

## ABSTRACT

Along with the increase of consumer's necessity more and more who immigrate from voice to data services, so it's needed a right technology that fulfill this need from quality and quantity aspect. SDH Technology has capability to accommodate this because enable network to use high bit rate and large capacity.

Telkom in this case, as a telecommunication operator, plan to build exist SDH Network Link Parigi-Makasar that by this time there has been existing PDH one. In this design, later will maximize the exist infrastructure such as antenna, tower, terrain, that fulfill the requirement Line of Sight (LOS).

In this final project, the writer analyzed the outage time or digital calculation in means of hop by hop and quality rule analysis that is objective performance according to the standard of ITU-R G.826 so that the design of GMD SDH will be appropriated to performance standard that determined by ITU-T.

The result of this using 3 frequency carriers design show that the infrastructure such as antenna, tower and terrain at Parigi-Makasar can be still used for. The obtained objectives performance value can be used as a lead point in implementation later.