

Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: [Channel model for human body communication]

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Re: []

Abstract: [Introduction of the channel model for the human body communication]

Purpose: [To introduce the channel model for the human body communication]

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Channel Model for Human Body Communication

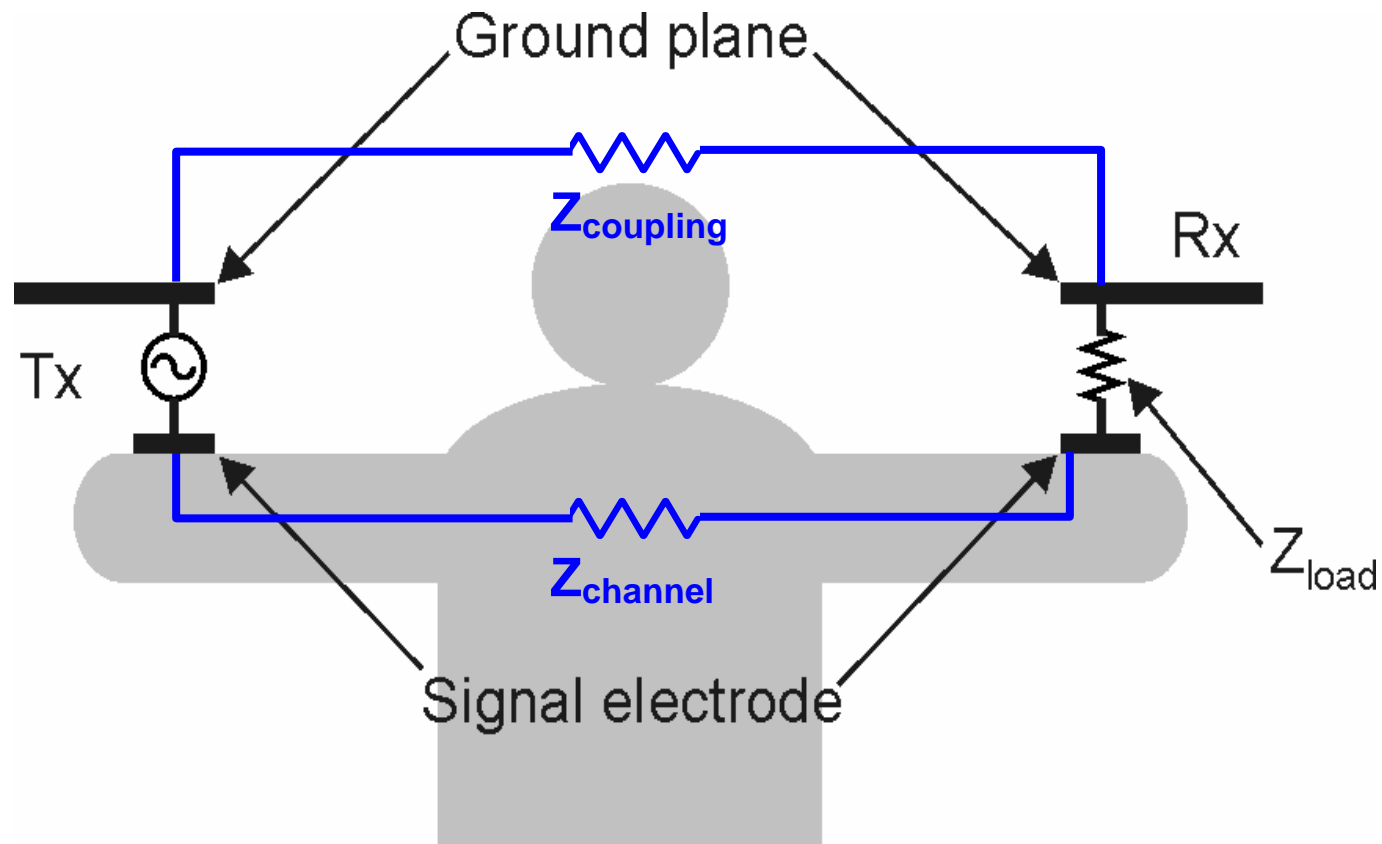
2008. 1. 14.

Human Body Communication SoC Team

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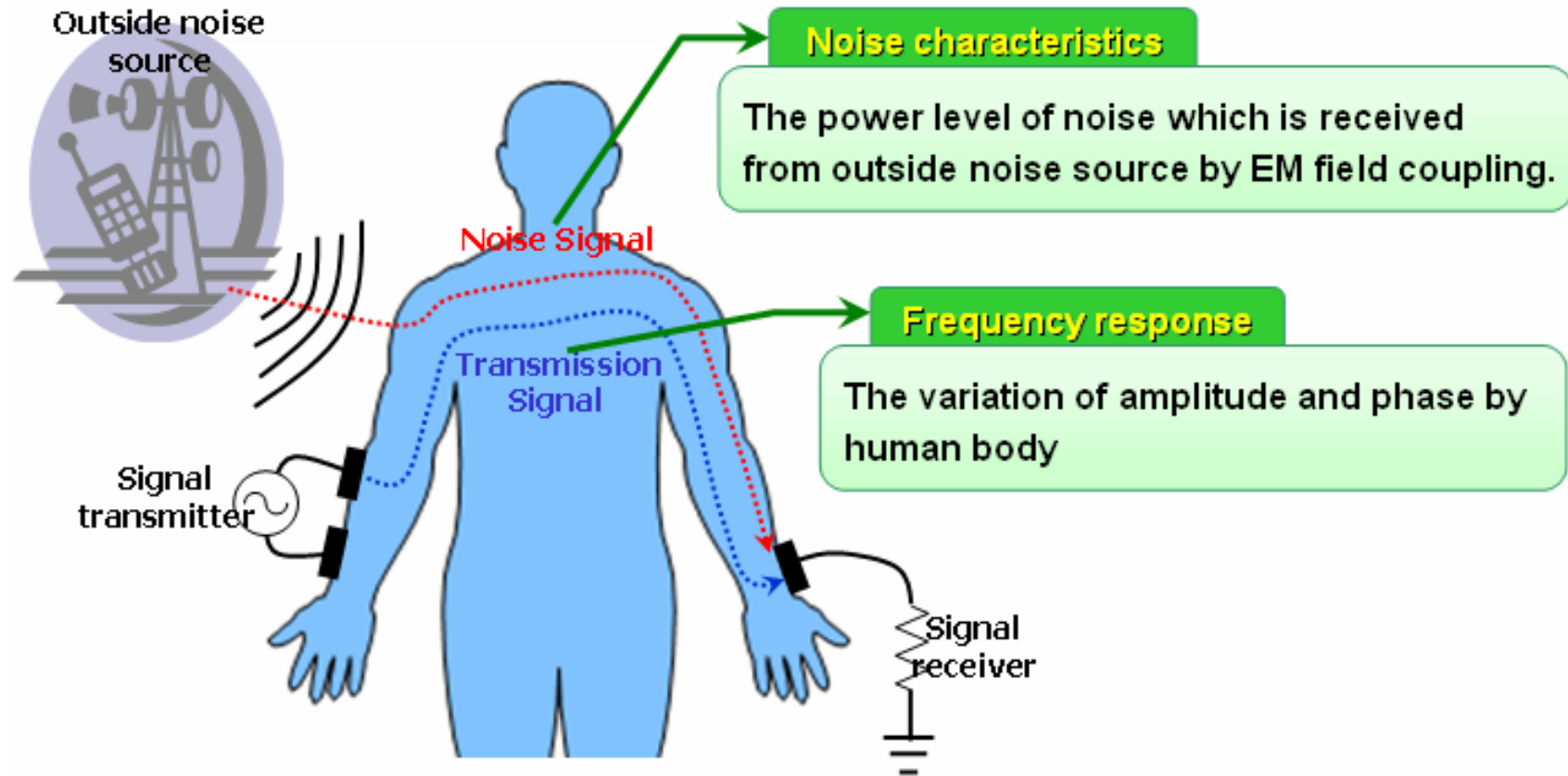
Lumped Model

- The human body communication can be modeled with two lumped elements.



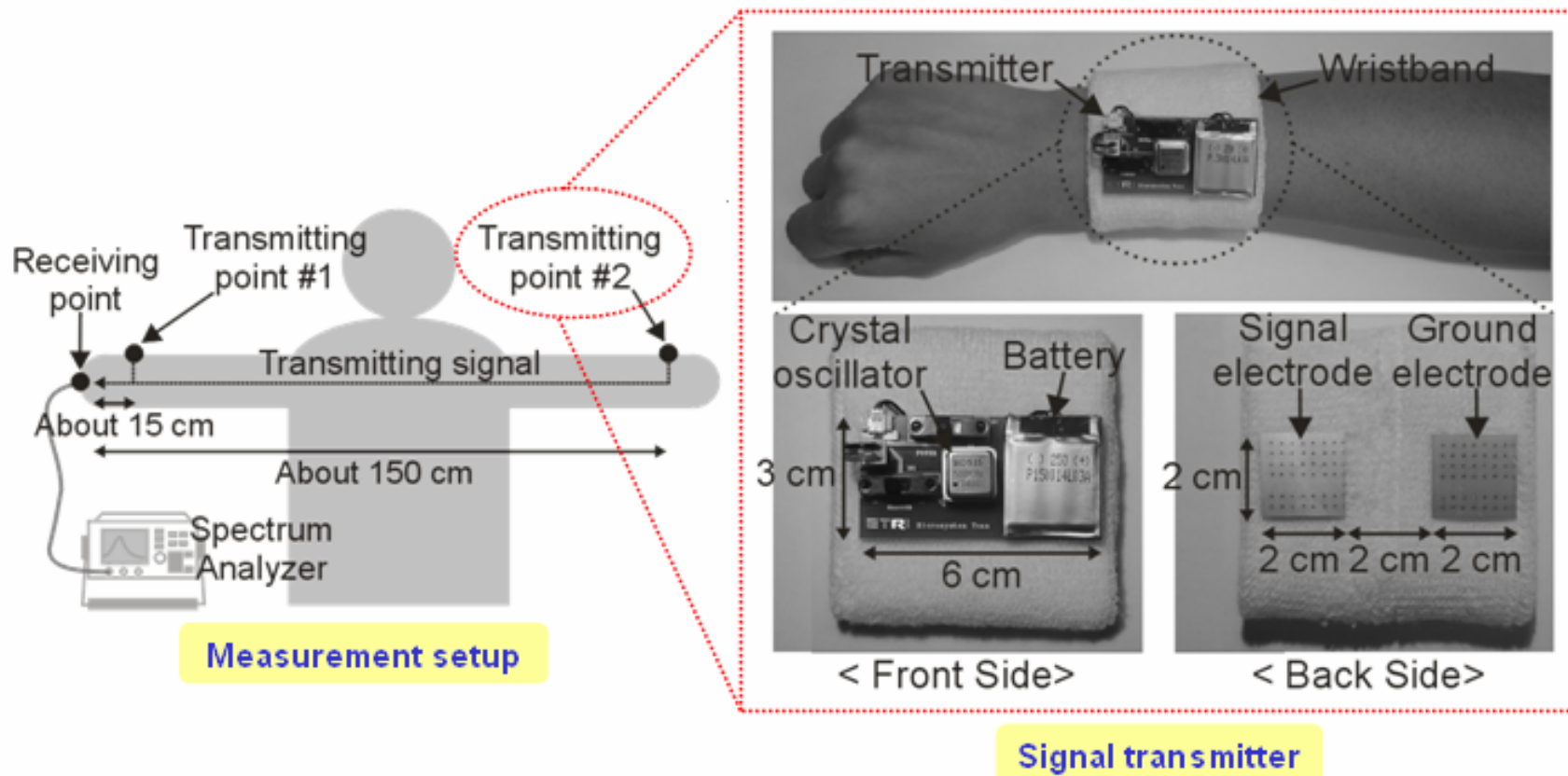
Channel Model for Human Body

- The channel model is composed of the frequency response and noise characteristics.



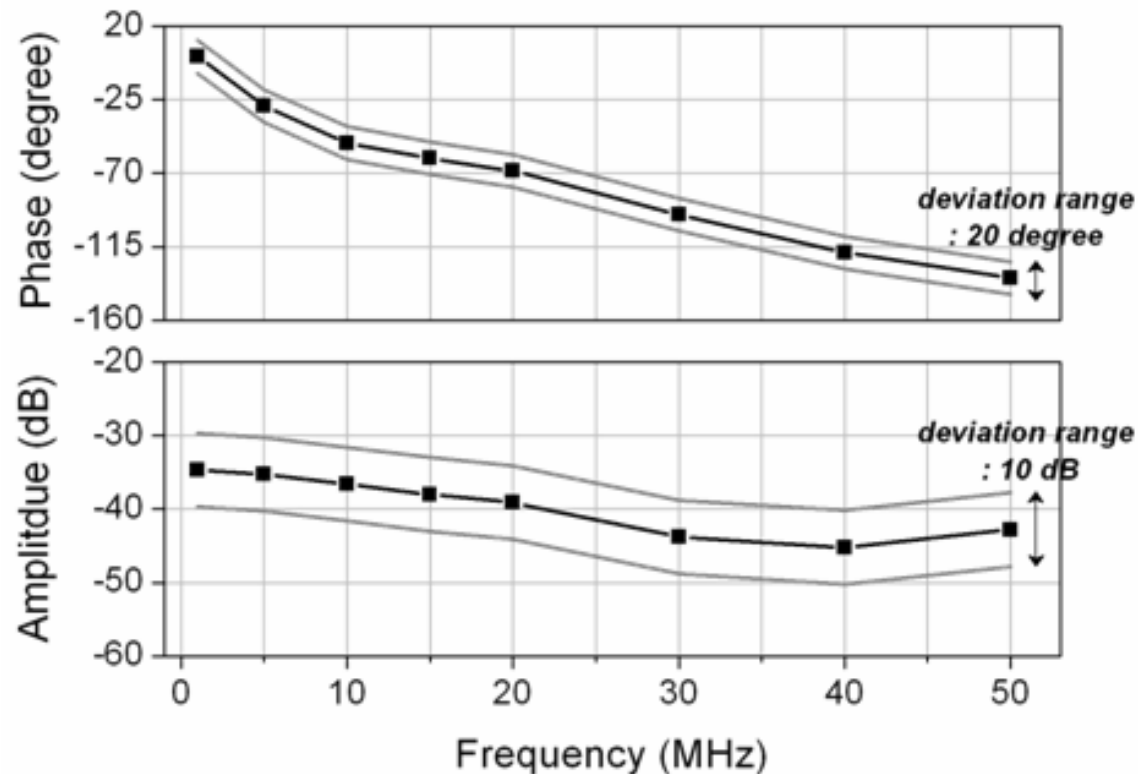
Measurement of frequency response

- A signal is transmitted through human body and the amplitude and the phase of receiving signal is measured.



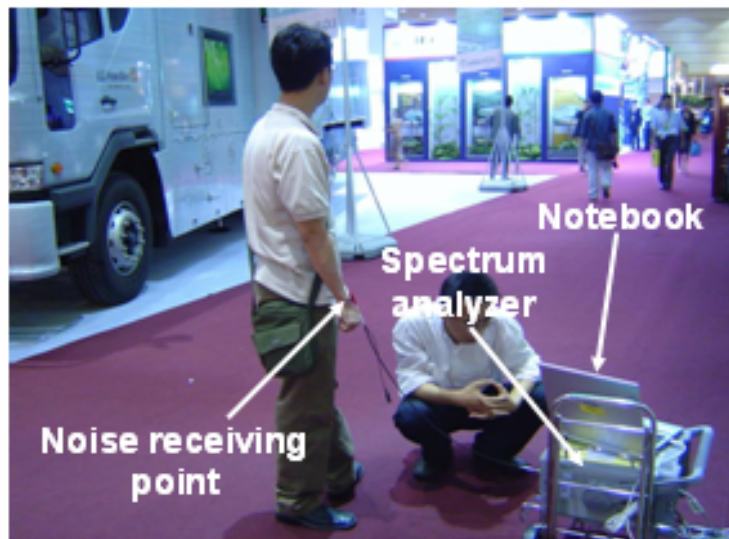
Frquency Response

- The frequency response has been measured with total 10 persons.
- It is different by individual: the amplitude ant the pahse response has deviation range of 10 dB and 20 degree respectively.



Noise measurement

- The noise power has been measured where a lot of electronics are distributed around.



Measurement setup



Noise characteristics

- The measured noise has been classified into worst and normal cases according to its power level and each case has been averaged for the noise profile.

