CHAPTER 5

CONCLUSION

5.1 Summary

For the overall summary, I have achieved my objective for this project to study the performance of the BST sensor and its parameters namely the sensitivity, linearity, dynamic range, physical seize and repeatability. Basically the sensors are multimode which permit several inputs such as heat, gas, light and ultrasonic. Next it is sensitive and linear based on the relationship voltage versus temperature and resistance versus temperature graph.

The problems in this project are; unstable or not consistence data that got from the sensor. The changes in electrical parameter are small. The sensor that used for second testing has bigger metal contact to connect the wire to connector by using silver conductive paint. Therefore, the results that get still unstable, but it better then previous sensor that used. Next, the problem not able to understand the programming instruction set of PIC 16F876A that used for application due to time constraint and expertise. For solve the problem I try to learn from the PIC microcontroller data sheet and earn the example programming from supervisor and other sources.

Unfortunately this sensor is not stable and unrepeatable thus limiting the project development. A measurement was done many times to get accurate data. Lacks of equipment also contribute to project limitation. I have gained valuable experience and insight into the final year project during the last two semester period. I have also realized that to be an engineer, one not only needs strong technical knowledge in related field but he also must be equipped with right attitude, positive thinking and great

commitment towards the project. Together with necessary creativity, one can really enjoy their career as an electronic engineer. The aim of Final Year Project is to expose the undergraduate students to real project working environment, business operation as well as administrative functions

5.2. Commercialization Potential and Business Planning

Based on today's market requirement, development of application system that utilizes the BST sensor is really an interested topic to be discussed. Every body is competing to produce this type of sensor which is part of ferroelectric division. Therefore there is the possibility that it may be commercialized but depends on the product cost. In overall the cost for the whole project is RM112.65. Obviously this price is too high because of the cost of sensor and PIC our. Suggestion is to eliminate unnecessary component to reduce cost. By adding another feature such as programmability will increase the commercial potential of the sense.

5.3. Recommendation for future project

Recommendations and suggestion for the future project are listed as follows;

i. Improve BST sensor packaging and physical appearance so that it will not disturb the measurement.
ii. Provide thermometer with very high and very low temperature range. The thermometer that was used in the project is very limited in the temperature range.
iii. Add a resistor in circuit to maintain heat on the sensor because the reading is stability.
iv. Improve sensor characteristic for stability and repeatability.

I hope that others will be interested to further study about the BST sensor performance in term of their applications, commercialization, cost, methodology and packaging using

another tool and technology and then compared the result and analysis based on their applications of the technology.