
ABSTRACT

Frequency radio waves (RF) emitted by the transmitter sources in the form of technologies GSM, UMTS, Wi-Fi and analog television less fully utilized, because the RF waves can be utilized as an alternative energy source for rationing, so that could be an alternative to charge mobile phone battery.

In this final project has been carried out the design and realization of the rectenna (Rectifier Antenna). The antenna is realized is a rectangular microstrip patch antenna with the method of Step Cut Of Four Corners (SCFC) broadband Straight Line. This antenna is intended to absorb wave transmit power of the working frequency of 900 MHz - 5 GHz with gain > 2 dBi at VSWR < 2 . Working frequency is based on measurements of 600 MHz - 5 GHz with > 2 dBi at VSWR < 2 . Polarisation based on simulation is linear while the measurement is based on the ellipse. The radiation pattern is based on the measurement of the radiation pattern is directional whereas the corresponding simulation chill is omnidirectional. Rectifiers are used in this study dual rectifier 7 levels with different capacitors in each level, which in the first instance using 3.3 nF, 1.65 nF improved second, third and 825 pF level is reduced by half until the last level. Rectifier diodes are used for Schottky diode HSMS-2860. As for the boost converter using the Texas Instruments TPS61220 is operated at 0.7 Volt - 5.5 Volt.

By measuring the output voltage applications up to 790.75 mV is obtained. The output voltage is not constant on the application level because it is influenced by the distance to the source of the transmitter and the environmental conditions at the time of measurement.

Keyword : Rectenna, Rectifier, Antena, Boost Converter
