IEEE P802.11  
Wireless LANs

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| LB253 Passive TB Ranging MLME CR | | | | |
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Abstract

We are here proposing a resolution to LB253 CID 5233 that addresses the missing MLME specifications for Passive TB Ranging.

The TGaz LB253 CID addressed in this document is CID 5233.

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed change** | **Proposed resolution** |
| 5233 | 24.05 | 6.3 | We are missing text and figures in subclause 6.3 (MLME SAP interface) that deals with the required specifics for the Passive TB Ranging subvariant of TB Ranging. | Throughout subclause 6.3 (MLME SPA interface), add text and figures to coverer the aspects of Passive TB Ranging that differs from TB Ranging. | Revised.  TGaz editor, make the changes as shown in document https://mentor.ieee.org/802.11/dcn/20/11-21-1112-03-00az-lb253-passive-tb-ranging-mlme-cr.docx. |

***TGaz Editor: Change the text in Subclause 6.3.56.4.1 (Function) which is a subclause of Subclause 6.3.56.4 (MLME-FINETIMINGMSMT.request) as follows:***

**6.3.56.4.1 Function**

… <Scroll to P29L13. Note: Figure 6-17d is inserted.>

Figure 6-17d—Fine Timing Measurement primitives and timestamp reporting capture for Passive TB Ranging measurement exchange (#5233)

**TGaz editor: Change all dashed lines in the figure above to be solid lines. Also, remove the depiction of the broadcast frames Primary and Secondary RSTA Broadcast Passive TB Ranging Measurement Report frames.**

***Update the notes in Cl. 6.3.56.1 as shown below:***

NOTE 1—In Figure 6-17 (Fine timing measurement primitives and timestamps capture for EDCA based ranging measurement exchange (#**1909**)), t1 and t3 correspond to the point in time at which the start of the preamble for the transmitted frame appears at the transmit antenna connector. In Figure 6-17b (Fine timing measurement primitives and timestamps reporting capture for Non-TB Ranging measurement exchang***e***),Figure 6-17c (Fine timing measurement primitives and timestamps reporting capture for TB Ranging measurement exchange), and Figure 6-17d (Fine timing measurement primitives and timestamps reporting capture for Passive TB Ranging measurement exchange), t1 and t3 correspond to the point in time at which the transmitted HE TB Ranging NDP and/or HE Ranging NDP appears at the transmit antenna connector. The points where the timestamps are captured are therefore not shown for the Non-TB, TB, and Passive TB Measurement Exchanges (#**3317**). An implementation may capture a timestamp during the transmit processing earlier or later than the point at which it actually occurs and offset the value to compensate for the time difference.

NOTE 2—In Figure 6-17 (Fine timing measurement primitives and timestamps capture for EDCA based ranging measurement exchange (#**1909**)), t2 and t4 correspond to the point in time at which the start of the preamble for the incoming frame arrives at the receive antenna connector. In Figures 6-17b (Fine timing measurement primitives and timestamps reporting capture for Non-TB Ranging measurement exchange),6-17c (Fine timing measurement primitives and timestamps reporting capture for TB Ranging measurement exchange), and 6-17d (Fine timing measurement primitives and timestamps reporting capture for Passsive TB Ranging measurement exchange), t2 and t4 correspond to the point in time at which the incoming HE TB Ranging NDP and/or HE Ranging NDP arrives at the receive antenna connector. The points where the timestamps are captured are therefore not shown for the Non-TB,TB, and Passive TB Measurement Exchanges. Because time is needed to detect the frame or the relevant LTF in the preamble (#**1596**) and synchronize with its logical structure, an implementation determines when the start of the preamble or the relevant LTF in the preamble (#**1596**) for the incoming frame arrived at the receive antenna connector by capturing a timestamp sometime after it occurred and compensating for the delay by subtracting an offset from the captured value.

NOTE 3—In the MLME-FINETIMINGMSMT.request primitive corresponding to the message exchange described in Figure 6-17 (Fine Timing Measurement primitives and timestamps capture for EDCA based ranging measurement exchange) (#**1909**), the t1, Max t1 Error Exponent, t4 and Max t4 Error Exponent parameters are set to the values in the prior MLME-FINETIMINGMSMT.confirm primitive for that Peer MAC Address and with a Dialog Token parameter equal to the Follow Up Dialog Token parameter in the request, or 0 if there was none. In the MLME-FINETIMIMGMSMT.confirm primitive the t1, Max t1 Error Exponent, t4 and Max t4 Error Exponent parameters are set to the values determined for the Fine Timing Measurement frame and its acknowledgment. This primitive is not issued if no acknowledgment is received in response to the transmitted Fine Timing Measurement frame; see Figure 6-17 (Fine Timing Measurement primitives and timestamps capture for EDCA based ranging measurement exchange); or if the corresponding Non-TB mode; see Figure 6-17b (Fine Timing Measurement primitives and timestamps reporting capture for Non-TB Ranging measurement exchange); or the TB mode; see Figure 6-17c (Fine Timing Measurement primitives and timestamps reporting capture for TB Ranging measurement exchange) ); or the Passive TB mode; see Figure 6-17d (Fine Timing Measurement primitives and timestamps reporting capture for Passive TB Ranging measurement exchange) Sounding Exchange did not complete. In the MLMEFINETIMINGMSMT.indication primitive the t1, Max t1 Error Exponent, t4 and Max t4 Error Exponent parameters are set to the values in the Fine Timing Measurement frame and the t2, Max t2 Error Exponent, t3 and Max t3 Error Exponent parameters are set to the values determined for the Fine Timing Measurement frame and its acknowledgment, Figure 6-17 (Fine Timing Measurement primitives and timestamps capture for EDCA based ranging measurement exchange); or to the values in the corresponding Location Measurement Report frame; see Figure 6-17b (Fine Timing Measurement primitives and timestamps reporting capture for Non-TB Ranging measurement exchange), and Figure 6-17c (Fine Timing Measurement primitives and timestamps reporting capture for TB Ranging measurement exchange). For Passive TB Ranging, the reported timestamps and parameters in the MLMEFINETIMINGMSMT.indication primitive are set to the values in the in the corresponding Location Measurement Report and ISTA Passive TB Ranging Measurement Report frames in Figure 6-17d (Fine Timing Measurement primitives and timestamps reporting capture for Passive TB Ranging measurement exchange). (#**5000**)

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**References:**

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