INVESTIGATION AND SIMULATION OF MICROSTRIP PATCH ANTENNA FOR RFID APPLICATION (2.4GHz)

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ABSTRACT

The purpose of the project is to investigate the thickness effect of rectangular patch antenna operating at a frequency of 2.4 GHz, and then simulates using CST Microwave Studio. This frequency is applicable for RFID application. The antenna design is using Rogers RT5880 as substrate material with specified information include the dielectric constant of substrate (ε_r=2.2) and the resonant frequency (f_r=2.4GHz). This project was running by focusing at the different material thickness using CST Microwave Studio simulation. The performance of the antenna shows as return loss S11, VSWR and radiation pattern (farfield). It would be present in a form of graph. Other than that, antenna design at frequency 2.4 GHz was investigated and the performance was compared with different thickness of substrate. The analysis has been done at different value of S11, VSWR and Farfield. Some parameters of the antenna also was studied based on feeder width adjusted, feeder thickness adjusted, feeder length adjusted, patch width adjusted, patch length adjusted and ground dimension adjusted. The results were compared in terms of return loss S11, VSWR and Farfield.

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