

**UNIVERSITI TEKNOLOGI MARA  
CAWANGAN PULAU PINANG**

**STUDY ON ELECTROMAGNETIC  
CHARACTERISTIC OF  
SUGARCANE WASTED FIBERS  
MICROWAVE ABSORBER**

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## **ABSTRACT**

Anechoic chamber use for testing electronic equipment with purpose to cancel out the noise from interfere into system. Commercial absorbers in market come out in variety shape in line with the purposed of measuring test Material used to develop pyramidal absorber made from chemical substance where pollute the environment. Alternative material been study to overcome the problem Sugarcane bagasse is normally taken out after extracting process; producing sugar or drinking used. It is found that it has potential to be reused as economical pyramidal absorber for anechoic chamber application by giving same performance as commercial absorber. In this study the parameter being measures is absorption rate by material. The sugarcane bagasse been modified and simulate using CST Microwave Studio and the pyramidal operating at frequency of range (0-12) GHz. The targeting of absorption loss is around -30dB or better. The absorption rate performance been compared with commercial absorber and pure SGB and carbon SGB. The pure SGB pyramidal absorber have good absorber performance in range frequency of 1GHz to 12GHz compare to carbon SGB pyramidal absorber. The sugarcane bagasse pyramidal absorber have potential to be used as an alternative material in developing pyramidal absorber.

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