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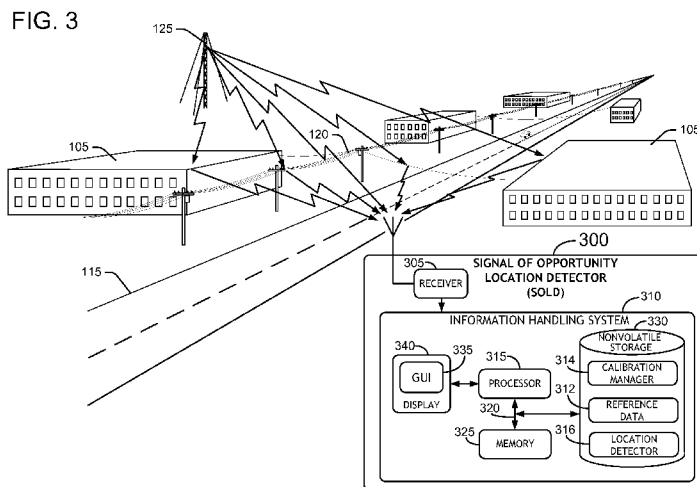
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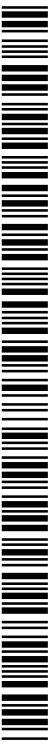
- with international search report (Art. 21(3))

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR DETERMINING LOCATION USING SIGNALS-OF-OPPORTUNITY



(57) Abstract: A signal-of-opportunity location device (SOLD) that may be situated in a complex radio propagation environment with multiple RF signal obstructions receives RF signals from a distant transmitter. The RF signals from the distant transmitter interact with obstructions in the propagation environment local to the SOLD. The local obstructions perturb the RF signals causing the RF signals to exhibit near field behavior in the complex radio propagation environment. The SOLD receives the locally perturbed signals. The SOLD detects signal characteristics of RF signal components of the received signals and compares these signal characteristics with reference data in a reference data store to determine the current location of the SOLD.



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— *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))*

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A. CLASSIFICATION OF SUBJECT MATTER*G01S 5/02(2010.01)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 5/02; G01S 13/36; H04Q 7/20; G01S 3/02; G01S 13/84

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: location, signal-of-opportunity, perturbe, propogation, reference data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 06026304 A (HILSENATH; OLIVER et al.) 15 February 2000 See abstract, claims 1-44 and figure 1	1-21
A	US 2003-0043073 A1 (MATTHEW K. GRAY et al.) 06 March 2003 See abstract, claims 1-5 and figures 1-2	1-21
A	US 06011515 A (RADCLIFFE; SCOTT T. et al.) 04 January 2000 See abstract, claims 1-10 and figure 1	1-21
A	US 2002-0196187 A1 (BRIAN HOLT) 26 December 2002 See abstract, claims 1, 13, 22 and figures 5-10	1-21
A	US 2004-0032363 A1 (HANS GREGORY SCHANTZ et al.) 19 February 2004 See abstract, claims 1, 11, 15 and figures 13, 14, 18	1-21

 Further documents are listed in the continuation of Box C. See patent family annex.

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search

29 FEBRUARY 2012 (29.02.2012)

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2011/039522

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