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English

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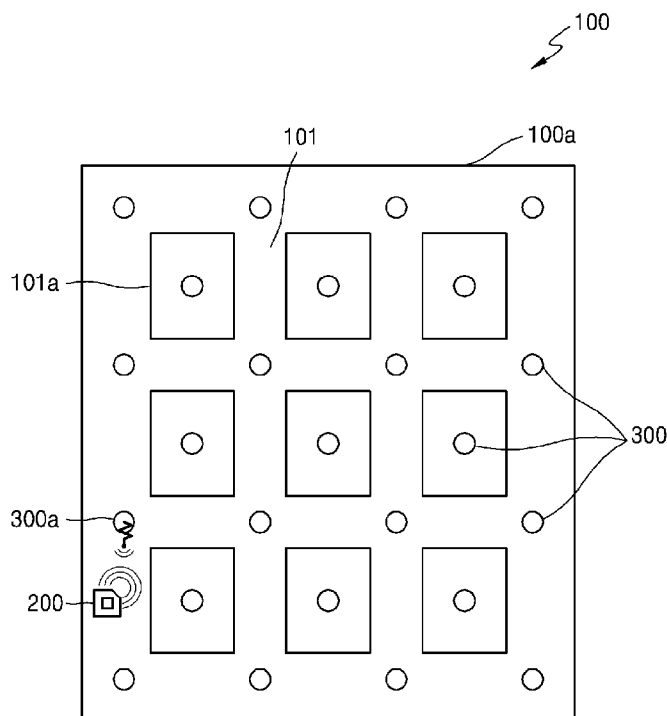
[KR/KR]; 129, Samsung-ro, Yeongtong-gu, Suwon-si,
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,

(54) Title: POSITIONING METHOD AND APPARATUS



(57) Abstract: A positioning method includes: emitting an interrogator signal from an electronic device; detecting, by the electronic device, a response signal that is generated and emitted by a sensor among a plurality of sensors, in response to the interrogator signal; and acquire location information about the sensor by identifying the sensor based on the detected response signal. The response signal is generated based on transduction of the interrogator signal.

DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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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INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2017/004143**A. CLASSIFICATION OF SUBJECT MATTER****G01S 5/00(2006.01)i, G01S 5/02(2010.01)i, G01S 19/38(2010.01)i, G01C 21/20(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)

G01S 5/00; H01L 41/047; G01S 5/10; G08B 25/10; H04W 4/00; H04W 4/02; H04Q 5/22; G01S 5/02; G01S 19/38; G01C 21/20

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

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: positioning, interrogator signal, response signal, sensor, surface acoustic wave (SAW), location information

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009-0128298 A1 (RYU et al.) 21 May 2009 See paragraphs [0034]-[0037], [0054]; claims 1, 14; and figure 1.	1-3, 6-15
Y		4-5
Y	US 2010-0141087 A1 (BOSTAN et al.) 10 June 2010 See claim 11; and figures 1-2.	4-5
A	US 2011-0110293 A1 (HART et al.) 12 May 2011 See figures 1, 3.	1-15
A	US 2014-0118193 A1 (REICHENBACH et al.) 01 May 2014 See figures 1, 3.	1-15
A	US 2015-0077241 A1 (SENTINEL OFFENDER SERVICES, LLC) 19 March 2015 See figures 1-2.	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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"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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2017/004143

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 2011-0110293 A1	12/05/2011	CN 102668657 A CN 102668657 B EP 2499867 A1 EP 2499867 B1 US 9055395 B2 WO 2011-059481 A1	12/09/2012 11/05/2016 19/09/2012 15/06/2016 09/06/2015 19/05/2011
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US 2015-0077241 A1	19/03/2015	None	