**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |
| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **LB-PHY subclause changes** |
| Date Submitted |  |
| Source | Stephan BernerPureLiFi | Voice: [ ]Fax: [ ]E-mail: [ ] |
| Re: |  |
| Abstract |  |
| Purpose | Aid comment resolution |
| Notice | This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. |
| Release | The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15. |

# CID xxx:

*Change the 4th and 5th row of Table 53 as follows:*

|  |  |
| --- | --- |
| Subcarrier spacing *FSC* | Clock rate/32 |
| Cyclic prefix | 16 samples |

*Change the value of aPhyMaxPsduSize in the table in subclause 10.1.3 from 2047 to 2036.*

*Insert an additional row after the first row of the table in subclause 10.1.3*

|  |  |  |  |
| --- | --- | --- | --- |
| *aPhyMinPsduSize* | The minimum supported PSDU size. This attribute is PHY-specific. | 20 | octets |

*Add the following text after the sentence in P98L9:*

An exception to this rule is the high reliability control header in subclause 10.2.4.3. This header is treated as a sequence of octets with the LSB of each octet transmitted first.

*Replace “OFDM symbols” in P99L7 by “IFFTs”*

*Change the left hand side of the formula in P99L9 as follows:*

$$E\_{-32…31}=\left\{\begin{array}{c}0,0,0,0,-1,1,-1,-1,1,1,-1,-1,-1,-1,-1,1,-1,1,1,1,-1,-1,-1,1,1,\\-1,1,-1,1,1,0,0,0,0,0,1,1,-1,1,-1,1,1,-1,-1,-1,1,1,1,-1,1,-1,-1,-1,-1,-1,\\1,1,-1,-1,1,-1,0,0,0\end{array}\right\}$$

*Replace “Hermitian symmetric” in P99L14 by “The”.*

*Replace “E0-63” in P99L16 by “E-32…31” using equation editor.*

*Rename the field “PSDU length” in Table 55 to “PSDU length aligned 32”.*

*Change “PSDU length” in P100L19 to “PSDU length aligned 32”.*

*Delete the sentence “Hence, the size…..octets” in P100L20.*

*Add the following text after the ending sentence in P99L20:*

The LB-PHY supports only 32 bit aligned data in order to simplify the implementation. Bit 0 and 1 of this field have to be set to zero. If the high reliability control header, see Table 58, is included, the 32 bit aligned length of the PSDU plus eight is written to this field. If the high reliability control header is not included, only the 32 bit aligned length of the PSDU is written to this field. The length of the FCS, which is four octets, is included in the value of this field.

If the PSDU is an MPDU like in Fig. 31, the length of this MPDU is written to this field. The value is incremented by eight depending on if the high reliability control header is present or not. The last four octets of the MPDU have to be cleared before writing them to the PHY in order to allow correct FCS calculation.

*Delete the last sentence in P101L11 to P101L12, “It contains ….”*

*Add “header” at the end of the heading “10.2.4.3 High reliability control”*

*Add the following sentence after the end of the sentence in P105L10:*

Unlike the other headers, this header is treated as a sequence of octets which are transmitted LSB first.

*Insert the word “header” after the word “control” in P105L14.*

*Delete in P106L16 “(both….)”*

*Delete the sentence in P106L22, “If indicated ….”.*

*Delete the first row in Table 59.*

*Change the 2nd and 3rd row of Table 59 as follows:*

|  |  |  |  |
| --- | --- | --- | --- |
| Service | 0-1 | [15:0] | Service bits for scrambler initialization. |
| PSDU Length | 2-5 | [31:0] | Indicates the octet aligned length of the subsequent PSDU as opposed to the 32 bit aligned PSDU length in Table 55 |

*Insert “octet aligned length” in P107L13 after “specifies the”.*

*Delete the sentence “With such accurate…” starting in P107L13.*

*Add the following text after “…payload.” In P107L13:*

For a simple hardware implementation it is preferable to have all data 32 bit aligned. However, MPDUs submitted to the PHY may have any length. Therefore, this field is added before the PSDU in order to recover the exact length at the receiver. The field “PSDU length aligned 32” in Table 55 gives the 32 bit aligned PSDU length.

*Delete the sentence “If eU-OFDM….” In P107L16.*

*Add the following sentence after “PHY frame.”:*

The last four octets of the PSDU are for the FCS in order to detect transmission errors in the PSDU.

*Add the time index “n” in the exponent of the formula in P112L14.*

*Delete the sentence “The DC subcarrier….” Starting in P112L17.*

*Change “32” to “-32” in P112L25.*