IEEE P802.11
Wireless LANs

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| Comment Resolution SA1 – CID 7296 and 7336 |
| Date: 2022-04-06 |
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Abstract

This submission proposes the comment resolution of CIDs 7296 and 7336; as part of SA1, changes are relative to Draft 4.1.

Revisions:

1. Update resolution boxes
2. Feedback from presentation

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** |
| **7336** | 79.5 | 9.4.2.298 | Does "Max number of LTFs" mean maximum number of HE-LTF symbols? Or maximum number of 'some sort of section' (e.g. users)? | Assuming this means the number of HE-LTF symbols, change the first row of Table 9-322h23fc from "Max number of LTFs" to "Maximum total number of HE-LTF symbols" | **Revised**TGaz editor make changes depicted in<https://mentor.ieee.org/802.11/dcn/22/11-22-0643-02-00az-comment-resolution-sa1-cid-7296-and-7336.docx> |
| **7296** | 169.11 | 11.21.6.4.5.2 | Relationship between HELTF symbols and Nsts is not clear….For Ex: if Nss=3, Nsts=2 then NLTF=3 according to this statement but NLTF=3 is not valid | Add a table with Nsts and HELTF symbol mapping | **Revised**TGaz editor make changes depicted in<https://mentor.ieee.org/802.11/dcn/22/11-22-0643-02-00az-comment-resolution-sa1-cid-7296-and-7336.docx> |
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**Discussion:**

Do we need an additional constraint for the total number of concatenated LTFs in TB-Ranging R2I NDP with secure HE-LTFs? The currently negotiated limit is on how many HE-LTFs are to be received or processed by a STA.

**Resolution:**

TGaz Editor: Change “Secure LTF” with “Secure HE-LTF” throughout the draft

9.4.2.298 Ranging Parameters element

TGaz Editor: Change the following paragraphs on page 79 at line 1 as follows

The Max R2I LTF Total and Max I2R LTF Total subfields indicate the maximum number of HE-LTFs to be destined to an ISTA in the R2I NDP and an RSTA in an I2R NDP respectively, the encoding is given in Table [9-322h23fc](#T09o322h23fc) Max R2I/I2R LTF Total subfields. The maximum number of HE-LTFs limits the allowed combinations of number of space-time streams and HE-LTF repetitions. (#**5428**, #**TC707r3**, #**7053, #7336**)

The Max I2R STS ≤ 80 MHz subfield indicates for bandwidths less than or equal to 80 MHz the maximum number of space-time streams to be used in I2R NDP in the session.

The Max I2R STS > 80 MHz subfield indicates for bandwidths greater than 80 MHz the maximum number of space-time streams to be used in I2R NDP in the session.

1. Table 9-322h23fc—Max R2I/I2R LTF Total subfields (#TC707r3, #5427, #5428))

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| --- | --- |
| Field value | Max number of HE-LTFs |
| 0 | 4 |
| 1 | 8 |
| 2 | 16 |
| 3 | 64 |

11.21.6.3.3 Negotiation for TB and non-TB ranging measurement exchange

TGaz Editor: Change the following paragraphs on page 134 at line 27 as follows

* In the Max R2I LTF Total subfield, either the maximum number of LTFs in total it is capable of transmitting to this ISTA, including HE-LTF repetitions, in the R2I NDP, or the value in the corresponding IFTMR frame, whichever is smaller (referred to as RSTA Assigned R2I LTF Total). (#**7346, #7336**)
* In the Max I2R LTF Total subfield, either the maximum number of LTFs in total it is capable of receiving, including HE-LTF repetitions, in the I2R NDP, or the value in the corresponding IFTMR frame, whichever is smaller (referred to as RSTA Assigned I2R LTF Total). (#**3700**, #**7346**)

When the Secure LTF Required subfield of the Secure LTF subelement in the Ranging Parameters field is equal to 1, the RSTA shall set the RSTA Assigned R2I Rep to the Max R2I Repetition subfield value in the IFTMR frame, and the RSTA shall set the RSTA Assigned I2R Rep to a value greater than 0 and less than or equal to the Max I2R Repetition subfield value in the IFTMR frame, where the RSTA Assigned R2I Rep and RSTA Assigned I2R Rep specify the number of HE-LTF repetitions in the preamble of the R2I and I2R NDP for this session respectively. (#**7346**)

11.21.6.4.5.2 TB ranging measurement exchange with secure LTF

TGaz Editor: Change the following paragraphs on page 168 at line 44 as follows

When an RSTA sends a Ranging NDP Announcement frame, it shall set the LTF Offset subfield in the STA Info fields to values that satisfy Equations [(11-6a)](#E11o6a) and [(11-6b):](#E11o6b) (#**3771, #7296**)

(11-6a) (#**3069**, #**3772**)

 (11-6b) (#**3772, #5090**)

where,

* Offset*n* represents the LTF Offset subfield value of the *nth* STA Info field in the Ranging NDP Announcement frame.
* *N\_STSn* represents the R2I NSTS subfield value plus 1 of the *nth* STA Info field in the Ranging NDP Announcement frame.
* *N\_LTFn* represents the number of HE-LTF symbols based on *N\_STSn*, see Table 21-13 (Number of VHT-LTFs required for different numbers of space-time streams), for the *nth* STA Info field in the Ranging NDP Announcement frame. (#**7296**)
* *Repn* represents the R2I Rep subfield value plus 1 of the *nth* STA Info field in the Ranging NDP Announcement frame.
* *MinOffseti* represents the set of indexes of the STA Info fields of which the LTF Offset subfield values are less than the LTF Offset subfield value of *ith* STA Info field in the Ranging NDP Announcement frame. (#**3882**)
* *MaxOffseti* represents the set of indexes of all STA Info fields excluding *ith* STA Info field.

The RSTA shall set the R2I Rep subfield in each of the STA Info fields in the Ranging NDP Announcement frame equal to the *RSTA Assigned R2I Rep* for each of the corresponding ISTAs, where all of the *RSTA Assigned R2I Rep* shall be greater than 0. (#**5435**, #**5452**, #**5376**)