

## **RF Transceiver based wireless Electrical Devices monitoring and controlling system**

The main purpose of this project is to monitor and control the electrical devices using transmitter based wireless technology. Electrical devices Monitoring systems are in huge requirement and we definitely can find their advantages in many industrial sectors and also in residential sector. We can find different kinds of electrical devices monitoring systems for different uses but the major challenge is to design a very simple, User-friendly and cost effective system.

The device consists of a microcontroller, which is interfaced with the input and output modules, the controller acts as an intermediate medium between both of them. So the controller can be termed as a control unit. We can control the electrical devices through wireless interface. By using the control buttons the data related to the electrical devices is given to the Microcontroller. The Microcontroller performs the necessary action and is transmitted through the transmitter. At the receiving end the data is received and is given to the microcontroller. The micro controller automatically takes the responsibility of controlling the electrical devices.

The major advantages of this system are making use of RF module, which helps for a wireless transmission. The RF receiver will receive the commands from the RF transmitter like to monitor or to control the electrical devices.

### **The objectives of the project include:**

1. Monitors and controls the condition of the devices in real-time.
2. Wireless data transfer.
3. Sensing and measurement of various electrical parameters.

**The project provides us exposure on:**

1. Interfacing sensors with the microcontroller.
2. Wireless data transmission.
3. Wireless data reception.
4. Embedded C program.
5. PCB designing.

**The major building blocks of this project are:**

1. Regulated power supply.
2. RF Transmitter and Receiver.
3. Microcontroller.
4. Crystal oscillator.
5. LED indicator.
6. Sensors for Electrical parameter measurements.
7. Buzzer.

**Block diagram:**

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