

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 October 2007 (25.10.2007)

PCT

(10) International Publication Number  
**WO 2007/121334 A3**

(51) International Patent Classification:

H04L 29/08 (2006.01)

(21) International Application Number:

PCT/US2007/066588

(22) International Filing Date: 13 April 2007 (13.04.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/792,034 14 April 2006 (14.04.2006) US

60/908,271 27 March 2007 (27.03.2007) US

(71) Applicant (for all designated States except US): **QUALCOMM Incorporated** [US/US]; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MOALLEMI, Kamran** [US/US]; 4314 Vista De La Tierra, Del Mar, c 92014 (US). **EKBAL, Amal** [IN/US]; 3465 Lebon Drive, #1815, San Diego, c 92122 (US). **LEE, Chong U.** [US/US]; 11710 Alderidge Lane, San Diego, c 92131 (US). **JULIAN, David Jonathan** [US/US]; 17515 Fairlie Road, San Diego, California 92128 (US). **XIAO, Lu** [CA/US]; 8730 Costa Verde Boulevard, #2203, San Diego, California 92122 (US). **ROSE, Gregory Gordon** [AU/US]; 3234 North Star Drive, San Diego, California 92117 (US).

(74) Agent: **OGROD, Gregory D.**; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, 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, 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, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

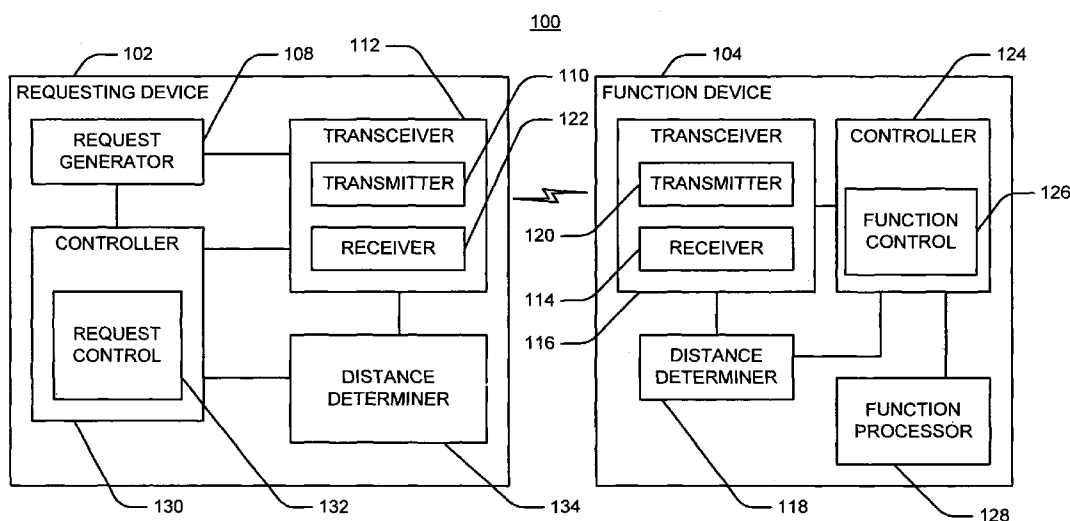
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: DISTANCE-BASED SECURITY



(57) Abstract: Various operations may be performed based on distance-related functions associated with two or more devices. For example, one or more distance-based functions may be used to control whether a device is allowed to request another device to perform one or more functions. Similarly, one or more distance-based functions may be used to control whether a device may perform one or more functions requested by another device. A distance-related function may take various form including, for example, a distance between devices, two or more distances between devices, a rate of change in a relative distance between devices, relative acceleration between devices, or some combination of two or more of the these distance-related functions.



**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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

19 June 2008

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2007/066588

## A. CLASSIFICATION OF SUBJECT MATTER

INV. H04L29/08

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)  
H04L

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, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                              | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | US 2004/098583 A1 (WEBER JOSEPH W [US])<br>20 May 2004 (2004-05-20)<br>abstract                                                                                                                                 | 1-70                  |
| X         | US 2004/203600 A1 (MCCORKLE JOHN W [US] ET AL)<br>14 October 2004 (2004-10-14)<br>paragraph [0190] - paragraph [0200]<br>figure 13                                                                              | 1-70                  |
| X         | WO 2006/030341 A (KONINKL PHILIPS ELECTRONICS NV [NL]; KNIBBELER CHARLES L C M [NL]; STA)<br>23 March 2006 (2006-03-23)<br>page 2, line 20 - page 4, line 8<br>page 12, line 21 - page 15, line 15<br>figure 4A | 1-146                 |

☒ 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

- \*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.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

21 April 2008

Date of mailing of the international search report

02/05/2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Horn, Marc-Philipp

# INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/066588

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                            | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| A         | <p>US 2006/068822 A1 (KALHAN AMIT [US])<br/> 30 March 2006 (2006-03-30)<br/> abstract<br/> paragraph [0012] - paragraph [0013]<br/> -----</p> | 1-146                 |

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2007/066588

## 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 allsearchable 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: 1-70

A first device performing a function requested by a second device based on a distance determined between the two devices.

---

2. claims: 71-146

A first device determining whether to request a second device to perform a function based on a determined distance between the two devices.

---

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/066588

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s)                                              | Publication<br>date                                  |
|-------------------------------------------|----|---------------------|-------------------------------------------------------------------------|------------------------------------------------------|
| US 2004098583                             | A1 | 20-05-2004          | NONE                                                                    |                                                      |
| US 2004203600                             | A1 | 14-10-2004          | NONE                                                                    |                                                      |
| WO 2006030341                             | A  | 23-03-2006          | CN 101023651 A<br>KR 20070065385 A                                      | 22-08-2007<br>22-06-2007                             |
| US 2006068822                             | A1 | 30-03-2006          | CN 101023640 A<br>EP 1800443 A1<br>KR 20070062524 A<br>WO 2006039189 A1 | 22-08-2007<br>27-06-2007<br>15-06-2007<br>13-04-2006 |