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**Luzinski**(10) **Pub. No.: US 2022/0352741 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **WIRELESSLY POWERED BATTERY PACK  
FOR RETROFIT IN LEGACY DEVICES**(71) Applicant: **NuCurrent, Inc.**, Chicago, IL (US)(72) Inventor: **Jason Luzinski**, Chicago, IL (US)(21) Appl. No.: **17/245,945**(22) Filed: **Apr. 30, 2021****Publication Classification**(51) **Int. Cl.**  
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(2013.01); **H02J 7/0044** (2013.01)(57) **ABSTRACT**

A device charging system includes a legacy battery-powered mobile electronic device configured for wired-only charging and a wireless charging enabled battery pack. The wireless charging enabled battery pack may contain one or more battery cells as well as a power management integrated circuit (IC) configured to manage charging of the battery cells. The wireless charging enabled battery pack also contains a wireless power module to receive power wirelessly from a WPT (wireless power transfer) power source outside of the legacy device. In keeping with embodiments of the disclosure, a pack microcontroller in the battery pack interfaces to the legacy device, presenting an interface consistent with a wired-only charged battery pack.

