

## Biosignal Measurement System Based on Ultra-Wide Band Human Body Communication

**Authors :** Jonghoon Kim, Gilwon Yoon

**Abstract :** A wrist-band type biosignal measurement system and its data transfer through human body communication (HBC) were investigated. An HBC method based on pulses of ultra-wide band instead of using frequency or amplitude modulations was studied and implemented since the system became very compact and it was more suited for personal or mobile health monitoring. Our system measured photo-plethysmogram (PPG) and measured PPG signals were transmitted through a finger to a monitoring PC system. The device was compact and low-power consuming. HBC communication has very strong security measures since it does not use wireless network. Furthermore, biosignal monitoring system becomes handy because it does not need to have wire connections.

**Keywords :** biosignal, human body communication, mobile health, PPG, ultrawide band

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