

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
17 December 2009 (17.12.2009)

(10) International Publication Number  
**WO 2009/151818 A3**

(51) International Patent Classification:  
H02J 17/00 (2006.01) H02J 7/00 (2006.01)

(74) Agent: **BROWN, Charles D.**; Qualcomm Incorporated,  
5775 Morehouse Drive, San Diego, CA 92121-1714  
(US).

(21) International Application Number:  
PCT/US2009/042737

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date:  
4 May 2009 (04.05.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
12/115,478 5 May 2008 (05.05.2008) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:  
US 12/115,478 (CIP)  
Filed on 5 May 2008 (05.05.2008)

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR),

(71) Applicant (for all designated States except US): **QUALCOMM INCORPORATED** [US/US]; 5775 Morehouse Drive, San Diego, CA 92121-1714 (US).

[Continued on next page]

(54) Title: WIRELESS DELIVERY OF POWER TO A FIXED-GEOMETRY POWER PART

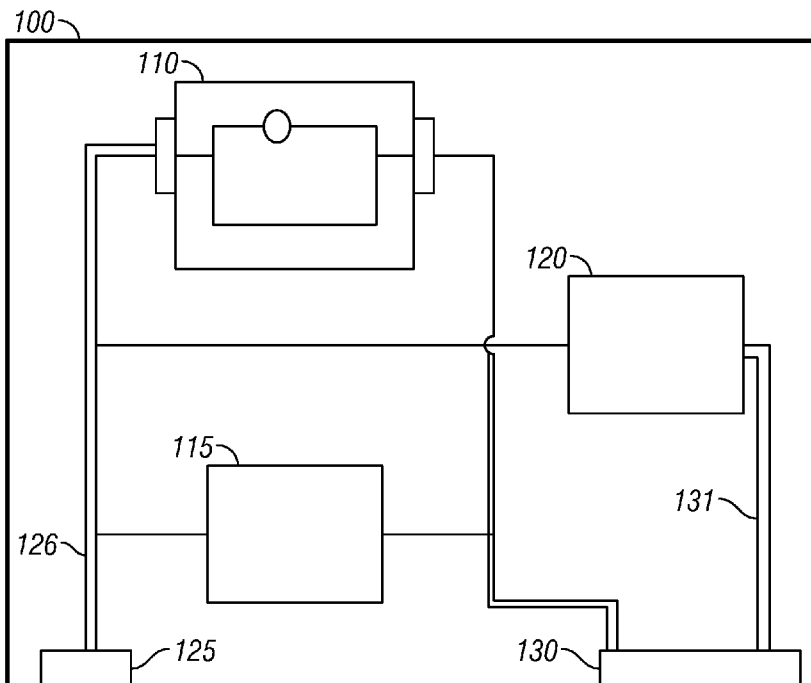


FIG. 1

(57) Abstract: Wireless power is used to deliver power to different areas on a circuit board or on an integrated circuitry. The power can be delivered by magnetic resonant power or by inductive power coupling. Optical isolation can be used between different stages.

WO 2009/151818 A3



OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments (Rule 48.2(h))

**Published:**

— with international search report (Art. 21(3))

**(88) Date of publication of the international search report:**

18 February 2010

**A. CLASSIFICATION OF SUBJECT MATTER****H02J 17/00(2006.01)i, H02J 7/00(2006.01)i**

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)

H02J 17/00; G06K 19/07; G11B 3/70; G11B 7/26; H01L 21/00; H01L 23/58; H01L 27/12

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

Korean utility models and applications for utility models since 1975.  
Japanese utility models and applications for utility models since 1975.

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

PAJ, FPD, USPAT, eKIPASS "Keyword: wireless, contactless, power, energy, deliver, transfer, substrate, integrated circuit, circuit board"

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002-0036977 A1 (KARS-MICHIEL HUBERT LENSSEN et al.) 28 March 2002 See the abstract; claim 1; figures 2, 6	1-19
A	US 6175124 B1 (COLE; RICHARD K. et al.) 16 January 2001 See the abstract; claim 1; figure 2.	1-19
A	US 2006-0121639 A1 ( YU-CHONG TAI et al. ) 08 June 2006 See the abstract; claim 1; figure 2K.	1-19
A	WO 2006-006636 A1 ( SEMICONDUCTOR ENERGY LABORATORY CO., LTD. et al. ) 19 January 2006 See the abstract; claim 1; figure 1.	1-19

 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 application or patent 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 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

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

17 DECEMBER 2009 (17.12.2009)

Date of mailing of the international search report

**18 DECEMBER 2009 (18.12.2009)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

WEE Jae Woo

Telephone No. 82-42-481-8540



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/042737**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002-0036977 A1	28.03.2002	AR030766A1	03.09.2003
		AT 289436 T	15.03.2005
		BR 0107240 A	09.07.2002
		CN 1280767 C	18.10.2006
		CN 1401105 A	05.03.2003
		CZ20021748A3	14.08.2002
		DE 60108939 D1	24.03.2005
		DE 60108939 T2	30.03.2006
		JP 2004-510235 T	02.04.2004
		PL364827A1	27.12.2004
		RU2284574C2	27.09.2006
		TW 241567 B	11.10.2005
		US 2006-048177 A1	02.03.2006
		US 6986151 B2	10.01.2006
		US 7234154 B2	19.06.2007
		WO 02-25582A2	28.03.2002
		WO 02-25582A3	27.06.2002
US 6175124 B1	16.01.2001	None	
US 2006-0121639 A1	08.06.2006	None	
WO 2006-006636 A1	19.01.2006	JP 2006-054446 A	23.02.2006
		KR 10-2007-0043991A	26.04.2007
		US 2008-0093454 A1	24.04.2008