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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue
New York, NY 10016-5997
United States of America
stds.info@ieee.org
www.ieee.org

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DELAY AND POWER CALCULATION STANDARDS –

Part 1: Integrated Circuit (IC) Open Library Architecture (OLA)

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IEEE Standard for Integrated Circuit (IC) Open Library Architecture (OLA)

Developed by the

Design Automation Standards Committee
of the
IEEE Computer Society

Approved 7 November 2019

IEEE SA Standards Board

Abstract: Ways for integrated circuit designers to analyze chip timing and power consistently across a broad set of electric design automation (EDA) applications are covered in this standard. Methods by which integrated circuit vendors can express timing and power information once per given technology are also covered. In addition, the means by which EDA vendors can meet their application performance and capacity needs are discussed.

Keywords: chip delay, electronic design automation (EDA), IEEE 1481™, integrated circuit (IC) design, power calculation

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IEEE Introduction

This introduction is not part of IEEE Std 1481-2019, IEEE Standard for Integrated Circuit (IC) Open Library Architecture (OLA).

The objective of the delay and power calculation system (DPCS) is to make it possible for integrated circuit designers to consistently calculate chip delay and power across electronic design automation (EDA) applications and for integrated circuit vendors to express delay and power information only once per technology while enabling sufficient EDA application accuracy.

This is accomplished by a coordinated set of standards that support a standard method to describe timing and power characteristics of integrated circuit design units (cells and higher level design elements); a standard method for EDA applications to calculate chip design instance specific delay, slew, and power for logic and interconnects; and standard file formats to exchange chip parasitic and cluster information.

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