Review of: "Investigations on Input Impedance and Radiation Pattern of a UWB Antenna for Microwave Imaging"

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Potential competing interests: No potential competing interests to declare.

The authors discussed the topic of “Investigations on Input Impedance and Radiation Pattern of a UWB Antenna for Microwave Imaging”. After reviewing your paper, I concluded that the manuscript is not organized and is badly formatted. There are some comments which I conclude in the following points:

1. There are many typo errors, and English in terms of punctuation. There are a lot of grammar mistakes, and texture presentation is not improved.
2. Fig. 2 is not clear at the bottom; also, a 2D view is needed.
3. In Fig. 3, the parameter unit must be mentioned.
4. Fig. 4 must be fixed in terms of text.
5. Fig. 1: The frequency range should vary from 3.1-10.6 GHz.
6. Why wasn’t the impedance bandwidth obtained from S11, i.e., -10dB bandwidth? It would be less than 10.5 GHz. Please explain this point.
7. What is the resonance frequency in this work? Why are the radiation patterns in the E and H planes not at the resonance frequency?
8. Why the obtained gain is less than 0? The gain performance versus the frequency is needed.
9. In Fig. 10, what is the resonance frequency? How is the impedance bandwidth obtained?
10. The reference format must be identical, i.e., (Lin and Hung, 2006).
11. Fig. 12 is not clear at the bottom. Also, a 3D view is needed.
12. Why the radiation pattern is studied at 5, 8, and 10 GHz.
13. Why the realized gain in the radiation pattern is different from the main lobe magnitude in the three cases (5, 8, and 10 GHz)? Normally, it should be the same.
14. Why the simulated return loss is not the same in Fig. 23 and Fig. 24?
15. The gain unit is dB or dBi. It must be uniform.
16. Why the return loss performance is not included after increasing the size of the reflector?
17. Why the performance is analyzed at the frequencies of 3.1 and 4 GHz? Why is it not analyzed at the resonance frequency? Please explain.
18. It is better to make a table that compares the obtained results with previously reported studies instead of presenting their works with figures. The paper is a bit larger and unorganized due to this matter. Furthermore, more similar works must be mentioned for a full comparison to distinguish its novelties.

19. How is the impedance matching achieved between the feed and the patch?
20. The input impedance characteristics versus the frequency must be included.