

In-Body Sensor Communication: Trends and Challenges

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Abstract

Wireless body area networks (WBANs) consist of interconnected devices that monitor the human body functions and the surrounding environment. Of these sensors, implants encounter multiple challenges due to their invasive nature. In addition, the transmission channel of the implants involves living tissues that pose practical challenges in channel modeling. Despite several promising applications of implants in the healthcare industry, there have been insufficient comprehensive reviews that extensively describe trends and challenges of this technology. This work reviews in-body WBANs and presents critical challenges that hinder advancement and application of the technology. We also discuss possible solutions that may be useful to realize in-body WBANs practically.