

ABSTRACT

High Speed Downlink Packet Access (HSDPA) is one of a new technology in cellular telecommunication system that was released by *3GPP Release 5* and it was called 3.5G . This technology was designed to provide user data services, and to create a global system with infinitely access in the world. Based on it, HSDPA should have an global coverage so that user can access any communication services wherever and whenever.

Because of the higher demand of communication and user mobility on terrestrial network, especially for cellular communication have requiring the service continuity, especially for the cellular one. Premature termination of an ongoing call is more frustrating than not being able to start a new call due to the lack of resources in the network. Therefore it generally accepted that handover users should be given priority over new users in resource allocation.

The unexpected termination within handover procedure to achieve the cell target is known as handover failure. Commonly, handover failure can caused by limited channel capacity and limited services coverage. Those two factors will trigger some process, and those process are failure of signalling handover, previous channel released before handover signal can received, and limited frequency resource on the target cell.

The research shows that user who moving with higher speed have the most minimum dropping probability if use handover parameter : AS-Th-Add & Drop= 13 dB, AS-hyst= 4 dB, AS-Rep= 5 dB. When the speed is 5 km/hours the dropping is 0.009. When user with the speed 50 km/hours the dropping is 0.0017, then when the speed is 100 km/hours the dropping is 0.00195.