**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Text for resolution of comment row 415 (ID 22804000023)** | |
| Date Submitted | July 2017 | |
| Source | Billy Verso (Decawave), | billy.verso (at) decawave.com |
| Re: | Comment resolutions of 802.15.8 -- SB1 | |
| Abstract | This gives a proposed resolution to the indicated comment from the first sponsor ballot of the 802.15.8 draft standard. | |
| Purpose | The purpose of this document is to resolve the comment | |
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| **Comment row: 415** (Comment ID: 22804000023) | |
| Location detail: | **Clause 6.10.3.4.5, Page 75, line 21** |
| Comment: | Sync frames are broadcasted by every PD with UWB PHY in the CAP. It is unclear how the estimated number of PDs sending Sync frames can be done based on accessing the ENPSS field. A single PD can be accessing this ENPSS field and counting over itself. |
| Suggested change: | Please clarify and give a cross reference about this procedure. |

**Discussion:**

I do not understand the comment about “counting over itself.”, but I will endeavor to clarify the intent of the referenced text in this discussion, and propose a resolution to make the text clearer.

This clause in question relates to the format of the sync frame, and the indicated text relates to the generation of the ENPSS field value, not about using it. [That would be a matter for the receiver. The ENPSS field is part of the LAPI field – its use in receive is covered in clause 7.3.15.3.2 which says “The next higher layer may use the LpdiValue and CFP usage information to decide about its own CFP usage, or any move to operate on another complex channel.”]

To generate the *Estimated Number of PDs Sending Sync frames* (ENPSS) field, the MAC, which is listening in all slots of the sync period of each superframe, (except the slot it is randomly choosing to send in), simply counts over the *aLapiAssessmentPeriod* (5 seconds) the number of separate PD from which it receives Sync frames. Essentially, for every Sync frame received during the period, the MAC checks whether a Sync frame has been received from that PD previously during this period, and, if the answer is yes then the count is unchanged, otherwise the count is incremented by one for the “new” PD Sync frame being encountered.

In any period of counting, the MAC stops counting when the count reaches the saturation value of 31.

**Resolution:**

Comment sheet “Disposition Detail” shall say:

“ACCEPT IN PRINCIPLE. The text will be modified as described in 15-17-0435-00”.

***The following tracked changes with respect to page 75 lines 21 to 23 of draft “P802.15.8-D4.0.MEC.pdf” clause 6.10.3.4.5, are the proposed changes to resolve this comment:***

The estimated number of PDs sending Sync frames (ENPSS) field gives a measure of how many other PDs are in the vicinity sending Sync frames. This is a simple count of Sync frames with unique source addresses over the *aLapiAssessmentPeriod*, saturating at a maximum value of 31, (i.e. over the assessment period, the MAC counts the first Sync frame received from each PD, but not any subsequent Sync frames from the same PD during the same period).

**<END>**