

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

Emad Tamman¹

¹ Minia University

Potential competing interests: No potential competing interests to declare.

1. Although the "Frequency Selective Surface (FSS)" technique is utilized in the paper and the term is stated in the keywords, there is no mention of this important technique in the abstract.
2. Some sentences are too long, making them too hard to understand. For example, the sentence "This is the more reason why the author wouldn't agree with this design, and the author thought there should be possible ways of reducing the back radiation and a way to further improve the impedance matching of the antenna, which made the author further his research on how to achieve unidirectional radiation over an ultra-wideband frequency range and a way to improve the impedance bandwidth and reduce the back radiation.....". Rephrasing of these sentences is required.
3. The first paragraph in Section 2 is confusing. For example, when you say "This is the more reason why the author wouldn't agree with this design," who is the author that you mean? Also, in the sentence "The antenna was designed so as to cover both low and high-frequency bands," which antenna do you mean?
4. In the sentence "This antenna was designed and compared to both reference antennas 1 and 2.....", more details should be included in the paper regarding the reference antennas 1 and 2, such as their structures and the articles from which they are cited.
5. Figure 1 shows the reflection coefficient of three antennas; the schematics of the three antennas have to be presented before the appearance of Figure 1.
6. In Page 13, the second paragraph begins with the sentence "[15], made use of the FSS reflector concept and tested this idea on UWB slot antennas....." I think it is not good to begin the sentence with the reference number.
7. There is overlap between the elements of Figure 9. Also, the caption of the figure has to contain the name of each element. Otherwise, describe the details of the figure in the discussion.
8. The dimensions included in Tables 1, 2, and 3 appear as variables and equations, while putting them as numbers in (mm) gives a good visual picture that aids the reader in the understanding of the structure.
9. Figures 17, 18, and 19 show the realized gain of the antenna with reflector at different frequencies; it is better also to include the realized gain of the antenna without reflector to clarify the effect of the reflector.
10. In page 27, the sentence "it can be seen from the return loss plot shown in Figure 21 that the proposed antenna operates almost over the entire UWB band (3.1-10.6GHz) except at lower frequencies of 3.1-4GHz....." is not clear because Figure 21 presents the radiation pattern, not the return loss.

