

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 abstract effectively outlines the major aspects of the investigation, including the antenna's fabrication, key characteristics, and the use of simulation tools. It also highlights the operational bandwidth and performance metrics.

The title and abstract provide a clear overview of the study's focus on UWB antenna characteristics, such as input impedance and radiation pattern.

The introduction effectively outlines the practical applications of UWB technology, emphasizing its role in various fields such as automobile traffic control, security systems, healthcare, and bio-imaging. The section provides a good background on UWB technology and its initial applications in high data rate communication, considering the Shannon-Hartley formula. This contextualization helps the reader understand the significance of UWB in the study. Major applications are explored in detail, with sub-sections dedicated to communication systems, positioning/localization systems, and bio-imaging systems. This approach helps in providing a comprehensive understanding of the diverse applications of UWB technology.

However, the introduction is quite lengthy and covers various applications. Consider breaking it down into subsections for better organization and readability. Each subsection could focus on a specific application. Some sentences are complex, and the use of punctuation could be refined for better clarity. For instance, consider breaking down longer sentences into shorter ones for improved readability. The section goes beyond the specific antenna design by exploring the effects of a metallic cavity, the use of RF absorbers, and the incorporation of a multi-layer Frequency Selective Surface (FSS) reflector to increase antenna gain. Address Impedance Matching Issue: Provide more information on how the poor impedance matching at lower frequencies (3.1-4.4GHz) is addressed. This is a crucial aspect that needs attention.

Moreover, the quality of the figures should be improved!

Considering the strengths and weaknesses identified, I would recommend major revisions. Addressing the mentioned points will enhance the clarity, rigor, and completeness of the manuscript, ultimately strengthening its contribution to the field.

