSID in UL) of VHT SIG-A. | Add the following text as the condition of Intra-PPDU PS.-- The PPDU is a VHT PPDU with:\*The value of the RXVECTOR parameter GROUP\_ID is equal to 0 and,\*The value of the RXVECTOR parameter PARTIAL\_AID is equal to the BSSID[39:47] of the AP with which the STA is associated | **Revised**Agree in principle with the comment. The condition for Intra-PPDU PS indicated in the proposed change needs to be included in the subclause 25.13.1See the discussion and proposed text below.TGax editor to make the changes shown in 11-16/0878r1 under all headings that include CID 782. |

**Discussion:**

According to the 11ax D0.1, HE STA can distinguish whether the detected frame is Intra or Inter based on BSS Color in HE-SIG A of HE PPDUs or MAC address field in MAC header. But, the Intra-PPDU PS in D0.1 is applied to only HE PPDUs based on BSS Color.

Intra-PPDU PS could be applied for an A-MPDU regardless of PPDU format based on the address field of MAC header. i.e., HE STA can know that the received MPDU is the Intra-BSS MPDU when TA or RA of the received MPDU matches the BSSID of the AP which the STA is associated with. If the A-MPDU is in Intra- PPDU, the STA can enter the Doze state until the end of the PPDU (i.e., during the remaining MPDUs)

HE STA can also distinguish if the received VHT UL PPDU is Intra- PPDU or not by using Partial AID. Note that the Partial AID in VHT-SIG-A of the VHT UL PPDU (GID=0 in SIG A) is set to Partial BSSID (i.e., BSSID [39:47], 9bits). Therefore, Intra-PPDU Power saving could be applied for the Intra-BSS VHT UL PPDU like Intra-BSS HE PPDUs.

**TGax Editor: *Change the subclause 25.13.1 as follows (#CID782):***

### 25.13.1 Intra-PPDU power save for HE non-AP STAs

An HE non-AP STA that is in awake state (see 11.2.2.2 (STA Power Management modes)) and has dot11IntraPPDUPowerSaveOptionActivated equal to true operates in intra-PPDU power save mode.

An HE non-AP STA that is in intra-PPDU power save mode may enter the doze state until the end of a received PPDU when one of the following conditions is met:

* The PPDU is an HE MU PPDU with:
	+ The value of the RXVECTOR parameter BSS\_COLOR equal to the BSS color of the BSS with which the STA is associated and,
	+ The value of the RXVECTOR parameter UL\_FLAG is equal to 0 and,
	+ The values obtained from the RXVECTOR parameter STA\_ID\_LIST do not match the identifier of the STA or the broadcast identifier(s) intended for the STA
* The PPDU is an HE MU PPDU, HE SU PPDU, or HE extended range SU PPDU with:
	+ The value of the RXVECTOR parameter BSS\_COLOR equal to the BSS color of the BSS with which the STA is associated and,
	+ The value of the RXVECTOR parameter UL\_FLAG is equal to 1
* The PPDU is an HE trigger-based PPDU with:
	+ The value of the RXVECTOR parameter BSS\_COLOR equal to the BSS color of the BSS with which the STA is associated
* The PPDU is a VHT PPDU with(#782):
	+ The value of the RXVECTOR parameter PARTIAL\_AID equal to the BSSID[39:47] of the BSS with which the STA is associated and,
	+ The value of the RXVECTOR parameter GROUP\_ID is equal to 0
* The PPDU is a PPDU with(#782):
	+ An A-MPDU including TA or RA equal to the BSSID of the BSS with which the STA is associated and,
	+ The RA does not equal to MAC address of the STA

An HE STA that is in intra-PPDU power save mode and has entered doze state shall continue to operate its NAV timer and consider the medium busy during doze state and shall transition into awake state at the end of the PPDU.

NOTE—The STA can contend for access to the medium immediately on the expiry of the NAV timer.