ABSTRACT

Reduction of the physical form and multiband capabilities are essential requirements for the antenna on the wireless device in the future. Microstrip antenna is an antenna in the form of small, light and inexpensive so it's easier to use communication devices are small and portable. Wifi (Wireless Fidelity) is a wireless communication technology that is widely used today, whether in offices, shopping centers and cafes. Wifi use the antenna as a receiver and transmitter.

In this final project will be designed and realized microstrip dual band antenna using rectangular shaped slot for WiFi applications. The substrate used is FR-4 with a relative permittivity value of 4.6, using the technique of rationing of Inset Feed. To determine the dimensions of the antenna before it is realized to do the calculation method theoretically and process optimization with the simulator.

For this antenna simulation process, using CST Studio Suite 2014. The results show that the realization of the antenna works at a frequency of 2.442 GHz, The VSWR 1.330, has a gain of 3.351 dBi and with a bandwidth of 36 MHz, while the antenna works at a frequency of 5.68 GHz, The VSWR 1.115, has a gain of 4.101 dBi and with a bandwidth of 213 MHz. The radiation pattern of this antenna is a unidirectional antenna with elliptical polarization.

Keywords: Microstrip, *Dual Band*, *Rectangular*, Wifi