

Review of: "Specific absorption rate reduction for sub-6 frequency range using polarization dependent metamaterial with high effective medium ratio"

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This paper published a technique to reduce the SAR, which is meaningful and interesting.

Although the authors made great efforts in designing and testing the 'MSM', its novelty is insignificant and its contribution is limited.

1. If I understand right, this metamaterial only has one unit-cell, which is insufficient to name it as a metamaterial. On the one hand, the simulations are implemented in a PEC-PMC boundary that could be seen as a periodic boundary thanks to the image principle. On the other hand, the boundary of the measurement as well as the application is free space.

Above all, I think this 'MSM' is more like a resonator, that stores the power or energy with designed frequencies. However, this simple addition appears incremental and insignificant.

2. A large portion of the paper is concerned with the properties of the 'MSM' from various perspectives, which is not new and has been well documented. Therefore, the paper could be greatly shortened. For example, I didn't see the meaning of comparing the results from CST and HFSS, which are just two tools to help authors demonstrating their ideas.

3. The presentation of the paper could also be greatly improved before it is resubmitted for consideration. There are a lot of inconsistencies and grammar mistakes in the present manuscript, and they should be corrected before resubmission.

4. Finally, a special question about the design. How to evaluate the influence from this 'MSM' on the radiation of the smart phone. For example, what would the radiation pattern be? How is the change of radiation efficiency?.