

ABSTRACT

The utilization of canned material to be used as an antenna has been widely done and proven by research. In general, the manufacture of antennas requires metal materials that must be printed first so that the manufacturing process becomes more complicated. By utilizing canned materials, antennas can be designed more easily and environmentally friendly this antenna is commonly referred to as cantenna. In this final project, the characterization process is carried out in order to know the character of Cantenna using several reference variables and can be utilized with the best specifications.

The design process of Cantenna is adjusted to the dimension size of the can to be used, then added monopole as a power supply. Simulated several times with different monopole placement distances as well as with the addition or reduction of monopole length. Differences in the size of the can aperture are also compared to determine how they affect antenna parameters

In this final project it has been successfully obtained that the change in the length of the monopole affects the specifications of the Cantenna. The longer the monopole used, the more or more varied the resonance frequency. Whereas if the monopole placement distance from the base of the can gets larger or further away, the Cantenna will have the same chart pattern as it will resonate in a similar frequency range. In addition, the difference in the size of the can aperture has little effect on close field parameters such as Return Loss, bandwidth, and VSWR.

From the simulation results are then taken samples to be fabricated and compared the measurement results with the simulation results on the software. There are two sizes of cans used, the first can with a diameter of 15.5 cm has a Return Loss of -41,023 dB at a frequency of 3.5 GHz and the second can diameter of 10 cm has a Return Loss value of -16.42 dB at a frequency of 3.07 GHz.

Keywords: *Cantenna, Characterization, Monopole*