

ABSTRACT

Frequency hopping (FH) is one of performance improvement method of GSM network. FH switches the carrier frequency of a call occupying a traffic channel periodically. This method can degrade the effect of fading and interference. As when a communication is maintained, signals can easily be dropped if there are signal interference happen or if the Mobile Station (MS) currently located at fading area of certain frequency. As a result, by means of FH, the next signal received will be much better if it is sent via different frequency.

Synthesizer frequency hopping (SFH) technology is one of FH which has it's own benefits and drawbacks compared with other FH methods. With the right implementation method and some adjustment, SFH can give better network performance.

This final project will cover impact happened at network picocell after applying of SFH in region Jabodetabek XL. Despitefully is evaluated Key Performance Indicator (KPI) what indicates network performance picocell before and after applying SFH. As for evaluation to performance indicator SDCCH Success Rate (SDSR), TCH Drop Call Rate (DCR), Handover Success Rate (HOSR), dan Drive Test results.

Network picocell experiences degradation of performance after macro network is implementation SFH. To optimal of network picocell returns its(the solution is also is implementation SFH at picocell network.

Keyword : Frequency Hopping, Baseband Hopping, Synthesizer Frequency Hopping