IEEE P802.11  
Wireless LANs

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| Comment Resolutions on Power Management and Capabilities | | | | |
| Date: 2019-07-15 | | | | |
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Abstract

This submission proposes resolutions for multiple comments related to TGba D1.0 with the following CIDs:

* 12 CIDs: 3010, 3040, 3053, 3057, 3080, 3081, 3094, 3103, 3121, 3151, 3308, 3401

R0: Original text

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGba Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGba Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGba Editor: Editing instructions preceded by “TGba Editor” are instructions to the TGba editor to modify existing material in the TGba draft. As a result of adopting the changes, the TGba editor will execute the instructions rather than copy them to the TGba Draft.***

# Capability Element

| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 3010 |  | 29 | Resolution to CID 2052 is rejected with an incorrect motivation. Quoting: " IEEE 802.11ax is not finished yet. And IEEE 802.11ba is amendment of IEEE 802.11-2016. TGm will revise the sentence later. | 11ba is built on top of 802.11REVmd, as amended by 11ax and other amendments. Please revisit | CID 2052 was “There are other rules that the STA follows when the STA is an 11ax STA which are defined in clause 27. I think we could simply mention that the STA follows the baseline power management procedures or something like that.”  And resolution is Rejected.  It is clarified in 18/1494r4 that WUR mode is not a new “power save mode.” Also note that power save mode already has its meaning in the baseline. We don’t have to mention that specific rule for 11ax power management and WUR. |
| 3040 | 59.47 | 9.4.2.296 | Rephrase to reflect the channels in 5GHz supported | Change to "The 5 GHz subfield of the Supported Bands field is set to 1 to indicate the support of channels 36, 44, 149, 153 within the 5GHz band." | Rejected.  This field is sufficient to indicate supported band information. Detail channel number is indicated in WUR operation element. |
| 3053 | 113.28 | 29.8.2 | Enter the WUR non-AP STA action for "Enter WUR Mode Request" and "Enter WUR Mode Suspend Request" in Table 29-1. | The Status column in Table 29-1 shows the WUR non-AP STA entering the WUR mode for "Enter WUR Mode Request" and "Enter WUR Mode Suspend Request" Request types. But for "Enter WUR Mode Request" and "Enter WUR Mode Suspend Request" it describes that the AP does not give the power management service to the STA. It should also mention that the STA does not change the current mode it is in. | Revised.  Agreed in priciple.  STA’s status should be mentioned in the Status column.  TGba editor please make the changes as shown in 11-19/1202r0. |
| 3057 | 115.21 | 29.8.2 | AP support of WUR FDMA is missing as a subordinate clause | Add the subordinate clause "If the WUR AP supports WUR FDMA operation ...." | Rejected.  The operation when the WUR AP supports WUR FDMA is too self-evident to be written. Encoding for WUR FDMA Support subfield is described in Table 9-321a. |
| 3080 | 114.44 | 29.8.2 | "A request frame in Table 29-1 (Settings for WUR mode setup frame exchange - Request and Response) is successfully transmitted from a WUR non-AP STA to a WUR AP if an Ack frame is transmitted from the WUR AP to the WUR non-AP STA for the request frame." Do we really have to say this? Isn't tht the basis of all exchanges? I would delete this | Delete cited text | Accepted. |
| 3081 | 114.49 | 29.8.2 | "A response frame in Table 29-1 (Settings for WUR mode setup frame exchange - Request and Response) is successfully transmitted from a WUR AP to a WUR non-AP STA if an Ack frame is transmitted from the WUR non-AP STA to the WUR AP for the response frame." Do we really have to say this? Isn't tht the basis of all exchanges? I would delete this | Delete cited text | Accepted. |
| 3094 | 72.01 | 9.6.34.1 | Two Action frame formats are defined... is incorrect as there are now three defined. See proposed change to make the introduction more inclusive. | Several Action frame formats are defined to support WUR functionalities. A one octet length WUR Action field, immediately following the Category field, indicates the format. | Revised.  Aggreed in priciple.  The first sentence is modified as propose.  TGba editor please make the changes as shown in 11-19/1202r0 |
| 3103 | 59.01 | 9.4.2.296 | We have two PHY rates today, and might have more in the future. Suggest to add a Supported WUR Rates field to the WUR Capabilities element. | Add a Supported WUR Rates field to the WUR Capabilities Element. Field is a bitmap of 8 bit length. First bit indicates support for 62.5, second bit indicates support for 250, third to final bits are all reserved for future use. | Rejected.  We don’t have any agreement on adding more PHY rates. It does not seem necessary to prepare in advance for adding PHY rates. |
| 3121 | 114.17 | 29.8.2 | What does empty cell mean? | Clarify | Revised.  That means ‘not applicable’.  Added ‘N/A’ to the empty cells.  TGba editor please make the changes as shown in 11-19/1202r0 |
| 3151 | 113.19 | 29.8.2 | The use of "Enter" in Enter WUR Mode Request and Enter WUR mode Suspend Request is very confusing. What is being entered into? These frames are used to configure the WUR mode and suspend the configured WUR mode. They are not used to enter into WUR mode as that is accomplished via a PPDU with the Power Management subfield set to 1, that is ACKed (well at least that is what I understand). Therefore, the use of "Enter" is confusing as the STA is not entering the WUR mode, only configuring it. | Change "Enter WUR Mode Request" to be "WUR Mode Configuration Request" Change "Enter WUR Mode Suspend Request" to be "WUR Mode Suspend Request" Change "Enter WUR Mode Response" to be "WUR Mode Configuration Response" Change (Enter WUR Mode Suspend Response" to be "WUR Mode Suspend Response" Also correct related text. | Rejected.  These frames are used to actual enter into modes. The procedures for entering modes is described in subclause 29.8.  PM subfield is used to indicate not WUR mode but PCR power management.  PCR power management and WUR mode is independent. |
| 3308 | 60.14 | 9.4.2.296 | " ... transition from the doze state to the awake state. (see 11.2.1 (General))" Won't it be more useful to notify the transition time from the WUR doze state to the WUR awake state than the transition time from the ordinary doze state to the awake state? | Change "doze state" to "WUR doze state", "awake state" to "WUR awake state", and "(see 11.2.1 (General))" to "(see 29.8 (WUR power management procedure))". Or add another field such as "WUR Transition Delay" in B15 of the WUR Capabilities Information to indicate the maximum transition time from the WUR doze state to the WUR awake state. | Rejected.  In Jan IEEE meeting, the group agrees to treat WUR as a capability without mentioning PCR or WUR receiver.  We note that the awake state and the doze state are defined in the baseline for the capability to receive non-WUR PPDUs. Hence, the doze state here refers to the capability to receive non-WUR PPDUs.  In 11ba, we defined the WUR awake and the WUR doze for the capability to receive WUR PPDU. |
| 3401 | 87.01 | 11.25.1.2 | TGba defined new action frames under the new WUR action category. However, the default QMF policies for these new WUR action frames are not defined in Table 11-17 - Default QMF policy. Then, by default, they will use access category AC\_BE as their default QMF policies. Recommend that TGba check if it is intended that all WUR action frames use access category AC\_BE as their default QMF policies. If not, then add their default policies in Table 11-17. | As commented. | Rejected.  All WUR action frames use AC\_BE as default QMF policies. So we don’t have to mention it. |

**9.6.34.1 WUR Action field**

**TGba Editor: Modify the 5th paragraph as follows [3094]:**

Several Action frame formats are defined to support WUR functionalities. A WUR Action field, in the octet field immediately after the Category field, differentiates the formats. The WUR Action field values associated with each frame format are defined in Table 9-524a (WUR Action field values).

**29.8.2 WUR Mode Setup**

**TGba Editor: Add note after the Table 30-1 as follows[3053]:**

Table 30-1— Settings for WUR mode setup frame exchange - Request and Response

|  |  |  |  |
| --- | --- | --- | --- |
| **Request frame: Action Type field of the WUR Mode element within a request frame transmitted from a WUR non-AP STA to a WUR AP** | **Response frame: Action Type field of the WUR Mode element within a response frame transmitted from a WUR AP to a WUR non-AP STA** | **Response frame: WUR Mode Response Status field of the WUR Mode element within a response frame transmitted from a WUR AP to a WUR non-AP STA** | **Status after the completion of the exchange** |
| Enter WUR Mode Request | Enter WUR Mode Response | Accept | The WUR non-AP STA enters WUR mode. |
| Enter WUR Mode Suspend Request | Enter WUR Mode Suspend Response | Accept | The WUR non-AP STA enters WUR mode suspend. |
| Enter WUR Mode Request | Enter WUR Mode Response | Denied | WUR power management service is not provided by the WUR AP to the WUR non-AP STA at this time. |
| Enter WUR Mode Suspend Request | Enter WUR Mode Suspend Response | Denied | WUR power management service is not provided by the WUR AP to the WUR non-AP STA at this time. |

NOTE – If WUR power management service is not provided by the WUR AP to the WUR non-AP STA at this time, the WUR non-AP STA is not in WUR mode or WUR mode suspend.

**TGba Editor: Modify Table 30-2 as follows[3121]:**

Table 30-2—WUR Mode Setup/Teardown frame transmission

|  |  |  |
| --- | --- | --- |
| **Frame type carrying the WUR Mode element (and Action Type field value of the WUR Mode element) transmitted from a WUR non-AP STA to a WUR AP** | **Frame type carrying the WUR Mode element (and Action Type field value of the WUR Mode element) transmitted from a WUR AP to a WUR non-AP STA** | **Status after the completion of the successful frame transmission** |
| WUR Mode Setup frame  (Action Type = Enter WUR Mode) | N/A | The WUR non-AP STA enters WUR mode from WUR mode suspend |
| WUR Mode Setup frame  (Action Type = Enter WUR Mode Suspend) | N/A | The WUR non-AP STA enters WUR mode suspend from WUR mode |
| N/A | WUR Mode Setup frame  (Action Type = Enter WUR Mode Response) | The WUR non-AP STA that is in WUR mode updates the WUR Parameters |
| N/A | WUR Mode Setup frame  (Action Type = Enter WUR Mode Suspend Response) | The WUR non-AP STA that is in WUR mode suspend updates the WUR Parameters |
| WUR Mode Teardown frame | N/A | The WUR non-AP tears down WUR power management service |
| N/A | WUR Mode Teardown frame | The WUR AP tears down WUR power management service |

**TGba Editor: Delete the 2nd, 3rd paragraphs as follows [3080,3081]:**