

## **ABSTRACT**

*Abstract – The development of telecommunications technology for navigation purposes is currently growing. Microstrip is one of the most popular antennas today. This is because the microstrip antenna is very suitable for telecommunications equipment which currently pays great attention to size and shape. In radio communication systems, an antenna is needed to function as a release of electromagnetic energy into the air or free space. GPS(.Global Positioning System) is one of the advanced applications that uses an antenna. Global Positioning System (GPS) is an application that allows us to determine the direction of the location accurately using satellites. In this final project, the antenna used for the Global Positioning System (GPS) is a microstrip antenna using a rectangular patch because of its simple shape. The standard GPS (Global Positioning System) calculation results obtained are then simulated using AWR and PCCAD software in order to know the results of Return loss, VSWR, bandwidth and gain that are suitable for GPS applications using microstrip antennas. In this research, a rectangular microstrip antenna is designed which is applied for the purposes of GPS (Global Positioning System) which works at a frequency of 1575 MHz using a microstrip line feeder channel. From the simulation results, the Return Loss value is - 19.79 dB, VSWR 1.228, and Bandwidth 139 MHz.*

**Keywords** - Microstrip Antenna, GPS, Rectangular Patch