**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 November 2016 | |
| Date Submitted | 10 November, 2016 | |
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| Re: | [] | |
| Abstract | [Meeting minutes for the November 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 10 November 2016, AM1

Meeting Chair/Secretary: Junhyeong Kim, ETRI

**Minutes**

* Call to order at 08:00 AM
  + The chair called the meeting to order. 4 people attended the meeting.
* 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 802.15-16-0732-01-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0732-01-hrrc-ig-hrrc-november-2016-agenda.xlsx)).
  + No comment heard from the attendees.
* The previous meeting minutes was approved without additional comment ([IEEE 802.15-16-0545-00-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0545-00-hrrc-ig-hrrc-meeting-minutes-for-july-2016.docx)).
* Contribution #1: “MHN-E System for HRRC” was presented by Junhyeong Kim of ETRI ([IEEE 802.15-16-0756-00-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0756-00-hrrc-mhn-e-system-for-hrrc.pptx)).
  + Question(Q): For the demonstration of the MHN system in moving subway, how many antennas were installed in the subway train?
    - Answer(A): The chair responded that one TE with 2 antennas was installed inside the subway train for demonstration.
  + Q: Participant asked for a detailed explanation on the new frame structure for MHN-E carrier aggregation.
    - A: The chair gave a detailed explanation.
  + Q: Participation questioned about the reason why the performance evaluation of 500km/h high-speed train environment will be validated by a link-level simulation instead of demonstration at a real testbed.
    - The chair said the main reason is that in Korea, there is no train running at a speed of 500km/h, and the maximum speed of trains available in Korea is around 300km/h. Moreover, even if a train is available for the demonstration, time for demonstration would be very short due to the high speed of the train, which is somewhat unrealistic.
* Contribution #2: “Recent Studies on HRRC Technologies” was presented by Junhyeong Kim of ETRI ([IEEE 802.15-16-0757-01-hrrc](https://mentor.ieee.org/802.15/dcn/16/15-16-0757-01-hrrc-recent-studies-on-hrrc-technologies.pptx)).
  + Q: Participant questioned about an alternative to the Zadoff-Chu sequence in the case of HST environments causing large frequency offset due to Doppler effect.
    - A: The chair responded that ETRI are working on this issue.
  + Q: Participant questioned about the difference between the proposed handover scheme and SGSN handover in 3GPP. He said the twos seem similar.
    - A: The chair said he is not familiar with the SGSN handover in 3GPP, and he will check it after the meeting.
* The chair asked for the discussions and comments on IG HRRC and other issues.
  + Participants discussed potential business models of HRRC
  + The chair decided to draw up a draft of PAR and CSD document prior to the next meeting in March 2017.
  + Participants discussed whether there is enough market demand for the application of HRRC. The chair emphasized that there is a strong demand for the HRRC application in Korea and China.
  + Participant asked the chair whether manufactures like Nokia are participating in the MHN/MHN-E project.
    - The Chair responded that ETRI and several European companies including Nokia are currently carrying out a joint research project and the collaboration on the IG HRRC standardization is now under discussion.
* Future Plans
  + The participants will draft the following documents that will be discussed during the next meeting in March 2017.
    - PAR and CSD document
    - Technical requirement document
    - Call for contribution document
  + Encourage more companies to participate in the IG HRRC standardization activities.
* Adjourned: meeting was adjourned at 09:30.

Participants of IG HRRC Meeting:

Junhyeong Kim ETRI

Robert Finch Select Spectrum

Harry Bims Bims Laboratories

Bob Heile Wi-SUN Alliance