802.11ba Draft Specification

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| Bit location of TSF timer for the Partial TSF field in WUR Beacon |
| Date: 2018-05-07 |
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Abstract

This submission proposes spec text to resolve TBD related to the Partial TSF field in WUR Beacon.

Revision History:

* Rev 0: Initial version of the document

***Editing instructions formatted like this are intended to be copied into the TGba Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGba Editor: Editing instructions preceded by “TGba Editor” are instructions to the TGba editor to modify or insert material in the TGba draft. As a result of adopting the changes, the TGba editor will execute the instructions rather than copy them to the TGba Draft.***

**Discussion:**

We have agreed to have ± 100 ppm accuracy for TSF timer for WUR STA. Further, we have agreed to have 12 bits of Partial TSF timer in the TD control field of WUR Beacon.

Several options for the bit location of the TSF timer in the TD control field are listed below.

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| --- | --- | --- | --- | --- | --- |
| Bit location | [7:18] | [6:17] | [5:16] | [4:15] | [3:14] |
| Maximum uncorrectable drift when Beacon is received | ±128 us | ±64 us | ±32 us | ±16 us | ±8 us |
| Percentage of uncorrectable drift under 2ms ON Duration | 6.25% | 3.125% | 1.5625% | 0.78% | 0.39% |
| Maximum correctable drift | ± 2^18 us | ± 2^17 us | ± 2^16 us | ± 2^15 us | ± 2^14 us |
| Number of maximum allowed miss beacon under 10s WUR Beacon interval | 131 | 65 | 32 | 16 | 8 |
| Number of maximum allowed miss beacon under 20s WUR Beacon interval | 65 | 32 | 16 | 8 | 4 |
| Number of maximum allowed miss beacon under 40s WUR Beacon interval | 32 | 16 | 8 | 4 | 2 |

We propose to choose [5:16], where the uncorrected drift is tolerable based on the power consumption consideration, and the maximum allowed missed beacon is acceptable to avoid constant wake up.

**TGba Editor: *Instruction: Replace the value X in 31.3.3 TSF Timer update, proposed in 11-18/0751, with 5.***