IEEE P802.11
Wireless LANs

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| P2P Communication with EMLSR Peer |
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Abstract

This submission proposes to resolve issue of P2P communication with EMLSR peer MLD related with CID 16337.

## Related Comment

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| **CID** | **Commeter** | **Subclause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 16337 | Yongho Kim | 35.3.21.1 | 576.44 | There is no clear description of the behavior of the AP MLD and other peer non-AP MLDs (or non-AP STAs) when the EMLSR non-AP MLD performs P2P operations, such as TDLS or other direct communications. If the EMLSR non-AP MLD stops performing EMLSR operation and performs as a normal STA, then such period should be informed to the AP in order for the AP not to transmit a packet during the P2P period. | Please clarify the behavior of the AP MLD and Peer MLD for P2P communications with EMLSR non-AP MLD. | Revised |

## Discussions

* EMLSR-operating non-AP STA MLD can not receive a PPDU without the reception of an initial control frame.
* If a P2P recipient peer is an EMLSR-operating STA, a P2P transmitter (non-AP STA MLD with shared TXOP) can not directly transmit data to an EMLSR-operating P2P recipient STA.



* If extra P2P setup is used (e.g., TDLS setup), an EMLSR STA can explicitly disable EMLSR operation before P2P setup.
* If a P2P communication period is pre-scheduled between P2P peers, an EMLSR STA can implicitly disable EMLSR operation during the pre-schduled P2P communication period and work as a normal STA. In this case, an EMLSR STA can inform the AP MLD about the unavailable period which corresponds to the pre-scheduled P2P communication period.

## Proposed Changes to IEEE 802.11be D3.0

35.3.17 Enhanced multi-link single radio operation

***TGbe editor: add the following paragraph at P565L7 of 11be draft 3.0:***

(#16337)When a non-AP MLD that is operating in EMLSR mode participate peer to peer communication, and if the non-AP MLD does not have pre-scheduled peer to peer communication period with a peer STA, it shall disable its EMLSR mode before peer-to-peer communication setup (e.g., TDLS) and shall be capable of receiving frames without the reception of an initial control frame on a link which peer to peer communication is intended to be performed.

When a non-AP MLD that is operating in EMLSR mode participate peer-to-peer communication, and if the non-AP MLD has pre-scheduled peer to peer communication period with a peer STA, it shall disable its EMLSR mode and shall be capable of receiving frames without the reception of an initial control frame during the pre-scheduled peer to peer communication period. The non-AP MLD shall inform the AP MLD of unavailable period and link so that the AP MLD does not transmit a frame to the non-AP MLD.

35.3.21.1 General

***TGbe editor: add the following paragraph at P577L4 of 11be draft 3.0:***

(#16337)If a non-AP STA affiliated with a non-AP MLD, which is operating in the EMLSR mode, has established a TDLS direct link in one of the EMLSR links, the non-AP MLD may inform an AP MLD, which is associated with the non-AP MLD, by transmitting a Channel Usage Request Frame following the procedure described in 11.21.15 (Channel usage procedures). A Channel Usage element included in the Channel Usage Request Frame may indicate a link which is not available during a direct communication in the TDLS direct link with off-channel TWT elements.

The AP MLD that has received the Channel Usage Request Frame may schedule its communication with the non-AP MLD based on off-channel TWT elements to avoid transmission failure.