

Neural Network Frequency Selector for Maximum Power Transfer

Karim Gamal ElSayed, Ranim Al Ahdab, and Ahmed ElShenawy

Abstract—This paper propose a method for reaching a maximum power transfer using wireless system. The power is transmitted using the method of impedance matching technique. It depends on choosing the parameters of the transmitter receiver circuit and proper distance and gap media , which allow the transfer of maximum power , we propose a neural network configuration to deliverer the required frequencies to achieve maximum power transfer from the given circuit parameters . The choice depends on thirteen parameters which are divided to fixed parameters like inductance, capacitance and variable parameters like distance and misalignment. The system is tested on the hardware set up and showed acceptable performance illustrated by presented experiments.

Index Terms—Energy transfer, maximum power transfer, neural network, wireless power transfer, Witricity.