**ABSTRACT** 

Orthogonal Frequency Division Multiplexing (OFDM) is a multicarrier technique

that has resistance to fading, and high bandwidth efficiency. The major drawback of

OFDM systems is the high of PAPR value. PAPR is the ratio of peak signal power to

average power.

So, it requires techniques that can reduce the PAPR value. This final project will

simulate and analyze a combination of partial transmit sequence (PTS) and clipping

technique to reduce the PAPR value. In this simulation, subcarriers are partitioned into

several subblock, then each subblock is multiplied by particular factors phase. Then, the

results of subblock combination having the lowest PAPR value will be processed in the

clipping block. In this block the input signal of clipping will be restricted to a certain

amplitude value. Input signal that exceeds that amplitude will be cut, so that PAPR

reduction will be obtained.

The simulation result shows that the use of the PTS technique only can reduce the

PAPR value of 2.6 dB. While, if the PTS technique is combined with a clipping technique,

they can reduce the PAPR of 6.719 dB. If only clipping technique is used, it can reduce the

PAPR of 6.46 dB. In terms of system performance, using combination of PTS and clipping

technique produce BER which tends to be the same with using PTS technique only, but

smaller if it is compared with clipping techniques. In combination of PTS and clipping

techniques BER 10<sup>4</sup> is achieved when the SNR value is 6 dB and 8 dB, for BPSK and

OPSK modulation.

Key words: OFDM, PTS, Clipping, PAPR

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