

# Important component for wireless charging module- SRF for Wireless Charging Coil.

## | Summary

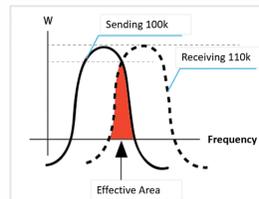
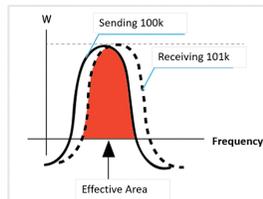
Wireless charging is getting popular these years on smart phone/Pad, embedded medical device, and automobile industry. The efficiency of charging has developed to 15W,20W. This has become the key point of high-end smart phone.

Although there are many different technology, such as Qi and Airfuel. The common thing between them are transferring the electricity by creating electromagnetic field.

### ▼ About Wireless Charging

Wireless Charging technology is transfer electricity from charger to device by magnetic field induction or magnetic resonance. This kind of way of charging is not only free your device from cable but also prevent charger ageing by it contactless design.

The theory of magnetic induction is transfer the energy by the magnetic field coupling between transmitting terminal and receiving terminal. Magnetic Resonance technology is transferring energy between the coil of transmitting terminal and receiving terminal by reaching resonance.



### Coil is the Key Factor of Transmitting Efficiency

In the Wireless Charging system, socket provide power, current go through the coil in the transmitting terminal and create electromagnetic field. Receiving terminal generate current and go into the battery by passing rectifier t charge. The key that affect the efficiency is the design of coil, included distance between coil, parasitic parameter, and DCR.

### View the Important Parameters While Designing Wireless Charging Coil

In low power inductance wireless charging system, transmitting coil must use high frequency inverter to transfer low voltage DC current to low voltage high frequency AC current. At this time, the frequency is around 100~200kHz. This can make transmitting coil generate bigger magnetic field. Also,  $L_s$ ,  $R_s$ ,  $Q$ , and DCR are the parameters that the customers will request.



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