IEEE P802.11
Wireless LANs

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| LB271 Comment Resolution Clause 35 EMLSR(Part 1) |
| Date: 2023-3-8 |
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Abstract

This submission proposes comment resolutions for the following 54 CIDs received in LB271 on TGbe D3.0 related to 35.3.17 EMLSR (mostly related to restructuring EMLSR enable/disable procedures):

CIDs:

16054 16401 15044 15073 15882 15927 16434 16553 15074 16915

16256 15561 15883 16916 15490 15075 15077 15655 15563 15645

16055 17876 16676 16675 16555 16469 15109 16917 15562 15591

15884 16259 15590 15592 16554 16918 16232 15483 15112 16616

16919 15885 15080 16056 15076 16260 16556 16920 16921 16557

16617 15078 17877 16470 18059

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: removed 15062
* Rev 2: made minor changes
* Rev 3: updated based on comments during the presentation and email feedback (highlighted in yellow)
* Rev 4:
	1. CIDs related changing EMLSR links to EMLSR link(s) ready for a SP:
		+ 16054 15073 15927 16434 16553 15074

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| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 16054 | Binita Gupta | 35.3.17 | 563.41 | Clarify if EMLSR operation is supported on a single link, e.g. when an AP is removed and only a single EMLSR link remains for a given non-AP MLD. Similar scenario will happen when a link is disabled which was an EMLSR link for a non-AP MLD and it has only a single EMLSR link enabled. | Clarify requirements for single link EMLSR operation as per comment. | RevisedClarified that EMLSR operation is supported on a single link.TGbe editor to make the changes with the CID tag (#16054) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16401 | Liuming Lu | 35.3.17 | 563.41 | When a STA of a non-AP MLD is exchanging frames with an AP affiliated with an AP MLD on one of the EMLSR links, the other STAs affiliated with the same non-AP MLD on the EMLSR links are blind. This is similar to the blindness problem of the NSTR non-AP MLD operation. The handling of the blindness issue for a non-AP MLD in EMLSR mode may be complex. | Suggest to add a mechanism to control the rights to initiate a TXOP for uplink transmission for non-AP STAs affiliated with a non-AP MLD in the EMLSR links | RejectedThe medium recovery process related to the blindness issue for EMLSR is defined in 35.3.16.8 (Medium access recovery procedure) in P560L22. |
| 15044 | Ryota Yamada | 35.3.17 | 563.44 | EMLSR is already defined. | Please replace "enhanced multi-link single radio (EMLSR)" with "EMLSR". | Accepted |
| 15073 | Minyoung Park | 35.3.17 | 563.45 | EMLSR links should be changed to EMLSR link(s) since a non-AP MLD can operate in EMLSR mode when only one EMLSR link is available for the operation. | Replace EMLSR links to EMLSR link(s). Make similar changes throughout the subclause. (e.g., P563L56, P563L62, etc.) | Revised.Agree with the comment.TGbe editor to make the changes with the CID tag (#15073) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15882 | Chunyu Hu | 35.3.17 | 563.51 | Both AP and a non-AP MLD need (shall) follow the rules, why only call out non-AP. Also, it's obvious hence this sentence can be removed. | Remove the sentense or add AP MLD as well. | Revised.A non-AP MLD enables/disables EMLSR mode, but an AP MLD doesn’t. Added a sentence to clarify that an AP MLD that supports EMLSR shall follow the rules defined in this subclause.TGbe editor to make the changes with the CID tag (#15882) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15927 | Zhou Lan | 35.3.17 | 563.53 | There were some discussions in the group to allow the EMLSR operation over single-link, however currently some paragraphs are written so that the EMLSR operation is only allowed over more than one link (like page564/line15), and some other paragraphs are mixed (like page563/line53). Please fix this throughout subclass 35.3.17. | As in comment | Revised.Agree with the comment. EMLSR operation is allowed for one EMLSR link.TGbe editor to make the changes with the CID tag (#15073) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16434 | Morteza Mehrnoush | 35.3.17 | 563.53 | There were some discussions in the group to allow the EMLSR operation over single-link, however currently some paragraphs are written so that the EMLSR operation is only allowed over more than one link (like page564/line15), and some other paragraphs are mixed (like page563/line53). Please fix this throughout subclass 35.3.17. | As in comment | Revised.Agree with the comment.EMLSR operation is allowed for one EMLSR link.TGbe editor to make the changes with the CID tag (#15073) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16553 | Arik Klein | 35.3.17 | 563.56 | The following sentence should clarify which bit positions in the EMLSR Link bitmap shall be set to 1, as suggested: "The EMLSR links shall be indicated in the EMLSR Link Bitmap subfield of the EML Control field of the EML Operating Mode Notification frame by setting the bit positions of the EMLSR Link Bitmap subfield to 1" | The sentence should be revised as follows: "The EMLSR links shall be indicated in the EMLSR Link Bitmap subfield of the EML Control field of the EML Operating Mode Notification frame by setting the bit positions \*corresponding to the Link ID value of these links in\* the EMLSR Link Bitmap subfield to 1" | Revised.Agree with the comment.TGbe editor to make the changes with the CID tag (#16553) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15074 | Minyoung Park | 35.3.17 | 563.57 | "the bit positions of the EMLSR link bitmap subfield" should be "the bit position(s) of the EMLSR link bitmap" since there could be only one enabled link used for EMLSR mode. | Replace "the bit positions" to "the bit position(s)" | Revised.Agree with the comment.EMLSR operation is allowed for a EMLSR link.TGbe editor to make the changes with the CID tag (#15073) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16915 | Mark RISON | 35.3.17 | 563.58 | " For the EMLSR mode enabled in a single radio non-AP MLD, theSTA(s) affiliated with the non-AP MLD that operates on the enabled link(s) that corresponds to the bitposition(s) of the EMLSR Link Bitmap subfield set to 0 shall be in doze state if a non-AP STA affiliatedwith the non-AP MLD that operates on one of the EMLSR links is in awake state." is not clear. Shouldn't the STA be in doze for any link that is disabled? | Change to " For the EMLSR mode enabled in a single radio non-AP MLD, theSTA(s) affiliated with the non-AP MLD that operates on the enabled link(s) that corresponds to the bitposition(s) of the EMLSR Link Bitmap subfield set to 0 shall be in doze state." | Rejected.When all STA(s) operating on the EMLSR link(s) are in doze state, a STA operating on a link that corresponds to the bit position of the EMLSR link bitmap subfield set to 0 can be in awake state. So the current text is correct. |
| 16256 | Stephen McCann | 35.3.17 | 563.60 | typo "set to 0". This is an inequality (e.g. a check), not a setting. The summary of the sentence is "the STA that corresponds to the bit positions of the subfield set to 0, shall be in a doze state if..." | Change "set to 0" to "equal to 0" | Accepted |
| 15561 | Chaoming Luo | 35.3.17 | 563.62 | Change "operates on one of the EMLSR links" to "operates on any of the EMLSR links" | As in comment | Rejected‘one’ is correct since the sentence is for a single radio non-AP MLD. ‘any’ seems to indicate it could be one or more. |
| 15883 | Chunyu Hu | 35.3.17 | 564.02 | What's the state/mode of the non-AP MLD after association but before sending the Operating Mode Notification frame with the EMLSR Mode subfield set to true? During this time, how AP should transmit to the non-AP STA(s) or it shouldn't transmit any frame, or it can only tx over the link the association handshake is completed on? | As in comment. | Rejected.This is invalid comment. The commenter is asking questions.Before a STA affiliated with a non-AP MLD transmits an EML OMN frame to enable EMLSR mode, an AP affiliated with an AP MLD can transmit a frame to any STA affiliated with the non-AP MLD that is in awake state.  |
| 16916 | Mark RISON | 35.3.17 | 564.15 | "When a non-AP MLD is operating in EMLSR mode on the EMLSR links, the non-AP STAs operating onthe EMLSR links and affiliated with the non-AP MLD shall not operate in dynamic SM power save mode(11.2.6 (SM power save)) on the EMLSR links." -- can they operate in static SMPS? | Change to "When a non-AP MLD is operating in EMLSR mode on the EMLSR links, the non-AP STAs operating onthe EMLSR links and affiliated with the non-AP MLD shall not operate in SM power save mode(11.2.6 (SM power save)) on the EMLSR links." | Rejected.This is invalid comment. The commenter is asking a question.A STA affiliated with a non-AP MLD in EMLSR mode can operate in static SMPS mode by using a single receive chain active. Please see the following definition: “In static SM power save mode, the STA maintains only a single receive chain active” |
| 15490 | Xiangxin Gu | 35.3.17 | 564.16 | when there is only one EMLSR Link in active mode or in awake state of power save mode, it can operate in dynamic SM power save mode. | As the comment | Rejected.EMLSR mode follows different rules compared to dynamic SMPS: e.g., initial control frame, end of frame exchange, etc are different. Therefore, using EMLSR and dynamic SMPS together creates problems and no need to use dynamic SMPS when EMLSR mode is enabled because EMLSR mode can do what dynamic SMPS is supporting. |
| 15075 | Minyoung Park | 35.3.17 | 564.20 | EMLSR enable procedure written in one paragraph is too long and difficult for readers to understand. Please make the paragraph into sub-bullet points and make it easier to read. | Revise the paragraph as follows:"When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to enable the EMLSR mode on the EMLSR links, then:- A non-AP STA affiliated with the non-AP MLD shall transmit an EML Operating Mode Notification frame with the EMLSR Mode subfield of the EML Control field of the frameset to 1 to an AP affiliated with an AP MLD with dot11EHTEMLSROptionActivated equal to true.- An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element. a) The EML Control field of the EML Operating Mode Notification frame transmitted by the AP affiliated with the AP MLD is set to the same value as the EML Control field in the received EML Operation Mode Notification frame. b) The timeout interval starts at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD.- The non-AP MLD shall operate in the EMLSR mode and the other non-AP STAs operating on the corresponding EMLSR links shall transition to active mode when one of the following conditions is met: a) When the timeout interval expires b) Immediately after transmitting an acknowledgement in response to the received EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD.- Any of the other non-AP STAs operating on the corresponding EMLSR link shall not transmit a frame with the Power Management subfield set to 1 before receiving the EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD or before the end of the timeout interval." | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15075) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15077 | Minyoung Park | 35.3.17 | 564.35 | The following sentence is causing different interpretations: "After the successful transmission of the EML Operating Mode Notification frame by the nonAP STA affiliated with the non-AP MLD, the non-AP MLD shall operate in the EMLSR mode and the other non-AP STAs operating on the corresponding EMLSR links shall transition to active mode after the transition delay indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element or immediately after receiving an EML Operating Mode Notification frame from one ofthe APs operating on the EMLSR links and affiliated with the AP MLD. "Please consider rephrasing the sentence by making the two conditions at the end of sentence as sub-bullet points so that the EMLSR mode is enabled when either condition is met after the successful transmission of the EML OMN frame from the non-AP MLD. | As in the comment. | Revised.The paragraph is broken down into shorter sentences and the two conditions are added as bullet point format.TGbe editor to make the changes with the CID tag (#15077) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15655 | Xiangxin Gu | 35.3.17 | 563.42 | It is helpful to have a state transition figure with 3 states: EMLSR disabled mode, EMLSR listening mode and EMLSR frame exchanging mode. | Add the state transition figure. | Revised.Added two figures to illustrate the EMLSR enable/disable, listening, frame exchange operations.TGbe editor to make the changes with the CID tag (#15655) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15563 | Chaoming Luo | 35.3.17 | 564.35 | It sounds like the mode change is just after the successful transmission, which is not true. Similar issue lies in the next paragraph. | Change "After the successful transmission of the EML Operating Mode Notification frame by thenon-AP STA affiliated with the non-AP MLD, the non-AP MLD shall operate in the EMLSR mode and the other STAs operating on the corresponding EMLSR links shall transition to active mode after the transition delay indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element or immediately after receiving an EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD."To: "Upon the successful transmission of the EML Operating Mode Notification frame by thenon-AP STA affiliated with the non-AP MLD, and after the transition delay indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element in any received management frame or immediately after receiving an EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD, the non-AP MLD shall operate in the EMLSR mode and the other STAs operating on the corresponding EMLSR links shall transition to active mode ." | Revised.The paragraph is broken down into shorter sentences and the two conditions are added as bullet point format.TGbe editor to make the changes with the CID tag (#15563) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15645 | Xiangxin Gu | 35.3.17 | 564.35 | The timing of "the non-AP MLD shall operate in EMLSR mode" and "the other non-AP STAs operating on the corresponding EMLSR links shall transition to active mode" are not clear. | Change "the non-AP MLD shall operate in the EMLSR mode and the other non-AP STAs operating on the corresponding EMLSR links shall transition to active mode" to "the non-AP MLD shall operate in the EMLSR mode with the other non-AP STAs operating on the corresponding EMLSR links transition to active mode" | Revised.The paragraph is broken down into shorter sentences and the two conditions are added as bullet point format and the order of the sentence is changed to clarify the operation.TGbe editor to make the changes with the CID tag (#15563) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16055 | Binita Gupta | 35.3.17 | 564.36 | Text need to clarify when exactly the non-AP MLD starts operating in the EMLSR mode. As I understand this is either after it receives an EML OMN response frame from the AP or after the Transition Timeout, but not right after the successful transmission of the EML OMN frame. | Clarify text as per comment. | Revised.The paragraph is broken down into shorter sentences and the two conditions are added as bullet point format and the order of the sentence is changed to clarify the operation.TGbe editor to make the changes with the CID tag (#15563) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 17876 | Gaurang Naik | 35.3.17 | 564.20 | The EML Operating Mode Notification frame sent by the AP to enable the EMLSR mode must be preceded with an initial Control frame | As in comment | Revised.To resolve different interpretation of the EMLSR enable procedure in TGbe D2.0, added an item that requires an initial Control frame before sending the EML OMN frame from an AP affiliated with an AP MLD on one of the EMLSR link(s).TGbe editor to make the changes with the CID tag (#17876) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16676 | Qi Wang | 35.3.17 | 564.35 | "After the successful transmission of the EML Operating Mode Notification frame by the non-AP STA affiliated with the non-AP MLD, the non-AP MLD shall operate in the EMLSR mode and the other non-AP STAs operating on the corresponding EMLSR links shall transition to active mode after the transition delay indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element or immediately after receiving an EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD." This sentence specifies that different EMLSR STAs/links enter the EMLSR mode at different times, some at the time of successful transmission of the EML Request frame, some a later time (i.e., when the EML OMN response frame is received or the EMLSR Timeout timer is expired, whichever comes earlier). | Please specify that (1) when the non-AP STA affiliated with the non-AP MLD successfully transmits an EML Operating Mode Notification frame in which the PM bit is set to 1, the non-AP MLD enters the EMLSR mode after the transition delay specified in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element; (2) when the non-AP STA affiliated with the non-AP MLD successfully transmits an EML Operating Mode Notification frame in which the PM bit is set to 0, the non-AP MLD enters the EMLSR mode after the transition delay specified in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element or immediately after receiving an EML Operating Mode Notification frame from one of the APs affiliated with the AP MLD successfully, whichever comes earlier. | Revised.The paragraph is broken down into shorter sentences and the two conditions are added as bullet point format and the order of the sentence is changed to clarify the operation.On the example when PM=1, the EMLSR mode can be enabled after receiving an EML OMN frame from an AP before the timeout interval expires (i.e., a STA can transition to awake state and receive the EML OMN frame) so the suggested change is not correct.TGbe editor to make the changes with the CID tag (#15563) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16675 | Qi Wang | 35.3.17 | 564.20 | "When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to enable the EMLSR mode on the EMLSR links, a non-AP STA affiliated with the non-AP MLD shall transmit an EML Operating Mode Notification frame with the EMLSR Mode subfield of the EML Control field of the frame set to 1 to an AP affiliated with an AP MLD with dot11EHTEMLSROptionActivated equal to true. An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP. STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD." Should the AP MLD transmit the OMN response frame on the same or different link from the link on which the OMN request frame was transmitted? | Please specify that the AP MLD may transmit the OMN response frame on the same or different link from the link on which the OMN request frame is transmitted. And, if the OMN response frame is transmitted, it shall be transmitted on a link where the STA is not in power save. | RevisedClarified that an EML OMN frame from the AP MLD can be transmitted to a non-AP STA that is in awake state and affiliated with the non-AP MLD.TGbe editor to make the changes with the CID tag (#16675) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16555 | Arik Klein | 35.3.17 | 564.30 | According to P564L25, the AP affiliated with the AP MLD that has received the EML Operation Mode Notification frame should transmit the EML Operation Mode Notification frame. Thus, the destination of the EML Operation Mode Notification frame (transmitted as an immediate acknowledgement to the soliciting EML Operation Mode Notification frame) should be the \*initiating non-AP STA affiliated with the non-AP MLD\* rather than "..to one of the non-AP STAs affiliated with the non-AP MLD..". Please revise the sentence as suggested (to avoid the case where the response EML Operation Mode Notification frame is sent in a different link than the soliciting EML Operation Mode Notification frame) | Please revise the sentence as follows: "An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, \*to the initiating non-AP STA affiliated with the non-AP MLD\* within the timeout interval....."Note: in case the intention is that the response EML Operating Mode Notification frame can be sent on a different link (out of EMLSR links) than the one on which the soliciting EML Operating Mode Notification frame has been transmitted - please add a specific note to emphasize it. | RevisedClarified that an EML OMN frame from the AP MLD can be transmitted to any non-AP STA that is in awake state and affiliated with the non-AP MLD.TGbe editor to make the changes with the CID tag (#16675) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16469 | Sindhu Verma | 35.3.17 | 564.41 | It was agreed that the EML OMN frame to enable EMLSR can be transmitted on any of the links and not just the EMLSR links. This behavior is correctly captured for the non-AP MLD which initiated the EML OMN frame but not for the AP MLD responding with the same EML OMN frame | "from one of the APs operating on the EMLSR links and affiliated with the AP MLD" in both the places should be modified to remove the restriction of transmitting on only the EMLSR links | RevisedClarified that an EML OMN frame from the AP MLD can be transmitted to any non-AP STA that is in awake state and affiliated with the non-AP MLD.TGbe editor to make the changes with the CID tag (#16675) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15109 | Xiaogang Chen | 35.3.17 | 564.30 | "...after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, toone of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in theTransition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at theend of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediateacknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with thenon-AP MLD. " sounds like AP MLD can transmit EML OMN to any one of the STA affiliated with the non-AP MLD | add a note:for a single radio MLD, the AP MLD shall only send the EML OMN frame on the link where the EML OMN frame from non-AP MLD is received. | RejectedAn EML OMN frame from the AP MLD can be transmitted to any non-AP STA that is in awake state and affiliated with the non-AP MLD. |
| 16917 | Mark RISON | 35.3.17 | 564.20 | "When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to enable the EMLSRmode on the EMLSR links" -- it is not clear what "the EMLSR links" are | CHange to "When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to enable the EMLSRmode on a pair of links" | Rejected.The EMLSR links is defined as follows in the same subclause as follows:“A non-AP MLD may operate in the EMLSR mode on a specified set of the enabled links between the nonAP MLD and its associated AP MLD. The specified set of the enabled links on which the EMLSR mode is applied is called EMLSR links. The EMLSR links shall be indicated in the EMLSR Link Bitmap subfield of the EML Control field of the EML Operating Mode Notification frame by setting the bit positions of the EMLSR Link Bitmap subfield to 1.” |
| 15562 | Chaoming Luo | 35.3.17 | 564.24 | Change "an AP affiliated with an AP MLD with dot11EHTEMLSROptionActivated equal to true" to "an AP affiliated with the associated AP MLD with dot11EHTEMLSROptionActivated equal to true" | As in comment | Revised.Agree in principle.TGbe editor to make the changes with the CID tag (#15562) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15591 | Xiangxin Gu | 35.3.17 | 564.25 | An AP affiliated with the AP MLD can only send the frame to its associated STA instead of "one of the STA" | As the comment | Revised.Agree in principle.TGbe editor to make the changes with the CID tag (#15562) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15884 | Chunyu Hu | 35.3.17 | 564.24 | The 2nd sentense is too long and can be broken down into two by changing "within the timeout interval indicated" to: "within the timeout interval. The timeout interval is indicated". | As in comment. | Revised.Made it as a separate sub-item for L24 and also made similar change in L56 in the EMLSR disable procedure.TGbe editor to make the changes with the CID tag (#15884) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16259 | Stephen McCann | 35.3.17 | 564.24 | This sentence is almost unreadable, as it is so long. I suggest breaking it down into 2 sentences. | Change the sentence as follows:"An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD. The transmission should occur within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD". | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15075) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15590 | Xiangxin Gu | 35.3.17 | 564.25 | The sentence it too long to parse | Change the sentense to be easier to read | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15075) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15592 | Xiangxin Gu | 35.3.17 | 564.25 | The AP should complete the transmission of the EML Operating Mode Notification frame within the timeout interval because the non-AP MLD side will switch to EMLSR mode at the timeout point. | As the comment | Revised.Agree in principle.A successful transmission of an EML OMN frame should be completed within the timeout interval.TGbe editor to make the changes with the CID tag (#15592) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16554 | Arik Klein | 35.3.17 | 564.25 | The following sentence is too long and should be split into two sentences in order to facilitate the reading, as suggested: "An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD." | Please revise the long sentence as follows: "An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame to one of the non-AP STAs affiliated with the non-AP MLD. The immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD should be sent after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD." | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15075) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16918 | Mark RISON | 35.3.17 | 564.26 | "should transmit an EML Operating Mode Notification frame with theEML Control field set to the same value as the EML Control field in the received EML Operation ModeNotification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, toone of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in theTransition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at theend of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediateacknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with thenon-AP MLD" -- this is grossly unreadable | At the very minimum, add a comma before "within". But frankly rewriting the whole sentence would be better | Revised.The paragraph is broken down into shorter sentences and bullet point format. Also added ‘,’ before “within”TGbe editor to make the changes with the CID tag (#15075 and 16918) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16232 | Stephen McCann | 35.3.17 | 564.27 | Typo "EML Operation Mode" | Change "EML Operation Mode" to "EML Operating Mode". The same change also needs to be made at P564L54. | Revised.The paragraph has been restructured and the typo has been fixed.TGbe editor to make the changes with the CID tag (#16232) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15483 | Xiandong Dong | 35.3.17 | 564.28 | "EML Operation Mode Notification frame" should be "ML Operating Mode Notification frame" and the same typo in line 564.54. | As in comment | Revised.The typo has been fixed.TGbe editor to make the changes with the CID tag (#16232) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15112 | Ezer MELZER | 35.3.17 | 564.29 | The term "EMLSR Mode operation" in this sentence is wrong: "..., after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation". | The sentence should be revised as follows:".., after the AP MLD is ready to serve the non-AP MLD in the operation of the EMLSR mode " | Revised.Deleted ‘mode’ so that it reads ‘EMLSR operation’.TGbe editor to make the changes with the CID tag (#15112) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16616 | Arik Klein | 35.3.17 | 564.29 | The term "EMLSR Mode operation" is incorrect in the following sentence "..., after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation". Please revise as suggested. | The sentence should be revised as follows:".., after the AP MLD is ready to serve the non-AP MLD in the operation of the EMLSR mode " | Revised.Deleted ‘mode’ so that it reads ‘EMLSR operation’.TGbe editor to make the changes with the CID tag (#15112) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16919 | Mark RISON | 35.3.17 | 564.35 | "the non-AP MLD shall operate in the EMLSR mode" is not clear. Only the EMLSR links operate in the EMLSR mode | Change to "the non-AP MLD shall operate in the EMLSR mode for the EMLSR links" | Revised.Clarified that a non-AP MLD operates in the EMLSR mode on the EMLSR links.TGbe editor to make the changes with the CID tag (#16919) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
|  |  |  |  |  |  |  |
| 15885 | Chunyu Hu | 35.3.17 | 564.37 | "shall transition to active mode": if the STA on one of the links was in PS, does it need to send a frame with PM=0 explicitly? Need clearer description, e.g. "is assumed to transition to the active mode automatically". | As in comment. | Revised.Clarified that there is no need to transmit a frame with PM=0.TGbe editor to make the changes with the CID tag (#15885) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15080 | Minyoung Park | 35.3.17 | 564.38 | The use of "timeout interval" to indicate the value in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element in P564L30 and "transition delay" indicating the same information in P564L38 is inconsistent. Replace "transition delay" to "timeout interval" for consistency. | As in the comment. Please make the same change in P564L63 in the EMLSR disable procedure. | Revised.Unified the term to ‘transition timeout interval’ to match with the Transition Timeout subfield.TGbe editor to make the changes with the CID tag (#15080) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16056 | Binita Gupta | 35.3.17 | 564.44 | Specify that timeout interval refers to interval indicated in the Transition Timeout subfield. Same comment for pg 565 line 6. | Modify to "... or before the end of the timeout interval indicated in the Transition Timeout subfield." | Revised.The timeout interval is defined as a separate item in the paragraph as follows:“The transition timeout interval is indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element”TGbe editor to make the changes with the CID tag (#15884) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15076 | Minyoung Park | 35.3.17 | 564.47 | EMLSR disable procedure written in one paragraph is too long and difficult for readers to understand. Please make the paragraph into sub-bullet points and make it easier to read. | Revise the paragraph as follows:"When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to disable the EMLSR mode, then:- A non-AP STA affiliated with the non-AP MLD shall transmit an EML Operating Mode Notification frame with the EMLSR Mode subfield of the EML Control field of the frame set to 0 to an AP affiliated with an AP MLD with dot11EHTEMLSROptionActivated equal to true.- An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame, after the AP MLD is no longer serving the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element. a) The EML Control field of the EML Operating Mode Notification frame transmitted by the AP affiliated with the AP MLD is set to the same value as the EML Control field in the received EML Operation Mode Notification frame. b) The timeout interval starts at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD.- The non-AP MLD shall disable the EMLSR mode and the other non-AP STAs operating on the corresponding EMLSR links shall transition to power save mode when one of the following conditions is met: a) When the timeout interval expires b) Immediately after transmitting an acknowledgement in response to the received EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD- Any of the other non-AP STAs operating on the corresponding EMLSR link shall not transmit a frame with the Power Management subfield set to 0 before receiving the EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD or before the end of the timeout interval." | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15076) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16260 | Stephen McCann | 35.3.17 | 564.50 | This sentence is almost unreadable, as it is so long. I suggest breaking it down into 2 sentences. | Change the sentence as follows:"An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is no longer serving the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD. The transmission should occur within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the non-AP STA affiliated with the non-AP MLD." | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15076) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16556 | Arik Klein | 35.3.17 | 564.50 | The following sentence is too long and should be split into two sentences in order to facilitate the reading, as suggested: "An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is no longer serving the non-AP MLD in the EMLSR mode operation, to one of the non-AP STAs affiliated with the non-AP MLD within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD." | Please revise the long sentence as follows: "An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame to one of the non-AP STAs affiliated with the non-AP MLD. The immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD should be sent after the AP MLD is no longer serving the non-AP MLD in the EMLSR mode operation, within the timeout interval indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element starting at the end of the PPDU that is transmitted by the AP affiliated with the AP MLD." | Revised.The paragraph is broken down into shorter sentences and bullet point format.TGbe editor to make the changes with the CID tag (#15076) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16920 | Mark RISON | 35.3.17 | 564.50 | "An AP affiliated with the AP MLD thatreceived the EML Operating Mode Notification frame" wrong tense | Change to "An AP affiliated with the AP MLD thatreceives an EML Operating Mode Notification frame" | Revised.The part “thatreceived the EML Operating Mode Notification frame” has been deleted based on the resolution of CID#16675.TGbe editor to make the changes with the CID tag (#16675) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16921 | Mark RISON | 35.3.17 | 564.50 | "An AP affiliated with the AP MLD thatreceived the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-APMLD should transmit an EML Operating Mode Notification frame" -- this would permit an AP MLD to ignore the request and keep on doing EMLSR even though the non-AP MLD wants to stop | Change "should" to "shall" | Rejected.In such as case, the timeout timer expires and the non-AP MLD disables the EMLSR mode. |
| 16557 | Arik Klein | 35.3.17 | 564.55 | According to P564L50, the AP affiliated with the AP MLD that has received the EML Operation Mode Notification frame should transmit the EML Operation Mode Notification frame. Thus, the destination of the EML Operation Mode Notification frame (transmitted as an immediate acknowledgement to the soliciting EML Operation Mode Notification frame) should be the \*initiating non-AP STA affiliated with the non-AP MLD\* rather than "..to one of the non-AP STAs affiliated with the non-AP MLD..". Please revise the sentence as suggested (to avoid the case where the response EML Operation Mode Notification frame is sent in a different link than the soliciting EML Operation Mode Notification frame) | Please revise the sentence as follows: "An AP affiliated with the AP MLD that received the EML Operating Mode Notification frame from the non-AP STA affiliated with the non-AP MLD should transmit an EML Operating Mode Notification frame with the EML Control field set to the same value as the EML Control field in the received EML Operation Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR mode operation, \*to the initiating non-AP STA affiliated with the non-AP MLD\* within the timeout interval....."Note: in case the intention is that the response EML Operating Mode Notification frame can be sent on a different link (out of EMLSR links) than the one on which the soliciting EML Operating Mode Notification frame has been transmitted - please add a specific note to emphasize it. | RevisedClarified that an EML OMN frame from the AP MLD can be transmitted to a non-AP STA that is in awake state and affiliated with the non-AP MLD.TGbe editor to make the changes with the CID tag (#16675) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16617 | Arik Klein | 35.3.17 | 564.55 | The term "EMLSR Mode operation" is incorrect in the following sentence "..., after the AP MLD is no longer serving the non-AP MLD in the EMLSR mode operation". Please revise as suggested. | The sentence should be revised as follows:".., after the AP MLD is no longer serving the non-AP MLD in the operation of the EMLSR mode " | Revised.Deleted ‘mode’ so that it reads ‘EMLSR operation’.TGbe editor to make the changes with the CID tag (#15112) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 15078 | Minyoung Park | 35.3.17 | 564.60 | The following sentence is causing different interpretations: "After the successful transmission of the EML Operating Mode Notification frame by the nonAP STA affiliated with the non-AP MLD, the non-AP MLD shall disable the EMLSR mode and the other non-AP STAsoperating on the corresponding EMLSR links shall transition to power save mode after the transition delay indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element or immediately after receiving an EML Operating Mode Notification frame from one of the APs operating on the EMLSR links and affiliated with the AP MLD. "Rephrase the sentence by making the two conditions at the end of sentence as sub-bullet points so that the EMLSR mode is disabled when either condition is met after the successful transmission of the EML OMN frame from the non-AP MLD. | As in the comment. | Revised.The paragraph is broken down into shorter sentences and the two conditions are added as bullet point format.TGbe editor to make the changes with the CID tag (#15563) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 17877 | Gaurang Naik | 35.3.17 | 564.47 | The EML Operating Mode Notification frame sent by the AP to disable the EMLSR mode must be preceded with an initial Control frame | As in comment | Revised.For clarification, added an item that requires an initial Control frame before sending the EML OMN frame from an AP affiliated with an AP MLD on one of the EMLSR link(s).TGbe editor to make the changes with the CID tag (#17877) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 16470 | Sindhu Verma | 35.3.17 | 565.02 | It was agreed that the EML OMN frame to disable EMLSR can be transmitted on any of the links and not just the EMLSR links. This behavior is correctly captured for the non-AP MLD which initiated the EML OMN frame but not for the AP MLD responding with the same EML OMN frame | "from one of the APs operating on the EMLSR links and affiliated with the AP MLD" in both the places should be modified to remove the restriction of transmitting on only the EMLSR links | RevisedClarified that an EML OMN frame from the AP MLD can be transmitted to a non-AP STA that is in awake state and affiliated with the non-AP MLD.TGbe editor to make the changes with the CID tag (#16675) in doc.: IEEE 802.11-23/0340r4[https://mentor.ieee.org/802.11/dcn/22/11-23-0340-04-00be-lb271-cr-cl9-emlsr.docx] |
| 18059 | Albert Petrick | 35.3.17 | 565.10 | Join the reference clause for power save mode | Change text to read "of the frame as described in 11.2.3.2 (Non-AP STA power management modes))." | Accepted. |

**TGbe Editor to make the following changes in Subclause 35.3.17 (Enhanced multi-link single radio operation) in TGbe D3.0**

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

The (#15044)EMLSR operation defined in this subclause allows a non-AP MLD with multiple receive chains to listen on (#16054)one or more EMLSR links when the corresponding non-AP STA(s) affiliated with the non-AP MLD are in awake state as defined below for an initial Control frame sent by an AP affiliated with an AP MLD in a non-HT (duplicate) PPDU, followed by frame exchanges on the link on which the initial Control frame was received.

In EMLSR mode, a non-AP MLD shall follow the rules defined in this subclause.

(#15882)An AP MLD with dot11EHTEMLSROptionActivated equal to true shall follow the rules defined in this subclause.

(#15073)A non-AP MLD may operate in the EMLSR mode on a specified set of the enabled link(s) between the non-AP MLD and its associated AP MLD. The specified set of the enabled link(s) on which the EMLSR mode is applied is called EMLSR link(s). The EMLSR link(s) shall be indicated in the EMLSR Link Bitmap subfield of the EML Control field of the EML Operating Mode Notification frame by setting the bit position(s) (#16553)corresponding to the Link ID value(s) of the EMLSR link(s) in the EMLSR Link Bitmap subfield to 1. For the EMLSR mode enabled in a single radio non-AP MLD, the STA(s) affiliated with the non-AP MLD that operates on the enabled link(s) that corresponds to the bit position(s) of the EMLSR Link Bitmap subfield (#16256)equal to 0 shall be in doze state if a non-AP STA affiliated with the non-AP MLD that operates on one of the EMLSR link(s) is in awake state.

(#15073)NOTE - A non-AP MLD might only set one bit to 1 in the bit positions of the EMLSR Link Bitmap subfield when the non-AP MLD enables the EMLSR mode.

…

(#15073)When a non-AP MLD is operating in EMLSR mode on the EMLSR link(s), the non-AP STA(s) operating on the EMLSR link(s) and affiliated with the non-AP MLD shall not operate in dynamic SM power save mode (11.2.6 (SM power save)) on the EMLSR link(s).

(#15075, 15073)When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to enable the EMLSR mode on the EMLSR link(s), then:

* ­­A non-AP STA affiliated with the non-AP MLD shall transmit an EML Operating Mode Notification frame with the EMLSR Mode subfield of the EML Control field of the frame set to 1 to an AP affiliated with (#15562)its associated AP MLD with dot11EHTEMLSROptionActivated equal to true.
* An AP affiliated with the AP MLD (#16675)should (#15592)successfully transmit an EML Operating Mode Notification frame, after the AP MLD is ready to serve the non-AP MLD in the EMLSR (#15112)operation, as a response to the received EML Operating Mode Notification frame, to (#16675)a non-AP STA that is in awake state and affiliated with the non-AP MLD(#16918), within the (#15080)transition timeout interval, and the following rules apply:
	1. (#15884)The transition timeout interval is indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element.
	2. The transition timeout interval starts at the end of the PPDU[+SigExt] that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the STA affiliated with the non-AP MLD.
	3. The EML Control field of the EML Operating Mode Notification frame transmitted by the AP affiliated with the AP MLD is set to the same value as the EML Control field in the received (#16232)EML Operating Mode Notification frame.
	4. (#17876)If transmitted on one of the EMLSR link(s), the EML Operating Mode Notification frame transmitted by the AP affiliated with the AP MLD shall be preceded by an initial Control frame.
* (#15077, 15563)The non-AP MLD shall operate in the EMLSR mode (#16919)on the EMLSR link(s) and the other non-AP STA(s) affiliated with the non-AP MLD operating on the corresponding EMLSR link(s), which did not transmit the EML Operating Mode Notification frame, shall transition to active mode (#15885)without being required to transmit a frame with the Power Management subfield set to 0, either:
	1. At the end of the (#15080)transition timeout interval, or
	2. Before the end of the transition timeout interval, immediately after transmitting an acknowledgement as a response to the received EML Operating Mode Notification frame from one of the APs (#16675)affiliated with the AP MLD.
* Any of the other non-AP STA(s) operating on the corresponding EMLSR link(s) shall not transmit a frame with the Power Management subfield set to 1 before receiving the EML Operating Mode Notification frame from one of the APs (#16675)affiliated with the AP MLD or before the end of the (#15080)transition timeout interval.

(#15076, 15073)When a non-AP MLD with dot11EHTEMLSROptionActivated equal to true intends to disable the EMLSR mode, then:

* A non-AP STA affiliated with the non-AP MLD shall transmit an EML Operating Mode Notification frame with the EMLSR Mode subfield of the EML Control field of the frame set to 0 to an AP affiliated with (#15562)its associated AP MLD with dot11EHTEMLSROptionActivated equal to true.
* An AP affiliated with the AP MLD (#16675)should (#15592)successfully transmit an EML Operating Mode Notification frame, after the AP MLD is no longer serving the non-AP MLD in the EMLSR (#15112) operation, as a response to the received EML Operating Mode Notification frame, to (#16675)a non-AP STA that is in awake state and affiliated with the non-AP MLD(#16918), within the (#15080)transition timeout interval, and the following rules apply:
	1. (#15884)The transition timeout interval is indicated in the Transition Timeout subfield in the EML Capabilities subfield of the Basic Multi-Link element.
	2. The transition timeout interval starts at the end of the PPDU[+SigExt] that is transmitted by the AP affiliated with the AP MLD carrying the immediate acknowledgement to the EML Operating Mode Notification frame transmitted by the non-AP STA affiliated with the non-AP MLD.
	3. The EML Control field of the EML Operating Mode Notification frame transmitted by the AP affiliated with the AP MLD is set to the same value as the EML Control field in the received (#16232)EML Operating Mode Notification frame
	4. (#17877)If transmitted on one of the EMLSR link(s), the EML Operating Mode Notification frame transmitted by the AP affiliated with the AP MLD shall be preceded by an initial Control frame.
* (#15563)The non-AP MLD shall disable the EMLSR mode and the other non-AP STA(s) affiliated with the non-AP MLD operating on the corresponding EMLSR link(s), which did not transmit the EML Operating Mode Notification frame, shall transition to power save mode (#15885)without being required to transmit a frame with the Power Management subfield set to 1, either:
	1. At the end of the (#15080)transition timeout interval, or
	2. Before the end of the transition timeout interval, immediately after transmitting an acknowledgement as a response to the received EML Operating Mode Notification frame from one of the APs (#16675)affiliated with the AP MLD.
* Any of the other non-AP STA(s) operating on the corresponding EMLSR link(s) shall not transmit a frame with the Power Management subfield set to 0 before receiving the EML Operating Mode Notification frame from one of the APs (#16675)affiliated with the AP MLD or before the end of the (#15080)transition timeout interval.

NOTE 1—Each of the STAs on the other links of the EMLSR links can transmit a frame with the Power Management subfield set to 1 and transition to power save mode immediately after successful transmission of the frame (#18059)as described in 11.2.3.2 (Non-AP STA power management modes).

***TGbe editor: Please add the following sentence and Figure 35-xy and Figure 35-xz in TGbe D3.0, after*** the NOTE 1 above:(# 15655)

(#15655)Figure 35-xy illustrates an example of a non-AP MLD enabling and disabling EMLSR mode at the end of the transition timeout interval when an EML Operating Mode Notification frame is not received within the transition timeout interval.



**Figure 35-xy—An example of a non-AP MLD enabling and disabling EMLSR mode at the end of the transition timeout interval**

(#15655)Figure 35-xz illustrates an example of a non-AP MLD enabling and disabling EMLSR mode when an EML Operating Mode Notification frame from one of the APs affiliated with the AP MLD is received within the transition timeout interval.



**Figure 35-xz—** **An example of a non-AP MLD enabling and disabling EMLSR mode when an EML Operating Mode Notification frame from one of the APs affiliated with the AP MLD is received within the transition timeout interval**