

# **Measure Parameters of Log periodic antenna.**

## **Objective**

To plot radiation pattern of Log periodic antenna in Azimuthally and Elevated plane.

## **Equipment:**

Antenna transmitter, receiver and stepper motor controller, Log-periodic antenna, connecting cables.

## **Procedure:**

1. Connect the Dipole antenna to the tripod and set the transmitter frequency to 600 MHz and connect 20 dB attenuator to avoid receiver saturation. Set the length of the antenna to  $\lambda/2$  end to end. Keep the antenna in horizontal direction.
2. Now connect the Log periodic antenna to the stepper motor and set the receiver to 600 MHz connect 20 dB attenuator at receiver. Adjust the dipole for resonant at 600 MHz.
3. Set the distance between the antennas to be around 1.5m, Remove any stray object from around the antennas, especially in the line of sight. Avoid any unnecessary movement while taking the readings.
4. Now rotate the Log periodic antenna around its axis in steps of 5 degrees using the stepper motor controller. Take the level readings of receiver at each step and note it down.
5. Note the maximum reading out of the whole set of readings. This will form the 0dB reference reading. Now subtract all the reading from the reference reading and note it down. Now use this new set of readings for drawing a plot.
6. Plot the reading on a polar or Cartesian plane with log/linear scale.
7. Now without disturbing the setup- rotate the log periodic antenna from horizontal to vertical plane.
8. Rotate the Log periodic antenna around its axis in steps of 5 degrees with stepper motor controller and plot the reading in the PC software.