Abstract

WiMAX (Worldwide Interoperability for Microwave Access) is a promising technology which can offer high speed voice, video and data services up to the requirements at the customer's end. The objectives of this paper is to evaluate the performance evaluation of a WiMAX system under various diversity schemes (Selection combining, Maximal ratio combining and Equal gain combining), employing different adaptive transmission policies, such as Optimal power and rate adaptation policy, Optimal rate adaptation with constant transmit power policy, Channel inversion with fixed rate policy, and Truncated channel inversion policy, subjected to co-channel interference and adjacent channel interference. WiMAX system incorporates OFDM with 256 sub-carriers with QPSK modulation as the transmission scheme. Simulated results of the estimated spectrum efficiency show that the implementation of Optimal power and rate adaptation policy under Selection combining is highly effective to combat co-channel interference and adjacent channel interference in the WiMAX communication system.

References

- M. Tran, G. Zaggoulos, N. Andrew and A. Doufexi, “Mobile WiMAX: Performance

Index Terms

Computer Science
Communications

Keywords

Co-channel interference; Adjacent channel interference; Optimal power and rate adaptation policy; Optimal rate adaptation with constant transmit power policy; Channel inversion with fixed rate policy; Truncated channel inversion with fixed rate policy