IEEE P802.11
Wireless LANs

|  |
| --- |
| LB271 – CR for some CIDs related to 35.3.7.1.1 |
| Date: 2023-03-12 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Laurent Cariou |  |  |  | laurent.cariou@intel.com |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 16275 | Ryuichi Hirata | 35.3.7 | 513.21 | For Multi-link load balancing, information of other links such as link utilization, number of STAs, link availability should be indicated in A-Control field. | as in the comment. |  Revised – there is no need to define an A-control for this. However, it has been many times referenced in discussion that the AP MLD may include in Beacon frames a BSS Load element for load balancing reasons but the rules in 35.3.4.4 forbid that. Make an exception to these rules for BSS Load element. Apply the changes marked as #16275 in this document. |
| 17331 | Alfred Asterjadhi | 35.3.7 | 513.22 | Add one or two introductory paragraphs under link management describing that this subclause defines TID to link mapping, link transitions and enablement. | As in comment. |  Revised – agree with the commenter. Apply the changes marked as #17331 |
| 17296 | Hanqing Lou | 35.3.7.1.1 | 513.23 | Do wireless functionalities mentioned here include transmitting of class 1 and 2 management frames and frames mentioned in the previous paragraph? Are they allowed to transmit? | Please clarify |  Revised – remove the term wireless functionalities as it is ambiguous and replace it by PHY and MAC functionalities.In case of link disablement by advertised TID-to-link mapping, class 1 and class 2 are not allowed. Apply the changes marked as #17296 in this document. |
| 15052 | Xiangxin Gu | 35.3.7.1.1 | 513.26 | An MPDU should not be transmitted concurrently on more than one enabled links. | Please add the restriction to keep the efficiency of the system. |  Reject – there is no need to preclude possible use cases or usages of the mechanisms defined in 11be |
| 15053 | Xiangxin Gu | 35.3.7.1.1 | 513.26 | A non-AP MLD that performs multi-link (re)setup on at least two links with an AP MLD that sets the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element to a nonzero value shall support TID-to-link mapping negotiation with the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element it transmits to at least 1.According to annex b EHTM10.14, TID-to-Link Mapping is optional. Here it is mandatory to non-AP MLD. Please clarify. | as the comment |  Revised – agree with the commenter. Rephrase the sentence and clarify the capability so that it matches the optional status as agreed in EHTM10.14 |
| 17332 | Alfred Asterjadhi | 35.3.7 | 513.30 | How about control frames? Do they follow the map? E.g., can I send a BAR with TID 0 in a link that is only enabled for other TIDs? | As in comment. |  Revised – Agree with the commenter. Create an exception for BAR. Apply the changes marked as #17332 in this document. |
| 15404 | John Wullert | 35.3.7.1.1 | 513.33 | The requirement regarding non-AP MLDs and TID-to-Link mapping seems to be written backwards, making it confusing. Given the conditions in the requirement, it is saying that non-AP MLDs that do not support TID-to-Link mapping must not attempt to set up multiple links with AP MLDs that support TID-to-Link mapping. | Rephrase as "A non-AP MLD that does not support TID-to-link mapping negotiation with the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element it transmits to at least 1 shall not perform multi-link (re)setup on more than one link with an AP MLD that sets the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element to a nonzero value." |  Accept |
| 16484 | Arik Klein | 35.3.7.1.1 | 513.33 | The current (very long) sentence is unclear with the requirement for the non-AP MLD to support the TID-To-Link mapping:" A non-AP MLD that performs multi-link (re)setup on at least two links with an AP MLD that sets the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element to a nonzero value shall support TID-to-link mapping negotiation with the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element it transmits to at least 1". Please revise as suggested. | Consider revising the sentence as follows:" A non-AP MLD that performs multi-link (re)setup on at least two links with an AP MLD that sets the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element to a nonzero value, shall support TID-to-link mapping negotiation \*by setting\* the TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element it transmits to \*a value of 1, at least\*." |  Revised – agree with the commenter. Follow the suggestion from the commenter of CID15404. Apply the changes marked as #16484 in this document.  |
| 17333 | Alfred Asterjadhi | 35.3.7 | 513.37 | Capability at a STA does not depend on the capability of the AP. Rephrase to say that a non-AP MLD (that supports more than one link) shall support TID to link mapping, | As in comment. |  Revised – agree with the commenter. Rephrase the sentence and clarify the capability for the non-AP MLD independently from the AP MLD’s capability.Apply the changes marked as #17333 in this document |
| 16485 | Arik Klein | 35.3.7.1.1 | 513.38 | Please delete the following sentence, as the dot11EHTBaseLineFeaturesImplementedOnly MIB variable is removed: "An MLD with dot11EHTBaseLineFeaturesImplementedOnly equal to true shall not set the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element to 3" | As in comment |  Revised – agree with the commenter in principle. Correct the error that appeared in D3.0 and that was not in line with D2.3 and resolution approved in 10213. And remve the Editor’s NOTE.Apply the changes marked as #16485 in this document. |
| 18275 | Yongho Seok | 35.3.7.1.1 | 513.39 | "An MLD with dot11EHTBaseLineFeaturesImplementedOnly equal to true shall not set the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element to 3."Remove this sentence as dot11EHTBaseLineFeaturesImplementedOnly was removed. | Remove this sentence as dot11EHTBaseLineFeaturesImplementedOnly was removed. |   Revised – agree with the commenter. Correct the error that appeared in D3.0 and that was not in line with D2.3 and resolution approved in 10213. And remve the Editor’s NOTE.Apply the changes marked as #18275 in this document. |
| 18128 | Abhishek Patil | 35.3.7.1.1 | 513.40 | The MIB dot11EHTBaseLineFeaturesImplementedOnly has been deleted from the spec. | Replace the sentence to be consistent with the resolution for CID 10213 (and as it appeared in D2.3): "An MLD shall not set the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element to 3." Also, remove the EDITOR's NOTE |  Revised – agree with the commenter. Correct the error that appeared in D3.0 and that was not in line with D2.3 and resolution approved in 10213. And remve the Editor’s NOTE.Apply the changes marked as #18128 in this document. |
| 17239 | Sigurd Schelstraete | 35.3.7.1.1 | 513.43 | Editor's Note needs to be addressed | See comment |   Revised – agree with the commenter. Correct the error that appeared in D3.0 and that was not in line with D2.3 and resolution approved in 10213. And remve the Editor’s NOTE.Apply the changes marked as #17239 in this document.  |
| 16486 | Arik Klein | 35.3.7.1.1 | 513.48 | The negotiated TID-to-link mapping refers only to the procedure defined in 35.3.7.1.3, but not in 35.3.7.1.7 or 35.3.7.1.8.Please revise the sentence as suggested. | The sentence should be revised as follows: "When a non-default TID-to-link mapping is applied according to the procedures defined in 35.3.7.1.3 (Negotiation of TID-to-link mapping), 35.3.7.1.7 (Advertised TID-to-link mapping in Beacon and Probe Response frames), and 35.3.7.1.8 (Association procedures for TID-to-link mapping), then a TID can be mapped to a link set, which is a subset of setup links, spanning from only one setup link to all the setup links." |  Revised – agree with the commenter. Apply the changes marked as #16486 in this document |
| 17334 | Alfred Asterjadhi | 35.3.7 | 513.48 | A negotiation is not in effect but rather is successful. Please amend accordingly. | As in comment. |  Revised – agree with the commenter in principle. Don’t mention the negotiation here. Apply the changes marked as #17334 in this document |
| 18129 | Abhishek Patil | 35.3.7.1.1 | 513.48 | Advertised T2LM is not negotiated (non-AP MLDs are requried to follow it). Hence the term 'negotiated' is incorrect. | Delete 'negotiated' from the sentence |  Revised – agree with the commenter. Don’t mention the negotiation here. Apply the changes marked as #18129 in this document |
| 16487 | Arik Klein | 35.3.7.1.1 | 513.56 | Need to add "for a non-AP MLD" to the definition of the disabled link, similarly to the definition used for an enabled link.Please revise the sentence as suggested. | The sentence should be revised as follows: "A setup link is defined as enabled for a non-AP MLD if at least one TID is mapped to that link either in DLor in UL and is defined as disabled \*for a non-AP MLD\* if no TIDs are mapped to that link both in DL and UL." |  Revised – agree with the commenter. Apply the changes marked as #16487 in this document |
| 15522 | Chaoming Luo | 35.3.7.1.1 | 513.58 | The sentence sounds like a TID shall be mapped to the same one link both in DL and UP, whilst it's possible that a TID maps to one link in DL while to another link in UL as indicated in 35.3.7.1.3 (Negotiation of TID-to-link mapping). | Change to: When a non-AP MLD initiates a TID-to-link mapping negotiation, it shall let each TID in DL be mapped to at least one link and each TID in UL be mapped to at least one link; When an AP MLD advertises a TID-to-link mapping, it shall let each TID in DL be mapped to at least one link and each TID in UL be mapped to at least one link. |  Revised – this sentence is not about the negotiation but modify the second part of the sentence to clarify the ambiguity. Apply the changes marked as #15522 in this document. |
| 17942 | Yuchen Guo | 35.3.7.1.1 | 513.58 | "both in DL and UL" is not correct since a TID can be mapped to one link in DL, and mapped to another link in UL. There's no need to exist at least one link for a TID to be mapped in both DL and UL. | Change "both in DL and UL" to "in either DL or UL" | Revised - modify the second part of the sentence to clarify the ambiguity. Apply the changes marked as #17942 in this document  |
| 15132 | Tomoko Adachi | 35.3.7.1.1 | 513.60 | “By default, all setup links are enabled (see 35.3.7.1.2 (Default mapping mode)).” The same content is already present in the previous paragraph, i.e., “By default, all TIDs shall be mapped to all setup links for both DL and UL (see 35.3.7.1.2 (Default mapping mode)).” | Delete “By default, all setup links are enabled (see 35.3.7.1.2 (Default mapping mode)).” |  Reject – the language is not exactly the same as the normative text above. This is however a consequence from the normative text above, reason why the sentence is expressed as an informative statement and not a normative text. |
| 15018 | Jay Yang | 35.3.7.1.1 | 514.02 | MSDUs or A-MSDUs don’t has TID information, suggest change it to “MPDU or AMPDU with TIDs with TID”…". | as the comments. |  Revised – Agree with the commenter. Modify to mention MPDUs. Apply the changes marked as #15018 in this document |
| 16003 | Binita Gupta | 35.3.7.1.1 | 514.02 | Since a TID-to-link mapping determines which TIDs can be transmitted on each enabled link, this should be‘a 'sh’ll' requirement instead of‘a '’ay' requirement. | Change may to shall. |  Reject – the non-AP MLD is free to use whatever link among the enabled links so there can even be a case where one enabled link is never used as the STA never wakes on that link. So it is a May and not a Shall. |
| 17943 | Yuchen Guo | 35.3.7.1.1 | 514.05 | missi“g “”he” befo“e “AP ”LD” | a“d “”he” befo“e “AP ”LD” |  Accept |
| 15135 | Michail Koundourakis | 35.3.7.1.1 | 514.“7 | “may be sent on any enabled l”nk” cannot be true in all cases and it needs to be clarified.E.g. an RTS frame with Addr1 and Addr2 set to the MAC addresses of Link A shall be transmitted only over link A.Add a reference to subclause containing the rules, otherwise clarify in this subclause | As per comment. |  Reject – this subclause doesn’t mention about how to set the fields in the frames, but what frames are allowed based on enablement/disablement of the link |
| 17335 | Alfred Asterjadhi | 35.3.7 | 514.18 | This statement is not cl”ar” if initiate by the non-AP MLD. Does it mean that only frames initiated by the non-AP MLD can be sent or does it mean that any of these frames can be sent only by the onn-AP MLD. | As in comment. |  Revised – agree with the commenter. Clarify that it is the procedure that is initiated by the non-AP MLD.Apply the changes marked as #17335 in this document |
| 18130 | Abhishek Patil | 35.3.7.1.1 | 514.22 | Clarify that this do’sn’t apply to TWT agreements since the rules for TWT suspension/termination w.r.t to T2LM link disablement are covered in 35.3.7.1.5 | As in comment |  Revised – agree with the commenter. Refer to exceptions in 35.3.7.1.5. Apply the changes marked as #18130 in this document. |
| 16696 | Yonggang Fang | 35.3.7.1.1 | 514.24 | The link stablishedhed between a STA and an AP. If a link is disabled, the STA and the AP cannot use this link for any frame exchange. T“e “except that if the link is disabled for a non-AP MLD but is not advertised as disabled by the AP ”LD” confuses the term of link. | Suggest removal “f “except that if the link is disabled for a non-AP MLD but is not advertised as disabled by the AP ”LD” |  Reject – this part of the sentence is important to clarify the meaning of the frames that are allowed to be transmitted on a disabled link. |
| 18131 | Abhishek Patil | 35.3.7.1.1 | 514.28 | NOTE 2 seems out of place. What is the intention of the NOTE? | Either delete the NOTE or clarify its intention. |  Revised – delete the Note. Apply the changes marked as #18131 in this document |
| 15637 | Xiangxin Gu | 35.3.7.1.1 | 514.32 | The description is not clear. What are Other STAs? Uses or may use? | It is proposed to change “o “The AP affiliated with AP MLD that operates on link which is disabled for an associated non-AP MLD may use this link for any frame exchange with non-AP STAs affiliated with other associated non-AP MLD(s) for which this link is enabl”d.” |  Revised – agree with the commenter. Apply the changes marked as #15637 in this document. |
| 17824 | Yunbo Li | 35.3.7.1.1 | 514.32 | For a link that is enabled for anther associated non-AP MLD, the frame exchange will subject to T2LM. So any frame exchange is not accurate. | remove the wo“d “”ny” |  Revised – apply the changes marked as #17824 in this document |
| 15597 | Bo Sun | 35.3.7.1.1 | 514.42 | In the case of a TID is mapped in UL to a set of enabled links for a non-AP MLD, the text in current spec not considering the situation that AP MLD may use any link within this set of enabled links to schedule a non-AP STA affiliated with non-AP MLD to do an UL MU transmission by sending trigger frame | as in comment, add a sentence to describe the situation at the end of the paragraph |  Revised – agree with the commenter. Clarify that UL MU operation may be used. Apply the changes marked as #15597 |
| 16488 | Arik Klein | 35.3.7.1.1 | 514.60 | Need to a“d “for a non-AP ”LD” after t“e “enable li”ks” in the following sentence, as suggested. | The sentence should be revised as follow“: “An AP MLD may use any enabled links \*for an associated non-AP MLD\* to transmit individually addressed management frames (see Table 11-3 (Bufferable/nonbufferable classification of MMPDUs)) subject to the rules defined in 35.3.14 (Multi-link device individually addressed Management frame delivery) and subject to the power state of the non-AP STA on each of the links (see 35.3.12 (Multi-link power management”).” |  Revised – agree with the commenter. Apply the changes marked as #16488 in this document |
| 18132 | Abhishek Patil | 35.3.7.1.1 | 515.01 | The 2nd bullet (P514L52) of paragraph on P514L47 already covers the cases (except MMPDU) covered in P515L1. | Delete the paragraph starting L1 of P515, along with both the bullets, the unless clause, and the two NOTEs that follow. Update the 2nd bullet of paragraph on P514L47 to cover the MMPDU case. | Reject – this paragraph defines the requirement on the AP side when the STA is in active mode and is not covered by the other paragraph. |
| 15020 | Jay Yang | 35.3.7.1.1 | 515.04 | MSDU/A-MSDU ’on’t have TID, change it to MPDU/A-MPDU | change MSDUs/A-MSDUs to MPDUs/A-MPDUs |  Revised – agree with the commenter. Same resolution as 15018. Apply the changes marked as #15018 in this document. |
| 16489 | Arik Klein | 35.3.7.1.1 | 515.09 | Need to add a condition for the transmission of MSDUs/A-MSDUs and/or MMPDUs to another non-AP STA: the link on which the other non-AP STA affiliated with the same non-AP MLD is operating is mapped to the TIDs for which the MSDUs/A-MSDUs are correspondi–g - see suggested modification for the text | The sentence should be modified as follo”s:”... unless the MSDUs/A-MSDUs and/or MMPDUs stated above are transmitted to another non-AP STA that is affiliated with the same non-AP MLD,\*is operating on a link that is mapped to the TIDs for which the MSDUs/A-MSDUs are corresponding\* and \*is\* in active mode or in PS mode and in the awake st”te” |  Revised – just need to say that the transmission to the other non-AP STA respects the rules defined in this subclause. Apply the changes marked as #16489 in this document |

1. **Introduction**
2. **Proposed spec text**

Tgbe editor: Modify subclause 35.3.4.5 Probe Request frame content for a non-AP EHT STA as follows, based on 11be draft 3.1:

* + 1. **Link management**

(#17331) The link management subclause describes different mechanisms that regulate or influence how links are used for frame exchange under multi-link operation. Subclause 35.3.7.1 (TID-to-link mapping) describes the TID-to-link mapping mechanism and defines how links can be enabled or disabled for non-AP MLDs. Subclause 35.3.7.2 (Dynamic link transitions) describes how a non-AP MLD may transition between enabled links using the power state of its affiliated STAs and subclause 35.3.7.3 (Link recommendation) describes how an AP MLD may provide dynamic recommendation for non-AP MLD link usages for load balancing among the different affiliated APs. Subclause 35.3.7.4 (Affiliated AP link disablement and enablement) describes how a TID-to-link mapping may be advertised by an AP MLD to disable link(s) for all associated non-AP MLDs.

* + - 1. **TID-to-link mapping**
				1. **General**

The TID-to-link mapping mechanism allows an AP MLD and a non-AP MLD that performed or are performing multi-link setup to determine how Data frames belonging to TIDs 0–7 and management frames will be assigned for transmission, on the setup links between the two MLDs in DL and UL.

Resolution for #15053, #15404, #16484, #17333,

Option 1:

An AP MLD and a non-AP MLD may support TID-to-link mapping negotiation. A non-AP MLD that supports multi-link (re)setup on more than one link shall support TID-to-link mapping negotiation (i.e., sets the transmitted TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element it transmits to at least 1).

An MLD with the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element set to 1 shall not request nor accept a TID-to-link mapping except one that maps all TIDs to the same link set for both DL and UL (i.e. a single link set applied to all TIDs in UL and in DL). An MLD performing TID-to-Link Mapping negotiation with a peer whose most recently transmitted TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element is equal to 1 shall not request a TID-to-link mapping except one that maps all TIDs to the same link set for both DL and UL.

Option 2:

An AP MLD may support TID-to-link mapping negotiation. A non-AP MLD shall support TID-to-link mapping negotiation (i.e., sets the transmitted TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element it transmits to at least 1).

An MLD with the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element set to 1 shall not request nor accept a TID-to-link mapping except one that maps all TIDs to the same link set for both DL and UL (i.e. a single link set applied to all TIDs in UL and in DL). An MLD performing TID-to-Link Mapping negotiation with a peer whose most recently transmitted TID-To-Link Mapping Negotiation Support subfield of the MLD Capabilities field of the Basic Multi-Link element is equal to 1 shall not request a TID-to-link mapping except one that maps all TIDs to the same link set for both DL and UL.

Common to option 1 and 2

End of Resolution for #15053, #15404, #16484, #17333,

An MLD (#18128, #18275, #16485, #17239)shall not set the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element to 3.

(#18128, #18275, #16485, #17239)

By default, all TIDs shall be mapped to all setup links for both DL and UL (see [35.3.7.1.2 (Default mapping](#bookmark53) [mode)](#bookmark53)). When a (#16486, #17334, #18129)non-default TID-to-link mapping is (#16486, #17334)applied according to the procedure defined in [35.3.7.1.3](#bookmark54) [(Negotiation of TID-to-link mapping)](#bookmark54), [35.3.7.1.7 (Advertised TID-to-link mapping in Beacon and Probe](#bookmark55) [Response frames)](#bookmark55), and [35.3.7.1.8 (Association procedures for TID-to-link mapping)](#bookmark58), then a TID can be mapped to a link set, which is a subset of setup links, spanning from only one setup link to all the setup links, with restrictions defined in [35.3.7.1.3 (Negotiation of TID-to-link mapping)](#bookmark54).

A setup link is defined as enabled for a non-AP MLD if at least one TID is mapped to that link either in DL or in UL and is defined as disabled (#16487)for a non-AP MLD if no TIDs are mapped to that link (#15522, #17942) in DL and (#15522, #17942)no TIDs are mapped to that link in UL. At any point in time, a TID shall always be mapped to at least one setup link both in DL and UL, which means that a TID- to-link mapping change is only valid and successful if it will not result in having any TID for which the link set for DL or UL is made of zero setup links. By default, all setup links are enabled (see [35.3.7.1.2 (Default](#bookmark53) [mapping mode)](#bookmark53)).

If a link is enabled for a non-AP MLD, then:

* It may be used for individually addressed frame exchange, subject to the power state of the non-AP STA operating on that link and only MPDUs (#15018)with TIDs mapped to that link may be transmitted on that link between the corresponding non-AP STA and AP affiliated with the non-AP MLD and (#17943)the AP MLD, respectively, in the direction (DL/UL) corresponding to the TID-to-link mapping.
* Individually addressed Management frames, QoS Null frames, and Control frames may be sent on any enabled links between the corresponding non-AP MLD and AP MLD both in DL and UL(#17332), except that a BlockAckReq frame requesting TID(s) that are not mapped to a link shall not be transmitted on the link by the corresponding non-AP STA affiliated with the non-AP MLD and by the corresponding AP affiliated with the AP MLD.

If a link is disabled for a non-AP MLD, it shall not be used for individually addressed frame exchange between the corresponding non-AP STA affiliated with the non-AP MLD and AP affiliated with the associated AP MLD, including Management and Control frames, except that if the link is disabled for a non- AP MLD but is not advertised as disabled by the AP MLD (see [35.3.7.1.7 (Advertised TID-to-link mapping](#bookmark55) [in Beacon and Probe Response frames)](#bookmark55)), then the link may be used for class 1 and 2 Management frames, class 1 Control frames and TID-to-link Mapping Request, TID-to-link Mapping Response and TID-to-link Mapping Teardown frames, if (#17335)transmitted for a procedure that is initiated by the non-AP MLD.

A STA affiliated with an MLD that operates on a link disabled by an advertised TID-to-link mapping (see [35.3.7.1.7 (Advertised TID-to-link mapping in Beacon and Probe Response frames)](#bookmark55)) shall suspend all (#17296) MAC and PHY functionalities on that link until the link is enabled.

NOTE 1— Suspension of wireless functionalities refers to functionalities such as frame generation, schedules, scoreboard maintenances, etc., while still preserving previously negotiated parameters with the peer EHT STA(s). (#18130) Power save handling during the time the link is disabled is described in 35.3.7.1.5 (Power state and TWT schedules after disablement).

(#18131)

NOTE (#18131)2—The AP affiliated with an AP MLD that operates on a link which is disabled for an associated non-AP MLD (following the procedure described in [35.3.7.1 (TID-to-link mapping)](#bookmark51)) (#15637)can use this link for (#17824)frame exchanges with (#15637)non-AP STAs affiliated with other associated non-AP MLD(s) for which this link is enabled (if any such non-AP STAs exist).

If a link that is setup on a DFS owner’s operating channel is advertised as disabled by AP MLD (see

[35.3.7.1.7 (Advertised TID-to-link mapping in Beacon and Probe Response frames)](#bookmark55)), then before resuming operations on it (i.e., enabling the link), the AP MLD shall comply with the applicable regulatory requirements.

If a TID is mapped in UL to a set of enabled links for a non-AP MLD, then the non-AP MLD may use any link within this set of enabled links to transmit individually addressed (#15018)MPDUs that are destined to the AP MLD and that correspond to that TID(#15597), including via the UL MU operation (see 35.5.2 (EHT UL MU operation)).

If a TID is mapped in DL to a set of enabled links for a non-AP MLD, then:

* The non-AP MLD may retrieve individually addressed buffered BUs available at the AP MLD that are (#15018)MPDUs corresponding to that TID on any link within this set of enabled links.
* The AP MLD may use any link within this set of enabled links to transmit individually addressed (#15018)MPDUs that are destined to the non-AP MLD and that correspond to that TID, subject to the power state of the non-AP STA affiliated with the non-AP MLD on each of these links.

NOTE 4—The non-AP MLD can retrieve BUs buffered by the AP MLD on any mapped link. In addition, the AP MLD can recommend link(s) as defined in [35.3.12.4 (Traffic indication)](#bookmark72).

A non-AP MLD may retrieve buffered BUs that are individually addressed MMPDUs available at the AP MLD on any (#16488)link (#16488)enabled for the non-AP MLD. An AP MLD may use any enabled links to transmit individually addressed management frames (see Table 11-3 (Bufferable/nonbufferable classification of MMPDUs)) subject to the rules defined in [35.3.14 (Multi-link device individually addressed Management frame delivery)](#bookmark78) and subject to the power state of the non-AP STA on each of the links (see [35.3.12 (Multi-link power management)](#bookmark69)).

If a non-AP STA affiliated with a non-AP MLD is in active mode on a link with a set of TIDs mapped for DL transmission, its associated AP affiliated with the AP MLD shall transmit to the non-AP STA:

* (#15018)MPDUs, if any, corresponding to that set of negotiated TIDs for the non-AP MLD, and
* MMPDUs, if any, for the non-AP MLD or its affiliated non-AP STAs, subject to the rules defined in

[35.3.14 (Multi-link device individually addressed Management frame delivery)](#bookmark78),

unless the (#15018)MPDUs and/or MMPDUs stated above are transmitted(#16489), following the rules defined in this subclause, to another non-AP STA that is affiliated with the same non-AP MLD and (#16489)either in active mode or in PS mode and in the awake state.

NOTE 5—Operation with non-AP STAs affiliated with a non-AP MLD in power save mode are defined in [35.3.12.4](#bookmark72) [(Traffic indication)](#bookmark72).

###### Multi-Link element usage rules in the context of discovery

If an AP affiliated with an AP MLD is not in a multiple BSSID set or the AP corresponds to a transmitted BSSID in a multiple BSSID set, hen the AP, in a Beacon frame and a Probe Response frame that is not a multi-link probe response that it transmits,

* shall include the Multi-Link Control field and the Common Info field of the Basic Multi-Link element for the AP MLD as defined in 9.4.2.312.2 (Basic Multi-Link element)
* shall not include the Link Info field of the Basic Multi-Link element for the AP MLD unless conditions in [35.3.11 (Multi-link procedures for channel switching, extended channel switching, and](#bookmark65) [channel quieting)](#bookmark65) are satisfied(#16275) or to include only a BSS Load element or an Extended BSS Load element for each affiliated AP.
* may include a Reconfiguration Multi-Link element as defined in 9.4.2.312.4 (Reconfiguration Multi- Link element) and [35.3.6 (Multi-Link reconfiguration)](#bookmark47).