

ABSTRACT

The development of payload using technology from SAR (Synthetic Aperture Radar) which principle radar sensor Active where to get information from the object resurrected first Microwaves, then fired towards the object and later waves are reflected scattered arrested for analyzed characteristics , on SAR technologies the process works aren't be affected by weather circumstances like using pure camera but that depends on sunlight.

Micro satellite system as a transmission antenna Media needed to identify the object and transmit image data by the type is S-band antenna Transmitter Into Earth stations. Therefore, design circular polarization antenna has been choosen to overcome the faraday effect that will cause polarization loss factor (PLF). This final project a microstrip antenna array with proximity-fed for produces circular polarization.

Antenna simulator software help and realized antenna is used the substrate material FR-4 Epoxy with value ($\epsilon_r = 4,3$ and $h = 1,6$ mm). work on frequency Antenna 2,35 GHz $VSWR = 1,062$, circular polarization ($AR = 1,58$ dB), $gain \geq 6$ dBic, *unidirectional radiation pattern* ($HPBW \geq 45,27^\circ$), *effective bandwidth* $\approx 35,58$ MHz.

Keywords: Inter-Satellite Link (ISL), Microstrip Antenna, Micro-Satellite, Synthetic Aperture Radar (SAR), Proximity-Fed.