IEEE P802.11  
Wireless LANs

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| 802.11  Resolutions to a few LB249 comments – Part 4  (relative to IEEE 802.11 REVmd D3.2 and P802.11az D2.2) | | | | |
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**Abstract**

This submission proposes resolutions to the following LB249 CIDs: 3134, 3611, 3442.

History:

R0: Initial Version

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| 3134 | 73.00 | 27 | 9.4.2.296 | "set to 0 to indicate that the first path reporting in the ISTA2RSTA LMR" - what about first path Reproting - something is missing in this sentence. | May be change "first path reporting" to "first path reported" | Revise. Incorporate the editor instructions corresponding to CID #3134 in submission 11-20/0799. |
| 3611 | 73.00 | 26 | 9.4.2.296 | "The I2R TOA Type subfield in the initial Fine Timing Measurement Request frame is set to 1 to 26 indicate that the ISTA supports phase shift type TOA feedback and is set to 0 to indicate that the 27 first path reporting in the ISTA2RSTA LMR. The I2R TOA type in the initial Fine Timing 28 Measurement frame is set to 1 to indicate that the TOA feedback type in the ISTA2RSTA LMR 29 to be phase shift type of TOA, corresponding to the average linear phase across the subcarriers 30 and is set to 0 to indicate that, and the ISTA2RSTA LMR TOA feedback type to be the first path 31 reporting. " -- as far as I can tell in the IFTMR it's a capability indication and in the IFTM it's the request | Change to "The I2R TOA Type subfield in the initial Fine Timing Measurement Request frame is set to 1 to indicate that the ISTA supports phase shift type TOA feedback in the ISTA2RSTA LMR and is set to 0 to indicate that it does not. The I2R TOA type in the initial Fine Timing Measurement frame is set to 1 to request that the TOA feedback in the ISTA2RSTA LMR be the phase shift type TOA feedback, corresponding to the average linear phase across the subcarriers, and is set to 0 to request that the ISTA2RSTA LMR TOA feedback type be first path reporting. " | Revise.  Incorporate the editor instructions corresponding to CID #3134 in submission 11-20/0799. |

Discussion:

The type of ToA estimation can either be first path based or phase shift based. This is common to both R2I and I2R. Describe the estimation types in common. Following that description describe the R2I ToA Type and I2R ToA Type subfields.

Resolution:

***TGaz Editor: Change the following paragraphs (P73 L21-33) as shown below:***

The time of arrival timestamp is reported using first path estimation or phase shift estimation. The first path reporting estimates time of arrival timestamp by determining the propagation path between TX and RX which is estimated to have the shortest time of flight. Phase shift reporting refers to the estimation of average linear phase across the subcarriers. The R2I ToA Type and the I2R TOA Type subfields indicate which of the two estimation methods, namely first path reporting or phase shift reporting, the RSTA and the ISTA use to estimate and report the time of arrival timestamp respectively.

The R2I TOA subfield is set to 1 in the initial Fine Timing Measurement Request frame to indicate the the ISTA requests the RSTA to provide a TOA value in the RSTA2ISTA LMR that is estimated using phase shift reporting; and is set to 0 to indicate that the TOA value in the RSTA2ISTA LMR is estimated using first path reporting. The R2I TOA Type subfield is set to 1 in the initial Fine Timing Measurement frame to indicate that the RSTA estimates TOA using phase shift reporting; and set to 0 to indicate that the RSTA estimates TOA using first path reporting(#**1648**).  
  
The I2R TOA Type subfield is set to 1 in the initial Fine Timing Measurement Request frame is set to 1 to indicate that the ISTA supports phase shift type TOA feedback and is set to 0 to indicate that the first path reporting in the ISTA2RSTA LMR. The I2R TOA Type subfield in the initial Fine Timing Measurement frame is set to 1 to indicate that the RSTA requires the ISTA to provide TOA values in the ISTA2RSTA LMR estimated using phase shift reporting and is set to 0 to indicate that the RSTA requires the ISTA to provide TOA values in the ISTA2RSTA LMRestimated using the first path reporting

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| 3442 | 74.26 | 26 | 9.4.2.296 | In the initial Fine Timing Measurement frame the Immediate I2R Feedback should be reserved. | change the text per the comment. | Reject.  The Immediate I2R subfield in the initial Fine Timing Measurement Request frame is used to indicate ISTA’s capability to report ISTA2RSTA LMR: delayed or Immediate. This could be used by the RSTA to determine if the ISTA2RSTA LMR is reported by the ISAT immediately or delayed. |

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| 3490 | 75.09 | 09 | 9.4.2.296 | "The Device Class and Full Bandwidth I2R MU-MIMO subfields are defined in Table 9-322b, 9  Subfields of the HE PHY Capabilities Information field." -- no such table, and the table caption should be in parens, not after a comma. There is a Table 9-321b--Subfields of the HE PHY Capabilities Information field, but it doesn't contain a "Full Bandwidth I2R MU-MIMO subfield" (for obvious reasons) | As it says in the comment | Reject.  The Immediate I2R subfield in the initial Fine Timing Measurement Request frame is used to indicate ISTA’s capability to report ISTA2RSTA LMR: delayed or Immediate. This could be used by the RSTA to determine if the ISTA2RSTA LMR is reported by the ISAT immediately or delayed. |