

## ABSTRACT

Today the communication technology used for local networks in general is Wireless Fidelity (WiFi). Antenna is an important element in every wireless telecommunications system (wireless), there is no wireless telecommunications system that does not have an antenna. Selection of the right antenna, good design and proper installation will ensure the performance (performance) of the telecommunications system. The antenna operates at the desired working frequency.

Based on these needs, a dual biquad microstrip antenna with reflector was designed for 2.4 GHz WiFi applications in this final project. The design of this final project uses a microstrip antenna in the form of facing a dual layer, which is then simulated using software to determine the performance of the initial design of the antenna.

Antenna design is done in software. In the software simulation, the results obtained at a frequency of 2.4 GHz, the return loss is -24.6132 dB and the VSWR is 1.124935. In the fabrication of the antenna, there is a frequency shift to 2.278 GHz. The return loss value obtained is -2.31601 dB at a frequency of 2.4 GHz with a VSWR of 7.547050302. At a frequency of 2.278 GHz the return loss value obtained is -11.57595395 dB with a VSWR of 1.719639165. This happens due to limitations in the fabrication and measurement of the antenna that has been fabricated.

**Keywords:** *Return Loss, VSWR, gain, radiation pattern, polarization*