IEEE P802.11
Wireless LANs

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| Comment resolutions for subclause 4.3.15b  |
| Date: 2020-4-2 |
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Abstract

This submission proposes resolutions for multiple comments related to TGba D6.0 with the following CIDs:

7018, 7019, 7020, 7071, 7072, 7073, 7074, 7075

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: fixed typos and made minor changes to the resolutions.

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.***

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 7018 | 4.3.15b | 25 | 16 | The first two paragraphs in 4.3.15b is saying that a WUR STA is non-DMG and non-S1G STA. As new STAs will be added to 2.4 and 5 GHz in the future, with the current expression, it needs to be updated every time such STA is defined. Rather writing in this way, isn't it better to write those STAs that are excluded? Or define that a WUR STA is a STA operating under the 2.4 and 5 GHz bands, referring to the WUR PPDU description in pp.ll 25.44, if it really doesn't include the 6 GHz band. | As in comment. | Rejected.Including all future amendments in 2.4 and 5 GHz bands without knowing what are being defined in the future amendments can cause other technical problems simply because we don’t know what are the constraints and allowed operations of the future amendments and don’t know if the WUR operation is suitable for a new amendment. Instead, in the 802.11WG, the baseline 802.11 standard is modified in a maintenance task group or necessary changes are made in a new task group that defines a new amendment.  |
| 7019 | 4.3.15b | 25 | 33 | "…, which enables the WUR non-AP STAs to remain in power save for longer periods of time …" Longer periods of time than what? Should be something like, longer periods of time than when not applying WUR. | As in comment. | Revised.Agree in principle with the commenter. Since a WUR non-AP STA can stay in power save when there is no data to receive the proposed change is to delete “for longer periods of time”.**Instruction to TGba editor:** Change P25L33 as follows: “enables the WUR non-AP STAs to remain in power save when there is no data to receive”. |
| 7020 | 4.3.15b | 25 | 60 | Transmission of HDR is mandatory for a WUR AP but reception of HDR at a WUR non-AP STA is optional. And thinking of a situation when a soft AP such as Wi-Fi Direct is supporting WUR, it is rather natural to treat the transmission to be optional. | Change the transmission of HDR at a WUR AP to be optional. Add a capability for an AP, i.e., delete the sentence in pp.ll 61.60. | Rejected.The group had discussed this topic for a very long time (~6 month) and came to a consensus to have HDR mandatory in a WUR AP and optional in a WUR non-AP STA since a WUR AP can handle more complex implementations than a WUR non-AP STA. For a WUR AP device that can serve as a soft AP should implement HDR so that it can support a WUR non-AP STA that has capability to receive WUR PPDU in HDR. |
| 7071 | 4.3.15b | 25 | 25 | A WRU AP transmits a WUR PPDU as a individual addressed or group addressed PPDU, it does not transmit it to any STA, as it is impossible for the AP to know if any STA will receive its transmissions. | Replace: "A WUR AP transmits a WUR PPDU to a single WUR non-AP STA or multiple WUR non-AP STAs."With: "A WUR AP transmits may transmit individual addressed or group addressed WUR PPDUs." | Revised.Agree with the commenter that a WUR PPDU is not transmitted to any WUR STA but transmitted to the intended recipient WUR STA(s).**Instruction to TGba editor:** Change P25L25 as follows: “A WUR AP transmits a WUR PPDU to the intended recipient WUR non-AP STA or multiple intended recipient WUR non-AP STAs.” |
| 7072 | 4.3.15b | 25 | 28 | WRU Beacon frames are transmitted by WUR APs and may be used by WUR non-AP STAs to maintain timing synchronization and the text should simply say that. | Replace: "WUR Beacon frames are used to maintain timing synchronization between a WUR non-AP STA and a WUR AP that is transmitting the WUR Beacon frames and enable the WUR duty cycle operation."With: "WUR Beacon frames are transmitted by a WUR AP and may be used by a WUR non-AP STA to maintain timing synchronization to support WUR duty cycle operation." | Revised.The commenter’s proposed wording reads better. Since the synchronization is a mandatory behavior, the proposed resolution is as follows.**Instruction to TGba editor:** Change P25L28 as follows: ”WUR Beacon frames are transmitted by a WUR AP and used by a WUR non-AP STA to maintain timing synchronization to support the WUR duty cycle operation” |
| 7073 | 4.3.15b | 25 | 31 | WUR Wake-up frames don't provide notification, they are transmitted and may be received. Note: the proposed text assumes that the term "WRU power save mode" is defined as proposed by this commenter. | Replace: "WUR Wake-up frames provide notification to one or more WUR non-AP STA(s) that a WUR AP has buffered data and/or critical update of BSS parameters for the WUR non-AP STA(s), which enables the WUR non-AP STAs to remain in power save for longer periods of time when there is no data to receive and enables the WUR non-AP STAs to react promptly to incoming traffic and critical update of BSS parameters."With: "WUR Wake-up frames are transmitted by WUR APs as individual addressed or group addressed frames. These frames a transmitted to wake one or more WUR non-AP STA(s) that the transmitting WUR AP has buffered data and/or critical update of BSS parameters for. Allowing WUR non-AP STAs to remain in WUR power save mode until a WUR Wake-up frame is received." | Rejected.Diagree with the commenter. A WUR Wake-up frame provides notification to the indended recipient WUR non-AP STA(s) that a WUR AP has buffered data for the WUR non-AP STA(s). |
| 7074 | 4.3.15b | 25 | 54 | This note should not be included in section 4 as it really addresses capabilities beyond the scope of the standard, it is more appropriate to move the note to clause 30, page 133, after line 31. | Move the note "NOTE—The capability to transmit a WUR PPDU by a WUR non-AP STA is implementation specific and is out of scope of the standard.' to Clause 30, following the statements on WURAP and WUR non-AP PPDU capabilities. | Revised.Agree with the commenter that the proper location of the note is in Clause 30.**Instruction to TGba editor:** Move the note in P25L54 to P133L32 as follows:” A WUR non-AP STA shall be capable of receiving a WUR Basic PPDU.NOTE—The capability to transmit a WUR PPDU by a WUR non-AP STA is implementation specific and is out of scope of the standard.” |
| 7075 | 4.3.15B | 25 | 57 | The listing of mandatory and optional main features is not a requirement for clause 4 and is unnecessary. Mandatory and optional features should be specified in the PICs. While several amendments have used this style it is not appropriate for this amendment to do so. | Delete: A WUR AP has the following mandatory main features:—Transmission of a WUR Basic PPDU on a 20 MHz channel at low data rate (LDR).—Transmission of a WUR Basic PPDU on a 20 MHz channel at high data rate (HDR).—Support of the WUR power management procedure.—Support of the WUR wake-up operation.—Support of the WUR duty cycle operation.—Transmission of an individually addressed fixed-length (FL) WUR Wake-up frame.—Transmission of a broadcast FL WUR Wake-up frame.—WUR Beacon frame generation.A WUR AP has the following optional main features:—Transmission of a WUR FDMA PPDU on a 40 MHz or 80 MHz channel.—Transmission of a variable-length (VL) WUR frame.—Support for WUR frame protection.—Transmission of a WUR Wake-up frame with a WUR group ID.—Transmission of a WUR Short Wake-up frame.—Support for WUR Discovery.A WUR non-AP STA has the following mandatory main features:—Reception of a WUR Basic PPDU on a 20 MHz channel at LDR.—Support of the WUR power management procedure.—Support of the WUR wake-up operation.—Reception of an individually addressed FL WUR Wake-up frame.—Reception of a broadcast FL WUR Wake-up frame.—Synchronization using WUR Beacon frame.A WUR non-AP STA has the following optional main features:—Reception of a WUR Basic PPDU on a 20 MHz channel at HDR.—Support of the WUR FDMA operation (see 29.11 (WUR FDMA operation)).—Support of the WUR duty cycle operation (see 29.7 (WUR duty cycle operation)).—Reception of a VL WUR frame.—Support for WUR frame protection.—Reception of a WUR Wake-up frame with a WUR group ID.—Reception of a WUR Short Wake-up frame.—Support for WUR Discovery. | Rejected.The commenter fails to identify the technical issue. The commenter fails to give a reason why this style is not appropriate for 802.11ba amendment when other amendments such as 802.11ah (4.3.14 Sub 1 GHz (S1G) STA), 802.11ac (4.3.15 Very high throughput (VHT) STA), 802.11af (4.3.16 Television very high throughput (TVHT) STA), and 802.11ax (4.3.15a High efficiency (HE) STA) are using this style. |