ABSTRACT

Wireless internet access on a local network or what is known as a Wireless Local Area Network (WLAN) through a WiFI-based Access Point is very widely used. However, in terms of range, Access Points which are commonly used in homes/offices are very limited in the range of 30 to 100 meters (in indoor conditions). In practice, WLAN access with a longer range is often required so that additional radio links are needed to increase the range. Currently, there are various brands and types of repeaters available in the market with various technical specifications for coverage.

In this final project, implementated and tested the ability of its coverage of a particular product and type of repeater amplifier (radio link) is carried out, namely the TP Link CPE605 and Tenda O2 brands based on signal strength measurements and power link budget analysis as well as propagation models using Cost 231 Hatta. for outdoor line of sight (LOS) conditions with a certain antenna height, as well as testing quality aspects in data transmission, and video streaming

From the results of testing the transmission parameters, based on the measurement results based on the sensitivity of the receiver (-96 dBm) obtained a maximum distance of 200 m. Meanwhile, based on theoretical analysis using power link budget calculations and propagation models, the maximum range is 647 meters. In terms of testing data communication (download), and video streaming (youtube) at a distance of 250m it shows good quality..

Keywords: *radio link WiFi, power link budget, propagation model Cost 231 Hatta, distance range.*