

Channel Modeling for Human Body Communication

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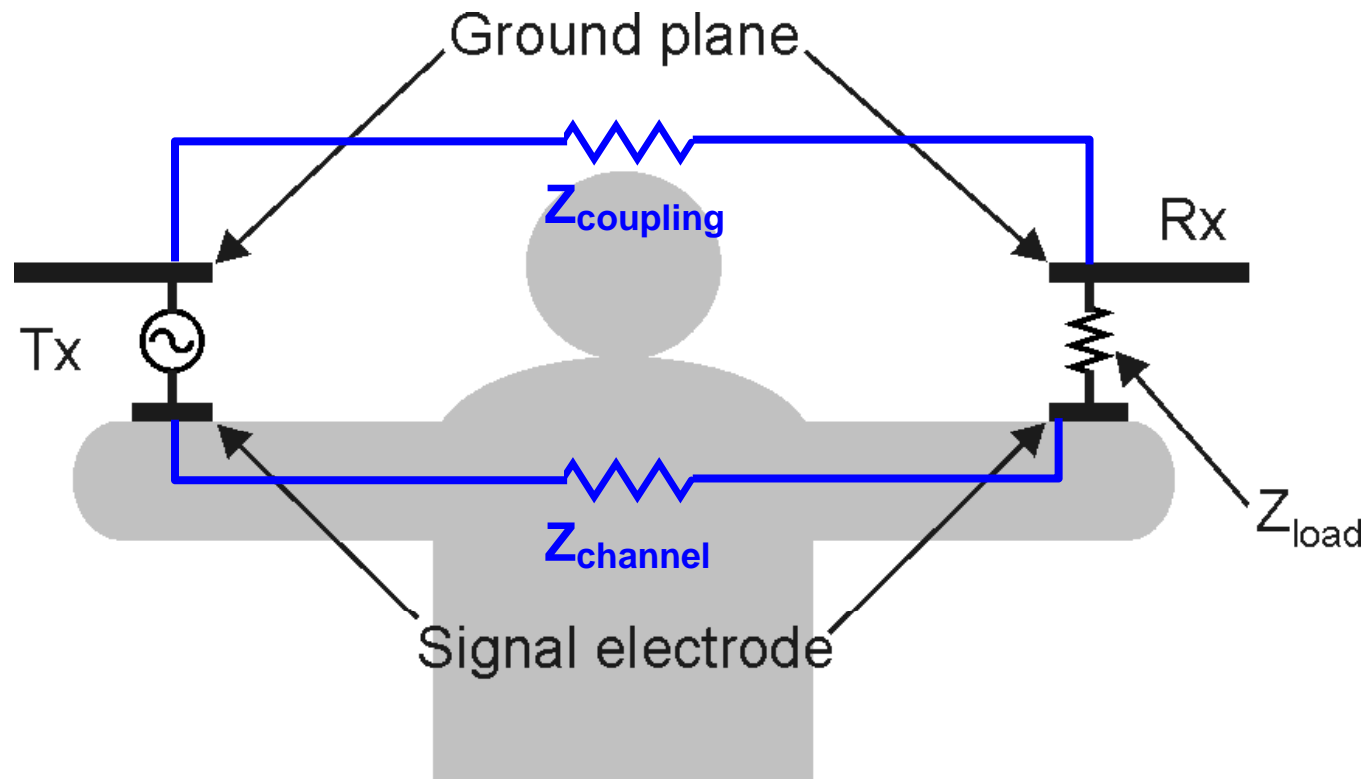
Human Body Communication SoC Team

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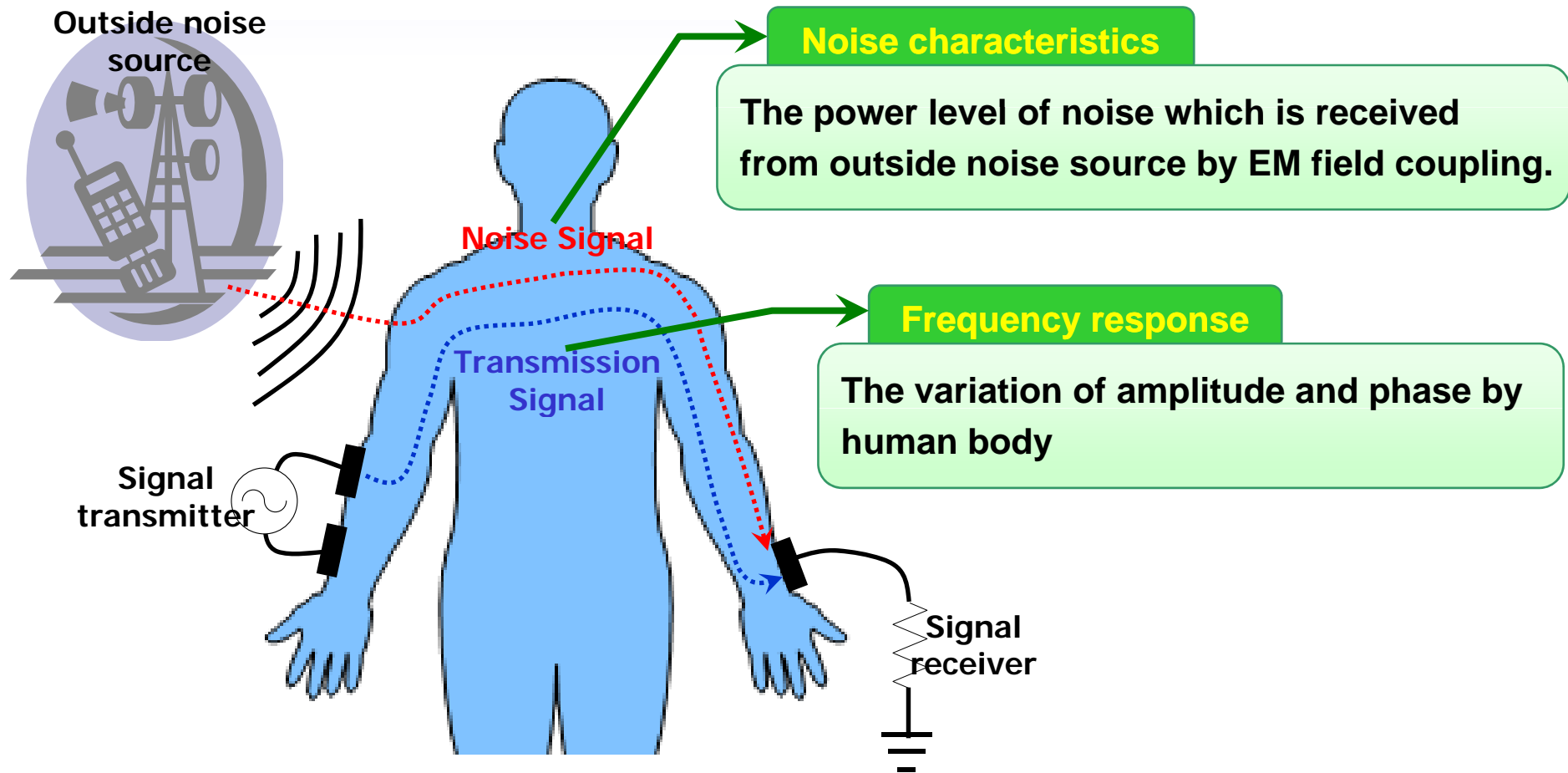
ETRI

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



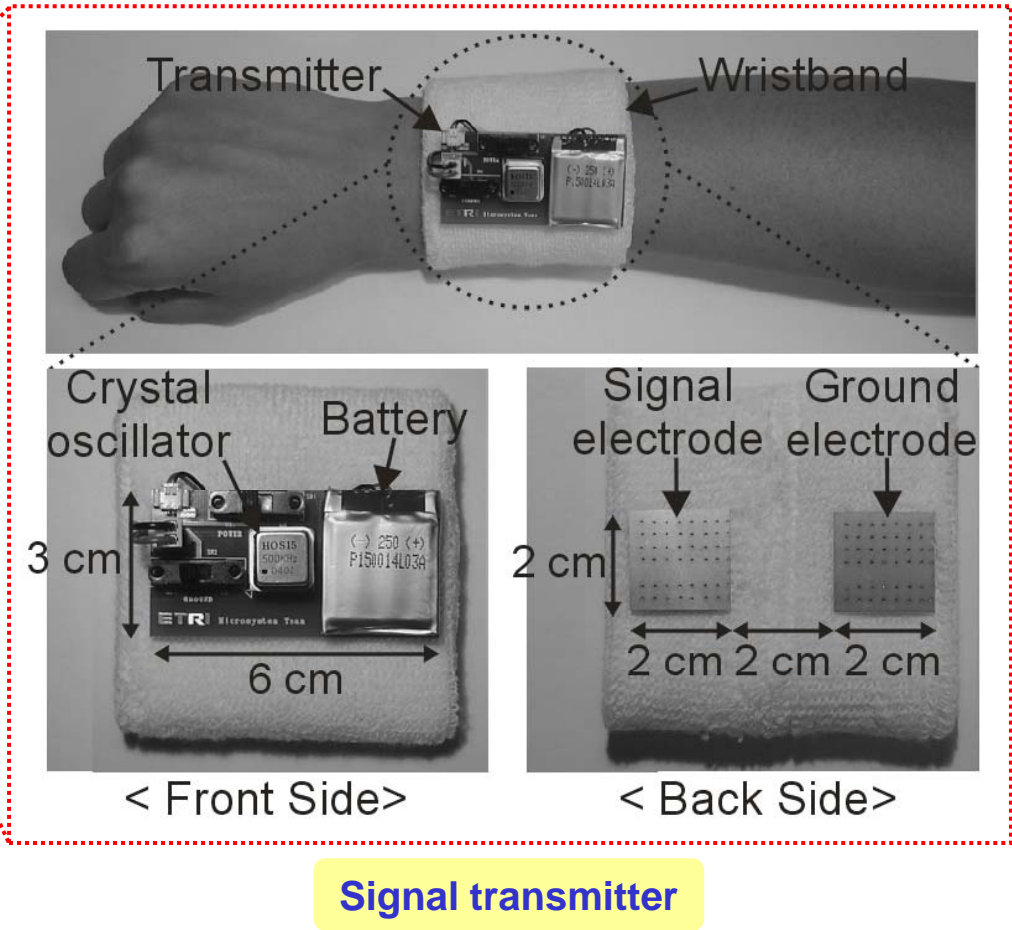
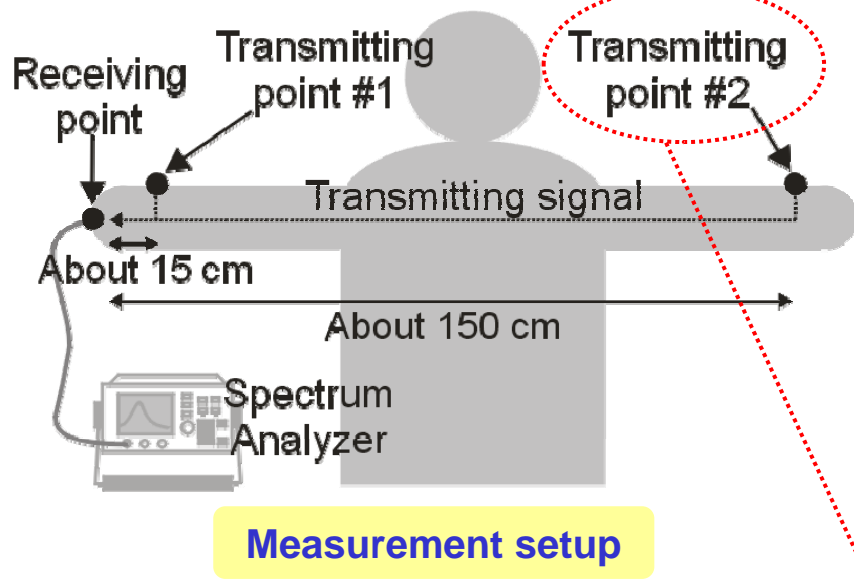
Channel Model for Human Body

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



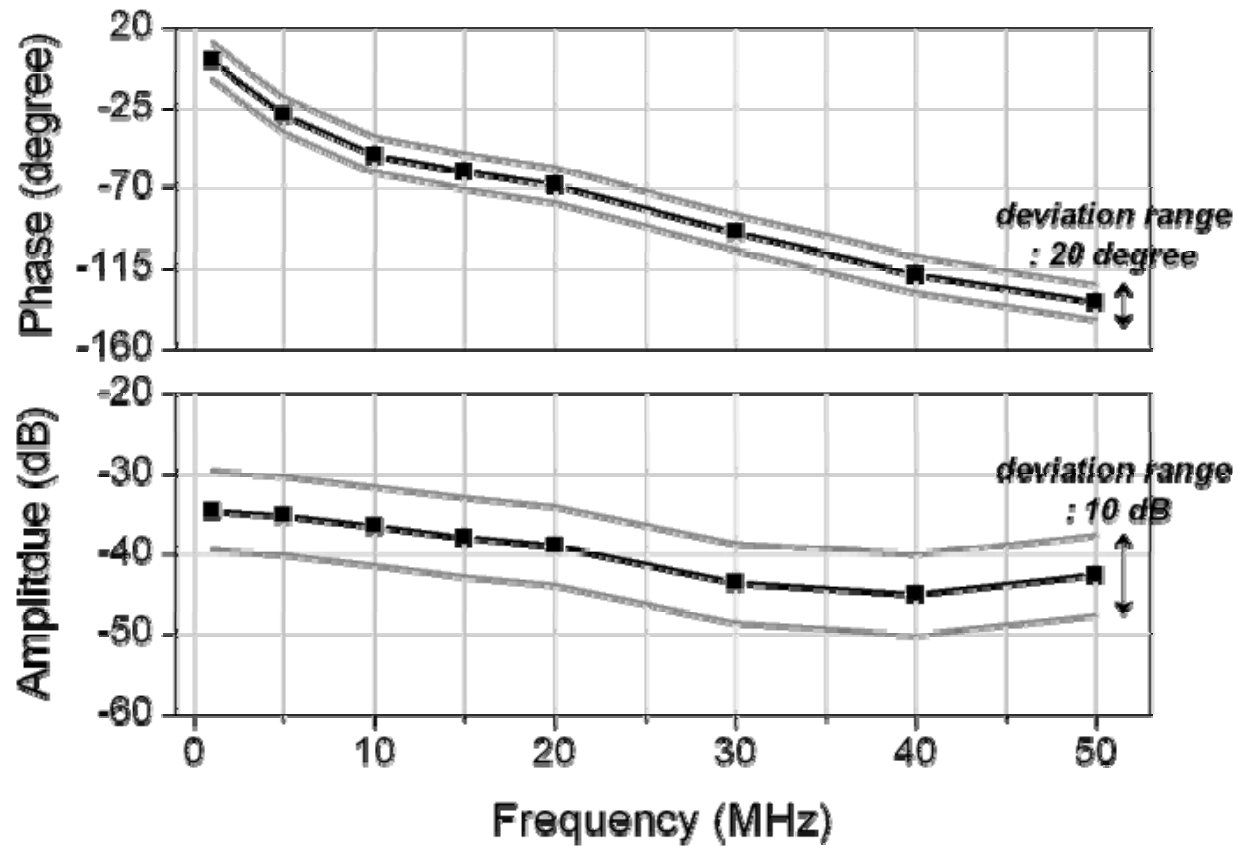
Measurement of frequency response

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



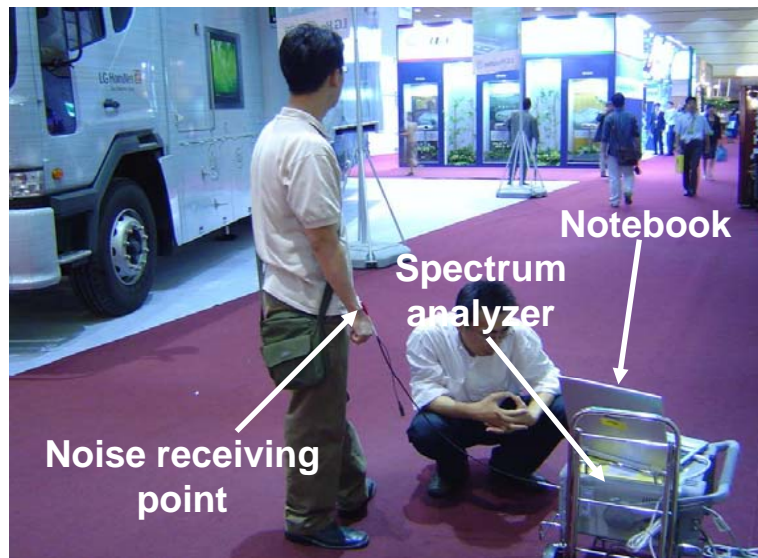
Frequency response

- The frequency response has been measured with total 10 persons.
- The frequency response is different by individual: the amplitude and the phase 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



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

