

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
12 September 2025 (12.09.2025)



(10) International Publication Number
WO 2025/188238 A1

- (51) **International Patent Classification:**
H02J 50/10 (2016.01)
- (21) **International Application Number:**
PCT/SG2025/050115
- (22) **International Filing Date:**
19 February 2025 (19.02.2025)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
10202400647V 08 March 2024 (08.03.2024) SG
- (71) **Applicant:** **NANYANG TECHNOLOGICAL UNIVERSITY** [SG/SG]; 50 Nanyang Avenue, Singapore 639798 (SG).
- (72) **Inventors:** **YANG, Yun**; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG).
WANG, Kaiyuan; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG).
- (74) **Agent:** **CSASIA IP PTE. LTD.**; 47 Scotts Road, #13-03 Goldbell Towers, Singapore 228233 (SG).

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UY, UZ, VC, VN, WS, ZA, ZM, ZW.

(54) **Title:** A WIRELESS POWER TRANSFER DEVICE

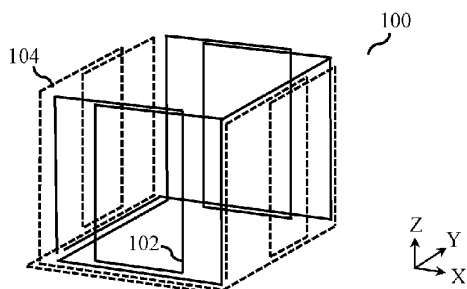


FIGURE 1

(57) **Abstract:** This document describes a wireless power transfer device that comprises two sets of electrical coils that are arranged around a cubic-shaped housing to generate a uniform magnetic field within the housing when the two sets of electrical coils are energized. The arrangement of the electrical coils are such that the first set of electrical coils are disposed along a first central axis of the cubic-shaped housing and the second set of electrical coils are disposed along a second central axis of the cubic-shaped housing, where the first central axis and the second central axis are perpendicular to each other.

WO 2025/188238 A1