IEEE P802.11
Wireless LANs

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| Resolution of Addressing-Related CIDs in Clause 35.17 (LB 266) |
| Date: September 2022 |
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 Abstract

This submission proposes resolutions for following 11 CIDs received for TGbe LB266 in clause 35.17:

10510, 10379, 10475, 10262, 10380, 10476, 11803, 10264, 10181, 11825, ~~10473~~

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Updated references to AP MLD and non-AP MLD to clarify that they are EPCS based on offline comments.
* Rev 2: Fixed references to revision number in resolution column

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

***Editing instructions formatted like this are intended to be copied into the TGbe 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** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 10510 | 3.1 | 47.04 | The definition of "AP reachability" and reference to this term in the standard (such as that in Neighbor Report element) needs to be updated to cover the case where non-AP MLD is able to exchange preauthentication messages with the target AP MLD. | As in comment | RejectedThe only place in the specification that the term AP Reachability is used is in the description of the fields of the Neighbor Report element. While the neighbor report element is modified for use with MLD, an AP MLD is reachable if the affiliated APs are reachable because they share the same DS. Therefore, there is no need to expand the definition for MLD.  |
| 10379 | 35.17.2.2.2 | 535.48 | Since the EPCS is handled at the MLD level, suggest to remove the references to non-AP STA while sending/receiving EPCS Priority Enable Request frame. Which link/STA is used for transmission etc. will be handled by the MLD. | Remove the explicit mentioning of the link/non-AP STA in the rules in section 35.17.2.2.2 | RevisedSimplified references to indicate that MLDs transmit/receive via affiliated STAs.**TGbe editor please implement changes labelled as #10379 in document 802.11-22-1582r2** |
| 10475 | 35.17.2.2.2 | 535.53 | "the MAC address of the AP with which the initiating non-AP EHT STA is associated" is inconsistent with EPCS as a feature of MLD. | Please clarify this and make change accordingly. | RevisedText in clause 35.3.2 (Multi-link device addressing) states that frames between MLDs are addressed to “the receiving STA affiliated with the MLD”. That text makes explicit mention of addressing here unnecessary. The text cited by this comment has been modified to remove details describing MAC addressing.**TGbe editor please implement changes labelled as #10475 in document 802.11-22-1582r2** |
| 10262 | 35.17.2.2.3 | 536.58 | Given that EPCS is enabled at the MLD level, the MAC address of the MLD should be one destination option. | Rephrase as "The destination of the EPCS Priority Access Enable Request frame is the MAC address of the non-AP MLD indicated by the value of the PeerSTAAddress parameter in the MLME-EPCSPRIACCESSENABLE.request primitive or the MAC address of the non-AP STA that is operating on the same link on which the EPCS Priority Access Enable Request frame is transmitted and is affiliated with the non-AP MLD whose MAC address value is indicated by the value of the PeerSTAAddress parameter in the MLME-EPCSPRIACCESSENABLE.request primitive." | RejectedText in clause 35.3.2 (Multi-link device addressing) states that frames between MLDs are addressed to “the receiving STA affiliated with the MLD”. This proposed change would contradict that. |
| 10380 | 35.17.2.2.3 | 536.53 | Since the EPCS is handled at the MLD level, suggest to remove the references to AP STA while sending/receiving EPCS Priority Enable Request frame. Which link/STA is used for transmission etc. will be handled by the MLD. | Remove the explicit mentioning of the link/AP STA in the rules in section 35.17.2.2.2 | RevisedSimplified references to indicate that MLDs transmit/receive via affiliated STAs. **TGbe editor please implement changes labelled as #10380 in document 802.11-22-1582r2** |
| 10476 | 35.17.2.2.3 | 536.59 | "non-AP EHT STA indicated by the value of the PeerSTAAddress parameter in the MLME-EPCS request primitive" is inconsistent with EPCS as a feature of MLD | Please clarify this and make change accordingly. | RevisedText in clause 35.3.2 (Multi-link device addressing) states that frames between MLDs are addressed to “the receiving STA affiliated with the MLD”. That text makes explicit mention of addressing here unnecessary. The text cited by this comment has been modified to remove details describing MAC addressing.**TGbe editor please implement changes labelled as #10476 in document 802.11-22-1582r2** |
| 11803 | 35.17.2.2.3 | 536.61 | It is along sentence and difficult to parse. Simply it. | As in comment | RevisedText was deleted as part of resolution of CID 10476. **TGbe editor please implement changes labelled as #10476 in document 802.11-22-1582r2** |
| 10264 | 35.17.2.2.3 | 537.37 | Given that EPCS is enabled and torn down at the MLD level, the MAC address of the MLD should be one destination option. | Rephrase as "The destination of the EPCS Priority Access Teardown frame is the MAC address of the non-AP MLD indicated by the value of the PeerSTAAddress parameter in the MLME-EPCSPRIACCESSTEARDOWN.request primitive or the MAC address of the non-AP STA that is operating on the same link on which the EPCS Priority Teardown frame is transmitted and is affiliated with the non-AP MLD whose MAC address value indicated by the value of the PeerSTAAddress parameter in the MLME-EPCSPRIACCESSTEARDOWN.request primitive." | RejectedText is clause 35.3.2 (Multi-link device addressing) states that frames between MLDs are addressed to “the receiving STA affiliated with the MLD”. This proposed change would contradict that. |
| 10181 | 3.1 | 47.20 | TGbc has named their broadcast functionality EBCS, which looks and sounds very much like EPCS. Having two elements with such similar abbreviations could lead to confusion when the specifications are eventually merged. | Change "Emergency Preparedness Communications Service" to "Emergency Preparedness Priority Access" and change "EPCS" to "EPPA" throughout the document | RejectedDuring CC36 comment resolution phase, the Task Group decided on the EPCS name (CID 5284 in 11-22-1911/r2, Motion 293). Changing the name again will create unnecessary disruption that would interfere with progress. |
| 11825 | 4.5.13 | 61.23 | Still too long of frame names. Remove one or more of "Priority Access Enable". And no need to add references to the frame formats at this point of the desrciption. So consider removing these references. | As in comment. | RejectedWhile the names are a bit long, they clearly describe their function. Any of the options to shorten them would make them less descriptive. |
| 10473 | 35.17 | 0.00 | The EPCS priority access operation should allow the EPCS enabled AP MLD to update EPCS EDCA parameters in broadcast way when access congestion is caused by many EPCS enabled non-AP MLDs performing priority channel access at same time. This is because when this happens, the EPCS enabled AP MLD does not know which EPCS enabled non-AP MLDs are contending or will contend the media. Especially when all EPCS enabled non-AP MLDs use high priority access at same time, it can cause more access congestion than regular EDCA channel access. | Please define a method to allow an AP MLD to update EPCS EDCA parameters in groupcast/broadcast way to control EPCS enabled non-AP MLDs priority access. | Rejected Task group considered a similar comment during CC36 (CID 7864 in 11-22/742r1, Motion 379) and elected to use a unicast rather than broadcast approach to distribute EDCA parameters for EPCS. Given that EPCS is anticipated to be active on only a small fraction of the total non-AP MLDs and that EDCA parameter changes are likely to be infrequent, a unicast approach is unlikely to lead to significant congestion. |

***TGbe editor: Please note baseline is 11be D2.1 and includes edits that resulted from comment resolutions found in document 802.11-22-1079***

**35.17.2.2.2 Procedures at the [11621] initiating ~~originating~~ EPCS non-AP MLD**

When instructed to do so by a higher layer function and upon receipt of an MLME-EPCSPRIACCESSENABLE.request primitive, an EPCS non-AP MLD with EPCS priority access in the torn down state shall follow the procedure below to request a change for the EPCS priority access state to enabled.

1. [10379] The initiating EPCS non-AP MLD shall transmit an EPCS Priority Access Enable Request frame (9.6.35.5 (EPCS Priority Access Enable Request frame format)) via an affiliated STA to the corresponding AP affiliated with the associated EPCS AP MLD.
2. [10475] If [10379] the initiating EPCS non-AP MLD receives an EPCS Priority Access Enable Response frame (9.6.35.6 (EPCS Priority Access Enable Response frame format)) via an affiliated STA with a matching dialog token and a value of SUCCESS in the Status Code field, then the initiating EPCS non-AP MLD shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with a value of SUCCESS in the Status Code field indicating that EPCS priority access is in an enabled state. The initiating EPCS non-AP MLD shall enable EPCS priority access so that subsequently transmitted traffic receives EPCS priority access treatment using the procedure defined in 35.17.3 (EPCS priority access procedure).
3. If [10379] the initiating EPCS non-AP MLD receives an EPCS Priority Access Enable Response frame (9.6.35.6 (EPCS Priority Access Enable Response frame format)) via an affiliated STA with a matching dialog token and a value not equal to SUCCESS in the Status Code field, then the initiating EPCS non-AP MLD shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with the status code from the response frame indicating the failure to change EPCS priority access to an enabled state. In this case, the initiating EPCS non-AP MLD shall not apply the EPCS priority access procedure. The higher layer function that triggers the EPCS priority access is responsible for managing reattempts after receiving responses with a value other than SUCCESS.

When instructed to do so by a higher layer function and upon receipt of an MLME-EPCSPRIACCESSTEARDOWN.request primitive, an EPCS non-AP MLD with EPCS priority access in an enabled state shall use the following procedure for changing the EPCS priority access to a torn down state.

NOTE—An EPCS non-AP MLD can initiate the teardown procedure regardless of whether the EPCS AP MLD or the EPCS non-AP MLD initiated the process to enable EPCS priority access.

1. [10379] The tearing down EPCS non-AP MLD shall transmit an EPCS Priority Access Teardown frame (9.6.35.7 (EPCS Priority Access Teardown frame details)) via an affiliated STA to an AP affiliated with the associated EPCS AP MLD. [10475] The tearing down EPCS non-AP MLD shall change the EPCS priority access to the torn down state [11801] for all setup links so that subsequently transmitted traffic does not receive EPCS priority access treatment.
2. [10381] During the process of disassociating an EPCS non-AP MLD, the EPCS AP MLD shall transition EPCS priority access to the torn down state for that EPCS non-AP MLD.

**35.17.2.2.3 Procedures at the [11622] initiating ~~originating~~ EPCS AP MLD**

When instructed to do so by a higher layer function triggered via an external interface, and upon receipt of an MLME-EPCSPRIACCESSENABLE.request primitive, an EPCS AP MLD shall follow the procedure below to request the change of the EPCS priority access for an associated EPCS non-AP MLD to the enabled state.

NOTE 1—The definition of the external interface is out of the scope of this standard.

1. An EPCS AP MLD with dot11SSPNInterfaceActivated equal to true shall verify if the dot11EPCSPriorityAccessAuthorized for the EPCS non-AP MLD in the dot11InterworkingEntry is set to true.

NOTE 2—Successful verification is defined when the dot11EPCSPriorityAccessAuthorized for the EPCS non-AP MLD in the dot11InterworkingEntry is set to true. The verification [11802] of EPCS priority access authorization by an EPCS AP MLD with dot11SSPNInterfaceActivated equal to false is out of scope of this standard.

1. If the verification is successful (see NOTE 2 above), [10380] the initiating EPCS AP MLD shall transmit an EPCS Priority Access Enable Request frame (9.6.35.5 (EPCS Priority Access Enable Request frame format)) via an affiliated STA to the corresponding non-AP STA affiliated with an associated EPCS non-AP MLD, with EPCS priority access in the torn down state for that non-AP MLD.
2. [10476] If [10380] the initiating EPCS AP MLD receives an EPCS Priority Access Enable Response frame (9.6.35.6 (EPCS Priority Access Enable Response frame format)) via an affiliated STA with a matching dialog token and a value of SUCCESS in the Status Code field, then the initiating EPCS AP MLD shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with a value of SUCCESS in the Status Code field indicating successful transition of EPCS priority access to the enabled state. The initiating EPCS AP MLD shall change EPCS priority access to the enabled state so that subsequently transmitted traffic receives EPCS priority access treatment using the procedure defined in 35.17.3 (EPCS priority access procedure).
	1. The initiating EPCS AP MLD may include the Priority Access Multi-Link element in the EPCS Priority Access Enable request frame to allow the destination EPCS non-AP MLD to employ priority access [11804] on all setup links using the included EDCA parameter set and/or MU EDCA parameter set ~~on the corresponding links.~~
3. If [10380] the initiating EPCS AP MLD receives an EPCS Priority Access Enable Response frame (9.6.35.6 (EPCS Priority Access Enable Response frame format)) via an affiliated STA with a matching dialog token and a value not equal to SUCCESS in the Status Code field, then the initiating EPCS AP MLD shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with the status code from the response frame indicating the failure to change EPCS priority access to the enabled state. The initiating EPCS AP MLD shall not apply the EPCS priority access procedure. The external interface that triggers the EPCS priority access is responsible for managing reattempts after receiving responses with a value other than SUCCESS.

When triggered via an external interface, and upon receipt of an MLME-EPCSPRIACCESSTEARDOWN.request primitive, an EPCS AP MLD shall use the following procedure for changing the EPCS priority access state to torn down.

NOTE 3—An EPCS AP MLD can initiate the teardown procedure regardless of whether the EPCS AP MLD or the EPCS non-AP MLD initiated the process to enable EPCS priority access.

[10380] The tearing-down EPCS AP MLD shall transmit an EPCS Priority Access Teardown frame (9.6.35.7 (EPCS Priority Access Teardown frame details)) via an affiliated STA to a non-AP STA affiliated with an associated EPCS non-AP MLD. [10476] The tearing-down EPCS AP MLD shall change the EPCS priority access state to torn down [11801] for all set-up links. [10382] During the process of disassociating an EPCS non-AP MLD, the EPCS AP MLD shall transition EPCS priority access to the torn down state for that EPCS non-AP MLD.