IEEE P802.11
Wireless LANs

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| Resolution for CIDs on Association Exchange with DL MU |
| Date: 2017-07-10 |
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Abstract

This submission proposes resolutions of comments received from TGax LB225. (The proposed change is based on TGax Draft 1.3.)

* CIDs: 4800

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** | **Commenter** | **Clause** | **Page No.** | **Comment** | **Proposed Change** | **Resolution** |
| 4800 | Alfred Asterjadhi | 163.08 | 27.5.1.2 | Some more details are needed here for completeness. I sugges to itemize what possible values the AID can have in the SIG-B (and potentlially have a reference to 27.11). For example: AID 0 is broadcast, AID 1 to n can be broadcast for the multi BSSID case, AID 2046 is this AID to indicate unallocated RU, 2047 is the broadcast AID for all BSSs of the multiBSS and so on. | As in comment. | Revised. Agree with the comment.Table 28-24 now contains an AID 2045 used to address unassociated stations. In addition, broadcast RU behaviour is specified.TGax editor please make the changes as shown in 11-17/1014 r0 |

* **HE-SIG-B per-user content**

TGax Editor*: Please modify Table 28-24 (Fields of the User field for a non-MU-MIMO allocation) of 11ax Draft 1.3 as follows (#*4800*):*

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| * Fields of the User field for a non-MU-MIMO allocation
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| **Bit** | **Field** | **Number of bits** | **Description** |
| B0–B10 | STA-ID | 11 | The STA-ID refers to the AID described in 9.4.1.8 (AID field). The 11 LSBs of the AID field are used to address the STAs in this field.For RUs that carry a broadcast allocation:* For single BSS AP, the STA-ID(#8964) for broadcast to associated STAs will be 0
* For multiple BSS AP, the STA-ID for broadcast to associated STAs of a specific BSS will follow the group addressed AID assignment in the TIM according to the existing Multi-BSSID TIM operation
* For multiple BSS AP, the STA-ID(#8964) for broadcast to associated STAs of all BSS of the AP is set to 2047
* For single BSS and multiple BSS AP, the STA-ID for broadcast to unassociated STAs will be 2045 (#4800)

And further:* STA-ID(#8964) value 2046 is used to indicate that the RU carries no data
* When a STA transmits on the uplink using the HE MU PPDU format, the STA-ID field is populated by the AID of the transmitter assigned by the AP
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* STA behavior for UL MU operation

TGax Editor: Please add a note after the 9th paragraph in section 27.5.2.3 (D1.3 P224L25) as follows:

A STA that responds to a DL MU PPDU containing MPDU(s) addressed to it that include UMRS Control field(s) follows the rules defined in 10.3.2.9 (Ack procedure) for generating the Ack frame, the rules defined in 10.24.7.5 (Generation and transmission of BlockAck frames by an HT STA or DMG STA) for generating the BlockAck frame, and the rules defined in 27.4 (Block acknowledgement) for generating the Multi-STA BlockAck frame. The STA shall construct the A-MPDU carried in the HE TB PPDU as defined in Table 9-428 (A-MPDU contents MPDUs in the control response context) when the A-MPDU solicits an immediate response and as defined in Table 9-426 (A-MPDU contents in the data enabled no immediate response context) when the A-MPDU does not solicit an immediate response.

NOTE 1 —The STA additionally follows the rules defined in 27.3.3 (Procedure at the originator) when fragments are present in the soliciting (A-)MPDU(s).

NOTE 2 —The responding STA would be an unassociated STA when the MPDUs are contained in an RU identified by STA-ID equal to 2045. (#4800)

* **HE MU PPDU payload**

TGax Editor: Please make the following changes to the 2nd paragraph in section 27.5.1.2 (D1.3 P216L1):

AP may include one or more STA-ID field(s) in HE-SIG-B of a transmitted HE MU PPDU as described in 27.11.1 (STA\_ID\_LIST). (#4800) Two STA-ID fields in HE-SIG-B shall not have the same value, unless the value is 2046, which is used to indicate an unallocated RU. If an AP sets one of the STA-ID field in the HE-SIG-B field to match the AID of a non-AP STA, then the non-AP STA may disregard any broadcast RU in the same HE MU PPDU.

An MPDU sent in a broadcast RU of an HE MU PPDU shall not include information intended for a STA that is identified as the recipient of another RU in the same HE MU PPDU.

* **STA\_ID\_LIST**

TGax Editor: Please make the following changes to section 27.11.1 (D1.3 P264L44):

Each element of the TXVECTOR parameter STA\_ID\_LIST identifies the STA or group of STAs that is the recipient of an RU in the HE MU PPDU. If an RU is intended for a single STA, then the STA\_ID\_LIST element for that RU is set to the AID of the STA receiving the PSDU contained in that RU. If an RU is intended for an AP, then the STA\_ID\_LIST contains only one element that is set to the AID of the non-AP STA transmitting the PPDU. If an RU is intended for a group of STAs then the STA\_ID\_LIST element is set as follows:

* For an AP with dot11MultiBSSIDActivated equal to false, if the RU is intended for more than one associated (#4800) STA in the BSS, the STA\_ID\_LIST element is set to 0. The AP may include only one element with this value in a DL MU PPDU.
* For an AP with dot11MultiBSSIDActivated equal to true, if the RU is intended for more than one associated (#4800) STA in any of its BSSs, the STA\_ID\_LIST element is set to partial virtual bitmap value assigned for the group addressed frame (see 9.4.2.6 (TIM element)). The AP may include only one element for each BSSID of the multiple BSSID set in the HE MU PPDU, and the number of such elements shall not exceed the maximum number of BSSs of the multiple BSSID set.
* For an AP with dot11MultiBSSIDActivated equal to true, if the RU is intended for more than one associated(#4800) STA on all its BSSs, the STA\_ID\_LIST element is set to 2047. The AP may include only one element with this value in a DL MU PPDU.
* For an AP with dot11MultiBSSIDActivated equal to false, if the RU is intended for more than one unassociated STA, the STA\_ID\_LIST element is set to 2045. The AP may include only one element with this value in a DL MU PPDU.
* For an AP with dot11MultiBSSIDActivated equal to true, if the RU is intended for more than one unassociated STA for any of its BSSs, the STA\_ID\_LIST element is set to 2045. The AP may include only one element with this value in a DL MU PPDU. (#4800)