IEEE P802.11
Wireless LANs

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| LB 266 Resolution for NSTR Mobile AP Miscellaneous CIDs |
| Date: October 20, 2022 |
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 Abstract

This submission proposes resolutions for following 10 CIDs received for TGbe LB266:

10030, 10032, 12331, 10658, 11646, 13853, 13074, 14034, 14004, 10053, 11651

**Revisions:**

* Rev 0: Initial version of the document.
* Rev 1: Changing the normative to note based on the offline discussion
* Rev 2: Updated the text based on offline discussion and added 14004
* Rev 3: Updated the text based on offline discussion for T2LM comments (related to comments that are not highlighted)
* Rev 4: Minor fix to resolution

***TGbe editor: The baseline for this document is 11be D2.2***

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

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

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

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| **CID** | **Commenter** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 10030 | Morteza Mehrnoush | 35.3.19.1 | 468.32 | In the current text, NSTR mobile AP shall have only one NSTR link pair. Extending it to more than one NSTR link pair (more than two APs in NSTR mobile AP) is usefull as the mobile AP is able to do: 1) better load balancing, 2) disable a link due to AP unavailability and still operate in MLO mode, 3) allocate a link for latency sensitive traffic, etc. | Enable the NSTR mobile AP to have more then one NSTR link pair. | **Rejected**For NSTR mobile AP MLD with dot11EHTBaseLineFeaturesImplementedOnly equal to true, the group has decided to only allow one NSTR link pair. |
| 10032 | Morteza Mehrnoush | 35.3.19.1 | 469.36 | The reqirement of the default mapping (all TID to all link mapping) is restrictive and not neccassary. The primiary link should be all TID to link mapping, but the non-primary link can have some TIDs to link mapping to support high QoS, or low latency traffic, the advantage is that in some scenarios the non-primary link can be dedicated to high QoS traffic delivery to achieve a better performance. | The all TID to link mapping shall be enforced for primary link but the non-primary link can have other TID mapping. | **Revised** Agree in principle; the TID-To-Link Mapping Negotiation Support mode 3 is disallowed for the NSTR mobile AP MLD. So, the TID-To-Link mapping between the NSTR mobile AP MLD and non-AP MLD shall be default mapping or all TIDs mapped to the primary link. Added text to cover this case.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10032** |
| 12331 | Guogang Huang | 35.3.19.1 | 469.36 | This sentence is redundant. No need to emphasize the default T2L mapping. Please remove it | Delete the sentence "Default TID-to-link mapping mode shall be supported in the NSTR link pair.". | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 12331** |
| 10658 | Abhishek Patil | 35.3.19.1 | 469.36 | The intention of the sentence is not clear. Isn't his already the case per clause 35.3.7.1: see P427L17. Is the intention to say that when associated with an nSTR mobile AP, T2LM is disabled and that the two MLDs operate only in default mapping? | As in comment | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10658** |
| 13853 | Sanghyun Kim | 35.3.19.1 | 469.36 | It is not clear of the intention of the sentence. All MLDs support default TID-to-link mapping mode.Does the sentence intend to ensure each link of an NSTR mobile AP MLD for default mapping mode (all TIDs are mapped)? | As in comment. | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10032** |
| 11646 | Morteza Mehrnoush | 35.3.19.1 | 469.36 | The requirement of the default mapping (all TID to all link mapping) is restrictive and not necessary. The primary link should be all TID to link mapping, but the non-primary link can have some TIDs to link mapping to support high QoS, or low latency traffic, the advantage is that in some scenarios the non-primary link can be dedicated to high QoS traffic delivery to achieve a better performance. | The all TID to link mapping shall be enforced for primary link but the non-primary link can have other TID mapping. | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10032** |
| 13074 | Chittabrata Ghosh | 35.3.19.1 | 469.36 | The reqirement of the default mapping (all TID to all link mapping) is restrictive and not neccassary. The primiary link should be all TID to link mapping, but the non-primary link can have some TIDs to link mapping to support high QoS, or low latency traffic, the advantage is that in some scenarios the non-primary link can be dedicated to high QoS traffic delivery to achieve a better performance. | The all TID to link mapping shall be enforced for primary link but the non-primary link can have other TID mapping. | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10032** |
| 14034 | kaiying Lu | 35.3.19 | 469.36 | TID-to-link mapping negotiation for NSTR mobile AP MLD needs to be clarified | Commenter will provide comment resolution | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10032** |
| 14004 | Geonjung Ko | 35.3.19.1 | 469.36 | This sentence may be redundant, because default mapping is supported by all MLDs. | Remove the sentence. | **Revised**Agree in principle; Similar resolution as 10032.**TGbe editor: please make changes as shown in doc 11-22/1793r4 tagged as 10032** |
| 10053 | Morteza Mehrnoush | 35.3.19 | 468.30 | Per current spec it looks like the non-AP MLD with EMLSR mode enabled cannot work with the NSYR mobile-AP as it cannot do PPDU end time alignement etc. Please clarify what is the NSTR mobile AP limitation in operating with different MLO modes like EMLSR, and EMLMR. | as in comment | **Revised**Agree in principle. A non-AP MLD which is operating in EMLSR mode can only do frame exchange over one link at a time with the associated AP MLD. So, the non-AP MLD cannot initiate simultaneous PPDU transmission, and it shall only use the primary link for initiating the frame exchange with NSTR mobile AP MLD. Similar case happens for the EMLMR. Added the text to cover this case. **TGbe editor: please make changes as shown in doc 11-22/1793r1 tagged as 10053** |
| 11651 | Morteza Mehrnoush | 35.3.19 | 468.30 | Per current spec it looks like the non-AP MLD with EMLSR mode enabled cannot work with the NSTR mobile-AP as it cannot do PPDU end time alignment etc. Please clarify what is the NSTR mobile AP limitation in operating with different MLO modes like EMLSR, and EMLMR. | as in comment | **Revised**Agree in principle; Similar resolution as 10053.**TGbe editor: please make changes as shown in doc 11-22/1793r1 tagged as 11651** |

**Discussion:**

As part of removing dot11EHTBaseLineFeaturesImplementedOnly MIB variable below text in 35.3.7.1.1 General will be removed:

“An MLD with dot11EHTBaseLineFeaturesImplementedOnly equal to true shall not set the (#14054)TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element to 3.”

So, based on the offline discussion, the preference was to keep this rule for NSTR mobile AP MLD.

**35.3.19 NSTR mobile AP MLD operation**

**35.3.19.1 General**

***TGbe editor: Please change the 10th paragraphs in this subclause as shown below:***

[#10032, 12331, 10658] An NSTR mobile AP MLD shall not set the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element to 3. The TID-to-link mapping between the non-AP MLD and NSTR mobile AP MLD shall be default mapping mode or all TIDs mapped to the primary link.

***TGbe editor: Please insert below note after 5th paragraph as shown below:***

STAs affiliated with a non-AP MLD that is associated with an NSTR mobile AP MLD and APs affiliated with an NSTR mobile AP MLD shall follow the procedure defined in [35.3.16.6 (Start time sync PPDUs](#bookmark87) [medium access)](#bookmark87) when intending to transmit in the nonprimary link with the following additional constraints:

* A (#12242)non-AP STA affiliated with the non-AP MLD may initiate a PPDU transmission to its associated AP affiliated with the NSTR mobile AP MLD in the nonprimary link only if the other (#12242)non-AP STA affiliated with the same (#13851)non-AP MLD in the primary link is also initiating the PPDU as a TXOP holder to its associated AP with the same start time.
* An AP affiliated with the NSTR mobile AP MLD may initiate a PPDU transmission to its associated non-AP STA in the nonprimary link only if the other AP affiliated with the same NSTR mobile AP MLD in the primary link is also initiating the PPDU as a TXOP holder with the same start time.

[#10053, 11651] NOTE – Based on the above rules, a non-AP MLD which is operating in EMLSR mode and associated with the NSTR mobile AP MLD cannot use the nonprimary link to initiate a frame exchange. Also, a non-AP MLD which is operating in EMLMR mode and associated with the NSTR mobile AP MLD cannot use the nonprimary link to initiate a frame exchange.