**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |
| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **Proposed LB207/D01 Comments Resolution for LE UWB PHY (Clause 33) CID 856** |
| Date Submitted | November 2024 |
| Sources | Larry Zakaib (Spark Microsystems)larry.zakaib@sparkmicro.com |
| Re: |   |
| Abstract | Proposed comment resolution for CID 856 |
| Purpose | Proposed resolutions to Clause 33 comments for “P802.15.4ab™/D1.0 Draft Standard for Low-Rate Wireless Networks”.  |
| Notice | This document does not represent the agreed views of the IEEE 802.15 Working Group or IEEE 802.15.4ab Task Group. It represents only the views of the participants listed in the “Sources” field above. It is offered as a basis for discussion and is not binding on the contributing individuals. The material in this document is subject to change in form and content after further study. The contributors reserve the right to add, amend or withdraw material contained herein. |

Introduction

This submission contains the proposed comment resolution for CID 856

# CID 187

# CID 856 (Revised)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** | **Disposition Detail** | **Category** |
| Tero Kivinen | 856 | 217 | 33.2.6.2 | 11 | I assume there should be more than one column in the tables 77, 78, and 79. They now just lists parameters, but I would have assumed there be some number or something that is needed also. | Actually it seems the table 77, 78, 79 are not really used anywhere, they just list some configuration parameters that can be configured, but no way of configuring them. Remove tables 77, 78, 79. | Add the LE UWB PHY related PIB attributes to Clause 12 as per Table 12-14 below.Replace Tables 77, 78 and 79 with revised Table 77 as shown below.Change P214 lines 10 & 11 as described below.Change P215 line 14 as described below. Also change other occurrences of Ncbp to Ncpb as identified below. Add sentences to P219 line 27 as described below. | PHYLE |

**Insert the following LE UWB PHY related PIB attributes Table 12-14 into Clause 12:**

**Table 12-14 – LE UWB PHY related PIB attributes**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute | Type | Range | Description |
| *phyLeModulation* | Enumerated  | OOK,BPM | Specifies the modulation type for the LE UWB PHY, either OOK or BPM as defined in 33.3.4 and 33.3.5 respectively |
| *phyLeNumPulse* | Enumerated | PULSE\_1,PULSE\_2,PULSE\_4 | Specifies the number of pulses *Ncpb* within a symbol for the LE UWB PHY as defined in 33.2.4 |
| *phyLeFecCcConstraintLength* | Enumerated | CL5, CL7 | Defines the constraintlength of the convolutional code in use by the transmitter and receiver as defined in 33.3.3 |
| *phyLeFecRate* | Enumerated | RATE\_1\_1,RATE\_4\_5,RATE\_2\_3,RATE\_4\_7,RATE\_1\_2 | Specifies the FEC coding rate for the LE UWB PHY as defined in 33.3.3 |

**Table 77 – Modulation Parameter Options**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Value of the *phyLeFecCcConstraintLength* attribute | FEC Rate | Value of the *phyLeFecRate*attribute | Value of the *phyLeModulation*attribute | Symbol Rate (MHz) | Resulting Data Rate(Mb/s)  |
| CL5 or CL7 | 1/1 | RATE\_1\_1 | OOK | 20.48 | 20.48 |
| 4/5 | RATE\_4\_5 | 16.384 |
| 2/3 | RATE\_2\_3 | 13.653 |
| 4/7 | RATE\_4\_7 | 11.703 |
| 1/2 | RATE\_1\_2 | 10.240 |
| 1/1 | RATE\_1\_1 | BPM | 10.24 | 10.24 |
| 4/5 | RATE\_4\_5 | 8.192 |
| 2/3 | RATE\_2\_3 | 6.827 |
| 4/7 | RATE\_4\_7 | 5.851 |
| 1/2 | RATE\_1\_2 | 5.120 |

**Change** P214 lines 10 and 11 **from**:

Optionally, the K = 7 convolutional coding according to Clause 16.3.4 and puncturing with

ratios 1/1, 4/3, 5/3 and 2/1 may also be used.

**to:**

Optionally, the K = 7 convolutional coding may be used according to Clause 16.3.3.3 and figure 16-17.

The puncturing ratios for constraint lengths K=5 (CL5) and optional K=7 (CL7) are described in Table 77.

**Change** P 215 line 14 **from**:

The number of pulses in the active burst *Ncbp* shall be 1, 2 or 4.

**to:**

The number of pulses in the active burst *Ncpb* shall be 1, 2 or 4, according to the *phyLeNumPulse* attribute in Table 12-14

**Also:** Change other occurrences of *Ncbp* to *Ncpb*as follows:

P215, line 14

P 215, Line 18

P219, Equation following Line 11

**Add** the followingsentences to P219 line 27 as follows:

When the optional K=7 convolutional coding is used, the encoder shall be initialized to the all-zero state upon transmission of each PPDU. Additionally, the encoder shall be returned to the all-zero state in the end by

appending six zero-valued tail bits to the PPDU.