Title: ASICS AND DESIGN METHOD THEREOF PROVIDING CONFIGURABLE NUMBER OS SIGNAL CHANNELS

Abstract: A system comprises an application specific integrated circuit (ASIC) adapted for use in a plurality of circuit configurations, said circuit configurations providing for different numbers of signal channels for further processing using same circuitry of said application specific integrated circuit.
Date of publication of the international search report:
4 May 2006

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.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
G01S7/52  G01S15/89

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)
G01S  G10K

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)
EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>abstract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>figures 1, 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>column 2, line 25 - line 67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>column 3, line 25 - column 5, line 60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>claim 13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEST E N.H.: &quot;CMOS VLSI DESIGN: a circuits and systems perspective&quot;</td>
<td>1-5, 10-13, 19-21, 25-28</td>
</tr>
<tr>
<td></td>
<td>1993, ADDISON/WESLEY, XP002350734</td>
<td></td>
</tr>
<tr>
<td></td>
<td>page 19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-----</td>
<td></td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of box C. Patent family members are listed in 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** 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 actual completion of the international search
25 October 2005

Date of mailing of the international search report
16.01.2006

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 946-2040, Tx. 31 651 epos nl
Fax (+31-70) 940-3018

Authorized officer
Alonso Nogueiro, L
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
</table>
### INTERNATIONAL SEARCH REPORT

#### 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.:

   1-5, 10-13, 19-21, 25-28

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 10-13, 19-21, 25-28

   System and method of using an ASIC adapted for use in a plurality of circuit configurations providing different numbers of signal channels. System comprising a transducer, a beamformer and the aforementioned ASIC comprising a bank of selectively enabled multiplexers.

   ---

2. claims: 6, 7, 17, 18, 29, 30, 32, 34

   Configurable circuit providing a cross point switch function.

   ---

3. claims: 6, 8, 9, 14-16, 29, 31, 33

   Configurable circuit providing a signal summer function.

   ---

4. claims: 22, 23

   Method comprising the operation of two beamformers in communication with the datapath to form multiple receive beams.

   ---

5. claim: 24

   Method comprising implementing a signal processing unit and programming the signal processing unit to provide a mode of functionality not originally included in the platform.
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 5520187</td>
<td>28-05-1996</td>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>