

ABSTRACT

In today's modern era of communication is very important to exchange information, one of the important tools in telecommunications technology is antenna, antenna serves as a sender and receiver signal information. In this design, will be made microstrip antenna that serves to support the technology of the Internet of Things.

Antenna is one device that plays a role for the development of the internet of things, with the development of antennas that lead to wide dimensions and bandwidth. This antenna works at a frequency of 2.4 GHz using a FR4 substrate. Microstrip antenna will be simulated using CST Studio Studio software which the result will be realized into physical form. The measurement results of this microstrip antenna is expected to show that the antenna has a wide bandwidth and can work at a frequency of 2.4 GHz with $VSWR \leq 2$, return loss ≤ -10 dB, and a minimum gain of 2 dB.

Based on the results obtained from the simulation and measurement with a 2.4 GHz frequency then obtained for type A antenna with VSWR value 1.0586 dB, for return loss -33.543 dB, for impedansi $47.493 + j40.033$, and gain 2dB. Then for type B antenna with VSWR value 1.0409 dB, for return loss -43.586 dB, for impedansi $48.953 + j321.67$, and gain 2dB.

Keywords: *software CST Suite Studio, Internet of Things, Antenna Mikrostrip*