**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | July IEEE802.15.13 Minutes | |
| Date Submitted | July 2017 | |
| Source | Tuncer Baykas (Istanbul Medipol University)  Volker Jungnickel (HHI)  Li Qiang-John (HI Silicon) | Voice: [ ] Fax: [ ] E-mail: [ ] |
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| Abstract | [Minutes of May 2017 Interim Session] | |
| Purpose | [Description of what the author wants P802.15 to do with the information in the document.] | |
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**Task group 802.15.13 met for 7 meetings during the July 2017 Plenary Session.**

**Meeting #1, Tuesday 11 July 2017, AM 2 (10:30 – 12:30)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (HI Silicon)
* Mohammad Noshad (VLNComm)
* Nikola Serafimovski (pureLiFi)
* Tuncer Baykas (Istanbul Medipol University)
* Tae-Gyu Kang (ETRI)
* Sang-Kyu Lim (ETRI)
* Dirk Mayer (Osram)
* Gerhard Meerbacher (Osram)
* Rad Canchi (Kyocera)
* Anagnostis Paraskevopoulos (HHI)

The meeting was called to order by Volker Jungnickel (Fraunhofer HHI).

Tuncer Baykas was named as secretary.

Volker Jungnickel presented **doc. 15-17-0366r1**.

Patent slides are shown and the rules to attendance are explained.

The Vancouver meeting minutes **doc. 15-17-0311r0** were reviewed and approved by unanimous consent.

Agenda provided in **doc. 15-17-0366r1** is discussed and approved by unanimous consent.

Volker Jungnickel explained the commenting process using the document **doc. 15-17-0350r0.**

He explained the comment and proposed changes should be submitted. Resolutions will be decided by the group.

Tuncer Baykas explained the standardization process for the group.

Volker Jungnickel suggested going through the document to check its contents and necessary changes.

Group discussed how to go forward with the document presentation. Rad Canchi (Kyocera) suggested that current version should be improved before the commenting process. Volker Jungnickel suggested to go over comments provided by Li Qiang-John to start the work.

Agenda provided in **doc. 15-17-0366r2** is discussed and approved by unanimous consent.

Meeting recessed until PM 2.

**Session #2, Tuesday 11 July 2017, PM 2 (16:00 – 18:00)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (HI Silicon)
* Mohammad Noshad (VLNComm)
* Tuncer Baykas (Istanbul Medipol University)
* Tae-Gyu Kang (ETRI)
* Sang-Kyu Lim (ETRI)
* Dirk Mayer (Osram)
* Gerhard Meerbacher (Osram)
* Rad Canchi (Kyocera)
* Anagnostis Paraskevopoulos (HHI)

The meeting was called to order by the Chair Volker Jungnickel (Fraunhofer HHI).

The group decided to discuss when and how to have an Ad-hoc meeting during the week of July 16th. ETRI, HHI and VLNcomm have implementation of OOK PHY. Tuncer Baykas suggested to changed the term PHY II. Mohammad Noshad suggested to use Pulsed Modulation PHY, what was commonly accepted.

Sang-Kyu Lim will provide a review of 15.7. Mohammad Noshad will provide a presentation of VLNCOMM implementation. Jonas Hilt will provide HHI implementation. The group will discuss on a common feature set, what could be mandatory and what optional, develop a revised specification, and prepare a joint contribution for next meeting. Group decided to have a teleconference to discuss the results of the Ad-hoc meeting. (TG Chair’s note: This decision was however superseded by the WG chairs recommendation to present the joint presentation during the Kona meetings and open them for discussion within the entire TG13. The TG was informed about this recommendation by the TG Chair and agreed to proceed in this manner).

Li Qiang (Huawei) presented **doc. 15-17-0372r0.**

Group decided to use Pulsed Modulation PHY for the PHYII of 802.15.7. Group liked the idea of unifying the structures of different PHY layers. Volker Jungnickel mentioned that he needs to check the contribution. Tunçer Baykaş mentioned that Nikola Serafimovski should be in the room to confirm the unification process.

Volker Jungnickel mentioned that if the PPDU format is not strict about timing the suggested format in Slide 7 can be used. Volker Jungnickel mentioned that the group will check to follow the structure as long as implementation wise there is no change.

The group should discuss the wavelengths of the transmitted signals. Tae-Gyu Kang asked why there is a field called channel estimation in the SHR. Group answered that the channel estimation is the name of the field which includes data which can be used for channel estimation.

The meeting was recessed until Wednesday, AM1.

**Session #3, Wednesday 12 July 2017, AM 1 (8:00 – 10:00)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (HI Silicon)
* Tae-Gyu Kang (ETRI)
* Dirk Mayer (Osram)
* Gerhard Meerbacher (Osram)
* Sang-Kyu Lim (ETRI)
* Anagnostis Paraskevopoulos (HHI)
* Tuncer Baykas (Istanbul Medipol University)

The meeting was called to order by the Chair Volker Jungnickel (Fraunhofer HHI).

Li Qiang-John loaded the comments resolution, the resolved comments can be found at

https://mentor.ieee.org/802.15/dcn/17/15-17- 0426-00- 0013-comments- resolution-against-d0-july- meeting.xlsx

Li Qiang-John asked if anyone interested in Relaying. Tuncer Baykas replied that he wanted to keep Relaying in the standard.

Group discussed the channel plan. Li Qiang-John suggested to have basic modes. Dirk Mayer suggested to have basic modes but the system should be expandable. Volker Jungnickel mentioned that their system does not have a band plan at the moment.

Tae-Gyu Kang presented **doc. 15-10-0327r0** to clarify the origin of the bandplan concept in 802.15.7-2011.

The group discussed if RGB should be supported. Anagnostis Paraskevopoulos suggested to keep the channel options open. Dirk Mayer agreed that it is good to have it as reserved.

Volker Jungnickel suggested to have a comment in the next review to change it.

The meeting was recessed until Wednesday PM1.

**Session #4, Wednesday 12 July 2017, PM 1 (13:30 – 15:30)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (HI Silicon)
* Tae-Gyu Kang (ETRI)
* Sang-Kyu Lim (ETRI)
* Mohammad Noshad (VLNComm)
* Dirk Mayer (Osram)
* Gerhard Meerbacher (Osram)
* Anagnostis Paraskevopoulos (HHI)
* Tuncer Baykas (Istanbul Medipol University)

The meeting was called to order by the Chair Volker Jungnickel (Fraunhofer HHI).

Group prepared a motion about how to remove the band plan concept from the new specification while keeping it backwards-compatible with 802.15.7-2011.

**Motion #1:** **TG13 moves that …**

**The concept using the bandplan in Table 111 in D0 shall be redesigned as it is needed only for transmissions where the receiver needs to know the wavelength of the transmitter. There shall be a default mode indicating wavelength-agnostic transmission (e.g. use “111” in the “logical channel” field). Other states of this field are left for further study. Accordingly, table 111 is removed and comments are requested what implications this will have on the rest of the document.**

**Moved by Li Qiang Seconded by •Mohammad Noshad**

**Yes 4 No 0 Abstain 0**

**Motion passed**

Group reviewed fast link recovery and discussed if it should stay in the standard. Volker Jungnickel mentioned that there are much simpler concepts such as outer-loop link adaptation (OLLA) in mobile communications which do not need the extensive interaction between device and coordinator as it is used in the fast link recovery concept. Mohammad Noshad suggested to review the fast link recovery concept and to provide a solution until the next meeting.

Group discussed Capabilities IE, which is fundamental in the MAC. Tuncer Baykas suggested that whole new Mac can be used. The group decided to keep the general MAC structure and revised the composition of these fields.

Mohammad Noshad will review 5.4 and provide comments on that.

Group reviewed the command list and discuss which ones are needed. CV and Color stabilization commands may not be necessary. Sang-Kyu Lim will provide a presentation about dimming support.

Li Qiang-John suggested that PHY7 and PHY 9 style should be shortened in general and become less descriptive and more normative.

The meeting was recessed until Wednesday PM2.

**Session #5, Wednesday 12 July 2017, PM 2 (16:00 – 18:00)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (HI Silicon)
* Mohammad Noshad (VLNComm)
* Tae-Gyu Kang (ETRI)
* Sang-Kyu Lim (ETRI)
* Anagnostis Paraskevopoulos (HHI)
* Tuncer Baykas (Istanbul Medipol University)

The meeting was called to order by the Chair Volker Jungnickel (Fraunhofer HHI).

This meeting was used for reviewing the draft, working on existing and eventually providing new comments.

The meeting was recessed until Thursday AM1.

**Session #6, Thursday 13 July 2017, AM1 (8:00 – 10:00)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (Huawei)
* Mohammad Noshad (VLNComm)
* Tae-Gyu Kang (ETRI)

The meeting was called to order by the Chair Volker Jungnickel (Fraunhofer HHI).

This meeting was used for reviewing the draft, working on existing and eventually providing new comments.

The meeting was recessed until Thursday AM2.

**Session #7, Thursday 13 July 2017, AM2 (10:30 – 12:30)**

Attendees:

* Volker Jungnickel (Fraunhofer HHI)
* Li Qiang-John (Huawei)
* Mohammad Noshad (VLNComm)
* Nikola Serafimovski (pureLiFi)
* Tae-Gyu Kang (ETRI)
* Sang-Kyu Lim (ETRI)
* Tuncer Baykas (Istanbul Medipol University)

The meeting was called to order by the Chair Volker Jungnickel (Fraunhofer HHI).

Volker Jungnickel presented **doc. 15-17-0427r0.**

Group discussed **doc. 11-17-1048r3.**

Li Qiang-John suggested to use the term backhaul network in **doc. 15-17-0427r0.** to keep consistency.

Nikola Serafimovski suggested to state the definitions at the beginning of the document.

Volker Jungnickel updated **doc. 15-17-0427r1** wherethe term fronthaul will be used.

After the meeting, **doc. 15-17-0427r2** has been uploaded which removed deleted text.

The group came back to the contribution of Huawei **doc. 15-17-0372r0** and decided tomake a motion about the first proposal in it.

TG15.13 moves that:

In future drafts, simply refer PHYs as, pulsed modulation PHY (PM-PHY), low bandwidth OFDM PHY (LB-PHY) and high bandwidth OFDM PHY (HB-PHY), respectively.

Moved by: Li Qiang

Seconded by: Volker Jungnickel

Y/N/A: 3/0/0

Motion passed.

Volker Jungnickel reminded the committee about the comment submission deadline on August 27. Committee members should review in particular their own submissions, as well as other parts of the document and provide any comment until the deadline.

The group discussed how the work should be organized in the future.

In general, there should be a large amount of comments resolved at each interim session. Thereafter a new draft shall be prepared by the Technical Editor and issued after the meeting. First comments will be already resolved in the next plenary session, requesting a smaller number of meetings. This gives the group members the opportunity to follow parallel activities in other task and working groups and submit contributions requested by the Technical Editor that will be discussed.

Motion to adjourn until the Kona meeting in September by Volker Jungnickel.

Motion passed with unanimous consent.