LICENSING OPPORTUNITY

Intelligent Remote Powering (IR-Power) system

Keywords
- in-vivo implants, telemetry

Patent status
- Patent application filed

Licensing / collaboration
- Non-exclusive or exclusive licenses / research collaborations.

Scientific Publication reference

Description
The IR-Power system consists of a battery-less remotely-powered implantable sensor device and servo-controlled remote powering device for freely moving laboratory animals. The implanted device receives 2 mW of continuous power via an optimized inductive link. The powering device is moved by a control algorithm under the living space of the animal. Additionally, the IR-Power system tracks the animal movements and records the data. The harvested power level in the implanted system is kept constant by the dynamic power-adaptation against misalignments of the powering device and the freely moving animal. The entire system and main blocks are fabricated in CMOS technology.

Monitoring of vital parameters inside freely moving laboratory animals over long periods becomes possible without needing to replace batteries.

Development status
- Early stage - Proof of Concept. Experimental results show the effectiveness of the IR-Power system. A lab demonstrator confirms that the tracking system works at speeds up to 30 cm/s, and therefore it is fast enough to track a freely moving animal easily.

Main advantages
- No need to replace batteries
- Remote powering
- Compatible with standard electrodes and sensors
- Standard fabrication and materials, CMOS possible
- Multi-cage monitoring with using same system

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