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INVESTIGATION ON GEOSTATIONARY SATELLITE LINK BUDGET USING KU BAND

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

In this project the analysis of factors that can affect the satellite communication link budget for Ku band were analyzed by using the simulation from the MATLAB. This is to improve that there are factors that can affect the communication link. In this project Ku band with and without rain attenuation were analyzed to observe how these factors affect the signal. Without rain attenuation or clean air, results are higher power transmitted link budget with rain attenuation. This proves that rain attenuation can affect the satellite link communication by reducing transmitted power. transmitted. Also, this project investigates the antenna diameter and efficiency towards C/N ratio. This resulting result shows that the antenna diameter and efficiency objectively increasing with C/N This ratio. This proves that antenna diameter and efficiency can affect the communication link budget. Additionally, this project also aim to simulate link budget feasibility and designing complete mobile application of satellite link budget calculator by using Microsoft Excel to make a link budget calculator and convert it into mobile application. This is due to effectiveness for students or engineers to do link budget Mobile analysis. Mobile application applications can help to improve the effectiveness of using link budget calculator anywhere as long as there are internet connection.This investigation could help in terms of the feasibility assessment, cost management, performance optimization and reliability of a satellite link.

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