IEEE P802.11
Wireless LANs

|  |
| --- |
| Spec Text for CR for CID 2696, 2697 and 2752 |
| Date: 2019-03-10 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Xiaofei Wang | InterDigital Inc. | 2 Hungting Quad, Melville, NY 11747USA | +1-607-592-2727 | Xiaofei.wang@interdigital.com |
| Hanqing Lou |  |  |
| Rui Yang |  |  |
| Rojan Chitrakar | Panasonic |  |  |  |
| Alfred Asterjadhi | Qualcomm |  |  |  |
| Jeongki Kim | LGE |  |  |  |
| Yunsong Yang | Huawei |  |  |  |
| Ming Gan | Huawei |  |  |  |
| Yongho Seok | Mediatek |  |  |  |

Abstract

This submission proposes resolutions for the following CIDs: 2696, 2697 and 2752.The baseline for this comment resolution document is 802.11ba Draft 2.0.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 2696 | Xiaofei Wang | 30.7.2 | 70 | 3 | I disagree with the resolution of CIDs 915, 1100, 1132. A WUR non-AP STA should have a remedy in case the WUR AP chooses to transmit to it using HDR and if HDR doesn't work well as a part of the WUR negotiation process. | Provide a remedy in the WUR negotiation process for WUR non-AP STA to switch to a LDR if HDR doesn't work well for the current channel condition. | Revised—Agree in principle with the comment. Added an optional Recommended WUR Parameter subfield, which includes a Recommended Wake Up Frame Rate field, in the WUR Parameter subfield by the WUR non-AP STA and associated procedures.Instruction to the editor: please make changes included in 11-19/00361r1. |
| 2697 | Xiaofei Wang | 9.4.2.290 | 41 | 4 | I disagree with the resolutions for CIDs 1099 and 1141. A non-AP STA should have the capability to indicate the preferred WUR channel to its AP since there may be quite a bit of frequency selectivity for a 4 MHz wide channel. Currently, a non-AP STA doesn't have any remedy if it is assigned a bad channel by its WUR AP. | add a row on "preferred channel" in Table 9-318e and the associated procedures so that a non-AP STA can have some remedy if it is assigned to a bad channel by its AP. | Revised—Agree in principle with the comment. Added an optional Recommended WUR Parameter subfield, which includes a Recommended WUR Channel Offset field, in the WUR Parameter subfield by the WUR non-AP STA and associated procedures.Instruction to the editor: please make changes included in 11-19/00361r1. |
| 2752 | Xiaofei Wang | 30.2 | 80 | 9 | I disagree with the resolutions for CIDs 1099 and 1141. A non-AP STA should have the capability to indicate the preferred WUR channel to its AP since there may be quite a bit of frequency selectivity for a 4 MHz wide channel. Currently, a non-AP STA doesn't have any remedy if it is assigned a bad channel by its WUR AP. | add description for procedures so that a non-AP STA can have some remedy if it is assigned to a bad channel by its AP. | Revised—Agree in principle with the comment. Added an optional Recommended WUR Parameter subfield, which includes a Recommended WUR Channel Offset field, in the WUR Parameter subfield by the WUR non-AP STA and the associated procedures.Instruction to the editor: please make changes included in 11-19/00361r1. |

**Discussion: *None***

* WUR Mode element

TGba Editor: *Change Figure 9-772h and the 5th paragraph of 9.4.2.292 as follows:*

The WUR Parameters Control field indicates the configuration of the following WUR Parameters field. The format of the WUR Parameters Control field when the Action Type field is set to “Enter WUR Mode Response” or “Enter WUR Mode Suspend Response” and the WUR Mode Response Status field is set to “Accept” or sent by a WUR non-AP STA is shown in Figure 9-772h (WUR Parameters Control field format). Otherwise, this field is reserved.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0 | B1     | B2 | B3                                B7 |
|  | WUR Duty Cycle Start Time Present | WUR Group ID List Present | Recommended WUR Parameters Present | Reserved |
| Bits: | 1 | 1 | 1 | 5(#1092) |
|  | * WUR Parameters Control field format
 |

**TGba Editor: *Insert the following text at Page 49 Line 22:***

The Recommended WUR Parameters Present subfield is set to 1 if the Recommended WUR Parameters subfield are present in the following WUR Parameters field and set to 0 otherwise.

**TGba Editor: *Modify Figure 9-772k as follows:***

|  |  |  |  |
| --- | --- | --- | --- |
|  | On Duration | Duty Cycle Period | Recommended WUR Parameters |
| Octets: | 4 | 2 | 0 or 1 |
| * WUR Parameters field format from WUR non-AP STA
 |  |

**TGba Editor: *Change Table 9-321f as follows:***

|  |
| --- |
| * Subfields of the WUR Parameters field from WUR non-AP STA
 |
| **Subfield** | **Definition** | **Encoding** |
| On Duration | Indicates the preferred On Duration that the WUR non-AP STA is in the WUR awake state for each WUR duty cycle period (see 30.6 (WUR duty cycle operation)). (#703, #877) | The size of the field is 4 bytes. The unit of the field is 256 µs.The size of the field is 4 octets. The unit of the field is 4 µs. |
| Duty Cycle Period | Indicates the preferred elapsed time between the start times of two successive WUR duty cycle schedules (see 30.6 (WUR duty cycle operation)). | The size of the field is 2 bytes.The size of the field is 2 bytes.The size of the field is 2 octets. The unit of the field is indicated by the Duty Cycle Period Units field in the most recently received WUR Operation element from the associated WUR AP. (#68) |
| Recommended WUR Parameters | Indicates one or more recommentded WUR parameters. | The format is shown in Figure 9-772x (Recommended WUR Parameters subfield format).The format is shown in Figure 9-751x (Recommended WUR Parameters subfield format) |

**TGba Editor: *Insert the following at Page49 Line 37:***

|  |  |  |  |
| --- | --- | --- | --- |
|  | B0                          B1 | B2                                 B4 | B5                                 B7 |
|  | Recommended WUR Wake Up Frame Rate | Recommended WUR Channel Offset | Reserved |
| Bits | 2 | 3 | 3 |
|  | Figure 9-772x -- Recommentded WUR Parameters subfield format |

The format of the Recommeneded WUR Parameters subfield is shown in Figure 9-772x (Recommended WUR Parameters subfield format). This field is present if the Recommended WUR Parameters Present subfield of the WUR Parameter Control field is set to 1. Otherwise this field is not present.

The Recommended WUR Wake Up Frame Rate field is set to 0 to indicate that the WUR non-AP STA has no recommendation on the data rate to be used for WUR wake up frames. This field is set to 1 to indicate that LDR is recommended to be used for individually or group addressed WUR wake up frames transmitted to the WUR non-AP STA. This field is set to 2 to indicate that HDR is recommended to be used for individually or group addressed WUR wake up frames transmitted to the WUR non-AP STA. The value of 3 is reserved.

The Recommended WUR Channel Offset field is set to 7 to indicate that the WUR non-AP STA has no recommendation regarding the WUR Channel assigned to the WUR non-AP STA. Otherwise, this field is used for inidicating a recommend value for the WUR Channel Offset field, with the same encoding as described in Table 9-318e (WUR Channel Offset subfield encoding).

**TGba Editor: *Insert the following text in Section 30.7.2 at Page 71 Line 20:***

A WUR non-AP STA may indicate in the WUR Mode element its recommendation on which data rate (LDR or HDR) to use for individually or group addressed WUR wake up frames transmitted to that WUR non-AP STA.

A WUR AP may select the data rate at which it transmits individually or group addressed PPDU to one or more WUR PPDUs based on the values contained in the Recommended Wake Up Frame Rate fields received from these STAs.

**TGba Editor: *Insert the following text in Section 30.7.2 at Page 71 Line 42:***

After a WUR non-AP STA has negotiated WUR service with a WUR AP, the WUR non-AP STA may request to update the WUR parameters with the associated WUR AP by transmitting a WUR Mode Setup frame with the Action Type in the WUR Mode element set to “Enter WUR Mode Request” or “Enter WUR Mode Suspend Request” and recommended WUR parameters in the WUR Mode element. The WUR AP shall follow the procedure defined in Section 31.6.1 (WUR Mode Setup) when responding to the WUR Mode Setup frame. The WUR non-AP STA should avoid repeatedly requesting to update WUR parameters with the same recommended WUR parameters in the WUR Mode element for the remainder of the association, if the WUR AP doesn’t use the recommended value(s) from the WUR non-AP STA.

**TGba Editor: *Insert the following text at the end of Section 30.10 at P80 L51:***

A WUR non-AP STA may indicate in the Recommended WUR Channel Offset field in the WUR Mode element its recommendation on which WUR channel to assign for the WUR non-AP STA. If the WUR non-AP STA has recommended on which WUR channel to assign for itself and subsequently received a WUR FDMA Channel Offset from its associated WUR AP that is different than its recommendation, it should not recommend on the WUR Channel Offset for the remainder of the association. In that case, the Recommended WUR Channel Offset field is either not sent at all, if the WUR STA has no recommendation on the data rate to be used for WUR wake up frames, or is sent with the value 7, if the WUR STA has a recommendation regarding the data rate to be used for WUR wake up frames (i.e., when the value in the Recommended WUR Wake Up Frame Rate field is either 1 or 2).

A WUR AP may assign the WUR channel to a WUR non-AP STA based on the value contained in the Recommended WUR Channel Offset field received from that WUR non-AP STA.