

ABSTRACT

The Telemetry , Tracking and Control (TT & C) subsystem of a satellite is to provide a connection between the satellite and the facilities on ground (earth) . The purpose of TT & C functions to ensure the satellite is working well . Additionally TT & C functions as both a receiver and sender of data from the satellite to the earth or otherwise .

In general, the TT & C at the receiving station on Earth in the form of a large parabolic antennas . Antennas on ground station moved by motor. With the motor that moves the antenna , this raises a problem that is getting bigger and heavier weights antenna antennae , the greater the motor power required to drive the antenna . This can be minimized by replacing the motor system with beamforming antenna system . Beamforming enables TT & C antenna tracking without moving antenna . Beamforming works by changing the phase of each antenna portion so that the antenna radiation pattern may change after the phase of source .

Obtained design butlermatriks work on Frequency 2.375 GHz That had below -10 dB return loss and insertion loss above -10 dB, The resulting output phase is $\pm 45^\circ$. To review power divider work on 2.375 GHz frequency have specifications for -15.01 returnloss dB and insertion loss is in the differences -8 dB. Working with good diode switch, on currently off condition Above returnloss -4 dB and insertion loss is below -10 dB. While the condition in the switch on when work on frequency of 2.375 GHz has returnloss below -10 dB and -3 dB insertion loss Above.

Keywords: TT&C; Beamforming; Butler Matriks; Switch Diode