

ABSTRACT

Rectenna is a combination of rectifier and antenna. Antenna has a function as a transmitter or receiver of an electromagnetic waves that propagates in the air either on the transmitting or receiving side which is naturally an AC signal. Rectifier has a function as a converter of alternating current signal (AC) into a direct current signal (DC).

The Rx device uses a rectenna as a detector and on the Tx device uses a transmitter with the same working frequency in its application. When the transmitter emits electromagnetic wave radiation, then the emitted wave will be received by the rectenna then the LED will light. When the rectenna is moved away from the transmitter so that it does not get coverage, the LED will not light.

The choice of the type of antenna used such as a microstrip yagi antenna so that the resulting gain is high and has a directional radiation pattern and a doubler voltage rectifier so that the rectenna has a light weight, so that it can be easily used when learning Antenna. Rectenna can be implemented as a detector with a transmitter power level of 20 dBm at a distance of 15 cm. When the rectenna is within 15 cm with a transmitter level of 20 dBm, the LED lights up. The best receptivity for the five stage rectenna input is -31 dBm at a distance of 15 cm.

Keywords : rectenna, yagi microstrip antenna, rectifier, doubler voltage