ABSTRACT

The development of communication technology is increasingly showing very rapid progress. One of the technological developments in the telecommunications world is the satellite communication system. Satellite communication, especially on VSAT IP, is an option for long-distance communication. IP VSAT performance can be affected by the amount of carrier power emitted by an antenna or EIRP. EIRP has a different value, according to the distance between the antenna and the satellite. This study aims to determine better link quality, based on a comparison of the EIRP values on the Bogor-Jayapura and Bogor-Riau links. The EIRP value affects the parameters C/N, Eb/No, and BER. On the Bogor-Jayapura link with a saturation EIRP of 44 dBW and a ground station EIRP of 70.40, a C/N result of 14.20 dB can be obtained. Then on the Bogor-Riau link with a saturation EIRP value of 46 dBW and a ground station EIRP of 70.63 dBW, it will produce a C/N value of 17.39 dB. With the resulting C/N value, it will affect the results of Eb/No and affect the final result, namely BER. The magnitude of the EIRP value also affects power and bandwidth usage, on the Bogor-Jayapura link the percentage of power usage is 63.09% and on the Bogor-Riau link the percentage of power usage is 66.37%. Then the bandwidth usage is 74.98% on each link. With these results it can be seen that on these two links the bandwidth used exceeds the power usage, which causes limited bandwidth.

Keywords: *EIRP, VSAT IP, Link Budget, Power, Bandwidth.*