ABSTRACT

The kWh meter is a device that has the function to measure the consumption of electrical energy. The use of the kWh meter is also still ineffective because the recording is still done manually by the operator, the placement of the kWh meter which is difficult to reach will take a lot of time. This results in the measurement cannot being monitored remotely. A system that can transmit three-phase electrical measurement data is needed to monitor real-time electrical energy consumption from anywhere. And we need a system that can update the firmware to suit our needs without hard coding.

The aim of this final project is to design a prototype for sending three-phase electrical measurement data in buildings using Wi-Fi as a communication system. The IoT platform will receive and store the three-phase electrical data reading if the data is sent successfully. Three-phase electrical data is then stored on the IoT Platform which can be accessed on the smartphone application. Over The Air (OTA) *method makes it easier for users to update firmware.*

For the results of this final project, the kWh meter is 100% successful in reading and sending three-phase electrical data to Antares Cloud, with the measurement of the Wi-Fi network parameters obtained for packet loss of 0%, and a data transmission delay of 0.011 seconds. Data that has been successfully sent by the internet to Antares will then be displayed on the smartphone application, the data displayed on the smartphone application is 100% successful and in accordance with the last data stored on Antares. The device can update the SSID and password with the OTA method has a 100% success rate.

Keywords: *3-phase KWh meter, Internet of Things, Wi-Fi, Antares, OTA*