

## **ABSTRACT**

*Public necessity about wireless communications or wireless nowadays is increasing and already as main necessity . With the telecommunications facilities that are reliable and cheap to make people become easier for make communication. Therefore , information can be transmitted began to change from data and voice communications towards multimedia. But the availability of frequency spectrum is inversely propotional to the needs of society. To fulfill the needs of society about wireless telecommunications facilities, the greater of bandwidth is required. However, most of the frequency spectrum already allocated to specific user, or a partiular service. The availability of this type of antenna which capable of supporting cognitive radio technologies due to the small bandwidth is rarely available*

*In this final project, using electromagnetic simulator, designed and simulate microstrip UWB with coplanar waveguide antenna for Radio Cognitive applications that can be used at an 800-2400 MHz frequency. The results of the design and realization antenna that worked at 800-2400 MHz frequency with omnidirectional radiation pattern; gain  $\geq 3\text{dBi}$ ; input impedance =  $50\Omega$ ; and VSWR  $\leq 2.0$ .*

*Keywords: Cognitive Radio, Antenna Microstip, Coplanar Wave Guide*