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[Continued on next page]

(54) Title: WIRELESS POWER TRANSFER FOR APPLIANCES AND EQUIPMENTS

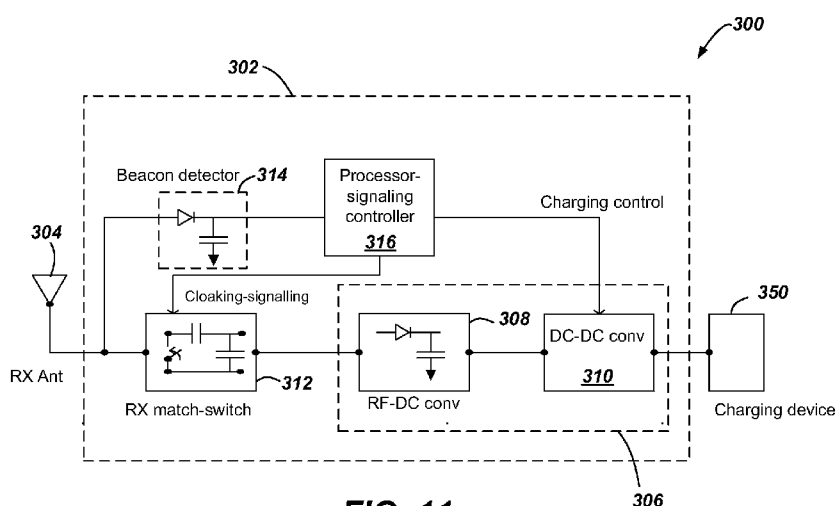


FIG. 11

(57) Abstract: Exemplary embodiments are directed to wireless power transfer. A transmitting device or a receiving device for use in a wireless transfer system may be equipment or a household appliance. The transmitting device includes a transmit antenna to wirelessly transfer power to a receive antenna by generating a near field radiation within a coupling-mode region. An amplifier applies an RF signal to the transmit antenna. A presence detector detects a presence of a receiver device within the coupling-mode region. A controller adjusts a power output of the amplifier responsive to the presence of a receiver device. The presence detector may also detect a human presence. The power output may be adjusted at or below the regulatory level when the presence signal indicates human presence and above a regulatory level when the presence signal indicates human absence.

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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/043515

## A. CLASSIFICATION OF SUBJECT MATTER

INV. H04B5/02 G06K7/00 G06K19/07

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04B G06K H01Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/032349 A (BATTELLE MEMORIAL INSTITUTE [US]; PRATT RICHARD [US]; HUGHES MICHAEL A) 15 April 2004 (2004-04-15)  abstract page 1, line 13 - page 5, line 33	1, 3-9, 11-13, 15-17, 19-21, 23, 24
X	US 2001/041551 A1 (ROTZOLL ROBERT R [US]) 15 November 2001 (2001-11-15)  abstract paragraphs [0015] - [0025]  -/--	1, 3-9, 11-13, 15-17, 19-21, 23, 24

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

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- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- \*&\* document member of the same patent family

Date of the actual completion of the international search

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19/11/2009

Name and mailing address of the ISA/

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## INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98/29969 A (AT & T CORP [US]) 9 July 1998 (1998-07-09) abstract page 1, line 27 - page 2, line 6 claims 1-4; figure 18 -----	2,10,14, 18,22
X	GB 2 380 359 A (AGERE SYSTEMS INC [US]) 2 April 2003 (2003-04-02) abstract paragraphs [0007] - [0010]; claims 1-5 -----	2,10,14, 18,22
X	EP 0 977 304 A (KONINKL PHILIPS ELECTRONICS NV [NL]) 2 February 2000 (2000-02-02) abstract paragraphs [0001] - [0015], [0022] - [0026] -----	2,10,14, 18,22

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2009/043515

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,3-9,11-13,15-17,19-21,23,24

Detect presence of other near field devices and adjust power output accordingly.  
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2. claims: 2,10,14,18,22

Detect presence of human body in vicinity of transmitting device and adjust transmission power above/below regulatory level accordingly.  
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/043515

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