



US 20240213802A1

(19) **United States**

(12) **Patent Application Publication**  
**SONG et al.**

(10) **Pub. No.: US 2024/0213802 A1**

(43) **Pub. Date: Jun. 27, 2024**

(54) **WIRELESS CHARGING COIL MODULE INCLUDING ROLLED COPPER LAYER ON ONE SURFACE OF BASE, METHOD FOR MANUFACTURING THE SAME, AND WIRELESS CHARGING SYSTEM INCLUDING THE SAME**

**Publication Classification**

(51) **Int. Cl.**

*H02J 50/00* (2006.01)  
*H01F 27/28* (2006.01)  
*H01F 27/34* (2006.01)  
*H01F 38/14* (2006.01)  
*H01F 41/04* (2006.01)  
*H02J 50/10* (2006.01)

(52) **U.S. Cl.**

CPC ..... *H02J 50/005* (2020.01); *H01F 27/28* (2013.01); *H01F 27/34* (2013.01); *H01F 38/14* (2013.01); *H01F 41/04* (2013.01); *H02J 50/10* (2016.02)

(71) Applicant: **WITS Co., Ltd.**, Yongin-si (KR)

(72) Inventors: **Du Hyun SONG**, Suwon-si (KR);  
**Chun Su YOON**, Suwon-si (KR);  
**Dong Hyun KIM**, Suwon-si (KR);  
**Seung Jae BAECK**, Suwon-si (KR);  
**Yong Gu YOON**, Suwon-si (KR)

(73) Assignee: **WITS Co., Ltd.**, Yongin-si (KR)

(21) Appl. No.: **18/186,616**

(22) Filed: **Mar. 20, 2023**

(30) **Foreign Application Priority Data**

Dec. 21, 2022 (KR) ..... 10-2022-0180586

(57)

**ABSTRACT**

Disclosed is a wireless charging coil module for wirelessly receiving or transmitting electric power or signals by using electromagnetic fields including a base, and a coil part including a coil provided on one surface of the base to be rotated in one direction. The coil includes a rolled thin plate of a conductive metal disposed on the one surface of the base, and a side part of the coil has a shape, a central portion of which protrudes or is recessed.

