## Review Form 1.7

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| Journal Name: | **Asian Journal of Research in Computer Science** |
| Manuscript Number: | **Ms_AJRCOS_110651** |
| Title of the Manuscript: | **Comparing Unbalanced and Balanced CNTFET Ternary Adders and Multipliers** |
| Type of the Article | **Original Research Article** |

## Review Form 1.7

**PART 1: Review Comments**

| | **Reviewer's comment** | **Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
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| **Compulsory** REVISION comments<br><br>**1. Is the manuscript important for scientific community?**<br>(Please write few sentences on this manuscript)<br><br>**2. Is the title of the article suitable?**<br>(If not please suggest an alternative title)<br><br>**3. Is the abstract of the article comprehensive?**<br><br>**4. Are subsections and structure of the manuscript appropriate?**<br><br>**5. Do you think the manuscript is scientifically correct?**<br><br>**6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.**<br><br>**(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)** | **1. The title of the article is too simple and not convincing enough to indicate significant contribution. Although the title only implies comparative analysis between balanced and unbalanced ternary circuits, another major claim in the paper is based on the comparison between ternary and binary circuits.**<br>**2. The abstract of the article is poorly written and contains errors. The whole abstract is also repeated. Although the title indicates comparison of balanced and unbalanced ternary circuits, the abstract presents the outcome of binary vs ternary circuits. The objective of the paper is unclear.**<br>**3. The sections and subsections of the manuscript are correctly ordered.**<br>**4. Methodology and simulations prove that the manuscript is scientifically correct.**<br>**5. Reference quantity is sufficient and recent references are also present.**<br><br>**6. The manuscript has no solid literature review and justifications behind the motivation of the work. The paper simply cites references which presents unbalanced or balanced ternary circuits without any discussion. What research gap or limitations in literature are the authors trying to address? What is the purpose of Table-1?**<br>**7. The method of determining the chip area is poor and unrealistic. Only summing the diameters cannot give estimation of the chip area. This will assume that all devices are placed in a single line! It also ignores the pitch of the tubes. Moreover, binary circuits can be simply implemented with MOSFETs instead of CNTFETs. Area requirement of the two devices will be different.**<br>**8. The authors claim that the MUX based ternary circuit is the most efficient (reason for choosing that technique) but do not provide any reasoning or comparison. It is also not true. MUX based circuits suffer from loading effects, degraded outputs and increased power consumption.**<br>**9. What is the reason for choosing the 14T adder?**<br>**10. The authors present two different delay measurements at first to show which one is more sensitive to load. A particular one should be selected from these observations for further comparison. But both methods were used for comparison which is not required.**<br>**11. What is the reason for having two different designs for the ternary circuits? The reasons are not clear.** | |
| **Minor** REVISION comments<br><br>**1. Is language/English quality of the article suitable for scholarly communications?** | The paper is poorly written and presented, and is not suitable for scholarly communications. It needs major improvement in terms of sentence structures and descriptions. | |
| **Optional/General** comments | Comparison between balanced and unbalanced ternary circuits is presented with sufficient simulations results. However, it is not clear what the authors are trying to imply with the comparison? The differences are obvious as they have different voltage levels. The choice between the two depends on the application requirements.<br>The authors claim that binary circuits perform better than ternary circuits. The authors should address why MVL circuits have so much interest in literature. MVL circuits are not employed to simply have lower power consumption and delay. Comparing MVL and binary circuits in terms of power and delay is futile. | |

## Review Form 1.7

**PART 2:**

| | **Reviewer's comment** | **Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
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| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* | |

**Reviewer Details:**

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|---|---|
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