

## ABSTRACT

Mobile cellular communication system have been the fundamental need in business, especially in urban area which has many buildings. Indoor cellular network system is needed for the inside of building and the solution to solve the problems, i.e. the macrocell coverage is not good enough to cover inside of the building and traffic overload in adjacent cell.

This final project will analyze the indoor cellular network performance in Wisma Baja building which is one of the office building in Jakarta. From statistical data after installation, there are have the problems which can decrease indoor network performance. Average traffic channel success ratio is 78,98 %, for success ratio of SDCCH is 83,96 % and the drop ratio TCH average is 12,43% , for drop ratio of SDCCH is 6,06%. Therefore we need to optimize the network, so can increase the high success of communication and fulfill the demand of traffic.

The method which used on optimization there is with the measurement of VSWR, the channel number which used and the adjacent channel number. So with that method, we get the statistical data after optimization, the success ratio TCH average is 97,68%, for success ratio of SDCCH is 92,70%, and the drop ratio TCH average is 0,19%, for drop ratio of SDCCH is 0,12%, it shows the good performance, because the dropcall data average is small, so the level success of communication is high

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