

## ABSTRACT

Television is a technology that exists since centuries ago. It has developed from used analog modulation until now it uses digital modulation. However, its development should be followed by a more sophisticated digital television receiver in order to receive a digital TV frequency. That receiver is called antenna device. Because of that reason, this final project will design an antenna with wider bandwidth and higher Gain, according to the recommendation of *KOMINFO* (Communication and Informatics), but can be produced massly and cheaply.

The antenna that will be made for this final project is an antenna with biquad wire to strengthen its gain. The material used for this antenna is aluminum with 8.8 permittivity value. The process begins with a study to gather the theories, followed by determining the antenna specification and dimension. The model antenna was simulated first used CST Studio10. The last process is the making of the antenna.

The aim of this final project is to design a biquad antenna for a Digital Terrestrial Television with specification of VSWR is  $\leq 1.8$  and the frequency range is 478-694 Mhz. The measurement result is: gain of 12 dBi, bandwidth frequency of 216 Mhz, working frequency of 586 Mhz, and bidirectional radiation pattern.

KATA KUNCI : BIQUAD, TV DIGITAL TERESTRIAL, CST STUDIO