Abstract

The choice of the frequency planning strategy is very dependent on the regularity of the cell plan and availability of the spectrum. There are many different frequency planning techniques used by different operators. The frequency planning method is often adapted to the way of working and the planning tools used by the operator and it is not always an obvious choice what method to use. The main objectives of this project are to analyze and to compare between pre and post re-farming cluster drive test results in terms of RxLevel and RxQual. In addition; the aim is to collect and to compare the pre and post re-farming network performance measurement statistics and proposing suitable frequency techniques.

The thesis is focused on the Batinah Region. Two most common frequency planning techniques are Multiple Reuse Pattern (MRP) and Fractional Load Planning (FLP). They are discussed and the strength of each of them are presented. After testing the network by means of conducting the drive test, the results were collected. With the help of simulations, different scenarios were analyzed and the results of simulations are presented. Finally, different FLP scenarios have been tested in Batinah region and the result were positive.

It is observed from the experiment that the performance of FLP can be improved by switching on different features like BTS PC and DTX DL. However, we need to balance between doing this and watching out for the overall performance of the network.