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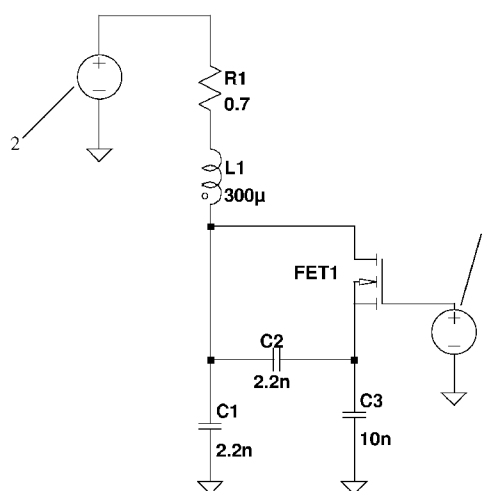
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: RESONANT CIRCUITS



(57) Abstract: Embodiments of the invention relate to resonant circuits; particularly but not exclusively the embodiments relate to resonant circuits in RPID (radio frequency identification) responsive to a wide frequency range. A controllable electric resonator comprising an inductor coupled to a first capacitor to form a resonant circuit, the resonator further comprising a controllable element, a second capacitor controllably coupled across said first capacitor by said controllable element, and a control device to control said controllable element such that a total effective capacitance of said first and second capacitor varies over a duty cycle of an oscillatory signal on said resonator.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2006/050436

A. CLASSIFICATION OF SUBJECT MATTER
INV. H03J1/00

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)
G06K H03J

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/006880 A1 (ZIMMER HERBERT [DE]) 9 January 2003 (2003-01-09) paragraphs [0046] - [0048], [0056], [0063]; figure 3 -----	1-5, 11-17, 20-25
A	WO 2005/104022 A (3M INNOVATIVE PROPERTIES CO [US]) 3 November 2005 (2005-11-03) cited in the application figure 2 -----	1-30
A	US 5 491 715 A (FLAXL THOMAS J [DE]) 13 February 1996 (1996-02-13) cited in the application -----	

☐ 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 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.

G document member of the same patent family

Date of the actual completion of the international search

8 March 2007

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2006/050436

Box 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.:
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:
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 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:

see additional sheet

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 an additional fee, this Authority did not invite payment of any additional fee.
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.:

1-30

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-30

A controllable electric resonator comprising an inductor, a first capacitor and a second capacitor controllably coupled across said first capacitor by a transistor switch.

2. claims: 31-38

An rf tag proximity detection system.

3. claims: 39-40

An apparatus for controlling the operation of an rf transponder tag reader.

INTERNATIONAL SEARCH REPORT

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003006880	A1	09-01-2003	NONE
WO 2005104022	A	03-11-2005	
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