

ABSTRACT

Animals are an invaluable part of natural resources, so their preservation needs to be maintained through efforts to minimize illegal animal trade and hunting of endangered species. Animals including endangered species have a fairly high economic value, because they are sought after as exotic pets. Therefore, to solve this problem we need a technology that can determine the existence of endangered species. Wearable antenna technology for monitoring the presence of animals can be a solution by utilizing wireless communication on the animal's body.

Wearable antenna technology is currently being developed by many research institutions or academics around the world. High mobility capabilities and good flexibility, as well as having wearable and wireless properties make wearable antennas have opportunities to be applied in various existing fields. For the rubber substrate itself is used because it is light, low cost, elastic, more durable and comfortable to use.

The simulation results of wearable octagonal antennas when on-body conditions have a return loss value of -20.17 dB, a VSWR of 1.21, a bandwidth of 100.5 MHz, directional radiation pattern, and a gain value of 3.433 dBi. Whereas the results of on-body measurements have a return loss of -15,725 dB, a VSWR of 1,636, a bandwidth of 135 MHz, and omnidirectional radiation pattern. The SAR value obtained is 0.868 Watt/kg.

Keywords: Animal, rubber, Wearable Antenna, octagonal