Abstract

Long Term Evolution (LTE) is consents pliable spectrum distribution which renders enriched wireless data services to users at lower latency and multi-megabit throughput. LTE uses Orthogonal Frequency Division Multiple Access (OFDMA) and Single Carrier Frequency Division Multiple Access (Sc-FDMA) for downlink and Uplink transmission where OFDMA has been acquired in LTE for downlink transmission which diminishes the terminal cost and power consumption and Sc-FDMA has been allocates multiple users to a shared communication resources. Frequency Division Duplex (FDD) and Time Division Duplex (TDD) are the prevailing duplexing scheme in LTE that provides deployable tractability according to spectrum assignation. In this paper, we analyze the performance of SC-FDMA and OFDMA in LTE Frame Structure based on Peak to Average Power Ratio (PAPR) analysis. ITU Pedestrian A channel and ITU Vehicular A channel and also Additive White Gaussian Noise (AWGN) channel are used for analyzing the error performance between SC-FDMA and OFDMA.

References

- A COMPREHENSIVE ANALYSIS OF LTE PHYSICAL LAYER. Fahimeh Rezaei, University of Nebraska-Lincoln.
- 3rd Generation Partnership Project, 3GPP TS 36. 211 – Technical Specification Group
- Loo Kah Cheng, DESIGN OF AN OFDM TRANSMITTER AND RECEIVER USING FPGA – Project report.
- R. Nicole, "Title of paper with only first word capitalized," J. Name Stand. Abbrev., in press.
- Hyung G. Myung, David J. Goodman, "SINGLE CARRIER FDMA-A NEW AIR INTERFACE FOR LONG TERM EVOLUTION?.
Performance Analysis of Sc-FDMA and OFDMA in LTE Frame Structure


Index Terms

Computer Science Wireless Communications

Keywords

Long Term Evolution (lte) Frequency Division Duplex (fdd) Time Division Duplex (tdd) Single Carrier Frequency Division Multiple Access (sc-fdma) Orthogonal Frequency Division Multiple Access (ofdma) Additive White Gaussian Noise (awgn)