

GAIN ENHANCEMENT OF MICROSTRIP PATCH ANTENNA

This thesis is presented in partial fulfillment for the award of the
Bachelor of Engineering (Hons) Electronics (Communication)

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With the name of ALLAH Most Gracious Most Merciful

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ABSTRACT

In the recent years, the demand of communication between human was so high. This matter had led to the sustainable development to serve more quality in communication service. The development in communication systems requires the development in term of minimal weight, low profile antenna and low cost antenna. Even through the improvement, it must capable of maintaining high performance over a wide spectrum of frequencies and high gain[1]. This technological trend has focused much effort into the design of Microstrip Patch Antenna(MPA). In this thesis, the gain and return loss of five design of MPA have been studied and analyzed. Analysis and simulation had been implemented using Computer Simulation Technology (CST) software. The simulation design start with single patch antenna and followed by the 2x1 array design. The 2x1 array design were using T-junction power divider. All of the design antenna is designed at 5.8GHz on FR4 substrate with dielectric constant at 4.7 and 0.0025 tangent loss. During simulation design, the spacing distance of $d=\lambda/2$ was the ideal spacing distance. However, the results showed otherwise after all measurement data were taken.

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