IEEE P802.11
Wireless LANs

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| LB225 CR Sub-clause 27.11.2 |
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Abstract

This submission proposes resolutions of comments received from TGax LB225.

(The proposed change is based on TGax Draft 1.0.)

* CIDs: 9316, 5735, 4266, 4479, 5211, 10290 (6 CID)

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 TGax Draft. This introduction is not part of the adopted material.

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

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

| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 9316 | 196.11 | 27.11.2 | It is unclear why the UPLINK\_FLAG needs to be set to 0 for RTS/CTS frames sent with TXOP Duration set to all 1s.When the AP transmits an RTS frame with the UPLINK\_FLAG set to 0 in an Extended Range SU PPDU, and the receiver STA transmits a CTS frame with the UPLINK\_FLAG to 1 in an Extended Range SU PPDU, as all the HE STAs within the BSS receives that RTS frame from the AP, the 3rd party HE STA can set the NAV by the RTS frame. Therefore, even if the UPLINK\_FLAG in the CTS frame is set to 1 and the 3rd party HE STAs go to PPDU Power Save, the 3rd party HE STAs will hold the NAV value.Next when the STA transmits an RTS frame with the UPLINK\_FLAG set to 1 in an Extended Range SU PPDU, and the AP which is the receiver of the RTS frame transmits a CTS frame with the UPLINK\_FLAG set to 0 in an Extended Range SU PPDU, even if the 3rd party HE STAs go to PPDU Power Save by the RTS frame, they still can receive the CTS frame sent from the AP. Therefore, the 3rd party HE STAs will set NAV by the CTS frame sent from the AP.From the above consideration, there seems no reason to set the UPLINK\_FLAG to 0 in RTS/CTS by changing the usage of the UPLINK\_FLAG from the original meaning. | Delete "except when the HE PPDU is an HE extended range SU PPDU with the TXOP Duration field set to all 1s and contains an RTS or CTS frame in which case the STA may set the TXVECTOR parameter UPLINK\_FLAG to 0" from the first item starting from line 11 in page 196. | Rejected- The spec doesn’t say that the UPLINK\_FLAG needs to be set to 0 for RTS/CTS frames sent with TXOP Duration set to all 1s.It just allows the UPLINK\_FLAG to be set to 0 for RTS/CTS frames sent with TXOP Duration set to all 1s.Normally, it is preferred that the RTS frame and CTS frame are used together for the NAV protection. But, if one reception of either a RTS frame or a CTS frame is assumed, the comment may be correct. In that case, the below scenario can be helpful to the commenter for more understanding. An HE STA transmits an RTS frame with the UPLINK\_FLAG set to 1 in an Extended Range SU PPDU and an AP transmits a CTS frame in a non-HT PPDU (PPDU format switching case). The 3rd party HE STAs can not the CTS frame sent from the AP because the CTS frame is So, if the HE STA wants the higher protection, the spec allows the UPLINK\_FLAG in the Extended Range SU PPDU to be set to 0. Another example is a CTS-to-self frame carried in an Extended Range SU PPDU. When an HE STA transmits a CTS-to-self frame, it can set the UPLINK\_FLAG to 0. |
| 5735 | 196.12 | 27.11.2 | Why only extended range SU PPDU is excluded in this case. If the intention is to ask 3rd party device to set NAV when transmitting RTS or CTS, then HE SU PPDU should also be included. | Chagne "an HE extended range SU PPDU" to "an HE SU PPDU or HE extended range SU PPDU" | Revised- Agree in principle. TGax editor makes changes as shown in the as specified in 11-17/0248r0. |
| 4266 | 196.19 | 27.11.2 | (T)DLS peer STA is not defined or linked to IEEE 802.11-2016 or IEEE 802.11ac-2013 | Add text clarification and figure to support description | Revised- The TDLS peer STA is defiend in IEEE 802.11-2016 as the following: “tunneled direct-link setup (TDLS) peer station (STA): A STA with a TDLS direct link.”The terminology of a DLS or TDLS peer STA is used in IEEE 802.11-2016. Change “(T)DLS peer STA” to “DLS or TDLS peer STA”. TGax editor makes changes as shown in the as specified in 11-17/0248r0. |
| 4479 | 196.19 | 27.11.2 | (T)DLS peer STA is not defined or linked to IEEE 802.11-2016 or IEEE 802.11ac-2013 | Add text clarification and figure to support description | Revised- The TDLS peer STA is defiend in IEEE 802.11-2016 as the following: “tunneled direct-link setup (TDLS) peer station (STA): A STA with a TDLS direct link.”The terminology of a DLS or TDLS peer STA is used in IEEE 802.11-2016. Change “(T)DLS peer STA” to “DLS or TDLS peer STA”. TGax editor makes changes as shown in the as specified in 11-17/0248r0. |
| 5211 | 196.19 | 27.11.2 | Regarding, "A STA transmitting an HE PPDU in a direct path to a (T)DLS peer STA", we need additional control by the network over peer-to-peer operation. Specifically, channel selection in an dense ESS is critical in achieving high efficiency. The network must be able to dictate which channels may be used by clients in order to manage interference. | define such a protocol | Rejected- The channel usage procedure in the base specification can be used for the channel selection mechanism of the P2P operation. Please review the channel usage procedure. Then, if the commenter thinks that the channel usage procedure is not enough, please provide additional input.  |
| 10290 | 196.19 | 27.11.2 | What parameter should be used for Public Action frame sent from an AP to an AP? | Define what parameter should be used for Public Action frame. | Rejected- The first bullet already covers the Public Action frame. “A STA transmitting an HE PPDU…”Because in the base specification a term of a STA includes both a non-AP STA and an AP STA.  |

***TGax editor: change the sub-clause 27.11.2 as the following:***

* UPLINK\_FLAG

The Uplink Flag is carried in the TXVECTOR parameter UPLINK\_FLAG of an HE SU PPDU, HE extended range SU PPDU, and HE MU PPDU and is set as follows:

* A STA transmitting an HE PPDU that is addressed to an AP shall set the TXVECTOR parameter UPLINK\_FLAG to 1, except when the HE PPDU is either an HE SU PPDU or an HE extended range SU PPDU with the TXOP Duration field set to all 1s and contains an RTS or CTS frame in which case the STA may set the TXVECTOR parameter UPLINK\_FLAG to 0
* An AP transmitting an HE PPDU that is addressed to a non-AP STA shall set the TXVECTOR parameter UPLINK\_FLAG to 0
* A STA transmitting an HE PPDU in a direct path to a ~~(T)~~DLS or TDLS peer STA, or to a member of an IBSS, or to a mesh STA, shall set the TXVECTOR parameter UPLINK\_FLAG to 0

NOTE—A ~~(T)~~DLS or TDLS peer STA or the member of an IBSS can identify that the HE PPDU is sent in a direct path from the To DS and From DS fields of the MAC header of its MPDU(s)

The TXVECTOR parameter UPLINK\_FLAG is not present for HE trigger-based PPDUs.