

Efficiency measurement of wireless charging

Key words

- Wireless charging
- Resonance point
- Magnetic resonance
- Transmitting efficiency

Frequency Response Analyzer FRA5087 / FRA5097

OUTLINE

The frequency of the magnetic resonance system used for wireless charging is ten and several MHz from a few kHz. Realization of resonance and in its evaluation requires a transfer characteristic measurement of used components and circuits such as a coil.



Transfer characteristics in the vicinity of the resonance

POINT

- By the combination of the FRA and bipolar power supply, it is possible to measure the resonance characteristics actually in a state in which the current flows
- By performing automatic high density sweep, only near the resonance point with a high resolution can be measured
- From the change in the resonance point with respect to the difference of the position, distance and angle, the impact on transmission efficiency can be evaluated.
- With the 0.1mHz high resolution sweep over the entire frequency range and the maximum 20,000 points of measurement, the characteristic can be measured in excess of Q = 1000

Frequency Response Analyzer FRA

FRA5087 / FRA5097

- Frequency range 0.1mHz t 10MHz / 15MHz
 Gain accuracy : ±0.05 dB
- Frequency range 0.1mHz to Oynamic range : 140 dB
 - Max input : 250Vrms
 - Auto high-density sweep
 - Phase accuracy : $\pm 0.3^{\circ}$
- Auto mgn densi
 Auto ranging

