

## EFFECT OF PAPR ON IBO IN OFDM SYSTEMS

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### ABSTRACT

The cumulative growth of wireless communication systems strive for Orthogonal Frequency Division Multiplexing as a dominant candidate for the multicarrier transmission scheme. In this paper, we have analyzed PAPR reduction techniques, PTS and proposed a technique which is H-PTS. The impact of the IBO enhancement w.r.t PAPR can reduce the non-linear distortion. These two techniques are simulated and their effect on IBO is studied. Simulation results shows that reducing PAPR will have a direct effect on IBO. The IBO in PTS and Hybrid-PTS changes accordingly to their systems. Thus, eventually non-linear distortion produced by the HPA is also less. Through this study, it is also analyzed that PTS considered to a very good technique for PAPR reduction and also reducing the effect of non-linear distortion.

**KEYWORDS:** High Power Amplifier (HPA), H-PTS (Hybrid-PTS), Input Back off (IBO), Orthogonal Frequency Division Multiplexing (OFDM), Partial Transmit Sequence (PTS), Peak-To-Average Power Ratio (PAPR)