**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |  |
| --- | --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Proposed Resolution for Extended Address** | |
| Date Submitted | January 2025 | |
| Sources | Rojan Chitrakar, Lei Huang (Huawei)  [rojan.chitrakar@huawei.com](mailto: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: 4 CIDs

Rev 1: Changed the resolution for CID 1198, 1203 to Revise (from Reject)

Rev 2: modification based on offline feedback.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Index#** | **Pg** | **Sub-Clause** | **Ln** | **Comment** | **Proposed Change** | **Disposition** |
| Billy Verso | 1198 | 79 | 10.38.9.2.1 | 11 | This is talking about resolving RPA, and discarding frames. This needs to be part of the general receive frame processing. | Add text about compact frame address filtering / receive frame processing into a revised (reviewed) subclause 6.2.2 Reception and rejection, including editorial marks to apply the necessary changes so that MAC can work with Compact Frames and other frames pre-existing and newly added by 4ab. | Revise  The comment is resolved by resolution for a similar CID 1200 in 25/28r2. |
| Billy Verso | 1201 | 80 | 10.38.9.2.3 | 5 | Are all outgoing secure compact frames going to responders, maybe sometimes they are sent to "initiators" or just to other devices with different roles. Better to use the term "destination" than responder. | Make this paragraph more generic, use the terms "source" and "destination" rather than "initiator" and "responder". | Revise |
| Billy Verso | 1202 | 80 | 10.38.9.2.3 | 9 | The term "marked as resolved" is not explained and does not appear in the referenced clause 10.38.9.2.1, although this clause is talking about RPA being resolved, and it does talk about the RPA being marked as unresolved. | Use the same terms for the same thing, better still if clause 6 is filtering and discarding, then instead of "marked as resolved" instead say "passes the first level frame filtering of 6.6.2". | Revise |
| Billy Verso | 1203 | 80 | 10.38.9.2.3 | 12 | This says that the mapping of the extended address to the IRK is not defined in this standard, but I think it has to be, or at least the PIB should include a structure with IRK and associated RPA and extended addresses, (it can be left to the upper layer to populate this but it needs to exist). Can these be added to the secCompactFrameKeyDescriptor or is a separate structure needed? | Add to secCompactFrameKeyDescriptor or create an appropriate descriptor to link IRK, RPA, extended address, and whatever security key information the MAC needs populated in order secure Compact frames in TX and process them appropriately in RX. | Revise  A PIB is created to store IRKs. |

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

**10.38.9.2.3 Extended Address**

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

…

For an outgoing secure Compact frame that is sent to a single destination device, the extended address of the responder is used to identify the security key. For an outgoing secure Compact frame that is sent to more

than one destination device, the security key is identified based on the extended address of the originator of the group key.

For an incoming secure Compact frame whose RPA is marked as resolved (as described in 10.38.9.2.1), the

corresponding security key can be identified based on the extended address corresponding to the IRK in *macMmsIRKDescriptor* used to resolve the RPA of the frame.

**10.38.10.1 MMS specific MAC PIB attributes**

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

MMS specific attributes are described in Table 20.

**Table 20—MMS related MAC PIB attributes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attribute** | **Type** | **Range** | **Description** | **Default** |
| … |  |  |  |  |
| *macMmsUwbChannel* |  |  |  |  |
| *macMmsIRKDescriptor* | Structure (as defined in Table 2x1). | - | Structure containing  IRKs for Compact  frames | (empty) |

Table 2x1 defines the *macMmsIRKDescriptor*. The *macMmsIRKDescriptor* contains one or more IRKs in use by the device.

Table 2x1—Elements of *macMmsIRKDescriptors*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Range** | **Description** |
| *macMmsIRKList* | List of *macMmsIRKDescriptors* (as defined in Table 2x2). | *-* | List of *macMmsIRKDescriptors* maintained by the device |
| *macMmsIRKAssociatedEUI Present* | *Boolean* | *TRUE,*  *FALSE* | When TRUE, *macMmsIRKAssociatedEUI* is present in *macMmsIRKDescriptor; when FALSE macMmsIRKAssociatedEUI* is not present in *macMmsIRKDescriptor* |

Table 2x2 defines the *macMmsIRKDescriptor*. The *macMmsIRKDescriptor* contains one IRK in use by the device and the extended address of the device associated with the IRK.

Table 2x2—Elements of *macMmsIRKDescriptor*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Range** | **Description** |
| *macMmsIRK* | *octet string* | *-* | Value of IRK |
| *macMmsIRKAssociatedEUI* | *8 Octets* | *An extended IEEE address* | *The extended address of the device associated with the IRK. The field is present if* *macMmsIRKAssociatedEUI is TRUE and not present otherwise.* |