

ABSTRACT

This final project proposes a microstrip antenna design with a rectangular shape that is optimized using the microstrip feed line method with the addition of 4 slits for WLAN applications, aiming to widen the bandwidth by using a working frequency of 4000 MHz. The addition of slit aims to obtain better antenna parameters, namely increasing the return loss value and widening the bandwidth of the designed antenna. The substrate type of the antenna to be fabricated is FR-4 with a dielectric constant value (ϵ_r) = 4.3, substrate thickness

(h) = 1.6 mm and loss tangent ($\tan \delta$) = 0.0265. From the simulation results, the return loss value is = -33.78 dB, VSWR is 1.043 at the 4000 MHz working frequency. The addition of slits succeeded in increasing the return loss value by -28.2 dB. The measurement results show that the antenna works at a frequency of 4000 MHz with a return loss value of –

Keywords: WLAN, Microstrip Antenna, Rectangular Patch, Feed line