

## ABSTRACT

Along with cellular network development, the bandwidth, quality of service, and indoor capacity demand also progressively mount. first generation ( 1G) and second generation ( 2G) technology have been developed to fulfill that demands. In emerging third generation (3G) technologies, like the WCDMA system, new type of services are enabled by the higher data rates supported.

The impact by increasing of new type of services will cause the traffic at the network will also increase. At certain area will have own certain traffic density which can generate problem to the network. In particular indoor user can degrade not only the transmission quality of the area but also entirety of network performance. One of solution to solve this problem is with pico cell using pico base station placed at one particular macro cell.

From simulation result, pico base station implementation on macro cell area improving macro cell performance it self and solving indoor and outdoor coverage requirement, in another side also increase capacities system till 50 to 80 user.