**IEEE 802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **Proposed Text for Draft 1.0 Comment Resolution – Part 5 - 186,946,948,949,1220** |
| Date Submitted | February 18, 2025 |
| Sources | Youngwan So (SAMSUNG Electronics)youngwan.so@samsung.com |  |
| Re: |   |
| Abstract |  |
| Purpose | To propose resolution for miscellaneous hyper block related comments for “P802.15.4ab™/D1.0 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 resolution are suggested for the following CIDs ( Totally 5 )

 186, 948, 946, 949, 1220

***Comment Indices in 15-24-0371-01-04ab-consolidated-comments-draft-1.0:***

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| **Name** | **Index#** | **Pg** | **Sub-Clause** | **line** | **Comment** | **Proposed Change** | **Disposition** |
| Wenzheng Li | 186 | 58 | 10.38.3.2 | 24 | "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 value of the status field set as SUCCESS)"0x20 is missing here. | If the initiator intends to proceed to the control phase, the Message Control field of the Start of Ranging 21 Compact frame shall be set to 0x00 or 0x20 or0x10 (with value of the status field set as SUCCESS) | Accepted |

**Disposition Detail:**

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Accepted. The comment is correct.

Other than that, based on the accepted resolution on CID 1162, 1163, 1164, 1165 in DCN050r2, there also needs to be update on the phrases of “…. default value of the *macMmsNbInitChannel* attribute“ and “default value of the *macMmsUwbChannel* attribute…..“, to keep consistency.

**Proposed text changes on P802.15.4ab™/Draft 1.0 :**

***Change 10.38.3.2 P58L24 as below ;***

13 If the coordination is active, the initiator determines the configuration for the ranging session based on

14 knowledge of UWB channel usage learned from Acquisition Compact frames received from other initiators

15 as described in 10.38.3.9. When coordination is active, the initiator may scan the O-QPSK 5800 MHz band with channel number *aOqpsk5g8AquisitionChan* and HRP UWB channel with channel number *aHrpUwbAquisitionChan*before transmitting the Start of Ranging Compact frame. To perform

18 scanning for coordination and defer the transmission of the Start of Ranging Compact frame, the initiator

19 sends an Advertising Confirmation Compact frame in the subsequent slot after receiving the Advertising

20 Response Compact frame. The Advertising Confirmation Compact frame includes the time offset between

21 the first symbol of the Advertising Confirmation Compact frame and the first symbol of the Start of

22 Ranging Compact frame.

23 If the initiator intends to proceed to the control phase, the Message Control field of the Start of Ranging

24 Compact frame shall be set to 0x00 or 0x10 or 0x20 (with value of the status field set as SUCCESS). If a responder

***Comment Indices in 15-24-0371-01-04ab-consolidated-comments-draft-1.0:***

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| **Name**  | **Index#** | **Pg** | **Sub-Clause** | **line** | **Comment** | **Proposed Change** | **Disposition** |
| Youngwan So | 948 | 77 | 10.38.8.4.3 | 4 | Only Initiator operation is described. There's no responder operation description. Need to specify responder operation. | Change From"The control phase uses the UWB channel and starts with the transmission by the initiator of either a One-to many Poll Compact Frame or a frame that carries the Scheduling IE (10.32.9.10)." To "The control phase uses the UWB channel and starts with the transmission by the initiator of either a One-to many Poll Compact Frame or a frame that carries the Scheduling IE (10.32.9.10) to the responders. Based on the control phase, the transmissions of responders may be scheduled." | Revised |

**Disposition Detail:**



Revised.

**Proposed text changes on P802.15.4ab™/Draft 1.0 :**

***Change 10.38.8.4.3 P77L4 as below ;***

3 The control phase uses the UWB channel and starts with the transmission by the initiator of either a One-to

4 many Poll Compact Frame or a frame that carries the Scheduling IE (10.32.9.10) to the responders. During the control phase, the transmissions of responders are scheduled. This frame may include

5 slot scheduling information and RSF allocation for the responders, (i.e., ranging slot 0 in Figure 45). When

6 the Scheduling IE is used, the Scheduling List Type field value is set to four. After receiving the frame

7 from the initiator, each responder replies with either a One-to-many Response Compact Frame or a frame

8 that carries the MMRC IE, (i.e., ranging slots 1 and 2 in Figure 45)

***Comment Indices in 15-24-0371-01-04ab-consolidated-comments-draft-1.0:***

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| Youngwan So | 946 | 77 | 10.38.8.4.3 | 13 | Generally, the procedure comprise of three phases ; control, ranging and report phase. However, explanation corresponding to the Measurement Report Phase is missing here. So the report phase briefly is described. | Add below texts at the end of the paragraph ; "In the measurement report phase, the initiator and/or the responders send measurement report by One-to-Many initiator report and/or One-to-Many responder report compact frame or Ranging Measurement Information IE (RMI IE) in the UWB channel." | Revised |
| Youngwan So | 949 | 77 | 10.38.8.4.3 | 13 | Not enough responder operation description.. | Change From"If responder receives the SYNC+SFD fragment of the initiator, after AIFS the responders reply with RSF as allocated by the scheduling IE in the control phase." To "If responder receives the SYNC+SFD fragment of the initiator, after AIFS the responders reply with RSF as allocated by the scheduling IE in the control phase, when SYNC+SFD fragment is sent at the allocated slot which was scheduled in Control Phase." | Revised |

**Disposition Detail:**





**CID#946 and #949**

Revised both. In the UWB driven case, the HRP UWB PHY MMS packet includes the initial SYNC and SFD fragment as specified in 16.2.11, and a value of 1 ms shall be supported for time interval between the start of SYNC+SFD and the first SFD. So AIF is deleted.

**Proposed text changes on P802.15.4ab™/Draft 1.0 :**

***Change 10.38.8.4.3 P77L12 as below ;***

9 In the ranging phase, the UWB MMS packet including the initial SYNC+SFD fragment, as per Figure 198,

10 is transmitted to trigger multiple RSF transmissions. In the ranging slot 3, the initiator transmits the

11 SYNC+SFD fragment to trigger multiple RSF transmissions as in 10.38.8.4.4. If responder receives the

12 SYNC+SFD fragment of the initiator, the responders reply with RSF as allocated by the O2M POLL or scheduling IE in the control phase with the constraint the time interval between the start of the packet in the control phase and the start of the MMS packet in the ranging phase is 1ms.



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| Billy Verso | 1220 | 97 | 10.38.9.6 | 5 | This be talking about "ranging slots", "ranging blocks" etc.Also somewhere in the text MMS slots were constrained to 300 RSTU multiples, so maybe we want to make that constraint in the slot duration field here (and elsewhere) | Add in "ranging" before block, round, slot as appropriate.Consider if appropriate to constrain slot durations to 300 RSTU multiples and update accordingly. Here and everywhere. | Revised |

**Disposition Detail:**



**CID#1220**

Revised. Added in "ranging" before block, round, slot as suggested.

And at the same time, a phrase in the P56L2 says, “For UWB MMS ranging, the ranging slot, ranging round, and ranging block durations shall be integer multiples of 300 RSTUs.” But, applications other than MMS may use different slot duration constraints, so it may be better if we just say “the Block Duration, Round Duration and Slot Duration may have some constraints and it will be dependent on the application

**Proposed text changes on P802.15.4ab™/Draft 1.0 :**

***Change 10.38.9.6 P97L5 as below ;***

1 The Block Duration field is an unsigned integer that specifies the duration of the ranging block. The unit of the

2 Block Duration field is the number of ranging rounds in the ranging block.

3 The Round Duration field is an unsigned integer that specifies the duration of the ranging round in units of slots,

4 which is the number of slots in the ranging round.

5 The Slot Duration field is an unsigned integer that specifies the duration of a slot in RSTU. The Block Duration, Round Duration and Slot Duration may have some constraints and it will be dependent on the application