POWER RATIO DEFINITIONS AND ANALYSIS IN SINGLE CARRIER MODULATIONS (ThuAmOR2)

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Abstract :

In the past few years, many research activities have concerned the Peak to Average Power Ratio (PAPR) especially in an Orthogonal Frequency Division Multiplexing (OFDM) context. Nevertheless, we have noticed that the PAPR definition is not always the same from one author to the other, depending on the paper context which leads to confusions and bad interpretations. That's why we propose in this article to generalize the PAPR definition by introducting the Power Ratio (PR) parameter from which we can derive all the possible PAPR versions. Starting form this, we propose a theoretical analysis of the PR vs oversampling and the roll off factor in single carrier modulation when a Nyquist filter is considered. We give an upper bound of the PR and simulations for QPSK and 16QAM modulations.

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