ABSTRACT

Telemedicine is a telecommunications application in the health sector. One of the telemedicine applications is through an antenna as a signal transmitter which is used for health monitoring. The material used in the antenna is a flexible material that can be used by the patient so as to maintain patient comfort.

Antenna will use ISM (Industrial, Scientific and Medical) frequency, radio frequencies used for industrial, scientific and medical appliances that are not included in the telecommunications sector. The antenna will use Rogers 3003 at its material because it is elastic and light. The simulation results that have been made are compared with the antenna realization by analyzing the antenna parameters and the value of Specific Absorption Ratio (SAR) which affects the distance of the antenna from the body.

The antenna designed in this final project is a microstrip antenna with a circular patch that works at frequency 5.8 GHz in the ISM band. The antenna is designed using Rogers 3003 as its material with ϵ_r constant 3 and the substrate's thickness 0,75 mm. The antenna simulation results work at frequency 5.8 GHz.

Key Words**:** *Wearable Antenna, Telemedicine, Circular Patch*