

ESD Association Standard Practice

*for the Protection of Electrostatic
Discharge Susceptible Items*

*Standard Practice for Human Body
Model (HBM) and Machine Model
(MM) Alternative Test Method:
Split Signal Pin – Component Level*

*Electrostatic Discharge Association
7900 Turin Road, Bldg. 3
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*An American National Standard
Approved October 13, 2006*



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Published by:

Electrostatic Discharge Association
7900 Turin Road, Bldg. 3
Rome, NY 13440

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Printed in the United States of America

ISBN: 1-58537-123-8

(This foreword is not part of ESD Association ANSI/ESD SP5.1.2-2006)

FOREWORD

This standard practice defines an alternative test method to perform Human Body Model (HBM) or Machine Model (MM) component level electrostatic discharge (ESD) tests when the component or device pin count exceeds the number of ESD simulator tester channels. If an ESD simulator above 512 pins is not available, then this standard practice can be used as a guide to ESD stress components with greater than 512 pins or balls.

Since this document is a standard practice and not a standard test method, classifications of ESD sensitivity levels cannot be defined. This document references the ANSI/ESD STM5.1 (HBM) and ANSI/ESD STM5.2 (MM) test methods. Both of these documents will surpass this standard practice if there are any conflicts in testing a component.

This document does not claim to reproduce the same test results as would be achieved by an ESD simulator with greater than 512 pins. The test results will be similar, but not identical since many of the tester parasitic properties of a higher pin count simulator cannot be reproduced using a lower pin count ESD simulator. The authors of this document recommend that the user purchase and use the high pin ESD simulator that fully meets the test requirements of ANSI/ESD STM5.1 or ANSI/ESD STM5.2. If this is not possible, then this document can be used to perform HBM or MM stress testing.

This standard practice applies to both HBM and MM test methods because this alternative test method builds custom test fixture boards (TFBs) that can be used by both ESD test methods. The use of these custom TFBs changes the pin combinations and not the discharge waveforms.

This standard practice was processed and approved for submittal to the Electrostatic Discharge Association (ESDA) Standards Committee by the 5.1 (HBM) Device Testing Subcommittee. The ESDA Standards Committee approved this document on September 10, 2006.

At the time this document was presented to the ESDA Standards Committee, the 5.1 (HBM) Device Testing Subcommittee had the following members:

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