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(54) Title: ADJUSTABLE WIRELESS CIRCUITRY WITH ANTENNA-BASED PROXIMITY DETECTOR

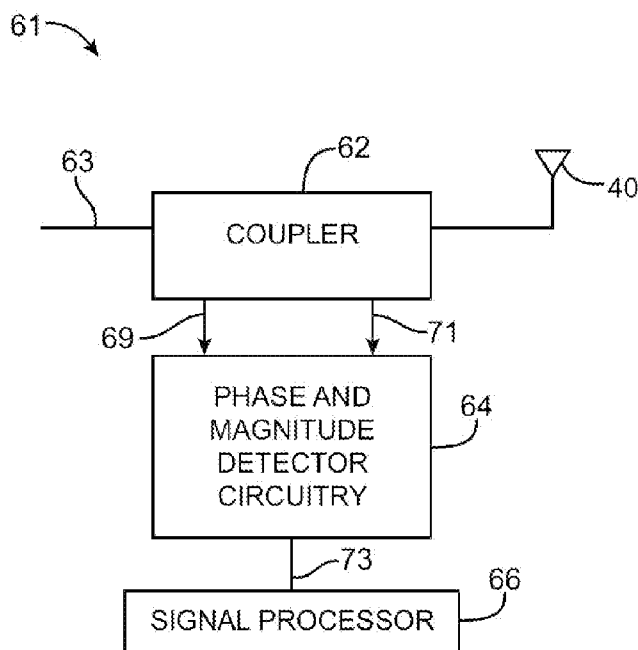


FIG. 4

(57) Abstract: An electronic device such as a portable electronic device has wireless communications circuitry (61). Antennas (40) in the electronic device may be used in transmitting radio-frequency antenna signals. A coupler (62) and antenna signal phase and magnitude measurement circuitry (64) may be used to determine when external objects are in the vicinity of the antenna by making antenna impedance measurements. Additional sensors such as motion sensors, light and heat sensors, acoustic and electrical sensors may produce data that can be combined with the proximity data gathered using the antenna-based proximity sensor. In response to detecting that an external object such as a user's body is within a given distance of the antenna, the electronic device may reduce transmit powers, switch antennas, steer a phased antenna array, switch communications protocols, or take other actions.



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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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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)

EP0-Internal, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	column 2, line 10 - line 33 column 5, line 22 - column 7, line 50 figures 1-7 abstract	4-7,9-12
Y	----- EP 1 298 809 A2 (SIEMENS INF & COMM MOBILE LLC [US] SIEMENS COMM INC [US]) 2 April 2003 (2003-04-02) column 5, line 58 - column 15, line 50 figures 1-7 abstract ----- -/--	4-7,9-12



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See patent family annex.

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"&" document member of the same patent family

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International application No

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