

**UNIVERSITI TEKNOLOGI MARA  
CAWANGAN PULAU PINANG**

**BIOMASS GRANULAR BRICK  
MICROWAVE ABSORBER**

**MUHAMAD SYAZWAN BIN ZUBER**

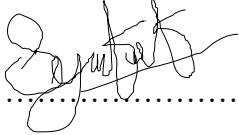
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## AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work.

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## **ABSTRACT**

This study will introduce the new technology for the development of a new type of microwave absorber. Microwave absorber is used to absorb the unwanted electromagnetic radiation which may slowly harm on human health. This study constructed with brick design because nowadays all building is made up from brick. In this study, granular brick (coconut shell) which is agricultural waste is used as a base materials to make activated carbon that can absorb electromagnetic radiation from 1GHz to 12GHz. The dimension of the brick is same as commercial brick which is 6 cm high, 10 cm width and 20 cm length. There are three different patterns of granular brick absorber applied in this study. The result of the reflection performance will compared between this three different patterns. By using CST Microwave Absorber software, it will simulate the design of the granular brick absorber.

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