IEEE P802.11  
Wireless LANs

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| Resolution of LB239 CIDs 4003, 4004, 4026, 4284, 4304, 4305, 4351, 4352, 4357, 4358, 4360, 4361, 4362, 4363, 4365, 4427 | | | | |
| Date: 2019-March-03 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | email |
| Solomon Trainin | Qualcomm |  | 972547885738 | [strainin@qti.qualcomm.com](mailto:strainin@qti.qualcomm.com) |
| Alecsander Eitan | Qualcomm |  |  | [eitana@qti.qualcomm.com](mailto:eitana@qti.qualcomm.com) |
| Assaf Kasher | Qualcomm |  |  | [akasher@qti.qualcomm.com](mailto:akasher@qti.qualcomm.com) |
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Abstract

Resolution of CIDs: 4003, 4004, 4026, 4284, 4304, 4305, 4351, 4352, 4357, 4358, 4360, 4361, 4362, 4363, 4365, 4427

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 4003 | 26.01 | 4.9.5 | Figure 1 Reference model calls out STA 1 and STA 2, to be consistent with 802.11REVmd - D2.1 add the PHY frequency range under each | Add Frequency e.g., 45 - 60 GHz under STA 1 and STA 2 in Figure 1 | **Reject**  The cases mentioned in the comments are related to different bands and channels, and this model is about co-channel that is clearly indicated in the text and is not limited to the specific band. |
| 4004 | 373.01 | 11.53.2 | Figure 164 TDD channel access life cycle flowchart needs a label before the "Inactive" step such a "STA TDD Channel Access" | As commented | **Reject**  The entire diagram is about TDD channel access. Each label in the diagram emphasizes a state. |
| 4026 | 372.11 | 11.53.2 | In section 11.53.2, in the first line it is stated "Figure 164 summarizes an exemplary TDD channel access life cycle." Why is this "an exemplary" and not the ONLY and mandatory life cycle? What other life cycle can be used? If so, how is the STA knows how to behave? | Replace the words "an exemplary" with "the" | **Accept** |
| 4284 | 375.09 | 11.53.4 | In Figure 168, not clear why Announce frame from AP to non-AP contains TDD slot schedule. The non-AP is not the scheduler and it does not need to know AP STA's (un)availability  For delivering non-AP's TX/RX schedule, it is already been covered by figure 167 | remove 'TDD slot schedule' in the Announce from AP to non-AP direction | **Revised**  AP STA and non-AP STA may signal that some of the TX TDD Slots are not used however they are scheduled. The procedure depicted in the Figure 168 may follow the schedule delivered as presented in the Figure 166.  P375L5  **Modify:**  "....may exchange TDD Slot Schedule elements to notify each other of changes in the use of TDD slots already allocated to STAs. The STA may reject to use the TX TDD slot by indicating it as unavailable” |
| 4304 | 374.10 | 11.53.4 | The use of the Announce frames of a category equal to Protected Dual of Unprotected DMG Action to deliver the schedule slot should element be optional. The use of the unprotected action frame should be allowed | Please indicate that protected or unprotected announce frames can be used | **Revised**  P374L14  **Modify the sentence as follows:** "Announce frames of a category equal to Protected Dual of Unprotected DMG Action shall be used to deliver the elements in the case defined in 12.6.20 Robust management frame selection procedure, otherwise the category of Unprotected DMG Action shall be used. |
| 4305 | 375.04 | 11.53.4 | The use of the Announce frames of a category equal to Protected Dual of Unprotected DMG Action to deliver the slot structure element should be optional. The use of the unprotected action frame should be allowed | Please indicate that protected or unprotected announce frames can be used | **Revised**  P375L6  **Modify the sentence as follows:** "Announce frames of a category equal to Protected Dual of Unprotected DMG Action shall be used to deliver the elements in the case defined in 12.6.20 Robust management frame selection procedure, otherwise the category of Unprotected DMG Action shall be used. |
| 4351 | 374.05 | 11.53.4 | "There are a few options to deliver the TDD schedule for data transmission and related functionality"  Text should specify what are the options? Or not to mention the others | Please indicate | **Reject**  The options are presented in the text of the subclause 11.53.4 that starts in the next sentence after the commented. |
| 4352 | 374.07 | 11.53.4 | Why figure 166 shows frame exchange for both STA1 and STA2? What is the relations of the two ? Is one AP and the other STA? | Please indicate | **Revised**  P374L5  **Modify:**  Figure 166 illustrates an option under co-channel coordinated management operation (see 4.9.5), there both STAs belong to the same device. The SME deliver the TDD schedule to a STA. In this case, the MLME primitives are local and do not cause a frame to be transmitted. It is applicable for AP STAs as well for non-AP STAs |
| 4357 | 372.15 | 11.53.2 | There is no definition for "initial TDD Beamforming" there is only TDD Beamforming". What is the meaning of the word "initial" in the TDD Beamforming procedure ? | Add description or section that explain that "Initial TDD Beamforming" is Beamforming scheduled via the "Transmit Period" field within the TDD SSW frame | **Revised**  See resolution below in the document |
| 4358 | 373.14 | 11.53.3 | Section should indicate that the link access opportunities to deliver the Unprotected DMG frame is done via the InitiatorTransmitOffset of the TDD Beamforming. Section should indicate all the mandatory and optional frames delivered in this method including Announce with TDD Route sent from the STA to the AP. | As in comment | **Revised**  See resolution below in the document |
| 4360 | 373.09 | 11.53.2 | "The initial TDD beamforming is defined in 11.37.2, 11.37.3, 11.37.4 and 10.43.10."  there is no "Initial TDD Beamforming" | Define "initial TDD Beamforming" or change the term | **Revised**  See resolution below in the document |
| 4361 | 373.06 | 11.53.2 | "Association shall be performed as defined in 11.3.5."  Does STA should exchange Probes in TDD Network? When and how? | please specify | **Revised**  Probing is not related to the association, it is part of the Scan. No need to address probing in relation to association procedures.  P373L18  **append to the sentence:**  Association shall be performed as defined in 11.3.5 per DMG infrastructure BSS and PBSS. |
| 4362 | 373.06 | 11.53.2 | " after which time the TDD channel access becomes active."  text is no clear, TDD channel access is active for association and 802.1X Authentication (which is delivered over data frames). what is the TDD channel access for above and data frames, both are done in the same method (scheduling, used TDD Slots etc.) | Please clarify | **Reject**  There is no such a quoted text in the referred line. No way to resolve the comment |
| 4363 | 373.07 | 11.53.2 | "An AP (or PCP) and non-AP STA (or non-PCP STA) that belong to different devices may exchange..."  It is unclear what "belong to different devices" means? The definition of STA within a single device is not exist or not clear | Please clarify | **Reject**  The device and STA relationship are defined in 4.9.5 Reference model for co-channel coordinated management operation |
| 4365 | 373.07 | 11.53.2 | "....may exchange TDD Slot Schedule elements to notify each other of changes in the use of TDD slots already allocated to STAs."  How the recipient STA knows that the received TDD Slot Structure is informing on already exist schedule or new allocated schedule? how this information is delivered via the STA SME ? | Please clarify | **Revised**  The quoted text is not of the page and line numbers.  The quoted text refers to the  Figure 168 that indicates the relevant primitives. The proposed resolution addresses the quoted text.  P375L5  **Modify:**  "....may exchange TDD Slot Schedule elements to notify each other of changes in the use of TDD slots already allocated to STAs. The STA may reject to use the TX TDD slot by indicating it as unavailable” |
| 4427 | 374.14 | 11.53.4 | "Announce frames of a category equal to Protected Dual of Unprotected DMG Action shall be used to deliver the elements." The rule is not aligned with the rule of using Protected Dual of Unprotected DMG Action in 12.6.20 Robust management frame selection procedure. | **Modify the sentence as follows:** "Announce frames of a category equal to Protected Dual of Unprotected DMG Action shall be used to deliver the elements in the case defined in 12.6.20 Robust management frame selection procedure, otherwise the category of Unprotected DMG Action shall be used.” (Fix in two places) | **Accept** |

CID 4357, 4360

**Revised**

Discussion: Definition of the Initial TDD Beamforming is provided to be used in the subclause 11.53

***TGay editor modify as follows:***

P373L4

The term “Initial TDD Beamforming” used in the subclause 11.53 is the TDD beamforming scheduled via the Transmit Period field within the TDD SSW frame. Scheduling for association, secure authentication and relevant operations are defined in 11.53.3. TDD channel access becomes active for data transfer (i.e., an MSDU may be transmitted) after successful completion of a secure authentication. . Scheduling for data traffic is defined in 11.53.4. Data traffic transfer under TDD channel access is defined in 10.40.6.2.2 and link maintenance is defined in 10.44.5.

CID 4358

**Revised**

Discussion: the procedure of schedule delivery for the association and secure authentication is aligned with the text in the 10.43.11.2 Initiator operation for TDD individual beamforming and other relevant sub clauses by providing references.

***TGay editor modify as follows:***

***Remove the Figure 165***

P373L14

The schedule for the association and secure authentication is delivered by an AP STA (or PCP STA) by the Announce frame at completion of the Initial TDD beamforming as defined in 10.43.11.2 Initiator operation for TDD individual beamforming, 10.43.11.4 Initiator operation for TDD group beamforming, and in 11.37.2 TDD beamforming.. Announce frames of category Unprotected DMG shall be used to deliver the schedule. The Announce frame conveys the TDD Slot Structure element and TDD Slot Schedule element (see 10.40.6.2.2).

P367L18 and P368L1

***In the Figure 161 and in the Figure 162 append:***

Announce Frame (TDD Structure, TDD schedule)

**References**

1. IEEE P802.11ay/D3.0, February 2019