IEEE P802.11
Wireless LANs

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| Secure ranging mode minor bug fix  |
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| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Yongho Seok | MediaTek Inc. | 2840 Junction Ave, San Jose, CA 95134 |  | yongho.seok@mediatek.com  |
| Chao-Chun Wang | MediaTek Inc. |  |  |  |
| James Yee  | MediaTek Inc. |  |  |  |

Abstract

This submission proposes some minor bug fix to the secure ranging modes.

(The proposed change is based on TGaz Draft 1.4.)

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 TGaz 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.***

**Discussion:**

 In TGaz Draft 1.4,

* Secure-LTF-bits-DL was changed to Secure-LTF-bits-R2I.
* Secure-LTF-bits-UL was changed to Secure-LTF-bits-I2R.

And, in the following CR submission,

<https://mentor.ieee.org/802.11/dcn/19/11-19-0602-01-00az-lb240-cr-mac-secure-ranging-measurement.docx>

There was a typo in “the Secure-LTF-bits-DL or Secure-LTF-bits-DL”, second DL shall be changed to UL.

And, the resolution of CID 2289,

* Replace "LTF sequence generation information" with "secure LTF counter" throughout the spec.

While globally replacing “LTF sequence generation information”, I found a few grammer errors and inconsistent changes.

This document proposed bug fix to correct the above issues.

***TGaz Editor: Change the sub-clause 11.22.6.4.6 (Secure Non-TB and TB Ranging Measurement Exchange Protocol) as the following:***

**11.22.6.4.6 Secure Non-TB and TB Ranging Measurement Exchange Protocol**

**11.22.6.4.6.1 Secure Non-TB ranging mode**

…

After transmission of the Ranging NDP Announcement frame to the RSTA, the ISTA’s MAC sublayer shall issue a PHY-RXLTFSEQUENCE.request primitive with a LTFVECTOR 38 parameter that is set ~~Secure LTF Counter~~ **~~(#2289)~~** as follows:

…

When an RSTA receives a Ranging NDP Announcement from an ISTA frame in which the SAC subfield in the STA Info SAC field is set to zero, the RSTA shall:

— Issue a PHY-RXLTFSEQUENCE.request primitive with a LTFVECTOR parameter that is set to either the Secure-LTF-bits-R2I for generating any secure HE-LTF or null **(#1828, #1831);**

— Send an HE Ranging NDP with the TXVECTOR parameter LTF\_SEQUENCE set to either the Secure-LTF-bits-R2I for generating any secure HE-LTF or null **(#1828, #1831)** to the ISTA, if the RSTA receives an HE Ranging NDP from the ISTA a SIFS after the ranging NDP Announcement frame;

…

When a STA sending an HE Ranging NDP sets the TXVECTOR parameter LTF\_SEQUENCE to either a bit string (e.g., the Secure-LTF-bits-R2I or Secure-LTF-bits- ~~DL~~I2R) for generating any secure HE-LTF or null **(#1828, #1831),** the STA shall not use the ToD value of HE Ranging NDP for the secure range measurement.

…

When a STA receiving an HE Ranging NDP sets the LTFVECTOR parameter in the PHY-RXLTFSEQUENCE.request primitive to ~~sequence~~ either a bit string (e.g., the Secure-LTF-bits-R2I or Secure-LTF-bits-~~DL~~I2R) for generating any secure HE-LTF or null **(#1828, #1831)**, the STA shall not use the ToA value of the HE Ranging NDP and set the Invalid Measurement Indication subfield to 1 in the ToA Error field in the Location Measurement Report carrying the ToA value of the HE Ranging NDP.

**11.22.6.4.6.2 Secure TB ranging mode**

…

a) Send an HE TB Ranging NDP with the TXVECTOR parameter LTF\_SEQUENCE set to~~Secure LTF Counter (#2289) RSTA~~ either the Secure-LTF-bits-I2R for generating any secure HE-LTF or null **(#1828, #1831)**;

b) Issue a PHY-RXLTFSEQUENCE.request primitive with a LTFVECTOR parameter LTF\_SEQUENCE that is set to ~~Secure LTF Counter~~ **~~(#2289)~~** either the Secure-LTF-bits-R2I for generating any secure HE-LTF or null **(#1828, #1831)**;

…

When an RSTA sending an HE Ranging NDP sets the TXVECTOR parameter LTF\_SEQUENCE to sequence either the bit string (e.g., the Secure-LTF-bits-R2I or Secure-LTF-bits- ~~DL~~I2R) for generating any secure HE-LTF or null **(#1828, #1831)**, the RSTA shall not use the ToD value of HE Ranging NDP for the range measurement.

…

When an RSTA receiving an HE TB Ranging NDP sets the LTFVECTOR parameter in the PHY-RXLTFSEQUENCE.request primitive to either the bit string (e.g., the Secure-LTF-bits-R2I or Secure-LTF-bits- ~~DL~~I2R) for generating any secure HE-LTF or null **(#1828, #1831),** the RSTA shall not use the ToA value of the HE Ranging NDP and set the Invalid Measurement Indication subfield to 1 in the ToA Error field in the Location Measurement Report carrying the ToA value of the HE TB Ranging NDP.

…

When an ISTA sending an HE TB Ranging NDP sets the TXVECTOR parameter LTF\_SEQUENCE to sequence either the bit string (e.g., the Secure-LTF-bits-R2I or Secure-LTF-bits- ~~DL~~I2R) for generating any secure HE-LTF or null **(#1828, #1831),** the ISTA shall not use the ToD value of HE TB Ranging NDP for the range measurement.

…

When an ISTA receiving an HE Ranging NDP sets the LTFVECTOR parameter in the PHY-RXLTFSEQUENCE.request primitive to sequence either the bit string (e.g., the Secure-LTF-bits-R2I or Secure-LTF-bits- ~~DL~~I2R) for generating any secure HE-LTF or null **(#1828, #1831**), the ISTA shall not use the ToA value of the HE Ranging NDP, and set the Invalid Measurement Indication subfield to 1 in the ToA Error field in the Location Measurement Report carrying the ToA value of the HE Ranging NDP if the Location Measurement Report transmission from the ISTA was negotiated.

***TGaz Editor: Change 3rd row (LTF\_SEQUENCE) of Table 27-1 (TXVECTOR and RXVECTOR parameters) as the following:***

**Table 27-1—TXVECTOR and RXVECTOR parameters**

~~Indicates the LTF sequence Secure LTF Counter~~ **~~(#2289)~~** ~~sequence used in the HE Ranging NDP PPDU or HE TB Ranging NDP PPDU.~~

~~Secure LTF Counter~~ **~~(#2289)~~**

***TGaz Editor: Delete 7th entry (LTF\_SEQUENCE  parameter) of Table 27-1 (TXVECTOR and RXVECTOR parameters):***

***TGaz Editor: Change 1st row (LTF\_SEQUENCE) of Table 27-2a (LTFVECTOR parameters) as the following:***

**Table 27-2a—LTFVECTOR parameters**

~~Indicates the Secure LTF Counter~~ **~~(#2289)~~** ~~used in the HE Ranging NDP PPDU and HE TB Ranging NDP.~~

~~Secure LTF Counter~~ **~~(#2289)~~**