**IEEE P802.15**

**Wireless Specialty Networks**

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| Project | IEEE P802.15 Working Group for Wireless Specialty Networks (WSNs) | |
| Title | Miscellaneous Comments, Part 2 | |
| Date Submitted | 14-November-2024 | |
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| Re: | Resolving comments form LB207 | |
| Abstract | Proposed resolutions to CIDs | |
| Purpose | Make the world better by encouraging adoption and productive use of 802.15 standards based on accurate information | |
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# Introduction

This document addresses the following comments:

Comments:

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| 283 | 15 | 6.6.3.3 | 25 | Why there is need for specific macEmdevImmAckAifsPeriod? The HRP-EMDEV will always use this different values regardless of mode (i.e., the high-rate pulse repetition frequency UWB PHY based enhanced modulations device will always use this) so it can be just be configured in the macSifsPeriod. | Or is it trying to say that high-rate pulse repetition frequency UWB PHY based enhanced modulations devices sometimes use this macEmdevImmAckAifsPeriod and sometimes uses macSifsPeriod? The HRP-EMDEV is device property, not a mode inside the device. Is the HRP-EMDEV supposed to be mode for devices not a device type itself? |
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# Resolutions

## CID 283

### General Discussion

Overall discussion: The commenter is correct the statement is technically incorrect and self-contradictory. It was noted that the timing specified previously in 802.15.4 (all revisions and amendments since IEEE Std 802.15.4a-2007) is broken. The “for all other PHYs” is not correct as stated. It is true if we limit the scope to use of the HRP PHY.

To achive compatibility with legacy devices, an HRP-EMDEV would be operating in a PHY mode compatible with the legacy device, and should expect behavior, including timing, as defined in the current version of the standard. Thus the new values should be used only when using a new enhanced mode, which requires that the peer device is an HRP-EMDEV capable of using the same enhanced mode. The text is revised to clarify that this applies under these specific conditions, when generating an IM-ACK

The assumption is that the intent is to provide flexible timing for new devices operating according to this standard (802.15.4ab) when communicating with similarly capable devices and not break compatibility with legacy HRP devices.

#### Option 1a

Recommended resolution: **Revised**

Resolution detail:

Change

For a HRP-EMDEV sending Imm-Ack, the AIFS shall be equal to the value of the macEmdevImmAckAifsPeriod attribute in Table 8-36. The value of AIFS is equal to macSifsPeriod for all other PHYs and modes.

To

For an HRP-EMDEV while communicating with another HRP-EMDEV using any of the enhanced modulations modes defined for an HRP-EMDEV in this standard, when generating an Imm-Ack the AIFS shall be equal to *macEmdevImmAckAifsPeriod* defined in Table 8-36. Otherwise, when using the HRP PHY, when generating an Imm-Ack the value of AIFS is equal to macSifsPeriod.

Discussion:

This fixes the problem with the sentence, does not inadvertently appear to alter the behavior of legacy devices or devices not using an HRP PHY. This creates an observable and testable behavior associated with the requirement, and preserves compatibility with a legacy HRP device, including HRP-ERDEV. When an HRP-EMDEV is operating in a legacy BPRF or HPRF mode to communicate with a legacy device, it should expect the legacy device may conform to the timing requirements in IEEE std 802.15.4-2020 (HRP) and IEEE Std 802.15.4z-2020 (HRP-ERDEV) and most certainly should not be prohibited from using the legacy timing expectations when communicating with a legacy device.