How does wireless charging work?

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Charging power through **a computer USB adapter** or **port** is still the most commonly used method today, but wireless charging has signaled a new era. In this article, we will learn how wireless charging works? Pros and cons and whether this charging method is really safer than the traditional way?

What is induction charger

Inductive charging, often referred to as the more popular " *wireless charger* ", works on the same principles as induction induction cookers: **electromagnetic induction** or simply **touch** .

Electromagnetic induction is the result of generating electric current through a wire placed in a reciprocal magnetic field or a moving wire in a static magnetic field.

How does induction charger work?

The induction charger consists of two main induction coils . One is placed in the " *charging dock* " and is responsible for creating an alternating current from inside. The rest lies in mobile devices that need to be charged like smartphones, tablets, etc. The coils can be in the form of a flat plate attached to the phone, a circuit embedded in the phone, Or shell cum replacement battery has a charging coil inside. Together, these two coils form an electrical transformer.

When the power supply to the charging dock is turned on, the alternating current flows through and creates an electromagnetic field (a changing magnetic field) around the primary coil. When the secondary coil (receiving coil is placed in the smartphone) is close enough, an electric current is generated in the coil. The alternating current flowing through the coil in the smartphone will be converted into direct current by the collector circuits. Direct current generated in this way will eventually be used to charge smartphone batteries.

Benefits and cons of touch charger

One of **the biggest advantages of induction charging is wireless** , so users can say goodbye to messy wires. In addition, its connections are covered and protected, so users will experience less risk of electrical errors.

The biggest drawback of induction charging is low efficiency , because a large amount of energy is lost as heat. As a result, the phone will take longer than usual to fully charge the battery. Moreover, **the induction charger is definitely more expensive than** conventional wired chargers.

Some people also feel that the wireless charger is inconvenient because it has to **hold the device fixed on the charging dock while charging** . Therefore, they cannot use the device while charging. However, any difficulty can be overcome, and WiTricity wireless charger is one of them, when helping to charge the phone remotely.

Are these induction chargers safe?

We tend to fear things that emit "waves" and "signals", and we always assume they are harmful in some way, such as microwaves, Wi-Fi routers, and even even smart phones. However, like most things listed, the induction charger is absolutely safe.

The electromagnetic field of the induction charger creates not strong enough to harm people. In fact, these chargers are even **safer than regular chargers** because they are not wired, meaning you are protected from even the smallest opportunities of suffering an electric shock.

Outstanding scientist Nikola Tesla pioneered this idea in the late 1800s and said that energy can be transmitted through an electromagnetic field between two objects. In fact, he envisioned the concept of induction charging two centuries before the first device was born. And it is not exaggerating to say that Tesla is the " *inventor of the 20th century* ".