ABSTRACT

Automatic Dependent Surveillance Broadcast is an air surveillance system that is used to determine aircraft position, aircraft code, and other data. The ADS-B system is located on aircraft that operate using satellites [6].

Antenna is one of the devices that play an important role for ADS-B communication, signal reception is fulfilled, with the development of antennas that lead to large gain and bandwidth.

A sterba curtain of antennas is the development of a dipole antenna. This antenna is usually in the form of wire where the length of each radiation is the same. This antenna is usually used in radio communication. Feed on this antenna is connected with balun. The goal is to use balun on this antenna to match the antenna with coaxial cable. This antenna works at a frequency of 1090 MHz using FR4 substrate . The sterba curtain of antenna is simulated using CST Suite Studio software, the results of which are realized in physical form, the shape of the antenna is expected to be designed using the 1X6 array method. The antenna is connected using a 2 way power combiner. The measurement results on this microstrip antenna obtained bandwidth of 33.6 MHz at a frequency of 1090 MHZ, return loss of -20.79 dB, gain of 2.39 dBi, VSWR of 1.21, Omnidirectional polaradiation, and vertical liner polarization.

Keywords: Antenna, curtain of sterba, array, power combiner, balun, ADS-B.