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(12) **United States Patent**
Staring

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(54) **WIRELESS INDUCTIVE POWER TRANSFER**

USPC 307/104
See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this
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U.S.C. 154(b) by 122 days.

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(57) **ABSTRACT**

(65) **Prior Publication Data**

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A power transmitter (101) transfers power to a power receiver (105) using a wireless inductive power signal. The power transmitter (101) comprises an inductor (103) for providing the power signal and a power signal generator (207) for driving the inductor (103) to provide the power signal. The power receiver (105) comprises an inductor (107) for receiving the power signal and a transmitter (305) which transmits data messages to the power transmitter (101). The data are communicated by load modulation of the power signal in repeating load modulation intervals which are separated by intervening time intervals. The power transmitter (101) transmits data to the power receiver (105) by modulating the power signal with a message during the intervening time intervals and the power receiver demodulates the data in these time intervals. The power transmitter (101) transmits single bit of the message by modulating it across a plurality of intervening time intervals and the power transmitter (101) receives it by demodulating over these time intervals.

(30) **Foreign Application Priority Data**

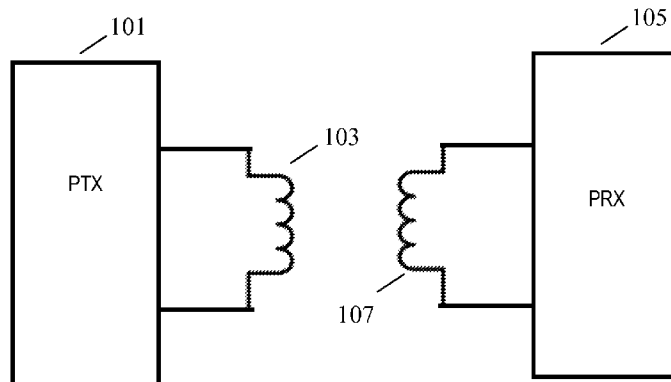
Sep. 30, 2011 (EP) 11183389

18 Claims, 12 Drawing Sheets

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H01F 38/14 (2006.01)
H02J 50/05 (2016.01)
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CPC **H04B 5/0037** (2013.01); **H01F 38/14**
(2013.01); **H02J 5/005** (2013.01); **H04B**
5/0031 (2013.01)

(58) **Field of Classification Search**
CPC H04B 5/0037; H04B 5/0031; H01F 38/14;
H02J 5/005



(51) **Int. Cl.**
H04B 5/00 (2006.01)
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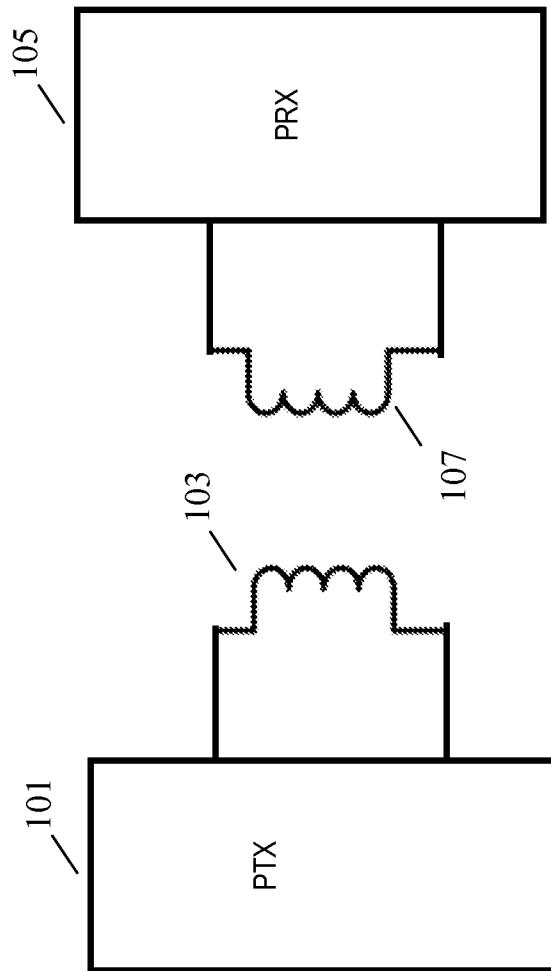


FIG. 1

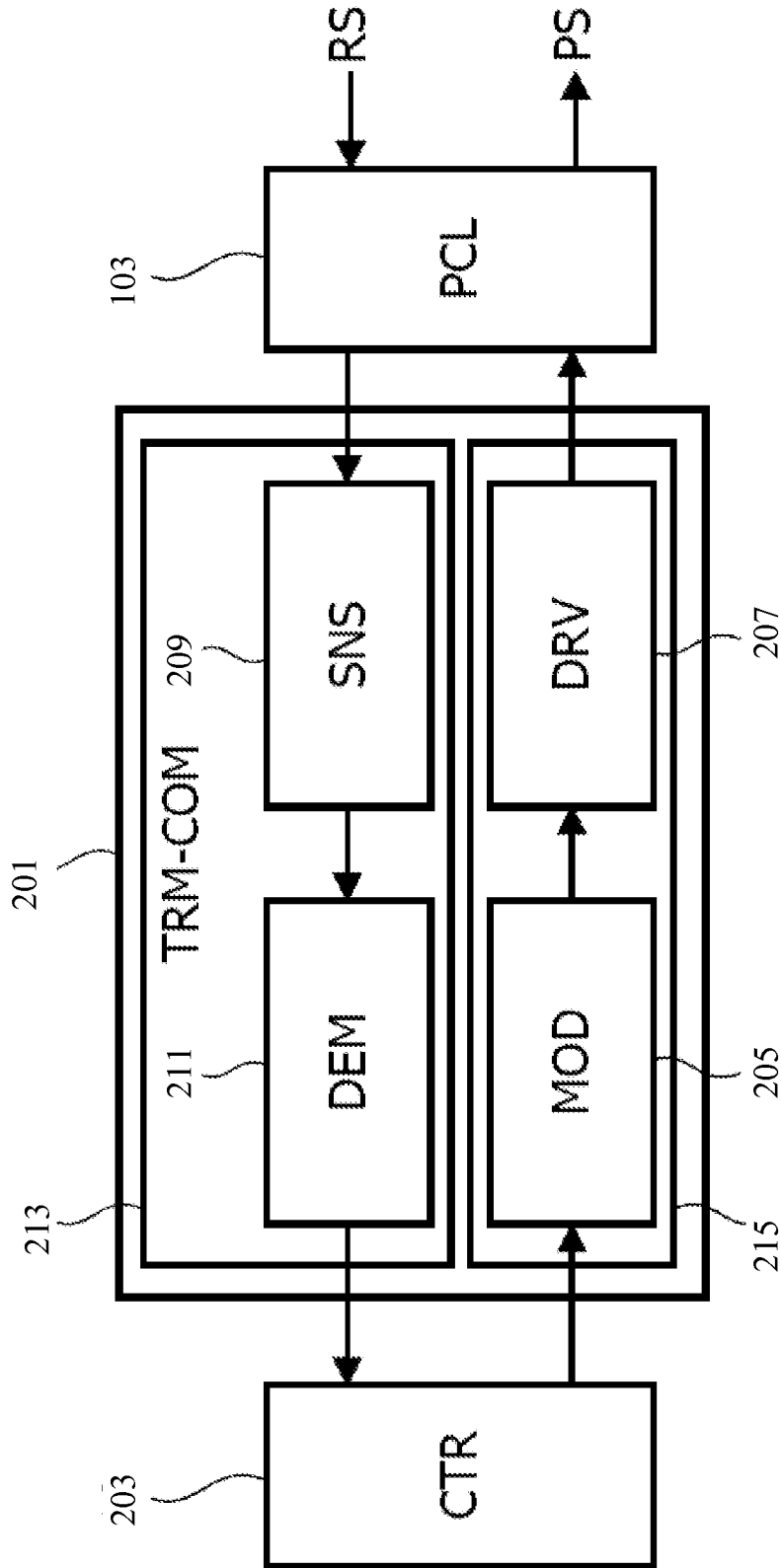


FIG. 2

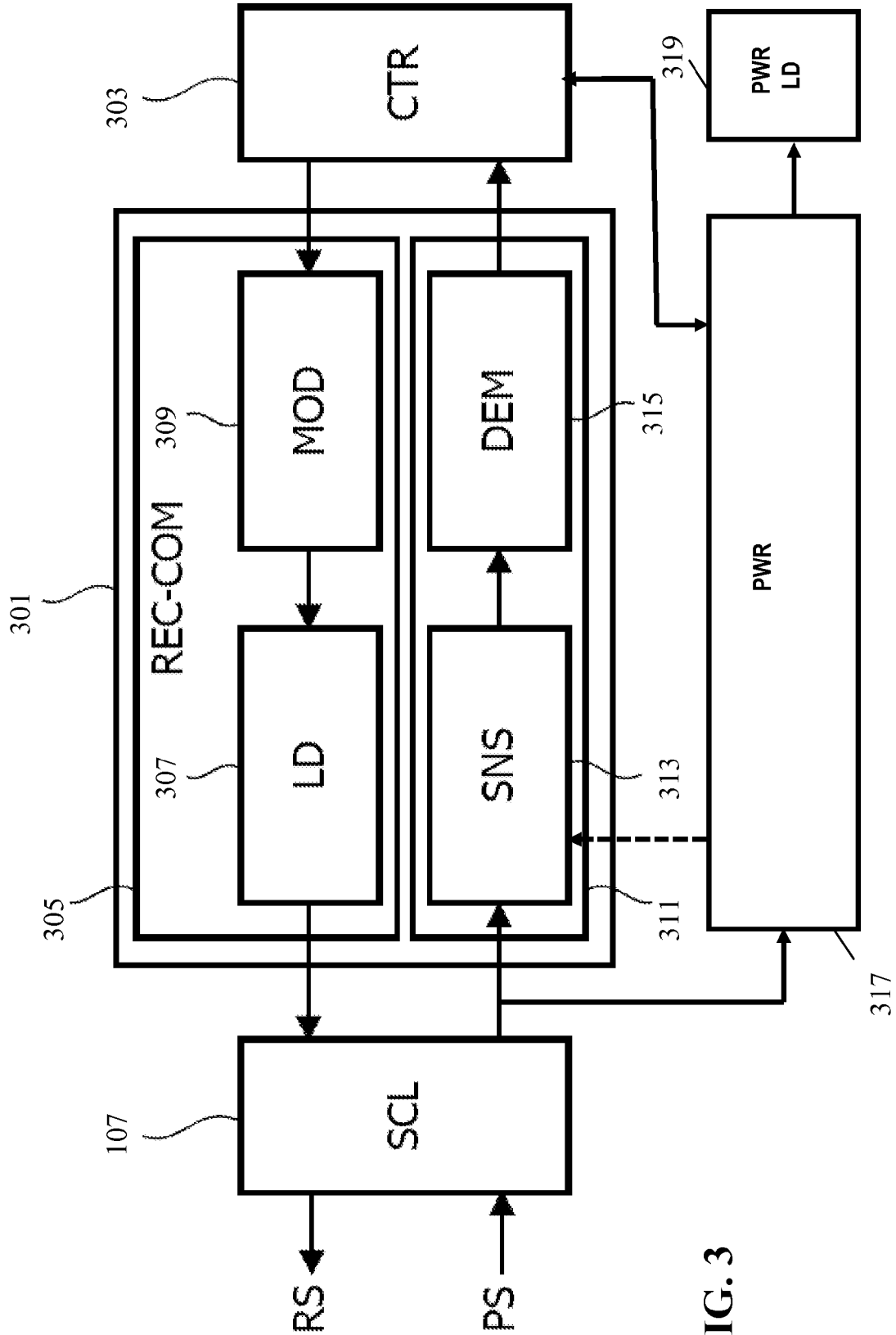


FIG. 3

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