Abstract

In this paper we will discuss the influence of utilizing the selective mapping technique for PAPR reduction in SC-FDMA systems for various modulation schemes. Actually, Single carrier frequency division multiple access (SC-FDMA) has not only utilized the single carrier modulation, and has the most features of OFDMA, but also, it has an outstanding feature. It is the lower PAPR due to its single carrier structure. However, localized frequency division multiple access (LFDMA) still needs more PAPR reduction since pulse shaping does not affect much on PAPR performance for (LFDMA). Accordingly, we propose a scheme that's utilizing the selective mapping technique, which consider a distortionless PAPR reduction scheme in multicarrier systems. Afterwards, we numerically discuss the PAPR characteristics using the complementary cumulative distribution function (CCDF) of PAPR. The results demonstrate that SC-FDMA signals, which use selective mapping technique, indeed have a significant reduction in PAPR compared to those, which do not use.
Influence of Utilizing the Selective Mapping Technique for PAPR Reduction in SC-FDMA Systems


Index Terms

Computer Science
Communications

Keywords
SC-FDMA  Time Domain Selective Mapping  Peak-to-average Power Ratio  Side Information