**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | IG HRRC Meeting Minutes for July 2016 | |
| Date Submitted | 1 August, 2016 | |
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| Re: | [] | |
| Abstract | [Meeting minutes for the July meeting of IEEE P802.15 IG HRRC] | |
| Purpose | [] | |
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IEEE 802.15 Working Group

Interest Group HRRC: *High Rate Rail Communications*

Meeting (joint with 802.16 Working Group)

Thursday 28 July 2016, AM1

Meeting Chair/Secretary: Junhyeong Kim, ETRI

**Minutes**

* Call to order at 08:02 AM
  + The chair called the meeting to order. 7 people attended the meeting.
* The secretary of IG HRRC, Dr. Bing Hui of ETRI was unable to attend this meeting, so Junhyeong Kim decided to take minutes.
* The chair reviewed the IEEE-SA patent policy relevant to pre-PAR activities.
* Roll call to register the presence.
* The chair called to approve the proposed meeting agenda ([IEEE 802.15-16-0468-01-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0468-01-hrrc-ig-hrrc-july-2016-agenda.xlsx)).
  + No comment heard from the attendees.
* The previous meeting minutes was approved without additional comment ([IEEE 802.15-16-0266-00-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0266-00-hrrc-ig-hrrc-meeting-minutes-for-march-2016.docx)).
* Contribution #1: “A KR-EU Joint Research Project Relevant to HRRC – 5G CHAMPION” was presented by Junhyeong Kim of ETRI ([IEEE 802.15-16-0502-01-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0502-01-hrrc-a-kr-eu-joint-research-project-relevant-to-hrrc-5g-champion.pptx)).
  + Question(Q): About the network structure of MHN system and the coverage of mRU in the system?
    - Answer(A): MHN system is a bidirectional network, where mRUs of the system are deployed along trackside and each mRU has two antennas with beam pointing in opposite directions. The distance between adjacent mRU is 1km, and each mRU covers over 1km.
  + Q: What’s the maximum speed supported in the specification that will be developed in this group (HRRC)?
    - A: The specification will support the maximum speed of 500km/h, which is one of the technical requirements defined in the ITU
* Contribution #2: “Doppler Mitigation for High-speed Rail Communications” was presented by Junhyeong Kim of ETRI ([IEEE 802.15-16-0473-01-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0473-01-hrrc-doppler-mitigation-for-hsr-communications.pptx)) on behalf of Dr. Bing Hui, ETRI.
  + Q: There would be some problems if one of the link is blocked.
    - A: It’s true, but in most of time, both forward and backward links can be received.
* The chair asked for the discussions and comments on IG HRRC and other issues.
  + Participants questioned about which solution is currently used for the train safety control in Korea?
    - The chaired said that maybe GSM-R is one of the solutions mainly used in Korea.
  + Participant gave a comment on the potential usage scenario covered in the IG HRRC. He said that in USA, positive train control is a really important and urgent issue in USA more than wireless backhauling for high-rate onboard Wi-Fi service.
    - The chair also agreed with this, and he said that the safety control for high-speed train is one of the potential usage scenarios considered in this IG.
  + Participants had discussions on the future MAC specification for the HRRC and several related issues like handover.
    - Even in the specification of 802.11, there is a technology similar to the concept of handover in Cellular systems.
  + Participants had a discussion on the future potential collaboration with IEEE 802.16 WG.
  + The possibility of transition to study group was discussed.
    - Participant advised that PAR and CSD documents should be carefully documented, especially in terms of the broad market potential and distinct identity, for approval by EC. In addition, it should explain and clarify the major differences between what this IG propose and 3GPP.
* Future Plans
  + Update Call for Interest (CFI) document in order to encourage more companies to participate in upcoming meetings.
    - Add and modify more detailed usage scenarios.
    - Add new technical challenges of HRRC in both physical layer and higher layer.
  + Technical collaboration on HRRC with participants.
* Adjourned: meeting was adjourned at 09:47.

Participants of IG HRRC Meeting:

Junhyeong Kim ETRI

Guy Simpson Full Spectrum Inc.

Jerry Knoblach Space Data Corp.

Robert Finch Select Spectrum

Tim Godfrey EPRI

Harry Bims Bims Laboratories

Bob Heile Wi-SUN Alliance