IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Inter-band Channel Switch using ECS | | | | | | Date: 2023-07-01 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Youhan Kim | Qualcomm Technologies, Inc. |  |  | [youhank@qti.qualcomm.com](mailto:youhank@qti.qualcomm.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes resolutions for the following CIDs from LB273:

4343, 4268

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version.

# CID 4343

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| **CID**  **Clause**  **Page.Line** | **Comment** | **Proposed Change** |
| 4343  3.2  (No page/line identified) | CID 1948 on HE/HT/duplicate PPDU wasn't incorporated correctly | Incorporate the following:  REVISED (GEN: 2022-06-15 14:29:50Z) Add the following definition in Clause 3.2:  non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU): A PPDU that is transmitted by a Clause 15 (DSSS PHY specification for the 2.4 GHz band designated for ISM applications), Clause 16 (High rate direct sequence spread spectrum (HR/DSSS) PHY specification), Clause 17 (Orthogonal frequency division multiplexing (OFDM) PHY specification), or Clause 18 (Extended Rate PHY (ERP) specification) PHY, or not using a TXVECTOR FORMAT parameter equal to HE.  And change non-high-thought (non-HT) physical layer (PHY) protocol data unit (PPDU): non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU): A PPDU that is transmitted by a Clause 15 (DSSS PHY specification for the 2.4 GHz band designated for ISM applications), Clause 16 (High rate direct sequence spread spectrum (HR/DSSS) PHY specification), Clause 17 (Orthogonal frequency division multiplexing (OFDM) PHY specification), or Clause 18 (Extended Rate PHY (ERP) specification) PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF, VHT. or HE |

## Discussion

Following was the original related text in REVme 1.0. (Note that there was no definition of non-HE PPDU in REVme D1.0.)

REVme D1.0 P230

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| **non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data unit (PPDU):** A PPDU transmitted by a Clause 19 or Clause 21 PHY with the TXVECTOR FORMAT parameter equal to NON\_HT and the CH\_BANDWIDTH parameter equal to NON\_HT\_CBW40, CBW40, CBW80, CBW160, or CBW80+80.  **…**  **non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU):** A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF or VHT. |

As the commenter has pointed out, CID 1948 (LB258) had the following resolution.

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| "REVISED (GEN: 2022-06-15 14:29:50Z) Add the following definition in Clause 3.2:  non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU): A PPDU that is transmitted by a Clause 15 (DSSS PHY specification for the 2.4 GHz band designated for ISM applications), Clause 16 (High rate direct sequence spread spectrum (HR/DSSS) PHY specification), Clause 17 (Orthogonal frequency division multiplexing (OFDM) PHY specification), or Clause 18 (Extended Rate PHY (ERP) specification) PHY, or not using a TXVECTOR FORMAT parameter equal to HE.  And change non-high-thought (non-HT) physical layer (PHY) protocol data unit (PPDU): non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU): A PPDU that is transmitted by a Clause 15 (DSSS PHY specification for the 2.4 GHz band designated for ISM applications), Clause 16 (High rate direct sequence spread spectrum (HR/DSSS) PHY specification), Clause 17 (Orthogonal frequency division multiplexing (OFDM) PHY specification), or Clause 18 (Extended Rate PHY (ERP) specification) PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF, VHT. or HE" |

Resolution for CID 1948 (LB258) instructed for the following change.

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| **non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU):** A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HE.  **non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data unit (PPDU):** A PPDU transmitted by a Clause 19 or Clause 21 PHY with the TXVECTOR FORMAT parameter equal to NON\_HT and the CH\_BANDWIDTH parameter equal to NON\_HT\_CBW40, CBW40, CBW80, CBW160, or CBW80+80.  **…**  **non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU):** A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF or VHT or HE. |

Unfortunately, the resolution did not clearly indicate the page and line number of the change, hence the REVme editors updated the definition for “non-HT **duplicate** PPDU” instead of “non-HT PPDU”.

Hence, D2.0 became (P221):

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| **non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU):** A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HE.  **…**  **non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data unit (PPDU):** A PPDU transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF or VHT or HE.  **…**  **non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU):** A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF or VHT. |

Then, CID 3330 (LB270) further updated the text to (implemented correctly by the editors):

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| **non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU):** [non-HE PPDU] A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HE.  **…**  **non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data unit (PPDU):** [non-HT duplicate PPDU] A PPDU transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY, or not using a TXVECTOR FORMAT parameter equal to HT\_MF, HT\_GF or VHT or HE.  **…**  **non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU):** [non-HT PPDU] A PPDU that is transmitted by a Clause 15, Clause 16, Clause 17, or Clause 18 PHY. |

So, the final status is:

* Non-HE PPDU definition is as instructed by the resolution of CID 1948
  + However, the definition is errorneous. For example, a WUR, S1G or DMG PPDU does not use the “TXVECTOR FORMAT parameter equalt to HE”, hence is a non-HE PPDU by the current definition, which is not technically accurate.
  + However, ‘fixing’ the non-HE PPDU definition is outside the scope of CID 4343 – remember that CID 4343 is stating that CDI 1948 was not implemented correct. But CID 1948 was implemented correctly for the non-HE PPDU. It’s just that the resolution for CID 1948 itself was errorneous.
  + Fortunately, there is another CID (CID 4268) which is asking to update the non-HE PPDU definition, so let’s deal with it in that CID.
* Non-HT duplicate PPDU definition should not have been updated, but was updated errorneously (confusion by editors when implementing CID 1948)
  + This needs to be fixed.
* Non-HT PPDU definition is as instructed by the resolution of CID 3330. This comment we are resolving now (CID 4343) is pointing out that the non-HT PPDU definition does not match the resolution of CID 1948 (LB258), but CID 3330 ovewrote that anyway.
  + Current definition (per CID 3330) is appropriate and adequate; hence no further change is recommended.

## Proposed Resolution: CID 4343

**REVISED**

**Instruction to TGme Editor:**

Implement the proposed text updates for CID 4343 in [https://mentor.ieee.org/802.11/dcn/23/11-23-1127-00-000m-lb273- misc-cids.docx](https://mentor.ieee.org/802.11/dcn/23/11-23-1127-00-000m-lb273-%20misc-cids.docx)

**Note to Commenter:**

The proposed text update fixes the definition for non-HT duplicate PPDU. Definition for non-HT PPDU has been superceded by CID 3330 (LB270), hence requires no further change.

## Proposed Text Update: CID 4343

*Instruction to TGme Editor: Update REVme D3.0 P220L31 as shown below.*

**non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU):** [non-HE PPDU] A PPDU that is transmitted using PPDU formats defined in Clause 15, Clause 16, Clause 17, Clause 18, Clause 19, or Clause 21.

*Instruction to TGme Editor: Update REVme D3.0 P221L21 as shown below.*

**non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data unit (PPDU):** [non-HT duplicate PPDU] A PPDU transmitted with the TXVECTOR FORMAT parameter equal to NON\_HT and the NON\_HT\_MODULATION parameter equal to NON\_HT\_DUP\_OFDM.

**non-high-throughput (non-HT) physical layer (PHY) protocol data unit (PPDU):** [non-HT PPDU] A PPDU that is transmitted using PPDU formats defined in Clause 15, Clause 16, Clause 17 or Clause 18.

# CID 4268

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| **CID**  **Clause**  **Page.Line** | **Comment** | **Proposed Change** |
| 4268  3.2  (No page/line identified) | We redefined non-HT PPDU to be in terms of PPDU formats defined by specific clauses -- also need to do this for non-HE PPDU etc. | As it says in the comment [confirm direction] |

## Discussion

See the discussion for CID 4343.

Furthermore, I have reviewed REVme D3.0 P220-221 and did not find any other locations to make definition changes other than the non-HE PPDU.

## Proposed Resolution: CID 4268

**REVISED**

**Instruction to TGme Editor:**

Implement the proposed text updates for CID 4268 in [https://mentor.ieee.org/802.11/dcn/23/11-23-1127-00-000m-lb273- misc-cids.docx](https://mentor.ieee.org/802.11/dcn/23/11-23-1127-00-000m-lb273-%20misc-cids.docx)

**Note to Commenter:**

The proposed text update changes the definition for non-HE PPDU in the direction suggested by the commenter.

## Proposed Text Update: CID 4268

*Instruction to TGme Editor: Update REVme D3.0 P220L31 as shown below.*

**non-high-efficiency (non-HE) physical layer (PHY) protocol data unit (PPDU):** [non-HE PPDU] A PPDU that is transmitted using PPDU formats defined in Clause 15, Clause 16, Clause 17, Clause 18, Clause 19, or Clause 21.

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