

ABSTRACT

In 2018, television in Indonesia will experience a total migration from analog TV to digital TV. Therefore, the University did research Telkom digital TV with the latest digital technology, the DVB-T2 (Digital Video Broadcasting Terrestrial Second Generation). One of the supporters of this research is the digital TV transmitter antenna that works at a frequency of 470-860 MHz.

In this final project design and realization of a 2x2 array with a dipole antenna with a circular patch material used is brass plate. The design of this antenna using CST Studio Suite 2012 software. The transmitter antenna operates at a frequency of 470-860 MHz, with gain ≥ 5 dBi, bandwidth of 390 MHz, VSWR ≤ 1.5 , the radiation pattern is directional and circular polarization.

The measurement results obtained show that the operating frequency of the antenna can operate from 470 MHz to 860 MHz, with 12.173 dBi gain, bandwidth of 290 MHz, VSWR at center frequency ($f_c = 665$ MHz) 1.281, radiation pattern is directional and polarization circular with axial ratio 9.48 dB.

Keywords : Antenna , Dipole Antenna , Array , Digital TV , DVB - T2