

ABSTRACT

Synthetic Aperture Radar (SAR) is a type of active sensor in remote sensing technology. That are flexible to weather and time independent, so it will be the answer to the limitations of optical camera based on the missions. SAR has been used for many platforms, one of them is microsatellite mission. It will operate in 9.65 GHz frequency with the altitue less than 600 km above the sea. It contain not more than 100 kg in its payload.

This research develop a reflectarray antenna with circularly polarized both of RHCP and LHCP, so it named Dual Circularly Polarized (DCP). It consist a single layer printed in PCB board with circular shape patches. The flat reflector of reflectaraay antena fed by a DCP Horn antenna that consist of dual port with a septum polarizer. This reserach generated in this study has single frequency of 9.65 GHz. It has two port named by RHCP port and LHCP Port. RHCP port produces 1.5 dB of axial ratio and 23.7 dB of realized Gain. LHCP Port also produces a circular polarization with 1.52 dB of axial ratio and 21.8 dBof Realized gain.

Keyword : SAR, Satellite, Antenna, Reflectarray, Horn, DCP