**IEEE P802.11  
Wireless LANs**

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| CC50 CR for CIDs related to AP ID assignment | | | | |
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**Abstract**

This submission proposes resolutions for following 16 CIDs received for TGbn CC50:

150, 159, 160, 169, 437, 481, 818, 1393, 1394, 1423, 1424, 1862, 2452, 3255, 3598, 3844.

**Revisions:**

Rev 0: Initial version of the document.

***TGbn editor: The baseline for this document is P802.11bn D0.2 and P802.11REVmeD7.0***

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

***Editing instructions formatted like this are intended to be copied into the TGbn Draft (i.e., they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbn Editor: Editing instructions preceded by “TGbn Editor” are instructions to the TGbn editor to modify existing material in the TGbn draft. As a result of adopting the changes, the TGbn editor will execute the instructions rather than copy them to the TGbn Draft.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 1394 | 37.8.1.3.2 | 72/8 | APs capable of sharing resources in Co-SR, Co-BF, or Co-TDMA configurations should explicitly advertise their sharing capabilities during the discovery phase when assigning AP IDs in MAPC Request/Response frames. | As it says in the comment | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #1394 in 25/0639r0. |
| 150 | 37.8.1.3.2 | 72/8 | The details of AP ID assignment is missing, the TBD should be fixed. | the commenter will provide a solution on this. | Revised.  Agree in principle.  The change has been implemented as the similar comment, CID #1394.  TGbn editor, please make the changes tagged by CID #1394 in 25/0639r0. |
| 437 | 37.8.1.3.2 | 72/8 | Lack of details on AP ID assignment, please supplement and improve. | as in comment | Revised.  Agree in principle. The change has been implemented as the similar comment, CID #1394.  TGbn editor, please make the changes tagged by CID #1394 in 25/0639r0. |
| 3598 | 37.8.1.3.2 | 73/41 | AP ID assig5:16nment rules shall be defined. | As in comment. | Revised.  The change has been implemented as the similar comment, CID #1394.  TGbn editor, please make the changes tagged by CID #1394 in 25/0639r0. |
| 160 | 37.8.1.3.2 | 72/8 | If one AP can be sharing AP of Co-SR,Co-BF or Co-TDMA , it may assign the AP ID in MAPC request or MAPC response frame, such AP should advice it's sharing AP's capability is discovery phase. | the commenter will provide a solution on this. | Revised.  Agree in principle.  The change has been implemented as the similar comment, CID #1394.  TGbn editor, please make the changes tagged by CID #1394 in 25/0639r0. |
| 159 | 37.8.1.3.2 | 72/8 | If one AP belong to a colocated AP set, all the APs in the same colocated AP set shall share the same assignement AP ID from another AP, we need consider such case. | the commenter will provide a solution on this. | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #159 in 25/0639r0. |
| 1393 | 37.8.1.3.2 | 72/8 | When an AP belongs to a co-located AP set, all members of that set must share a common assigned AP ID . This scenario requires explicit consideration in the specification. | As it says in the comment | Revised.  Agree in principle.  The change has been implemented as the similar comment, CID #159.  TGbn editor, please make the changes tagged by CID #159 in 25/0639r0. |
| 169 | 37.8.1.3.2 | 72/3 | If the MAPC agreement broken down, the AP ID should be recycled. | the commenter will provide a solution on this. | Revised.  Agree in principle. This resolution is same with the one proposed in CID #1789 in 25/599r2.  TGbn editor, this resolution is same with the one tagger by CID #1789 in 25/599r2. |
| 481 | 37.8.1.3.2 | 72/4 | Can one AP have multiple AP IDs assigned by different APs with which it establishes a MAPC agreement? If so, how are these AP IDs managed? | Rules for assigning AP IDs and managing them should be provided | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #481 in 25/0639r0. |
| 818 | 37.8.1.3.2 | 72/3 | Does AP ID is unique per ESS? Or is it a private index at the initiating AP?  Can a responding AP possess more than one AID (from different initiating APs)?  Can AP allocate to other the same AP ID it was allocated by other AP? | Please clarify | Revised.  Agree in principle.  The change has been implemented as the similar comment, CID #481.  TGbn editor, please make the changes tagged by CID #481 in 25/0639r0. |
| 2452 | 37.8.1.3.2 | 72/1 | AP ID assignment is done between AP pairs and a single AP may have different AP IDs with different AP it coordinates with. It would be beneficial if an AP has always the same AP ID. | Define an AP ID assignment procedure that has one AP ID across all AP it is coordinating with. | Revised.  Agree in principle.  The change has been implemented as the similar comment, CID #481.  TGbn editor, please make the changes tagged by CID #481 in 25/0639r0. |
| 1862 | 37.8.1.3.2 | 72/1 | It is unclear whether the multiple coordinated APs can assign the same AP ID for an AP. | Please restrict an AP from being assigned multiple different AP IDs, or clarify the operation of an AP that operates with multiple AP IDs. | Revised.  Agree in principle.  The change has been implemented as the similar comment, CID #481.  TGbn editor, please make the changes tagged by CID #481 in 25/0639r0. |
| 1423 | 37.8.1.3.2 | 72/8 | We should consider the AP ID allocation under MBSSID set | please add related allocation rules | Rejected.  The AP ID allocation under MBSSID set has already been updated in the P802.11bn D0.2. |
| 1424 | 37.8.1.3.2 | 72/8 | We should consider describing situations where the status code is not equal to success | as the comments | Revised.  Agree with the comment in principle.  TGbn editor, please make the changes tagged by CID #1424 in 25/0639r0. |
| 3255 | 37.8.1.3.2 | 72/8 | Define the AP ID assignment such that, each AP assigns an ID to the neighboring APs that it is doing MAPC with | As in the comment | Rejected.  The functionality is already supported in the baseline P802.11bn D0.2. |
| 3844 | 9.4.1.8 | 57/47 | Make relevant updates to section 9.4.1.8 (AID field) to describe the rules around AP ID. | As in comment | Rejected.  The relevant section has already been updated in the P802.11bn D0.2. |

**Proposed Texts:**

**9.4.2.aa3 MAPC element**

***TGbn editor, please insert the following changes in Section 9.4.2.aa3 (CID #1394):***

The format of the MAPC element is shown in Figure 9-aa7 (MAPC element format).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  | Element ID | Length | Element ID Extension | UHR MAPC Capabilities Information | **TBD** |
| Octets | 1 | 1 | 1 | 1 | TBD |

**Figure 9-aa7 —MAPC element**

The Element ID, Length, and Element ID Extension fields are defined in 9.4.2.1 (General).

The UHR MAPC Capabilities information element is defined in Figure 9-aa8 (UHR Capabilities element format).

The AP TB PPDU Response field indicates whether an AP supports a TB PPDU response to a preceding Trigger frame that is destined to that AP. A value of 1 in this field indicates that the AP supports a TB PPDU response to a Trigger frame that includes its AP ID value in the User Info field. A value of 0 in this field indicates that the AP does not support a TB PPDU response to a Trigger frame that includes its AP ID value in the User Info field.

NOTE:—The location of AP TB PPDU Response field in the MAPC element - TBD

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
|  | Co-BF Coordinating Support | Co-BF Coordinated Support | Co-SR Coordinating Support | Co-SR Coordinated Support | Co-TDMA Coordinating Support | Co-TDMA Coordinated Support | Reserved |
| Bits | 1 | 1 | 1 | 1 | 1 | 1 | TBD |

**Figure 9-aa8 —UHR MAPC Capabilities Information field**

The subfields of the UHR MAPC Capabilities Information field are defined in Table 9-xxx (Subfields of the UHR MAPC Capabilities Information field).

**Table 9-xxx—Subfields of the UHR MAPC Capabilities Information field**

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| Co-BF Coordinating Support | Indicates support for operation as a coordinating AP in Co-BF (see 37.8.2.1 (Coordinated beamforming)). | Set to 0 if not supported.  Set to 1 if supported. |
| Co-BF Coordinated Support | Indicates support for operation as a coordinated AP in Co-BF (see 37.8.2.1 (Coordinated beamforming)). | Set to 0 if not supported.  Set to 1 if supported. |
| Co-SR Coordinating Support | Indicates support for operation as a coordinating AP in Co-SR (see 37.8.2.2 (Coordinated Spatial reuse)). | Set to 0 if not supported.  Set to 1 if supported. |
| Co-SR Coordinated Support | Indicates support for operation as a coordinated AP in Co-SR (see 37.8.2.2 (Coordinated Spatial reuse)). | Set to 0 if not supported.  Set to 1 if supported. |
| Co-TDMA Coordinating Support | Indicates support for operation as a coordinating AP in Co-TDMA (see 37.8.2.3 ( Coordinated time division multiple access)). | Set to 0 if not supported.  Set to 1 if supported. |
| Co-TDMA Coordinated Support | Indicates support for operation as a coordinated AP in Co-TDMA (see 37.8.2.3 ( Coordinated time division multiple access)). | Set to 0 if not supported.  Set to 1 if supported. |

**9.6.7.55b MAPC Response frame format [Name and semantics are TBD]**

***TGbn Editor, please insert the following proposed changes in Section* 9.6.7.55b *(CID #1424):***

The MAPC Response frame is transmitted by the responder AP to accept or reject a request for an MAP coordination agreement negotiation procedure (37.8.1.3 MAPC agreement negotiation). The format of MAPC Response frame Action field is defined in Figure 9-X (MAPC Response frame Action field format).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Category | Public Action | Status Code | TBD |
| Octets: | 1 | 1 | 2 | TBD |

Figure 9-X —MAPC Response frame Action field format

The Category field is defined in 9.4.1.11 (Action field).

The Public Action field is defined in 9.6.7.1 (Public Action field).

The Status Code field is defined in 9.4.1.9 (Status Code field). If the AP accepts the request, the Status Code field is set to SUCCESS (see 9.4.1.9 (Status Code field)). Otherwise, if the AP rejects the request, the Status Code field is set to TBD (see 9.4.1.9 (Status Code field)).

**37.8.1.3.2 AP ID assignment**

***TGbn Editor, please make the following proposed changes in* 37.8.1.3.2 of D0.2:**

The AP ID is used for the AP to identify another AP as a coordinated AP, when necessary. A UHR AP shall follow the rules defined in this subclause additionally to the rules defined in 37.8.1.3 (MAPC agreement negotiation) and negotiate the capabilities of the APs (See 9.4.2.aa3 (Subfields of the UHR MAPC Capabilities Information field)) to assign an AP ID to another AP with which it establishes a MAPC Agreement.(#1394)

The coordinating AP shall not assign an AP ID to a candidate coordinated AP unless any of the following conditions is satisfied:

—A coordinating AP with the Co-BF Coordinating Support field equal to 1 has received from the candidate coordinated AP a MAPC Capabilities element with the Co-BF Coordinated Support field equal to 1.(#1394)

―A coordinating AP with the Co-SR Coordinating Support field equal to 1 has received from the candidate coordinated AP a MAPC Capabilities element with the Co-SR Coordinated Support field equal to 1.(#1394)

―A coordinating AP with the Co-TDMA Coordinating Support field equal to 1 has received from the candidate coordinated AP a MAPC Capabilities element with the Co-TDMA Coordinated Support field equal to 1.(#1394)

The AP ID is as described in 9.4.1.8 (AID field). The AP ID value shall not be assigned by the AP or by its affiliated MLD to any other STA.

NOTE—One AP may obtain the same or different AP IDs from its AP peer(s) after MAPC negotiation.(#481)

NOTE— STA is an associated non-AP STA, an unassociated non-AP STA that has been allocated a (Ranging session Identifier) RSID, or any other coordinated AP), or a non-AP MLD that is associated with the AP MLD.

The AP ID value shall not be assigned by any other AP within the same multiple BSSID set to any other STA. If one AP belongs to a co-located AP set, all APs in the same co-located AP set shall share the same AP ID assigned by another AP.(#159)

The AP ID value shall not be assigned by any other AP MLD that has any affiliated AP within the same multiple BSSID set to any other non-AP MLD.

The AP ID value shall be greater than 2n where n the value carried in the MBSSID Indicator (n) field of the Multiple BSSID element if the AP belongs to a multiple BSSID set.