

DESIGN AND ANALYSIS OF A WIRELESS
TEMPERATURE MONITORING SYSTEM

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APPROVAL AND DECLARATION SHEET

This project report titled Design and Analysis of a Wireless Temperature Monitoring System was prepared and submitted by Teoh Wei Boon (Matrix Number: 081031129) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Electronic Engineering) in Universiti Malaysia Perlis (UniMAP).

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DESIGN AND ANALYSIS OF A WIRELESS TEMPERATURE MONITORING SYSTEM

ABSTRACT

Wireless temperature monitoring system for industrial application is widely used in nowadays. Radio Frequency (RF) is the frequency of radio waves and alternating currents which carry radio signals. The radio frequency range is from 3 kHz until 300 GHz. By using Amplitude-shift keying (ASK) to modulate the digital data as variations in the amplitude of carrier wave. The temperature sensor detects the surrounding temperature before transmitting it to a receiver. At the receiver, the temperature will be displayed on a Liquid crystal display (LCD) and laptop for easy monitoring. This paper highlights the robust verification method to ensure the accuracy of the sensing and transmitting the data. The result shows that the device can accurate by monitor and sensing the data with 99.9% accuracy.

REKAAN DAN ANALISIS SISTEM MONITORING SUHU WAYERLES

ABSTRAK

Pada masa kini suhu sistem monitoring wayerles untuk aplikasi industri digunakan secara meluas. Frekuensi Radio (RF) adalah frekuensi gelombang radio dan arus bolak-balik yang membawa isyarat radio. Jarak bagi frekuensi radio adalah dari 3 kHz hingga 300 GHz. Dengan menggunakan Amplitude-shift keying (ASK) untuk memodulasi data digital sebagai variasi amplitud gelombang pembawa. Sensor suhu mengesan suhu sekitarnya sebelum menghantarnya kepada penerima. Pada penerima, suhu akan ditunjukkan pada paparan kristal cecair (LCD) dan laptop untuk pemantauan mudah. Tulisan ini mementingkan kaedah pengesanan yang kuat untuk memastikan ketepatan sensing dan penghantaran data. Keputusan kajian menunjukkan bahawa alat ini tepat oleh monitor dan pengesan data dengan ketepatan 99.9%.

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