



US 20220352753A1

(19) **United States**(12) **Patent Application Publication****Powell, JR. et al.**(10) **Pub. No.: US 2022/0352753 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **ADAPTING DEVICE FOR A WIRELESS POWER TRANSMITTER AND RECEIVER AND METHOD OF USING SAME**(71) Applicant: **Aptiv Technologies Limited**, St. Michael (BB)(72) Inventors: **George Powell, JR.**, Cortland, OH (US); **James Cook**, Poland, OH (US)(21) Appl. No.: **17/732,431**(22) Filed: **Apr. 28, 2022****Related U.S. Application Data**

(60) Provisional application No. 63/181,940, filed on Apr. 29, 2021.

**Publication Classification**

(51) **Int. Cl.**  
*H02J 50/00* (2006.01)  
*H02J 7/00* (2006.01)  
*H02J 50/10* (2006.01)

(52) **U.S. Cl.**  
CPC ..... *H02J 50/005* (2020.01); *H02J 7/0042* (2013.01); *H02J 50/10* (2016.02)

(57) **ABSTRACT**

An adapting device interfaces a wireless power transmitter having a first array of magnets arranged around a source coil in the wireless power transmitter with a wireless power receiver lacking a corresponding array of magnets arranged around a receiver coil in the wireless power receiver. The adapting device includes a planar dielectric substrate and a second array of magnets embedded in the substrate, having a polarization opposite to the first array of magnets, and configured to contain a magnetic flux formed by the first and second array of magnets to the wireless power transmitter and the adapting device.

