

ABSTRACT

The project came about after a meeting between the Faculty of Applied Sciences and Archipelago International which houses many hotel brands including Hotel Aston. The logo of Hotel Aston is very interesting because it has a logarithmic pattern. Therefore, this final project has made an antenna with the hotel logo with a microstrip type for WiFi purposes, namely with dual bands at 2.4 GHz and 5 GHz so that it can be used for access points. This antenna can function for the mentioned implementation and add to the aesthetic function of the access point.

In this Final Project, the fabricated antenna has been measured with a network analyser and obtained results that match the simulation results at CST. In addition, Line of Sight testing has been carried out in Outdoor and Indoor with results that have the same characteristics as the default antenna. Soak tests were also carried out with the aim of ensuring that the fabricated antenna when connected to the access point did not damage the device where the shortest test duration was 1 hour and the longest was 12 hours.

The antenna has also been tested by conducting a speed test using optical fibre with speeds up to 50 Mbps symmetrically. The results recorded for the fabricated antenna were 53.4 Mbps upload and 51.5 Mbps download outperforming the default antenna from the access point which got 51.6 Mbps upload and 50.3 Mbps download. This project has contributed to the application of microstrip antennas as an aesthetic alternative for access points as evidenced by the average MOS questionnaire score of 4.214247062 which means that respondents are satisfied with the final project product.

Keywords: *access point, WiFi, aesthetic antenna, microstrip, CST, logo antenna.*