

ABSTRACT

Energy will not be destroyed by anyone but can be changed the shape of in one energy to other energy. This is the reason why people want to be looking for a new energy to be used and take advantages of energy is wasted or strew to be useful for people. Vibration of an object can save the potential energy that can be raised up and also can be used as an alternative energy.

This research discuss about design and manufacture of rectenna (rectifier antenna) as a modifiers of electromagnetic power become DC Output working on WIFI frequency. Harvesting is one of energy conversy alternative, by this process can generate electrical power can use on device that need a little power. In the process of rectenna design the simulation do by using NI Multisim software to find out the performance and the power results from the rectenna. A series of rectifier that used in this Voltage Doubler 3 stage. In this series of the rectifier using six schottky diode with BAT 17 type.

In this final project, the value of VSWR, return loss and impedance move to the frequency of 2,470 GHz – 2,521 GHz. VSWR at frequency 2.47 GHz after the measurement amount to 1889, the frequency of 2,492 amount to 1,453 and on the frequency of 2,521 amount to 1,908. The gain at frequency of 2.4 GHz amount to 3,32 dBi, in testing of rectenna and the series of rectifier voltage doubler 3 stage when the measurement value of the voltage on the rectifier is higher than antenna of rectifier and the closer distance is determine that it is the larger voltage obtained.

Kata kunci : rectenna, rectifier, antenna, panen energi, dioda schottky.