

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 May 2006 (11.05.2006)

PCT

(10) International Publication Number
WO 2006/050055 A3

- (51) International Patent Classification:
H04B 1/69 (2006.01) H04B 1/713 (2006.01)
H04B 1/707 (2006.01)
- (21) International Application Number:
PCT/US2005/038856
- (22) International Filing Date: 27 October 2005 (27.10.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10/904,196 28 October 2004 (28.10.2004) US
- (71) Applicant (for all designated States except US):
FREESCALE SEMICONDUCTOR, INC. [US/US];
6501 William Cannon Drive West, Austin, TX 78729 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **BRADLEY, Wayne H.** [US/US]; 601 Meadowview Drive, West Chicago, Illinois 60185 (US).
- (74) Agents: **KING, Robert, L.** et al.; 7700 W. Parmer Lane, MD:PL02, Austin, TX 78729 (US).

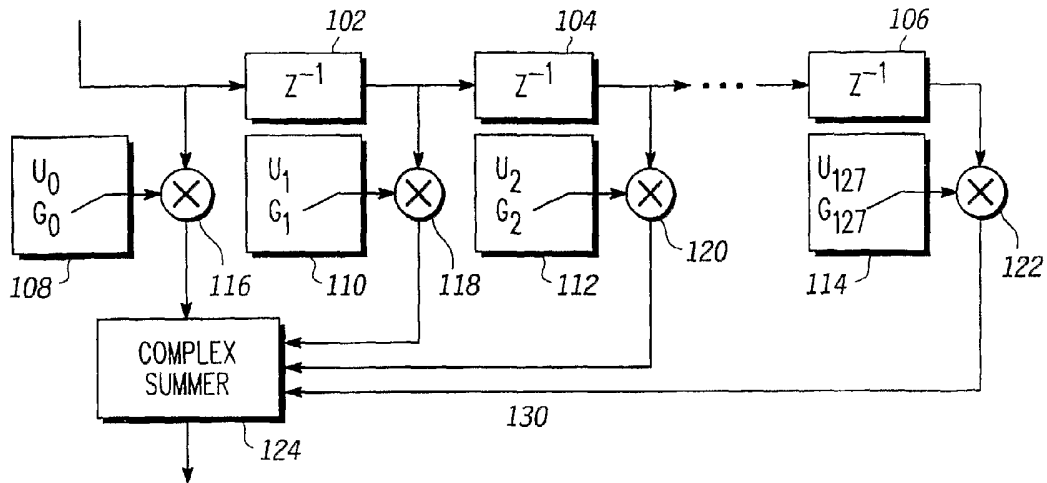
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, 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).

Published:
— with international search report

(88) Date of publication of the international search report:
14 December 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TONE DETECTION USING A CDMA RECEIVER



100

(57) Abstract: A code division multiple access (CDMA) receiver (100) can detect the presence of a GSM tone-based signal by programming the digital filter's tap weights to correlate with a GSM FCCH signal (208). If the correlation between the values of the tap weights and a received signal satisfies a threshold, the receiver produces an indication that a GSM signal is present (212). Post-processing can be performed on the output of the digital filter to improve signal detection based on the determination of the correlation of the received signal with the digital filter, the determination of the corresponding power value, the determination of the signal strength; and the estimation of the frequency offset.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/38856

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **H04B 1/69(2006.01)**

USPC: 375/148
 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)
 U.S. : 375/148, 375/150

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 practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,049,577 A (Gothe et al) 11 April 2000 (11.04.2000), Abstrat, fig 1, column 1-2, column 4	1,6,14,15,17
Y	US 5,649,308 A (Andrews) 15 July 1997 (15.07.1997); figure 1	1,6,14,15,17
Y	US 6,373,881 B1 (Mizuguchi et al) 16 april 2002 (16.04.2002), abstract, figure 2	1,6,14,15,17

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	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 22 June 2006 (22.06.2006)	Date of mailing of the international search report 18 SEP 2006
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Chieh M Fan Telephone No. - 571-272-2600 <i>Ruqenia Lopez</i>
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/38856

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.: 16
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:
the dependency of the claim was left out.

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:

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 additional fees, this Authority did not invite payment of any 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.