

ABSTRACT

Monitor is the work done regularly and continuously. Temperature monitoring in storage rooms is still be underestimated, so that not a few who ignore it. Storage room or warehouse has an important role to maintain the quality of goods for example to be discussed in this final assignment is the warehouse for medical supplies and chemicals, while these items are very susceptible to environmental conditions.

In this final assignment has been to design a room's temperature monitoring system with centralized data retrieval method based master-slave controller, through two types of transmission media is via cable and aerial. There is a microcontroller based temperature monitoring systems as sub-control in each rooms that will monitor, through the medium of cable using RS485 serial communications and aerial media data is transmitted using wireless module and the data is displayed using a computer interface as a primary kontrol, the system is designed to be able to monitor all the time even though a far apart space automatically and periodically as well as efficient.

The results of measurements and analysis shown range of radio media sub-control cannot fulfill the design specifications, that is communication in $\pm 50\text{m}$ range while the result shown just in 30m. For wire media sub-control the result shown it can works for range up to $\pm 100\text{m}$. Performance testing did in 24 hours and the results is the device is good, the results of comparison between temperature data from the device and multimeter shown 97% of the data is fit.

Key word : computer, interface, *master-slave*, microcontroller, RS485, temperature, *wireless*.