IEEE P802.11
Wireless LANs

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| Misc CR for Clause 11 |
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| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Dibakar Das | Intel |  |  | Dibakar.das@intel.com |
| Jonathan Segev | Intel |  |  | Jonathan.segev@intel.com |

Abstract

This submission proposes the comment resolution of following CIDs in Clause 11: 3127 3299 3814 3816 3116 3861 3543 3537 3544

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| **CID** | **Line** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **3127** | 175.28 | 11.22.6.6.2 | Is there a need to limit ISTA's transmission to RSTA only during the availability window for TB Ranging? If so add "inside availability window for TB Ranging" at the end of the first sentence. | As per comment | **Revised.** Agree in principle. However, this is already clarified in draft 2.3 P141L3. Also, see the resolution of CID 3671 in and in 11-20-1219. Further clarification on allowing session termination within an Availability Window is provided in 11-20-1394. TGaz editor make the changes identified below. |
| **3299** | 175.4 | 11.22.6.6.2 | We should alllow to have multiple FTM ranging sessions to go on between an RSTA and an ISTA pair at the same time. There are many reasons why this is desired. Right now we are limited to having only one FTM ranging session going on between an RSTA-ISTA pair. A reason for this is that we don't have a way to identify a ranging session and as such specify which, assuming we have more than one, ranging session to terminate when we request to terminate an FTM ranging session. For this reason we should introduce the concept of an identifier, e.g. a number, for a ranging session. In a request to terminate an FTM ranging session we can then refer to this number. | As per comment. | **Reject.** The commenter failed to identify a problem with current scheme in enough details.  |
| **3814** | 175.18 | 11.22.6.6.2 | " in the Ranging addressed to it Parameters field" -- wut? | As it says in the comment | **Revised.** Agree with the commenter refer to revised text in 11-20-1394.TGaz editor make the changes identified below. |
| **3816** | 175.30 | 11.22.6.6.2 | A Ranging Parameters field is present in a Ranging Parameters element and nowhere else, right? | Change "field" to "element" | **Revised.** See 11-20-1394.TGaz editor make the changes identified below. |
| **3116** | 137.12 | 11.22.6.4.3.2 | Modify the text "Each polling phase instance includes a single (#1890) a Ranging Trigger frame of subvariant Poll" to "Each polling phase instance includes a single (#1890) Ranging Trigger frame of subvariant Poll when at least one ISTA responses to the Poll" | As per comment | **Revised.** It is possible that no ISTA responds to the Trigger frame Poll. However, in order to clarify that there could be more than one TF Ranging Poll before the measurement, we replaced the word “single” with “atleast one”. See 11-20-1394. TGaz editor make the changes identified below. |
| **3861** | 110.26 | 11.22.6.1.2 | F11-35a seems to suggest that FTM frames cannot be sent at times where both RSTAs are available, but there is no justification and indeed the text below suggests either RSTA would be available if addressed during those times | Show one double-ended arrow overlapping with one dotted bubble. (Note: resolution to CID 2121 was "Agree that two RSTAs may be available to initiate measurement exchange with an ISTA. However, an ISTA at any point in time can initiate measurement exchange with one (and only one) RSTA (and when two or more RSTAs become available, the ISTA will have to make a determination to choose one and send the FTMR to initiate the measurement exchange).In addition, the referred figures in Clause 11 are exemplary illustrations and are not intended to address all possible scenarios.".The first para is exactly agreeing with the comment. The second para is going down the wrong way because (a) F11-35a is not specified to be an "exemplary illustration" and (b) TGmd was warned off having informative material in normative clauses) | **Revised.**Agree in principle that the caption does not clarify its an example. See 11-20-1394.TGaz editor make the changes identified below. |
| **3543** | 109.6 | 11.22.6.1.1 | "the negotiation phase" -- this is the first time the notion of phases has been mentioned in this clause. Above there's "AnFTM session is composed of a negotiation, measurement exchange and termination. " but these are not referred to as phases | Introduce the concept of phases first | **Revised.** We remove the word “phase”. See 11-20-1394.TGaz editor make the changes identified below.  |
| **3537** | 108.21 | 11.22.6.1 | "The FTM procedure allows a STA to determine its range (#1699), relative range and its direction 21to or from another STA" -- FTM does not give direction | Delete "and its direction " | **Reject.** As clarified in P22L10 the FTM procedure allows a STA to find its relative position with respect to a peer STA: “A STA executes the Fine TimingMeasurement procedure with multiple peers and uses the resulting relative location estimatesalong with the absolute position of each of the peers to determine its position in geo-spatialcoordinates”.  |
| **3544** |  | 11.22.6.1 | 11.22.6.1 suggests that there are three phases: negotiation, measurement exchange and termination. However, other phases are mentioned elsewhere: measurement sounding phase, ranging phase, measurement reporting phase, polling phase and possibly some exrta DMG phases: setup phase, receive training phase, BRP TXSS phase | Enumerate the phases (including any subphases; it seems per e.g. Figure 11036a that the Polling phase, Measurement Sounding Phase and Measurement Reporting Phase are at least sometimes subphases of a Measurementphase?) and make sure they are always referred to with one of the enumerated (sub)phase names | **Revised.** We remove reference to “phase” in 11.22.6.1. See 11-20-1394.TGaz editor make the changes identified below. |

**11.22.6.4.3 TB Ranging measurement exchange**

***TGaz Editor: Modify the text in 11.22.6.4.3.1 starting in P139L27 of draft 2.3 as follows:***

Within each availability window the RSTA and ISTAs shall not transmit or trigger transmission of
any Data frames; they shall only perform ranging activities related to polling, measurement
sounding and measurement reporting, as well as signaling of modification of availability window
parameters; see 11.22.6.5.1 (Availability window parameter modification) and TB ranging session termination, see 11.22.6.6.2 (TB ranging and non-TB ranging session termination) (#3127).

***TGaz Editor: Modify the text in 11.22.6.6.2 starting in P180L24 of draft 2.3 as follows:***

The length of this interval is equal to the duration signaled in the Max Session Exp field,
present in the TB Ranging Specific subelement in the Ranging Parameters field in
the initial FTM frame. (#**1475, 3814**)

***TGaz editor: Modify the text in 11.22.6.6.2 in Page 175L29 of draft 2.3 as:***

This frame shall not include the following:
 — Ranging Parameters element (#3816).
 — Measurement Request element

***TGaz editor: Modify the text in 11.22.6.4.3.2 in Page 142L3 of draft 2.3 as:***

Each polling phase instance includes at least one (#**1890**) Ranging Trigger frame of subvariant Poll and at most one for which it receives response from an ISTA **(#3116)**; see 9.3.1.22.10 (Ranging Trigger variant).

***TGaz editor: Modify the caption of Figure 11-35a in P114L21 of draft 2.3 as:***

**Figure 11-35a— Example of concurrent Non-TB ranging FTM sessions (#3861)**

***TGaz editor: Modify the text in 11.22.6.1.1 P113L2 of draft 2.3 as:***

To support the constraints of both the initiating and RSTAs, during negotiation the ISTA
initially requests a preferred periodic time window allocation (#3543, 3544).

***TGaz editor: Modify the text in 11.22.6.1.2 P114L14 of draft 2.3 as:***

The dotted region in Figure 11-35a (Non-TB ranging concurrent FTM sessions) indicates that the Non-
TB Ranging measurement exchange does not always (#**1999**) start at the beginning of the
 time window since the ISTA may have been active on another channel (#3544).

***TGaz editor: Modify the text in 11.22.6.1.3 P115L31 of draft 2.3 as:***

* The RSTA send the Primus and Secundus RSTA Broadcast Passive TB Ranging
Measurement Report frames at the end of the measurement exchange (#3544).