

ABSTRACT

The government has officially changed television broadcasts from analog to digital, this makes analog television unable to receive digital television broadcasts. DigitalVideo Broadcasting Terrestrial (DVB-T2) is a technology broadcasting to receive digital television broadcasts. DVB-T2 is a solution for analog television so that it can receive digital television broadcasts that work on UHF frequencies. To support this technology, a receiving device is needed to carry out the DVB-T2 function properly, the device in question is a receiving antenna. Microstrip antenna is one type of antenna that can be used for DVB-T2 devices because it has the advantage that it can be made from simple materials. However, the microstrip antenna has a weakness, namely it has characteristics bandwidth narrow. Therefore in this study the designing and implementation of microstrip antennas rectangular by elemental method parasitic to widen bandwidth (wideband) on DVB-T2. Specifications for microstrip antenna parameters that are expected to work in the frequency range of 478 MHz – 694 MHz with a center frequency of 586 MHz, return loss ≤ -10 dB, VSWR ≤ 2 , bandwidth 216 MHz, and gain total ≥ 3 dBi. The simulation results obtained return loss -42,4602 dB, bandwidth 318 MHz, VSWR 1,0152, gain at a frequency of 586 MHz of 0,57 dBi, and the radiation pattern directional. While the measurement results obtained return loss -35,724 dB, bandwidth decreased by 11,3% compared to the simulation, VSWR 1,033, gain at a frequency of 586 MHz increased 84,9%, and radiation pattern omnidirectional.

Keywords: *DVB-T2, Microstrip antenna, Rectangular, Parasitic elements, Wideband*