Ultrasonic Wireless power transmission system

The objective of this project is to develop a wireless power transmission method utilizing ultrasonic waves. The primary application for this project is to supply power to wireless sensor nodes located in remote areas. This method can also be used in other applications in which a wireless power supply is desirable and a plate structure through which the ultrasonic waves can propagate exists. A vibration generator is placed in a location where electricity supply is readily available. Ultrasonic waves generated by this device get amplified in ionised air cavity and travel to a receiver through air medium. The receiver converts the mechanical vibration of the ultrasonic waves back to electricity, which is used to power the sensor node. Energy harvesting devices utilizing vibration or thermal gradients occurring in the structure are considered to hold the most promise. The uninterrupted availability of sufficient amounts of energy to be harvested by such devices is, however, a source of concern. Ultrasonic power delivery system is aimed to address the short comings. It is expected to bridge the distance remaining between existing cabling and the sensors without the need to install additional wires. ***(Patent Pending)***

Schneider Electric awarded this project as The innovative project of 2016 in Go Green In the city competetion

Tools: Intellisuite, LABVIEW, ALTIUM, SRIM