

ABSTRACT

WiFi is one type of computer network that uses radio waves as a means or data transmission medium. One of the supporting devices WiFi is access point. The antenna used in the access point is required to have a gain value > 5 dBi in order to be able to maximize the transmit area. In order to reach a large area and serve many users. In addition, the antenna used must be in accordance with the access point dimension.

The designed antenna is a microstrip antenna that is easy to fabricate and with minimum dimensions. Microstrip antenna is also chosen because it is easy to adjust to its dimensions and light size. The inset-fed method is chosen to increase the return loss value and simplify the bandwidth setting. The 1x4 array method is chosen to increase the gain value.

In this Final Project, we get the value on the simulation of return loss at -29 dB at 2,4 GHz, 7,38 dBi gain with bandwidth width 100 MHz in the frequency range 2,350 - 2,450 GHz. In the measurement of the realization results obtained return loss -28,46 dB, gain 8,64 dBi with a bandwidth width of 108 MHz in the frequency range 2,351 - 2,458 GHz. This proves by using inset-fed and arrays to increase gain and return loss.

Keywords: WiFi 2.4 GHz, Microstrip, Access Point, Array 1×4 , Inset-fed.