矽基板上連接線之輻射分析

鄭大福、邱政男

E-mail: 9315045@mail.dyu.edu.tw

ABSTRACT

The purpose of this thesis is to examine the effects of transmission line radiation on silicon substrate. First, we solve the voltage and current on the transmission line. The radiation fields may be obtained by using the image theory. The image current is analyzed by the Silvester model. We separate the transmission line into steps which length is electrically small. Assume that every step ’ s current radiates by dipole mode. We can find radiation transfer function in frequency domain. After, the Frequency domain ’ s signal is transferred by the Fourier transform from the time domain. It is multiplied by the transfer function. The radiation is then observed by changing the ricetime and falltime. Designer can refer these results to solve the electromagnetic compatibility and electromagnetic interference problems.

Keywords : 輻射 ; 傳輸線

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