IEEE P802.11
Wireless LANs

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| 11az LB240 Comment Resolution Section 11.22.6.4.4  |
| Date: 2019-06-26 |
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Abstract

This submission proposes the comment resolution of CIDs (1161) in LB240 related to section 11.22.6.4.4

Revisions:

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** |
| 1161 | 105.00 | 11.22.6.4.4.2 | Add a flow diagram to highlight t1, t2, t3 and t4 in Non-TB case similar to TB case and also add RTT equation for both ToA & Phase Shift type feedback. | As per comment | **Revised****Agreed in principle**Added timing diagram and associated RTT equations |

TGaz Editor: Insert the following paragraphs and figures at end of section 11.22.6.4.4.2 Non-TB Measurement Sounding Part:

Both RSTA and ISTA perform TOF measurements by capturing the timestamps of the NDP frames. The ISTA records the time at which the I2R NDP is transmitted (t1). The RSTA then captures the time at which the I2R NDP arrives (t2) and records the time at which the R2I NDP is transmitted (t3). The ISTA finally captures the time at which the R2I NDP arrives (t4). See Figure 11-xxx. The timestamp values t2 and t3 shall be measured according to the RSTA’s clock (i.e., without applying any frequency offset correction to the time basis).



**Figure 11 -xxx Timing diagram of a Measurement Sounding part in non-TB Ranging**

The Round-Trip Time (RTT) based on first path reporting is defined as

RTT = [(t4-t1) – (t3’-t2’)]

where t3’ and t2’ are the time at which the R2I NDP was transmitted and the time at which the I2R NDP was received, respectively, as converted by the ISTA from the RSTA’s time basis to its own time basis.

The mechanism by which the ISTA derives t3’ and t2’ from the TOD and TOA fields of the relevant LMR are implementation dependent.

The TOA field’s value is a timestamp that represents the time, with respect to a time base, at which the start of the preamble of the associated NDP frame arrived at the receive antenna connector. The TOD field’s value is a timestamp that represents the time, with respect to the same time base, at which the start of the preamble of the associated NDP frame appeared at the transmit antenna connector.