## **ABSTRACT**

In this day, celuller technology grow up very fast. Celuller operator compete one another for struggle the potential market share, especially in Indonesia which have big amount of people and most of its area is not yet covered with this technology. Celuller technology struggle to expand their area and ignore the signal quality which received.

Now, Telkomsel have used microwave technology for transmission medium in Kalimantan area, there are in Tarakan-Banjarmasin-Balikpapan route. In first, in planning this assumption for transmission network will have maximum performance. But in reality this statement is impossible because of many thing. Therefore, need to analysis for that network, in this case in its system availability. Analysis step which will be done, watch the existing parameters, then will be analyzed with Pathloss 4.0 software.

For availability follow the ITU recommendation, that is the ITU-R G826, for transmission availability with technology SDH is equal to 99,999%.