**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 proposal of priority-based CSMA/CA for LPWA** |
| Date Submitted | [07 September, 2018] |
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| Re: | [P802-15-18-0147-00-004w-call-for-proposals.docx 8 (08-Mar-2018)] |
| Abstract | [This is a proposal of priority-based CSMA/CA for large-scale populated LPWA services.] |
| Purpose | [Contribution to IEEE 802.15.4w] |
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***1. Modify the sub-section of 10.2.5 Receiver ED:***

**10.2.5 Receiver ED**

The minimum ED value (zero) shall indicate received power less than 10 dB above the lowest specified receiver sensitivity, in dBm, for the PHY except for the 917MHz band. The minimum ED value of 917MHz band shall be -65 dBm or less.

***2. Modify the sub-section of 10.2.7 Clear channel assessment (CCA):***

**10.2.7 Clear channel assessment (CCA)**

a) Except for the SUN O-QPSK PHY and the 917MHz band PHYs, the ED threshold shall correspond to a received signal power of at most 10 dB greater than the specified receiver sensitivity for that PHY, or in accordance with local regulations. For the SUN O-QPSK PHY, the ED threshold shall comply with the specification in 22.5.13. For the 917MHz band PHYs, the ED threshold shall be -65 dBm or less.

b) Except for the 917 MHz PHYs, 920 MHz band PHYs, and the RCC PHYs, the CCA detection time shall be equal to aCcaTime, as defined in Table 11-1. For the 920 MHz band, and the RCC PHYs, phyCCADuration symbol periods shall be used. For the 917 MHz band PHYs, the CCA detection time shall be equal to 5ms or more.

***3. Add the following paragraph at the end of 6.2.5.1 CSMA-CA algorithm:***

**6.2.5.1 CSMA-CA algorithm**

In a LPWA PAN, if *macBeOffsetEnabled* is set to TRUE, an additional constant delay (*macBeOffset*) shall be required before locating backoff period delay illustrated in Figure 6-5

***4. Add the following attributes in Table 8-81***

**Table 8-81 MAC PIB attributes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attribute** | **Type** | **Range** | **Description** | **Default** |
| *macBeOffsetEnabled* |  Boolean |  TRUE, FLASE | Indication of whether an additional constant delay (*macBeOffset*) is required before locating backoff period delay |  FALSE |
| *macBeOffset* |  Integer | - | The required delay before locating backoff period delay | 0 |