**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title |  | |
| Date Submitted | [11 Mar 2015] | |
| Source | [] [] [address] | Voice: [ ] Fax: [ ] E-mail: [ ] |
| Re: | [Task Group 4r Interim Meeting in Berlin] | |
| Abstract | [Task Group 4r Minutes.] | |
| Purpose | [Official minutes of the Task Group Session | |
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**IEEE 802.15 Plenary Meeting – Session #95**

**Estrel Hotel, Berlin, Germany**

**March 9-12, 2015**

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# Wednesday, 11 March 2015, 16:00 (PM2)

**13:35** Acting TG4r chair, Pat Kinney, called meeting to order.

Chair displayed the IEEE-SA slides #1 through #4 of the IEEE patent policy.

Chair asked if anyone in the meeting was personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance? There were no responses.

**Agenda for Berlin**

Objective of this meeting is to discuss modifying the scope of TG4r to include other MAC operations such as dynamic transmit power control, dynamic data rate selection, asymmetric link operation, channel hopping operation, etc. Upon neither discussion nor objection the motion carries by unanimous consent.

**Current TG4r PAR Scope (5.2b)**

“This amendment integrates wireless ranging techniques and technologies, including those existing within IEEE 802.15.4 and new to IEEE 802.15.4, into a consistent, standardized method addressing the needs of a wide range of applications and PHYs and enabling the interoperability of devices by different vendors using this method. Additionally, the amendment defines necessary MAC and PHY extensions which enable common radio based distance measurements.”

**Current TG4r Need statement (5.5)**

The IEEE 802.15.4 standard addresses many markets where there is a substantial need for both communications and determination of distances between two devices, i.e. ranging. The following is a representative set of application examples: covering a variety of accuracies, from centimeters to many 10s of meters:

* a retailer needs to determine the proximity of a shopper to specific points/displays and then send the appropriate data
* a medical environment needs to determine the proximity of a staff person to a desired item and inform that staff as to specific data for that item
* lighting control networks need to determine the range between devices to facilitate binding for control, e.g. a specific switch to a specific light fixture
* TV whitespace networks require location awareness via accurate ranging from multiple devices to determine available frequency bands
* Railroad services desire the ability for a locomotive to determine the distance to various devices for identification, etc.

Given that various regions and applications are served by numerous frequency bands following different regulatory rules, modulations, and data rates; complexity and confusion can only be avoided if ranging data is made available to higher layers in a consistent manner for location determination mechanisms. Hence there is a need for a Real Time Locating System (RTLS) which works with the diverse PHYs of IEEE 802.15.4.

**Group discussion**

Chair presented 15-15-0214-00. Chair noted that many of the behaviors described in the document were only possible via the MAC i.e. the higher layer could not do them. Chair then asked the group about their interest in the efforts listed in this document. Essentially the interest ranged from none to high. Discussion points were on cost involved, whether the behaviors were being done already in the upper layers, and the market need for these behaviors.

On the question as to how soon could these efforts be started, WG chair explained to the group the steps in changing the PAR, i.e. modifying the PAR and CSD, obtaining WG approval, obtaining EC approval, and the NesCom approval. The chair advised the group that the changes to the PAR’s scope could be minimal noting the proposed change in 15-15-0214-00.

* Chair asked the group to determine support for these efforts from their respective management and asked the group if the document 15-15-0214-00 was sufficient for this purpose. Consensus was that no changes to the document were required. Group asked that the following be added to the slide titled **Other Modes/Operations with Similar Needs:**
* Dynamic Channel Selection
* Dynamic Preamble Selection
* Dynamic Modulation Selection
* Others?

A conference call was planned midway between the next session, Thursday, 16 April at 16:00 BST.

**18:00** Meeting adjourned