

ABSTRACT

Long Term Evolution (LTE) is technology that support high data rate. The high data rate is supported by OFDMA. In the LTE, intersymbol interference (ISI) reduced by OFDMA, but the value of intercell interference is still high. The ICI will give effect to the performance of user of the cell edge and cell centre. To avoid the ICI is needed an intercell interference management.

Depend on that problem, on this final project analyze the LTE network planning with interference management scheme. The frequency reuse schemes that used in this final project are frequency reuse 1, fractional frequency reuse and soft frequency reuse. The frequency reuse schemes differentiated by the resource block and power allocation in the cell dimensioning.

This final project analyze the performance of radio network planning. The parameters that analyzed are CINR, cell capacity, throughput, the number of cell and the total of user rejected to connect the network. Just than the frequency reuse, fractional frequency reuse CINR increase at 10.28 dB, while the soft frequency reuse increase at 15.9 dB. On the fractional frequency reuse, compared with frequency reuse 1, the throughput decrease at 30.1%, while the soft frequency reuse increase at 118%. The total user rejected of the fractional frequency reuse compared with frequency reuse 1 is increase at 1.3%, while the soft frequency reuse is decrease at 12.6%. That because on the SFR, all of bandwidth allocation is used on the cell and the cell edge frequency is difference each other.

Keywords : **LTE, SFR, FFR, Reuse 1, capacity, throughput, CINR**