

## **Development of 6.6kW class wireless power transfer EV charging system and field tests for KEPCO application**

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**Keywords:** *WPT, EV, 6.6kW charging system, field tests*

### **Abstract**

Charging technology plays an important role in expanding EV. In addition to the development of high-density large-capacity rechargeable batteries, lots of researches and development have been actively carried out to secure EV utilization and applicability, such as fast charging and wireless charging. KEPCO is developing a wireless power transfer charging system and conducting empirical studies to provide charging convenience and safety for EV users. We installed the wireless charging system at the EV charging station of KEPRI parking lot, and constructed the verification test facility to investigate charging and operation status. In order to simulate actual EV operation situation, the wireless charging infrastructure was designed to constantly monitor the operating status, when the EV equipped with the wireless charging receiver is parked in any wireless charging parking lot and charging is started. Also, the changes of charging state according to the location, installation structure, and charging environment of the wireless RX/TX pad were measured and compared with the measured and the tested values. Through this study, we aimed to secure the applicability of the wireless EV charging technology in the field and secure the basis for future development of high capacity EV charging technology.