IEEE P802.11
Wireless LANs

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| TGah D0.1 Comment Resolutions on 24.3.19 and 24.3.20 |
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Abstract: This document contains proposed resolutions for the following CIDs from TGah D0.1:

* ***Clause 24.3.19:*** 732, 733, 734
* ***Clause 24.3.20:*** 728, 735, 736, 737, 738, 739, 740, 741, 742, 743

##### CIDs for Clause 24.3.19

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Section | Page | Line | Comment | Proposed Change | Resolution |
| 732 |  Shahrnaz Azizi | 24.3.19 | 278 | 32 | procedure shows "a Beamformed SU", and not "an SU | Change "an SU" to "a Beamformed SU' | Accepted |
| 733 | Shahrnaz Azizi | 24.3.19 | 288 | 61 | procedure shows "a Beamformed SU", and not "an SU | Change "an SU" to "a Beamformed SU' | Accepted |
| 734 | Shahrnaz Azizi | 24.3.19 | 288 | 30 | Figure 24-46 does not show transmission of STF and LTF | re-draw the figure. Will provide it in a contribution | Accepted |

##### CIDs for Clause 24.3.20

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| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Section | Page | Line | Comment | Proposed Change | Resolution |
| 728 | Ronald Murias | 24.3.20 | 290 | 12 | "Data field shall be received" commands the receiver to perform an action, which is inappropriate in this context. | Re-write the sentence as follows: "The data field follows the training and signal fields." | Accepted |
| 735 |  Shahrnaz Azizi | 24.3.20 | 289 | 14 | The text in this subclause describes only one type of format. This needs to be stated clearly in the text. | Insert “The remainder of the clause applies to the S1G greater than or equal to 2MHz long format." prior to line 14. | Accepted |
| 736 | Shahrnaz Azizi | 24.3.20 | 289 | 14 | The text in this subclause describes only 2MHz long format, therefore 1MHz related words need to be removed. | cross off 1MHz and/or | Accepted |
| 737 | Shahrnaz Azizi | 24.3.20 | 289 | 19 | The text in this subclause describes only 2MHz long format, therefore 1MHz related words need to be removed | cross off 1MHz and/or | Accepted  |
| 738 | Shahrnaz Azizi | 24.3.20 | 289 | 23 | The text in this subclause describes only 2MHz long format, therefore 1MHz related words need to be removed. | cross off 1MHz and/or | Accepted |
| 739 | Shahrnaz Azizi | 24.3.20 | 289 | 50 | a non-beamformed SU PPDU does not decode SIGB. Make it clear. | insert clarification: "a value indicating a non-beamforomed S1G SU PPDU " | Accepted |
| 740 | Shahrnaz Azizi | 24.3.20 | 290 | 16 | Equations 24-104 and 24-105 are missing | Will provide them in a contribution | Accepted |
| 741 | Shahrnaz Azizi | 24.3.20 | 290 | 16 | missing "indication of decoding LDPC vs. BCC, and calculation of PSDU\_LENGTH" | Insert this text: If SIG-A indicates that LDPC decoder shall be used, the procedure for LENGTH calculation follows its VHT counterpart as described in 22.3.21. | Accepted |
| 742 | Shahrnaz Azizi | 24.3.20 | 291 | 27 | Figure 24-47: clarify that LTF is LTF1 | Change it to LTF1 | Accepted |
| 743 | Shahrnaz Azizi | 24.3.20 | 291 | 36 | procedure shows "a Beamformed SU", and not "an SU | Change "an SU" to "a Beamformed SU' | Accepted |

*TGah Editor: Please make the following changes for clauses 24.3.19 and 24.3.20, changes highlighted in yellow:*

24.3.19 PHY transmit procedure



Figure 24-32—PHY transmit procedure for a beamformed ~~an~~ SU transmission

Use the next figure instead of the figure 24-33 in D0.1

 

Figure 24-33—PHY transmit state machine for a beamformed ~~an~~ SU transmission

24.3.21 PHY receive procedure

A typical PHY receive procedure is shown in Figure 24-34 for S1G format. A typical state machine implementation of the receive PHY is given in Figure 24-35. This receive procedure and state machine do not describe the operation of optional features, such as LDPC or STBC. Through station management (via the PLME) the PHY is set to the appropriate frequency, as specified in 24.4 (S1G PLME). The PHY has also been configured with group information (i.e., group membership and position in group) so that it can receive data intended for the STA. Other receive parameters, such as RSSI and indicated DATARATE, may be accessed via the PHY-SAP.

The remainder of the clause applies to the S1G greater than or equal to 2MHz long format.

Upon receiving the transmitted PHY preamble overlapping the primary ~~1 MHz and/or~~ 2MHz channel(#7074), the PHY measures a receive signal strength. This activity is indicated by the PHY to the MAC via a PHY-CCA.indication primitive. A PHY-CCA.indication(BUSY, channel-list) primitive is also issued as an initial indication of reception of a signal as specified in 24.3.19.5 (CCA sensitivity). The CH\_BANDWIDTH parameter indicates one of the ~~1MHz,~~ 2MHz, 4MHz, 8MHz and 16MHz contiguous channel widths.

The PHY shall not issue a PHY-RXSTART.indication primitive in response to a PPDU that does not overlap the primary ~~1 MHz and/or~~ 2MHz channel.

The PHY includes the most recently measured RSSI value in the PHY-RXSTART.indication(RXVECTOR) primitive issued to the MAC.

After receiving a valid S1G-SIG-A indicating a supported mode, the PHY entity shall begin receiving the rest of S1G training symbols and S1G-SIG-B. If the received group ID in S1G-SIG-A has a value indicating a none beamforomed S1G SU PPDU (see 9.17a (Group ID and partial AID in S1G PPDUs)), the PHY entity may choose not to decode S1G-SIG-B. If S1G-SIG-B is not decoded, subsequent to an indication of a valid S1G-SIG-A CRC, a PHY-RXSTART.indication(RXVECTOR) primitive shall be issued. The RXVECTOR associated with this primitive includes the parameters specified in Table 24-1 (TXVECTOR and RXVECTOR parameters).

If the Group ID field in S1G-SIG-A has a value indicating a S1G MU PPDU (see 9.17a (Group ID and partial AID in S1G PPDUs

)), the PHY, in a STA that is MU beamformee capable,(#7074) shall decode S1G-SIG-B. If the S1G-SIG-B indicates an unsupported mode, the PHY shall issue the error condition PHY-RXEND.indication(UnsupportedRate) primitive.

If S1G-SIG-B was decoded the PHY may check the S1G-SIG-B CRC in the SERVICE field. If the S1G-SIG-B CRC in the SERVICE field is not checked a PHY-RXSTART.indication(RXVECTOR) primitive shall be issued. The RXVECTOR associated with this primitive includes the parameters specified in Table 24-1 (TXVECTOR and RXVECTOR parameters).

The PHY optionally filters out the PPDU based on the GroupID, MU[0-3] NSTS and Partial AID fields of S1G-SIG-A and the contents of the PHYCONFIG\_VECTOR. This procedure follows its VHT counterpart as described in 22.3.21.

If the PPDU is filtered out, the PHY(#7074) shall issue a PHY-RXEND.indication(Filtered) primitive.

Following training and signal fields, the Data field shall be received. The number of symbols in the Data field is determined by Equation (24-104)

~~Equation 24-104 to 24-105 to be added.~~

(24-104)

$$N\_{SYM}= \left\{\begin{array}{c}N^{'}\_{SYM}-1, \&if Short GI=1 and Short GI NSYM Disambiguation=1\\N'\_{SYM}, \&otherwise\end{array}\right.$$

where

$$N'\_{SYM}= \left⌊\frac{RXTIME-\left(T\_{STF}+T\_{LTF1}+T\_{S1G-SIG-A}\_{ }+N\_{LTF}T\_{S1G-LTF}+T\_{S1G-SIG-B}\right) }{T\_{SYM}}\right⌋$$

(24-105)

 NOTE—LENGTH in Equation (24-105) is the LENGTH field in S1G-SIG-A.

The value of the PSDU\_LENGTH parameter returned in the RXVECTOR using BCC encoding is calculated using Equation (24-106).(#7349)



(24-106)

where

 is given by Equation (24-104)

 denotes the largest integer smaller than or equal to 

 is defined in Table 24-6 (Frequently used parameters)

 is defined in Table 24-6 (Frequently used parameters)

 and  are defined in Table 24-5 (Timing-related constants)

~~Indication of decoding LDPC vs. BCC, and calculation of PSDU\_LENGTH to be added.~~

If SIG-A indicates that LDPC decoder shall be used, the procedure for LENGTH calculation follows its VHT counterpart as described in 22.3.21.

If S1G-SIG-B is decoded and the S1G-SIG-B CRC in the SERVICE field is checked and not valid, the PHY shall issue the error condition PHY-RXEND.indication(FormatViolation) primitive. If the S1G-SIG-B field is decoded and the S1G-SIG-B CRC field is checked and valid, a PHY-RXSTART.indication(RXVECTOR) primitive shall be issued. The RXVECTOR associated with this primitive includes the parameters specified in Table 24-1 (TXVECTOR and RXVECTOR parameters).

If signal loss occurs during reception prior to completion of the PSDU reception, the error condition PHY-RXEND.indication(CarrierLost) shall be reported to the MAC. After waiting for the end of the PSDU as determined by Equation (22-105), the PHY shall set the PHY-CCA.indication(IDLE) primitive and return to the RX IDLE state.

The received PSDU bits are assembled into octets, decoded, and presented to the MAC using a series of PHY-DATA.indication(DATA) primitive exchanges. Any final bits that cannot be assembled into a complete octet are considered pad bits and discarded. After the reception of the final bit of the last PSDU octet, and possible padding and tail bits, the receiver shall be returned to the RX IDLE state, as shown in Figure 24-35.

Use the next figure instead of the figure 24-34 in D0.1



Figure 24-34—PHY Receive procedure for a beamformed ~~an~~ SU transmission