**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 Hyperblock-block-assignment** | |
| Date Submitted | February 2024 | |
| Sources | Rojan Chitrakar, Lei Huang (Huawei)  [rojan.chitrakar@huawei.com](mailto:rojan.chitrakar@huawei.com) |  |
| Re: |  | |
| Abstract |  | |
| Purpose | To propose resolution for comments related to Hyperblock-block-assignment 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. | |

Rev 0: Initial version.

***Comment Indices in 15-24-0010-00-04ab-consolidated-comments-draft-c related to Hyperblock:***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Index#** | **Pg** | **Sub-Clause** | **Ln** | **Comment** | **Proposed Change** | **Disposition** |
| Li-Hsiang Sun | 2 | 31 | 10.31.3.5 | 18 | How does a controllee know block assignment scheduling is not used? Does it need to search for every slot in a hyperblock to make sure no scheduling IE with type 6 in a HBA round is addressed to it? Note in this case the controlee does not know the relative position of the current block from the start of hyperblock because current block index is not signaled. The timing of "first round of each ranging block" or "certain block of each hyperblock" for possible HBA round may be difficult to determine | Remove the dependency to block assignment scheduling. A controllee uses the presence of a second RR IE and the absence of ERR IE in a round to determine that it should hop within the same block index in the next hyperblock or upper layer signaling is used to indicate round hopping is within the same block | Revised |
| Zhenzhen Ye | 925 | 31 | 10.31.3.5 | 25 | is HBA round same or similar to RCP? | Clarify relationship between HBA and RCP | Rejected |
| Li-Hsiang Sun | 5 | 32 | 10.31.3.5 | 19 | There seems to be 2 modes using ERR IE, Hopping Mode=0 or 1. When hopping mode=0, how does a controllee determine the round index if it loses ERR IE and later receives a block assignment in a HBA round? | for hopping mode=0, signal round index in addition to block index in HBA round | Revised |
| Rojan Chitrakar | 590 | 35 | 10.31.9.10 | 2 | "If the Address Size field is zero, …" The Address Size field also applies to the addresses in the Address List field. | Rephrase as: "If the Address Size field is zero, short address shall be used for the Sender Address field, the Receiver Address field and the addresses in the Address List field. If the Address Size field is one, extended address shall be used for the Sender Address field, the Receiver Address field and the addresses in the Address List field." | Revised |
| Bin Qian | 314 | 38 | 10.31.9.11 | 23 | The maximum value of the offset does take into account the Imm-ACK | The maximum value of offset shall be the ranging slot duration minus the packet duration, minus AIFS, and minus the Imm-ACK duration | Rejected |

**Comments Index#**：925

**Disposition: Rejected**

**Disposition Detail:**

While it is possible that the HBA and the RCP may be the same in some cases, it is not a requirement. Any round in which the Scheduling IE carrying the block assignment schedule is periodically transmitted is considered an HBA.

**Comments Index#**：314

**Discussion:**



**Disposition: Rejected**

**Disposition Detail:**

The cited sentence is exactly the same as used in RR IE. There is no need to include the time required for Ack frame transmission.

**Comments Index#**：2

**Disposition: Revised**

**Disposition Detail:**

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

**10.31.3.5 Hyper block mode (#2)**

***Change the subfield as follows (Track changes ON)***

…

Hyper block keeps the same structure repeated in every hyper block. Round hopping is optional in hyper block mode. Round hopping may be performed in the hyper block mode in one of the following methods:

* If a controlee receives an Enhanced Ranging Round IE (ERR IE) (as described in 10.31.9.11) in which the Hopping Mode field is set to one, the controlee may hop to one of the ranging rounds in the ranging block indicated by the ERR IE.
* If the controlee receives a Scheduling IE (as described in 10.31.9.10) with the Scheduling List Type equal to six in which the controlee’s address is present in a Block Assignment field in which the Hopping Mode field is set to one, the controlee may hop to one of the ranging rounds in the ranging block indicated by the Block Assignment field.
* Otherwise, if the controlee receives a second RR IE in its ranging round in which the Hopping Mode field is set to one, the controlee may hop to one of round at the block having the same Block Index number in the next hyper block.

**Comments Index#**：5, 590

**Disposition: Revised**

**Disposition Detail:**

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

**10.31.9.10 Scheduling IE (#5, 590)**

***Change the subfield as follows (Track changes ON)***

…

**P35L1:**

The Address Size field specifies the size of the Sender Address field or the Receiver Address field or the addresses in the Address List field when the block assignment scheduling is used. If the Address Size field is zero, short address shall be used for the Sender Address field, the Receiver Address field and the addresses in the Block Assignment List field. If the Address Size field is one, extended address shall be used for the Sender Address field, the Receiver Address field and the addresses in the Block Assignment List field. When the block assignment scheduling is used and the Block Assignment List field carries address of networks, the Address Size field indicates short address.

**…**

**P38L1:**

When the Scheduling List Type field is set to six (block assignment scheduling), the Scheduling List elements shall be formatted as per Figure 16.

|  |  |  |
| --- | --- | --- |
| **Octets: 1** | **1** | **variable** |
| Ranging Block Index | Block Assignment List Length | Block Assignment List |

**Figure 16—Scheduling List element format when Scheduling List Type is six**

The Ranging Block Index field specifies the index of the ranging block within the hyper block.

The Block Assignment List Length field specifies the number of Block Assignments in the Block Assignment List field.

The Block Assignment List field carries one or more Block Assignment field. The Block Assignment field shall be formatted as illustrated in Figure 16B.

|  |  |  |
| --- | --- | --- |
| **Octets: 2 or 8** | **Bits: 0** | **1-15** |
| Address | Hopping Mode | Round Index |

**Figure 16B—Block Assignment field format**

The Address field specifies the address of the network or devices that are allocated one or more round in the block identified by the Ranging Block Index field. The size of the Address field is specified by the Address Size field.

The Hopping Mode field specifies the hop mode for the assigned ranging block, where zero means no hopping and one means hopping.

The Round Index field specifies the round index for the assigned ranging block when round hopping is not enabled.

If the Scheduling IE is included in the same frame as an RDM IE (as defined in 10.31.9.8) then the Scheduling IE shall be used for the scheduling.