

## REVIEW OF ANTENNA POSITIONING SYSTEM

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**Abstract:-** As we know wireless communication systems work on antennas for reception of signals. It is necessary to properly position the antennas in the direction of transmitter for effective wireless communication. In the system sensors can be mounted so that antenna can detect the signal and the strong signal's frequency can be loaded on the IOT module. When the direction of a transmitting station changes over time, the antenna direction must also be changed accordingly. This system will help to monitor the antenna direction and strong signal to position the antenna according to the strong signal. Ultrasonic sensors will act like transmitter and receptors. To overcome the difficulty of manual alignment of antenna the system will help to position the antenna based on IOT module. This is review of antenna positioning system.

**Keywords:** *Antenna Positioning System, IOT module.*

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### I INTRODUCTION

All the wireless communication system work on antennas for transmission and reception of signals. Therefore proper positioning of the antennas is necessary for the proper working of the wireless communication systems. Here we have implemented ultrasonic sensor based system that will detect the strong signal with the help motor on each antenna. The ultrasonic sensor will detect the signal and also will transmit the signal. Here one of the ultrasonic sensors will act as transmitter and the other ultrasonic sensor will act like the receptor. The system will be powered and controlled by the Arduino UNO. The Arduino UNO will make the system work properly. The antenna will detect the strong signals and will position the antenna according to the strong signal detected.

The value of the signal's frequency will be loaded on the IOT module. The value of the detected signal will be displayed on the LCD. To overcome the difficulty of manually positioning of the antenna the system will help to position the antenna automatically based on the IOT module. The system will be proper for effective communication.

### II. LITERATURE SURVEY:

Surya Deo Choudhary et al[1]The system is designed to position the antenna for effective communication. The system primarily functions to detect the signal. The system will detect the strong signal and will position the antenna

according to the strong signal detected. The antenna will be stationary as long as the signal link is established.

Prajwal Basnet et al[2] The project is designed to develop the dish positioning system that can be operated based on the android application. The main application of using the dish system for proper transmission and reception of the signal. To properly position the antenna according to maximum frequency it needs to be adjusted manually.

M.Hakkiya, et al[2] To detect the strong signal the automatic positioning of antenna is necessary. To detect the strong signal and position the antenna for the proper communication. It works on RSSI values that the receiver detects. It monitor the signal strength on the LCD display.

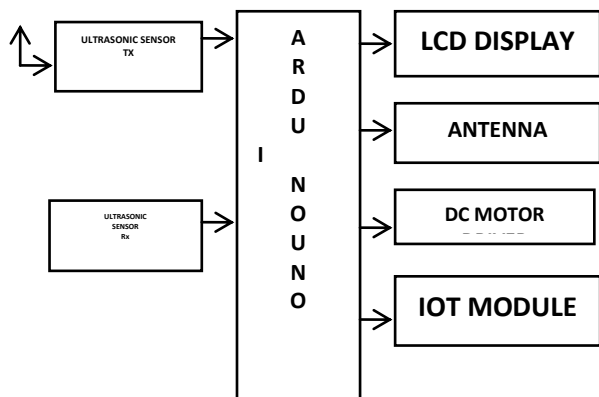
Rahane Suraj Dildar et al[3] The idea to develop the system to position the antenna based on the microcontroller. The antenna can be monitored and controlled by the android. The antenna can be positioned with the help of servo motors. The servo motors position will be based on microcontroller.

Pooja Revane, et al [4] The internet of things being a fascinating and excited concept has one of the major challenging aspect of proper system for communication based on IOT. Along with IOT the sensors and actuators will also help the system to work. The controller handles the operation of the antenna. The Atmega328 low power 8-bit RISC controller is the main controller of the system for working of the antenna. The accelerometer will position the antenna.

**III. METHODOLOGY:**

As all the wireless communication systems require antennas for transmission and reception of the signals. The proper positioning of the antennas is very important for effective communication. The antenna positioning system based on IOT module is designed for proper working of the communication system. The sensors and motors mounted will make the antenna work in proper manner. The strong signal that will be detected will make the system work properly as well as the signal value will be displayed on the LCD and will be recorded on the IOT module. The two ultrasonic sensor will be there as the transmitter and the receptor. The system will be based on the Arduino UNO. The one of the sensor will act like transmitter and the other will act like the receptor. The LCD module will display the value of the signal detected.

**IV. BLOCK DIAGRAM**



**V. Block Diagram Description:**

The above figure shows the Antenna Positioning System based on Arduino UNO.

The antenna will detect the signal with the help of ultrasonic sensors. One of the ultrasonic sensor will act like the transmitter while the other ultrasonic sensor will like the receptor. The system will be powered and controlled by the Arduino UNO. The d.c. motors will help to position the antenna. The value of the detected signal will be displayed on the LCD display. The signal’s frequency will be loaded on the IOT module.

**VI. ADVANTAGES:**

The advantages of the system are as mentioned below.

1. High Accuracy.

2. Detect and monitor the strong signal for proper communication.

**VII. CONCLUSION:**

The system will detect the strong signal with help of ultrasonic sensor for the proper working of the communication system.

The value of the strong signal will be loaded on the LCD.

The value of the signal will be loaded on the IOT module.

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