ABSTRACT

Technical communication using radio frequencies are considered able to meet the challenges of the current telecommunication system, which can handle a lot of customers. Along with the growing population and increasing use of radio frequency transmission medium, then problems arise. With increasing network, it also increased the use of radio frequencies. This can cause problems such as interference from adjacent frequencies (interference).

In This final projects using pathloss software as a planning tool for the transmission link in PT Telkom, Tbk area Riau and Riau Islands. The planning steps include: initialization, site planning, the selection of radio sub-system, power link budget, evaluating the results of planning, reconfiguration, and the final configuration.This planning also use Radio device CERAGON FibeAir 1528hp. The parameters analyzed in this thesis include the line of sight, Power Link Budget, and performance.

Based on the results of planning, microwave packet radio link to Riau Daratan and Riau Kepulauan, it was found that all the links in LOS conditions such as obtaining a high antenna for Selat Panjang - Penyengat as high as 75 m. RSL value ≥ RTH for all the links as seen in the case of Selat Panjang - Penyengat link obtain the RSL = -32.85 dBm and the power level threshold (RTH) = -69 dBm. Based on the result is obtained only link Siak - Penyengat which meets the standards and availibility of 99.995%, while for the other link has not been meets the standards. To obtain standard availibility should be improved by using space diversity system. With space diversity all the links to reach the standard such as Selat Panjang - Penyengat link have availibility 99,999,67%

Keyword : ***point-to-point microwave radio link, link budget, pathloss***