

ABSTRACT

The development of technology today makes it in all aspect of life, one of them for the navigation process and the determination of the location of the Earth's surface with the assist of the alignment of the satellite signal and is used to determine the location, time, direction, and speed that called GPS (Global Positioning System). To show the coordinates of a point on the earth's surface need at least three satellites. Power Harvesting is a process of harvesting the energy that comes from outside as like, sun, heat, RF (Radio Frequency) wave, EM (electromagnetic) wave, which are emitting a signal.

The signals of electromagnetic waves emitted by the GPS satellites can be used as a source of electric current using an antenna as a receiver signal and rectifier as a rectifier waves, called rectenna (rectifier antenna) which can convert electromagnetic waves into DC current.

In this final task, the VSWR value of the antenna at the frequency of 1,575 GHz after the measurement is 1,3237, the bandwidth is 128 MHz, with a gain of 9,61 dBi. In the rectenna test, a 3-stage harvesting circuit generates an average voltage of 17.5 mV while a 7-stage harvesting circuit produces an average voltage of 60.86 mV.

Keywords: Antenna, Power Harvesting, Rectenna