

## Design of a Universal Wireless Battery Charger

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**Abstract :** This paper proposes a universal wireless battery charger design for portable electronic devices. As the number of portable electronics devices increases, the demand for more flexible and reliable charging techniques is becoming more urgent. A wireless battery charger differs from a traditional charger in the way the power transferred to the battery. In the latter, the power is transferred through electrical wires that connect the charger terminals to the battery terminals, while in the former; the power is transferred by induction without electrical connections. With a detection algorithm that detects the battery size and chemistry, the proposed charger will be able to accommodate a wide range of applications, and will allow a more flexible and reliable option to most of today's portable electronics.

**Keywords :** efficiency, magnetically-coupled resonators, resonance frequency, wireless power transfer

**Conference Title :** ICSR2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020