

CHAPTER 5

CONCLUSION

5.1 Introduction

This chapter is organized with two major sub-sections. First part is on conclusion of the work and it provides integrated idea and the results of this work. Second part is on some further suggestions of the work are provided to improve the performance of the antenna in the future studies.

5.2 Conclusion

This thesis detailed the various aspects associated with the design simulation of Microstrip Patch Array Antenna. One of the goals was the introduction of MWO as an effective CAD tool for electromagnetic analysis. A comprehensive and graphic description of each step taken in creating the simulation of the antenna was presented. It was observed that the measured resonant frequency still closer to the simulation value which is 2.45 GHz. However, it was difficult to pin point specific factors responsible for the mismatch that mentioned in the previous chapter. As a conclusion although the designed antenna has a shift frequency, it still can be used as an antenna for access point since it still in the range of WLAN acceptable frequency. This is proving by the NetStumbler Test that has performed in the previous chapter.

5.3 Recommendation of Future Works

A continuation of this project could be the use of the same methods but considering the problem that have been discussed in detailed as mentioned earlier. But it is necessary to compare the performance of other methods in order to indicate the performance of this work.

This project also should be continued with the use of other types of software such as Advance Design System (ADS). This is because ADS employs the finite element method which is a powerful tool for solving complex engineering problem especially the mathematical formulation.

The substrate using for this project which is FR4 is not the best material to use when designing microwave circuits because of its high loss tangent and variable dielectric constant. The high frequency substrates such as RT Duroids 5870 or Rogers 4003C would be a better choice. It is because the FR4 is less expensive and suitable for low cost research.

Antennas designed in this project used microstrip line feed and this method takes up certain amount of space in the circuit. Using this method made the antenna so bulky. More compact antennas can be design using other feeding methods such as probe feed. Beam steering capabilities array antenna could also be design to enhance the learning knowledge of design microstrip antennas