IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Nominal Packet Padding for Nonassociated STAs | | | | | | Date: 2021-06-09 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Youhan Kim | Qualcomm |  |  | [youhank@qti.qualcomm.com](mailto:youhank@qti.qualcomm.com) | | Ali Raissinia | Qualcomm |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes to clarify that a STA transmitting to another STA between which there has not been an association needs to apply 16 usec of nominal packet padding to ensure that the receiver has sufficinent time to finish the receiver processing.

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version.

**Discussion**

HE PPDUs have the packet extension (PE) field at the end of the PPDU to give sufficient reciver processing time. During association, AP and non-AP STA exchange the nominal packet padding (NPP) required for their receivers, where the NPP dictates the minimum duration of PE each HE PPDU needs to include.

In 11az, ranging could occur between STAs which are not associated to each other. Hence, a transmitter performing ranging may not know how much NPP is required by the receiver at the other side of the ranging packet exchange. When there is no explicit knowledge of the NPP required by the receiver, it makes sense to assume the worst case – which is to assume that the receiver requires 16 usec of NPP (16 usec is the longest NPP possible for HE PPDUs). Note that this concept of relying on the worst case NPP is already used in 11ax for broadcast packets.

11ax-2021 P433:

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| A STA transmitting an HE PPDU that carries a broadcast frame shall set the value of the TXVECTOR parameter NOMINAL\_PACKET\_PADDING to 16 µs. |

**Proposed Text Update**

*Instruction to TGaz Editor: Insert the following text at D3.0 P217, between L25 and L26.*

**27.12 HE PPDU post-FEC padding and packet extension**

***Insert the following text between the second-to-last and the last paragraphs:***

A STA A shall set the value of the TXVECTOR parameter NOMINAL\_PACKET\_PADDING to 16 µs when transmitting to a STA B if the STA A has not received a frame including the HE Capabilities element from the STA B.

NOTE – One such situation is an AP transmitting to a nonassociated STA. Another such situation is a nonassociated STA transmitting to an AP without having received a management frame including an HE Capabilities element from the AP, such as a Beacon or Probe Response frame.

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