

## **ABSTRACT**

In future, information technology, especially wireless communication is need to provides a high rate datastream transmission and have good quality. Worldwide Interoperability for Microwave Access (WIMAX) IEEE 802.16 is information technology that have high rate data stream. This thesis is focus on IEEE 802.16e (already support mobility).

WIMAX use OFDM (Orthogonal Frequency Division Modulation) as a modem, although the OFDM transmission is strong against multipath fading channels, it does not use the transmitted power in efficiency, especially under the frequency selective fading, where some subcarriers suffer from deep fading and the others not suffer from deep fading. Hence in this final assignment, we want to analysis the using of adaptive subcarrier power control in the OFDM system. The principle of adaptive subcarrier power control is to transmit data with a variable power level (weighting coefficient) for each subcarrier based on the estimated SNR received.

This research are expect to give solution for unefficiency in power transmit and can give a better performance for IEEE 802.16E standard.