IEEE P802.11
 Wireless LANs

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| **Proposed TGbd draft specification****For TXRX parameters** |
| **Date:** 2020-01-12 |
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Abstract

This submission contains spec text for 33.13 NGV receive procedure in P802.11bd D0.1. The text reflects the related straw polls and motions passed in 11/19/1863 and 11-19/0514.

Revisions:

* Rev 0: Initial version of the document.

Discussion

After the decision by 11bd group, some equations (e.g. TBD) possibly are going to be updated with rev1.

BCC is not supported for data, corresponding text will be removed in rev1

***To TGbd Editor:*** *replace the current text with the proposed changes below.*

***------------- Begin Text Changes ---------------***

**33.8.2.4 L-SIG definition**

The L-SIG field is used to communicate rate and length information. The structure of the L-SIG field is defined in Figure 17-5 (SIGNAL field bit assignment).

In a NGV PPDU, the RATE field shall be set to the value representing 3 Mb/s in the 10 MHz channel spacing column of Table 17-6 (Contents of the SIGNAL field). In a non-HT duplicate PPDU, the RATE field is defined in 17.3.4.2 (RATE field) using the L\_DATARATE parameter in the TXVECTOR.

The LENGTH field shall be set to the value given by Equation (33-x3).

$Length= \frac{TXTIME-40}{8}×3-TBD$ ~~(33-x3)~~

$Length=\frac{TXTIME-40}{8}×3-3$ (33-x3)

where

TXTIME (in µs) is defined in 33.x.x. (TXTIME and PSDU\_LENGTH calculation)

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***To TGbd Editor:*** *add a new subclause 33.x.x (TXTIME and PSDU\_LENGTH calculation) below.*

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The value of the TXTIME parameter returned by the PLME-TXTIME.confirm primitive shall be calculated

for an NGV PPDU using Equation (33-x1).

$TXTIME=40+T\_{RL-SIG}+T\_{NGV-SIG}+T\_{RNGV-SIG}$+ $T\_{NGV-STF}$+ $N\_{SYM}×T\_{SYM}$

 + $8×\left⌈\frac{N\_{NGV-LTF}×T\_{NGV-LTF} + N\_{MA}×N\_{NGV-LTF}×T\_{NGV-LTF}}{8}\right⌉$ (33-x1)

Where

$T\_{RL-SIG},T\_{NGV-SIG},T\_{RNGV-SIG}$, $T\_{NGV-STF}$, $T\_{NGV-LTF} $, and $T\_{SYM}$ are definded in Table 33-xx (Timing-related constatns)

$N\_{NGV-LTF}$ is defined in Table 33-xx (Frequencely used parameters)

$N\_{MA}$ is defind in 33.xx (Midambles)

For an NGV PPDU using BCC encoding, the total number of data symbols in the Data field is given by Equation (33-x2).

$N\_{SYM}=$ $\left⌈\frac{8×APEP\\_LENGTH  + N\_{SERVICE }+N\_{tail}}{ N\_{DBPS }}\right⌉$ (33-x2)

For a NGV PPDU using LDPC encoding, the total number of data symbols in the Data field, $N\_{SYM}$ , is given in 21.3.10.5.4 (LDPC coding) (computed using Equation (19-41) in step d) of 19.3.11.7.5 (LDPC PPDU encoding process)).

***------------- End Text Changes ------------------***

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**33.xx NGV receive procedure**

…

Following training fields, the Data field shall be received. The number of symbols in the Data field is determind by ~~TBD~~ Equation (33-x3).

$N\_{SYM,RX}=\left⌊\left(\frac{\left(L\\_LENGTH+3\right)×8}{3}-T\_{NGV-PREAMBLE}-N\_{MA,RX}∙NNGV-LTF ×TNGV-LTF\right)/T\_{SYM}\right⌋$ (33-x3)

where

L\_LENGTH is the LENGTH field in L-SIG.

$T\_{NGV-PREAMBLE}$ = $T\_{RL-SIG}+T\_{NGV-SIG}+T\_{RNGV-SIG}$+ $T\_{NGV-STF}$+ $N\_{NGV-LTF}×T\_{NGV-LTF}$

$T\_{RL-SIG}, T\_{NGV-SIG}, T\_{RNGV-SIG}$, $T\_{NGV-STF}$, and $T\_{NGV-LTF}$ are defind in Table 33-xx (Timing-related constants)

$NNGV-LTF $is defind in Table 33-xx (Frequencely used parameters)

$N\_{MA,RX}$ may be computated by multiple methods that get the same results, one example of which is given in Equation (33-x4)

$N\_{MA,RX}=\left⌊\frac{\frac{\left(L\\_LEGNTH+3\right)×8}{3} - T\_{NGV-PREAMBLE} - T\_{SYM}}{N\_{NGV-LTF}∙T\_{NGV-LTF}+ M∙T\_{SYM}}\right⌋$ (33-x4)

If signal loss occurs during reception prior to completion of the PSDU reception, the error condition shall be reported to the MAC using a PHY-RXEND.indication(CarrierLost) primitive. After waiting for the intended end of the PSDU as determined by ~~TBD~~ Equation (33-x5), the PHY shall generate a PHY-CCA.indication(IDLE) primitive and return to RX IDLE state.

$RXTIME=\left⌈\frac{\left(L\\_LENGTH+3\right)}{3}\right⌉×8$ + 40 (33-x5)

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