The thesis is intended in analyzing the evaluation of system performance for an MC-CDMA (multi-carrier coded-division multiple-access) system operating over two-tier femtocell environment. The considered scenario is deployed with a macrocell site where is surrounding some femtocells, which are designed to serve a group of subscribers located in a small coverage area such as small office, home office or a house. Mostly, the femtocell is applied to serve indoor subscribers, thus, the Rayleigh fading is adopted to characterize the propagation channel between transceiver. The technique of TH-CDMA (time-hopped coded-division multiple-access) is supposed to transmit each symbol alternatively with fair time slot for each user in the hotspots (the area around 0th femtocell). The contribution of the paper is not only to evaluate the system performance with both the BER (bit error rate) according to the most important parameters, for example, the activating user number, the hopping number provided by TH-CDMA system and the subcarrier numbers.

Keywords: time-hopped CDMA (TH-CDMA), hotspot, femtocell, macrocell, MC-CDMA, Rayleigh fading

Table of Contents

第一章 緒論
第一节 研究背景
第二节 論文內容綱要

第二章 毫微微蜂巢技術介紹
第一节 毫微微蜂巢技術概論
第二节 毫微微蜂巢科技觀點
第三节 毫微微蜂巢商業觀點
第四节 容量和覆蓋率分析

第三章 無線通訊連結傳輸中的斷話率效能分析
第一节 論斷話率效能
第二节 系統模式
第三节 Nakagami衰落效應之共頻道干擾
第四节 數值分析結果

第四章 多載波分碼多重存取系統於兩層毫微微蜂巢中之效能分析
第一节 毫微微蜂巢之遠景
第二节 系統分析和通道環境
第三节 統計分析
第四节 數值結果和討論

第五章 結論

附錄 A

REFERENCES


