

DESIGN OF DOUBLE PATCH ANTENNA WITH COPLANAR WAVEGUIDE (CPW)

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ABSTRACT

In this paper, the design of double patch antenna with coplanar waveguide (CPW) for the purpose of bandwidth enhancement is demonstrated. The proposed structure consists of rectangular patches which are printed on the both side of Flame Retardant 4 (FR-4) substrate. The antenna is designed to operate at the 5.1 – 5.8 GHz operating frequency which can be applied in wireless application. For this project, Computer Simulation Technology (CST) Microwave Studio software is selected as a tool to design the antenna structure and to perform the simulation as well. Different size of substrate has been designed to study the effect of geometric changes to the antenna performance. From the measured return loss, gain and radiation patterns of the antennas, it was demonstrated that this structure able to enhance the usable bandwidth with greater gain value for microstrip antenna. The performance of the designed antenna was analyzed in term of bandwidth, gain, return loss, VSWR, and radiation pattern.

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