**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **Proposed resolution for RSS related comment IDs 503-506, 598, 599 and 926** |
| Date Submitted | Jan. 2024 |
| Sources | Mickael Maman (ST microelectronics), Sven Zeisberg (Zigpos)  |  |
| Re: |   |
| Abstract |  |
| Purpose | To propose comments resolution for “P802.15.4ab™/D (pre-ballot) C 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. |

***Comment Index #926 in 15-24-0010-03-04ab-consolidated-comments-draft-c***

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| --- | --- | --- | --- | --- | --- | --- |
| Commenter | Index # | page | Sub-Clause | Line | Comment | Proposed Change |
| Zhenzhen Ye | 926 | 40 | 10.37.1 | 18 | Is this RSS only used with O-QPSK PHY? Should the name be changed to "RSS with O-QPSK" if it is the case? Can this not operate with any companions PHY? | Change to "The optional RSS part of this standard is designed to define a network infrastructure and portable device rules, based use of a narrow band PHY such as the O-QPSK PHY with a UWB PHY, with associated MAC features, |

**Discussion of comment ID 926:**

To be done

**Proposed resolution for comment ID 926: To be done**

**Proposed text changes on P802.15.4ab™/D (pre-ballot) C for comment ID 926:**

To be done

***Comment Index #598 in 15-24-0010-03-04ab-consolidated-comments-draft-c***

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| Commenter | Index # | page | Sub-Clause | Line | Comment | Proposed Change |
| Rojan Chitrakar | 598 | 40 | 10.37.2 | 24 | What is RSS mode and what does communicating mean here? Is the O-QPSK PHY only used for management and control information to support ranging? This sentence gives the impression that O-QPSK is the sole PHY used in the RSS mode. This section seems to be based on DCN 23/34 but the text is significantly differented from the approved TFD. | Clarify what is the O-QPSK PHY used for and what it is not used for. Also, clarify the relation between RSS and the actual ranging phase. |

**Discussion ID 598:**

In the comment with ID 598 in section 10.37.2 a further extension of explanation of the RSS relation to the underlying ranging is requested. This should include a description between RSS and the actual ranging phase of the ranging to be supported by the RSS.

**Proposed resolution for ID 598: accept the proposed resolution**

**Proposed text changes on P802.15.4ab™/D (pre-ballot) C for comment ID 598:**

* insert additional 4 sentences in section 10.37.2

Text update (page 40, insert 4 sentences after line 26):

The RSS slotframe starts at the beginning of the ranging round of the UWB ranging to be supported. This enables a rough time synchronization of UWB ranging participants using the RSS. It also enables off-loading the control traffic from the UWB channel. The length of the RSS slotframe is at least equal to the length of the ranging round of the underlying UWB ranging system to be supported by the RSS.

***Comment Index #599 in 15-24-0010-03-04ab-consolidated-comments-draft-c***

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| Commenter | Index # | page | Sub-Clause | Line | Comment | Proposed Change |
| Rojan Chitrakar | 599 | 41 | 10.37.4 | 2 | "No IEs are specifically defined for RSS, but selected IEs used by the underlaying ranging service are reused…"Redundant text; there is no need to explain that new IEs are not defined. More text means more comments in future letter ballots. | Delete the paragraph. Simply explain how the existing IEs are used for RSS is sufficient, no need to elaborate that they are reused etc. |

**Discussion for comment ID 599:**

In comment 599 for section 10.37.4 a redundancy reduction and some simple explanation about which IEs are deployed in the RSS, is requested.

**Proposed resolution for comment ID 599: accept the requested resolution**

**Proposed text changes on P802.15.4ab™/D (pre-ballot) C for comment ID 599:**

* delete the paragraph as suggested (page 41, line 33 and 34)
* introduce a sentence instead of the deleted one, which is explaining simply, which IEs are used in RSS (page 41, line 33)

**10.37.4 Nested IEs for RSS**

~~No IEs are specifically defined for RSS, but selected IEs used by the underlaying ranging service are reused for RSS. These include the RR IE (10.31.9.3) and the RDM IE (10.31.9.8).~~

In RSS some IEs related to the underlying UWB block based ranging and Vendor Specific Nested IEs are deployed. IEs included in the RSS are the RR IE (10.31.9.3), the Vendor Specific Nested IE (7.4.4.3) and optionally the RDM IE (10.31.9.8). The definition of the contents of the Vendor Specific Nested IEs comes from UL.

***Comment Index #503 in 15-24-0010-03-04ab-consolidated-comments-draft-c***

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| Commenter | Index # | page | Sub-Clause | Line | Comment | Proposed Change |
| Tero Kivinen | 503 | 41 | 10.37.3.2 | 20 | I have now idea what the txt saying that ASN may be optionally used in the RSS slotframe? How it is used? ASN has complectly different properties than RSS slotframe etc has. Also "may optionally" is just may. | Remove ASN text. |

**Discussion for comment ID 503:**

To be done

**Proposed resolution for comment ID 503:**

To be done

**Pro Proposed text changes on P802.15.4ab™/D (pre-ballot) C for comment ID 503:**

To be done

***Comment Index #504, #505 and #506 in 15-24-0010-03-04ab-consolidated-comments-draft-c***

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| Commenter | Index # | page | Sub-Clause | Line | Comment | Proposed Change |
| Tero Kivinen | 504 | 42 | 10.37.4 | 1 | How is the Time Synchorization IE used in RSS? It is used in the TSCH when initially joinging the network in the beacon frames, does the RSS also need to syncronize the RSS slotframe structure before you can join? I would assume you would need a slot index, round index, and block index, but Time Correction IE does not provide those. | Remove list of TSCH IEs.  |
| Tero Kivinen | 505 | 42 | 10.37.4 | 1 | Do the RSS use ACK frames for the time syncronization, as it says it uses Time Correction IE, and isn't the Time Correction IE contradictionary to the ranging, as the time correction IE, assumes that the distance of the devices stays same, so the device sending time correction IE can calculate the clock offset based on when it received the frame, but if the distance changes, this gets impossible. | Remove list of TSCH IEs.  |
| Tero Kivinen | 506 | 42 | 10.37.4 | 1 | I am not sure how the other TSCH IEs can be used with the RSS either. It seems that the section just lists that someone could at some point define use for those IEs, but does not really define how they are supposed to be used. As there is no text anywhere saying those IEs can't be used, it is pointless to list those IEs, without properly defining how they are used in the RSS. | Remove list of TSCH IEs.  |

**Discussion for comment IDs 504, 505 and 506:**

As a resolution for comments ID 504, 505 and 506 it is requested by the commenter to remove the list of TSCH IEs in section 10.37.4, because it is not explained how they are used in the specific RSS scenario. In comment 506 it is mentioned by the commenter, that it is not explicitly forbidden to use those IEs, so it is redundant to list them here.

**Proposed resolution for comment IDs 504, 505 and 506: accept requested resolutions**

**Pro Proposed text changes on P802.15.4ab™/D (pre-ballot) C for comment ID 504, 505 and 506:**

* remove list of TSCH IEs from section 10.37.4.

Text update (page 41, line 36 and page 42, lines 1 and 2):

~~These IEs are the ones defined for the optional TSCH mode: Time Correction IE (10.3.8.1), TSCH Synchronization IE (10.3.9.1), TSCH Slotframe and Link IE (10.3.9.2) and TSCH Timeslot IE (10.3.9.3).~~