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A PATH FOR HORIZING YOUR INNOVATIVE WORK

“WIRELESS BATTERY CHARGER”

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Abstract: This report covers the basis & design of the wireless battery charger. The wireless battery charger will convert the RF/Microwaves at 900 MHz freq into a dc signal & then stores the power into as AAA battery. This wireless battery charger is divided into 3 parts transmitter, antennas & charging circuit. A complete discussion of the specification of the battery charger is provided after data measurement. This paper also includes component list, financial, data results and there key information.

Keywords: RF: Rectifier, AC: Alternate current, DC: Direct current.



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INTRODUCTION

Portable electronic device are very popular now a days. As the usage of these portable electronic device is increasing, the demands for longer battery life are also increasing. These batteries need to be recharge or replace periodically. It is a hassle to charge or change the battery after a while especially when there is no power outlet around. Therefore I inspired to design a wireless battery charger. This wireless battery charger is expected to eliminate all the hassles with today's battery technology. As for now there are no known companies are developing the 226wireless battery charger. This means that there might be good opportunity in the market for this type of product. Moreover people tend to spend more money for convenience that meets the price. The outlook of this device is supported by the above predictions. It would be convenient not having to worry about charging or changing the batteries are still having a working device. The advantage of this device is that it can wirelessly charge up the batteries which can save time and money in a long run for the general public. Base on this concept, I come up with a new way to charge the battery wirelessly. The aim is to make a prototype device that converts microwave signal to DC power. Once the prototype has been proved to be working it is possible to implement this prototype into other application such as television remote, fire alarm, clock and places that are far to reach to charge battery.

OVERVIEW DESIGN:

The wireless battery charger is designed to operate at 900MHz. In this paper a power transmitter acts as the power source. It will transmit power to the receiver side. And then the rectifier circuit in the receiver will convert the RF/Microwave signal into DC signal, after the DC signal is produced, the charging circuit will store the power into the battery. Here is the block diagram of the overall design.



Fig. overall battery charger design

WORKING:

The basic addition to the mobile phone is going to rectina. A rectina is a rectifying antenna, a special type of antenna that is used to convert direct microwave energy into DC electricity. Its elements are usually arranged in mesh pattern, giving it a distinct appearance from most antennas. A simple rectina can be constructed from a Schottkey diode placed between antenna

dipoles. The diode rectifies the current induced in antenna by the microwaves. Rectinna are efficient at converting microwave energy to electricity.

Another part of our receiver circuitry is a simple sensor. This is simply used to identify when the mobile phone user is talking. As our main objective is to charge the mobile phones with the transmitted microwave after rectifying it by the antenna, the sensor plays an important role.

The receiver's main role is to charge the AAA battery. Simple battery charging theory is to run current through battery, and apply a voltage differences between the terminals of the battery to reverse the chemical process. By doing so, it recharges the battery, but it requires a large amount of energy which the wireless battery charger cannot obtain yet. Therefore in our design we use a straight forward method to charge the battery Microwaves signal is an AC signal with the frequency range of 1GHz-1000 GHz.900 MHz is in between the RF/Microwave range. No matter how high the frequency is, AC signal is still AC. Therefore the signal can also be treated as a lower frequency AC signal. In order to get the DC signal out of AC signal, a rectifier is needed. So we can also implement or we can use full wave rectifier, full wave rectifier with capacitor.

CONCLUSIONS:

Thus this paper successfully demonstrates a novel method of using the power of the microwave to change the mobile phones without the use of wired chargers. Thus, this method provides the great advantage to the mobile phones users to carry anywhere even if the place is devoid of facilities for charging.

A novel use of rectinna and sensor in mobile phone s could provide new dimensions in a revelation of mobile phones. In this modern generation where we prepare the most efficient gadgets to serve our purpose, not evenly a slightly deviated device acceptable. The highly accomplished cell phones sensor created by top notch manufactures in the industries benefits your needs exactly the best way and proved to be highly effect5iv tools to combat Security Bridge.

As for now there are no known companies which develop the wireless Battery charger. This means that the oppurnity is very big. Also, people tend to spend more money for convince. It gives more reason that this device will have a very good market.

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