

## **ABSTRACT**

The Omnidirectional Binomial Caturcilang Antenna is an antenna based on polygonal antenna, which refers to an antenna that has a lot of branch. Here, it consists of four branches designed to radial structure that means each top of branch is connected to a crossing pattern. Each of branch based on the microstripe with Styrofoam as the dielectric, that had been transformed into copper plate (PCB) to make the realization easier and nattier. The dimension of microstripe is determined by using binomial  $\lambda/4$  transformer commensurable technique. With one commensurable level. This antenna is designed twin triangular to make impedance matching between the antenna's impedance and coaxial impedance smooth.

In this final project, it had been realized caturcilang antenna which has first specifications; bandwidth reach up to 600 MHz at range  $2400 \pm 300$  MHz with limited  $VSWR \leq 1.5$ , which could be used for W-LAN communication system. The expected gain is  $\geq 6,2$  dBi, it has omnidirectional radiation pattern and linear polarization.

From measurement test, it is found each antenna parameter specifications are close to the first specifications. In realizing this antenna, it is found bandwidth equal to 839,97 MHz at 1780,03 - 2620,00 MHz frequency with limited  $VSWR \leq 1.5$ . While, the gain equal to 14,46 dBi at 2200 MHz frequency. Radiation pattern from measurement test is close to omnidirectional characteristic and its polarization close to linear.