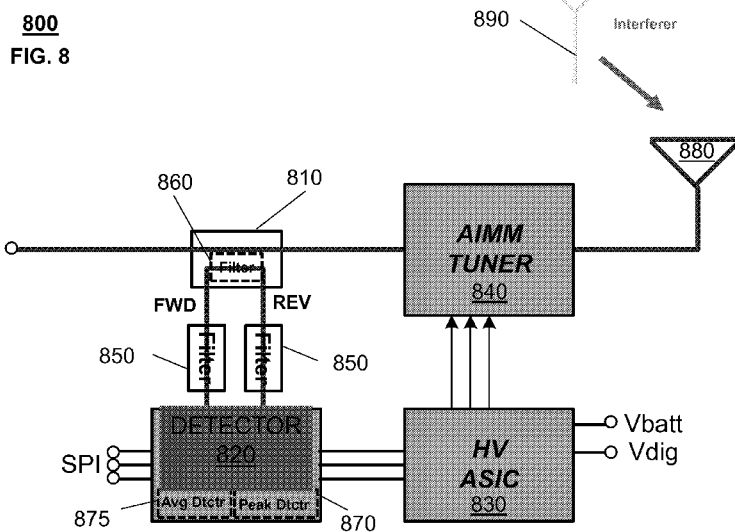




- (51) **International Patent Classification:**
H04B 1/44 (2006.01) H04B 15/00 (2006.01)
H04B 1/10 (2006.01)
 - (21) **International Application Number:**
PCT/US2011/033228
 - (22) **International Filing Date:**
20 April 2011 (20.04.2011)
 - (25) **Filing Language:** English
 - (26) **Publication Language:** English
 - (30) **Priority Data:**
61/326,206 20 April 2010 (20.04.2010) US
 - (71) **Applicant (for all designated States except US):**
PARATEK MICROWAVE, INC. [US/US]; 22 Technology Way, Nashua, NH 03060 (US).
 - (72) **Inventors; and**
 - (75) **Inventors/Applicants (for US only):** MANSSEN, Keith, R. [US/US]; 1116 Boone Creek Court, Bull Valley, IL 60050 (US). GREENE, Matthew, R. [US/US]; 1645 Driftwood Lane, Crystal Lake, IL 60014 (US). SMITH, Wayne, E. [US/US]; 729 Bedford Drive, Crystal Lake, IL 60014 (US). SCHLUETER, David, M. [US/US]; 37009 North Deerpath Drive, Lake Villa, IL 60046 (US). SPEARS, John, H. [US/US]; 1803 Chambrook Dr., Johnsburg, IL 60051 (US).
 - (74) **Agent:** GUST, Andrew; Guntin Meles & Gust, PLC, 304 Indian Trace #750, Weston, FL 33326 (US).
 - (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.
 - (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report (Art. 21(3))
- (88) **Date of publication of the international search report:**
15 March 2012

(54) **Title:** METHOD AND APPARATUS FOR MANAGING INTERFERENCE IN A COMMUNICATION DEVICE



(57) **Abstract:** A system that incorporates teachings of the present disclosure may include, for example, a communication device having a controller to detect an existence of an interferer and determine a tuning state of a variable matching network based on whether the interferer exists and based on information from at least one of an open-loop or closed-loop feedback configuration. Additional embodiments are disclosed.

WO 2011/133657 A3

A. CLASSIFICATION OF SUBJECT MATTER***H04B 1/44(2006.01)i, H04B 1/10(2006.01)i, H04B 15/00(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)

H04B 1/44; H04B 7/00; H03H 7/38; H01Q 1/38; H04B 1/06; H01Q 9/00; H04B 1/02

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: tunable, matching, closed-loop, interfere

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2007-0200766 A1 (WILLIAM E. MCKINZIE III et al.) 30 August 2007 See abstract; paragraphs [0041]-[0052]; figures 1-4.	1-6,8,11-14,20 7,9,10,15-19,21-35
A	US 2007-0194859 A1 (MICHAEL BROBSTON et al.) 23 August 2007 See abstract; paragraphs [0017]-[0021], [0028]-[0037]; figures 1, 3 and 4.	1-35
A	US 2007-0042725 A1 (GREGORY POILASNE et al.) 22 February 2007 See abstract; paragraphs [0023]-[0041]; figures 1 and 2.	1-35
A	US 2007-0197180 A1 (WILLIAM E. MCKINZIE III et al.) 23 August 2007 See abstract; paragraphs [0044]-[0062]; figures 3 and 4.	1-35

 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 application or patent 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 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

26 DECEMBER 2011 (26.12.2011)

Date of mailing of the international search report

27 DECEMBER 2011 (27.12.2011)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsa-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

Cho, Nam Shin

Telephone No. 82-42-481-8589



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/033228

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0200766 A1	30.08.2007	None	
US 2007-0194859 A1	23.08.2007	US 7671693 B2	02.03.2010
US 2007-0042725 A1	22.02.2007	US 7640040 B2	29.12.2009
US 2007-0197180 A1	23.08.2007	US 2010-0156552 A1 US 7711337 B2	24.06.2010 04.05.2010