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Lee et al.

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(54) **WIRELESS POWER RECEIVER AND CONTROL METHOD THEREOF**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 112 days.

This patent is subject to a terminal disclaimer.

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**

H02J 50/12 (2016.01)

H01Q 1/52 (2006.01)

(Continued)

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

CPC **H02J 50/12** (2016.02); **G06K 19/0708** (2013.01); **G06K 19/0715** (2013.01);

(Continued)

(58) **Field of Classification Search**

CPC .. H02J 50/70; H02J 50/10; H02J 50/12; H02J 50/80; H04B 5/0037

See application file for complete search history.

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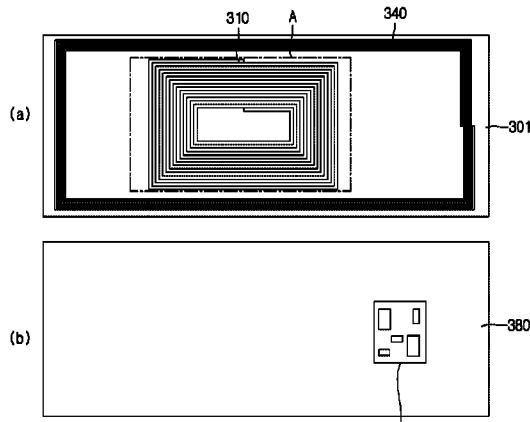
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(57) **ABSTRACT**

A wireless power receiver according to an embodiment wirelessly receives power from a wireless power transmitter. The wireless power receiver includes a printed circuit board; a receiving coil disposed on the printed circuit board, the receiving coil configured to receive power from the wireless power transmitter in a charging mode; a short-range communication antenna disposed on the printed circuit board surrounding the receiving coil, the short-range communication antenna configured to transmit and receive information in a communication mode; a shielding unit disposed on the receiving coil and the short-range communication antenna; and a controller configured to change an operating mode of the wireless power receiver into the charging mode or the communication mode.

14 Claims, 11 Drawing Sheets



- (51) **Int. Cl.**
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FIG. 1

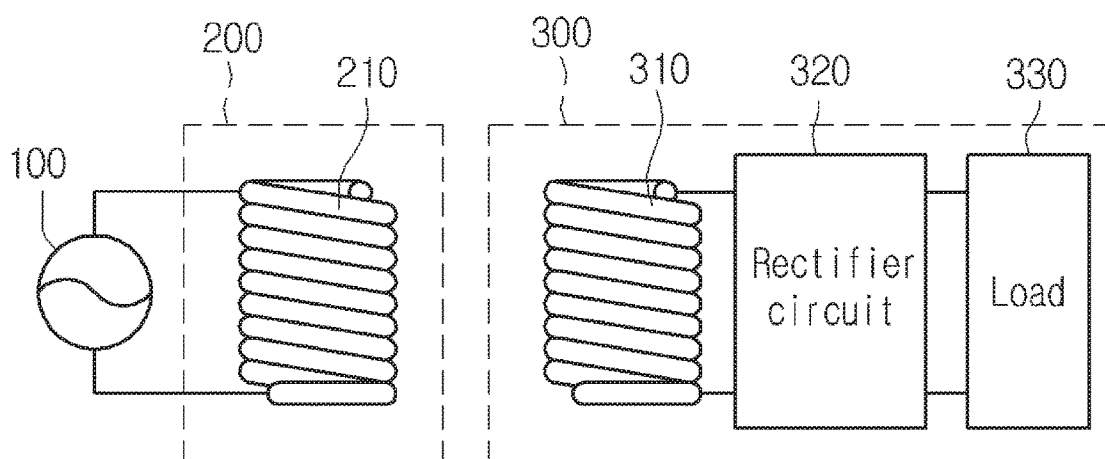


FIG. 2

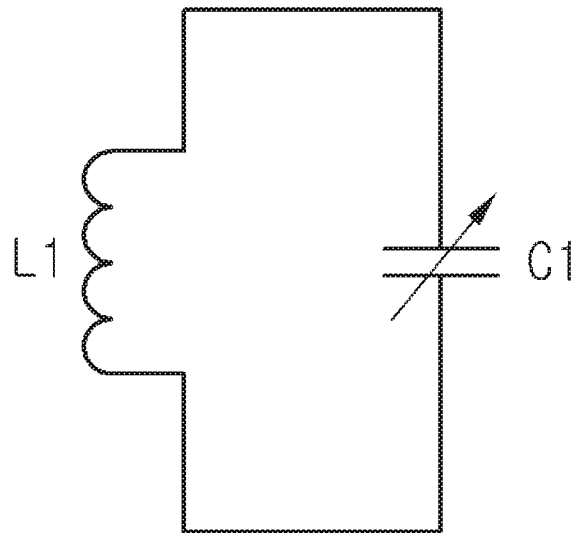
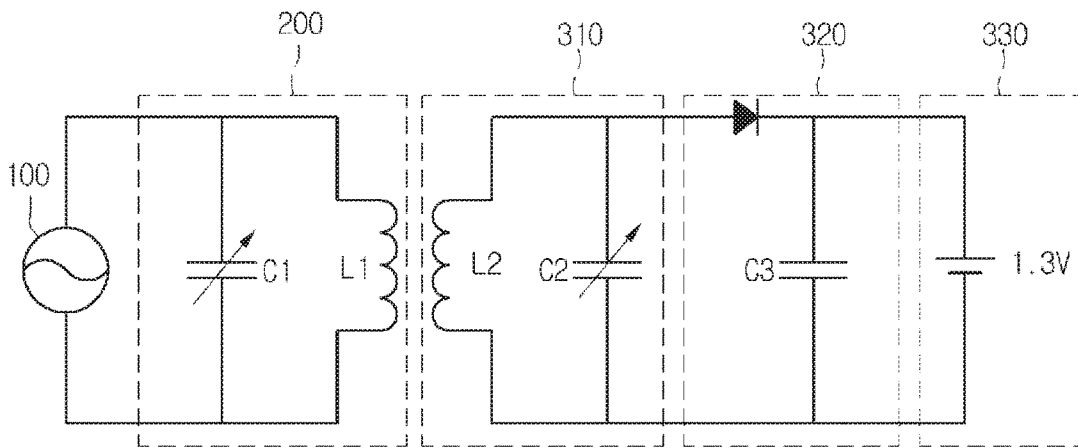


FIG.3



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