



**WIRELESS SYSTEM FOR TEMPERATURE AND RELATIVE HUMIDITY
IN OIL PALM TISSUE CULTURE LABORATORY**

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UNIVERSITI TEKNOLOGI MARA MALAYSIA

NUR LIYANA BINTI RIDZUAN

FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM
SELANGOR DARUL EHSAN

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ABSTRACT

As Malaysia is the main producer of the world's palm oil, the Malaysian Palm Oil Board (MPOB) had adapted the tissue culture technique in order to increase its production for the next decade. This technique was conducted inside the specific laboratory and required frequent monitoring sessions to maintain its crucial parameters in good conditions. To overcome this situation, the wireless monitoring system is developed to reduce the conscripting of manpower monitoring session by using the SHT11 sensor to produce the output data for both temperature and relative humidity parameters with direct utilization of the XBee antennas for transmitting and receiving the data in wireless form. The PIC16F877A microcontroller systems are being used to connect the SHT11 sensor and XBee antenna as the transmitter part and also connect the XBee antenna and Liquid Crystal Display (LCD) module as the receiver part to display the data measured. This system is developed for upgrading the previous wired monitoring system and overcome the manpower consumption for monitoring session to improve the global standard for the oil palm tissue culture technique.

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