IEEE P802.11  
Wireless LANs

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| Resolution of EPCS-related CIDs (LB275) | | | | |
| Date: April 2023 | | | | |
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Abstract

This submission proposes resolutions for 31 comments related to EPCS that were submitted during TGbe LB275.

CIDs: 19345, 19547, 19548, 19549, 19550, 19551, 19552, 19553, 19554, 19555, 19304, 19556, 19306, 19307, 19308, 19557, 19305, 19558, 19309, 19310, 19311, 20125, 19559, 19560, 19561, 19562, 19563, 19731, 19564, 19565, 19312

Revisions:

* Rev 0: Initial version of the document.

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.

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| **CID** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 19345 | 4.5.13 | 68.01 | "EPCS service provider"when expanded include "service service provider". | Change "EPCS service provider" to "EPCS provider". Ditto P640L54 | Revised  Agree with commenter about the repetition. The “service” in “service provider” is not limited to EPCS, but refers to telecommunications access service. Revised text to avoid repetition.  **TGbe editor please implement changes labelled as #19345 in document 802.11-23-1402r0.** |
| 19547 | 9.6.35.5 | 316.30 | Add "EPCS" into "The frame is transmitted by an EPCS MLD through an affiliated STA as a request to enable EPCS priority access" | Please see comment | Rejected  The definition of EPCS MLD is local to clause 35.16. The context here makes clear that the described behavior is associated with devices that support EPCS, so it is not necessary to replicate the definitions here. |
| 19548 | 9.6.35.5 | 316.56 | Add "EPCS" before MLD. | Please see comment | Rejected  The definition of EPCS MLD is local to clause 35.16. The context here makes clear that the described behavior is associated with devices that support EPCS, so it is not necessary to replicate the definitions here. |
| 19549 | 9.6.35.5 | 316.59 | Add "EPCS" before AP MLD | Please see comment | Rejected  The definition of EPCS AP MLD is local to clause 35.16. The context here makes clear that the described behavior is associated with devices that support EPCS, so it is not necessary to replicate the definitions here. |
| 19550 | 9.6.35.5 | 316.60 | EPCS Priority Access Multi-Link element should not be included in the EPCS Priority Access Enable Request frame when it is sent by an EPCS non-AP MLD. | Suggest to add "and not present if the Action frame is sent by an EPCS non-AP MLD" | Revised  Agree with commenter. Given that the definition of the term “EPCS non-AP MLD” is local to clause, 35.16, this text should refer to non-AP MLD.  **TGbe editor: Please add “and not present if the Action frame is sent by a non-AP MLD” to the end of the cited sentence.** |
| 19551 | 9.6.35.6 | 317.06 | Add "EPCS" before AP MLD | Please see comment | Rejected  The definition of EPCS AP MLD is local to clause 35.16. The context here makes clear that the described behavior is associated with devices that support EPCS, so it is not necessary to replicate the definitions here. |
| 19552 | 9.6.35.6 | 317.39 | change "Success" to "SUCCESS" | Please see comment | Accepted |
| 19553 | 9.6.35.6 | 317.42 | Add "EPCS" before AP MLD | Please see comment | Rejected  The definition of EPCS AP MLD is local to clause 35.16. The context here makes clear that the described behavior is associated with devices that support EPCS, so it is not necessary to replicate the definitions here. |
| 19554 | 9.6.35.6 | 317.43 | EPCS Priority Access Multi-Link element should not be included in the EPCS Priority Access Enable Response frame when it is sent by an EPCS non-AP MLD. | Suggest to add "and not present if the Action frame is sent by an EPCS non-AP MLD" | Revised  Agree with commenter. Given that the definition of the term “EPCS non-AP MLD” is local to clause, 35.16, this text should refer to non-AP MLD.  **TGbe editor: Please add “and not present if the Action frame is sent by a non-AP MLD” to the end of the cited sentence.** |
| 19555 | 9.6.35.7 | 317.49 | Add "EPCS" before MLD. | Please see comment | Rejected  The definition of EPCS MLD is local to clause 35.16. The context here makes clear that the described behavior is associated with devices that support EPCS, so it is not necessary to replicate the definitions here. |
| 19304 | 35.16.1 | 640.44 | While it might be assumed, the term "EPCS MLD" is not explicitly defined. | Change "EPCS MLD" to EPCS AP MLD or an EPCS non-AP MLD" | Revised  **TGbe editor please implement changes labelled as #19304 in document 802.11-23-1402r0.** |
| 19556 | 35.16.1 | 640.64 | Need to clarify that the prior AP MLD and the new AP MLD are EPCS AP MLDs in the same ESS. | change "AP MLD" to 'EPCS AP MLD" | Revised  Clarify that this change occurs in two places in the cited paragraph.  **TGbe Editor: Please change “prior AP MLD” to “prior EPCS AP MLD” and “new AP MLD” to “new EPCS AP MLD”.** |
| 19306 | 35.16.2.1 | 641.09 | The references to AP MLD and non-AP MLD in this clause should be "EPCS AP MLD" and EPCS non-AP MLD" respectivley | As in comment | Accepted |
| 19307 | 35.16.2.1 | 641.19 | The phrase "and are capable of invoking EPCS priority access" does not fit grammatically within the sentence. | Replace "...and are capable of invoking EPCS priority access." with "...and both are capable of invoking EPCS priority access." | Accepted |
| 19308 | 35.16.2.1 | 641.25 | The phrase "and are capable of invoking EPCS priority access" does not fit grammatically within the sentence. | Replace "...and are capable of invoking EPCS priority access." with "...and both are capable of invoking EPCS priority access." | Accepted |
| 19557 | 35.16.2.2.1 | 641.34 | EPCS priority access is between an EPCS non-AP MLD and an EPCS AP MLD. Please add "EPCS" before non-AP MLD and before AP MLD. | Please see comment | Accepted |
| 19305 | 35.16.1 | 641.61 | The references to AP MLD and non-AP MLD in this paragraph should be "EPCS AP MLD" and EPCS non-AP MLD" respectivley | As in comment | Accepted |
| 19558 | 35.16.2.2.1 | 642.01 | Simplify the text "MLD supporting EPCS priority access capability" and change to "EPCS MLD" | Please see comment | Accepted |
| 19309 | 35.16.2.1 | 642.11 | The text of the note describes association as if it occurs at the STA level rather than the MLD level. | Replace with "If an EPCS non-AP MLD is associated with **a** EPCS AP MLD and one or more of the APs affiliated with the EPCS AP MLD belong to a multiple BSSID set or sets, the EPCS frame exchanges are performed between the intended AP (that can correspond to a transmitted BSSID or a nontransmitted BSSID in the set) and the non-AP STA. | Revised  Agree with comment. Propose to make the recommended change, but fix a typo.  **TGbe editor: Please make the suggested change, but replace “a EPCS AP MLD” with “an EPCS AP MLD” toward the beginning of the note.** |
| 19310 | 35.16.2.2.3 | 643.61 | The text does not make clear that when the EPCS AP MLD tears down EPCS, it does so only for the destination EPCS non-AP MLD | Change "The tearing down EPCS AP MLD shall change the EPCS priority access state to torn down for all setup links." to "The tearing down EPCS AP MLD shall change the EPCS priority access state to torn down for all setup links **of the EPCS non-AP MLD**." | Accepted |
| 19311 | 35.16.2.2.4 | 644.25 | Item iii) in the list uses the phrase "for any other reason" which is most appropriate for the final item in a list. | Move item iii) to a position after NOTE 2 (so that iii) becomes iv), the final item in the list.) Do not move NOTE 1. | Accepted |
| 20125 | 53 | 645.35 | The maintenance procedures for EPCS priority access section refers to this section for details on behavior to update the EDCA parameter. However, the language in this section does not state anything about updating. The language only covers the behavior when enabling EPCS priority access | Update the language to reflect the behavior during EDCA parameter update after EPCS priority access has been enabled | Revise  Revised the language in clause 35.16.3.3 (Maintenance procedures for EPCS priority access) to clarify that the procedures for managing EDCA parameters during the update process are the same as those used during the enabling process.  **TGbe editor please implement changes labelled as #20125 in document 802.11-23-1402r0.** |
| 19559 | 35.16.3.1 | 654.45 | Suggest to add "EPCS" to "each non-AP STA affiliated with the EPCS non-AP MLD applies EPCS priority access to traffic ..." | Please see comment | Revised  Agree with comment. Change is on page 645, line 45.  **TGbe editor please implement the suggested change, but at the location noted above.** |
| 19560 | 35.16.3.2 | 646.27 | Change "Priority Access Multi-Link element" to "EPCS Priority Access Multi-Link element" to align with 9.4.2.312.6 EPCS Priority Access Multi-Link element to align with 9.4.2.312.6 EPCS Priority Access Multi-Link element | Please see comment | Accepted |
| 19561 | 35.16.3.3.1 | 647.18 | Change "35.16.3.3.1 Procedures at the initiating AP MLD" to "35.16.3.3.1 Procedures at the initiating EPCS AP MLD". | Please see comment | Accepted |
| 19562 | 35.16.3.3.1 | 647.24 | Change "update the parameters used by an EPCS non-AP MLD with EPCS priority access in the enabled state with an associated non-AP MLD" to "update the parameters used by an associated EPCS non-AP MLD with EPCS priority access in the enabled state with an associated non-AP MLD" | Please see comment | Revised  Agree with comment. The final phrase “with an associated non-AP MLD also seems redundant.  **TGbe editor please implement changes labelled as #19562 in document 802.11-23-1402r0.** |
| 19563 | 35.16.3.3.1 | 647.26 | Change "with the non-AP MLD and is affiliated with the initiating EPCS AP MLD" to "with the EPCS non-AP MLD and is affiliated with the initiating EPCS AP MLD" | Please see comment | Accepted |
| 19731 | 35.16.3.3.1 | 647.27 | EPCS is an optional feature and AP can determine the transmission. Suggest to remove "shall" | change "shall transmit" to "transmits" | Rejected  The “shall” applies to an AP affiliated with an EPCS AP MLD, which by definition has implemented the optional feature. Devices that implement EPCS must support this feature. In addition, the EPCS AP MLD has been triggered to do perform this action, as described in the prior paragraph. |
| 19564 | 35.16.3.3.1 | 647.30 | Change "containing updated values carried in Priority Access Multi-Link element" to "containing updated values carried in EPCS Priority Access Multi-Link element" to align with 9.4.2.312.6 EPCS Priority Access Multi-Link element. | Please see comment | Accepted |
| 19565 | 35.16.3.3.2 | 647.32 | Change "35.16.3.3.2 Procedures at the receiving non-AP MLD" to "35.16.3.3.2 Procedures at the receiving EPCS non-AP MLD" | Please see comment | Accepted |
| 19312 | 35.16.3.3.2 | 647.38 | Item a) mentions EDCA parameters, but does not describe how thereceiving EPCS non-AP MLD should handle MU EDCA parameters | Rephrase as "The non-AP MLD shall update the EDCA and MU EDCA parameters according to the rules in 35.16.3.2 (EDCA operation using EPCS EDCA parameters). | Revised  Resolved in conjunction with CID 20125.  **TGbe editor please implement changes labelled as #20125 in document 802.11-23-1402r0.** |
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**4.5.13 EPCS priority access**

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A non-AP MLD enables EPCS priority access by sending an EPCS Priority Access Enable Request frame (see 9.6.35.5 (EPCS Priority Access Enable Request frame format)) to an associated AP MLD that advertises the capability. A non-AP MLD can send the request on any available enabled link between the non-AP MLD and the AP MLD. The AP MLD authorizes the non-AP MLD using either locally stored verification information or information obtained from [#19345] a service provider supporting EPCS via other means, such as the SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN)) and sends an EPCS Priority Access Enable Response frame (see 9.6.35.6 (EPCS Priority Access Enable Response frame format)) to the non-AP MLD. If the non-AP MLD is authorized, EPCS priority access will be enabled on all links the non-AP MLD has set up with the AP MLD. Alternatively, the AP MLD can enable EPCS priority access by sending an unsolicited EPCS Priority Access Enable Request frame (see 9.6.35.5 (EPCS Priority Access Enable Request frame format)) to a non-AP MLD and the non-AP MLD confirms the request by sending an EPCS Priority Access Enable Response frame. An AP MLD can send the request on any available enabled link between the AP MLD and non-AP MLD and EPCS priority access will be enabled on all links within the MLD.

**35.16 EPCS priority access**

**35.16.1 General**

EPCS priority access is a mechanism that provides prioritized access to the wireless medium for authorized users to increase their probability of successful communication during periods of network congestion.

An EPCS AP MLD is an AP MLD with dot11EHTEPCSPriorityAccessActivated set to true.

An EPCS non-AP MLD is a non-AP MLD with dot11EHTEPCSPriorityAccessActivated set to true.

[#19304]An EPCS MLD is an EPCS AP MLD or an EPCS non-AP MLD.

**35.16.3.3.2 Procedures at the receiving non-AP MLD**

Upon receipt of an EPCS Priority Access Enable Response frame (9.6.35.6 (EPCS Priority Access Enable Response frame format)), an EPCS non-AP MLD with EPCS priority access in the enabled state shall use the following procedure to update the EPCS parameters used by the EPCS non-AP MLD:

1. The non-AP MLD shall update the EDCA[20125]and MU EDCA parameters following the rules for updating those parameters when EPCS is being enabled as described in 35.16.3.2 (EDCA operation using EPCS EDCA parameters).

…

**35.16.3.3.1 Procedures at the initiating AP MLD**

When instructed to do so by a higher layer function triggered via an external interface, and upon receipt of an MLME-EPCSPRIACCESSENABLE.response primitive, an EPCS AP MLD that supports this functionality shall follow the procedure below to update the parameters used by an [19562]associated EPCS non-AP MLD with EPCS priority access in the enabled state.