The Office of Technology Management

UNIVERSITY OF TEXAS ARLINGTON

Tech ID: UTA 11-02

Wireless Charging system

TECHNOLOGY NEED

Unlike in the past, wireless charging is becoming more accessible to the consumers. A number of industry including consumer electronics, industrial robotics, medical devices and automobile is expected to take advantage of the wireless charging system. Existing technologies are unable to locate the device for charging and that results in severe loss during wireless power transfer. Currently, there is no technology that can identify a user to efficiently charge the device. In order to reliably charge the devices in complex environment of everyday life several technical challenges must be addressed.

INVENTION DESCRIPTION/SOLUTION

UTA researchers have developed a novel wireless charging technology that can achieve high power transmission efficiency and simultaneously ensure human safety. The major distinction between the invention and existing wireless charging systems is that the novel system in an integration of three technological elements: *Charging*, *Communication*, *Radar tracking*. The novel device relies on radar tracking to identify/detect signals including weak signals from the device and deliver focused power transfer. Apart from applications in consumer electronics, the device can be used in the medical industry to charge body implanted electronics devices such as heart pacemakers, nerve simulators, etc. The device is not only safer, but also more efficient in transferring energy than that of the existing technologies.

APPLICATION

- Consumer electronics
- Automobile
- Medical devices
- Industrial Robotics

KEY BENEFITS

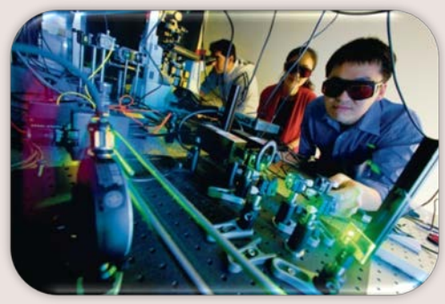
- Automatic wireless charging
- Capable of tracking and charging multiple device at the same time using radar tracking
- Highly safe for human beings as compared to existing technology
- Useful in complex environments: convention rooms, warehouses, construction fields, parking lots.
- High propagation efficiency
- Low cost, compact size and low weight

STAGE OF DEVELOPMENT

Lab prototyped and Tested

INTELLETUCAL PROPERTY STATUS:

Patent granted.
US 9030161B2



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About UT Arlington:
On Feb 9th 2016, The University of Texas at Arlington was named in the elite group of R-1: Doctoral Universities - Highest Research Activity by the Carnegie Classification of Institutions of Higher Education, the definitive list for the top doctoral research universities in the United States. UTA joins a distinguished group of 115 institutions in the “highest research” or R-1 category.

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