

ABSTRACT

VSAT is an earth terminal that is used for communication of data, voice, and video over satellite. Problem that arise among them are on the performance VSAT-IP and transponder problem. In the performance of VSAT-IP there are problem, among which there are problem in the quality of the signal and quality of the service. On the problem in the quality of signal, there are a factor that influenced in the quality of signal, there are a factor that influenced in the performance of VSAT-IP, there are polarization, interference, device, weather, and obstacle. Beside that on the problems of quality of service, there are some factor that influenced performance of VSAT-IP, there are traffic and sharing bandwidth. The problem transponder is maximum power, saturation, and cross polarization.

The main problem, it's need to perform the optimization process. Optimization process power link budget parameter is Carrier to Noise Density Ratio (C/N), Carrier to Interference (C/I), Energy Bit to Noise Ratio (Eb/No), Carrier to Interference Ratio Cross Polarization Interference (C/I CPI), Carrier to Interference Ratio Adjacent Satellite Interference (C/I ASI), propagation, and other parameters. Based on the results of the optimization process link, resulting value is Carrier to Noise Ratio (C/N) is 7.29 dB, Energy Bit to Noise Ratio (Eb/No) is 6.21 dB, Carrier to Noise Ratio Cross Polarization Interference (C/I CPI) is 30 dB, Carrier to Interference Ratio Adjacent Satellite Interference (C/I ASI) is 24.22 dB, with the resulting availability value is 99.99%. Based on data in the field, it's recommendation for maintenance Intermodulation, CPI and ASI test on periodic.

Keyword – VSAT-IP, Optimization Process, Link Budget, Carrier to Noise Ratio (C/N), Energy Bit Noise to Ratio (Eb/No)