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.

Comments

1. Rewrite all equations and cite them.
2. Replot all graphs and radiation patterns in Origin software.
3. Please cite the latest references.
4. The novelty of this research work is not clear from the manuscript. Similar work has been done previously. Please check the following two research papers: (R. A. Pandhare, M. P. Abegaonkar, and C. Dhote, “UWB antenna with novel FSS reflector for the enhancement of the gain and bandwidth,” *International Journal of Microwave and Wireless Technologies*, vol. 14, no. 10, pp. 1353–1368, 2022. doi:10.1017/S1759078721001781), (Hussain, M.; Sufian, M.A.; Alzaidi, M.S.; Naqvi, S.I.; Hussain, N.; Elkamchouchi, D.H.; Sree, M.F.A.; Fatah, S.Y.A. Bandwidth and Gain Enhancement of a CPW Antenna Using Frequency Selective Surface for UWB Applications. *Micromachines* **2023**, *14*, 591. https://doi.org/10.3390/mi14030591)
5. Why was the reflector placed at a distance of a quarter-wavelength to the substrate? Please mention this in the manuscript.
6. Please explain how the reflector is increasing the directivity.
7. In the parametric analysis, it is unclear which value of parameters W, T, and Ls is better and why.
8. Please show the radiation pattern of the UWB antenna with and without a reflector in a single plot at frequencies 4 GHz, 6 GHz, 8 GHz, and 10 GHz.
9. Describe the number of steps in designing the proposed UWB antenna.
10. Please show the radiation pattern of the UWB antenna before and after increasing the reflector size in one plot for different frequencies within the UWB range.
11. Please plot the graph of gain and efficiency versus frequency of the proposed UWB antenna same as Fig. 11.
12. There is no need to show the antenna structure and plots of the other research work in the Related Works section.
13. It is not mentioned in the manuscript what the drawbacks of the previous research work are based on the literature survey and what novel work has been done to address that issue?
14. Please include the “Related Work” section in the “Introduction” section, and also mention the research gap and novelty of the presented work in it.
15. What is the reason for writing Other References and References separately? Please write them in one section, i.e., the “References” section.

16. Please compare the results of the proposed UWB antenna with reflector with other recently reported work in tabular form.
17. The design of the reflector is unclear from the manuscript. Also, mention how the proposed reflector is better than the previously reported reflector.