

### **What causes differences between simulated and actual test data?**

1. Actual interfaces during testing will be different from the model.
2. Dielectric constants and dimensions of cables are variable and cable is modeled as "perfect".
3. Dielectric constants of different materials used as insulators (i.e.: delrin, lcp) are not precisely known.
4. Calibration kits for all types of connectors are not available and therefore gating is often used in taking data.
5. Small air spaces are usually not modeled as they greatly increase the complexity of the model.. They are typically filled with dielectric.
6. Actual assembly of the device can result in components compressing (i.e.: press fits) which may cause the longitudinal and relational position of the components to be different from the model.
7. Generally, small radii are not modeled. They are replaced with chamfers or even eliminated completely.
8. Connectors are modeled using nominal dimensions. Actual parts have tolerances.
9. The adaptive frequency is a single frequency usually about 80% of the upper frequency limit, but the analysis is usually swept over a broad frequency range.
10. Crimping can deform cables in an extremely variable manner and this is usually not modeled.