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- (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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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- Published:**
- with international search report (Art. 21(3))
- 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))
- (88) **Date of publication of the international search report:**  
3 May 2012

(54) **Title:** METHOD AND APPARATUS FOR DETERMINING SYSTEM NODE POSITIONS AND PERFORMING TEMPERATURE COMPENSATION

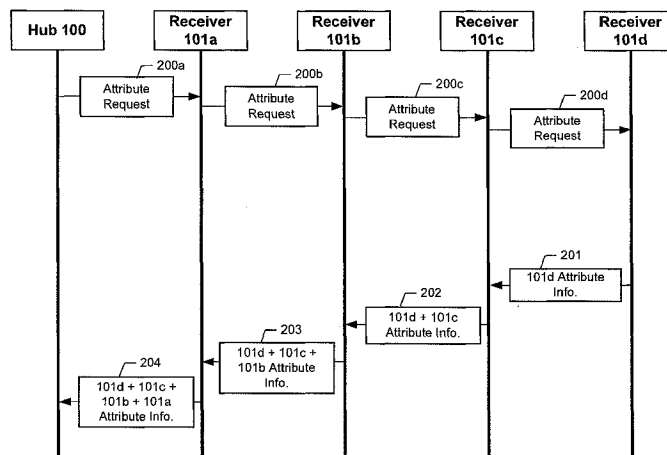


FIG. 2

(57) **Abstract:** Various methods for determining a configuration of a communications system are provided, including methods for determining system node positions and performing amplifier gain compensation to correct for variations in temperature. Some of the method may be implemented within the context of an asset locating system that analyzes the timing of wireless signals to determine a location of the source of the signal. Related systems and apparatuses are also provided.

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# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/US2011/044243</b>
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. G01S5/00            G01S5/02            H04W84/18  
 ADD.

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)  
 G01S H04W

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/031383 A1 (KONINKL PHILIPS ELECTRONICS NV [NL]; LEITCH ADAM S [GB]; BIRD NEIL C []) 7 April 2005 (2005-04-07) the whole document -----	1-59
A	Anonymous: "ZigBee", Wikipedia, the free encyclopedia 5 June 2010 (2010-06-05), XP002664610, Retrieved from the Internet: URL: <a href="http://en.wikipedia.org/w/index.php?title=ZigBee&amp;oldid=366129285">http://en.wikipedia.org/w/index.php?title=ZigBee&amp;oldid=366129285</a> [retrieved on 2011-11-29] Protocols - paragraph 6 ----- <div style="text-align: center;">-/--</div>	4

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.
- "&" document member of the same patent family

Date of the actual completion of the international search

29 November 2011

Date of mailing of the international search report

20/03/2012

Name and mailing address of the ISA/  
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# INTERNATIONAL SEARCH REPORT

International application No PCT/US2011/044243
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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.
A	WO 2007/106972 A1 (RFIND SYSTEMS INC [CA]; BARNES SHARON ANN IRMA [CA]; BROOKS MARTY CHAR) 27 September 2007 (2007-09-27) page 8  -----	12
A	----- US 2009/315685 A1 (BAUCHOT FREDERIC [FR] ET AL) 24 December 2009 (2009-12-24) the whole document  -----	1-59

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2011/044243

## 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.:

1-59

### 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: 1-59

Determining the position of nodes in a communications network.

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2. claims: 60-79

Configuring receiver for signal detection.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2011/044243

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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			EP 1671148 A1	21-06-2006
			JP 4792394 B2	12-10-2011
			JP 2007506963 A	22-03-2007
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			WO 2005031383 A1	07-04-2005
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			JP 2009531667 A	03-09-2009
			US 2009102661 A1	23-04-2009
			WO 2007106972 A1	27-09-2007
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US 2009315685	A1	24-12-2009	NONE	
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