IEEE P802.11  
Wireless LANs

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| SB0 General Clause 3 CIDs | | | | |
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Abstract

**Addressing CIDs** 10143, 10144, 10063, 10064, 10228, 10217, 10219, 10233, 10235, 10239, 10240, 10218 (Clause 3) and 10032 (Clause 7) **of TGac SB0.**

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| **CID** | **Commenter** | **Clause**  **Page** | | **Comment** | | **Proposed Change** | **Resolution** |
| 10143 | Adachi, Tomoko | 3.1  2.10 | | The definition of an A-MPDU subframe does not contain the pad field which is included Fig.8-504. | | Add that it optionally contains a pad field. | Revised. See the editing instruction under CID 10143 in document 13/xxxx. |
| 10228 | Hunter, David | 3.1  2.10 | | "A-MPDU subframe" is formally defined in 8.6.1. The purpose of clause 3 is to define terms that are used generally in the document, not to redefine frame names. | | Delete this definition. | Reject. It seems a degenaral definition of A-MPDU is useful in Caluse 3.1 as a quick refrence. |
| **Discussion:** CID 10143 and 10228 refer to the following definition in Clause 3:  **aggregate medium access control (MAC) protocol data unit (A-MPDU) subframe:** A portion of an AMPDU containing a delimiter and optionally containing an associated MPDU.  Regarding CID 10228, it seems a degenaral definition of A-MPDU is useful in Caluse 3.1 as a quick refrence.  **Editing instruction for CID 10143:**  ***TGac Editor, cahneg the following defenition in Clause 3.1:***  **aggregate medium access control (MAC) protocol data unit (A-MPDU) subframe:** A portion of an AMPDU containing a delimiter and optionally containing an associated MPDU, or a pad. | | | | | | | |
| 10144 | Adachi, Tomoko | 3.1  2.32 | The definition of an MU PPDU allows a single STA to be the receiver. But reading the definition of MU-MIMO, which is a larger concept, it seems to be restricted for multiple STAs, more than one. The definition of DL-MU-MIMO can be also read to be restricted for multiple STAs, not for a single STA. Furthermore, is it allowed to carry a same (single) PSDU to multiple STAs? If so, the case should be differentiated with the case using a PSDU using a group address for the RA. | | | Change the definition to have consistency with the definition of MU-MIMO. Reexamine if it is allowed to carry a same PSDU to multiple STAs and clarify the definition from a group RA case if necessary. | Reject. While it is more efficient to send multiple PSDUs in a MU-PPDU, it is possible to send a single PSDU to a single receipient by approperiatelly setting the GID and NSTS in VHT-SIG-A. It is also possible to send the same PSDU to multiple STAs by approperiatelly setting the subfields in VHT-SIG-A. This case is not different with the MU-MIMO operation explained in the spec except that the content of individual PSDUs are the same, and it seems there is no distingution is left to be added. Hence, it is left to implementtaion to decide on the most efficient way to send the same PSDU to multiple STAs. |
| **Discussion:** CID 10144 refers to the following definition in Clause 3:  **multi-user (MU) physical layer protocol data unit (PPDU)**: A PPDU that carries one or more PSDUs for one or more STAs using the DL-MU-MIMO technique.  While it is more efficient to send multiple PSDUs in a MU-PPDU, it is possible to send a single PSDU to a single receipient by approperiatelly setting the GID and NSTS in VHT-SIG-A. It is left to implementation whether an AP finds doing so or not.  It is also possible to send the same PSDU to multiple STAs by approperiatelly setting the subfields in VHT-SIG-A. This case is not different with the MU-MIMO operation explained in the spec except that the content of individual MPDUs are the same, and it seems there is no distingution is left to be added. Hence, it is left to implementation to decide on the most efficient way to send the same PSDU to multiple STAs. | | | | | | | |
| 10233 | Hunter, David | 3.2  4.07 | Need a definition of "non-HT". Specifically, does "non-HT" include VHT? That is, is "non-HT" equivlent to "not HT and not VHT", or is it equivalent to "not HT, but perhaps VHT"? | | Define "non-HT": this definition is crucial to a large number of the statements in this document. | | Reject. non-HT is already defined in 11acD5.0, page 6, line 26. |
| 10063 | Schelstraete, Sigurd | 3.2  6.26 | Definition of non-HT isn't much of a definition | | Essentially the definition states it is "something, unless it isn't". Is there really a need for the second part of the definition ("unless explicitly stated or defined otherwise")? If so, could that be captured better? | | Accepted. |
| **Discussion:** CID 10063 refers to the following definition:  **non-high throughput (non-HT)**: neither high throughput (HT) nor very high throughput (VHT), unless explicitly stated or defined otherwise.  It is not clear to me whether the second part is needed. I agree with the commenter to remove the second part.  **Editing instruction for CID 10063:**  ***TGac Editor, add the following definition in clause 3.1:***  **non-high throughput (non-HT)**: neither high throughput (HT) nor very high throughput (VHT). | | | | | | | |
| 10064 | Schelstraete, Sigurd | 3.3  8.06 | The modified definition for PPDU (physical layer protocol data unit) currently only applies to 802.11ac. How do we reconcile that with the fact that this definition goes into the general sections of the document, where PPDU still means "PLCP protocol data unit"? | | Change definition of PPDU: PPDU: PLCP protocol data unit or physical layer protocol data unit (when used in Clause 22) | | Accept. |
| **Discussion:** CID 10064 refers to the following definition “PPDU physical layer protocol data unit”. The commenter is right that the current definition in 11ac D5.0 refers to VHT only. It is suggested to accept the proposed resolution by the commenter. | | | | | | | |
| 10217 | Hamilton, Mark | 3.2  4.51 | MMPDU definition should be with MPDU, MSDU, A-MPDU, etc., in subclause 3.1. | | Remove the editing instructions to move MMPDU's definition to subclause 3.2. | | Reject. This defention has once been moved from 3.1 to 3.2. |
| 10218 | Hamilton, Mark | 3.2  4.56 | This added text is helpful, but it is not definitional. | | Keep the added text, but move it to a section where introductory/explanatory text is appropriate, maybe subclause 5.1 or 6.1. | | Revise. Agree with the general suggestion of the commenter. It seems caluse 5.1 is more suitable for the introductory text, and it is suggested to add it to 5.1.1.1. See the editing instrctions for CID 10218 in document 13/xxxx. |
| **Discussion:** CID 10217 and 10218 refer to the following definition:  ***“Change the definition for MMPDU as follows and move it from 3.1 to 3.2:***  **medium access control (MAC) management protocol data unit (MMPDU):** The unit of data exchanged between two peer MAC entities, using services of the physical layer (PHY), to implement the MAC management protocol. The MMPDU is transported in one or more management MPDUs. The MMPDU might include a Mesh Control field or Management MIC element, but does not include a MAC header, an FCS or any other security encapsulation overhead.  NOTE—The MMPDU occupies a position in the management plane similar to that of the MSDU in the data plane. The MMPDU can be fragmented (under certain circumstances) and in that case is carried in multiple management MPDUs. This illustrates the similarity of the MMPDU to the MSDU. ***”***  Regarding the proposed resoliution in CID 10217, this defention has once been moved from 3.1 to 3.2. [I do not recall the reason for moving it from 3.1 to 3.2; please add the reason if the attendees recall.]  Regarding the proposed resoliution in CID 10218, aligned with the general suggestion of the commenter, it seems caluse 5.1 is more suitable for the introductory text that is part of this defention, however no where in clause in IEEE 802.11 – 2012, clause 5.1 MMPDU is mentioned. It might be more appropriate to add the introductory text to 5.1.1.1 as in the following:  **Editing instruction for CID 10218:**  **5.1.1.1 General**  ***TGac Editor, add the following after the last paragraph in 5.1.1.1 (baeline IEEE 802.11-2012), and remove the corresponding parts in the definition of MMPDU in clause 3.1:***  The MMPDU is transported in one or more management MPDUs. The MMPDU might include a Mesh Control field or Management MIC element, but does not include a MAC header, an FCS or any other security encapsulation overhead.  NOTE—The MMPDU occupies a position in the management plane similar to that of the MSDU in the data plane. The MMPDU can be fragmented (under certain circumstances) and in that case is carried in multiple management MPDUs. This illustrates the similarity of the MMPDU to the MSDU. | | | | | | | |
| 10219 | Hamilton, Mark | 3.2  7.16 | When is a "group of STAs identified by a single RA"? | | Clarify when this would be applicable, or remove from this definition | | Reject. In the definition of RA, either an IEEE MAC individual or group address is considered: “The RA field contains an IEEE MAC individual or group address that identifies the intended immediate recipient STA(s), on the WM, for the information contained in the frame body field”. |
| **Discussion:** CID 10219 refers to the following definition:  **user**: An individual or group of STAs identified by a single RA in the context of single user (SU) multiple input, multiple output (MIMO) or a single STA in the context of multi-user (MU) MIMO.  In the definition of RA, either an IEEE MAC individual or group address is considered: “The RA field contains an IEEE MAC individual or group address that identifies the intended immediate recipient STA(s), on the WM, for the information contained in the frame body field”. | | | | | | | |
| 10235 | Hunter, David | 3.2  4.48 | Transmit power is a concept that is used in many locations in the standard, including frequent references to TPC. Deleting this definition leaves an important and frequently used term undefined, which is unacceptable in an IEEE standard. | | Either replace this definition with a definition of "transmit power" that is acceptable both in 11ac and the rest of 802.11, or limit this definition's use to non-VHT applications (if TPC is not allowed in VHT STAs). | | Revised. Agree with the commenter that the changes made in 11ac regarding transmit power applies tpo VHT only, and for now it’d be better to keep the definition for Cluases 18, 19 and 20. See the editing instruction under CID 10235 in document 13/xxxx. |
| **Discussion:** CID 10235 refers to the following definition that is now deleted in D5.0:  **transmit power**: The effective isotropic radiated power (EIRP) when referring to the operation of an orthogonal frequency division multiplexing (OFDM) physical layer (PHY) in a country where so regulated.  Agree with the commenter that the changes made in 11ac regarding transmit power applies tpo VHT only, and for now it’d be better to keep the definition for Cluases 18, 19 and 20.  **Editing instruction for CID 10235:**  ***TGac Editor, add the following definition in caluse 3.2:***  **transmit power**: The effective isotropic radiated power (EIRP) when referring to the operation of an orthogonal frequency division multiplexing (OFDM) physical layer (PHY) of Clauses 18, 19 and 20 in a country where so regulated. | | | | | | | |
| 10239 | Hunter, David | 3.2  5.07 | A "beamforee' is defined as a "beamformee". Very useful. Also, the "as x, as y" form is confusing at best and a definition is not an index , so reference pointers should not be included. | | Replace "beamformee, as described ... beamforming).F44" with "receiver." | | Revise. Agree with the suggested change. See the editing instruction under CID 10239 in document 13/xxxx. |
| **Discussion:** It seemsCID 10239 refers to the following definition in page 6 line 7 (not page 5) in D5.0:  **high throughput (HT) beamformee**: An HT station (STA) that receives an HT physical layer protocol data unit (PPDU) that was transmitted using a beamforming steering matrix and that supports an HT transmit beamforming mechanism as beamformee, as described in 9.29.2 (HT tTransmit beamforming with implicit feedback) or 9.29.3 (Explicit feedback beamforming).  Aligned with the suggestion of the commenter, it is clearer to state beamformee as the receiver of HT transmit beamforming mechanism.  **Editing instruction for CID 10239:**  ***TGac Editor, add the following definition in caluse 3.2:***  **high throughput (HT) beamformee**: An HT station (STA) that receives an HT physical layer protocol data unit (PPDU) that was transmitted using a beamforming steering matrix and that supports an HT transmit beamforming mechanism as receiver, as described in 9.29.2 (HT Transmit beamforming with implicit feedback) or 9.29.3 (Explicit feedback beamforming). | | | | | | | |
| 10240 | Hunter, David | 3.2  6.51 | If this "can" does not mean "may", then this statement is completely false. Physically and logically there can, of course, be multiple things identified as "primary AC" at the same time. So this statement is trying to sneak in a requirement -- that only one primary AC is \_permitted\_ at a time. | | Replace this normative use of "can be" with "is", so this statement is only a report that there is only one primary AC at a time. (Though this statement really isn't relevant to the definition of primary AC, so it would be better to delete it.) | | Revised. Agree with the commenter to remove the second sentence. |
| **Discussion:** CID 10240 refers to the following definition in D5.0:  **primary access category (AC):** The access category (AC) associated with the enhanced distributed channel access function (EDCAF) that gains channel access. There can be only one primary AC at a time.  By definition there is one AC that gains channel access. So agree with the commenter remove the second sentence in above definition.  **Editing instruction for CID 10240:**  ***TGac Editor, add the following definition in caluse 3.2:***  **primary access category (AC):** The access category (AC) associated with the enhanced distributed channel access function (EDCAF) that gains channel access. | | | | | | | |

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| 10032 | Iwaoka, Mitsuru | 7.3.5.6.3  30.31 | In the second bullet, conditions of dot11MgmtOptionTODImplemented and dot11MgmtOptionTimingMsmtActivated are missing. | "Change second bullet as - When transmitting a non-VHT PPDU, the PLCP has issued PMD.TXSTATUS.request primitive if dot11MgmtOptionTODImplemented and dot11MgmtOptionTODActivated are true or if dot11MgmtOptionTimingMsmtActivated is true.  And insert 3rd bullet as - When transmitting a non-VHT PPDU, If the TXVECTOR parameter TIME\_OF\_DEPARTURE\_REQUESTED in the PHY-TXSTART.request(TXVECTOR) primitive is true." | No resolution is suggested in this document yet. |
| **Discussion:** CID 10032 refers to the following in D5.0:  **7.3.5.6 PHY-TXSTART.confirm**  **7.3.5.6.3 When generated**  This primitive is issued by the PHY to the MAC entity once all of the following conditions are met:  — The PHY has received a PHY-TXSTART.request primitive from the MAC entity.  — When transmitting a non-VHT PPDU, the PLCP has issued PMD.TXSTATUS.request primitive if dot11MgmtOptionTODActivated is true and the TXVECTOR parameter TIME\_OF\_DEPARTURE\_REQUESTED in the PHY-TXSTART.request(TXVECTOR) primitive is true.  — The PHY is ready to begin accepting outgoing data octets from the MAC. | | | | | |