IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB 240 Miscellenous CIDs | | | | |
| Date: 2019-05-01 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Dibakar Das | Intel Inc |  |  | Dibakar.das@intel.com |
| Ganesh Venkatesan | Intel Inc. |  |  | Ganesh.venkatesan@intel.com |
| Chittabrata Ghosh | Intel |  |  | Chittabrata.ghosh@intel,com |
| Jonathan Segev | Intel |  |  | Jonathan.segev@intel.com |

Abstract

This document proposes resolution to LB 240 CIDs on 11.22.6.4.3: 1154, 1336, 1977, 1566, 1170, 1567, 1568.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** |
| 1154 | 11.22.6.4.3.2 | 96 |  | The definition of use of More TF bit for value 1 is described. Although the definition of More TF bit value zero is implicit. | Add a normative behavior so that AP also transmit TF with broadcast RA with TF More bit value set to zero to indicate no more 'triplets' in this availability window. Can also add a Note to indicate 'ISTAs may enter power save if desired". |

Proposed Resolution: **Revised**

**Discussion:**

Added normative behaviour for the case when TF sent with Broadcast RA and More TF bit set to 0. Also, added a note clarifying that a STA may enter Doze state if desired. Note that TFs can also be sent using an unicast address for which none of the above conditions apply.

***TGaz editor: Add the following text to end of P96L6:***

The RSTA shall indicate no more polling/sounding/reporting triplets in the same availability window by setting the More TF bit in the Common Info field to 0 and the RA field to the broadcast address in the TF Ranging Poll, and in TFs in subsequent measurement sounding and measurement reporting parts in the same availability window. On receipt of such a frame an ISTA that has not been addressed by a User Info field in the TF may enter doze state if no other condition requires this STA to remain awake.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** |
| 1336 | 11.22.6.4.3.2 | 96 |  | Triggering multi-CTS is not supported in 11ax. Do we need this new trigger mode? If needed, need to add texts on the trigger content and all the PHY requirements related to sending triggerd CTS2s just like Multi RTS | as in the comment |

Proposed Resolution: **Revised.**

**Discussion:**

There is already text in P94L24 clarifying that RSTA and ISTA follow the usual 11ax rules for transmission and response to 11az Trigger frames with exceptions listed in 11.22.6.4.2-11.22.6.4.4. We need to mention that it is an HE PPDU in text.

***TGaz editor: Change the following line starting at P95L17 as:***

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 in its designated RU allocation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** |
| 1977 | 11.22.6.4.3.2 | 95 | 17 | "subvariant Poll ("TF Ranging Poll", see 9.3.1.23.9 Ranging Trigger variant)" -- (1) "TF Ranging Poll" is not a variant (2) the xref is not a hyperlink so will go stale | Delete the material in scare quotes and fix the xref |

Proposed Resolution: **Revised.**

**Discussion:**

We follow the convention used to define initial FTM frame in REVmd to define the TF Ranging Poll. Fixing the cross references is an editorial issue.

***TGaz editor: Change the following line starting at P95L16 as:***

At the beginning of each availability window the RSTA shall transmit a Ranging Trigger Frame  
of subvariant Poll (see 9.3.1.23.9 Ranging Trigger variant). The Ranging Trigger Frame of subvariant Poll is called the TF Ranging Poll.

***TGaz editor: Add hyperlink referring to Section 9.3.1.23.9 corresponding to text “9.3.1.23.9” in P95L17.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** |
| 1566 | 11.22.6.5 | 127 | 5 | What does it mean with 'During an FTM session'? When is the Fine Timing Measurement Request frame supposed to be transmitted and what 'current' session is terminated in case the STA has more than one TB and/or Passive Location Ranging session? This needs to be clarified and we should add a mechaniusm to indicate which ranging session we are terminating in case there is more than one ranging session that can be question. Also add that this termination procedure also applies to the Passive Location Ranging case. | Clarify and specify as per comment. |
| 1170 | 11.22.6.6.2 | 127 |  | Add specific text to not allow ISTAs to transmit IFTMR to terminate the TB session as it impacts the TB sequence? | As per comment |

**Resolution**: **Revised.**

**Discussion:** We added text to clarify that for TB, Passive and Non-TB Ranging, the ISTA can only transmit IFTMRs outside an availability window. Moreover, we also added text clarifying that there can only be one session between an ISTA and RSTA at any time. Hence, there is no need for another identifier for a particular session

***TGaz editor: Change the first paragraph of 11.22.6.5 as below:***

During an FTM session, an initiating STA may terminate the current session and request a new session with modified session parameters by transmitting a Fine Timing Measurement Request frame with Trigger field set to 1 and including a Fine Timing Measurement Parameters element if the corresponding FTM session is based on a Fine Timing Measurenent ranging phase (11.22.6.4.2 RSTA Centric EDCA basic legacy scheduling Measurement exchange), or Ranging Parameters element if the corresponding FTM session is based on nTB ranging (11.22.6.4.4 Measurement Exchange in Non-TB Mode) or TB ranging (11.22.6.4.3 Measurement Exchange in TB Mode) or Passive Ranging (11.22.6.4.10 Measurement Exchange in Passive Location Ranging mode). Note that this allows upto one ranging session between a given ISTA and RSTA at any time.

***TGaz editor: Add the following text to the last paragraph of 11.22.6.4.3.1 as below:***

An ISTA shall only transmit any Fine Timing Measurement Request frame outside an Availability Window allocated to itself.

***TGaz editor: Add the following text to the last paragraph of 11.22.6.4.10.1 as below:***

An ISTA shall only transmit any Fine Timing Measurement Request frame outside a Passive Location Ranging Availability Window allocated to itself.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** |
| 1567 | 11.22.6.5 | 127 | 13 | What if one has more than one FTM session, say a non-TB or TB Ranging session and a Passive Location Ranging session? The ISTA need to be able to specify which one of its ranging sessions to cancel. | Add way to specify which FTM session is being cancelled. |
| 1568 | 11.22.6.5.1 | 127 | 18 | The RSTA need to be able to specify which one of the ISTAs availability windows it is adjusting the availability window for, in case the ISTA has multiple availability windows. For example, the ISTA could have an availability window for TB Ranging and another availability window for Passive Location Ranging. | Add way to specify which FTM session's availability window is being modified. |

**Resolution**: **Reject.**

**Discussion:** We don’t see the rationale for having different ranging sessions between a particular ISTA and RSTA since in ideal scenario both results in the same set of measurements. If the intention is to have more frequent measurments it can be achieved by changing the frequency of scheduled availability windows.