



## Senior Design Project

# The Design and Implementation of a High Efficiency Resonant Wireless Power Transfer System

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# Declaration

This is to declare that this project is our own work. Neither this report nor the project has been submitted elsewhere for the purpose of full filling of any other degree or program. The part which is taken from other previously published paper is acknowledged in bibliography section.

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# Approval

The Senior Design project entitled “The Design and Implementation of High Efficiency Resonant Wireless Power Transfer System” by Md. Shafiquzzaman (ID: 1410923643), Md. Sajjad Khan (ID: 1410448043), Nasik Jahan Siam (ID: 1310119043) has been approved satisfactorily.

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# Abstract

This paper illustrates the design and implementation of a resonant inductive coupling based wireless power transfer system. Our goal was to increase efficiency, as well as distance of power transmission. In this system two copper coils are used along with the resonant circuits. This system consists of a transmitter side and a receiver side. In the transmitter side, a rectifier and a power inverter is used. For generating switching frequency an oscillator circuit is implemented. A logic generator is also needed to maintain the specific order of switching. The power inverter used here is different from conventional ones. It had to be modified so that it gives a high frequency AC signal as its output. In the receiver side, an AC to DC voltage regulator is used. Here, circuit simulation and output are given and compared with the practical values.