IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Proposed resolutions to CID 429, 430, 432 - 435 in LB220 | | | | |
| Date: 2016-07-25 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | Email |
| Dejian Li | Huawei |  |  | dejian.li@huawei.com |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This document proposes resolutions to CID 429, 430, 432 – 435 for TGaj D2.0: .

**Revision History**

R0: Initial version.

R1: Some typos are corrected.

**Editorial comments:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change |
| 429 | 10.42.5 | 148 | 9 | E | Typo in "...between CDMG and DMG STAs." | Change to "...between CDMG STAs and DMG STAs" |

Discussion: fix this typo.

Proposed resolution: **accept**

Change "...between CDMG and DMG STAs." to "...between CDMG STAs and DMG STAs".

**Technical comments:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change |
| 430 | 9.4.2.132 | 43 | 27 | T | In Table 9-235--AllocationType subfield values, there is a value of 4 to indicate "Reserved time that is available on a 2.16 GHz channel". However, this value is not necessary because its intention can be realized using the value 0 or 1. | Delete the value 4 of "Allocation Type", and reuse the value 0 or 1 instead in 10.42.5 |

**Discussion:**

In 11aj D2.0, “Table 9-235--AllocationType subfield values” is shown as below:



There is a value of 4 to indicate "Reserved time that is available on a 2.16 GHz channel". However, this value is not necessary, because its intention can be realized using a simple other approach. This value is used by a 1.08 GHz AP or PCP to report available time for an AP or PCP on the adjacent 1.08 GHz channel. Actually, the AP or PCP on the adjacent 1.08 GHz channel can acquire this information from the unallocated time through the Extended Schedule element.

Proposed resolution: **Accept**

***Change “Table 9-235--AllocationType subfield values” as follows:***

******

***Change the paragraph containing “AllocationType field set to 4”in 10.42.5 as follows:***

“If a CDMG AP or PCP that is operating on a 1.08 GHz channel, with another CDMG BSS operating on the adjacent 1.08 GHz channel within a 2.16 GHz channel, the CDMG AP or PCP shall only schedule SPs or CBAPs with non-AP and non-PCP DMG STAs as the source or destination STAs in time periods that has been reported as unoccupied by the other CDMG AP or PCP through the Extended Schedule element in its DMG Beacon frames. The CDMG AP or PCP shall announce all its allocated SPs and CBAPs for the other CDMG AP or PCP, and the other CDMG AP or PCP can allocate SPs or CBAPs on the common 2.16 GHz channel in the unallocated time. The CDMG AP or PCP that intends to allocate time on the 2.16 GHz channel may also transmit an Allocation Request frame (9.6.24.6 (Allocation Request frame format)) during the ATI of the other AP’s or PCP’s NP/BHI on the 2.16 GHz channel to request for the available time for allocations on the 2.16 GHz channel. A CDMG AP or PCP that receives an Allocation Request frame from a CDMG AP or PCP operating on its adjacent 1.08 GHz channel shall reply with an Allocation Response frame (9.6.24.7 (Allocation Response frame format)) with an Extended Schedule element to indicate the schedule of all its allcations.”

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change |
| 432 | 10.37a.6 | 131 | 20 | T | "links" implies there are always more than one link in a BSS, which may not be true. | Check the plural "links" in this subclause, make sure it is correct. |

**Discussion:** Do as the suggested remedy.

Proposed resolution: **Accept**

***Change as follows:***

“A CDMG S-AP or S-PCP that supports SPSH among BSSs should indicate whether all the member APs or member PCPs in a cluster in the SPSH measurement phase or the SP spatial sharing phase by setting the SPSH Measurement Enabled field in the Clustering Control field of the DMG Beacon frame to 1 or by setting the Clustering SPSH Enabled field within the Clustering Interference Assessment element to 1. The SPSH Measurement field is set to 1 to indicate that SPSH measurement phase starts. Each member AP or member PCP that supports SPSH among BSSs should request STAs in its BSS to perform directional chan-nel quality measurement during SPs of other BSSs in the same cluster, as described in 11.11 (Radio mea-surement procedure). The CDMG AP or PCP should send directional channel quality request to STAs in the same BSS and receive directional channel quality report from the STAs. The period of the directional chan-nel quality measurement is indicated by the Channel Quality Measurement Duration subfield within the Clustering Interference Assessment element. The AP or PCP can obtain the interference information that indicates link(s) in its BSS experience interference from at least one link of other BSS within the AP or PCPcluster through channel measurement of STAs. The AP or PCP can estimate the channel quality across STAs within multiple BSSs and implement spatial sharing based on the results of the measurements per-formed by the STAs associated with the AP or PCP. The S-AP or S-PCP should periodically set the SPSH Measurement Enabled field, generating and sending the indicated information of interference measurement.”

In the SPSH measurement phase, each member AP or member PCP that supports SPSH among BSSs in an AP or PCP cluster shall schedule SPs in non-overlapping period according to the clustering mechanism, as described in 10.37 (DMG AP or PCP clustering) and 10.37a (CDMG AP or PCP clustering). If one link in a BSS is transmitting data, link(s) in other BSSs keeps in directional channel measurement state. The determi-nation of the interference from the measured link (existing SP) to the candidate SP is implementation depen-dent and beyond the scope of this standard.

Each member AP or member PCP in a cluster may record the information which link(s) in other BSSs do not interfere with the link(s) in its BSS through channel measurement of STAs, and include the information in SPSH Report elements that are sent to other AP(s) or PCP(s) through DMG Beacon frames. Each member AP or member PCP can obtain interference information that indicates interference experienced by at least one link of other BSS(s) from link(s) of its BSS, after receiving SPSH Report element from other APs or PCPs in the same cluster. Each AP or PCP is able to obtain a database of links that may perform SPSH, but the definition of the database is beyond the scope of this standard.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change |
| 433 | 10.37a.2.1 | 122 | 26 | T | What is "existing cluster"? Does this cluster operates on a 1.08 GHz channel or 2.16 GHz channel? | Change to "existing AP or PCP cluster" |

Proposed resolution: **Revised.**

***Change as follows:***

“If an existing AP or PCP cluster is operating on a 2.16 GHz channel, the decentralized clustering enabled AP or PCP shall monitor the corresponding 2.16 GHz channel and then follow the procedures defined in 10.37.2.1 (Decen-tralized AP or PCP cluster formation) to become a member AP or member PCP of this cluster.”

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change |
| 434 | 10.38.9 | 134 | 32 | T | "E-BR-R" is not a correct name. "E-BR-R OK" in these figures should also be changed to "E-BR-R enabled" | Change "E-BR-R OK" to "E-BT-R Enabled". Correct all the similar problems in this subclause. |

**Discussion:** Do as the suggested remedy.

**Proposed resolution: Accept**

***Change "E-BR-R OK" (see the red frame) in Figure 10-86a and 10-86b to "E-BT-R Enabled". Correct all the similar problems in this subclause.***



***Replace “Enalbe” with “Enabled” throughout all the SPEC.***

“A beam tracking responder that receives a packet with the Enhanced Beam Tracking Request field in the PHY header is 1, the Training Length field in the PHY header is nonzero and the Packet Type field in the PHY header is 0 shall follow the rules described in 25.9.2.2 (Beam refinement) and may use the beam refinement AGC field, TRN-R subfields, STF field and CE field appended to the received packet to perform receive beam training. If the switching to the alternative link is required, the responder shall set the Switching to Backup AWV Request subfield within the Enhanced Beam Tracking element within the transmitted BRP frame to 1. The initiator should respond an Enhanced Beam Tracking element with the Switching to Backup AWV Enabled subfield set to 1 in the following BRP frame. If the Enhanced Beam Tracking element with the Switching to Backup AWV Enabled subfield set to 1 is transmitted or received, the initiator and responder shall switch to the alternative link before the next frame. After switching to the alternative link, the initiator and responder shall both set the last link as the new alternative link.”

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change | Remark |
| 435 | 10.36.6.6.2a | 113 | 38 | T | The relationship between "listening mode" and the start of SP in the figure 10-57a is not very clear. | Clarify the relationship between "listening mode" and the start of SP in the figure 10-57a |  |

**Discussion:** The relationship between "listening mode" and the start of SP in the figure 10-57a is not clear. Do as the suggested remedy.

Proposed resolution: **Revised.**

***Replace Figure10-57a with the figure below:***



***Figure10-57a***