Docket #: S09-225

Method and Apparatus for Harvesting and Transmission of Energy by Acoustical Means

Stanford researchers have invented a novel method and related apparatuses for wireless transmission of energy by using acoustical waves. This invention can be used to remotely power devices with no power source or to remotely recharge batteries powering electronic circuits such as mobile communications, embedded and distributed sensors, and medical implants. These methods and apparatuses can also be used to harvest the ambient vibrational energy and convert it to electrical energy.

Applications

- **Wireless power transmission to remote or isolated locations where local long-term power is unavailable such as:**
  - Mobile communication devices
  - Embedded and distributed sensors
  - Medical implants
- **Wireless power transmission to devices inside sealed or rotating systems where cabling and electrical commutation are problematic.**

Advantages

- **Proposed method has the following advantages over existing methods:**
  - Eliminates the need for the alignment of the transmitter and the receiver
  - Enables use of higher frequencies for wireless power transmission, thereby potentially enabling greater power transmission by the source

- **Method is not specific to a particular transducer technology.** Conventional piezoelectric transducers or silicon-based micromachined transducers can be used.

Publications

- U.S. Published Patent Application 20140133279, "Energy Harvesting ".

Patents

- Published Application: 20140133279
- Issued: 9,774,277 (USA)

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