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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, 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, QA, RO, RS, RU, RW, 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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(54) **Title:** METHOD AND APPARATUS FOR RESONATOR SIGNAL PRODUCTION AND MEASUREMENT

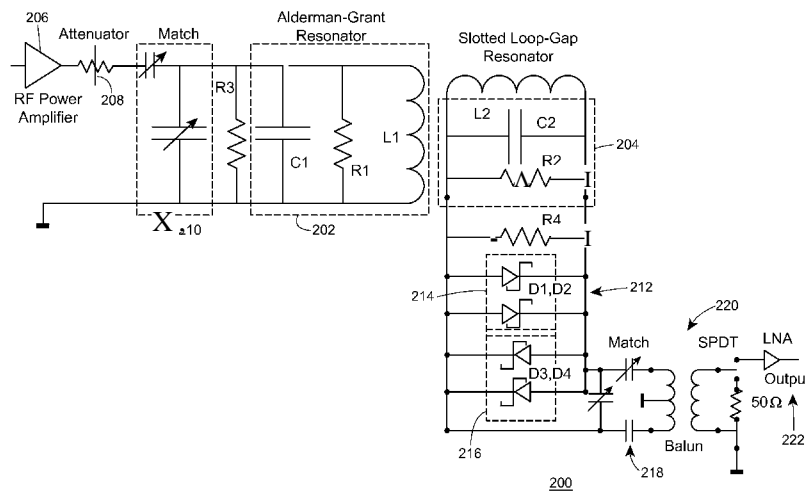


FIG. 2

(57) **Abstract:** Techniques provide for passive Q switching in a bimodal resonator environment, where magnetic resonators are coupled for power transfer. A passive Q switch is responsive to a driving power from one magnetic resonator coupled to another magnetic resonator. After the driving power reaches a threshold, the passive Q switch shunts the receiving magnetic resonator, at least partially, to reduce the Q of that second resonator, which allows faster detection operation of the second resonator in some applications. The technique allows for fast Q switching in a bimodal resonator system, especially one having resonators having magnetic fields that are orthogonal to one another.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/042474**A. CLASSIFICATION OF SUBJECT MATTER****G01R 33/34(2006.01)i, A61B 5/055(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)

G01R 33/34; G01 V 3/00; G01R 33/48

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: resonator, Q-factor, EPR, ESR, alderman-grant, loop-gap

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6573720 B1 (DEVASAHAYAMet al.) 03 June 2003 See abstract, column 4, lines 25-37, column 5, lines 10-29, line 62 - column 6, line 65, claim 1, and figures 1,4-9.	1,4,17
Y		2-3,5-7,18-19
A		8-16,20
Y	US 2009-0302846 A1 (WONG et al.) 10 December 2009 See abstract, paragraphs [0007],[0024]-[0026],[0029]-[0030],[0034], claims 1-8,16-22, and figures 1-3B.	2-3,19
Y	US 06150817 A (LURIE et al.) 21 November 2000 See abstract, column 4, line 55 - column 5, line 42, claims 1,11, and figures 2-3.	5,18
X	PETER L. GOR`KOV et al. `Low-E probe for 19F–1H NMR of dilute biological solids`, Journal of Magnetic Resonance 189, pp. 182-189, 18 September 2007	8-11
Y	See abstract, page 183, and figures 1(a)-(b).	6-7

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

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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