

# Solar Wireless Electric Vehicle Charging System

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**Abstract:** *The growing demand for sustainable transportation and renewable energy has led to the development of innovative charging solutions for electric vehicles (EVs). This project presents a Solar Wireless Electric Vehicle Charging System that combines solar energy generation with inductive wireless power transfer (WPT) technology. The system harnesses solar energy through photovoltaic (PV) panels, which convert sunlight into electrical energy. This energy is then conditioned and transmitted wirelessly from a transmitter coil embedded in the ground to a receiver coil installed beneath the vehicle.*

*The proposed system eliminates the need for physical charging cables, enhancing convenience, safety, and efficiency while promoting clean and renewable energy usage. The design integrates power electronics circuits, such as DC-DC converters and resonant inverters, to maintain stable power transfer and improve charging efficiency. The project aims to demonstrate the feasibility of integrating solar power and wireless charging for electric vehicles, offering a sustainable and user-friendly alternative to conventional plug-in charging systems.*

**Keywords:** *electric vehicles*

