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(12) **United States Patent**
Yeom et al.

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(54) **WIRELESS CHARGING AND COMMUNICATION BOARD AND WIRELESS CHARGING AND COMMUNICATION DEVICE**

(58) **Field of Classification Search**
USPC 320/108
See application file for complete search history.

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(73) Assignee: **LG INNOTEK CO., LTD.**, Seoul (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 21 days.

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(57) **ABSTRACT**

Provided are a wireless charging and communication board, and a wireless charging and communication device, the wireless charging and communication board including: a soft magnetic layer; a polymeric material layer arranged on one surface and the other surface of the soft magnetic layer and extending longer than an exposed portion of the soft magnetic layer; and a coil pattern arranged on the polymeric material layer.

22 Claims, 6 Drawing Sheets

(65) **Prior Publication Data**

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(30) **Foreign Application Priority Data**

Mar. 4, 2014 (KR) 10-2014-0025290

(51) **Int. Cl.**

H02J 7/00 (2006.01)

H02J 7/02 (2016.01)

H02J 5/00 (2016.01)

H02J 50/10 (2016.01)

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

CPC **H02J 7/025** (2013.01); **H02J 5/005** (2013.01); **H02J 7/0042** (2013.01); **H02J 50/10** (2016.02)

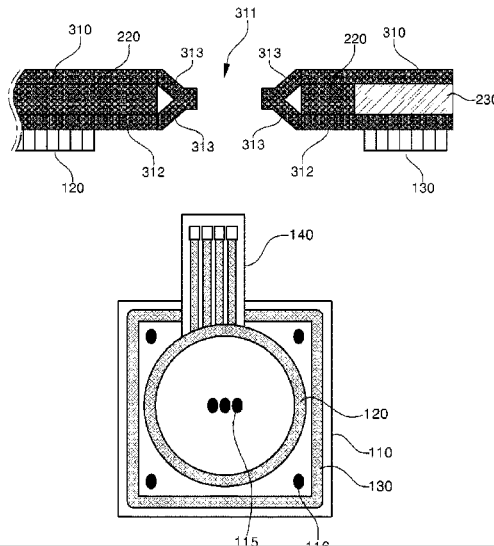


FIG. 1

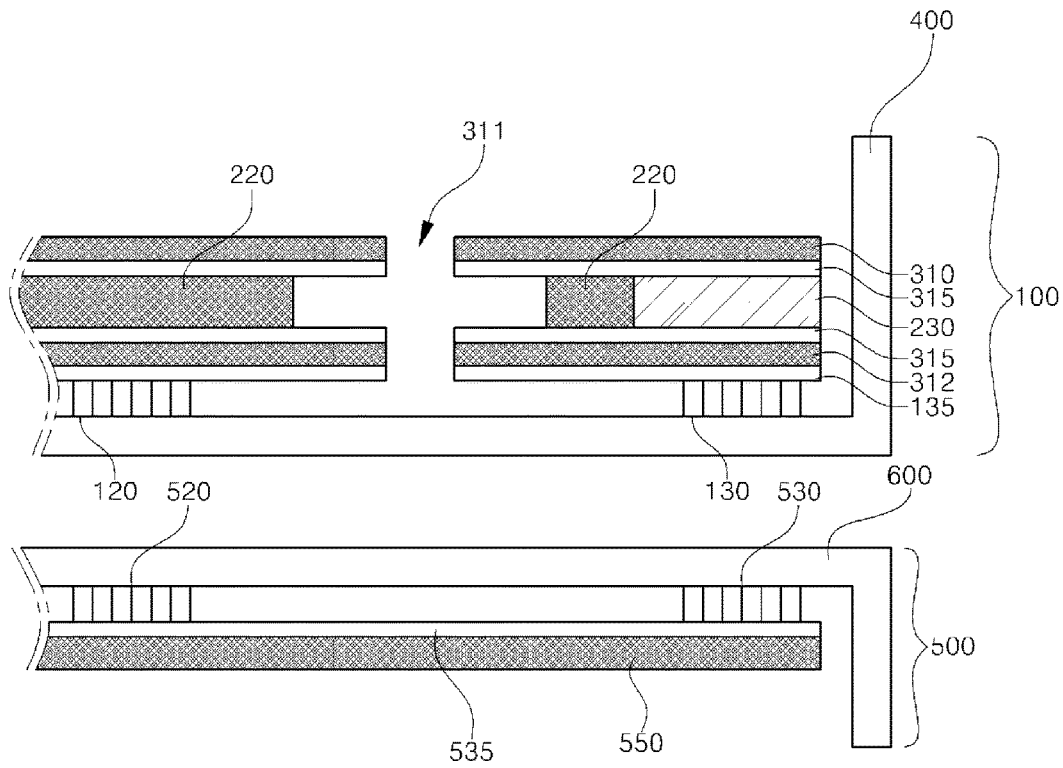


FIG. 2

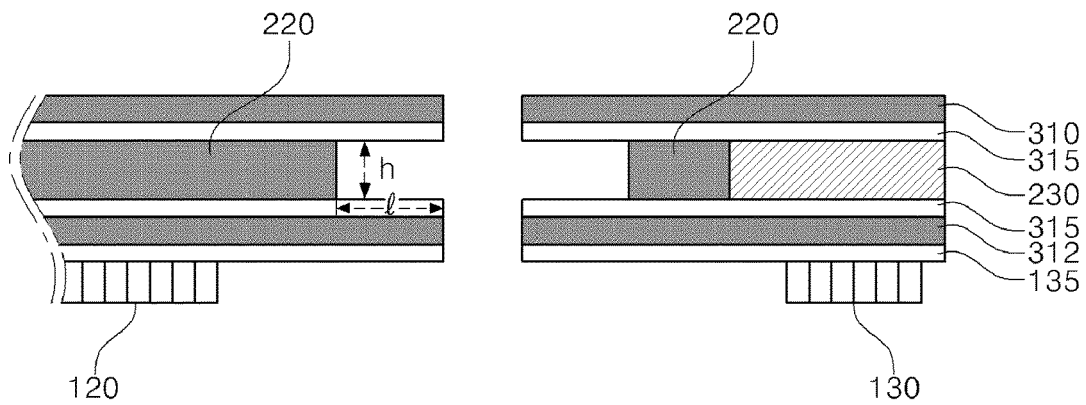


FIG. 3

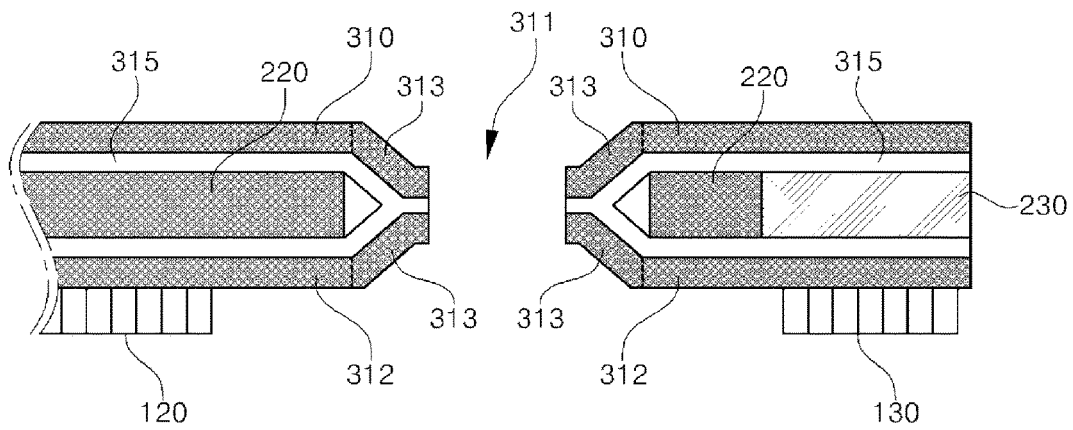


FIG. 4

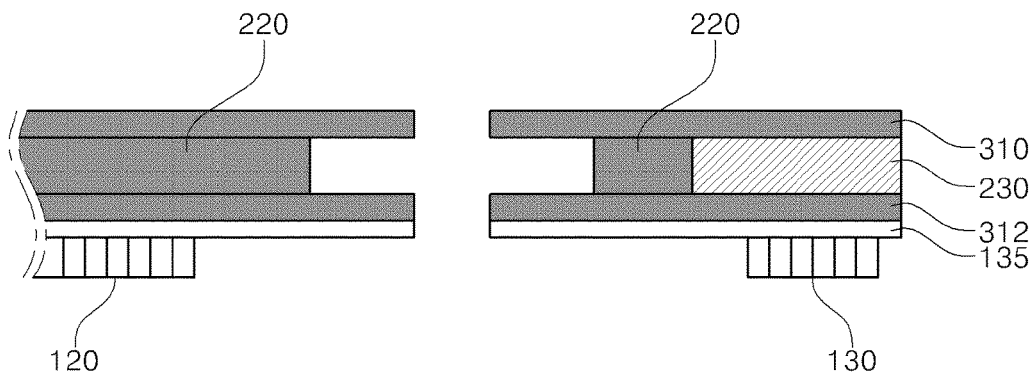


FIG. 5

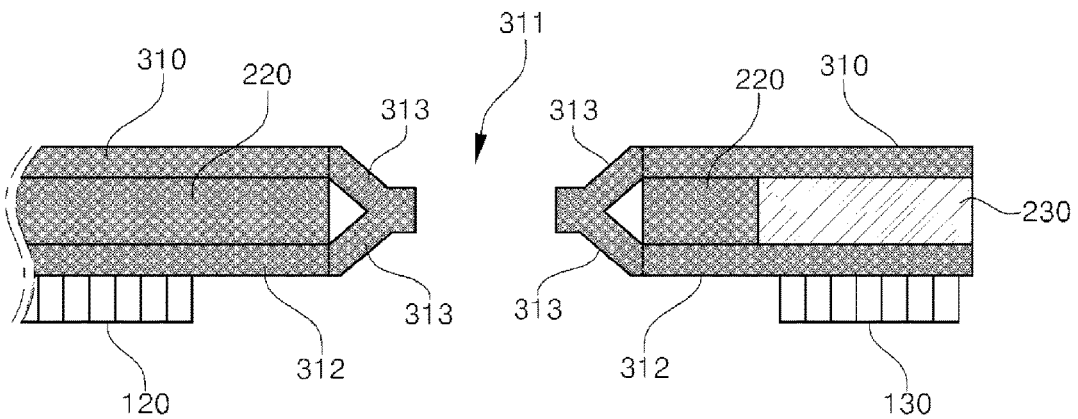


FIG. 6

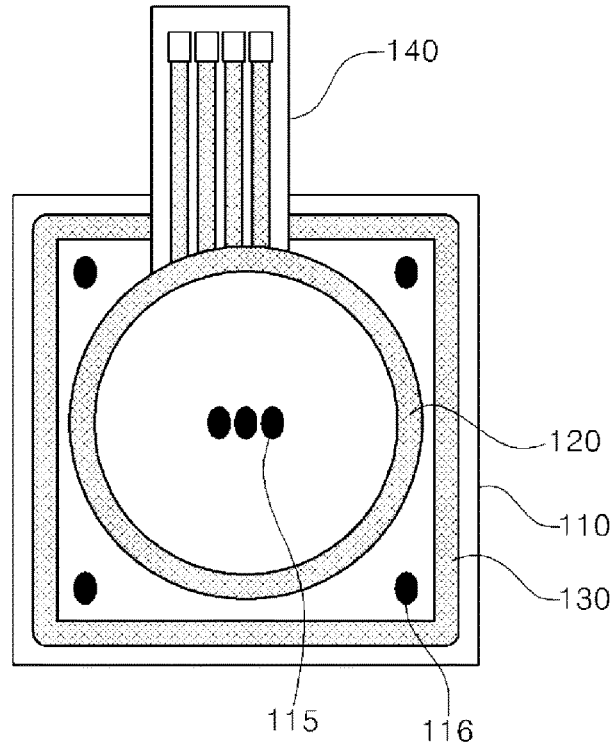


FIG. 7

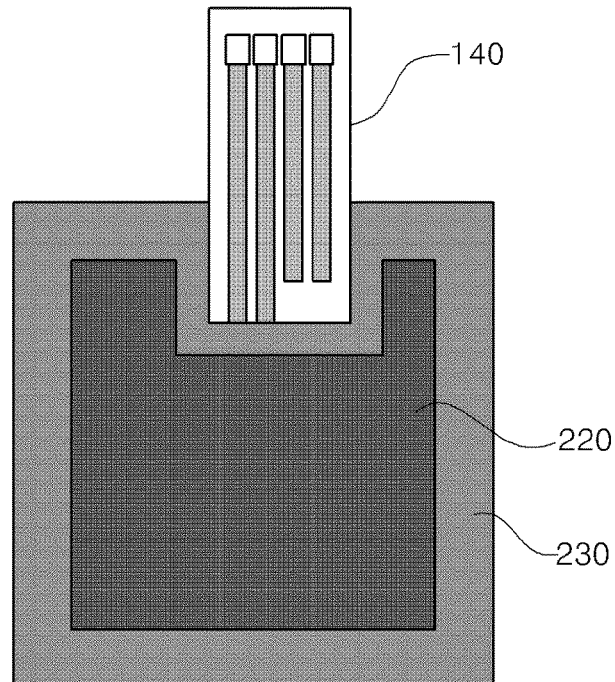


FIG. 8

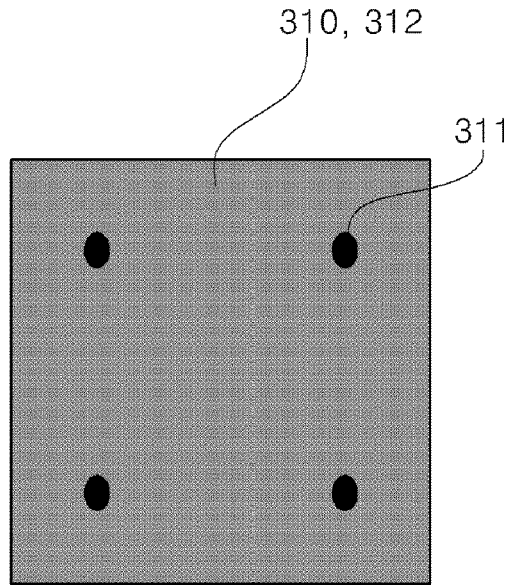
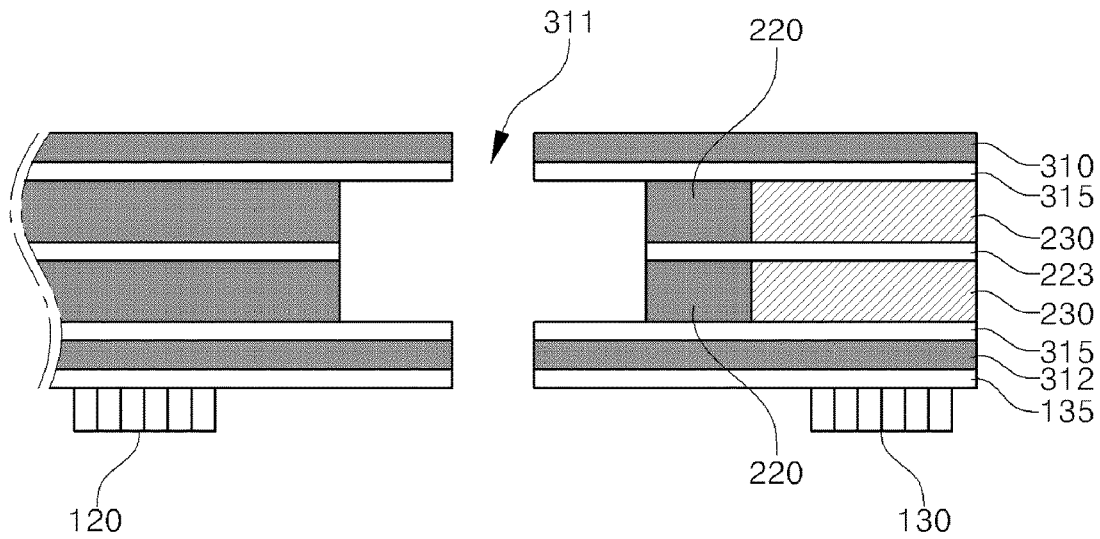


FIG. 9



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