ABSTRACT

The fast and diverse development of wireless mobile communication technology causes various appearances in new and modern technology standard. Those technology standards have different operation frequency, for example GSM 900 (890 – 960 MHz), WLAN 2.4 (2400 – 2483.5 MHz), and WIMAX 3.5 (3500 – 3700MHz). Microstrip antenna is one of the solution antennas in wireless communication application because it has a light mass, it has a compact shape, and easy to fabricate.

In this final assignment, multiband microstrip antenna has been design and realized, it's in rectangular shape and works in dual frequency bands, which is 2.4 GHz and 3.5 GHz. This antenna implemented on dielectric substrate FR4 with ε_r=4.4 and h=1.6mm, The feeding method which used is transmission line feeding method with inset feed. For fine tuning, similar antenna has been simulated using software Ansoft HFSS 9.

Based on the antenna measurement, at the frequency of 2404.3MHz, the antenna has a VSWR of 1.05 with 20.1 MHz bandwidth for VSWR ≤ 1.5 and has a gain of 5.06 dBi with a directional radiation pattern. While at the frequency of 3555MHz, the antenna has a VSWR of 1.28 with 24.3 MHz bandwidth for VSWR ≤ 1.5 and has a gain of 5.4 dBi with a directional radiation pattern.

Keyword : *Microstrip, multiband, inset feed, ansoft HFSS 9*