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.

I received the article titled "Investigations on Input Impedance and Radiation Pattern of a UWB Antenna for Microwave Imaging." This study presents investigations on the input impedance and radiation pattern of a planar Ultra-Wideband (UWB) antenna. The proposed antenna was fabricated on an FR4 printed circuit board with a rectangular aperture. The main applications of UWB technology and the fundamental characteristics of the antenna, such as input impedance, return loss, radiation pattern, and realized gain, are discussed. The antenna demonstrates a good impedance bandwidth from approximately 4GHz to 10.6GHz, except for variations in the width of the T-shaped element. The study uses the commercial simulation tool CST Microwave Studio for optimization. The antenna operates almost over the entire UWB band (3.1-10.6GHz), except at lower frequencies, with an operational bandwidth of 6.6GHz. The investigation on the radiation pattern shows that the antenna is bidirectional at certain frequencies when the size of the reflector is increased. Improvements in antenna directivity at specific frequencies are discussed through adjustments in the size of the additional ground plane.

Overall, the antenna geometry and methodology do not present significant contributions; however, the article's objective has been achieved and may spark some interest for citation. I provide some contributions below:

1. Provide more information about the simulation setup, e.g., antenna feeding, and so on.
2. Standardize the graphs.
3. Insert other images of the measurement setup.
4. Insert information about the equipment used in the measurements.
5. Insert and comment on the behavior of the current in the main radiating element and the reflector, discussing mutual coupling effects.