

Joint Discrete Hartley Transform-Clipping for Peak to Average Power Ratio Reduction in Orthogonal Frequency Division Multiplexing System

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Abstract : Orthogonal frequency division multiplexing (OFDM) is promising technique for the modern wireless communications systems due to its robustness against multipath environment. The high peak to average power ratio (PAPR) of the transmitted signal is one of the major drawbacks of OFDM system, PAPR degrade the performance of bit error rate (BER) and effect on the linear characteristics of high power amplifier (HPA). In this paper, we proposed DHT-Clipping reduction technique to reduce the high PAPR by the combination between discrete Hartley transform (DHT) and Clipping techniques. From the simulation results, we notified that DHT-Clipping technique offers better PAPR reduction than DHT and Clipping, as well as DHT-Clipping introduce improved BER performance better than clipping.

Keywords : ISI, cyclic prefix, BER, PAPR, HPA, DHT, subcarrier

Conference Title : ICCIT 2016 : International Conference on Communication and Information Technology

Conference Location : New York, United States

Conference Dates : June 06-07, 2016