**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 Status Code** |
| Date Submitted | November 2024 |
| Sources | Rojan Chitrakar, Lei Huang (Huawei)rojan.chitrakar@huawei.com |  |
| Re: |   |
| Abstract |  |
| Purpose | To propose resolution for “P802.15.4ab™/D01 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. |

Rev 0: Initial version: 19 CIDs

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| **Name** | **Index#** | **Pg** | **Sub-Clause** | **Ln** | **Comment** | **Proposed Change** | **Disposition** |
| Tero Kivinen | 524 | 89 | 10.38.9.3.23 | 15 | The error names are quite long. Shorter ones might be better, especially as there is description that describes when it is used.  | Change REQUESTED\_PARAMETERS\_NOT\_ACCEPTED to INVALID\_PARAMETERS, REQUIRED\_CAPABILITY\_NOT\_SUPPORTED\_BY\_RESPONDER to to NOT\_SUPPORTED, REJECTED\_WITH\_SUGGESTED\_CONFIG\_CHANGE to CONFIG\_REJECTED. | ReviseModified to shorter status names. |

**Proposed text changes on P802.15.4ab™/D01:**

**10.38.9.3.23 The Status field**

***Modify the subclause as follows (Track changes ON)***

**Table 16—Values of Status field**

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| **Status field value** | **Name** | **Meaning** |
| 0 | SUCCESS | Request is accepted |
| 1 | INVALID\_PARAMETERS | Request is denied as one or more requested parameters cannot be accepted by the Initiator. |
| 2 | CAPABILITY\_NOT\_SUPPORTED | One or more required capability is not supported by the responder. For example, a (Compact frame ID, Message Control ID) tuple intended to be used by the initiator is not supported by the responder. |
| 3 | CONFIG\_REJECTED | Initiator indicates rejection with the suggested difference from the configuration parameters in Advertising Response Compact frame. |
| 4 | FAILURE | Request is denied due to other reasons. |
| 5-255 | - | Reserved. |

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| **Name** | **Index#** | **Pg** | **Sub-Clause** | **Ln** | **Comment** | **Proposed Change** | **Disposition** |
| Billy Verso | 1124 | 57 | 10.38.3.2 | 21 | The phrasing here "the status field set as SUCCESS" using upper case is I think out-of-line with style used elsewhere in 802.15.4, and It improve clarity to give a reference to where the values are defined. | Probably should be something like "with the status field value set to indicate success as defined in Table 16". There a good few of these to change, and not just for the SUCCESS case. (i.e. each of the dash bullets on p 57 is similar, and line 34/36 of p58, and dash bullets top of p 59, etc.) | ReviseUppercase status is frequently used in baseline. Reference to 10.38.9.3.23 (The Status field) is added. |
| Pooria Pakrooh | 1349 | 57 | 10.38.3.3 | 22 | If the initiator likes to use paramteres suggested in the ADV\_RESP message, what is the point of repeating the content? Change to: "If initiator wants to use any of the suggested params in the adv-resp, it does not need to include them in the SOR message. |  Change to: "If initiator wants to use any of the suggested params in the adv-resp, it does not need to include them in the SOR message." | RejectThe SOR with the Message Control field = 0x10 allows the configuration fields to be omitted from the SOR frame.  |
| Rojan Chitrakar | 110 | 58 | 10.38.3 | 4 | SORs with Message Control field set to 0x10 (with value of the status field set as SUCCESS) is also applicable here. | Add SORs with Message Control field set to 0x10 (with value of the status field set as SUCCESS). | ReviseModified as suggested. |
| Li-Hsiang Sun | 235 | 58 | 10.38.3.2 | 4 | "After transmitting the Start of Ranging Compact frame with the Message Control field equal to 0x00 ?"SOR with msg ctrl=0x10 can also indicate success" | change to "After transmitting the Start of Ranging Compact frame with the Message Control field equal to 0x00, or the Start of Ranging Compact frame with the Message Control field equal to 0x10 and the value of the Status field set to SUCCESS" | ReviseModified as suggested. |
| Billy Verso | 1130 | 58 | 10.38.3.2 | 24 | "(with value of the status field set as SUCCESS)." style/meaning needs updating | removing parentheses, change to: ", with the status field set to indicate success as defined in Table 16." | ReviseThe referenced text is deleted. |
| Pooria Pakrooh | 1351 | 58 | 10.38.3.2 | 32 | Why is this explanation for Status field repeated? Anything specific for the case where there is AP packet? If not, please remove this for better readability | As in the comment | ReviseThe repeated text is deleted. |
| Li-Hsiang Sun | 237 | 59 | 10.38.3.2 | 4 | "The value of the Status field should be ""REQUIRED\_CAPABILITY\_NOT\_SUPPORTED\_BY RESPONDER"" to be consistent with p57, L37 " | as in comment | ReviseThe repeated text is deleted. |
| Tero Kivinen | 410 | 59 | 10.38.3.2 | 4 | Why the REJECT\_WITH\_SUGGESTED\_CONFIG\_CHANGE is listed twice, and first time it says should not reattempt session initialization.  | I think this error message should be REQUIRED\_CAPABILITY\_NOT\_SUPPORTED\_BY\_RESPONDER instead, replace with that. | ReviseThe referenced text is deleted. |
| Srivathsa Masthi Parthasarathi | 213 | 59 | 10.38.3.2 | 10 | When Status field is FAILURE the responder is asked to reattempt session initialization at a later time | "later time" needs to be a MLME parameter | ReviseThe referenced text is deleted but an earlier instance is modfied. |
| Srivathsa Masthi Parthasarathi | 211 | 59 | 10.38.3.2 | 4 to 9 | "using word should does not make the requirement mandatory and can potentially cause interop issues | use shall instead of should | ReviseThe referenced text is deleted but an earlier instance is modfied. |
| Srivathsa Masthi Parthasarathi | 212 | 59 | 10.38.3.2 | 4 to 9 | "using the words should and may for the same error code REJECT\_WITH SUGGESTED\_CONFIG\_CHANGE leads to contradiction | "In the following error conditions the responder may reattempt for session initiatization with the following Advertising poll if there is an error in session initializiation with the current Advertising poll.-- If the value of the Status field is REQUESTED\_PARAMETERS\_NOT\_ACCEPTED-- If the value of the Status field is REJECT\_WITH SUGGESTED\_CONFIG\_CHANGEIn the followig error conditions the responder shall not reattemp for Session initialization" | ReviseThe referenced text was an error and has been deleted. |

**Proposed text changes on P802.15.4ab™/D01:**

**10.38.3.2 Session initialization**

***Modify the subclause as follows (Track changes ON)***

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If the initiator intends to proceed to the control phase, the Message Control field of the Start of Ranging Compact frame shall be set to 0x00 or 0x10 with the status field set as SUCCESS as described in 10.38.9.3.23. If a responder receives a Start of Ranging Compact frame with the Message Control field equal to 0x10 and the value of the status field is set as SUCCESS and if any of the NB Channel Map, Management PHY Configuration field, Management MAC Configuration field, Ranging PHY Configuration field and Ranging MAC Configuration field is not present, the value of the field of the same name from the Advertising Response Compact frame shall be used for starting the ranging session, or if no value was given in the Advertising Response Compact frame, if applicable the value communicated via OOB methods, or otherwise the default value of the field shall be used for the ranging session.

Otherwise, if the initiator does not intend to proceed to the control phase, the Message Control field of the Start of Ranging Compact frame shall be set to 0x10, and the value of the Status field set as one of the non-reserved entries in Table 16 other than SUCCESS. If a responder receives a Start of Ranging Compact frame with the Message Control field equal to 0x10 and the value of the Status field is one of the non-reserved entries in Table 16 other than SUCCESS, the responder’s action is as follows:

 ⎯ If the value of the Status field is INVALID\_PARAMETERS, the responder may reattempt the session initialization with a different set of parameters by listening for another Advertising Poll Compact frame.

 ⎯ If the value of the Status field is CAPABILITY\_NOT\_SUPPORTED, the responder shall discontinue the session initialization.

 ⎯ If the value of the Status field is CONFIG\_REJECTED, the responder may reattempt the session initialization with the initiator suggested configuration, however if the suggested configuration is not supported by the responder then the responder shall discontinue the session initialization.

 ⎯ If the value of the Status field is FAILURE, the responder may reattempt the session initialization by listening for another Advertising Poll Compact frame.

When the responder has transmitted the Advertising Response Compact frame, it 1 shall listen for a Start of Ranging Compact frame in the subsequent slot. Once the initiator has received an Advertising Response Compact frame, it may transmit a Start of Ranging Compact frame in the subsequent slot.

 After transmitting the Start of Ranging Compact frame with the Message Control field equal to 0x00 or 0x10 with the status field set as SUCCESS as described in 10.38.9.3.23 or a Pubic Start of Ranging Compact frame with the Message Control field equal to 0x00, the initiator shall enter the control phase, at the time it has indicated in the start of ranging message. After the initiator has confirmed receipt of the expected response from the responder during control phase, and unless initialization of further devices is required, the initiator shall discontinue ranging initialization and cease transmission of Advertising Poll Compact frames.

 A successful initialization process when coordination is not active is illustrated in Figure 26.

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***Delete the paragraphs from Page 58 Line 23 to Page 59 Line 11.***

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| **Name** | **Index#** | **Pg** | **Sub-Clause** | **Ln** | **Comment** | **Proposed Change** | **Disposition** |
| Tero Kivinen | 550 | 95 | 10.38.9.6 | 15 | It might be better to split the figure 70 to 3 different figures, one for case where Status is success, one when the status is config change, and one for all other cases.  | Split figure 70 to three. | RejectFigure 70 illustrates the format of a variant of Message Content field. The various possible combination of fields are explained in the text. |
| Tero Kivinen | 551 | 95 | 10.38.9.6 | 15 | Presence bitmap can also be 2 octet long if the Starting Block Index or MMS Ranging Mode Configuration are included, as they are in the extended parts of the Presence bitmap.  | Change 0/1 to 0/1/2 for Presence Bitmap. | Accept |
| Carlos Aldana | 1002 | 95 | 10.38.9.6 | 15 | Figure 70 is very flexible but there is no indication if the fields are present or not. Need to add a presence indicator, similar to the one in 10.38.9.3.24, to allow for parsing of the field at the receiver. | As in comment | RejectPresence Bitmap already exists. |
| Pooria Pakrooh | 1366 | 95 | 10.38.9.6 | 15 | In Figure 70, change "NB Channel Map" field length to 0/2/5/6. | As in the comment | Accept |
| Tero Kivinen | 549 | 95 | 10.38.9.6 | 18 | The text says that if the status is success then we continue, but not all configuration values are transmitted, but I think they still can be transmitted even when some of them can also be omitted.  | Remove "but ...explictly".  | Accept |
| Rojan Chitrakar | 123 | 96 | 10.38.9.6 | 5 | the MMS Ranging Mode Configuration field and the Extended Presence Bitmap Present field needs to be added to the list. | add the MMS Ranging Mode Configuration field and the Extended Presence Bitmap Present field to the end of the sentence | Revise |
| Rojan Chitrakar | 124 | 96 | 10.38.9.6 | 8 | Sentence needs to be updated | change as:"The encoding and meaning of the NB Channel Map, the Management PHY Configuration field, Management MAC Configuration field, Ranging PHY Configuration field and the Ranging MAC Configuration field is identical to that of the fields of the same name in the Advertising ResponseCompact frame with Message Control field value equal to 0x00." | Revise |

**Proposed text changes on P802.15.4ab™/D01:**

**10.38.9.6 Start of Ranging Compact frame**

***Modify the subclause as follows (Track changes ON)***

…

The Status field is described in 10.38.9.3.23. The value of the status field is set as SUCCESS if the initiator intends to proceed to the control phase. Otherwise, if the initiator does not intend to proceed to the control phase, the value of the status field is set as one of the non-reserved values.

…

The Presence Bitmap field is present when the value of status field is SUCCESS or CONFIG\_REJECTED, otherwise the Presence Bitmap field is not present. The Presence Bitmap is set as specified in 10.38.9.3.24, with the fields other than NB Channel Map, Management PHY Configuration Present field, Management MAC Configuration Present field, Ranging PHY Configuration Present field, Ranging MAC Configuration Present field, Starting Block Index Present field, Extended Presence Bitmap Present field and MMS Ranging Mode Configuration Present field set to zero.

The encoding and meaning of the NB Channel Map field, the Management PHY Configuration field, Management MAC Configuration field, Ranging PHY Configuration field and the Ranging MAC Configuration field is identical to that of the field of the same name in the Advertising Response Compact frame with Message Control field value equal to 0x10.