IEEE P802.11
Wireless LANs

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| 11az LB249 Comment Resolution Section 9.3.1.19 |
| Date: 2020-02-28 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Christian Berger | NXP | 350 Holger Way, San Jose, CA |  | Christian.berger@nxp.com |
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Abstract

This submission proposes the comment resolution of CIDs in LB240 related to Section 9.1.3.1.19

CIDs:

* 9.3.1.17: 3503, 3504, 3193, 3009, 3101, 3192, 3848, 3894, 3010, 3011, 3222, 3431, 3710

Revisions:

1. Added text to section 11 to specify how to populate STA Info fields in the Rangning NDP Announcement frame

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

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

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

**The text preceded by “Discussion” is not part of the adopted changes.**

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **3503** | 42.9 | 9.3.1.19 | This para is incompatible with "The HE subfield in the Sounding Dialog Token field is set to 0 to identify the frame as a VHT NDP Announcement frame and set to 1 to identify the frame as an HE NDP Announcement frame." in the baseline | Delete the cited text from the baseline | **Revised**The cited baseline text is changed but formatting does not make this clear.TGaz Editor see document11-20/0366 |
| **3504** | 42.17 | 9.3.1.19 | "Ranging Announcement frame" -- no such frame | Change to "Ranging NDP Announcement frame" | **Accepted** |
| **3193** | 43.21 | 9.3.1.19 | "except in 9-1006" - what kind of case is 9-1006 - is it a figure? | clarify in which case the number of HE-LTF to skip is not 0. | **Revised**Re-phrased the text and removed reference.TGaz Editor see document11-20/0366 |
| **3009** | 43.21 | 9.3.1.19 | Phrasing "in all cases except in 9-1006 the secure" is to according to the spec language. The "9-1006" is not the name of something. I GUESS it is a figure number. As far as I understand we refer features and section numbers but never a figure as a "case". | Replace the "0-1006" with the NAME of the case. | **Revised**See #3193TGaz Editor see document11-20/0366 |
| **3101** | 43.21 | 9.3.1.19 | The phrase Secure "and is set 0 in all cases except in 9-1006 the secure 21 variant of the TB Ranging measurement exchange" is not completely correct as the first user within the Secure TB can also use offset equal 0. | Change the phrase to "and is set only to 0 in non-secure variant of the TB Ranging measurement exchange" | **Revised**See resolution of #3193 in document11-20/0366 |
| **3192** | 43.31 | 9.3.1.19 | Should the text be crosse (erased) or undelined (inserted)? | either remove underline or remove crossing | **Revised**This text was replicated from 11ax draft and subsequently deleted from 11az draft (should not be shown as strike-through, chang to baseline).TGaz Editor see document11-20/0366 |
| **3848** | 43.29 | 9.3.1.19 | I have no idea what is going on here. The "set to 1 to prevent a non-HE VHT STA from wrongly determining its AID in the NDP Announcement frame. The Disambiguation subfield coincides with the MSB of the AID12 subfield of an expected VHT NDP Announcement when the Ranging NDP Announcement frame is parsed by a non-HE VHT STA. The MSB of the AID12 subfield is always 0 for a non-HE VHT STA due to the limitation of the AID to a maximum of 2007." from the baseline should not be deleted. "The Disambiguation subfield is defined the same as in the STA Info field in an HE NDP Announcement Frame shown in Fig. 9.61b" is broken because Fig. (sic) 9.61b does not show an HE NDP Announcement FrameRevert all changes to this para | **Revised**This text was replicated from 11ax draft and subsequently deleted from 11az draft (should not be shown as strike-through, chang to baseline).Added title of figure reference for clarity.TGaz Editor see document11-20/0366 |
| **3894** | 43.6 | 9.3.1.19 | "In the case of the non-TB ranging protocol there is always only one intended receiver and accordingly only one STA Info field (#2418) (see subclause 11.22.6.4.4 4 Measurement exchange in Non-TB Mode), but the Ranging NDP Announcement frame may also (#1192. #1706) contain the optional STA Info SAC field present when operating in secure mode (see 11.22.6.4.6.1)." "Secure mode" is not clearly defined in the 11az spec. For example, using PMF for the ranging negotiation frames without using secure LTF also provides some level of security, but is it considered secure mode? | Replace "...when operating in secure mode..." with "..when operating using secure LTF..." Make the same changes throughout the 11az spec, wherever appropriate. | **Revised**The cited sentence has been removed. See changes related to #3222 in document11-20/0366 |
| 3895 | 32.20 | 9.3.1.19 | "The Offset subfield can take values between 0 and 63 and indicates the number of HE-LTF to skip when processing the following NDP and is set 0 in all cases except in 9-1006 the secure variant of the TB Ranging measurement exchange." "The secure variant" is not clearly define in the 11az spec. For example, using PMF for the ranging negotiation frames without using secure LTF also provides some level of security, but is it considered secure variant? | Replace "...the secure variant..." with "..with the use of secure LTF" Make the same changes throughout the 11az spec, wherever appropriate. |  |
| **3010** | 44.2 | 9.3.1.19 | The use of "RSVD AID11" is very strange. Is it RSVD or not. I don't recall any similar name in REVmd | Use a different name, according to the REVmd rules | **Revised**Changed the name to AID11TGaz Editor see document11-20/0366 |
| **3011** | 44.15 | 9.3.1.19 | Use of "AID11/RSID11" is NEW!. In the spec, as far as I know, we don't use names with number of bits embedded in the name. Any real reason to start having such? | Remove the number of bits (11) from the name or use a different name. This might appear in more places | **Revised**Changed the name to AID11Same name used in 11ax and (similar) in 11acTGaz Editor see document11-20/0366 |
| **3222** | 44.15 | 9.3.1.19 | "When AID11/RSID11 has value 2044, the STA Info field is defined as follows:" This is not a good name for a field definition, I suggest to name this field "STA Info TSF field" also the following paragraphs is poorly written and needs to be rephrased and clarified | Follow STA Info SAC field design, call this "STA Info TSF field" and add as optional in Figure 9-61a just before the STA Info SAC field. Change the text to "The STA Info TSF field is defined as follows:" Change the next paragraph to "The STA Info TSF field is present in a Ranging NDP Announcement frame when used for TB ranging (see 11.22.6.4.3 TB Ranging measurement exchange). The STA Info TSF field is the last STA Info field within the Ranging NDP Announcement frame when included (it is mutually exclusive with the STA Info SAC field)." Add one more paragraphs "The Partial TSF subfield in the STA Info TSF field carries TSF[21:6], a partial TSF counter based on the time when the RSTA transmits the Trigger Poll frame that proceeds the Ranging NDP Announcement frame." | **Revised**To unify the format, changed STA Info SAC to match this format.TGaz Editor see document11-20/0366 |
| **3431** | 44.7 | 9.3.1.19 | It is better to put AID11 with 2047 at the beginning of STA Info fields. With this arrangement, less STA Info fields need to decoded (stop the STA Info decoding when AID11 matches STA's AID). Otherwise a STA needs to decode all STA Info fields. | As in comment. | **Revised**Unified STA Info with AID11 equal to 2047 and 2048. Made as similar to HE behaviour as possible, which leaves this open to implementation.TGaz Editor see document11-20/0366 |
| **3710** | 44.22 | 9.3.1.19 | "proceeds" should be "precedes" (I assume) | As it says in the comment | **Revised**See changes related to #3222 in document11-20/0366 |

TGaz Editor: Change the following paragraph of page 42 (line 6) as follows: Remove undeline to mark as existing text (remove underline)

The format of the Sounding Dialog Token field is shown in Figure 9-59 (Sounding Dialog Token 6 field).

TGaz Editor: Change the following paragraph of page 42 (line 9) as follows: Adjtust undeline to mark clearly existing text from newlye added text

The HE subfield and Ranging subfield in the Sounding Dialog Token field ~~is~~ are set to 0 to identify the frame as a VHT NDP Announcement frame; the HE subfield and Ranging subfield are set to 1 and 0 respectively to identify the frame as an HE NDP Announcement frame; the HE subfield and Ranging subfield are set to 0 and 1 respectively to identify the frame as a Ranging NDP Announcement frame (#1100, #1329, #1704, #1917, #2282, #3503).

TGaz Editor: Add the following Editor instuctions and text to 11az draft on page 42 (line 14)

Change the second paragraph after Fig 9-61a (

The HE subfield and Ranging subfield in the Sounding Dialog Token field ~~is~~ are set to 1 and 0 respectively to identify the frame as an HE NDP Announcement frame. (#3503)

TGaz Editor: Change the following paragraph of page 42 (line 16) as follows

The Ranging NDP Announcement frame uses the same Frame Control subtype as the VHT NDP Announcement. The frame format of the Ranging NDP Announcement frame is the same as the HE NDP Announcement frame shown in Figure 9-61a—HE NDP Announcement frame format. (#3504, #3222)

TGaz Editor: Remove Figure 9-61a—Ranging NDP Announcement frame format from 11az draft (#3222)

TGaz Editor: Change the following paragraph of page 43 (line 1) as follows

The format of the STA Info field in a Ranging NDP Announcement Frame when the AID11 less than 2008 is defined in Figure 9-1 61b STA Info field format in a Ranging NDP Announcement frame when the AID11 subfield is less than 2008. (#3222)

TGaz Editor: Rename “Figure 9-61b—STA Info field format in a Ranging NDP Announcement frame” to “Figure 9-61b—STA Info field format in a Ranging NDP Announcement frame when the AID11 subfield is less than 2008” and rename “AID11/RSID11” subfield to “AID11” subfield (#3222, #3010)



Figure 9-61b —STA Info field format in a Ranging NDP Announcement frame when the AID11 subfield is less than 2008 (#3222)

TGaz Editor: Change the following paragraph after Figure 9-61b

A Ranging NDP Announcement frame contains at most one STA Info field per STA. (#3222, #3011)

If the AID11 subfield is less than 2008 (#3222), then it contains the 11 least significant Bits of the AID or RSID of an associated STA or an unassociated STA respectively (#1194, #1608, #1771, #1785), expected to process the following NDP frame.

TGaz Editor: Change the following paragraph of page 43 (line 20) as follows

The Offset subfield is used in the secure variant of the TB ranging measurement exchange protocol; it takes values between 0 and 63 which indicates the number of HE-LTF to skip when processing the following NDP. The Offset subfield is set to 0 in all other cases. (#3193, #3009, #3101)

TGaz Editor: Change the following paragraph of page 43 (line 29) as follows: Adjtust underline to mark clearly existing text from newly added text and remove text that was added to baseline in previous revision and subsequently deleted.

The Disambiguation subfield is defined the same as in the STA Info field in an HE NDP Announcement Frame shown in Fig. 9.61b (STA Info subfield format in an HE NDP Announcement frame if the AID11 subfield is not 2047). (#1102, #3192, #3848)

TGaz Editor: Rename “STA Info SAC field” to “STA Info field with AID equal to 2043” throughout the draft (#3222)

TGaz Editor: Rename “Figure 9-61c—STA Info SAC field” to “Figure 9-61c— STA Info field format in a Ranging NDP Announcement frame if the AID11 subfield is 2043” and rename “RSVD AID11” subfield to “AID11” subfield (#3222)



Figure 9-61c STA Info field format in a Ranging NDP Announcement frame if the AID11 subfield is 2043

TGaz Editor: Change the following paragraphs after Figure 9-61c

The format of the STA Info field in a Ranging NDP Announcement frame if the AID11 subfield is set to 2043 is shown in Figure 9-61c (STA Info Field format in a Ranging NDP Announcement frame if the AID11 subfield is 2043). It is used in the secure variant of the Non-TB ranging measurement exchange protocol to carry the sequence authentication code (SAC). (#3222)

The SAC subfield contains the 16bit SAC used in the secure variant of the non-TB ranging measurement exchange, see subclause 11.22.6.4.

TGaz Editor: Change the following paragraph of page 44 (line 15) as follows

The format of the STA Info field in a Ranging NDP Announcement frame if the AID11 subfield is set to 2044 is shown in Figure 9-61c.x (STA Info field format in a Ranging NDP Announcement frame if the AID subfield is 2044). (#3222)

TGaz Editor: Rename “Figure 9-61c.x— The STA info field when AID11/RSID11 has value 2044” to “Figure 9-61c.x— STA Info field format in a Ranging NDP Announcement frame if the AID11 subfield is 2044” and rename “AID11/RSID11” subfield to “AID11” subfield (#3222)

TGaz Editor: Change the following paragraphs after Figure 9-61c.x

The STA Info field with AID11 subfield equal to 2044 is present in Ranging NDP Announcement frames when part of the TB ranging measurement exchange. It is used to carry the Partial TSF subfield. The Partial TSF subfield contains 16 bit of the RSTA’s TSF time, TSF[21:6], of when the RSTA transmitted the Trigger Poll frame that preceeded the Ranging NDP Announcement frame carrying this STA Info field with AID subfield equal to 2044. (#3222)

The Token field is set to the value of Token field of the Trigger Poll frame whose partial transmission TSF time is carried.

**11.22.6.4.3.3 Measurement Sounding Phase of TB Ranging**

TGaz Editor: Change the following paragraph of 11.22.6.4.3.3 page 139 (line 18) as follows

In the Ranging NDP Announcement frame, the RSTA shall include one STA Info field for each ISTA that was allocated uplink resources in this measurement sounding phase and identify each ISTA by setting the AID11 subfield in the respective STA Info field to the 11 least significant bits of the ISTA’s AID or RSID. In all STA Info fields, the RSTA shall set the R2I N\_STS subfield and R2I Rep subfield to indicate the space-time streams and repetitions of HE-LTF of the following R2I NDP. The number of space-time streams has to be less or equal to the Max R2I STS negotiated with all the ISTAs and the number of HE-LTF repetitions is limited by the RSTA Assigned R2I Rep. (#3222)

**11.22.6.4.4.2 Non-TB Measurement Sounding phase**

TGaz Editor: Change the following paragraph of 11.22.6.4.4.2 page 146 (line 10) as follows

In the non-TB measurement exchange sequence, the ISTA shall transmit the Ranging NDP Announcement frame with the same bandwidth as the I2R NDP to reserve the medium (#1829). The Ranging NDP Announcement frame shall contain one STA Info field with the AID11 subfield set to the AID or RSID of the RSTA. In this STA Info field, the ISTA shall set the I2R Rep and R2I Rep subfields to a value in the range of 0 to RSTA assigned I2R rep, and 0 to RSTA assigned R2I rep respectively; it shall set the I2R N\_STS and R2I N\_STS to values less or equal to the negotiated Max I2R STS and Max R2I STS respectively. (#3222)

The RSTA shall transmit the R2I NDP with the same bandwidth as the NDPA, while the LMR can be transmitted at a different bandwidth, according to the rules of multiple frame transmission in an EDCA TXOP (see 10.22.2.7), i.e., not exceeding the bandwidth of the NDPA, I2R NDP and R2I NDP. The allowed bandwidths for the NDPA I2R NDP and R2I NDP frames are specified in the Format and Bandwidth subfield of the Ranging Parameters field (see 9.4.2.296). (#1895)