ABSTRACT

The basic difference between the third generation mobile networks and the last generation is the high bit rate where it will be more susceptible to the same environment. That's why we need a better planning concept. The other difference is that majority the user access the 3G service in a building (indoor) wheter its in university, café, restaurant, hotel, supermarket, bar, pub, gym, airport, real estate, etc.

From the traffic analysis of DCS 1800 system we got that there are 48 users in busy hour. While the 3G system could provide 7 channles for 3G and serve 190 users in busy hour.

There are several steps In order to provide 90% reliability on the cell edge, they are : critical point justification and loss propagation calculation, indoor loss calculation and fading margin calculation. As the output we found that the BTS used in 3G indoor system in Hotel Malya is RBS 3402 (Mini Indoor).

From the antennas power rating analisys we found that 3G system could be joined with the eksisting antennas which now is used to support DCS 1800 MHz system. This probably done because they are multiband antennas with the range frequency 1710 – 2500 MHz.

The system reliability analisys was done by calculating RSL_{OPR}. The value we got that all RSL_{OPR} value were higher than RSL_{REQ}, that means the system is good enough to run. While from the forward link budget analisys we got link safety margin 2,042 which means that the system is good and could be realized.

Simulation is made to give the view of how the system work. Here we show RSL, path loss and jthe distance between user and antenna which cover it. The simulation was made for all floor.

All cost calculation was graft in BoQ. Total cost needed to mount this planning is about Rp. 197.301.000,- + $17.092,30