(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :07/03/2024

(21) Application No.202441016153 A
(43) Publication Date : 22/03/2024

(54) Title of the invention : RECTIFIER LOAD ANALYSIS FOR ELECTRIC VEHICLE WIRELESS CHARGING SYSTEM

(51) International classification :B60L53/12, B60L53/38, B60L53/68, G16Y10/35, G16Y40/10, H02J50/80, H02J50/90, H02J7/00
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)**Name of Applicant :**
1)Mrs. V.Kiranmayee
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------
2)Mrs. Y.Meena
3)Mr. Keshavarapu shivakrishna
4)Mr. Ismayel.Gollapudi
5)Mr. S. Manish
6)Ms. J Charishma
7)Mrs. T. V. Sai Kalyani
8)Mr. Ratna Kumar
9)Ms. Parankusham Priyanka
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Mrs. V.Kiranmayee
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------
2)Mrs. Y.Meena
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------
3)Mr. Keshavarapu shivakrishna
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------
4)Mr. Ismayel.Gollapudi
Address of Applicant :Mallareddy Engineering College And Management Sciences Kistapur Village, Medchal, Mandal, Telangana 501401 ---------- ----------
5)Mr. S. Manish
Address of Applicant :Mallareddy Engineering College And Management Sciences Kistapur Village, Medchal, Mandal, Telangana 501401 ---------- ----------
6)Ms. J Charishma
Address of Applicant :NBKR Institute of Science and Technology NBKRIST Vidyanagar 524413 ---------- ----------
7)Mrs. T. V. Sai Kalyani
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------
8)Mr. Ratna Kumar
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------
9)Ms. Parankusham Priyanka
Address of Applicant :St. Martin's Engineering College,Dhulapally, Kompally, Secunderabad,Telangana, 500100,India. ---------- ----------

(57) Abstract :
This invention presents a novel approach to rectifier load analysis in wireless electric vehicle (EV) charging systems, aiming to optimize charging efficiency, safety, and user convenience. The system dynamically adjusts charging parameters based on real-time monitoring of rectifier load characteristics, ensuring optimal power transfer regardless of vehicle positioning or battery charge level. Advanced sensors integrated into the charging infrastructure facilitate precise alignment and distance measurements between transmitter and receiver coils, while a sophisticated control unit with adaptive algorithms dynamically modifies electromagnetic field properties to match rectifier load fluctuations. Integration with the vehicle's battery management system enables intelligent charging strategies tailored to the battery's state and health, maximizing battery life and performance. Additionally, the system incorporates safety and diagnostic mechanisms to preemptively identify and address potential issues, enhancing system reliability and user safety. This comprehensive approach sets a new standard for wireless EV charging technology, promising broad compatibility and ease of adoption across the EV market.

No. of Pages : 9 No. of Claims : 5