

Feb 3th, 2020

Dear Dr. Editor,

I wish to submit a new manuscript entitled “*Mutual Coupling Reduction in Microstrip Antennas using Defected Ground Structure*” to REV Journal on Electronics and Communications.

I confirm that this work is original and has not been published elsewhere nor is it currently under consideration for publication elsewhere.

In this paper, I propose a new Defected Ground Structure (DGS) to improve isolation of MIMO antenna. By using a proposed DGS structure, not only the isolation of array antenna is significantly improved, but also the bandwidth is enhanced. In addition, the efficiency of antenna is still remained at high level (90%). The antenna is designed for WLAN applications at 5.5 GHz. The measured bandwidth of the MIMO antenna is 500 MHz (corresponding to 9.1%) and peak gains of 8.2 dBi for measurement (8.5 dBi for simulation) while the mutual coupling is less than – 20 dB. Moreover, the proposed antenna efficiency is 90%.

The size of antenna is 140 x 76 x 1.575 mm³ mm and the antenna is designed, fabricated based on the RT5880 substrate with thickness of 1.575 mm, $\epsilon_r = 2.2$ and $\tan\delta = 0.0009$. The measurement results are compared to simulation ones using CST Microwave Studio to verify the performance of the proposed array antenna. With the achieved parameters as aforementioned, this antenna can meet the requirements of WLAN applications. Moreover, with advantages like low fabrication cost, lightweight, small size and the improved parameters, the antenna can be applied widely in practice.

One again, thank you for your consideration of this manuscript.

Sincerely,