

Review of interference avoidance schemes in Femtocell Networks.

ABSTRACT

Femtocell is a solution to increase the system capacity and coverage to meet the high demand of the next generation of services on broadband wireless access. However, the deployment of a new femtocell layer may have an undesired impact on the performance of the macrocell layer. The allocation of spectrum resources and the avoidance of electromagnetic interference are some of the more urgent challenges that operators face before femtocells become widely deployed. In this paper different interference avoidance schemes are described and compared. Special attention is paid to the use of uplink and downlink power control and self-configuration and self-optimization techniques for the avoidance of interference. From the review, we conclude that frequency planning is suitable for interference avoidance schemes for unplanned location of femtocells deployment.

Keyword: Femtocell; Macrocell; Cellular; Orthogonal frequency division multiple access; Interference avoidance.