Embedded system for subcutaneously implanted biosensing platform communicating with smart watch and cell phones

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Abstract: This paper presents novel embedded system protocol for an implanted biosensor communicating securely with external devices including smart watch (proximity communicator) or cell phone with a secured BLE link.

Innovation: During alignment of the proximity communicator with biosensor implant, the signal strength of the pulse signal is computed using FFT.

Experimental data

Fig. 1 A block diagram of proximity communicator with microprocessor.

An integrated algorithm is developed which enables: (i) powering of and communication with the biosensor platform, (ii) data processing, storage and analysis, (iii) communicating via BLE to connected devices. Earlier, these three tasks were carried out independently.