



“Gheorghe Asachi” Technical University of Iasi, Romania



MODELING DEVICES SENSITIVITY ASSOCIATED TO THE SUSCEPTIBILITY OF ESD PHENOMENA

Ana-Maria Nicuță*, Paul Bicleanu, Oana Beniugă, Alexandru Sălceanu

*“Gheorghe Asachi” Technical University of Iasi, Faculty of Electrical Engineering and Applied Informatics, Department of
Electrical Measurements and Materials Engineering, 21-23 Prof. Dr. Doc. Dimitrie Mangeron Street, 700050 Iasi, Romania*

Abstract

The electrostatic discharge (ESD) event is a severe source of interference that can produce damages in any electronic system. A full-body of an ESD generator is modeled using the Cadence IC 5.3 package software in order to reproduce the reference discharge current assured by the standard specifications. The factors that introduce electromagnetic radiations into the systems have also been investigated. Several tests based on proper matches between the parameters of the antenna were computed in order to enhance the accuracy of the signal, by reducing the disturbing reflections. The studies were carried out in three different discharge operation modes: “slow”, “normal” and “fast”. The comparative measurements for the considered cases were performed using two different cross-section cables, a round thin cable and, respectively a rectangular flat cable, with the aim of observing the manner in which the system is being affected by the parameters of the chosen cable.

Key words: electromagnetic interference, electrostatic discharge, ESD generator, radiated field

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*Author to whom all correspondence should be addressed: E-mail: nicuta_ana@ee.tuiasi.ro