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| UMTS Handover Optimization and KPIs Analysis of UMTS System |
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UMTS Handover Optimization and KPIs Analysis of UMTS System

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**Abstract:**

The tool aims to optimize network performance, by concentrating on Handover problems, hence improving Dropped Calls Rate (DCR), and making neighbors lists faster and easier, and detecting errors in those lists. Using a new model closer to real-life model coverage and another model with data extracted from ATOLL to get irregularities due to the clutter.

The tool has a user friendly interface that helps the RF engineer to use it easier and faster. Developing algorithms to carry out the required functions and achieve the tool’s purpose.

**CONCLUSION:**

The network suffered from several problems affecting its performance as dropped call rate (DCR), interference, and missing relations in addition to miss-defined relation. The tool works on those problems. It finds missing relations and defines them, hence improves the DCR. It also detects miss-defined relations and deletes them. It also reports problems in the network design such as: scrambling code clash, cross-feeder problem. It detects also low or zero attempts and low success rate. Using this tool will decrease the overhead on RNC as in a missing relation case it sends several HO requests and will cause the BTS to increase its power to the mobile causing more interference to other mobiles in that cell, and deleting unnecessary relations in the RNCs. In brief, it improves the overall performance of the network and helps engineers detecting BTSs relations problems and makes more accurate initial lists for new sites.