

WIRELESS CHARGING SYSTEM FOR ELECTRIC VEHICLE

Bharathi Rao Asst Professor

Hithesh

Deepu Jose

Siddarth R

Ravi Kumar

UG Student

EEE Department

St Joseph Engineering College

Mangaluru,Karnataka,India

The Solar Wireless Electric Vehicle Charging System is a sustainable solution by integrating the harvesting of solar energy with Wireless Power Transfer technologies, thus meeting the environmental and convenience needs of modern EV infrastructure. This system uses renewable solar energy to minimize reliance on non-renewable resources while providing a cable-free, user-friendly charging experience.

This project will cover the design, implementation, and benefits of such a system that includes components as high-efficiency photovoltaic (PV) panels, Maximum Power Point Tracking (MPPT) controllers, energy storage solutions, and an inductive wireless charging mechanism. These technologies cumulatively ensure that the energy gets captured at its best points and is transferred to the EV with maximum efficiency. Prototype testing revealed an energy conversion efficiency of approximately 85%, demonstrating the system's technical viability. Comparative analysis also highlighted advantages over traditional wired charging systems, particularly in terms of convenience and environmental impact.