IEEE P802.11
Wireless LANs

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| CR LB291 MAC CIDs in 37.22 of 11bn D1.0 |
| Date: 2025-10-20 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Liwen ChuAbstractThis submission proposed text change in 37.22 of D1.0.5220, 6672, 11781, 4873, 11782, 4510, 9029, 11786, 5758, 8555, 5623, 5412, 11783, 5413, 10107, 5879, 6512, 8388, 10239, Revisions:* Rev 0: Initial version of the document.
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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.

***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.***

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| **CID** | **Clause** | **Page, line** | **Comment** | **Proposed Change** | **Resolution** |
| 5220 | 37.22 | 268.37 | This subclause is better to be merged into 37.8 | As in comment | RevisedDiscussion: the paragraphs related to IFCS and padding are moved to a new subclause under 37.8. The paragraphes related to OM Control UL MU Data Disable RX Support are moved to the end of subclause 37.8.1.TGbn editor: Please make the changes marked as #5220 in 11-25/1810r1 |
| 6672 | 37.22 | 268.37 | Merge subclause 37.22 and 37.8, as they are covering a general mechanism and behavior of ICF/ICR | As in comment | RevisedDiscussion: the paragraphs related to IFCS and padding are moved to a new subclause under 37.8. The paragraphes related to OM Control UL MU Data Disable RX Support are moved to the end of subclause 37.8.1.TGbn editor: Please make the changes marked as #6672 in 11-25/1810r1 |
| 11781 | 37.22 | 268.37 | Move the contents of this subclause to 37.8 as a subclause that deals only with padding, and IFCS presence. The rest of the description related to setting of UL MU disable bits move it to 37.8.1 | As in comment. | RevisedDiscussion: the paragraphs related to IFCS and padding are moved to a new subclause under 37.8. The paragraphes related to OM Control UL MU Data Disable RX Support are moved to the end of subclause 37.8.1.TGbn editor: Please make the changes marked as #11781 in 11-25/1810r1 |
| 4873 | 37.22 | 268.40 | Both 37.22 and 37.8 are about initial control frames | Please combine them into one subclause | RevisedDiscussion: the paragraphs related to IFCS and padding are moved to a new subclause under 37.8. The paragraphes related to OM Control UL MU Data Disable RX Support are moved to the end of subclause 37.8.1.TGbn editor: Please make the changes marked as #4873 in 11-25/1810r1 |
|  |  |  |  |  |  |
| 11782 | 37.22 | 268.37 | Need to call out expliclty the non-AP STA side and the AP side as the requirements might defer. | As in comment. | RevisedDiscussion: the commenter is right. The IFCS and padding with multiple of DPS, EMLSR, DSO are only applied to the ICF addressed to the non-AP STA. For ICF addressed to mobile AP, only DPS is defined to require padding. TGbn editor: Please make the changes marked as #11782 in 11-25/1810r1 |
|  |  |  |  |  |  |
| 4510 | 37.22 | 268.40 | The rules for IFCS and padding are specified in this section, also should clearly specify under which circumstances UHR STAs do not require an IFCS. | As in comment. | RevisedDiscussion: The rules about when IFCS in an ICF is carried is added. TGbn editor: Please make the changes marked as #4510 in 11-25/1810r1 |
| 9029 | 37.22 | 268.40 | "If an IFCS and padding are required in an ICF addressed to a UHR STA affiliated with anMLD, then he peer UHR STA affiliated with an MLD shall set the length of the Paddingfield of )the ICF based on the rules defined in 35.5.2.2.3 (Padding for a Trigger frame)". It is not clear how STA indicates IFCS is required in the spec text. | Please clarify how non-AP STA indicates IFCS is required in an ICF. | RevisedDiscussion: The rules about when IFCS in an ICF is carried is added. TGbn editor: Please make the changes marked as #9029 in 11-25/1810r1 |
| 11786 | 37.22 | 268.55 | Add a subbullet to clearly call out that IFCS is required for EMLSR, DSO, DPS (any others?) if the STA has indicated nonzero length padding. | As in comment. | RevisedDiscussion: The rules about when IFCS in an ICF is carried is added. TGbn editor: Please make the changes marked as #11786 in 11-25/1810r1 |
| 5758 | 37.22 | 268.42 | Although the UHR STA transmits the value of the DPS Padding delay field to the peer UHR STA affiliated with an MLD, the peer UHR STA couldn't set the length of the Padding field of the ICF based on the the rules defined in 35.5.2.2.3. Because the rules aren't defined in the perspective of DPS Padding delay but the EMLSR Padding Delay. Each methods to indicate EMLSR Padding delay field and DPS Padding delay field are different, so the DPS Padding delay cannot follow the same rule of EMLSR Padding delay to generate m\_pad for the length of the padding field within the ICF. The case of the DSO padding delay has also same issue, which needs to expand the rules. | Define additional rules for DPS Padding Delay and DSO Padding Delay to set the length(m\_pad) of Padding field in the ICF. | RejectedDiscussion: the commenter is right that 35.5.2.2.3 defines the padding rules without considering 11bn’s new features, e.g. DPS Padding Delay field announces the delay from 0 to 252us in unit of 4us. However P268L56 updates the rules in 35.5.2.2.3 such that the new defined 11bn features’ various delay announcement of 0 to 252us in unit of 4us can be used. UHR EMLSR’s padding delay is also updated to 0 to 252us in unit of 4us. |
| 8555 | 37.22 Use and requirements of initial Control frames | 268.44 | although the general rule for the padding requirement of the enabled modes is correct, how to select a suitable padding delay is confusing for AP. Even if using the maximum value of the respective padding delay values for the enabled modes, it seems to be not accurate as it depends on the implementation of STAs. | In order to make the signaled/used padding delay associated with of more than one mode of operation more accurate, the definitions of the respective padding delay fields for the enabled modes (such as DPS, DSO, EMLSR) needs to be optimized. | RejectedDiscussion: the padding delays for DSO and DPS deal with the different features. The independent satisfaction makes sense. |
| 5623 | 37.22 | 268.45 | If DSO is enabled to a DPS STA and it has to change its mode from LCM to HCM with DSO Secondary channel after receiving an ICF, both padding delays are independently considered by current textIf more than one mechanism is applied at the same time, additional delays may need to be considered | As in comment | RejectedDiscussion: the padding delays for DSO and DPS deal with the different features. The independent satisfaction makes sense. |
| 5412 | 37.22 | 268.56 | The ways to indicate padding delay of EMSLR and DPS/DSO are different, i.e., EMLSR Padding Delay value (e.g., 1,2) is from required EMLSR padding delay (us) based on table while DPS/DSO padding delay (us) is the value itself. Therefore, the current way to derive m\_PAD cannot be used for DSO/DPS | Need to define a way to derive m\_PAD for DPS/DSO | RejectedDiscussion: 11bn’s EMLSR is updated such that the EMLSR Padding Delay field has the same definition as DPS Padding Delay field (0 to 252 in unit of 4us).  |
| 11783 | 37.22 | 269.09 | Does the STA need to include the IFCS Location if the peer STA has indicated that it does not support the inclusion of the IFCS Location? This seems to not be covered anywhere. | Please clarify. | RejectedDiscussion: the “support the inclusion of the IFCS Location” is the capability of the STA/AP transmitting BSRP. The related text in 11bn D1.0 is “Set to 1 to indicate that transmission of theIFCS Location field in Trigger frames that are sent as ICFs is supported.Set to 0 to otherwise”. |
| 5413 | 37.22 | 269.12 | "may always transmit" should be "shall transmit" | As in comment | RevisedDiscussion: the commenter is right. The sentence is hanged to “A UHR AP shall transmit…as the ICF that is…”TGbn editor: Please make the changes marked as #5413 in 11-25/1810r1 |
| 10107 | 37.22 | 269.12 | one of the BSRP NTB and BSRP is the mandatory requirement when address to at least one DUO STA. Please change the paragraph to "A UHR AP shall always transmit a BSRP NTB Trigger frame or a BSRP Trigger frame as the ICF frame...". | As in comment. | RevisedDiscussion: the commenter is right. The sentence is hanged to “A UHR AP shall transmit…as the ICF that is…”TGbn editor: Please make the changes marked as #10107 in 11-25/1810r1 |
| 5879 | 37.22 Use and requirements of initial Control frames | 269.16 | "initial Control frame" -> ICF (already defined in 3.2) | As in the comment. | Accepted |
| 6512 | 37.22 | 269.45 | Rules should be provided for the NAV/EIFS setting of an STA that performs CRC using IFCS. | As in comment | RejectedDiscussion: the NAV setting is based on the end of the PPDU and whether the frame can pass the CRC check. It doesn’t matter whether the frame carries the IFCS or not. The related baseline text is “A STA that receives at least one frame in a PSDU can update its NAV……This NAV update operation is performed when the PHYRXEND.indication primitive is received” and “A DCF shall use EIFS before transmission, when it determines that the medium is idle immediately followingreception of a PPDU[+SigExt] for which the PHY-RXEND.indication primitive contained an error or a framefor which the FCS value was not correct….”. |
| 8388 | 37.22 | 269.45 | If a STA detects an error in IFCS field and FCS field, it is unclear whether the STA sets the NAV or the EIFS. Please clarify it | As in a comment | RejectedDiscussion: the NAV setting is based on the end of the PPDU and whether the frame can pass the CRC check. It doesn’t matter whether the frame carries the IFCS or not. The related baseline text is “A STA that receives at least one frame in a PSDU can update its NAV……This NAV update operation is performed when the PHYRXEND.indication primitive is received” and “A DCF shall use EIFS before transmission, when it determines that the medium is idle immediately followingreception of a PPDU[+SigExt] for which the PHY-RXEND.indication primitive contained an error or a framefor which the FCS value was not correct….”. |
| 10239 | 37.22 | 269.45 | The IFCS field can be included in an ICF. If a STA that receives the ICF detects an error either in the IFCS field or in the FCS field, it's not clear whether the STA shall set the NAV or the EIFS. Please clarify it. | As in the comment | RejectedDiscussion: the NAV setting is based on the end of the PPDU and whether the frame can pass the CRC check. It doesn’t matter whether the frame carries the IFCS or not. The related baseline text is “A STA that receives at least one frame in a PSDU can update its NAV……This NAV update operation is performed when the PHYRXEND.indication primitive is received” and “A DCF shall use EIFS before transmission, when it determines that the medium is idle immediately followingreception of a PPDU[+SigExt] for which the PHY-RXEND.indication primitive contained an error or a framefor which the FCS value was not correct….”. |

*TGbe Editor: Please make the following changes in 37.22 of 11bn D1.1 and make sure that 37.8.x is after subclause 37.8.1.*

 **37.8.x IFCS and padding requirement in an ICF (#5220, 6672, 11781, 4873)**(#4510, 9029, 11786) A UHR AP shall include an IFCS in an ICF that is sent to non-AP STA(s) if at least one non-AP STA addressed by the ICF is a UHR non-AP STA that satisfies at least one of the following

* the non-AP STA is a DSO STA with non-zero value in its DSO Padding Delay field and the ICF solicits the non-AP STA’s switch to the DSO subband,
* the non-AP STA is a DPS STA with non-zero value in its DPS Padding Delay field,
* The non-AP STA is affiliated with a non-AP MLD operating in the EMLSR mode with the STA’s link being an EMLSR link and with non-zero value in the non-AP MLD’s EMLSR Padding Delay field.

(#4510, 9029, 11786) A UHR non-AP STA shall include an IFCS in an ICF that is sent to its associated DPS mobile AP that has advertised a non-zero value in the mobile AP’s DPS Padding Delay field.

If an IFCS and padding are required in an ICF addressed to a UHR STA affiliated with a non-AP (#11782) MLD, then the peer UHR AP (#11782) affiliated with an AP (#11782) MLD shall set the length of the Padding field of the ICF based on the rules defined in 35.5.2.2.3 (Padding for a Trigger frame), with the following superseding requirements:

* The padding shall satisfy independently the padding requirement of each mode of operation enabled by the UHR STA, where the padding requirement is specified in:
* the UHR STA’s DPS Padding Delay field for DPS mode (see 37.17.1 (Dynamic power save (DPS) operation)) if DPS is enabled by the STA,
* the UHR STA’s DSO Padding Delay field for DSO mode if DSO is enabled by the STA and the STA is switching to the DSO subband (see 37.26 (Dynamic subband operation)),
* the EMLSR Padding Delay field of the non-AP MLD with which the UHR STA is affiliated for EMLSR mode if EMLSR is enabled (see 37.21 (Enhanced multi-link single-radio (EMLSR) operation for a UHR non-AP MLD)).
* For each of EMLSR, DSO and DPS, if enabled by the UHR STA, the bits after the last User Info field carrying the IFCS are at least *L*PAD, MAC, defined in Equation (35-1), where *m*PAD is equal to 0 if no padding is required and *m*PAD is equal to the padding requirement of the mode if the padding is required.

A UHR STA shall set the IFCS Location Support field to 1 in UHR Capabilities elements it transmits if dot11IFCSLocationIndicationImplemented is true and shall set it to 0 otherwise.

A UHR STA that transmits a Trigger frame as an ICF shall include an IFCS Location Indication field in the Trigger frame if both of the following conditions are satisfied:

* The IFCS Absent Flag subfield of the Common Info field of the Trigger frame is equal to 0.
* The STA has set the IFCS Location Support field to 1 in the UHR Capabilities element it transmits.

A UHR AP shall (#5413, 10107) transmit a BSRP NTB Trigger frame or a BSRP Trigger frame that is addressed to a UHR non-AP STA operating in DUO mode, including when DUO mode is used in addition to one or more of the EMLSR, DPS or NPCA modes. Otherwise, if the non-AP STA is not operating in DUO mode, the AP shall not use a BSRP NTB Trigger frame as an ICF (#5879) to the UHR non-AP STA and shall use a BSRTP Trigger frame as an ICF to the UHR non-AP STA.

**(#5220, 6672, 11781, 4873)**

*TGbe Editor: Please move the following paragraphs to the end of subclause 37.8.1* **(#5220, 6672, 11781, 4873)**

A UHR AP shall set the OM Control UL MU Data Disable RX Support field in the UHR Capabilities element to 1 if the UHR AP has dot11DUOOptionImplemented equal to true.

A UHR STA shall follow the procedure defined in 26.9 (Operating mode indication), except for the following:

* If a non-AP UHR STA has received the OM Control UL MU Data Disable RX Support field in the HE Capabilities element equal to 0 and the OM Control UL MU Data Disable RX Support field in the UHR Capabilities element equal to 1, then the non-AP UHR STA, acting as an OMI initiator, may set the UL MU Disable subfield to 0 and the UL MU Data Disable subfield to 1 to indicate that only responding to a Basic Trigger frame with Data/Management frames is suspended (see 26.9.3 Transmit operating mode (TOM) indication)).
* An OMI responder that has transmitted the OM Control UL MU Data Disable RX Support subfield set to 1 in either the HE Capabilities element or the UHR Capabilities element shall regard an OMI initiator as capable of participating in UL MU operation, except for responding to a Basic Trigger frame with Data/Management frames if the UL MU Disable subfield is equal to 0 and the UL MU Data Disable subfield is equal to 1 in the most recently received OM Control subfield from that OMI initiator (see 26.9.3 Transmit operating mode (TOM) indication)).

NOTE—A UHR non-AP STA that is operating in DUO mode is not expected to set the UL MU Disable subfield to 1 in transmitted OM Control subfields because any UL MU Disable field set to 1 sent by the non-AP STA is ignored by the AP if the non-AP STA is operating in DUO mode since the AP sends ICFs to the DUO STA.