IEEE P802.11
Wireless LANs

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| Proposed Draft TextMAC MLO Enhanced Multi-link Single-Radio Operation |
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Abstract

This submission proposes draft text to be included in 802.11be Draft 0.1 for the following topic:

* MAC MLO Enhanced Multi-link Single-radio Operation
	+ Based on the following motions: Motion 119 #SP125 and Motion 119 #SP126.

Revisions:

* Rev 0: Initial version of the document.

**3.2 Definitions specific to IEEE 802.11**

A single-link/radio (*name is TBD*) non-AP MLD is a non-AP MLD that supports operation on more than one link but receives or transmits frames only on one link at a time.

**33.3.10 Enhanced multi-link single-radio operation**

A single-link/radio non-AP MLD may operate in the enhanced multi-link single-radio (EMLSR) mode. (*name of the mode is TBD*)

An MLD with dot11EMLSROptionImplemented equal to true shall set the EMLSR mode subfield of the EHT Capabilities element to 1; otherwise, the MLD shall set the EMLSR mode subfield to 0.

When a single-link/radio non-AP MLD is operating in the EMLSR mode, the non-AP MLD may listen on more than one enabled link, by having its affiliated STA(s) corresponding to those links in the awake state. The listening operation includes CCA and receiving the initial Control frame of a frame exchange sequence that is initated by an AP MLD.

The initial Control frame of a frame exchange sequence may have one or more limitations for the following parameters: the number of spatial streams, MCS(s) (or data rate(s) for non-HT PPDU), PPDU type(s), and frame type(s). The limitations for the initial Control frame shall be indicated by the non-AP MLD to the AP MLD. The non-AP MLD may indicate link switch delay.

Note – For example, the limitations of the initial Control frame can be as follows: one spatial stream, data rate less than or equal to 24 Mbps, non-HT PPDU, RTS or MU-RTS frame.

The AP MLD shall initiate a frame exchange sequence with the non-AP MLD on one of the enabled links of the non-AP MLD by transmitting a Control frame to the non-AP MLD with the limitations indicated by the non-AP MLD.

After receiving the initial Control frame of a frame exchange sequence, the non-AP MLD shall transmit or receive frames on the link in which the initial Control frame was received and shall not transmit or receive on the other link(s) until the end of the frame exchange sequence, and subject to its spatial stream capabilities and operation mode, the non-AP MLD shall be capable of receiving a PPDU that is sent using more than one spatial stream a SIFS after the end of its response frame transmission. The non-AP MLD switches back to the listening operation immediately after the end of the frame exchange sequence.