Study on LCR and AFD Performance of Linear Modulator Operating in Different Fading Envirnments for Wireless Communicatio

陳義方、陳雍宗

E-mail: 9600625@mail.dyu.edu.tw

ABSTRACT

The purpose of this article is on the performance evaluation with the methods of average LCR（Level Crossing Rate）and AFD (average fade duration) for some linear diversities include MRC (maximal ratio combining) and EGC (equal gain combining) diversity. The working environment is assumed as correlated-Nakagami-m statistics, that is, the correlation characteristics is assumed existing between the received branches. Besides, the presentation of LCR and AFD for the conventional linear diversity are involved, such as, MRC and SC (selection combining), combination with different operating environments. Finally, by using of numerical analysis for validating the accuracy of the derived formulas are conducted. It is reasonable to note that the MRC diversity still owns the superior performance than the other two from the view point of LCR and AFD.

Keywords : AFD, LCR, SC, MRC, EGC diversity, correlated fading, Nakagami-m fading

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