

## ABSTRACT

Radio HT represent efficient and effective medium to be used for the voice communications. This technology have general used by Republic of Indonesia Police, either in center and also district. But generally the existing radio HT network only operate on just one town area, without there are interconnection with other regions. So that be required a interconnection link which can connect to other radio HT network in every town and province. Approximately final of year 2007, will be performed development of microwave transmission link phase II in Sumatra, one of them is in area of Kepolisian Daerah Riau. In other to this project will be success, required scheme and planning the ripe system. In this final duty has done planning of power link budget from link microwave to be builded.

In this final duty designed link microwave inter-region in work area of Polda Riau pursuant to data of field and peripheral data to be used. Expected from end result of this final duty, can give input to Polda Riau about infrastructure to be builded in order to its performance will be efficient and optimal.

Pursuant to result of scheme and evaluation, can be concluded that to build microwave transmission link from Pekanbaru to West Rengat are required 4 hop, that are hop Pekanbaru – Sekijang Post with antenna height 50 m and 70,5 m, hop Pos Sekijang – Lahan Samping with antenna height 70 m and 33,7 m, hop Lahan Samping – Pos lintas Ukui with antenna height 30,4 m and 57,8 m and also hop Pos lintas Ukui – West Rengatwith antenna height 70 m and 44,3 m. Also determinable peripheral RF to be used for microwave transmission link at kepolisian of district Riau is Siae Microelectronica AL-7. Used antenna are antenna Andrew with diameter 0,6 m and 1,2 m. With using these antenna will be obtained enough gain antenna so power transmit can set below maximum power transmit that is 27 dBm.