Purpose
>>> Investigate the safety issues related to WPT on a 3kW EVWC prototype

Method
A. Principle (Fig.1)
WPT comprises RF power inverter, transmitter and receiver antennae and power regulation and charging electronics

B. 3kW Experiment Setup (Fig.2)
- RF power inverter provides high-frequency AC to drive the transmitter to generate a magnetic field at 20kHz.
- The receiver electronics regulates output power for charging
- The voltage, current, temperature, and coil alignment are monitored online

Results
A. Charging Test (Fig.3)
- EVWC hardware
  - 3kW WPT transmitter and receiver setup integrated into a Taylor-Dunn utility EV
  - Overall efficiency of > 80%
  - Test video shown in

B. Human Exposure to WC-induced Magnetic Fields

C. WC-induced Voltage & Heating Effects
- WC-Induced temperature (Fig.6) and voltages (Fig.7) quantifies potential damages to electronics near/between the coils
- 4 test pieces (a-d) were made of aluminum foil

Conclusion
- Safety issues associated with EVWC were investigated with a 3kW working prototype.

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