

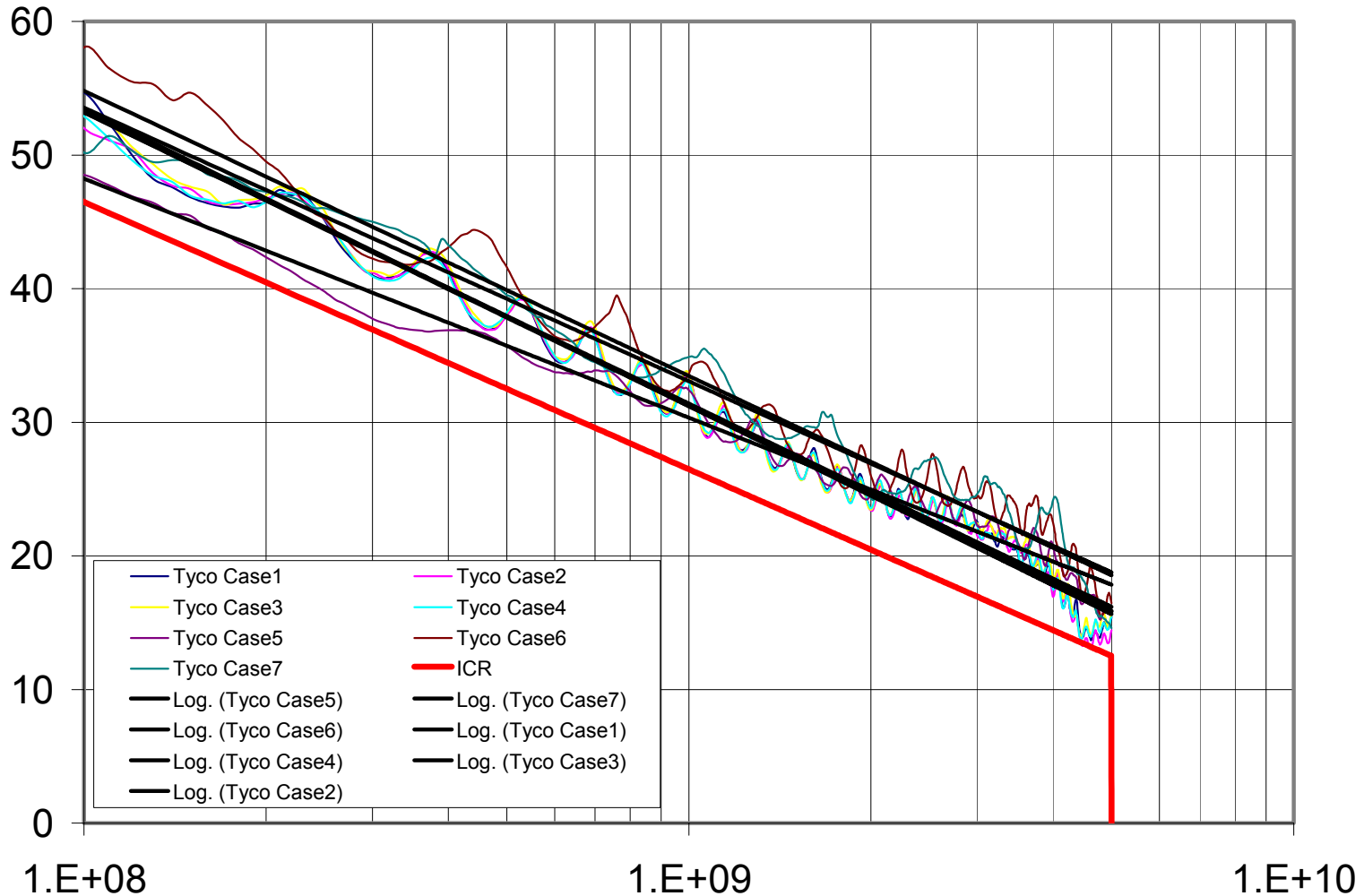
July, 2005
Informative Model / Simulation
Comparisons for 10GBASE-KR
Update

John D'Ambrosia
Tyco Electronics

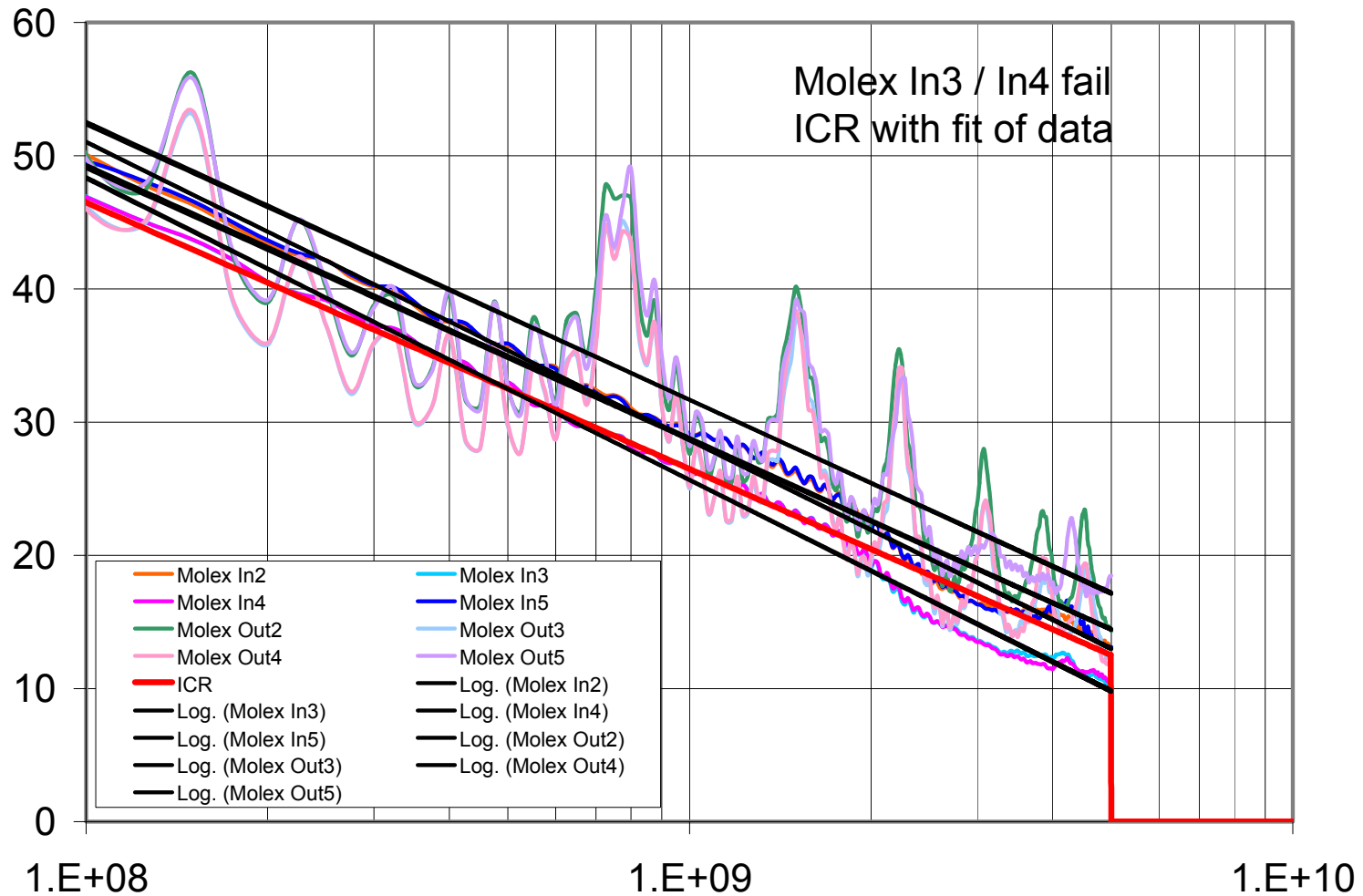
Review With Crosstalk (dambrosia_02_0605)

- Failing the ICR by itself did not mean the channel would not meet $BER < 10^{-12}$, as it was dependent on the severity of the ICR failure.
- For all cases - failing the ICR plus one other parameter meant the channel did not meet $BER < 10^{-12}$
- All 6 cases that met all channel requirements worked at least to $BER < 10^{-12}$. 5 of the 6 channels worked to $BER < 10^{-12}$ plus 10% horizontal margin.
- 17/23 channels met $BER < 10^{-12}$, failing one parameter (14 – ICR).
- 11/16 channels met $BER < 10^{-12}$ with 10% margin failing one parameter (8 – ICR)
- Informative model identified all 8 failures for $BER < 10^{-12}$ with no margin and 14/15 failures for $BER < 10^{-12}$ with 10% margin.

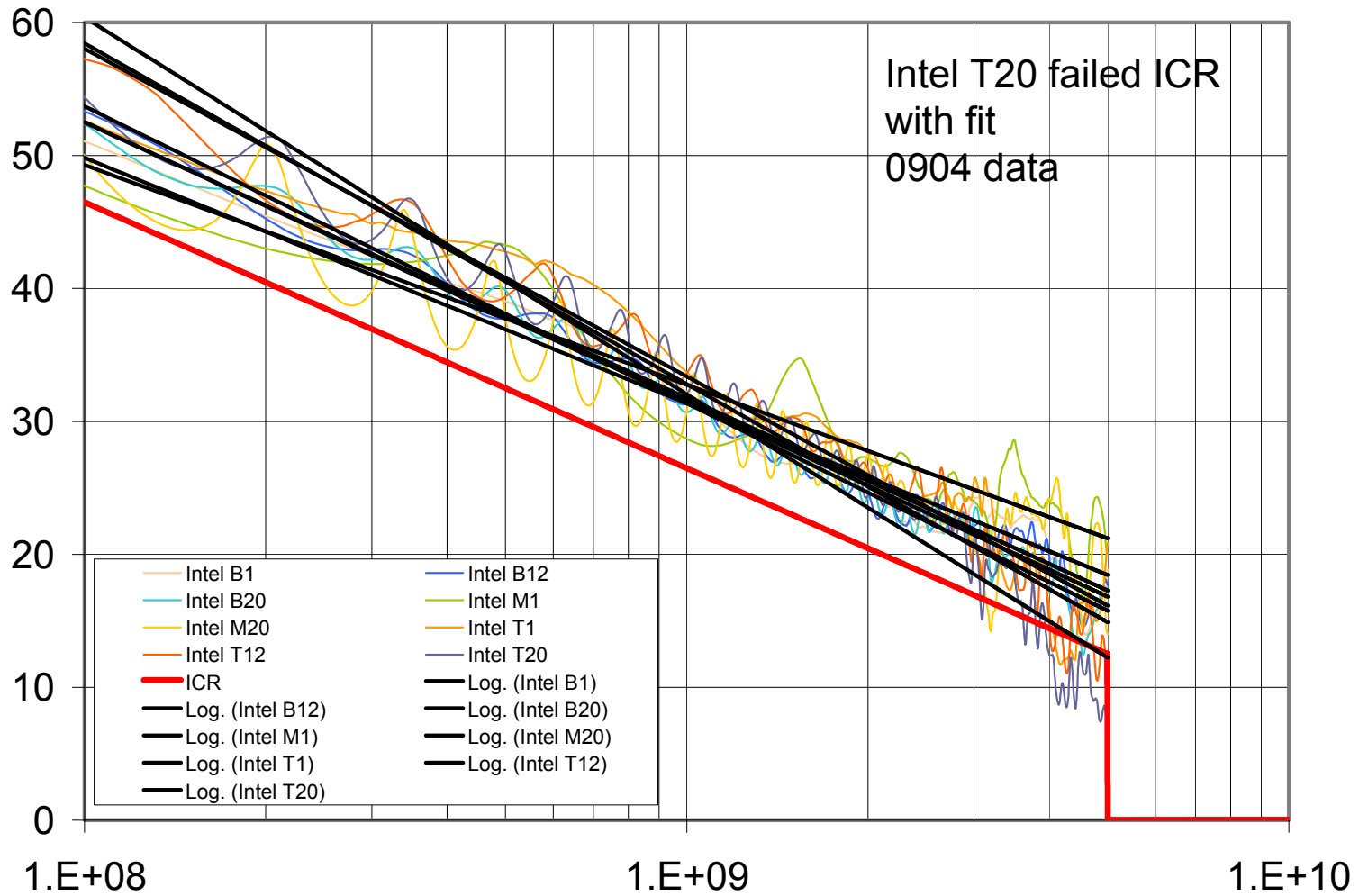
Tyco Channels



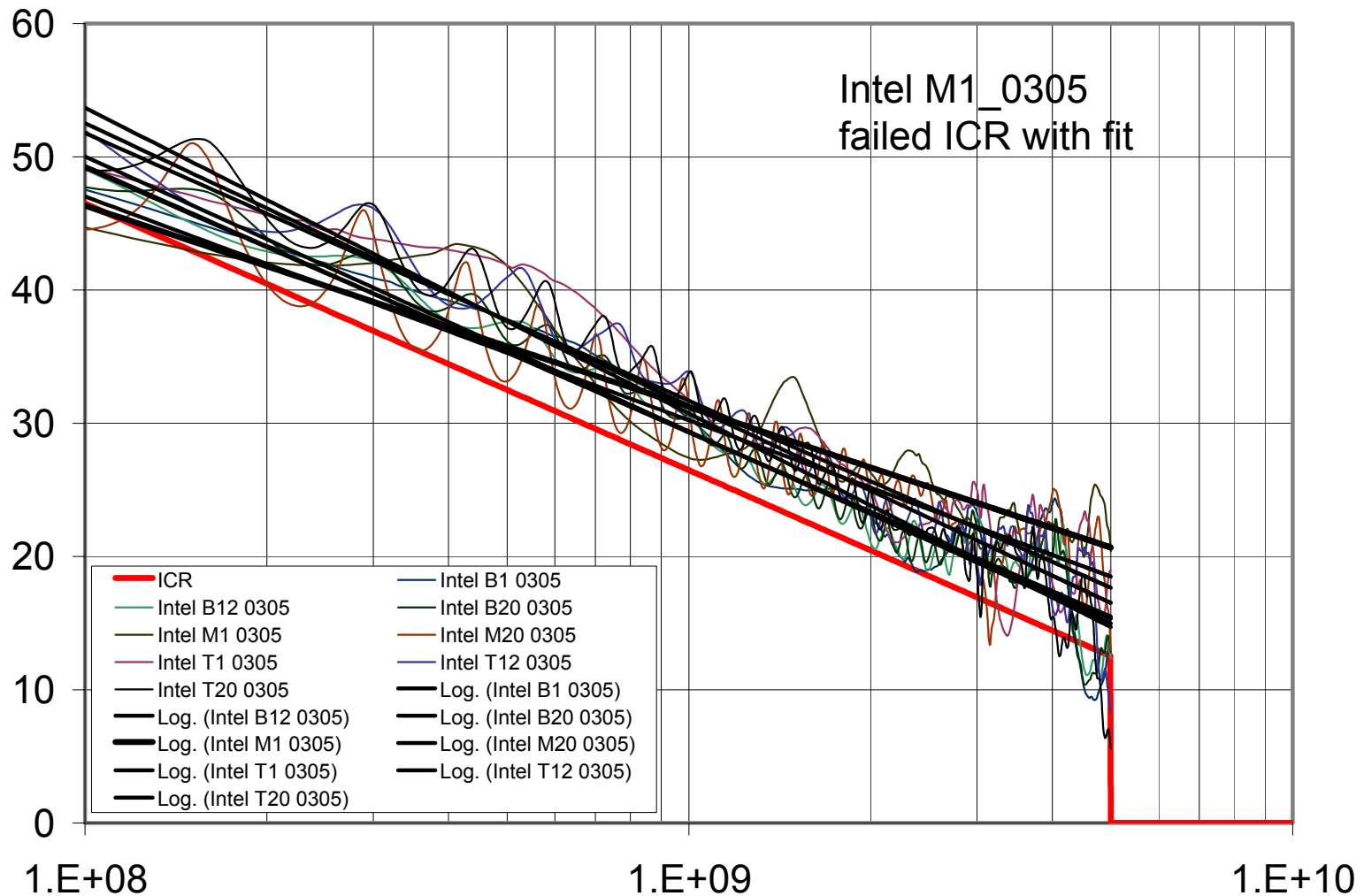
Molex Channels



Intel 0904 Data



Intel 0305 Data



New Predictions

	>Imin	> Amin	Positive Peak Deviation	Negative Peak Deviation	ICR	Prediction	Actual (majority wins) 10^-12	10^-12 Margin
Tyco Case #1	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tyco Case #2	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tyco Case #3	Pass	Fail	Pass	Pass	Pass	Fail	Pass	Pass
Tyco Case #4	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tyco Case #5	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tyco Case #6	may	Pass	Pass	may	Pass	may	Pass	Pass
Tyco Case #7	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Molex In2	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail
Molex In3	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Fail
Molex In4	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Fail
Molex In5	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail
Molex Out2	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Molex Out3	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail
Molex Out4	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail
Molex Out5	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
0904_Intel T1	may	Pass	Fail	Fail	Pass	Fail	Fail	Fail
0904_Intel T12	may	Pass	may	may	Pass	may	Fail	Fail
0904_Intel T20	Fail	Fail	may	may	Fail	Fail	Fail	Fail
0904_Intel M1	Pass	Pass	Pass	may	Pass	Pass	Pass	Fail
0904_Intel M20	Pass	Pass	Pass	may	Pass	may	Pass	Fail
0904_Intel B1	Pass	Pass	Pass	Fail	Pass	Fail	Pass	Fail
0904_Intel B12	Pass	Pass	Pass	may	Pass	may	Pass	Pass
0904_Intel B20	Pass	Pass	Pass	may	Pass	may	Pass	Pass
0305_Intel T1	may	Pass	Fail	may	Pass	Fail	Fail	Fail
0305_Intel T12	may	Pass	may	may	Pass	may	Fail	Fail
0305_Intel T20	may	Pass	may	may	Pass	may	Fail	Fail
0305_Intel M1	Pass	Pass	Pass	Pass	Fail	Fail	Pass	Pass
0305_Intel M20	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
0305_Intel B1	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
0305_Intel B12	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
0305_Intel B20	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Review of Imin, Amin, Peak Positive Deviation, and Negative Peak Deviation provided by Rich Mellitz

Summary for BER < 10⁻¹²

- Cases that were – “pass” PASSED
- Cases that were “may”
 - Passed (4)
 - Failed (3)
- Cases that were “failed”
 - Failed (5)
 - False Negative (3)

Observations for BER < 10⁻¹²

- No False Positives
- All cases that failed fitted ICR – failed
- Channels that had 3 “Fail” or “May” (I_{min}, A_{min}, Positive Peak Deviation, Negative Peak Deviation) did not work