IEEE P802.11
Wireless LANs

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| Resolution for comments received for CC on D0.1 for subclause 9.3.1.8.6 |
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Abstract

This document contains proposed resolutions to comments received on 802.11bn D0.1.

741 1751 2864 2867 2869 2522 2450 630 2428 811 403 851 1261 3672 898 3201 3202 3624 3826 53 1981 3269 56 1035 2862 896 107 465 645 850 965 3132 2661 1982 3625 1262 1604 2449 717 768 1263 1984 3626 3720 85 88 3131 2662 1264 3627 897 1532 3134 709 3827 3828 2865 1522 2082 2574 2083 86 87 1265 1036 2866 1983 2575 109 852 2576 3372 3628 2868 3629 2870 3829 3830 812 3373 3721 3723 3831 3832 3833 2871 1735 1842 1266 813 814 466 467 646 647 710 1857 1905 3374 3834 711 740 2872 3203 2577 853 3204 2873 1267 57 58

R2:

* few editorial fixes during presentation in 11bn MAC
* follow Abhi’s suggestion on #1036

R3:

* change: “start of the PPDU” to “end of the PPDU”
* more CIDs resolved in green

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 741 | Junbin Chen | 0.00 | In baseline, the BA SSC is used to indicate the sequence number of the first MSDU in that Multi-STA BA frame, but it has no meaning when the Per AID TID Info is used to carry feedback information, and is not even mentioned in 37.11. | remove the BASSC field in Figure 9-60a. |  Reject – the BA SSC contains the fragment number which defines the length of the Feedback field. |
| 1751 | Michail Koundourakis | 0.00 | Improve feedback in BlockAck frames, to help recipient's link adaptation decisions. | Add a "parity errors count" subfield to feed back that the receiver of the A-MPDU experienced a number of parity errors. This tells the transmitter of the A-MPDU that the recipient tried to receive the MPDUs (as opposed to , it was not available to try to receive, which is typical for coex). |  Revised – agree with the commenter. Define a field that indicates if there has been errors due to interference. Apply the changes marked as #1751 in this document. |
| 2864 | Mark RISON | 0.00 | Figure 9-60a says that the Block Ack Starting Sequence Control field might be absent (0 octets) but Table 9-39 says that if AckType is 0 and TID is 13 then the subfield is present | As it says in the comment |  Revised – agree with the commenter. Fix it to 2 octets. Apply the changes marked as #2864 in this document. |
| 2867 | Mark RISON | 0.00 | The change tracking is broken in this table, since it implies it previously had blank cells | As it says in the comment |  Revised – apply the changes marked as #2867 in this document |
| 2869 | Mark RISON | 0.00 | It is not clear whether all the stuff with B3 == 1 can be used for non-Feedback fields, and whether the stuff with B3 == 0 can be used for Feedback fields | As it says in the comment |   |
| 2522 | Jarkko Kneckt | 35.49 | Ultra High Reliability Requires improves reliability and tolerance against attacks with incorrect ICF and ICR frames. As discussed in many submissions an evil actor may transmit fake ICF frames and cause frame loss and additional power consumption for the STA. | Please add the protected trigger, BA and BAR frame descriptions as specified in submission 11-24-2055. |  Reject – such mode is defined in REVmf |
| 2450 | Klaus Doppler | 35.50 | Multi-STA BA variant name does not include feedback in the frame name | Change the frame name to Multi-STA BA and Multi-STA feedback variant |  Reject – easier to keep existing name |
| 630 | Jaheon Gu | 35.57 | AID11 addressing to an AP in Multi-STA Block Ack needs further clarification with the introduction of special AID11 value of 2008. There are two interpretations possible with original baseline indicating that AID11 to an AP is set to 0 and AID11 value is set to 2008 to identify feedback in PerAIDTID info when it is addressed to all STAs. Hence it is imperative to clarify the conditions when each of these values can be used when a non-AP STA sends M-STA-BA towards an AP | If the Multi-STA BlockAck frame is sent to an AP, the AID11 subfield is set to 0 in all cases except when the Multi-STA BlockAck is carrying feedback (see 37.11.2 (Dynamic Unavailability Operation (DUO) mode))) that is identified using the Per AID TID info where the AID11 is set to a value of 2008 |  Reject – that is already clear in the current spec |
| 2428 | Manasi Ekkundi | 35.57 | AID11 addressing to an AP in Multi-STA Block Ack needs further clarification with the introduction of Special AID11 value of 2008. There are two interpretations possible with original baseline indicating that AID11 to an AP is set to 0 and AID11 value is set to identify feedback in PerAIDTID info when it is addressed to all STAs. Hence it is imperative to clarify the conditions when each of these values can be used when a non-AP STA sends M-STA BA towards an AP | Needs clarification if the AID11 value of 2008 is only used when addressed to all non-AP STAs or if it also can be used when addressed to AP by non-AP STA | Revised – apply the changes marked as #2428 in this document  |
| 811 | Seongho Byeon | 35.59 | According to the current draft, if the receiver MAC address (RA) of Multi-STA BlockAck which has AID11 subfield set to 2008 in its AID TID Info subfield is individually addressed, a logical flaw occurs. Therefore, it should be explicitly specified that if the value of AID11 subfield is equal to 2008, the RA of Multi-STA BlockAck is set to a broadcast or group address. | As in comment. |  Revised – apply the changes marked as #2428 in this document |
| 403 | Shuang Fan | 35.60 | If the value of 2008 in AID11 indicates the Per AID TID Info applies to all receiving UHR STAs, the RA field of Multi-STA BA frame shall be set to broadcast address. Please make it clear in the draft text | Clarify that the RA field of Multi-STA BA frame shall be set to broadcast address,if a value of 2008 in AID11 included in the Per AID TID Info |  Revised – apply the changes marked as #2428 in this document |
| 851 | Tomoko Adachi | 35.60 | The case when the AID11 subfield is not 2045 and the combination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13 should be also described. The feedback is provided not only when the AID11 subfield is set to 2008. | As in comment. |  Reject – this parapraph just goes over the different settings for AID11. The following paragraphs are clarifying what is covering the commenter’s points. |
| 1261 | Hong Won Lee | 35.60 | What is the use case for sending feedback information from UHR non-AP STA to multiple UHR STAs? In this case, can multiple UHR STAs transmit feedback information not only to the UHR AP but also to UHR non-AP STAs? Or, is it for forward compatibility? Please clarify | As in the comment |  Revised – clarify that it is for group-addressed frames transmitted by an AP. Apply the changes marked as #1261 in this document. |
| 3672 | Sherief Helwa | 35.60 | Control feedback information should be tied to the AC Type and TID combination of 0 and 13, respectively. For that case, AID12 can be set to 2008 to indicate that the control info is addressed to multiple STAs. Otherwise, the AID12 field is set to the addressed STA's AID12. | Explained in the comment |  Revised – clarify that it is for group-addressed frames transmitted by an AP. Apply the changes marked as #1261 and #2428 in this document. |
| 898 | Pascal VIGER | 35.61 | AID11 subfield is intended for all receiving UHR STAs, but shall not be limited to feedback. The MSTA BA can be extended to support more reports than only DUO feedback, so there is no mandatory limitation of AID=2008 to feedback usage. | Change the sentence "A value of 2008 in the AID11 subfield is used to identify a Per AID TID Info field that carries feedback (see 37.11.2 (Dynamic Unavailability Operation (DUO) mode)) that applies to all receiving UHR STAs"by removing "that carries feedback (see 37.11.2 DUO mode"such that final sentence becomes:"A value of 2008 in the AID11subfield is used to identify a Per AID TID Info field that applies to all receiving UHR STAs". |  Revised – clarify that DUO is an example of feedback. Apply the changes marked as #898 in this document |
| 3201 | Qi Wang | 35.61 | "A value of 2008 in the AID11subfield is used to identify a Per AID TID Info field that carries feedback (see 37.11.2 (Dynamic Unavailability Operation (DUO) mode)) that applies to all receiving UHR STAs." The wording "feedback" is too generic. | Replace "... carries feedback..." with "... carries unavailability feedback..." |  Revised – we are making this generic to carry multiple feedbacks and Unavailability is an example. Apply the changes marked as #3201 in this document |
| 3202 | Qi Wang | 35.61 | "A value of 2008 in the AID11subfield is used to identify a Per AID TID Info field that carries feedback (see 37.11.2 (Dynamic Unavailability Operation (DUO) mode)) that applies to all receiving UHR STAs."" The "Duration" filed of the M-STA BA that carries the unavailability feedback needs to be specified to represent the true TXOP duration taking into account the unavailability. | As in comment. |  Reject – there are legacy rules for setting of Duration field. There is no real need to change them and changing them would increase complexity of the feature  |
| 3624 | Alfred Asterjadhi | 35.61 | I think this "Feedback" Per AID TID Info field will carry feedbakc in general. DUO is one case. So probably a good idea to have a table that cites the subclauses for each feedback type.DUO being one of them. Also this is inconsistent with the next sentence that mentions that the Feedback is carried when the Ack Type is 0 and TID subfield being 13. So we need to make these clear. Make sure there is consistency. in statemements and across the figures. | As in comment. |  Revised – agree with the commenter. Add a Feedback Type field. Apply the changes marked as #3624 in this document |
| 3826 | Abhishek Patil | 35.61 | Per motion 141, this would indicate feedback is meant for all recipient UHR STAs not just the ones that support DUO. | Remove reference to DUO. |  Revised – make DUO an example of feedback. Apply the changes marked as #1261 |
| 53 | Stephen McCann | 35.62 | The sentence contains the word "that" twice, which does not read well. | Change the 2nd occurrence of "that" in the sentence to "and" on L62. |  Revised - Apply the changes marked as #1261 |
| 1981 | Liuming Lu | 35.62 | the description of "all receiving UHR STAs" is unclear | Please clarify. Suggest to add a note. |   Revised - Apply the changes marked as #1261 |
| 3269 | Hanqing Lou | 35.62 | The "all receiving UHR STAs" includes the unassociated UHR STAs? Please clerify. Since we have value 2045 is for unassociated STA, People may think by default, non-2045 values are for associated STAs. If we want the value 2008 to indicate feedback for all UHR STAs including the unassociated UHR STAs, we may want to explicitly say it. | Change to "all receiving associated UHR STAs" or "all receiving UHR STAs including associated UHR STAs and unassocited UHR STAs" |   Revised - Apply the changes marked as #1261 |
| 56 | Stephen McCann | 36.01 | Typo - "is not 2045". | change "is not 2045" to "is not equal to 2045". |  Revised – apply the changes marked as #1035 in this document |
| 1035 | Matthew Fischer | 36.01 | It is technically incorrect to say that the combination is equal to x and y respectively. I.e. respectively is used for a case when there are multiple subjects, but by using the word combination, you have created a single subject. | Change "and if the combination of the Ack Type subfieldand TID subfield is not equal to 0 and 13 respectively" to "and if the Ack Typeand TID subfields are not equal to 0 and 13 respectively" in two places in this paragraph - make the same change in the caption for figure 9-60 and then in the paragraph that references figure 9-60a as well and in the paragraph that references that figure - also make changes to show that the text that is the reference to the figures is changed text from the baseline |  Accept |
| 2862 | Mark RISON | 36.01 | " if the combination of the Ack Type sub-field and TID subfield is not equal to 0 and 13 respectively" is a bit weird. Similarly at line 18 | Change to " if the Ack Type field and TID field are not 0 and 13 respectively" |  Revised – apply the changes marked as #1035 in this document |
| 896 | Pascal VIGER | 36.02 | The new BA format is designated by "the combination of the Ack Type subfield and TID subfield is equal to 0 and 13 respectively", that is fine. But designating the legacy format by " if the combination of the Ack Type subfield and TID subfield is not equal to 0 and 13 respectively" will prevent any further use of another combination of those subfields that is currently reserved. | It is preferable to list the Ack Type subfield and TID subfield combinations that designate the legacy MSTA BA (e.g. legacy ack when TID are les than 7), or refer to the Table as example :" if the combination of the Ack Type subfield and TID subfield designates an acknowledgment context as per Table 9-39" |  Revised – apply the changes marked as #1035 in this document |
| 107 | Ke Zhong | 36.03 | A blank space is missing between "in" and "Figure 9-60" . | Add a blank space between "in" and "Figure 9-60" . |  Accept |
| 465 | Peshal Nayak | 36.03 | space should be present between in and Figure | inFigure should be 'in Figure' |  Revised – apply the changes marked as #107 in this document |
| 645 | Jaheon Gu | 36.03 | space should be present between in and Figure | inFigure should be 'in Figure' |  Revised – apply the changes marked as #107 in this document |
| 850 | Tomoko Adachi | 36.03 | "the format shown inFigure 9-60 ..." A space is missing between in and Figure. | Add a space between in and Figure. |  Revised – apply the changes marked as #107 in this document |
| 965 | Arik Klein | 36.04 | Add a space between "in" and "Figure 9-60" | As in comment |  Revised – apply the changes marked as #107 in this document |
| 3132 | Ying Wang | 36.04 | Need a space in "shown inFigure 9-60" between "in" and "Figure 9-60". | Add a space between "in" and "Figure 9-60". |  Revised – apply the changes marked as #107 in this document |
| 2661 | Xiaofei Wang | 36.18 | The word "combination" is not clear and causes confusion, particularly due to the word respectively at the end. | change "to 0 and 13 respectively" to " to (0, 13)" |  Revised – apply the changes marked as #1035 in this document |
| 1982 | Liuming Lu | 36.22 | Suggest to modify "if the Ack Type subfield is equal to 0and the TID subfield is equal to 13" as "if thecombination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13 respectively" to unify the decription. | As in comment |  Revised – apply the changes marked as #1035 in this document |
| 3625 | Alfred Asterjadhi | 36.22 | Need to be more specific, in the sense that the AID11 is less than 2007 (if feedback is individual) and 2008 if feedback is common). Also explicitly call out when one or the other are used making sure forward compliance. | As in comment. |   |
| 1262 | Hong Won Lee | 36.25 | "Respectively" is not necessary in this sentence because each value is indicated separately for the subfields | Change from "equal to 13 respectively" to "equal to 13" |  Revised – apply the changes marked as #1035 in this document |
| 1604 | Jian Yu | 36.29 | Identify if the feedback length can use 64 or 128 byte | as in comment |  Revised – apply the changes marked as #1263 in this document |
| 2449 | Klaus Doppler | 36.30 | Unavailability is only one type of feedback that can be given through a Multi-STA BA. The feedback defined in Figure 9.60a does not include a feedback type | Include a subfield that specifies the feedback type. |  Revised – agree with the commenter. Add a Feedback Type field. Apply the changes marked as #3624 in this document |
| 717 | Chien-Fang Hsu | 36.31 | In Figure 9-60a, it specfies a condition that the AID11 subfield is not 2045 and the combination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13,respectively, and under the condtion the length of Block Ack Starting Sequence Control field and Feedback field cannot be set to 0. | remove "0" from Block Ack Starting Sequence Control field and Feedback field in Octets in Figure 9-60a |  Revised – apply the changes marked as #2864 in this document |
| 768 | Ning Gao | 36.31 | According to Table 9-39, the Block Ack Starting Sequence Control subfield shall be present when the combination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13 respectively. So the length of this Block Ack Starting Sequence Control subfield should be 2 octets instead of 0 or 2 octets. | as in comment |  Revised – apply the changes marked as #2864 in this document |
| 1263 | Hong Won Lee | 36.31 | Why is the maximum size of the Feedback subfield(upto 32 octets) different from the Block Ack Bitmap size(upto 128 octets)? Please clarify | As in the comment |  Revised – apply the changes marked as #1263 in this document |
| 1984 | Liuming Lu | 36.31 | "64, or 128" is missing. In Table 9-40--Fragment Number subfield encoding for the Multi-STA BlockAck variant,The length of "64, or 128" for Feedback subfield is included. | suggest to add "64, or 128", or add a note to clarify why "64, or 128" is excluded. |  Revised – apply the changes marked as #1263 in this document |
| 3626 | Alfred Asterjadhi | 36.31 | Remove editor's note and harmonize the size lengths to be aligned with 11be sizes. Also BA SSC is always present when feedback is present because that is where the length is indicated. So carefully review this table and make sure everything is consistent accross the board. | As in comment. |  Revised – apply the changes marked as #1263 in this document |
| 3720 | Li-Hsiang Sun | 36.31 | Fig 9-60a BA starting Sequence control and Feedback Field with 0 octets contradicts with Table 9-39 for Acktype =0 and TID=13 | Remove 0 in figure |  Revised – apply the changes marked as #1263 in this document |
| 85 | Xiangxin Gu | 36.33 | Change "Figure 9-60a--Per AID TID Info subfield format if the AID11 subfield is not 2045 and if the combination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13 respectively" to "Figure 9-60a--Per AID TID Info subfield format if the AID11 subfield is not 2045 and if the combination of the Ack Type subfield and the TID subfield is equal to 0 and 13" | as the comment |  Revised – apply the changes marked as #1035 in this document |
| 88 | Xiangxin Gu | 36.33 | "Figure 9-60a--Per AID TID Info subfield format if the AID11 subfield is not 2045 and if thecombination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13respectively" does not reflect "TID == 2008" | change to "if the AID11 subfield is 2008" |  Reject – Feedback Per AID TID Info can be also addressed to a STA AID. |
| 3131 | Ying Wang | 36.33 | Awkward wording in the caption of Figure 9-60a: "Figure 9-60a--Per AID TID Info subfield format if the AID11 subfield is not 2045 and if thecombination of the Ack Type subfield is equal to 0 and the TID subfield is equal to 13respectively". | Change to "Figure 9-60a--Per AID TID Info subfield format if the AID11 subfield is not 2045 and if the Ack Type subfield is equal to 0 and the TID subfield is equal to 13" |  Revised – apply the changes marked as #1035 in this document |
| 2662 | Xiaofei Wang | 36.34 | The word "combination" is not clear and causes confusion, particularly due to the word respectively at the end. | delete "the combination of" and "respectively" |  Revised – apply the changes marked as #1035 in this document |
| 1264 | Hong Won Lee | 36.35 | "Respectively" is not necessary in this sentence because each value is indicated separately for the subfields | Change from "equal to 13 respectively" to "equal to 13" |  Revised – apply the changes marked as #1035 in this document |
| 3627 | Alfred Asterjadhi | 37.01 | What is the setting/context for the M-BA when sent in response to an ICF? i.e., acting as an ICR. | As in comment. |   |
| 897 | Pascal VIGER | 37.05 | Table 9-39 has the 3rd row header still called "presence of BA SSC subfield of BA Bitamp subfields", even for the case of Feedback report (Ack Type = 0 and TID = 13). | Change the header to add feedback information instead of Acknowledgment status. |  Revised – apply the changes marked as #897 in this document |
| 1532 | yajun CHENG | 37.08 | In the Table 9-39, the title of the third column should be "Presence of Block Ack Starting Sequence Control subfield and Block Ack Bitmap subfields (Feedback subfiled)". There is no Block Ack Bitmap subfields but the Feedback subfiled when Ack Type subfield is equal to 0 and the TID subfield is equal to 13 respectively. Otherwise, it's confusing. | As in comment. |  Revised – apply the changes marked as #1263 in this document |
| 3134 | Ying Wang | 37.12 | In Table 9-39, when Ack Type is 0 and TID is 13, it is not the "Presence of Block Ack Starting Sequence Control subfield and Block Ack Bitmap subfields" since there is no Block Ack Bitmap subfield for this case but the Feedback subfield. | Add a note for this entry? |  Revised – apply the changes marked as #1263 in this document |
| 709 | Chien-Fang Hsu | 37.13 | " (e.g., of unavailability)" is not clear. | Add detailed descprtion of what the feedback field carries for unavailabilty |  Revised – apply the changes marked as #709 in this document |
| 3827 | Abhishek Patil | 37.13 | Per motion 141, the framework is extensible. There is no need to call out an example. | Delete the content from in parenthesis |  Revised – apply the changes marked as #1263 in this document |
| 3828 | Abhishek Patil | 37.13 | As part of the Co-TDMA procedure, a shared AP's response to a sharing AP's ICF shall be carried in an MBA (see motion 270 & 157). Study the existing format of MBA frame and make the necessary updates to support Co-TDMA operation. | As in comment |   |
| 2865 | Mark RISON | 37.14 | If the combination AckType 1 and TID 13 is reserved, then the third column should say N/A not Not present | As it says in the comment |  Revised – apply the changes marked as #2574 in this document |
| 1522 | Xiandong Dong | 37.15 | The description is not aligned with the figure 9-60a, i.e according the description of the table, the Block AckBitmap subfield is present, but it is not in the figure9-60a. Make them consistent. | as in comment |  Revised – apply the changes marked as #897 in this document |
| 2082 | Vishnu Ratnam | 37.15 | In Table 9-39, for Ack Type=1 and TID subfield=13, Presence of BlockAck Starting Sequence Control subfield and Block Ack Bitmap subfields should be set to "N/A", since this combination is not defined yet and is for future use. | Replace "Not present" with "N/A" for Ack Type=1 and TID subfield=13, |  Revised – apply the changes marked as #2574 in this document |
| 2574 | Minyoung Park | 37.15 | 'Not present' should be 'N/A' | As in the comment |  Revised – apply the changes marked as #2574 in this document |
| 2083 | Vishnu Ratnam | 37.31 | In Table 9-39, add a note with reference to the section on unavailability feedback. Clause: 37.11. | As in comment. |  Revised – apply the changes marked as #709 in this document |
| 86 | Xiangxin Gu | 37.42 | Feedback subfield is not clear in Table 9-40--Fragment Number subfield encoding for the Multi-STA BlockAck variant | suggest to add a table for Feedback subfield |  Revised – apply the changes marked as #897 in this document |
| 87 | Xiangxin Gu | 37.42 | No change for last 2 entries in Table 9-40--Fragment Number subfield encoding for the Multi-STA BlockAck variant | remove the underline | Accept |
| 1265 | Hong Won Lee | 37.42 | "Feedback" in Table 9-40 is also the subfield of the Per AID TID Info | Change from "Block Ack Bitmap subfield or Feedback length (octets)" to "Block Ack Bitmap or Feedback subfield length (octets)" |  Revised – apply the changes marked as #1265 in this document |
| 1036 | Matthew Fischer | 37.44 | In Table 9-40 Fragment number encoding, the meaning of the final column, Maximum number of MSDUs, etc is questionable when the TID has value 13 and the field present is Feedback and not Block Ack Bitmap. It would apepar that in fact, when the field is FEEDBACK, that NO MSDUs are being acknowledged | Change the final column heading in Table 9-40 fragment number encoding to be "Maximum number of MSDUs/A-MSDUs that can be acknowledged in the Block Ack Bitmap subfield, this column is N/A for the Feedback subfield" |  Revised – apply the changes marked as #1036 in this document |
| 2866 | Mark RISON | 37.45 | "or Feedback" should be "or Feedback subfield" | As it says in the comment |  Revised – apply the changes marked as #1265 in this document |
| 1983 | Liuming Lu | 37.47 | the subfield is missing. suggest to modify "Feedback" as "Feedback subfield" | As in comment |  Revised – apply the changes marked as #1265 in this document |
| 2575 | Minyoung Park | 37.47 | 'Feedback' should be 'Feedback subfield' | As in the comment |  Revised – apply the changes marked as #1265 in this document |
| 109 | Ke Zhong | 38.01 | The "(con-" in the header of Table 9-40 is not complete. | In the header of Table 9-40, replace "(con-" with "(continued)". |  Accept |
| 852 | Tomoko Adachi | 38.01 | The title of the table is incomplete. "... (con-" | Complete the title. |  Accept |
| 2576 | Minyoung Park | 38.06 | Feedback should be 'Feedback subfield' | As in the comment |  Revised – apply the changes marked as #1265 in this document |
| 3372 | Zhenpeng Shi | 38.12 | The underlined "Reserved" in line 12 and "1" in line 13 are the same as those in P802.11be\_D7.0. | Remove the underline of "Reserved" and "1". | Accept  |
| 3628 | Alfred Asterjadhi | 38.12 | Not clear where these underlined entries came from. Might it be an artifact of 11be? Please fix. | As in comment. |  Accept |
| 2868 | Mark RISON | 38.13 | It is not clear what it means for the middle cell to be blank | Insert "Reserved" or "N/A" |   |
| 3629 | Alfred Asterjadhi | 38.25 | I think it will help having a separation of contexts for acknowledgment, feedback, and so on. It might make things easier to read. Also you will need a Feedback Type field to differentiate among different types of feedback. | As in comment. |   |
| 2870 | Mark RISON | 38.26 | "Acknowledgment status" should be lowercase | As it says in the comment |  Accept |
| 3829 | Abhishek Patil | 38.26 | How would a recipient differentiate between different feedback types? | Provide a mechanism to identify each feedback type. |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 3830 | Abhishek Patil | 38.26 | There is a bit of duplication between the first bullet and the third bullet - reorganize the content to remove duplication. | As in comment |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 812 | Oren Kedem | 38.29 | Does non-AP STA may send Multi-STA BlockAck variant with AID11 equal to 2008 ?What is the usecase for that ? | Dissallow non-AP STA to send Multi-STA BlockAck variant with AID11 equal to 2008 |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 3373 | Zhenpeng Shi | 38.29 | To be more accurate, "AID of a UHR STA" should be changed to "11 LSBs of the AID of a UHR STA" since it needs to fit into the AID11 subfield. | As in comment. |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 3721 | Li-Hsiang Sun | 38.29 | "or to 2008 if the feedback information is intended for all receiving UHR STAs"What is this case? 37.11 does not define DUO reporting from AP | Please clarify |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 3723 | Li-Hsiang Sun | 38.29 | "The AID11 subfield of the AID TID Info subfield is set to the AID of a UHR STA that is theintended receiver of the feedback information" | Isn't the untended receiver an AP? Change to transmitter |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 3831 | Abhishek Patil | 38.29 | What is the AID11 value set to when an AP responds with an MBA to an ICF sent as part of MAPC procedure (e.g., see motion 270)? Is it set to 0 or set to the AP ID assigned by the responding AP to the soliciting AP? If latter, does it imply all negotiations are bi-directional? | Provide clear guidance on what should be the AID11 value set to when an AP responds to an ICF sent by another AP as part of the MAPC operation. |   |
| 3832 | Abhishek Patil | 38.30 | The sentence on page 35, line 60 related to AID11 being 2008 should be deleted. It is a duplicate of the OR part of the 2nd bullet bullet | Delete the cited sentence on pg 35 line 60 |  Reject – page 35 line 60 summarizes the different possible AID11 values. |
| 3833 | Abhishek Patil | 38.30 | There is some duplication in the contents of this bullet and the first bullet. Remove the duplicate text (e.g., "and includes feedback information instead of Acknowledgment status (see Table 9-39 (xxx)." | As in comment |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 2871 | Mark RISON | 38.32 | "A Feedback subfield is included in the Per AID TID Info field instead of a Block Ack Bitmap sub-field " duplicates Figure 9-60a | Delete the cited text |  Accept |
| 1735 | Kosuke Aio | 38.33 | The current description only includes the Unavailability Duration subfield in the Feedback subfield of Multi-STA BA, but depending on the status of future discussions, this field should be easily expanded to be able to hold various groups of information. | Please define a method for indicating that information other than the "Unavailability Duration subfield" is included, and indicate that there is a possibility that multiple subfields will be included in the Feedback subfield. |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 1842 | Tong Xiao | 38.33 | The spec does not clearly state what a value of 0 means for "Unavailability Target Start Time" and "Unavailability Duration." I recommend explicitly defining these fields when set to 0 | As in comment |  Revised – agree with the commenter. Apply the changes marked as #3829 in this document |
| 1266 | Hong Won Lee | 38.34 | According to Table 9-40, the length of the subfield is up to 128 octets; however, according to Table 9-60a, the length of the Feedback subfield is up to 32 octets. It should be stated that lengths of 64 octets and 128 octets do not apply to the feedback subfield if the size of the Feedback subfiled is up to 32 octets | As in the comment |  Revised – agree with the commenter. Apply the changes marked as #1263 in this document |
| 813 | Oren Kedem | 38.38 | What values of Unavailability Target Start Time are allowed to be sent ? Past TSF value is allowed ? | The lowest Unavailability Target Start Time value shall be the TSF value at the start of the PPDU that carry the feedback |  Revised – agree with the commenter. Apply the changes marked as #813 in this document |
| 814 | Oren Kedem | 38.38 | Does the the unavailability Feedback is valid for P2P connection ? What TSF is used for the Unavailability Target Start Time ? | Please indicated |  Reject – baseline doesn’t specify to which TSF the applies, as the STA’s TSF is matching the BSS/AP’s TSF.  |
| 466 | Peshal Nayak | 38.39 | The feedback subfield currently carries unavailability target start time and unavailability duration information. However, the current signaling allows the unavailability info reporting for the same link on which the feedback is transmitted. There can be scenarios wherein providing feedback in time on the same link may not be possible. In case of multi-link operation, it would be beneficial if unavailability of one link can be reported on another link. It will be useful if the feedback subfield can also allow an indication of the link for which the feedback is applicable. This can allow a STA to report unavailability for a different link. Spec should allow such a support | Include a field to provide an indication of the link/links to which the unavailability feedback is applicable. |  Reject – at this stage, unavailability report does not have the link information |
| 467 | Peshal Nayak | 38.39 | In some cases, unavailability can affect more than one link of the non-AP MLD. In such cases, it can be inefficient to transmit a feedback for each link separately. | Include a field to provide an indication of the link/links to which the unavailability feedback is applicable. |  Reject – at this stage, unavailability report does not have the link information |
| 646 | Jaheon Gu | 38.39 | The feedback subfield currently carries unavailability target start time and unavailability duration information. However, the current signaling allows the unavailability info reporting for the same link on which the feedback is transmitted. There can be scenarios wherein providing feedback in time on the same link may not be possible. In case of multi-link operation, it would be beneficial if unavailability of one link can be reported on another link. It will be useful if the feedback subfield can also allow an indication of the link for which the feedback is applicable. This can allow a STA to report unavailability for a different link. Spec should allow such a support | Include a field to provide an indication of the link/links to which the unavailability feedback is applicable. |  Reject – at this stage, unavailability report does not have the link information |
| 647 | Jaheon Gu | 38.39 | In some cases, unavailability can affect more than one link of the non-AP MLD. In such cases, it can be inefficient to transmit a feedback for each link separately. | Include a field to provide an indication of the link/links to which the unavailability feedback is applicable. |  Reject – at this stage, unavailability report does not have the link information |
| 710 | Chien-Fang Hsu | 38.39 | The Unavailability Target Start Time subfield carries partial TSF and when the target time is close to the transmission time of the MSBA frame, due to unsynchronous TSF between TX and RX, and processing delay on the RX side, it is possible that the target start time wraps around so that the RX regards the target start time is much later than the TX indends to indicate. | A mechanism is required to resolve the wrap-around issue of the partial TSF. The commenter will bring a proposal to address the issue. |   |
| 1857 | Sanghyun Kim | 38.39 | The granularity of the unavailability target start time is 64 s (Motion 142). It needs to be checked whether TSF[15:7] should be replaced with TSF[14:6]. (The unit of B6 is 64 s, and B7 is 128 s.) | As in comment |  Revised – agree with the commenter. Apply the changes marked as #1857 in this document |
| 1905 | Hyeonjun Sung | 38.39 | The range of TSF Timer([15:7]) does not indicate the time with a granularity of 64 microseconds. | Change the range of TSF Timer [15:7] to [14:6] |  Revised – agree with the commenter. Apply the changes marked as #1857 in this document |
| 3374 | Zhenpeng Shi | 38.39 | The related motion (Motion 142) says "Unavailability Target Start Time is indicated using 9 bits with a granularity of 64us", which translates to TSF[14:6] instead of TSF[15:7]. | Change "TSF[15:7]" to "TSF[14:6]". |  Revised – agree with the commenter. Apply the changes marked as #1857 in this document |
| 3834 | Abhishek Patil | 38.39 | The content starting line 39 and Figure 9-60b are specific to the case when the feedback is unavailability. A specific feedback type and its format should not be described with the rest of the generic content. | Define a separate subclause (possibly under 9.3.1.8.6) dedicated to describing feedback types and the Feedback subfields for each type in an MBA and describe each feedback type and its format in that sub-clause. |  Revised – agree with the commenter. Apply the changes marked as #3834 in this document. |
| 711 | Chien-Fang Hsu | 38.41 | When the Unavailability Duration is equal to 0, it does not make sense for a STA to set up zero duration. | Use Unavailability Duration = 0 either to indicate indefinite duration of the unavailability or limit the field to be > 0. |  Revised – agree with the commenter. Apply the changes marked as #1913 in document 25/0437r0 |
| 740 | Junbin Chen | 38.41 | In 9.3.1.8.6, "The Unavailability Duration subfield indicates the duration in units of 64 s over which the STA transmitting the Multi-STA BA is not available."Additionally, as stated in P82L35 of 37.11.2, the unavailable duration mighe be unknown, which has not been specified in 9.3.1.8.6. | use the value 0 of the Unavailability Duration subfield to indicate the unknown unavailability duration (only if the Unavailability Target Start Time field is valid) |  Revised – agree with the commenter. Apply the changes marked as #1913 in document 25/0437r0 |
| 2872 | Mark RISON | 38.42 | "the Multi-STA BA" should be "the Multi-STA BlockAck frame" | As it says in the comment | Accept  |
| 3203 | Qi Wang | 38.42 | "The Unavailability Duration subfield indicates the duration in units of 64 s overwhich the STA transmitting the Multi-STA BA is not available." Need a special value for Unavailability Duration to indicate the duration is indefinite (i.e., unknown). . | As in comment. |  Revised – agree with the commenter. Apply the changes marked as #1913 in document 25/0437r0 |
| 2577 | Minyoung Park | 38.43 | Typo: BA should be BlockAck | As in the comment |  Revised – agree with the commenter. Apply the changes marked as #2872 in this document |
| 853 | Tomoko Adachi | 38.45 | Define the length of the reserved field. | As in comment. |  Revised – agree with the commenter. Apply the changes marked as #2873 in this document |
| 3204 | Qi Wang | 38.48 | Figure 9-60b, it's beneficial to use some reserved bits to include a link bitmap to indicate the link(s) that the unavailability information is applicable. | As in comment. |   |
| 2873 | Mark RISON | 38.50 | If the feedback only has 18 bits, it doesn't need the new Table 9-40 options for 64 or 128 octets | Delete the new rows in Table 9-40 |  Revised – there can be different types of feedbacks. When the type is set to 0, we can fix the length. Apply the changes marked as #2873 in this document |
| 1267 | Hong Won Lee | 38.52 | The Feedback subfield can include not only unavailability information but also other types of feedback information. It is better to generalize it to accommodate candidate feedback information and/or ensure forward compatibility | The format of the Per-AID TID Info, including the Feedback subfield, can be designed for generalization. The commenter can provide a resolution proposal for this comment(The general design for the Feedback subfield may be covered by the contribution, DCN 25/0062) |  Revised – agree with the commenter. Apply the changes marked as #1035 in this document |
| 57 | Stephen McCann | 36.17 | Figure 9-60 | The title of this figure contains normative text. Please change it to "Per AID TID Info subfield format A" and then explain what format A means in the text. |  Revised – agree with the commenter. Apply the changes marked as #1035 in this document |
| 58 | Stephen McCann | 36.17 | Figure 9-60a | The title of this figure contains normative text. Please change it to "Per AID TID Info subfield format B" and then explain what format B means in the text. |  Revised – agree with the commenter. Apply the changes marked as #1035 in this document |

Introduction

* Multi-STA BlockAck variant

***please change subclause 9.3.1.8.6 as follows***

The AID11 subfield carries the 11 LSBs of the AID of the non-AP STA for which the Per AID TID Info subfield is intended. The format of the Per AID TID Info subfield depends on the value of the AID11 subfield. If the Multi-STA BlockAck frame is sent to an AP, the AID11 subfield is set to 0. A value of 2045 in the AID11 subfield is used as an identifier for any unassociated STA. If the AID11 subfield is set to 2045, then the Ack Type subfield and TID subfield are set to 0 and 15, respectively. A value of 2008 in the AID11 subfield is used in a group addressed Multi-STA BlockAck frame [#2428] transmitted by a UHR AP [#1261] to identify a Per AID TID Info field that carries feedback and applies to all addressedUHR non-AP STAs. [#1261]

NOTE 1—More than one Per AID TID Info subfield with the same value in the AID11 subfield but different values in the TID subfield can be present in the Multi-STA BlockAck frame.

If the AID11 subfield of the AID TID Info subfield is not set to 2045, and if the Ack Type subfield and TID subfield are not equal to 0 and 13 respectively, then the Per AID TID Info subfield has the format shown in [#107] Per AID TID Info subfield format with Block Ack Bitmap. [#1035]

***Change Figure9-60 (Per AID TID Info subfield format if the AID11 subfield is not 2045 and if the Ack Type subfield and TID subfield are not equal to 0 and 13 respectively) as follows:*** [#1035]

|  |  |  |  |
| --- | --- | --- | --- |
|  | AID TID Info | Block Ack Starting Sequence Control | Block Ack Bitmap |
| Octets: | 2 | 0 or 2 | 0, 4, 8, 16, 32, 64, or 128 |
| * Per AID TID Info subfield format with Block Ack Bitmap[#1035]
 |

***TGbn editor: please remove the underline in the following paragraph and in Figure 9.60a and instruction to add the following paragraph and add the new Figure 9.60a and 9.xxx as follows [#2867, #3624]***

If the AID11 subfield of the AID TID Info subfield is not 2045, and if the Ack Type subfield is equal to 0 and the TID subfield is equal to 13 then the Per AID TID Info subfield has the format shown in Per AID TID Info subfield format with Feedback and the Block Ack Starting Sequence Control subfield in the Per AID TID Info subfield has the format shown in Figure 9.xxx Block Ack Starting Sequence Control subfield format if the AID11 subfield is not 2045 and if the Ack Type subfield is equal to 0 and the TID subfield is equal to 13. The Feedback Type sub field defines the type of feedback that is contained in the Feedback field. The Feedback Type field is set to 0 to carry unavailability information as described in 37.11.2 (Dynamic Unavailability Operation (DUO) mode). [#1035]

|  |  |  |  |
| --- | --- | --- | --- |
|  | AID TID Info | Block Ack Starting Sequence Control | Feedback |
| Octets: | 2 | 2 #2864 | 0, 4, 8, 16, 32, 64, or 128 [#1263] |
| * Per AID TID Info subfield format with Feedback [#1035]
 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | B0 B3 | B4 B11 | B12 B15 |
|  | Fragment Number (0) | Reserved | Feedback Type |
| Bits: | 4 | 8 | 4 |

**Figure 9.xxx Block Ack Starting Sequence Control subfield format if the AID11 subfield is not 2045 and if the Ack Type subfield is equal to 0 and the TID subfield is equal to 13** [#1035]

* In IEEE P802.11be D7.0, the length of the Block Ack Bitmap is 0, 4, 8, 16, 32, 64, or 128. But 11/24-2040r9 uses the 11ax baseline. The editor still keeps the Feedback length as 0, 4, 8, 16 or 32, as shown in the PDT.

If the AID11 subfield is not 2045, then the context and the presence of each optional subfield in a Per AID TID Info subfield in a Multi-STA BlockAck frame is defined in Table9-39 (Context of the Per AID TID Info subfield and presence of optional subfields ifthe AID11 subfield is not 2045).

|  |
| --- |
| * Context of the Per AID TID Info subfield and presence of optional subfields if the AID11 subfield is not 2045 (continued)
 |
| Ack Type subfield values | TID subfield values | Presence of Block Ack Starting Sequence Control subfield and either Block Ack Bitmap or Feedback [#897] subfields | Context of a Per AID TID Info subfield in a Multi-STA BlockAck frame |
| 0 | 0–7 | Present | Block acknowledgment context:Sent as an acknowledgment to QoS Data frames that solicit a BlockAck frame response or to a BlockAckReq frame. |
| 1 | 0–7 | Not present | Acknowledgment context:Sent as an acknowledgment to a QoS Data or QoS Null frame that solicits an Ack frame response. |
| 0 or 1 | 8–1~~3~~2 | N/A | Reserved |
| 0 | 13 | Present | Feedback context:Sent as feedback (e.g., unavailability information, see 37.11.2 (Dynamic Unavailability Operation (DUO) mode)) [#709] |
| 1 | 13 | N/A [#2574] | Reserved |
| 0 | 14 | N/A | Reserved |
| 1 | 14 | Not present | All ack context:Sent as an acknowledgment to an A-MPDU that contains an MPDU that solicits an immediate response and all MPDUs contained in the A-MPDU are received successfully. |
| 0 | 15 | N/A | Reserved |
| 1 | 15 | Not present | Management/PS-Poll frame acknowledgment context:Sent as an acknowledgment to a Management or PS-Poll frame. |
| NOTE 1—Additional rules for acknowledgment, block acknowledgment and the all ack context are defined in 26.4.2 (Acknowledgment context in a Multi-STA BlockAck frame) for a multi-TID A-MPDU.NOTE 2—As HE STAs do not use HCCA (see 10.23.1), TID values from 8 to 15 are not used in QoS Data frames. |

If the Ack Type subfield is 0, the Fragment Number subfield encoding indicates the length of the BlockAck bitmap subfield or the Feedback subfield as defined in Table9-40 (Fragment Number subfield encoding for the Multi-STA BlockAck variant).

|  |
| --- |
| * Fragment Number subfield encoding for the Multi-STA BlockAck variant (continued)
 |
| Fragment Number subfield | Fragmentation level 3 (ON/OFF) | Block AckBitmap or Feedback subfield [#1265]length (octets) | Maximum number of MSDUs/A-MSDUs that can be acknowledged (see NOTE 2) [#1036] |
| B3 | B2–B1 | B0 |
| 0 | 0 | 0 | OFF | 8 | 64 |
| 0 | 1 | 0 | 16 | 128 |
| 0 | 2 | 0 | 32 | 256 |
| 0 | 3 | 0 | 4 | 32 |
| 0 | 0 | 1 | ON | 8 | 16 |
| 0 | 1 | 1 | 16 | 32 |
| 0 | 2 | 1 | 32 | 64 |
| 0 | 3 | 1 | 4 | 8 |
| 1 | 0 | 0 | OFF | 64 | 512 |
| 1 | 1 | 0 | 128 | 1 024 |
| 1 | 2 and 3 | 0 | Reserved | Reserved |
| 1 | Any | 1 |  | Reserved | Reserved |
| NOTE 1—A Multi-STA BlockAck frame with B0 of the Fragment Number subfield set to 1 cannot be sent to an HE STA, unless the HE Capabilities element received from the HE STA has the Dynamic Fragmentation Support subfield equal to 3 (see 26.3 (Fragmentation and defragmentation)).NOTE 2 – The column “Maximum number of MSDUs/A-MSDUs that can be acknowledged” is applicable for the Block Ack Bitmap subfield, and this column is N/A for the Feedback subfield [#1036] |

* whether the length of the Feedback can be 64 or 128 octets needs to be further clarified in Table 9-40.

If a Per AID TID Info field has the Ack Type subfield equal to 0 and the TID subfield equal to 13 then:

* If the Multi-STA BlockAck frame is individually addressed to the UHR STA, the AID11 subfield of the AID TID Info subfield is set to the 11 LSBs of the AID of a UHR STA. [#3829]
* If the Multi-STA BlockAck frame frame is transmitted by an AP and is group addressed, the AID11 subfield of the AID TID Info subfield is set to the 11 LSBs of the AID of a UHR STA that is the intended receiver of the feedback information or to 2008 if the feedback information is intended for all addressed UHR STAs. [#3829][#2871]The Feedback Type field in the Block Ack Starting Sequence Control subfield indicates the type of feedback that is included in the Feedback field. [#3829]

***TGbn editor: please add a new subclause 9.3.1.8.6.1 Unavailability feedback and add and modify the following paragraph in this new subclsuse [#3834]***

9.3.1.8.6.1 Unavailability feedback

If the Feedback Type field is set to 0, the Feedback field has [#3829]the format defined in Figure 9-60b (Feedback subfield format if the Feedback Type field is set to 0 for unavailability information) [#3829]. [#2873]. The Unavailability Target Start Time field indicates the value of TSF[15:6] [#1857] at the time when the STA transmitting the Multi-STA BlockAck frame becomes unavailable (see 11.2.1 (General)). The Unavailability Target Start Time field is larger than the TSF value at the end of the PPDU that carries the feedback. [#813] The Unavailability Duration field indicates the duration in units of 64 µs over which the STA transmitting the Multi-STA BlockAck frame [#2872] is not available.

|  |  |  |  |
| --- | --- | --- | --- |
|  | B0 B8 | B9 B17 |  |
|  | Unavailability Target Start Time | Unavailability Duration | Reserved |
| Bits: | 10 | 10 | 12 [#2873] |
| * Feedback subfield format if the Feedback Type subfield is set to 0 for unavailability information [#3829]
 |