

## ABSTRACT

Today's, the evolution of wireless technology is inseparable from the development of electromagnetic theory. One of important device in wireless communication that based on electromagnetic theory is an antenna. It has been found different form and type of antennas, but much remain still not be found. It means that the antenna is still very open to be developed both in terms of quality, the economic side, as well as power spectrum use. One of the parameters determining the quality of an antenna is *VSWR (Voltage Standing Wave Ratio)*. In designing an antenna, we can use software that simplify our job such as *HFSS (High Frequency Structure Simulator)*. By using HFSS we may be able to know the results of our measurements of antenna design. If the results obtained do not correspond with the desired specifications, we can perform the optimization in order to get the expected results. Optimization is done by varying the dimensions of the antenna so we get the desired *VSWR* values.

On this project, has been made a dual-band microstrip antenna using a rectangular patch and triangular patch. Each patches are then combined using a microstrip line.

Analyzing of this project entitled "*Desing and Implementation of Dual band Microstrip Antenna Using Rectangular Patch at Operation Frequency 1,5GHz and 2,4GHz*" focused on *VSWR* parameters. Where the value of *VSWR* for frequency 1570,64 MHz is 1,9386 and *VSWR* value for frequency 2441,75 MHz is 1,8995. And gain value is 2,035 dbd(4,185dbi) for the frequency 1544.14-1597.14 MHz and 2,035 dbd(4,185dbi) for the frequency 2400-2483.5 MHz. While the radiation pattern obtained is unidirectional.

***Keywords: HFSS, microstrip antenna, Dual-band Antenna, Rectangular Patch,***

***Triangular Patch, VSWR***