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(54) Title: METHOD AND APPARATUS FOR FILTERING SIGNALS IN A SUBSYSTEM INCLUDING A POWER AMPLIFIER UTILIZING A BANK OF VIBRATING MICROMECHANICAL APPARATUS

(57) Abstract: Several MEMS-based methods and architectures which utilize vibrating micromechanical resonators in circuits to implement filtering, mixing, frequency reference and amplifying functions are provided. Apparatus is provided for selecting at least one desired passband or channel in an RF transmitter subsystem utilizing a bank of vibrating micromechanical devices. One of the primary benefits of the use of such architectures is a savings in power consumption by trading power for high selectivity (i.e. high Q). Consequently, the present invention relies on the use of a large number of micromechanical links in SSI networks to implement signal processing functions with basically zero DC power consumption.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/40566

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H03H9/46

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)

IPC 7 H03H

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 A A | US 6 049 702 A (CHANG MAU CHUNG F ET AL) 11 April 2000 (2000-04-11) cited in the application column 4, line 31-64 column 6, line 10-32 --- EP 0 962 999 A (NOKIA MOBILE PHONES LTD) 8 December 1999 (1999-12-08) page 6, line 56 -page 7, line 28; figure 14 --- -/-- | 1-3,11, 15-17 7,12-14, 19,20 |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
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| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | <p>NGUYEN C T-C ET AL: "CMOS MICROMECHANICAL RESONATOR OSCILLATOR" PROCEEDINGS OF THE INTERNATIONAL ELECTRON DEVICES MEETING. WASHINGTON, DEC. 5 - 8, 1993, NEW YORK, IEEE, US, 5 December 1993 (1993-12-05), pages 199-202, XP000481600 ISBN: 0-7803-1451-4 the whole document</p> <p style="text-align: center;">-----</p> | 4-6 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

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| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
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