Lawrence Berkeley National Laboratory
Recent Work

Title
CRADA Final Report: "Flash Capture AD" - Phase I

Permalink
https://escholarship.org/uc/item/7n12f4wv

Author
Denes, Peter

Publication Date
2003-10-15
CRADA Final Report  
CRADA No. BG02-348

1. Parties:  
Dakota Technologies, Inc.  
The Regents of the University of California  
E.O. Lawrence Berkeley National laboratory

2. Title of the Project: “Flash Capture AD” - Phase I

3. Summary of the specific research and project accomplishments:  
(Were the goals of the CRADA achieved? Include relevant information but do not include proprietary or protected CRADA information.)  
The goal of this Phase I proposal was to study architectures and technologies suitable for a high-speed, multi-channel digitizer. LBNL has produced such circuits and circuit elements in the past, and has studied switch structures, digitizer elements and packaging. We believe that we have shown the feasibility of the technical solution proposed, and are proceeding to a Phase II proposal, in which we would build the circuit.
The final report and review took place at LBNL in May, 2003 and details can be found at http://www-eng.lbl.gov/~prairie/.

4. Deliverables:

<table>
<thead>
<tr>
<th>Deliverable Achieved</th>
<th>Party (LBNL, Participant, Both)</th>
<th>Delivered to Other Party?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture Definition Report and Design Specification</td>
<td>LBNL</td>
<td>Yes</td>
</tr>
<tr>
<td>Technology Evaluation Report</td>
<td>LBNL</td>
<td>Yes</td>
</tr>
<tr>
<td>Phase I Report to DARPA</td>
<td>Both</td>
<td>Yes</td>
</tr>
</tbody>
</table>

5. Identify publications or presentations at conferences directly related to the CRADA? -none -

6. List of Subject Inventions and software developed under the CRADA:  
(Please provide identifying numbers or other information.) -none -

7. A final abstract suitable for public release:  
(Very brief description of the project and accomplishments without inclusion of any proprietary information or protected CRADA information.) One of the most common electronic circuits is an analog-to-digital converter (ADC). There is continual interest in improving the speed, resolution and power consumption of ADCs. Very high speed ADCs
present particular challenges, but there is a class of problems which require very fast
acquisition of the signal, yet can tolerate slower rates of quantization. The circuit proposed
is designed for precisely those types of problems, and extends our existing capability by an
order of magnitude.

8. Benefits to DOE, LBNL, Participant and/or the U.S. economy.
The circuit which would be developed in Phase II would be an enabling
technology for homeland security applications, as well as having several
industrial applications in chemical detection. At the same time, this
technology would enhance existing detector capabilities in many physical and
biological science application of interest to LBNL.

9. Financial Contributions to the CRADA:

| DOE Funding to LBNL | $0 |
| Participant Funding to LBNL | $60,538 |
| Participant In-Kind Contribution Value | $5,000 |
| Total of all Contributions | $65,538 |
DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor the Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or the Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or the Regents of the University of California.