

ABSTRACT

In television broadcasting, is now experiencing a development that initially uses analog broadcasting system is now being developed using digital broadcasting system. Year 2018 is the year of change in Indonesia from Analog Television to Digital Television. Therefore, the author will realize an antenna that can receive signals with a digital system so that it can be used at the time of technology transfer from analog system to digital system in Indonesia.

In this final project research has been realized a crossed bowtie antenna as digital television receiver antenna at frequency 478 - 694 MHz. The preliminary calculations of this study use dimensions that match the antenna specifications. After obtaining the initial dimension, a model simulation is performed using the software to obtain optimum dimensional results recommended by the software. In the simulation, parameters such as triangular height from 121.6 mm to 129 mm, triangular base from 141.6 mm to 160 mm, material thickness from 0.5 mm to 1.5 mm, and antenna and reflector distance from 127.5 mm to 150 mm. After obtained the desired optimization results, then the antenna is realized to be measured against the antenna that has been made.

After measurement, the result of this final project is VSWR = 1.266 for 478 MHz, VSWR = 1.179 for 586 MHz, and VSWR = 1.259 for 694 MHz. Gain obtained is 7 dBi. Transmission pattern obtained is unidireksional which means sharp and direct transverse pattern.

Keyword : Digital TV, Crossed Bowtie, Dipole