

## **ABSTRACT**

*Along with the times, the use of cables in telecommunication access now so minimized. The growing need for high mobility users will be the background of the emergence of wireless network or WLAN. WLAN or wireless LAN is a type of computer network that uses radio waves as a tool or data transmission medium.*

*WiFi is one of the products of WLAN. In its application, it takes some special components, one of which is an external antenna which serves as a transmit power amplifier. Antenna characteristics required of them small, have a good matching rate, only consume little electric current, and has omnidirectional radiation pattern.*

*In this final project, using electromagnetic simulator, designed and simulated an inset-fed microstrip antenna for WiFi application that can be used optimally at a frequency of 2.4 GHz. Stages of implementation of this final task is the determination of the antenna specification, modeling, simulation, prototype realization, testing, and comparison of the simulation results. Results from the design and realization are inset-fed microstrip antenna patch rectangular who works at a frequency of 2.4 GHz with omnidirectional radiation pattern;  $\geq 3$  dBi gain; impedance input =  $50\Omega$ ; and VSWR  $\leq 1.5$ .*

*Keywords: WLAN, WiFi, inset-fed antenna microstip*