

Spectre® Circuit Simulator Known Problems and Solutions

Product Version 23.1
June 2023

© 2023 Cadence Design Systems, Inc. All rights reserved.

Printed in the United States of America.

Cadence Design Systems, Inc. (Cadence), 2655 Seely Ave., San Jose, CA 95134, USA.

MMSIM contains technology licensed from, and copyrighted by: C. L. Lawson, R. J. Hanson, D. Kincaid, and F. T. Krogh © 1979, J. J. Dongarra, J. Du Croz, S. Hammarling, and R. J. Hanson © 1988, J. J. Dongarra, J. Du Croz, I. S. Duff, and S. Hammarling © 1990; University of Tennessee, Knoxville, TN and Oak Ridge National Laboratory, Oak Ridge, TN © 1992-1996; Brian Paul © 1999-2003; M. G. Johnson, Brisbane, Queensland, Australia © 1994; Kenneth S. Kundert and the University of California, 1111 Franklin St., Oakland, CA 94607-5200 © 1985-1988; Hewlett-Packard Company, 3000 Hanover Street, Palo Alto, CA 94304-1185 USA © 1994, Silicon Graphics Computer Systems, Inc., 1140 E. Arques Ave., Sunnyvale, CA 94085 © 1996-1997, Moscow Center for SPARC Technology, Moscow, Russia © 1997; Regents of the University of California, 1111 Franklin St., Oakland, CA 94607-5200 © 1990-1994, Sun Microsystems, Inc., 4150 Network Circle Santa Clara, CA 95054 USA © 1994-2000, Scriptics Corporation, and other parties © 1998-1999; Aladdin Enterprises, 35 Eyal St., Kiryat Arye, Petach Tikva, Israel 49511 © 1999 and Jean-loup Gailly and Mark Adler © 1995-2005; RSA Security, Inc., 174 Middlesex Turnpike Bedford, MA 01730 © 2005.

Open SystemC, Open SystemC Initiative, OSCI, SystemC, and SystemC Initiative are trademarks or registered trademarks of Open SystemC Initiative, Inc. in the United States and other countries and are used with permission.

Trademarks: Trademarks and service marks of Cadence Design Systems, Inc. contained in this document are attributed to Cadence with the appropriate symbol. For queries regarding Cadence's trademarks, contact the corporate legal department at the address shown above or call 800.862.4522. All other trademarks are the property of their respective holders.

Restricted Permission: This publication is protected by copyright law and international treaties and contains trade secrets and proprietary information owned by Cadence. Unauthorized reproduction or distribution of this publication, or any portion of it, may result in civil and criminal penalties. Except as specified in this permission statement, this publication may not be copied, reproduced, modified, published, uploaded, posted, transmitted, or distributed in any way, without prior written permission from Cadence. Unless otherwise agreed to by Cadence in writing, this statement grants Cadence customers permission to print one (1) hard copy of this publication subject to the following conditions:

1. The publication may be used only in accordance with a written agreement between Cadence and its customer.
2. The publication may not be modified in any way.
3. Any authorized copy of the publication or portion thereof must include all original copyright, trademark, and other proprietary notices and this permission statement.
4. The information contained in this document cannot be used in the development of like products or software, whether for internal or external use, and shall not be used for the benefit of any other party, whether or not for consideration.

Disclaimer: Information in this publication is subject to change without notice and does not represent a commitment on the part of Cadence. Except as may be explicitly set forth in such agreement, Cadence does not make, and expressly disclaims, any representations or warranties as to the completeness, accuracy or usefulness of the information contained in this document. Cadence does not warrant that use of such information will not infringe any third party rights, nor does Cadence assume any liability for damages or costs of any kind that may result from use of such information.

Cadence is committed to using respectful language in our code and communications. We are also active in the removal and replacement of inappropriate language from existing content. This product documentation may however contain material that is no longer considered appropriate but still reflects long-standing industry terminology. Such content will be addressed at a time when the related software can be updated

without end-user impact.

Restricted Rights: Use, duplication, or disclosure by the Government is subject to restrictions as set forth in FAR52.227-14 and DFAR252.227-7013 et seq. or its successor

Spectre Circuit Simulator Known Problems and Solutions

<u>Known Problems and Solutions</u>	7
<u>CCR 1145555: Biased samples are found in sampling=orthogonal in Spectre Monte Carlo Analysis</u>	7

Spectre Circuit Simulator Known Problems and Solutions

Known Problems and Solutions

Product Version 23.1

June 2023

This Known Problems and Solutions document describes important Cadence Change Management System Change Request Records (CCRs) for Spectre Circuit Simulator and tells you how to solve or work around these problems.

CCR 1145555: Biased samples are found in sampling=orthogonal in Spectre Monte Carlo Analysis

Description: If the integration function is an even function, the orthogonal sampling algorithm may generate an underestimated variance (2nd-moment) of the output, when the number of iterations is close to the size of the orthogonal subgroups.

Solution: Increase the value of the `numruns` parameter to remove the bias.