

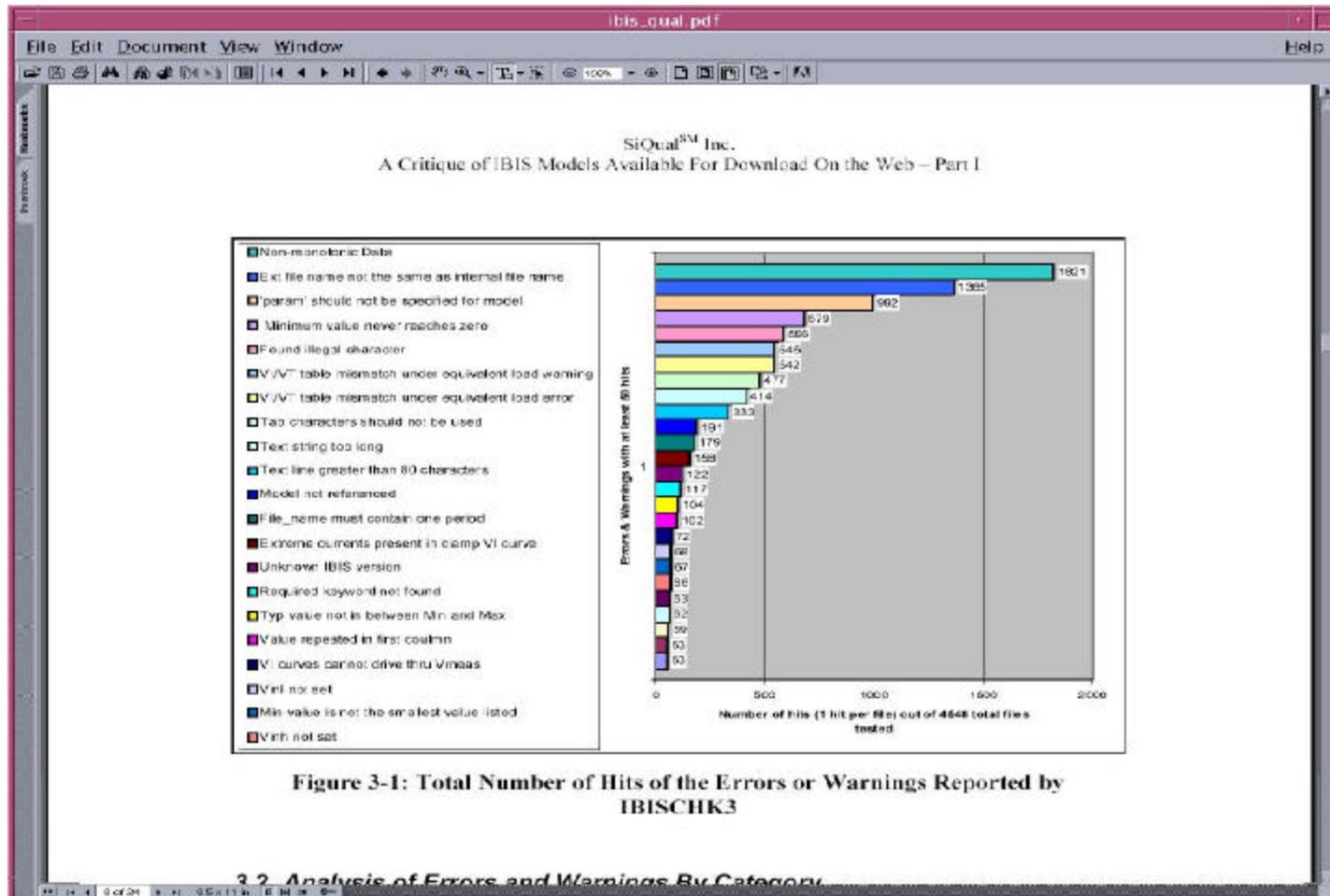


# IBIS QUALITY COMMITTEE REPORT

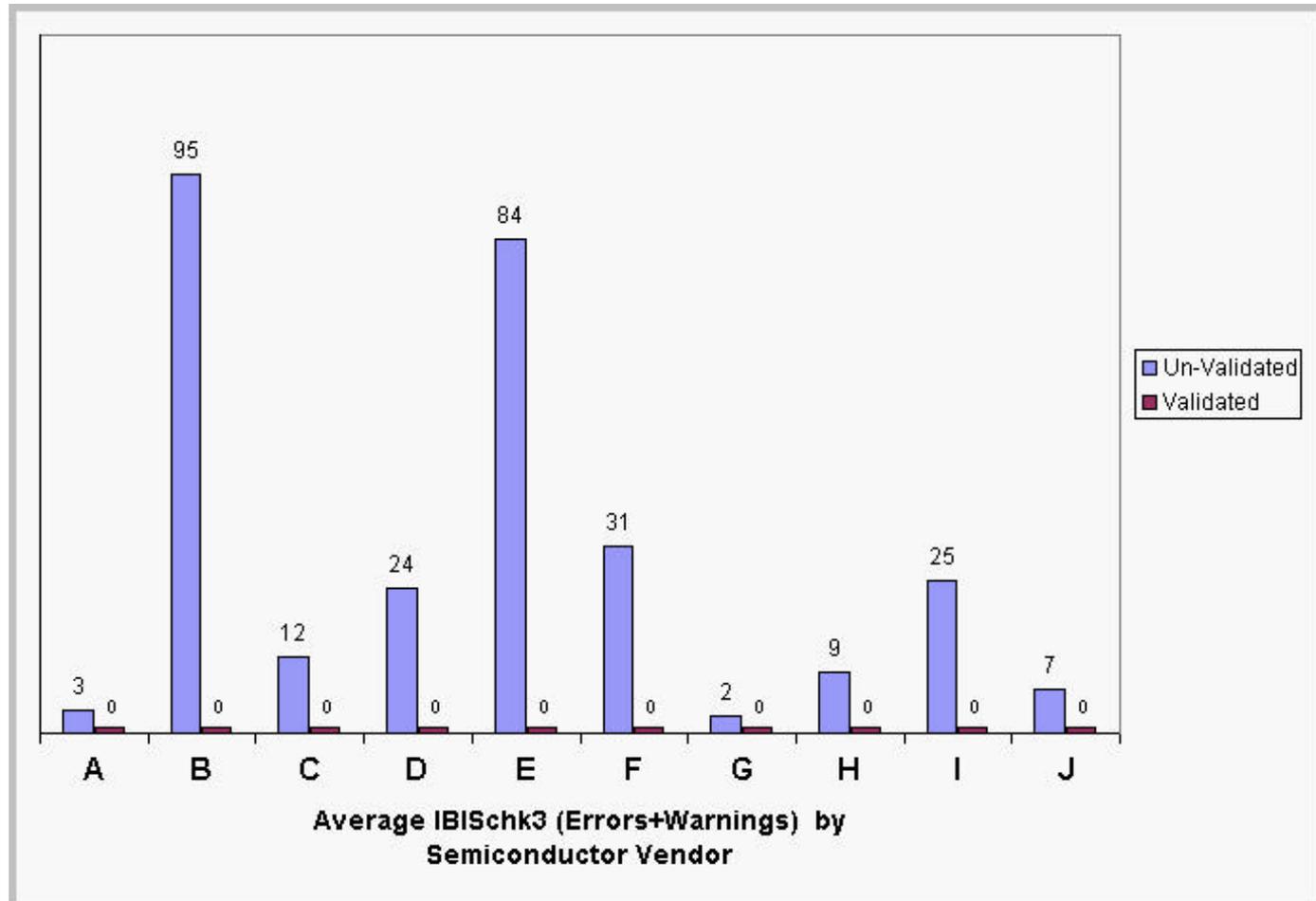
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# IBIS Model Quality is Generally Poor



# By Semiconductor Vendor



# IBIS Quality Subcommittee

- Formed 3/02
- Charter
  - Develop a complete checklist
  - Establish levels of quality
  - This checklist should serve to be incorporated directly into procurement specs.
  - Suggest enhancements to IBISCHK
- Goals
  - Rating system that is easy to understand and adopt
  - Communicate to vendors/users.
  - Cover overall file, component, and model sections
  - Check for completeness, correctness, accuracy
  - Leverage of prior work

# IBIS Quality Subcommittee

## Active participants

- Committee is represented by Semiconductor vendors, EDA vendors, and IBIS end-users.

SiSoft - Barry Katz (Chairman), Robert Haller, Eric Brock, Kevin Fisher

Siemens – Eckhard Lenski, Katja Koller

IBM – Greg Edlund

Cadence – Lynne Green

Apple – John Figueroa, Kim Helliwell

Mentor – Bob Ross, Hazem Hegazy, Sherif Hammad,

Cisco – Mike LaBonte, Todd Westerhoff

Hitachi ULSI Systems – Shoji Kazuyoshi, Nonoyama Sadahiro

Leventhal Design & Communications – Roy Leventhal

Intel – Benjamin Silva

Teraspeed - Tom Dagostino

AMCC - Peter LaFlamme

Fairchild – Adam Tambone



# IBIS Quality Subcommittee

- Meet every 2 weeks (Tuesdays 11:00 EDT for 1 hour)
- Mailing list
  - [ibis-quality@freelists.org](mailto:ibis-quality@freelists.org)
  - <http://www.freelists.org/archives/ibis-quality>
  - Over 50 subscribers from a large cross section of companies
- Web Site
  - <http://www.sisoft.com/ibis-quality>
- Need your help

# Accomplishments/Status

- Compiled and published IBIS Quality checklist
  - <http://www.sisoft.com/ibis-quality/>
- Defined quality levels
  - Level 0 – Passes IBISCHK
  - Level 1 – Complete and correct
  - Level 2a, 2b – Correlation: Simulation, Measurement
    - Leverage off of IBIS Accuracy Handbook (spec)
  - Level 3 – All of the above
- Submitted multiple IBISCHK enhancements
- Submitted IBIS Golden Parser open source proposal
- Documentation
  - In progress

# Sample Documentation

- Receiver Waveform Processing
  - ✓ ...
  - ✓  $V_{inl}$  and  $V_{inh}$  values are below and above, respectively,  $V_{meas}$ .
  - ✓  $V_{meas}$  in the [Model] section matches the value given in the datasheet for the part technology.
  - ✓ If min and max values for  $V_{inl}$  and  $V_{inh}$  are known, these are given in the [Model Spec] section. For example, some technologies switch near a reference voltage that may change in typ, min, and max modes.
  - ✓ ...
- Ramp Data
  - ✓ ...

# Summary

- IBIS model quality MUST improve
- IBIS Quality subcommittee is on the job!
- Accomplished a lot
  - Checklist
  - Levels
  - IBISChk Bug submissions/proposals
  - Draft documentation
- More work required
  - Documentation
  - Refine Quality Levels

