



# Transient QoS Measure for Call Admission Control in WCDMA System with MIMO

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## Abstract

This paper presents an efficient capacity evaluation algorithm of the WCDMA with multiple-input multiple-output (MIMO) system for quality of service (QoS) support. To define the capacity of the system, we derive the  $E_b/N_o$  gain taking into account MIMO concept and the outage probability as the QoS measure using central limit approximation, Chernoff bound and the refined large deviation approach. Based on the QoS measures, we propose an efficient transient call admission control (CAC) algorithm. Numerical results show that there is a substantial increment in system capacity by adopting MIMO system and the theory of the refined large deviation approach is a good approach for transient QoS support.

## Keywords

Outage Probability MIMO System Ergodic Capacity

Wideband Code Division Multiple Access Connection Admission Control

These keywords were added by machine and not by the authors. This process is experimental and the keywords may be updated as the learning algorithm improves.

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