IEEE P802.11  
Wireless LANs

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| Resolutions to PHY transmit procedure of 11ah PHY | | | | |
| Date: 2018-05-07 | | | | |
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Abstract

This submission shows

* Resolution for a comment received from TGm comment collection (11Revmd D1.0)
* The proposed changes are based on 11Revmd D1.0.

The submission provides resolution to the comment related to 23.3.18 PHY transmit procedure.

* The submission provides resolution to 1 CID: 1141

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: typo fixed on PHY state machine figure
* Rev 2: have modification text underlined to make it clear where fixed and edited.

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| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 1141 | 3170.06 | If the frame body is carried in the SIG field, then the transmit procedure should reflect this. The traditional mapping, where the PSDU goes into the Data field is described in Figure 23-27 to 23-29. What is not present is a description (and possibly a figure like 23-27) that maps the PSDU to the "NDP CMAC frame body" in the SIG field. | Update the transmit procedure to describe S1G NDP transmission showing the PSDU mapped to the SIG field | Revised  Agreed in principle. Add three figures and descriptions corresponding to NDP CMAC frames.  TGm Editor: make changes according to this document 11-18-709-02-00m Resolutions to PHY transmit procedure of 11ah PHY. |

***Discussion***

* For the figures on PHY transmit procedure for NDP CMAC frames,
  + Given the limited size of NDP CMAC frame body, “MPDU or A-MPDU” in the typical PHY transmit procedure is replaced with “MPDU” in MAC layer.
  + No PHY padding bits (e.g. zero to seven) are required to be appended to the PSDU because it is not concerned with the typical PSDU with an integer multiple of the number of coded bits per OFDM symbol.
  + PHY does not scramble the PSDU before mapping to the SIG field.
    - NDP CMAC frame requires to consider only PSDU since the typical SIG and SERVICE to be scrambled and/or encoded are not involved.
* For the figure on PHY transmit state machine,
  + Considering NDP\_INDICATION set to 1 additionally,
    - Corresponding TX preamble and TX SIG states are newly added.
    - Existing SET UP MPDU TX, TX PSDU OCTET and PADDING & TAIL states are modified.

***To TGm editor: P3189L1*** *update the typo below.****------------- Begin Text Changes ---------------***

The SERVICE field and PSDU are encoded as described in 23.3.3 (Transmitter block diagram). The data shall be exchanged between the MAC and the PHY through a series of PHY-DATA.request(DATA) primitives issued by the MAC, and PHY-DATA.confirm primitives issued by the PHY. Zero to seven PHY padding bits are appended to the PSDU to make the number of bits in the coded PSDU an ~~integral~~ integer multiple of the number of coded bits per OFDM symbol.

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

***To TGm editor:*** ***P3189L22*** *add the proposed changes below.****------------- Begin Text Changes ---------------***

A NDP CMAC transmit procedure is shown in Figure 23-xx (PHY transmit procedure for an NDP CMAC frame transmission using S1G\_1M format) and Figure 23-xx (PHY transmit procedure for an NDP CMAC frame transmission using S1G\_SHORT format).



Figure 23-xx— PHY transmit procedure for an NDP CMAC frame transmission using S1G\_1M format



Figure 23-xx— PHY transmit procedure for an NDP CMAC frame transmission using S1G\_SHORT format

In case of transmission of the NDP CMAC frame, the PHY performs the same procedure like the typical transmit procedure as described in this subclause except as follows

* No service field appended
* No PHY padding bits appended to the PSDU
* No scrambling applied to PSDU
* PSDU is mapping to the SIG field.

When the PPDU transmission is completed the PHY entity enters the receive state.

A typical state machine implementation of the transmit PHY for an SU transmission is provided in

Figure 23-30 (PHY transmit state machine for a ~~SU transmission~~ S1G PPDU (11ah)). Request (.request) and confirmation (.confirm) primitives are issued once per state as shown. This state machine does not describe the operation of optional features, such as multi-user, LDPC, or STBC.



Figure 23-30—PHY transmit state machine for a S1G PPDU

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