### IEEE P802.11 Wireless LANs

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| 11be D2.0 CR for receiving group addressed frames during EMLMR frame exchange | | | | |
| Date: 2022-10-26 | | | | |
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Abstract

This submission proposes resolutions for the following CIDs:

10128

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Editorial changes
* Rev 2: Remove link ID subfield. Change the subfield name. Editorial changes

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 D2.3 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe D2.3 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** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 10128 | Xiangxin Gu | 35.3.18 | 466.55 | In many cases, non-AP MLD supporting EMLMR mode has more RF chains needed for EMLMR max NSS.  That means a non-AP MLD can do frame exchange under EMLMR mode on one link and receive group addressed frames on another link at the same time.  It is better to have an option that EMLMR mode enabled without impacting group addressed frame receiving. | Define the mode and corresponding signaling. | **Revised:**  Agree with the commenter in principle.  Propose to add information in EML Control field of EML Operation Notificiation frame to indicate whether the ongoing EMLMR frame exchange shall be ended for group addressed frames transmission on another EMLMR link.  Tgbe editor: please implement changes as shown in this doc tagged as 10128 |

**Discussion:**

A multi-radio non-AP MLD has 3 affiliated STA1 and STA 2 and STA 3. Each STA supports 2 SS. The non-AP MLD supports EMLMR mode.

**Scenario 1: there are remaining RF chains at the STA affiliated with the non-AP MLD for receiving group addressed frames**

The non-AP MLD setups link 1 and link 2 and link 3 respectively with AP 1 and AP2 and AP3 affiliated with an AP MLD and enables EMLMR mode with 4 SS on link 1 and link 2 and link 3.

The EMLMR mode does not use all RF chains of the non-AP MLD. During an EMLMR frame exchange on a link, the non-AP MLD receives group addressed frames on other 2 links with remaining RF chains.

**Scenario 2: the STA for receiving group addressed frames is not an EMLMR STA**

The non-AP MLD enables EMLMR mode with 4 SS on link 1 and link 2. The non-AP MLD receives group addressed frames on link 3.

**Scenario 3: The AP MLD should end the ongoing EMLMR frame exchange for group addressed frames transmission on other EMLMR link.**

The non-AP MLD supports EMLMR mode, and has enabled EMLMR mode with 6 SS on link 1 and link 2 and link 3. This is in line with the standard currently.

**So it is benifitial for the AP MLD to get to know**

* Whether the ongoing EMLMR frame exchange on a EMLMR link with the non-AP MLD should be endded Transition Delay before group addressed frames transmission on another EMLMR link.

**End of discussion**

**Propose:**

*TGbe editor: Change 9.4.1.74 as follows (track changes on):*

* + - 1. **EML Control field**

The EML Control field is defined in [Figure 9-144i (EML Control field format)](#bookmark94).

B0 B1 B2 B3 B7

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| EMLSR  Mode | EMLMR  Mode | Group Addressed Frames Protection | Reserved | EMLSR/EMLMR Link Bitmap | MCS Map Cou/nt Control | EMLMR  Supported MCS And NSS Set |

Bits: 1 1 1 5 0 or 16 0 or 8 variable

**Figure 9-144i—EML Control field format (10128)**

*TGbe editor: Insert the following paragraph between 8th and 9th paragraph of 9.4.1.74 as follows (track changes on):*

……

(10128) The Group Addressed Frames Protection subfield is included in a frame sent by a STA affiliated with a non-AP MLD. The subfield is set to 1 if the ongoing EMLMR frame exchange on an EMLMR link should be ended Transition Delay before group addressed frames transmission on another EMLMR link. Otherwise the Group Addressed Frames Protection subfield is set to 0. The subfield is reserved in a frame sent by an AP affiliated with an AP MLD.……

*TGbe editor: Change the 2nd paragraph of 35.3.18 as follows (track changes on):*

……

A non-AP MLD may operate in the EMLMR mode on a specified set of the enabled links as defined in 9.4.1.74 (EML Control field) between the non-AP MLD and its associated AP MLD. The specified set of the enabled links in which the EMLMR mode is applied is called EMLMR links. A STA (#11462) affiliated with the non-AP MLD that is on an (#12683) EMLMR link is an EMLMR STA. The EMLMR links shall be indicated in the EMLMR Link Bitmap subfield of the EML Control field of the EML Operating Mode Notification frame (see 9.6.35.8 (EML Operating Mode Notification frame details)) by setting the bit positions of the EMLMR Link Bitmap subfield to 1. (10128) A non-AP MLD shall indicate whether the ongoing EMLMR frame exchange should be ended for group addressed frames transmission on another EMLMR link in the Group Addressed Frames Protection subfield of the EML Control field of the EML Operating Mode Notification frame it sent.

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*TGbe editor: Insert the following paragraph before the last paragraph of 35.3.18 as follows (track changes on):*

……

(10128) An AP affiliated with an AP MLD should end the ongoing EMLMR frame exchange with a STA affiliated with a non-AP MLD, Transition Delay before the group addressed frames transmission on another EMLMR link if the Group Addressed Frames Protection subfield of the EML Control field of the EML Operating Mode Notification frame received from the non-AP MLD is equal to 1. The AP need not to end the ongoing EMLMR frame exchange with the STA otherwise.

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