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(54) Title: CHANNEL SOUNDING USING MULTIPLE SOUNDING SIGNAL CONFIGURATIONS

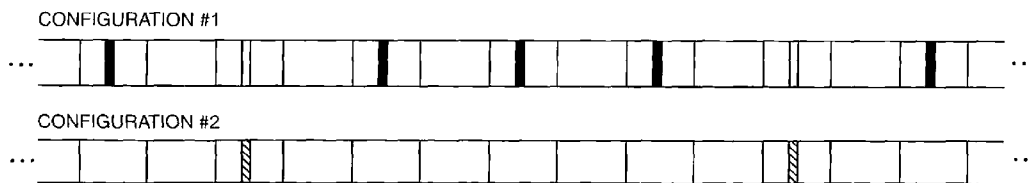


FIG. 5

(57) Abstract: More than one set of sounding signal configuration parameters are determined for the same mobile terminal. The mobile terminal uses the sets of configuration parameters to generate different sounding reference signals which can be used for different purposes such as estimating timing and channel quality. In one embodiment, a method of configuring uplink sounding transmissions by mobile terminals in a wireless communication network is characterized by determining different sets of configuration parameters for sounding signal transmissions for a given mobile terminal (200). The different sets of configuration parameters are transmitted to the mobile terminal, allowing the mobile terminal to generate different sounding signals for different uses by the wireless communication network (202).



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**INTERNATIONAL SEARCH REPORT**

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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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, COMPENDEX, INSPEC

<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/170157 A1 (KIM JAE-YOEL [KR] ET AL) 2 September 2004 (2004-09-02) abstract paragraph [0010] paragraphs [0027] - [0030] paragraphs [0033] - [0039] paragraphs [0060] - [0063] paragraphs [0072] - [0074] paragraphs [0084] - [0092] claims 1-18 figures 1,4-16  -----  -/--	1-24

<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> 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	
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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.
X	<p>US 2006/034163 A1 (GORE DHANANJAY A [US]            ET AL GORE DHANANJAY ASHOK [US] ET AL)            16 February 2006 (2006-02-16)            abstract            paragraphs [0005] - [0011]            paragraphs [0037] - [0079]            paragraphs [0085] - [0132]            figures 1,3,5-8</p> <p style="text-align: center;">-----</p>	1-24
A	<p>VOO F W ET AL: "Uplink Cannel Sounding            for TDD OFDMA"            INTERNET CITATION, [Online]            31 August 2004 (2004-08-31), XP003015283            Retrieved from the Internet:            URL: <a href="http://www.ieee802.org/16/tge/contrib/C80216e-04_263r3.pdf">http://www.ieee802.org/16/tge/contrib/            C80216e-04_263r3.pdf</a>            [retrieved on 2007-01-01]            Sections 1-4</p> <p style="text-align: center;">-----</p>	1-24

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