



Wireless Charger for Android Phones

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Abstract: It is a hectic task to carry everywhere the charger of mobile phones or any electronic gadget while travelling, or it is very cruel when your mobile phone getting off by the time you urgently need it. It is the major problem in today's electronic gadgets. Though the world is leading with the developments in technology, but this technology is still incomplete because of these limitations. Today's world requires the complete technology and for this purpose here we are proposing the wireless charging of batteries using Microwaves.

Keywords: Wireless technology, android system, charging, and electromagnetic charging.

I. INTRODUCTION

Wireless charger is that device which requires charging would not need a cord. It has ability to transmit electricity through the air by creating a magnetic field between two circuits, a transmitter and a receiver. It frees you up from finding the right cables and chaining your phone to charger. Wired charging requires dragging a long data cable, which is ugly and has no sense of technology at all. It charges only one android phone at same time. we all know that we should not answer phone calls with our phones connected to power. Unfortunately, many times that we forget and end up ripping our phones aggressively from the charger. What many people don't know is that frequently plugging a phone in and out can damage the delicate charging ports. Recent studies are showing that a messy desk creates a stressful working environment. Reducing the number of cables on your desk can help you utilize the available space efficiently. There is a risk of electrical damage or power surge to your device. While charging if you don't know that your phone is charging is completed it get overheated and don't save energy.

II. TECHNOLOGY IN WIRELESS CHARGING

Wired charging requires dragging a long data cable, which is ugly and has no sense of technology at all. It charges only one android phone at same time. we all know that we should not answer phone calls with our phones connected to power. Unfortunately, many times that we forget and end up ripping our phones aggressively from the charger. What many people don't know is that frequently plugging a phone in and out can damage the delicate charging ports. Recent studies are showing that a messy desk creates a stressful working environment. Reducing the number of cables on your desk can help you utilize the available space efficiently. There is a risk of electrical damage or power surge to your device. While charging if you don't know that your phone is charging is completed it get overheated and don't save energy.

WIRELESS CHARGING" is the solution of all these problems. You will no longer have to deal with the cords. It makes charging your devices much easier since all you need is to put them on the charging pad or mat. Wireless charger allows you to charge different devices simultaneously. Wireless charging reduces the number adapters of cables that you and international power need at your home or workplace. With wireless charging, there is no plugging in and out. As a result, there is no tear and wear as a result of aggressive use or erosion. Charging pads and mats also have a longer lifespan than cables. Using wireless charger to charge your Smartphone is much safer than using USB cords and a adapter. There is no risk of electrical damage. Most wireless charging mats and pads can detect your Smartphone's battery status. If it fully charged, they stop charging. By doing this wireless charging helps save energy and prevents your battery from overheating.

III. BENEFITS

The main advantage of this wireless charger is, we will no longer have not deal with the cords. The future aspects of this wireless charge is useful to power phones where interconnecting wires are inconvenient, hazardous not possible. It reduces the use of electric wire which is made of copper and aluminium metal. The metal are used to make electric wire will extinct in future. The other advantages of this model are it has a strong sense of science and technology, more convenient to use, interface durability is better, multiple devices charging. One of the best advantages of this is that it can integrate with almost all cell phones, no matter the shape or size of its charging socket. It is based on the principle of magnetic resonance or inductive power transfer. Energy is transferred from the electromagnetic induction to a receiver back of the device.



While wireless charger of phone is essential for everyday routine it reduces the use of cords and more convenient to use no need to plug in and out. It is simply based on the principal of magnetic resonance and inductive power transfer. The business and commercial sector also continues to introduce new and innovative applications for wireless charger. There are charging pads that use tightly coupled electromagnetic inductive or irradiative charging; charging bowls or through – surface type chargers that use loosely-coupled or radioactive electromagnetic resonant charging that can transmit a charge a few centimetres; and uncoupled radio frequency wireless charging that allows a trickle charging capability at distance of many feet.

IV. HARDWARE REQUIREMENTS

1. AC/DC power adapter.
2. Coils (receivers and transmitter coil)
3. Series capacitor
4. Diode rectifiers and filters
5. Battery

Transmitter is powered by an input DC RAIL of 5V to 19V switched Transistor Bridge using two or four feet coil and series capacitor. The capacitor has a coil to transfer power by electromagnetic induction. Receiver has a similar coil to collect the incoming power. The receiver rectifies the power by means of diode rectifiers. The battery inside the portable device receives the power and charges up. By implementing this project, we can help the people in providing most convenient and safe charger. It reduces the use of cords. The business and commercial sector may also continue to introduce new and innovative applications for wireless charger. Presently other than i-phones, we do not have this facility for wireless charging. Even for the i-phones, as it belongs to the elite category, the wireless charges devices are not cost-effective and are quite challenging to be utilised for mass scale purposes as in case of public commuting vehicles, bus-tops and railway stations. The implementation of this model will enable low-cost wireless charges that can be installed at various places of public gathering like malls, hospitals, railway stations, bus terminals etc at a much reasonable and affordable rate. This will ease the charging issues of the mobile dependent generation of today to a very large extent.

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