IEEE P802.11
Wireless LANs

|  |
| --- |
| LB271 Comment Resolution Clause 35 MLTI, Clause 3.2 Definitions, Misc. (Part 2) |
| Date: 2023-5-1 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Minyoung Park | Intel Corporation |  |  | Minyoung.park@intel.com |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes comment resolutions for the following 22 CIDs received in LB271 on TGbe D3.0 related to

* 35.3.12.4 Traffic Indication and
* 9.4.2.315 Multi-Link Traffic Indication element
* 3.2 Definitions
* Misc.

CIDs:

15958 16041 17742 18099 17739 15090 15918 16425 17743 15662

15377 15472 15919 16426 16468 17010 15685 16220 16221 16384

16222 16258

Revisions:

* Rev 0: Initial version of the document.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 15958 | Binita Gupta | 9.4.2.315 | 294.34 | There is no description on how AID Offset (k) is calculated for ML Traffic Indication element. Add text to specify this. | Specify rules for how AID Offset k is determined for ML Traffic Indication element by AP MLD. This is not specified in clause 35.3.12.4 . | Revised.The same comment was discussed for CID 15376 in doc 11-23/504r2 and the cited sentence has been modified as follows:“(#15376)The AID Offset subfield is set to the AID of the non-AP MLD that corresponds to the first Per-Link Traffic Indication Bitmap subfield in the Per-Link Traffic Indication List field when the Multi-Link Traffic Indication element is included in a Beacon frame. “TGbe editor: No changes needed. |
| 16041 | Binita Gupta | 35.3.12.4 | 539.12 | How does AP MLD determine value k for AID Offset? Specify rules for this. | Specify rules for how AID Offset k is set by the AP MLD. | Revised.The same comment was discussed for CID 15376 in doc 11-23/504r2 and the cited sentence has been modified as follows:“(#15376)and the first Per-Link Traffic Indication Bitmap subfield corresponds to the AID of the non-AP MLD contained in the AID Offset subfield of the Multi-Link Traffic Indication Control field of the Multi-Link Traffic Indication element.”TGbe editor: No changes needed. |
| 17742 | Brian Hart | 9.4.2.315 | 294.34 | "or the AID bitmap" is very unclear until we read ahead to P294L47 (merge L38-49 into a single sentence!?). As well, it is unclear if the first argument of the "or" at L40.5 is equal to just "traffic indication virtual bitmap" or "the AIDs of the non-AP MLDs and STAs starting from the bit numbered k of the traffic indication virtual bitmap" or the entire "subfields that correspond to the AIDs of the non-AP MLDs and STAs starting from the bit numbered k of the traffic indication virtual bitmap". I think it is the first option (use bullets to separate, just like at L44-49 ... so merge L38-49 into a single sentence!?). Finally "and set to 1" is misleading - needs something more like "are equal to 1" | Try creating a single sentence for L38-49, comprising: "The Per-Link Traffic Indication List field contains N Per-Link Traffic Indication Bitmap n subfields, 1 <= n <= N [or p and P, etc], followed by padding. The Per-Link Traffic Indication Bitmap n subfields correspond to the AIDs of the non-AP MLDs and STAs identified by bits equal to 1 starting from the bit numbered k in \*either\*:- the traffic indication virtual bitmap in the Partial Virtual Bitmap subfield of the TIM element that is included in a Beacon frame with the Multi-Link Traffic Indication element, \*or\*- the AID bitmap in the Partial AID Bitmap subfield of the AID Bitmap element that is included in a Link Recommendation frame with the Multi-Link Traffic Indication element." | Revised.Clarified the paragraph.TGbe editor to make the changes with the CID tag (#17742) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 18099 | Abhishek Patil | 9.4.2.315 | 294.44 | The two bullets describe what traffic indication virtual bitmap and AID bitmap refers to. However, these terms are being referred beforehand. Organize the description so that the terms are described before their usage. | As in comment | Revised.Clarified the paragraph.TGbe editor to make the changes with the CID tag (#17742) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 17739 | Brian Hart | 9.4.2.315 | 294.50 | "Per-Link Traffic Indication Bitmap subfield" omits the index shown in fig 9-12002as. As well, the final index is lowercase but most indices are the lowercase version of the uppercase final limit - e.g. 1 .. n .. N. Finally lowercase l (el) is a really poor choice since it looks a lot like an uppercase I (eye). | In fig 9-1002as, change "el" to "N" and at P294L40.5 and P294L41.5. At P294L29 and elsewhere such as P294L38, change fieldname to "Per-Link Traffic Indication Bitmap <i>n</i>" | Revised.Changed ‘el’ to ‘N’.TGbe editor to make the changes with the CID tag (#17742) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |

**TGbe Editor to make the following changes in in Subclause 9.4.2.315 (Multi-Link Traffic Indication element) in TGbe D3.2(pre-release) P298L38:**

(#17742)(#15089)The Per-Link Traffic Indication List field is defined in Figure 9-1002as (Per-Link Traffic Indication List field format). The Per-Link Traffic Indication List field contains *N* Per-Link Traffic Indication Bitmap *n* subfield(s) followed by the Padding subfield, where 1 ≤ *n* ≤ *N*. The *N* Per-Link Traffic Indication Bitmap *n* subfield(s) correspond to the AID(s) of the non-AP MLD(s) or a (#16475)non-MLD non-AP STA(s) that are identified by the corresponding bit(s) that are equal to 1, where *N* is the number of bit(s) that are equal to 1, in either:

* the Partial Virtual Bitmap subfield of the TIM element in a Beacon frame with the Multi-Link Traffic Indication element, counting from the bit position that corresponds to the AID value in the AID Offset subfield of the Multi-Link Traffic Indication element, or
* the Partial AID Bitmap subfield of the AID Bitmap element in a Link Recommendation frame with the Multi-Link Traffic Indication element(#17909).

**(#17742)TGbe Editor to make the following changes in Figure 9-1002as in Subclause 9.4.2.315 (Multi-Link Traffic Indication element) in TGbe D3.2(pre-release) P298L53:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  | Per-link Traffic Indication Bitmap 1 | … | Per-link Traffic Indication Bitmap *n* | … | Per-link Traffic Indication Bitmap *N* | Padding |
| Bits: | *m*+1 |  | *m*+1 |  | *m*+1 | variable (0-7) |

**Figure 9-1002as—Per-Link Traffic Indication List field format**

**(#17742)*TGbe editor to replace all occurrences of* ‘Per-Link Traffic Indication Bitmap subfield’ to ‘Per-Link Traffic Indication Bitmap *n* subfield’**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 15090 | Minyoung Park | 9.4.2.315 | 294.59 |  |  | For better readability, revise the following paragraph in the sub-bullet format:"The Per-Link Traffic Indication Bitmap subfield is defined in Figure 9-1002at (Per-Link Traffic IndicationBitmap subfield format). Each Per-Link Traffic Indication Bitmap subfield indicates per-link traffic indications for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD and not all TIDs aremapped to all the enabled links or link recommendation for a non-AP MLD that has negotiated a TID-to-linkmapping with an AP MLD and all TIDs are mapped to all the enabled links or link recommendation for anon-AP MLD that is in the default mapping mode. ""The Per-Link Traffic Indication Bitmap subfield is defined in Figure 9-1002at (Per-Link Traffic Indication Bitmap subfield format). Each Per-Link Traffic Indication Bitmap subfield indicates one of the following:- per-link traffic indications for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD and not all TIDs are mapped to all the enabled links- link recommendation for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD and all TIDs are mapped to all the enabled links- link recommendation for a non-AP MLD that is in the default mapping mode. "Revised.The paragraph is updated with bullet points.TGbe editor to make the changes with the CID tag (#15090) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 15918 | Zhou Lan | 9.4.2.315 | 294.59 | This paragraph is missing the case for disabling a link through TID-to-link mapping; please add it. Or an alternative way is to simplify the text by removing the enumeration of every case like "negotiated a TID-to-link mapping" and "link recommendation"; this way the text is more clear and doesn't need to be changed/updated later when a new TID-to-link mapping case is added. | As in comment | Revised.Deleted ‘negotiated a TID-to-link mapping’, ‘default mapping’ but differentiated with whether all TIDs are mapped to all enabled links or not.TGbe editor to make the changes with the CID tag (#15918) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 16425 | Morteza Mehrnoush | 9.4.2.315 | 294.59 | This paragraph is missing the case for disabling a link through TID-to-link mapping; please add it. Or an alternative way is to simplify the text by removing the enumeration of every case like "negotiated a TID-to-link mapping" and "link recommendation"; this way the text is more clear and doesn't need to be changed/updated later when a new TID-to-link mapping case is added. | As in comment | Revised.Deleted ‘negotiated a TID-to-link mapping’, ‘default mapping’ but differentiated with whether all TIDs are mapped to all enabled links or not.TGbe editor to make the changes with the CID tag (#15918) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 17743 | Brian Hart | 9.4.2.315 | 294.60 | "indicates ... indications" is inelegant. Also plural "indications" is vague, and the arguments to the "or"s are unclear. Consider converting to subbullets with light rewording. | Starting at P294L59, try "Each Per-Link Traffic Indication Bitmap \*n\* subfield is defined in Figure 9-1002at (Per-Link Traffic Indication Bitmap subfield format) and \*indicates one of the following\*:- a traffic indication per link for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD \*wherein\* not all TIDs are mapped to all the enabled links, or- a link recommendation for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD \*wherein\* all TIDs are mapped to all the enabled links, or- a link recommendation for a non-AP MLD that is in the default mapping mode.” | Revised.The paragraph is updated with bullet points.TGbe editor to make the changes with the CID tag (#15090) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |

**TGbe Editor to make the following changes in in Subclause 9.4.2.315 (Multi-Link Traffic Indication element) in TGbe D3.1 (P295L59):**

(#15090, 15918)The Per-Link Traffic Indication Bitmap *n* subfield is defined in Figure 9-1002at (Per-Link Traffic Indication Bitmap *n* subfield format). When a Multi-Link Traffic Indication element is in a Beacon frame, each Per-Link Traffic Indication Bitmap *n* subfield indicates either:

* Per-link traffic indication for a non-AP MLD that does not have all TIDs mapped to all the enabled links or
* Link recommendation for a non-AP MLD that has all TIDs mapped to all the enabled links.

When a Multi-Link Traffic Indication element is in a Link Recommendation frame, each Per-Link Traffic Indication Bitmap *n* subfield indicates link recommendation for a non-AP MLD.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 15662 | Geonjung Ko | 9.4.2.315 | 295.15 | A bit that corresponds to a link not set up at a non-AP MLD side should be reserved. | As in comment | Revised.Added a sentence to cover the case when a link is not set up between a non-AP MLD and an AP MLD.TGbe editor to make the changes with the CID tag (#15662) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 15377 | John Wullert | 9.4.2.315 | 295.23 | When all TIDs are mapped to all links, setting the bit to one indicates two things: that there is one or more BUs buffered and that the selected link is recommended for retrieving them. | Revise sentence to say “In a Beacon frame when the Per-Link Traffic Indication Bitmap subfield corresponds to a non-AP MLD that is in the default mapping mode or has negotiated a TID-to-link mapping with an AP MLD and all TIDs are mapped to all the enabled links, a value of 1 in the bit position i in the bitmap indicates that there is one or more buffered BUs or one or more MMPDUs and that the link with the link ID equal to i is recommended for retrieving them.” | Rejected.An AID bit position in the TIM element that corresponds to a non-AP MLD that have all TIDs mapped to all enabled links already indicates that there is one or more buffered BU(s) to retrieve from the AP MLD. |

**TGbe Editor to make the following changes in in Subclause 9.4.2.315 (Multi-Link Traffic Indication element) in TGbe D3.1 (P296L15):**

Each bit in the Per-Link Traffic Indication Bitmap subfield corresponds to a link and the bit position *i* of the bitmap, B*i*, corresponds to a link with link ID equal to *i*. (#15662)A bit position that corresponds to a link that is not a setup link is reserved.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 15472 | Xiangxin Gu | 35.3.12.4 | 540.17 | It is unnecessary for advertised tid-to-link mapping to have corresponding Per-Link Traffic Indication Bitmap subfield. | As the comment | Rejected.Per the comment resolution guide (11-11/1625), this is invalid comment. The comment fails to identify changes in sufficient detail so that the specific wording of the changes can be determined. |
| 15919 | Zhou Lan | 35.3.12.4 | 541.18 | This paragraph is missing the case for the link disablement through TID-to-link mapping; please add it, or remove the case by case enumeration like "negotiated a TID-to-link mapping" and "link recommendation". | As in comment | Revised.Deleted ‘negotiated a TID-to-link mapping’, ‘default mapping’ but differentiated with whether all TIDs are mapped to all enabled links or not.TGbe editor to make the changes with the CID tag (#15919) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 16426 | Morteza Mehrnoush | 35.3.12.4 | 541.18 | This paragraph is missing the case for the link disablement through TID-to-link mapping; please add it, or remove the case by case enumeration like "negotiated a TID-to-link mapping" and "link recommendation". | As in comment | Revised.Deleted ‘negotiated a TID-to-link mapping’, ‘default mapping’ but differentiated with whether all TIDs are mapped to all enabled links or not.TGbe editor to make the changes with the CID tag (#15919) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |

**TGbe Editor to make the following changes in in Subclause 35.3.12.4 (Traffic Indication) in TGbe D3.1 (P546L47):**

(#15919)An AP MLD shall set dot11MultiLinkTrafficIndicationActivated to true if dot11TIDtoLinkMappingActivated is true and if any of the following conditions is met and otherwise shall set to false:

— At least one of the associated non-AP MLD(s) does not have all TIDs mapped to all the enabled links

and the AP MLD has buffered BU(s) with TID(s) that are not mapped to all enabled links for that non-AP MLD

— The AP MLD intends to provide link recommendations in a Beacon frame to retrieve individually

addressed buffered BUs to at least one of the associated non-AP MLD(s) that has all TIDs mapped to all the enabled links and the AP MLD has buffered BU(s) for that non-AP MLD.

**Subclause 3.2 and miscellaneous CIDs:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 16468 | Sidharth Thakur |   | 0.00 | There seem to several unanswered questions about the use of EMLSR and EMLMR that need to be resolved in future drafts. |   | Rejected.This is invalid comment. It fails to locate and identify the issue. Fails to identify changes in sufficient detail so that the specific wording of the changes can be determined. |
| 17010 | Mark RISON | 35 | 0.00 | Why is it EMLSR padding delay but EMLMR delay? | Change EMLMR delay to EMLMR padding delay throughout, ignoring case and underscore/space | Revised.Agree with the commenter.TGbe editor to find and replace ‘EMLMR delay’ to ‘EMLMR padding delay’, ignoring case and underscore/space in the TGbe D3.1 for the following instances:1. P257L8: in the Figure 9-1002j (1 instance)
2. P258L35, L39, L40, L42, L43 (6 instances)
3. P258L46, Table 9-401g in that title, in the table (3 instances)
4. P577L2, L14 (2 instances)
5. P578L32 (1 instance)
6. P598L35, L37, L38 (4 instances)
7. P626L24 (2 instances)
 |
| 15685 | Oren Kedem | 9.4.1.74 | 226.01 | Oren Kedem | Figure 9-144j should include also the EMLSR Parameter Update field | Rejected.This is invalid comment. It fails to locate and identify the issue. Fails to identify changes in sufficient detail so that the specific wording of the changes can be determined.Figure 9-144j is (MCS Map Count Control subfield format) and not related to EMLSR Parameter Update field. |
| 16220 | Stephen McCann | 3.2 | 61.12 | What does the term "enhanced" refer to in the EMLSR operation definition. The term multi-link is not used in the base line, so why should enhanced multi-link be defined in this draft? What is it an enhancement of? In addition, EMLSR appears to be a "restricted" mode of multi-link operation. | Change "enhanced to restricted" and "EMLSR" to "RMLSR" in the cited definition. Change all occurrences of EMLSR to RMLSR throughout the draft. | Rejected.A single-radio non-AP MLD can setup more than one link with an AP MLD but can transmit and receive frames on one link a time as defined in Clause 3.2 “**single radio non-access point (non-AP) multi-link device (MLD):** A non-AP MLD that supports operation on more than one link but receives or transmits frames only on one link at a time.” ‘Enhanced’ in the EMLSR operation is used to highlight the ‘enhanced’ capability compared to a single-radio non-AP MLD that is not operating in EMLSR mode. It is an ‘enhanced’ capability since a non-AP MLD that is in EMLSR mode can listen on multiple EMLSR links simultaneously and use any available link to exchange frames.  |
| 16221 | Stephen McCann | 3.2 | 61.12 | There is no definition for EMLMR operation. This appears to be similar to EMLSR operation and should have a definition, although the term should equate to "Reduced MLMR operation". | Add the following definition to the clause in alphabetical order:reduced multi-link multiple radio (RMLMR) operation: A mode of operation that allows a non-access point (non-AP) multi-link device (MLD) with multiple receive chains to listen on a set of enabled links, and to perform a set of frame exchanges on one link of the set, while having limited ability to receive or transmit on the other links of the set. | Revised.Added a definition similar to the one defined in the beginning of subclause 35.3.18 (Enhanced multi-link multi-radio operation).Frame exchanges after the initial frame until the end of the frame exchanges can use a larger Nss compared to the Nss capability of the STA before or during the reception of the initial frame, thus ‘enhanced’.  |
| 16384 | Massinissa Lalam | 3.2 | 61.12 | In the eMLSR definition, clarify that the initial control frame is sent by only one affiliated AP, e.g. " ... an initial Control frame sent by only one AP affiliated with an AP MLD operating in a non-high-throughput (non-HT) (duplicate) physical layer (PHY) protocol data unit (PPDU) with one spatial stream, followed by frame exchanges on the link on which the initial Control frame was received." | As in comment | Rejected.The definition clearly states that an initial Control frame (singular) is sent by an AP (singular). |

**TGbe Editor to add the following definition in Subclause 3.2 in TGbe D3.1**

(#16221)**enhanced multi-link single radio (EMLMR) operation:** A mode of operation that allows a non-access point (non-AP) multi-link device (MLD) with multiple radios to listen on a set of enabled links, when the corresponding stations (STAs) affiliated with the non-AP MLD are in awake state, for an initial frame sent by an AP affiliated with an AP MLD in a physical layer (PHY) protocol data unit (PPDU) whose Nss satisfies the receiving STA’s receiving capabilities, followed by frame exchanges that satisfy the MCS and Nss capabilities in EMLMR mode on the link on which the initial frame was received.



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 16222 | Stephen McCann | 3.2 | 61.13 | The term "enabled links" is not defined. I think this is the same as "setup links". | Change all occurrences of "enabled links" to "setup links" throughout the draft. | Revised.As shown in 35.3.7.1.1(General) under 35.3.7.1 (TID-to-link mapping), an enabled link is a setup link to which at least one TID is mapped either in DL or in UL. Added a definition for the term ‘enabled link’.TGbe editor to make the changes with the CID tag (#16222) in doc.: IEEE 802.11-23/0662r0[https://mentor.ieee.org/802.11/dcn/22/11-23-0662-00-00be-lb271-cr-cl35-mlti-part2.docx] |
| 16258 | Stephen McCann | 3.2 | 61.14 | doze and awake states take articles (see the baseline). | If "awake state" is missing an article, change "awake state" to "the awake state" throughout the draft. | Revised.Agree with the commenter.TGbe editor to find and replace - “awake state” with missing article with “the awake state” and - “doze state” with missing article with “the doze state” throughout the current TGbe draft. |

**Discussion:**

As shown below in 35.3.7.1.1, an enabled link is a setup link that has at least one TID mapped to that link either in DL or in UL.

**35.3.7 Link management**

**35.3.7.1 TID-to-link mapping**

**35.3.7.1.1 General**

**…**

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 if no TIDs are mapped to that link both in DL and 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 mapping mode)).

…

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 MSDUs or A-MSDUs that are destined to the AP MLD and that correspond to that TID.

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 MSDUs or A-MSDUs 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

MSDUs or A-MSDUs 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).

A non-AP MLD may retrieve buffered BUs that are individually addressed MMPDUs available at the AP MLD on any enabled link. 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) and subject to the power state of the non-AP STA on each of the links (see 35.3.12 (Multi-link power management)).

**Setup link:** Between the access point (AP) multi-link device (MLD) and the associated non-AP MLD, a link that is requested by the non-AP MLD in the (Re)Association Request frame and is accepted by the AP MLD in the (Re)Association Response frame (see 35.3.5 (Multi-link (re)setup)).

**(#**16222**)enabled link:** A setup link to which at least one TID is mapped either in downlink or in uplink for a non-AP MLD (see 35.3.7.1 (TID-to-link mapping)).