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(71) Applicant (for all designated States except US): **QUALCOMM INCORPORATED** [US/US]; 5775 Morehouse Drive, San Diego, CA 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHOU, Chen-Jean** [US/US]; 21 Ridgefield Road, New York City, NY 10956 (US). **WU, Chun-Chen** [CN/CN]; 118-1, Tzu Fu Road, Hsinfeng (CN). **BRINKLEY, Patrick, F.** [US/US]; 1701 Lexington Avenue, San Mateo, CA 94402 (US).

(74) Agent: **ABUMERI, Mark, M.**; Knobbe Martens Olson & Bear LLP, 2040 Main Street, 14th Floor, Irvine, CA 92614 (US).

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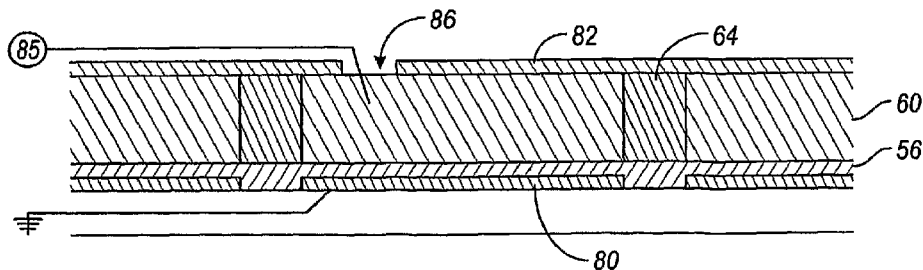
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTRICAL CONDITIONING OF MEMS DEVICE AND INSULATING LAYER THEREOF



(57) Abstract: A method of fabricating a MEMS device includes conditioning of an insulating layer by applying a voltage across the insulating layer via a conductive sacrificial layer for a period of time, prior to removal of the conductive sacrificial layer. This conditioning process may be used to saturate or stabilize charge accumulated within the insulating layer. The resistance across the insulating layer may also be measured to detect possible defects in the insulating layer.



WO 2007/100457 A3

INTERNATIONAL SEARCH REPORT

International application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
INV. B81C5/00 B81C1/00 G02B26/00 H04Q11/00

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)  
B81C G02B H04Q B81B

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, WPI Data, INSPEC, COMPENDEX, BIOSIS, EMBASE, IBM-TDB

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 2005/012577 A1 (PILLANS BRANDON W [US] ET AL) 20 January 2005 (2005-01-20) figures 1-9 paragraphs [0027] - [0062]	16  1-15, 24-34
X A	US 2004/058532 A1 (MILES MARK W [US] ET AL) 25 March 2004 (2004-03-25) figures 4-9 paragraphs [0026] - [0039]	16  1-15, 24-34

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.
- \*&\* document member of the same patent family

Date of the actual completion of the international search  2 August 2007	Date of mailing of the international search report  09/11/2007
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Polesello, Paolo
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2007/003267

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X  A	US 2004/051929 A1 (SAMPSELL JEFFREY BRIAN [US] ET AL) 18 March 2004 (2004-03-18) figures 9,10 paragraphs [0029] - [0044]	16
X  A	----- US 2003/102771 A1 (AKIBA AKIRA [JP] ET AL) 5 June 2003 (2003-06-05) figures 11,12 paragraphs [0081] - [0086], [0090]	1-15, 24-34
X  A	----- US 2005/249966 A1 (TUNG MING-HAU [US] ET AL) 10 November 2005 (2005-11-10) figures 1-6 paragraphs [0011] - [0030] -----	16
A		1-15, 24-34

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2007/003267

## 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.:

1-16, 24-34

### Remark on Protest

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

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US2007 /003267

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-16,24-34

Method of manufacturing a MEMS device having a dielectric layer on an electrode wherein a conductive sacrificail layer is used and a voltage is applied to the sacrificial layer in order to stabilize the charge in the dielectric layer or to test the device.

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2. claims: 17-23

MEMS device comprising a modulator.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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