

Abstract

Mohamed S El-Mahallawy

LTE QoS Dynamic Resource Block Allocation with Power Source Limitation and Queue Stability Constraint

3GPP has defined the long term evolution (LTE) for 3G radio access in order to maintain the future competitiveness for 3G technology, the system provides the capability of supporting a mixture of services with different quality of service (QoS) requirements. This paper proposes a new cross-layer scheduling algorithm to satisfy better QoS parameters for real time applications. The proposed algorithm takes care of allocating resource blocks (RBs) with different modulation and coding schemes (MCS) according to target bit error rate (BER), user equipment supportable MCS, queue stability constraints and available transmit power constraints. The proposed algorithm has been valued, compared with an earlier allocation algorithm in terms of service rate and packet delay and showed better performance regards the real time applications.