

## ABSTRACT

At this moment the buildings development increase incisively, so that outdoor celullar network which there have to cover the area unable to again serve subscriber especially in building. This matter because bad signal quality in the building. To overcome the problem need to building indoor celullar network.

At this final project will be studied process planning indoor celullar network focused at planning of radio of core network, that is one part of which be control link of mobile station with base station by reckoning subscriber capacities, determination and calculation pathloss models, network configuration and evaluate to sceme result and also analyse link budget at each coverage area commitment.

Steps taken in process planning this indoor celullar network cover test signal at each coverage area commitment before installation of indoor network, estimate amount traffic required in commitment area of based on subscriber amount, Grade of Service (GoS) and the penetrating factor of service. Then will be done also the planning number of indoor antenna, radius coverage of every antenna and position of optimal antenna to service quality given with standard Key Performance Indicator (KPI) from operator party (PT. Indosat) that is 95% from coverage area commitment have to Rx level  $\geq -70$  dBm. Then will be done by a performance analysis of result scheme covering analysis of cell capacities, link budget, so that be obtained by network of reliable celullar indoor with optimal capacities and able to give delicate quality signal.