Abstract

The low peak-to-average power ratio (PAPR) in single-carrier systems has motivated the Long Term Evolution (LTE) Third Generation Partnership Project (3GPP) to adopt single carrier frequency division multiple access (SC-FDMA) as the uplink multiple access scheme. In this paper, an enhancement of a SC-FDMA system by decreasing the PAPR is focused. A combination of clipping and Pulse shaping (RRC filter) is applied on a SC-FDMA signal with IFDMA subcarrier mapping, which results in a PAPR reduction. This PAPR reduction by hybrid (clipping & pulse shaping) technique can be used to enhance the power efficiency of the handset, or alternatively to improve uplink throughput and/or operating range.

References

Peak-to-Average Power Ratio Analysis of SCFDMA Signal by Hybrid Technique

- Enchang Sun, Ruizhe Yang, Pengbo Si, Yanhua Sun, and Yanhua Zhang, 2010, "Raised Cosine-like companding scheme for peak-to-average power ratio reduction of SCFDMA signals", IEEE conference, pp. 978-983.

Index Terms

Computer Science

Communication Systems

Keywords

SC-FDMA  3GPP LTE  PAPR  RRC