

ABSTRACT

In the beginning of 2007, microwave transmission link construction at the area of Police Region West Sumatra has been done to support radio HT communication. Since the tool installation and microwave transmission link implementation at the Police Region West Sumatra is still new, in this final project ability of microwave link that has been constructed is analyzed. In this final project, analysis is done by comparing between result of microwave transmission link implementation and calculation of link theoretically. Parameters that is used in this analysis are RSL (Receive Signal Level), BER, Fading Margin, transmitter capacity, and also diameter and height of antenna.

From analysis result is found that using transmitter capacity that is applied in radio system, which is 27 dBm, is too maximum. Based on analysis, value of transmitter capacity can be decrease to -29 dBm until 21 dBm. Diameter of antenna that is used are 1,8 m and 1,2 m has gain that is too large, in analysis, calculation is done with the smaller antenna diameter that is 0,6 m and 1,2 m. Fading margin to cover the worst condition, when rain, can be used availability 99,995% and 99,999%. For availability 99,995%, value of fading margin that can cover up rain attenuation is +2dBm and for availability 99,999%, value of fading margin that can cover up rain attenuation is ± 10 dBm. Channel capacity that is available is 4E1 and only used about 1 E1 for serving radio HT traffic, the remaining 3 E1 can be used for other communication system, such as PABX telephone and video streaming.

Keywords: microwave, RSL, BER.