IEEE P802.11  
Wireless LANs

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| LB253 Passive TB Ranging CR | | | | |
| Date: 2021-06-16 | | | | |
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Abstract

This document proposes resolutions to TGaz LB253 comments, for the most related to Passive TB Ranging. The changed described here are in relation to [1].

The TGaz LB253 CID addressed in this document are the 34 CIDs:

5077, 5243, 5078, 5246, 5075, 5244, 5245, 5079, 5080,

5083, 5081, 5082, 5084,

5143,

and 5022.

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed change** | **Proposed resolution** |
| 5077 | 179.21 |  | Modify the text 'An RSTA transmitting a Passive TB Measurement Exchange subvariant Ranging Trigger frame' to | An RSTA transmitting a Passive TB Ranging Subvariant Ranging Trigger frame | Revised.  This is a duplicate CID to CID 5243.  Agree in principle but use the term Passive Sounding subvariant Trigger frame.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5243 | 179.21 | 11.21.6.4.8.3 | "Passive TB Measurement Exchange subvariant" to should be "Passive Sounding subvariant". | As per comment | Revised.  This is a duplicate CID to CID 5077.  Agree in principle but use the term Passive Sounding subvariant Trigger frame.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5078 | 179.31 | 11.21.6.4.8.1 | Modify the text 'An ISTA transmitting an HE Ranging NDP as a response of to a Passive TB Measurement Exchange subvariant Ranging Trigger frame' to | An ISTA transmitting an HE Ranging NDP as a response to a Passive TB Ranging Subvariant Ranging Trigger frame | Revised.  Agree in principle but use the term Passive Sounding subvariant Trigger frame.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5246 | 180.02 | 11.21.6.4.8.3 | "Passive TB Measurement Exchange subvariant" to should be "Passive Sounding subvariant". | As per comment | Revised.  Agree in principle but use the term Passive Sounding subvariant Trigger frame.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5075 | 179.03 | 11.21.6.4.8.1 | Change ' is composed of to 'may include' | As per comment | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5244 | 179.27 | 11.21.6.4.8.3 | "Passive TB Measurement Exchange subvariant" to should be "Passive Sounding subvariant". | As per comment | Revised.  Agree in principle but use the term Passive Sounding subvariant Trigger frame.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5245 | 179.29 | 11.21.6.4.8.3 | "Passive TB Measurement Exchange subvariant" to should be "Passive Sounding subvariant". | As per comment | Revised.  Agree in principle but use the term Passive Sounding subvariant Trigger frame.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5079 | 180.06 | 11.21.6.4.8.1 | Modify the text 'the ISTA also measures and reports either' to | the ISTA shall also measure and report either | Revised.  Agree in principle but use ‘may’ instead if ‘shall’.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5080 | 180.11 | 11.21.6.4.8.1 | Modify the text' is limited to 4' to 'shall be limited to 4' | As per comment | Revised.  Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |

***TGaz Editor: Change the text in Subclause 11.21.6.4.8.3 (Passive TB Ranging measurement sounding phase) as follows:***

**11.21.6.4.8.3 Passive TB Ranging measurement sounding phase**

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The second phase of the Passive TB Ranging measurement sequence, after the Passive TB Ranging Polling phase, is called the Passive TB Ranging measurement sounding phase. The Passive TB Ranging measurement sounding phase may include of one or more Passive Sounding (**#5075**) subvariant Ranging Trigger frame and HE Ranging NDP exchanges, a Ranging NDP Announcement frame, and an HE Ranging NDP transmission; see Figure 11-37v (Passive TB Ranging Polling, Measurement Sounding, and Measurement Reporting phases). (#**5006**, #**5237**)

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An RSTA transmitting a Passive Sounding (#5006, #5237, **#5077, #5243**) subvariant Ranging Trigger frame shall not use a bandwidth wider than that indicated in the initial Fine Timing Measurement frame

sent to the ISTA and the RSTA shall set the TXVECTOR parameter CH\_BANDWIDTH to be the same value as the BW subfield of the Common Info field in the Passive Sounding (**#5077, #5243)**  subvariant Ranging Trigger frame.

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An RSTA transmitting a Ranging NDP Announcement frame and an HE Ranging NDP after receiving an HE Ranging NDP as a response to a Passive Sounding (#**5006, #5237, #5244**) subvariant Ranging Trigger frame shall set the TXVECTOR parameter CH\_BANDWIDTH to be the same value as the BW subfield of the Common Info field in the Passive Sounding (**#5245**) subvariant Ranging Trigger frame. (#**5006, #5237**)

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An ISTA transmitting an HE Ranging NDP as a response of to a Passive Sounding (**#5078)** subvariant Ranging Trigger frame shall set the TXVECTOR parameter CH\_BANDWIDTH to be the same value as the BW subfield of the Common Info field in the Passive Sounding (#**5006, #5237, #5246**) subvariant Ranging Trigger frame.

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As in TB Ranging, an ISTA participating in a Passive TB Ranging exchange shall measure the TOD of its own HE Ranging NDP and either the TOAs, or both the TOAs and the phase shift feedback TOAs (PSTOAs), when it receives the RSTA’s HE Ranging NDP. In addition, optionally the ISTA may also measures and report either the TOAs, or both the TOAs and the PSTOAs, when it receives the HE Ranging NDPs transmitted by the other ISTAs participating in the Passive TB Ranging exchange. By reporting the timestamps for when it received the other ISTAs NDP transmissions, the quality of the location estimate for a PSTA listening in to the Passive TB Ranging exchanges can be improved. (#**5079**)

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The max number of NSTS used in the Passive TB Ranging exchanges shall be limited to 4. (#**5080**)

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed change** | **Proposed resolution** |
| 5083 | 183.35 | 11.21.6.4.8.4 | Modify the text 'containing the following is transmitted first' to 'shall contain the following and shall alsobe transmitted first' | As per comment | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5081 | 183.03 | 11.21.6.4.8.4 | Modify the word ',containing' to 'and shall include' | As per comment | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5082 | 183.16 |  | Modify the word 'also includes' to 'also shall include' | As per comment | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |
| 5084 | 184.34 | 11.21.6.4.8.4 | Modify the text 'The Secondary RSTA Broadcast Passive TB Ranging Measurement Report frame containing the following is subsequently transmitted after a SIFS time.  -- ISTA Passive TB Ranging Measurement Reports' to | The Secondary RSTA Broadcast Passive TB Ranging Measurement Report frame shall contain ISTA Passive TB Ranging Measurement Reports and shall be subsequently transmitted after a SIFS time. | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |

***TGaz Editor: Change the text in Subclause 11.21.6.4.8.4 (Passive TB Ranging measurement reporting phase) as follows:***

**11.21.6.4.8.4 Passive TB Ranging measurement reporting phase**

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The ISTA Passive TB Ranging Measurement Report frame shall contain an ISTA Passive TB Ranging Measurement Report element, see 9.4.2.304 (ISTA Passive TB Ranging Measurement Report element), that shall contain: (#**3804, #5081**)

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If phase shift TOA reporting has been negotiated, the ISTA Passive TB Ranging Measurement 15 Report element shall also include: **(#3804, #5082)**

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The Primary RSTA Broadcast Passive TB Ranging Measurement Report frame shall containing the following and shall be transmitted first: (#**5083**)

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The Secondary RSTA Broadcast Passive TB Ranging Measurement Report frame shall containing the following and shall be subsequently transmitted after a SIFS time: (#5084)

— ISTA Passive TB Ranging Measurement Reports

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed change** | **Proposed resolution** |
| 5143 | 185.36 | 11.21.6.4.8.5 | subclause 11.21.6.4.8.5 is not a subclause 11.21.6.4.8 - why (check the navigation pane) | check the heading type of 11.21.6.4.8.5 and match to 11.21.6.4.8.4 | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |

***TGaz Editor: Change the numbering of Subclause 11.21.6.4.8.5 (Passive TB Ranging differential time-of-flight calculations using phase shift TOA time stamps) as follows:***

**11.21.6.4.9 Passive TB Ranging differential time-of-flight calculations using phase shift TOA time stamps (#1563, #5143)**

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed change** | **Proposed resolution** |
| 5022 | 87.16 | 9.4.2.304 | Delete ' in question' from the sentence | As per comment | Revised.    Agree in principle.  TGaz editor, make the changes as shown below in document https://mentor.ieee.org/802.11/dcn/21/11-21-0978-00-00az-lb253-passive-tb-ranging-cr-part-ii.docx. |

***TGaz Editor: Change the numbering of Subclause 9.4.2.304 (ISTA Passive TB Ranging Measurement Report element) as follows:***

**9.4.2.304 ISTA Passive TB Ranging Measurement Report element (#2340)**

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The AID12/RSID12 subfield contains the 12 LSBs of the AID, for an associated ISTA, or the 12 LSBs of the RSID, for an unassociated ISTA, of the STA that transmitted the NDP. When the STA that transmitted the NDP is the RSTA the value zero is reported in the AID12/RSID12 subfield. (#**1518**, #**3045, #5022**)

**References:**

**[1] Draft P802.11az\_D3.1**