Stat Eye / IBM Agreement

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At Last Meeting in Ottawa …

Analyses (NRZ Signaling) of Tyco Channels By Steve Anderson of Xilinx (using Stat Eye) and Joe Abler of IBM (Using IBM proprietary program) at the Ottawa Meeting *Apparently Disagreed;* with Stat Eye being the more pessimistic. This was partly the result of using the OIF criteria for pass/fail. Further work has now been done showing that, when similar conditions are used, the results are similar. Alignment of Analysis Conditions and New Stat Eye Results are presented.

Changes To Stat Eye Analyses

- Probability Level Changed From 1e-15 to 1e-12
- Total DJ Reduced From 0.3 UIpp to 0.2 UIpp
- Emphasis changed so that it always inluded a minimum of one post-tap
- Limits on Emphasis Taps Made Wider
- Tyco Cases 2 Through 7 Analyzed

Result Spreadsheet

- Complete Results Presented in Associated Spreadsheet “compare_joab_all.xls”
- Columns Compare Stat Eye, IBM Organic Package, and IBM Plastic Package (IBM Data taken from abler_01_0904.pdf)

Partial Result Summary

Tyco Test case	Eye width Stat-eye FFE2	Eye width Stat-eye FFE3	Eye width IBM FFE2	Eye width IBM FFE3
2	25%	23%	11.20%	21.00%
3	26%	25%	9.00%	17.60%
4	23%	21%	17.10%	21.90%
5	29%	27%	21.30%	22.20%
6	5%	5%	Closed	5.50%
7	22%	20%	10.90%	9.70%

Using 5 DFE taps
FFE2 = 1 Cursor, 1 Post tap
FFE3 = 1 Pre tap, 1 Cursor, 1 Post tap

Conclusions

- When Analyzed Under Similar Conditions and With Appropriate Emphasis Settings, There is now Better Agreement Between Stat Eye and IBM
- Stat Eye Now more Optimistic Than IBM
- Stat Eye Predicts NRZ Working With Most Tyco Channels

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