IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Misc CR for 11.22.6.3.3 and clause 9 | | | | |
| Date: 2020-10-10 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Ali Raissinia | Qualcomm |  |  | alirezar@qti.qualcomm.com |
| Christian Berger | NXP |  |  | Christian.berger@nxp.com |
| Dibakar Das | Intel |  |  | [Dibakar.das@intel.com](mailto:Dibakar.das@intel.com) |
| Jonathan Segev | Intel |  |  | Jonathan.segev@intel.com |

Abstract

This submission proposes the comment resolution of following CIDs in 11.22.6.3.3: 3606, 3607, 3616, 3620, 3886, 3700.

Rev0: initial draft.

Rev1: Add CID 3700

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Line** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **3606** | 122.39 | 11.22.6.3.3 | Why is this a bullet? | Debulletise | **Revised.**  Agreed in principle.  See the changes as per 11-20-1666r2.  TGaz editor make the changes identified in doc:11-20-1666r2. |
| **3607** | 122.39 | 11.22.6.3.3 | " When an RSTA has set the Phase Shift Feedback Support field to 1 in the Extended 39  Capabilities element, an ISTA may set the R2I TOA Type subfield in the Ranging 40  Parameter field in an initial Fine Timing Measurement Request frame to 1 to activate the 41  phase shift feedback mode for the RSTA2ISTA LMR. The RSTA may set the R2I TOA 42  subfield in the Ranging Parameter field in an initial Fine Timing Measurement frame to 1 to confirm phase shift feedback in the RSTA2ISTA LMR." -- constructs of the form "may set to x to do y" are ambiguous (might mean "sets to x to do y" or "does y and might or might not choose to indicate this by setting x"). Also no "R2I TOA subfield" | Change to "To activate the  phase shift feedback mode for the RSTA2ISTA LMR when an RSTA has set the Phase Shift Feedback Support field to 1 in the Extended Capabilities element, an ISTA shall set the R2I TOA Type subfield in the Ranging Parameter field in the initial Fine Timing Measurement Request frame to 1. The RSTA shall set the R2I TOA Type subfield in the Ranging Parameter field in the initial Fine Timing Measurement frame to 1 to confirm phase shift feedback in the RSTA2ISTA LMR." | **Revised.**  Agreed in principle.  See the changes as per 11-20-1666r2.  TGaz editor make the changes identified in doc:11-20-1666r2. |
| **3616** | 123.9 | 11.22.6.3.3 | Why is this a bullet? | Debulletise | **Revised.**  Agreed in principle.  See the changes as per 11-20-1666r2.  TGaz editor make the changes identified in doc:11-20-1666r2. |
| **3620** | 122.39 | 11.22.6.3.3 | " When an RSTA has set the Phase Shift Feedback Support field to 1 in the Extended 39  Capabilities element, an ISTA may set the R2I TOA Type subfield in the Ranging 40  Parameter field in an initial Fine Timing Measurement Request frame to 1 to activate the 41  phase shift feedback mode for the RSTA2ISTA LMR. The RSTA may set the R2I TOA 42  subfield in the Ranging Parameter field in an initial Fine Timing Measurement frame to 1 to confirm phase shift feedback in the RSTA2ISTA LMR." -- constructs of the form "may set to x to do y" are ambiguous (might mean "sets to x to do y" or "does y and might or might not choose to indicate this by setting x"). Similarly "an ISTA 29  with dot11SecureLTFImplemented equal to true may set the Secure LTF Required subfield in the 30  Ranging Parameters field in an initial Fine Timing Measurement Request frame to 1 to activate a 31  secure LTF measurement exchange mode between the ISTA and the RSTA." at 123.29 | Reword in a form like "may do X; it does so by doing Y (e.g. setting blah to 1)" | **Revised.**  Agreed in principle.  See the changes as per 11-20-1392.  TGaz editor make the changes identified below. |
| **3886** | 46.0 | 9.3.1.22.10 | Definition of token subfield is missing | Add defintion of token subfield below figure 9-61d.x | **. Revised.**  The definition is included later in the section. To improve readability, the definition of Token and Sounding Dialog Token Number sub-fields is moved so as to appear in the order in which they are present in the Trigger Dependent Common Info field.  TGaz editor move Figure 9-64lb and the preceding paragraph to appear on P48L22 before Fig. 9-64lc, move the description of Token subfield from P49L1 to appear closer to Fig. 9-64la.  Refer to 11-20-1666r2. |
| **3700** | 122.19 | 11.22.6.3.3 | "-- maximum number of LTF repetitions it is capable of transmitting in the preamble of the 19  R2I NDP frames, (referred to as RSTA Assigned R2I Rep), which shall be no greater than 20  the value in the corresponding IFTMR, in the Max R2I Rep subfield of the Ranging 21  Parameters field. " is not clear: is the thing in "the Max R2I Rep subfield of the Ranging  Parameters field" the "maximum number of LTF repetitions it is capable of transmitting" or is it "the value in the corresponding IFTMR"? Ditto next bullet | As it says in the comment | **Revised.**  We clarify that it is a function of the value carried in the IFTMR frame. See changes as per 11-20-1666r1.  TGaz editor: make the changes identified below. |

11.22.6.3.3 Negotiation for TB and non-TB Ranging measurement exchange

***TGaz Editor: Remove the bullet under the paragraph starting in P127L11 of draft 2.3 as follows:***

An RSTA in which dot11PhaseShiftFeedbackImplemented is true shall set the Phase Shift  
Feedback Support field in the Extended Capabilities element to 1 to indicate RSTA’s capability. If an RSTA has set the Phase Shift Feedback Support field to 1 in the Extended Capabilities element, then to request the phase shift feedback mode for the RSTA2ISTA LMR, an ISTA shall set the R2I TOA Type subfield in the Ranging Parameter field in an IFTMR frame to 1. To assign phase shift feedback in the RSTA2ISTA LMR the RSTA shall set the R2I TOA subfield in the Ranging Parameter field in an initial Fine Timing Measurement frame to 1 (#3607), otherwise it shall set it to 0. If the RSTA sets the R2I TO­­­­­A Type subfield in the Ranging Parameter field in an initial Fine Timing Measurement frame to 1, the RSTA shall carry the phase shift tp2 of I2R NDP in the RSTA2ISTA LMR. (#**1581, 3606**)

If an ISTA supports transmission of ISTA2RSTA LMR and is capable of transmitting LMR  
carrying phase shift feedback, then to request the phase shift feedback mode in the ISTA2RSTA LMR, the ISTA shall set the I2R LMR feedback field to 1 and the I2R TOA Type subfield to 1 in the Ranging Parameters field in an initial Fine Timing Measurement Request frame. To assign phase shift feedback mode in ISTA2RSTA LMR, the RSTA shall set the I2R TOA Type subfield in the Ranging parameters field of an initial Fine Timing Measurement frame to 1, otherwise it shall set it to 0. If the RSTA sets the I2R TOA Type subfield in the Ranging parameters field of an initial Fine Timing Measurement frame to 1, the ISTA shall carry the phase shift tp4 of R2I NDP in the ISTA2RSTA LMR (#**1581, 3616**).

***TGaz Editor: Modify the text starting in P129L17 as:***







If an RSTA has set the Secure LTF Support field to 1 in the RSNXE (#**3940**), then to request a secure LTF measurement exchange mode with the RSTA, an ISTA with dot11SecureLTFImplemented equal to true shall set the Secure LTF Required subfield in the  
 Ranging Parameters field in an IFTMR frame to 1 (#3620).

If an ISTA has set the Secure LTF Support field to 1 in the Ranging Parameters field in an  
IFTMR frame, then to assign a secure LTF measurement exchange mode with the ISTA an RSTA with dot11SecureLTFImplemented equal to true shall set the Secure LTF Required subfield in the Ranging Parameters field in an initial Fine Timing Measurement frame to 1. If an ISTA has set the Secure LTF Support field to 0 in the Ranging Parameters field in an IFTMR frame, an RSTA shall set the Secure LTF Required subfield in the Ranging Parameters field in an initial Fine Timing Measurement frame to 0 (#3620).

***TGaz Editor: Modify the text starting in P127L11 as:***

For TB Ranging and Non-TB Ranging, if the negotiation is successful, the corresponding initial  
Fine Timing Measurement frame from the RSTA shall include a Ranging Parameters element with  
the parameters that defines the negotiated range measurement session. The RSTA shall indicate  
the following parameters in the Ranging Parameters field: (#**3591, #TC707r3**)

— In the Max R2I Rep field, either the maximum number of LTF repetitions it is capable of transmitting in the preamble of the R2I NDP or the value in the corresponding IFTMR frame, whichever is smaller (referred to as *RSTA Assigned R2I Rep)*.  
— In the Max I2R Rep subfield, either the maximum number of LTF repetitions it is capable of receiving in the preamble of the I2R NDP (referred to as *RSTA Assigned I2R Rep*), or the value in  
the corresponding IFTMR frame, whichever is smaller (referred to as *RSTA Assigned I2R Rep)*.  
— In the Max R2I STS ≤ 80 MHz subfield, either the maximum number of space-time streams it is capable of transmitting in the R2I NDP for bandwidths less than or equal to 80 MHz, or the value in the corresponding IFTMR, whichever is smaller (referred to as RSTA Assigned R2I STS ≤ 80 MHz).  
— In the Max R2I STS > 80 MHz subfield, either the maximum number of space-time streams it is capable of transmitting in the R2I NDP for bandwidths greater than 80 MHz, or the value in the corresponding IFTMR (referred to as RSTA Assigned R2I STS > 80 MHz).  
—In the Max I2R STS ≤ 80 MHz subfield, either the maximum number of space-time streams it is capable of receiving in the I2R NDP for bandwidths less than or equal to 80 MHz, or the value in the corresponding IFTMR, whichever is smaller (referred to as RSTA Assigned I2R STS ≤ 80 MHz).  
— In the Max I2R STS > 80 MHz subfield, either the maximum number of space-time streams it is capable of receiving in the I2R NDP for bandwidths greater than 80 MHz, or the value in the corresponding IFTMR, whichever is smaller (referred to as RSTA Assigned I2R STS > 80 MHz).

— In the Max R2I LTF Total subfield, either the maximum number of LTFs in total it is capable of transmitting, including all repetitions, in the R2I NDP, or the value in the corresponding IFTMR, whichever is smaller (referred to as RSTA Assigned R2I LTF Total).  
— In the Max I2R LTF Total subfield, either the maximum number of LTFs in total it is capable of receiving, including all repetitions, in the I2R NDP, or the value in the corresponding IFTMR, whichever is smaller (referred to as RSTA Assigned I2R LTF Total) .