**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | D01 selected comments on page eighty-four |
| Date Submitted | 10 September 2024 |
| Source | Billy Verso (Qorvo),  | billy.verso at qorvo.com |
| Re: | IEEE P802.15.4ab |
| Abstract | Comment Resolutions for selected comments on the LB207 / P802.15.4ab D01. |
| Purpose | This document provides text changes intended to be part of the final IEEE Std 802.15.4ab (amendment to IEEE Std 802.15.4), as part of resolving selected comments from the consolidated spreadsheet (doc 15-24-0371) that have been assigned to the author to resolve. |
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| Comments addressed here: |

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# Comment Indexes # 507, 877, 1209, 1393

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| --- | --- | --- | --- | --- | --- |
| **Index** | **page** | **clause** | **line** | **Comment** | **Proposed Change** |
| 507(Tero) | 84 | 10.38.9.3.10 | 17 | I assume the numbers in {} are supposed to match the values, but the text does not say so.  | Make the mapping from N\_MSR field value to number of repetitions explicit by adding table that maps 0->32, 1->40 etc.  |
| 877(Carl) | 84 | 10.38.9.3.10 | 17 | For clarity of the mapping, the values of this 3-bit field should be a table, and since there was some interest in smaller MSR values for future applications, the values reserved for future use should be 0 and 1. | Create/reference a table where values 0 and 1 are reserved and values 2 to 7 map to MSR values 32 to 256 respectively. |
| 1209(Billy) | 84 | 10.38.9.3.10 | 17 | The N\_MSR field specification lists values of symbols reptation in text. For consistency should make this reference common table where other similar values are listed elsewhere. (Somewhat editorial, but technical to make TG aware). | "Change: ""specifies the number of repetitions or the MMRS symbol in each RSF, value range {32, 40, 48, 64, 128, 256}"" to ""specifies the number of MMRS symbol repetitions in each RSF as per Table 27."" |
| 1393(Alex) | 84 | 10.38.9.3.10 | 17 | This is an enumeration, not a value range. | Say its an enumeration of values, say other values are reserved. |

**Discussion:**

These all comment on the line:

The N\_MSR field specifies the number of repetitions or the MMRS symbol in each RSF, value range {32,

40, 48, 64, 128, 256}

…which is describing the N\_MSR sub-field in figure 52 (shown below)



This set of comments is asking for the values to be more explicitly specified and to allow reserved space for future use.

*The technical editor would also like to change the field name to “RSF Fragment Length”, to align with separate comment (dealt with later in this document) to change “STS segment length field” to “RIF Fragment length”.*

The proposed resolution then is “**Revised**” with the following changes made to the draft:

Update the N\_MSR field name in Figure 52 as shown:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Bits: 0–5**  | **6–12**  | **13–15** | **16–17**  | **18–24**  | **25–31**  |
| Sequence Code Index | MMRS complementary set zeros | ~~N\_MSR~~ RSF Fragment Length | STS Segment Length | UWB Channel | Reserved |

**Figure 52—The Ranging PHY Configuration field**

and, change p.84 line 17 as shown:

~~The N\_MSR field specifies the number of repetitions or the MMRS symbol in each RSF, value range {32,~~

~~40, 48, 64, 128, 256}~~

The RSF Fragment Length field specifies the fragment length for the RSF fragments. The RSF Fragment Length field shall have one of the non-reserved values defined in Table X, with the meaning as indicated in the table.

…where X is an appropriate table number, and insert the new table as shown below:

Table X—Values of the RSF Fragment Length subfield of the Ranging PHY Configuration field

|  |  |
| --- | --- |
| **RSF Fragment Length field value**  | **Meaning, MSR value is:**  |
| 0 | Reserved |
| 1 | Reserved |
| 2 | 32 |
| 3  | 40 |
| 4 | 48 |
| 5 | 64 |
| 6 | 128 |
| 7 | 256 |

# Comment Indexes # 508, 878, 1210, 1211, 1394

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Index** | **page** | **clause** | **line** | **Comment** | **Proposed Change** |
| 508(Tero) | 84 | 10.38.9.3.10 | 19 | I assume the numbers in {} are supposed to match the values, but the text does not say so.  | Make the mapping from STS Segment Length field value to number of repetitions explicit by adding table that maps 0->32, 1->64 etc.  |
| 878(Carl) | 84 | 10.38.9.3.10 | 19 | "To allow for potential future use cases the STS Segment | In Figure 52, make the STS Segment Length field ocupy bits 16 to 18, renumbering next fields as appropriate, and reducing reserved field by one bit). And, make a table to define the field value meanings, with 0 and 1 reserved, values 2 to 5 mapping to fragment lengths 32, 64, 128, 256, and vaues 6 and 7 reserved. |
| 1210(Billy) | 84 | 10.38.9.3.10 | 19 | The STS Segment Length field, (a subfield of the Ranging PHY Configuration field), gives a text list of value meanings, but for clarity and consistency this should reference a table where the values and units etc defined. A similar field is specified in the MMS Ranging Configuration field of the AC IE already has a table. This should be used as part of a single common definition. | Change: "specifies length of RIF in units of 512 chips (~1 μs), with value range {32, 64, 128, 256}" to "specifies the fragment length of the RIF fragments as per Table 28". |
| 1211(Billy) | 84 | 10.38.9.3.10 | 19 | The STS Segment Length field, is misnamed, since there are no "STS segments" in the MMS ranging, i.e., this should be called RIF Fragment Length. | Change the field name from "STS Segment Length" to "RIF Fragment Length", on this line and in Figure 52. |
| 1394(Alex) | 84 | 10.38.9.3.10 | 19 | This is an enumeration, not a value range. | Say its an enumeration of values, say other values are reserved. |

**Discussion:**

These all comment on the line:

The STS Segment Length field specifies length of RIF in units of 512 chips (~1 μs), with value range {32, 64, 128, 256}

…, which is describing the STS Segment Length sub-field in figure 52 (shown below)



This set of comments is asking for the field name more appropriate, the values more explicitly specified and to allow reserved space for future use.

To resolve these the proposed resolution is “**Revised**” with the following changes made to the draft:

Update the field name and width as shown

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Bits: 0–5**  | **6–12**  | **13–15** | **16–~~17~~18**  | **~~18–24~~ 19–25** | **~~25~~26–31**  |
| Sequence Code Index | MMRS complementary set zeros | N\_MSR | ~~STS Segment~~ RIF Fragment Length | UWB Channel | Reserved |

**Figure 52—The Ranging PHY Configuration field**

Change p.84 line 19 as shown:

~~The STS Segment Length field specifies length of RIF in units of 512 chips (~1 μs), with value range {32, 64, 128, 256}~~

The RIF Fragment Length field specifies the fragment length for the RIF fragments. The RIF Fragment Length field shall have one of the non-reserved values defined in Table X, with the meaning as indicated in the table.

Where X is an appropriate table number, and insert new table X as shown below:

Table X—Values of the RIF Fragment Length subfield of the Ranging PHY Configuration field

|  |  |
| --- | --- |
| **RIF Fragment Length field value**  | **Meaning, RIF fragment length** **in units of 512 chips (~1 μs)** |
| 0 | Reserved |
| 1 | Reserved |
| 2 | 32 |
| 3  | 64 |
| 4 | 128 |
| 5 | 256 |
| 6 | Reserved |
| 7 | Reserved |

*<END>*