A DESIGN OF A MICROSTRIP WIDEBAND ANTENNA

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ABSTRACT

This project presents an investigation in the design of a microstrip wideband antenna by arrangement few rectangular patch antennas at different frequencies. A microstrip patch antenna operates at the range of 5.4 -5.5 GHz has been designed. The antenna has been fabricated on the duroid substrates with ε_r = 2.33. Copper substrate thicknesses and height are 0.0356 mm and 0.5 mm respectively. A measurement has been carried out to find it return loss and VSWR.

Simulation packages *GENESYS* and calculation program linecalc were used to design the microstrip wideband antenna.

An analysis of microstrip wideband antenna was conducted and measurement characteristic was taken. These included voltage standing wave ratio (VSWR) and return loss. From this project, *GENESYS* simulation computed at 5.407 GHz VSWR value of 1.13 and 24.277 dB return loss.

The simulation results agree closely to measurement .The different critical resonant frequency for simulation and measurement is about 0.28GHz. Results from measurement yielded VSWR of 1.17 and return loss 22.888 dB at the frequency 5.7 GHz (critical resonant frequency for measurement).

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