**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title |  | |
| Date Submitted | [16 May 2014] | |
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| Re: | [802.15 Maintenance and WNG Meeting in Vancouver, Canada, May 2015] | |
| Abstract | [IEEE 802.15 Maintenance and WNG Standing Committee Minutes] | |
| Purpose | [Official minutes of the Standing Committee Session] | |
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**IEEE 802.15 Wireless Interim Meeting – Session #96**

**Vancouver, Canada**

**May 11-14, 2015**

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# SC Maintenance Minutes

## Monday 11 May 2015

**16:02** SC Maintenance called to order by Chair, Pat Kinney, Kinney Consulting

* Presents 15-14-0481-00 SC Opening Report.
  + Chair asked if there any one has knowledge of essential patents and provides an opportunity for response: **None heard**.

**Agenda**

* Monday 11 May, AM2
  + Review SB results, characterize and group comments
* Tuesday, 12 May, AM1
  + Assign comments
* Tuesday, 12 May, PM1
  + Comment Resolution – Integer encoding
* Wednesday 13 May, AM1
  + Comment Resolution – General
* Wednesday 13 May, PM1
  + Comment Resolution – General
* Thursday 14 May, AM1
  + Comment Resolution - RIT
* Thursday 14 May, AM2
  + BRC formation, approval of draft, conf call scheduling (15-15-0351-03)
  + IE characteristics (15-15-090-03)
* Thursday 14 May, PM1
  + Comment Resolution - Security
* Reviewed editorial comments for technical content, those believed to be technical were reclassified as technical, documented in 15-15-0344-01.

**17:50** SC Maintenance meeting recessed

## Tuesday, 12 May, AM1

**08:10** SC Maintenance meeting called to order

* Reviewed comments, broke them down by clause number, and grouped them according to the following technical areas: LLDN, TSCH, PANID, Integer Encoding, PCA, RIT, General, Security, Frak, Data Rate, DSME, TVWS, PICS, and TRLE.
* Discussion ensued to as the elimination of Security level 4, i.e. encrypt only. There were objections to this deletion, matter was tabled until security discussion.
* Comment groups were entered into the comment database 15-15-assigned:
  + Editorial J Gilb
  + LLDN L Winkel
  + TSCH P Kinney, C Calvert
  + PANID M McInnis
  + PICS M McInnis
  + Integer Encoding All
  + General All
  + Data Rate All
  + Ack timing All
  + PCA J Haapola
  + Frak J Haapola
  + RIT A Kumar
  + Security T Kivinen, J Gilb
  + DSME TBD (PK to find out)
  + TVWS K Shah
  + TRLE S Soon Joo
  + Comments outside of above categories were assigned on a case-by-case basis
* Originator (sender) calculation for timing
  + Variable Preamble Length
    - UWB, SUN, TVWS, LECIM
    - Recommend to use default PHR lengths to calculate timing
      * Use comment assignees to define defaults
  + Number and Length of IEs
    - Calculation should use only those IEs required by the mode, e.g. time sync info IE for TSCH
    - Variable Length Frame Payload
      * Calculation includes only MIC if present
    - Guard Times (between end of one slot and start of another slot
      * TSCH
        + Absorbed by *macTsCcaOffset*
      * GTS
        + Add subclause 8.4.3.6 from 15.3-2003
      * DSME
        + Request from DSME assignee

The above categorization, assignments, and timing resolutions were documented in 15-15-0344-02.

Meeting recessed

## Tuesday 12 May 2015, PM1

**13:40** Meeting called to order

Focus for this meeting slot is to resolve the comments categorized as Integer Encoding. The comments call out portions of the draft where it is stated that a field contains a value of something but does not inform the reader as to how the value is to be encoded into the field. The group reviewed each comment and proposed a resolution as documented in 15-15-0344-03. However, while reviewing the encoding aspect, many other issues with those parts of the draft were discovered.

**15:20** meeting recessed until Wednesday, AM1

## Wednesday 13 May 2015 AM1

**08:10** SC Maintenance called to order by Pat Kinney, chair.

Focus for this meeting is to resolve comments marked as General

**10:00** SCm recessed until Wednesday, PM1

## Wednesday 13 May 2015 PM1

**13:40** SC Maintenance called to order by Pat Kinney, chair.

Focus for this meeting is to continue to resolve comments marked as General

Resolutions were captured in document 15-15-0344-04

**15:15** SCm recessed until Thursday, AM1

## Thursday 14 May 2015 AM1

**08:10** SC Maintenance called to order by Pat Kinney, chair.

Focus for this meeting is to continue to resolve comments marked as RIT

A Kumar presented documents 15-15-0335-00 and 15-15-0336-00 that dealt with the rationale for the comments and proposed resolutions. The group agreed with many of the comments and resolutions however on others had different mechanisms to resolve the issues and on one comment i-42, the comment had already been resolved in the draft, i.e. no changes were necessary.

Resolutions were captured in document 15-15-0344-05

**10:00** meeting recessed

## Thursday 14 May 2015 AM2

**10:40** called to order by chair

Focus for this meeting is to perform administrative duties, such as BRC formation, conference call scheduling, and drafting the closing report, doc 15-15-0351-03.

**Motion:**

*SCm requests that 802.15 WG approve the formation of a Ballot Resolution Committee (BRC) for the Sponsor Balloting of the 802.15.4 Revision draft standard with the following membership: Pat Kinney, James Gilb, Jussi Haapola, Jeritt Kent, Benjamin Rolfe, Clint Powell, Billy Verso, Kunal Shah, Fumihide Kojima, Tero Kivinen, and Tim Harrington. The 802.15.4 Revision BRC is authorized to approve comment resolutions and to approve the start of balloting the 802.15.4 Revision draft on behalf of the 802.15 WG. Comment resolution on recirculation ballots between sessions will be conducted via reflector email and via teleconferences as announced to the reflector at least 30 days in advance.*

*T Kivinen moved, C Powell seconded. Upon no opposition the motion carries with unanimous consent.*

**BRC Conference Call Scheduling**

* Standing Weekly Conference Call up till and including 10 June:
* Mondays and Wednesdays at 15:00 PDT, 17:00 CDT, 22:00 UTC; Tuesdays and Thursdays 01:00 EEST, 03:30 IST, 07:00 JST
* First call after this session is 20 May
* The call-in details are:
  + Join the meeting: <https://join.me/ieeesawg_802.15>
  + On a computer, use any browser with Flash. Nothing to download.
  + On a phone or tablet, launch the join.me app and enter meeting code: ieeesawg\_802.15
  + Join the audio conference:
* Dial a phone number and enter access code, or connect via internet.
* By phone:
  + United States - Hartford, CT   +1.860.970.0010
  + United States - Los Angeles, CA   +1.213.226.1066
  + United States - Thousand Oaks, CA   +1.805.309.5900
  + Japan - Tokyo   +81.3.4579.5983
  + United Kingdom - London   +44.33.0088.2634
  + Access Code   184-971-970#
* Standing Weekly Conference Call after 10 June:
* Mondays and Wednesdays at 16:00 PDT, 18:00 CDT, 23:00 UTC; Tuesdays and Thursdays 02:00 EEST, 04:30 IST, 08:00 JST
* The call-in details are:
  + Join the meeting: <https://join.me/ieeesawg_802.15>
  + On a computer, use any browser with Flash. Nothing to download.
  + On a phone or tablet, launch the join.me app and enter meeting code: ieeesawg\_802.15
  + Join the audio conference:
* Dial a phone number and enter access code, or connect via internet.
* By phone:
  + United States - Hartford, CT   +1.860.970.0010
  + United States - Los Angeles, CA   +1.213.226.1066
  + United States - Thousand Oaks, CA   +1.805.309.5900
  + Japan - Tokyo   +81.3.4579.5983
  + United Kingdom - London   +44.33.0088.2634
  + Access Code   184-971-970#

**BRC Call Proposed Agenda**

* LLDN: 3 June L Winkel
* Frak: 27 May J Haapola
* TSCH: TBD P Kinney
* Integer Encoding All
* PCA: 27 May J Haapola
* PAN ID: 10 June M McInnis
* DRate (data rate) All
* PICS: 10 June M McInnis
* Security T Kivinen/J Gilb
* Ack Timing All
* RIT 20 May A Kumar
* Clause 23 27 May J Haapola
* TRLE S Soon-Joo
* General All
* DSME TBD
* TVWS TBD K Shah

Upon completion of these duties, the group reviewed the IE table document 15-15-0090-03.

**12:15** meeting recessed

## Thursday 14 May 2015 PM1

**13:40** SC Maintenance called to order by Pat Kinney, chair.

Focus for this meeting is to continue to resolve comments marked as Secure

T Kivinen led the resolution of these comments by presenting document 15-15-0388-01. Comment i-17 was delayed until a method of assuring backward compatibility can be found. Resolution to comment i-20 was rejected since the group agreed to reinstate security level 4. Resolutions were captured in 15-15-0344-05.

**15:00**: Motion to adjourn, upon no opposition meeting was adjourned.

# SC WNG meeting

## Wednesday 13 May 2015 AM2

**11:10** SC WNG called to order by Chair P Kinney, Kinney Consulting

There were three presentations:

* Guide for 802.15.4 presentation (15-15-0397-00) by J Gilb
  + Significant interest from attendees
  + Including multiple modes of operation (profiles) would be beneficial
  + Suggestion to acknowledge older versions of the standard with examples of use and best practices
  + 14 supported the start of an IG to prepare a table of contents.
  + IG was started, chair will be one of the following: P Beecher, E Callaway, C Powell
* NGMN 5G White Paper (15-15-0408-00) by T Kürner
  + T Kürner described the efforts of the Next Generation Mobile Network group and their interest in IEEE 802
* 802.15.4-specific L2 sub-layer presentation (15-15-0409-00) by P Kinney
  + Significant interest from attendees, citing various aspects of 15.4 that are confusing to upper layers and suggesting that the success of 15.4 has been hampered by its requirements of higher layers to configure the MAC and constantly be involved in network activities
  + IG was started, chair is P Kinney, with C Perkins as vice-chair