IEEE P802.11
Wireless LANs

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| 802.11Resolutions to a few LB240 comments – Part 10(relative to IEEE 802.11 REVmd D2.0 and P802.11az D1.5) |
| Date: 2019-11-08 |
| Author(s): |
| Name | Company | Address | Phone | Email |
| Ganesh Venkatesan | Intel Corporation | 2111 NE 25th Ave, Hillsboro, OR 97124 | 503 334 6720 | ganesh.venkatesan@intel.com |
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**Abstract**

This submission proposes resolutions to the following LB240 CIDs: 1643, 1649, 1774, 1778 and 1780.

History:

R0: Initial Version

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| 1643 | 48.00 | 9.4.2.279 | Secure LTF Support and Secure LTF Req subfields in the Ranging Parameters field of the Ranging Parameters element. The Secure LTF Support subfield is redundant. The ISTA is implicitly capable of supporting Secure LTF is it requests (by setting the Secure LTF Req subfield to 1) in the IFTMR (that includes a Ranging Parameters element). The RSTA advertises Secure LTF Support via the Extended Capabilities element. | Remove Secure LTF Support subfield from Figure 9-1006. Delete lines 3-6 in Page 49. Also, rename the Secure LTF Req subfield to "Secure LTF Requested/Enabled", replace "Secure LTF Required field" with "Secure LTF Requested/Enabled subfield" in P49L1-2. | Withdrawn by the commenter |
| 1649 | 49.00 | 9.4.2.279 | "The Secure LTF Required field is set to 1 to enable a secure LTF measurement exchange between an ISTA and an RSTA. Otherwise the Secure LTF Required field is set to 0." Not clear how this bit is set in IFTMR and IFTM and what it means in each case. | Replace with "The Secure LTF Required/Enabled subfield is set to 1 in the initial Fine Timing Measurement frame to indicate that the ISTA requests Secure LTF be enabled in the resulting FTM session with the RSTA. It is set to 1 by the RSTA in the corresponding initial Fine Timing Measurement frame to indicate that the FTM session uses Secure LTF in the frames exchanged during Range Measurement (see 11.22.6.4.6 Secure non-TB and TB Ranging Measurement Exchange Protocol." | Withdrawn by the commenter |
| 1774 | 80.04 | 11.22.6.1.1 | The first frame transmission from a STA in the FTM defines the STA availability. | Define whether an initiating STA or responding STA sends the first frame in the FTM session | REVISE.The STA (RSTA or ISTA) that initiates the measurement exchange is described in Cl. 11.22.6.1.1 EDCA based ranging and TB ranging overview (P107L4-9) and Cl. 11.22.6.1.2 non-TB ranging overview (P107L16-18). The releavent changes are in submission 11-19-1483 and are incorporated in D1.5.TGaz Editor: No further changes required. |
| 1778 | 81.01 | 11.22.6.1.1 | The Figure 11-35 should show whether ISTA may skip ranging in a ranging window. | Please clarify in figure 11-35 and in the normative text that ISTA may skip FTM ranging in some availability windows. | Revise. Figures are not normative and are mainly used to illustrate the protocol for ease of understanding. Figures are not intended to illustrate all variations in the operation of the protocol.Cl. 11.22.6.4.3 TB ranging measurement exchange describes all possible ISTA behavior include the option to skip executing the measurement exchange when polled by the RSTA (See P132L3-6).TGaz Editor: Incorporate editor instructions corresponding to CID #1778 in submission 11-19-1937.  |

Discussion: In both the TB and non-TB measurement exchange the ISTA has the option to skip one or more measurement exchanges. This option is however not explicitly called out in the normative text. Discuss the use of can and the possibility of replacing it with may.

Here is the description for TB measurement exchange (**11.22.6.4.3.2 Polling Phase of TB Ranging P132L3-6**):

… the TF Ranging Poll (#1977). Any ISTA addressed by a User Info field in a TF Ranging Poll can request to participate in measurements in this availability window by responding with a CTS-to-self in an S-MPDU within an HE TB PPDU (#1336) in its designated RU allocation as identified in the TF Ranging Poll (see Figure 11-36c).

And for the non-TB measurement exchange (11.22.6.4.4.2 P139L21-28):

An ISTA shall not initiate a new measurement exchange sequence until the minimum time interval between subsequent range measurements, specified in the MinTimeBetweenMeasurements field in the non-TB Ranging Specific subelement subfield in the Ranging Parameters field in an initial Fine Timing Measurement frame, has elapsed (see Figure 11-36j). An ISTA, should complete the measurement sequence before the MaxTimeBetweenMeasurements, included in the non-TB Ranging Specific subelement subfield in the Ranging Parameters field in an initial FTM frame, has elapsed. (#**2276**, #**2278**, #**1654**, #**2431**)

Resolution: Revise.

***TGaz Editor: Modify P139L21-28 (in Cl 11.22.6.4.4.2) as shown below:***

An ISTA shall not initiate a new measurement exchange sequence until the minimum time interval between subsequent range measurements, specified in the MinTimeBetweenMeasurements field in the non-TB Ranging Specific subelement subfield in the Ranging Parameters field in an initial Fine Timing Measurement frame, has elapsed (see Figure 11-36j). An ISTA can initiate a new measurement exchange sequence after the time value indicated in the MinTimeBetweenMeasurements field during negotiation has elapsed. An ISTA, should complete the measurement sequence before the MaxTimeBetweenMeasurements, included in the non-TB Ranging Specific subelement subfield in the Ranging Parameters field in an initial FTM frame, has elapsed. (#**2276**, #**2278**, #**1654**, #**2431**)

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| 1780 | 81.01 | 11.22.6.1.1 | Currently the figure 11-35 includes some round arrows and the text says that iSTA schedules concurrent ranging. Please probvide details how iSTA schedules the ranging. What happens if there is no ranging in an availability window? How the next availability windom is scheduled? | Please clarify, how the next availability window is scheduled if an iSTA does not range within an window. | REVISE: ISTA does not schedule Availability Windows. Availability Windows are scheduled by RSTA and the schedule is announced in the IFTM transmitted by the RSTA to the ISTA during negotiation.Submission 11-19-1483 deleted the notion of ISTA Scheduled (and RSTA Scheduled) Availability (Ranging) Windows. The corresponding editor instructions have been incorporated in D1.5.TGaz Editor: No further changes required. |