RECONFIGURABLE DATA PROCESSING SYSTEM

A reconfigurable processing system is provided that comprises a plurality of programmable processing modules arranged on a circuit board. Each of the programmable processing modules is capable of being populated by a programmable integrated circuit of a variety of processing capabilities. Conductive traces on the circuit board connect to the programmable processing modules and the conductive traces are arranged on the circuit board so as to accommodate use of the programmable integrated circuits of varying processing capabilities in the programmable processing modules without the need to alter conductive trace footprints on the circuit board for the programmable processing modules. At least one interface circuit arranged on the circuit board to interface signals to and from the circuit board.
(88) Date of publication of the international search report:
12 March 2009
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(8) - H05K 1/11 (2008.04)
   USPC - 361/784
   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(8): H05K 1/11 (2008.04)
   USPC: 361/784

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   361/785, 788-792 - search terms below.

   Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
   Google Scholar; WEST (PGPB, USPT, EPAB, JPAB) - circuit, board, integrated circuit, field programmable array, FPGA, wafer scale signal processor, WSSP, module, package, component, flash, memory, symmetric, switch, central, socket, conductive trace.

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>X</td>
<td>US 6,874,051 B2 (GESCH et al.) 29 March 2005 (29.03.2005) - fig. 2; col 1, In 47 - col 2, In 5; col 2, In 18-27; col 2, In 62 - col 3, In 5.</td>
<td>1-3, 6-11, 22</td>
</tr>
<tr>
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<td>4-5</td>
</tr>
<tr>
<td>A</td>
<td>US 6,469,404 B1 (POIJOLA) 22 October 2002 (22.10.2002).</td>
<td>1-11, 22</td>
</tr>
</tbody>
</table>

☐ Further documents are listed in the continuation of Box C. ☐

* 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 application or patent but published on or after the international filing date
   “L” document which may throw doubt 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
07 November 2008 (07 November 2008)

Date of mailing of the international search report
26 NOV 2008

Name and mailing address of the ISA/US
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P.O. Box 1450, Alexandria, Virginia 22313-1450
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Authorized officer: Lee W. Young
PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (April 2007)
INTERNATIONAL SEARCH REPORT

Box No. 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 No. 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:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

- Group I (claims 1-11 and 22), drawn to a method for reconfiguring a processing system.
- Group II (claims 12-21), drawn to a method for an onboard vehicle control system.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of Group I is reconfiguring a processing system, which is not present in Group II that has a special technical feature of an onboard vehicle control system. Accordingly, unity of invention is lacking under PCT Rule 13.1.

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 additional fees, this Authority did not invite payment of additional fees.

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. 1-11 and 22

Remark on Protest
☐ The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.
☐ The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.
☒ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (April 2007)