IEEE P802.15

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Corrigendum Worksheet** | |
| Date Submitted | 18 November, 2009 | |
| Source | [Pat Kinney] [Kinney Consulting LLC] [Lake Zurich, IL] | Voice: [+1 847 960 3715] E-mail: [pat.kinney@ieee.org] |
| Re: | [A committee has been formed, headed by Pat Kinney, vice chair of 802.15, to address the need to correct existing standards as per IEEE rules.] | |
| Abstract | [The following submission is a call for participation, applications and proposals from the IEEE, Industry, and Academia.] | |
| Purpose | [Request for corrigendum of the IEEE 802.15.4-2006 standard and 802.15.4a-2007] | |
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**Corrigenda committee members:**

* Patrick Kinney (Kinney Consulting LLC)
* Phil Beecher (PB Consulting)
* James Gilb (SiBeam)
* Jay Bain (Fearn Consulting)

**Request for Corrigenda:**

1. Submitted by Phil Beecher, Integration UK Ltd; 12 November 2007

Section 7.5.8.2.3 Incoming security processing. Sections c) and f) appear to be contradictory. How should the receiver behave when a frame is received with Security Enabled field set to 1 but when the security level in the frame is set to 0? Is this covered in c)? If so, what does f) refer to?

1. Submitted by Phil Beecher, Integration UK Ltd; 12 November 2007

We have been looking at the PHY section of 15.4-2006. Section 6.1.2.2 Channel pages references phyPagesSupported in the PHY PIB, but I cannot find it in the PIB. Was this an omission? Did it ever get given an attribute ID value?

1. Submitted by Phil Beecher, Integration UK Ltd; 8 January 2008

I think there is another problem with 15.4-2006, this time concerning association. The spec describes the behaviour when a device disassociates, also when the coordinator refuses the association request, but it does not describe what should happen if a communication error occurs during the association process, causing the process to fail. I believe this was an oversight in the spec and that the behaviour should be described.

1. Submitted by Phil Beecher, Integration UK Ltd; 9 April 2008

Please could you clarify the behaviour of the MAC in the following situation?

A device is participating in a beacon-enabled network, tracking the beacon of its parent and generating its own beacon.  It receives a beacon from its parent in which the Superframe structure is changed in such a way as to cause the device’s outgoing beacon characteristics to knowingly violate the parent Superframe.

1) Should the device stop sending its own beacon?

2) Inform the next higher layer (NHL) that it has stopped, and if so how?

I think the answers to both these questions should be "yes", and that the device should inform the NHL by generating an MLME-SYNC-LOSS.indication with status of SUPERFRAME\_OVERLAP.  This status enumeration was added in 15.4-2006 as a status for the MLME-START.confirm message to cover the condition described when it occurs during the MLME-START.request.

1. SubmittedbyDusan Radovic, TES Electronic Solutions, 9 February 2007

Regarding section 6.8a.12.1 (draft 7)

Could you clarify the pulse duration given in 6.8a.11.1, Draft 5?

Is it defined on the half of pulse amplitude or as width of the main lobe (from zero to zero)?

In the same part, in the mathematical description (formula), right medium bracket is misplaced should be before the plus sign in the nominator.

1. Submitted by Rene Struik, Certicom, Clause 7.5.8.2.3

Incoming security frame processing does not treat devices with diplomatic immunity (“Exempt status”) properly.

1. **Resolutions:**

**Item 1)**

No change required:

Step a) in the procedure identifies the case where the Security Enabled subfield is set to zero and the security level thus becomes zero. It is this security level which applies throughout the rest of 7.5.8.2.3 except in the case of c), i.e. the case where the Security Enabled subfield is set to one. In this case, the procedure ensures that the Security Level subfield of the Security Control field is not zero - if it is, it rejects the frame at that point. So the apparently contradictory case in f) only applies when the Security Enabled subfield is set to zero.

This text could perhaps be clearer but this is the result of trying to write a logical procedure in something resembling English whereas a language with proper control flow constructs would have been more appropriate

**Item 2)**

Change required:

The PHY PIB name used on page 29 in the second line of Clause 6.1.2.2 should be corrected to read as "*phyChannelsSupported*". Both the pages and channels supported within that page can be obtained via this attribute and provides the information that a *"phyPagesSupported"* PHY PIB Attribute would.

**Item 3)**

Change required:

15.4-2006 Page 181 section 7.5.3.1 Replace: “If the Association Status field of the command indicates that the association was unsuccessful, the device shall set *macPANId* to the default value (0xffff).”

 with

“If the Association Status field of the command indicates that the association was unsuccessful, or, if there is a communication failure during the association process due to a missed acknowledgement or the association response command frame is not received, the device shall set *macPANId* to the default value (0xffff).”

**Item 4)**

Change required:

The device should stop sending its own beacon and inform the next higher layer by generating an MLME-SYNC-LOSS.indication with status of SUPERFRAME\_OVERLAP.

Note:

This status enumeration was added in 15.4-2006 as a status for the MLME-START.confirm message to cover the condition described when it occurs during the MLME-START.request.

**Item 5)**

The above raise two issues firstly there is an error in equation for the reference pulse ,*r*(*t*), in section 6.8a.12.1(draft 7) it should be :



Secondly the requestor asks for a clarification of the pulse width parameter, *Tp*. According to the corrected equation for *r*(*t*) above the parameter *Tp* is the half pulse amplitude point.  So for example if *Tp* = 2 *ns* then r(-1) = r(1) = r(0)/2.

**Item 6)**

Proposed resolution is contained in document 15-08-849-00