### IEEE P802.11Wireless LANs

|  |
| --- |
| 11be D1.0 CR for 11.3 |
| Date: 2021-12-06 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Po-Kai Huang | Intel Corporation | 2200 Mission College Blvd, Santa Clara, CA 950542200  |  | po-kai.huang@intel.com |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes resolutions for the following CIDs:

6171, 6608, 8304, 7591, 5631, 5634, 5635, 6033, 5636, 5637,

5644, 5645, 5646, 5920, 4372, 7891, 8305, 8306, 7380, 6034,

6101, 6035, 5294, 5295, 5296, 6713, 8307, 8308, 8309, 7367,

7441, 4352, 4373, 6038, 7385, 5300, 5316, 5345, 6640, 7433,

6585, 7513, 8310, 8311,

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 D1.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe D1.0 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.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 11.3.1 and 11.3.2 |
| 6171 | Michael Montemurro | 11.3 | 186.09 | MLD is not needed in the title. It would be better just to drop the STA from the clause title | Change the title to "Authentication and Association Procedures". | Revised – The proposed change has been accommodated in D1.3. TGbe editor no further changes are needed. |
| 6608 | Po-Kai Huang | 11.3.1 | 186.20 | multi-link setup in the following place needed to be replaced with MLD association: 206.46, 206.50, 260.34, 264.41, 283.14. Add MLD associaiton to the following place. 253.42, 253.51, 254.61, | As in comment. | Revised – Most of the proposed change has been accommodated in D1.3. We propose change for the part that is not covered in D1.3.TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 6608. |
| 8304 | Zhiqiang Han | 11.3.1 | 186.40 | There is no differences between MLDs and STAs on the four states. It's better to combine the two paragraphs. | as in comment. | Rejected – The difference is on DMG description, where MLD does not extended to DMG description. Separate descriptions are used so the texts are easier to read based on previous comments.  |
| 7591 | Tomoko Adachi | 11.3.1 | 186.17 | The inserted first two paragraphs under 11.3.1 is rather a general statement than for state variables. | Insert a general subclause before 11.3.1 and renumber the subclauses under 11.3.State in the general subclause that, when authentication and association procedures are applied between MLDs, they are referred to as ML authentication and ML association procedures. Then insert the current first two paragraphs in 11.3.1 after it. | Revised – The proposed change has been accommodated in D1.3. TGbe editor no further changes are needed. |
| 5631 | Joseph Levy | 11.3.1 | 186.17 | The statement: "... the reference of a "STA" means that the "STA is not affiliated with an MLD unless specified otherwise." Is very confusing and unnecessary. MLDs are specified to have a defined state for each MLD pair. This is a clear statement and should not be made unclear by discussing how this state does or does not apply to "affiliated STAs". The statement that a pair STAs also has a defined state is also a clear statement. The use of term affiliated STA to describe the entity that the MLD uses to transmit and receive on an MLD "link" is problematic as the specification defines a STA as a logical entity starting at the MAC SAP and ending at the WM, which has a state. An "affiliated STA" does not have its own MAC SAP or its own state, only the MLD has a MAC SAP and state. The concept that each "affiliated STA" would have a state (and therefore a MAC SAP) is not inline with current 802.11be agreements. | Delete the first paragraph. | Revised – MLD architecture has been discussed in <https://mentor.ieee.org/802.11/dcn/21/11-21-0577-05-00be-cr-mld-architecture.docx>The concept of MAC SAP for MLD is clarified in the document. The existing texts align with the document.TGbe editor no further changes are needed. |
| 5634 | Joseph Levy | 11.3.2 | 186.61 | Since there is no such thing as an mesh MLD, there is no need to describe an MLD as a nonmesh MLD as all MLDs are nonmesh MLDs. | Delete "nonmesh" before MLD and also delete "nonmesh" before MLD in the figure title 11-17. | Rejected - It is indeed true that we do not define mesh MLD at all. Nonmesh is added because there are comments to clarify the situation that mesh is not defined for MLD. ***mesh station (STA):*** *A quality-of-service (QoS) STA that implements the mesh facility.*If we delete nonmesh, then we need to add description to say “MLD that does not implement the mesh facility”, which will then be equivalent to the meaning of nonmesh MLD.Hence, nonmesh MLD just means “MLD that does not implement the mesh facility”, which is a true statement whether mesh is defined for MLD or not. |
| 11.3.3 |
| 5635 | Joseph Levy | 11.3.3 | 187.63 | What are the additional constraints provided in 35.3.6 regarding frame filtering? I am not aware of any discussion of frame Classes or frame filtering in clause 35.3.6 or any other place in clause 35. The definition of which frames are Class 1, 2, and 3 is provided in 11.3.3 and the frames are defined in Clause 9. Also, it is not necessary to state that the allowed frame types may be exchanged on any setup links. It should be enough to simply state that the state of the MLDs determines the frame types that can be exchanged between MLDs, as in the legacy case. | Replace: "The current state existing between MLDs determines the IEEE 802.11 frame types that may be exchanged on any setup links between that pair of MLDs subject to additional constraints (see 35.3.6 (Link management))."With: "The current state existing between MLDs determines the IEEE 802.11 frame types that may be exchanged between that pair of MLDs." | Revised – It is clarified that the frame exchange between MLDs is transmitted and received through the affiliated STAs. However, it is true that setup links only exist after state 2. We revise to clarify the difference. TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 5635. |
| 6033 | Liwen Chu | 11.3.3 | 187.57 | Class 1/2 frames could also be between MLDs | update the text accordingly | Revised – We revise to clarify the difference before and after state 2. TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 5635. |
| 5636 | Joseph Levy | 11.3.3 | 188.26 | Class 3 frames require the non-AP MLD to be authenticated and associated. A non-AP MLD can not be authenticated without an infrastructure BSS or other infrastructure access via an infrastructure AP MLD. This should be clearly stated in the requirement. | Replace: "Data frames between an AP MLD and a non-AP MLD associated with the AP MLD"With: "Data frames between MLDs, where one of the MLDs is an infrastructure AP MLD." | Reviseded – The text does have “associated with the AP MLD”, which means that DS is in place and is under infrastructure already.TGbe editor no further changes are needed. |
| 5637 | Joseph Levy | 11.3.3 | 188.32 | Class 3 frames require the non-AP MLD to be authenticated and associated. A non-AP MLD can not be authenticated without an infrastructure BSS or other infrastructure access. This should be clearly stated in the requirement. | Replace: "Between an AP MLD and a non-AP MLD associated with the AP MLD, all Action and Action No Ack frames except those that are declared to be Class 1 or Class 2 frames"With: Between an infrastructure AP MLD and a non-AP MLD, all Action and Action No Ack frames except those that are declared to be Class 1 or Class 2 frames | Reviseded – The text does have “associated with the AP MLD”, which means that DS is in place and is under infrastructure already.TGbe editor no further changes are needed. |
| 5644 | Joseph Levy | 11.3.3 | 188.26 | The statement that a non-AP MLD is associated with an AP MLD is very confusing. A non-AP MLD is not associated with an AP MLD. Because in an typical 802.11 infrastructure configuration a non-AP STA is associated with the BSS or ESS not the AP, the association is know by the DS which allows the DS to send frames for the non-AP STA to the correct AP, so they can be forwarded to the non-AP STA. Even though, the concept of BSS or ESS for MLO is not currently defined, the process of association must work in a similar manner so that the DS can forward frames appropriately and mobility can be supported. It is assumed throughout clause 11 and 12 that a STA associates to the BSS or ESS and that the DS is aware of this association and keeps track of the status of the association (which AP can forward frames to the non-AP STA). Abandoning this basic assumption will break many of the basic 802.11 functions and will completely undermine the 802.11 mobility. | Either define the concept of a MLO BSS or ESS or provide a way it indicate that non-AP MLD association involves the DS. | Reviseded – Association between MLD has been discussed and agreed in <https://mentor.ieee.org/802.11/dcn/21/11-21-0577-05-00be-cr-mld-architecture.docx>TGbe editor no further changes are needed. |
| 5645 | Joseph Levy | 11.3.3 | 188.32 | The statement that a non-AP MLD is associated with an AP MLD is very confusing. A non-AP MLD is not associated with an AP MLD. Because in an typical 802.11 infrastructure configuration a non-AP STA is associated with the BSS or ESS not the AP, the association is know by the DS which allows the DS to send frames for the non-AP STA to the correct AP, so they can be forwarded to the non-AP STA. Even though, the concept of BSS or ESS for MLO is not currently defined, the process of association must work in a similar manner so that the DS can forward frames appropriately and mobility can be supported. It is assumed throughout clause 11 and 12 that a STA associates to the BSS or ESS and that the DS is aware of this association and keeps track of the status of the association (which AP can forward frames to the non-AP STA). Abandoning this basic assumption will break many of the basic 802.11 functions and will completely undermine the 802.11 mobility. | Either define the concept of a MLO BSS or ESS or provide a way it indicate that non-AP MLD association involves the DS. | Revised – Association between MLD has been discussed and agreed in <https://mentor.ieee.org/802.11/dcn/21/11-21-0577-05-00be-cr-mld-architecture.docx>TGbe editor no further changes are needed. |
| 5646 | Joseph Levy | 11.3.3 | 188.48 | The statement that a non-AP MLD is associated with an AP MLD is very confusing. A non-AP MLD is not associated with an AP MLD. Because in an typical 802.11 infrastructure configuration a non-AP STA is associated with the BSS or ESS not the AP, the association is know by the DS which allows the DS to send frames for the non-AP STA to the correct AP, so they can be forwarded to the non-AP STA. Even though, the concept of BSS or ESS for MLO is not currently defined, the process of association must work in a similar manner so that the DS can forward frames appropriately and mobility can be supported. It is assumed throughout clause 11 and 12 that a STA associates to the BSS or ESS and that the DS is aware of this association and keeps track of the status of the association (which AP can forward frames to the non-AP STA). Abandoning this basic assumption will break many of the basic 802.11 functions and will completely undermine the 802.11 mobility. | Either define the concept of a MLO BSS or ESS or provide a way it indicate that non-AP MLD association involves the DS. | Revised – Association between MLD has been discussed and agreed in <https://mentor.ieee.org/802.11/dcn/21/11-21-0577-05-00be-cr-mld-architecture.docx>TGbe editor no further changes are needed. |
| 5920 | Li-Hsiang Sun | 11.3.3 | 187.01 | Whether other setup links' MAC address should be verified in FTE during reassociation? | In reassociation,FTE included in each per-STA profile uses that link's MAC address to generate MIC and include that link's group keys | Revised – Agree in principle with the commenter. Group key addition is already there in D1.3.We follow the recent agreement in 4-way handshake in 11/21/1657r3 to information of all requested link in message 4 of FT over the air protocol.TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 5920. |
| 11.3.4 |
| 4372 | Arik Klein | 11.3.4.3 | 190.01 | Define MLD Authenticate frame, in a similar way that is defined for the MLD Probe Request (section 35.3.4.2).This way the terminlogy will be much easier to distinct between Authenticate frame which does not include the MLE (and/or any other TBD elements, if needed in future) and the Authenticate frame which shall include the MLE (and/or any other TBD elements, if needed in future) | 1. Add section with the definition for MLD authenticate frame, as proposed.2. Change the "Authenticate frame" throughout this section to "MLD Authenticate frame" accordingly, as well as in the following setions: 12.3.3.2, 12.4.1, 12.4.8.3.1, 35.3.2.1Still, the frame that will be used will be the Authentication frame, but in case of Multi-link (re)setup it shall include the MLE (and/or any other TBD elements, if needed in future). | Rejected – MLD authentication reuses Authentication frame. MLD Authentication frame gives the false impression that new frame are defined for the operation.  |
| 7891 | Yongho Seok | 11.3.4.2 | 189.41 | "For FILS authentication, the authentication mechanism described in 12.11 (Authentication for FILS)."The FILS authentication should be updated for the MLO. | As in the comment. | Rejected – FILS authentication is R2 feature. |
| 8305 | Zhiqiang Han | 11.3.4.4 | 191.25 | What is MLDME? What is the difference between MLDME and MLME? | Please clarify it | Revised – MLDME is removed in the cited place in D1.3. We remove MLDME in other places of the draft. TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8305. |
| 8306 | Zhiqiang Han | 11.3.4.4 | 191.32 | What is MLDME? What is the difference between MLDME and MLME? | Please clarify it | Revised – MLDME is removed in the cited place in D1.3. We remove MLDME in other places of the draft. TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8305. |
| 11.3.5.1, 11.3.5.2, 11.3.5.3 |
| 7380 | Stephen McCann | 11.3.5.1 | 192.16 | What is a "non-FILS MLD"? | Change the term "non-FILS MLD" to "MLD". | Rejected – Non-FILS MLD means an MLD that does not implement FILS.*A station that implements fast initial link setup (FILS) andfor which dot11FILSActivated is true.* |
| 6034 | Liwen Chu | 11.3.5.1 | 192.29 | successful associaiton means state 3, shouldn't mean state 2. | update the text accordingly | Rejected – Note that the text follows the baseline text and it is for the current AP MLD that is not the AP MLD that was sent the Reassociation request frame.*…or for a non- AP MLD to State 2 (with respect to the current AP MLD, if this is not the AP MLD that was sent the Reassociation Request frame).* |
| 6101 | Marcos Martinez Vazquez | 11.3.5.1 | 192.14 | Not sure if this clarification is actually needed: FILS MLD are not taken into account in this paragraph. | Modify last sentence to be "Successful association sets the state for FILS STAs or FILS MLDs to State 4" | Rejected – FILS authentication is R2 feature. |
| 6035 | Liwen Chu | 11.3.5.2 | 193.20 | since MLDME is defined, MLME that is related to MLD should be changed to MLDME. The similar changes should be done through the draft. | update the text accordingly | Revised – MLDME is removed in D1.3. We remove MLDME in other places of the draft. TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8305. |
| 5294 | Jarkko Kneckt | 11.3.5.2 | 193.04 | The Note suggests that disassociation is needed before a new legacy STA may associate with AP. This is not needed, the MLD association is totally independent from legacy STA association. The note suggests that MLD may associate as a legacy STA. I am not sure is this true and is there any support for such change in the 802.11. | Please delete the note in the line 4. | Rejected – The phrase is on sending association request frame for an affiliated STA of an associated non-AP MLD. There is no defined behaivor to have another STA association on top of MLD association. To change to legacy STA association, reassociation frame can be used, which aligns with the baseline behavior.  |
| 5295 | Jarkko Kneckt | 11.3.5.2 | 193.01 | The non-AP MLD should be able to signal that AP MLD is allowed to keep (re-)association succesful only if the AP MLD accepts creates all links as requested by the non-AP MLD, i.e. all links or nothing. This reduces randomness especially in reassociations. The non-AP MLD may not know the links that AP allows it to create. It may happen that non-AP MLD gets poorer links than it originally had | Please include to re-assocation request and association request frames signalign that AP may accept the (re-)association only if it creates all requested links | Rejected – Non-AP MLD knows all the information through discovery. Non-AP MLD also has reason code to indicate why a link is rejected. If a link is rejected with a reason that can be fixed, then reassociation can be used to add those links. |
| 5296 | Jarkko Kneckt | 11.3.5.2 | 193.01 | The sentence is strange, why would associated ML send new association request frame? Shoudn't it send Re-association request frame. Any STA may send an assocation request to already associated STA that resets established keys and moves STA to state 2. | Please change in the current sentence:" Association Request" to Re-association Request. | Rejected – Reassociation frame transmission rule is handled in 11.3.5.4 Non-AP, non-AP MLD, and non-PCP STA reassociation initiation proceduresDisallow sending association frame while associated prevents the definition of unnecessary behavior. |
| 6713 | Rojan Chitrakar | 11.3.5.2 | 193.01 | "For a non-AP MLD associated with an AP MLD, a non-AP STA affiliated with the non-AP MLD shall not send an Association Request frame without Multi-Link element."Is the sentence referring to a non-AP MLD that is already associated with an AP MLD? If so, the Association Request frame should be Re-association Request frame. Else, it should be clarified that the no-AP MLD intends to associate with an AP MLD. | Clarify whether the non-AP MLD that is already associated with an AP MLD. If yes, change the Association Request frame to Re-association Request frame. Else, clarify that the no-AP MLD is not yet associated but intends to associate with an AP MLD. | Rejected – Reassociation frame transmission rule is handled in 11.3.5.4 Non-AP, non-AP MLD, and non-PCP STA reassociation initiation proceduresDisallow sending association frame while associated prevents the definition of unnecessary behavior. |
| 8307 | Zhiqiang Han | 11.3.5.2 | 192.57 | What is MLDME? What is the difference between MLDME and MLME? | Please clarify it | Revised – MLDME is removed in D1.3. We remove MLDME in other places of the draft. TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8305. |
| 8308 | Zhiqiang Han | 11.3.5.2 | 193.02 | change "Multi-Link element" to "Basic variant Multi-Link element." | as in comment. | Revised –We fix this in various places.TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8308. |
| 8309 | Zhiqiang Han | 11.3.5.2 | 193.21 | delete "in the Association Request frame" | as in comment. | Accepted - |
| 7367 | Stephen McCann | 11.3.5.2 | 193.06 | What is a "non-MLD association"? | Add the following definition to clause 3.2 of the draft: "non-MLD: an entity that is not an MLD" | Rejected – In the baseline, definition of non-XXX is not necessary. For example, there is no definition of non-FILS, non-DMG, and so on. |
| 7441 | Thomas Derham | 11.3.5.2 | 0.00 | "any misconfiguration or parameter mismatch, e.g. data rates ... a non-AP STA affiliated with the non-AP MPD did not indicate as supported in the Supported Rates and BSS Membership Selectors element" - how does this work if the supported rates on different radios/links are different? | Clarify | Rejected –We clarify that the rate provides in each link has to match the supported rate of that specific link. It is ok that supported rates on different links are different.We also reject the comments because the commenter does not propose any text change to satisfy the commenter.  |
| 4352 | Arik Klein | 11.3.5.3 | 194.53 | Remove the words "indicates the AP MLD" from the sentence - seems irrelevant to the context of this sentence. | The revised sentece shall be " The following procedure shall be used by an AP or PCP upon receipt of an Association Request frame from a STA or by an AP MLD upon receipt of an Association Request frame with Basic variant Multi-Link element from a non-AP STA affiliated with a non-AP MLD" | Revised – Texts has been revised in D1.3.TGbe editor no further changes are needed. |
| 4373 | Arik Klein | 11.3.5.3 | 194.51 | Use unified terminology: The Association Response frame is sent by the AP affiliated with the AP MLD to which the non-AP STA affiliated with the non-AP MLD has sent the Association Request frame with Basic variant MLE and not by the AP MLD as mentioned in the sentence | The revised sentece shall be " The following procedure shall be used by an AP or PCP upon receipt of an Association Request frame from a STA or by an \* AP affiliated with\* AP MLD upon receipt of an Association Request frame with Basic variant Multi-Link element indicates the AP MLD from a non-AP STA affiliated with a non-AP MLD" | Revised – Texts has been revised in D1.3.TGbe editor no further changes are needed. |
| 6038 | Liwen Chu | 11.3.5.3 | 196.01 | This is not true in all links for MLD. | update the text accordingly | Revised – Texts for MLD has been moved to 35.3.5.1 Multi-link (re)setup procedure in D1.3.TGbe editor no further changes are needed. |
| 7385 | Stephen McCann | 11.3.5.3 | 195.60 | What is a "corresponding AP"? | The term "corresponding AP" needs to be defined. | Rejected – “Corresponding AP in each setup link” means the AP of each each link. “Correspoindng AP” has been used in revme. An example is provided below.*“…also has a corresponding APoperating in the 2.4 GHz or 5 GHz bands that …”* |
| 11.3.5.4, 11.3.5. |
| 5300 | Jarkko Kneckt | 11.3.5.4 | 198.38 | A ML-reassociation may have different set of affilaited APs and STAs. It is not clear whether these parameters are maintained when non-AP MLD reassociates with the same AP MLD. For instance, STA MAC Addresses may change.How these modifications impact the agreements and allocations listed from the row 38? All these operations have high complexity. | Please clarify that these agreements are maintained only if the AP MLD uses the same number of links and has the same MAC Addresses in the link and on the MLD level. | Rejected –Parameters are not maintained under reassociation.Separate proposals are submitted for ML reconfiguration procedure. |
| 5316 | Jarkko Kneckt | 11.3.5.4 | 198.56 | P2P TSPECs can be comunicated only through ADDTS and SCSID. It is not clear what is meant that P2P TSPECs. | Please delete TSPEC from the list or replace TSPEC with Addts or SCS agreement. | Rejected –The commenter comments on baseline texts which are not changed by 11be. |
| 5345 | Jarkko Kneckt | 11.3.5.4 | 198.27 | There are no TSPEC agreements, there are ADDTS, or SCS agreements. | Please delete TSPEC from the list or replace TSPEC with Addts or SCS agreement. | Rejected –The commenter comments on baseline texts which are not changed by 11be.Further, the description says “the following states, agreements and allocations shall be deleted or reset to initial values:” and does not imply every bullet as agreement. |
| 6640 | Pooya Monajemi | 11.3.5.4 | 197.50 | All agreements and allocations listed on this page are reset or deleted once a reassociation occurs. This is completely unncessary and disruptive in a scenario in which a device needs to add a link to an existing setup. There are many use cases for link addition, including a case where an AP is added to an existing AP MLD. | Add a mechanism for link addition such that existing agreements on other links are not affected. | Rejected –Separate proposals are submitted for ML reconfiguration procedure. |
| 7433 | Thomas Derham | 11.3.5.4 | 0.00 | The reassociation procedure (to the same MLD) is defined for ML reconfiguration, however the reassociation procedure also impacts state of various other features (beyond the ML configuration) - e.g. all states specified in (c) are deleted or reset. This does not seem a desirable outcome when the objective is just to do ML reconfiguration. | Figure out which of these states could/should be maintained when reassociation is done for purpose of ML reconfiguration, and specify a way to preserve those states in that specific case. Alternatively, define a better ML reconfiguration procedure that does not involve reassociation | Rejected –Reassociation is just one way to change parameters. Separate proposals are submitted for ML reconfiguration procedure. |
| 6585 | Payam Torab Jahromi | 11.3.5.5 | 200.09 | Change "an" to "a" | As in comment | Accepted -  |
| 7513 | Tomoko Adachi | 11.3.5.5 | 202.17 | "... or an STA affiliated with the non-AP MLD, ...". For the term "STA", indefinite "a" is used. | Change it to read "... or a STA affiliated with the non-AP MLD, ...". | Revised – The editorial error has been fixed in D1.3. TGbe editor no further changes are needed. |
| 8310 | Zhiqiang Han | 11.3.5.5 | 202.56 | this AP MLD's MAC address is not clear, it means MLD MAC address or STA MAC address? I think it should be the MLD MAC address of the AP MLD. Please clarify it. | as in comment. | Revised – We revised the text accordingly.TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8310. |
| 8311 | Zhiqiang Han | 11.3.5.5 | 203.11 | this AP MLD's MAC address is not clear, it means MLD MAC address or STA MAC address? I think it should be the MLD MAC address of the AP MLD. Please clarify it. | as in comment. | Revised – We revised the text accordingly.TGbe editor to make the changes shown in 11-21/1978r1 under all headings that include CID 8311. |

**Discussion:**

**Propose:**

***TGbe editor: Modify 35.3.6.1.4 Power state after enablement as follows: (track change on)***

**35.3.6.1.4 Power state after enablement**(#1791)When a link becomes enabled for a STA that is affiliated with a non-AP MLD after successful MLD association(#6608) with (Re)Association Request/Response frames transmitted on that link, the initial power management mode of the STA, immediately after the acknowledgement of the (Re)Association Response frame, is active mode.

(#2340)(#1062)(#3028)(#2851)When a link transitions to being enabled for a STA that is affiliated with a non-AP MLD after successful MLD association(#6608) with (Re)Association Request/Response frames transmitted on another link or after successful TID-to-link mapping negotiation with TID-To-Link Mapping Request/Response frames transmitted on another link, the initial power management mode of the STA, immediately after the acknowledgement of the (Re)Association Response frame or of the TID-To-Link Mapping Response frame, is power save mode, and its power state is doze.

***TGbe editor: Modify 35.3.9 BSS parameter critical update procedure as follows: (track change on)***

**35.3.9 BSS parameter critical update procedure**

(…existing texts…)

(#3225)(#1069)(#1070)(#3030)(#2131)(#3240)(#3319)(#1068)A non-AP MLD shall maintain a record of
the most recently received BSS Parameters Change Count subfield value for each AP in the AP MLD with
a setup link after multi-link setup.(#6608)

(…existing texts…)

***TGbe editor: Modify 35.3.17 Enhanced multi-link multi-radio operation***

***as follows: (track change on)***

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

(…existing texts…)

If a non-AP MLD with dot11EHTEMLMROptionImplemented equal to true intends to switch EMLMR
mode after MLD association (#6608), then a non-AP STA affiliated with the non-AP MLD shall transmit an EML Operating Mode Notification frame with EMLMR Mode subfield equal to 1 or 0 to enable or disable EMLMR mode, respectively.

(…existing texts…)

***TGbe editor: Modify 13.8.5 FT authentication sequence: contents of fourth message as follows: (track change on)***

**13.8.5 FT authentication sequence: contents of fourth message**

***Change as follows:***

(…existing texts…)

If present, the FTE shall be set as follows:

* + - * ANonce, SNonce, R0KH-ID, and R1KH-ID shall be set to the values contained in the second message of this sequence.
			* The Element Count subfield of the MIC Control field shall be set to the number of elements protected in this frame (variable).
			* The RSNXE Used subfield of the MIC Control field shall be set to 1 if the target AP (#5070)or an AP affiliated with the target AP MLD includes an RSNXE in its Beacon and Probe Response frames; otherwise this subfield shall be set to 0.
			* If dot11RSNAOperatingChannelValidationActivated is true and Supplicant indicates OCVC capability, the Authenticator shall include FT OCI subelement in FTE.
			* When this message of the authentication sequence appears in a Reassociation Response frame, the Optional Parameter(s) field in the FTE may include the GTK, IGTK and BIGTK subelements (#5070)or MLO GTK, MLO IGTK, and MLO BIGTK subelements. If a GTK, an IGTK(#5070), ~~or~~ a BIGTK, an MLO GTK, an MLO IGTK, or an MLO BIGTK are included, the Key field of the subelement shall be wrapped using KEK or KEK2 and the appropriate key wrap algorithm, as specified in Table 12-10 (Integrity and key wrap algorithms) and 12.7.2 (EAPOL-Key frames). The padding consists of appending a single octet 0xdd followed by zero or more 0x00 octets. When processing a received message, the receiver shall ignore this trailing padding. Addition of padding does not change the value of the Key Length field. Note that the length of the encrypted Key field can be determined from the length of the GTK, IGTK(#5070), ~~or~~ BIGTK, MLO GTK, MLO IGTK, or MLO BIGTK subelement.
			* When the negotiated AKM is 00-0F-AC:3, 00-0F-AC:4, or 00-0F-AC:9, the MIC shall be calculated using the KCK and the AES-128-CMAC algorithm. The output of the AES-128-CMAC algorithm shall be 128 bits.
			* When the negotiated AKM is 00-0F-AC:13, the MIC shall be calculated using the KCK and the HMAC-SHA-384 algorithm. The output of the HMAC-SHA-384 shall be truncated to 192 bits.
			* When the negotiated AKM is 00-0F-AC:16, the MIC shall be calculated using the KCK2 and the AES-128-CMAC algorithm. The output of the AES-128-CMAC shall be 128 bits.
			* When the negotiated AKM is 00-0F-AC:17, the MIC shall be calculated using the KCK2 and the HMAC-SHA-384 algorithm. The output of the HMAC-SHA-384 shall be truncated to 192 bits.
			* The MIC shall be calculated on the concatenation of the following data, in the order given here:
				+ FTO’s MAC address (6 octets)
				+ Target (#5070)~~AP’s~~FTR’s MAC address (6 octets)
				+ Transaction sequence number (1 octet), which shall be set to the value 6 if this is a Reassociation Response frame or, otherwise, set to the value 4
				+ RSNE (#5070)(#6700)if Basic Multi-Link element is not included in the Reassociation Response frame
				+ (#5070)(#6700)RSNEs corresponding to all requested(#5920) links in increasing order of link ID if Basic Multi-Link element is included in the Reassociation Response frame
				+ MDE
				+ FTE, with the MIC field of the FTE set to 0
				+ Contents of the RIC-Response (if present)
				+ RSNXE (if present) (#5070)(#6700)if Basic Multi-Link element is not included in the Reassociation Response frame
				+ (#5070)(#6700)RSNXEs (if present) corresponding to all requested(#5920) links in increasing order of link ID if Basic Multi-Link element is included in the Reassociation Response frame
				+ (#5070)(#6700)AP MAC address corresponding to all requested(#5920) links in increasing order of link ID if Basic Multi-Link element is included in the Reassociation Response frame
			* All other fields shall be set to 0.

(…existing texts…)

***TGbe editor: Modify 3.4 Abbreviations and acronyms as follows: (track change on)***

**3.4 Abbreviations and acronyms
*Insert the following acronym definitions (maintaining alphabetical order):***

(…existing texts…)

(#8305)

(…existing texts…)

***TGbe editor: Modify 11.3.6.2 Non-AP STA, non-AP MLD, and non-PCP STA association initiation procedures as follows: (track change on)***

***Change the title of the subclause 11.3.6.2 as follows:***

**11.3.6.2 Non-AP STA, non-AP MLD, and non-PCP STA association initiation procedures
*Insert the following paragraph after the first paragraph (“The SME shall delete ...”):***

The SME shall delete any PTKSA, GTKSA, IGTKSA, BIGTKSA and temporal keys held for
communication with the AP MLD by using MLME-DELETEKEYS.request primitive (see 12.6.18 (RSNA
security association termination)) before invoking MLME-ASSOCIATE.request primitive. (#8305)

***TGbe editor: Modify 11.3* *as follows: (track change on)***

* 1. **~~STA authentication~~Authentication and association(#2277)**

***Insert a new child subclause “General” at the beginning of this subclause:***

* + 1. **General(#2278)**

***Insert the following two paragraphs as the first two paragraphs of the subclause:***

In [11.3 (STA authenticationAuthentication and association(#2277))](#bookmark2), the reference of a “STA” means that the “STA” is not affiliated with an MLD unless specified otherwise.

In [11.3 (STA authenticationAuthentication and association(#2277))](#bookmark2), when referring to MLD authentication, MLD deauthentication, MLD (re)association, MLD disassociation, or MLD 4-way handshake, the reference of “SME” means the entity that manages the MLD.

* + 1. **State variables**

***Insert the following paragraph after the now-shifted third paragraph (“A STA (local) for which dot11OCBAActiviated ...”):***

An MLD (local) keeps an enumerated state variable for each MLD (remote) with which direct communication between two MLDs through affiliated STAs of the two MLDs(#2077) via the WM is needed. In this context, direct communication between two MLDs through affiliated STAs of the two MLDs(#2077) refers to the transmission of any Class 2 or Class 3 frame with an Address 1 field that matches the MAC address of the STA affiliated with the remote MLD and an Address 2 field that matches the MAC address of the STA affiliated with the local MLD.

***Insert the following paragraph after the now-shifted seventh paragraph (“For nonmesh STAs, this state variable ...”):***

For MLDs, this state variable expresses the relationship between the local MLD and the remote MLD. It takes on the following values:

* *State 1*: Initial start state for MLDs that perform IEEE 802.11 authentication. Unauthenticated and unassociated.
* *State 2*: Authenticated but unassociated.
* *State 3*: Authenticated and associated (Pending RSNA Authentication). The IEEE 802.1X Controlled Port is blocked.
* *State 4*: Authenticated and associated (RSNA Established or Not Required). The IEEE 802.1X Controlled Port is unblocked, or not present.

***Change the title of the subclause 11.3.3 as follows:***

* + 1. **State transition diagram for nonmesh STAs or MLDs**

***Change the first two paragraphs and replace Figure 11-17 as follows:***

[Figure 11-20 (Relationship between state and services between a given pair of nonmesh STAs or nonmesh](#bookmark3) [MLDs)](#bookmark3) shows the state transition diagram for nonmesh STA states or nonmesh MLD states. Note that only events causing state changes are shown. The state of the sending STA or sending MLD given by [Figure 11-20](#bookmark3) [(Relationship between state and services between a given pair of nonmesh STAs or nonmesh MLDs)](#bookmark3) is with respect to the intended receiving STA or the intended receiving MLD, respectively.

NOTE—A transition to State 1 might occur for other reasons such as no frames having been received from a STA or an MLD for a period of time.

Deauthentication (except DMG STAs that did not perform

IEEE Std 802.11 authentication) or FILS authentication

Successful

IEEE Std 802.11 authentication or FILS authentication

|  |
| --- |
| **State 1** |
| **Unauthenticated, Unassociated****Class 1 Frames** |
|  |  |

1. Successful (Re)Association – No RSNA Required
2. Fast BSS Transition

**Authenticated (except DMG STAs that do not perform IEEE Std 802.11 authentication, which are unauthenticated), Unassociated**

**Class 1 & 2 Frames**

**State 2**

1. PBSS 4-way handshake Successful
2. FILS (Re)Association and Key Confirmation
	1. Unsuccessful (Re)Association (Non-AP, non-AP MLD, and non- PCP STA)
	2. Disassociation

Deauthentication (except DMG STAs that did not perform IEEE Std 802.11

authentication)

Successful

(Re)Association – RSNA Required

**State 3**

**Authenticated (except DMG STAs that did not perform IEEE Std 802.11 authentication, which are unauthenticated), Associated (Pending RSNA Authentication)**

**Class 1, 2 & 3 Frames**

**IEEE 802.1X Controlled Port Blocked**

1. Unsuccessful (Re)Association (Non-AP, non-AP MLD, and non- PCP STA)
2. Disassociation

Deauthentication (except DMG STAs that did not

perform IEEE Std 802.11 authentication)

4-way handshake Successful

**State 4**

**Authenticated (except DMG STAs that did not perform IEEE Std 802.11 authentication, which are unauthenticated), Associated (RSNA Established or Not Required)**

**Class 1, 2, & 3 Frames**

**IEEE 802.1X Controlled Port Unblocked**

**Figure 11-20—Relationship between state and services between a given pair of nonmesh STAs or nonmesh MLDs**

***Change the title of the subclause 11.3.4 as follows:***

* + 1. **Frame filtering based on STA or MLD state**

***Change the first paragraph as follows:***

The current state existing between the transmitter and receiver STAs determines the IEEE 802.11 frame types that may be exchanged between that pair of STAs (see Clause 9 (Frame formats)). When the current state is state 1 or state 2, the current state existing between MLDs determines the IEEE 802.11 frame types that may be exchanged through affiliated STAs between that pair of MLDs. When the current state is state 3 or state 4, the current state existing between MLDs determines the IEEE 802.11 frame types that may be exchanged(#5635) on any setup links between that pair of MLDs subject to additional constraints (see 35.3.6 (Link management)). A unique state exists for each pair of transmitter and receiver STAs or each pair of MLDs. The allowed frame types are grouped into classes and the classes correspond to the STA state or the MLD state. In State 1, only Class 1 frames are allowed. In State 2, only Class 1 or Class 2 frames are allowed. In State 3 and State 4, all frames are allowed (Classes 1, 2, and 3). In the definition of frame classes, the following terms are used:

* Within an infrastructure BSS: both the transmitting STA and the recipient STA participate in the same infrastructure BSS
* Within a PBSS: both the transmitting STA and the recipient STA participate in the same PBSS
* Within an IBSS: both the transmitting STA and the recipient STA participate in the same IBSS
* dot11RSNAActivated: reference to the setting of dot11RSNAActivated at the STA or the MLD that needs to determine whether a transmission or reception is permitted.

***Change the description of the Data frames and Management frames of Class 3 frame in the sixth paragraph as follows:***

The frame classes are defined as follows:

1. Class 3 frames
	1. Data frames
		1. Data frames between STAs in an infrastructure BSS or in an MBSS
		2. Data frames between an AP MLD and a non-AP MLD associated with the AP MLD
	2. Management frames
		1. In an infrastructure BSS, an MBSS, or a PBSS, all Action and Action No Ack frames except those that are declared to be Class 1 or Class 2 frames
		2. Between an AP MLD and a non-AP MLD associated with the AP MLD, all Action and Action No Ack frames except those that are declared to be Class 1 or Class 2 frames

***Insert the following paragraph after the eighth paragraph (“A STA shall not transmit Class 2***

***...”):***

A STA affiliated with an MLD shall not transmit Class 2 frames unless the MLD is in State 2 or State 3 or State 4.

***Insert the following paragraphs after the now-shifted tenth paragraph (“A STA shall not transmit Class 3 ...”):***

A STA affiliated with an MLD shall not transmit Class 3 frames unless the MLD is in State 3 or State 4.

NOTE—Frames transmissions on a link between an AP MLD and a non-AP MLD associated with the AP MLD is subject to additional constraints (see 35.3.6 (Link management)).

* + 1. **Association, reassociation, and disassociation**
			1. **General**

***Change the third, fourth, and fifth paragraphs as follows:***

Successful association enables a STA to exchange Class 3 frames. (#1810)Successful association enables an MLD to exchange Class 3 frames on any setup links subject to additional constraints (see 35.3.6 (Link management)). Successful association sets the state for a non-FILS STA or a non-FILS MLD to State 3 or State

4. Successful association sets the state for FILS STAs to State 4.

Successful reassociation enables a STA or an MLD to exchange Class 3 frames. Unsuccessful reassociation when not in State 1 leaves the state for a STA state unchanged (with respect to the AP or PCP that was sent the Reassociation Request (which may be the current STA)) or for a non-AP MLD state unchanged (with respect to the AP MLD that was sent the Reassociation Request). Successful reassociation sets the state for a non-FILS STA to State 3 or State 4 (with respect to the AP or PCP that was sent the Reassociation Request frame) or for a non-FILS non-AP MLD to State 3 or State 4 (with respect to the AP MLD that was sent the Reassociation Request frame). Successful reassociation when not in State 1 sets the state for a STA to State 2 (with respect to the current AP or PCP, if this is not the AP or PCP that was sent the Reassociation Request frame) or for a non- AP MLD to State 2 (with respect to the current AP MLD, if this is not the AP MLD that was sent the Reassociation Request frame). Successful reassociation sets the state for a FILS STA to State 4 (with respect to the AP or PCP that was sent the Reassociation Request frame) and enables it to exchange Class 3 frames. Reassociation shall be performed only if the originating STA or non-AP MLD is already associated in the same ESS.

Disassociation notification when not in State 1 sets the state for a non-FILS STA or a non-FILS MLD to State

2. Disassociation notification when not in State 1 sets the state for a FILS STA to State 1. The STA or MLD shall become associated again prior to sending Class 3 frames. A STA or an MLD may disassociate a peer STA or a peer MLD, respectively, at any time, for any reason.

***Change the last paragraph as follows:***

Association is not applicable in an IBSS. In an infrastructure BSS, association is required. Between an AP MLD and a non-AP MLD, association is required. In a PBSS, association is optional. APs, AP MLDs, and PCPs do not initiate association.

***Change the title of the subclause 11.3.6.2 as follows:***

* + - 1. **Non-AP STA, non-AP MLD, and non-PCP STA association initiation procedures**

***Insert the following paragraph after the first paragraph (“The SME shall delete ...”):***

The MLDME shall delete any PTKSA, GTKSA, IGTKSA, BIGTKSA and temporal keys held for communication with the AP MLD by using MLME-DELETEKEYS.request primitive (see 12.6.18 (RSNA security association termination)) before invoking MLME-ASSOCIATE.request primitive.

***Insert the following two paragraphs after the now-shifted fifth paragraph (“Upon receipt of an MLME-ASSOCIATE.request primitive that is ...”):***

For a non-AP MLD associated with an AP MLD, a non-AP STA affiliated with the non-AP MLD shall not send an Association Request frame without Basic(#8308) Multi-Link element.

NOTE—A non-AP MLD can disassociate with the associated AP MLD to allow a non-AP STA that was affiliated with the non-AP MLD to send an Association Request frame without Basic(#8308) Multi-Link element to perform regular STA association, i.e., non-MLD association.

***Change the now-shifted eighth paragraph as follows:***

Upon receipt of an MLME-ASSOCIATE.request primitive, a non-AP, non-AP MLD, and non-PCP STA shall associate with an AP, AP MLD, or PCP, respectively, using the following procedure:

* + - * 1. If the state for the AP, AP MLD, or PCP is State 1, the MLME shall inform the SME of the failure of the association by issuing an MLME-ASSOCIATE.confirm primitive, and this procedure ends.
				2. All the states, agreements and allocations listed in both numbered lists in [11.3.6.4 (Non-AP, non-AP](#bookmark4) [MLD, and non-PCP STA reassociation initiation procedures)](#bookmark4) item c) are deleted or reset to initial values.
				3. (#2894)(#1211)The ~~MLME~~non-AP STA shall transmit an Association Request frame to the AP or PCP or a non-AP STA affiliated with the non-AP MLD shall transmit an Association Request frame with (#6700)Basic Multi-Link element (#8309)to an AP affiliated with the AP MLD. The RSNE contained in the MLME-ASSOCIATE.request primitive shall be included in the Association Request frame. The RSNE shall specify exactly one pairwise cipher suite and exactly one AKM suite. If the MLME-ASSOCIATE.request primitive contained the EmergencyServices parameter equal to true, an Interworking element with the UESA field set to 1 shall be included in the Association Request frame.
				4. If an Association Response frame is received with a status code of SUCCESS, a DMG STA shall write to each of the following MIB attributes the corresponding subfield of the DMG BSS Parameter Configuration field of the DMG Operation element received from the AP or PCP to which it requested association:

dot11PSRequestSuspensionInterval from the PSRequestSuspensionInterval subfield

dot11MinBHIDuration from the MinBHIDuration subfield

dot11BroadcastSTAInfoDuration from the BroadcastSTAInfoDuration subfield

dot11AssocRespConfirmTime from the AssocRespConfirmTime subfield

dot11MinPPDuration from the MinPPDuration subfield

dot11SPIdleTimeout from the SPIdleTimeout subfield

dot11MaxLostBeacons from the MaxLostBeacons subfield

* + - * 1. If an Association Response frame is received with a status code of SUCCESS, the state for the AP, AP MLD, or PCP shall be set to State 4 or, if dot11RSNAActivated is true, State 3. The state for any other AP, AP MLD, or PCP which is State 3 or State 4 prior to the association request shall be set to State 2, and the MLME shall issue an MLME-ASSOCIATE.confirm primitive to inform the SME of the successful completion of the association.
				2. If an Association Response frame is received with a status code of SUCCESS at an MM-SME coordinated STA and the Single AID field within the MMS element is equal to 1, then
* For each of its MAC entities advertised within the MMS element and for which dot11RSNAActivated is true, the state is set to State 3. Progress from State 3 to State 4 occurs independently in each such MAC entity.
* For each of its MAC entities advertised within the MMS element and for which dot11RSNAActivated is false, the state is set to State 4.
* For each of its MAC entities advertised within the MMS element the state for any other AP or PCP which is State 3 or State 4 prior to the association request shall be set to State 2.
	+ - * 1. If an Association Response frame is received with a status code other than SUCCESS or the association fails to complete within dot11AssociationResponseTimeout the state for the AP, AP MLD, or PCP shall be set to State 2, and the MLME shall issue an MLME-ASSOCIATE.confirm primitive to inform the SME of the failure of the association. The status code returned in the Association Response frame indicates the cause of the failed association attempt. Any misconfiguration or parameter mismatch, e.g., data rates required as basic rates that the STA or a non-AP STA affiliated with the non-AP MLD did not indicate as supported in the ~~STA’s~~ Supported Rates and BSS Membership Selectors element, shall be corrected before the SME issues an MLME- ASSOCIATE.request primitive for the same AP, AP MLD, or PCP. If the status code indicates the association failed because of a reason that is not related to configuration (e.g., the AP, AP MLD,(#1851) or PCP is unable to support additional associations) and the Association Response frame does not include a Timeout Interval element with Timeout Interval Type equal to 3 the SME shall not issue an MLME-ASSOCIATE.request primitive for the same AP, AP MLD, or PCP until a period of at least 2 s has elapsed. If the status code indicates the association failed and the Association Response frame contains a Timeout Interval element with Timeout Interval Type equal to 3, the SME shall not issue an MLME-ASSOCIATE.request primitive for the same AP, AP MLD, or PCP until the period specified in the Timeout Interval element has elapsed.
				2. If an MLME-ASSOCIATE.confirm primitive is received with a ResultCode of SUCCESS, and RSNA is required, and FILS authentication was not used, then the SME shall perform a 4-way handshake to establish an RSNA with the STA or the AP MLD. As a part of a successful 4-way handshake, the SME shall enable protection by generating an MLME- SETPROTECTION.request(Rx\_Tx) primitive. If an MLME-ASSOCIATE.confirm primitive is received with a ResultCode of SUCCESS, and FILS authentication was used, then the SME shall enable protection by generating an MLME-SETPROTECTION.request(Rx\_Tx) primitive.
				3. Upon receipt of the MLME-SETPROTECTION.request(Rx\_Tx) primitive, the MLME shall set the state of the STA or the AP MLD to State 4.

***Change the title of the subclause 11.3.6.3 as follows:***

* + - 1. **AP, AP MLD, or PCP association receipt procedures**

***Insert the following paragraph as the first paragraph of the subclause:***

For a non-AP MLD associated with an AP MLD, if an AP affiliated with the AP MLD receives an Association Request frame without Basic(#8308) Multi-Link element from a non-AP STA affiliated with the non-AP MLD, then the AP shall reject the association request with a status code of DENIED\_STA\_AFFILIATED\_WITH\_MLD\_WITH\_EXISTING\_MLD\_ASSOCIATION.

***Change the remaining paragraphs of the subclause as follows:***

(#1166)(#1211)The following procedure shall be used by an AP or PCP ~~U~~upon receipt of an Association Request frame from a STA ~~the AP or PCP shall use the following procedure~~ or by an AP MLD after an AP affiliated with the AP MLD receives an Association Request frame with (#6700)Basic Multi-Link element from a non-AP STA affiliated with a non-AP MLD:

* + - * 1. The MLME shall issue an MLME-ASSOCIATE.indication primitive to inform the SME of the association request. The SME shall issue an MLME-ASSOCIATE.response primitive addressed to the STA or MLD identified by the PeerSTAAddress parameter of the MLME- ASSOCIATE.indication primitive. If the association is not successful, the SME shall indicate a specific reason for the failure to associate in the ResultCode parameter. Upon receipt of the MLME- ASSOCIATE.response primitive, the MLME shall transmit an Association Response frame.
				2. If the state for the STA is 1 and the STA is a non-DMG STA or the state of the non-AP MLD is 1, the SME shall refuse the association request by issuing an MLME-ASSOCIATE.response primitive with ResultCode NOT\_AUTHENTICATED.
				3. AP with dot11InterworkingServiceActivated true only: If the MLME-ASSOCIATE.indication primitive has the EmergencyServices parameter set to true and the RSN parameter does not include an RSNE, the SME shall not reject the association request on the basis that dot11RSNAActivated is true, thereby granting access, using unprotected frames (see 9.2.4.1.9 (Protected Frame subfield)), to the network for emergency services purposes.
				4. Otherwise, in an RSNA the SME shall check the values received in the RSN parameter to see whether the values received match the security policy. If they do not, the SME shall refuse the association by issuing an MLME-ASSOCIATE.response primitive with a ResultCode indicating the security policy mismatch.
				5. Otherwise, if the state for the STA or the non-AP MLD is 4, the STA or the non-AP MLD has a valid security association, the STA or the non-AP MLD has negotiated management frame protection, the STA or the non-AP MLD has not performed a successful SAE authentication after the current association was established, and there has been no earlier, timed out SA Query procedure with the STA or the non-AP MLD (which would have allowed a new association process to be started, without an additional SA Query procedure):

The SME shall refuse the association request by issuing an MLME-ASSOCIATE.response primitive with ResultCode REFUSED\_TEMPORARILY and TimeoutInterval containing a Timeout Interval element with the Timeout Interval Type field set to 3 (Association Comeback time). If the SME is in an ongoing SA Query with the STA or the non-AP MLD, the Timeout Interval Value field shall be set to the remaining SA Query period, otherwise it shall be set to dot11AssociationSAQueryMaximumTimeout or dot11MLDAssociationSAQueryMaximum- Timeout.

The state for the STA or the non-AP MLD shall be left unchanged.

Following this, if the SME is not in an ongoing SA Query with the STA or the non-AP MLD, the SME shall issue one MLME-SA-QUERY.request primitive addressed to the STA or the non-AP MLD every dot11AssociationSAQueryRetryTimeout TUs until an MLME-SA- QUERY.confirm primitive for the STA or the non-AP MLD is received or dot11AssociationSAQueryMaximumTimeout TUs or dot11MLDAssociationSAQueryMaximumTimeout TUs from the beginning of the SA Query procedure have passed. The SME shall increment the TransactionIdentifier by 1 for each MLME-SA-QUERY.request primitive, rolling it over the value to 0 after the maximum allowed value is reached.

If no MLME-SA-QUERY.confirm primitive for the STA or the non-AP MLD is received within the dot11AssociationSAQueryMaximumTimeout period or the dot11MLDAssociationSAQueryMaximumTimeout period, the SME shall allow a subsequent association process with the STA or the non-AP MLD to be started without starting an

additional SA Query procedure, except that the SME may deny a subsequent association process with the STA or the non-AP MLD if an MSDU was received from the STA or any affiliated STA of the non-AP MLD within this period.

NOTE 1—Reception of an MSDU implies reception of a valid protected frame, which obviates the need for the SA Query procedure.

* + - * 1. (#1025)The SME shall refuse an association request from a STA that does not support all of the rates in the BSSBasicRateSet parameter and all of the membership selectors in the BSSMembershipSelectorSet parameter in the MLME-START.request primitive.
				2. (#1025)The SME shall refuse an association request from an HT STA that does not support all of the MCSs in the Basic HT-MCS Set field of the HT Operation parameter in the MLME-START.request primitive.
				3. (#1025)The SME shall refuse an association request from a VHT STA that does not support all of the <VHT-MCS, NSS> tuples indicated by the Basic VHT-MCS And NSS Set field of the VHT Operation parameter in the MLME-START.request primitive.

h1) (#1025)The SME shall refuse an association request from a HE STA that does not support all of the

<HE-MCS, NSS> tuples indicated by the Basic HE-MCS And NSS Set field of the HE Operation parameter in the MLME-START.request primitive.

* + - * 1. An AP or PCP may refuse GLK association based on local policy and, if so, shall return the GLK\_NOT\_AUTHORIZED ResultCode.

NOTE 2—For example, there might be a list of authorized GLK peers or clients or a limit on the number of GLK peers or clients and the peer or client is not on that list or its acceptance would exceed the limit.

* + - * 1. The SME shall generate an MLME-ASSOCIATE.response primitive with the PeerSTAAddress parameter set to the MAC address of the STA or the non-AP MLD identified by the PeerSTAAddress parameter of the MLME-ASSOCIATE.indication primitive. If the ResultCode in the MLME-ASSOCIATE.response primitive is SUCCESS, the SME has an existing SA with the STA or the non-AP MLD, and an SA Query procedure with that STA or that non-AP MLD has failed to receive a valid response (i.e., has not received an MLME-SA-QUERY.confirm primitive within the dot11AssociationSAQueryMaximumTimeout period or the dot11MLDAssociationSAQueryMaximumTimeout period), the SME shall issue an MLME- DISASSOCIATE.request primitive addressed to the STA or the non-AP MLD with ReasonCode INVALID\_AUTHENTICATION.

NOTE 3—This MLME-DISASSOCIATE.request primitive generates a protected Disassociation frame. If the association request was genuine, the STA has deleted the PTKSA by this point and so the protected Disassociation frame is ignored. The purpose is to inform a STA which has for some reason failed to respond to an SA Query procedure triggered by a forged association request.

* + - * 1. If the ResultCode in the MLME-ASSOCIATE.response primitive is SUCCESS, all the states, agreements and allocations pertaining to the associating STA or the associating non-AP MLD and listed in both numbered lists in [11.3.6.4 (Non-AP, non-AP MLD, and non-PCP STA reassociation](#bookmark4) [initiation procedures)](#bookmark4) item c) are deleted or reset to initial values.
				2. If the ResultCode in the MLME-ASSOCIATE.response primitive is SUCCESS, the SME shall delete any PTKSA, GTKSA, IGTKSA, BIGTKSA, WIGTKSA and temporal keys held for communication with the STA or non-AP MLD by using the MLME-DELETEKEYS.request primitive (see 12.5.18 (RSNA security association termination)).
				3. If the MLME-ASSOCIATE.indication primitive includes an MMS parameter, the AP or PCP shall generate the MLME-ASSOCIATE.response primitive directed to the MLME of the STA identified by the PeerSTAAddress parameter of the MLME-ASSOCIATE.request primitive and take the following additional action, as appropriate:

If the Single AID field in the MMS parameter of the MLME-ASSOCIATE.indication primitive is equal to 1, the AP or PCP may allocate a single AID for all of the STAs included in the MMS

element. If the AP or PCP allocates the same AID to each STA whose MAC address was included in the MMS element, it shall include the MMS element received from the MM-SME coordinated STA in the MLME-ASSOCIATE.response primitive.

If the Single AID field is 0, the AP or PCP shall allocate a distinct AID for each STA specified in the MMS element.

NOTE 4—When the Single AID field is 0, a separate association request/response exchange is performed for each STA specified in the MMS element, and this assigns the multiple AIDs for the STAs.

* + - * 1. If an Association Response frame with a status code of SUCCESS is acknowledged by the STA or the non-AP MLD, the state for the STA or for the non-AP MLD shall be set to State 4 or, if dot11RSNAActivated is true, State 3.
				2. If the ResultCode in the MLME-ASSOCIATE.response primitive is not SUCCESS and management frame protection is in use the state for the STA or for the non-AP MLD shall be left unchanged. If the ResultCode is not SUCCESS and management frame protection is not in use the state for the STA or for the non-AP MLD shall be set to State 3 if it was State 4.
				3. If the ResultCode in the MLME-ASSOCIATE.response primitive is SUCCESS and RSNA establishment is required, and FILS authentication was not used, the SME shall attempt a 4-way handshake with the STA or with the non-AP MLD. Upon a successful completion of the 4-way handshake, the SME shall enable protection by issuing an MLME- SETPROTECTION.request(Rx\_Tx) primitive. If FILS authentication was used, the SME shall enable protection by generating an MLME-SETPROTECTION.request(Rx\_Tx) primitive. In either case, upon receipt of the MLME-SETPROTECTION.request(Rx\_Tx) primitive, the MLME shall set the state for the STA or with the non-AP MLD to State 4.
				4. AP or AP MLD only: The SME shall inform the DS of any changes in the state of the STA or of the non-AP MLD.

***Change the title of the subclause 11.3.6.4 as follows:***

* + - 1. **Non-AP, non-AP MLD, and non-PCP STA reassociation initiation procedures**

***Change the first paragraph as follows:***

Except when the association is part of a fast BSS transition, the SME shall delete any PTKSA, GTKSA, IGTKSA, BIGTKSA, WIGTKSA and temporal keys held for communication with the AP, AP MLD, or PCP by using the MLME-DELETEKEYS.request primitive (see 12.6.18 (RSNA security association termination)) before invoking an MLME-REASSOCIATE.request primitive.

***Insert the following paragraph after the fourth paragraph (“Upon receipt of an MLME- REASSOCIATE.request primitive that is ...”):***

For a non-AP MLD associated with an AP MLD, a non-AP STA that is affiliated with the non-AP MLD and has MAC address not equal to the MLD MAC address of the non-AP MLD shall not send a Reassociation Request frame without Basic(#8308) Multi-Link element to any AP affiliated with that AP MLD.

***Change the now-shifted sixth paragraph as follows:***

Upon receipt of an MLME-REASSOCIATE.request primitive, a non-AP, non-AP MLD, and non-PCP STA shall reassociate with an AP, AP MLD, or PCP, respectively, using the following procedure:

* + - * 1. If the STA (with respect to the AP or PCP) or non-AP MLD (with respect to the AP MLD) is not associated in the same ESS or the state for the new AP, AP MLD, or PCP is State 1, the MLME shall inform the SME of the failure of the reassociation by issuing an MLME-REASSOCIATE.confirm primitive, and this procedure ends.
				2. (#2896)(#1211)The ~~MLME~~non-AP STA shall transmit a Reassociation Request frame to the new AP or PCP or a non-AP STA affiliated with the non-AP MLD shall transmit a Reassociation Request frame with (#6700)Basic Multi-Link element in the Reassociation Request frame to an AP affiliated with the new AP MLD. The RSNE contained in the MLME-ASSOCIATE.request primitive shall be included in the Reassociation Request frame. The RSNE shall specify exactly one pairwise cipher suite and exactly one AKM suite. If the MLME-REASSOCIATE.request primitive contained the EmergencyServices parameter equal to true, an Interworking element with the UESA field set to 1 shall be included in the Reassociation Request frame.
				3. If a Reassociation Response frame is received with a status code of SUCCESS, the state variable for the new AP, AP MLD, or PCP shall be set to State 4 or to State 3 if dot11RSNAActivated is true and the FT protocol is not used with respect to the new AP, AP MLD, or PCP and, unless the old AP, AP MLD, or PCP and new AP, AP MLD, or PCP, respectively, are the same, to State 2 with respect to the old AP, AP MLD, or PCP, and the MLME shall issue an MLME-REASSOCIATE.confirm primitive to inform the SME of the successful completion of the reassociation.

If the MLME-REASSOCIATION.request primitive has the new AP’s, AP MLD’s, or PCP’s MAC address in the CurrentAPAddress parameter (reassociation to the same AP, AP MLD, or PCP), the following states, agreements and allocations shall be deleted or reset to initial values:

All EDCAF state

Any block ack agreements that are not GCR agreements

Sequence number

Packet number

Duplicate detection caches

Anything queued for transmission

Fragmentation and reassembly buffers

Power management mode

WNM sleep mode

TPKSAs established with any peers

TSPECs

DMG TSPECs

GLK-GCR agreement

MSCS

SCS

16) (#1848)TWT

If the reassociation is to the same AP (as described above), the following states, agreements and allocations are not affected by the reassociation procedure:

1. PSMP sessions
2. Enablement/Deenablement
3. GDD enablement
4. TDLS agreements
5. MMSLs
6. GCR agreements that are not GLK-GCR agreements
7. DMS agreements
8. TFS agreements
9. FMS agreements
10. Triggered autonomous reporting agreements
11. FTM sessions
12. DMG SP and CBAP allocations
13. PTP TSPECs.

(#1849)In the case of reassociation to a different AP, AP MLD, or PCP (the CurrentAPAddress parameter is not the new AP’s or PCP’s MAC address or the new AP MLD’s MAC address), all the states, agreements and allocations listed above are deleted or reset to initial values.

* + - * 1. If a Reassociation Response frame is received with a status code of SUCCESS, a DMG STA shall write to each of the following MIB attributes the corresponding subfield of the DMG BSS Parameter Configuration field of the DMG Operation element received from the AP or PCP to which it requested reassociation:

dot11PSRequestSuspensionInterval from the PSRequestSuspensionInterval subfield

dot11MinBHIDuration from the MinBHIDuration subfield

dot11BroadcastSTAInfoDuration from the BroadcastSTAInfoDuration subfield

dot11AssocRespConfirmTime from the AssocRespConfirmTime subfield

dot11MinPPDuration from the MinPPDuration subfield

dot11SPIdleTimeout from the SPIdleTimeout subfield

dot11MaxLostBeacons from the MaxLostBeacons subfield

* + - * 1. If an Association Response frame is received with a status code of SUCCESS at an MM-SME coordinated STA and the Single AID field within the MMS element is equal to 1, then
* For each of its MAC entities advertised within the MMS element and for which dot11RSNAActivated is true, the state is set to State 3. Progress from State 3 to State 4 occurs independently in each such MAC entity.
* For each of its MAC entities advertised within the MMS element and for which dot11RSNAActivated is false, the state is set to State 4.
* For each of its MAC entities advertised within the MMS element the state for any other AP or PCP which is State 3 or State 4 prior to the association request shall be set to State 2.
	+ - * 1. If a Reassociation Response frame is received with a status code other than SUCCESS or the reassociation fails to complete within dot11AssociationResponseTimeout:

Except when the association is part of a fast BSS transition, the state for the AP, AP MLD, or PCP shall be set to State 2 with respect to the new AP, AP MLD, or PCP.

The MLME shall issue an MLME-REASSOCIATE.confirm primitive to inform the SME of the failure of the reassociation. The ResultCode returned in the MLME- REASSOCIATE.confirm primitive indicates the cause of the failed reassociation attempt. Any misconfiguration or parameter mismatch, e.g., data rates required as basic rates that the STA did not indicate as supported in the STA’s Supported Rates and BSS Membership Selectors element, shall be corrected before the SME issues an MLME-REASSOCIATE.request primitive for the same AP, AP MLD, or PCP. If the status code indicates the reassociation failed because of a reason that is not related to configuration (e.g., the AP or PCP is unable to support additional associations) and the Reassociation Response frame does not include a Timeout Interval element with Timeout Interval Type equal to 3 the SME shall not issue an MLME-REASSOCIATE.request primitive for the same AP, AP MLD, or PCP until a period of at least 2 s has elapsed. If the status code indicates the reassociation failed and the Reassociation Response frame contains a Timeout Interval element with Timeout Interval Type equal to 3, the SME shall not issue an MLME-REASSOCIATE.request primitive for the same AP, AP MLD, or PCP until the period specified in the Timeout Interval element has elapsed.

* + - * 1. If an MLME-REASSOCIATE.confirm primitive is received with a ResultCode of SUCCESS, and RSNA is required, and FILS authentication was not used, and the STA or the non-AP MLD is in State 3, then the SME shall perform a 4-way handshake to establish an RSNA with the STA or the AP MLD. As a part of a successful 4-way handshake, the SME shall enable protection by generating

an MLME-SETPROTECTION.request(Rx\_Tx) primitive. If an MLME-REASSOCIATE.confirm primitive is received with a ResultCode of SUCCESS, and FILS authentication was used, and the STA is in State 3, then the SME shall enable protection by generating an MLME- SETPROTECTION.request(Rx\_Tx) primitive.

* + - * 1. Upon receipt of the MLME-SETPROTECTION.request(Rx\_Tx) primitive, the MLME shall set the state of the STA or of the AP MLD to State 4.

***Change the title of the subclause 11.3.6.5 as follows:***

* + - 1. **AP, AP MLD, or PCP reassociation receipt procedures**

***Insert the following paragraph as the first paragraph of the subclause:***

For a non-AP MLD associated with an AP MLD, if an AP affiliated with the AP MLD receives a(#6585) Reassociation Request frame without Basic(#8308) Multi-Link element from a non-AP STA that is affiliated with the non-AP MLD and has MAC address not equal to the MLD MAC address of the non-AP MLD, then the AP shall reject the reassociation request with a status code of DENIED\_STA\_AFFILIATED\_WITH\_MLD\_WITH\_EXISTING\_MLD\_ASSOCIATION.

***Change the remaining paragraphs of the subclause as follows:***

(#2897)(#1211)The following procedure shall be used by an AP or PCP u~~U~~pon receipt of a Reassociation Request frame from a STA ~~the AP or PCP shall use the following procedure~~ or by an AP affiliated with an AP MLD upon receipt of a Reassociation Request frame with (#6700)Basic Multi-Link element from a non-AP STA affiliated with a non-AP MLD:

* + - * 1. The MLME shall issue an MLME-REASSOCIATE.indication primitive to inform the SME of the reassociation request. The SME shall issue an MLME-REASSOCIATE.response primitive addressed to the STA or the non-AP MLD identified by the PeerSTAAddress parameter of the MLME-REASSOCIATE.indication primitive. If the reassociation is not successful, the SME shall indicate a specific reason for the failure to reassociate in the ResultCode parameter. Upon receipt of the MLME-REASSOCIATE.response primitive, the MLME shall transmit a Reassociation Response frame.
				2. If the state for the STA is 1 and the STA is a non-DMG STA or the state for the non-AP MLD is 1, the SME shall refuse the reassociation request by issuing an MLME REASSOCIATE.response primitive with ResultCode NOT\_AUTHENTICATED.
				3. AP with dot11InterworkingServiceActivated true only: If the MLME-REASSOCIATE.indication primitive has the EmergencyServices parameter set to true and the RSN parameter does not include an RSNE, the SME shall not reject the reassociation request on the basis that dot11RSNAActivated is true and dot11PrivacyInvoked is true thereby granting access, using unprotected frames (see

9.2.4.1.9 (Protected Frame subfield)), to the network for emergency services purposes.

* + - * 1. Otherwise, in an RSNA the SME shall check the values received in the RSN parameter to see whether the values received match the security policy. If they do not, SME shall refuse the reassociation by issuing an MLME-REASSOCIATE.response primitive with a ResultCode indicating the security policy mismatch.
				2. Otherwise, if the state for the STA or the non-AP MLD is 4, the STA or the non-AP MLD has a valid security association, the STA or the non-AP MLD has negotiated management frame protection, the reassociation is not a part of a fast BSS transition, the STA or the non-AP MLD has not performed a successful SAE authentication after the current association was established, and there has been no earlier, timed out SA Query procedure with the STA or the non-AP MLD (which would have allowed a new reassociation process to be started, without an additional SA Query procedure):

The SME shall refuse the reassociation request by issuing an MLME-REASSOCI- ATE.response primitive with ResultCode REFUSED\_TEMPORARILY and TimeoutInterval containing a Timeout Interval element with the Timeout Interval Type field set to 3 (Associa- tion Comeback time). If the SME is in an ongoing SA Query with the STA or the non-AP MLD, the Timeout Interval Value field shall be set to the remaining SA Query period, other- wise it shall be set to dot11AssociationSAQueryMaximumTimeout or dot11MLDAssociation- SAQueryMaximumTimeout.

The state for the STA or the non-AP MLD shall be left unchanged.

Following this, if the SME is not in an ongoing SA Query with the STA or the non-AP MLD, the SME shall issue one MLME-SA-QUERY.request primitive addressed to the STA or the non-AP MLD every dot11AssociationSAQueryRetryTimeout TUs until an MLME-SA- QUERY.confirm primitive for the STA or the non-AP MLD is received or dot11AssociationSAQueryMaximumTimeout TUs or dot11MLDAssociationSAQueryMaximumTimeout TUs from the beginning of the SA Query procedure have passed. The SME shall increment the TransactionIdentifier by 1 for each MLME-SA-QUERY.request primitive, rolling it over to 0 after the maximum allowed value is reached.

If no MLME-SA-QUERY.confirm primitive for a STA or a non-AP MLD is received within the dot11AssociationSAQueryMaximumTimeout period or the dot11MLDAssociationSAQueryMaximumTimeout period, the SME shall allow a subsequent reassociation process to be started without starting an additional SA Query procedure, except that the SME may deny a subsequent reassociation process with the STA or the non-AP MLD if an MSDU was received from the STA or any affiliated STA of the non-AP MLD within this period.

NOTE 1—Reception of an MSDU implies reception of a valid protected frame, which obviates the need for the SA Query procedure.

* + - * 1. (#1025)The SME shall refuse a reassociation request from a STA that does not support all the rates in the BSSBasicRateSet parameter and all of the membership selectors in the BSSMembershipSelectorSet parameter in the MLME-START.request primitive.
				2. (#1025)The SME shall refuse a reassociation request from an HT STA that does not support all of the MCSs in the Basic HT-MCS Set field of the HT Operation parameter in the MLME- START.request primitive.
				3. (#1025)The SME shall refuse a reassociation request from a VHT STA that does not support all of the <VHT-MCS, NSS> tuples indicated by the Basic VHT-MCS And NSS Set field of the VHT Operation parameter in the MLME-START.request primitive.

h1) (#1025)The SME shall refuse a reassociation request from a HE STA that does not support all of the

<HE-MCS, NSS> tuples indicated by the Basic HE-MCS And NSS Set field of the HE Operation parameter in the MLME-START.request primitive.

* + - * 1. If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS, the SME has an existing SA with the STA or the non-AP MLD, and an SA Query procedure with that STA or the non-AP MLD has failed to receive a valid response (i.e., has not received an MLME-SA- QUERY.confirm primitive within the dot11AssociationSAQueryMaximumTimeout period or the dot11MLDAssociationSAQueryMaximumTimeout period), the SME shall issue an MLME- DISASSOCIATE.request primitive addressed to the STA or the non-AP MLD with ReasonCode INVALID\_AUTHENTICATION.

NOTE 2—This MLME-DISASSOCIATE.request primitive generates a protected Disassociation frame. If the reassociation request was genuine, the STA or the non-AP MLD has deleted the PTKSA by this point and so the protected Disassociation frame is ignored. The purpose is to inform a STA which has for some reason failed to respond to an SA Query procedure triggered by a forged reassociation request.

* + - * 1. If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS and the reassociation is not part of a fast BSS transition, the SME shall delete any PTKSA, GTKSA, IGTKSA, BIGTKSA, WIGTKSA and temporal keys held for communication with the STA or the non-AP MLD by using the MLME-DELETEKEYS.request primitive (see 12.5.18 (RSNA security association termination)).
				2. If the MLME-REASSOCIATE.indication primitive includes an MMS parameter, the AP or PCP shall take the following additional action, as appropriate:

If the Single AID field in the MMS parameter of the MLME-REASSOCIATE.indication prim- itive is equal to 1, the AP or PCP may allocate a single AID for all of the STAs included in the MMS element. If the AP or PCP allocates the same AID to all STAs whose MAC address was included in the MMS element, it shall include the MMS element received from the MM-SME coordinated STA in the MLME-REASSOCIATE.response primitive.

If the Single AID field is 0, the AP or PCP shall allocate a distinct AID for each STA specified in the MMS element.

NOTE 3—When the Single AID field is 0, a separate reassociation request/response exchange is performed for each STA specified in the MMS element, and this assigns the multiple AIDs for the STAs.

* + - * 1. If a Reassociation Response frame with a status code of SUCCESS is acknowledged by the STA or a STA(#4840) affiliated with the non-AP MLD, the state for the STA or the non-AP MLD shall be set to State 4, or to State 3 if dot11RSNAActivated is true and the reassociation is not part of a fast BSS transition.
				2. If the ResultCode in the MLME-REASSOCIATE.response primitive is not SUCCESS and management frame protection is in use the state for the STA or the non-AP MLD shall be left unchanged. If the ResultCode is not SUCCESS, management frame protection is not in use, and the reassociation is part of a fast BSS transition, the state for the STA or the non-AP MLD shall be left unchanged. If the ResultCode is not SUCCESS, management frame protection is not in use, and the reassociation is not part of a fast BSS transition, the state for the STA or the non-AP MLD shall be set to State 3 if it was State 4.
				3. If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS, RSNA establishment is required, and the reassociation is not part of a fast BSS transition, and FILS is not in use, the SME shall attempt a 4-way handshake with the STA or with the non-AP MLD. Upon a successful completion of a 4-way handshake, the SME shall enable protection by issuing an MLME- SETPROTECTION.request(Rx\_Tx) primitive. If FILS authentication was used, the SME shall enable protection by generating an MLME-SETPROTECTION.request(Rx\_Tx) primitive. In either case, upon receipt of the MLME-SETPROTECTION.request(Rx\_Tx) primitive, the MLME shall set the state for the STA or the non-AP MLD to State 4.
				4. AP or AP MLD only: The SME shall inform the DS of any changes in the state of the STA or the non-AP MLD.
				5. If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS and the CurrentAPAddress parameter in the MLME-REASSOCIATION.indication primitive is this AP’s or PCP’s MAC address (reassociation to the same AP or PCP), the AP or PCP shall match the non-AP STA’s treatment of the listed agreements and allocations as described in [11.3.6.4 (Non-AP, non-AP](#bookmark4) [MLD, and non-PCP STA reassociation initiation procedures)](#bookmark4)item c). The AP or PCP deletes or resets to initial values those items that the non-AP STA is required in [11.3.6.4 (Non-AP, non-AP](#bookmark4) [MLD, and non-PCP STA reassociation initiation procedures)](#bookmark4)item c) to delete or reset to initial values, and the AP or PCP does not modify the states, agreements and allocations that are listed as not affected by the reassociation procedure.

p1) If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS and the CurrentAPAddress parameter in the MLME-REASSOCIATION.indication primitive is this AP MLD’s MLD(#8310) MAC address (reassociation to the same AP MLD), the AP MLD shall match the non-AP MLD’s treatment of the listed agreements and allocations as described in [11.3.6.4 (Non-AP, non-AP](#bookmark4) [MLD, and non-PCP STA reassociation initiation procedures](#bookmark4)) item c). The AP MLD deletes or resets

to initial values those items that the non-AP MLD is required in [11.3.6.4 (Non-AP, non-AP MLD,](#bookmark4) [and non-PCP STA reassociation initiation procedures](#bookmark4)) item c) to delete or reset to initial values, and the AP MLD does not modify the states, agreements and allocations that are listed as not affected by the reassociation procedure.

* + - * 1. If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS and the CurrentAPAddress parameter in the MLME-REASSOCIATION.indication primitive is not this AP’s or PCP’s MAC address (reassociation to a different AP or PCP), all the states, agreements and allocations pertaining to the associating STA and listed in both numbered lists in [11.3.6.4 (Non-AP,](#bookmark4) [non-AP MLD, and non-PCP STA reassociation initiation procedures)](#bookmark4) item c) are deleted or reset to initial values.

q1) If the ResultCode in the MLME-REASSOCIATE.response primitive is SUCCESS and the CurrentAPAddress parameter in the MLME-REASSOCIATION.indication primitive is not this AP MLD’s MLD(#8311) MAC address (reassociation to a different AP MLD), all the states, agreements and allocations pertaining to the associating non-AP MLD and listed in both numbered lists in [11.3.6.4](#bookmark4) [(Non-AP, non-AP MLD, and non-PCP STA reassociation initiation procedures](#bookmark4)) item c) are deleted or reset to initial values.