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Manuscript title:

Research on multiplication routine based on reconfigurable four-valued logic processor

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Article type:

Article

Authors' contributions:

1. Shanchuan Liao: Proposed the reconfigurable four-valued logic multiplication routine; performed MSD number conversion and M-transform partial product calculation; reviewed and edited the manuscript.
2. Shuang Li: Prepared the initial draft of the manuscript; provided guidance on MSD digital system theory; participated in reviewing and editing the manuscript.
3. Xingquan Gu: Constructed the JW-MSD adder; conducted testing experiments; validated the experimental results.
4. Luqun Li: Prepared the calculation data; participated in reviewing and editing the manuscript.
5. Sulan Zhang: Provided guidance on the manuscript; made revisions to the manuscript.
6. Xiaofeng Li: Designed the pipeline for the reconfigurable four-valued logic multiplication routine; prepared the initial draft of the manuscript.

We follow Council of Science Editors (CSE) recommendation of authorship, which is based on the following 3 criteria:

7. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
8. Final approval of the version to be published; AND
9. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

All those designated as authors should meet all three criteria for authorship, and all who meet the three criteria should be identified as authors. Those who do not meet all three criteria should be acknowledged. Please insert here the contribution each author made to the manuscript—e.g., literature search, figures, study design, data collection, data analysis, data interpretation,



writing etc. If all authors contributed equally, please state this. The information provided here must match the contributors' statement in the manuscript.

ShanChuan Liao:

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Performed MSD number conversion and M-transform partial product calculation.
Reviewed and edited the manuscript.
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Conflicts of interest

Please insert here: 1. authors' conflicts of interest; 2. sources of support for the work, including sponsor names along with explanations of the role of those sources if any in study design; collection, analysis, and interpretation of data; writing of the report; 3. the decision to submit the report for publication; or a statement declaring that the supporting source had no such involvement, etc.

Conflicts of Interest

All authors declare no conflicts of interest.



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Decision to Submit

The decision to submit the report for publication was made by the authors with the involvement of the supporting sources. The funding sources were involved throughout the entire process, including the research design, data collection and analysis, and manuscript preparation.

I agree with: the plan to submit to *Electronics*; the contents of the manuscript; to being listed as an author; and to the conflicts of interest statement as summarised. I have had access to all the data in the study (for original research articles) and accept responsibility for its validity.

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I, Shuang Li and Xiaofeng Li, the corresponding author of this manuscript, certify that the contributors' and conflicts of interest statements included in this paper are correct and have been approved by all co-authors.