

SATELLITE LINK BUDGET ANALYSIS
USING MATLAB

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ABSTRACT

This project presents a method for solving the link budget for satellite using MATLAB. The objective is to find the parameters critical to link budget for satellite and determining which parameters from Transmit Power, Frequency, Noise temperature and antenna dish diameter give the most effect to C/No Ratio. Basically, the values of the parameters are varied and the resulting C/No ratio is observed. Finally the Carrier to Noise density Ratio (C/No), the yardstick of measuring satellite performance is calculated. All of these are done using the MATLAB Software. A link budget model is created using MATLAB software. The link budget is then simulated by using defined parameters. The parameters then varied to see its effect on the C/No ratio. The results then collected and analysed. It was found that the transmit power affects the Carrier to Noise density Ratio the most out of all tested parameters.

Keywords— Link Budget, Satellite, MATLAB, Losses, EIRP, G/T Ratio, C/No Ratio

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