ABSTRACT

Global communications technology is growing rapidly along with the number of telecommunications services are held, especially space technology for satellite communications. It stated in a nano-satellite research for digital image processing (DIP). It takes an antenna as a transmission component that can meet those needs. The type that would be used the microstrip antenna.

With operating frequency of 2,325 GHz until 2,375 GHz, the antenna which works at the frequency of relatively large size, and therefore an optimization techniques is required, namely miniaturization of the antenna. The antenna miniaturization techniques used in the form of the addition of slits on the patch, also use a substrate made from Fiberglass Epoxy FR-04.

In this research, the antenna to obtain of 11,23 dB where VSWR of 1,383, return loss of -15,875 dB, unidirectional radiation pattern while eliptical polarization with expected application for nano satellite.

The research are expected to be applied for digital image processing of satellite with the function of receiving data from the transmission of free space and earth images from satellite that requiring bandwidth more than 50 MHz.

Keywords: Microstrip Antenna, Antenna Miniaturization, Nano-Satellite